

# Oracle® Cloud

## Provisioning and Administering Oracle Integration 3



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# Contents

## About This Content

---

## 1 Get Started with Administration

---

|                     |   |
|---------------------|---|
| Find More Resources | 2 |
|---------------------|---|

## 2 About Oracle Integration

---

|                                                     |    |
|-----------------------------------------------------|----|
| Oracle Integration Choices                          | 2  |
| Consumption Models                                  | 2  |
| Oracle Integration for Universal Credits            | 3  |
| Oracle Integration for Oracle SaaS                  | 3  |
| Oracle Integration in Government Regions            | 4  |
| Oracle Integration in the Oracle EU Sovereign Cloud | 5  |
| Universal Credits Model vs. Subscription Model      | 5  |
| Oracle Integration Editions                         | 6  |
| Shapes                                              | 8  |
| License Types                                       | 9  |
| Explore the Oracle Integration APIs                 | 9  |
| Oracle Integration APIs                             | 10 |
| Process Automation APIs                             | 11 |
| File Server APIs                                    | 12 |
| Availability                                        | 12 |
| Region Availability                                 | 13 |
| APAC                                                | 13 |
| EMEA                                                | 14 |
| EU                                                  | 14 |
| LAD                                                 | 15 |
| North America                                       | 15 |
| DRCC and Alloy                                      | 15 |
| AI Feature Availability                             | 16 |
| Decisions Availability                              | 17 |
| APAC                                                | 18 |
| EMEA                                                | 18 |

|                                                        |    |
|--------------------------------------------------------|----|
| LAD                                                    | 18 |
| North America                                          | 19 |
| Development Shape Availability                         | 19 |
| APAC                                                   | 19 |
| EMEA                                                   | 19 |
| EU                                                     | 20 |
| LAD                                                    | 20 |
| North America                                          | 20 |
| Disaster Recovery Availability                         | 20 |
| APAC                                                   | 20 |
| EMEA                                                   | 20 |
| North America                                          | 21 |
| Human in the Loop Availability                         | 21 |
| APAC                                                   | 21 |
| EMEA                                                   | 21 |
| LAD                                                    | 22 |
| North America                                          | 22 |
| Processes Availability                                 | 22 |
| APAC                                                   | 22 |
| EMEA                                                   | 23 |
| LAD                                                    | 23 |
| North America                                          | 23 |
| RPA Availability                                       | 24 |
| APAC                                                   | 24 |
| EMEA                                                   | 24 |
| LAD                                                    | 24 |
| North America                                          | 25 |
| Oracle and Customer Responsibilities                   | 25 |
| Patching Updates to Your Oracle Integration 3 Instance | 26 |

### 3 High-Level Planning and Workflow

---

|                               |   |
|-------------------------------|---|
| Plan Your Environment         | 1 |
| High-Level Workflow           | 5 |
| What Do Users Need to Access? | 6 |

### 4 Manage Oracle Cloud Console Access

---

|                                                     |   |
|-----------------------------------------------------|---|
| About OCI Identity and Access Management            | 1 |
| Understand Key IAM Features                         | 1 |
| Understand Key IAM Components                       | 2 |
| Create Additional Identity Domains and Compartments | 3 |

|                                               |   |
|-----------------------------------------------|---|
| Create Groups for Oracle Cloud Console Access | 4 |
| Create IAM Policies                           | 4 |
| Create Users for Oracle Cloud Console Access  | 6 |
| IAM Policies for Oracle Integration           | 6 |
| Compartment Tips                              | 6 |
| Resource Type                                 | 7 |
| Supported Variables                           | 7 |
| Details for Verb + Resource-Type Combinations | 7 |
| Permissions Required for Each API Operation   | 8 |

## 5 Create an Oracle Integration Instance

---

|                                                   |    |
|---------------------------------------------------|----|
| Restrictions                                      | 1  |
| Create an Instance Using the User Interface       | 2  |
| Troubleshoot Oracle Integration Instance Creation | 7  |
| Create an Instance Using the Command Line         | 7  |
| Create an Instance Using a Terraform Script       | 9  |
| Create an Instance Using the API                  | 10 |

## 6 Manage User Access

---

|                                                                |    |
|----------------------------------------------------------------|----|
| Create Groups for Oracle Integration Access                    | 1  |
| Assign Roles to Groups                                         | 2  |
| Create Users for Oracle Integration Access                     | 2  |
| Audit User Access                                              | 3  |
| Service Roles                                                  | 3  |
| What Users Can Do by Role                                      | 4  |
| What Users Can Do in the Projects Section by Role              | 5  |
| What Users Can Do in the Design Section by Role                | 12 |
| What Users Can Do in B2B for Oracle Integration by Role        | 16 |
| What Users Can Do in Oracle Integration for Healthcare by Role | 19 |
| What Users Can Do in the Observability Section by Role         | 20 |
| What Users Can Do in the Settings Section by Role              | 23 |
| What Users Can Do in Visual Builder by Role                    | 23 |
| What Users Can Do in Processes by Role                         | 24 |
| What Users Can Do in File Server by Role                       | 24 |
| What Users Can Do in Human in the Loop by Role                 | 25 |

## 7 Manage Inbound Network Access

---

|                                                   |   |
|---------------------------------------------------|---|
| Restrict Access to an Instance Using an Allowlist | 1 |
| About Allowlists                                  | 1 |

|                                                                  |    |
|------------------------------------------------------------------|----|
| An Allowlist Manages Inbound Access                              | 1  |
| Each Endpoint Can Have Different Allowlist Rules                 | 2  |
| Allow Access from Specified Network Sources                      | 2  |
| Things to Keep in Mind                                           | 2  |
| Prerequisites for Configuring an Allowlist                       | 2  |
| Configure an Allowlist for Your Instance                         | 3  |
| REST API for Allowlisting                                        | 5  |
| View Instance Outbound and Inbound IPs                           | 5  |
| Configure a Custom Endpoint for an Instance                      | 7  |
| Configure an Oracle-Managed Custom Endpoint                      | 7  |
| Prerequisites for Configuring an Oracle-Managed Custom Endpoint  | 8  |
| Create the Oracle-Managed Custom Endpoint                        | 10 |
| Post-Configuration Tasks for an Oracle-Managed Custom Endpoint   | 10 |
| Configure a Customer-Managed Custom Endpoint                     | 11 |
| Prerequisites for Configuring a Customer-Managed Custom Endpoint | 11 |
| Create the Customer-Managed Custom Endpoint                      | 13 |
| Post-Configuration Tasks for a Customer-Managed Custom Endpoint  | 14 |
| Edit or Delete a Custom Endpoint                                 | 14 |
| Manage Integration Endpoints Using API Gateway                   | 15 |
| About API Gateways                                               | 15 |
| Implement an API Gateway for Oracle Integration                  | 16 |

## 8 Manage Outbound Network Access

---

|                                                  |   |
|--------------------------------------------------|---|
| Configure a Private Endpoint for Your Instance   | 1 |
| About Private Endpoints                          | 1 |
| Example                                          | 2 |
| Other Private Endpoint Scenarios                 | 2 |
| Send Information to ZPR-Secured OCI Resources    | 2 |
| Things to Keep in Mind                           | 2 |
| Prerequisites for Configuring a Private Endpoint | 3 |
| Create a VCN and Subnet                          | 3 |
| Add Resources to Your Subnet                     | 4 |
| Create a Policy to Manage Subnet Resources       | 4 |
| Configure a Private Endpoint for an Instance     | 5 |
| Use a Private Endpoint in a Connection           | 6 |
| Troubleshoot Private Endpoints                   | 7 |
| Error When Creating a Private Endpoint           | 7 |
| Unable to Edit a Private Endpoint                | 7 |
| Error When Testing a Connection                  | 7 |
| Runtime Errors                                   | 8 |
| Delete a Private Endpoint                        | 9 |

|                                                                   |    |
|-------------------------------------------------------------------|----|
| Private Endpoint vs. Connectivity Agent                           | 9  |
| Assign ZPR Security Attributes to Your Instance                   | 10 |
| Prerequisites for Adding ZPR Security Attributes to Your Instance | 11 |
| Add a Security Attribute to Your Instance                         | 12 |
| Edit or Delete Security Attributes for Your Instance              | 13 |
| Upload a Certificate to Connect with External Services            | 13 |
| Configure Email Authentication with SPF and DKIM                  | 15 |
| Troubleshoot Notification Email Configuration                     | 17 |
| Oracle Integration Instance Server Certificate Expiry             | 18 |

## 9 Enable Additional Features

---

|                                                                    |   |
|--------------------------------------------------------------------|---|
| Enable Announcements                                               | 2 |
| Set Instance Quotas on Compartments                                | 3 |
| Preserve Your Instance Data                                        | 4 |
| Enable Disaster Recovery                                           | 4 |
| Edit the Data Retention Period                                     | 5 |
| Get Notified When Instance Events Occur                            | 6 |
| Integration Instance Event Types                                   | 6 |
| Integration Instance Event Example                                 | 7 |
| Use Process Automation and Human in the Loop in Oracle Integration | 8 |
| Use Visual Builder in Oracle Integration                           | 9 |

## 10 Edit an Instance

---

|                                                              |    |
|--------------------------------------------------------------|----|
| View Instance Details                                        | 1  |
| Access an Oracle Integration Instance                        | 6  |
| Edit the Edition                                             | 7  |
| Edit the License Type                                        | 8  |
| Edit the Number of Message Packs                             | 9  |
| Edit the Number of Message Packs Using the User Interface    | 10 |
| Change Your Message Pack Subscription Using the Command Line | 10 |
| When to Increase Message Packs                               | 12 |
| Edit the Consumption Model                                   | 14 |
| Move an Instance                                             | 14 |
| Move an Instance to a Different Compartment                  | 14 |
| Move an Instance to a Different Region or Stripe             | 15 |
| Rename a Tenancy                                             | 16 |
| Stop or Start an Instance                                    | 17 |
| Stop an Oracle Integration Instance                          | 17 |
| Start an Oracle Integration Instance                         | 18 |

## 11 Monitor Billing

---

|                                                             |    |
|-------------------------------------------------------------|----|
| Stay Within Budget: Track Billing Metrics                   | 1  |
| View the Default Metrics for an Oracle Integration Instance | 2  |
| Available Metrics Charts                                    | 3  |
| Using the Metrics Charts                                    | 5  |
| Oracle Integration Metrics for Custom Charts                | 6  |
| Oracle Integration Dimensions for Custom Charts             | 9  |
| How Adapters Map to Dimension Values                        | 10 |
| Example of a Custom Metrics Chart                           | 18 |
| Estimate Message Pack Usage for a Metered Tenancy           | 19 |
| Use the Cost Estimator Tool to Determine Your Monthly Bill  | 20 |
| Calculate Peak Loads and Message Pack Usage                 | 22 |
| How Features Impact Billing Messages                        | 24 |
| Common Message Consumption Rules                            | 25 |
| Integration Message Consumption                             | 25 |
| Integration Message Consumption Examples                    | 26 |
| Extended Data Retention Message Consumption                 | 29 |
| Disaster Recovery Message Consumption                       | 30 |
| Additional Message Consumption for Optional Features        | 30 |
| Message Consumption Example for a Metered Tenancy           | 31 |
| FAQs for Billing                                            | 33 |
| How Do I View the Message Packs for an Instance?            | 34 |
| What if I Exceed My Subscribed Message Packs?               | 34 |
| How Do I Monitor Billing for an Instance?                   | 34 |
| How Do I Monitor Billing for Multiple Instances?            | 36 |
| Why Does My Monthly Bill Change?                            | 37 |

## 12 Monitor Instance Performance

---

|                                                                     |   |
|---------------------------------------------------------------------|---|
| Manage Integrations and Errors                                      | 1 |
| Use OCI Logging to Analyze Integration Activity                     | 2 |
| Use Oracle Log Analytics for Large Activity Stream Payloads         | 3 |
| Create a Log Group to Store Your Logs in Oracle Log Analytics       | 3 |
| Create a Policy to Allow Log Uploads from Oracle Integration        | 4 |
| Create a Policy to Allow Users to View Logs in Oracle Log Analytics | 5 |
| Enable the Option to Publish Logs to Oracle Log Analytics           | 6 |
| Disable Storing Logs in Oracle Log Analytics                        | 6 |
| Monitor Concurrent Synchronous Requests                             | 7 |
| View Your Concurrent Sync Request Limit                             | 7 |

|                                                                   |    |
|-------------------------------------------------------------------|----|
| Create a Custom Metrics Chart to Monitor Concurrent Sync Requests | 7  |
| Create an Alarm to Monitor Concurrent Sync Requests               | 8  |
| Create a Widget to Monitor Concurrent Sync Requests               | 9  |
| Troubleshoot Timeouts for Synchronous Integrations                | 10 |
| Monitor Concurrent Asynchronous Requests                          | 12 |
| View Your Concurrent Async Request Limit                          | 12 |
| Create a Custom Metrics Chart to Monitor Async Request Count      | 13 |
| Monitor Async Backlog                                             | 13 |
| Create an Alarm to Monitor Async Backlog                          | 14 |
| Monitor Concurrent File Server Connections                        | 16 |
| Monitor File Server Connections                                   | 16 |
| Create an Alarm to Monitor Async Backlog                          | 16 |
| Dynamic Scaling: Resource Allocation vs. Concurrency              | 18 |

## 13 Upgrade from Oracle Integration Generation 2 to Oracle Integration 3

---

|                                               |    |
|-----------------------------------------------|----|
| Learn About Upgrading to Oracle Integration 3 | 1  |
| Upgrade Workflow Quick Reference              | 2  |
| Upgrade Notifications                         | 4  |
| Upgrade FAQs                                  | 4  |
| General Upgrade FAQs                          | 4  |
| Upgrade Timing and Scheduling FAQs            | 5  |
| Pre-Upgrade FAQs                              | 6  |
| Post-Upgrade FAQs                             | 7  |
| Service Instance FAQs                         | 7  |
| Connectivity FAQs                             | 9  |
| Integrations FAQs                             | 10 |
| Adapters FAQs                                 | 11 |
| B2B FAQs                                      | 12 |
| File Server FAQs                              | 12 |
| Process FAQs                                  | 13 |
| Visual Builder FAQs                           | 14 |
| Benefits of Upgrading                         | 15 |
| Benefits of Upgrading Process                 | 17 |
| How Upgrade Affects Runtime Data              | 18 |
| Integration Data Retention Time               | 19 |
| Historical Data in Activity Stream            | 19 |
| Actively Running Synchronous Integrations     | 19 |
| Actively Running Asynchronous Integrations    | 19 |
| Actively Running Scheduled Integrations       | 20 |
| Failed Integration Instances                  | 20 |
| Integration Insight                           | 20 |

|                                                                      |    |
|----------------------------------------------------------------------|----|
| How Upgrade Affects File Server                                      | 20 |
| New IP and Port Values                                               | 20 |
| Access File Server with URL and Credentials                          | 21 |
| No Change to Developer API for File Server                           | 21 |
| File Server Migration                                                | 21 |
| Legacy FTP Exchange Algorithms Updated During Upgrade                | 21 |
| How Upgrade Affects Process Features                                 | 21 |
| When is Basic Authentication Supported in Oracle Integration 3?      | 34 |
| Prepare for the Upgrade to Oracle Integration 3                      | 35 |
| Recommendations for Upgrading Multiple Instances                     | 36 |
| Upgrade in an Oracle Cloud Infrastructure US Government Cloud Region | 36 |
| Check Upgrade Readiness and Correct Precheck Issues                  | 37 |
| View Your Precheck Status                                            | 37 |
| Summary of Prechecks                                                 | 38 |
| Connectivity Agent Prechecks                                         | 40 |
| Instance Prechecks                                                   | 42 |
| B2B for Oracle Integration Prechecks                                 | 44 |
| Integrations Prechecks                                               | 44 |
| Adapters Prechecks                                                   | 47 |
| Oracle Visual Builder Prechecks                                      | 49 |
| Process Automation Prechecks                                         | 49 |
| Correct an Instance with Failed Readiness Checks                     | 51 |
| Configure Upgrade Settings or Reschedule Upgrade                     | 52 |
| View Your Upgrade Window                                             | 52 |
| Reschedule Your Upgrade                                              | 53 |
| Configure Your Upgrade Settings                                      | 54 |
| Complete Pre-Upgrade Tasks                                           | 57 |
| Summary of Pre-Upgrade Tasks                                         | 57 |
| Connectivity Agent Pre-Upgrade Tasks                                 | 58 |
| Instance Pre-Upgrade Tasks                                           | 58 |
| B2B for Oracle Integration Pre-Upgrade Tasks                         | 59 |
| Integrations Pre-Upgrade Tasks                                       | 59 |
| Adapters Pre-Upgrade Tasks                                           | 60 |
| Visual Builder Pre-Upgrade Tasks                                     | 61 |
| Update Allowlists                                                    | 61 |
| Inform Users and Stakeholders About Upgrade                          | 63 |
| Limit Development Work Before the Upgrade                            | 63 |
| Process Upgrade Options                                              | 65 |
| Phased Upgrade for Process                                           | 68 |
| Upgrade to Oracle Integration 3: Phase 1                             | 70 |
| Upgrade to Oracle Integration 3: Phase 2                             | 74 |
| Limitations                                                          | 84 |

|                                                                       |     |
|-----------------------------------------------------------------------|-----|
| FAQs                                                                  | 87  |
| Automated In-Place Upgrade for Process                                | 87  |
| Prepare Your Initial Upgrade Environment                              | 88  |
| Upgrade Your Non-Production Environment                               | 88  |
| Upgrade Additional Non-Production Environments                        | 90  |
| Upgrade Your Production Environment                                   | 90  |
| Migrate Process Applications to a New OCI Process Automation Instance | 91  |
| Phase 1: Migrate Process Applications to OCI Process Automation       | 92  |
| Phase 2: Switch to OCI Process Automation                             | 100 |
| Phase 3: Upgrade to Oracle Integration 3                              | 102 |
| What to Do During Upgrade                                             | 104 |
| Complete Post-Upgrade Tasks                                           | 105 |
| Summary of Post-Upgrade Tasks                                         | 106 |
| Ensure Access to the Instance                                         | 108 |
| Ensure Connectivity                                                   | 110 |
| Ensure Integrations Work                                              | 113 |
| Complete Post-Upgrade Tasks for Ignored Precheck Failures             | 114 |
| Complete Post-Upgrade Tasks for Oracle Visual Builder                 | 117 |
| Complete Post-Upgrade Tasks for Process Automation                    | 118 |
| Reconfigure the Integration                                           | 118 |
| Application-Level Post-Upgrade Tasks for Process Automation           | 119 |
| Service-Level Post-Upgrade Tasks for Process Automation               | 120 |
| Perform Updates Required for Integration Instance ID Change           | 121 |
| Follow Your Organization's Verification Procedures                    | 123 |
| Troubleshoot Upgrade Issues                                           | 123 |
| Connection errors                                                     | 123 |
| Oracle Integration Generation 2 instance is visible                   | 123 |
| Go back to your Oracle Integration Generation 2 instance              | 123 |
| FTP Adapter connection fails after upgrade                            | 124 |
| 401 error when using the REST API                                     | 124 |
| Connectivity agent upgrade fails                                      | 124 |
| Known issues                                                          | 125 |

## A Service Limits

---

|                                       |      |
|---------------------------------------|------|
| Oracle Cloud Console Service Limits   | A-1  |
| Component: Adapters                   | A-2  |
| Component: Integrations               | A-6  |
| Component: Robotic Process Automation | A-10 |
| Component: File Server                | A-12 |
| Component: Decisions                  | A-12 |
| Component: Process Automation         | A-12 |

|                                                          |      |
|----------------------------------------------------------|------|
| Message Pack Usage and Synchronous/Asynchronous Requests | A-13 |
| Asynchronous Message Queue Depth                         | A-14 |

## B TLS Cipher Suites Support

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# About This Content

This guide describes how to create and administer Oracle Integration from the Oracle Cloud Console.

## Audience

This guide is intended for service administrators who want to create and manage Oracle Integration instances in the Oracle Cloud Console.

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## Related Resources

See these Oracle resources:

- Oracle Integration documentation on the Oracle Help Center.
- Oracle Cloud at <http://cloud.oracle.com>.

## Conventions

The following text conventions are used in this document.

| Convention      | Meaning                                                                                                                                |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>boldface</b> | Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.         |
| <i>italic</i>   | Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.                          |
| monospace       | Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter. |

# 1

## Get Started with Administration

Administrators manage the OCI tenancy and domain as well as the lifecycle of Oracle Integration service instances. Browse the following popular topics to learn more.

### Prerequisite: Set Up Your Tenancy

| Image                                                                             | Links                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <a href="#">Get an Oracle Cloud account</a><br><a href="#">Sign in to the Console</a><br><a href="#">Get to know the Console</a><br><a href="#">Plan your environment</a><br><a href="#">Explore options for disaster recovery</a> |

### Administer Oracle Integration

| Image                                                                               | Links                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <a href="#">Understand administrator responsibilities</a><br><a href="#">Understand how Oracle performs patching updates</a><br><a href="#">Review service limits</a><br><a href="#">High-level workflow</a><br><a href="#">Create an instance</a><br><a href="#">Enable additional features</a><br><a href="#">Edit an instance</a> |

### Manage User Access to Oracle Integration

| Image                                                                               | Links                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <a href="#">Learn about IAM and IAM policies</a><br><a href="#">Manage Oracle Cloud Console access to Oracle Integration</a><br><a href="#">Manage user access to Oracle Integration</a><br><a href="#">Understand the service roles</a> |

## Manage Network Access

| Image                                                                             | Links                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <a href="#">Restrict access using allowlists</a><br><a href="#">Configure a custom endpoint (vanity URL)</a><br><a href="#">Manage integration endpoints using API Gateway</a><br><a href="#">Connect to private resources</a><br>Install the connectivity agent<br><a href="#">Upload security certificates for external resources</a><br><a href="#">Configure email authentication with SPF and DKIM</a> |

## Monitor Oracle Integration

| Image                                                                             | Links                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <a href="#">Stay within budget: track billing metrics</a><br><a href="#">Create custom billing charts</a><br><a href="#">Estimate message pack usage</a><br><a href="#">Monitor instance performance</a><br><a href="#">Use OCI Logging to analyze integration activity</a><br><a href="#">Use Oracle Log Analytics for large activity stream payloads</a> |

# Find More Resources

Oracle Integration offers many ways to stay connected and grow your expertise.

| Resource                       | Description                                                                                                                          | Link                                                                     |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>Documentation</b>           | Find step-by-step instructions, best practices, and more.                                                                            | <a href="#">Get Started page</a> on the Oracle Help Center               |
| <b>Tutorials</b>               | Take a product tour, build an integration from start to finish, or complete a longer self-directed workshop with a LiveLab.          | Tours and Tutorials in <i>Using Integrations in Oracle Integration 3</i> |
| <b>Videos</b>                  | Learn more about Oracle Integration by watching a short video.                                                                       | <a href="#">Videos page</a> on the Oracle Help Center                    |
| <b>Live demos</b>              | Take a deep dive into new features, use cases, and more. Subscribe to the channel to get notified when a new live demo is available. | <a href="#">Oracle Integration on YouTube</a>                            |
| <b>Oracle Integration blog</b> | Learn what's new from the product management team.                                                                                   | <a href="#">Oracle Integration blog</a>                                  |
| <b>A-Team Blog</b>             | Learn from technical solution architects and software engineers.                                                                     | <a href="#">A-Team Chronicles blog</a>                                   |
| <b>Cloud Customer Connect</b>  | Connect with experts, ask or answer questions, and share your opinions.                                                              | <a href="#">Cloud Customer Connect</a>                                   |
| <b>Newsletter</b>              | Receive a quarterly newsletter with product, event, and training information.                                                        | <a href="#">Subscribe to the Oracle Integration Newsletter</a>           |

| Resource               | Description                                                                                                                                                                                                                                                                                                         | Link                                                                                                                                                                                                                                      |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Webcasts</b>        | Join the following quarterly webcasts: <ul style="list-style-type: none"><li>• <b>Product Update Webcasts</b><br/>Get product updates and watch live demos.</li><li>• <b>Customer Success Webcasts</b><br/>Get inspired by success stories and best practices, or present your own wins to the community.</li></ul> | <a href="#">Subscribe to the Oracle Integration Newsletter</a> : Learn about upcoming webcasts by subscribing to the newsletter<br><a href="#">Integration Resources</a> blog post: Watch past webcasts and learn about upcoming webcasts |
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# 2

## About Oracle Integration

Oracle Integration is an AI automation platform with a comprehensive portfolio of AI, integration, and automation capabilities, enabling you to connect applications and data, automate business processes, and innovate with AI, all in a fully managed, preconfigured environment.

Let's take a look at its main features. With Oracle Integration, you can:

- **Innovate with AI**
  - Use the AI assistant to get things done faster. Tap into AI to automatically create integrations, define schedules, describe integration components, generate FHIR and ATP queries, and resolve errors.
  - Add AI power to automations. Incorporate OCI AI Services, and OpenAI and Anthropic large language models into your integrations to add automated text and image processing, content generation, analysis capabilities, and more.
  - Solve complex automation needs with AI agents. Create agentic AI tools from integrations and call integrations from any Model Context Protocol (MCP) client. Design and build AI agents to work autonomously, and continuously adapt to your business.
- **Connect applications**

Build a complete enterprise automation solution that unifies your apps and ensures data consistency. Integrate Oracle and third-party applications to standardize your enterprise data ecosystem and eliminate data silos. Aggregate and enrich your data to facilitate informed decision making and data-driven innovation.
- **Accelerate integration development**

Expedite and simplify integration development with our large library of prebuilt adapters and integrations.
- **Simplify with robots**

No API? No problem! Record your tasks, and RPA robots repeat your actions. Eliminate manual, repetitive tasks by using robotic process automation (RPA) to create robots to perform UI-based automation.
- **Model decision logic**

Provide consistent outcomes, centralize rules, and reduce bottlenecks. Define business logic to automate policies, computations, and reasoning for your workflows.
- **Keep a human in the loop**

Place people at the center of automation solutions powered by agentic AI, ensuring that human expertise and oversight guide decision-making.
- **Knowledge base**

Enhance agentic AI with a Retrieval Augmented Generation (RAG) framework simply by providing access to your corporate documents.
- **Streamline B2B**

Ensure smooth B2B operations by connecting with trading partners and monitoring the exchange of information.
- **Synchronize health data**

Intake, transform, and synchronize health data across healthcare systems and enterprise applications. Build clinical workflows that support HL7, and modernize your healthcare applications with FHIR.

- **Optimize processes**  
Automate business workflows to improve accuracy and effectiveness, and provide business operation insights.
- **Extend enterprise applications**  
Develop engaging, responsive visual applications using the embedded Visual Builder feature.
- **Facilitate file storage**  
Store and retrieve files in Oracle Integration using the embedded SFTP-compliant file server.

## Oracle Integration Choices

There are several factors that affect the way that Oracle Integration works and what features are available:

- [Consumption Models](#)
- [Oracle Integration Editions](#)
- [Shapes](#)
- [License Types](#)

Additionally, be aware that some features are available in select regions. See [Availability](#).

## Consumption Models

Oracle provides multiple consumption models to meet the diverse needs of its customers and to offer flexibility in how Oracle services are accessed, deployed, and billed.

The following table compares the various consumption models.

| Feature       | Universal Credits                                                                                                                                                                                | Subscription (OIC4SaaS)                                                            | Oracle Integration Government                                                                                               |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Editions      | <ul style="list-style-type: none"> <li>• Standard</li> <li>• Enterprise</li> <li>• Healthcare</li> </ul> <p>This is the only consumption model in which the Healthcare edition is available.</p> | <ul style="list-style-type: none"> <li>• Standard</li> <li>• Enterprise</li> </ul> | <ul style="list-style-type: none"> <li>• Standard</li> <li>• Enterprise</li> </ul>                                          |
| License types | <ul style="list-style-type: none"> <li>• New license</li> <li>• Existing Oracle Fusion Middleware license (BYOL)</li> </ul>                                                                      | <ul style="list-style-type: none"> <li>• New license</li> </ul>                    | <ul style="list-style-type: none"> <li>• New license</li> <li>• Existing Oracle Fusion Middleware license (BYOL)</li> </ul> |

| Feature        | Universal Credits                                                                                                                                       | Subscription (OIC4SaaS)                                                                                                                                                                                                       | Oracle Integration Government                                                                                                                                |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Message packs  | <ul style="list-style-type: none"> <li>For new licenses: 5,000 billing messages per hour</li> <li>For BYOL: 20,000 billing messages per hour</li> </ul> | <ul style="list-style-type: none"> <li>1 million billing messages per month. Usage is tracked on a monthly basis instead of hourly, which keeps costs predictable even when you have unpredictable hourly volumes.</li> </ul> | <ul style="list-style-type: none"> <li>For new licenses: 5,000 billing messages per hour</li> <li>For BYOL: 20,000 billing messages per hour</li> </ul>      |
| Other features | See <a href="#">Availability</a> .                                                                                                                      | See <a href="#">Oracle Integration for Oracle SaaS</a> .                                                                                                                                                                      | See Oracle Integration Feature Availability on US Government Cloud in <i>Using Oracle Integration 3 on Oracle Cloud Infrastructure US Government Cloud</i> . |

Oracle Integration is also available in the EU Sovereign Cloud. See [Oracle Integration in the Oracle EU Sovereign Cloud](#).

## Oracle Integration for Universal Credits

Connect anything, anywhere. Oracle Integration for Universal Credits connects all your applications, Oracle and non-Oracle, no matter where they are, on-premises or in the cloud.

- **Predictable but flexible**  
Oracle Integration can use Universal Credits to provide a predictable but flexible way to pay for your integration solutions, allowing you to ramp up your workloads when needed.
- **New license or BYOL**  
You can create a new license, or use an existing Oracle Fusion Middleware license (BYOL). Then, based on your hourly workload, choose how many message packs to subscribe to.
- **Healthcare edition**  
Oracle Integration for Universal Credits is the only consumption model that gives you access to the Healthcare edition. The Healthcare edition provides all the features of Enterprise edition, plus additional technologies for Health Level 7 (HL7), including healthcare messages, healthcare adapters, and a healthcare action. See *Using Oracle Integration for Healthcare in Oracle Integration 3*.

See:

- [Consumption Models](#)
- [Oracle Integration Editions](#)
- [Universal Credits Model vs. Subscription Model](#)

## Oracle Integration for Oracle SaaS

Oracle Integration for Oracle SaaS (also known as Subscription model) refers to Oracle Integration running natively on the Oracle Cloud Infrastructure. Oracle Integration for Oracle SaaS, a streamlined version of Oracle Integration, gives you the features and benefits of Oracle Integration with a focus on SaaS.

Here are the key differences between Oracle Integration for Oracle SaaS and Oracle Integration:

- **Purpose-built for connecting and extending Oracle SaaS.** Specifically, every integration you create must have an endpoint in an Oracle Cloud SaaS application, every Visual Builder application you create must use at least one business object or API call from an Oracle Cloud SaaS application, and every process application you create must include at least one business object or API call from an Oracle Cloud SaaS application.
- **Flexibility for hourly bursting.** Oracle Integration for Oracle SaaS is offered as a monthly subscription in packs of one million messages per month, which keeps costs predictable even when you have unpredictable hourly volumes. Usage is reported monthly instead of hourly.
- **Reuse of message packs across instances.** Oracle Integration for Oracle SaaS users can apply their message packs across instances. The following example describes this usage. Assume you perform the following tasks:

- Buy five message packs, each consisting of one million messages.
- Create three separate instances for development, test, and production.
- Assign one message pack to all three instances.
- Keep the two remaining message packs in a savings pool for future use.

If the load on the production instance increases, assign one message pack from the savings pool to the production instance. The production instance now consists of two message packs of one million messages each. You decide later to assign the remaining message pack to a new pre-production instance. If you delete the pre-production instance in three months, you can return the message pack from that instance to the savings pool for re-assignment to an existing instance. Or, you can provision a new instance to which you assign that message pack.

- **Provisioning.** Creating an instance for Oracle Integration for Oracle SaaS is slightly different from creating an instance for Oracle Integration, and Bring Your Own License (BYOL) is not available in Oracle Integration for Oracle SaaS. Differences in provisioning are noted in [Create an Instance Using the User Interface](#).

You can create Oracle Integration for Oracle SaaS instances in any Oracle data region if you created a new Oracle Cloud account on or after February 11, 2020. Simply follow the instructions in this current guide to create an Oracle Integration for Oracle SaaS instance.

See:

- [Consumption Models](#)
- [Oracle Integration Editions](#)
- [Universal Credits Model vs. Subscription Model](#)

## Oracle Integration in Government Regions

Oracle Integration 3 is available in US, UK, and Australia government regions.

To learn about the Oracle Integration features available in government regions, see the following documentation resources.

| Government Regions                                                                                                                                                                                                                                                                                                                                                                                                  | Documentation                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>OC2 realm (<a href="#">Oracle Cloud Infrastructure US Government Cloud with FedRAMP Authorization</a>) in the US Gov East (Ashburn) and West (Phoenix) regions</li> <li>OC3 realm (<a href="#">Oracle Cloud Infrastructure US Federal Cloud with DISA Impact Level 5 Authorization</a>) in the US DoD East (Ashburn), North (Chicago), and West (Phoenix) regions</li> </ul> | <i>Using Oracle Integration 3 on Oracle Cloud Infrastructure US Government Cloud</i> |
| <ul style="list-style-type: none"> <li>OC4 realm (<a href="#">United Kingdom Government Cloud</a>) in the UK Gov South (London) and UK Gov West (Newport) regions</li> </ul>                                                                                                                                                                                                                                        | Oracle Integration documentation on the <a href="#">Oracle Help Center</a>           |
| <ul style="list-style-type: none"> <li>OC10 realm (<a href="#">Oracle Cloud for Australian Government and Defence</a>) in the Australia (Canberra) region</li> </ul>                                                                                                                                                                                                                                                | Oracle Integration documentation on the <a href="#">Oracle Help Center</a>           |

## Oracle Integration in the Oracle EU Sovereign Cloud

Oracle Integration 3 is available in the Oracle EU Sovereign Cloud.

To learn about the Oracle EU Sovereign Cloud (OC19 realm), see [Oracle EU Sovereign Cloud](#).

## Universal Credits Model vs. Subscription Model

There are differences in how Oracle Integration features and capabilities are experienced when using the Universal Credits consumption model and the Subscription consumption model.

The following table describes the key experience differences between these two models.

| Area           | Universal Credits                                                                                                                                        | Subscription (Integration for Oracle SaaS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Administration | You can create additional identity domains as needed. This enables you to manage users and resources across multiple domains based on your requirements. | User administration is governed by IAM/identity domain configuration associated with your Oracle SaaS service and your available OCI/IAM entitlements. Besides the Free identity domain type, additional domain options depend on your Universal Credits subscription. There are different types of identity domains that might be available to you. See <a href="#">Feature Availability for Identity Domain Types</a> .<br><br>Different identity domains have different rate limits, which may impact Oracle Integration. See <a href="#">Rate Limits for all Identity Domain Types</a> . |

| Area                             | Universal Credits                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Subscription (Integration for Oracle SaaS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OCI service actions              | <p>You can provision OCI services at any time. If you provision an OCI service that has a service action in Oracle Integration, any integration in Oracle Integration can interact with the service by calling the service action.</p> <p>Oracle Integration MCP server exposes integrations as tools. You can run agentic AI either using OCI Generative AI (if you have access to OCI Generative AI) or by configuring an external Generative AI provider using API keys.</p> | <p>You can interact with an OCI service by calling its service action if you have access to Universal Credits. Your contract with Oracle determines whether you can access these services.</p> <p>Oracle Integration MCP server exposes integrations as tools. You can run agentic AI by configuring an external Generative AI provider using API keys.</p>                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Extended monitoring capabilities | <p>If you provision an OCI service that can receive activity stream data from Oracle Integration, you can send the activity stream data to the service.</p>                                                                                                                                                                                                                                                                                                                     | <p>Accessing OCI logs and metrics through OCI Observability (Oracle Cloud console) typically requires you to have access to OCI and appropriate billing/entitlements (using Universal Credits) for logging/monitoring storage and data ingestion.</p> <p>A tenancy could be subscription-based and use Universal Credits. For example, if you're using a subscription-based model and want to take advantage of certain features that require Universal Credits, you can create a child tenancy (subtenancy) that uses Universal Credits. See <a href="#">Tenancy Management</a> and <a href="#">Child Tenancy Management</a>.</p> <p>You can add Universal Credits into a SaaS tenancy and have all your workload in one tenancy. See <a href="#">Unified OCI Tenancy</a>.</p> |

## Oracle Integration Editions

Oracle Integration is available in several editions: *Standard*, *Enterprise*, and *Healthcare*.

### Included in All Editions

- All editions give you the power to integrate your Software as a Service (SaaS) applications and your on-premises applications.
- Regardless of which edition you choose, Oracle handles cloud and database management and other administrative tasks for you.

### Standard Edition

Standard edition lets you use integrations, *standard* adapters, recipes and accelerators, Visual Builder, and File Server.

**Note**

All Enterprise-edition features are visible in Standard-edition instances. However, if you have a Standard-edition license, you're not entitled to use Enterprise-edition features, unless you update your instance to Oracle Integration Enterprise edition. See [Edit the Edition](#).

**Enterprise Edition**

Enterprise edition provides all the features of Standard edition, plus additional technologies and services, including *enterprise* adapters. Enterprise edition also enables you to perform UI-based automation with robots using robotic process automation; design, automate, and manage your business processes in the cloud with Process Automation; model decision logic to automate policies, computations, and reasoning; and support business-to-business communications using B2B for Oracle Integration.

**Healthcare Edition**

Healthcare edition provides all the features of Enterprise edition, plus additional technologies for Health Level 7 (HL7), including healthcare messages, healthcare adapters, and a healthcare action. See *Using Oracle Integration for Healthcare in Oracle Integration 3*.

**Note**

The Healthcare edition is available only in tenancies that use Universal Credits.

**Comparison of All Editions**

Here's a side-by-side comparison of what's licensed in each edition.

| Technology, service, or feature                | Available in Standard edition | Available in Enterprise edition | Available in Healthcare edition |
|------------------------------------------------|-------------------------------|---------------------------------|---------------------------------|
| Integrations                                   | ✓                             | ✓                               | ✓                               |
| Agentic AI                                     | ✗                             | ✓                               | ✓                               |
| Adapters - Standard                            | ✓                             | ✓                               | ✓                               |
| Adapters - Enterprise <sup>1</sup>             | ✗                             | ✓                               | ✓                               |
| AI assistant                                   | ✗                             | ✓                               | ✓                               |
| B2B                                            | ✗                             | ✓                               | ✓                               |
| <a href="#">Data retention</a>                 | 32 days                       | 32 days <sup>2</sup>            | 184 days                        |
| Decisions <sup>3</sup>                         | ✗                             | ✓                               | ✓                               |
| <a href="#">Disaster recovery</a> <sup>3</sup> | ✗                             | ✓                               | ✓                               |
| Prebuilt recipes and accelerators              | ✓                             | ✓                               | ✓                               |
| File Server                                    | ✓                             | ✓                               | ✓                               |

| Technology, service, or feature         | Available in Standard edition | Available in Enterprise edition | Available in Healthcare edition |
|-----------------------------------------|-------------------------------|---------------------------------|---------------------------------|
| Healthcare action                       | ✗                             | ✗                               | ✓                               |
| Healthcare adapters                     | ✗                             | ✗                               | ✓                               |
| Healthcare message support              | ✗                             | ✗                               | ✓                               |
| Human in the loop <sup>3</sup>          | ✗                             | ✓                               | ✓                               |
| Knowledge base                          | ✗                             | ✓                               | ✓                               |
| LLM adapters                            | ✓                             | ✓                               | ✓                               |
| MCP server                              | ✗                             | ✓                               | ✓                               |
| OCI AI services                         | ✓                             | ✓                               | ✓                               |
| Process Automation <sup>3</sup>         | ✗                             | ✓                               | ✓                               |
| Robotic process automation <sup>3</sup> | ✗                             | ✓                               | ✓                               |
| Visual Builder                          | ✓                             | ✓                               | ✓                               |

**Footnotes:**

<sup>1</sup> Enterprise adapters consist of Oracle E-Business Suite Adapter, Oracle JD Edwards EnterpriseOne Adapter, Oracle Siebel Adapter, and SAP Adapter.

<sup>2</sup> You can increase the data retention period for Enterprise edition, but it may incur extra cost.

<sup>3</sup> Available in select regions. See [Availability](#).

You must enable this feature. See [Enable Additional Features](#).

Incurs extra cost. Make sure you understand which features are supported with Oracle-managed disaster recovery. See [What's Supported?](#) and [What's Not Supported?](#)

**Note**

See Feature Availability in *Using Oracle Integration 3 on Oracle Cloud Infrastructure US Government Cloud* to learn about the Oracle Integration features available in government regions.

## Shapes

Oracle Integration is available in two shapes:

- **Development:** Use this shape only for building and testing. Development instances get updated first, so you can try new features early and catch any issues before they reach production.
- **Production:** Use this shape for your production workload. Support for production instances is prioritized. Updates roll out approximately three weeks after development instances, so you have time for testing on development.

**Note**

- The production shape is available in all regions. The development shape is available in select regions. See [Development Shape Availability](#).
- *Customer-managed* disaster recovery is available in both shapes. *Oracle-managed* disaster recovery is available only in production shape.
- You can't split a single instance into two shapes. Instead, you must create separate instances for each shape.
- You can't change the shape after you create the instance. However, you can move data to another instance using the export and import features. See [Clone the Design-Time Metadata of an Entire Service Instance in Using Integrations in Oracle Integration 3](#).

## License Types

When you create an Oracle Integration instance, you subscribe to a new license or use your existing Oracle Fusion Middleware license. Your choice depends on your tenancy's consumption model. The license type affects the number of messages included in each message pack.

| License type                                     | Available with the following consumption models                                                                                               | Messages per message pack                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New license                                      | <ul style="list-style-type: none"><li>• Universal Credits</li><li>• Oracle Integration Government</li><li>• Subscription (OIC4SaaS)</li></ul> | <ul style="list-style-type: none"><li>• For Universal Credits and Oracle Integration Government: 5,000 billing messages per hour</li><li>• For Subscription (OIC4SaaS): 1 million billing messages per month<br/>Usage is tracked on a monthly basis instead of hourly, which keeps costs predictable even when you have unpredictable hourly volumes.</li></ul> |
| Existing Oracle Fusion Middleware license (BYOL) | <ul style="list-style-type: none"><li>• Universal Credits</li><li>• Oracle Integration Government</li></ul>                                   | <ul style="list-style-type: none"><li>• For both, 20,000 billing messages per hour</li></ul>                                                                                                                                                                                                                                                                     |

**Note**

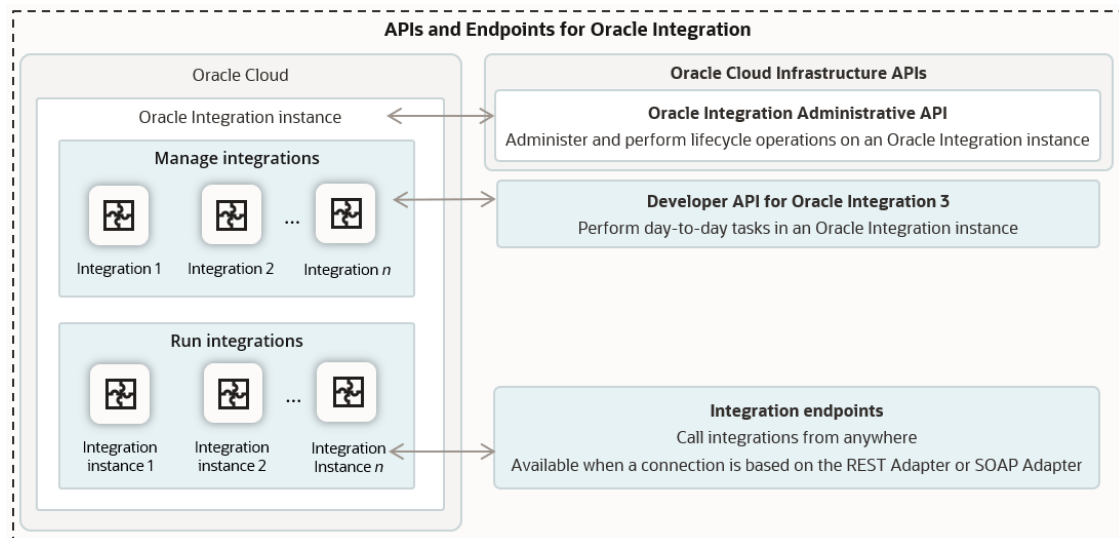
The Healthcare edition is available only in tenancies that use Universal Credits. If you select the Healthcare edition, you can't use an existing Oracle Fusion Middleware license.

## Explore the Oracle Integration APIs

Oracle Integration provides administrative APIs, developer APIs, and endpoints for components.

# Oracle Integration APIs

Every Oracle Integration instance includes access to the following APIs.

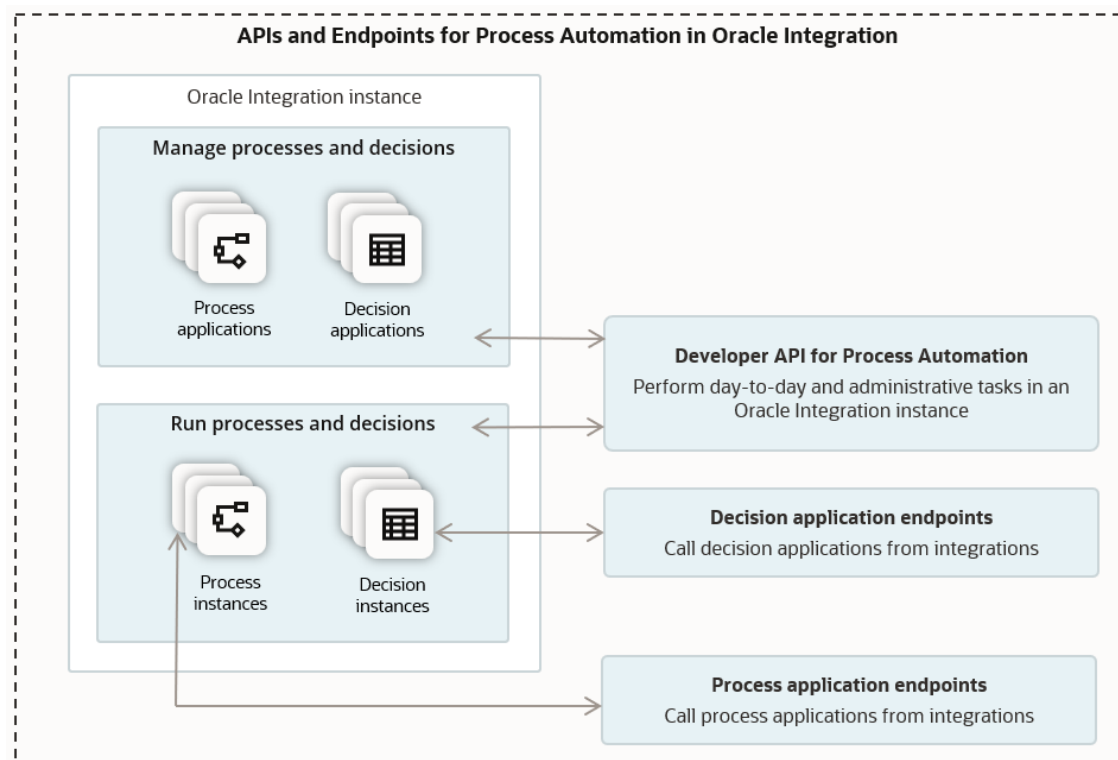


| API                                    | Typical users                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                 | Alternate names                                                                          |
|----------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Oracle Cloud Infrastructure APIs       | OCI tenant and domain administrators | <p>The Oracle Cloud Infrastructure APIs contain service-specific APIs for Oracle Cloud Infrastructure services.</p> <p>Use the Oracle Cloud Infrastructure APIs to perform operations for each service.</p> <p>See <a href="#">API Reference and Endpoints</a> in the Oracle Cloud Infrastructure Documentation.</p>                                                                                                        | Control plane APIs                                                                       |
| Oracle Integration Administrative API  | OCI tenant and domain administrators | <p>Use the Oracle Integration Administrative API to perform lifecycle operations for an Oracle Integration instance, including provisioning an instance, managing custom endpoints, and extending data retention.</p> <p>This API provides access to the activities that you can perform in the user interface of the Oracle Cloud Console. A CLI is also available.</p> <p>See <a href="#">Oracle Integration API</a>.</p> | Control plane API<br>Provisioning and administering APIs<br>OCI lifecycle operations API |
| Developer API for Oracle Integration 3 | Oracle Integration instance users    | <p>Use the Developer API for Oracle Integration 3 to perform day-to-day tasks in an Oracle Integration instance, including interacting with integrations and their related components.</p> <p>This API provides access to the activities that you can perform in the Oracle Integration user interface.</p> <p>See <a href="#">Oracle Integration 3 REST API</a>.</p>                                                       | Oracle Integration instance API<br>Built-in API<br>Factory API<br>Application API        |

| API                   | Typical users                                                | Description                                                                                                                                                                                                                                                 | Alternate names                     |
|-----------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Integration endpoints | Oracle Integration instance users:<br>integration developers | Use an integration endpoint to call an integration from anywhere.<br><br>An integration endpoint is available only when a connection in an integration uses the REST Adapter, SOAP Adapter, or another adapter that exposes inbound REST or SOAP endpoints. | Customer-built APIs<br>Dynamic APIs |

## Process Automation APIs

When you enable Process Automation in your Oracle Integration instance, you have access to the following APIs.

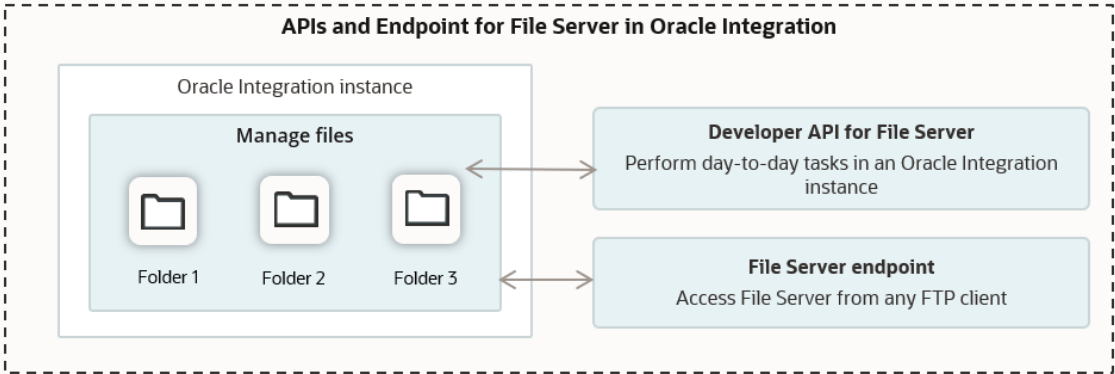


| API                                  | Typical users                                                         | Description                                                                                                                                                                                                                                                       | Alternate names                                                                   |
|--------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Developer API for Process Automation | Oracle Integration instance users                                     | Use the Developer API for Process Automation to automate and manage business processes.<br><br>This API provides access to the activities that you can perform in the Process Automation user interface.<br>See <a href="#">OCI Process Automation REST API</a> . | Process Automation instance API<br>Built-in API<br>Factory API<br>Application API |
| Decision application endpoints       | Oracle Integration instance users:<br>decision application developers | Use a decision application endpoint to call a decision application from anywhere.                                                                                                                                                                                 | n/a                                                                               |

| API                           | Typical users                                                     | Description                                                                     | Alternate names |
|-------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------|
| Process application endpoints | Oracle Integration instance users: process application developers | Use a process application endpoint to call a process application from anywhere. | n/a             |

# File Server APIs

When you enable File Server in your Oracle Integration instance, you have access to the following APIs.



| API                           | Typical users                     | Description                                                                                                                                                                                                                                                                                                                                                                  | Alternate names                                                                                   |
|-------------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Developer API for File Server | Oracle Integration instance users | Use the Developer API for File Server to configure and administer File Server. File Server is an SFTP-compliant repository that is connected to an Oracle Integration instance. This API provides access to the activities that you can perform in the Oracle Integration user interface for File Server. See <a href="#">File Server in Oracle Integration 3 REST API</a> . | Oracle Integration instance API for File Server<br>Built-in API<br>Factory API<br>Application API |
| File Server endpoint          | Oracle Integration instance users | Use the File Server endpoint to access File Server from any integration.                                                                                                                                                                                                                                                                                                     | n/a                                                                                               |

# Availability

Oracle Integration 3 is currently available in the regions listed below. Most features are available in all regions. Any exceptions are noted in this section.

## Most features are available in all regions

Most features are available in all the regions where Oracle Integration is available—for example:

- Production shape
- Integrations
- Model Context Protocol (MCP)

- B2B
- Robotic process automation (RPA)

### Any exceptions are noted in this section

Some features are available in select regions. Those exceptions are noted in the following topics:

- [AI Feature Availability](#)
- [Decisions Availability](#)
- [Development Shape Availability](#)
- [Disaster Recovery Availability](#)
- [Human in the Loop Availability](#)
- [Processes Availability](#)
- [RPA Availability](#)

### Other factors that affect availability

Other factors, such as editions and consumption models, might also affect availability. Those factors are noted in the following topics:

- **Editions**  
For a description of the Oracle Integration editions and a comparison of features available with those editions, see [Oracle Integration Editions](#).
- **Features not enabled by default**  
For information on features that need to be enabled, see [Enable Additional Features](#).
- **US Government Cloud**  
For information about Oracle Integration 3 on US Government Cloud, including feature availability and restrictions on creating an Oracle Integration 3 instance, see *Using Oracle Integration 3 on Oracle Cloud Infrastructure US Government Cloud*.
- **Instance creation restrictions**  
For other restrictions that may impact your ability to create an Oracle Integration instance, see [Restrictions](#).

## Region Availability

Oracle Integration 3 is currently available in the regions listed below.

### APAC

| Region location                 | Region key |
|---------------------------------|------------|
| Australia East (Sydney)         | SYD        |
| Australia Southeast (Melbourne) | MEL        |
| India North (Delhi)             | ONM        |
| India South (Hyderabad)         | HYD        |
| India West (Mumbai)             | BOM        |
| Indonesia (Batam)               | HSG        |
| Japan Central (Osaka)           | KIX        |
| Japan East (Tokyo)              | NRT        |

| Region location               | Region key |
|-------------------------------|------------|
| Malaysia West (Kulai)         | FYV        |
| Malaysia West 2 (Kulai)       | JBP        |
| Singapore                     | SIN        |
| Singapore West                | XSP        |
| South Korea Central (Seoul)   | ICN        |
| South Korea North (Chuncheon) | YNY        |

## EMEA

| Region location                     | Region key |
|-------------------------------------|------------|
| Abu Dhabi                           | AUH        |
| France Central (Paris)              | CDG        |
| France South (Marseille)            | MRS        |
| Germany Central (Frankfurt)         | FRA        |
| Ireland East - Dublin (ZQO)         | ZQO        |
| Israel (Jerusalem)                  | MTZ        |
| Italy (Milan)                       | LIN        |
| Italy North (Turin)                 | NRQ        |
| Morocco West (Casablanca)           | LEJ        |
| Netherlands Northwest (Amsterdam)   | AMS        |
| Saudi Arabia Central (Riyadh)       | RUH        |
| Saudi Arabia West (Jeddah)          | JED        |
| Serbia (Kragujevac)                 | BEG        |
| South Africa Central (Johannesburg) | JNB        |
| Spain Central (Madrid)              | MAD        |
| Spain Central (Madrid)              | ORF        |
| Sweden (Stockholm)                  | ARN        |
| Switzerland North (Zurich)          | ZRH        |
| UAE East (Dubai)                    | DXB        |
| UK Gov South (London)               | LTN        |
| UK Gov West (Newport)               | BRS        |
| UK West (Cardiff)                   | CWL        |
| UK South (London)                   | LHR        |

## EU

For information on EU regions, see [Oracle EU Sovereign Cloud](#) in the Oracle Cloud Infrastructure documentation.

| Region location                  | Region key |
|----------------------------------|------------|
| EU Sovereign Central (Frankfurt) | STR        |
| EU Sovereign South (Madrid)      | VLL        |

## LAD

| Region location              | Region key |
|------------------------------|------------|
| Brazil East (Rio de Janeiro) | SWQ        |
| Brazil East (Sao Paulo)      | GRU        |
| Brazil Southeast (Vinhedo)   | VCP        |
| Chile Central (Santiago)     | SCL        |
| Chile West (Valparaiso)      | VAP        |
| Colombia Central (Bogota)    | BOG        |
| Mexico Central (Queretaro)   | QRO        |
| Mexico Northeast (Monterrey) | MTY        |

## North America

| Region location                        | Region key |
|----------------------------------------|------------|
| Canada Southeast (Montreal)            | YUL        |
| Canada Southeast (Toronto)             | YYZ        |
| <a href="#">US DoD East (Ashburn)</a>  | RIC        |
| <a href="#">US DoD North (Chicago)</a> | PIA        |
| <a href="#">US DoD West (Phoenix)</a>  | TUS        |
| US East (Ashburn)                      | IAD        |
| <a href="#">US Gov East (Ashburn)</a>  | LFI        |
| <a href="#">US Gov West (Phoenix)</a>  | LUF        |
| US Midwest (Chicago)                   | ORD        |
| US Midwest (Des Moines)                | KQQ        |
| US Midwest (Columbus)                  | VKZ        |
| US Midwest (Lenexa)                    | LXO        |
| US Midwest (Shawnee)                   | DRZ        |
| US South (Dallas)                      | DFW        |
| US South Central (Abilene)             | ABL        |
| US West (Phoenix)                      | PHX        |
| US West (Salt Lake City)               | AGA        |
| US West (San Jose)                     | SJC        |
| US West (Quincy)                       | EEM        |
| US West (Seattle)                      | NHJ        |

## DRCC and Alloy

Oracle Integration is available in DRCC and Alloy regions.

- For information on DRCC regions, see [DRCC \(Oracle Dedicated Region Cloud@Customer\)](#).
- For information on Alloy regions, see [Alloy \(dedicated partner region\)](#)

# AI Feature Availability

AI feature support varies by region.

**Note**

AI features are available in select editions of Oracle Integration. See [Comparison of All Editions](#).

| AI feature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Region support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><b>AI assistant features</b></div> <div><div><b>Note</b><br/>To enable or disable the AI assistant in Enterprise or Healthcare editions of Oracle Integration, see <a href="#">Enable or Disable AI Assistant</a>.</div><p>Maximize development productivity in Oracle Integration with the following AI assistant features:</p><ul style="list-style-type: none"><li>• Create Projects Using Natural Language</li><li>• Create and Edit Integrations with Natural Language</li><li>• Schedule Integrations Using Natural Language</li><li>• Automatically Create Descriptions for Projects, Integrations and Other Components</li><li>• Automatically Generate Documentation for Projects and Integrations</li><li>• Query Data Using Natural Language<ul style="list-style-type: none"><li>– Create an AI-Generated FHIR Query</li><li>– Create an AI-Generated ATP SQL Query *</li><li>– Search an ATP Vector Database</li></ul></li><li>• Troubleshoot Errors Faster with AI</li><li>• Use AI to Create Integrations Based on Integrations from the Integration Store</li><li>• Use AI to Create a Trading Partner Setup</li><li>• Use AI to generate an endpoint configuration for a REST Adapter invoke connection</li><li>• Generate Mapping Recommendations **</li><li>• Use AI to Generate Test Cases for an Integration</li></ul></div> | <p>Oracle Integration uses OCI Generative AI for AI assistant features. By default, Oracle Integration enables embedded OCI Generative AI in the following regions:</p> <ul style="list-style-type: none"><li>• US West (Phoenix) - PHX</li><li>• US East (Ashburn) - IAD</li><li>• UK South (London) - LHR</li><li>• Germany Central (Frankfurt) - FRA</li></ul> <p>* AI-generated ATP SQL queries are available in all regions.</p> <p>** The mapping recommendations feature is available only in the following region: UK South (London) - LHR.</p> |

| AI feature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Region support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Oracle Cloud Infrastructure (OCI) AI service actions</b><br>Add OCI AI service actions to your integrations right from the integration canvas. <ol style="list-style-type: none"> <li>1. Use AI to Extract Document Information with a Document Understanding Action</li> <li>2. Generate, Embed, or Rerank Text with a Generative AI Action</li> <li>3. Ask Questions and Receive Answers Based on Current Enterprise Data with a Generative AI RAG Action</li> <li>4. Perform Text Analysis and Translation with a Language Action</li> <li>5. Transcribe Speech to Text and Synthesize Text to Speech with a Speech Action</li> <li>6. Analyze and Extract Information from Images with a Vision Action</li> </ol> | <b>Note:</b> OCI AI service actions are available only in the OCI commercial realm (realm key: OC1).<br>Each OCI AI service has its own region support: <ol style="list-style-type: none"> <li>1. <a href="#">OCI Document Understanding region support</a></li> <li>2. <a href="#">OCI Generative AI region support</a></li> <li>3. <a href="#">OCI Generative AI Agents RAG region support</a></li> <li>4. <a href="#">OCI Language region support</a></li> <li>5. <a href="#">OCI Speech region support</a></li> <li>6. <a href="#">OCI Vision region support</a></li> </ol> |
| <b>LLM adapters</b><br>Add LLM functionality to your integrations with the following adapters: <ul style="list-style-type: none"> <li>• OpenAI Adapter</li> <li>• Anthropic Adapter</li> <li>• OpenSearch Adapter</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Available in all regions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Model Context Protocol (MCP)</b><br>Use Oracle Integration as an AI tool provider by surfacing your existing automation solutions as MCP servers. <ul style="list-style-type: none"> <li>• Model Context Protocol (MCP)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Available in all regions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Agentic AI</b><br>Agentic AI completes a task according to the rules that you give it but in a manner of its choosing. <ul style="list-style-type: none"> <li>• Agentic AI</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Available in all regions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Human in the loop</b><br>Agentic AI can behave in unpredictable ways. When a consistent outcome is important or required, keep a human in the loop to ensure that approvals are managed consistently. <ul style="list-style-type: none"> <li>• Human in the Loop</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                           | Available in select regions. See <a href="#">Human in the Loop Availability</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>AI-Assisted Self-Healing Robots</b><br>Enable AI-assisted self-healing for a robot to allow automatic recovery from supported UI-related failures during runtime. <ul style="list-style-type: none"> <li>• Configure AI-assisted Self-Healing Robots.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Available in select regions. See <a href="#">RPA Availability</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Decisions Availability

Decisions are currently available in the regions listed below.

In addition, decisions must be enabled before you can use the feature. For information on decisions and how to enable them, see *Using Decisions in Oracle Integration 3*.

## APAC

| Region location                 | Region key |
|---------------------------------|------------|
| Australia East (Sydney)         | SYD        |
| Australia Southeast (Melbourne) | MEL        |
| India South (Hyderabad)         | HYD        |
| India West (Mumbai)             | BOM        |
| Japan Central (Osaka)           | KIX        |
| Japan East (Tokyo)              | NRT        |
| Singapore                       | SIN        |
| South Korea Central (Seoul)     | ICN        |
| South Korea North (Chuncheon)   | YNY        |

## EMEA

| Region location                     | Region key |
|-------------------------------------|------------|
| Abu Dhabi                           | AUH        |
| France Central (Paris)              | CDG        |
| Germany Central (Frankfurt)         | FRA        |
| Israel (Jerusalem)                  | MTZ        |
| Italy (Milan)                       | LIN        |
| Netherlands Northwest (Amsterdam)   | AMS        |
| Saudi Arabia Central (Riyadh)       | RUH        |
| Saudi Arabia West (Jeddah)          | JED        |
| South Africa Central (Johannesburg) | JNB        |
| Spain Central (Madrid)              | MAD        |
| Sweden (Stockholm)                  | ARN        |
| Switzerland North (Zurich)          | ZRH        |
| UAE East (Dubai)                    | DXB        |
| UK West (Cardiff)                   | CWL        |
| UK South (London)                   | LHR        |

## LAD

| Region location              | Region key |
|------------------------------|------------|
| Brazil East (Sao Paulo)      | GRU        |
| Brazil Southeast (Vinhedo)   | VCP        |
| Chile Central (Santiago)     | SCL        |
| Chile West (Valparaiso)      | VAP        |
| Colombia Central (Bogota)    | BOG        |
| Mexico Central (Queretaro)   | QRO        |
| Mexico Northeast (Monterrey) | MTY        |

## North America

| Region location             | Region key |
|-----------------------------|------------|
| Canada Southeast (Montreal) | YUL        |
| Canada Southeast (Toronto)  | YYZ        |
| US East (Ashburn)           | IAD        |
| US Midwest (Chicago)        | ORD        |
| US West (Phoenix)           | PHX        |
| US West (San Jose)          | SJC        |

## Development Shape Availability

The production shape is available in all regions. The development shape is available in the regions listed below.

For information on shapes, see [Shapes](#).

## APAC

| Region location                 | Region key |
|---------------------------------|------------|
| Australia East (Sydney)         | SYD        |
| Australia Southeast (Melbourne) | MEL        |
| India South (Hyderabad)         | HYD        |
| India West (Mumbai)             | BOM        |
| Japan East (Tokyo)              | NRT        |
| Singapore                       | SIN        |

## EMEA

| Region location                   | Region key |
|-----------------------------------|------------|
| Abu Dhabi                         | AUH        |
| France Central (Paris)            | CDG        |
| Germany Central (Frankfurt)       | FRA        |
| Israel (Jerusalem)                | MTZ        |
| Italy (Milan)                     | LIN        |
| Serbia (Kragujevac)               | BEG        |
| Netherlands Northwest (Amsterdam) | AMS        |
| Saudi Arabia West (Jeddah)        | JED        |
| Spain Central (Madrid)            | MAD        |
| Switzerland North (Zurich)        | ZRH        |
| UAE East (Dubai)                  | DXB        |
| UK Gov South (London)             | LTN        |
| UK Gov West (Newport)             | BRS        |
| UK West (Cardiff)                 | CWL        |
| UK South (London)                 | LHR        |

## EU

| Region location                                  | Region key |
|--------------------------------------------------|------------|
| <a href="#">EU Sovereign Central (Frankfurt)</a> | STR        |

See [Oracle EU Sovereign Cloud](#) in the Oracle Cloud Infrastructure documentation.

## LAD

| Region location            | Region key |
|----------------------------|------------|
| Brazil East (Sao Paulo)    | GRU        |
| Brazil Southeast (Vinhedo) | VCP        |
| Chile Central (Santiago)   | SCL        |
| Mexico Central (Queretaro) | QRO        |

## North America

| Region location                       | Region key |
|---------------------------------------|------------|
| Canada Southeast (Montreal)           | YUL        |
| Canada Southeast (Toronto)            | YYZ        |
| US East (Ashburn)                     | IAD        |
| <a href="#">US Gov East (Ashburn)</a> | LFI        |
| US Midwest (Shawnee)                  | DRZ        |
| US West (Phoenix)                     | PHX        |
| US West (San Jose)                    | SJC        |

## Disaster Recovery Availability

*Customer-managed* disaster recovery is available in all regions. *Oracle-managed* disaster recovery is currently available in the regions listed below.

For information on disaster recovery options, see [Enable Disaster Recovery](#).

## APAC

| Region location                 | Region key | Paired with |
|---------------------------------|------------|-------------|
| Australia East (Sydney)         | SYD        | MEL         |
| Australia Southeast (Melbourne) | MEL        | SYD         |
| Japan East (Tokyo)              | NRT        | SIN         |
| Singapore                       | SIN        | NRT         |

## EMEA

| Region location | Region key | Paired with |
|-----------------|------------|-------------|
| Abu Dhabi       | AUH        | DXB         |

| Region location                   | Region key | Paired with |
|-----------------------------------|------------|-------------|
| Germany Central (Frankfurt)       | FRA        | AMS         |
| Netherlands Northwest (Amsterdam) | AMS        | FRA         |
| Saudi Arabia Central (Riyadh)     | RUH        | JED         |
| Saudi Arabia West (Jeddah)        | JED        | RUH         |
| UAE East (Dubai)                  | DXB        | AUH         |
| UK West (Cardiff)                 | CWL        | LHR         |
| UK South (London)                 | LHR        | CWL         |

## North America

| Region location             | Region key | Paired with |
|-----------------------------|------------|-------------|
| Canada Southeast (Montreal) | YUL        | YYZ         |
| Canada Southeast (Toronto)  | YYZ        | YUL         |
| US East (Ashburn)           | IAD        | PHX         |
| US West (Phoenix)           | PHX        | IAD         |

## Human in the Loop Availability

Human in the Loop is currently available in the regions listed below.

In addition, human in the loop must be enabled before you can use the feature. For information on human in the loop and how to enable it, see *Using Human in the Loop in Oracle Integration* 3.

## APAC

| Region location                 | Region key |
|---------------------------------|------------|
| Australia East (Sydney)         | SYD        |
| Australia Southeast (Melbourne) | MEL        |
| India South (Hyderabad)         | HYD        |
| India West (Mumbai)             | BOM        |
| Japan Central (Osaka)           | KIX        |
| Japan East (Tokyo)              | NRT        |
| Singapore                       | SIN        |
| South Korea Central (Seoul)     | ICN        |
| South Korea North (Chuncheon)   | YNY        |

## EMEA

| Region location             | Region key |
|-----------------------------|------------|
| Abu Dhabi                   | AUH        |
| France Central (Paris)      | CDG        |
| Germany Central (Frankfurt) | FRA        |
| Israel (Jerusalem)          | MTZ        |

| Region location                     | Region key |
|-------------------------------------|------------|
| Italy (Milan)                       | LIN        |
| Netherlands Northwest (Amsterdam)   | AMS        |
| Saudi Arabia Central (Riyadh)       | RUH        |
| Saudi Arabia West (Jeddah)          | JED        |
| South Africa Central (Johannesburg) | JNB        |
| Spain Central (Madrid)              | MAD        |
| Sweden (Stockholm)                  | ARN        |
| Switzerland North (Zurich)          | ZRH        |
| UAE East (Dubai)                    | DXB        |
| UK West (Cardiff)                   | CWL        |
| UK South (London)                   | LHR        |

## LAD

| Region location              | Region key |
|------------------------------|------------|
| Brazil East (Sao Paulo)      | GRU        |
| Brazil Southeast (Vinhedo)   | VCP        |
| Chile Central (Santiago)     | SCL        |
| Chile West (Valparaiso)      | VAP        |
| Colombia Central (Bogota)    | BOG        |
| Mexico Central (Queretaro)   | QRO        |
| Mexico Northeast (Monterrey) | MTY        |

## North America

| Region location             | Region key |
|-----------------------------|------------|
| Canada Southeast (Montreal) | YUL        |
| Canada Southeast (Toronto)  | YYZ        |
| US East (Ashburn)           | IAD        |
| US Midwest (Chicago)        | ORD        |
| US West (Phoenix)           | PHX        |
| US West (San Jose)          | SJC        |

## Processes Availability

Processes are currently available in the regions listed below.

For information on processes, see *Invoke a Process from an Integration with a Process Action* in *Using Integrations in Oracle Integration 3*.

## APAC

| Region location         | Region key |
|-------------------------|------------|
| Australia East (Sydney) | SYD        |

| Region location                 | Region key |
|---------------------------------|------------|
| Australia Southeast (Melbourne) | MEL        |
| India South (Hyderabad)         | HYD        |
| India West (Mumbai)             | BOM        |
| Japan Central (Osaka)           | KIX        |
| Japan East (Tokyo)              | NRT        |
| Singapore                       | SIN        |
| South Korea Central (Seoul)     | ICN        |
| South Korea North (Chuncheon)   | YNY        |

## EMEA

| Region location                     | Region key |
|-------------------------------------|------------|
| Abu Dhabi                           | AUH        |
| France Central (Paris)              | CDG        |
| Germany Central (Frankfurt)         | FRA        |
| Israel (Jerusalem)                  | MTZ        |
| Italy (Milan)                       | LIN        |
| Netherlands Northwest (Amsterdam)   | AMS        |
| Saudi Arabia Central (Riyadh)       | RUH        |
| Saudi Arabia West (Jeddah)          | JED        |
| South Africa Central (Johannesburg) | JNB        |
| Spain Central (Madrid)              | MAD        |
| Sweden (Stockholm)                  | ARN        |
| Switzerland North (Zurich)          | ZRH        |
| UAE East (Dubai)                    | DXB        |
| UK West (Cardiff)                   | CWL        |
| UK South (London)                   | LHR        |

## LAD

| Region location              | Region key |
|------------------------------|------------|
| Brazil East (Sao Paulo)      | GRU        |
| Brazil Southeast (Vinhedo)   | VCP        |
| Chile Central (Santiago)     | SCL        |
| Chile West (Valparaiso)      | VAP        |
| Colombia Central (Bogota)    | BOG        |
| Mexico Central (Queretaro)   | QRO        |
| Mexico Northeast (Monterrey) | MTY        |

## North America

| Region location             | Region key |
|-----------------------------|------------|
| Canada Southeast (Montreal) | YUL        |

| Region location            | Region key |
|----------------------------|------------|
| Canada Southeast (Toronto) | YYZ        |
| US East (Ashburn)          | IAD        |
| US Midwest (Chicago)       | ORD        |
| US West (Phoenix)          | PHX        |
| US West (San Jose)         | SJC        |

## RPA Availability

Robotic Process Automation (RPA) is currently available in the regions listed below.

For information on RPA, see *Using Robots in Oracle Integration 3*.

## APAC

| Region location                 | Region key |
|---------------------------------|------------|
| Australia East (Sydney)         | SYD        |
| Australia Southeast (Melbourne) | MEL        |
| India South (Hyderabad)         | HYD        |
| India West (Mumbai)             | BOM        |
| Japan East (Tokyo)              | NRT        |
| Singapore                       | SIN        |

## EMEA

| Region location                   | Region key |
|-----------------------------------|------------|
| Abu Dhabi                         | AUH        |
| France Central (Paris)            | CDG        |
| Germany Central (Frankfurt)       | FRA        |
| Netherlands Northwest (Amsterdam) | AMS        |
| Saudi Arabia Central (Riyadh)     | RUH        |
| Saudi Arabia West (Jeddah)        | JED        |
| Spain Central (Madrid)            | MAD        |
| Switzerland North (Zurich)        | ZRH        |
| UAE East (Dubai)                  | DXB        |
| UK West (Cardiff)                 | CWL        |
| UK South (London)                 | LHR        |

## LAD

| Region location         | Region key |
|-------------------------|------------|
| Brazil East (Sao Paulo) | GRU        |

## North America

| Region location             | Region key |
|-----------------------------|------------|
| Canada Southeast (Montreal) | YUL        |
| Canada Southeast (Toronto)  | YYZ        |
| US East (Ashburn)           | IAD        |
| US Midwest (Chicago)        | ORD        |
| US West (Phoenix)           | PHX        |
| US West (San Jose)          | SJC        |

## Oracle and Customer Responsibilities

This table summarizes the division of responsibilities between Oracle and customers in Oracle Integration 3.

**R=Responsible, A=Accountable, C=Consulted, I=Informed**

| Task                               | Oracle's Role | Customer's Role | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------|---------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Patching and upgrade               | R, A          | I               | Oracle completes functional and security patching updates work on your behalf, with no work required by you. See <a href="#">Patching Updates to Your Oracle Integration 3 Instance</a> .<br>Do not stop or start instances on a nightly basis. During routine maintenance patching, lifecycle operations are disabled. This may lead to a situation where the service instance cannot be started or stopped for several hours while the patching cycle completes. See <a href="#">Stop or Start an Instance</a> . |
| High availability                  | R, A          | I               | --                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Disaster recovery                  | C             | R, A            | For information on disaster recovery options, see <a href="#">Enable Disaster Recovery</a> .                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Security and compliance            | R, A          | I               | See Oracle's Security Responsibilities in <i>Securing Oracle Integration 3</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Data retention                     | R, A          | I               | By default, Standard and Enterprise edition instances retain data for 32 days, and Healthcare edition instances retain data for 184 days. If you have an Enterprise edition instance, you can change the data retention period if you want. See <a href="#">Edit the Data Retention Period</a> .                                                                                                                                                                                                                   |
| Maintenance notifications          | R, A          | I               | See <a href="#">Update Notifications</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Service provisioning               | C, A          | R, I            | See <a href="#">Create an Oracle Integration Instance</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| User setup, roles, and permissions | C             | R, A            | See <a href="#">Manage Oracle Cloud Console Access</a> and <a href="#">Manage User Access</a> .                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Overage tracking and management    | C             | R, A            | See <a href="#">Monitor Billing</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Task                                            | Oracle's Role | Customer's Role | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------|---------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test-to-production promotion                    | C             | R, A            | Export and import design-time metadata to move an existing configuration to a new instance. See <i>Clone the Design-Time Metadata of an Entire Service Instance in Using Integrations in Oracle Integration 3</i> .                                                                                                                                                                                                                                                                                                                                                      |
| On-premises connectivity agent installation     | C             | R, A            | You are responsible for the health and monitoring of your on-premises connectivity agents. Oracle doesn't have access to the servers that host your on-premises connectivity agent or the agent logs. See <i>Install the Connectivity Agent in Using Integrations in Oracle Integration 3</i> .                                                                                                                                                                                                                                                                          |
| On-premises connectivity agent upgrade/patching | R, A          | I               | <b>Note:</b> When a new version of the on-premises connectivity agent becomes available, your host is automatically upgraded with the latest version. There is no downtime or interruption of service for in-progress integrations that use the connectivity agent. You are notified of upgrade success.                                                                                                                                                                                                                                                                 |
| Source control and continuous integration       | C             | R, A            | You can implement continuous integration/continuous delivery in Oracle Integration. See <i>Integrate Projects and Project Deployments with a GitHub Repository</i> . You should also consider keeping a backup of your data. See <a href="#">Preserve Your Instance Data</a> .                                                                                                                                                                                                                                                                                           |
| Integration monitoring and management           | C             | R, A            | Make sure that you have enough disc space on your file servers for any integration activity. If you're using Oracle Integration's embedded SFTP server, you can view your available space in the File Server settings. See <i>Configure File Server Settings in Using File Server in Oracle Integration 3</i> . Oracle Integration provides tools to help you monitor your integrations. See <i>Monitor Integrations During Runtime in Using Integrations in Oracle Integration 3</i> . Make sure you're also monitoring events generated outside of Oracle Integration. |

## Patching Updates to Your Oracle Integration 3 Instance

Oracle performs two kinds of patching updates for Oracle Integration: security updates and functional (maintenance) updates, with no downtime.

### Updates Are Mandatory

Oracle completes the patching updates for you. You can't skip or reschedule an update. Updates are mandatory, and Oracle can't accommodate individual schedules.

### No Downtime; Existing Flows Continue

Your service instance won't experience downtime during the update.

During an update existing flows continue to run. If you have flows that run longer than five minutes, you may see an increase in runtime of up to five additional minutes.

### Timing of Updates

- Security updates are applied as necessary to ensure platform protection.
- Functional updates occur every quarter.

### Test Updates on Development

When you create an Oracle Integration instance, you specify the shape—Development or Production. Both instance shapes have the same service level agreements (SLAs); the only difference is the timing of functional updates. Development instances are updated approximately three or more weeks before Production instances. This allows you to test the update on your Development instance before the update is applied to your Production instance.

#### Note

- Not all regions allow Development shapes. See [Availability](#).
- You can't change the shape after you create the instance. However, you can move data to another instance using the export and import features. See *Clone the Design-Time Metadata of an Entire Service Instance in Using Integrations in Oracle Integration 3*.
- In Oracle Integration Generation 2, you chose your update window using tags.

### Update Notifications

Oracle sends two notifications per instance.

- **Mid-December:** Oracle sends a notification listing the quarterly maintenance schedule for the year. A 7-day window is listed for each quarter, with separate windows for each shape (development and production). Your instance will be updated during this window. If a maintenance window isn't finalized when the annual schedule is released, Oracle will send an additional notification at least 4–6 weeks before the update to specify the 7-day window.
- **1-2 weeks before the update:** Oracle sends a follow-up notification specifying a window of less than 24 hours during which the update will be applied.

#### Note

- Update notifications are sent only if your instance is in the OC1 realm.
- For security updates, Oracle does not send notifications.

Update notifications are available in the following ways:

- **Email:** The default tenancy administrator receives the notification by email.
- **Oracle Cloud Console:** Service administrators can see the notification in the Oracle Cloud Console by clicking **Announcements**  in the banner.

- **Oracle Integration web application:** If a service administrator enabled announcements for your Oracle Integration instance, users can see the notification in Oracle Integration by

clicking **Announcements**  in the banner.

For more information on notifications, including how to update who receives notifications, see [Enable Announcements](#).

### New Feature Availability

You see the changes for a release only after your Oracle Integration instance has been updated to the latest release and the feature is available in the realm where your instance is located. To identify the release version of your instance, select the **About** option in your Oracle Integration 3 instance. See *Why Don't I See the Latest Changes?* in *What's New for Oracle Integration 3*.

New features are described in the documentation when functional updates occur. See *About This Guide* in *What's New for Oracle Integration 3*.

# 3

## High-Level Planning and Workflow

Before you create an Oracle Integration instance and provide access to the instance, you need to plan your environment, know who will perform the required tasks, and know where to perform the tasks.

- [Plan Your Environment](#)
- [High-Level Workflow](#)

### Plan Your Environment

This topic lists things to think about before you create an instance.

Plan your environment, including the compartment hierarchy for organizing your resources and the definitions of the user groups that will need access to the resources. See [Learn Best Practices for Setting Up Your Tenancy](#).

| Consideration                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Do you need additional identity domains? | <p>Every tenancy comes with a default identity domain. An identity domain is a container for users, groups, and other access-related information. You can work exclusively in the default identity domain or create additional identity domains in IAM, as needed, to hold different user populations.</p> <p>You typically create additional identity domains for compliance reasons, when you want to maintain isolation among users, policies, and roles. For example, you might create multiple identity domains to maintain the following types of isolation:</p> <ul style="list-style-type: none"> <li>• Between geographies, such as one domain for users in India and another domain for users in the United States.</li> <li>• Between services, such as one domain for Oracle Integration and another domain for another service.</li> <li>• Between instances of a service, such as one domain for each Oracle Integration instance.</li> </ul> <p>For more information about IAM identity domains, see <a href="#">Managing Identity Domains</a> in the Oracle Cloud Infrastructure documentation.</p> <p><b>Manage multiple instances from a single domain</b></p> <p>When you create an Oracle Integration instance, it's associated with an identity domain. By default, it's associated with the domain you're signed into during creation, and you must sign into that domain to manage the instance. If you have multiple instances associated with different identity domains, you have to sign into each domain separately to manage the instances. To simplify management, choose one domain from which to create and manage your instances. Then, during instance creation, associate each instance with a secondary domain that will be used for user population purposes.</p> <p><b>Create separate compartments for each identity domain</b></p> <p>The default identity domain is in your tenancy's root (default) compartment. Although you can create additional domains in that compartment or in another compartment, you might want to create each identity domain in a separate compartment. For example:</p> <ul style="list-style-type: none"> <li>• In the root (default) compartment, use the default domain for administrators only.</li> <li>• In another compartment (for example, named <b>Dev</b>), create a domain for users and groups in a development environment.</li> <li>• In another compartment (for example, named <b>Prod</b>), create a domain for users and groups in a production environment.</li> </ul> <p>For more about compartments, see the next row.</p> |
| Do you need additional compartments?     | <p>When your tenancy is provisioned, a root compartment is created for you. Your root compartment holds <i>all</i> of your cloud resources. Under that root compartment, you create additional compartments to organize and isolate your resources to make it easier to manage and secure access to them.</p> <p>You secure resources with policies, and the policies specify the compartment, so you'll want to consider security requirements when you develop your compartment hierarchy. For example, as mentioned in the previous row, you might want to create a compartment for each identity domain.</p> <p>See <a href="#">Understanding Compartments</a> and <a href="#">Sample Approaches to Setting Up Compartments</a> in the Oracle Cloud Infrastructure documentation.</p> <p>You might also want to set quotas on the number of instances that can be created in a compartment. See <a href="#">Set Instance Quotas on Compartments</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Consideration                                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| What groups do you need to set up?                                       | <p>Your tenancy comes with a group called <i>Administrators</i>, and the default administrator automatically belongs in this group. You can't delete this group, and there must always be at least one user in it.</p> <p>Create groups in IAM to make it easier to assign and manage access to Oracle Integration. You can assign roles and policies to an entire group rather than to each individual user. This means that you need to create groups for controlling Oracle Cloud Console access to Oracle Integration and access to Oracle Integration itself. See <a href="#">What Do Users Need to Access?</a></p> <p>Here are some ideas for categories of groups you might want to create:</p> <ul style="list-style-type: none"> <li>• Organization roles</li> <li>• Departments</li> <li>• Security levels</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| What identity system will you use to manage users?                       | <ul style="list-style-type: none"> <li>• If you are using Oracle Cloud Infrastructure Identity and Access Management (IAM) as your identity system, see <a href="#">Managing Users</a> in the Oracle Cloud Infrastructure documentation.</li> <li>• If you are federating with other identity providers, see <a href="#">Federating with Identity Providers</a> in the Oracle Cloud Infrastructure documentation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| How will you implement Oracle Integration and what features do you need? | <p>There are several factors that affect the way that Oracle Integration works and what features are available:</p> <ul style="list-style-type: none"> <li>• <a href="#">Consumption Models</a></li> <li>• <a href="#">Oracle Integration Editions</a></li> <li>• <a href="#">Shapes</a></li> <li>• <a href="#">License Types</a></li> </ul> <p>You might also want to <a href="#">enable additional features</a>:</p> <ul style="list-style-type: none"> <li>• Announcements—System announcements provide timely and important information to Oracle Integration users.</li> <li>• Compartment quotas—Set quotas on the number of Oracle Integration 3 instances that can be created in a compartment.</li> <li>• Data backup—Export your Oracle Integration instance data and store it for backup purposes.</li> <li>• Decisions—Use a decision to turn unstructured policy content into rule-based decisions.</li> <li>• Disaster recovery—See next row.</li> <li>• Extended data retention—If you have an Enterprise edition instance, you can retain data longer than the default of 32 days.</li> <li>• File Server—Access a built-in SFTP file server that acts as an inbox and outbox for the files you process.</li> <li>• Human in the loop—Use human in the loop to engage a person for oversight, approval, or exception handling.</li> <li>• Instance event notifications—Get notified for events, such as when instances are created, updated, or deleted, and compartments changed.</li> <li>• Process Automation—Rapidly design, automate, and manage business processes.</li> <li>• Visual Builder—Create web applications without any coding.</li> </ul> <p>Additionally, be aware that some features are available in select regions. See <a href="#">Availability</a>.</p> |

| Consideration                                                                                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| How will you handle disaster recovery?                                                               | <p>Establishing a disaster recovery solution ensures business continuity in the event of unexpected disruptions such as natural or human disasters. There are several approaches to implementing disaster recovery:</p> <ul style="list-style-type: none"> <li>• Customer-managed disaster recovery</li> <li>• Oracle-managed disaster recovery</li> <li>• Full stack disaster recovery</li> </ul> <p>For information on disaster recovery options, see <a href="#">Enable Disaster Recovery</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                 |
| How many message packs do you need?                                                                  | <p>By correctly sizing your instance based on peak loads, you ensure smooth, scalable, and resilient day-to-day operations for both your real-time transactions and your scheduled batch processing.</p> <p>See <a href="#">Estimate Message Pack Usage for a Metered Tenancy</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| What networks need access to your Oracle Integration instance and File Server?                       | <p>You can limit inbound access to Oracle Integration and File Server with an allowlist.</p> <p>See <a href="#">Restrict Access to an Instance Using an Allowlist</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Do you need a custom endpoint for your Oracle Integration instance?                                  | <p>If you need to access your Oracle Integration instance with your own hostname (for example, <code>mycustom.example.org</code>), instead of the original instance URL generated in the Oracle Cloud Console, set up a custom endpoint.</p> <p>See <a href="#">Configure a Custom Endpoint for an Instance</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Do you want to manage Oracle Integration endpoints using API Gateway?                                | <p>The API Gateway service enables you to publish APIs (such as integrations) with private endpoints that are accessible from within your network, and which you can expose with public IP addresses if you want them to accept internet traffic. The endpoints support API validation, request and response transformation, CORS, authentication and authorization, and request limiting.</p> <p>Using a single API gateway as a front end for your Oracle Integration instance enables you to present a single cohesive API to API consumers and API clients, even though it actually consists of multiple integrations. You can use a single API gateway to link multiple back-end services (such as load balancers, compute instances, and OCI Functions) into a single consolidated API endpoint.</p> <p>See <a href="#">Manage Integration Endpoints Using API Gateway</a>.</p> |
| Do you need to connect to private resources that are in your virtual cloud network (VCN)?            | <p>Outbound traffic, also called egress traffic, originates in your Oracle Integration instance and goes to your organization's network or a private cloud. All outbound traffic is routed through an adapter. When you use a private endpoint, the outbound traffic is routed on a private channel that is set up within Oracle Cloud Infrastructure. The traffic never goes through the public internet.</p> <p>See <a href="#">Configure a Private Endpoint for Your Instance</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                             |
| Does Oracle Integration need to connect with external services or endpoints that need a certificate? | <p>If you make an SSL connection in which the root certificate does not exist in Oracle Integration, an exception error is thrown. In that case, you must upload the appropriate certificate. A certificate enables Oracle Integration to connect with external services. If the external endpoint requires a specific certificate, request the certificate and then upload it into Oracle Integration.</p> <p>See <a href="#">Upload a Certificate to Connect with External Services</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                        |

## High-Level Workflow

This topic provides a high-level overview of the tasks necessary to set up an Oracle Integration.

This topic assumes you already have a Cloud Account. See [Getting Started](#) in the Oracle Cloud Infrastructure documentation.

| Task                                                     | Who completes this task                                                                    | Where to complete this task | Instructions                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Plan your environment                                    | Tenancy administrator, domain administrator, service administrator, and other stakeholders | N/A                         | Plan your environment, including the compartment hierarchy for organizing your resources and the definitions of the user groups that will need access to the resources. <ul style="list-style-type: none"> <li>• <a href="#">Plan your environment</a></li> </ul>                                                                                                                               |
| Manage Oracle Cloud Console access to Oracle Integration | Tenancy administrator                                                                      | Oracle Cloud Console        | Give service administrators access to create and configure an Oracle Integration instance, and manage the lifecycle of an instance. <ol style="list-style-type: none"> <li>1. <a href="#">Create additional identity domains and compartments</a></li> <li>2. <a href="#">Create groups</a></li> <li>3. <a href="#">Create IAM policies</a></li> <li>4. <a href="#">Create users</a></li> </ol> |
| Create an instance                                       | Tenancy administrator or service administrator                                             | Multiple options            | Use one of the following methods to create an instance: <ul style="list-style-type: none"> <li>• <a href="#">User interface</a></li> <li>• <a href="#">Terraform script</a></li> <li>• <a href="#">Command line</a></li> <li>• <a href="#">API</a></li> </ul>                                                                                                                                   |
| Manage user access                                       | Service administrator                                                                      | Oracle Cloud Console        | Give integration users access to design and monitor integrations. <ol style="list-style-type: none"> <li>1. <a href="#">Create groups</a></li> <li>2. <a href="#">Assign roles to groups</a></li> <li>3. <a href="#">Create users</a></li> </ol>                                                                                                                                                |
| Manage inbound network access                            | Service administrator                                                                      | Multiple interfaces         | There are several ways to manage inbound network access to Oracle Integration: <ul style="list-style-type: none"> <li>• <a href="#">Configure the allowlist</a></li> <li>• <a href="#">Configure a custom endpoint</a></li> <li>• <a href="#">Use API Gateway to manage integration endpoints</a></li> </ul>                                                                                    |

| Task                                 | Who completes this task | Where to complete this task                  | Instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------|-------------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manage outbound network access       | Service administrator   | Multiple interfaces                          | <p>There are several ways to manage outbound network access from Oracle Integration:</p> <ul style="list-style-type: none"> <li>• <a href="#">Connect to private resources</a></li> <li>• <a href="#">Upload a certificate to connect to external resources</a></li> <li>• <a href="#">Configure email authentication with SPF and DKIM</a></li> <li>• Install the Connectivity Agent in <i>Using Integrations in Oracle Integration 3</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                              |
| Enable additional features           | Service administrator   | Multiple interfaces                          | <p>There are several additional features you might want to enable after creating your instance:</p> <ul style="list-style-type: none"> <li>• <a href="#">Enable announcements</a></li> <li>• <a href="#">Set instance quotas on compartments</a></li> <li>• <a href="#">Preserve your instance data</a></li> <li>• Enable decisions in <i>Using Decisions in Oracle Integration 3</i></li> <li>• <a href="#">Enable disaster recovery</a></li> <li>• <a href="#">Edit the data retention period</a></li> <li>• Enable File Server in <i>Using File Server in Oracle Integration 3</i></li> <li>• Enable Human in the Loop in <i>Using Human in the Loop in Oracle Integration 3</i></li> <li>• <a href="#">Get notified when instance events occur</a></li> <li>• <a href="#">Enable Visual Builder</a></li> </ul> |
| Tell everyone they can start working | Service administrator   | Method of your choosing (for example, email) | After completing all the tasks, inform everyone that they can start working in the Oracle Cloud Console or Oracle Integration.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## What Do Users Need to Access?

What the user needs to do determines where the user works and therefore, what they need access to.

- If the user manages the lifecycle for Oracle Integration instances, they work in Oracle Cloud Console, and you give them access through an Oracle Cloud Infrastructure Identity and Access Management (IAM) policy.
- If the user designs and monitors integrations, they work in the Oracle Integration instance, and you give them access by assigning them a service role.

The following table provides more details.

| Where the person works                                                                       | Typical tasks                                                                                      | How to give the person access |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------|
| <p>In the Oracle Cloud Console<br/>OR<br/>With the Oracle Integration Administrative API</p> | Creating and configuring an Oracle Integration instance, and managing the lifecycle of an instance | Grant them IAM policies.      |

| Where the person works                                                                                                                                  | Typical tasks                         | How to give the person access                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------|
| In the Oracle Integration instance<br>OR<br>With the Developer API for Oracle Integration 3<br>OR<br>With integration endpoints (for your integrations) | Designing and monitoring integrations | Assign them service roles for Oracle Integration.                 |
| Both places                                                                                                                                             | All of the above tasks                | Grant them IAM policies and service roles for Oracle Integration. |

# 4

## Manage Oracle Cloud Console Access

Service administrators manage Oracle Integration in the Oracle Cloud Console, and you give them access through Oracle Cloud Infrastructure Identity and Access Management (IAM) policies.

Before you start managing Oracle Cloud Console access to Oracle Integration, you should understand some key concepts:

- Get to know the key features and components of IAM. See [About OCI Identity and Access Management](#).
- Understand who might need access to what, by familiarizing yourself with the resources that can require permissions, and the people and resources who require those permissions. See [What Do Users Need to Access?](#) in this guide and Learn About Users and Resources in *Securing Oracle Integration 3*.

After reviewing the key concepts of access management, you can perform the tasks needed to manage Oracle Cloud Console access to Oracle Integration.

- [Create Additional Identity Domains and Compartments](#)
- [Create Groups for Oracle Cloud Console Access](#)
- [Create IAM Policies](#)
- [Create Users for Oracle Cloud Console Access](#)

## About OCI Identity and Access Management

Oracle Cloud Infrastructure Identity and Access Management (IAM) is a cloud-native security and identity platform. It provides the tools to manage users, groups, and permissions, allowing you to control who has access to your Oracle Cloud Infrastructure (OCI) resources and what actions they can perform. IAM uses concepts like compartments, policies, and roles to define and enforce access controls.

In addition, IAM ensures seamless access for users by integrating with existing identity systems, external providers, and applications, whether they reside in the cloud or on-premises.

## Understand Key IAM Features

IAM provides a robust and flexible framework for managing access to your cloud resources. It achieves this through two core features: identity management and access management.

### Identity Management

This feature manages the identities of users and applications that interact with your Oracle Cloud Infrastructure resources, including Oracle Integration. It covers the entire lifecycle of these identities, from creation to decommissioning. Key aspects of the feature include:

- **Authentication Services:** IAM secures access to resources by authenticating users and applications through various methods, including:

- **Inbound Authentication:** Uses the classic username-password login, often enhanced with multi-factor authentication (MFA) for increased security.
- **Outbound Authentication:** Facilitates Oracle Cloud Infrastructure services to authenticate with external systems or applications, ensuring secure integrations.
- **Single Sign-On (SSO):** Seamlessly integrates with corporate identity providers, enabling users to access Oracle Cloud Infrastructure resources using their existing credentials.

For details on the various credential types that you can use for authentication, see [Working with User Credentials](#).

- **Identity Lifecycle Management:** IAM provides a centralized platform for managing user accounts and their attributes, including account creation, modification, disabling, deletion, and password resets. This ensures simplified administration and consistent policy enforcement. See [Lifecycle for Managing Users](#).
- **Federation with Other Identity Providers:** IAM integrates seamlessly with existing identity providers and stores (for example, Microsoft Active Directory, Azure AD, SAML 2.0 providers), allowing you to use existing user directories and avoid duplicate accounts. This reduces overhead and improves user experience. See [Federating with Identity Providers](#).

### Access Management

After a user or application is authenticated, the access management features determine what they can do within your Oracle Cloud Infrastructure environment. This enables granular control over resource access.

- **Authorization:** This is the core function of access management. It defines who has access to what resources. By design, IAM's authorization mechanism uses the principle of least privilege, granting users only the minimum necessary permissions to perform a particular task.
- **Role-Based Access Control (RBAC):** IAM uses RBAC, where permissions are grouped into roles, and users are assigned to these roles. Policies, written in a human-readable format, define these roles and their permissions on specific resources. See [Assigning Users to Roles](#) and [Managing Policies](#).
- **Policy Enforcement:** When a user attempts an action on a resource (for example, launching an Oracle Cloud Infrastructure compute instance), IAM checks the policies associated with the user's role. If the policies explicitly grant permission for that specific action and resource, the action is allowed; otherwise, it's denied. This dynamic evaluation ensures consistent and secure access control across your Oracle Cloud Infrastructure environment. See [How Policies Work](#).

## Understand Key IAM Components

Before managing roles and accesses for Oracle Integration, familiarize yourself with these key IAM components.

- **Identity Domains:** A logical grouping for managing users, groups, or applications, and their access to resources within a tenancy. Every tenancy contains a **Default** identity domain, and you can create additional identity domains as needed to hold different user populations. Each identity domain is essentially a separate IAM solution. See [Managing Identity Domains](#).
- **Compartments:** A logical grouping of Oracle Cloud Infrastructure resources. You can use compartments to segregate access to different users, for example, creating one for employee resources and another for customer resources. See [Understanding Compartments](#).

- **Users:** Identities that represent either individuals or applications that interact with Oracle Cloud Infrastructure resources. See [Managing Users](#).
- **Groups:** A collection of users who require the same type of access to a set of resources. See [Managing Groups](#).
- **Policies:** Statements that specify who can access which Oracle Cloud Infrastructure resources and what actions they can perform. See [Managing Policies](#).
- **Roles:** A set of permissions assigned to users in an identity domain. See [Assigning Users to Roles](#).

For a comprehensive overview on IAM, see [Overview of IAM](#) in the Oracle Cloud Infrastructure documentation.

## Create Additional Identity Domains and Compartments

Every tenancy comes with a default identity domain and a root (default) compartment. You might need to create additional identity domains to hold different user populations, and you might want to store each identity domain in its own compartment.

### Why Create Additional Identity Domains

An identity domain is a container for users, groups, and other access-related information. Although you can work exclusively in the default identity domain, you might need to create additional identity domains for compliance reasons, when you want to maintain isolation among users, policies, and roles. For example, you might create multiple identity domains to maintain the following types of isolation:

- Between geographies, such as one domain for users in India and another domain for users in the United States.
- Between services, such as one domain for Oracle Integration and another domain for another service.
- Between instances of a service, such as one domain for each Oracle Integration instance.

For more information about IAM identity domains, see [Managing Identity Domains](#) in the Oracle Cloud Infrastructure documentation.

### How to Create an Identity Domain

In the Oracle Cloud Console, on the **Domains** page, click **Create domain**. See [Creating an Identity Domain](#) in the Oracle Cloud Infrastructure documentation.

### Manage Multiple Instances from a Single Domain

When you create an Oracle Integration instance, it's associated with an identity domain. By default, it's associated with the domain you're signed into during creation, and you must sign into that domain to manage the instance. If you have multiple instances associated with different identity domains, you have to sign into each domain separately to manage the instances. To simplify management, choose one domain from which to create and manage your instances. Then, during instance creation, associate each instance with a secondary domain that will be used for user population purposes.

### Why Create Additional Compartments

The default identity domain is in your tenancy's root compartment. Although you can create additional domains in that compartment or in another compartment, you might want to create each identity domain in a separate compartment. For example:

- In the root (default) compartment, use the default domain for administrators only.
- In another compartment (for example, named **Dev**), create a domain for users and groups in a development environment.
- In another compartment (for example, named **Prod**), create a domain for users and groups in a production environment.

When creating compartments, you should also consider these [compartment tips for IAM policies](#).

For other tenancy best practices, see [Learn Best Practices for Setting Up Your Tenancy](#) in the Oracle Cloud Infrastructure documentation.

### How to Create a Compartment

In the Oracle Cloud Console, on the **Compartments** page, click **Create Compartment**. See [Create a compartment](#) in the Oracle Cloud Infrastructure documentation.

You might also want to set quotas on the number of instances that can be created in a compartment. See [Set Instance Quotas on Compartments](#).

## Create Groups for Oracle Cloud Console Access

As a best practice, you should assign permissions to groups rather than to individual users. For this reason, you'll want to create groups for your service administrators. Then you can grant the groups Oracle Cloud Console access by creating Oracle Cloud Infrastructure Identity and Access Management (IAM) policies.

### Group Suggestions

You might want to create groups based on roles in your organization or based on what the members have permission to do. For example, you might create a group called `OICServiceManagers` for users who will be allowed to update, start, and stop instances; and another group called `OICServiceAdministrators` for users who will be allowed to create, delete, and move instances.

### How to Create a Group

In the Oracle Cloud Console, on the **Domains** page, open your domain, and click the **User management** tab. See [Creating a Group](#) in the Oracle Cloud Infrastructure documentation.

## Create IAM Policies

Create policies in Oracle Cloud Infrastructure Identity and Access Management (IAM) to provide service administrators Oracle Cloud Console access to Oracle Integration.

For more information, see:

- [IAM Policies Overview](#) in the Oracle Cloud Infrastructure documentation
- [IAM Policies for Oracle Integration](#)

**Note**

Each IAM policy governs only a single instance. Your organization might have multiple instances of Oracle Integration. For example, you might have a development instance, as well as testing and production instances.

**How to Create an IAM Policy**

1. In the Oracle Cloud Console, open the navigation menu and click **Identity & Security**, then, under **Identity**, click **Policies**.
2. Click **Create Policy**.
3. In the Create Policy window, enter a name (for example, IntegrationGroupPolicy) and a description.
4. Make sure you've selected the compartment in which you want to create the policy. See [Compartment Tips](#).
5. Under **Policy Builder**, select **Show manual editor** and enter the required policy statements.

**Syntax:**

- allow group *domain-name/group-name* to verb *resource-type* in compartment *compartment-name*
- allow group *domain-name/group-name* to verb *resource-type* in tenancy

**Where:**

- *domain-name* is the domain that includes the group you're giving access to. If you omit the domain name, the default domain is assumed.
- *group-name* is the group you're giving access to. You'll want to create separate groups for each level of access you want to provide. For example, create one group that will have read access and one that will have manage access.
- *verb* is the type of access you're granting. You're most likely to grant read access, which allows users to view Oracle Integration instances and their details; or manage access, which allows users full permissions for Oracle Integration instances (create, delete, edit, move, and view).

Alternatively, you can grant more fine-grained access with permissions (typically used by power users).

For more information, see [IAM Policies for Oracle Integration](#).

- *resource-type* is integration-instance for Oracle Integration.
- *compartment-name* is the compartment that includes your Oracle Integration instance.

**Example:**

- allow group admin/oci-integration-admins to manage integration-instance in compartment OICCompartment

This policy statement allows the oci-integration-admins group in the admin domain to manage all Oracle Integration instances (integration-instance) in compartment OICCompartment.

6. If desired, you can add a policy to allow members of the group to view message metrics, as described in [Stay Within Budget: Track Billing Metrics](#).

**Example:**

- allow group oci-integration-admins to read metrics in compartment OICPMCompartment

**7. Click Create.**

The policy statements are validated and any syntax errors are displayed.

## Create Users for Oracle Cloud Console Access

Create users and assign them to your service administrator groups to give them Oracle Cloud Console access to Oracle Integration.

Create one user for each person who needs access. You assign users to one or more groups when you create the users.

**How to Create Users**

- If you are using Oracle Cloud Infrastructure Identity and Access Management (IAM) as your identity system, In the Oracle Cloud Console, on the **Domains** page, open your domain, and click the **User management** tab. See [Creating a User](#) in the Oracle Cloud Infrastructure documentation.
- If you are federating with other identity providers, see [Federating with Identity Providers](#) in the Oracle Cloud Infrastructure documentation.

## IAM Policies for Oracle Integration

Use Oracle Cloud Infrastructure Identity and Access Management (IAM) policies to control access to resources in your tenancy. For example, you can create a policy that authorizes users to create and manage Oracle Integration instances.

You create IAM policies using the Oracle Cloud Console. See the following Oracle Cloud Infrastructure documentation:

- [Managing Policies](#)
- [IAM Policies Overview](#)
- [Advanced Policy Features](#)

## Compartment Tips

You can create a policy in any compartment. However, be aware that you can only view and manage policies one compartment at a time; you can't get a single list of all policies in a tenancy. You might want to set up a strategy to organize your policies so they're easy to find. Here are some things to take into account when creating policies:

- Policies are inherited from the parent compartment.
- The compartment in which you create the policy determines who can modify or delete the policy.
- Use compartments to separate resources between projects or business units.
- Use a consistent naming format and good descriptions to make it easier to know what policies are used for.

## Resource Type

The resource type available for Oracle Integration is:

- `integration-instance`

## Supported Variables

The `integration-instance` resource type can use the following variables.

| Supported Variables                                                 | Variable                                    | Variable Type | Description                                                                            |
|---------------------------------------------------------------------|---------------------------------------------|---------------|----------------------------------------------------------------------------------------|
| <b>Required Variables Supplied by the Service for Every Request</b> | <code>target.compartment.id</code>          | ENTITY        | The OCID of the primary resource for the request.                                      |
|                                                                     | <code>request.operation</code>              | STRING        | The operation id (for example <code>GetUser</code> ) for the request.                  |
|                                                                     | <code>target.resource.kind</code>           | STRING        | The resource kind name of the primary resource for the request.                        |
| <b>Automatic Variables Supplied by the SDK for Every Request</b>    | <code>request.user.id</code>                | ENTITY        | For user-initiated requests. The OCID of the calling user.                             |
|                                                                     | <code>request.groups.id</code>              | LIST(ENTITY)  | For user-initiated requests. The OCIDs of the groups of <code>request.user.id</code> . |
|                                                                     | <code>target.compartment.name</code>        | STRING        | The name of the compartment specified in <code>target.compartment.id</code> .          |
|                                                                     | <code>target.tenant.id</code>               | ENTITY        | The OCID of the <code>target.tenant.id</code> .                                        |
| <b>Additional Variables for Oracle Integration</b>                  | <code>target.integration-instance.id</code> | ENTITY        | The OCID of the Oracle Integration instance that was created.                          |

## Details for Verb + Resource-Type Combinations

The following table shows the permissions and API operations covered by each verb. The level of access is cumulative as you go from `INSPECT` to `READ` to `USE` to `MANAGE`.

| Verb           | Permissions                                                                                                                                                                                                                                                                                             | APIs Fully Covered                                                                                                                                                                           | APIs Partially Covered |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>INSPECT</b> | <ul style="list-style-type: none"> <li>• <code>INTEGRATION_INSTANCE_INSPECT</code></li> </ul>                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• <code>ListIntegrationInstances</code></li> <li>• <code>ListWorkRequests</code></li> </ul>                                                           | None                   |
| <b>READ</b>    | <ul style="list-style-type: none"> <li>• Inherits from <code>INSPECT</code>:               <ul style="list-style-type: none"> <li>– <code>INTEGRATION_INSTANCE_INSPECT</code></li> </ul> </li> <li>• <code>INTEGRATION_INSTANCE_READ</code></li> </ul>                                                  | <ul style="list-style-type: none"> <li>• <code>GetIntegrationInstance</code></li> <li>• <code>GetWorkRequest</code></li> </ul>                                                               | None                   |
| <b>USE</b>     | <ul style="list-style-type: none"> <li>• Inherits from <code>READ</code>:               <ul style="list-style-type: none"> <li>– <code>INTEGRATION_INSTANCE_INSPECT</code></li> <li>– <code>INTEGRATION_INSTANCE_READ</code></li> </ul> </li> <li>• <code>INTEGRATION_INSTANCE_UPDATE</code></li> </ul> | <ul style="list-style-type: none"> <li>• <code>UpdateIntegrationInstances</code></li> <li>• <code>StartIntegrationInstance</code></li> <li>• <code>StopIntegrationInstance</code></li> </ul> | None                   |

| Verb          | Permissions                                                                                                                                                                                                                                                                                                                               | APIs Fully Covered                                                                                                                                   | APIs Partially Covered |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>MANAGE</b> | <ul style="list-style-type: none"> <li>Inherits from USE: <ul style="list-style-type: none"> <li>INTEGRATION_INSTANCE_INSPECT</li> <li>INTEGRATION_INSTANCE_READ</li> <li>INTEGRATION_INSTANCE_UPDATE</li> </ul> </li> <li>INTEGRATION_INSTANCE_CREATE</li> <li>INTEGRATION_INSTANCE_DELETE</li> <li>INTEGRATION_INSTANCE_MOVE</li> </ul> | <ul style="list-style-type: none"> <li>CreateIntegrationInstance</li> <li>DeleteIntegrationInstance</li> <li>ChangeIntegrationCompartment</li> </ul> | None                   |

## Permissions Required for Each API Operation

| API Operation                | Permissions Required to Use the Operation |
|------------------------------|-------------------------------------------|
| ListIntegrationInstances     | INTEGRATION_INSTANCE_INSPECT              |
| GetIntegrationInstance       | INTEGRATION_INSTANCE_READ                 |
| CreateIntegrationInstance    | INTEGRATION_INSTANCE_CREATE               |
| DeleteIntegrationInstance    | INTEGRATION_INSTANCE_DELETE               |
| UpdateIntegrationInstances   | INTEGRATION_INSTANCE_UPDATE               |
| StartIntegrationInstance     | INTEGRATION_INSTANCE_UPDATE               |
| StopIntegrationInstance      | INTEGRATION_INSTANCE_UPDATE               |
| ListWorkRequests             | INTEGRATION_INSTANCE_INSPECT              |
| GetWorkRequest               | INTEGRATION_INSTANCE_READ                 |
| ChangeIntegrationCompartment | INTEGRATION_INSTANCE_MOVE                 |

# 5

## Create an Oracle Integration Instance

There are several ways to create an Oracle Integration 3 instance.

### Note

Review the [Restrictions](#) before creating an Oracle Integration 3 instance.

Here's a comparison of each method of creating an instance, including the method's complexity and its pros and cons.

| Method                         | Complexity | Benefits                                                                                                | Challenges                                                                                                                                                            |
|--------------------------------|------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">User interface</a> | Low        | Simple to use. Provides a web form-driven approach.                                                     | Doesn't lend itself to automation. Certain scenarios can't be implemented using this method.                                                                          |
| <a href="#">Command line</a>   | Medium     | Can be scripted using any shell that has the OCI command line configured. Supports all use cases.       | Requires looking up OCIDs of various parameters such as compartment ID and potentially the identity domain. The OCI environment must be configured ahead of time.     |
| <a href="#">Terraform</a>      | Medium     | Can be easily integrated with creation of other resources such as compartments. Supports all use cases. | Requires retrieving OCIDs either through variables from other terraform actions or as directly-injected values. The OCI environment must be configured ahead of time. |
| <a href="#">API</a>            | High       | Supports all use cases. Can be used with a variety of programming languages.                            | Requires getting OCIDs. The OCI environment must be configured ahead of time.                                                                                         |

## Restrictions

Note the following restrictions when creating Oracle Integration instances.

- For [Oracle Integration in Government Regions](#), see Restrictions in *Using Oracle Integration 3 on Oracle Cloud Infrastructure US Government Cloud*.
- With the proper permissions you can create Oracle Integration 3 instances in any Oracle data region listed in [Availability](#).  
Tenancy administrators have the permissions required to create and edit Oracle Integration instances. To allow other users to perform these tasks, the tenancy administrator must set up user groups and create the appropriate Oracle Cloud Infrastructure Identity and Access Management (IAM) policies. See [Manage Oracle Cloud Console Access](#).
- You can create the Oracle Integration instance in any identity domain that's available in the current region (the region in which you're creating the instance). That means you can create the instance in:
  - The default identity domain (which is available in all regions to which the tenant is subscribed).

- Any identity domain created in the current region.
- An identity domain that was created in another region and has been replicated to the current region. See [Replicating an Identity Domain to Multiple Regions](#).
- To create an Oracle Integration instance, you must be a tenancy administrator or have been granted the permissions required to create Oracle Integration instances. See [Manage Oracle Cloud Console Access](#).
- You can no longer create a new Oracle Integration Generation 2 instance.

**Note**

Oracle Integration Generation 2 was discontinued on August 31, 2025. You must [upgrade](#) any Oracle Integration Generation 2 instances to Oracle Integration 3.

## Create an Instance Using the User Interface

Create an Oracle Integration instance in a selected compartment using the Oracle Cloud Console.

### Before you create a service instance

Note the following points before creating your Oracle Integration instance:

- For the list of regions in which you can create an Oracle Integration instance and the options and features available in those regions, see [Availability](#).
- For information on restrictions when creating an Oracle Integration instance, see [Restrictions](#).
- Ensure that the compartment you plan to use for your Oracle Integration instance has been created. See [Learn Best Practices for Setting Up Your Tenancy](#). To create a compartment, see [Create a compartment](#) in the Oracle Cloud Infrastructure documentation.
- During instance creation, your Oracle Integration 3 instance is associated with an Oracle Cloud Infrastructure Identity and Access Management (IAM) identity domain, either the one you're signed into or one you select in the advanced options. You can't change the identity domain association after instance creation.
- The steps here apply to Oracle Integration 3 and Oracle Integration for SaaS. Differences in instance creation are noted. For more information about the SaaS version, see [Oracle Integration for Oracle SaaS](#).

### Create a service instance

1. After signing in to the Oracle Cloud Console, select the region in which to create an instance.

For information about regions, see Regions and Availability Domains.



2. Open the navigation menu and click **Developer Services**. Under **Application Integration**, click **Integration**.
3. Next to **Applied filters**, make sure you're viewing the compartment in which you want to create the instance. If you aren't, click the compartment, expand the hierarchy of compartments, select the one you want, and click **Apply filter**. Compartments can contain other compartments. If you created a new compartment or were recently given access to a compartment, it might take several minutes for the compartment to appear.

**Note**

Do not create your instance in the root or ManagedCompartmentForPaaS compartment.

The page is refreshed to show any existing instances in that compartment.

4. Click **Create instance**.
5. Enter the following details:

| Field             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name              | Enter a name for this instance. The name becomes part of the URL for accessing the instance.                                                                                                                                                                                                                                                                                                                                                  |
| Tags              | Optionally, add tags to help you organize your resources in your tenancy. Click <b>Add tag</b> to get started. See <a href="#">Resource Tags</a> .                                                                                                                                                                                                                                                                                            |
| Version           | Shows that you're creating a Oracle Integration 3 instance. You can no longer create a new Oracle Integration Generation 2 instance.<br><b>Note:</b> Oracle Integration Generation 2 was discontinued on August 31, 2025. You must <a href="#">upgrade</a> any Oracle Integration Generation 2 instances to Oracle Integration 3.                                                                                                             |
| Consumption model | Typically, only one consumption model is displayed, but if multiple consumption models are available in your tenancy, select the one you want to use for this instance: <ul style="list-style-type: none"><li>• <b>Universal credits</b><br/><b>Note:</b> The Healthcare edition is available only in tenancies that use Universal Credits.</li><li>• <b>Subscription (OIC4SaaS)</b></li><li>• <b>Oracle Integration Government</b></li></ul> |

| Field   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Edition | <p>Select the edition you want this instance to be:</p> <ul style="list-style-type: none"> <li>• <b>Standard:</b> Includes integrations, <i>standard</i> adapters, recipes and accelerators, Visual Builder, and File Server.</li> <li>• <b>Enterprise:</b> Includes all the features of Standard edition, plus additional technologies and services, including <i>enterprise</i> adapters, and enables you to design, automate, and manage your business processes in the cloud with Process Automation, perform UI-based automation with robots using robotic process automation, and support business-to-business communications using B2B for Oracle Integration. This edition also supports disaster recovery.</li> <li>• <b>Healthcare:</b> Includes all the features of Enterprise edition, plus additional technologies for Health Level 7 (HL7), including an MLLP adapter, a FHIR adapter, and healthcare action. This edition also supports disaster recovery.<br/><b>Note:</b> The Healthcare edition is available only in tenancies that use Universal Credits.</li> </ul> <p>See <a href="#">Oracle Integration Editions</a> to see what's licensed in each edition.</p>                                                                                                                                                                                                                 |
| Shape   | <p>Select a shape for this instance—<b>Development</b> or <b>Production</b>.</p> <ul style="list-style-type: none"> <li>• <b>Development:</b> Use this shape only for building and testing. Development instances get updated first, so you can try new features early and catch any issues before they reach production.</li> <li>• <b>Production:</b> Use this shape for your production workload. Support for production instances is prioritized. Updates roll out approximately three weeks after development instances, so you have time for testing on development.</li> </ul> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>• The production shape is available in all regions. The development shape is available in select regions. See <a href="#">Development Shape Availability</a>.</li> <li>• <i>Customer-managed</i> disaster recovery is available in both shapes. <i>Oracle-managed</i> disaster recovery is available only in production shape.</li> <li>• You can't split a single instance into two shapes. Instead, you must create separate instances for each shape.</li> <li>• You can't change the shape after you create the instance. However, you can move data to another instance using the export and import features. See Clone the Design-Time Metadata of an Entire Service Instance in <i>Using Integrations in Oracle Integration 3</i>.</li> </ul> |

| Field         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| License type  | <p><b>Note:</b> If you are provisioning Oracle Integration for SaaS, this field is read-only and displays <b>Subscribe to a new Oracle Integration license</b>. Each message pack for Oracle Integration for SaaS includes 1 million billing messages per <i>month</i>.</p> <p>Select a license type for this instance.</p> <ul style="list-style-type: none"> <li>• <b>Subscribe to a new Oracle Integration license:</b> Select this option if you want to purchase a new license. With this option, each message pack includes 5,000 billing messages per hour.</li> <li>• <b>Existing Oracle Fusion Middleware license (BYOL):</b> Select this option if you want to use your existing license. With this option, each message pack includes 20,000 billing messages per hour.</li> </ul> <p><b>Note:</b> This option isn't available if you selected the Healthcare edition.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Message packs | <p>Message pack size is based on the type of Oracle Integration license you selected.</p> <ul style="list-style-type: none"> <li>• For Oracle Integration:             <ul style="list-style-type: none"> <li>– If you created a new Oracle Integration license in the cloud:                 <ul style="list-style-type: none"> <li>– Each message pack includes 5,000 billing messages per hour.</li> <li>– You can subscribe to up to 100 message packs.</li> </ul> </li> <li>– If you brought an existing Oracle Fusion Middleware license to the cloud (BYOL):                 <ul style="list-style-type: none"> <li>– Each message pack includes 20,000 billing messages per hour.</li> <li>– You can subscribe to up to 100 message packs.</li> </ul> </li> </ul> </li> <li>• For Oracle Integration for SaaS:             <ul style="list-style-type: none"> <li>– Each message pack includes 1 million billing messages per month. Usage is tracked on a monthly basis instead of hourly, which keeps costs predictable even when you have unpredictable hourly volumes.</li> <li>– You can subscribe to up to 43 message packs.</li> </ul> </li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• You are responsible for billing based on the number of message packs you select. Select enough message packs to adequately handle your instance's activity. See <a href="#">Estimate Message Pack Usage for a Metered Tenancy</a>.</li> <li>• Non-production instances, for example instances for development or QA, typically need only one message pack.</li> <li>• The number of message packs you subscribe to can also affect the processing time of synchronous requests. See <a href="#">Message Pack Usage and Synchronous/Asynchronous Requests</a>.</li> <li>• To understand how billing message usage is calculated for different features, see <a href="#">How Features Impact Billing Messages</a>.</li> </ul> |
| Access token  | <p>If this field is displayed, you are trying to create an instance as a non-federated user. Sign in as a federated user and restart creating an instance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

6. You might also want to configure some advanced options:

| Field               | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identity domain     | <p>If you created additional identity domains to hold different user populations, you can associate this Oracle Integration instance with one of those <i>secondary</i> identity domains. This allows you to manage all your instances from a single domain (the one you're currently signed into), rather than having to sign into each domain separately.</p> <p>Enter the information for the secondary identity domain to which you want to associate the instance.</p> <ul style="list-style-type: none"> <li><b>Compartment:</b> The compartment you select here is the one that includes the secondary identity domain, not the one in which the instance will be created. The instance will be created in the compartment you selected in <a href="#">step 3</a>.</li> <li><b>Domain:</b> Select the secondary identity domain you want to associate with this instance.<br/> <b>Note:</b> You must have <b>read</b> permission for the secondary identity domain. If you don't, the secondary identity domain administrator needs to add an IAM policy such as the following:<br/> <pre>Allow group primary_identity_domain/group_name to read domains in compartment secondary_identity_domain_compartment</pre> See <a href="#">Managing Policies</a> and <a href="#">Details for IAM with Identity Domains</a>.</li> </ul> <p>If you configure a secondary identity domain, Oracle Integration creates an Oracle Cloud service in the secondary identity domain when it provisions your Oracle Integration 3 instance. If you don't configure a secondary identity domain, the Oracle Cloud service is created in the primary identity domain—the one you're signed into.</p> <p>After the Oracle Integration 3 instance has been created in the secondary identity domain, you need to assign administrators the ServiceAdministrator role in the Oracle Cloud service that was created. See <a href="#">Assign Roles to Groups</a>.</p> |
| Network access      | Configure an allowlist for your instance. See <a href="#">Configure an Allowlist for Your Instance</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Disaster recovery   | <p>If you want to configure disaster recovery, select <b>Enable disaster recovery</b>. This installs a primary instance in one region and a secondary instance in another region. To see this option, you must have selected <b>Enterprise</b> or <b>Healthcare</b> as the edition and <b>Production</b> as the shape, and you must be in a region that supports disaster recovery pairing.</p> <p>See Introduction to Oracle-Managed Disaster Recovery in <i>Configuring an Oracle-Managed Disaster Recovery Solution for Oracle Integration 3</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Security attributes | Configure Oracle Cloud Infrastructure Zero Trust Packet Routing (ZPR) security attributes for your instance. See <a href="#">Assign ZPR Security Attributes to Your Instance</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## 7. Click **Create**.

If you have any issues trying to create an instance, see [Troubleshoot Oracle Integration Instance Creation](#).

When instance creation completes successfully, the instance shows as **Active** in the **State** column.

Once created, an instance is visible only in the region in which it was created.

## Troubleshoot Oracle Integration Instance Creation

This topic provides some tips for troubleshooting Oracle Integration instance creation.

### Oracle Integration 3 is not available to all users or Missing parameter (isByol)

If you receive the error "Missing parameter (isByol)" when you click **Create**, perform the following steps:

1. Ensure you can see the Oracle Integration service in the Oracle Cloud Console.
  - a. In the Oracle Cloud Console, open the navigation menu and click **Identity & Security**. Under **Identity**, click **Domains**.
  - b. Open your domain. The default domain is **OracleIdentityCloudService**.
  - c. In the tabs across the top, click **Oracle cloud services**.
  - d. Search for Integration for the Oracle Integration service:
    - For Oracle Integration, you should see **INTEGRATIONCAUTO**.
    - For Oracle Integration for SaaS, you should see **INTEGRATIONSUB**.
  - e. If you see the Oracle Integration service, submit a Service Request to Oracle Support. If you don't see it, move on to the next step.
2. If you don't see the Oracle Integration service, confirm that your Cloud Account Administrator activated the Oracle Integration service (by clicking the link in the email titled "XXX").
3. If the administrator didn't activate the service, have them do so, then try again to create an Oracle Integration instance.
4. If your Cloud Account Administrator already tried to activate the service or didn't receive the email, contact your account manager to confirm you have a subscription for Oracle Integration.

### 401: Authorization failed or 404: Not Found

If you click the Oracle Integration instance name just after creating the instance and receive a 401: Authorization failed or a 404: Not Found error, instance creation might still be in progress. Wait a minute and try again.

## Create an Instance Using the Command Line

You can provision an Oracle Integration instance using the command line.

You can use the command line in one of two ways:

- Configure the [Command Line Interface \(CLI\)](#) as described in the Oracle Cloud Infrastructure (OCI) documentation.
- Use the OCI [Cloud Shell](#), which is preconfigured with the CLI and is accessible from the Oracle Cloud Console.

### CLI Command

Use the following CLI command to create an Oracle Integration instance:

```
oci integration integration-instance create -c <compartment_ocid> --display-name "Test Instance" --is-byol false --message-packs 1 --domain-id
```

```
<domain_ocid>
</domain_ocid></compartment_ocid>
```

For more information, see [create](#) in the OCI CLI Command Reference documentation.

### Required Parameters

You must include the following parameters.

| Parameter name  | Description                                                                                                                                                                                                 | Parameter                                                           |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Compartment     | Enter the compartment in which you want to create the instance.                                                                                                                                             | -c or -compartment-id                                               |
| Name            | Enter a name for this instance. The name becomes part of the URL for accessing the instance.                                                                                                                | -display-name                                                       |
| License type    | Set this option to TRUE if you want to use an existing Oracle Fusion Middleware license. See <a href="#">License Types</a> .                                                                                | -is-byol<br>Allowed values are TRUE and FALSE.                      |
| Message packs   | Enter the number of message packs you want to subscribe to. See <a href="#">Edit the Number of Message Packs Using the User Interface</a> .                                                                 | -message-packs                                                      |
| Edition         | Enter the edition you want this instance to be. See <a href="#">Oracle Integration Editions</a> .                                                                                                           | -type<br>Allowed values are STANDARDX, ENTERPRISEX, and HEALTHCARE. |
| Identity domain | This parameter isn't listed as required, but you must include it. Enter the OCID of the identity domain to which you want to associate the instance. You can't use an identity domain outside your tenancy. | -domain-id                                                          |
| Shape           | This parameter isn't required, but it's recommended; it defaults to Production. Enter the shape you want to use for this instance. See <a href="#">Shapes</a> .                                             | -shape<br>Allowed values are DEVELOPMENT and PRODUCTION.            |

### Optional Parameters

The following are optional parameters.

| Parameter name    | Description                                                                         | Parameter                                                                                                |
|-------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Consumption model | This parameter is only required if you have both Subscription and UCM entitlements. | -consumption-model<br>Allowed values are GOV, OIC4SAAS, and UCM.                                         |
| Namespace tags    | Enter predefined keys scoped to namespaces.                                         | -defined-tags<br>Sample parameter value:<br><br>{"Enterprise-OIC":<br>{"Environment":"Non-Production"}}} |

| Parameter name    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Parameter                                                                                                                                                                                                                                                                                                                    |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Freeform tags     | Optionally, add tags to help you organize your resources in your tenancy. See <a href="#">Resource Tags</a> .                                                                                                                                                                                                                                                                                                                                                                       | -freeform-tags<br>Sample parameter value:<br><br><pre>{   "SampleTag": "Tag Value",   "SampleTag2": "Tag Value2" }</pre>                                                                                                                                                                                                     |
| Disaster recovery | Set this option to TRUE if you want to configure disaster recovery. This installs a primary instance in one region and a secondary instance in another region. You must have selected ENTERPRISEX or HEALTHCARE as the edition and PRODUCTION as the shape, and you must be in a region that supports disaster recovery pairing. See Introduction to Oracle-Managed Disaster Recovery in <i>Configuring an Oracle-Managed Disaster Recovery Solution for Oracle Integration 3</i> . | -is-disaster-recovery-enabled<br>Allowed values are TRUE and FALSE.                                                                                                                                                                                                                                                          |
| Network access    | Configure an allowlist for your instance. See <a href="#">Configure an Allowlist for Your Instance</a> .                                                                                                                                                                                                                                                                                                                                                                            | -network-endpoint-details<br>Sample parameter value:<br><br><pre>{   "networkEndpointType": "PUBLIC",   "allowlistedHttpIps":     ["129.1.2.0/24", "1.2.3.0/24"],   "allowlistedHttpVcns":     ["&lt;vcn_ocid1&gt;", "&lt;vcn_ocid2&gt;"],   "isIntegrationVcnAllowlisted": true }&lt;/vcn_ocid2&gt;&lt;/vcn_ocid1&gt;</pre> |

## Create an Instance Using a Terraform Script

You can provision an Oracle Integration instance using a terraform script. Terraform is an infrastructure-as-code software tool that you can use in Oracle Cloud Infrastructure.

Details about using terraform in Oracle Cloud Infrastructure are provided. See [Getting Started](#).

To use the following example script, you need a policy that allows you to manage Integration instances in a compartment.

```
resource "oci_integration_integration_instance" "test_integration_instance" {
  compartment_id = oci_identity_compartment.oic_pe_compartment.id
  display_name = var.integration_instance_name
  integration_instance_type = var.integration_instance_type
  is_byol = var.integration_instance_is_byol
  message_packs = var.integration_instance_message_packs
  domain_id = var.domain_ocid
  is_file_server_enabled = false
  is_visual_builder_enabled =
var.integration_instance_is_visual_builder_enabled
  shape = var.integration_instance_shape
}
```

## Create an Instance Using the API

You can provision an Oracle Integration instance using the Oracle Integration Administrative API.

Oracle Integration lifecycle operations, including instance creation, are part of the Oracle Integration Administrative API. In particular, the [CreateIntegrationInstance](#) API supports creation of new Oracle Integration instances.

### Supported Languages

In addition to supporting a REST API, there are also multiple language bindings.

The following languages are supported:

- REST  
Can be used with Postman or Oracle Integration, for example.
- Java
- Python
- Go
- TypeScript
- .NET
- Ruby

The [Software Development Kits and Command Line Interface](#) documentation explains how to install and use the various language bindings for the Oracle Cloud Infrastructure (OCI) APIs, including the Oracle Integration Administrative API.

### Calling CreateIntegrationInstance from an Oracle Integration Flow

The CreateIntegrationInstance API can be called using the REST Adapter from within an Oracle Integration flow. This section explains the steps required to call the API from an invoke action.

### Set Up REST Connection

In order to invoke the CreateIntegrationInstance API, you need to have a connection to the APIs. We can create a REST Adapter connection to connect to the API and use the OCI

ServiceInvocation security policy, which means that access is allowed based on OCI policies. This requires that the Oracle Integration instance be a member of a dynamic group. See [RPST and OCI Service Invocation Security Policy Use](#).

### Invoke CreateIntegrationInstance

You can invoke CreateIntegrationInstance as a POST operation as shown below.


**View Basic Info**  
 REST invoke

What do you want to call your endpoint?  
 CreateIntegrationInstance

What does this endpoint do?

What is the endpoint's relative resource URI?  
 /20190131/integrationInstances

What action do you want to perform on the endpoint?  
 POST

Based on your selections, you can add parameters or configure a request and/or response for this endpoint.  
 Select any options that you want to configure:
 

- ☐ Add and review parameters for this endpoint
- ☒ Configure a request payload for this endpoint
- ☐ Configure this endpoint to receive the response

Configure Request Headers?
 

- ☐ Standard
- ☐ Custom

Configure Response Headers?
 

- ☐ Standard
- ☒ Custom

When invoking CreateIntegrationInstance use the following sample payload:

```
{
  "compartmentId": "string",
  "consumptionModel": "UCM|GOV|OIC4SAAS",
  "definedTags": {
    "tagNamespace1": {
      "tagKey1": "tagValue1",
      "tagKey2": "tagValue2"
    }
  }
}
```

```

    },
    "tagNamespace2": {
      "tagKey1": "tagValue1",
      "tagKey2": "tagValue2"
    }
  },
  "displayName": "string",
  "domainId": "string",
  "freeformTags": {
    "tagKey1": "tagValue1",
    "tagKey2": "tagValue2"
  },
  "isByol": true,
  "isDisasterRecoveryEnabled": true,
  "messagePacks": 1,
  "networkEndpointDetails": {
    "allowlistedHttpIps": [
      "string",
      "string"
    ],
  },
  "allowlistedHttpVcns": [
    {
      "allowlistedIps": [
        "string",
        "string"
      ],
      "id": "string"
    },
    {
      "allowlistedIps": [
        "string",
        "string"
      ],
      "id": "string"
    }
  ],
  "isIntegrationVcnAllowlisted": true,
  "networkEndpointType": "PUBLIC"
},
"shape": "DEVELOPMENT|PRODUCTION",
"integrationInstanceType": "STANDARDX|ENTERPRISEX|HEALTHCARE"
}

```

| Parameter name    | Description                                                                                  | Parameter        |
|-------------------|----------------------------------------------------------------------------------------------|------------------|
| Compartment       | Enter the compartment in which you want to create the instance.                              | compartmentId    |
| Consumption model | This parameter is only required if you have both Subscription and UCM entitlements.          | consumptionModel |
| Namespace tags    | Enter predefined keys scoped to namespaces.                                                  | definedTags      |
| Name              | Enter a name for this instance. The name becomes part of the URL for accessing the instance. | displayName      |

| Parameter name    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Parameter                                                       |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| Identity domain   | This parameter isn't listed as required, but you must included it. Enter the OCID of the identity domain to which you want to associate the instance. You can't use an identity domain outside your tenancy.                                                                                                                                                                                                                                                                        | domainId                                                        |
| Freeform tags     | Optionally, add tags to help you organize your resources in your tenancy. See <a href="#">Resource Tags</a> .                                                                                                                                                                                                                                                                                                                                                                       | freeformTags                                                    |
| License type      | Set this option to TRUE if you want to use an existing Oracle Fusion Middleware license. See <a href="#">License Types</a> .                                                                                                                                                                                                                                                                                                                                                        | isByo1<br>Allowed values are TRUE and FALSE.                    |
| Disaster recovery | Set this option to TRUE if you want to configure disaster recovery. This installs a primary instance in one region and a secondary instance in another region. You must have selected ENTERPRISEX or HEALTHCARE as the edition and PRODUCTION as the shape, and you must be in a region that supports disaster recovery pairing. See Introduction to Oracle-Managed Disaster Recovery in <i>Configuring an Oracle-Managed Disaster Recovery Solution for Oracle Integration 3</i> . | isDisasterRecoveryEnabled<br>Allowed values are TRUE and FALSE. |
| Network access    | Configure an allowlist for your instance. See <a href="#">Configure an Allowlist for Your Instance</a> .                                                                                                                                                                                                                                                                                                                                                                            | networkEndpointDetails                                          |
| Message packs     | Enter the number of message packs you want to subscribe to. See <a href="#">Edit the Number of Message Packs Using the User Interface</a> .                                                                                                                                                                                                                                                                                                                                         | -message-packs                                                  |
| Shape             | This parameter isn't required, but it's recommended; it defaults to Production. Enter the shape you want to use for this instance. See <a href="#">Shapes</a> .                                                                                                                                                                                                                                                                                                                     | shape                                                           |
| Edition           | Enter the edition you want this instance to be. See <a href="#">Oracle Integration Editions</a> .                                                                                                                                                                                                                                                                                                                                                                                   | integrationInstanceType                                         |

You can generate a sample JSON load for any OCI command by using the `-generate-full-command-json-input` option on the CLI command.

# 6

## Manage User Access

Users design and monitor integrations in Oracle Integration, and you give them access by assigning them service roles.

Before you start managing user access to Oracle Integration, you should understand some key concepts:

- Get to know the key features and components of IAM. See [About OCI Identity and Access Management](#).
- Understand who might need access to what, by familiarizing yourself with the resources that can require permissions, and the people and resources who require those permissions. See [What Do Users Need to Access?](#) in this guide and Learn About Users and Resources in *Securing Oracle Integration 3*.

After reviewing the key concepts of access management, you can perform the tasks needed to manage user access to Oracle Integration.

- [Create Groups for Oracle Integration Access](#)
- [Assign Roles to Groups](#)
- [Create Users for Oracle Integration Access](#)
- [Audit User Access](#)

## Create Groups for Oracle Integration Access

As a best practice, you should assign permissions to groups rather than to individual users. For this reason, you'll want to create groups for your Oracle Integration users. Then you can grant the groups Oracle Integration access by assigning them service roles.

### Group Suggestions

You might want to create groups based on roles in your organization or based on what the members have permission to do. For example, you might create a group called `OIDDevelopers` for users who will be given the `ServiceDeveloper` role; and another group called `OIDAdministrators` for users who will be given the `ServiceAdministrator` role.

### How to Create a Group

In the Oracle Cloud Console, on the **Domains** page, open your domain, and click the **User management** tab. See [Creating a Group](#) in the Oracle Cloud Infrastructure documentation.

# Assign Roles to Groups

After you create an Oracle Integration instance, assign Oracle Integration roles to provide users permission to design and monitor integrations in Oracle Integration.

## Note

- It's a best practice to assign Oracle Integration roles to an entire group rather than individual users.
- Oracle Integration provides a standard set of roles, which govern access to features. You can't create your own roles. See [Service Roles](#).
- To understand the actions that users can perform in each area of the user interface based upon their roles, see [What Users Can Do by Role](#).

## How to Assign Service Roles to Groups

1. In the Oracle Cloud Console navigation menu, click **Identity & Security**, then, under **Identity**, click **Domains**.
2. Next to **Applied filters**, make sure you're viewing the compartment that contains the identity domain with the groups you want to assign roles to. If you aren't, click the compartment name, select a new compartment, and click **Apply filter**.
3. Open the identity domain.
4. In the tabs across the top, click **Oracle cloud services**.
5. Find the Oracle Integration instance for which you want to assign group roles, and open it.  
If you have trouble finding your instance, searching for "Integration" might narrow down your choices.
6. In the tabs across the top, click **Application roles**.
7. To the right of the role you want to assign, click **\*\*\***, then click **Manage groups**.
8. To add a user to the role, click **Assign groups**, select a group, and click **Assign**.
9. When you're done, close the Manage group assignments panel.

# Create Users for Oracle Integration Access

Create users and assign them to your user groups to give them access to Oracle Integration.

Create one user for each person who needs access. You assign users to one or more groups when you create the users.

## How to Create Users

- If you are using Oracle Cloud Infrastructure Identity and Access Management (IAM) as your identity system, In the Oracle Cloud Console, on the **Domains** page, open your domain, and click the **User management** tab. See [Creating a User](#) in the Oracle Cloud Infrastructure documentation.
- If you are federating with other identity providers, see [Federating with Identity Providers](#) in the Oracle Cloud Infrastructure documentation.

## Audit User Access

When required by your organization's operating procedures, audit users' access to the Oracle Integration instance and determine whether you need to change anyone's access.

To see the users assigned to roles in your service instance:

1. In the Oracle Cloud Console navigation menu, click **Identity & Security**, then, under **Identity**, click **Domains**.
2. Open your identity domain.
3. In the tabs across the top, click **Oracle cloud services**.
4. Open the service instance you want to view.
5. In the tabs across the top, click **Application roles**.
6. To the right of the role you want to assign, click **\*\*\***, then click **Manage users**.

You see a list of the users assigned to the role. In the **Member type** column, **Indirect** means the user was assigned the role as part of a group.

You can edit the users in a role:

- To remove a user from the role, select the user and click **Revoke**.
- To add a user to the role, click **Assign users**, select a user, and click **Assign**.

## Service Roles

Oracle Integration provides a standard set of predefined roles, which govern access to features.

### Note

You can't create your own roles.

### Privileges Vary by Technology or Service

As a best practice, you assign a role to a group. All users in the group are granted that role for all the technologies and services in an instance. However, each role grants different privileges for each technology or service. For example:

- For the Integrations technology, users can design integrations.
- For the Process Automation service, users can develop process applications.

Some predefined roles give access for only some features. For details on the privileges that each role grants, see [What Users Can Do by Role](#).

### Service Role Descriptions

The following table lists the roles available in Oracle Integration, and the general tasks that users assigned the roles can perform. You can assign one or more of these roles to Oracle Integration users and groups.

| Oracle Integration   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ServiceAdministrator | A user with the ServiceAdministrator role is a super user who can manage and administer the features provisioned in an Oracle Integration instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ServiceDeveloper     | A user with the ServiceDeveloper role can develop the artifacts specific to the features provisioned in an Oracle Integration instance. For example, a user assigned the ServiceDeveloper role can develop process applications in Process Automation, whereas the same user can design integrations in Integrations.                                                                                                                                                                                                                                                                                                                                                                                       |
| ServiceMonitor       | <p>A user with the ServiceMonitor role can monitor the features provisioned in an Oracle Integration instance. For example, the user can view instances and metrics, find out response times, and track whether instance creation completed successfully or failed.</p> <p>This role provides privileges for users with limited knowledge of Oracle Integration, but with high-level knowledge of monitoring it. This user role does not grant permissions to change anything.</p> <p>The ServiceMonitor role does not have any privileges in Process Automation, and Visual Builder.</p>                                                                                                                   |
| ServiceDeployer      | <p>A user with the ServiceDeployer role can publish the artifacts developed in a feature.</p> <p>This role is applicable only for robotic process automation (RPA). See <a href="#">Assign the ServiceDeployer Role to the Confidential Application</a>.</p> <p>This role is not applicable for the Integrations feature.</p> <p>The ServiceDeployer role does not have any privileges in Process Automation, B2B for Oracle Integration, and Visual Builder.</p>                                                                                                                                                                                                                                           |
| ServiceUser          | <p>A user with the ServiceUser role has privileges to utilize only the basic functionality of a feature such as access to the staged and published applications.</p> <p>For example, in Integrations the user can navigate to resource pages (such as integrations and connections) and view details, but can't edit or modify anything. The user can also run integrations.</p> <p>The ServiceUser role does not have any privileges in Process Automation.</p>                                                                                                                                                                                                                                            |
| ServiceInvoker       | <p>A user with the ServiceInvoker role can invoke any integration flow in an Oracle Integration instance that is exposed through SOAP/REST APIs or a scheduled integration. See <a href="#">Run an Integration Flow</a>. A user with ServiceInvoker role cannot:</p> <ul style="list-style-type: none"> <li>• Navigate to the Oracle Integration user interface or perform any administrative actions in the user interface.</li> <li>• Invoke any of the documented APIs in Developer API for Oracle Integration 3. See <a href="#">About the REST APIs</a>.</li> </ul> <p>The ServiceInvoker role does not have any privileges in Process Automation, B2B for Oracle Integration, and Visual Builder.</p> |
| ServiceViewer        | <p>A user with the ServiceViewer role can navigate to all Integration resource pages (for example, integrations, connections, lookups, libraries, and so on) and view details. This user cannot edit any resources or navigate to the administrative setting pages.</p> <p>The ServiceViewer role does not have any privileges in Process Automation, B2B for Oracle Integration, and Visual Builder.</p>                                                                                                                                                                                                                                                                                                   |

## What Users Can Do by Role

Roles define the privileges available to users and the tasks that they can perform. You can assign predefined roles to users to allow them to work with feature sets of Oracle Integration.

### Topics:

- [What Users Can Do in the Projects Section by Role](#)
- [What Users Can Do in the Design Section by Role](#)

- [What Users Can Do in B2B for Oracle Integration by Role](#)
- [What Users Can Do in Oracle Integration for Healthcare by Role](#)
- [What Users Can Do in the Observability Section by Role](#)
- [What Users Can Do in the Settings Section by Role](#)
- [What Users Can Do in Visual Builder by Role](#)
- [What Users Can Do in Processes by Role](#)
- [What Users Can Do in File Server by Role](#)
- [What Users Can Do in Human in the Loop by Role](#)

## What Users Can Do in the Projects Section by Role

The following tables list Oracle Integration predefined roles available in the projects section and the tasks users granted those roles can perform.

- [Project Level](#)
- [Design](#)
- [Deploy](#)
- [Observe](#)

### Note

You can also control the users and groups that edit, view, and monitor a project with role-based access control (RBAC). See Control Editing, Viewing, and Monitoring Access in a Project in *Using Integrations in Oracle Integration 3*.

### Project Level

| Action                     | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|----------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Projects - Navigation Pane | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| Create Project             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Import Project             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| View Project               | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Activate Project           | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Deactivate Project         | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Export Project             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✓             |
| Delete Project             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

| Action                           | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|----------------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Edit Project Description Details | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Invoke Child Integrations        | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

**Design****Integrations**

| Action                               | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|--------------------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Create                               | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Create new version                   | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| View                                 | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Edit                                 | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete                               | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Activate                             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Reactivation after connection update | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Deactivate                           | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Clone                                | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Run                                  | ✓                     | ✓                | ✗              | ✓           | ✓              | ✗             |
| Export                               | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Import                               | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Update Property Values               | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Configure                            | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Assign Business Identifiers          | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Refresh Integration Endpoints        | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Unlock                               | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

| Action                                                 | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|--------------------------------------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Add Schedule                                           | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| Edit Schedule                                          | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| Delete Schedule                                        | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| Run Schedule                                           | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| View Schedule Runs                                     | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Update Schedule Parameters                             | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| Run or schedule integrations on behalf of another user | ✓                     | ✗                | ✗              | ✗           | ✗              | ✗             |
| Update integration tracing level                       | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Extend Accelerator Project                             | Yes                   | ✓                | ✗              | ✗           | ✗              | ✗             |
| Upgrade Accelerator Project                            | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

### Connections

| Action           | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Create           | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Edit             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete           | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| View             | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Test             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Unlock           | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Refresh Metadata | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

### Lookups

| Action        | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|---------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Create        | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| View          | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Edit          | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete        | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Export to CSV | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |

### JavaScript Libraries

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View   | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Edit   | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Create | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Update | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Import | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |

### Robots

| Action     | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View       | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| Create     | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Update     | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete     | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Activate   | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Deactivate | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Run        | ✓                     | ✓                | ✗              | ✓           | ✓              | ✗             |

### Environments and environment pools

| Action                                     | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|--------------------------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View environments                          | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| Create environments                        | ✗                     | ✗                | ✗              | ✗           | ✗              | ✗             |
| Update environments                        | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete environments                        | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| View environment pools                     | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| Create environment pools                   | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Update environment pools                   | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete environment pools                   | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Add environments to environment pools      | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Remove environments from environment pools | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

### Robot connection types

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View   | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| Create | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Update | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

### Robot connections

| Action                                  | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|-----------------------------------------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| View a robot connection                 | ✓                     | ✓                | ✓              | ✓           | ✗               | ✓             |
| Create                                  | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Update                                  | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Delete                                  | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| View the contents of a robot connection | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |

**B2B - Documents**

| Action                 | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|------------------------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| Add (Create or Import) | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| View                   | ✓                     | ✓                | ✗              | ✓           | ✗               | ✓             |
| Edit                   | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Delete                 | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Clone                  | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Export                 | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |

**B2B - Schemas**

| Action                        | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|-------------------------------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| Add (Create or Import)        | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| View                          | ✓                     | ✓                | ✗              | ✓           | ✗               | ✓             |
| Edit                          | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Delete                        | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Clone                         | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Export                        | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Generate implementation guide | ✓                     | ✗                | ✗              | ✓           | ✗               | ✓             |

**B2B - Trading partners**

| Action                 | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|------------------------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| Add (Create or Import) | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| View                   | ✓                     | ✓                | ✗              | ✓           | ✗               | ✓             |
| Edit                   | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Delete                 | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Export                 | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |

**Deploy**

| Action            | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|-------------------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| Create Deployment | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Edit Deployment   | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| View Deployment   | ✓                     | ✓                | ✗              | ✗           | ✗               | ✓             |
| Clone Deployment  | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Export Deployment | ✓                     | ✓                | ✗              | ✓           | ✗               | ✗             |
| Delete Deployment | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |

**Observe**

| Action                    | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|---------------------------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| View Details              | ✓                     | ✓                | ✓              | ✓           | ✗               | ✓             |
| View Business Identifiers | ✓                     | ✓                | ✓              | ✓           | ✗               | ✓             |
| View Activity Stream      | ✓                     | ✓                | ✓              | ✓           | ✗               | ✓             |
| Download Activity Stream  | ✓                     | ✓                | ✓              | ✓           | ✗               | ✓             |
| Abort                     | ✓                     | ✓                | ✗              | ✓           | ✗               | ✗             |
| Resubmit                  | ✓                     | ✓                | ✗              | ✓           | ✗               | ✗             |
| View Future Runs          | ✓                     | ✓                | ✓              | ✓           | ✗               | ✓             |

| Action                 | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View Audit Trail       | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| Download the Audit Log | ✓                     | ✓                | ✗              | ✓           | ✗              | No            |

**B2B**

| Action                 | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View business messages | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| View wire messages     | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |

## What Users Can Do in the Design Section by Role

The following tables list Oracle Integration predefined roles available in the Design section and the tasks users granted those roles can perform.

- [Integrations](#)
- [Connections](#)
- [Events](#)
- [Lookups](#)
- [Libraries](#)
- [Packages](#)
- [Agents](#)
- [Adapters](#)

**Integrations**

| Action             | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|--------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Create             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Create new version | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| View               | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Edit               | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

| Action                                                                                                                                      | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Activate                                                                                                                                    | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| <ul style="list-style-type: none"> <li>• Enable tracing level</li> <li>• Allow to run again</li> <li>• Enable payload validation</li> </ul> |                       |                  |                |             |                |               |
| Reactivation after connection update                                                                                                        | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Deactivate                                                                                                                                  | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Clone                                                                                                                                       | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Run                                                                                                                                         | ✓                     | ✓                | ✗              | ✓           | ✓              | ✗             |
| Export                                                                                                                                      | ✓                     | ✓                | ✗              | ✗           | ✗              | ✓             |
| Import                                                                                                                                      | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Update property values                                                                                                                      | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Configure                                                                                                                                   | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Assign business identifiers                                                                                                                 | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Unlock                                                                                                                                      | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Refresh endpoints                                                                                                                           | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Track instances                                                                                                                             | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Add schedule                                                                                                                                | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| Edit schedule                                                                                                                               | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| Delete schedule                                                                                                                             | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| Run schedule                                                                                                                                | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| View schedule runs                                                                                                                          | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |

| Action                                                      | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|-------------------------------------------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Update schedule parameters                                  | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Convert scheduled integration to an application integration | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Run or schedule integrations on behalf of another user      | ✓                     | ✗                | ✗              | ✗           | ✗              | ✗             |

### Connections

| Action           | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Create           | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Edit             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete           | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| View             | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Test             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Clone            | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Unlock           | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Refresh metadata | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

### Events

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Create | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Edit   | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| View   | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Clone  | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

## Lookups

| Action        | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|---------------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| Create        | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| View          | ✓                     | ✓                | ✗              | ✗           | ✗               | ✓             |
| Edit          | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Clone         | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Delete        | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Export to CSV | ✓                     | ✓                | ✓              | ✓           | ✗               | ✗             |
| Import        | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |

## Libraries

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| View   | ✓                     | ✓                | ✗              | ✓           | ✗               | ✓             |
| Edit   | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Create | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Import | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Delete | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Update | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Export | ✓                     | ✓                | ✗              | ✓           | ✗               | ✓             |

## Packages

| Action                               | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|--------------------------------------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| View                                 | ✓                     | ✓                | ✗              | ✓           | ✗               | ✓             |
| Create (during integration creation) | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Import                               | ✓                     | ✓                | ✗              | ✗           | ✗               | ✗             |
| Export                               | ✓                     | ✓                | ✗              | ✓           | ✗               | ✗             |

| Action                              | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|-------------------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Update (through integration update) | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete                              | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Configure                           | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

### Agents

| Action                      | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|-----------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View                        | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| Download config             | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Edit agent group            | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Delete agent group          | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Create agent group          | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Download connectivity agent | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

### Adapters

| Action            | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|-------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View              | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| Delete            | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |
| Create connection | ✓                     | ✓                | ✗              | ✗           | ✗              | ✗             |

## What Users Can Do in B2B for Oracle Integration by Role

The following tables list Oracle Integration predefined roles available in B2B for Oracle Integration and the tasks that users granted those roles can perform.

- [Integrations](#)
- [Documents](#)
- [Schemas](#)

- [Trading Partners](#)
- [Host Profiles](#)
- [B2B Tracking](#)

### Note

The following roles do not have any privileges in B2B for Oracle Integration:

- ServiceDeployer
- ServiceEndUser
- ServiceInvoker

## Integrations

The list of tasks that different user roles can perform on B2B integrations (integrations using the B2B action) are the same as the tasks they can perform on other integrations. See [What Users Can Do in the Design Section by Role](#).

## Documents

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|---------------|
| Create | ✓                     | ✓                | ✗              | ✗           | ✗             |
| View   | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Edit   | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Delete | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Clone  | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Export | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Import | ✓                     | ✓                | ✗              | ✗           | ✗             |

## Schemas

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|---------------|
| Create | ✓                     | ✓                | ✗              | ✗           | ✗             |
| View   | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Edit   | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Delete | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Clone  | ✓                     | ✓                | ✗              | ✗           | ✗             |

| Action                        | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|-------------------------------|-----------------------|------------------|----------------|-------------|---------------|
| Generate Implementation Guide | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Export                        | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Import                        | ✓                     | ✓                | ✗              | ✗           | ✗             |

### Trading Partners

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|---------------|
| Create | ✓                     | ✓                | ✗              | ✗           | ✗             |
| View   | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Edit   | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Delete | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Export | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Import | ✓                     | ✓                | ✗              | ✗           | ✗             |

### Host Profiles

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|---------------|
| Create | ✓                     | ✓                | ✗              | ✗           | ✗             |
| View   | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Edit   | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Delete | ✓                     | ✓                | ✗              | ✗           | ✗             |

### B2B Tracking

| Action            | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|-------------------|-----------------------|------------------|----------------|-------------|---------------|
| View details      | ✓                     | ✓                | ✓              | ✓           | ✓             |
| Download payloads | ✓                     | ✓                | ✓              | ✓           | ✓             |
| Resubmit          | ✓                     | ✓                | ✗              | ✓           | ✗             |

## What Users Can Do in Oracle Integration for Healthcare by Role

The following tables list Oracle Integration for Healthcare predefined roles available in Oracle Integration for Healthcare and the tasks that users granted those roles can perform.

- [Integrations](#)
- [HL7 Messages](#)
- [Schemas](#)
- [FHIR Profiles](#)
- [Custom FHIR Resources](#)

### Note

The following roles do not have any privileges in Oracle Integration for Healthcare:

- ServiceDeployer
- ServiceEndUser
- ServiceInvoker

### Integrations

The list of tasks that different user roles can perform on integrations are the same as the tasks they can perform on other integrations. See [What Users Can Do in the Design Section by Role](#).

### HL7 Messages

| Action       | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|--------------|-----------------------|------------------|----------------|-------------|---------------|
| Create       | ✓                     | ✓                | ✗              | ✗           | ✗             |
| View details | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Edit         | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Delete       | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Clone        | ✓                     | ✓                | ✗              | ✗           | ✗             |

### Schemas

| Action       | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|--------------|-----------------------|------------------|----------------|-------------|---------------|
| Create       | ✓                     | ✓                | ✗              | ✗           | ✗             |
| View details | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Edit         | ✓                     | ✓                | ✗              | ✗           | ✗             |

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|---------------|
| Delete | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Clone  | Yes                   | ✓                | ✗              | ✗           | ✗             |

### FHIR Profiles

| Action       | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|--------------|-----------------------|------------------|----------------|-------------|---------------|
| View details | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Import       | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Delete       | ✓                     | ✓                | ✗              | ✗           | ✗             |

### Custom FHIR Resources

| Action       | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|--------------|-----------------------|------------------|----------------|-------------|---------------|
| Create       | ✓                     | ✓                | ✗              | ✗           | ✗             |
| View details | ✓                     | ✓                | ✗              | ✓           | ✓             |
| Edit         | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Delete       | ✓                     | ✓                | ✗              | ✗           | ✗             |

## What Users Can Do in the Observability Section by Role

The following tables list Oracle Integration predefined roles available in the Observability section and the tasks users granted those roles can perform.

- [Dashboards](#)
- [Integrations](#)
- [Subscriptions](#)
- [Agents](#)
- [Instances](#)
- [Errors](#)
- [Future runs](#)
- [B2B tracking](#)
- [Fusion Applications](#)

## Dashboards

| Action                                                                                                                                  | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View error rate                                                                                                                         | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| <ul style="list-style-type: none"> <li>Instance status</li> <li>Concurrency limits</li> <li>Email message usage</li> </ul>              |                       |                  |                |             |                |               |
| View design-time audit                                                                                                                  | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| Download design-time audit                                                                                                              | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| View connections with errors                                                                                                            | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| View agent health                                                                                                                       | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| View active integrations                                                                                                                | ✓                     | ✓                | ✗              | ✓           | ✗              | ✓             |
| View design-time metrics                                                                                                                | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| View B2B details                                                                                                                        | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| <ul style="list-style-type: none"> <li>Processed documents</li> <li>Document error rates</li> <li>Onboarded trading partners</li> </ul> |                       |                  |                |             |                |               |

## Integrations

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View   | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| Run    | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |

| Action                | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|-----------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| Stop schedule         | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| Pause/resume schedule | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| Schedule              | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |
| View future runs      | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |

### Subscriptions

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View   | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |

### Agents

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View   | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |

### Instances

| Action                    | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoker | ServiceViewer |
|---------------------------|-----------------------|------------------|----------------|-------------|----------------|---------------|
| View Details              | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| View business identifiers | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| View activity stream      | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| Download activity stream  | ✓                     | ✓                | ✓              | ✓           | ✗              | ✓             |
| Abort                     | ✓                     | ✓                | ✗              | ✓           | ✗              | ✗             |

**Errors**

| Action               | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|----------------------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| View details         | ✓                     | ✓                | ✓              | ✓           | ✗               | ✓             |
| Abort                | ✓                     | ✓                | ✓              | ✓           | ✗               | ✗             |
| Resubmit             | ✓                     | ✓                | ✗              | ✓           | ✗               | ✗             |
| View activity stream | ✓                     | ✓                | ✓              | ✓           | ✗               | ✓             |

**Future runs**

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| View   | ✓                     | ✓                | ✓              | ✓           | ✗               | ✓             |

**B2B tracking**

| Action                          | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|---------------------------------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| View business/wire messages     | ✓                     | ✓                | ✓              | ✓           | ✗               | ✓             |
| Resubmit wire/business messages | ✓                     | ✓                | ✗              | ✓           | ✗               | ✗             |

**Fusion Applications**

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceInvoicer | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|-----------------|---------------|
| View   | ✓                     | ✗                | ✗              | ✗           | ✗               | ✗             |

## What Users Can Do in the Settings Section by Role

The Settings section is available only to Service Administrators.

## What Users Can Do in Visual Builder by Role

The following table lists Oracle Integration predefined roles available in Visual Builder and the tasks that users granted those roles can perform.

**Note**

The following roles do not have any privileges in Visual Builder:

- ServiceMonitor
- ServiceDeployer
- ServiceEndUser
- ServiceInvoker
- ServiceViewer

| Oracle Integration Role | Tasks Users Can Perform in Visual Builder                                                                                                                                                                                                                                                                                                                                         |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ServiceAdministrator    | A user with the ServiceAdministrator role can: <ul style="list-style-type: none"> <li>• Use the visual design tool</li> <li>• Create, manage, and change the owners of applications</li> <li>• Create associations with other services</li> <li>• Configure security options for applications in an instance</li> <li>• Specify error messages for Access Denied pages</li> </ul> |
| ServiceDeveloper        | A user with the ServiceDeveloper role can: <ul style="list-style-type: none"> <li>• Use the visual design tool</li> <li>• Create, manage, secure, and publish web and mobile applications</li> <li>• Design pages, work with business objects, build and test applications</li> </ul>                                                                                             |
| ServiceUser             | A user with the role of ServiceUser can only access staged and published applications. The default permission is enforced only when the service administrator adjusts security settings for the entire service instance to restrict all access to runtime applications to the users granted the ServiceUser role.                                                                 |

## What Users Can Do in Processes by Role

There are different types of roles in Process Automation. Understanding how they work together is essential to giving users the access they need to perform their tasks.

See Process Automation Roles in *Administering Oracle Cloud Infrastructure Process Automation*.

## What Users Can Do in File Server by Role

Permissions in File Server are defined by a subset of Oracle Integration roles.

The following table lists predefined roles available in Oracle Integration, and the File Server tasks that users with those roles can perform.

| Oracle Integration Roles | Personas and Permissions in File Server                                                                                                                                                                                                          |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ServiceAdministrator     | Users with this role can manage server settings and configure users, groups, and folders, including permissions. To administer File Server as described in this guide, you must be assigned the ServiceAdministrator role in Oracle Integration. |
| ServiceDeveloper         | Users with this role can use File Server along with the FTP Adapter or File server action to read and write files.                                                                                                                               |

| Oracle Integration Roles                                                                                                                                                                            | Personas and Permissions in File Server                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• ServiceUser</li> <li>• ServiceMonitor</li> <li>• ServiceDeployer</li> <li>• ServiceInvoker</li> <li>• ServiceViewer</li> <li>• No Role assigned</li> </ul> | Users with these roles (or no role assigned) can access File Server using an SFTP client. These users must be configured and enabled as users in File Server. Their access is controlled by their assigned folders and folder permissions. |

## What Users Can Do in Human in the Loop by Role

The following tables list Oracle Integration predefined roles available for human in the loop and the tasks that users granted those roles can perform.

### Workflows

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|---------------|
| Create | ✓                     | ✓                | ✗              | ✗           | ✗             |
| View   | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Edit   | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Delete | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Clone  | ✓                     | ✓                | ✗              | ✗           | ✗             |

### Forms

| Action | Service Administrator | ServiceDeveloper | ServiceMonitor | ServiceUser | ServiceViewer |
|--------|-----------------------|------------------|----------------|-------------|---------------|
| Create | ✓                     | ✓                | ✗              | ✗           | ✗             |
| View   | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Edit   | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Delete | ✓                     | ✓                | ✗              | ✗           | ✗             |
| Clone  | ✓                     | ✓                | ✗              | ✗           | ✗             |

# 7

## Manage Inbound Network Access

Managing inbound network access to your Oracle Integration instance ensures that only authorized traffic can reach your Oracle Integration environment.

### Topics:

- [Restrict Access to an Instance Using an Allowlist](#)
- [View Instance Outbound and Inbound IPs](#)
- [Configure a Custom Endpoint for an Instance](#)
- [Manage Integration Endpoints Using API Gateway](#)

## Restrict Access to an Instance Using an Allowlist

Restrict the networks that have access to your Oracle Integration instance, including File Server, by configuring allowlists (formerly a whitelists).

- [About Allowlists](#)
- [Prerequisites for Configuring an Allowlist](#)
- [Configure an Allowlist for Your Instance](#)
- [REST API for Allowlisting](#)

## About Allowlists

An allowlist lets you limit inbound access to Oracle Integration and File Server. Only requests from specified locations are passed through to Oracle Integration. Allowlist restrictions are in addition to the standard authorization mechanisms, such as user credentials, which are always in place.

## An Allowlist Manages Inbound Access

The allowlist restricts only *inbound* access to Oracle Integration and/or File Server. If you want to control *outbound* access to Oracle Integration, see [Configure a Private Endpoint for Your Instance](#).

Your instance allowlist lets you manage inbound access to Oracle Integration and/or File Server for the following entities:

- Your organization's VCN, through the service gateway, if you have one
- Specified partner networks and applications, specified by IP addresses or CIDR blocks
- SOAP requests
- REST requests that aren't handled by an API gateway, if you're using one
- If you're using an API gateway:
  - Design-time, Oracle Visual Builder, and Process Automation bypass the API gateway, meaning the API gateway doesn't redirect those access points.

- Add the API gateway's VCN to the Oracle Integration allowlist. The API gateway manages access for all REST traffic in that VCN. Only calls from APIs deployed to the API gateway are passed through to Oracle Integration. See [Manage Integration Endpoints Using API Gateway](#).

## Each Endpoint Can Have Different Allowlist Rules

You can create allowlist rules that apply to any of the following endpoints:

- Oracle Integration (runtime and design time)
- Oracle Integration runtime
- Oracle Integration design time
- File Server
- Oracle Integration and File Server

## Allow Access from Specified Network Sources

An allowlist restricts access to any of the following network sources:

- Single IP address
- Classless Inter-Domain Routing (CIDR) block (that is, an IP address range)
- Virtual Cloud Network Oracle Cloud ID (VCN OCID)

Only the specified IP addresses, CIDR blocks, and VCN OCIDs can access Oracle Integration and File Server. Users and systems accessing Oracle Integration and File Server from listed VCNs have full access.

Additionally, your organization might have a service gateway. The service gateway lets your VCN privately access Oracle Integration without exposing the data to the public internet.

## Things to Keep in Mind

- **All or nothing**  
The rules allow for all-or-nothing access and don't allow for more nuanced control.  
For example, if an IP address or CIDR block is allowlisted, all traffic from that location is granted access, even if someone using an allowed IP address passes SQL as a command line parameter.
- **Number of access rules**  
You're limited to 15 access rules for Oracle Integration and 15 for File Server.  
However, a CIDR block counts as only 1 entry, so you might not need more than 15 rules.
- **File Server**  
You must enable File Server before you can create rules for File Server.

## Prerequisites for Configuring an Allowlist

You must add all resources that require access to your instance to your allowlist. Before you create your allowlist, you should determine what those resources are and collect the information you'll need to add to the allowlist.

Collect the following information before creating your allowlist:

1. **Your organization's VCN OCID**

The resources in your organization's virtual cloud network (VCN) should be able to access Oracle Integration. The VCN must be in the same region as Oracle Integration and should have a service gateway.

When you add the VCN OCID to the allowlist, all resources on the VCN can access Oracle Integration.

**2. Outbound IP addresses for applications that are event sources**

All event sources, such as Oracle Fusion Cloud Applications ERP events, need access to Oracle Integration.

To get these outbound IP addresses, contact the application providers.

**3. Outbound IP addresses for Oracle SaaS applications that make HTTPS calls to Oracle Integration**

Oracle SaaS applications can make HTTPS calls to Oracle Integration, depending on the design of the integration.

Some examples:

- Integrations using SaaS adapter connections for trigger and callbacks
- When the connectivity agent is used with an adapter that does polling, such as for database polling and invoking
- When the connectivity agent is used to communicate with Oracle Integration

To get the outbound IP address for your SaaS instance, go to the **About** dialog in Oracle Integration. See [View Instance Outbound and Inbound IPs](#).

For a list of external IP addresses (by data center) for web service calls initiated by Oracle Cloud Applications, see the support note [ID 1903739.1: IP Whitelist for Web Service Calls Initiated by Oracle Cloud Applications](#).

**4. Outbound IP addresses for partner systems that require access to Oracle Integration and File Server**

All partner networks and applications that require access to Oracle Integration and File Server must be added to the allowlist. Make sure you consider all partner systems when compiling the list. For example, if a CRM platform requires access, you must add the individual IP address or range of IP addresses for the platform.

When you add the IP addresses or address ranges to the allowlist, you grant full access to the user interface and integrations for your network.

**5. Your API gateway VCN (if using one)**

If you're using an API gateway to manage Oracle Integration endpoints, add the API gateway VCN to the allowlist. See [Manage Integration Endpoints Using API Gateway](#).

You must also enable loopback in the allowlist so that Oracle Integration and File Server can call themselves. For example, enabling loopback allows Oracle Integration to call its own REST APIs.

## Configure an Allowlist for Your Instance

Make sure you have all the necessary information for the resources you need to add to your allowlist. See [Prerequisites for Configuring an Allowlist](#).

To configure an allowlist for your instance, perform the following steps:

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open the Oracle Integration instance for which you want to configure the allowlist.

If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).

3. On the Integration instance details page, in the tabs across the top, click **Networking**.
4. Under **Network Access**, click **Edit**.

One of the following dialogs is displayed:

- If your organization has enabled File Server but hasn't created its allowlist yet, the Apply HTTP Settings to File Server dialog is displayed.
  - Otherwise, the Edit network access dialog is displayed. You can skip to [step 6](#).
5. If the Apply HTTP Settings to File Server dialog is displayed, decide whether to apply your organization's HTTP allowlist rules to File Server. Applying your HTTP rules to File Server can save you some time when setting up your allowlist for File Server. Click **Apply** to carry the rules over to File Server, or click **Ignore** to skip this step.

The Edit network access dialog is displayed.

6. In the Edit network access dialog, make sure **Restrict network access** is selected so that you can add and apply allowlist rules.

When this option is selected, only users from networks that meet the configured settings are allowed to access your Oracle Integration instance.

If you don't select this option, or if you select this option and don't configure any allowlist rules, there are no network restrictions to access your instance.

#### **Caution**

If you deselect **Restrict network access** after configuring allowlist rules, all configured allowlist rules are deleted.

7. Select **Enable loopback**.

You must enable loopback so that Oracle Integration can call itself. For example:

- To invoke an Oracle Integration API from within an integration. Use a REST connection to call the API.
- To call your integration from *another* Oracle Integration instance.

This setting doesn't apply to File Server.

#### **Note**

Enabling loopback allows any Oracle Integration instance in your region to call your instance.

8. If necessary, add a rule. If you haven't previously added rules, you see a blank rule. If you already have rules, click **Add rule**, located below the last rule in the list. You might need to scroll down to see the button.
9. Configure a rule by specifying the following information:
  - **Protocol**  
Select the protocol to which the rule applies:
    - **HTTP and File Server**
    - **HTTP**

- **File Server**
  - **HTTP (Runtime)**
  - **HTTP (Design-time)**
  - **Type**  
If you selected File Server or HTTP and File Server, the only type is IP address/CIDR block, so you don't select a type.  
  
If you selected one of the other HTTP options, select what you want to allowlist:
    - **IP address/CIDR block**
    - **Virtual cloud network**
    - **Virtual cloud network OCID**
  - **Value**  
Enter or select the specific IP address, CIDR block, VCN, or VCN OCID.
    - In the **IP address/CIDR block** box, enter a single IP address or the first IP address in a CIDR block (an IP address range).
    - In the **Virtual cloud network** drop-down list, choose a VCN. To select a VCN in another compartment, click **Change compartment**, and select a compartment.
    - In the **Virtual cloud network OCID** box, enter the Oracle Cloud ID (OCID) of the VCN. For information about the OCID format, see [Resource Identifiers](#).
  - **Secondary value**  
If you selected a VCN or VCN OCID, you can restrict access further by specifying an IP address or CIDR block within the VCN. In the **IP address/CIDR block** box, enter a single IP address or the first IP address in a CIDR block (an IP address range).
10. To add another rule, click **Add rule**.
- You can have up to 15 rules for HTTPS connections to Oracle Integration and up to 15 rules for File Server.
11. After adding all the desired rules to the allowlist, click **Save**.
- The work request is submitted and the changes go into effect when the instance status changes to **Active**.

## REST API for Allowlisting

You can also use the Oracle Integration Administrative API for creating and modifying allowlists.

See </integrationInstances/{integrationInstanceId}/actions/changeNetworkEndpoint>.

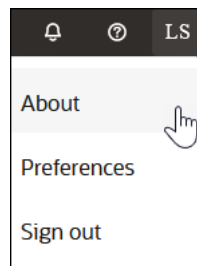
## View Instance Outbound and Inbound IPs

You can obtain the NAT Gateway IP address (outbound IP address) and inbound IP address of your Oracle Integration instance from the **About** menu in Oracle Integration.

You'll need the outbound IP address for tasks such as adding Oracle Integration to the allowlist of each target service it accesses. For example, you might need to add the Oracle Integration outbound IP address to an allowlist for a remote FTP server.

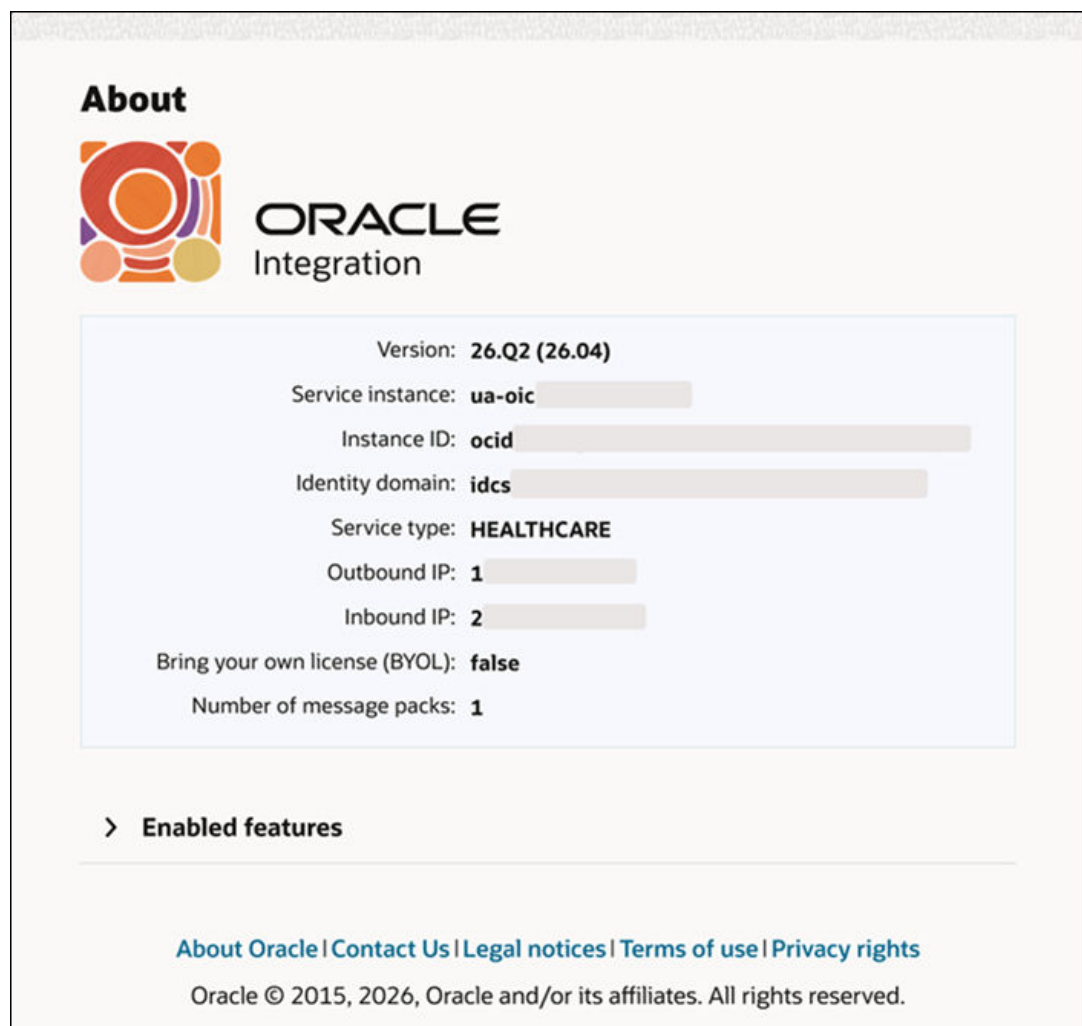
You'll need the inbound IP address if you restrict access from specific hosts or networks to internet resources. For example, you might need to restrict the server hosting the connectivity agent to communicate only with your Oracle Integration instance.

1. Go to the **About** menu in Oracle Integration. This menu is *not* available in the Oracle Cloud Console. You can access Oracle Integration from the URL listed in the **Service console URL** field on the details page of your Oracle Integration instance. See [View Instance Details](#).



2. Select **About**.

The outbound and inbound IP addresses are displayed.



## Configure a Custom Endpoint for an Instance

Configure a custom endpoint to access your Oracle Integration instance with your own hostname (for example, `mycustom.example.org`), instead of the original instance URL generated in the Oracle Cloud Console.

Runtime access to your integrations will use the custom endpoint with no redirection. For all other access points—design-time, Oracle Visual Builder, Process Automation—you still access the custom endpoint, but the custom endpoint then redirects to the appropriate URL.

Be aware of the following:

- Associating a custom endpoint with your Oracle Integration instance doesn't affect the original instance URL. You can access your instance using the custom endpoint URL or the original instance URL.
- If you're using the Oracle NetSuite Adapter, the adapter's TBA Authorization Flow security policy won't work with custom endpoints for Oracle Integration.
- If you're using an API gateway:
  - Design-time, Oracle Visual Builder, and Process Automation bypass the API gateway, meaning the API gateway doesn't redirect those access points. If you use an API gateway for your instance, access these resources using the original URLs, *not* the custom endpoint.
  - Add the API gateway's VCN to the Oracle Integration allowlist. The API gateway manages access for all REST traffic in that VCN. Only calls from APIs deployed to the API gateway are passed through to Oracle Integration. See [Configure an Allowlist for Your Instance](#).

See [Manage Integration Endpoints Using API Gateway](#).

You can create the following types of custom endpoints for an Oracle Integration instance:

- [Oracle-managed custom endpoint](#)  
If you use this option, Oracle procures and manages the public certificate for your host name.
- [Customer-managed custom endpoint](#)  
This option is appropriate if you want to use your own load balancer. However, be aware that, with this option, you are responsible for keeping your certificate up to date. If you let your certificate expire, any applications that use the custom endpoint will fail.

If you want to switch from a customer-managed custom endpoint to an Oracle-managed custom endpoint, or vice versa, you need to [delete your existing custom endpoint](#), complete the prerequisites for the new type of custom endpoint, and then create the new custom endpoint.

## Configure an Oracle-Managed Custom Endpoint

If you want Oracle to procure and manage the public certificate for your custom host name, you can create an Oracle-managed custom endpoint.

Perform the following steps to create an Oracle-managed custom endpoint for your instance.

1. [Complete prerequisites](#).
2. [Create the Oracle-managed customer endpoint](#).
3. [Complete post-configuration tasks](#).

## Prerequisites for Configuring an Oracle-Managed Custom Endpoint

To configure an Oracle-managed custom endpoint, complete the following prerequisites.

| Task                                                                                                                                                    | Where to perform the task  | Associated documentation                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Create your Oracle Integration instance                                                                                                                 | Oracle Cloud Console       | <a href="#">Create an Instance Using the User Interface</a><br><b>Note:</b> <ul style="list-style-type: none"> <li>You add a custom endpoint when <i>editing</i> an instance, not during creation, so you must create the instance as a prerequisite.</li> <li>You must have direct access to your Oracle Integration instance.</li> </ul>                                       |
| Choose a vanity URL or custom hostname for your Oracle Integration instance                                                                             | N/A                        | <b>Note:</b> <ul style="list-style-type: none"> <li>Each Oracle Integration region must use a unique custom hostname.</li> <li>Do not delete, modify, or repoint the DNS record created in your DNS zone for certificate validation. Deletion can cause certificate renewal issues.</li> </ul> See <a href="#">Understand Oracle-Managed Custom Endpoint Naming Guidelines</a> . |
| Create a public DNS zone                                                                                                                                | Oracle Cloud Console       | <a href="#">Creating a Public DNS Zone</a><br><b>Note:</b> DNS zones are region-specific. If you have Oracle Integration instances in multiple regions, you must create a DNS zone with a unique subdomain for each region.                                                                                                                                                      |
| Delegate the DNS zone and update the name servers with your registrar                                                                                   | Your domain name registrar | <a href="#">Delegating a Public DNS Zone</a><br><b>Note:</b> If you created DNS zones for multiple regions, you must perform this task for each DNS zone in their respective subdomain.                                                                                                                                                                                          |
| Register your Oracle Integration instance hostname with the DNS zone by adding a CNAME record                                                           | Oracle Cloud Console       | <a href="#">Adding a Record to a DNS Zone</a>                                                                                                                                                                                                                                                                                                                                    |
| Create Oracle Cloud Infrastructure Identity and Access Management (IAM) policies to allow your Oracle Integration tenancy to manage the public DNS zone | Oracle Cloud Console       | <a href="#">Create IAM Policies</a>                                                                                                                                                                                                                                                                                                                                              |

### Understand Oracle-Managed Custom Endpoint Naming Guidelines

- Each Oracle Integration region must use a unique hostname.

Configuring the same custom endpoint hostname across multiple Oracle Integration regions is not supported when using Oracle-managed custom endpoint certificates. Although certificate creation may succeed in more than one region, certificate renewal can fail because Oracle Cloud Infrastructure (OCI) Certificate Service DNS validation supports *only* one region for a given hostname.

- Do not delete, modify, or repoint the DNS record created in your DNS zone for certificate validation.

Consider the following example, if the ACME *challenge* domain CNAME is changed. When you configure an Oracle-managed custom endpoint, a DNS CNAME record is required during certificate issuance to validate ownership of the custom hostname. This CNAME is created for the ACME challenge domain associated with the custom hostname.

If the custom hostname is `oic.example.com`, the ACME challenge domain may be: `{_acme-challenge.oic.example.com }` and it may point to an Oracle-managed certificate service validation target, such as:

`_acme-challenge.oic.example.com CNAME oracle-managed-certificate-validation-target`

After the certificate is issued, automatic certificate renewal occurs as long as the ACME challenge domain CNAME record remains unchanged in your DNS configuration. Do not delete, modify, or repoint the ACME challenge DNS record created in your DNS zone for certificate validation. Oracle uses this existing CNAME record during future automated certificate renewals. If the ACME challenge domain CNAME record is deleted or changed outside of Oracle-managed integration flows, automatic certificate renewal can fail. This may cause the certificate associated with the Oracle-managed custom endpoint to expire and impact access to the custom endpoint.

### Create IAM Policies

You must create the following IAM policies to allow your Oracle Integration instance to manage the DNS resources.

- A policy to grant your Oracle Integration instance to manage **dns-zones** and **dns-records** resources in your tenancy:

ALLOW dynamic-group *group-Name* TO READ dns-zones IN compartment *compartment-name*

ALLOW dynamic-group *group-Name* TO USE dns-records IN compartment *compartment-name* WHERE ALL {target.dns-zone.name='dns-zone-name'}

where:

- *group-Name* is the name of the dynamic group that defines the compartment that stores your Oracle Integration instance.
- *compartment-name* is the name of the compartment that stores the DNS resources.
- *dns-zone-name* is the public DNS zone you created.

**Note**

- The dynamic group is defined in the identity domain in which the Oracle Integration instance was created.
- The matching rule that defines the dynamic group must point to the Oracle Cloud service client ID for your Oracle Integration instance. For example:  
Matching rule: any {resource.id='Oracle-Cloud-service-client-ID'}  
See [Listing Oracle Cloud Services](#).

- A generic endorse policy to allow your Oracle Integration instance to manage certificate resources in the Oracle Integration tenancy. This is the endorse part of the cross-tenant policy.  
ENDORSE any-user TO MANAGE certificate-authority-family IN any-tenancy

For more information, see [Managing DNS Resources Across Tenancies](#).

## Create the Oracle-Managed Custom Endpoint

After [completing the prerequisites](#), perform the following steps to configure an Oracle-managed custom endpoint:

1. If you're not already on the **Integration instances** page, open it.
  - a. Open the Oracle Cloud Console.
  - b. Open the navigation menu and click **Developer Services**. Under **Application Integration**, click **Integration**.
2. Open the Oracle Integration instance to which you want to add a custom endpoint. If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
3. On the Integration instance details page, in the tabs across the top, click **Networking**.
4. Under **Custom endpoint**, click **Create custom endpoint**.
5. Select **Oracle managed**.
6. Make sure the correct compartment is selected.
7. Select the DNS zone you created as a prerequisite.
8. Enter your custom host name for the instance.
9. Click **Create**.

After configuring your Oracle-managed custom endpoint, you must [complete some post-configuration tasks](#).

## Post-Configuration Tasks for an Oracle-Managed Custom Endpoint

After [creating your Oracle-managed custom endpoint](#), perform the following post-configuration tasks:

- Modify your custom hostname IP record to point to the Oracle Integration origin. If you use a CNAME record, you must enter the FQDN for your load balancer's public IP address.
- If you're using three-legged OAuth with third-party identity providers (such as Google, Facebook, etc.), update the redirect URL in your identity provider (IdP) application with the custom hostname. If the custom hostname for your Oracle Integration instance is

mycustom.example.org, your redirect URL must be, for example, `https://mycustom.example.org/icsapis/agent/oauth/callback`.

After updating the redirect URL in the IdP application, you must reacquire the access token by providing consent on the connection page.

- If you created integration flows prior to mapping a custom endpoint to your instance, they will continue to work without any issues. However, if you want to update your integrations to use the custom endpoint:
  - For triggers, deactivate and re-activate those integrations to regenerate the WSDLs.
  - For parent-child integrations, edit the existing connection to replace the hostname with the custom host; test and save the connection; then reactivate the integration.

**Note**

If you're using the Oracle NetSuite Adapter, the adapter's TBA Authorization Flow security policy won't work with custom endpoints for Oracle Integration.

## Configure a Customer-Managed Custom Endpoint

If you want to use your own load balancer, you can create a customer-managed custom endpoint. However, be aware that, with this option, you are responsible for keeping your certificate up to date. If you let your certificate expire, any applications that use the custom endpoint will fail.

Perform the following steps to create a customer-managed custom endpoint for your instance.

1. [Complete prerequisites](#)
2. [Create the customer-managed custom endpoint](#)
3. [Complete post-configuration tasks](#)

Also see [Configuring a Customer-Managed Custom Endpoint](#).

## Prerequisites for Configuring a Customer-Managed Custom Endpoint

To configure a customer-managed custom endpoint, complete the following prerequisites:

1. Create your Oracle Integration instance.

**Note**

- You add a custom endpoint when *editing* an instance, not during creation, so you must create the instance as a prerequisite.
- You must have direct access to your Oracle Integration instance.

2. Choose a vanity URL or custom hostname for your Oracle Integration instance.
3. Register the hostname with either the Oracle Cloud Infrastructure DNS or your DNS provider.
4. Obtain an SSL certificate from a certificate authority (CA) for your hostname. If you use a hostname certificate whose CA isn't in the Oracle Integration trust store, you must also upload the certificate to your Oracle Integration instance; otherwise, an exception is thrown

in the scenarios the instance calls itself. For information about managing security certificates, see [Manage Security Certificates](#).

5. Front-end your instance with a load balancer, such as Oracle Cloud Infrastructure Load Balancer, to validate and terminate SSL for you custom hostname.

#### Note

If you use Oracle Cloud Infrastructure Load Balancer, you must set up a NAT gateway in the VCN/subnet where you plan to create your load balancer.

| Task                                                                                                                        | Settings to use                                                                                                                                                                                                                                                                                                                                                                                           | Associated documentation                        |
|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| In the VCN/subnet where you will create your load balancer, add a routing rule for the Oracle Integration public IP address | <ul style="list-style-type: none"> <li>• <b>Target Type:</b> Select NAT gateway.</li> <li>• <b>Destination CIDR Block:</b> <i>Oracle Integration_public_IP /32</i><br/>You can get the Oracle Integration IP address via nslookup command.</li> <li>• <b>Compartment:</b> Select the compartment where your Oracle Integration instance is located.</li> <li>• <b>Target:</b> Your NAT gateway</li> </ul> | <a href="#">VCN Route Tables</a>                |
| Set up a load balancer                                                                                                      | <ul style="list-style-type: none"> <li>• <b>Visibility type:</b> Select <b>Public</b>.</li> <li>• <b>Bandwidth:</b> Select <b>Flexible</b> and set the minimum and maximum bandwidth to 10 Mbps.</li> </ul>                                                                                                                                                                                               | <a href="#">Creating a Load Balancer</a>        |
| Configure a listener                                                                                                        | <ul style="list-style-type: none"> <li>• <b>Protocol:</b> Select <b>HTTPS</b>.</li> <li>• <b>Port:</b> Enter 443.</li> <li>• <b>Use SSL:</b> Select this option.</li> <li>• <b>Certificate resource:</b> Select <b>Load balancer managed certificate</b> or <b>Certificate service managed certificate</b> and upload your custom hostname certificate.</li> </ul>                                        | <a href="#">Listeners for Load Balancers</a>    |
| Create a backend set                                                                                                        | <ul style="list-style-type: none"> <li>• <b>Use SSL:</b> Select this option.</li> <li>• <b>Certificate resource:</b> Select <b>Load balancer managed certificate</b> and upload the Oracle Integration certificate and certificate chain obtained through the browser.</li> </ul>                                                                                                                         | <a href="#">Backend Sets for Load Balancers</a> |

| Task                                                                                                                                                                                    | Settings to use                                                                                                                                                                                                                                                                                                                                                              | Associated documentation                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Add Oracle Integration as a backend server                                                                                                                                              | <ul style="list-style-type: none"> <li>• <b>IP address:</b> Enter the Oracle Integration IP address you used in the routing rule.</li> <li>• <b>Certificate resource:</b> Select <b>Load balancer managed certificate</b> and upload the Oracle Integration certificate and certificate chain obtained through the browser.</li> </ul>                                       | <a href="#">Backend Servers for Load Balancers</a>                                                                          |
| Update the health check policies                                                                                                                                                        | <ul style="list-style-type: none"> <li>• <b>Protocol:</b> Select <b>TCP</b>.</li> <li>• <b>Port:</b> Enter 443.</li> </ul>                                                                                                                                                                                                                                                   | <a href="#">Editing a Load Balancer's Health Check Policies</a>                                                             |
| Add the certificate and certificate chain for your custom hostname                                                                                                                      | <ul style="list-style-type: none"> <li>• Select <b>Choose SSL certificate file</b>, and upload the certificate provided by your certificate provider.</li> <li>• Select <b>Choose CA certificate file</b>, and upload the certificate chain provided by your certificate provider.</li> <li>• Select <b>Specify private key</b>, and upload the private key file.</li> </ul> | <a href="#">SSL Certificates for Load Balancers</a>                                                                         |
| Set up logging                                                                                                                                                                          | N/A                                                                                                                                                                                                                                                                                                                                                                          | <a href="#">Logging for Load Balancers</a>                                                                                  |
| Add the load balancer to the Oracle Integration allowlist                                                                                                                               | N/A                                                                                                                                                                                                                                                                                                                                                                          | <a href="#">Configure an Allowlist for Your Instance</a>                                                                    |
| If you want to create other policies to protect the endpoint (for example, DDOS, smuggling, or restricting traffic for geo-political reasons), manage the policies in the load balancer | N/A                                                                                                                                                                                                                                                                                                                                                                          | <a href="#">Details for Load Balancing</a> (information on writing policies to control access to the Load Balancer service) |

## Create the Customer-Managed Custom Endpoint

After [completing the prerequisites](#), perform the following steps to configure a custom endpoint:

1. If you're not already on the **Integration instances** page, open it.
  - a. Open the Oracle Cloud Console.
  - b. Open the navigation menu and click **Developer Services**. Under **Application Integration**, click **Integration**.
2. Open the Oracle Integration instance to which you want to add a custom endpoint. If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
3. On the Integration instance details page, in the tabs across the top, click **Networking**.
4. Under **Custom endpoint**, click **Create custom endpoint**.
5. Select **Customer managed**.
6. Enter your custom host name for the instance.
7. Click **Create**.

After configuring your custom endpoint, you must [complete some post-configuration tasks](#), like pointing your custom host IP record to your load balancer.

## Post-Configuration Tasks for a Customer-Managed Custom Endpoint

After [configuring your custom endpoint](#), perform the following post-configuration tasks:

- Modify your custom hostname IP record to point to your load balancer. If you use a CNAME record, you must enter the FQDN for your load balancer's public IP address.
- If you're using three-legged OAuth with third-party identity providers (such as Google, Facebook, etc.), update the redirect URL in your identity provider (IdP) application with the custom hostname. If the custom hostname for your Oracle Integration instance is `mycustom.example.org`, your redirect URL must be, for example, `https://mycustom.example.org/icsapis/agent/oauth/callback`.  
After updating the redirect URL in the IdP application, you must reacquire the access token by providing consent on the connection page.
- If you created integration flows prior to mapping a custom endpoint to your instance, they will continue to work without any issues. However, if you want to update your integrations to use the custom endpoint:
  - For triggers, deactivate and re-activate those integrations to regenerate the WSDLs.
  - For parent-child integrations, edit the existing connection to replace the hostname with the custom host; test and save the connection; then reactivate the integration.

### Note

If you're using the Oracle NetSuite Adapter, the adapter's TBA Authorization Flow security policy won't work with custom endpoints for Oracle Integration.

## Edit or Delete a Custom Endpoint

You can't edit a custom endpoint. You must delete and recreate it. To delete your custom endpoint, complete the following steps.

For example, if you want to switch from a customer-managed custom endpoint to an Oracle-managed custom endpoint, or vice versa, you need to delete your existing custom endpoint, complete the prerequisites for the new type of custom endpoint, and then create the new custom endpoint.

### Note

- You won't be able to create a new custom endpoint immediately after deleting your custom endpoint. You'll have to wait a few minutes for the update to complete.
- Deleting an Oracle-managed custom endpoint can cause certificate renewal issues. See [Prerequisites for Configuring an Oracle-Managed Custom Endpoint](#).

1. Open the Oracle Cloud Console.
2. Open the navigation menu and click **Developer Services**. Under **Application Integration**, click **Integration**.

3. Open the Oracle Integration instance that has the custom endpoint you want to edit or delete.  
If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
4. On the Integration instance details page, in the tabs across the top, click **Networking**.
5. Under **Custom endpoint**, to the right of your custom endpoint, click **\*\*\***, then click **Delete**.  
You'll be prompted to confirm this action.

## Manage Integration Endpoints Using API Gateway

You can manage integration endpoints using API Gateway.

The API Gateway service enables you to publish APIs (such as integrations) with private endpoints that are accessible from within your network, and which you can expose with public IP addresses if you want them to accept internet traffic. The endpoints support API validation, request and response transformation, CORS, authentication and authorization, and request limiting.

Using a single API gateway as a front end for your Oracle Integration instance enables you to present a single cohesive API to API consumers and API clients, even though it actually consists of multiple integrations. You can use a single API gateway to link multiple back-end services (such as load balancers, compute instances, and OCI Functions) into a single consolidated API endpoint.

- [About API Gateways](#)
- [Implement an API Gateway for Oracle Integration](#)

### Additional API Gateway Documentation

- [API Gateway documentation](#)
- [Deploy Integration Endpoints to Oracle Cloud Infrastructure API Gateway](#)

## About API Gateways

An API gateway is a private endpoint that routes REST API calls to a back-end resource, in this case Oracle Integration. You control which API requests can be processed by the API gateway by publishing (or deploying) specified APIs to the gateway.

### Note

An API gateway allows you to create nuanced rules for REST calls. However, the process can be complex, time consuming, and error prone. If you don't configure everything exactly as required, users might experience issues accessing Process Automation or Oracle Visual Builder. See [Adding Request Policies and Response Policies to API Deployment Specifications](#).

### What Kind of Traffic Is Handled by an API Gateway

REST API calls from the API gateway's virtual cloud network (VCN) to Oracle Integration are routed through the API gateway. Only those APIs you publish (or deploy) to the API gateway are passed through to Oracle Integration.

However, the API Gateway service doesn't support SaaS event-based APIs, so if you're using SaaS event-based integrations, you must use a custom endpoint instead. See [Configure a Custom Endpoint for an Instance](#).

### What Kind of Traffic Isn't Handled by an API Gateway

Non-REST API calls aren't handled by an API gateway.

The following traffic is non-REST API traffic:

- Users working in the Oracle Integration user interface (design-time), including using Process Automation and Oracle Visual Builder
- Users working in the Oracle Cloud Console user interface
- SOAP calls

Access for non-REST API traffic is managed with the Oracle Integration instance allowlist. See [Configure an Allowlist for Your Instance](#).

## Implement an API Gateway for Oracle Integration

To implement an API gateway for Oracle Integration, perform the following steps:

1. Configure an API gateway according to your organization's requirements. See [Creating API Gateways and Resources](#).
2. Add your organization's VCN OCID to the Oracle Integration allowlist. This allows your VCN to bypass the API gateway. See [Configure an Allowlist for Your Instance](#).
3. Add your API gateway's VCN to the Oracle Integration allowlist. This allows the API gateway to pass through calls from APIs deployed in the gateway's VCN to Oracle Integration.
4. Enable loopback in the Oracle Integration allowlist so that Oracle Integration can call itself. For example, enabling loopback allows Oracle Integration to call its own REST APIs.
5. Deploy APIs to your gateway. See [Creating API Gateways and Resources](#) and Deploy Integration Endpoints to Oracle Cloud Infrastructure API Gateway.

#### Note

You must complete these steps manually and use the correct format, or users will experience access issues.

# 8

## Manage Outbound Network Access

Controlling outbound network access is critical for ensuring secure and reliable connections from your Oracle Integration instance to external resources.

### Topics:

- [Configure a Private Endpoint for Your Instance](#)
- [Assign ZPR Security Attributes to Your Instance](#)
- [Upload a Certificate to Connect with External Services](#)
- [Configure Email Authentication with SPF and DKIM](#)
- [Oracle Integration Instance Server Certificate Expiry](#)

### See also:

- Install the Connectivity Agent in *Using Integrations in Oracle Integration 3*

## Configure a Private Endpoint for Your Instance

Create a private endpoint to enable secure, private network connectivity between Oracle Integration and resources inside your virtual cloud network (VCN).

### Topics:

- [About Private Endpoints](#)
- [Prerequisites for Configuring a Private Endpoint](#)
- [Configure a Private Endpoint for an Instance](#)
- [Use a Private Endpoint in a Connection](#)
- [Troubleshoot Private Endpoints](#)
- [Delete a Private Endpoint](#)
- [Private Endpoint vs. Connectivity Agent](#)

## About Private Endpoints

A private endpoint allows outbound (egress) traffic originating from Oracle Integration to be routed on a private channel within Oracle Cloud Infrastructure without exposing it to the public internet.

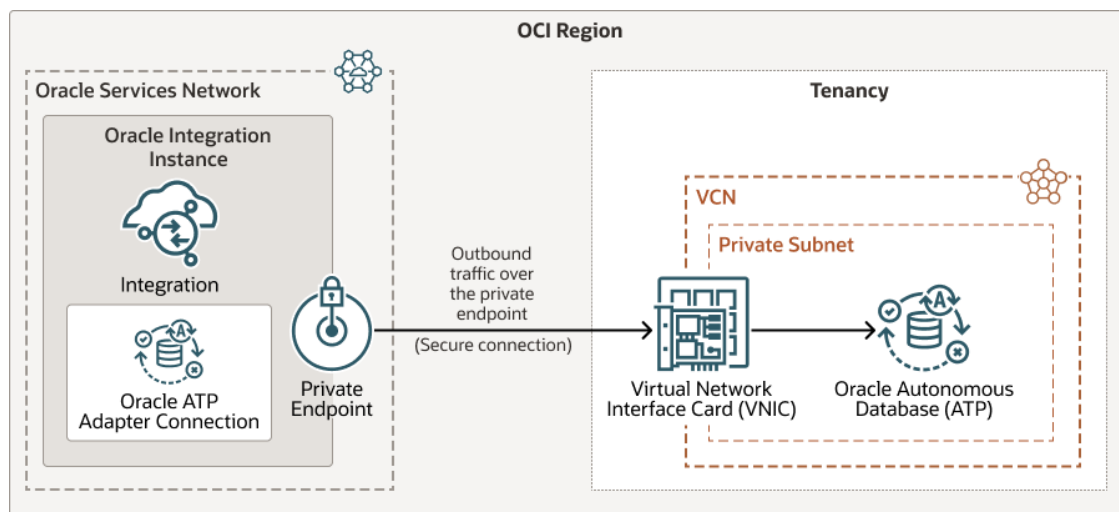
### Note

A private endpoint doesn't have any noticeable affect on bandwidth, throughput, or performance.

## Example

The following diagram illustrates an example of how Oracle Integration can connect to private resources using a private endpoint.

Your tenancy is in the Oracle Cloud. Your tenancy contains several resources, including your Oracle Integration instance and a VCN, which contains a private subnet. The Oracle Integration instance contains an integration that has a connection based on the Oracle ATP Adapter. Outbound traffic from the Oracle Integration instance flows over a secure connection through the private endpoint and connects to the Virtual Network Interface Card (VNIC), which is in the VCN. The VNIC allows for a connection to an Oracle Autonomous AI Database (ATP) in the subnet.



## Other Private Endpoint Scenarios

Because network topologies can vary greatly, Oracle Integration supports and documents only one private endpoint scenario—securing outbound traffic that connects to a private resource in your VCN. However, other scenarios are possible:

- Securing outbound traffic that connects to a public-facing endpoint with an access control list (ACL) that accepts requests from specific IP addresses. In such cases, you typically create a private NAT gateway, and the ACL accepts requests only from the IP address of the NAT gateway.
- Securing outbound traffic with Site-to-Site VPN using IPsec tunnels on FastConnect.

Another option for connecting to resources on your on-premises network is the connectivity agent. For information on when to use which option, see [Private Endpoint vs. Connectivity Agent](#).

## Send Information to ZPR-Secured OCI Resources

If your Oracle Integration instance needs to send information to a ZPR-secured OCI resource, you also need to add the appropriate security attributes. See [Assign ZPR Security Attributes to Your Instance](#).

## Things to Keep in Mind

- **Supported in select adapters**

Private endpoints are supported in select adapters. See [Adapters that Support Connecting to Private Endpoints in Using Integrations in Oracle Integration 3](#).

- **One endpoint per instance**  
You can configure only one private endpoint per Oracle Integration instance.
- **No modifications**  
You can't modify the private endpoint. If you need to make changes, simply delete the endpoint and create it again. See [Delete a Private Endpoint](#).
- **Outbound traffic only**  
A private endpoint doesn't secure inbound (ingress) traffic originating from outside Oracle Integration. To [restrict inbound traffic](#), use access control lists (ACLs), also known as allowlists.

## Prerequisites for Configuring a Private Endpoint

A private endpoint enables integrations to access private resources in a virtual cloud network (VCN) subnet. Before configuring and using your private endpoint, the VCN and subnet must be set up, the private resources must be added to the subnet, and you must create a policy that allows the private endpoint to manage resources in the compartment that holds your subnet.

## Create a VCN and Subnet

A private endpoint enables integrations to access private resources in a virtual cloud network (VCN) subnet. Before configuring and using your private endpoint, the VCN and subnet must be set up.

### Note

Perform this task only one time per Oracle Integration instance.

A VCN is a customizable, private network that you set up in Oracle Cloud Infrastructure. A subnet is a subdivision of a VCN. You might already have a VCN and subnet. For example, if you have Oracle Cloud Infrastructure resources that aren't on the public internet, you already have a VCN and subnet to hold these resources. See [Overview of VCNs and Subnets](#).

### Requirements

- The VCN must be in the same region as your Oracle Integration instance.
- The VCN and subnet can be in any compartment within the customer tenancy.
- The subnet can be public or private.

### Note

When you create a private endpoint, three IPs will be selected from the available pool of free IPs in the classless inter-domain routing (CIDR) block; they won't be from the network reserved IPs.

### Instructions

1. If you don't already have a VCN, create one. See [Creating a VCN](#).

Make sure to note the name of the VCN and the name of the compartment that holds the VCN. You'll need this information when you create the private endpoint.

2. If you don't already have a subnet, create one. See [Creating a Subnet](#). Make sure to note the name of the subnet and the name of the compartment that holds the subnet (this might be the same compartment that holds the VCN). You'll need this information when you create the private endpoint.

## Add Resources to Your Subnet

A private endpoint enables integrations to access private resources in a virtual cloud network (VCN) subnet. Before configuring and using your private endpoint, the private resources must be added to the subnet.

### Requirements

- The private resources must be in the same customer tenancy in which Oracle Integration is provisioned.

### Instructions

Add any private resources that your integrations need to access to your subnet. This is generally done when creating or editing the resource.

Examples of private resources include an Oracle Autonomous AI Database (ATP) instance, a virtual machine that you set up as a private SFTP server, or a web server that you use to host private custom REST endpoints.

## Create a Policy to Manage Subnet Resources

To create a private endpoint, you need to create a policy that allows the private endpoint to manage resources in the compartment that holds your subnet.

### Note

Perform this task only one time per Oracle Integration instance. You need only one policy per Oracle Integration instance.

The policy allows the private endpoint to create a virtual network interface card (VNIC) in the compartment that contains the subnet. The private endpoint uses the VNIC to access the private resources in the subnet. To learn more about VNICs, see [Virtual Network Interface Cards \(VNICs\)](#).

### Instructions

1. In the Oracle Cloud Console, open the navigation menu and click **Identity & Security**, then, under **Identity**, click **Policies**.
2. Click **Create Policy**.
3. In the Create Policy window, enter a name (for example, `IntegrationPrivateEndpointPolicy`) and a description.
4. Make sure you've selected the compartment in which you want to create the policy. See [Compartment Tips](#).
5. Under **Policy Builder**, select **Show manual editor** and enter the required policy statements.

**Syntax:**

- allow group *group\_name* to manage virtual-network-family in compartment *compartment-name*

**Where:**

- *group\_name* is the user group that is allowed to create the private endpoint. Make sure that the person who will create the private endpoint belongs to the group.
- *compartment-name* is the name of the compartment that contains the subnet with the private resources. When you created the VCN and subnet, the compartment that contains your Oracle Integration instance was selected by default. However, you might have chosen different compartments.

**Example:**

- allow group oci-integration-admins to manage virtual-network-family in compartment OCI-VCN-Compartment

## Configure a Private Endpoint for an Instance

A private endpoint lets your integrations connect to private resources in your virtual cloud network (VCN). All traffic goes through a private channel that is set up within Oracle Cloud Infrastructure. You can configure one private endpoint per instance.

**Do you need a private endpoint?**

To learn more about private endpoints, see [About Private Endpoints](#).

**Prerequisites**

Before configuring and using your private endpoint, the VCN and subnet must be set up following the requirements, the private resources must be added to the subnet, and the policy that allows the private endpoint to manage resources in the compartment that holds your subnet must be in place. See [Prerequisites for Configuring a Private Endpoint](#).

**! Important**

If you don't complete the prerequisite tasks, you can't create the endpoint.

**Instructions**

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open the Oracle Integration instance to which you want to add a private endpoint.  
If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
3. On the Integration instance details page, in the tabs across the top, click **Networking**.
4. Under **Private endpoints**, click **Create private endpoint**.
5. In the Create private endpoint panel, fill in the fields:
  - **Virtual cloud network compartment:** If the virtual cloud network (VCN) with the private resources is in a different compartment, select the appropriate compartment.

- **Virtual cloud network:** Select the VCN that contains the subnet with the private resources. In the drop-down list, each VCN includes its DNS domain name in parentheses.
  - **Subnet compartment:** If the subnet with the private resources is in a different compartment, select the appropriate compartment.
  - **Subnet:** Select the subnet that contains the private resources. The private endpoint connects to this subnet. In the drop-down list, each subnet includes its DNS domain name and classless inter-domain routing (CIDR) block in parentheses.
6. Click **Create**.
- The private endpoint appears below the Private endpoint heading, but it isn't available for use yet. A work request is created. It takes about five minutes for the work request to complete.
7. Monitor the work request until the private endpoint is completed.
- a. In the tabs across the top, click **Work requests**.
  - b. Find the work request in the table.
  - c. Periodically refresh the page, and wait until the **Status** for the work request changes to **Succeeded** and the **% Complete** value is **100**.
  - d. To view details about a work request, click the work request entry in the **Operation** column.

The Log messages panel opens with details about the work request.

#### **Note**

If the work request doesn't succeed, the work request will show that it has failed, and the private endpoint entry is removed from the table on the **Networking** tab. If the work request fails, your policy might not be set correctly, or you might not have completed another prerequisite task. See [Troubleshoot Private Endpoints](#).

If your Oracle Integration instance needs to send information to a ZPR-secured OCI resource, you also need to add the appropriate security attributes. See [Assign ZPR Security Attributes to Your Instance](#).

After the private endpoint is created, create connections that use the private endpoint to secure outbound traffic. See [Use a Private Endpoint in a Connection](#).

#### **Note**

You can't modify the private endpoint. If you need to make changes, simply delete the endpoint and create it again. See [Delete a Private Endpoint](#).

## Use a Private Endpoint in a Connection

After you create your private endpoint, you can use it to create a connection.

To use the private endpoint to connect to a private resource, create a connection based on an adapter that supports private endpoints, and select **Private endpoint** as the **Access type**.

See *Create a Connection in Using Integrations in Oracle Integration 3*.

## Troubleshoot Private Endpoints

Get help troubleshooting issues with private endpoints.

### Error When Creating a Private Endpoint

The error message that appears in the Log messages panel helps you troubleshoot. Which error message did you see?

✓ **Tip**

To view the Log messages panel, on the Integration instance details page, in the tabs across the top, click **Work requests**. Then, in the table of work requests, find the work request for the private endpoint, and click the entry in the **Operation** column.

| Error                                                                                                                                                                                                                                                                            | Reason for the error and next steps                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unable to add or enable Private Endpoint Outbound Connection for the integration instance. This error can occur, if the customer tenancy is not configured with the required policy to enable the Private Endpoint. Update or add the policy, and retry.                         | The error occurs when the policy is missing or incorrect, or you're not part of the group that is assigned to the policy.<br>Check your policy, and make sure you're part of the group that is allowed to create private endpoints.<br>See Prerequisites for Configuring a Private Endpoint. |
| Unable to add Private Endpoint. The option to add a Private Endpoint for the integration instance is not supported.                                                                                                                                                              | The error occurs when your region doesn't support private endpoints. If this message appears, you can't create or use private endpoints.                                                                                                                                                     |
| Unable to add Private Endpoint outbound Connection for the Integration instance. This error can occur when all available IP addresses of the Subnet has already been allocated; ensure there are sufficient unassigned IP addresses available in the SubnetId <i>subnet_id</i> . | The error occurs when all the subnet's available IP addresses have already been allocated.<br>Increase the CIDR limit for the subnet.                                                                                                                                                        |

### Unable to Edit a Private Endpoint

You cannot edit an existing private endpoint. However, you can delete the endpoint and create another one.

See Delete a Private Endpoint.

### Error When Testing a Connection

The error message that pops up after you test the connection helps you troubleshoot. Which error message did you see?

| Error                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Reason for the error and next steps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unable to fetch the value of <code>dnsProxyIp</code> , make sure the endpoint is connecting to a valid private endpoint                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | The error occurs when the private endpoint hasn't been created yet, or when the private endpoint has been deleted.<br>See <a href="#">Configure a Private Endpoint for an Instance</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CASDK-003: Unable to parse the resource, <code>connection_url</code> . Verify that URL is reachable, can be parsed and credentials if required are accurate.                                                                                                                                                                                                                                                                                                                                                                                                                                          | The error occurs when you select <b>Public gateway</b> as the <b>Access type</b> when creating the connection. Select <b>Private endpoint</b> instead.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <pre>{   "detail": "",   "status": "HTTP 500 Internal Server Error",   "Operation (testConnection) failed: Error while performing AddressTranslation for private endpoint. Please check if the connection url is valid",   "type": "https://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html#sec10.5.1" }</pre> or <pre>{   "detail": "",   "status": "HTTP 500 Internal Server Error",   "Operation (testConnection) failed: This connection is configured with an address which is not in an allowable range",   "type": "https://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html#sec10.5.1" }</pre> | <p>This error can occur for the following reasons:</p> <ul style="list-style-type: none"> <li>When you try to connect to a resource that's in a different VCN than the private endpoint connects to. A private endpoint can connect to a single subnet in a single VCN.<br/>Ensure that all private resources are in the subnet that the private endpoint connects to.</li> <li>When you provide a host IP address on the Connections page. To connect through a private endpoint, you should always provide the host FQDN and not the IP address.</li> <li>When the private endpoint is configured in a subnet of a VCN and the endpoint (database/REST service) exists in another subnet whose security list is not open to the private endpoint subnet for access, even though both are on the same VCN.<br/>See <a href="#">Security Lists</a>.<br/>Open the ingress of the endpoint subnet CIDR to let the private endpoint subnet access the endpoint. Also, the egress of the private endpoint subnet should allow access to the endpoint CIDR. Ensure the network is open between the two subnets.</li> <li>Your DNS zone is unable to resolve the Autonomous Transaction Processing custom host name. To resolve this issue, update your DNS zone and add an entry that maps the Autonomous Transaction Processing FQDN to the Autonomous Transaction Processing private IP.</li> <li>If any of your URLs are registered in public DNS and the host name is publicly resolvable. Registering a URL in public DNS is not recommended.</li> </ul> |

## Runtime Errors

| Error                                                                                                        | Reason for the error and next steps                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Error while performing AddressTranslation for private endpoint, Please check if the connection url is valid; | The error occurs when the private endpoint hasn't been created yet, or when the private endpoint has been deleted.<br>See <a href="#">Configure a Private Endpoint for an Instance</a> . |

| Error                                                                                     | Reason for the error and next steps                                                                                                                                    |
|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Client 'http://ic-api-persistence.integrationdt:8080//persistence/v1/sessions': Not Found | This error occurs because a publicly resolvable URL mapped to a private IP address is <i>not</i> supported in Oracle Integration connections using a private endpoint. |

## Delete a Private Endpoint

When you delete a private endpoint, the outbound connection for an instance is deleted. You typically delete a private endpoint only if you made a mistake while creating it.

If a newly created private endpoint points to an incorrect VCN, subnet, or compartment, you must delete the private endpoint and create a new one. You cannot edit an existing private endpoint. When you delete a private endpoint, the Oracle Integration instance is not deleted.

If a connection uses a private endpoint, you can still delete the private endpoint. However, before deleting, deactivate any polling integrations that use private-endpoint-enabled connections. Otherwise, any invokes that use the connection in an integration will fail.

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open the Oracle Integration instance that has the private endpoint you want to delete.  
If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
3. On the Integration instance details page, in the tabs across the top, click **Networking**.
4. Under **Private endpoint**, to the right of the private endpoint, click **\*\*\***, then click **Delete**.  
A work request is created for the task. View it on the Work Requests page. To check the status of the task, refresh the Work Requests page.

It takes about a minute for the work request to complete and the private endpoint to be deleted. If needed, you can now create a new private endpoint. See [Configure a Private Endpoint for an Instance](#).

## Private Endpoint vs. Connectivity Agent

All outbound traffic from Oracle Integration is routed through an adapter, which connects to resources via a private endpoint or the connectivity agent. Different integrations might require different connection types. For example, one connection might use the connectivity agent for a resource that's on your on-premises network, while another connection might use a private endpoint for a resource that's in your VCN.

The following table lists the differences between a private endpoint and the connectivity agent.

| Area                  | Private endpoint                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Connectivity agent                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Usage                 | Use a private endpoint to: <ul style="list-style-type: none"> <li>Connect to resources in a single subnet within a VCN.</li> <li>Route traffic through a private NAT gateway, if your organization requires it.</li> </ul> This scenario is not documented in this guide or supported by Oracle Integration. Refer to <a href="#">Oracle Integration Blogs</a> for use cases such as this one.                                                                                                                                                         | Use the connectivity agent to connect to resources in your on-premises network.                                                                                                                                                                                                                                                                                                                                                                   |
| Security              | Oracle Integration routes traffic and packages through the private endpoint. All traffic stays on your private network without going over the public internet.                                                                                                                                                                                                                                                                                                                                                                                         | Oracle Integration routes traffic over the public internet.                                                                                                                                                                                                                                                                                                                                                                                       |
| Setup and maintenance | Before you can create a private endpoint, <a href="#">complete the prerequisite tasks</a> . These tasks can take some time and require your organization's networking team. However, most of this work might already be complete. For example, if you have resources in your private Oracle Cloud Infrastructure tenancy, you already have a VCN and subnet, which are required.<br><br>After completing all prerequisite tasks, <a href="#">configure the private endpoint</a> . Configure only one private endpoint per Oracle Integration instance. | Setup of the connectivity agent is fast. Create a virtual machine (VM) on your private network to host the connectivity agent, and then install the connectivity agent on the VM.<br><br>The connectivity agent requires ongoing maintenance and management. For example, you must manage the VM and the upgrade cycles of the connectivity agent.<br><br>See <i>About the Connectivity Agent in Using Integrations in Oracle Integration 3</i> . |
| Adapter support       | All outbound traffic from Oracle Integration goes through a connection that is based on an adapter. Therefore, while you create a private endpoint for an instance, securing outbound traffic with the private endpoint is available on an adapter-by-adapter basis.<br><br>See <i>Adapters that Support Connecting to Private Endpoints in Using Integrations in Oracle Integration 3</i> .                                                                                                                                                           | Similarly, outbound traffic for the connectivity agent goes through a connection that is based on an adapter. The connectivity agent works with a number of adapters.<br><br>See <i>About the Connectivity Agent</i> .                                                                                                                                                                                                                            |

## Assign ZPR Security Attributes to Your Instance

Zero Trust Packet Routing (ZPR) protects sensitive data by enforcing intent-based policies on OCI resources that include security attributes. If your Oracle Integration instance needs to send information to a ZPR-secured OCI resource, your instance must include the appropriate security attributes, and you must use a private endpoint.

Your tenancy administrator enables ZPR, creates security attributes, and defines ZPR policies. Security attributes are labels that ZPR uses to organize and identify OCI resources. The security attributes are used in ZPR policies to define who can access those resources, and where the data can go. Then service administrators, like you, assign the security attributes to their service instances. When one OCI resource requests access to another OCI resource, ZPR looks at the security attributes for both resources and enforces the ZPR policies.

## Example

Let's look at an example.

Your tenancy includes the following ZPR artifacts:

- **Security attribute:** data:sensitive
- **Security attribute:** hosts:trusted
- **ZPR policy:** in networks:internal VCN allow hosts:trusted endpoints to connect to data:sensitive endpoints

Your Oracle Integration instance needs to send data to an OCI resource with the data:sensitive security attribute. So, your instance needs to include the security attribute hosts:trusted.

For more information on ZPR, see [Zero Trust Packet Routing](#) in the Oracle Cloud Infrastructure documentation.

## You Must Use a Private Endpoint

The ZPR security attributes you add to your Oracle Integration instance are included only when you send data sent through a private endpoint. See [Configure a Private Endpoint for Your Instance](#).

## ZPR Applies to Outbound Traffic

The ZPR security attributes you assign to Oracle Integration apply to *outbound* data from Oracle Integration. If you want to control *inbound* access to Oracle Integration, see [Restrict Access to an Instance Using an Allowlist](#).

# Prerequisites for Adding ZPR Security Attributes to Your Instance

Before you can add ZPR security attributes to your Oracle Integration instance, your tenancy administrator must have configured ZPR and you must know what security attributes you need to assign to your instance.

| Prerequisite task                                                                                       | Associated Oracle Cloud Infrastructure documentation                                                                                                                |
|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Enable ZPR in the tenancy                                                                            | • <a href="#">Enabling Zero Trust Packet Routing</a>                                                                                                                |
| 2. Create IAM policies to allow other users to manage ZPR                                               | • <a href="#">Zero Trust Packet Routing IAM Policies</a>                                                                                                            |
| 3. Create ZPR artifacts                                                                                 | <ol style="list-style-type: none"><li>1. <a href="#">Creating a Security Attribute Namespace</a></li><li>2. <a href="#">Creating a Security Attribute</a></li></ol> |
| 4. Write ZPR policies to govern communication between OCI resources identified with security attributes | • <a href="#">Creating a ZPR Policy</a>                                                                                                                             |

| Prerequisite task                              | Associated Oracle Cloud Infrastructure documentation                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5. Find out which security attributes you need | <p>Contact your tenancy administrator to find out which security attributes you need to assign to your Oracle Integration instance.</p> <p>You'll need the following information for each security attribute:</p> <ul style="list-style-type: none"> <li>• Namespace<br/>Make sure you have at least read access to the namespace.</li> <li>• Key</li> <li>• Value</li> </ul> |

## Add a Security Attribute to Your Instance

Add the appropriate ZPR security attributes to your Oracle Integration instance, and create a private endpoint. When you send data through your private endpoint, your security attributes are included and used to provide access to ZPR-secured OCI resources based on the ZPR policies.

This topic assumes the [prerequisites](#) have been completed, including finding out what security attributes you need to add to your instance.

To add ZPR security attributes to your instance, perform the following steps:

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open the Oracle Integration instance for which you want to add the security attributes.  
If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
3. On the Integration instance details page, in the tabs across the top, click **Security**.
4. Click **Add security attributes**.
5. Select the **Security attribute namespace** that contains the security attribute you need.
6. Select the appropriate **Security attribute key** (the security attribute).
7. Depending on the security attribute type, enter or select the appropriate **Security attribute value**.
8. To add another attribute, click **Add security attribute**.

### Note

You can add up to three security attributes.

9. After adding all the required attributes, at the bottom of the dialog, click **Add security attributes**.

The work request is submitted and the changes go into effect when the instance status changes to **Active**.

10. If you haven't already done so, create a [private endpoint](#).

ZPR security attributes are included only when you send data through your private endpoint.

## Edit or Delete Security Attributes for Your Instance

You can edit or delete ZPR security attributes for your Oracle Integration instance.

To edit or delete security attributes, perform the following steps:

1. On the Integration instance details page, in the tabs across the top, click **Security**.
2. To the right of the attribute, click **\*\*\***, then click **Edit**.
  - To edit the security attribute value, click **Edit**, edit the value, then click **Update**.
  - To delete the security attribute, click **Delete**.

To manage ZPR and its artifacts, in the Oracle Cloud Console, open the navigation menu and click **Identity & Security**, then click one of the pages under **Zero Trust Packet Routing**.

## Upload a Certificate to Connect with External Services

Certificates allow Oracle Integration to connect with external services. If the external service/endpoint needs a specific certificate, request the certificate and then import it into Oracle Integration.

If you make an SSL connection in which the root certificate does not exist in Oracle Integration, an exception error is thrown. In that case, you must upload the appropriate certificate. A certificate enables Oracle Integration to connect with external services. If the external endpoint requires a specific certificate, request the certificate and then upload it into Oracle Integration.

1. Sign in to Oracle Integration.
2. In the navigation pane, click **Settings**, then **Certificates**.  
All certificates currently uploaded to the trust store are displayed on the Certificates page.
3. Click **Filter**  to filter by certificate expiration date, status, and type. Certificates installed by the system cannot be deleted.
4. Click **Upload** at the top of the page.  
The Upload certificate panel is displayed.
5. Enter an alias name and optional description.
6. In the **Type** field, select the certificate type. Each certificate type enables Oracle Integration to connect with external services.
  - [Digital Signature](#)
  - [X.509 \(SSL transport\)](#)
  - [SAML \(Authentication & Authorization\)](#)
  - [PGP \(Encryption & Decryption\)](#)
  - [Signing key](#)

### Digital Signature

The digital signature security type is typically used with adapters created with the Rapid Adapter Builder. See *Learn About the Rapid Adapter Builder in Oracle Integration in Using the Rapid Adapter Builder with Oracle Integration 3*.

1. Click **Browse** to select the digital certificate. The certificate must be an X509Certificate. This certificate provides inbound RSA signature validation. See RSA Signature Validation in *Using the Rapid Adapter Builder with Oracle Integration 3*.
2. Click **Upload**.

### X.509 (SSL transport)

1. Select a certificate category.
  - a. **Trust**: Use this option to upload a trust certificate.
    - i. Click **Browse**, then select the trust file (for example, .cer or .crt) to upload.
  - b. **Identity**: Use this option to upload a certificate for two-way SSL communication.
    - i. Click **Browse**, then select the keystore file (.jks) to upload.
    - ii. Enter the comma-separated list of passwords corresponding to key aliases.

#### Note

When an identity certificate file (.jks) contains more than one private key, all the private keys must have the same password. If the private keys are protected with different passwords, the private keys cannot be extracted from the keystore.

- iii. Enter the password of the keystore being imported.
- c. Click **Upload**.

### SAML (Authentication & Authorization)

1. Note that **Message Protection** is automatically selected as the only available certificate category and cannot be deselected. Use this option to upload a keystore certificate with SAML token support. Create, read, update, and delete (CRUD) operations are supported with this type of certificate.
2. Click **Browse**, then select the certificate file (.cer or .crt) to upload.
3. Click **Upload**.

### PGP (Encryption & Decryption)

1. Select a certificate category. Pretty Good Privacy (PGP) provides cryptographic privacy and authentication for communication. PGP is used for signing, encrypting, and decrypting files. You can select the private key to use for encryption or decryption when configuring the stage file action.
  - a. **Private**: Uses a private key of the target location to decrypt the file.
    - i. Click **Browse**, then select the PGP file to upload.
    - ii. Enter the PGP private key password.
  - b. **Public**: Uses a public key of the target location to encrypt the file.
    - i. Click **Browse**, then select the PGP file to upload.
    - ii. In the **ASCII-Armor Encryption Format** field, select **Yes** or **No**.
      - **Yes** shows the format of the encrypted message in ASCII armor. ASCII armor is a binary-to-textual encoding converter. ASCII armor formats encrypted

messaging in ASCII. This enables messages to be sent in a standard messaging format. This selection impacts the visibility of message content.

- **No** causes the message to be sent in binary format.
- iii. From the **Cipher Algorithm** list, select the algorithm to use. Symmetric-key algorithms for cryptography use the same cryptographic keys for both encryption of plain text and decryption of cipher text. The following supported cipher algorithms are FIPS-compliant:
  - AES128
  - AES192
  - AES256
  - TDES
- c. Click **Upload**.

### Signing key

A signing key is a secret key used to establish trust between applications. Signing keys are used to sign ID tokens, access tokens, SAML assertions, and more. Using a private signing key, the token is digitally signed and the server verifies the authenticity of the token by using a public signing key. You must upload a signing key to use the OAuth Client Credentials using JWT Client Assertion and OAuth using JWT User Assertion security policies in REST Adapter invoke connections. Only PKCS1- and PKCS8-formatted files are supported.

1. Select **Public** or **Private**.
2. Click **Browse** to upload a key file.  
If you selected **Private**, and the private key is encrypted, a field for entering the private signing key password is displayed after key upload is complete.
3. Enter the private signing key password. If the private signing key is not encrypted, you are not required to enter a password.
4. Click **Upload**.

## Configure Email Authentication with SPF and DKIM

Configure email authentication with SPF and DKIM to help ensure the security and integrity of email notifications sent from Oracle Integration. These email notifications are used to communicate important information about the status of integrations and related activities. By setting up SPF and DKIM, you help prevent your notification emails from being marked as spam or tampered with during delivery, improving trust and deliverability.

A simple yet effective way to validate emails, avoid spoofing, and reduce fraud attacks is configuring SPF and DKIM. Depending on email infra security, you may need to configure SPF and DKIM.

- Sender Policy Framework (SPF) lets domain owners identify servers they have approved to send emails on behalf of their domain. In Oracle Integration's case, domain owners need to approve OCI as an approved sender and to add a record for it in their domain.
- DomainKeys Identified Mail (DKIM) authenticates emails through a pair of cryptographic keys: a public key published in a Domain Name System TXT record, and a private key encrypted in a signature affixed to outgoing messages. The keys are generated by the email service provider.

Follow these steps to configure SPF and DKIM for your domain, then verify the configuration.

**1. Configure SPF (Sender Policy Framework).**

Add an SPF record to the domain of the from address to include the Oracle Cloud Infrastructure email delivery domain.

Use the format below for the SPF record. The SPF record must identify the continent key of the Oracle Integration instance, as shown in the examples below.

```
v=spf1 include:<continentkey>.oracleemaildelivery.com ~all
```

| Sending Region                  | Example SPF Format                                                                                                               |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| America                         | v=spf1 include:rp.oracleemaildelivery.com ~all                                                                                   |
| Asia/Pacific                    | v=spf1 include:ap.rp.oracleemaildelivery.com ~all                                                                                |
| Europe                          | v=spf1 include:eu.rp.oracleemaildelivery.com ~all                                                                                |
| All Commercial Regions          | v=spf1 include:rp.oracleemaildelivery.com<br>include:ap.rp.oracleemaildelivery.com<br>include:eu.rp.oracleemaildelivery.com ~all |
| United Kingdom Government Cloud | v=spf1 include:rp.oraclegovemaildelivery.uk ~all                                                                                 |

In earlier Oracle Integration instances, sender verification was supported by adding the standard record include:spf\_c.oraclecloud.com to the domain of the from address.

**2. Configure DKIM (DomainKeys Identified Mail).**

To configure DKIM keys for Oracle Integration 3 instances, please log a Service Request in My Oracle Support. Include the following details:

- Selector name
- Key size
- from address that will be used to send emails

Oracle provides you with the details to add the CNAME DNS record for your domain. The instructions to add the DNS record depend on your domain provider. The CNAME contains the location of the public key.

For example, for a selector name of me-yyz-20200502, a sending domain of mail.example.com, and an email region code of yyz, the CNAME looks like this:

```
me-yyz-20200502._domainkey.mail.example.com IN CNAME me-  
yyz-20200502.mail.example.com.dkim.yyz1.oracleemaildelivery.com
```

Once the DNS is updated, update the service request, and Oracle will activate the DKIM settings for your domain.

**3. In Oracle Integration, configure approved senders and confirm SPF and DKIM configuration.**

- In the navigation pane, click **Settings**, then **Notifications**. The Notifications screen is displayed.
- In the **Senders** section, click **Add Email Address** to add approved senders, and complete the following fields.

| Field                | Description                                                                                                                   |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Email Address</b> | Enter your domain email address as the <b>from</b> address. You must set SPF and DKIM if using your own domain email address. |

| Field                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Approval Status</b> | Either Approved or Not Approved, indicating email address approval.<br><br>Email address approval is based on your version of Oracle Integration. In Oracle Integration, a verification email is sent. You must click the verification link you receive in the email. Upon successful verification, status is changed to Approved. In Oracle Integration 3, the email is automatically approved when you add the email ID. |
| <b>SPF Status</b>      | This field verifies configuration for the Sender Policy Framework (SPF) for the sender email addresses. The status should be <i>Configured</i> .                                                                                                                                                                                                                                                                           |
| <b>Confirm DKIM</b>    | Check this field to confirm DKIM configuration for the sender.                                                                                                                                                                                                                                                                                                                                                             |

c. Click **Save**.

For information about email notifications in integrations, see Sending Service Failure Alerts, System Status Reports, and Integration Error Reports by Notification Emails in *Using Integrations in Oracle Integration 3*. Also see Send Notification Emails During Stages of the Integration with a Notification Action in *Using Integrations in Oracle Integration 3*.

## Troubleshoot Notification Email Configuration

Follow these recommendations to correctly configure and use the default from address and suppression list. These recommendations help you to avoid notification email delivery issues.

- [Default From Address](#)
- [Suppression List](#)
- [Invalid Email Addresses in Distribution Lists \(DL\)](#)

### Default From Address

- Don't use no-reply@oracle.com as the from address.
- Don't use the oracle domain.
- Change the default from address from no-reply@oracle.com to no-reply@mail.integration.region.ocp.oraclecloud.com. The region attribute is provided by Oracle Integration.
- Change the from address in your integrations from no-reply@oracle.com to no-reply@mail.integration.region.ocp.oraclecloud.com. The region attribute is provided by Oracle Integration.

### Suppression List

- Add To addresses to the suppression list for a number of reasons:
  - As of now, the recipient address when a hard bounce occurs (emails go undelivered for permanent reasons), when a soft bounce occurs (emails go undelivered for temporary reasons), and when a large number of emails are received are some of the reasons to add the To address to the suppression list.
- If DomainKeys Identified Mail (DKIM) and Sender Policy Framework (SPF) are not configured for the from address domain, the likelihood of having a bounce or messages being silently dropped by the receiving infrastructure is higher.

- You can remove email addresses from the suppression list. See Remove Email Addresses from the Suppression List in *Using Integrations in Oracle Integration 3*.

#### Invalid Email Addresses in Distribution Lists (DL)

If an email DL includes an invalid email address, *all* email addresses in the list are impacted. When a notification alert is sent, none of the recipients in the DL receive the alert.

## Oracle Integration Instance Server Certificate Expiry

You only run into this issue if you *manually* added the certificate to the Oracle Integration instance server and it expires. If you have the DigiCert Global Root certificate in your trust store, this won't be an issue; the Oracle Integration instance server certificate is automatically updated.

If you manually added the certificate to the Oracle Integration instance server, and you experience problems due to the certificate expiring, add the DigiCert Global Root certificate to your trust store.

# 9

## Enable Additional Features

Most features are enabled by default, for example:

- Integrations
- B2B
- Robotic process automation

But some features need to be enabled after you create your instance.

| Feature                              | Description                                                                                                                                      | Instructions                                                                                        |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Announcements                        | System announcements provide timely and important information to Oracle Integration users.                                                       | <a href="#">Enable Announcements</a>                                                                |
| Compartment quotas                   | Set quotas on the number of Oracle Integration 3 instances that can be created in a compartment.                                                 | <a href="#">Set Instance Quotas on Compartments</a>                                                 |
| Data backup                          | Export your Oracle Integration instance data and store it for backup purposes.                                                                   | <a href="#">Preserve Your Instance Data</a>                                                         |
| Decisions <sup>1, 2</sup>            | Use a decision to turn unstructured policy content into rule-based decisions.                                                                    | How to Model Decisions in Oracle Integration? in <i>Using Decisions in Oracle Integration 3</i>     |
| Disaster recovery <sup>1, 2</sup>    | Establishing a disaster recovery solution ensures business continuity in the event of unexpected disruptions such as natural or human disasters. | <a href="#">Enable Disaster Recovery</a>                                                            |
| Extended data retention <sup>1</sup> | If you have an Enterprise edition instance, you can retain data longer than the default of 32 days.                                              | <a href="#">Edit the Data Retention Period</a>                                                      |
| File Server                          | Access a built-in SFTP file server that acts as an inbox and outbox for the files you process.                                                   | Enable File Server in <i>Using File Server in Oracle Integration 3</i>                              |
| Human in the loop <sup>1, 2</sup>    | Use human in the loop to engage a person for oversight, approval, or exception handling.                                                         | Prerequisites for Using Human in the Loop in <i>Using Human in the Loop in Oracle Integration 3</i> |
| Instance event notifications         | Get notified for events, such as when instances are created, updated, or deleted, and compartments changed.                                      | <a href="#">Get Notified When Instance Events Occur</a>                                             |
| Process Automation <sup>1, 2</sup>   | Rapidly design, automate, and manage business processes.                                                                                         | <a href="#">Use Process Automation and Human in the Loop in Oracle Integration</a>                  |
| Visual Builder                       | Create web applications without any coding.                                                                                                      | <a href="#">Use Visual Builder in Oracle Integration</a>                                            |

### Footnotes:

<sup>1</sup> Available only in specific editions. See [Oracle Integration Editions](#).

<sup>2</sup> Available in select regions. See [Availability](#).

# Enable Announcements

System announcements provide timely and important information to Oracle Integration users. Your tenancy displays system announcements only after an administrator creates a policy that allows the announcements. Creating the policy is a one-time action that applies to all Oracle Integration instances in the tenancy.

## Understand the Differences: Announcements, Notifications, and Alerts

Oracle Integration provides in-product information using announcements, notifications, and alerts.



- **Announcements**  come from Oracle and can include information about new releases or blog posts.
- **Notifications**  are specific to you and the activities that you perform. They don't persist from one session to the next.
- **Alerts**  are generated when an error is detected.

## How to View Announcements

- **For administrators:** In the Oracle Cloud Console, click  in the top panel.  
A green dot appears on the icon when there are new announcements for either Oracle Cloud Infrastructure or Oracle Integration.
- **For users:** In the top pane of Oracle Integration, click **Announcements** . An announcements window appears, listing past and ongoing announcements related to your Oracle Integration instance. See View Notification Alert Announcements in *Using Integrations in Oracle Integration 3*.  
Announcements appear only after an administrator sets the policy, described below. The list of announcements refresh every hour.

## Learn More About Announcements

For information about console announcements, the types of information they contain, viewing options, and managing the email delivery of announcements, see [Console Announcements](#).

## Update the Recipients of Email Announcements

Oracle sends announcements to the default tenancy administrator email address on record. However, Oracle recommends changing the email address to a group address so that multiple people receive the email announcements. To change the email address, contact [Oracle Support](#).

**To Set the Oracle Integration Announcements Policy (One-Time Task):**

1. In the Oracle Cloud Console, open the navigation menu and click **Identity & Security**, then, under **Identity**, click **Policies**.
2. Click **Create Policy**.
3. In the Create Policy window, enter a name (for example, AnnouncementsPolicy) and a description.
4. Select the **root** compartment.  
The announcements policy must be created at the root compartment.
5. Under **Policy Builder**, choose **Show manual editor**, and enter the required policy statements.  

```
allow service integration to {ANNOUNCEMENT_LIST} in tenancy  
allow service integration to {ANNOUNCEMENT_READ} in tenancy
```
6. Click **Create**.  
The policy statements are validated and any syntax errors are displayed.
7. Go to the Oracle Integration web application, and verify that announcements are now displaying in the announcements window.

## Set Instance Quotas on Compartments

You can set quotas on the number of Oracle Integration 3 instances that can be created in a compartment.

Compartment quotas control resource consumption within compartments in Oracle Cloud Infrastructure. See [Overview of Compartment Quotas](#).

1. In the Oracle Cloud Console banner, navigate to your home region.



If you attempt to create a compartment quota in a region that is not your home region, you receive the following error:

Please go to your home region to execute Quota operations.

2. Open the navigation menu and click **Governance & Administration**, then, under **Tenancy Management**, click **Quota Policies**.
3. On the Quota Policies page, click **Create Quota**.
4. Enter a **Name** and **Description**.
5. Enter a **Quota policy**.

For example, to set a quota limit of 10 instances for the compartment named MyCompartment, enter the following statement:

Set integration quota instance-count to 10 in compartment MyCompartment

Where:

- integration: Is the family name for Oracle Integration.
- instance-count: Is the quota name.

6. Click **Create**.

The policy statement is validated and the details page for the new quota policy is displayed.

If validation is unsuccessful, you see the syntax errors to correct.

## Preserve Your Instance Data

There are several ways to preserve your Oracle Integration instance data. Once exported, you can store the data in your own source control repository or preserve it using whatever method you want.

| What data do you want to preserve? | Documentation                                                                                           | API                                                               |
|------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| All your design-time metadata      | Clone the Design-Time Metadata of an Entire Service Instance                                            | <a href="#">Export Design-Time Metadata of a Service Instance</a> |
| A project and all its resources    | Export a Project<br><b>Note:</b> You can export a project to your local host or to a GitHub repository. | <a href="#">Exports a Project</a>                                 |
| A package of integrations          | Export a Package                                                                                        | <a href="#">Export a Package</a>                                  |
| An integration                     | Export an Integration                                                                                   | <a href="#">Export an Integration</a>                             |
| A lookup                           | Export a Lookup                                                                                         | <a href="#">Export a Lookup</a>                                   |
| A library file                     | Export a Library File                                                                                   | <a href="#">Export a Library</a>                                  |

## Enable Disaster Recovery

Establishing a disaster recovery solution ensures business continuity in the event of unexpected disruptions such as natural or human disasters.

There are several approaches to implementing disaster recovery:

- **Oracle-managed disaster recovery**  
This simple OCI-native approach allows you to set up fully automated disaster recovery specifically for Oracle Integration instances. This approach doesn't include other OCI services such as Visual Builder or Oracle Autonomous AI Lakehouse.

Oracle-managed disaster recovery is available in select paired regions. See [Disaster Recovery Availability](#).

To implement Oracle-managed disaster recovery, see *Configuring an Oracle-Managed Disaster Recovery Solution for Oracle Integration 3*.

- **Customer-managed disaster recovery**

This manual self-managed approach allows you to set up disaster recovery for Oracle Integration instances plus other Oracle Cloud Infrastructure (OCI) services that support Oracle Integration such as Visual Builder or Oracle Autonomous AI Lakehouse (formerly known as Autonomous Data Warehouse).

Customer-managed disaster recovery is available in any region where Oracle Integration is available. See [Region Availability](#).

To implement customer-managed disaster recovery, see *Configuring a Customer-Managed Disaster Recovery Solution for Oracle Integration 3*.

- **Full Stack Disaster Recovery**

This comprehensive OCI-native approach allows you to set up fully automated disaster recovery for an entire business system that includes Oracle Integration along with many other OCI resources, OCI services, and Oracle or non-Oracle applications.

OCI Full Stack Disaster Recovery is the disaster recovery as a service for OCI Infrastructure as a Service (IaaS) and Platform as a Service (PaaS). The OCI service orchestrates fully automated, end-to-end disaster recovery for individual business systems where Oracle Integration is an important component of a complete application stack. Visual Builder or Oracle Autonomous AI Lakehouse can also be added to Full Stack DR.

**Option 1: Orchestrate Oracle-managed disaster recovery**

After enabling Oracle-managed disaster recovery for Oracle Integration, complete the steps in [Preparing Integration Instance for Disaster Recovery](#) and [Add an Integration Instance to a Disaster Recovery Protection Group](#) in the Oracle Cloud Infrastructure documentation.

**Option 2: Orchestrate customer-managed disaster recovery**

After configuring your customer-managed disaster recovery solution for Oracle Integration, complete the steps in [Automating Customer Managed Disaster Recovery for OIC using Full Stack Disaster Recovery](#).

## Edit the Data Retention Period

By default, Standard and Enterprise edition instances retain data for 32 days, and Healthcare edition instances retain data for 184 days. If you have an Enterprise edition instance, you can change the data retention period if you want.

**Note**

- You can't change the retention period for Standard or Healthcare edition instances.
- If you later decrease your data retention period, any data older than the newly selected period will be deleted when you save your selection.
- The data retention period discussed in this topic applies only to *production* tracing data. Debug tracing data is retained for 24 hours. Audit tracing data is retained for 8 days.
- The data retention settings described on this page for Oracle Integration also apply to Human in the Loop workflow instances that are in **Completed**, **Expired**, or **Terminated** statuses. The data in these workflow instances is automatically purged after the number of days defined in the **Data retention** setting on the Integration instance details page.

For details on how extended data retention periods affect your message usage, see [Extended Data Retention Message Consumption](#).

To edit the data retention period:

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open the instance you want to edit.
3. On the Integration instance details page, next to **Data retention**, click **Manage**.  
The Manage data retention dialog is displayed.
4. Select a new data retention period.

If you're decreasing your data retention period, make sure to consider the effect of losing any data older than the newly selected period.

5. Click **Save**.

## Get Notified When Instance Events Occur

Oracle Cloud Infrastructure services, including Oracle Integration, emit events that indicate changes in resources. An Oracle Integration administrator can create rules to track these events, such as when instances are created, updated, or deleted, and compartments changed.

For more information, see [Overview of Events](#).

The following Oracle Integration resource emits events:

- Integration Instance

## Integration Instance Event Types

These are the event types that Integration Instances emit:

| Friendly Name                        | Event Type                                                  |
|--------------------------------------|-------------------------------------------------------------|
| Create Integration Instance<br>Begin | com.oraclecloud.integration.createintegrationinstance.begin |
| Create Integration Instance<br>End   | com.oraclecloud.integration.createintegrationinstance.end   |
| Update Integration Instance<br>Begin | com.oraclecloud.integration.updateintegrationinstance.begin |
| Update Integration Instance<br>End   | com.oraclecloud.integration.updateintegrationinstance.end   |
| Start Integration Instance<br>Begin  | com.oraclecloud.integration.startintegrationinstance.begin  |
| Start Integration Instance<br>End    | com.oraclecloud.integration.startintegrationinstance.end    |

| Friendly Name                                 | Event Type                                                     |
|-----------------------------------------------|----------------------------------------------------------------|
| Stop Integration Instance Begin               | com.oraclecloud.integration.stopintegrationinstance.begin      |
| Stop Integration Instance End                 | com.oraclecloud.integration.stopintegrationinstance.end        |
| Delete Integration Instance Begin             | com.oraclecloud.integration.deleteintegrationinstance.begin    |
| Delete Integration Instance End               | com.oraclecloud.integration.deleteintegrationinstance.end      |
| Change Integration Instance Compartment Begin | com.oraclecloud.integration.changeintegrationcompartment.begin |
| Change Integration Instance Compartment End   | com.oraclecloud.integration.changeintegrationcompartment.end   |

## Integration Instance Event Example

This is a reference event for Integration Instances:

```
{
  "eventType":
    "com.oraclecloud.integration.updateintegrationinstance.begin",
  "cloudEventsVersion": "0.1",
  "eventTypeVersion": "2.0",
  "eventID": "<unique_ID>",
  "source": "integration",
  "eventTime": "2019-01-10T21:19:24Z",
  "contentType": "application/json",
  "extensions": {
    "compartmentId": "ocid1.compartment.oc1..<unique_ID>"
  },
  "data": {
    "compartmentId": "ocid1.compartment.oc1..<unique_ID>",
    "compartmentName": "example_compartment",
    "resourceName": "My test resource",
    "resourceId": "ocid1.integrationinstance.oc1.phx.<unique_ID>",
    "availabilityDomain": "<availability_domain>",
    "freeFormTags": {
      "Department": "Finance"
    },
    "definedTags": {
      "Operations": {
        "CostCenter": "42"
      }
    }
  }
}
```

```
    },  
    "additionalDetails": {  
      "integrationInstanceType": "STANDARD",  
      "isByol": "false",  
      "messagePacks": 1  
    }  
  }  
}
```

## Use Process Automation and Human in the Loop in Oracle Integration

Before you can use Process Automation or human in the loop in Oracle Integration, complete a few tasks, including enabling these technologies.

### Prerequisites

1. Create policies that allow Oracle Integration administrators to manage the Process Automation instance.  
See *Set Up IAM Policies to Manage Process Automation Instance* in *Administering Oracle Cloud Infrastructure Process Automation*.
2. Enable Process Automation and human in the loop in Oracle Integration.  
See *Enable Process Automation and Human in the Loop* in *Administering Oracle Cloud Infrastructure Process Automation*.
3. Assign predefined IDCS application roles to users so that they can use Process Automation.  
See *Assign IDCS Application Roles to Manage Access* in *Administering Oracle Cloud Infrastructure Process Automation*.

### Manage Your Process Automation Instance

See *Administering Oracle Cloud Infrastructure Process Automation*.

### Work with Process Automation

See *Using Oracle Cloud Infrastructure Process Automation*.

### Disable and Delete Process Automation and Human in the Loop

#### **Caution**

If you are using processes or human in the loop in any way, including calling them from integrations, do not disable human in the loop. Disabling human in the loop permanently deletes your Process Automation instance and all its runtime data, including human in the loop. This action can't be undone.

If you want to stop use of Process Automation or human in the loop and delete the associated instance, you can disable it.

1. In the Oracle Cloud Console navigation menu, click **Developer Services**, then, under **Application Integration**, click **Integration**.

2. Open your Oracle Integration instance.

If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).

3. Under **Settings**, next to **Human in the Loop**, select **Disable**.

You'll be asked to confirm that you want to disable Process Automation.

 **Caution**

Disabling human in the loop permanently deletes your Process Automation instance, including all processes and human in the loop. If you later re-enable human in the loop, a new Process Automation instance is created with no data from the previous instance.

## Use Visual Builder in Oracle Integration

You must complete a few tasks before you can start using Visual Builder, including enabling Visual Builder.

### Prerequisites

1. Create a policy that allows an administrator to enable Visual Builder.

See Set the OCI Policy for Managing the Instance in *Administering Oracle Visual Builder in Oracle Integration 3*.

2. Enable Visual Builder in Oracle Integration.

See Enable Visual Builder in *Administering Oracle Visual Builder in Oracle Integration 3*.

3. Add a connection to your Oracle Integration instance.

See Add a Connection to Integration Applications in *Administering Oracle Visual Builder in Oracle Integration 3*.

### Manage Your Visual Builder Instance

After you enable Visual Builder for Oracle Integration, Oracle Integration creates a Visual Builder instance. The *Administering Oracle Visual Builder in Oracle Integration 3* guide is available to help you manage this instance. See the following sections to get started managing the instance:

- View and Manage the Visual Builder Instance
- Configure Tenant Settings

### Work with Visual Builder

See *Developing Applications with Oracle Visual Builder in Oracle Integration 3*.

## Disable and Delete Visual Builder

### **Caution**

If you are using your visual applications in any way, including calling them from integrations, do not disable Visual Builder. Disabling Visual Builder permanently deletes your Visual Builder instance and all its runtime data. This action can't be undone.

If you want to stop use of Visual Builder and delete the associated instance, you can disable it.

1. In the Oracle Cloud Console navigation menu, click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open your Oracle Integration instance.  
If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
3. Under **Settings**, next to **Visual Builder**, click **Disable**.  
You'll be asked to confirm that you want to disable Visual Builder.

### **Caution**

Disabling Visual Builder permanently deletes your Visual Builder instance, including all your visual applications. If you later re-enable Visual Builder, a new Visual Builder instance is created with no data from the previous instance.

# 10

## Edit an Instance

Oracle handles several management tasks for your Oracle Integration instance, including performing database management, upgrading instances to the next version, installing patches, and more. But there are other management tasks that *you* perform in the Oracle Cloud Console.

### Topics:

- [View Instance Details](#)
- [Edit the Edition](#)
- [Edit the License Type](#)
- [Edit the Number of Message Packs Using the User Interface](#)
- [Edit the Consumption Model](#)
- [Move an Instance](#)
- [Rename a Tenancy](#)
- [Stop or Start an Instance](#)
- [Delete an Instance](#)

## View Instance Details

You can view details about an Oracle Integration instance and perform tasks such as accessing the instance login page to design integrations and processes, editing an instance, adding tags, deleting instances, and viewing custom endpoint details and instance life cycle activity.

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open the instance you want to view.

If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).

The integration instance details look slightly different depending on whether you've enabled disaster recovery.

Figure 10-1 Oracle Cloud Console - Integration instance details

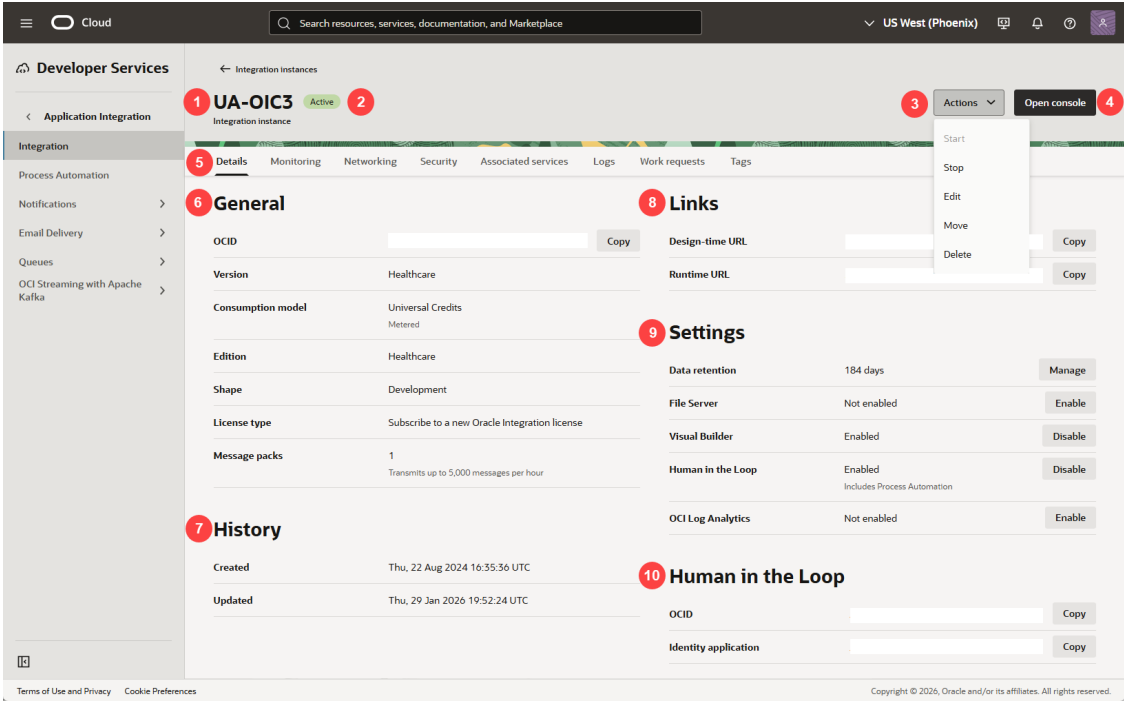
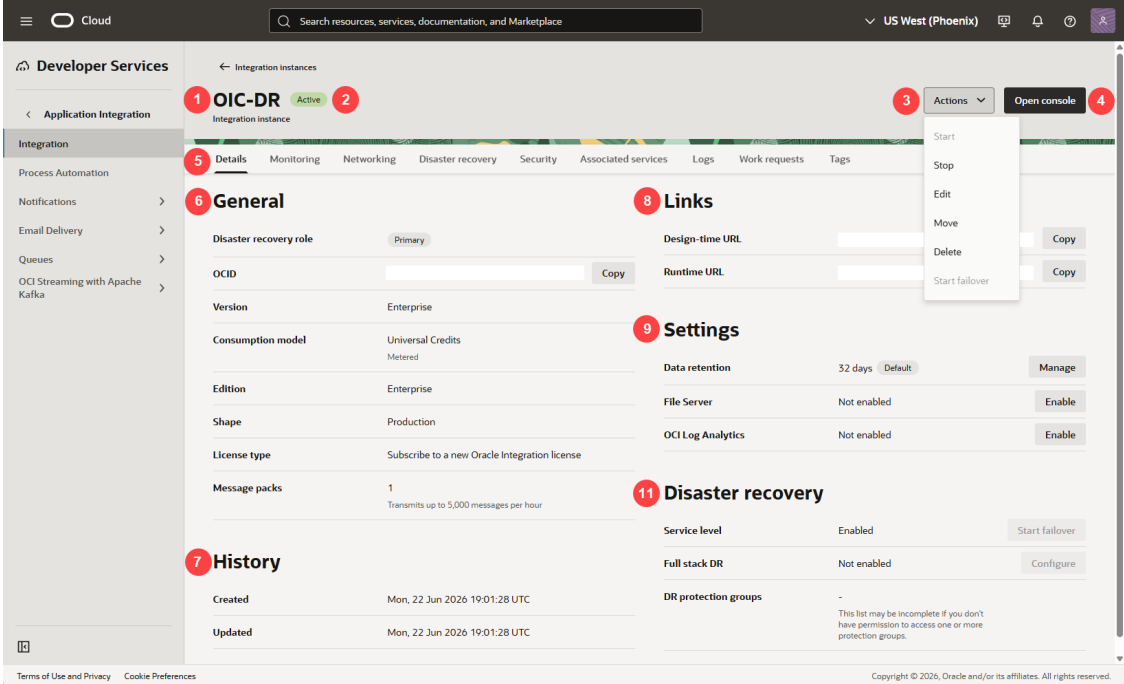


Figure 10-2 Oracle Cloud Console - Integration instance with disaster recovery



The following table describes the key information shown on the Integration instance details page:

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1| At the top of the details page, you see the name of the instance.

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2SNext to the instance name you see the status of the instance:

- **Active**—the instance is running.
  - **Inactive**—the instance is stopped.
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3AClick **Actions** to see other options:

- **Start/Stop**—Click **Stop** or **Start** to stop or start the instance.  
See [Stop or Start an Instance](#).
  - **Edit**—Click **Edit** to edit the settings for your instance.  
See [Edit the Edition](#), [Edit the License Type](#), or [Edit the Number of Message Packs Using the User Interface](#).
  - **Move**—Click **Move** to move the instance to a different compartment. This action can take some time to complete.  
See [Move an Instance to a Different Compartment](#).
  - **Delete**—Click **Delete** to delete the instance.  
See [Delete an Instance](#).
  - **Start failover**—If you enabled disaster recovery, you see this option.  
See [Fail Over to the Other Instance in Configuring an Oracle-Managed Disaster Recovery Solution for Oracle Integration 3](#).
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4OClick **Open console** to access Oracle Integration.

PSee Get Familiar with the Home Page in *Getting Started with Oracle Integration 3*.

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5TClick a tab to see additional information about the service instance:

- a• **Monitoring**—View service instance metrics.
- b See [Stay Within Budget: Track Billing Metrics](#).
- s• **Networking**
  - **Private endpoint**—View and manage private endpoints associated with this instance. See [Configure a Private Endpoint for Your Instance](#).
  - **Custom endpoint**—Configure a custom endpoint, or, if you've already configured one, view the custom endpoint URL, certificate details, and the original URL of the instance. See [Configure a Custom Endpoint for an Instance](#).  
**Note:** You can view the Certificate Secret Name only if you are granted the necessary permissions.
  - **Network access**—View and manage allowlist rules. See [Configure an Allowlist for Your Instance](#).
- **Disaster recovery**—If you enabled disaster recovery, you see this tab. View information about and the status of the peer. See *Introduction to Oracle-Managed Disaster Recovery in Configuring an Oracle-Managed Disaster Recovery Solution for Oracle Integration 3*.
- **Security**—View and manage Oracle Cloud Infrastructure Zero Trust Packet Routing (ZPR) security attributes. See [Assign ZPR Security Attributes to Your Instance](#).
- **Associated services**—View services associated with this instance, such as File Server and Oracle Visual Builder.
- **Logs**—Enable and disable the capture of logging activity. See [Use OCI Logging to Analyze Integration Activity](#).
- **Work requests**—View instance life cycle activity, such as instance creation time, instance stop and start times, and so on.
- **Tags**—Use tags to categorize your instances in your tenancy and make them easier to find. See [Resource Tags](#).

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6QUnder **General** you see the following general information:

- e• **Disaster recovery role**—You see this field if you enabled disaster recovery. Shows whether this is the primary or secondary instance.
- e• **OCID**—Shows the value that uniquely identifies the Oracle Integration instance. Click **Copy** to copy it.
- a• **Version**—Appears only when you have Oracle Integration Generation 2 and Oracle Integration 3 instances.
  - **Consumption model**—Shows the consumption (billable) model used for the instance—Metered (Universal Credits), Subscription (OIC4SaaS), or Oracle Integration Government.
  - **Edition**—Shows the edition selected for the instance—Standard, Enterprise, or Healthcare.
  - **Shape**—Shows the shape selected for the instance—Development or Production.
  - **License type**—Shows the type of license used for the instance—either a new cloud license or an existing license brought over from Oracle Fusion Middleware (The second option isn't available for the Healthcare edition.)  
If you are viewing an Integration for SaaS instance, the **License type** field is not displayed.
  - **Message packs**—Shows the number of message packs and the quantity of messages in each pack. See [Edit the Number of Message Packs Using the User Interface](#).

**Note:** The IP address of your instance is not visible in the Oracle Cloud Console. If you need the outbound NAT address, you can get it from the Oracle Integration web application **About** box. See [View Instance Outbound and Inbound IPs](#).

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7HUnder **History** you see the following information:

- i • **Created:** Shows the date the instance was created.
- s • **Updated:** Shows the date the instance was last updated (for example, the last time it was started).
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8LUnder **Links** you see the following information:

- i • **Design-time URL**—Shows the URL to access the associated Oracle Integration instance application. Click **Copy** to copy it.
- n
- k • **Runtime URL**—Shows the URL for the runtime applications created with this Oracle Integration instance. Click **Copy** to copy it.
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9SUnder **Settings** you see the following information:

- e • **Data retention**—Shows how long data is retained for the instance. By default, Standard or Enterprise edition instances retain data for 32 days, but you can increase the data retention period if you want. Healthcare edition instances retain data for 184 days. To change the data retention period, click **Manage**.  
See [Edit the Data Retention Period](#).
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  - g • **File Server**—Shows whether File Server is enabled for the instance. If it isn't, you can click the button to enable it. This action can't be undone.  
See *Enable File Server in Using File Server in Oracle Integration 3*.
  - s
  - **Visual Builder**—Shows whether Visual Builder is enabled for the instance. Click the button to enable it or disable and delete it.  
See [Use Visual Builder in Oracle Integration](#).
  - Note:** Visual Builder isn't supported with disaster recovery. See *What's Not Supported?* in *Configuring an Oracle-Managed Disaster Recovery Solution for Oracle Integration 3*.
  - **Human in the Loop**—Shows whether human in the loop and Process Automation are enabled for the instance. Click the button to enable it or disable and delete these technologies.  
See *Enable Process Automation and Human in the Loop with Oracle Integration 3* in *Administering Oracle Cloud Infrastructure Process Automation*.  
**Note:** Human in the loop and Process Automation aren't supported with disaster recovery. See *What's Not Supported?* in *Configuring an Oracle-Managed Disaster Recovery Solution for Oracle Integration 3*.
  - **OCI Log Analytics**—Shows whether sending activity stream logs to Oracle Log Analytics is enabled for the instance. If it isn't, you can click the button to enable it. Then enter the **Log group OCID**.  
See [Use Oracle Log Analytics for Large Activity Stream Payloads](#).
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1HUnder **Human in the Loop**, you see the following information:

- 1Ou.
- **OCID**—Shows the value that uniquely identifies the Process Automation instance. Click **Copy** to copy it.
  - **Identity application**—You see this field if you've enabled human in the loop and process automation. It shows the name of the associated identity application. You can copy the application name if you want to locate the associated Oracle cloud service in the identity domain. See *View Instance Details in Administering Oracle Cloud Infrastructure Process Automation*.
  - **Note:** Process Automation isn't supported with disaster recovery. See *What's Not Supported? in Configuring an Oracle-Managed Disaster Recovery Solution for Oracle Integration 3*.
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1DIf you enabled disaster recovery, you see the **Disaster recovery** section, which includes the following information:

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- **Service level**—If you need to switch to the standby instance, you can **Start failover**. See *Fail Over to the Other Instance in Configuring an Oracle-Managed Disaster Recovery Solution for Oracle Integration 3*.
  - **Full stack DR**—Shows whether business-system-level disaster recovery is enabled for the instance. If it isn't, you can click the button to configure it. See [Preparing Integration Instance for Disaster Recovery](#) and [Add an Integration Instance to a Disaster Recovery Protection Group](#) in the Oracle Cloud Infrastructure documentation.
  - **DR protection groups**—Shows the disaster recovery protection groups that include this Oracle Integration instance. You see only the protection groups you have access to. If you have more than five protection groups, click **View all items** to see the complete list. See [Manage Disaster Recovery Protection Groups](#) in the Oracle Cloud Infrastructure documentation.

## Access an Oracle Integration Instance

The easiest way to access an Oracle Integration instance is by navigating to the URL in your welcome email or provided by the service administrator. You can also access it from the Oracle Cloud Console.

### ① Note

The user who creates the instance automatically has the ServiceAdministrator role and can access the Oracle Integration instance. All other users must be assigned the appropriate role for access. See [Assign Roles to Groups](#).

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Next to the Oracle Integration instance you want to access, at the far right, click **...**, and select **Open console** to access the Oracle Integration login page.

If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).

If a message appears that access was denied, or the home page flashes, you don't have access to the Oracle Integration instance. See [Assign Roles to Groups](#).

At this point, you are ready to:

- Learn about the features of Oracle Integration. See [Oracle Integration](#).
- Assign service roles to users (such as Developer or Administrator) to allow them to work with the features of Oracle Integration. See [Assign Roles to Groups](#).

## Edit the Edition

You can edit the edition of an Oracle Integration 3 instance.

### Understand the Upgrade and Downgrade Directions

The following upgrade and downgrade directions are supported. If you are downgrading from Enterprise Edition to Standard Edition, this can result in a loss of functionality:

- Features that are explicitly enabled in the Oracle Cloud Console and are enterprise-only, such as Process Automation/HITL and Oracle-managed disaster recovery, must be disabled before downgrading. If any of these features are enabled, you can't downgrade from Enterprise Edition to Standard Edition.
- Enterprise Edition features within the Oracle Integration 3 instance, such as B2B and application adapters, are your responsibility to delete, and are not validated during downgrade.

| Direction                                | Supported? |
|------------------------------------------|------------|
| Standard Edition to Enterprise Edition   | Yes        |
| Enterprise Edition to Standard Edition   | Yes        |
| Standard Edition to Healthcare Edition   | Yes        |
| Enterprise Edition to Healthcare Edition | Yes        |
| Healthcare Edition to Enterprise Edition | No         |
| Healthcare Edition to Standard Edition   | No         |

See [Oracle Integration Editions](#) to see what's licensed in each edition.

### Edit the Edition

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open the instance you want to edit.  
If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
3. From the instance details page, in the **Actions** menu, click **Edit**.
4. In the Edit instance dialog, make your change.
5. Click **Save changes**.

## Edit the License Type

You can edit the license type of an Oracle Integration 3 instance. You can't edit the license type for an Oracle Integration for SaaS instance.

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open the instance you want to edit.  
If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
3. From the instance details page, in the **Actions** menu, click **Edit**.
4. In the Edit instance dialog, select an option:
  - **Subscribe to a new Oracle Integration license:** Select this option if you want to purchase a new license.  
With this option, each message pack includes 5,000 billing messages per hour.
  - **Existing Oracle Fusion Middleware license (BYOL):** Select this option if you want to use your existing license.  
With this option, each message pack includes 20,000 billing messages per hour.

**Note:** This option isn't available if you selected the Healthcare edition.

**Note:** If you are provisioning Oracle Integration for SaaS, this field is read-only and displays **Subscribe to a new Oracle Integration license**. Each message pack for Oracle Integration for SaaS includes 1 million billing messages per *month*.

There is no downtime when you change license types.

5. Click **Save changes**.

# Edit the Number of Message Packs

You can edit the number of message packs you subscribe to for an Oracle Integration 3 instance using the user interface or the command line.

## Note

- There is no instance downtime when you change the number of message packs. However, message pack updates can fail when maintenance or security patching is in progress. After updating the number of message packs, it can take up to 24 hours for additional resources to be added to the instance.
- You are responsible for billing based on the number of message packs you select. Select enough message packs to adequately handle your instance's activity. See [Estimate Message Pack Usage for a Metered Tenancy](#).
- Non-production instances, for example instances for development or QA, typically need only one message pack.
- The number of message packs you subscribe to can also affect the processing time of synchronous requests. See [Message Pack Usage and Synchronous/Asynchronous Requests](#).
- To understand how billing message usage is calculated for different features, see [How Features Impact Billing Messages](#).

Message pack size is based on the type of Oracle Integration license you selected.

- For Oracle Integration:  
If you created a new Oracle Integration license in the cloud:
  - Each message pack includes 5,000 billing messages per hour.
  - You can subscribe to up to 100 message packs.If you brought an existing Oracle Fusion Middleware license to the cloud (BYOL):
  - Each message pack includes 20,000 billing messages per hour.
  - You can subscribe to up to 100 message packs.
- For Oracle Integration for SaaS:
  - Each message pack includes 1 million billing messages per month. Usage is tracked on a monthly basis instead of hourly, which keeps costs predictable even when you have unpredictable hourly volumes.
  - You can subscribe to up to 43 message packs.

## Topics:

- [Edit the Number of Message Packs Using the User Interface](#)
- [Change Your Message Pack Subscription Using the Command Line](#)
- [When to Increase Message Packs](#)

## Edit the Number of Message Packs Using the User Interface

You can edit the number of message packs you subscribe to for an Oracle Integration 3 instance using the user interface.

### Note

- After updating the number of message packs, it can take up to 24 hours for additional resources to be added to the instance.
- Make sure you understand the considerations and message pack sizing noted [Edit the Number of Message Packs](#).

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open the instance you want to edit.  
If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
3. From the instance details page, in the **Actions** menu, click **Edit**.
4. In the Edit instance dialog, update the number of message packs.
5. Click **Save changes**.

## Change Your Message Pack Subscription Using the Command Line

You can change the number of message packs you subscribe to using the Oracle Cloud Infrastructure command line (OCI CLI).

The OCI CLI is part of the Cloud Shell. The Cloud Shell provides access to a pre-installed Linux shell with a pre-authenticated OCI CLI. The Cloud Shell supports a variety of features, tools, and utilities.

To use the Cloud Shell, you must have been granted access through the appropriate Oracle Cloud Infrastructure Identity and Access Management (IAM) policy. See [Cloud Shell](#).

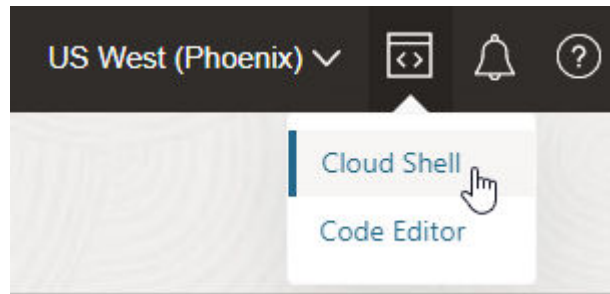
### Note

- After updating the number of message packs, it can take up to 24 hours for additional resources to be added to the instance.
- Make sure you understand the considerations and message pack sizing noted [Edit the Number of Message Packs](#).

1. Grant the following IAM policy to the group containing the user requiring access to the Cloud Shell. See [Manage Oracle Cloud Console Access](#).

```
allow group group_name to use cloud-shell in tenancy
```

2. In the upper-right corner of the Oracle Cloud Console, click the **Developer tools** icon, and select **Cloud Shell** to open the Cloud Shell.



The Cloud Shell drawer opens at the bottom of the screen. The Cloud Shell executes commands against the selected region in which you opened the Cloud Shell (for this example, Phoenix is the selected region).

Welcome to Oracle Cloud Shell.  
Try the new file upload/download capability in Cloud Shell. Access this new feature from the Cloud Shell menu.

Your Cloud Shell machine comes with 5GB of storage for your home directory. Your Cloud Shell (machine and home directory) are located in: US East (Ashburn).  
You are using Cloud Shell in tenancy oicpm as an OCI Federated user  
oracleidentitycloudservice/my\_login\_name@example.com

Type `help` for more info.  
my\_login\_name@cloudshell:~ (us-phoenix-1)\$

3. Enter the following command to increase the number of message packs.

For this example, the instance is using an existing Oracle Fusion Middleware license type brought to the cloud (BYOL) that is configured with 20,000 messages per pack. This example shows how to increase the value to 10.

```
oci integration integration-instance update --id OCID_value --message-packs 10
```

Where:

- `--id` is the unique OCID identifier of your instance. This option is required. You get this value by clicking **Copy** in the **OCID** field on the details page for the instance.
- `--message-packs` is the number of allowed message packs to which to increase your instance. For this example, 10 is specified.

These are the minimum required options to specify. Additional command line options are also available. See [Update Oracle Integration instances](#).

You receive an immediate response with a work request ID. For example:

```
{
  "opc-work-request-id": "ocid1.integrationworkrequest.oc1.geography-region-1.vmaerdicjfhkgfyaqrkihl6weoxhg6dxktxpdhh5ln6yi2en52xr3bplth4x"
}
```

4. Confirm that your work request completed and the message pack number is updated.

- a. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
- b. Open the Oracle Integration instance you updated.  
If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
- c. In the tabs across the top, click **Work requests**.  
Configuration changes occur quickly, so the operation should show that it has completed.
- d. In the tabs across the top, click **Details**.  
The **Message packs** entry should show the updated number of message packs. If you don't see the updated number, you might need to return to the Integration instances list, then reopen the instance to see the change.

## When to Increase Message Packs

You might need to increase message packs in the following situations:

| Situation                                             | Reason to increase                                                                                                                                                                                                                                              | Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| You're consuming more messages than you subscribe to. | Your message packs should equate to the number of messages your Oracle Integration instance consumes per hour. Therefore, it's essential that you know your instance's hourly throughput, and increase your message packs as necessary to match the throughput. | <p>You have 2 message packs, giving you 10,000 messages per hour, which covers your average throughput.</p> <p>Your requests usually take about 5 seconds to complete, so you process 12 requests per minute:</p> <ul style="list-style-type: none"> <li>60 seconds per minute / 5 seconds per request = 12 requests per minute</li> </ul> <p>You average 10 concurrent synchronous requests, so now you're up to 120 concurrent requests per minute:</p> <ul style="list-style-type: none"> <li>12 requests per minute x concurrency of 10 = 120 concurrent requests per minute</li> </ul> <p>That means you generally process 7,200 requests per hour:</p> <ul style="list-style-type: none"> <li>120 concurrent requests per minute x 60 minutes = 7,200 requests per hour</li> </ul> <p>We'll say that each request consumes one message, so you normally consume 7,200 messages per hour, which falls under your message pack subscription.</p> <p>But sometimes you get a 10-minute burst of 100 concurrent synchronous requests. You're suddenly processing 10 times as many requests—1,200 requests per minute, for a total of 12,000 requests during the burst.</p> <p>When you add that to your average messages for the rest of the hour, you've consumed 18,000 messages:</p> <ul style="list-style-type: none"> <li>50 average minutes x 120 requests per minute = 6,000 requests</li> <li>6,000 requests + 12,000 request burst = 18,000 requests</li> </ul> <p>That puts you 8,000 messages over your message pack subscription:</p> <ul style="list-style-type: none"> <li>10,000 subscribed messages - 18,000 consumed messages = 8,000 message overage</li> </ul> <p>You would need to subscribe to 2 more message packs to handle your request bursts.</p> |
| You need to handle bursts of high concurrency.        | The number of message packs directly affects the concurrent synchronous (and asynchronous) request limit.                                                                                                                                                       | <p>You have 2 message packs, allowing you up to 200 concurrent synchronous requests. You average a concurrency of 25, so you're usually well within that limit.</p> <p>But sometimes you get a burst of 250 concurrent synchronous requests. Since that exceeds your limit, the extra requests get errors.</p> <p>You would need to subscribe to 1 more message pack to handle your request bursts.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Edit the Consumption Model

If you want to change consumption models (for example, move from the Subscription (OIC4SaaS) consumption model to the Universal Credits consumption model), you must move your design time-metadata to a new or existing Oracle Integration instance that supports the consumption model you want to use.

### Note

When you change consumption models, the URLs that client applications are currently using also change.

1. Decide on the instance to which to move your design-time metadata.
  - a. If you don't have an existing instance, then provision a new instance and select the consumption model to which you want to move your design-time metadata.
  - b. Use an existing instance that is already configured with the consumption model to which you want to move your design-time metadata. The existing instance must be completely empty prior to importing the design-time metadata.
2. Move the design-time metadata data to the instance using the export and import features. See *Clone the Design-Time Metadata of an Entire Service Instance in Using Integrations in Oracle Integration 3*.

## Move an Instance

There are several ways to move Oracle Integration instances.

- [Move an Instance to a Different Compartment](#)
- [Move an Instance to a Different Region or Stripe](#)

### Move an Instance to a Different Compartment

You can move an Oracle Integration instance to a different compartment.

If you instead want to move an instance to a different *region*, see [Move an Instance to a Different Region or Stripe](#).

### Note

Moving an instance to another compartment doesn't affect runtime or design-time access to the Oracle Integration instance. However, it can potentially change who has access to the instance in the Oracle Cloud Console. For example, if User A has permission to manage items only to Compartment 1, and you move the instance to Compartment 2, User A will lose access to the instance. Before moving an instance to a new compartment, make sure that all users that need access to the instance will still be able to access the instance after the move.

To move an Oracle Integration instance to a different compartment:

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
  2. You can move an instance from the list of Oracle Integration instances or while viewing the instance's details:
    - To move an instance from the Integration instances page (the list of Oracle Integration instances), to the right of the instance you want to move, click **\*\*\*** , then click **Move**.
    - To move an instance from the instance details page, while viewing the instance you want to move, click **Actions**, then click **Move**.
  3. Select the compartment to which to move the instance, then click **Move resource**.
- The move can take several minutes to complete. When done, the instance is displayed in the new compartment.

## Move an Instance to a Different Region or Stripe

To move an Oracle Integration instance to a different region or stripe, create an instance in the new region or stripe, then export the design-time metadata from your old instance and import it into the new instance.

If you instead want to move your instance to a different *compartment*, see [Move an Instance to a Different Compartment](#).

### Note

- You can't move an Oracle Integration instance from one *tenancy* to another, even if the tenancies are both within the same region, but you can export/import *integrations* across tenancies with appropriate permissions for object storage or explicit transfer of the export file.
- If you are *moving* an instance (not just cloning an instance), where the new instance *replaces* the old instance, you must delete the old instance so that only the new instance is used going forward. Both instances can't be active at the same time.

Here's a high-level overview of best practices for moving your instance to a different region.

| Best practice                                                                                                                       | Associated documentation                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Make sure your existing Oracle Integration instance uses a custom endpoint and that all clients are using the custom endpoint.      | <a href="#">Configure a Custom Endpoint for an Instance</a>                                                                |
| Back up your Oracle Cloud Infrastructure (OCI) logs. Audit and activity stream data isn't copied when cloning design-time metadata. | <a href="#">Scenario: Archiving Logs to Object Storage</a> in the OCI documentation                                        |
| Create a new instance in the new region or stripe.                                                                                  | <a href="#">Create an Oracle Integration Instance</a><br><b>Note:</b> The new instance must be empty for the next task.    |
| Export design-time metadata from the old instance and import it into the new instance.                                              | <a href="#">Clone the Design-Time Metadata of an Entire Service Instance in Using Integrations in Oracle Integration 3</a> |

| Best practice                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Associated documentation                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Configure a custom endpoint for the new instance with the same host name you used for your old instance, but <i>do not</i> update the DNS Canonical Name (CNAME) until you verify that the new instance is working properly.                                                                                                                                                                                                                                                                                                            | <a href="#">Configure a Custom Endpoint for an Instance</a>                                                                |
| Make sure user access, connectivity, and additional features are configured on the new instance as they were on the old instance.                                                                                                                                                                                                                                                                                                                                                                                                       | Use the post-upgrade instructions as an example of areas to check: <a href="#">Summary of Post-Upgrade Tasks</a>           |
| Complete your organization's verification tasks on the new instance, such as performing integration load testing. However, <i>do not</i> start polling or schedules to avoid duplicate processing.                                                                                                                                                                                                                                                                                                                                      | N/A                                                                                                                        |
| When you've finished verifying the new instance and all non-polling integrations are activated, switch the custom endpoint CNAME to point to the new Oracle Integration instance hostname.                                                                                                                                                                                                                                                                                                                                              | <a href="#">Post-Configuration Tasks for an Oracle-Managed Custom Endpoint</a>                                             |
| Deactivate all polling integrations and stop the schedules in the old instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Deactivate an Integration and Start and Pause an Integration Schedule in <i>Using Integrations in Oracle Integration 3</i> |
| Activate the polling integrations and start the schedules in the new instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Activate an Integration and Start and Pause an Integration Schedule in <i>Using Integrations in Oracle Integration 3</i>   |
| Delete the old instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <a href="#">Delete an Instance</a>                                                                                         |
| If you're using File Server, a load balancer is probably required in each region and hostname. The load balancer performs port mapping because there is no guarantee that the File Server port number matches across instances. This is a great opportunity to use a standard SFTP port for external clients, along with a hostname. Once the load balancer is set up in each region and verified to be working, you can switch the hostname to the new region load balancer when you are ready to move traffic to the new File Server. | N/A                                                                                                                        |

## Rename a Tenancy

You can rename the tenancy that includes your service instance. The name change does *not* impact the following:

- Your service instance.
- Other Oracle Integration resources.  
For example, if the tenancy name in your URL was `global-chips` prior to tenancy renaming, the original name continues to be used unchanged:

`https://myoic-global-chips-px.integration.ocp.oraclecloud.com/ic/home`

See [Renaming a Tenancy and Cloud Account](#).

If your service instance needs to use the new tenancy name, you must perform the following steps:

1. Provision a new service instance in the renamed tenancy.
2. Clone (create) and export archives of the integration design-time metadata from the original service instance.
3. Import the archives into the new service instance.

See Clone the Design-Time Metadata of an Entire Service Instance in *Using Integrations in Oracle Integration 3*.

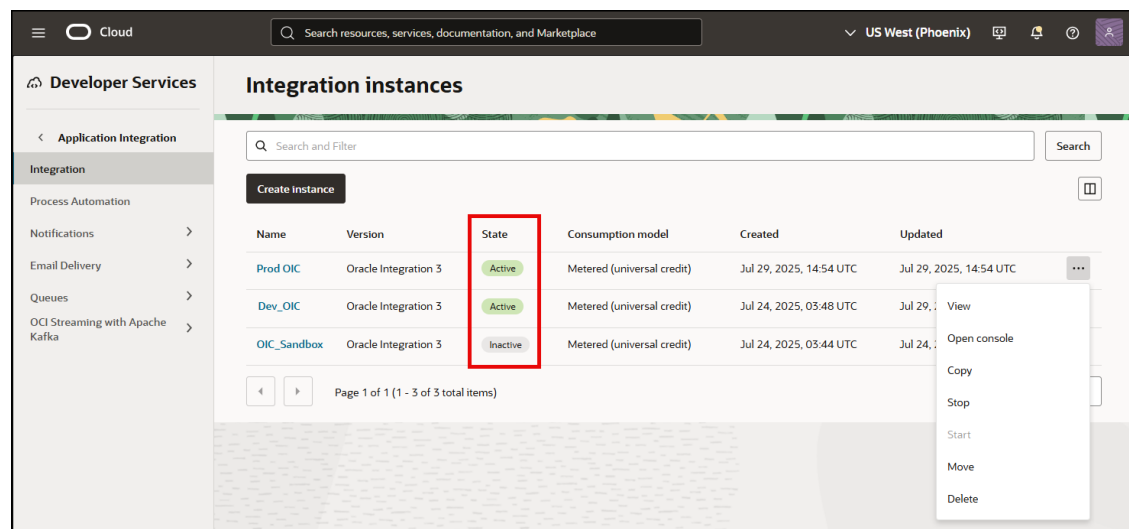
## Stop or Start an Instance

If you need to stop or start an Oracle Integration 3 instance, you can do so in the Oracle Cloud Console.

### Note

- Oracle recommends that you don't stop instances running in a production environment.
- Oracle recommends that you don't stop or start instances on a nightly basis. During routine maintenance patching, lifecycle operations are disabled. This may lead to a situation where the service instance can't be started or stopped for several hours while the patching cycle completes.
- You can't stop or start an instance if maintenance or security patching is in progress.
- You can also use the Oracle Integration Administrative API to stop or start an instance. See [Oracle Integration Administrative API](#).

Oracle Integration instances that are running (started) show an **Active** state, and instances that are stopped show an **Inactive** state.



## Stop an Oracle Integration Instance

When you stop an Oracle Integration instance, the instance enters a *pausing* process. No new integrations or processes will start, but those already running continue until they finish or reach a checkpoint. Once all integrations and processes have stopped, the instance enters a *stopped* state.

state. At that point, Oracle Integration design time, settings, and monitoring features are unavailable.

### What happens when an Oracle Integration instance is stopped?

- Billing for an Oracle Integration for SaaS instance isn't impacted while the instance is stopped. However, billing for an Oracle Integration instance is paused until the instance is restarted.
- Integration endpoints are paused.
- Process instances are paused.
- Runtime is paused.
- Scheduled integrations don't execute.
- Database purging continues to run.
- REST APIs are unavailable for use. If you attempt to use the APIs while your instance is in a paused state, you receive a 409 error.
- Design time is not available for use. If you access the Oracle Cloud Console, it displays a page indicating the stopped state and asks you to start the instance for the console to become available.

### Stop an instance

#### Note

You can't stop an instance if maintenance or security patching is in progress.

To stop an Oracle Integration instance:

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. You can stop an instance from one of two places:
  - To stop an instance from the Integration instances page (the list of Oracle Integration instances), to the right of the instance you want to stop, click **\*\*\***, then click **Stop**.
  - To stop an instance from the instance details page, while viewing the instance you want to stop, click **Actions**, then click **Stop**.

You'll be prompted to confirm this action.

The instance state changes to **Updating** during the pausing process. When the pausing process is complete, the state changes to **Inactive**.

## Start an Oracle Integration Instance

#### Note

You can't start an instance if maintenance or security patching is in progress.

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.

2. You can start an instance from one of two places:
  - To start an instance from the Integration instances page (the list of Oracle Integration instances), to the right of the instance you want to stop, click **\*\*\*** , then click **Start**.
  - To start an instance from the instance details page, while viewing the instance you want to start, click **Actions**, then click **Start**.

You'll be prompted to confirm this action.

The instance state changes to **Updating** while the instance is restarted. When the instance is running again, the state changes to **Active**.

## Delete an Instance

If you need to delete an Oracle Integration 3 instance, you can do so in the Oracle Cloud Console.



### Caution

Deleting an Oracle Integration instance can't be undone. This action permanently removes all design-time and runtime data.

To delete an Oracle Integration instance:

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. You can delete an instance from one of two places:
  - To delete an instance from the Integration instances page (the list of Oracle Integration instances), to the right of the instance you want to delete, click **\*\*\*** , then click **Delete**.
  - To delete an instance from the instance details page, while viewing the instance you want to delete, click **Actions**, then click **Delete**.

You'll be prompted to confirm this action.

# Monitor Billing

Monitor billing for your Oracle Integration instances to help control costs, forecast workloads, and plan your budget.

## Tools to Monitor Billing

There are several tools available to help you monitor billing for your instances:

- **Service instance metrics:** View billing message metrics for a particular Oracle Integration instance. See [Stay Within Budget: Track Billing Metrics](#).
- **Custom metrics charts:** Create custom charts to view exactly the metrics you're interested in. See [Using the Metrics Charts](#).
- **Service metrics:** View metrics for multiple Oracle Integration instances at the same time. See [Viewing Default Metric Charts for a Metric Namespace \(Multiple Resources\)](#) in the Oracle Cloud Infrastructure (OCI) documentation.
- **Alarms:** Use alarms to notify you when metrics meet specified triggers. See [Managing Alarms](#) in the OCI documentation.
- **Automate with events:** Create rules to track Oracle Integration lifecycle events, such as when instances are created, updated, or deleted, and compartments changed. See [Get Notified When Instance Events Occur](#).

## Billing Message Calculation

The following topics can help you estimate your billing message usage:

- [Estimate Message Pack Usage for a Metered Tenancy](#)
- [How Features Impact Billing Messages](#)

## Stay Within Budget: Track Billing Metrics

View and analyze service instance metrics, including billing message data, processing and invocation times, adapter requests, and configured and consumed messages on the **Monitoring** page. Use the data to monitor resources associated with Oracle Integration and the applications that you integrate with Oracle Integration.

### ① Note

Visual Builder billing message consumption is not included in Oracle Integration usage metrics. For Oracle Integration for SaaS instances, each named user for the visual applications is equal to 5,000 messages per month. For Oracle Integration instances, each concurrent user per hour is equal to 100 messages.

## View the Default Metrics for an Oracle Integration Instance

### Prerequisite:

Ensure you have permission to view service instance metrics for the compartment.

- If you are an administrator with manage access, you can automatically view service instance metrics for the compartment. For manage access, you must be part of an Oracle Cloud Infrastructure group assigned a manage policy.
- If you are an administrator with read only access, you must be part of an Oracle Cloud Infrastructure group assigned a read metrics policy.

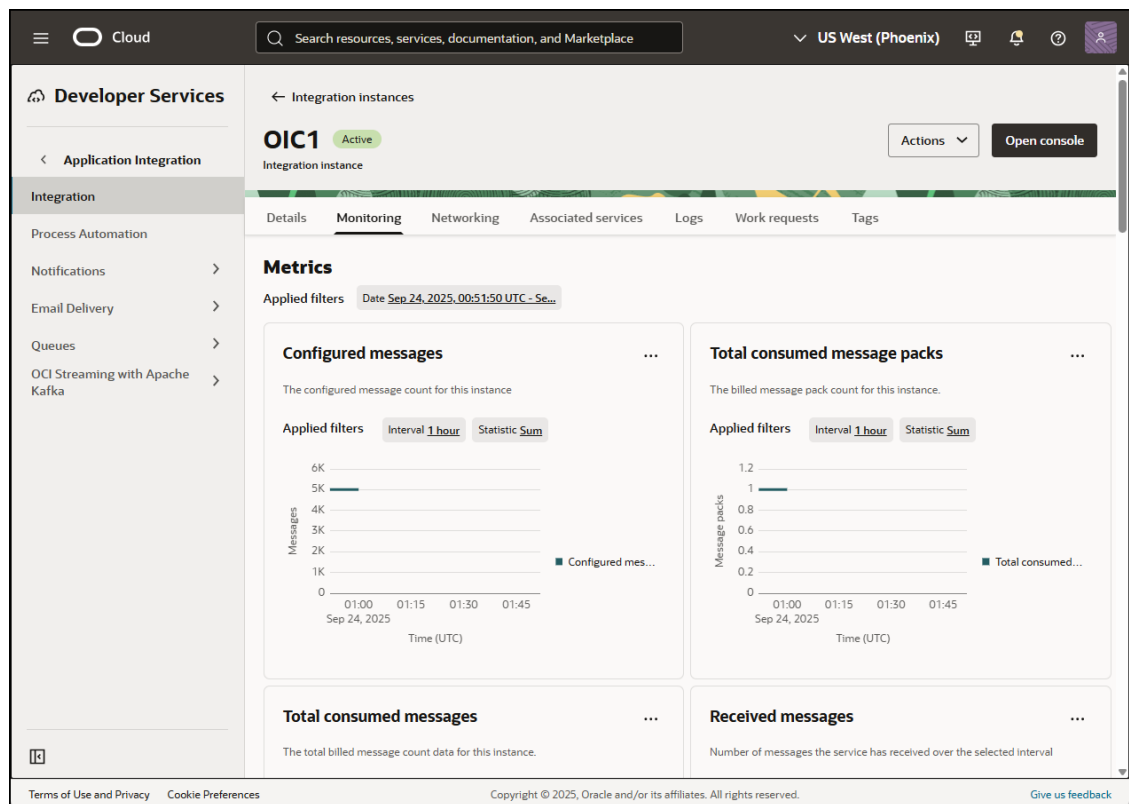
For example:

- **Syntax:** allow group *group\_name* to verb *resource-type* in compartment *compartment-name*
- **Policy:** allow group oci-integration-admins to read metrics in compartment OICPMCompartment

See [Manage Oracle Cloud Console Access](#).

### To view the metrics:

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open the Oracle Integration instance you want to view.  
If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
3. On the Integration instance details page, in the tabs across the top, click **Monitoring**.  
You see the message metrics with the default filters applied.



For information on using the charts, including descriptions of the **Statistic** options, see [Viewing Default Metric Charts](#) in the Oracle Cloud Infrastructure documentation.

## Available Metrics Charts

### Note

Billing for Oracle Integration changed on July 1, 2025. Using the following features results in extra billing message usage:

- Disaster recovery
- Robotic process automation
- Extended data retention

These updates are included in our [Service Description](#), which is part of your agreement with Oracle.

Review the metrics in these charts to determine how these features contribute to your total usage. If you use any of these features, your bill may increase. If you don't want to continue use of these features, disable them to avoid extra billing message usage.

| Chart                                                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Configured messages                                            | Shows the number of billing messages that you purchased. This number is calculated by multiplying the number of message packs you purchased by the number of billing messages in each pack. For information on the number of billing messages in each pack and how to select the number of message packs, see <a href="#">Edit the Number of Message Packs Using the User Interface</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Total consumed message packs                                   | Shows the grand total of message packs used by your service instance, including the message packs to cover your total consumed billing messages, plus the message packs used for disaster recovery. For details on how the total is calculated, see <a href="#">How Features Impact Billing Messages</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Total consumed messages                                        | Shows the total number of billing messages used by all components except Oracle Visual Builder. This total doesn't include disaster recovery. For details on how total consumed billing message usage is calculated, see <a href="#">How Features Impact Billing Messages</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Received messages                                              | Shows the number message requests that the service instance received.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Successful messages                                            | Shows the number message requests that completed successfully.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Failed messages                                                | Shows the number message requests that did not complete successfully.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Consumed messages for Integration                              | Shows the number of billing messages that the service instance used for incoming and outgoing messages for trigger and invoke requests. For details on how billing message usage is calculated, see <a href="#">How Features Impact Billing Messages</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Consumed message packs for disaster recovery                   | Shows the number of message packs used for disaster recovery. Adding disaster recovery increases your message pack consumption based on your existing message pack consumption. Existing message pack consumption is the number of message packs consumed by integrations, data retention, Process Automation and human in the loop, decisions, and robotic process automation. <ul style="list-style-type: none"> <li>• If your existing message pack consumption is 1-3 message packs, disaster recovery adds 1 message pack.</li> <li>• If your existing message pack consumption is 4-8 message packs, disaster recovery adds 2 message pack.</li> <li>• If your existing message pack consumption is 8+ message packs, disaster recovery adds 3 message pack.</li> </ul> For details on how disaster recovery message pack usage is calculated, see <a href="#">Disaster Recovery Message Consumption</a> . |
| Inbound requests                                               | Shows the number of inbound requests received by the service instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Inbound request processing time                                | Shows the amount of time taken to process inbound requests.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Outbound requests                                              | Shows the number of outbound requests made by the service instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Outbound request invocation time                               | Shows the amount of time taken to invoke outbound requests to external endpoints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Consumed messages for Process Automation and Human in the Loop | Shows the number of process billing messages that Process Automation used. <ul style="list-style-type: none"> <li>• +1 message per process invocation<br/>A process invoking another process doesn't incur this charge</li> <li>• +1 message per hour of process duration after the first hour</li> </ul> For details on how Process Automation and human in the loop billing message usage is calculated, see <a href="#">Additional Message Consumption for Optional Features</a> .                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Chart                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Consumed messages for Decisions                  | <p>Shows the number of billing messages that decisions used. Based on your existing message pack consumption, which includes additional billing message consumption due to other services, limits, components, and overages.</p> <ul style="list-style-type: none"> <li>+1 message per decision invocation</li> </ul> <p>For details on how decision billing message usage is calculated, see <a href="#">Additional Message Consumption for Optional Features</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Consumed messages for Robotic Process Automation | <p>Shows the number of billing messages that robotic process automation used.</p> <ul style="list-style-type: none"> <li>+1 message per robot invocation</li> <li>+1 message per 5 minutes of robot duration after the first 5 minutes</li> </ul> <p>For details on how robotic process automation billing message usage is calculated, see <a href="#">Additional Message Consumption for Optional Features</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Consumed messages from data retention            | <p>Shows the number of billing messages used for extended data retention. By default Standard and Enterprise edition service instances retain data for 32 days, and Healthcare edition service instances retain data for 184 days. If you have an Enterprise edition service instance, you can change the data retention period if you want.</p> <p>Adding extended data retention increases your hourly billing message consumption:</p> <ul style="list-style-type: none"> <li>93 days (3 months) increases your billing message consumption by 10% ("Consumed billing messages" x 10%)</li> <li>184 days (6 months) increases your billing message consumption by 20% ("Consumed billing messages" x 20%)</li> </ul> <p>For details on how data retention billing message usage is calculated, see <a href="#">Extended Data Retention Message Consumption</a>.</p> <p>For details on how to manage your data retention period, see <a href="#">Edit the Data Retention Period</a>.</p> |
| Configured messages for Oracle Visual Builder    | <p>Shows the number of billing messages that Oracle Visual Builder used. Metering tracks the number of <i>concurrent, unique</i> users <i>interacting</i> with Oracle Visual Builder apps within a 1 hour interval. These Oracle Visual Builder users are converted to message usage. One Oracle Visual Builder user per hour is equivalent to 100 messages per hour.</p> <p>For details on how Oracle Visual Builder billing message usage is calculated, see <a href="#">Additional Message Consumption for Optional Features</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Async queue depth                                | <p>For details on how message packs affect asynchronous concurrency, see <a href="#">Message Pack Usage and Synchronous/Asynchronous Requests</a>.</p> <p>For details about the asynchronous message queue depth available with your specific message pack, see <a href="#">Asynchronous Message Queue Depth</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| File Server connections                          | <p>For details on File Server connections, see <i>How Many Concurrent Connections Can I Have?</i> in <i>Using File Server in Oracle Integration 3</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Scheduled requests                               | <p>For details on scheduled integrations, see <i>Create Scheduled Integrations and Troubleshoot Scheduled Integrations</i> in <i>Using Integrations in Oracle Integration 3</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Using the Metrics Charts

You can change the metrics that appear in each chart. Additionally, you can create custom charts to further analyze your data. For example, imagine you created two compartments for your organization, one for your engineering team and another for your finance team. Using custom charts, you could measure the resources that each compartment used and determine whether you purchased an appropriate number of message packs.

1. Change the message metrics displayed for each chart, if needed.  
**Start Time** and **End Time** are selected at the top of each chart. Change these values to select a different time period.  
  
Metric counts occur every five minutes.
2. To change the metrics displayed, change the **Interval** and **Statistic** fields for each chart.
3. To create custom dashboards and alerts, or to see data for all instances in a compartment, in the top right of a chart, from the **Options** drop-down list, select **View Query in Metrics Explorer**. For more information, see [Viewing Default Metric Charts](#).

## Oracle Integration Metrics for Custom Charts

Oracle Integration includes the following metrics that you can use in custom charts.

| Metric                          | Unit  | Description                                                                                                                   | Available <a href="#">dimensions</a>                                                                                                                       | Commonly used statistics                              |
|---------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| AsyncInboundRequestDepth        | count | Number of requests in async queue.                                                                                            | <ul style="list-style-type: none"> <li>resourceId</li> </ul>                                                                                               | <ul style="list-style-type: none"> <li>Max</li> </ul> |
| BilledMessageCount              | count | Number of billing messages that the service instance used for incoming and outgoing messages for trigger and invoke requests. | <ul style="list-style-type: none"> <li>adapterIdentifier</li> <li>instanceName</li> <li>integrationFlowIdentifier</li> <li>resourceId</li> </ul>           | <ul style="list-style-type: none"> <li>Max</li> </ul> |
| BilledMessageCountDataRetention | count | Number of billing messages used for extended data retention.                                                                  | <ul style="list-style-type: none"> <li>resourceId</li> <li>resourceName</li> </ul>                                                                         | <ul style="list-style-type: none"> <li>Max</li> </ul> |
| BilledMessagePackCount          | count | Number of message packs that you purchased.                                                                                   | <ul style="list-style-type: none"> <li>resourceId</li> <li>resourceName</li> </ul>                                                                         | <ul style="list-style-type: none"> <li>Max</li> </ul> |
| BilledMessagePackCountDR        | count | Number of message packs used for disaster recovery.                                                                           | <ul style="list-style-type: none"> <li>resourceId</li> <li>resourceName</li> </ul>                                                                         | <ul style="list-style-type: none"> <li>Max</li> </ul> |
| ConfiguredMessages              | count | Number of billing messages that were configured.                                                                              | <ul style="list-style-type: none"> <li>account_subscription</li> <li>compartmentId</li> <li>instanceName</li> <li>meterType</li> <li>resourceId</li> </ul> | <ul style="list-style-type: none"> <li>Max</li> </ul> |
| FileserverInboundConnections    | count | Number of sessions requested in File Server.                                                                                  | <ul style="list-style-type: none"> <li>resourceId</li> </ul>                                                                                               | <ul style="list-style-type: none"> <li>Max</li> </ul> |

| Metric                       | Unit                     | Description                                                                                                                                                                                                                                                                                                                                                                                            | Available <a href="#">dimensions</a>                                                                                                                                                                                                            | Common only used statistics                                                                                                |
|------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| InboundRequestProcessingTime | Duration in milliseconds | The time taken for processing inbound requests. In case of synchronous requests, it is the total time taken for processing a request and sending the response. In case of fire-and-forget inbound requests, it is the time taken to persist the request and send the acknowledgment.<br><br>This metric captures the time elapsed (in milliseconds) by the trigger in processing the incoming request. | <ul style="list-style-type: none"> <li>• adapterIdentifier</li> <li>• flowType</li> <li>• inboundProcessingEndpointInformation</li> <li>• inboundProcessingResponseStatus</li> <li>• integrationFlowIdentifier</li> <li>• resourceId</li> </ul> | <ul style="list-style-type: none"> <li>• Message</li> <li>• Maximum</li> <li>• Percentage</li> <li>• Percentage</li> </ul> |
| MessagesFailedCount          | count                    | Number of messages that could not be processed. For example, a message can't be processed when an external endpoint that is used in an integration goes down.                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• flowCode</li> <li>• flowVersion</li> <li>• resourceId</li> </ul>                                                                                                                                       | <ul style="list-style-type: none"> <li>• Maximum</li> </ul>                                                                |
| MessagesReceivedCount        | count                    | Number of messages that were received. This count doesn't indicate whether the messages processed successfully.                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• flowCode</li> <li>• flowVersion</li> <li>• resourceId</li> </ul>                                                                                                                                       | <ul style="list-style-type: none"> <li>• Message</li> <li>• Maximum</li> </ul>                                             |
| MessagesSuccessfulCount      | count                    | Number of messages that were processed successfully.                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• flowCode</li> <li>• flowVersion</li> <li>• resourceId</li> </ul>                                                                                                                                       | <ul style="list-style-type: none"> <li>• Message</li> <li>• Maximum</li> </ul>                                             |
| NumberOfInboundRequests      | count                    | Number of requests received by Oracle Integration using any adapter-specific trigger connection. This metric includes the HTTPs requests posted to Oracle Integration and the messages polled by adapters such as Oracle Advanced Queuing (AQ) Adapter, IBM MQ Series JMS Adapter, Apache Kafka Adapter, Oracle AI Database Adapter, and so on.                                                        | <ul style="list-style-type: none"> <li>• adapterIdentifier</li> <li>• flowType</li> <li>• inboundProcessingEndpointInformation</li> <li>• inboundProcessingResponseStatus</li> <li>• integrationFlowIdentifier</li> <li>• resourceId</li> </ul> | <ul style="list-style-type: none"> <li>• Count</li> </ul>                                                                  |

| Metric                           | Unit                     | Description                                                                                                                         | Available <a href="#">dimensions</a>                                                                                                                                                                                | Common only used statistics            |
|----------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| NumberOfOutboundRequests         | count                    | Number of outbound requests sent by the adapter as part of the invoke activity in Oracle Integration.                               | <ul style="list-style-type: none"> <li>adapterIdentifier</li> <li>integrationFlowIdentifier</li> <li>outboundInvocationEndpointInformation</li> <li>outboundInvocationResponseStatus</li> <li>resourceId</li> </ul> | Count                                  |
| OPABilledDecisionMessageCount    | count                    | Number of billing messages that decisions used.                                                                                     | <ul style="list-style-type: none"> <li>OPAInstanceId</li> <li>resourceId</li> <li>resourceName</li> </ul>                                                                                                           | Max                                    |
| OPABilledProcessMessageCount     | count                    | Number of process billing messages that Process Automation and human in the loop used.                                              | <ul style="list-style-type: none"> <li>OPAInstanceId</li> <li>resourceId</li> <li>resourceName</li> </ul>                                                                                                           | Max                                    |
| OutboundRequestInvocationTime    | Duration in milliseconds | Time (in milliseconds) spent by the adapter during the invocation of the target endpoint.                                           | <ul style="list-style-type: none"> <li>adapterIdentifier</li> <li>integrationFlowIdentifier</li> <li>outboundInvocationEndpointInformation</li> <li>outboundInvocationResponseStatus</li> <li>resourceId</li> </ul> | Min<br>Max<br>P50<br>P90<br>P95<br>P99 |
| RPABilledMessageCount            | count                    | Number of billing messages that robotic process automation used.                                                                    | <ul style="list-style-type: none"> <li>resourceId</li> <li>resourceName</li> <li>RPAInstanceId</li> </ul>                                                                                                           | Max                                    |
| SchedulerTriggeredInstancesCount | count                    | Number of requests triggered by scheduler.                                                                                          | <ul style="list-style-type: none"> <li>resourceId</li> </ul>                                                                                                                                                        | Max                                    |
| TotalBilledMessageCount          | count                    | Total number of billing messages used by all components except Oracle Visual Builder. This total doesn't include disaster recovery. | <ul style="list-style-type: none"> <li>resourceId</li> <li>resourceName</li> </ul>                                                                                                                                  | Max                                    |

| Metric               | Unit  | Description                                                 | Available <a href="#">dimensions</a>                                                                     | Commonly used statistics |
|----------------------|-------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------|
| VBBilledMessageCount | count | Number of billing messages that Oracle Visual Builder used. | <ul style="list-style-type: none"> <li>resourceId</li> <li>resourceName</li> <li>VBInstanceId</li> </ul> | Max                      |

## Oracle Integration Dimensions for Custom Charts

Oracle Integration includes the following dimensions that you can use in custom metrics charts.

### Note

Each metric has its own dimensions. Not all dimensions are available on all metrics. See [Oracle Integration Metrics for Custom Charts](#).

| Dimension                            | How it filters data in the chart                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| adapterIdentifier                    | Shows data for a single adapter (internal name) that is used either as a trigger for receiving or as an invoke for sending the request to the external system.                                                                                                                                                                                                               |
| account_subscription                 | Shows data for a specific account type, such as a universal credit model (UCM) account, an Oracle Integration for SaaS account, or a government account.                                                                                                                                                                                                                     |
| compartmentId                        | Shows data for a specific compartment.                                                                                                                                                                                                                                                                                                                                       |
| flowCode                             | Shows data for a specific integration.                                                                                                                                                                                                                                                                                                                                       |
| flowType                             | Shows data for a specific integration flow type: sync or async.                                                                                                                                                                                                                                                                                                              |
| flowVersion                          | Shows data for a specific integration version, which you can specify at various times, including when you create or clone an integration.                                                                                                                                                                                                                                    |
| inboundProcessingEndpointInformation | Shows data for a specific functional request received from the client. Provides a concise summary of the adapter trigger configuration. For example, the inboundProcessingEndpointInformation dimension can look for 'Receive Incident Created notification from ServiceNow' for an integration that is triggered when an incident is created in the ServiceNow application. |
| inboundProcessingResponseStatus      | Shows data for a specific status sent by the trigger to the external client.                                                                                                                                                                                                                                                                                                 |
| instanceName                         | Shows data for a specific Oracle Integration instance. This value matches the name that an administrator specified when creating the instance as well as the URL of the instance. This value is a more user-friendly value than the resourceId.                                                                                                                              |
| integrationFlowIdentifier            | Shows data for a specific integration flow.                                                                                                                                                                                                                                                                                                                                  |
| meterType                            | Shows data for a specific license type: BYOL, Cloud, or SaaS.                                                                                                                                                                                                                                                                                                                |
| OPAInstanceId                        | Shows data for a specific Process Automation or human in the loop instance OCID.                                                                                                                                                                                                                                                                                             |

| Dimension                             | How it filters data in the chart                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| outboundInvocationEndpointInformation | Shows data for a specific functional request made to the external system. Provides a concise summary of the adapter invoke configuration.<br>For example, the outboundInvocationEndpointInformation dimension can look for 'Create Account in Salesforce.com' if the invoke activity in the integration is configured to create an Account object in Salesforce.com. |
| outboundInvocationResponseStatus      | Shows data for a specific status received from the external system.                                                                                                                                                                                                                                                                                                  |
| integrationFlowIdentifier             | Shows data for the integration receiving an incoming request or sending an outgoing request. The dimension includes both the identifier and the version.                                                                                                                                                                                                             |
| resourceId                            | Shows data for a specific Oracle Integration instance OCID. You can use this value to uniquely track the instance.                                                                                                                                                                                                                                                   |
| resourceName                          | Shows data for a specific Oracle Integration instance. This value matches the name that an administrator specified when creating the instance as well as the URL of the instance. This value is a more user-friendly value than the resourceId.                                                                                                                      |
| RPAInstanceId                         | Shows data for a specific robotic process automation instance OCID.                                                                                                                                                                                                                                                                                                  |
| VBInstanceId                          | Shows data for a specific Oracle Visual Builder instance OCID.                                                                                                                                                                                                                                                                                                       |

## How Adapters Map to Dimension Values

This table lists each adapter and its associated dimension values.

| Adapter display name | Value for adapterIdentifier dimension | Values for inboundProcessingEndpointInformation dimension                                                                                                     | Values for outboundInvocationEndpointInformation dimension                                                                                                                                                                                                                         |
|----------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Adobe Sign Adapter   | adobeesign                            | N/A                                                                                                                                                           | <ul style="list-style-type: none"> <li>Retrieve status of agreement from Adobe eSign</li> <li>Upload a document in Adobe eSign</li> <li>Retrieve IDs of agreement from Adobe eSign</li> <li>Retrieve URL of the document from Adobe eSign</li> </ul>                               |
| Apache Kafka Adapter | apachekafka                           | <ul style="list-style-type: none"> <li>Consume latest message from Topic: [TopicName=&lt;Topic&gt;,Partitions={&lt;Partition&gt;}] in Apache Kafka</li> </ul> | <ul style="list-style-type: none"> <li>Produce message(JSON) in Topic: [TopicName=&lt;Topic&gt;,Partitions={&lt;Partition&gt;}] using Apache Kafka</li> <li>Consume latest message from Topic: [TopicName=&lt;Topic&gt;,Partitions={&lt;Partition&gt;}] in Apache Kafka</li> </ul> |
| AS2 Adapter          | as2adapter                            | N/A                                                                                                                                                           | N/A                                                                                                                                                                                                                                                                                |
| Box Adapter          | box                                   | N/A                                                                                                                                                           | N/A                                                                                                                                                                                                                                                                                |

| Adapter display name     | Value for adapterIdentifier dimension | Values for inboundProcessingEndpointInformation dimension                                                                                                                                                                                    | Values for outboundInvocationEndpointInformation dimension                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DocuSign Adapter         | docusign                              | N/A                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Create and send an envelope in DocuSign</li> <li>Send an envelope created from an existing template in DocuSign</li> <li>Get status changes of an envelope from DocuSign</li> </ul>                                                                                                                                                                                                                                                                                                                |
| eBay Marketplace Adapter | ebay                                  | N/A                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Get Single Record: &lt;Entity_NAME&gt;s from eBay</li> <li>Get List of Records: &lt;Entity_NAME&gt;s from eBay</li> <li>Create a Record: &lt;Entity_NAME&gt; in eBay</li> <li>Update a Record: &lt;Entity_NAME&gt; in eBay</li> <li>Delete a Record: &lt;Entity_NAME&gt; from eBay</li> <li>B2B EDI Translation</li> </ul>                                                                                                                                                                         |
| EDI Translate Action     | bbtranslationadapter                  | N/A                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Eventbrite Adapter       | eventbrite                            | N/A                                                                                                                                                                                                                                          | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Facebook Adapter         | facebook                              | N/A                                                                                                                                                                                                                                          | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| File Adapter             | file                                  | <ul style="list-style-type: none"> <li>Read file from server</li> <li>Read and delete file from server</li> <li>Read file recursively in directory from server</li> <li>Read file recursively in directory and delete from server</li> </ul> | <ul style="list-style-type: none"> <li>Read file from Server</li> <li>Write file &lt;FileName&gt;in directory &lt;DirName&gt;</li> <li>Listing file with minimum age &lt;N&gt; seconds, maximum files in response &lt;M&gt; Recursive &lt;True False&gt;</li> <li>Move file with Overwrite option &lt;True False&gt;</li> <li>Delete file in Server</li> <li>Download file in Oracle Integration from agent</li> </ul>                                                                                                                    |
| FTP Adapter              | ftp                                   | NA                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>Read file from FTP Server in (binary ASCII) format</li> <li>Write(append) file to FTP Server in (binary ASCII) format</li> <li>(Encrypt decrypt Sign Verify) and Write file to FTP Server</li> <li>List (Recursive) files from FTP Server</li> <li>Move (Overwrite) files from FTP Server</li> <li>Delete file in FTP Server</li> <li>Download file from FTP Server in (binary ASCII) format</li> <li>Download and (unzip decrypt Verify) file from FTP Server in (binary ASCII) format</li> </ul> |

| Adapter display name                  | Value for adapterIdentifier dimension | Values for inboundProcessingEndpointInformation dimension                                                                                              | Values for outboundInvocationEndpointInformation dimension                                                                                                                                                                                  |
|---------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Google Calendar Adapter               | googlecalendar                        | N/A                                                                                                                                                    | N/A                                                                                                                                                                                                                                         |
| Google Gmail Adapter                  | gmail                                 | N/A                                                                                                                                                    | <ul style="list-style-type: none"> <li>Get email attachment from Gmail</li> <li>List emails from Gmail</li> </ul>                                                                                                                           |
| Google Tasks Adapter                  | googletask                            | N/A                                                                                                                                                    | N/A                                                                                                                                                                                                                                         |
| IBM DB2 Adapter                       | db2database                           | <ul style="list-style-type: none"> <li>New row is inserted into &lt;table name&gt; in DB2</li> </ul>                                                   | <ul style="list-style-type: none"> <li>Insert rows into &lt;table name&gt; in DB2</li> <li>Merge rows into &lt; table name&gt; in DB2</li> <li>Update rows into &lt;table name&gt; in DB2</li> </ul>                                        |
| IBM MQ Series JMS Adapter             | mqjms                                 | <ul style="list-style-type: none"> <li>Consume message from Queue: &lt;queue name&gt; in MQSeries JMS</li> </ul>                                       | <ul style="list-style-type: none"> <li>Produce message (Persistent) in Queue: &lt;Queue Name&gt; using MQSeries JMS</li> </ul>                                                                                                              |
| LinkedIn Adapter                      | linkedin                              | N/A                                                                                                                                                    | N/A                                                                                                                                                                                                                                         |
| Mailchimp Adapter                     | mailchimp                             | N/A                                                                                                                                                    | N/A                                                                                                                                                                                                                                         |
| Marketo Adapter                       | Marketo                               | N/A                                                                                                                                                    | <ul style="list-style-type: none"> <li>Create Or Update Lead in Marketo</li> <li>Import Lead in Marketo</li> </ul>                                                                                                                          |
| Microsoft Contact Adapter             | microsoftcontact                      | N/A                                                                                                                                                    | N/A                                                                                                                                                                                                                                         |
| Microsoft Office 365 Calendar Adapter | microsoftcalendar                     | N/A                                                                                                                                                    | N/A                                                                                                                                                                                                                                         |
| Microsoft Office 365 Outlook Adapter  | microsoftemail                        | N/A                                                                                                                                                    | N/A                                                                                                                                                                                                                                         |
| Microsoft SQL Server Adapter          | sqlserverdatabase                     | <ul style="list-style-type: none"> <li>New row is inserted into &lt;table name&gt; in MS SQL Server DB</li> </ul>                                      | <ul style="list-style-type: none"> <li>Insert rows into &lt;table name&gt; in MS SQL Server DB</li> <li>Merge rows into &lt; table name&gt; in MS SQL Server DB</li> <li>Update rows into &lt;table name&gt; in MS SQL Server DB</li> </ul> |
| MySQL Adapter                         | mysqldatabase                         | <ul style="list-style-type: none"> <li>New row is inserted into &lt;table name&gt; in MySQL DB</li> </ul>                                              | <ul style="list-style-type: none"> <li>Insert rows into &lt;table name&gt; in My SQL DB</li> <li>Merge rows into &lt; table name&gt; in My SQL DB</li> <li>Update rows into &lt;table name&gt; in My SQL DB</li> </ul>                      |
| Oracle Advanced Queuing (AQ) Adapter  | aq                                    | <ul style="list-style-type: none"> <li>Consume &lt;message type&gt; message from Queue: &lt;queue name&gt; in Oracle Advanced Queueing (AQ)</li> </ul> | <ul style="list-style-type: none"> <li>Produce &lt;message type&gt; message in Queue: &lt;queue name&gt; using Oracle Advanced Queueing (AQ)</li> </ul>                                                                                     |

| Adapter display name                                                          | Value for adapterIdentifier dimension | Values for inboundProcessingEndpointInformation dimension                                                                                                                                                                                                                                                                          | Values for outboundInvocationEndpointInformation dimension                                                                                                                                                                               |
|-------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oracle Autonomous AI Lakehouse (LH) Adapter                                   | adwdatabase                           | <ul style="list-style-type: none"> <li>New row is inserted into &lt;table name&gt; in Oracle ADW</li> </ul>                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Insert rows into &lt;table name&gt; in Oracle ADW</li> <li>Merge rows into &lt; table name&gt; in Oracle ADW</li> <li>Update rows into &lt;table name&gt; in Oracle ADW</li> </ul>                |
| Oracle Autonomous AI Transaction Processing (ATP) Adapter                     | atpdatabase                           | <ul style="list-style-type: none"> <li>New row is inserted into &lt;table name&gt; in Oracle ATP</li> </ul>                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>insert rows into &lt;table name&gt; in Oracle ATP</li> <li>Merge rows into &lt; table name&gt; in Oracle ATP</li> <li>Update rows into &lt;table name&gt; in Oracle ATP</li> </ul>                |
| Oracle Cloud Infrastructure Streaming Service Adapter                         | ocistreaming                          | N/A                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Message produced to: Sales-SP with Partition/s: &lt;Partitions&gt; of MessageType &lt;Message Type&gt;</li> </ul>                                                                                 |
| Oracle Commerce Cloud Adapter                                                 | rest_oraclecommercecloud              | N/A                                                                                                                                                                                                                                                                                                                                | N/A                                                                                                                                                                                                                                      |
| Oracle CPQ Adapter                                                            | cpq                                   | N/A                                                                                                                                                                                                                                                                                                                                | N/A                                                                                                                                                                                                                                      |
| Oracle CX Sales and B2B Service Adapter (formerly Oracle Sales Cloud) Adapter | osc                                   | <ul style="list-style-type: none"> <li>Request object &lt;object name&gt; from Engagement Cloud</li> <li>Request Object Account from Engagement Cloud</li> <li>Receive notification for business event FoundationParties_Person_Created from Engagement Cloud</li> <li>Request Object Opportunity from Engagement Cloud</li> </ul> | <ul style="list-style-type: none"> <li>Create Opportunity in Engagement Cloud</li> <li>Create ICS Sales Custom Object CO in Engagement Cloud</li> </ul>                                                                                  |
| Oracle AI Database Adapter                                                    | database                              | <ul style="list-style-type: none"> <li>New row is inserted into &lt;table name&gt; in Oracle Database</li> </ul>                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>Insert rows into &lt;table name&gt; in Oracle Database</li> <li>Merge rows into &lt; table name&gt; in Oracle Database</li> <li>Update rows into &lt;table name&gt; in Oracle Database</li> </ul> |
| Oracle Database Cloud Service Adapter                                         | dbaasdatabase                         | <ul style="list-style-type: none"> <li>New row is inserted into &lt;table name&gt; in DBCS</li> </ul>                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Insert rows into &lt;table name&gt; in DBCS</li> <li>Merge rows into &lt; table name&gt; in DBCS</li> <li>Update rows into &lt;table name&gt; in DBCS</li> </ul>                                  |
| Oracle E-Business Suite Adapter                                               | ebusiness                             | N/A                                                                                                                                                                                                                                                                                                                                | N/A                                                                                                                                                                                                                                      |
| Oracle Eloqua Cloud Adapter                                                   | eloqua                                | N/A                                                                                                                                                                                                                                                                                                                                | N/A                                                                                                                                                                                                                                      |

| Adapter display name                                                           | Value for adapterIdentifier dimension | Values for inboundProcessingEndpointInformation dimension                                                                                                                                                                                                                                                                                                                | Values for outboundInvocationEndpointInformation dimension                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oracle Enterprise Performance Management Cloud Adapter                         | epm                                   | N/A                                                                                                                                                                                                                                                                                                                                                                      | N/A                                                                                                                                                                                                                                                                                                                                   |
| Oracle ERP Cloud Adapter                                                       | erp                                   | <ul style="list-style-type: none"> <li>Receive notification for business event &lt;event name&gt; from ERP Cloud</li> <li>Receive Status of ERP Import Job from ERP Cloud</li> <li>Receive notification for business event OIC_MAT_349_FSCM_PARENNT from ERP Cloud</li> <li>Request Object Account from ERP Cloud</li> <li>Request Object Item from ERP Cloud</li> </ul> | <ul style="list-style-type: none"> <li>Get ESS Job Status in ERP Cloud</li> <li>Submit Contract For Approval in ERP Cloud</li> <li>Bulk Import of data into ERP Cloud using FBDI Job: &lt;Job Name&gt;</li> <li>Upload File to UCM in ERP Cloud</li> </ul>                                                                            |
| Oracle Fusion Field Service Adapter                                            | ofsccloudadapter                      | <ul style="list-style-type: none"> <li>Receive &lt;event-name&gt; notification from Oracle Field Service Cloud or</li> <li>Receive &lt;event1, event2...&gt; notification from Oracle Field Service Cloud</li> </ul>                                                                                                                                                     | <ul style="list-style-type: none"> <li>Get &lt;resource-name&gt; in Oracle Field Service Cloud</li> <li>Get &lt;resource-name&gt; &lt;sub-resource-name&gt; in Oracle Field Service Cloud</li> <li>&lt;custom-action&gt; &lt;resource-name&gt; in Oracle Field Service Cloud</li> </ul>                                               |
| Oracle HCM Cloud Adapter                                                       | hcm                                   | Receive <business object> from Client                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>&lt;verb&gt; &lt;business object / noun&gt; in HCM Cloud</li> <li>&lt;verb&gt; &lt;rest resource&gt; from HCM Cloud</li> <li>Subscribe &lt;atom feed&gt; from HCM Cloud</li> <li>Download bulk extract &lt;extract name&gt; from HCM Cloud</li> <li>Upload File to UCM in HCM Cloud</li> </ul> |
| Oracle Intelligent Advisor Adapter (formerly Oracle Policy Automation) Adapter | rest_opa                              | <ul style="list-style-type: none"> <li>Receive \${load/save} request for &lt;interview&gt; from Intelligent Advisor</li> </ul>                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>Send assessment request for &lt;interview&gt; to Intelligent Advisor.</li> </ul>                                                                                                                                                                                                               |
| Oracle JD Edwards EnterpriseOne Adapter                                        | jdeeone                               | N/A                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>Call JD Edwards SOAP Service &lt;SOAP Service&gt; : &lt;Operation&gt;</li> </ul>                                                                                                                                                                                                               |
| Oracle Logistics Adapter                                                       | logistics                             | N/A                                                                                                                                                                                                                                                                                                                                                                      | N/A                                                                                                                                                                                                                                                                                                                                   |

| Adapter display name                                                                | Value for adapterIdentifier dimension | Values for inboundProcessingEndpointInformation dimension                                                                                                                                          | Values for outboundInvocationEndpointInformation dimension                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oracle Messaging Cloud Service Adapter                                              | oms                                   | N/A                                                                                                                                                                                                | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Oracle NetSuite Adapter                                                             | netsuite                              | N/A                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Update Superseded Items in Netsuite</li> <li>Update EBS Item Details in Netsuite</li> <li>Add Invoice to Netsuite</li> <li>Search &lt;search&gt; in Netsuite</li> </ul>                                                                                                                                                                                                                                                                                                                                            |
| Oracle Responsys Adapter                                                            | responsys                             | N/A                                                                                                                                                                                                | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Oracle Service Cloud (RightNow) Adapter                                             | rightnow                              | <ul style="list-style-type: none"> <li>Receive &lt;event name&gt; Notification from Oracle Service Cloud</li> <li>Receive &lt;object name&gt; (Oracle Service Cloud Object) from Client</li> </ul> | <ul style="list-style-type: none"> <li>Query &lt;object name&gt; objects from Oracle Service Cloud</li> <li>Query CSV records for &lt;object name&gt; from Oracle Service Cloud</li> <li>Get file attachment from Oracle Service Cloud</li> <li>Invoke Batch Operation in Oracle Service Cloud</li> <li>Get &lt;object name&gt; from Oracle Service Cloud</li> <li>Create &lt;object name&gt; in Oracle Service Cloud</li> <li>Update &lt;object name&gt; in Oracle Service Cloud</li> <li>Destroy &lt;object name&gt; in Oracle Service Cloud</li> </ul> |
| Oracle Siebel Adapter                                                               | siebel                                | N/A                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Call Siebel SOAP Service OS FS Get Stock Oracle Integration &lt;Service&gt;:&lt;Operation&gt;</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                           |
| Oracle SOA Suite Adapter (includes Oracle Service Bus and Oracle SOA Cloud Service) | SOAAdapter                            | N.A.                                                                                                                                                                                               | Call a << REST / SOAP >> service on a << SOA Composite / Service Bus project >>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Oracle Taleo Enterprise Edition Adapter                                             | otac                                  | N/A                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Get request status from Oracle Talent Acquisition Cloud (Taleo EE)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Oracle Utilities Adapter                                                            | oracleutilities                       | <ul style="list-style-type: none"> <li>&lt;Description of the business object from the service catalog&gt; in Oracle Utilities</li> </ul>                                                          | <ul style="list-style-type: none"> <li>&lt;Description of the service from the service catalog&gt; in Oracle Utilities</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                         |

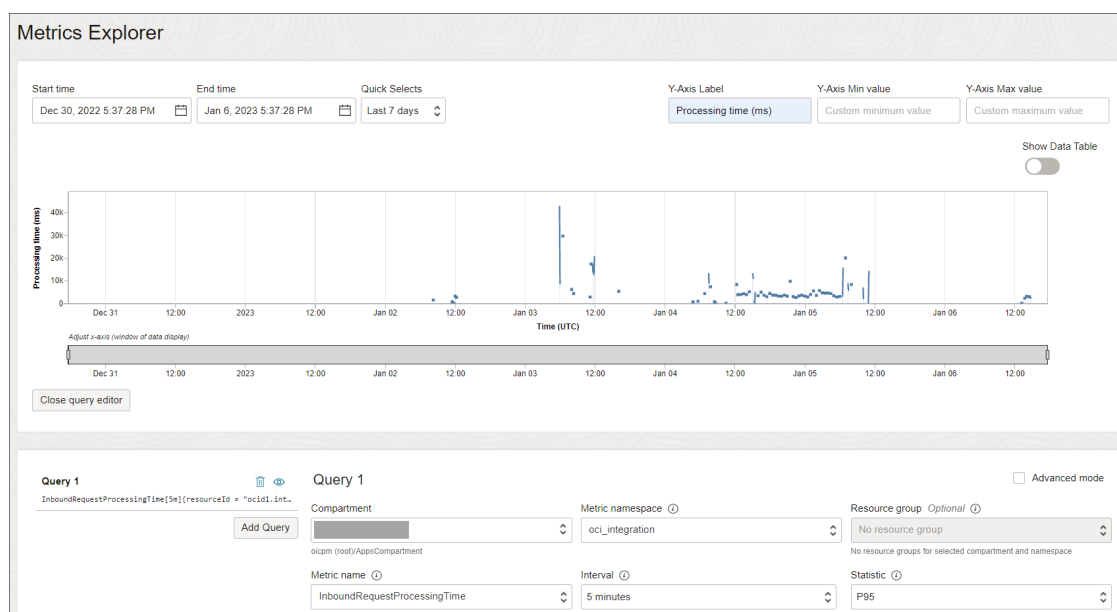
| Adapter display name                | Value for adapterIdentifier dimension | Values for inboundProcessingEndpointInformation dimension                                                                                                                                              | Values for outboundInvocationEndpointInformation dimension                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oracle WebLogic JMS Adapter         | jms                                   | <ul style="list-style-type: none"> <li>Consume message from Queue: &lt;queue name&gt; in Oracle Weblogic JMS</li> <li>Consume message from Topic: &lt;topic name&gt; in Oracle Weblogic JMS</li> </ul> | <ul style="list-style-type: none"> <li>Produce message in Queue: &lt;queue name&gt; using Oracle Weblogic JMS</li> <li>Produce message in Topic: &lt;topic name&gt; using Oracle Weblogic JMS</li> </ul>                                                                                                                                                                                                                                         |
| PayPal Adapter                      | paypal                                | <ul style="list-style-type: none"> <li>Receive &lt;business object event&gt; notification from PayPal</li> </ul>                                                                                       | <ul style="list-style-type: none"> <li>For Query : &lt;operation&gt;from PayPal</li> <li>For Create/Update/Delete:&lt;operation&gt; in PayPal</li> </ul>                                                                                                                                                                                                                                                                                         |
| REST Adapter                        | rest                                  | <ul style="list-style-type: none"> <li>Trigger Oracle Integration REST Integration: &lt;HTTP verb&gt; &lt;resource path&gt;</li> </ul>                                                                 | <ul style="list-style-type: none"> <li>Call External REST API: &lt;verb&gt; &lt;relative-path&gt;</li> <li>Call &lt;App-name&gt;: &lt;verb&gt; &lt;relative-path&gt;</li> <li>Call Oracle Integration REST Integration: &lt;integration flow &gt;</li> </ul>                                                                                                                                                                                     |
| Salesforce Adapter                  | salesforce                            | <ul style="list-style-type: none"> <li>Receive &lt;business object&gt; notifications from Salesforce.com</li> </ul>                                                                                    | <ul style="list-style-type: none"> <li>Create Account in <a href="https://www.salesforce.com">Salesforce.com</a></li> </ul>                                                                                                                                                                                                                                                                                                                      |
| SAP Adapter                         | sap                                   | <ul style="list-style-type: none"> <li>Receive &lt;business object&gt; from SAP</li> </ul>                                                                                                             | <ul style="list-style-type: none"> <li>Invoke &lt;business object&gt; from SAP</li> </ul>                                                                                                                                                                                                                                                                                                                                                        |
| SAP Ariba Adapter                   | ariba                                 | <ul style="list-style-type: none"> <li>Receive notification from &lt;operation name&gt; from Ariba</li> </ul>                                                                                          | <ul style="list-style-type: none"> <li>Create &lt;business object&gt; in SAP Ariba</li> <li>Bulk upload for the task - &lt;task name&gt; &lt;Data Mode: Master/ Transactional, Operation Mode: Incremental/Full&gt; in SAP Ariba</li> <li>Bulk extract for the task - &lt;task name&gt; &lt;Data Mode: Master/ Transactional, Operation Mode: Incremental/Full&gt; from SAP Ariba</li> </ul>                                                     |
| SAP Commerce Cloud (Hybris) Adapter | hybriscommerce                        | N/A                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Query/ Create/ Update / Delete &lt;business object&gt; in SAP Commerce Cloud</li> </ul>                                                                                                                                                                                                                                                                                                                   |
| SAP Concur Adapter                  | concur                                | NA                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Create/Update/Delete/Retrieve &lt;business object&gt; in SAP Concur.</li> <li>Extracts reports of available data objects in SAP Concur.</li> <li>Manage payment batches and retrieve their batch files in SAP Concur.</li> <li>Get status for the Job in Concur</li> <li>Download file from Concur application</li> <li>Bulk data extract request for AP/GL Extract V.3.04 submitted in Concur</li> </ul> |

| Adapter display name       | Value for adapterIdentifier dimension | Values for inboundProcessingEndpointInformation dimension                                                                                                  | Values for outboundInvocationEndpointInformation dimension                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SAP S/4HANA Cloud Adapter  | saps4hana                             | N/A                                                                                                                                                        | <ul style="list-style-type: none"> <li>GET : Get specific item from the collection&lt;Entity_NAME&gt; from SAP S/4HANA</li> <li>GET : GetAll entities in the collections of &lt;Entity_NAME&gt; from SAP S/4HANA</li> <li>POST : Create new item in the collection &lt;Entity_NAME&gt; from SAP S/4HANA</li> <li>PATCH : Update new item in the collection &lt;Entity_NAME&gt; from SAP S/4HANA</li> <li>DELETE : Delete specific entity in the collection from SAP S/4HANA</li> </ul> |
| SAP SuccessFactors Adapter | SuccessFactors                        | <ul style="list-style-type: none"> <li>Receive &lt;&lt;operationName&gt;&gt; &lt;&lt;BusinessObject&gt;&gt; from SuccessFactors</li> </ul>                 | <ul style="list-style-type: none"> <li>Query data from SuccessFactors using SFQL query</li> <li>Create &lt;&lt;BusinessObject&gt;&gt; in SuccessFactors</li> <li>Update &lt;&lt;BusinessObject&gt;&gt; in SuccessFactors</li> <li>Delete &lt;&lt;BusinessObject&gt;&gt; in SuccessFactors</li> <li>Create or update &lt;&lt;BusinessObject&gt;&gt; in SuccessFactors</li> </ul>                                                                                                        |
| ServiceNow Adapter         | servicenow                            | <ul style="list-style-type: none"> <li>Receive &lt;business object&gt; notifications from ServiceNow</li> </ul>                                            | <ul style="list-style-type: none"> <li>For Query : &lt;operation&gt; from ServiceNow</li> <li>For Create/Update/Delete:&lt;operation&gt; in ServiceNow</li> <li>Upload Attachment to ServiceNow</li> </ul>                                                                                                                                                                                                                                                                             |
| Shopify Adapter            | shopify                               | <ul style="list-style-type: none"> <li>Receive &lt;business object event&gt; from Shopify</li> </ul>                                                       | <ul style="list-style-type: none"> <li>For Query : &lt;&lt;operationName&gt;&gt; from Shopify</li> <li>For Create/Update/Delete:&lt;&lt;operationName&gt;&gt; in Shopify</li> </ul>                                                                                                                                                                                                                                                                                                    |
| Slack Adapter              | slack                                 | N/A                                                                                                                                                        | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SOAP Adapter               | soap                                  | <ul style="list-style-type: none"> <li>Trigger Oracle Integration SOAP Integration for the interface &lt;Port Type&gt; : &lt;operation name&gt;</li> </ul> | <ul style="list-style-type: none"> <li>Call External SOAP API &lt;Port Type&gt; : &lt;operation-name&gt;</li> </ul>                                                                                                                                                                                                                                                                                                                                                                    |
| SugarCRM Adapter           | sugarcrm                              | N/A                                                                                                                                                        | <ul style="list-style-type: none"> <li>For Query(Retrive single/list of Records) : &lt;operation&gt; from SugarCRM</li> <li>For Create/Update/Delete:&lt;operation&gt; in SugarCRM</li> </ul>                                                                                                                                                                                                                                                                                          |

| Adapter display name | Value for adapterIdentifier dimension | Values for inboundProcessingEndpointInformation dimension | Values for outboundInvocationEndpointInformation dimension                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|---------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SurveyMonkey Adapter | surveymonkey                          | N/A                                                       | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Trello Adapter       | trello                                | N/A                                                       | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Twilio Adapter       | twilio                                | N/A                                                       | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Twitter Adapter      | twitter                               | N/A                                                       | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Workday Adapter      | workday                               | N/A                                                       | <ul style="list-style-type: none"> <li>Create, Update, Delete, and Import records in Workday</li> <li>Extract bulk data from workday</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Zendesk Adapter      | zendesk                               | N/A                                                       | <ul style="list-style-type: none"> <li>Get Single Record: Get &lt;Entity_NAME&gt; from Zendesk</li> <li>Get List of Records: Get &lt;Entity_NAME&gt;s from Zendesk</li> <li>Create a Record: Create &lt;Entity_NAME&gt; in Zendesk</li> <li>Update a Record: Update &lt;Entity_NAME&gt; in Zendesk</li> <li>Update multiple Records: Update &lt;Entity_NAME&gt;s in Zendesk</li> <li>Update multiple Records in batches: Update &lt;Entity_NAME&gt;s in batches in Zendesk</li> <li>Search multiple Records: Search &lt;Entity_NAME&gt;s in Zendesk</li> <li>Delete a Record: Delete &lt;Entity_NAME&gt; from Zendesk</li> <li>Create or Update a Record: Create or Update &lt;Entity_NAME&gt; in Zendesk</li> <li>Upload an Attachment: Upload Attachment in Zendesk</li> <li>Redact Attachment: Redact Comment Attachment in Zendesk</li> </ul> |

## Example of a Custom Metrics Chart

The following custom metrics chart example shows adapter inbound request processing times.



## Estimate Message Pack Usage for a Metered Tenancy

Use the following information to help estimate how many message packs your Oracle Integration instance will use. By correctly sizing your instance based on peak loads, you ensure smooth, scalable, and resilient day-to-day operations for both your real-time transactions and your scheduled batch processing.

Message pack estimation varies based on several factors:

- **Consumption model**  
This topic applies to tenancies that use the metered (universal credit) model.
- **License type**
  - If you created a new Oracle Integration license in the cloud, each message pack includes 5,000 billing messages per hour.
  - If you brought an existing Oracle Fusion Middleware license to the cloud (BYOL), each message pack includes 20,000 billing messages per hour.
- **Instance shape**
  - For a development shape (non-production instance), you typically need only one message pack.
  - For a production shape, estimate your message pack usage with the [cost estimator tool](#).
- **Optional features**  
Some optional features increase your message consumption. See the following topics:
  - [Extended Data Retention Message Consumption](#)
  - [Disaster Recovery Message Consumption](#)
  - [Additional Message Consumption for Optional Features](#)
- **Peak loads**  
When you use the [cost estimator tool](#), you'll enter your peak transaction volume and peak file load.

The number of message packs you subscribe to can also affect the processing time of synchronous requests. See [Message Pack Usage and Synchronous/Asynchronous Requests](#).

To understand how billing message usage is calculated for different features, see [How Features Impact Billing Messages](#).

## Use the Cost Estimator Tool to Determine Your Monthly Bill

Oracle provides a cost estimator tool to help you determine your monthly usage and bill for Oracle Integration.

1. Go to the [cost estimator tool](#).
2. From the **Select category** list, choose **Integration**.
3. On the **Application Integration** card, click **Load**.

The screenshot shows the Oracle Cost Estimator Tool interface. At the top, there is a navigation bar with links: Services, Compute shapes, Reference architectures, My favorites, and Advanced Search. Below the navigation bar is a 'Select category' dropdown menu with 'Integration' selected, and a 'Search' input field. The main content area displays two cards: 'API Management' and 'Application Integration'. The 'Application Integration' card is highlighted and contains a 'Load' button at the bottom.

4. Select the **License Edition** for your instance. See [Oracle Integration Editions](#).
5. Select the **License Type** for your instance. See [License Types](#).
6. Enter information about your transaction volume.

It's critical to understand when peak transaction volumes occur—whether during month-end, quarter-end, or seasonal events. These spikes might last an hour or span several days. Identifying such patterns helps you accurately estimate message volumes.

Consider the question in the first column, then complete the steps listed in the second column based on your answer to the question.

| Question and details                                                                                                                                                                     | Next steps                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Does your business transaction volume increase at specific times of month or year?</b><br>For example, payroll runs, month-end processing, Black Friday, open enrollment, flash sales | <b>Yes</b><br>Select <b>Peak seasonal/event-based volume</b> , and enter your <b>Peak daily volume during surge events</b> .<br>Make sure to enter the peak <i>daily</i> volume.<br>Move on to the next question.<br><b>No</b><br>Clear the <b>Peak seasonal/event-based volume</b> box.<br>Move on to the next question.                                                                                                                      |
| <b>Are your transactions evenly distributed throughout the day?</b><br>Examples of transactions are orders, invoices, employee updates, patient records, real-time chat                  | <b>Yes</b><br>Select <b>Transactions distributed throughout the day</b> , and enter your <b>Daily business transactions</b> .<br>Make sure to enter the <i>daily</i> volume.<br>Move on to the next step.<br><b>No</b><br>Clear the <b>Transactions distributed throughout the day</b> box, and enter your <b>Peak hour transaction rate (normal days)</b> .<br>Make sure to enter the peak <i>hourly</i> volume.<br>Move on to the next step. |

#### 7. Enter information about your file load:

It's also important to understand the frequency, size, and timing of any batch processes you run—such as daily file uploads, scheduled data syncs, or end-of-day processing. This number helps you accurately assess overall message volume and ensure your environment is sized appropriately to handle both real-time and scheduled workloads efficiently.

Consider the question in the first column, then complete the steps listed in the second column based on your answer to the question.

| Question and details                                                                                                                                                    | Next steps                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Do your integrations perform any batch file processing?</b><br>For example, CSV files for payroll, XML for purchase orders, JSON exports for analytics, PDF invoices | <b>Yes</b><br>Select <b>File-based or batch processing involved?</b> , and enter your <b>Max file/batch size (MB)</b> .<br>For example, "Our largest batch is an employee master file at 150 MB."<br>Move on to the next question.<br><b>No</b><br>You don't need to calculate file load. Skip the remaining questions in this table, and move on to the next step. |

| Question and details                                                                                                                                                       | Next steps                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Are these batch files processed concurrently (within the same hour)?</b><br>For example, "During payroll week, we process 5 large XML files within a 30-minute window." | <b>Yes</b><br>Select <b>Files processed concurrently within same hour</b> , and enter the number of <b>Files processed concurrently</b> .<br>Move on to the next step. |
|                                                                                                                                                                            | <b>No</b><br>Clear the <b>Files processed concurrently within same hour</b> box.<br>Move on to the next step.                                                          |

8. If you have enabled disaster recovery for your instance, select **Disaster Recovery**.

The number of message packs you should subscribe to for your instance is automatically calculated and shown in the **Message Packs** box.

If you selected disaster recovery, you'll also see a **Message Packs for DR** box. You don't need to subscribe to these extra message packs, they will automatically be charged to your account.

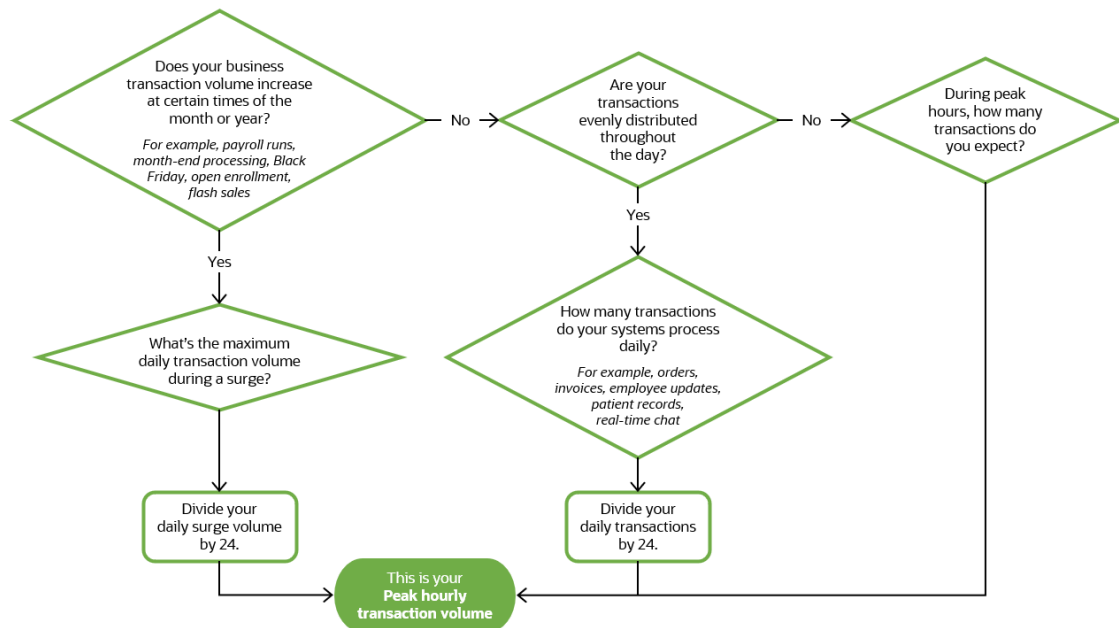
Your **Estimated Monthly Cost** is shown in the upper right corner of the cost calculator.

## Calculate Peak Loads and Message Pack Usage

If you don't want to use the cost estimator tool, and you'd prefer to manually calculate the number of message packs you'll need for your Oracle Integration instance, use the calculations in this section.

### Estimate your peak hourly transaction volume

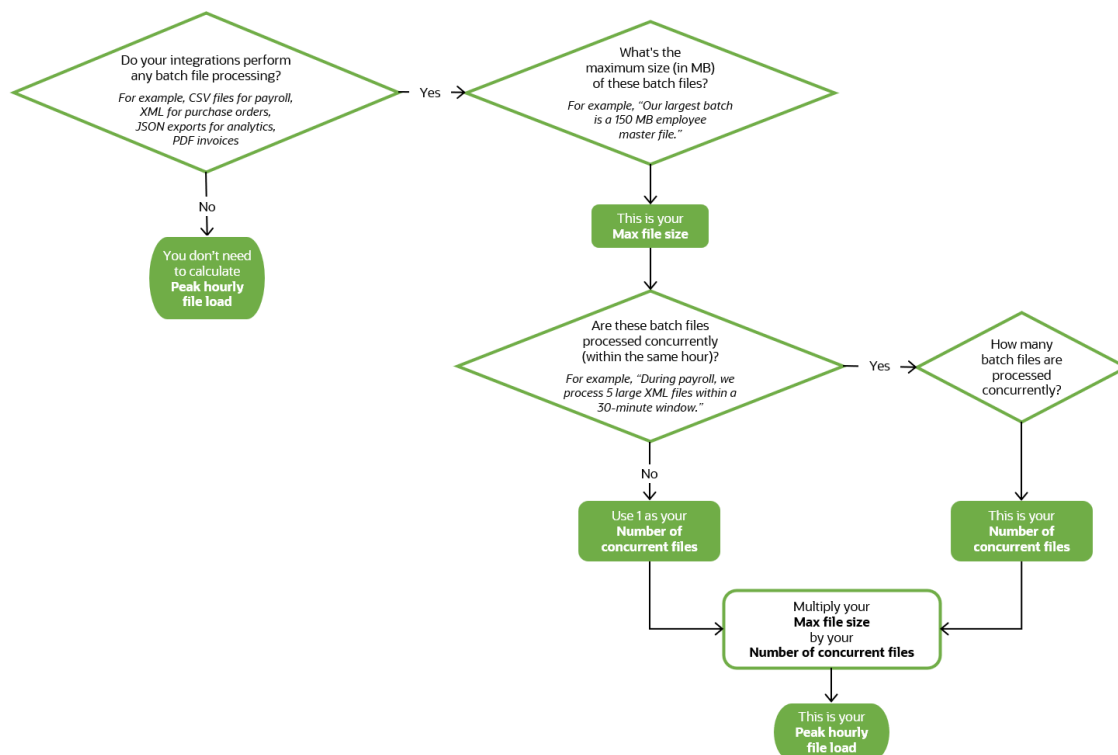
It's critical to understand when peak transaction volumes occur—whether during month-end, quarter-end, or seasonal events. These spikes might last an hour or span several days. Identifying such patterns helps you accurately estimate message volumes.



| Question path and details                                                                                                                                                                | Next steps                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Does your business transaction volume increase at specific times of month or year?</b><br>For example, payroll runs, month-end processing, Black Friday, open enrollment, flash sales | <b>Yes</b><br>What's the maximum daily transaction volume during a surge?<br>Divide your daily surge volume by 24.<br>This is your Peak hourly transaction volume.<br><b>No</b><br>Move on to the next question. |
| <b>Are your transactions evenly distributed throughout the day?</b>                                                                                                                      | <b>Yes</b><br>Move on to the next question.<br><b>No</b><br>During peak hours, how many transactions do you expect?<br>This is your Peak hourly transaction volume.                                              |
| <b>How many transactions do your systems process daily?</b><br>For example, orders, invoices, employee updates, patient records, real-time chat                                          | Divide your daily business transactions by 24.<br>This is your Peak hourly transaction volume.                                                                                                                   |

### Estimate your peak hourly file load

It's also important to understand the frequency, size, and timing of any batch processes you run—such as daily file uploads, scheduled data syncs, or end-of-day processing. This number helps you accurately assess overall message volume and ensure your environment is sized appropriately to handle both real-time and scheduled workloads efficiently.



| Question path and details                                                                                                                                                  | Next steps                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Do your integrations perform any batch file processing?</b><br>For example, CSV files for payroll, XML for purchase orders, JSON exports for analytics, PDF invoices    | <b>Yes</b><br>Move on to the next question.<br><br><b>No</b><br>You don't need to calculate a peak hourly file load.                                                                                                                       |
| <b>What's the maximum size (in MB) of these batch files?</b><br>For example, "Our largest batch is an employee master file at 150 MB."                                     | This is your Max file size.<br>Move on to the next question.                                                                                                                                                                               |
| <b>Are these batch files processed concurrently (within the same hour)?</b><br>For example, "During payroll week, we process 5 large XML files within a 30-minute window." | <b>Yes</b><br>How many batch files are processed concurrently?<br>This is your Number of concurrent files.<br>Move on to the next question.<br><br><b>No</b><br>Use 1 as your Number of concurrent files.<br>Move on to the next question. |
| <b>Based on your answers, calculate your peak file load</b>                                                                                                                | Multiply your Max file size by your Number of concurrent files.<br>This is your Peak hourly file load.                                                                                                                                     |

### Calculate how many message packs you need

Now that you know your peak hourly transaction volume and your peak hourly file load, you can calculate how many message packs you need for your Oracle Integration instance using the steps in the following table.

| What to calculate                                                                                                                                                                                                                                       | Formula                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Calculate your peak hourly file load in KB, rounded up to a whole number.                                                                                                                                                                               | Peak hourly file load x 1024 = Peak hourly file load in KB                                                   |
| Calculate the number of messages used for your peak hourly file load, rounded up to a whole number. One message is used for each 50 KB.                                                                                                                 | Peak hourly file load in KB / 50 = Number of messages used for peak hourly file load                         |
| Calculate the number of total messages used for your peak hourly file load and peak hourly transaction volume, rounded up to a whole number.                                                                                                            | Number of messages used for peak hourly file load + Peak hourly transaction volume = Number of messages used |
| Calculate the number of message packs needed to accommodate the number of messages used, rounded up to a whole number. As noted above, the number of messages included in a message pack is based on the type of Oracle Integration license you select. | Number of messages used / Messages per message pack = Number of message packs to subscribe to                |

## How Features Impact Billing Messages

When you use certain features in Oracle Integration, billing messages are consumed by your instance. This might be obvious for things like sending data with integrations, but it also includes features like extended data retention and disaster recovery.

Your instance should include enough message packs to support your billing message usage to ensure smooth, scalable, and resilient day-to-day operations. See [Estimate Message Pack Usage for a Metered Tenancy](#).

The number of message packs you subscribe to can also affect the processing time of synchronous requests. See [Message Pack Usage and Synchronous/Asynchronous Requests](#).

#### Note

- If the number of consumed message packs is greater than the number of subscribed message packs, then it is considered as overage. The final number of message packs considered for billing will either be the number of subscribed message packs or the number of consumed message packs, whichever value is greater.
- The sync and async request limits will not increase in case of overage.

Review the following sections to see how billing message usage is calculated.

## Common Message Consumption Rules

The following rules apply to message consumption in all Oracle Integration components.

| Rule                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Triggers and invokes        | Triggers and invokes are generally counted as 1 message with a few exceptions. For example: <ul style="list-style-type: none"> <li>• Each Oracle Integration trigger activity counts as 1 message, unless the integration is calling another integration.</li> <li>• Invoke requests from Oracle Integration do not count as a message, and invoke responses only count if they are over 50 KB.</li> <li>• Each process invoke counts as 1 message, unless the process is invoking another process.</li> <li>• A native action request (action in an integration) is considered as an invoke activity.</li> <li>• An event action (for example, Publish Event) in an integration is considered as a trigger activity because it initiates the execution of integrations that subscribe to the event.</li> </ul> |
| Internal calls              | Internal calls within the same component aren't counted as messages.<br>For example, the following aren't counted: <ul style="list-style-type: none"> <li>• Integration to integration within the same Oracle Integration instance</li> <li>• Process to process</li> </ul> However, an integration in one Oracle Integration instance calling an integration in another Oracle Integration instance <i>does</i> incur messages in the target Oracle Integration instance.                                                                                                                                                                                                                                                                                                                                      |
| Message payloads over 50 KB | For message payloads over 50 KB, 1 additional message is counted for each additional 50 KB. For example, if a message payload is 102 KB, 2 additional messages would be counted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Integration Message Consumption

Follow these rules to determine how message consumption is calculated.

| Rule number | Rule    | Description                                                                                                                                                                         |
|-------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1           | Trigger | Each trigger activity counts as at least one message, up to 50 KB inbound. If the inbound message payload exceeds 50 KB, 1 additional message is counted for each additional 50 KB. |

| Rule number | Rule     | Description                                                                                                                                                                                                      |
|-------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2           | Invoke   | Invoke requests don't count as messages, but invoke responses over 50 KB count. If the message payload exceeds 50 KB, 1 additional message is counted for each additional 50 KB.                                 |
| 3           | File     | For file based scheduled flows where there are incoming files into integrations, each file is converted into a billed message (in multiples of 50 KB) only when the size is greater than 50 KB.                  |
| 4           | Internal | Integration to integration calls within the same Oracle Integration instance aren't counted. However, calling another Oracle Integration instance does incur messages in the target Oracle Integration instance. |

## Integration Message Consumption Examples

This table shows by example how message billing is calculated and the rules that apply.

| Integration Type     | Scenario/Flow                                                                                 | Billing Message Calculation                                                                                                                                                                                                           | Rules That Apply          |
|----------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Sync/Async (Trigger) | 1. REST inbound with 120 KB payload.                                                          | Payload size is considered at trigger.<br>$\text{ceil}(120/50) = 3$ messages                                                                                                                                                          | #1 (Trigger)              |
|                      | 2. Data transformation.                                                                       |                                                                                                                                                                                                                                       |                           |
|                      | 3. External invoke to push data to Logfire.                                                   |                                                                                                                                                                                                                                       |                           |
| Sync/Async (Trigger) | 1. SOAP inbound with 70 KB payload.                                                           | Payload size is considered at trigger. Any subsequent response greater than 50 KB is also tracked. In this scenario, only files greater than 50 KB are considered.<br>$\text{ceil}(70/50) + \text{ceil}(170/50) = 2 + 4 = 6$ messages | #1 (Trigger)<br>#3 (File) |
|                      | 2. Download files in a loop.                                                                  |                                                                                                                                                                                                                                       |                           |
|                      | 3. 3 files downloaded of sizes 20 KB, 170 KB, and 40 KB, respectively.                        |                                                                                                                                                                                                                                       |                           |
|                      | 4. Data transformation/enrichment.                                                            |                                                                                                                                                                                                                                       |                           |
|                      | 5. External invoke to push data to an external system via REST.                               |                                                                                                                                                                                                                                       |                           |
| Sync/Async (Trigger) | 1. Database adapter pulling in 20 KB data and 2 rows.                                         | Payload size is considered at trigger. Any subsequent response greater than 50 KB is also tracked.<br>$\text{ceil}(20/50) = 1$ message                                                                                                | #1 (Trigger)              |
|                      | 2. For each row, 1 outbound REST invoke is made, which results in 20 KB data for each invoke. |                                                                                                                                                                                                                                       |                           |
|                      | 3. Data enrichment/transformation.                                                            |                                                                                                                                                                                                                                       |                           |
|                      | 4. FTP to an external location.                                                               |                                                                                                                                                                                                                                       |                           |

| Integration Type     | Scenario/Flow                                                                                        | Billing Message Calculation                                                                                                                                                                   | Rules That Apply                         |
|----------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Sync/Async (Trigger) | 1. SOAP inbound with 10 KB payload.                                                                  | Payload size is considered at trigger. Any subsequent response greater than 50 KB is also tracked.                                                                                            | #1 (Trigger)<br>#2 (Invoke)<br>#3 (File) |
|                      | 2. Download files in a loop. Two files downloaded of sizes 20 KB and 70 KB, respectively.            | $\text{ceil}(10/50) + \text{ceil}(70/50) + \text{ceil}(100/50) = 1+2+2 = 5$ messages                                                                                                          |                                          |
|                      | 3. External invoke to get further data via REST adapter. Returns 100 KB data.                        |                                                                                                                                                                                               |                                          |
|                      | 4. FTP to an external location.                                                                      |                                                                                                                                                                                               |                                          |
| Sync/Async (Trigger) | 1. Simple REST GET request with template parameters without payload.                                 | Payload size is considered at trigger. Any subsequent response greater than 50 KB is also tracked. Since the trigger is just a GET request with no payload, it's considered 1 billed message. | #1 (Trigger)                             |
|                      | 2. Call to Oracle Fusion Cloud B2C Service to get contact details. Returns a response of 40KB.       | 1 message                                                                                                                                                                                     |                                          |
|                      | 3. Return the contact data.                                                                          |                                                                                                                                                                                               |                                          |
| Scheduled flow       | 1. Scheduled trigger.                                                                                | Each invoke/file is considered in multiples of 50 KB when response data is more than 50 KB.                                                                                                   | #3 (File)                                |
|                      | 2. Download files in a loop. Three files downloaded of sizes 20 KB, 170 KB, and 40 KB, respectively. | $\text{ceil}(170/50) = 4$ messages                                                                                                                                                            |                                          |
|                      | 3. Data transformation.                                                                              |                                                                                                                                                                                               |                                          |
|                      | 4. External invoke to transfer data which results in 10 bytes of response.                           |                                                                                                                                                                                               |                                          |
| Scheduled flow       | 1. Scheduled trigger.                                                                                | Each invoke/file is considered in multiples of 50 KB when response data is more than 50 KB.                                                                                                   | None                                     |
|                      | 2. Database adapter pulling in 30 KB data and 10 rows.                                               | Not counted.                                                                                                                                                                                  |                                          |
|                      | 3. Data transformation.                                                                              |                                                                                                                                                                                               |                                          |
|                      | 4. External invoke to transfer data which results in 5 bytes of response.                            |                                                                                                                                                                                               |                                          |

| Integration Type       | Scenario/Flow                                                                                            | Billing Message Calculation                                                                                                       | Rules That Apply              |
|------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Scheduled flow         | 1. Scheduled trigger.                                                                                    | Each invoke/file is considered in multiples of 50 KB when response data is more than 50 KB.<br>$\text{ceil}(130/50) = 3$ messages | #3 (File)                     |
|                        | 2. External SOAP invoke to get data via BIP reports. Returns 130 KB data.                                |                                                                                                                                   |                               |
|                        | 3. External invoke to get further data via REST adapter. Returns 10 KB data.                             |                                                                                                                                   |                               |
|                        | 4. Data transformation.                                                                                  |                                                                                                                                   |                               |
|                        | 5. External invoke to transfer data which results in 5 bytes of response.                                |                                                                                                                                   |                               |
| Scheduled flow         | 1. Scheduled trigger.                                                                                    | Each invoke/file is considered in multiples of 50 KB when response data is more than 50 KB.<br>$\text{ceil}(100/50) = 2$ messages | #2 (Invoke)                   |
|                        | 2. Download files in a loop. Two files downloaded of sizes 20 KB and 40 KB, respectively.                |                                                                                                                                   |                               |
|                        | 3. External invoke to get further data via REST adapter. Returns 100 KB data.                            |                                                                                                                                   |                               |
|                        | 4. FTP to an external location.                                                                          |                                                                                                                                   |                               |
| Scheduled flow         | 1. Scheduled trigger.                                                                                    | Each invoke/file is considered in multiples of 50 KB when response data is more than 50 KB.<br>Not counted.                       | #4 (Internal)<br>None counted |
|                        | 2. External invoke to get data via REST adapter. Returns 10 KB data.                                     |                                                                                                                                   |                               |
|                        | 3. Data transformation.                                                                                  |                                                                                                                                   |                               |
|                        | 4. External REST invoke to transfer data which results in 500 bytes of response.                         |                                                                                                                                   |                               |
| Child Integration flow | 1. A parent Integration flow calls a child Integration flow via REST in a loop.                          | Integration child flow invoke is waived from metering.<br>Not counted. Note that the parent may count.                            | #4 (Internal)<br>None counted |
|                        | 2. The child Integration flow sends a notification email with the information passed from a parent flow. |                                                                                                                                   |                               |
|                        | 3. Child flow execution completes.                                                                       |                                                                                                                                   |                               |

| Integration Type       | Scenario/Flow                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Billing Message Calculation                                                                                                                                                       | Rules That Apply |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Child Integration flow | <ol style="list-style-type: none"> <li>1. Parent Integration flow downloads a CSV file via the FTP adapter. The CSV contains 5 rows.</li> <li>2. Each row in the CSV file calls a child Integration child flow.               <ol style="list-style-type: none"> <li>a. The child Integration flow reads a orderid passed as an input.</li> <li>b. Invokes a request to Oracle Fusion Cloud B2C Service to get data about the order. Each invoke returns 70KB data.</li> <li>c. Data transformation in child flow.</li> <li>d. Pushes the data via an FTP adapter to write it to a file.</li> <li>e. Child execution completes.</li> </ol> </li> </ol> | Integration child flow invokes are waived from metering. Any subsequent response is metered.<br>Each child = $\text{ceil}(70/50) = 2$ messages<br>Note that the parent may count. | #2 (Invoke)      |

## Extended Data Retention Message Consumption

By default, Standard and Enterprise edition instances retain data for 32 days, and Healthcare edition instances retain data for 184 days. If you have an Enterprise edition instance, you can [extend the data retention period](#) if you want.

### Note

You can't change the retention period for Standard or Healthcare edition instances.

Adding extended data retention increases your hourly message consumption by the percentage listed in the following table. This increase applies to your hourly totals for incoming and outgoing messages for trigger and invoke requests.

| Extended data retention period | Additional message consumption for data retention | Example calculation of total hourly message consumption                 |
|--------------------------------|---------------------------------------------------|-------------------------------------------------------------------------|
| 93 days (3 months)             | +10%                                              | 3,000 messages + 300 messages for data retention = 3,300 total messages |
| 184 days (6 months)            | +20%                                              | 3,000 messages + 600 messages for data retention = 3,600 total messages |

 **Caution**

If you later decrease your data retention period, any data older than the newly selected period would be deleted when you save your selection.

## Disaster Recovery Message Consumption

Oracle provides a disaster recovery solution that allows you to fail over quickly from natural or human-made disasters and provide business continuity in your secondary region. You can also use this solution for planned migrations and switch between regions periodically. Oracle manages nearly all disaster recovery responsibilities automatically for you. Your administrative responsibilities are minimal.

You can add disaster recovery to Enterprise or Healthcare edition instances.

Adding disaster recovery increases your message pack consumption based on your existing message pack consumption. Existing message pack consumption is the number of message packs consumed by integrations, data retention, Process Automation and human in the loop, decisions, and robotic process automation.

| Existing message pack consumption | Additional message pack consumption for disaster recovery | Example calculation of total message pack consumption |
|-----------------------------------|-----------------------------------------------------------|-------------------------------------------------------|
| 1-3 message packs                 | +1 message pack                                           | 2 message packs + 1 message pack = 3 message packs    |
| 4-8 message packs                 | +2 message packs                                          | 6 message packs + 2 message packs = 8 message packs   |
| 8+ message packs                  | +3 message packs                                          | 12 message packs + 3 message packs = 15 message packs |

## Additional Message Consumption for Optional Features

Oracle Integration includes several technologies and services that you can [enable to unlock additional features](#).

This table shows the additional message consumption when you enable optional features.

| Feature           | Additional message consumption                                                                                                                                                                                                                                                               |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Visual Builder    | Metering tracks the number of <i>concurrent, unique</i> users <i>interacting</i> with Oracle Visual Builder apps within a 1 hour interval. These Oracle Visual Builder users are converted to message usage. One Oracle Visual Builder user per hour is equivalent to 100 messages per hour. |
| Human in the loop | <ul style="list-style-type: none"><li>+1 message per workflow invocation<br/>A workflow invoking another workflow doesn't incur this charge</li><li>+1 message per hour of workflow duration after the first hour</li></ul>                                                                  |

| Feature                    | Additional message consumption                                                                                                                                                                                                      |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process Automation         | <ul style="list-style-type: none"> <li>+1 message per process invocation<br/>A process invoking another process doesn't incur this charge</li> <li>+1 message per hour of process duration after the first hour</li> </ul>          |
| Decisions                  | <ul style="list-style-type: none"> <li>+1 message per decision invocation</li> </ul>                                                                                                                                                |
| Robotic process automation | <ul style="list-style-type: none"> <li>+1 message per robot invocation</li> <li>+1 message per 5 minutes of robot duration after the first 5 minutes</li> </ul>                                                                     |
| Agentic AI tools           | Agentic AI tools have no direct message consumption charge. However, when a tool runs, the integration that is linked to the tool also runs. The normal message consumption rules apply for the integration.                        |
| AI agents                  | When an AI agent runs, an integration also runs. The normal message consumption rules apply for the integration.                                                                                                                    |
| Knowledge Base             | Data ingestion and querying a knowledge bases have no direct message consumption charges. However, when you call an integration to load data into a knowledge base, the normal message consumption rules apply for the integration. |

## Message Consumption Example for a Metered Tenancy

The following tables show an example of message consumption calculations for a metered tenancy (using universal credits).

### Message Consumption by Component

The first step is to determine the messages consumed by each component and then calculate the total messages consumed by all components.

| Component               | Component consumption                                                                                                 | Conversion to messages | Messages consumed |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------|-------------------|
| Integrations            | 9,000 messages                                                                                                        | x 1                    | 9,000             |
| Extended data retention | 6 months                                                                                                              | x 20%                  | 1,800             |
| Human in the loop       | <ul style="list-style-type: none"> <li>1,700 workflow invocations</li> <li>200 workflows lasting 1-2 hours</li> </ul> | x 1                    | 1,900             |
| Process Automation      | <ul style="list-style-type: none"> <li>1,700 process invocations</li> <li>200 processes lasting 1-2 hours</li> </ul>  | x 1                    | 1,900             |
| Decisions               | 1,400 decision invocations                                                                                            | x 1                    | 1,400             |

| Component                              | Component consumption                                                                                                                                                                                                                                                                                                  | Conversion to messages | Messages consumed |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------|
| Robotic process automation             | <ul style="list-style-type: none"> <li>1,200 robot invocations</li> <li>100 robot invocations lasting 5-10 minutes</li> </ul>                                                                                                                                                                                          | x 1                    | 1,300             |
| AI agents and agentic AI tools         | <ul style="list-style-type: none"> <li>1000 agent invocations</li> <li>An agent calls 2 tools per agent invocation</li> </ul>                                                                                                                                                                                          | x 1                    | 3,000             |
| Integrations as tools in an MCP server | <ul style="list-style-type: none"> <li>An external agent calls an Oracle Integration MCP server to invoke tools</li> <li>1000 tool invocations using MCP</li> </ul>                                                                                                                                                    | x 1                    | 1,000             |
| Knowledge base                         | <ul style="list-style-type: none"> <li>Ingest a 150 KB document into a knowledge base</li> <li>Ingest a 1 MB document into a knowledge base</li> </ul> <p>For each integration call:<br/>2 messages<br/>+<br/>3 messages for processing the 150 KB document<br/>+<br/>20 messages for processing the 1 MB document</p> | x 1                    | 25                |
| External agents and agentic AI tools   | <ul style="list-style-type: none"> <li>An external agent calls AI tools in Oracle Integration using the MCP server</li> <li>1000 agent invocations (1,000 messages)</li> <li>The agent calls 5 tools per agent invocation (5,000 messages)</li> </ul>                                                                  | x 1                    | 6,000             |
| <b>Message total</b>                   | N/A                                                                                                                                                                                                                                                                                                                    | N/A                    | <b>25,425</b>     |

### Message Pack Consumption

The next step is to figure out the total message packs needed to cover the message total.

| License type                                                  | Messages per pack | Number of packs consumed |
|---------------------------------------------------------------|-------------------|--------------------------|
| New Oracle Integration license in the cloud                   | 5,000             | 6                        |
| Existing Oracle Fusion Middleware license to the cloud (BYOL) | 20,000            | 2                        |

### Message Pack Consumption for Disaster Recovery

Optionally, if you've set up disaster recovery, you need to add the appropriate number of message packs for disaster recovery.

| License type                                                  | Number of message packs consumed | Number of message packs for disaster recovery |
|---------------------------------------------------------------|----------------------------------|-----------------------------------------------|
| New Oracle Integration license in the cloud                   | 6                                | 3                                             |
| Existing Oracle Fusion Middleware license to the cloud (BYOL) | 2                                | 2                                             |

### Total Message Pack Consumption

Finally, you add everything up to get your total message pack consumption.

| License type                                                  | Number of message packs consumed | Number of message packs for disaster recovery | Grand total |
|---------------------------------------------------------------|----------------------------------|-----------------------------------------------|-------------|
| New Oracle Integration license in the cloud                   | 6                                | 3                                             | 9           |
| Existing Oracle Fusion Middleware license to the cloud (BYOL) | 2                                | 2                                             | 4           |

## FAQs for Billing

Find answers to common questions about message packs and billing.

### Message packs

- [How Do I View the Message Packs for an Instance?](#)
- [What if I Exceed My Subscribed Message Packs?](#)

### Billing

- [How Do I Monitor Billing for an Instance?](#)
- [How Do I Monitor Billing for Multiple Instances?](#)
- [Why Does My Monthly Bill Change?](#)

### More questions?

- Still have questions? The full billing documentation covers additional topics and detailed explanations. See [Monitor Billing](#).

- Reviewed the billing documentation but still need help? Your account representative is happy to assist.

## How Do I View the Message Packs for an Instance?

In the Oracle Cloud Console, you can view the number of subscribed message packs for an instance on the instance details page.

- In the Oracle Cloud Console, open an instance, and note the value for **Message packs**.

## What if I Exceed My Subscribed Message Packs?

If your usage remains at or below your subscribed level, your bill is consistent from month to month. If your usage exceeds your subscribed level, your monthly bills might vary.

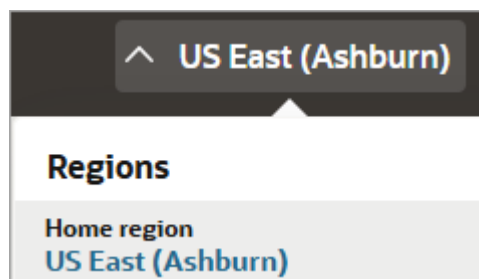
Additional guidance:

- **Excess becomes overage**  
If the number of consumed messages exceeds the number of subscribed messages during a one-hour period, the excess messages are considered overage.
- **Overage is billed**  
For billing purposes, overage messages are converted into consumed message packs.
- **Billing calculation rule**  
Billing is based on the greater of the following values:
  - Subscribed message packs
  - Consumed messages

## How Do I Monitor Billing for an Instance?

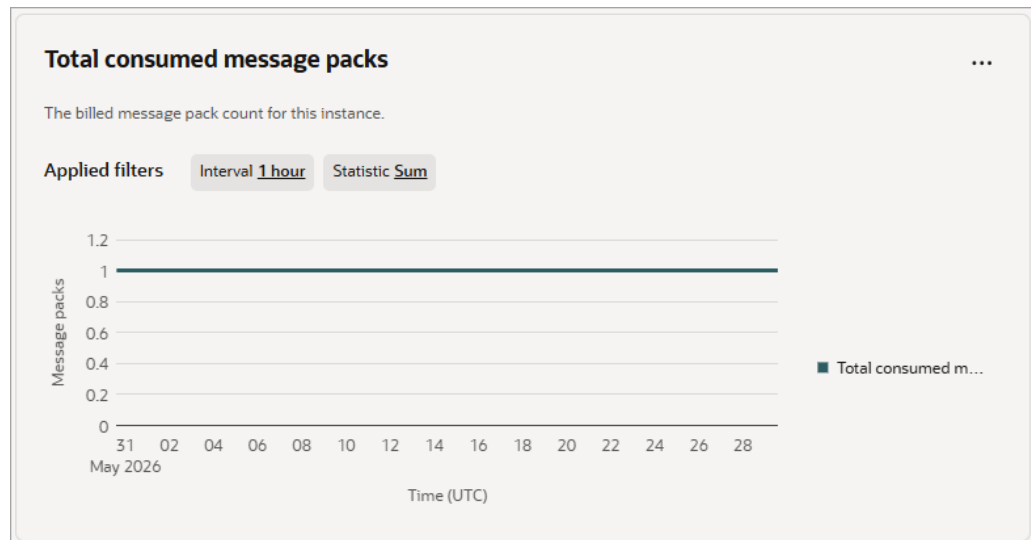
Monitor the messages that an instance is using in the Oracle Cloud Console on the instance details page.

1. Find out how many message packs were selected for the instance. See [How Do I View the Message Packs for an Instance?](#).
2. In the Oracle Cloud Console, open the instance to monitor. See [View Instance Details](#).
3. Make sure your home region is selected in the region drop-down.

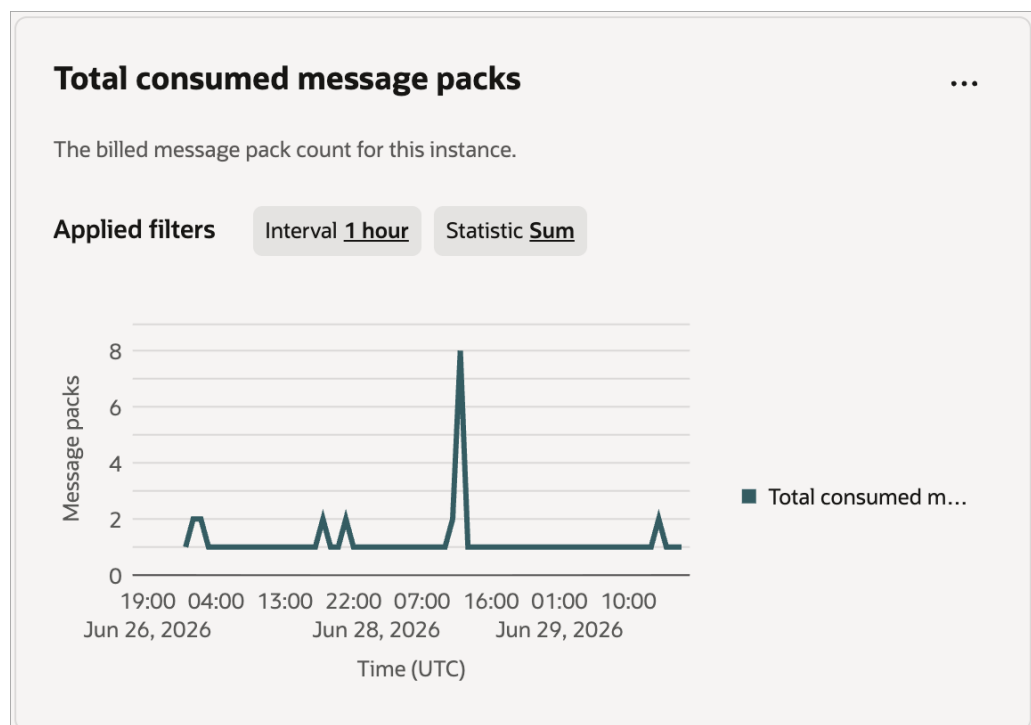


4. Select the **Monitoring** tab.
5. Below **Metrics**, select the filter next to **Applied filters**, and update the date range for the data to view in each chart.

- To understand your usage over time, start with a large time range, such as 30 or 90 days.
  - If you saw a spike for a specific day and want to understand what happened, narrow the time window to the day's 24-hour period.
6. Leave the **Interval** filter for each chart at 1 hour. Message packs are billed hourly, so it's helpful to view this data hourly in each chart.
  7. In the **Total consumed message packs** chart, review the number of message packs that the instance consumed.
    - If the line remains flat at your purchased message pack level, the instance has been billed for only the subscribed message packs.



- If the line rises above your purchased message pack level, your usage exceeded the amount included in your subscription, resulting in additional billing.



8. To learn more about billing, see the other FAQs at [FAQs for Billing](#).

## How Do I Monitor Billing for Multiple Instances?

Monitor your billing and usage for your instance fleet in the Oracle Cloud Console on the billing and cost management pages.

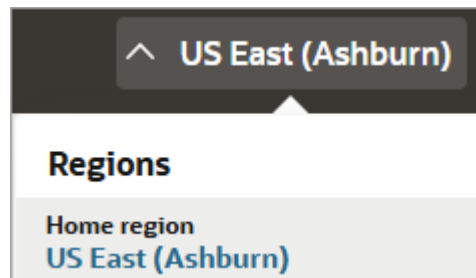
### Options for monitoring your instance fleet

You have the following options for monitoring billing across your instance fleet:

- View details on the billing and cost management pages. Keep reading for details.
- Push billing data to Oracle Log Analytics.

### To monitor billing for your instance fleet:

1. Find out how many message packs were selected for each instance. See [How Do I View the Message Packs for an Instance?](#)
2. In the Oracle Cloud Console, make sure your home region is selected in the region drop-down.



3. Open the navigation menu and select **Billing & Cost Management**. Then, below Cost Management, select **Cost Analysis**.
4. From the **Reports** drop-down, select **Costs by Service**.
5. Update the filters for the page:
  - **Start date** and **End date**: Select a period of time.
    - To understand your usage over time, start with a large time range, such as 30 or 90 days.
    - If you saw a spike for a specific day and want to understand what happened, narrow the time window to a one-day period.
  - **Granularity**: Select **Daily**.
  - **Show**: Select **Cost**. This option shows the amount that you've been billed for.
  - **Filters**: To show only data for Oracle Integration, select **Service**, and then select **INTEGRATION\_CLOUD** from the drop-down.
  - **Grouping dimensions**: To view a chart that breaks down usage by instance, select **Resource OCID**. For optimal readability, combine this grouping with the **Service** filter so that the chart displays instances for a single service.
6. Select **Apply**.

The charts are updated according to your filters.
7. Review the chart:

- The **Cost by Date** chart shows your daily billing amount. If you didn't filter by a specific service name, the legend on the right helps you understand the breakdown by service.
  - The **Details** table below the chart shows the cost details for each service on each day.
8. If your daily billing amount varies, the instance probably consumed more messages than its subscribed message packs.

To learn more about billing, see the other FAQs at [FAQs for Billing](#).

#### To monitor usage for your instance fleet:

These steps continue from the previous procedure.

1. From the **Show** drop-down, select **Usage**, and then select **Apply**.

The **Usage by Date** chart appears, displaying usage metrics for each service instance.

2. In the chart, find the number of message packs that an instance used on a given day, and divide it by 24.

The result is the number of message packs the instance used that day. To identify overages, you must know the number of subscribed message packs.

#### Examples: Usage without overages

- **24:** The instance subscribed to 1 message pack and used 1 message pack per hour:  
 $24 \text{ message packs} / 24 \text{ hours} = 1 \text{ message pack per hour}$
- **48:** The instance subscribed to 2 message packs and used 2 message packs per hour:  
 $48 \text{ message packs} / 24 \text{ hours} = 2 \text{ message packs per hour}$

#### Examples: Usage with overages

- **26:** The instance subscribed to 1 message pack and used 1 message pack per hour plus 2 additional message packs:  
 $26 \text{ message packs} / 24 \text{ hours} = 1 \text{ message pack per hour} + 2 \text{ additional message packs}$
- **38:** The instance subscribed to 1 message pack and used 1 message pack per hour plus 14 additional message packs:  
 $38 \text{ message packs} / 24 \text{ hours} = 1 \text{ message pack per hour} + 14 \text{ additional message packs}$

## Why Does My Monthly Bill Change?

Understand the common reasons your Oracle Integration bill may change and learn how changes to service packs and usage affect your costs.

#### Reasons for billing changes

Review the following reasons why your billing amount may change between billing periods.

- **Service pack change**

An administrator might have selected a different number of message packs for an instance. See [How Do I View the Message Packs for an Instance?](#)

- **Usage change**

If the number of *consumed* messages exceeds the number of *subscribed* messages during a one-hour period, the excess messages are considered overage. For billing purposes, overage messages are converted into consumed message packs. Billing is based on the greater of the following values:

- Subscribed message packs
- Consumed messages

#### Note

Billing for Oracle Integration changed on July 1, 2025. As of that date, several new features, including disaster recovery, robotic process automation, and extended data retention result in extra message usage. These updates are included in the [Service Description](#), which is part of your agreement with Oracle.

### Factors to consider when reviewing billing

Consider the following factors when reviewing your billing and deciding whether to adjust your message pack subscription.

- **Overages are pay-as-you-go**

When an instance uses more messages than it is subscribed to, an overage occurs. However, keep in mind that there isn't a penalty for overages. You're simply paying for the messages that an instance has used.

- **Message packs determine concurrency**

The number of message packs that an instance subscribes to directly affects the concurrent synchronous and asynchronous request limit. If asynchronous integrations experience slowness, or synchronous integrations experience timeouts, your instance would benefit from the higher concurrency that comes with more message packs. See [When to Increase Message Packs](#).

- **Billing can be consistent**

Some organizations prioritize consistent monthly bills over cost savings. In such cases, subscribing to a higher number of message packs is worth considering.

- **Integration cleanup reduces costs**

When organizations review their billing data, they often discover older integrations that are still running but are no longer needed. Deactivating unused integrations can help reduce both usage and costs.

### Options for managing your bills

Use the following guidance to determine the best way to manage your message pack subscription and billing.

- **Do nothing**

If your throughput is acceptable AND your organization is comfortable with monthly bills that vary based on usage, do nothing. You'll continue paying for your usage, including the subscribed message packs and any usage above them.

- **Increase your message packs**

If you need improved concurrency OR your organization requires consistent monthly bills, increase your message packs to match your peak usage.

If you require improved concurrency during peak periods, you can also increase your message packs before the peak periods and then reduce the message packs afterward.

For more guidance, see [When to Increase Message Packs](#) and [Edit the Number of Message Packs](#).

**Learn more**

To learn more about your usage, review all the billing FAQs. See [FAQs for Billing](#).

# Monitor Instance Performance

Monitoring helps you detect anomalies and bottlenecks occurring within your Oracle Integration instances and connected applications. Actively and passively monitor cloud resources using the metrics and alarms features of Oracle Cloud Infrastructure Monitoring, available with Oracle Integration. See [Monitoring Overview](#) in the Oracle Cloud Infrastructure documentation.

## Tools to Monitor Instance Performance

There are several tools available to help you monitor performance for your instances:

- **Service instance metrics:** There are a few metrics that can help monitor performance for a particular Oracle Integration instance, such as received, successful, and failed messages; and inbound and outbound requests and processing time. See [Stay Within Budget: Track Billing Metrics](#).
- **Custom metrics charts:** Create custom charts to view exactly the metrics you're interested in. See [Using the Metrics Charts](#).
- **Service metrics:** View metrics for multiple Oracle Integration instances at the same time. See [Viewing Default Metric Charts for a Metric Namespace \(Multiple Resources\)](#) in the Oracle Cloud Infrastructure (OCI) documentation.
- **Alarms:** Use alarms to notify you when metrics meet specified triggers. See [Managing Alarms](#) in the OCI documentation.
- **Automate with events:** Create rules to track Oracle Integration lifecycle events, such as when instances are stopped, started, or updated. See [Get Notified When Instance Events Occur](#).

## Topics:

- [Manage Integrations and Errors](#)
- [Use OCI Logging to Analyze Integration Activity](#)
- [Use Oracle Log Analytics for Large Activity Stream Payloads](#)
- [Monitor Concurrent Synchronous Requests](#)
- [Troubleshoot Timeouts for Synchronous Integrations](#)
- [Monitor Concurrent Asynchronous Requests](#)
- [Monitor Concurrent File Server Connections](#)
- [Dynamic Scaling: Resource Allocation vs. Concurrency](#)

Also see the following topics in *Using Integrations in Oracle Integration 3*:

- Workflow for Monitoring Integrations
- Monitor Integrations in a Project
- Monitor Integrations During Runtime

## Manage Integrations and Errors

You can manage integrations and errors in Oracle Integration.

You can perform management tasks such as integration activation, integration testing, and other management tasks. See *Manage Integrations* in *Using Integrations in Oracle Integration 3*.

You can manage errors from the Errors pages in Oracle Integration at the integration level, connection level, or specific integration instance level. See *Manage Errors* in *Using Integrations in Oracle Integration 3*.

## Use OCI Logging to Analyze Integration Activity

You can push the integration activity stream to Oracle Cloud Infrastructure Logging to make it easier to analyze integration activity.

To do this you enable logging. Oracle Integration creates the `servicelogs-<>.log` file and pushes it to Oracle Cloud Infrastructure Logging for analysis. The data in the logs is the same data available in the activity stream in Oracle Integration.

For additional information, see:

- [Logging Overview](#) in the Oracle Cloud Infrastructure documentation
- [Service Logs for Oracle Integration 3](#) in the Oracle Cloud Infrastructure documentation
- View the Dashboard in *Using Integrations in Oracle Integration 3*

### Create a log group and enable the log

1. In the Oracle Cloud Console, open the navigation menu and click **Developer Services**, then, under **Application Integration**, click **Integration**.
2. Open the Oracle Integration instance to which you want to add a private endpoint. If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
3. On the Integration instance details page, in the tabs across the top, click **Logs**.
4. To the right of the **Activity Stream** entry, click **\*\*\***, then click **Enable log**.
5. In the Enable resource log panel, select an existing compartment and log group, or create a new log group:
  - a. Click **Create new group**.
  - b. Enter a name (for example, `OracleIntegration_ActivityStream_LogGroup`) and description.
  - c. Click **Create**.
6. Leave the default **Log name** or edit it.
7. By default, the Oracle Cloud Infrastructure Logging saves one month of customer-facing activity stream logs. If you want to store more than that, you can change the log retention setting to up to six months. Click **Show advanced options**, and select a new **Log retention** option.

If you need to store more than six months of data, you have other options, such as using a service connector hub to send the log to your object storage or to a location outside of Oracle Cloud Infrastructure.
8. Click **Enable log**.

### View the log data

After logging is enabled and the log has been created, click the link under **Log name** to view the log details:

- In the **Explore Log** section, you can sort and filter the log data.
- To search and analyze the log, click **Explore with Log Search**. See [Searching Logs](#).

You can also view the log from Oracle Cloud Infrastructure Logging. In the Oracle Cloud Console navigation menu, click **Observability & management**, then, under **Logging**, click **Logs**.

## Use Oracle Log Analytics for Large Activity Stream Payloads

You can publish your activity stream logs to Oracle Log Analytics. This is useful if your activity stream payload is large, because Oracle Cloud Infrastructure (OCI) public logging limits the size of log files.

### ! Important

You must be subscribed to Oracle Log Analytics to publish your activity stream logs there.

To publish the Oracle Integration activity stream logs to Oracle Log Analytics, perform the following tasks:

1. [Create a Log Group to Store Your Logs in Oracle Log Analytics](#)
2. [Create a Policy to Allow Log Uploads from Oracle Integration](#)
3. [Create a Policy to Allow Users to View Logs in Oracle Log Analytics](#)
4. [Enable the Option to Publish Logs to Oracle Log Analytics](#)

If you later decide to stop storing activity stream logs in Oracle Log Analytics, you can disable it for your Oracle Integration instance. See [Disable Storing Logs in Oracle Log Analytics](#)

## Create a Log Group to Store Your Logs in Oracle Log Analytics

To create a log group in Oracle Log Analytics to store your Oracle Integration activity stream logs, perform the following steps:

1. In the Oracle Cloud Console, open the navigation menu and click **Observability & Management**, then, under **Log Analytics**, click **Administration**.
2. On the Log Groups page, in the menu on the left, click **Log Groups**.
3. Next to **Applied filters**, make sure you're viewing the compartment in which you want to create the log group.
4. Click **Create Log Group**.
5. Enter a name (for example, `OracleIntegration_ActivityStream_LogGroup`) and description.
6. Click **Create**.

## Create a Policy to Allow Log Uploads from Oracle Integration

To create a policy to allow log uploads from Oracle Integration, perform the following steps:

1. If you haven't already done so, sign in to the Oracle Cloud Console.
2. Get the client ID for your Oracle Integration instance:
  - a. In the Oracle Cloud Console navigation menu, click **Identity & Security**, then, under **Identity**, click **Domains**.
  - b. Open the domain in which you created your Oracle Integration instance. If you don't see the domain, make sure you're in the correct region (in the banner) and you're viewing the correct compartment (in the filters).
  - c. In the tabs across the top, click **Oracle cloud services**.
  - d. Open your Oracle Integration instance. If you have trouble finding your instance, searching for "Integration" might narrow down your choices.
  - e. In the tabs across the top, click **OAuth configuration**.
  - f. Scroll down to the **General information** section, and copy the **Client ID**.
3. Create a dynamic group to be used in the policy:
  - a. Go back to your domain by clicking **Oracle cloud services** at the top of the page.
  - b. In the tabs across the top, click **Dynamic groups**.
  - c. Click **Create dynamic group**.
  - d. Enter a **Name** (for example, `OracleIntegration_LogAnalytics_DynamicGroup`) and **Description** for the group.
  - e. In the **Rule 1** box, enter the following rule.

**Syntax:**

    - `resource.id='OracleIntegration_ClientID'`

**Where:**

    - `OracleIntegration_ClientID` is the client ID you copied in [step 2](#)

**Example:**

    - `resource.id='A01BC23DE4567FGH89I0123456J78901_APPID'`
4. Create the policy:
  - a. In the left navigation pane, click **Policies**.
  - b. Click **Create Policy**.
  - c. Enter a name (for example, `OracleIntegration_LogUploadPolicy`) and description for the policy.
  - d. Click **Show manual editor**.
  - e. Enter the following permissions.

**Syntax:**

    - `allow dynamic-group DynamicGroup to {LOG_ANALYTICS_LOG_GROUP_UPLOAD_LOGS} in compartment LogGroup_Compartment`

- allow dynamic-group *DynamicGroup* to {LOG\_ANALYTICS\_SOURCE\_READ} in tenancy
- allow dynamic-group *DynamicGroup* to use loganalytics-ondemand-upload in tenancy
- allow dynamic-group *DynamicGroup* to {LOG\_ANALYTICS\_LOG\_GROUP\_UPLOAD\_LOGS} in tenancy

**Where:**

- *DynamicGroup* is the dynamic group you created in [step 3](#)
- *LogGroup\_Compartment* is the compartment in which you [created the log group](#)

**Example:**

- allow dynamic-group OracleIntegration\_LogAnalytics\_DynamicGroup to {LOG\_ANALYTICS\_LOG\_GROUP\_UPLOAD\_LOGS} in compartment OracleIntegration\_LogGroup\_Compartment
- allow dynamic-group OracleIntegration\_LogAnalytics\_DynamicGroup to {LOG\_ANALYTICS\_SOURCE\_READ} in tenancy
- allow dynamic-group OracleIntegration\_LogAnalytics\_DynamicGroup to use loganalytics-ondemand-upload in tenancy
- allow dynamic-group OracleIntegration\_LogAnalytics\_DynamicGroup to {LOG\_ANALYTICS\_LOG\_GROUP\_UPLOAD\_LOGS} in tenancy

## Create a Policy to Allow Users to View Logs in Oracle Log Analytics

To create a policy to allow users to view logs in Oracle Log Analytics, perform the following steps:

1. Create a group for the users you want to be able to view the activity stream logs in Oracle Log Analytics:
  - a. In the left navigation pane, click **Domains**.
  - b. Open the domain in which you created your Oracle Integration instance. If you don't see the domain, make sure you're in the correct region (in the banner) and you're viewing the correct compartment (in the filters).
  - c. In the tabs across the top, click **User management**.
  - d. Scroll down to the **Groups** section, and click **Create group**.
  - e. Enter a **Name** (for example, OracleIntegration\_LogAnalytics\_Group) and **Description** for the group.
  - f. Add users to the group.
  - g. Click **Create**.
2. Create the policy:
  - a. In the left navigation pane, click **Policies**.
  - b. Click **Create Policy**.
  - c. Enter a **Name** (for example, OracleIntegration\_LogAnalyticsAccessPolicy) and **Description** for the policy.
  - d. Click **Show manual editor**.
  - e. In the editor, enter the following permissions.

**Syntax:**

- allow group *UserGroup* to use loganalytics-features-family in tenancy
- allow group *UserGroup* to use loganalytics-resources-family in tenancy

**Where:**

- *UserGroup* is the group you created in [step 1](#)

**Example:**

- allow group OracleIntegration\_LogAnalytics\_Group to use loganalytics-features-family in tenancy
- allow group OracleIntegration\_LogAnalytics\_Group to use loganalytics-resources-family in tenancy

## Enable the Option to Publish Logs to Oracle Log Analytics

To enable storing Oracle Integration activity stream logs in Oracle Log Analytics, perform the following steps:

1. Get the OCID for the [log group you created](#):
  - a. In the Oracle Cloud Console navigation menu, click **Observability & management**, then, under **Log analytics**, click **Administration**.
  - b. In the left navigation pane, click **Log Groups**.
  - c. Next to the log group you created for Oracle Integration, click , then click **Copy OCID**.  
If you don't see the log, make sure you're viewing the correct compartment (in the left menu).
2. Enable the option:
  - a. In the Oracle Cloud Console navigation menu, click **Developer Services**, then, under **Application Integration**, click **Integration**.
  - b. Open your Oracle Integration instance.  
If you don't see the instance you're looking for, make sure you're viewing the correct region (in the banner) and compartment (at the top of the instance list, next to **Applied filters**).
  - c. Under **Settings**, next to **Store activity stream logs in OCI Log Analytics**, click **Enable**.
  - d. Paste the OCID you copied into the **OCI Log Analytics log group** box, and then click **Save**.  
The service instance status changes to **Updating**. When it's finished, the status changes to **Active**, and, under **Links**, you see a new entry for **OCI Log Analytics log group**, which shows the log group OCID.

## Disable Storing Logs in Oracle Log Analytics

If you want to stop storing activity stream logs in Oracle Log Analytics, you can disable it for your Oracle Integration instance.

1. In the Oracle Cloud Console navigation menu, click **Developer Services**, then, under **Application Integration**, click **Integration**.

- Open your Oracle Integration instance.  
If you don't see your instance, make sure you're viewing the correct compartment (in the left menu).
- Under **Settings**, next to **Store activity stream logs in OCI Log Analytics**, click **Disable**. You'll be asked to confirm your action.

The service instance status changes to **Updating**. When it's finished, the status changes to **Active**, and **Store activity stream logs in OCI Log Analytics** shows **Not enabled**.

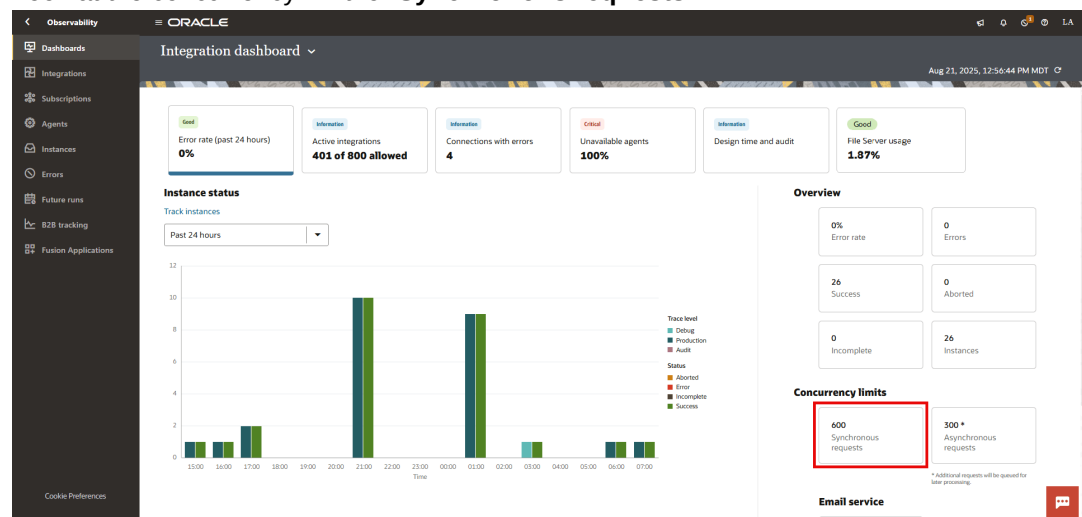
## Monitor Concurrent Synchronous Requests

The concurrent synchronous request limit is based on the number of message packs you subscribe to for the Oracle Integration instance. The limit is 100 concurrent requests per message pack, up to a maximum of 2000. To avoid reaching this limit, consider creating a custom metrics chart to monitor your requests and set up an alarm to notify you when you approach the threshold.

### View Your Concurrent Sync Request Limit

To see your concurrent sync request limit:

- In Oracle Integration navigation pane, click **Observability**, then **Dashboards**.
- Look at the concurrency limit for **Synchronous requests**.



### Create a Custom Metrics Chart to Monitor Concurrent Sync Requests

Create a chart that shows you how many concurrent sync requests your Oracle Integration instance is running.

- In the Oracle Cloud Console, open your Oracle Integration instance:
  - Sign in to the Oracle Cloud Console.
  - Open the navigation menu and click **Developer Services**. Under **Application Integration**, click **Integration**.
  - Click an Oracle Integration instance to view it.
- Copy the **OCID**.

3. Open the navigation menu and click **Observability & management**. Under **Monitoring**, click **Metrics Explorer**.
4. If the query editor isn't open under the chart, click **Edit queries**.
5. At the top right of the query settings, select **Advanced mode**.
6. Make sure the compartment that's selected is the one in which your Oracle Integration instance is stored.
7. In the **Metric namespace** list, select **oci\_integration**.
8. In the **Query code editor** box, paste the following query, replacing both instances of *instance-id* with the OCID you copied in step 2.  

```
NumberOfInboundRequests[1m]{resourceId = "instance-id", flowType = "SYNC"}.groupBy(serviceInstanceOcid).sum()/60 *
InboundRequestProcessingTime[1m]{resourceId = "instance-id", flowType = "SYNC"}.groupBy(serviceInstanceOcid).mean()/1000
```
9. Click **Update Chart**.

If the chart shows that your concurrent sync requests are close to the limit for the number of message packs you subscribe to, consider adding another message pack to your Oracle Integration instance.

For more information on custom metrics charts, see [Viewing a Custom Metric Chart](#) in the Oracle Cloud Infrastructure documentation.

## Create an Alarm to Monitor Concurrent Sync Requests

Create an alarm to notify you when you approach your Oracle Integration instance's concurrent sync requests limit.

1. In the Oracle Cloud Console Metrics Explorer, click **Create Alarm**.
2. Enter a name and description for your alarm. For example:
  - **Name:** Alarm-ConcurrentSyncRequestProcessing
  - **Summary:** Sends alert when the number of concurrent sync requests > 80
3. Change the **Alarm severity** to **Warning**.
4. In the **Query code editor**, add the condition for the alarm to the end of the query. For example, if you want to be notified when your concurrent sync requests go over 80, add >80 to the end of the query.  

```
NumberOfInboundRequests[1m]{resourceId = "instance-id", flowType = "SYNC"}.groupBy(serviceInstanceOcid).sum()/60 *
InboundRequestProcessingTime[1m]{resourceId = "instance-id", flowType = "SYNC"}.groupBy(serviceInstanceOcid).mean()/1000 >80
```
5. In the **Alarm body**, enter the message you want to include in the notification. For example: High concurrent sync request warning. You might need to subscribe to additional message packs.
6. Under **Destination**, set up how you want the notification to be sent. For example, if you want to send an email to yourself:
  - a. In the **Destination service** list, select **Notifications**.
  - b. Click **Create a Topic**.
  - c. Enter a **Topic name**, such as alarmTopic.
  - d. In the **Subscription protocol** list, leave **Email** selected.

- e. In the **Subscription Email** box, enter your email address, or, preferably, a distribution list.
  - f. Click **Create topic and subscription**.
  - g. Enter a **Notification subject**, such as Oracle Integration Service Limit - Concurrent sync requests
7. You can leave the remaining settings as is, and click **Save alarm**.

You'll receive a notification if the requests go above the threshold, with a subject similar to the following:

Alarm: OK\_TO\_FIRING | WARNING | Oracle Integration Service Limit - Concurrent sync requests | 2025-06-25T13:03:00Z

You'll receive another notification when the requests fall back below the threshold, with a subject similar to the following:

Alarm: FIRING\_TO\_OK | WARNING | Oracle Integration Service Limit - Concurrent sync requests | 2025-06-25T13:05:00Z

For more information on alarms, see [Creating a Basic Alarm](#) in the Oracle Cloud Infrastructure documentation.

## Create a Widget to Monitor Concurrent Sync Requests

Use Oracle Log Analytics to create a widget and add it to a dashboard to easily monitor your Oracle Integration instance's concurrent sync requests.

1. In the Oracle Cloud Console, open the navigation menu and click **Observability & management**. Under **Management Dashboard**, click **Dashboards**.
2. Edit an existing dashboard or create a new dashboard.
3. On the **Widgets** tab, from the **Add widget group and widgets** list, click **Create query-based widget...**
4. Leave the **Data source** as **Monitoring**.
5. In the **Namespace** list, select **oci\_integration**.
6. In the **Query** box, use the query you used to create the custom metrics chart, replacing both instances of *instance-id* with your Oracle Integration instance's OCID.  

```
NumberOfInboundRequests[1m]{resourceId = "instance-id", flowType = "SYNC"}.groupBy(serviceInstanceOcid).sum()/60 *
InboundRequestProcessingTime[1m]{resourceId = "instance-id", flowType = "SYNC"}.groupBy(serviceInstanceOcid).mean()/1000
```
7. Click **Run**.
8. On the **About** tab, enter a **Name** for your widget. For example, Concurrent Sync Requests.
9. On the **Visualization** tab, change the **Chart type** to **Bar Chart**.
10. Click **Save**.

For more information on Oracle Log Analytics widgets, see [Create a Query-based Widget Using Metrics](#) in the Oracle Cloud Infrastructure documentation.

# Troubleshoot Timeouts for Synchronous Integrations

If a synchronous integration keeps timing out or is taking longer than usual to complete, the integration might be trying to process too many requests. Knowing the requests that your instance processes in a second helps you design synchronous integrations that deliver the fast responses that you need.

The requests-per-second calculation helps you determine the *approximate* number of concurrent requests that your system can receive from client applications. For example, when a mobile application calls Oracle Integration, how many concurrent requests from the mobile app can your instance process?

This calculation is specifically for synchronous integrations, for which Oracle Integration waits for a response from the target service. If you have an integration that completes a large task and needs a long time to run, Oracle recommends creating an asynchronous integration instead.

## ① Note

- Generally, the words "message" and "request" are synonymous. However, when you're working with large payloads, you might consume more than one message per request. This change impacts your calculations. See [Stay Within Budget: Track Billing Metrics](#).

The calculations in this section assume that every request is 50 KB or smaller.

- This calculation is typically called TPS, or transactions per second. TPS doesn't apply directly to Oracle Integration for two reasons:
  - Oracle Integration processes requests, rather than transactions.
  - Sizing in Oracle Integration is based on the hourly consumption of messages, rather than the per-second consumption.

The Oracle Integration equivalent to TPS is requests per second, which is your concurrency.

1. Determine the approximate number of requests that an instance can process in one minute.

- a. Determine the number of message packs that you purchased per hour for the instance.

For this example, we'll say that you have an Oracle Integration license and purchased **4 packs**.

- b. Multiply the number of message packs by the number of messages in the message pack (5,000 messages for non-BYOL customers, and 20,000 messages for BYOL customers).

For this example, we'll say that you're a non-BYOL customer, so your message packs contain 5,000 messages.

**4 message packs x 5,000 messages per hour = 20,000 requests per hour**

- c. Divide the number of hourly requests by 3,600 to determine your approximate per-second capacity.

**20,000 requests per hour / 3600 = 5.6 requests per second**

- d. Multiply the per-second requests by 2; an instance can typically handle about twice your purchased capacity.

$$5.6 \text{ requests per second} \times 2 = 11 \text{ requests per second}$$

2. Calculate your concurrency (the number of concurrent requests your system can handle from client applications).

- a. Determine the typical response time in seconds.

For example, run a few requests and check the response times in the activity stream timestamps. See *Track the Status of Integration Instances in Using Integrations in Oracle Integration 3*.

The response time can vary depending on circumstances. When the volume of transactions increase in your instance, your response times might also increase.

For this example, we'll say that your response time is **5 seconds**.

- b. Multiply the number of requests you can process per second by the response time.

$$11 \text{ requests per second} \times 5 \text{ seconds} = 55 \text{ concurrent requests}$$

This value is your approximate concurrency.

### Example 12-1 Processing the maximum number of concurrent requests

Let's take a look at a sample request queue when an instance that can handle 55 concurrent requests is working at full capacity.

The following table illustrates how requests arrive and complete as each second passes. The total requests in the queue increase until they reach 55 and remain at 55 indefinitely. After 5 seconds (the response time), requests start completing.

| Time that has elapsed | Requests that arrive | Requests that complete | Total requests in the queue |
|-----------------------|----------------------|------------------------|-----------------------------|
| 1 second              | 11                   | 0                      | 11                          |
| 2 seconds             | 11                   | 0                      | 22                          |
| 3 seconds             | 11                   | 0                      | 33                          |
| 4 seconds             | 11                   | 0                      | 44                          |
| 5 seconds             | 11                   | 11                     | 55                          |
| 6 seconds             | 11                   | 11                     | 55                          |
| 7 seconds             | 11                   | 11                     | 55                          |
| 8 seconds             | 11                   | 11                     | 55                          |

### Example 12-2 Exceeding the maximum concurrent requests

Imagine the same instance is receiving a higher number of requests per second than the maximum concurrency value. The following table illustrates how quickly the number of requests in the queue can build, even when you exceed the concurrency by just a few requests. After 3 seconds, the instance has already exceeded its maximum number of concurrent requests, and within 8 seconds, the instance is dealing with twice the maximum number of concurrent requests.

If an integration is likely to exceed the instance's maximum concurrency, the integration is probably going to experience timeouts when built as a synchronous integration. Instead, build the integration as an asynchronous integration.

| Time that has elapsed | Requests that arrive | Requests that complete | Total requests in the queue |
|-----------------------|----------------------|------------------------|-----------------------------|
| 1 second              | 20                   | 0                      | 20                          |
| 2 seconds             | 20                   | 0                      | 40                          |
| 3 seconds             | 20                   | 0                      | 60                          |
| 4 seconds             | 20                   | 0                      | 80                          |
| 5 seconds             | 20                   | 11                     | 89                          |
| 6 seconds             | 20                   | 11                     | 98                          |
| 7 seconds             | 20                   | 11                     | 107                         |
| 8 seconds             | 20                   | 11                     | 116                         |

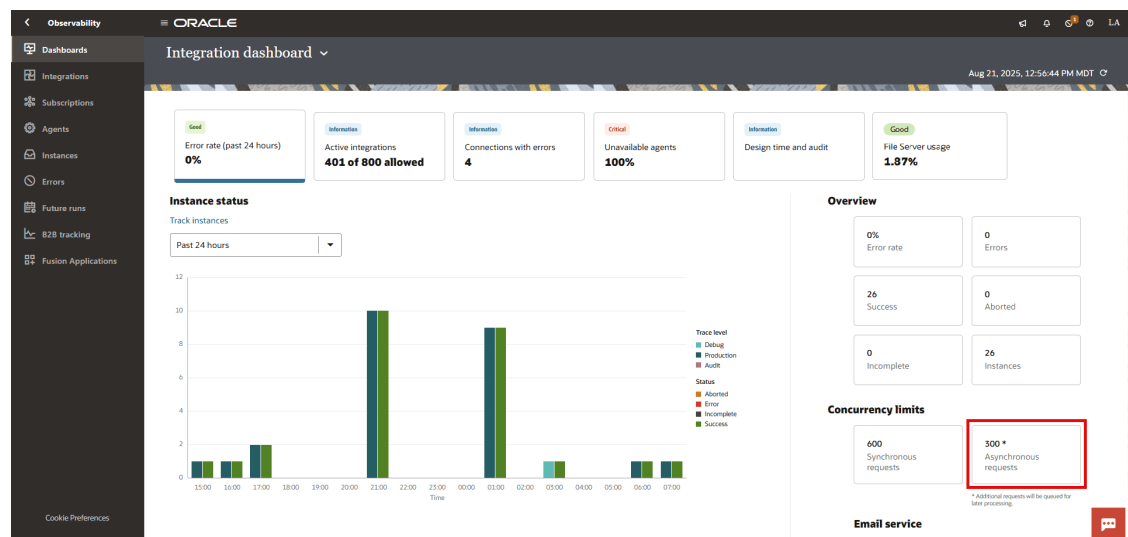
## Monitor Concurrent Asynchronous Requests

The concurrent asynchronous request limit is based on the number of message packs you subscribe to for the Oracle Integration instance. The limit is 50 concurrent requests per message pack, up to a maximum of 1000. When the limit is reached, all the additional requests will be queued for later processing. To avoid reaching this limit, consider creating a custom metrics chart to monitor your requests and set up an alarm to notify you when you have a backlog.

## View Your Concurrent Async Request Limit

To see your concurrent async request limit:

1. In the Oracle Integration navigation pane, click **Observability**, then **Dashboards**.
2. Look at the concurrency limit for **Asynchronous requests**.



## Create a Custom Metrics Chart to Monitor Async Request Count

Create a chart that shows you how many async requests (including scheduled) were triggered for your Oracle Integration instance.

1. In the Oracle Cloud Console, open your Oracle Integration instance:
  - a. Sign in to the Oracle Cloud Console.
  - b. Open the navigation menu and click **Developer Services**. Under **Application Integration**, click **Integration**.
  - c. Click an Oracle Integration instance to view it.
2. Copy the **OCID**.
3. Open the navigation menu and click **Observability & management**. Under **Monitoring**, click **Metrics Explorer**.
4. If the query editor isn't open under the chart, click **Edit queries**.
5. At the top right of the query settings, select **Advanced mode**.
6. Make sure the compartment that's selected is the one in which your Oracle Integration instance is stored.
7. In the **Metric namespace** list, select **oci\_integration**.
8. In the **Query code editor** box, paste the following query, replacing both instances of instance-id with the **OCID** you copied in Step 2.

```
SchedulerTriggeredInstancesCount[1m]{resourceId = "instance-id", flowType = "SCHEDULED"}.groupBy(serviceInstanceId).sum() +  
NumberOfInboundRequests[1m]{resourceId = "instance-id", flowType = "ASYNC"}.groupBy(serviceInstanceId).sum()
```

9. Click **Update Chart**.

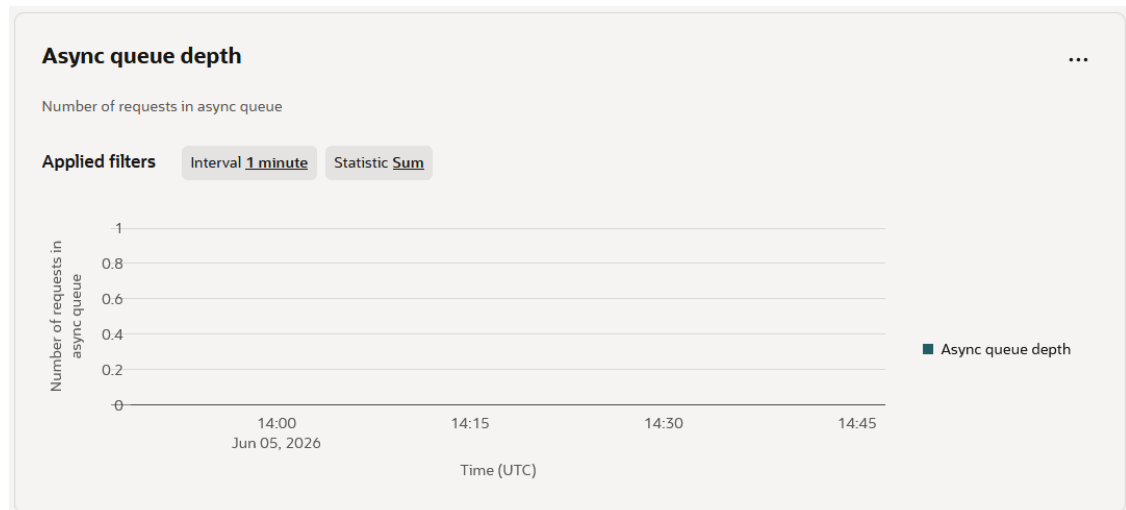
If the chart shows that your concurrent async requests are close to your subscribed message pack limit, consider adding another message pack to your Oracle Integration instance.

For more information on custom metrics charts, see [Viewing a Custom Metric Chart](#) in the Oracle Cloud Infrastructure documentation.

## Monitor Async Backlog

Oracle Integration provides a variety of metrics charts within the Oracle Cloud Console to help monitor and manage integrations.

To monitor the asynchronous processing backlog, you can use the **Async Queue Depth** metric.



This metric is represented by `AsyncInboundRequestsDepth`, which measures the number of requests currently waiting in the asynchronous processing queue.

For more information about available metrics and chart configuration, see [Available Metrics Charts](#) and [Oracle Integration Metrics for Custom Charts](#).

## Create an Alarm to Monitor Async Backlog

Create an alarm that notifies you when you have an async backlog on your Oracle Integration instance.

Example 1: Create an alarm to be notified when an async backlog exceeds 100.

1. In the Oracle Cloud Console Metrics Explorer, click **Create Alarm**.
2. Enter a name and description for your alarm. For example:
  - **Name:** Alarm-AsyncBacklogProcessing
  - **Summary:** Sends an alert when the async backlog > 100
3. Set **Alarm severity** to **Warning**.
4. Change **Trigger delay minutes** to **5**. This change ensures that the alarm is triggered only when the backlog remains high for more than 5 minutes.
5. In the Query code editor, add the condition for the alarm to the end of the query. For example, if you want to be notified when your async backlog goes over 100, add `>100` to the end of the query.

```
AsyncInboundRequestsDepth[1m]{resourceId = "instance-id"}.groupBy(serviceInstanceId).mean() > 100
```

6. In **Alarm body**, enter the message you want to include in the notification. For example:

High concurrent async request warning. You might need to subscribe to additional message packs.

7. Under **Destination**, set up how you want the notification to be sent. For example, if you want to send an email to yourself:
  - a. In the **Destination service** list, select **Notifications**.

- b. Click **Create a Topic**.
- c. For **Topic name**, enter `alarmTopic`.
- d. In the **Subscription protocol** list, leave **Email** selected.
- e. In the **Subscription Email** box, enter your email address, or, preferably, a distribution list.
- f. Click **Create topic and subscription**.
- g. For **Notification subject**, enter `Oracle Integration Service Limit - Concurrent async requests`.  
You can leave the remaining settings as is, and click **Save alarm**.

You'll receive a notification if the requests go above the threshold, with a subject similar to the following:

```
Alarm: OK_TO_FIRING | WARNING | Oracle Integration Service Limit -
Concurrent async requests | 2025-06-25T13:03:00Z
```

You'll receive another notification when the requests fall back below the threshold, with a subject similar to the following:

```
Alarm: FIRING_TO_OK | WARNING | Oracle Integration Service Limit -
Concurrent async requests | 2025-06-25T13:05:00Z
```

For more information on alarms, see [Creating a Basic Alarm](#) in the Oracle Cloud Infrastructure documentation.

Example 2: Create an alarm to be notified when a message count exceeds 80% of the total limit.

1. In the Oracle Cloud Console Metrics Explorer, click **Create Alarm**.
2. Enter a name and description for your alarm. For example:
  - **Alarm name:** `High Async Queue Alarm`
  - **Alarm summary:** `Your async queue has exceeded 80% of its limit.`
3. Click **Advanced mode**.
4. In the **Trigger rule 1** section, create a trigger rule for the alarm:
  - a. From the **Trigger delay minutes** list, select **1**.
  - b. From the **Alarm severity** list, select **Warning**.
  - c. In the **Query code editor** field, enter the following to identify when your message count exceeds a specific percentage of its limit (for this example, when 80% of 50,000 messages is exceeded).  
  

```
AsyncInboundRequestsDepth[1m].max() > 40000
```
  - d. In the **Alarm body** field, enter a message. For example:  
  

```
High Async Queue Size Alert. Consider assigning more message packs to ensure that no async requests will be rejected.
```
5. Click **Next**.
6. From the **Destination service** list, select **Notifications**.

7. Select an existing topic or click **Create a Topic** to create a new one.
8. In the **Subscription protocol** list, leave **Email** selected.
9. In the **Subscription Email** box, enter your email address, or, preferably, a distribution list.
10. Click **Create topic and subscription**.
11. In **Notification subject** field, enter the email subject. For example:

Async Queue Size Service Limit Exceeded

You can leave the remaining settings as is.

12. Click **Next**, then click **Create**.

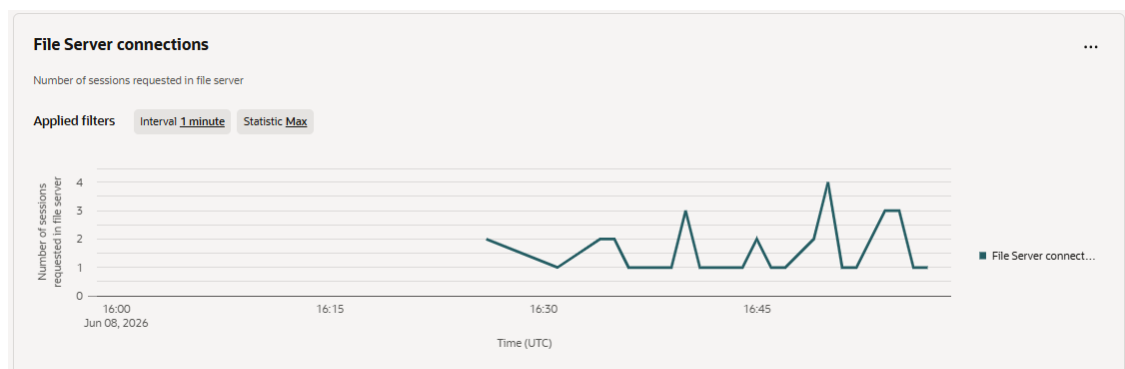
## Monitor Concurrent File Server Connections

File Server allows 50 concurrent connections per service instance. For more information, see the [File Server Service Limits](#) for Oracle Integration.

### Monitor File Server Connections

Oracle Integration provides a variety of metrics charts within the Oracle Cloud Console to help monitor and manage integrations.

To monitor File Server connections, you can use the **File Server connections** metric.



This metric is represented by `FileserverInboundConnections`, which measures the number of requests currently waiting in the asynchronous processing queue.

For more information about available metrics and chart configuration, see [Available Metrics Charts](#) and [Oracle Integration Metrics for Custom Charts](#).

## Create an Alarm to Monitor Async Backlog

Create an alarm that notifies you when you have an async backlog on your Oracle Integration instance.

1. In the Oracle Cloud Console Metrics Explorer, click **Create Alarm**.
2. Enter a name and description for your alarm. For example:
  - **Name:** Alarm-FileserverInboundConnections

- **Summary:** Sends an alert when the file server connection count is high
3. Create two trigger rules for the alarm:  
Trigger rule 1:
    - a. Set **Alarm severity** to **Warning**.
    - b. In the Query code editor, add the condition for the alarm to the end of the query. For example, if you want to be notified when your file server connection count goes over 45, add `>=45` to the end of the query.

```
FileserverInboundConnections[1m]{resourceId = "instance-id"}.groupBy(serviceInstanceOcid).max() >= 45
```

- c. In **Alarm body**, enter the message you want to include in the notification. For example:

```
High concurrent file server connection warning. You are above 45 concurrent connections.
```

Trigger rule 2:

- a. Set **Alarm severity** to **Critical**.
  - b. In the Query code editor, add the condition for the alarm to the end of the query. For example, if you want to be notified when your file server connection count reaches 50, add `>=50` to the end of the query.

```
FileserverInboundConnections[1m]{resourceId = "instance-id"}.groupBy(serviceInstanceOcid).max() >= 50
```

**Note**

Replace instance-id with the Oracle Integration instance OCID value.

- c. In **Alarm body**, enter the message you want to include in the notification. For example:  
  
High concurrent file server connection critical. You have reached the concurrent connection count limit or 50.
4. Under **Destination**, set up how you want the notification to be sent. For example, if you want to send an email to yourself:
  - a. In the **Destination service** list, select **Notifications**.
  - b. Click **Create a Topic**.
  - c. For **Topic name**, enter `alarmTopic`.
  - d. In the **Subscription protocol** list, leave **Email** selected.
  - e. In the **Subscription Email** box, enter your email address, or, preferably, a distribution list.
  - f. Click **Create topic and subscription**.
  - g. For **Notification subject**, enter `Oracle Integration Service Limit - Concurrent file server connections`.  
You can leave the remaining settings as is, and click **Save alarm**.

You'll receive a notification if the requests go above the threshold, with a subject similar to the following:

```
Alarm: OK_TO_FIRING | WARNING | Oracle Integration Service Limit -  
Concurrent file server connections | 2025-06-25T13:03:00Z  
Alarm: FIRING_TO_OK | CRITICAL | Oracle Integration Service Limit -  
Concurrent file server connections __ | 2025-06-25T13:05:00Z
```

You'll receive another notification when the requests fall back below the threshold, with a subject similar to the following:

```
Alarm: FIRING_TO_OK | CRITICAL | Oracle Integration Service Limit -  
Concurrent file server connections | 2025-06-25T13:07:00Z  
Alarm: OK_TO_FIRING | WARNING | Oracle Integration Service Limit -  
Concurrent file server connections | 2025-06-25T13:08:00Z
```

For more information on alarms, see [Creating a Basic Alarm](#) in the Oracle Cloud Infrastructure documentation.

## Dynamic Scaling: Resource Allocation vs. Concurrency

Dynamic scaling applies to *resource allocation*, not *concurrency*. Oracle Integration uses horizontal scaling rules to dynamically adjust capacity up or down based on the current demand of your service instance, without any action from you.

Oracle Integration ensures that there will always be a minimum level of resources available to provide prompt response times. However, you still must subscribe to enough message packs to fit your expected usage and your [concurrent request limit](#).

# 13

## Upgrade from Oracle Integration Generation 2 to Oracle Integration 3

Upgrades from Oracle Integration Generation 2 to Oracle Integration 3 are available at no extra cost. Learn more about your prerequisites and the upgrade workflow.

### Topics:

- [Learn About Upgrading to Oracle Integration 3](#)
- [Prepare for the Upgrade to Oracle Integration 3](#)
- [Process Upgrade Options](#)
- [What to Do During Upgrade](#)
- [Complete Post-Upgrade Tasks](#)
- [Troubleshoot Upgrade Issues](#)

You should also review:

- *What's New for Oracle Integration 3*
- Differences from Prior Versions of Oracle Integration—Some features in Oracle Integration Generation 2 are different in Oracle Integration 3, or aren't yet available. For Oracle Integration Generation 2 features that aren't in Oracle Integration 3.

Watch a high-level overview of what to expect and what you need to do when upgrading from Oracle Integration Generation 2 to Oracle Integration 3.



## Learn About Upgrading to Oracle Integration 3

Get answers to your questions about upgrading an Oracle Integration Generation 2 instance to Oracle Integration 3, and understand the upgrade process.

### Topics:

- [Upgrade Workflow Quick Reference](#)
- [Upgrade Notifications](#)
- [Upgrade FAQs](#)
- [Benefits of Upgrading](#)
- [How Upgrade Affects Runtime Data](#)
- [How Upgrade Affects File Server](#)
- [How Upgrade Affects Process Features](#)
- [When is Basic Authentication Supported in Oracle Integration 3?](#)

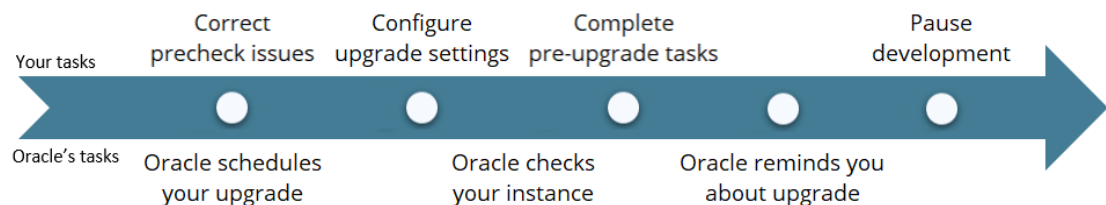
## Upgrade Workflow Quick Reference

Oracle completes the majority of upgrade work on your behalf. All you need to do is complete some required steps and specify your requirements.

### Read the FAQs

Read through the [Upgrade FAQs](#) to know what to expect from upgrade and to plan any tasks you need to complete.

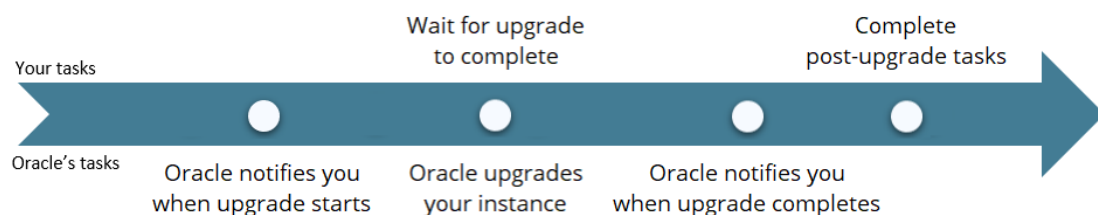
### Before the Upgrade



| Timing                            | Oracle | You        | Task                         | Details                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------|--------|------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Any time before upgrade           |        | <b>You</b> | Correct precheck issues      | <b>Time to complete:</b> Varies<br>To ensure that your instance is upgraded successfully, <a href="#">check your upgrade readiness and correct any precheck issues</a> .<br>You'll perform additional pre-upgrade tasks as your upgrade date approaches.                                                                                                                         |
| Ongoing basis                     | Oracle |            | Checks your instance         | Oracle periodically checks whether your instance is ready for upgrade.<br><b>Note:</b> Oracle will continue these periodic checks even after your instance has been scheduled for upgrade to make sure that it's still ready. If Oracle finds any issues, we will email you so that you can address them. See <a href="#">Correct an Instance with Failed Readiness Checks</a> . |
| At least one month before upgrade | Oracle |            | Schedules your upgrade       | Oracle sends you an email with your upgrade date. You can also see this on the <b>Upgrade</b> page and in a message in the banner. Continue working in Oracle Integration Generation 2 until upgrade.                                                                                                                                                                            |
| After receiving upgrade email     |        | <b>You</b> | Configure upgrade settings   | <b>Time to complete:</b> 10 minutes<br>After you receive the upgrade email, <a href="#">configure your upgrade settings</a> .                                                                                                                                                                                                                                                    |
| Up to one week before upgrade     |        | <b>You</b> | Reschedule upgrade if needed | <b>Time to complete:</b> 5 minutes<br>If you need to change your upgrade window, you can <a href="#">reschedule it</a> if your upgrade date is three or more business days away. Oracle sends an email confirmation after you reschedule.                                                                                                                                        |

| Timing                   | Oracle | You        | Task                                                                          | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------|--------|------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Two weeks before upgrade |        | <b>You</b> | Complete pre-upgrade tasks and familiarize yourself with Oracle Integration 3 | <b>Time to complete:</b> Varies<br>As your upgrade date approaches, about two weeks before upgrade: <ul style="list-style-type: none"> <li>• <a href="#">Complete pre-upgrade tasks.</a></li> <li>• <a href="#">Update your allowlists.</a></li> <li>• <a href="#">Inform users and stakeholders about upgrade.</a></li> <li>• <b>IMPORTANT:</b> Read through the <a href="#">Upgrade FAQs</a> to understand how Oracle Integration 3 differs from prior versions, how upgrade affects your components of your instance, and known issues in Oracle Integration 3.</li> </ul> |
| Two days before upgrade  | Oracle |            | Reminds you about the upgrade                                                 | Several days before upgrade, Oracle sends an email reminding you about the upgrade.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Two days before upgrade  |        | <b>You</b> | Pause development                                                             | <b>Time to complete:</b> Not applicable<br><a href="#">Pause or limit your development work</a> to help ensure a successful upgrade.                                                                                                                                                                                                                                                                                                                                                                                                                                          |

### During and After Upgrade



| Timing                                      | Oracle | You        | Task                                   | Details                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------|--------|------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Day of the upgrade, before it starts        | Oracle |            | Informs you that the upgrade started   | Oracle sends an email to inform you that the upgrade started.                                                                                                                                                                                                                                                                                                  |
| Day of the upgrade                          | Oracle |            | Upgrades your instance                 | Oracle upgrades your instance.                                                                                                                                                                                                                                                                                                                                 |
| Day of the upgrade                          |        | <b>You</b> | Wait for the upgrade to complete       | <b>Time to complete:</b> Not applicable.<br>The upgrade generally takes less than ten minutes. Your Oracle Integration Generation 2 instance is unavailable during the downtime. See <a href="#">What to Do During Upgrade</a> .                                                                                                                               |
| Day of the upgrade, after it finishes       | Oracle |            | Informs you that the upgrade completed | After the upgrade, Oracle sends an email to inform you that the upgrade completed successfully or if there was an issue.                                                                                                                                                                                                                                       |
| Day of the upgrade, or up to ten days after |        | <b>You</b> | Complete post-upgrade requirements     | <b>Time to complete:</b> Varies, about 20 minutes, or longer for comprehensive regression testing.<br><a href="#">Complete post-upgrade tasks.</a> Access the new Oracle Integration 3 instance using your existing URLs and credentials, and perform verification tasks as needed. For example, some organizations perform regression testing after upgrades. |

## Upgrade Notifications

By default, upgrade notifications are automatically sent to the specified administrator email. Oracle recommends you have notifications sent to a distribution list or group email so that you don't miss important emails if someone leaves the company.

You set who receives notifications on the **Upgrade** page. See "Upgrade Notifications" in [Configure Your Upgrade Settings](#).

| Notification Subject                        | Description                                                                                                                                                                                                                                                  |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Upgrade OIC Gen 2 instances to OIC 3        | Oracle sent out an email notifying anyone who has or had a Oracle Integration Generation 2 instance that Generation 2 is being retired, as a reminder that, if you haven't already, you should upgrade all your instances to Oracle Integration 3.           |
| Upgrade to Oracle Integration 3             | Oracle sends you an email indicating that your upgrade has been scheduled. You can also see this on the <b>Upgrade</b> page and in a message in the banner.                                                                                                  |
| Upgrade to Oracle Integration 3 Reminder    | The Friday before your scheduled upgrade date, Oracle sends you a reminder about the upgrade.                                                                                                                                                                |
| Upgrade to Oracle Integration 3 started     | When the upgrade begins, Oracle sends an email telling you what to expect during upgrade. You won't be able to access Oracle Integration 3 during the upgrade.                                                                                               |
| Upgrade to Oracle Integration 3 complete    | When the upgrade completes successfully, Oracle sends you an email reminding you to <a href="#">complete the post-upgrade tasks</a> . You can resume work on Oracle Integration 3 after you receive this email.                                              |
| Upgrade to Oracle Integration 3 failed      | If there's an issue during upgrade, Oracle sends you an email indicating what you should do to <a href="#">correct the issues</a> . This notification doesn't include a new upgrade date.                                                                    |
| Upgrade to Oracle Integration 3 Canceled    | If your upgrade is canceled, Oracle sends you an email indicating that your integrations will continue to function normally with no changes and that Oracle will follow up with you on the next steps. This notification doesn't include a new upgrade date. |
| Upgrade to Oracle Integration 3 rescheduled | If you reschedule your upgrade, Oracle sends you an email with the new upgrade date.                                                                                                                                                                         |

## Upgrade FAQs

Get answers to questions about the upgrade from Oracle Integration Generation 2 to Oracle Integration 3.

### General Upgrade FAQs

#### 1. What are the benefits of upgrading?

Oracle Integration 3 is the next generation of the Oracle Integration platform. The upgrade to Oracle Integration 3 delivers a modern and intuitive user interface and improved performance. Additionally, the latest features will be delivered only to Oracle Integration 3. See:

- [Benefits of Upgrading](#)
- *What's New for Oracle Integration 3*

#### 2. Are all the features from prior versions of Oracle Integration available in Oracle Integration 3?

Some previous features may have been permanently removed, replaced, enhanced, or not currently supported in Oracle Integration 3. Many of those changes are mentioned in these FAQs. You might also want to look through the following documentation:

- Differences from Prior Versions of Oracle Integration
- *Known Issues for Oracle Integration 3*
- [Troubleshoot Upgrade Issues](#)

### 3. Am I required to upgrade my instances to Oracle Integration 3?

Yes, but only after all the features that you use, other than those that have been deprecated, are available for upgrade in Oracle Integration 3.

Oracle selects an upgrade window for you and sends an email notification. Everyone who receives emails about Oracle Integration Generation 2 quarterly updates receives the email.

If needed, you can select a different upgrade window, but you can't opt out of the upgrade.

If you have to go live during your assigned upgrade window, Oracle can change the upgrade window to a month earlier or a month later. Contact your account representative or customer success manager.

### 4. Is there a charge to upgrade?

No. The upgrade is available at no additional cost.

### 5. What is the upgrade workflow?

See [Upgrade Workflow Quick Reference](#).

### 6. What happens during upgrade?

See [What to Do During Upgrade](#).

### 7. What if issues occur during the upgrade?

In rare situations, an issue prevents an upgrade from completing. When an upgrade doesn't complete, Oracle rolls back the changes, turns on the schedule in the Oracle Integration Generation 2 instance, and restores your access to the instance during the downtime period. You continue working in the Oracle Integration Generation 2 instance, with the same features you were using before the upgrade.

In such situations, Oracle informs you by email that you can continue working in Oracle Integration Generation 2. Expect the email to arrive either within your upgrade window or soon after. Everyone who gets emails about Oracle Integration Generation 2 quarterly updates receives the email. You can schedule your upgrade for another time, and Oracle works with you to determine the next steps.

You'll also see an **Upgrade Summary** on the Upgrade page, which will include when the upgrade was attempted and why it didn't complete.

When you specify upgrade requirements, you can also choose to ignore specific issues during upgrade. For instance, you determine whether to proceed with the upgrade if Oracle is unable to activate all integrations and start the schedule for all integrations. See [Configure Upgrade Settings or Reschedule Upgrade](#).

## Upgrade Timing and Scheduling FAQs

### 1. When will my instance be upgraded?

All instances have been scheduled for upgrade. Oracle sent you an email with your upgrade date. You can also see this on the **Upgrade** page and in a message in the banner.

**2. Can I choose or reschedule my upgrade date?**

Yes. Oracle selects an upgrade window for you, but you can change your upgrade window if it's three or more business days away.

All upgrade dates that are available to you appear on the **Upgrade** page, in the **Upgrade Window** list.

If you have to go live during your assigned upgrade window, Oracle can change the upgrade window to a month earlier or a month later. Contact your account representative or customer success manager.

**3. Will there be downtime?**

Yes. Upgrades generally take less than ten minutes, but may take longer if you have a lot of files or a complex setup. During this time, Oracle Integration is unavailable, and all in-flight instances stop running. See [How Upgrade Affects Runtime Data](#).

Everyone must stop working in Oracle Integration. If you try to sign in during the downtime, a Service Unavailable page informs you that Oracle Integration is unavailable.

**4. My upgrade was scheduled. What if I don't confirm the date or specify upgrade details?**

Your upgrade will proceed as scheduled even if you don't confirm your date.

**5. What if something changes after my upgrade is scheduled and my instance can't be upgraded anymore?**

After scheduling the upgrade, Oracle checks your instance often to make sure it's still ready. If the check identifies any issues, Oracle emails you so you can address the issues and proceed with the scheduled upgrade. See [Correct an Instance with Failed Readiness Checks](#).

Oracle also checks your instance at the beginning of the upgrade window. If the check identifies any issues, Oracle cancels the upgrade and emails you about the change. Everyone who gets emails about Oracle Integration Generation 2 quarterly updates receives the email, which includes information about next steps.

## Pre-Upgrade FAQs

**1. What do I have to do before the upgrade?**

- [Check upgrade readiness and correct precheck issues](#).
- [Configure your upgrade settings](#).
- As your upgrade date approaches, [perform some pre-upgrade tasks](#), including updating your allowlists.

**2. Should I stop my scheduled integrations before the upgrade?**

Oracle doesn't recommend stopping your scheduled integrations. If you stop your integrations in your Oracle Integration Generation 2 instance, the integrations remain stopped in the Oracle Integration 3 instance after the upgrade is complete, and you'll have to manually restart everything.

**3. What if a scheduled integration is running when the upgrade begins?**

Prior to the upgrade, Oracle stops the schedule if it's running. After the upgrade, the schedule starts in Oracle Integration 3 from the point where it stopped in Oracle Integration Generation 2.

## Post-Upgrade FAQs

### 1. How do I know when the upgrade is finished?

Upgrades generally take less than ten minutes, but may take longer if you have a lot of files or a complex setup. Oracle sends you an email when the upgrade completes.

You can also see if your instance is available by trying to sign in:

- If you sign in and the user interface remains unchanged, the upgrade hasn't begun yet.
- If you sign in and a page informs you that the service is unavailable, the upgrade is still in progress.
- If you sign in and the user interface has changed, the upgrade is finished.  
Confirm the upgrade finished by checking the version number in the About dialog.

### 2. Will my Oracle Integration Generation 2 instance still be available after the upgrade?

No. Your Oracle Integration Generation 2 isn't available after the upgrade.

### 3. What do I have to do after the upgrade?

See [Complete Post-Upgrade Tasks](#).

### 4. Will my user, group, and policy information be available after upgrade?

Yes. All security-related information from your Oracle Integration Generation 2 instance is present in your Oracle Integration 3 instance after the upgrade. Additionally, the upgrade doesn't change anything related to identity domains. For example, if your tenancy uses identity domains before the upgrade, it continues using identity domains after the upgrade.

### 5. What if issues occur after the upgrade?

After the upgrade completes, sign in and perform your typical verification tasks, and [complete the required post-upgrade tasks](#).

If you experience any issues after the upgrade, either while performing verification tasks or performing day-to-day activities, enter a service request (SR) on [My Oracle Support](#).

#### Important

If you determine that you need to roll back your instance, your instance will be rolled back to Oracle Integration Generation 2 in the same state it was when upgrade was performed. Any changes you made in the upgraded environment won't be reflected in the Oracle Integration Generation 2 environment if you roll back.

## Service Instance FAQs

### 1. Will the IP address of my instance change?

Yes. After the upgrade, the Oracle Integration 3 instance has a different IP address than the Oracle Integration Generation 2 instance.

If you have allowlists, you need to allowlist the new IP addresses. See [Update Allowlists](#).

After the upgrade finishes, the Oracle Integration Generation 2 IP addresses are no longer assigned to you.

Note that the incoming IP addresses for development and production instances are different, even within the same region. However, the outgoing IP address is the same for all shapes (development or production) in a single region.

## 2. Will my URLs change?

- The *runtime* URL for Oracle Integration 3 won't change; it will be your Oracle Integration Generation 2 URL.
- The *design-time* URL will change, but your bookmarks will still work. The design-time URL for Oracle Integration 3 is in the following format.  
`https://design.integration.region.ocp.oraclecloud.com/?integrationInstance=query_parameter_representing_instance`

After the upgrade, the design-time URL for your Oracle Integration Generation 2 instance redirects to the new Oracle Integration 3 instance URL, so you can continue using your existing bookmark or update it. It's up to you.

- The Process URL will change.

## 3. Can I have both Oracle Integration Generation 2 and Oracle Integration 3 instances?

Yes. For example, if you have multiple Oracle Integration Generation 2 instances, you can upgrade them at different times. However, be aware that, as of October 2024, Oracle Integration Generation 2 and Oracle Integration 3 are different enough that work done in Oracle Integration Generation 2 isn't compatible with Oracle Integration 3 and vice versa. See the new features and differences from prior versions in *What's New for Oracle Integration 3*.

If you are an administrator who works in the Oracle Cloud Console, your Oracle Integration 3 instances appear in the same list as your Oracle Integration Generation 2 instances. Each instance is clearly labeled so you can identify its version.

## 4. Can I switch to a different region or compartment during upgrade?

No. Moving regions and compartments is not part of the upgrade process.

## 5. Is basic authentication still supported?

See [When is Basic Authentication Supported in Oracle Integration 3?](#)

## 6. How else might upgrade affect my service instance?

- **Custom endpoint:** If you use a custom endpoints, be aware of the following changes:
  - If you're using Oracle Visual Builder, your custom endpoint and any alternate custom endpoints will be configured on Oracle Visual Builder during the upgrade process. After upgrade, your Oracle Visual Builder apps must invoke Oracle Integration using the original Oracle Integration 3 URL rather than the custom endpoint.
  - Oracle Visual Builder supports alternate custom endpoints, but Oracle Integration 3 currently doesn't.
  - If you're not using Oracle Visual Builder and your custom endpoint uses SSL, you'll need to set up a load balancer as a front end for your Oracle Integration Generation 2 instance, and remove the SSL certificate.
  - If you're not using Oracle Visual Builder, after upgrade, *runtime access to your integrations* will continue to work as it did for Oracle Integration Generation 2. For all other access points—such as design-time and Process Automation—you still access the custom endpoint, but the custom endpoint then redirects to the appropriate URL

See [Custom Endpoint URL precheck](#).

- **Instance ID value:** The system-generated instance ID that is displayed on the Instances page and in the activity stream for an integration instance has changed from a numeric value to an alphanumeric value in Oracle Integration 3. You can choose to keep the instance ID as numeric when configuring your upgrade settings. See [FlowId Conversion Support](#) and [Instance ID Action precheck](#).
- **Daily email limit:** Oracle Integration 3 can send a limit of 10,000 emails in a rolling 24-hour window. See [Daily Email Limit precheck](#).
- **Custom scopes in IDCS:** Oracle Integration 3 adds a default scope to Oracle Identity Cloud Service (IDCS) when the instance is created; no other custom scopes are supported in IDCS. See [Custom scopes in IDCS precheck](#).
- **Activity stream data:** The activity stream isn't migrated, but you can capture this data in the Oracle Cloud Console. See [Instance Pre-Upgrade Tasks](#).
- **Network rules configuration:** If you've enabled network rules in any Oracle Cloud Infrastructure services, you might need to configure them to include Oracle Integration. See [Instance Pre-Upgrade Tasks](#).
- **Update window:** The update window is now determined by the shape of your instance, rather than tags as it was in Oracle Integration Generation 2. Production instances are updated approximately three weeks after Development instances. Depending on when you upgrade during the release cycle, there can be a version mismatch between your Development instances and Production instances. See [Patching Updates to Your Oracle Integration 3 Instance](#).
- You might also want to look through the following documentation:
  - [Benefits of Upgrading](#)
  - *What's New for Oracle Integration 3*
  - *Common Issues in Known Issues for Oracle Integration 3*
  - [Troubleshoot Upgrade Issues](#)

#### 7. Will I need to perform any post-upgrade tasks for my service instance?

- Make sure you have access to the Oracle Integration 3 instance, which might include updating an IAM policy with the new OCID. See [Ensure Access to the Instance](#).
- Complete your organization's post-upgrade verification tasks. See [Follow Your Organization's Verification Procedures](#).

## Connectivity FAQs

#### 1. If I use the connectivity agent, do I need to recreate any connections?

No. However, you should be aware of several points:

- **Agent Java version and KeyStore:** For Oracle Integration 3, your connectivity agents must use JDK 17 and PKCS 12 KeyStore. See [Agent Java Version precheck](#).
- **Allowlists:** *Before* upgrade, you must update your allowlist settings to configure connectivity from your connectivity agents to your identity provider and the Oracle Integration runtime IP addresses. See [Update Allowlists](#).
- **Agent group identifiers:** Oracle Integration 3 doesn't support spaces in agent group identifiers, they won't be migrated to Oracle Integration 3. See [Unsupported AgentGroup Identifier precheck](#).
- **Conversion to OAuth 2.0:** During the upgrade, your connectivity agents are automatically converted from using basic authentication to using OAuth 2.0 token-based authentication to communicate with Oracle Integration. As long as your agents

are running when upgrade begins, all agents are automatically upgraded to OAuth 2.0, so you don't need to manually recreate any agents yourself. See [Connectivity Agent Pre-Upgrade Tasks](#).

- **Proxy server caching:** Set your proxy server's Cache property for the Oracle Integration URLs to refresh as frequently as possible. See [Set the proxy server's Cache property](#).
- **Additional firewall traffic after upgrade:** After the upgrade, you'll see additional traffic to your firewall because the connectivity agent must get new authentication tokens from your identity provider.

**2. If I convert the JKS KeyStore to the PKCS12 KeyStore for the connectivity agent, does this affect my Oracle Integration Generation 2 connectivity agent?**

No. Converting the JKS KeyStore to the PKCS12 KeyStore does not impact your Oracle Integration Generation 2 connectivity agent, and only takes effect after you have upgraded to Oracle Integration 3. You can convert your keystore manually or let it happen automatically during upgrade (requires agent to use JDK 17).

**3. How else might upgrade affect my connectivity?**

You might also want to look through the following documentation:

- [Benefits of Upgrading](#)
- *What's New for Oracle Integration 3*
- *Known Issues for Oracle Integration 3*
- [Troubleshoot Upgrade Issues](#)

**4. Will I need to perform any post-upgrade tasks for connectivity?**

- Agents that are offline during upgrade or don't meet upgrade requirements won't be upgraded. You'll need to perform [post-upgrade steps](#) to regain connectivity.
- Make sure your connectivity agents were upgraded and connections are working properly. See [Ensure Connectivity](#).

## Integrations FAQs

**1. Can I migrate some integrations in my instance to Oracle Integration 3 and keep some integrations in my existing Oracle Integration Generation 2 instance?**

No. When you upgrade, you must upgrade the entire instance.

**2. Are Oracle Integration Generation 2 and Oracle Integration 3 integrations forward and backward compatible?**

No. As of October 2024, Oracle Integration Generation 2 and Oracle Integration 3 are different enough that integrations aren't forward or backward compatible. See the new features and differences from prior versions in *What's New for Oracle Integration 3*.

**3. How does upgrade affect my activity stream and actively running integrations?**

- **Data retention:** Oracle Integration 3 Standard and Enterprise editions support 32 days of data retention by default. During upgrade only the most recent 32 days of retained data will be migrated.
- **Activity stream data:** The activity stream isn't migrated, but you can capture this data in the Oracle Cloud Console. The activity stream has been greatly enhanced and can be viewed and downloaded from the Instances page, Instance Details page, and Errors page.

- **Runtime activities are paused during upgrade downtime:** Oracle Integration stops accepting incoming integration requests during the brief downtime during upgrade.

See [How Upgrade Affects Runtime Data](#).

#### 4. How else might upgrade affect my integrations?

- **Delayed (asynchronous) response:** The delayed (asynchronous) response pattern was previously supported in the some adapters. See [Delayed \(Asynchronous\) Response precheck](#).
- **Identity certificates:** If you have identity certificates, you'll need to upload new identity certificates after upgrade. See [Ensure Connectivity](#).
- **Basic routing duplicate app name:** In Oracle Integration 3, you can't have multiple basic routing integrations that have the same source and target endpoint names. See [Basic Routing Duplicate App Name precheck](#).
- **Number of active integrations:** An instance can have a maximum of 800 active integrations, as specified in the [Service Limits](#).
- **Multiple read file:** The Read Multiple File operation was deprecated in Oracle Integration Generation 2. See [Multiple Read File precheck](#).
- **Publish/subscribe integrations:** Publish/subscribe (or pub/sub) integrations have been replaced by event-driven orchestrations in Oracle Integration 3. See [Publish/Subscribe Integrations precheck](#).
- **API calls must use OAuth:** When you call developer APIs for Oracle Integration 3, File Server, and Process Automation using a REST connection, you must use OAuth. See [DT API Basic Auth to OAuth action precheck](#).
- You might also want to look through the following documentation:
  - [Benefits of Upgrading](#)
  - *What's New for Oracle Integration 3*
  - *Integration Issues in Known Issues for Oracle Integration 3*
  - [Troubleshoot Upgrade Issues](#)

#### 5. Will I need to perform any post-upgrade tasks for integrations?

- Check your integrations for any failed activations or schedules that failed to start.
- If needed, take action on requests that any clients sent to Oracle Integration during the downtime.
- If you selected to ignore precheck failures, you might need to perform additional post-upgrade tasks. See [Complete Post-Upgrade Tasks for Ignored Precheck Failures](#).

See [Ensure Integrations Work](#).

## Adapters FAQs

#### 1. How might upgrade affect my adapters?

- **Custom adapters:** Custom adapters aren't supported by Oracle Integration 3 yet. See [Custom Adapters precheck](#).
- **Oracle utilities adapter:** Swagger 2.0 is no longer supported in the Oracle Utilities Adapter. See [Oracle Utilities Adapter precheck](#).
- **Unsupported adapters:** Some adapters are no longer supported in Oracle Integration 3. See [Unsupported Adapters precheck](#).

- **Unsupported REST types:** Some connection types are deprecated and not supported in a REST Adapter connection. See [Unsupported REST Types precheck](#).
  - **Decommissioned Microsoft adapters:** Microsoft decommissioned the Microsoft Outlook REST APIs in November 2022. If you use any of the following adapters, you must use the Microsoft Graph REST APIs instead. See [Adapters Pre-Upgrade Tasks](#).
  - You might also want to look through the following documentation:
    - [Benefits of Upgrading](#)
    - *What's New for Oracle Integration 3*
    - *Integration Issues in Known Issues for Oracle Integration 3*
    - [Troubleshoot Upgrade Issues](#)
2. **Will I need to perform any post-upgrade tasks for adapters?**
- If you selected to ignore precheck failures, you might need to perform post-upgrade tasks. See [Complete Post-Upgrade Tasks for Ignored Precheck Failures](#).

## B2B FAQs

1. **How might upgrade affect my B2B features?**
- **Data retention:** Oracle Integration 3 Standard and Enterprise editions support only 32 days of data retention. During upgrade only the most recent 32 days of retained data will be migrated.
  - **B2B passwords:** Your identity certificate file (JKS) requires two sets of passwords: Key Passwords and Keystore Password. All the passwords must be identical. See [B2B for Oracle Integration Pre-Upgrade Tasks](#).
  - You might also want to look through the following documentation:
    - [Benefits of Upgrading](#)
    - *What's New for Oracle Integration 3*
    - *Common Issues in Known Issues for Oracle Integration 3*
    - [Troubleshoot Upgrade Issues](#)
2. **Will I need to perform any post-upgrade tasks for B2B?**
- No.

## File Server FAQs

1. **How does upgrade affect File Server?**
- A lot will stay the same after upgrade. During the upgrade, Oracle migrates your File Server files, folder structure, and allowlists (permissions) from Oracle Integration Generation 2 to Oracle Integration 3. After the upgrade, access the Developer API for File Server the same way you did in Oracle Integration Generation 2.
- However, there are some changes you should be aware of:
- **IP and port values:** During upgrade, Oracle assigns new IP and port values for the File Server SFTP server. See [How Upgrade Affects File Server](#). After upgrade, you'll need to complete some post-upgrade tasks described below.
  - **Access to File Server:** In Oracle Integration 3, you can access File Server using the File Server URL and credentials.

- **Allowlists:** In Oracle Integration Generation 2 you had to submit a service request (SR) to request changes to your File Server allowlists. In Oracle Integration 3, you can update the allowlist yourself. For information on managing your allowlists for File Server after migration, see [Restrict Access to an Instance Using an Allowlist](#).
  - **Legacy algorithms:** There are several legacy exchange algorithms that FTP no longer supports. During upgrade, FTP connections will be updated with the current algorithms. See [How Upgrade Affects File Server](#).
  - **API calls must use OAuth:** If you use Developer API for File Server calls, they must use OAuth. See [Integrations Pre-Upgrade Tasks](#).
  - You might also want to look through the following documentation:
    - [Benefits of Upgrading](#)
    - *What's New for Oracle Integration 3*
    - *File Server Issues in Known Issues for Oracle Integration 3*
    - [Troubleshoot Upgrade Issues](#)
2. **Will I need to perform any post-upgrade tasks for File Server?**
- Update your integrations and SFTP clients to use the new IP and port values.
  - Add the new IP address to your internal firewall allowlist.
- See [Ensure Connectivity](#)

## Process FAQs

1. **What are the benefits of upgrading Process?**
- See:
- [Benefits of Upgrading Process](#)
  - *What's New for Oracle Cloud Infrastructure Process Automation*
2. **How does upgrade affect Process features?**
- Process functionality has undergone some important changes that you should be aware of. See [How Upgrade Affects Process Features](#).
  - After the upgrade, Process will be accessible via a new URL. See [Complete Post-Upgrade Tasks for Process Automation](#).
  - The upgrade affects any clients calling Process via a REST API (for example, integrations or Oracle Visual Builder apps). See [Complete Post-Upgrade Tasks for Process Automation](#).
  - Process instance data is not migrated to Oracle Integration 3. This means you won't see historical transactions created or completed in Oracle Integration Generation 2 after upgrade.
  - You might also want to look through Process Automation Issues in *Known Issues for Oracle Integration 3*.
3. **What upgrade paths are available for me if I use process?**
- Depending on how you're using Process in Oracle Integration Generation 2, you'll use a different option to upgrade or migrate. See [Process Upgrade Options](#).
- Here's a brief description of the options:
- If you don't have active process instances or you can complete all process instances before upgrade, you use the automated in-place upgrade performed by Oracle.

- If you have active process instances in production and need to continue to serve requests without disruption, you migrate your process applications to a new OCI Process Automation instance. That OCI Process Automation instance serves new process requests, while your Oracle Integration Generation 2 instance continues to serve existing requests until those transactions complete. Then, you upgrade your Oracle Integration Generation 2 instance to Oracle Integration 3 and attach the OCI Process Automation instance to Oracle Integration 3.
4. **Will I need to perform any post-upgrade tasks for Process?**

Your post-upgrade steps are dependent on which upgrade option applies to your implementation. See [Process Upgrade Options](#).
  5. **Why does the manual migration process recommend that the OCI Process Automation instance I create should be a standalone instance?**

A standalone OCI Process Automation instance is recommended because:

    - It ensures that there's no impact to existing process integrations or Oracle Visual Builder applications.

If you instead provisioned a new Oracle Integration 3 instance, you would also need to migrate your existing process integrations and Oracle Visual Builder applications to the new environment and update your clients to the new Oracle Integration 3 URL. Additionally, you wouldn't be able to take advantage of the Oracle Integration 3 upgrade to automatically upgrade the rest of your environment.
    - It limits costs during migration.
  6. **I'm following the manual migration process and need help. Who can I turn to?**

You can contact your Oracle Account Representative and discuss available options if you need guidance throughout the migration process. If you've encountered a specific error or issue, create a service request (SR) on [My Oracle Support](#).
  7. **Will Oracle Integration Generation 2 process data be retained as part of the upgrade or migration process?**

No. To save or export this data prior to upgrade, complete the steps in [Archive and Purge Data](#).
  8. **If I wait, will there eventually be an automatic upgrade for instances with actively used process applications?**

No. You should perform the manual migration to Oracle Integration 3.

## Visual Builder FAQs

1. **How does upgrade affect Visual Builder?**

See the following sections:

  - [Oracle Visual Builder Prechecks](#)
  - [Visual Builder Pre-Upgrade Tasks](#)
  - [Complete Post-Upgrade Tasks for Oracle Visual Builder](#)
2. **Will I need to perform any post-upgrade tasks for Visual Builder?**

See Tasks to Complete After the Upgrade in *Administering Oracle Visual Builder in Oracle Integration 3*.

## Benefits of Upgrading

Oracle Integration 3 is the next generation of the Oracle Integration platform. The upgrade to Oracle Integration 3 delivers a modern and intuitive user interface and improved performance. Additionally, the latest features will be delivered only to Oracle Integration 3.

Here's a look at *some* of the new features in Oracle Integration 3, but more new features are added in every release. For details on *all* the new features, see *What's New for Oracle Integration*:

| Feature                                                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Integrate business and health data                                | Use the Healthcare edition to modernize applications, business processes, APIs, and data using industry standards such as HL7 and the latest advances in healthcare interoperability, such as Fast Healthcare Interoperability Resources (FHIR). See <i>Introduction to Oracle Integration for Healthcare</i> in <i>Using Oracle Integration for Healthcare in Oracle Integration 3</i> .                                                                                                                                                                                                                                                                   |
| Create UI-based automation                                        | Complement your integrations, which provide API-based automation, with robots, with provide UI-based automation. This robotic process automation (RPA) technology is available directly within Oracle Integration. See <i>Learn About Robots and Build a Robot</i> in <i>Using Robots in Oracle Integration 3</i> .                                                                                                                                                                                                                                                                                                                                         |
| Connect to private resources                                      | Secure traffic to private resources that are in your virtual cloud network (VCN) using a private endpoint. With a private endpoint, all traffic goes through a private channel that is set up within Oracle Cloud Infrastructure and never goes over the public internet. See <i>Connect to Private Resources</i> , and <i>Adapters that Support Connecting to Private Endpoints</i> .                                                                                                                                                                                                                                                                      |
| Deployment of new connectivity agents is easier and more reliable | The connectivity agent now requires zero configuration, thanks to the replacement of user credentials with a system-generated OAuth 2.0 token-based authentication. See <i>Create an Agent Group</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Increased payload size for adapters                               | The supported sizes for some payloads have increased. <ul style="list-style-type: none"> <li>You can process 100 MB structured payloads and 50 MB payloads with the connectivity agent with these adapters: <ul style="list-style-type: none"> <li>REST and SOAP SaaS-based adapters</li> <li>Oracle Autonomous Transaction Processing Adapter</li> <li>Oracle Autonomous Data Warehouse Adapter</li> <li>Oracle Database Cloud Service Adapter</li> <li>FTP Adapter</li> </ul> </li> <li>The stage file action can process 100 MB structured payloads.</li> </ul> For more details, see <a href="#">Service Limits</a> .                                   |
| Inbound polling support without the connectivity agent            | You can poll the Oracle Autonomous Data Warehouse database, Oracle Autonomous Transaction Processing database, and Oracle Database Cloud Service database without using the connectivity agent. See: <ul style="list-style-type: none"> <li>Oracle Autonomous Data Warehouse Adapter: <a href="#">Perform Inbound Database Polling Without the Connectivity Agent</a></li> <li>Oracle Autonomous Transaction Processing Adapter: <a href="#">Perform Inbound Database Polling Without the Connectivity Agent</a></li> <li>Oracle Database Cloud Service Adapter: <a href="#">Perform Inbound Database Polling Without the Connectivity Agent</a></li> </ul> |
| Use projects to manage and monitor integration assets             | Use projects to develop, deploy, and monitor related integrations and their components from a single workspace. The number of projects you create and the integrations you include in each project is up to you. You can use role-based access control (RBAC) to define which users and groups can edit, view, and monitor a project. See <i>About Integration Projects and Design, Manage, and Monitor Integrations in Projects</i> .                                                                                                                                                                                                                      |

| Feature                                                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Invoke Oracle Cloud Infrastructure functions directly from an integration | Directly invoke Oracle Cloud Infrastructure functions from an integration in the integration canvas.<br>See <a href="#">Invoke Oracle Cloud Infrastructure Functions from integrations with the OCI Function Action</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Publish and subscribe to events in integrations                           | Create events in Oracle Integration and then publish the events in integrations. You can then create an integration that subscribes to the events.<br>See <a href="#">Create Integrations to Publish and Subscribe to Events</a> and <a href="#">Publish Events in an Integration with a Publish Event Action</a> .                                                                                                                                                                                                                                                                                                                                                                                     |
| Use parallel actions in integrations to improve performance               | You can use a parallel action in integrations to process tasks in parallel to improve integration performance and response times. With a parallel action, the path of an integration is split into multiple branches. Each branch is processed in parallel and messages are sent to each service endpoint in parallel. When all tasks are completed, all branches are synchronized at their termination points in the parallel action, and the main path of the integration is resumed.<br>See <a href="#">Process Tasks in Parallel with a Parallel Action</a> .                                                                                                                                       |
| Self-diagnose event delivery for Oracle Fusion Applications               | Self-diagnose the delivery of business events between Oracle Fusion Applications and Oracle Integration, such as determining if delivery issues are occurring in Oracle Fusion Applications or Oracle Integration. You can also perform some management tasks, such as retrying the delivery of business events that have failed.<br>See <a href="#">Diagnose and Manage Event-Based Oracle Fusion Applications Integrations</a> .                                                                                                                                                                                                                                                                      |
| New adapters                                                              | <ul style="list-style-type: none"> <li>• <a href="#">PostgreSQL</a></li> <li>• <a href="#">Snowflake</a></li> <li>• <a href="#">Netezza</a></li> <li>• <a href="#">OData</a></li> <li>• <a href="#">Oracle Primavera Cloud</a></li> <li>• <a href="#">Primavera Unifier</a></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| B2B for Oracle Integration enhancements                                   | <ul style="list-style-type: none"> <li>• Support for Open Applications Group Integration Specification (OAGIS) documents. See <a href="#">Open Applications Group (OAGIS) Support</a>.</li> <li>• Support for Custom XML schema and documents. See <a href="#">Custom XML Support</a>.</li> <li>• Support for message resubmission. See <a href="#">Track B2B Messages</a>.</li> <li>• New B2B metrics dashboard. See <a href="#">Monitor the Overall Health of B2B Transactions</a>.</li> <li>• Support for RosettaNet. See <a href="#">About RosettaNet and RosettaNet Adapter Capabilities</a>.</li> </ul>                                                                                           |
| Build your own adapters with the Rapid Adapter Builder                    | The Rapid Adapter Builder transforms the adapter experience in Oracle Integration by allowing you to build an adapter for any application that exposes REST APIs. Oracle provides a Visual Studio Code extension for the Rapid Adapter Builder. Use the extension to develop, validate, and publish an adapter to an Oracle Integration instance.<br>See <a href="#">Learn About the Rapid Adapter Builder in Oracle Integration</a> .                                                                                                                                                                                                                                                                  |
| Test an integration from the canvas                                       | You can test REST Adapter trigger connection-based integrations and scheduled integrations with the  button in the integration canvas. This button automatically activates your integration with the tracing level set to debug and lets you specify request details from inside the integration canvas. This feature simplifies integration testing and eliminates the need to separately exit the canvas, activate the integration and set the tracing level, and access the Configure and run page to specify your request details.<br>See <a href="#">Test Integrations from Inside the Integration Canvas</a> . |
| Private endpoint - OAuth 2.0 support                                      | For private endpoints, an OAuth provider is now supported if it is privately hosted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Feature                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Associate an instance with a secondary domain | If your tenancy uses identity domains, you can now associate an Oracle Integration 3 instance with a secondary identity domain—an identity domain other than the one you're signed into. This allows you to manage all your instances in your tenancy from one domain, rather than having to sign into each domain to manage the associated instances.<br>See <i>Creating an Oracle Integration Instance</i> . |
| Mapper enhancements                           | <ul style="list-style-type: none"> <li>Support for the for-each-group construct in the mapper. See <i>Iterate Across Groups with a for-each-group Constructor</i>.</li> <li>Copy-of support in design mode in the mapper. See <i>Perform a Deep Copy of Elements with a copy-of Constructor</i>.</li> </ul>                                                                                                    |

## Benefits of Upgrading Process

| Feature                                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Intelligent Document Processing                      | OCI Process Automation offers Intelligent Document Processing (IDP) capabilities via a new Document Understanding control that can be found in OCI Process Automation forms. This control exposes pretrained Key-Value extraction models provided by <a href="#">OCI Document Understanding</a> (ODU) to perform text extraction on documents such as passports, driver's licenses, receipts, and invoices. By leveraging these pretrained models, you can instantly use document extraction capabilities without needing prior knowledge of Oracle's AI service or training your own custom models.<br>See <i>Implement Intelligent Document Processing in Forms</i> in <i>Using Oracle Cloud Infrastructure Process Automation</i> .                                                                                                                     |
| Process Analytics                                    | OCI Process Automation introduces analytical capabilities for process owners. Process Analytics brings rich visualizations that enables you to easily monitor, understand, and optimize a particular process by allowing you to: <ul style="list-style-type: none"> <li>Monitor the current state of process executions.</li> <li>Understand the flow or paths that process instances take.</li> <li>Understand the average time taken for activities to complete.</li> <li>Understand where errors occur and why.</li> </ul> The insight gathered from the above data can be used to optimize your processes by removing bottlenecks or implementing modeling changes that drive efficiencies.<br>See <i>View Analytics for Activities</i> <a href="#">View Analytics for Activities</a> in <i>Using Oracle Cloud Infrastructure Process Automation</i> . |
| Business search                                      | OCI Process Automation introduces a new search experience that enables you to search and find transactions based on business data using queries that are meaningful to you—the business user. For example, you can now search for records by a supplier, find patients by name or Medicare ID, locate requisitions where the amount was greater than a certain value, or even find a car part using its manufacturer.<br>See the following topics in <i>Using Oracle Cloud Infrastructure Process Automation</i> : <ul style="list-style-type: none"> <li>Search for a Task</li> <li>Configure Searchable Fields Based on Business Data</li> <li>Apply Advanced Search Filters</li> </ul>                                                                                                                                                                  |
| Native support for Oracle Integration 3 integrations | Process designers can natively discover and use integrations from Oracle Integration 3. This capability supports standalone integrations as well as those that reside within a project. Using the capability, developers can easily find and invoke integrations without the need for configuring specific endpoints or specifying authentication settings.<br>See <i>OIC Project Integrations</i> in <i>Using Oracle Cloud Infrastructure Process Automation</i> .                                                                                                                                                                                                                                                                                                                                                                                        |

| Feature                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ad-hoc tasks                        | <p>You can now create and assign human tasks to users on-the-fly (programmatically). Oracle has taken our rich human task capabilities and exposed them via an easy to consume RESTful API that can be called outside the constructs of a process flow. This means you can now bring task management capabilities to integrations and front-end applications with ease. This feature allows you to introduce Human-in-the-Loop processing whenever intervention is needed to manage exceptions or serve approval needs.</p> <p>See <a href="#">REST API endpoints for Adhoc Tasks</a> in <i>Developer API for Oracle Cloud Infrastructure Process Automation</i>.</p> |
| Out-of-office for administrators    | <p>The out-of-office feature now lets you define periods of leave during which any tasks assigned to you are automatically reassigned to another user or role. In addition to this previously available functionality, OCI Process Automation allows administrators to set out-of-office periods on behalf of others. This is important because administrators can prevent lengthy delays caused by users forgetting to set out-of-office rules before going on leave.</p> <p>See <i>Manage Out of Office Records</i> in <i>Using Oracle Cloud Infrastructure Process Automation</i>.</p>                                                                             |
| Editable CSS                        | <p>External stylesheets enable you to customize the appearance of your process forms. OCI Process Automation enables you to make changes to the CSS file directly in OCI Process Automation until you get it just right. This editable CSS feature is important because you can remain within OCI Process Automation as you follow the iterative process of making your forms look great.</p> <p>See <i>Work with CSS</i> in <i>Using Oracle Cloud Infrastructure Process Automation</i>.</p>                                                                                                                                                                         |
| Availability of OpenAPIs            | <p>OCI Process Automation makes an OpenAPI Specification (OAS 3.0) available upon activation of processes applications or decision services. These specifications significantly reduce the effort required to understand the endpoint, payload structure, and authentication required to call an OCI Process Automation service. The specifications can be used to test processes or decisions via REST clients or to integrate them with other tools.</p>                                                                                                                                                                                                            |
| Schedule processes                  | <p>You can now start processes with a timer based start. Scheduling of repetitive process flows enables you to handle use cases that need repetitive execution. You can use this functionality to send email reminders, assign reoccurring tasks to users, or send weekly reports to management.</p> <p>See <i>Start Timer</i> in <i>Using Oracle Cloud Infrastructure Process Automation</i>.</p>                                                                                                                                                                                                                                                                    |
| OAuth 2.0 Client Credential support | <p>OCI Process Automation supports bearer tokens generated via the OAuth Client Credential flow. This flow is best suited for Machine-to-Machine (M2M) flows where you need to authenticate and authorize an application instead of a user. In practical terms, this means that you now have a dedicated method for handling requests from applications that don't usually carry user context (for example, Oracle Integration).</p> <p>See <i>Users, Groups and Permissions</i> in <i>Using Oracle Cloud Infrastructure Process Automation</i>.</p>                                                                                                                  |
| File Manager control in forms       | <p>OCI Process Automation has introduced a new control in forms which enables you to upload files to an external document store as well as list, delete, and download previously uploaded files. This control provides a powerful way to manage documents from a process form.</p> <p>See <i>Configure File Manager Controls</i> in <i>Using Oracle Cloud Infrastructure Process Automation</i>.</p>                                                                                                                                                                                                                                                                  |

## How Upgrade Affects Runtime Data

Understand how upgrade affects your activity stream and actively running integrations. For example, all runtime activities are paused during the downtime.

## Integration Data Retention Time

Oracle Integration 3 Standard and Enterprise editions support 32 days of data retention by default. During upgrade only the most recent 32 days of retained data will be migrated. You can increase the data retention period for Standard and Enterprise editions if you want. See [Edit the Data Retention Period](#).

Oracle Integration 3 is also available in a Healthcare edition, which supports 184 days of data retention.

## Historical Data in Activity Stream

The activity stream in Oracle Integration Generation 2 is not moved to Oracle Integration 3. Therefore, after the upgrade completes, historical data for your integrations isn't available in Oracle Integration 3.

The activity stream feature is available in Oracle Integration 3. Therefore, historical information is available from the upgrade date onward.

If you capture the activity stream in Oracle Cloud Infrastructure, this information remains available after the upgrade. If you don't capture this data yet, you can start at any time. See [Capture the Activity Stream in Oracle Cloud Console](#).

## Actively Running Synchronous Integrations

When the downtime begins as part of the upgrade, Oracle Integration stops accepting incoming requests for actively running synchronous integrations. Oracle Integration also finishes processing all previously received requests in a few minutes.

During the downtime, any client that sends a request to Oracle Integration gets a failure notice.

### Note

During the downtime, if an integration invokes a co-located integration using a local invoke call, or if an integration is a hybrid integration that uses the connectivity agent, the integration doesn't run successfully.

After the upgrade finishes, Oracle Integration accepts incoming requests again.

## Actively Running Asynchronous Integrations

When the downtime begins as part of the upgrade, Oracle Integration stops accepting incoming requests for actively running asynchronous integrations. Oracle Integration also finishes processing the previously received requests. In most cases, Oracle Integration processes the requests in a few minutes.

After the upgrade finishes, Oracle Integration accepts incoming requests again.

Before upgrade, you must decide what to do with asynchronous messages from the client side for the duration of the downtime. See [Decide what to do with asynchronous messages](#).

## Actively Running Scheduled Integrations

When the downtime begins as part of the upgrade, Oracle Integration stops accepting incoming requests for scheduled integrations and finishes processing all previously received requests. In most cases, Oracle Integration processes the requests in a few minutes.

Any requests that Oracle Integration doesn't process in a few minutes are discarded, but no data is lost. Here's why: Oracle migrates the global schedule parameters for the integration and starts the schedule in Oracle Integration 3. After the upgrade is complete and Oracle Integration 3 begins processing requests, Oracle Integration 3 uses the parameters to start processing where Oracle Integration Generation 2 stopped processing.

The post-upgrade cut over is seamless, but depending on when your upgrade occurs, you might experience some business impact. For instance, if an integration sends emails every 30 minutes starting at 9 AM, and your upgrade is from 8:30 AM to 10:30 AM, the email that usually arrives at 9 AM will probably be delayed.

## Failed Integration Instances

Oracle does not migrate failed integration instances to Oracle Integration 3.

Additionally, by default, a failed integration instance prevents an upgrade from succeeding. However, an override is available. To upgrade even when you have one or more failed integration instances, you must select the override setting when you schedule the upgrade. If you don't select this setting and have one or more failed integration instances, the upgrade fails.

To learn about your options for failed integration instance, see [Determine what to do with failed instances](#).

To learn about the setting that lets you upgrade with a failed integration instance, see [Configure Upgrade Settings or Reschedule Upgrade](#).

## Integration Insight

Insight isn't supported in Oracle Integration 3. Your Insight models and consoles won't be migrated when you upgrade to Oracle Integration 3. As an alternative, use [Oracle Cloud Infrastructure Log Analytics](#) and Process Automation Analytics.

## How Upgrade Affects File Server

Upgrading from Oracle Integration Generation 2 to Oracle Integration 3 affects File Server in the following ways.

## New IP and Port Values

After the upgrade, Oracle assigns new IP and port values for the File Server SFTP server. The Oracle Integration Generation 2 IP and port values remain valid for SFTP runtime traffic for four months after the upgrade.

Although your integrations and SFTP clients can continue accessing File Server using the Oracle Integration Generation 2 IP and port values for the four-month window, Oracle recommends that you update IP and port value references within one week after upgrade. Otherwise you risk forgetting to update the values and then experiencing issues when Oracle retires the IP and port values.

You'll need to make the following updates as described in [Complete Post-Upgrade Tasks](#).

- Update your integrations and SFTP clients to use the new IP and port values.
- Add the new IP address to your internal firewall allowlist.

## Access File Server with URL and Credentials

In Oracle Integration Generation 2 you accessed the File Server folder using the IP port and credentials. After the upgrade, in Oracle Integration 3, you can access it using the File Server URL and credentials.

## No Change to Developer API for File Server

After the upgrade, access the Developer API for File Server the same way you did in Oracle Integration Generation 2.

## File Server Migration

Oracle migrates your File Server files, folder structure, and allowlists (permissions) from Oracle Integration Generation 2 to Oracle Integration 3 for you.

### Note

In Oracle Integration Generation 2 you had to submit a service request (SR) to request changes to your File Server allowlists. In Oracle Integration 3, you can update the allowlist yourself. For information on managing your allowlists for File Server after migration, see [Restrict Access to an Instance Using an Allowlist](#).

## Legacy FTP Exchange Algorithms Updated During Upgrade

There are several legacy exchange algorithms that FTP no longer supports. During upgrade, FTP connections will be updated with the current algorithms. For example:

- diffie-hellman-group1-sha1 will be replaced with diffie-hellman-group14-sha1
- diffie-hellman-group-exchange-sha1 will be replaced with diffie-hellman-group-exchange-sha256"

## How Upgrade Affects Process Features

The following Oracle Integration Generation 2 Process features aren't supported in Process Automation in Oracle Integration 3. This topic describes possible workarounds and alternate solutions.

The following table lists Oracle Integration Generation 2 features that are affected by the upgrade, including any workaround or alternate solutions and the remark you see in the migration report that you get after upgrade.

| Functiona<br>l<br>area                     | Oracle Integration<br>Generation 2<br>feature                                 | Description                                                                                                | Workaround or alternate solution                                                                                                                                                                                                                                          | Rem<br>ark<br>in<br>migr<br>ation<br>repor<br>t | Dep<br>reca<br>tion<br>stat<br>us |
|--------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------|
| Analytics                                  | Business indicators                                                           | Capture and display business metrics specific to your process                                              | Leverage reporting or visualization tools such as Oracle Analytics or Oracle Visual Builder. Process Automation processes can push data to these systems via REST or Oracle Integration connectors.                                                                       |                                                 |                                   |
| Analytics                                  | Dashboards                                                                    | Dashboards are used to monitor the overall state of your processes and view specific process metrics       | Leverage Oracle Integration 3's full-fledged Process Analytics, which provides similar reporting and process monitoring functionality.                                                                                                                                    |                                                 | Depr<br>ecat<br>ed                |
| Composer                                   | Composer testing framework                                                    | Test process via composer                                                                                  | Test processes in a development/test environment after deployment.                                                                                                                                                                                                        |                                                 | Depr<br>ecat<br>ed                |
| Permissions (for applications in Composer) | Spaces                                                                        | Control access to applications via spaces, which allow certain users to access to a subset of applications | Use Oracle Integration projects in Oracle Integration Generation 2 to enforce access control rules.                                                                                                                                                                       |                                                 | Depr<br>ecat<br>ed                |
| Mobile app                                 | Mobile app                                                                    | Oracle Process Mobile Application                                                                          | Use your browser to interact with Process Automation via your mobile device or build a progressive web application for mobile devices with Oracle Visual Builder.<br>A depreciation notice was published in <a href="#">What's New for Oracle Integration 2</a> .         |                                                 | Depr<br>ecat<br>ed                |
| Workspace                                  | Oracle Content Management (OCM) integration: OCM instance setup configuration | Test and persist OCM connection configuration                                                              | Evaluate whether process-based attachments will serve your needs. If you need a content management solution, evaluate the ability to integrate it via Oracle Integration.<br>A depreciation notice was published in <a href="#">What's New for Oracle Integration 2</a> . |                                                 | Depr<br>ecat<br>ed                |
| Workspace                                  | Task views                                                                    | Create views and grant them to other users                                                                 |                                                                                                                                                                                                                                                                           |                                                 | Depr<br>ecat<br>ed                |

| Functional area      | Oracle Integration Generation 2 feature | Description                                                                                   | Workaround or alternate solution                                                                                                                                                                                                                                                                                                                            | Remark in migration report                                                                              | Deprecation status |
|----------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------|
| Structured processes | Bot activity                            | Call an RPA integration created using one of the available RPA adapters in Oracle Integration | During upgrade, bot activities will be replaced with abstract activities. Re-establish connectivity to RPA bots as needed with REST or Oracle Integration connectors.<br>A depreciation notice was published in <a href="#">What's New for Oracle Integration 2</a> .                                                                                       | Could n't migrate Activity Bot activity : Type Bot isn't supported. Replaced with an abstract activity. | Deprecated         |
| Structured processes | OCM integration: document start event   | Trigger a process instance when document details are received                                 | During upgrade, document start events will be replaced with message start events. Evaluate whether process-based attachments will serve your needs. If you need a content management solution, evaluate the ability to integrate it via Oracle Integration.<br>A depreciation notice was published in <a href="#">What's New for Oracle Integration 2</a> . |                                                                                                         | Deprecated         |
| Structured processes | OCM integration: folder start event     | Trigger a process instance when folder details are received                                   | During upgrade, folder start events will be replaced with start message events. Evaluate whether process-based attachments will serve your needs. If you need a content management solution, evaluate the ability to integrate it via Oracle Integration.<br>A depreciation notice was published in <a href="#">What's New for Oracle Integration 2</a> .   |                                                                                                         | Deprecated         |

| Functional area      | Oracle Integration Generation 2 feature | Description                                                                                     | Workaround or alternate solution                                                                                                                                                                                                                                                  | Remark in migration report                                                                                        | Deprecation status |
|----------------------|-----------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------|
| Structured processes | Dynamic process (DP) call activity      | Incorporate a dynamic process within your structured process by using a Dynamic Process element | During upgrade, dynamic process activities will be replaced with abstract activities. If you need to call a dynamic process from a structured process you can use a REST connector that points to an <a href="#">instances REST endpoint</a> .                                    | Could n't migrate Activity Calling DP : Type Dynamic Process isn't supported. Replaced with an abstract activity. | Deprecated         |
| Structured processes | Multiple start events                   | Multiple starts support for structured process                                                  | Trigger a form start event via the <a href="#">instances REST endpoint</a> , providing flexibility in starting a process from a form or via an API.                                                                                                                               |                                                                                                                   |                    |
| Structured processes | Insight activity                        | Browse Insight models and send data to them                                                     | During upgrade, Insight activities will be replaced with abstract activities. Leverage reporting or visualization tools such as Oracle Analytics or Oracle Visual Builder. Process Automation processes can push data to these systems via REST or Oracle Integration connectors. | Could n't migrate Activity Insight : Type Insight isn't supported. Replaced with an abstract activity.            | Deprecated         |

| Functional area      | Oracle Integration Generation 2 feature | Description                                                                                                                                                                                             | Workaround or alternate solution                                                                                                                                                                                                                                                                                                            | Remark in migration report                                                                                         | Deprecation status |
|----------------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------|
| Structured processes | Micro processes                         | Divide a large, complex business process into multiple reusable blocks called micro processes, created within separate applications; use an activity to link your micro process in structured processes | During upgrade, micro processes will be replaced with abstract activities. Replace the abstract activities with a REST connector to call a Process with certain limitations (for example, no auto-update of any changes in definition and message end).                                                                                     | Could n't migrate Activity Micro process : Type Micro Process isn't supported. Replaced with an abstract activity. | Deprecated         |
| Structured processes | Business parameters                     | Cross-process variables (only for structured processes) with values that can be modified without redeploying the application                                                                            | You can replace business parameters with data objects, but the data objects will behave like regular variables without any way to update values after activation. Alternatively, you can implement a Decision or an Integration serving business parameter values that can be shared across process applications and updated independently. |                                                                                                                    | Deprecated         |
| Structured processes | Save process start form data            | Save the entered data in start form                                                                                                                                                                     | If you need to persist data prior to initiating a process, use Oracle Visual Builder-based forms.                                                                                                                                                                                                                                           |                                                                                                                    | Deprecated         |

| Functional area      | Oracle Integration Generation 2 feature | Description                                                                           | Workaround or alternate solution                                                                                                                                                                                                                                                                                                                             | Remark in migration report                                                                                                                        | Deprecation status |
|----------------------|-----------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Structured processes | Message end event                       | Message end events are used to send messages when the process reaches an end event.   | During upgrade, message end events will be replaced with none end events. If you weren't using the message emitted by the error end event, you don't need to do anything; the replacement during upgrade will suit your purpose. If you need to notify another process or an external service, use a send task or a service task right before the end event. | Could n't migrate End Event XXXX X: Type message isn't supported. Replaced with end none event.                                                   | Deprecated         |
| Structured processes | Message throw                           | A message throw event is used to send data to another process or an external service. | Use the Send activity instead to initiate another process asynchronously. Use the Integration or Service Activity to communicate with an external service.                                                                                                                                                                                                   | Throw event XXX converted to a send task. Implementation is not supported and is now empty (if the original implementation wasn't a Process call) | Deprecated         |

| Functional area      | Oracle Integration Generation 2 feature | Description                                                                             | Workaround or alternate solution                                                           | Remark in migration report                                                                                                                                    | Deprecation status |
|----------------------|-----------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Structured processes | Message catch                           | A message catch event is used to receive data from another process or external service. | Use the Receive activity instead to receive data from another process or external service. | Catch event XXX converted to a receive task. Implementation is not supported and is now empty (if the original implementation wasn't a Define Interface call) | Deprecated         |

| Functional area      | Oracle Integration Generation 2 feature                     | Description                                                                                                                     | Workaround or alternate solution                                                                                                                                                                                                                                                                                         | Remark in migration report                                                                                                       | Deprecation status |
|----------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Structured processes | Event-based gateway                                         | Event gateways allow you to make a decision based on events. The process will wait at the gateway until one event is triggered. | During upgrade, an event-based gateway will be replaced with an exclusive gateway. Use a timer boundary over a Receive activity to simulate situations where you need to wait for a message to arrive or a timer to expire. If the message is not received within a certain amount of time the timer boundary will fire. | Could n't migrate Gate way Event base d gateway : Type Event base d gateway isn't supported. Replaced with an exclusive gateway. | Deprecated         |
| Structured processes | Process-level variables                                     | Predefined variables exposed by Process but not already supported, such as componentName, dueDate, reviewer                     | Remove references to invalid process variables. Some information may be available from our APIs. You could call the APIs from within the process using a connector in a service task to retrieve the values and assign them to process data objects.                                                                     |                                                                                                                                  |                    |
| Structured processes | Error event sub-process error codes                         | Default errors produced by runtime that can be selectable as errors in a standard error catch                                   | Errors won't be mapped/migrated during upgrade; they'll be left blank. You'll need to choose new errors. Oracle Integration 3 includes a new subset of exceptions provided by runtime.                                                                                                                                   |                                                                                                                                  |                    |
| Dynamic processes    | Dynamic process roles scoped to various resources within DP | Specific roles to stages, activities in DP                                                                                      | After upgrade, users won't have permissions for those dynamic process roles. Use a combination of global roles and task assignment rules to achieve a similar outcome.                                                                                                                                                   | Migrated as global roles                                                                                                         | Deprecated         |

| Functiona<br>l<br>area       | Oracle Integration<br>Generation 2<br>feature | Description                                                                                                                                            | Workaround or alternate solution                                                                                                                                                                                                         | Rem<br>ark<br>in<br>migr<br>ation<br>repor<br>t                                                       | Dep<br>reca<br>tion<br>stat<br>us |
|------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------|
| Dyna<br>mic<br>proces<br>ses | REST sentries                                 | Drive conditional triggers with REST calls                                                                                                             | Use a combination of data sentries, event sentries, and REST calls to achieve a similar outcome.                                                                                                                                         | Could<br>n't<br>migr<br>ate<br>Data<br>condit<br>ion in<br>Stage<br>Globa<br>l isn't<br>supp<br>orted | Depr<br>ecat<br>ed                |
| Dyna<br>mic<br>proces<br>ses | DMN sentries                                  | Drive conditional triggers with DMN calls                                                                                                              | Use a combination of data sentries, event sentries, and DMN calls to achieve a similar outcome.                                                                                                                                          | Could<br>n't<br>migr<br>ate<br>Data<br>condit<br>ion in<br>Stage<br>Globa<br>l isn't<br>supp<br>orted | Depr<br>ecat<br>ed                |
| APIs                         | SOAP/WSDL interface for Process               | SOAP and WSDL APIs exposed by Processes                                                                                                                | Update your clients to invoke Process via <a href="#">REST APIs</a> .                                                                                                                                                                    |                                                                                                       | Depr<br>ecat<br>ed                |
| APIs                         | Basic authentication                          | Provide a username and password when making a request to an API endpoint                                                                               | The Developer API for Process Automation is protected with OAuth token-based authentication. See <a href="#">Security, Authentication and Authorization</a> in <i>Developer API for Oracle Cloud Infrastructure Process Automation</i> . |                                                                                                       | Depr<br>ecat<br>ed                |
| APIs                         | REST endpoints                                | Perform a large number of operations such as creating new process instances, tasks fetching transaction information, or managing your user preferences | Equivalent APIs are available in Process Automation. Update your clients to reference the updated API endpoints and payload definitions. See <a href="#">Developer API for Oracle Cloud Infrastructure Process Automation</a> .          |                                                                                                       |                                   |

| Functional area | Oracle Integration Generation 2 feature         | Description                                                                                                                                                  | Workaround or alternate solution                                                                                              | Remark in migration report                                                       | Deprecation status |
|-----------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------|
| Vacation rules  | Delegation: delegation action in vacation rules | Automatically delegate tasks while the given user is on vacation                                                                                             | Configure out of office actions using re-assignment mechanics.                                                                | Note: the equivalent functionality in OPA is called Out-Of-Office (OOO).         |                    |
| Human tasks     | Escalation policy: escalation to manager        | Escalate task to assignee's manager or role's escalation path                                                                                                |                                                                                                                               |                                                                                  |                    |
| Human tasks     | Customize human task screen                     | Hide attachments/comments                                                                                                                                    |                                                                                                                               |                                                                                  |                    |
| Human tasks     | Notifications: form as PDF/Image/Inline         | Configure human task notifications to contain the form as a PDF document, image, inline                                                                      | Use notifications without attachments. Provide as much information as available and needed in the notification text.          |                                                                                  | Deprecated         |
| Human tasks     | Renew                                           | When an expiration on a task is set, the renewal policy allows the expiration date to be extended until it reaches the specified amount of renewals allowed. | Consider setting up a timer boundary on the human task that will recreate a new task for the assignee once expiry is reached. | Could not migrate "Expiration type in activity XXX: Renew type isn't supported." | Deprecated         |

| Functional area | Oracle Integration Generation 2 feature | Description                                                                                                                                                         | Workaround or alternate solution                                                                                                                                              | Remark in migration report                         | Deprecation status |
|-----------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------------|
| Human tasks     | Assignment to groups                    | Assign user tasks to a specific group                                                                                                                               | During upgrade, groups are removed from the assignee list. Change group assignments to a role, and link the group to the newly created role.                                  | Not supported<br>"Group assignee for activity XXX" |                    |
| Human tasks     | execData mappings                       | execData.title<br>execData.summary<br>execData.priority                                                                                                             | You can't map these attributes as input data associations in Process Automation. Instead, define these attributes in the Human Task properties.                               |                                                    |                    |
| Human tasks     | execData mappings                       | execData<br>Object containing all the task attributes                                                                                                               | You can't map the entire execData object in an output data association. Instead, map the individual attributes under this object.                                             |                                                    |                    |
| Human tasks     | execData mappings                       | execData.systemAttributes.taskNumber<br>Object used to store a numeric identifier for a task                                                                        | Use taskId instead. This is an alphanumeric identifier for a task. Note that this data type change may have downstream impact if persisted or referenced in external systems. |                                                    |                    |
| Human tasks     | execData mappings                       | execData.customAttributes<br>execData.systemMessageAttributes<br>Custom attributes used to pass data to the task; this data is not part of the form data attributes | Use form data attributes instead. Add these attributes to your form and choose whether you want to display them. Remap custom attributes to the new form-level attributes.    |                                                    |                    |
| Human tasks     | execData mappings                       | execData.ownerUser<br>execData.ownerGroup<br>execData.ownerRole<br>Attributes used to store the owner of the task                                                   | Create a role in your application with Manage permission. Assign users or groups to this role as needed. Remove any existing input mappings to these attributes.              |                                                    |                    |

| Functional area | Oracle Integration Generation 2 feature | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Workaround or alternate solution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Remark in migration report | Deprecation status |
|-----------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------|
| Human tasks     | execData mappings                       | <p><code>execData.identificationKey</code></p> <p>Key used to store a user-specified value that can later be used to identify and find the task</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Add the custom identifier to the title of the task. This allows you to search for your task based on this value from the workspace or via the API using keyword search. Alternatively, add a form field to store this value, and use business search to locate data based on the field value via the workspace.                                                                                                                                                                                                                                                                                       |                            |                    |
| Human tasks     | Email template variables                | <p>The following email template variables are no longer supported:</p> <ul style="list-style-type: none"> <li>• <code>acquiredBy</code></li> <li>• <code>acquiredById</code></li> <li>• <code>assignedDate</code></li> <li>• <code>creatorId</code></li> <li>• <code>endDate</code></li> <li>• <code>fromUserId</code></li> <li>• <code>longSummary</code></li> <li>• <code>ownerGroup</code></li> <li>• <code>ownerRole</code></li> <li>• <code>ownerUser</code></li> <li>• <code>ownerGroupId</code></li> <li>• <code>ownerRoleId</code></li> <li>• <code>ownerUserId</code></li> <li>• <code>priorityNum</code></li> <li>• <code>startDate</code></li> <li>• <code>taskNumber</code></li> <li>• <code>taskDefinitionId</code></li> <li>• <code>processId</code></li> <li>• <code>processTitle</code></li> <li>• <code>currentDate</code></li> <li>• <code>currentYear</code></li> <li>• <code>comments</code></li> <li>• <code>commentStr</code></li> </ul> | <p>Many of these variables ( <code>processId</code>, <code>comments</code>, <code>outcome</code>, <code>updatedBy</code>, and such) can be referenced via process-level data objects. This means that you need to assign these variables to a custom process-level Data Object first, and then reference them in your email template. For more information, see <a href="#">Configure Email Templates</a>.</p> <p>Other variables such as <code>OwnerGroup/Role/User</code>, <code>taskNumber</code>, <code>taskDefinitionID</code> are no longer available and can't be used in email templates.</p> |                            |                    |

| Functional area  | Oracle Integration Generation 2 feature | Description                         | Workaround or alternate solution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Remark in migration report            | Deprecation status |
|------------------|-----------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------|
| Human tasks      | Email template variables                | Action variables in email templates | <p>Email templates that used action variables to display a list of options a user can take, such as Approve/Reject, need to be modified from the following format:</p> <pre> {{#actions}}     Actions: {{{actions}}} {/actions}} </pre> <p>To the following format:</p> <pre> {{# hasActions }}     &lt;div class="button-container"&gt;         &lt;div class="label"&gt;Actions&lt;/div&gt;         &lt;div class="buttons"&gt;             {{# actions }}                 &lt;a class="action-button" href="{{workspaceURL}}"&gt;                     &lt;span title="{{actionDisplayName}}" &gt;{{actionDisplayName}}&lt;/span&gt;                 &lt;/a&gt;             {{/ actions }}         &lt;/div&gt;     &lt;/div&gt; {/ hasActions }} </pre> |                                       |                    |
| SOAP connector   | SOAP connector                          | Make a SOAP call from Process       | <p>During upgrade, SOAP connectors won't be imported. After upgrade, service tasks won't include an assigned connector, and data associations will be invalid. Temporarily mark the service tasks as a draft. Reimplement the connectors using REST, or use an integration to perform SOAP to REST conversion.</p> <p>A depreciation notice was published in <a href="#">What's New for Oracle Integration 2</a>.</p>                                                                                                                                                                                                                                                                                                                                      | Could n't migrate SOAP connector XXXX | Deprecated         |
| Business objects | Module/namespaces                       | Sort types into modules/namespaces  | <p>During upgrade, business objects are migrated at the root level. After upgrade, you can select and use types as usual but they are all listed at the same level instead of grouped by modules/namespaces.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                       | Deprecated         |

| Functional area        | Oracle Integration Generation 2 feature            | Description                                                                                                                                                                    | Workaround or alternate solution                                                                                                                                                                                                                                                                    | Remark in migration report | Deprecation status |
|------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------|
| Business objects       | Default value for business object                  | Set a default value for a business object field so there's no need to map data unless needed for that specific instance (business object will contain default value otherwise) | During upgrade, default values for business objects won't be migrated. Map the default value of the business object field on each instance where its referenced. We recommend including a data association activity at the beginning of the process to centrally initialize any required attribute. |                            |                    |
| Business objects       | Business objects XSDs                              | Upload XSDs to the application so you can refer to them later for BO creation                                                                                                  | During upgrade, business objects based on XSDs are migrated, but you won't be able to upload new XSDs. For any new definitions you need, create your business objects manually, or, for a connector, provide a JSON payload.                                                                        |                            | Deprecated         |
| Forms                  | Connector in form preview                          | Test connector calls from form preview                                                                                                                                         | After upgrade, connectors aren't executed when running the form in preview mode. Activate the application on your development instance and test using Workspace.                                                                                                                                    |                            |                    |
| Application life-cycle | Retire an application (and then activate it later) | Retire an active/deployed Process application                                                                                                                                  |                                                                                                                                                                                                                                                                                                     |                            |                    |

## When is Basic Authentication Supported in Oracle Integration 3?

Oracle Integration 3 supports OAuth 2.0, a token-based authentication method that is more secure. When you upgrade to Oracle Integration 3, we recommend you use OAuth whenever you can. However, this doesn't mean you need to immediately change *all* your interface connections.

The interface determines which authentication method to use, so some connections will instead use basic authentication or OCI Signature Version 1. For example, when using the Developer API for Oracle Integration 3, you *must* use OAuth, but your existing integrations can still be invoked using basic authentication, and endpoints that are invoked by Oracle Integration can still be called over basic authentication. The following table lists various interfaces, which authentication method they use, and examples of each interface.

| Interface                                                                                                                                                                                                                                                             | Authentication method                                                                                                             | Interface examples                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oracle Integration developer APIs <ul style="list-style-type: none"> <li>• <a href="#">Developer API for Oracle Integration 3</a></li> <li>• <a href="#">Developer API for File Server</a></li> <li>• <a href="#">Developer API for Process Automation</a></li> </ul> | OAuth<br><b>Note:</b> OCI Signature Version 1 is not supported                                                                    | <ul style="list-style-type: none"> <li>• Oracle Visual Builder or Process Automation introspecting a list of available integrations</li> <li>• Find and resubmit failed integration via API</li> <li>• Create a folder in File Server using REST API</li> <li>• List processes via API</li> </ul> |
| Oracle Cloud Infrastructure APIs <ul style="list-style-type: none"> <li>• <a href="#">Oracle Integration Administrative API</a></li> </ul>                                                                                                                            | OCI Signature Version 1                                                                                                           | <ul style="list-style-type: none"> <li>• Use Python to provision an Oracle Integration instance</li> <li>• Use the REST API to add an ACL to an Oracle Integration instance</li> </ul>                                                                                                            |
| Integration endpoints                                                                                                                                                                                                                                                 | Determined by the trigger; could be OAuth, basic authentication, or both<br><b>Note:</b> OCI Signature Version 1 is not supported | <ul style="list-style-type: none"> <li>• Invoke an integration REST trigger from a mobile application</li> </ul>                                                                                                                                                                                  |

## Prepare for the Upgrade to Oracle Integration 3

To ensure that your instance is upgraded successfully you must check your instance's upgrade readiness and correct any precheck issues prior to your upgrade date. Oracle runs periodic checks on your instance to make sure there are no precheck issues. If the precheck finds any issues, you'll be notified by email that you must address the issues before upgrade.

### NOT\_SUPPORTED

On the Upgrade page, you can specify that you want to [ignore precheck failures](#) and proceed with upgrade. If you select this option, you must complete post-upgrade tasks for any precheck failures that were ignored. See [Complete Post-Upgrade Tasks for Ignored Precheck Failures](#).

- [Recommendations for Upgrading Multiple Instances](#)
- [Upgrade in an Oracle Cloud Infrastructure US Government Cloud Region](#)
- [Check Upgrade Readiness and Correct Precheck Issues](#)
- [Configure Upgrade Settings or Reschedule Upgrade](#)
- [Complete Pre-Upgrade Tasks](#)
- [Update Allowlists](#)
- [Inform Users and Stakeholders About Upgrade](#)
- [Limit Development Work Before the Upgrade](#)

## Recommendations for Upgrading Multiple Instances

Consider several factors when planning upgrades for multiple instances.

### All Instances Must Be Ready for Upgrade

If you have multiple instances within a tenancy, all instances must be ready for upgrade before any instances can be upgraded.

Oracle upgrades each instance separately, so you must choose an upgrade window for every instance. You can choose a different upgrade window for each instance.

### Upgrade Non-Production Instances First

Oracle recommends upgrading your non-production instances first and your production instances second. Use the time between the upgrades to verify the environment in your non-production instances.

Additionally, if you use an instance for disaster recovery, Oracle recommends upgrading your disaster recovery instance first. Use your own discretion to determine the time between your disaster recovery instance and your production instance.

Keep in mind that during the time period between upgrades, any new features in Oracle Integration 3 aren't available in your Oracle Integration Generation 2 instance.

### If You Experience Issues Between Upgrades

If you experience issues in your production instance after your non-production instance has been upgraded, you can't make corrections in the non-production environment, since it has already been upgraded. In such situations, enter a service request (SR) on [My Oracle Support](#) so that Oracle can help you plan your next steps.

## Upgrade in an Oracle Cloud Infrastructure US Government Cloud Region

This topic describes how to upgrade Oracle Integration Generation 2 to Oracle Integration 3 in an Oracle Cloud Infrastructure US Government Cloud region.

The process to upgrade in an Oracle Cloud Infrastructure US Government Cloud region is similar to upgrading in other regions. However, you must complete some additional pre-upgrade steps:

1. Grant Oracle Integration access to your tenancy. Add the following policy statements to your tenancy:

```
allow service integration to read users in tenancy
allow service integration to read groups in tenancy
allow service integration to read group-memberships in tenancy
allow service integration to manage credentials in tenancy
allow service integration to read policies in tenancy
allow service integration to read compartments in tenancy
allow service integration to manage domains in tenancy
allow service integration to manage integration-instances in tenancy
```

2. On the **Upgrade** page of your Oracle Integration Generation 2 instance, in the **Policy OCIDs of Service Role** box, enter the OCIDs for the policies you created to grant access to your service role groups. See [Assign Policies to Oracle Integration Service Role Groups](#).

These service role group mappings will be migrated to the Oracle Integration 3 instance during upgrade.

| Description                                                        | Example Policy                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Grant the ServiceAdministrator role for a compartment              | allow group OICAdminGroup to be ServiceAdministrator for integration-instances in compartment OICCompartment                                                                                                                                                                                                                                                                                        |
| Grant the ServiceDeveloper role for a compartment                  | allow group OICDeveloperGroup to be ServiceDeveloper for integration-instances in compartment OICCompartment                                                                                                                                                                                                                                                                                        |
| Grant the ServiceInvoker role for an Oracle Integration instance   | allow group OICInvokerGroup to be ServiceInvoker for integration-instances in compartment OICCompartment<br>where all {target.app.name='test-instance1', target.app.type='integration-instances'}<br>Here the where clause grants users assigned to group OICInvokerGroup the ServiceInvoker role to one Oracle Integration instance identified by its instance name and created in OICCompartment. |
| Grant the ServiceMonitor role for two Oracle Integration instances | allow group OICMonitorGroup to be ServiceMonitor for integration-instances in compartment OICCompartment<br>where any {target.app.name='test-instance1', target.app.name='instance-prod-1'}<br>This policy grants the ServiceMonitor Role to the OICMonitorGroup group over two instances identified by their respective names in OICCompartment.                                                   |

#### Note

If you don't have any service role mapping policies in Oracle Integration Generation 2, you can skip updating the **Policy OCIDs of Service Role** field on the Upgrade page. In such cases, you need to manually assign the service roles to users in the IDCS application after upgrade.

Continue with the remaining upgrade process, starting with [Check Upgrade Readiness and Correct Precheck Issues](#).

## Check Upgrade Readiness and Correct Precheck Issues

Oracle periodically performs some prechecks to determine your upgrade readiness so that your upgrade runs smoothly. If the prechecks don't pass, you may need to perform tasks to correct the issues.

After you correct any precheck issues, [configure your upgrade settings](#).

## View Your Precheck Status

To see your precheck status or to run the check again, perform the following steps:

1. In the navigation pane, click **Settings**, then **Upgrade**.  
You can see when the last precheck completed above the readiness check table.  
The readiness check table shows the following information about the status of the precheck items.

| Column                | Description                                                                                                                                                                                                                                                                                                          |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eligibility Condition | The condition that must be met to be ready for upgrade. Some conditions include links to associated documentation.                                                                                                                                                                                                   |
| Owner                 | Who is responsible for managing the condition.                                                                                                                                                                                                                                                                       |
| Due Date              | The date by which the condition should be met.                                                                                                                                                                                                                                                                       |
| Eligibility Status    | The status of the condition, including explanations for conditions that haven't been met. Expand <b>More details...</b> to see additional information about the condition failure. To copy the details to the clipboard, click  . |

2. If there are prechecks that didn't pass, perform the associated tasks to correct the issues.
3. To rerun the precheck, click **Check again**.  
It takes about an hour for the precheck to complete.

 **Note**

If Oracle attempted to upgrade your instance, you see the details of that attempt in the **Upgrade Summary** directly below the readiness check table.

## Summary of Prechecks

This table summarizes the prechecks and associated tasks for each area. The details for each task are linked in the table and shown in the next section.

| Area                       | Tasks                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connectivity Agent         | <ul style="list-style-type: none"> <li>• <a href="#">Agent Java Version</a></li> <li>• <a href="#">Agent Connectivity for Oracle Integration 3 - Connectivity agent must be running</a></li> <li>• <a href="#">Agent Connectivity for Oracle Integration 3 - Update your allowlist settings</a></li> <li>• <a href="#">Unsupported AgentGroup Identifier</a></li> </ul>               |
| Instances                  | <ul style="list-style-type: none"> <li>• <a href="#">Custom Endpoint URL</a></li> <li>• <a href="#">Instance ID Action</a></li> <li>• <a href="#">Daily Email Limit</a></li> <li>• <a href="#">Custom scopes in IDCS</a></li> <li>• <a href="#">Other Failures</a></li> </ul>                                                                                                         |
| B2B for Oracle Integration | <ul style="list-style-type: none"> <li>• <a href="#">B2B Retention Period</a></li> </ul>                                                                                                                                                                                                                                                                                              |
| Integrations               | <ul style="list-style-type: none"> <li>• <a href="#">Delayed (Asynchronous) Response</a></li> <li>• <a href="#">Identity Certificates</a></li> <li>• <a href="#">Basic Routing Duplicate App Name</a></li> <li>• <a href="#">Multiple Read File</a></li> <li>• <a href="#">Publish/Subscribe Integrations</a></li> <li>• <a href="#">DT API Basic Auth to OAuth action</a></li> </ul> |
| Adapters                   | <ul style="list-style-type: none"> <li>• <a href="#">Custom Adapters</a></li> <li>• <a href="#">Oracle Utilities Adapter</a></li> <li>• <a href="#">Unsupported Adapters</a></li> <li>• <a href="#">Unsupported REST Types</a></li> </ul>                                                                                                                                             |
| Visual Builder             | <ul style="list-style-type: none"> <li>• <a href="#">Custom Endpoint URL</a></li> <li>• <a href="#">VBCS</a></li> </ul>                                                                                                                                                                                                                                                               |

| Area               | Tasks                                                                                                                                       |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Process Automation | <ul style="list-style-type: none"><li>• <a href="#">Process Automation</a></li><li>• <a href="#">Process Automation Prechecks</a></li></ul> |

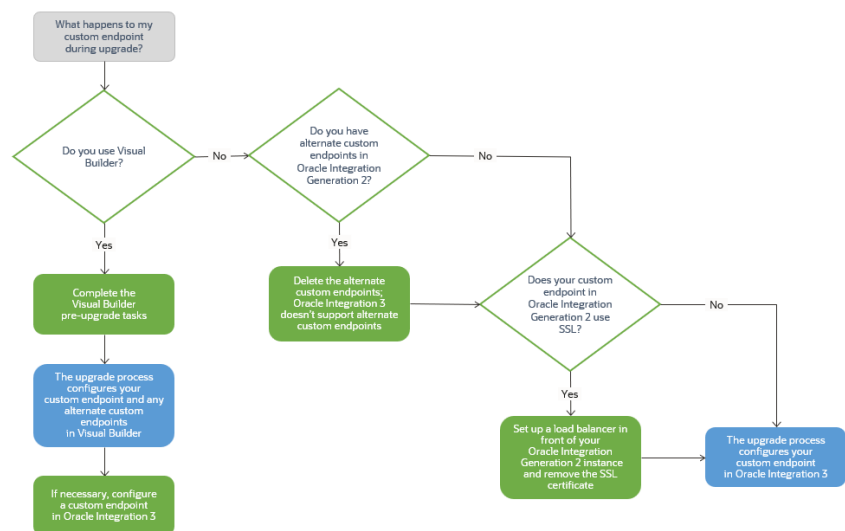
## Connectivity Agent Prechecks

| Eligibility condition | Typical owner               | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|-----------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agent Java Version    | Development Operations team | Yes                             | <p>Make sure that your connectivity agents use JDK 17 and PKCS12 KeyStore. Expand <b>More details</b> to see the connectivity agents that need review. To copy the details to the clipboard, click . You can also view the <b>Connectivity Agent Status</b> section to see the status of all the connectivity agents in your instance.</p> <ol style="list-style-type: none"> <li>For any connectivity agent that isn't already using JDK 17, install JDK 17 on the server that hosts the agent.</li> <li>For any agent that is still using the JKS KeyStore, convert the KeyStore to PKCS12 KeyStore. You can do the conversion in one of two ways: <ul style="list-style-type: none"> <li>Automatically, during upgrade: Your JKS KeyStore will automatically be converted to the PKCS12 KeyStore during upgrade.</li> <li>Manually, before upgrade: You can convert the JKS KeyStore to the PKCS12 KeyStore manually, before upgrade, by following the steps below.</li> </ul> </li> </ol> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>Converting the JKS KeyStore to the PKCS12 KeyStore doesn't impact your Oracle Integration Generation 2 connectivity agent, and only takes effect after you have upgraded to Oracle Integration 3.</p> </div> <p>If you want to manually convert your JKS KeyStore to the PKCS12 KeyStore, complete the following steps before upgrade. These tasks require you to briefly stop and then restart the connectivity agent, so choose a time when the connectivity agent isn't being used.</p> <ol style="list-style-type: none"> <li>On the server that hosts the connectivity agent, create a backup of the <code>keystore.jks</code> file, which is located in the following folder:<br/><code>Agent_Install_Location/agenthome/agent/cert</code></li> <li>Move the backup file to a different folder.</li> <li>Convert the JKS KeyStore to the PKCS12 KeyStore by running the following command from the command line:<br/> <pre>keytool -importkeystore -srckeystore keystore.jks -destkeystore keystore.p12 -srcstoretype JKS -deststoretype PKCS12 -deststorepass changeit -srcstorepass changeit</pre> </li> <li>Stop the connectivity agent.</li> </ol> |

| Eligibility condition                                                            | Typical owner               | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------|-----------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                  |                             |                                 | <p>e. Delete the <code>keystore.jks</code> file in the following location:<br/><i>Agent_Install_Location/agenthome/agent/cert</i></p> <p>f. Start the connectivity agent.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Agent Connectivity for Oracle Integration 3 - Connectivity agent must be running | Development Operations team | Yes                             | <p>Your connectivity agent should be up and running before the upgrade begins. Expand <b>More details</b> to see the connectivity agents that need review. To copy the details to the clipboard, click . You can also view the <b>Agent Status</b> column in the <b>Connectivity Agent Status</b> section to see the status of all the connectivity agents in your instance, indicating whether each agent is offline (unavailable). Agents that aren't reachable during upgrade or don't meet upgrade requirements won't be upgraded, in which case you'll need to perform <a href="#">post-upgrade steps</a> to regain connectivity.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Agent Connectivity for Oracle Integration 3 - Update your allowlist settings     | Development Operations team | Yes                             | <p>You should update your allowlist settings for your connectivity agents before upgrade. Expand <b>More details</b> to see the connectivity agents that need review. To copy the details to the clipboard, click . You can also view the <b>Allowlist status</b> column in the <b>Connectivity Agent Status</b> section to see the status of all the connectivity agents in your instance, indicating whether the allowlist has been updated appropriately. As your upgrade window approaches, perform the following <a href="#">pre-upgrade tasks</a>:</p> <ul style="list-style-type: none"> <li>• Add the IP address for Oracle Cloud Infrastructure Identity and Access Management (IAM) to the allowlist.</li> <li>• Add the design-time and runtime IP addresses for Oracle Integration to the allowlist.</li> <li>• Set the proxy server's Cache property for the Oracle Integration URLs to refresh as frequently as possible.</li> </ul> <p>Agents that aren't reachable during upgrade or don't meet upgrade requirements won't be upgraded, in which case you'll need to perform <a href="#">post-upgrade steps</a> to regain connectivity.</p> |
| Unsupported AgentGroup Identifier                                                | Development Operations team | Yes                             | <p>If any of your agent groups have a space in their identifiers, they won't be migrated to Oracle Integration 3. If you still need the agent groups, you'll need to recreate them after upgrade.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Instance Prechecks

| Eligibility condition | Typical owner | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                          |
|-----------------------|---------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Custom Endpoint URL   | Administrator | Yes                             | Depending on how your <a href="#">custom endpoint</a> is configured pre-migration you'll perform different steps and the upgrade process will handle the custom endpoint differently. Expand <b>More details</b> to determine how to proceed with upgrade. |



- If you're using Oracle Visual Builder:
  1. To proceed with upgrade, complete the [Visual Builder Pre-Upgrade Tasks](#).
  2. During upgrade, the upgrade process configures your custom endpoint and any alternate custom endpoints in Oracle Visual Builder.
- If you're *not* using Oracle Visual Builder and you have alternate custom endpoints, delete them from your Oracle Integration Generation 2 instance. Oracle Integration 3 currently doesn't support alternate custom endpoints.
- If you're *not* using Oracle Visual Builder and your custom endpoint uses SSL:
  1. To proceed with upgrade, set up a load balancer in front of your Oracle Integration Generation 2 instance and remove the SSL certificate.
  2. During upgrade, the upgrade process configures your custom endpoint in Oracle Integration 3.
  3. After upgrade, *runtime access to your integrations* will continue to work as it did for Oracle Integration Generation 2. For all other access points—such as design-time and Process Automation—you still access the

| Eligibility condition | Typical owner | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|---------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       |               |                                 | <p>custom endpoint, but the custom endpoint then redirects to the appropriate URL.</p> <ul style="list-style-type: none"> <li>If none of these situations apply and this precheck passed, the upgrade process configures your custom endpoint in Oracle Integration 3, and the custom endpoint will work as described in the previous bullet for the SSL scenario.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Instance ID Action    | Administrator | Yes                             | <p>The system-generated integration instance ID that is displayed on the Instances page and in the activity stream for an integration instance has changed from a numeric value to an alphanumeric value in Oracle Integration 3. The value's <i>data type</i> is unchanged; it remains a string data type. The change to an alphanumeric value may affect any systems that you use that rely on the integration instance ID being a numeric value. For example, if you parse the integration instance ID from a REST API and store the integration instance ID in a database as a number field, you'll need to update the database field. If you have integrations that use integration instance IDs, the precheck shows a warning. Expand <b>More details</b> to see the integrations that need review. To copy the details to the clipboard, click .</p> <p>If you need additional time to make the updates required for this change, you can keep the integration instance ID as numeric temporarily (six months post upgrade). See <a href="#">FlowId Conversion Support</a>. Make sure you note which integrations are affected by copying the details as described above.</p> <p><b>Note:</b> This precheck just checks for the existence of integrations that use instance IDs, not the accuracy of the instance IDs. The warning will remain after you update your integrations, but doesn't impact your upgrade.</p> |
| Daily Email Limit     | Administrator | Yes                             | <p>Oracle Integration 3 can send a limit of 10,000 emails in a rolling 24-hour window, as described in <a href="#">Service Limits</a>. If your deployment needs to send more than that, you can instead use your customer tenancy. See Configure Notification Emails.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Custom scopes in IDCS | Administrator | No                              | <p>Oracle Integration 3 adds a default scope (/ic/api/ , urn:opc:resource:consumer::all) to Oracle Identity Cloud Service (IDCS) when the instance is created. It doesn't support any other custom scopes added to IDCS. If you have created custom scopes in IDCS, you must remove them.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Other Failures        | Varies        | Yes                             | <p>If there are any other issues that will block upgrade that don't have specific prechecks, they'll be included under other failures. Expand <b>More details</b> to see the issues that need action. To copy the details to the clipboard, click .</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## B2B for Oracle Integration Prechecks

| Eligibility condition | Typical owner | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------|---------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B2B Retention Period  | Administrator | No                              | <p>Although you don't need to do anything to correct this precheck status, be aware that Oracle Integration 3 Standard and Enterprise editions support 32 days of data retention by default. During upgrade only the most recent 32 days of retained data will be migrated. Expand <b>More details</b> to see how many days of</p> <p>retained data you currently have. To copy the details to the clipboard, click . After upgrade to Oracle Integration 3, you'll have the ability to <a href="#">increase the data retention period</a> if you want; or <a href="#">upgrade to the Healthcare edition</a>, which supports 184 days of data retention.</p> |

## Integrations Prechecks

| Eligibility condition           | Typical owner    | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------|------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Delayed (Asynchronous) Response | Development team | Yes                             | <p>The delayed (asynchronous) response pattern was previously supported in the following adapters:</p> <ul style="list-style-type: none"> <li>• Oracle CX Sales and B2B Service Adapter</li> <li>• Oracle ERP Cloud Adapter</li> <li>• Oracle HCM Cloud Adapter</li> <li>• Oracle Fusion Field Service Adapter</li> <li>• Salesforce Adapter</li> <li>• ServiceNow Adapter</li> </ul> <p>If you have integrations using delayed (asynchronous) response with one of these adapters, rework them by creating two invoke connections to achieve similar functionality:</p> <ol style="list-style-type: none"> <li>1. Create a simple invoke for success callbacks.</li> <li>2. Create an additional invoke for failure callbacks under the fault handler to catch the correct fault.</li> </ol> <p>Expand <b>More details</b> to see which integrations need review. To copy the details to the clipboard, click .</p> |

| Eligibility condition            | Typical owner    | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------|------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identity Certificates            | Development team | Yes                             | <p>Identity certificates establish client identity during two-way SSL communication. Connections that are based on the AS2 Adapter and the REST Adapter can use identity certificates.</p> <p>Expand <b>More details</b> to see the names of the identity certificates and the connections that use them. To copy the details to the clipboard, click .</p> <p>If you have identity certificates, after the upgrade, you'll need to upload new identity certificates as described in <a href="#">Ensure Connectivity</a>.</p> |
| Basic Routing Duplicate App Name | Development team | Yes                             | <p>If your instance contains basic routing integrations that have the same source and target endpoint names, perform the following steps:</p> <ol style="list-style-type: none"> <li>1. Edit your basic routing integration, deleting the target endpoint, and adding it again with a different name.</li> <li>2. Save your integration.</li> </ol> <p>Expand <b>More details</b> to see the integrations that need review. To copy the details to the clipboard, click .</p>                                                  |
| Multiple Read File               | Development team | Yes                             | <p>The Read Multiple File operation was deprecated in Oracle Integration Generation 2.</p> <p>If you have integrations that include an operation to read multiple files, rework the integrations so that they don't use this pattern. For example, use a listFile operation to list the files, and use a for-each action to read each file individually.</p> <p>Expand <b>More details</b> to see the integrations that need review. To copy the details to the clipboard, click .</p>                                        |

| Eligibility condition             | Typical owner    | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------|------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Publish/Subscribe Integrations    | Development team | Yes                             | <p>If your instance includes integrations that publish messages or subscribe to messages from Oracle Integration, be aware that publish/subscribe (or pub/sub) integrations need to be converted to event-driven orchestrations. The integrations will be handled differently depending on their configuration:</p> <ul style="list-style-type: none"> <li>• Pub/sub integrations that use attachments can't be automatically converted at this time. If you want to proceed with upgrade, you can either remove these integrations or ignore precheck failures. After upgrade, you can recreate them, pushing the attachment into the FTP server or Object Storage in your tenancy and passing the reference to the subscriber flow. See Define Header-Based Subscription Filtering in <i>Using Integrations in Oracle Integration 3</i>.</li> <li>• All other active pub/sub integrations are automatically converted during upgrade. Pub/sub integrations in a draft state can't be migrated, and will be blank post-upgrade.</li> <li>• If you've mapped data in the subscriber flow, the mappings are converted as accurately as possible. However, after upgrade, you should review the mappings and correct them if necessary.</li> <li>• If you see the error <b>Only Subscribers are present, no Publishers</b>, you have orphan subscribers that must be deleted before upgrade.</li> </ul> <p>Expand <b>More details</b> to see the integrations that <i>can't</i> be automatically converted. To copy the details to the clipboard, click .</p> <p><b>Note:</b> You might want to take this opportunity to delete any draft Publish flows.</p> |
| DT API Basic Auth to OAuth action | Development team | Yes                             | <p>If your instance includes integrations that access developer APIs using a REST connection with basic authentication, you must change them to use OAuth. In Oracle Integration Generation 2, you could use Basic Authentication to use the <a href="#">Oracle Integration REST API</a> and <a href="#">File Server REST API</a>. In Oracle Integration 3, you must use OAuth. You need to update any clients, scripts, integrations, and commands that use the Developer API for Oracle Integration 3 or the Developer API for File Server to connect using OAuth. For more information on authentication method support, see When is Basic Auth Supported in Oracle Integration 3 in <i>Provisioning and Administering Oracle Integration 3</i>. For details on using OAuth, see <a href="#">Security, Authentication, and Authorization</a> in <i>Developer API for Oracle Integration 3</i> or <a href="#">Security, Authentication, and Authorization</a> in <i>Developer API for File Server in Oracle Integration 3</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Adapters Prechecks

| Eligibility condition    | Typical owner    | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Custom Adapters          | Development team | No                              | <p>If your instance includes integrations that use a custom adapter, the instance can't be upgraded yet. Wait until Oracle starts upgrades for this feature. Expand <b>More details</b> to see the custom adapters you're using. To copy the details to the clipboard, click .</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Oracle Utilities Adapter | Development team | Yes                             | <p>Swagger 2.0 is no longer supported in the Oracle Utilities Adapter. If there is any existing integration using the Swagger 2.0 REST catalog, runtime won't be impacted. However, if you try to edit the design-time connection, retest the connection, refresh the metadata, refresh the artifacts, or reactivate, the integration fails. You must update the catalog to use the OpenAPI 3.x definition. Expand <b>More details</b> to see the integrations that need review. To copy the details to the clipboard, click . See Using Swagger 2.0 REST catalog with Oracle Utilities Adapter version 24.04.0 or higher.</p>                                                                                                                                                                                                       |
| Unsupported Adapters     | Development team | Yes                             | <p>If your instance includes an integration that uses one of the following adapters, which aren't supported in Oracle Integration 3, replace the adapters with the REST adapter:</p> <ul style="list-style-type: none"> <li>Automation Anywhere Adapter</li> <li>Evernote Adapter</li> <li>Oracle Messaging Cloud Service Adapter</li> <li>Oracle Monetization Cloud Adapter</li> <li>Oracle Taleo Business Edition (TBE) Adapter</li> <li>UiPath Robotic Process Automation Adapter</li> </ul> <p><b>Note:</b> Robotic process automation (RPA) capabilities are available in Oracle Integration 3. See Learn About Robots and Build a Robot in <i>Using Robots in Oracle Integration 3</i>.</p> <p>Expand <b>More details</b> to see which unsupported adapters you're using. To copy the details to the clipboard, click .</p> |

| Eligibility condition  | Typical owner    | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------|------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unsupported REST Types | Development team | Yes                             | <p>The following connection types are deprecated and not supported in a REST Adapter connection. Replace these connection types with different connection types. See Configure Connection Properties for Invoke Connections in <i>Using the REST Adapter with Oracle Integration 3</i>.</p> <ul style="list-style-type: none"> <li>• Metadata Catalog URL</li> <li>• Swagger Definition URL</li> <li>• RAML Definition URL</li> </ul> <p>Expand <b>More details</b> to see which unsupported REST types you're using. To copy the details to the clipboard, click .</p> <p>Developers with a REST API that is described using RAML or the Oracle metadata catalog must take the following action:</p> <ol style="list-style-type: none"> <li>1. Consult your REST service provider and ask for a Swagger definition (if available). Oracle Fusion Applications should have a Swagger option available. This is a guideline for all Oracle Fusion Applications.</li> <li>2. If an alternative spec is not available, use the basic template in the REST Adapter by selecting REST API Base URL as the connection URL and defining the target API request using the Adapter Endpoint Configuration Wizard.</li> </ol> <p>Another option is to convert RAML into an OpenAPI specification to use with the REST Adapter connection.</p> <p>To provide more robust and complete support for the Swagger/OpenAPI specifications, the REST Adapter includes a unified option to specify all OpenAPI specifications in a single field. This option also replaces the option to provide a Swagger definition URL, which is no longer available.</p> |

## Oracle Visual Builder Prechecks

| Eligibility condition | Typical owner | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|---------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Custom Endpoint URL   | Administrator | No                              | <p>This was also covered in the <a href="#">Instance Prechecks</a>, but is repeated here since it applies to Oracle Visual Builder.</p> <p>If you have a custom endpoint and you're using Oracle Visual Builder:</p> <ol style="list-style-type: none"> <li>1. To proceed with upgrade, complete the <a href="#">Visual Builder Pre-Upgrade Tasks</a>.</li> <li>2. During upgrade, the upgrade process configures your custom endpoint and any alternate custom endpoints in Oracle Visual Builder.</li> </ol>                                                                                                                                              |
| VBCS                  | Administrator | No                              | <p>If you use Oracle Visual Builder with your own Oracle database instance (BYODB), Autonomous AI Transaction Processing (ATP) must be up and running during upgrade.</p> <p>For a smooth upgrade, complete the tasks described in Prepare Visual Builder for the Upgrade in <i>Administering Oracle Visual Builder in Oracle Integration 3</i>.</p> <p>Failure to complete the specified tasks before the upgrade may cause an immediate outage and connectivity issues after the upgrade. To resolve these issues after the upgrade, you may need to perform additional tasks and submit a service request (SR) on <a href="#">My Oracle Support</a>.</p> |

## Process Automation Prechecks

| Eligibility condition | Typical owner | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|---------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process Automation    | Administrator | No                              | <p><b>Functional Differences</b></p> <p>There are several differences between Process in Oracle Integration Generation 2 and Process Automation in Oracle Integration 3. See <a href="#">Process FAQs</a>.</p> <p>Depending on how you're using Process in Oracle Integration Generation 2, you'll use a different option to upgrade or migrate. See <a href="#">Process Upgrade Options</a>.</p> |

| Eligibility condition                    | Typical owner | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------|---------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process Automation/ Process Applications | Administrator | No                              | <p><b>Runtime Transactions</b></p> <ul style="list-style-type: none"> <li>• <b>If you have Process instances that are actively used in Oracle Integration Generation 2, then you will see this warning precheck.</b> <ul style="list-style-type: none"> <li>– During phased upgrade, your integrations and Oracle Visual Builder applications will be upgraded to Oracle Integration 3. However, Process will continue to function on Oracle Integration Generation 2 after the upgrade.</li> <li>– For more details about the phased upgrade for Process, see <a href="#">Phased Upgrade for Process</a>.</li> </ul> <p><b>Note:</b> You cannot opt out of the phased upgrade for Process.</p> </li> <li>• <b>You will see this warning precheck only if you have Process instances that are not actively used.</b><br/>Your instance will be upgraded without Process Automation. Runtime transactions (completed or in-progress) will be lost. Before the upgrade, export any design-time Process applications that you want to retain from Oracle Integration Generation 2. If you don't want to retain them, you don't need to do anything. Expand <b>More details</b> to see additional information.<br/>If you want to retain audit, see <a href="#">this section</a> that describes how you can save runtime data from Oracle Integration Generation 2 Process.</li> </ul> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>The design-time data is retained for a period of six months after upgrade.</p> </div> <p>During upgrade, Process will not be enabled on Oracle Integration 3 and Process applications will not be migrated.</p> <p>After upgrade, you don't need to do anything. But, if you want to use Process, you can enable it and re-import your design-time applications.</p> <p>If you did not export your design-time Process applications before the upgrade and if you need them after the upgrade, submit a service request (SR) on <a href="#">My Oracle Support</a>.</p> <p>For information about enabling Process, see Enable Process Automation with Oracle Integration 3.</p> |
| Oracle Content Management                | Administrator | No                              | <p><b>Oracle Content Management</b></p> <p>If Process is integrated with Oracle Content Management (OCM), then you need to update <a href="#">OCM's integration settings</a> to use the new host name. Otherwise, you will encounter issues. Expand <b>More details...</b> to get the new host name.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Oracle Visual Builder                    | Administrator | No                              | <p><b>Oracle Visual Builder</b></p> <p>If you have Oracle Visual Builder applications calling Process, then complete the <a href="#">pre-upgrade steps</a> of phased upgrade to update the Oracle Visual Builder applications.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

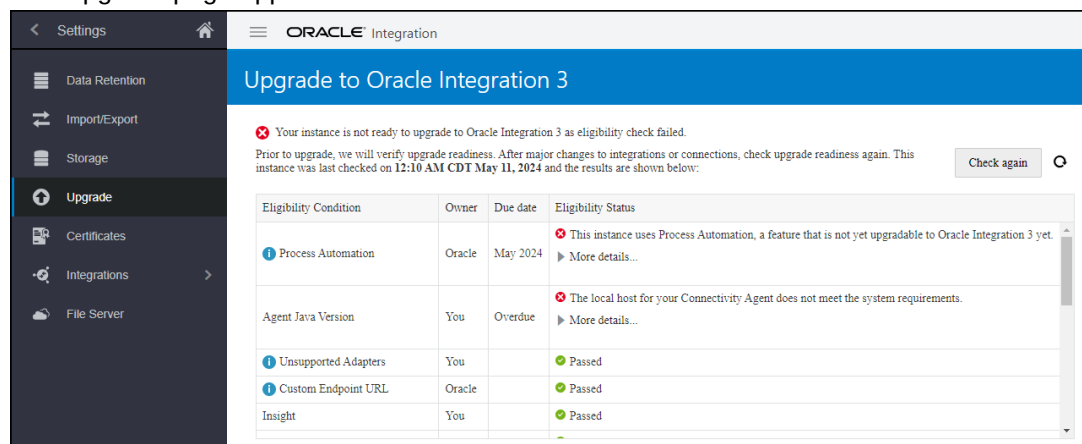
| Eligibility condition | Typical owner | Applicable to Government region | Tasks to Complete                                                                                                                                                                                                                                                                                                        |
|-----------------------|---------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process               | Administrator | No                              | If you have processes calling an integration with a REST trigger that is configured only with <i>OAuth</i> security policy or <i>Basic Auth</i> security policy, you will need to update it to use <i>OAuth</i> and <i>Basic Auth</i> to avoid failures after phased upgrade.                                            |
| Process               | Administrator | No                              | Dynamic Process calls using the integrations activity will not work after phased upgrade. As such, you will need to update your dynamic processes to use a service activity connection to call your integration(s). If you do not do this before phased upgrade, you might experience service interruption post-upgrade. |
| Process               | Administrator | No                              | If there are integrations calling Oracle Integration Generation 2 processes using a SOAP connection (WSDL URL) or a REST connection, you need to update them to use <b>Basic Authentication</b> security policy to avoid post-upgrade failures after phased upgrade.                                                     |

## Correct an Instance with Failed Readiness Checks

If your upgrade was scheduled and your instance is no longer ready for upgrade, address the findings so that your upgrade completes successfully.

- In Oracle Integration, open the Upgrade page using one of the following steps:
  - In the navigation pane, click **Settings**, then **Upgrade**.
  - Click **Announcements** , and then click the link in the notification.

The Upgrade page appears.



The screenshot shows the Oracle Integration Upgrade page. The left sidebar contains navigation links: Settings, Data Retention, Import/Export, Storage, Upgrade (selected), Certificates, Integrations, and File Server. The main content area is titled "Upgrade to Oracle Integration 3". A message states: "Your instance is not ready to upgrade to Oracle Integration 3 as eligibility check failed. Prior to upgrade, we will verify upgrade readiness. After major changes to integrations or connections, check upgrade readiness again. This instance was last checked on 12:10 AM CDT May 11, 2024 and the results are shown below." A "Check again" button is visible. Below the message is a table of eligibility checks:

| Eligibility Condition | Owner  | Due date | Eligibility Status                                                                                                              |
|-----------------------|--------|----------|---------------------------------------------------------------------------------------------------------------------------------|
| Process Automation    | Oracle | May 2024 | ✖ This instance uses Process Automation, a feature that is not yet upgradable to Oracle Integration 3 yet.<br>▶ More details... |
| Agent Java Version    | You    | Overdue  | ✖ The local host for your Connectivity Agent does not meet the system requirements.<br>▶ More details...                        |
| Unsupported Adapters  | You    |          | ✔ Passed                                                                                                                        |
| Custom Endpoint URL   | Oracle |          | ✔ Passed                                                                                                                        |
| Insight               | You    |          | ✔ Passed                                                                                                                        |

- Review the conditions that didn't pass, and take the appropriate action. See [Check Upgrade Readiness and Correct Precheck Issues](#) for steps to take.
- After addressing all issues, check the instance again.
  - Click **Check again**.

It takes about an hour for the check to complete. You can see when the last check completed above the readiness check table.

- b. Continue making corrections until the check passes.

If you aren't sure how to correct an issue, enter a service request (SR) on [My Oracle Support](#).

## Configure Upgrade Settings or Reschedule Upgrade

You should have received notification of your scheduled upgrade window, checked your upgrade readiness, and corrected any precheck issues. Before your upgrade, configure the upgrade settings. If you need to reschedule your upgrade, you can do so if the upgrade is more than three business days away.

### Prerequisites:

- If any upgrade readiness checks fail, address the issues that apply to your instance. For instructions on how to fix failed upgrade checks, see [Check Upgrade Readiness and Correct Precheck Issues](#).
- Only people who are part of the ServiceAdministrator group can perform these tasks. See [Create IAM Policies](#).

## View Your Upgrade Window

You can see your scheduled upgrade window in the following places:

- Oracle sends an email, informing you of your upgrade window. By default, upgrade notifications are automatically sent to the listed administrator email. Oracle recommends you have notifications sent to a distribution list or group email so that you don't miss important emails if someone leaves the company. Add the distribution list, group email, or any other stakeholders who should receive upgrade notifications, by entering their email addresses, separated with commas (,) in the box **Upgrade Notifications**. Oracle will include these email addresses in all future upgrade notifications.

| IP Address          | Value                          |
|---------------------|--------------------------------|
| OIC Outbound IP     | 123.456.78.910                 |
| VB Inbound IP       | 234.567.89.101                 |
| VB Outbound IP's    | 345.678.91.012, 456.789.10.123 |
| Process Outbound IP | 567.891.01.234                 |

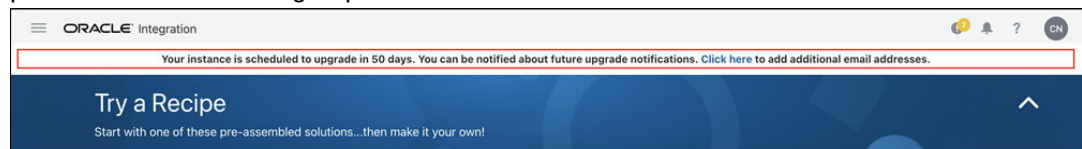
**Upgrade Notifications**

By default, upgrade notifications are automatically sent to admin email system.admin@example.com

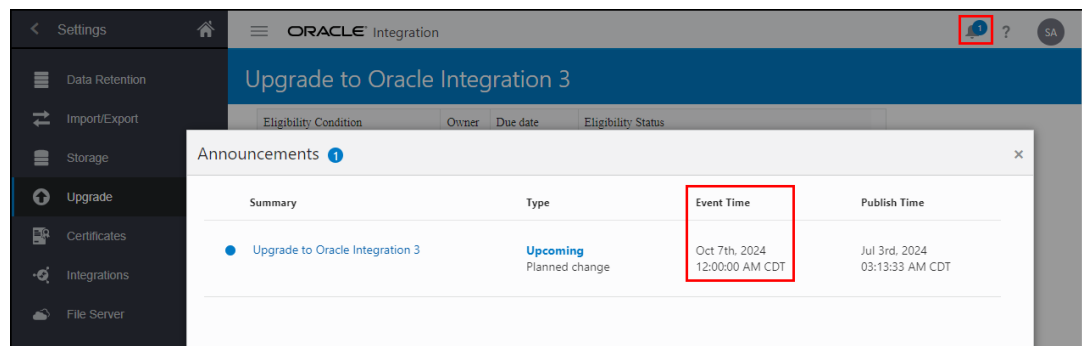
Enter additional email addresses to receive Upgrade notifications: instance.admin@example.com

Save changes

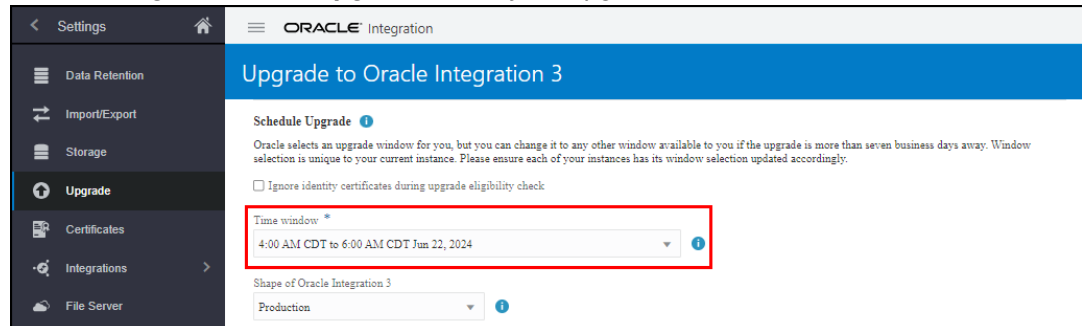
- An announcement appears in the user interface. You can see the announcement if you're part of an administrator group.



- Click **Announcements** . Next to the upgrade announcement, under **Event Time**, you'll see the start time of your upgrade window. Click the notification to view the start and end times of your upgrade window.



- Click **Settings**, then click **Upgrade** to see your upgrade window.



## Reschedule Your Upgrade

If you need to reschedule your upgrade, you can do so if the upgrade is more than three business days away.

- In Oracle Integration, click **Settings**, then **Upgrade**.
- Under **Time window** you see your upgrade window for your current instance.

You can change your upgrade window if it's three or more business days away. All upgrade dates that are available to you appear in the list.

### Note

If you change your upgrade window *after* new IP addresses have been allocated for your environment (shown in the **Allowlist IP Addresses** section), Oracle can't guarantee the IP address allocations will remain the same. The IP addresses originally allocated will continue showing in the user interface until new ones are assigned.

If you have multiple instances, choose your upgrade windows carefully. See [Recommendations for Upgrading Multiple Instances](#).

 **Note**

Does your organization restrict access to the Oracle Integration Generation 2 instance based on the OCID value that uniquely identifies your instance? If so, consult the IAM policy administrator before scheduling the upgrade. The Oracle Integration 3 instance has a different OCID than the Oracle Integration Generation 2 instance. After the upgrade, the IAM policy administrator must update the IAM policy so that it refers to the Oracle Integration 3 OCID. People can sign in only after this work is complete. Make sure the upgrade window is during a time when the IAM policy administrator is available to update the policy. For information about updating the IAM policy, see [About IAM Policies for Oracle Integration and Creating an IAM Policy](#).

- 3. Click **Save changes**.
- 4. Oracle emails you confirming the availability of your requested window.

By default, upgrade notifications are automatically sent to the listed administrator email. Oracle recommends you have notifications sent to a distribution list or group email so that you don't miss important emails if someone leaves the company. Add the distribution list, group email, or any other stakeholders who should receive upgrade notifications, by entering their email addresses, separated with commas (,) in the box **Upgrade Notifications**. Oracle will include these email addresses in all future upgrade notifications.

You can continue with configuring your upgrade settings while waiting for the confirmation email.

Configure Your Upgrade Settings

- 1. Select the options appropriate for your instance.

| Option                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Description                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ignore precheck failures during upgrade                                                                                                                                                                                                                                                                                                                                                                                                                                | When selected, the readiness check ignores all precheck failures so that you can proceed with upgrade.                                                            |
| <div> <b>Important</b></div> <p>You must complete post-upgrade tasks for any precheck failures that were ignored. See <a href="#">Complete Post-Upgrade Tasks for Ignored Precheck Failures</a>.</p>                                                                                                                                                                                |                                                                                                                                                                   |
| Time window                                                                                                                                                                                                                                                                                                                                                                                                                                                            | If your upgrade has been scheduled, you see your upgrade window. You can change your upgrade window if it's three or more business days away, as described above. |
| <div> <b>Note</b></div> <p>If you change your upgrade window <i>after</i> new IP addresses have been allocated for you environment (shown in the <b>Allowlist IP Addresses</b> section), Oracle can't guarantee the IP address allocations will remain the same. The IP addresses originally allocated will continue showing in the user interface until new ones are assigned.</p> |                                                                                                                                                                   |

| Option                                                                                                                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shape of Oracle Integration 3                                                                                                                     | <p>The shape determines when the instance receives updates. The shape you select determines the upgrade time windows that are available.</p> <ul style="list-style-type: none"> <li>• <b>Development:</b> Instances with this shape are updated approximately three weeks before instances with a Production shape.</li> <li>• <b>Production:</b> Instances with this shape receive updates approximately three weeks after instances with a Development shape.<br/>If you select Production, when you save your changes, you'll be prompted to confirm that you are satisfied with the testing you've done on your Development instances.</li> </ul> <p>You can't change the shape after the instance has been assigned an ingress or egress IP address. If the shape is not correct and you're unable to change it, submit a service request (SR) on <a href="#">My Oracle Support</a>.</p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>You can't change the shape after the upgrade is complete. However, you can move data to another instance using the export and import features.</p> </div> |
| Ignore activation failures, I will activate integrations as needed                                                                                | <p>Determine whether to roll back your upgrade if Oracle isn't able to activate all of your integrations in Oracle Integration 3.</p> <ul style="list-style-type: none"> <li>• When selected, if Oracle can't activate one or more integrations, the upgrade proceeds.<br/>If you select this option, plan to check the status of all your integrations after the upgrade finishes and activate integrations as needed.</li> <li>• When deselected, if Oracle can't activate one or more integrations, Oracle rolls back the upgrade.<br/>After the rollback, you continue working in the Oracle Integration Generation 2 instance. Oracle will schedule another upgrade in the future.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Ignore start schedule failures, I will manually start them if needed                                                                              | <p>Determine whether to roll back your upgrade if Oracle isn't able to start the schedule for an integration.</p> <ul style="list-style-type: none"> <li>• When selected, if Oracle can't start the schedule on one or more scheduled integrations, the upgrade proceeds.<br/>If you select this option, plan to check the schedules of your integrations after the upgrade, and manually start them if needed.</li> <li>• When deselected, if Oracle can't start the schedule on one or more scheduled integrations, Oracle rolls back the upgrade.<br/>After the rollback, you continue working in the Oracle Integration Generation 2 instance and can schedule another upgrade in the future.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Ignore test connection failures                                                                                                                   | <p>Select this option to continue with the upgrade, even if connections don't pass testing in Oracle Integration 3 after the upgrade. If you deselect this option, the upgrade is rolled back after a connection doesn't pass testing in Oracle Integration 3. Oracle recommends selecting this check box and addressing any connection failures after the upgrade.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| For the purpose of troubleshooting, I authorize Oracle Integration to access the IAR file of any integration flow that causes the upgrade to fail | <p>If you select this option, should the upgrade fail, Oracle Integration Generation 2 saves the integration IAR file that caused the failure. This reduces the time required for troubleshooting when you contact Technical Support.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FlowId Conversion Support                                                                                                                         | <p>If you need additional time to make the updates required for the integration instance ID changing to alphanumeric, select <b>Enable flowid as numeric post upgrade</b> to temporarily (six months post upgrade) keep the integration instance ID as numeric. Make sure you note which integrations are affected by this change by <a href="#">copying the details from the precheck</a>.</p> <p>After upgrade, you'll need to perform <a href="#">post-upgrade steps</a> to make the required changes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

Option

Connectivity Agent Status

Description

The Connectivity Agent Status section shows the status of all the connectivity agents in your instance.

Connectivity Agent Status

Note: Upgrade will not complete successfully if any agents are offline during the scheduled upgrade time. Please remove the agents which are not used or associate it with a connection else the agent will not be upgraded and trigger a precheck for the table to be updated.

| Agent Name           | Agent Group      | Agent Status | Java Version | PKCS12 KeyStore (Yes/No) | In use | Allowlist status                                |
|----------------------|------------------|--------------|--------------|--------------------------|--------|-------------------------------------------------|
| CA- AUTO_AG_PIPELINE | AUTO_AG_PIPELINE | UNAVAILABLE  | JAVA 8       | No                       | Yes    | IDCS<br>DesignTime (Unavail<br>Runtime (Unavail |
| CA-UPGTEST           | UPGTEST          | UNAVAILABLE  | JAVA 17      | Yes                      | Yes    | IDCS<br>DesignTime (Unavail<br>Runtime (Unavail |
| CA-RM                | RM               | UNAVAILABLE  | JAVA 17      | Yes                      | Yes    | IDCS<br>DesignTime (Unavail                     |

The connectivity agent status table shows the following information:

- Agent Name:** Shows the name of the agent.
- Agent Group:** Shows the agent group that the agent is associated with.
- Agent Status:** Your connectivity agents must be up and running before the upgrade of your connectivity agent begins or the upgrade will fail. For any agents that are failing this precheck, make sure that they're available before upgrade begins.
- Java Version:** The servers that host your connectivity agents must use JDK 17 or the upgrade of those connectivity agents will fail. For any agents that are failing this precheck, install JDK 17.
- PKCS12 KeyStore:** The servers that host your connectivity agents must use PKCS12 KeyStore. If your agents use JDK 17, your JKS KeyStores will automatically be converted to the PKCS12 KeyStore during upgrade.
- In use:** If an agent is marked as not in use it means it either isn't used in any connections or there hasn't been any recent traffic from the agent (agent-level messages). If an agent isn't in use it won't cause your upgrade to fail. However, you might want to consider removing unused agents.
- Allowlist status:** Shows whether the connectivity agent's allowlist has been updated to configure connectivity from the connectivity agent to Oracle Cloud Infrastructure Identity and Access Management (IAM) and Oracle Integration. See [Complete Pre-Upgrade Tasks](#).

Caution

You must update your allowlists *before* upgrade or you'll lose connectivity until it's done.

If any of your agents are offline during upgrade or don't meet upgrade requirements, they won't be upgraded. You'll need to perform [post-upgrade steps](#) to regain connectivity.

Process upgrade

Make sure you fully understand these options before setting them. See [Process Upgrade Options](#).

| Option                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allowlist IP Addresses | <p>Two weeks before the upgrade, your new ingress and egress IP addresses are available:</p> <ul style="list-style-type: none"> <li>• <b>OIC Design-time IPs:</b> IP addresses for traffic entering into Oracle Integration 3 design time (the Oracle Integration 3 application).<br/><b>Note:</b> The design-time URL supports the Developer API for Oracle Integration 3.</li> <li>• <b>OIC Runtime IP:</b> IP address for traffic entering into your Oracle Integration 3 runtime applications.</li> <li>• <b>OIC Outbound IP:</b> IP address for traffic exiting Oracle Integration 3.</li> <li>• <b>VB Inbound IP:</b> IP address for traffic entering into Oracle Visual Builder.</li> <li>• <b>VB Outbound IPs:</b> IP addresses for traffic exiting Oracle Visual Builder.</li> <li>• <b>VB VCN OCID:</b> Oracle Cloud ID (OCID) of the Oracle Visual Builder service Virtual Cloud Network (VCN) for traffic exiting Oracle Visual Builder.</li> <li>• <b>Process Outbound IP:</b> IP address for traffic exiting Process Automation.</li> </ul> <p>You'll need these values to <a href="#">update your allowlists for your firewall and the server that hosts your connectivity agent</a>.</p> |
| Upgrade Notifications  | <p>By default, upgrade notifications are automatically sent to the listed administrator email. Oracle recommends you have notifications sent to a distribution list or group email so that you don't miss important emails if someone leaves the company. Add the distribution list, group email, or any other stakeholders who should receive upgrade notifications, by entering their email addresses, separated with commas (,) in the box <b>Upgrade Notifications</b>. Oracle will include these email addresses in all future upgrade notifications.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## 2. Click **Save changes**.

As your upgrade date approaches, [complete the pre-upgrade tasks](#).

## Complete Pre-Upgrade Tasks

There are several tasks you must complete as your upgrade date approaches to prevent errors during upgrade and to allow you to smoothly transition to the new Oracle Integration 3 instance after upgrade.

## Summary of Pre-Upgrade Tasks

This table summarizes the pre-upgrade tasks for each area. The details for each task are linked in the table and shown in the next sections.

| Area                       | Tasks                                                                                                                                                                                                                                                                                                    |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connectivity Agent         | <ul style="list-style-type: none"> <li>• <a href="#">Prepare for conversion to OAuth 2.0</a></li> <li>• <a href="#">Update your allowlist settings</a></li> <li>• <a href="#">Set the proxy server's Cache property</a></li> </ul>                                                                       |
| Instances                  | <ul style="list-style-type: none"> <li>• <a href="#">Start capturing the activity stream in Oracle Cloud Console</a></li> <li>• <a href="#">Complete network rules configuration</a></li> </ul>                                                                                                          |
| B2B for Oracle Integration | <ul style="list-style-type: none"> <li>• <a href="#">Ensure all B2B passwords for keystore match</a></li> </ul>                                                                                                                                                                                          |
| Integrations               | <ul style="list-style-type: none"> <li>• <a href="#">Determine what to do with failed instances</a></li> <li>• <a href="#">Decide what to do with asynchronous messages</a></li> <li>• <a href="#">Change Developer API for Oracle Integration 3 calls from Basic Authentication to OAuth</a></li> </ul> |
| Adapters                   | <ul style="list-style-type: none"> <li>• <a href="#">Stop using decommissioned Microsoft adapters</a></li> </ul>                                                                                                                                                                                         |
| Visual Builder             | <ul style="list-style-type: none"> <li>• <a href="#">Prepare Visual Builder for upgrade</a></li> </ul>                                                                                                                                                                                                   |

| Area             | Tasks                                                                                                           |
|------------------|-----------------------------------------------------------------------------------------------------------------|
| Allowlists       | <ul style="list-style-type: none"> <li>• <a href="#">Update Allowlists</a></li> </ul>                           |
| Communication    | <ul style="list-style-type: none"> <li>• <a href="#">Inform Users and Stakeholders About Upgrade</a></li> </ul> |
| Development work | <ul style="list-style-type: none"> <li>• <a href="#">Limit Development Work Before the Upgrade</a></li> </ul>   |

## Connectivity Agent Pre-Upgrade Tasks

| Task                                  | Typical owner                  | Tasks description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prepare for conversion to OAuth 2.0   | Development<br>Operations team | <p>In Oracle Integration Generation 2, the connectivity agent uses basic authorization to invoke Oracle Integration endpoints. Oracle Integration 3 instead uses OAuth 2.0 token-based authentication, which is more secure. During the upgrade, your connectivity agents connections are automatically converted from using basic authentication to using OAuth 2.0, so you don't need to manually recreate any connections yourself.</p> <p>However, before upgrade you must prepare for this conversion by allowing egress from the agent network to Oracle Integration design-time and runtime, and to the Oracle Identity Cloud Service or the identity domain as described in <a href="#">Update Allowlists</a>.</p> <p>And, after upgrade, as a result of the new authentication method, you'll see additional traffic to your firewall. This additional traffic occurs because the connectivity agent must communicate with the server to get new tokens.</p> <p>For more information on OAuth 2.0 support in Oracle Integration 3, see <a href="#">When is Basic Authentication Supported in Oracle Integration 3?</a>.</p> |
| Update your allowlist settings        | Development<br>Operations team | <p>If your organization uses allowlists, you must update your allowlist settings for your connectivity agents. The <b>Allowlist status</b> column in the <b>Connectivity Agent Status</b> section shows the status of all the connectivity agents in your instance, indicating whether the allowlist has been updated appropriately.</p> <p>As your upgrade window nears, perform the tasks described in <a href="#">Update Allowlists</a>.</p> <p>Agents that are offline during upgrade or don't meet upgrade requirements won't be upgraded, in which case you'll need to perform <a href="#">post-upgrade steps</a> to regain connectivity.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Set the proxy server's Cache property | Development<br>Operations team | <p>Set your proxy server's Cache property for the Oracle Integration URLs to refresh as frequently as possible.</p> <p>For example, if your proxy server uses the Cache-ExpiresDefault property, set it to now.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Instance Pre-Upgrade Tasks

| Task                                                        | Typical owner         | Tasks description                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Start capturing the activity stream in Oracle Cloud Console | Administrator         | <p>If you don't already, start capturing the activity stream in Oracle Cloud Console. Here's why: The activity stream isn't migrated. But if you capture this data in the Oracle Cloud Console, you'll still have access to historical data. See <a href="#">Capture the Activity Stream in Oracle Cloud Console</a>.</p>                                                                                                                                                                  |
| Complete network rules configuration                        | Network administrator | <p>This task can be completed pre-upgrade or immediately after upgrade.</p> <p>If any of your integration connections target an Oracle Cloud Infrastructure service that supports network rules, such as Oracle Cloud Infrastructure Object Storage or Oracle Autonomous Database, and you've enabled those rules, you must complete any network rules configuration, including adding the Oracle Integration Service VCN to the rule.</p> <p>See <a href="#">Ensure Connectivity</a>.</p> |

## B2B for Oracle Integration Pre-Upgrade Tasks

| Task                                        | Typical owner | Tasks description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ensure all B2B passwords for keystore match | Administrator | <p>Ensure that all passwords for the keystore file are identical. Your identity certificate file (JKS) requires two sets of passwords: Key Passwords and Keystore Password. All the passwords must be identical. If they're not identical, edit the passwords to match, and re-upload the keystore file.</p> <p>If you don't have the keystore file that was last uploaded, recreate the file.</p> <p>When uploading the certificate:</p> <ul style="list-style-type: none"> <li>For <b>Type</b>, select <b>X.509 (SSL Transport)</b>.</li> <li>For <b>Category</b>, select <b>Identity</b>.</li> </ul> <p>See <a href="#">Upload an SSL Certificate</a> in <i>Using Integrations in Oracle Integration Generation 2</i>.</p> |

### Caution

If you don't complete this step, the upgrade will fail.

## Integrations Pre-Upgrade Tasks

| Task                                       | Typical owner                  | Tasks description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Determine what to do with failed instances | Development<br>Operations team | <p>Failed integration instances fall into one of the following categories, which determines how you can handle them:</p> <ul style="list-style-type: none"> <li><b>Failed asynchronous instances - recoverable</b><br/>Resubmit the failed instances and clear the queue. See <a href="#">Resubmit Failed Messages</a>.</li> </ul> <p>If you have a failed asynchronous instance when your instance is upgraded, you can't resubmit the failed instance in Oracle Integration 3—at least not right away. You can't resubmit because runtime data, including errors and all activity stream data, isn't migrated to Oracle Integration 3 as part of the upgrade. However, after the upgrade completes, you can run the integration in Oracle Integration 3, collect error data, and then resubmit.</p> <ul style="list-style-type: none"> <li><b>Failed synchronous instances - non-recoverable</b><br/>You can't resubmit synchronous integration instances, so they are not recoverable.</li> </ul> |

### Note

If you capture activity stream data in the Oracle Cloud Console, you can still view historical activity for the integration. See [Use OCI Logging to Analyze Integration Activity](#).

| Task                                                                                   | Typical owner               | Tasks description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Decide what to do with asynchronous messages                                           | Development Operations team | <p>Decide what to do with asynchronous messages from the client side for the duration of the downtime.</p> <p>Here's why: During the downtime, Oracle Integration rejects all incoming requests. To prepare, you have the following options:</p> <ul style="list-style-type: none"> <li>Before the upgrade starts, suspend all asynchronous messages on the client side. With this approach, the client doesn't send the messages, and Oracle Integration doesn't reject them. If you choose this option, make sure you know the start and end times of the upgrade.</li> <li>After the upgrade finishes, determine the appropriate next steps for the rejected messages.</li> </ul>                                                                                                                                                                                                                                                                                                                                        |
| Change Developer API for Oracle Integration 3 calls from Basic Authentication to OAuth | Developer                   | <p>If you didn't already update your API calls to use OAuth while completing prerequisites, do so now or immediately after upgrade.</p> <p>In Oracle Integration Generation 2, you could use Basic Authentication to use the <a href="#">Oracle Integration REST API</a> and <a href="#">File Server REST API</a>. In Oracle Integration 3, you must use OAuth. You need to update any clients, scripts, integrations, and commands that use the Developer API for Oracle Integration 3 or the Developer API for File Server to connect using OAuth. For more information on authentication method support, see <i>When is Basic Auth Supported in Oracle Integration 3</i> in <i>Provisioning and Administering Oracle Integration 3</i>. For details on using OAuth, see <a href="#">Security, Authentication, and Authorization</a> in <i>Developer API for Oracle Integration 3</i> or <a href="#">Security, Authentication, and Authorization</a> in <i>Developer API for File Server in Oracle Integration 3</i>.</p> |

## Adapters Pre-Upgrade Tasks

| Task                                         | Typical owner    | Tasks description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stop using decommissioned Microsoft adapters | Development team | <p>Microsoft decommissioned the Microsoft Outlook REST APIs in November 2022. If you use any of the following adapters, you must use the Microsoft Graph REST APIs instead.</p> <ul style="list-style-type: none"> <li>Microsoft Office 365 Calendar Adapter<br/>See Invoke Operations Page in <i>Using the Microsoft Office 365 Calendar Adapter with Oracle Integration 3</i>.</li> <li>Microsoft Office 365 People Adapter<br/>See Invoke Operations Page in <i>Using the Microsoft Office 365 People Adapter with Oracle Integration 3</i>.</li> <li>Microsoft Office 365 Outlook Adapter<br/>See Invoke Operations Page in <i>Using the Microsoft Office 365 Outlook Adapter with Oracle Integration 3</i>.</li> </ul> |

## Visual Builder Pre-Upgrade Tasks

| Task                                                              | Typical owner               | Tasks description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prepare Visual Builder with custom endpoint using SSL for upgrade | Administrator               | <p>If Visual Builder is enabled, you use a custom endpoint or alternate custom endpoints, and you're using SSL, perform the following steps:</p> <ol style="list-style-type: none"> <li>To allow access to the SSL certificate secret for upgrade, add the following policies, replacing <i>MySecretCompartment</i> with the compartment that includes the SSL certificate secrets: <pre>allow service vb-vbprod to manage secrets in compartment MySecretCompartment allow service vb-vbprod to manage keys in compartment MySecretCompartment allow service vb-vbprod to manage vaults in compartment MySecretCompartment allow service vb-vbprod to read secret-bundle in compartment MySecretCompartment</pre> </li> <li>Update your Visual Builder tenant and app settings, and any integration applications, so that they point to the original Oracle Integration Generation 2 URL rather than the custom endpoint. During upgrade, the custom endpoint will be configured in Visual Builder, so, after upgrade, only Visual Builder apps will be accessible through the custom endpoint.</li> </ol> |
| Prepare Visual Builder for upgrade                                | Development Operations team | Complete the tasks described in Prepare Visual Builder for the Upgrade in <i>Administering Oracle Visual Builder in Oracle Integration 3</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Review known issues                                               | Development Operations team | Review Known Issues for Live/Staged Apps Post-Upgrade to Oracle Integration 3 in <i>Known Issues for Oracle Integration 3</i> for issues that might result in Live or staged apps not working correctly after upgrading to Oracle Integration 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Update Allowlists

### ! Important

If your organization uses allowlists (also known as access control lists, or ACLs), you *must* add the IP addresses and URLs to your allowlists before upgrade to prevent errors and to make sure Oracle Integration can access your applications.

#### 1. Get the new IP addresses.

The new IP addresses appear on the **Upgrade** page approximately two weeks before your upgrade.

a. In the navigation pane, click **Settings**, then **Upgrade**.

b. Under **Allowlist IP Addresses**, note the following IP values:

- OIC Design-time IPs:** IP addresses for traffic entering into Oracle Integration 3 design time (the Oracle Integration 3 application).  
**Note:** The design-time URL supports the Developer API for Oracle Integration 3.
- OIC Runtime IP:** IP address for traffic entering into your Oracle Integration 3 runtime applications.

- **OIC Outbound IP:** IP address for traffic exiting Oracle Integration 3.
  - **VB Inbound IP:** IP address for traffic entering into Oracle Visual Builder.
  - **VB Outbound IPs:** IP addresses for traffic exiting Oracle Visual Builder.
  - **VB VCN OCID:** Oracle Cloud ID (OCID) of the Oracle Visual Builder service Virtual Cloud Network (VCN) for traffic exiting Oracle Visual Builder.
  - **Process Outbound IP:** IP address for traffic exiting Process Automation.
- c. You also need the Oracle Cloud Infrastructure Identity and Access Management (IAM) IP address. To find the IAM IP address, use the following command, replacing *IAM\_GUID* with the IAM GUID:
- ```
nslookup IAM_GUID.identity.oraclecloud.com
```
2. **Update your allowlists according to your organization's procedures to control traffic going into and coming out of Oracle Integration.**  
For example, you may use allowlists to manage the following types of Oracle Integration traffic.

| Type of traffic                                                                             | Associated allowlist        | How to update the allowlist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inbound traffic going to Oracle Integration and File Server                                 | Oracle Integration instance | If you use Visual Builder, you need to add the <b>VB VCN OCID</b> to the Oracle Integration Generation 2 allowlist before upgrade. See <i>Allow Your Instance to Access Services</i> in <i>Administering Oracle Visual Builder</i> .<br><br>Other than that, no action is needed. Oracle migrates your existing <a href="#">allowlist</a> as part of the upgrade.                                                                                                                                                                                                                   |
| Inbound traffic going to Oracle Integration through your <i>internal firewall</i>           | Internal firewall           | If your organization restricts the sites that internal resources can access, add the following IP addresses to your internal firewall allowlist: <ul style="list-style-type: none"> <li>• <b>OIC Design-time IPs</b></li> <li>• <b>OIC Runtime IP</b></li> <li>• <b>VB Inbound IP</b></li> </ul>                                                                                                                                                                                                                                                                                    |
| Inbound traffic going to File Server through your <i>internal firewall</i>                  | Internal firewall           | If your organization restricts the sites that internal resources can access, you'll need to add the File Server IP address to your internal firewall allowlist. However, you won't know the IP address until after upgrade. See <a href="#">Complete Post-Upgrade Tasks</a> .                                                                                                                                                                                                                                                                                                       |
| Inbound traffic going to Oracle Integration and IAM through your <i>connectivity agents</i> | Connectivity agent server   | Configure connectivity from your connectivity agents to Oracle Integration and IAM. Add the following IP addresses to the allowlists for the servers that host your connectivity agents: <ul style="list-style-type: none"> <li>• <b>OIC Design-time IPs</b></li> <li>• <b>OIC Runtime IP</b></li> <li>• <b>VB Inbound IP</b></li> <li>• <b>IAM IP</b></li> </ul> <p>Although the IAM IP address doesn't change after upgrade, the connectivity agent now needs access to IAM for OAuth. If you haven't already allowed IAM access across your network, add the IAM IP address.</p> |

| Type of traffic                                                                                               | Associated allowlist | How to update the allowlist                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Outbound traffic going out of Oracle Integration, Visual Builder, or Process Automation to your cloud systems | Target service       | <p>For each target service accessed by Oracle Integration technologies, add the appropriate outbound IP address to the service's allowlist.</p> <ul style="list-style-type: none"> <li>For Oracle Integration, allowlist the <b>OIC Outbound IP</b>.</li> <li>For Visual Builder, allowlist the <b>VB Outbound IP</b>.</li> <li>For Process Automation, allowlist the <b>Process Outbound IP</b>.</li> </ul> |

### Caution

If you update allowlists before the upgrade, don't remove the IP addresses for Oracle Integration Generation 2 yet. You might experience errors. After the upgrade finishes, the Oracle Integration Generation 2 IP addresses are no longer assigned to you and you can remove them.

Next, [inform users and stakeholders about the upcoming upgrade](#).

## Inform Users and Stakeholders About Upgrade

As your upgrade approaches, you need to inform users and stakeholders about the upcoming upgrade.

For example, consider completing the following tasks:

- Share the date of the upgrade.
- Ask everyone to limit their development work starting two days before the upgrade, if possible.  
If teams can't pause their work, the upgrade continues as planned. But, limiting your work can help ensure a successful upgrade.
- Tell everyone to expect downtime during the upgrade window.

Next, plan to limit or pause your development work during the days leading up to the upgrade. See [Limit Development Work Before the Upgrade](#).

## Limit Development Work Before the Upgrade

In the days and hours leading up to the upgrade, limiting your work in Oracle Integration Generation 2 can help ensure a successful upgrade. You'll receive an email reminder to pause your development work two days before the upgrade.

By default, upgrade notifications are automatically sent to the specified administrator email. Oracle recommends you have notifications sent to a distribution list or group email so that you don't miss important emails if someone leaves the company. You set who receives notifications on the **Upgrade** page. See "Upgrade Notifications" in [Configure Your Upgrade Settings](#).

Make sure you also complete all required tasks before the upgrade. See [Complete Pre-Upgrade Tasks](#).

During the two days leading up to the upgrade, Oracle completes the following tasks:

- Exports data from your Oracle Integration Generation 2 instance.

- Creates an Oracle Integration 3 instance in your existing tenancy.
- Imports Oracle Integration Generation 2 data into your new instance.

Runtime traffic continues to be routed to your Oracle Integration Generation 2 instance.

1. **During the two days leading up to the upgrade:** Pause or limit your development work as much as possible.

Any changes that you make are saved, but they might cause the upgrade check to fail. In such cases, the upgrade would need to be rescheduled. For example:

- Don't add metadata.
- Don't create integrations.
- Don't activate integrations.
- Resubmit any failed integration instances.  
By default, failed integration instances will be ignored during upgrade.
- If you use Processes in Oracle Integration Generation 2, don't create any new Process applications or Process transactions.

2. **One to two hours before the upgrade:**

- If you can, avoid starting any long-running asynchronous integrations.
- Check again for any failed integration instances, and resubmit them.

If the instance contains any failed integration instances, recover them. If you don't need them anymore, you can also delete them.

- Limit your work as much as possible.

For instance, try to limit your activation and deactivation work.

- Make sure that the connectivity agent is up and running.

In Oracle Integration Generation 2, the connectivity agent uses basic authorization to invoke Oracle Integration endpoints. During the upgrade, the connectivity agent is automatically converted from using basic authentication to using OAuth 2.0 token-based authentication to invoke Oracle Integration endpoints. All connections are automatically upgraded to OAuth 2.0, so you don't need to manually recreate any connections yourself.

3. **Fifteen minutes before the upgrade:** Don't perform any business-critical tasks in Oracle Integration Generation 2. Everyone should stop working in Oracle Integration Generation 2 and sign out.

#### **Note**

Oracle recommends that you do not stop your scheduled integrations prior to upgrade. If you stop integrations in your instance, the integrations remain stopped in the instance after the upgrade is complete, and you'll have to manually restart everything.

Next, on upgrade day, you need to wait for the upgrade to finish and then perform the post-upgrade tasks. See [What to Do During Upgrade](#).

## Process Upgrade Options

Depending on how you're using Process in Oracle Integration Generation 2, you'll use a different option to upgrade or migrate.

| Upgrade option                             | When is this option appropriate?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Synopsis of the option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Phased Upgrade for Process</a> | <p>If you have active process workloads, you can now upgrade to Oracle Integration 3 in a phased manner:</p> <ul style="list-style-type: none"> <li>Phase 1: Upgrade integrations and Visual Builder applications.</li> <li>Phase 2: Migrate Process workloads.</li> </ul> <p>This approach is appropriate when:</p> <ul style="list-style-type: none"> <li>You are using Process in production.</li> <li>You have long-running Process instances, which can't be completed prior to upgrade.</li> <li>You need to continue to serve new Process application requests without any disruption.</li> <li>You have integrations or Visual Builder applications that you do not want to disrupt with the Process migration.</li> </ul> | <p><b>Phase 1: Upgrade integrations and Visual Builder applications</b></p> <ul style="list-style-type: none"> <li>As part of the scheduled upgrade process, integrations and Visual Builder applications in Oracle Integration Generation 2 will be upgraded to Oracle Integration 3, however Process will remain on Oracle Integration Generation 2.</li> <li>After the upgrade, you will be able to access your existing Oracle Integration Generation 2 environment in addition to your newly created Oracle Integration 3 instance.</li> <li>The automated upgrade will ensure that integrated workflows/ connectivity between integrations/ Visual Builder applications (running on Oracle Integration 3) and Process (on Oracle Integration Generation 2) will continue to work after the upgrade with some exceptions. See <a href="#">Limitations</a>.</li> <li>Business users can continue to access Process tasks and create Process instances on Oracle Integration Generation 2 after the upgrade.</li> </ul> <p><b>Phase 2: Migrate Process workloads</b></p> <ul style="list-style-type: none"> <li>After Phase 1 is complete, you can continue to use Process in Oracle Integration Generation 2 until December 31, 2026. Process in Oracle Integration Generation 2 will be decommissioned on December 31, 2026.</li> <li>To migrate Process workloads to the newly provisioned Oracle Integration 3 instance, you will need to: <ul style="list-style-type: none"> <li>Enable Process in the upgraded Oracle Integration 3 instance.</li> <li>Export Process applications from Oracle Integration Generation 2 and import them into Process on Oracle Integration 3.</li> <li>Refactor Process applications to resolve validation issues. Activate applications on Oracle Integration 3 Process.</li> <li>Update clients that call Process applications.</li> <li>Promote Process applications to production.</li> </ul> </li> </ul> |

| Upgrade option                                         | When is this option appropriate?                                                                                                                                                                                                                                                                                                                                     | Synopsis of the option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                        |                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>– Perform switchover to Oracle Integration 3 Process for new process transactions.</li> <li>– Enter coexistence period.</li> <li>– Exit coexistence period before December 31, 2026.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <a href="#">Automated In-Place Upgrade for Process</a> | <ul style="list-style-type: none"> <li>• You have no process usage (running or completed instances), or</li> <li>• Your process usage is in a pre-production state, or</li> <li>• You have short-lived process instances that can be completed in Oracle Integration Generation 2 before upgrade, or</li> <li>• You are only using decision applications.</li> </ul> | <p><b>Before upgrade</b><br/>You must perform the following steps:</p> <ul style="list-style-type: none"> <li>• Replace the Process action in any affected integrations.</li> <li>• Ensure that all required transactions complete in Oracle Integration Generation 2 prior to upgrade.</li> </ul> <p><b>During upgrade</b><br/>Oracle performs the following steps:</p> <ul style="list-style-type: none"> <li>• Exports your process applications from Oracle Integration Generation 2.</li> <li>• Enables Process Automation in your upgraded Oracle Integration 3 instance.</li> <li>• Converts your existing process applications and imports them into your Oracle Integration 3 instance. If any of your process applications use unsupported actions (for example, an Insight activity), Oracle replaces those actions with placeholder actions that you must replace or remove after upgrade. See <a href="#">Complete Post-Upgrade Tasks for Process Automation</a>.</li> </ul> <p><b>Note:</b> Process instance data is not migrated to Oracle Integration 3. This means you won't see historical transactions created in Oracle Integration Generation 2 after upgrade.</p> <p><b>After upgrade</b><br/>You must perform post-upgrade activities to restore your process applications to working order. See <a href="#">Complete Post-Upgrade Tasks for Process Automation</a>.</p> |

| Upgrade option                                                                                                                                                                                                                                                                                                                                                                               | When is this option appropriate?                                                                                                                                                                                                                                                                                                                                                                                                | Synopsis of the option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p><b>NOT SUPPORTED</b></p> <p>This option is no longer recommended and should not be used if you are beginning the migration process. Follow the <a href="#">Phased Upgrade for Process</a> approach instead.</p> </div> <p><a href="#">Migrate Process Applications to a New OCI Process Automation Instance</a></p> | <ul style="list-style-type: none"> <li>You are using process in production, and</li> <li>You have long-running process instances which can't be completed prior to upgrade, and</li> <li>You need to continue to serve new process application requests without any disruption, and</li> <li>You have integrations or Oracle Visual Builder applications that you do not want to disrupt with the process migration.</li> </ul> | <p><b>Migrate process applications to OCI Process Automation</b></p> <ul style="list-style-type: none"> <li>Provision a new OCI Process Automation instance.</li> <li>Migrate process applications to the new instance.</li> <li>Perform post-migration activities to restore process applications to working order.</li> <li>Update clients that call OCI Process Automation.</li> </ul> <p><b>Switch to OCI Process Automation for new transactions</b></p> <ul style="list-style-type: none"> <li>Promote process applications to production.</li> <li>Perform switchover to OCI Process Automation.</li> <li>Serve new process transactions from OCI Process Automation.</li> <li>Run Oracle Integration Generation 2 in parallel with OCI Process Automation until existing transactions complete (coexistence period).</li> </ul> <p><b>Upgrade to Oracle Integration 3</b></p> <ul style="list-style-type: none"> <li>Upgrade the Oracle Integration Generation 2 instance once all process instances complete.</li> <li>Attach the OCI Process Automation instance to Oracle Integration 3.</li> </ul> |

## Phased Upgrade for Process

If you have active Process workloads and need additional time to complete the transition to Oracle Integration 3, you can now complete the transition in a phased manner.

With this approach, you can continue to use Process in Oracle Integration Generation 2 until December 31, 2026. Process in Oracle Integration Generation 2 will be decommissioned on December 31, 2026.

This transition involves two phases:

- Phase 1:** Upgrade integrations and Visual Builder applications to Oracle Integration 3.
- Phase 2:** Migrate Process workloads to Oracle Integration 3.

### Summary of Phase 1 Steps

Here's a summary of the steps for phase 1.

#### Before the Upgrade

- Review the documentation.
- Review and complete the pre-upgrade steps.
- Review the schedule and plan for the upgrade.

### During the Upgrade

- Integrations and Visual Builder applications will be upgraded to Oracle Integration 3.
- Process will remain on Oracle Integration Generation 2.
  - Process will **not** be enabled on Oracle Integration 3 and no process design-time migration will occur.
- Connectivity between integrations/Visual Builder applications (running on Oracle Integration 3) and Process (on Oracle Integration Generation 2) will continue to work after the upgrade provided that you have completed the required prerequisites. Also, there are some limitations. See [Limitations](#).
- Oracle Integration 3 will retain the existing host name. A new host name will be assigned to Oracle Integration Generation 2. Process traffic going through the current host name will be forwarded to PCS on Oracle Integration Generation 2.

### After the Upgrade

- You will be able to access your existing Oracle Integration Generation 2 environment in addition to your newly created Oracle Integration 3 instance.
- The Oracle Integration Generation 2 URL will change after the upgrade.
- Business users' can continue to access Process tasks and Process tracking in Oracle Integration Generation 2 after the upgrade.
- You will not be charged for your Oracle Integration Generation 2 instance after the upgrade. The Oracle Integration Generation 2 instance will no longer be available in the Oracle Cloud Console.
- You should perform a sanity test to validate connectivity after upgrade.

### Summary of Phase 2 Steps

Here's a summary of the steps for phase 2.

#### Enable Process

- After Phase 1 is complete, enable Process in the upgraded Oracle Integration 3 instance.

#### Migrate Process Applications

- Export Process applications from Oracle Integration Generation 2 and import them into Process on Oracle Integration 3.
- Refactor Process applications to resolve validation issues. Activate the applications on Oracle Integration 3 Process.
- Update clients that call Process applications.
  - Integrations calling Process
  - Integrations called by Process
  - Visual Builder applications
  - Non-Oracle-Integration clients

#### Switch Production to Oracle Integration 3

- Promote Process applications to production.
- Perform switchover to Oracle Integration 3 Process for new process transactions.
- Enter coexistence period.

## Exit Oracle Integration Generation 2

- Exit coexistence period before December 31, 2026.
- Oracle Integration Generation 2 will be decommissioned by Oracle.

For more information, see the following:

- For information about upgrading to Oracle Integration 3, see [Upgrade from Oracle Integration Generation 2 to Oracle Integration 3](#).
- To learn about the key changes between Process in Oracle Integration Generation 2 and Oracle Integration 3, see [How Upgrade Affects Process Features](#).
- For information about phase 1, see [Upgrade to Oracle Integration 3: Phase 1](#).
- For information about phase 2, see [Upgrade to Oracle Integration 3: Phase 2](#).
- To learn about the limitations post upgrade, see [Limitations](#).
- For answers to questions about the phased upgrade, see [FAQs](#).

## Upgrade to Oracle Integration 3: Phase 1

Learn about the steps in phase 1 of phased upgrade. Complete these steps to upgrade integrations and Visual Builder applications to Oracle Integration 3.

### Prerequisites

Make sure you complete the prerequisites before your instance is upgraded to avoid any disruption.

#### Oracle Integration Generation 2

- A new host name will be created for your Oracle Integration Generation 2 instance. You will need to use this new host name for all browser-based access to Process on Oracle Integration Generation 2 instance going forward.
- The new host name will be displayed under **More details** in the Process Automation prechecks section on the Upgrade page.

#### Oracle Visual Builder

If you have Oracle Visual Builder applications calling Process, then complete the following steps to update the Oracle Visual Builder applications.

1. In the Oracle Visual Builder console, navigate to **Settings, Services, Backends, Process Applications**, and then **Servers**.
2. For the Oracle Integration Generation 2 Process server, click **Edit**.
3. In the **Instance URL** field, update the host name to the host name provided in [the above step](#).
4. In the **Authentication** field, change the value from **Oracle Cloud Account** to **OAuth 2.0 User Assertion**. Update the **Scope** field to use the Oracle Integration REST endpoint scope with **Primary audience** URL. You can obtain the scope from Oracle Integration instance's OAuth confidentiality app from your tenancy. The scope will be defined in that confidentiality app. See [Configure OAuth 2.0 Authentication Using Client Credentials](#) for information about creating the OAuth confidentiality app in Oracle Integration Generation 2. Example of a **Primary audience** URL: `https://E213D785B536427D9E7E0BE1C5D85300.integration.ocp.oraclecloud.com:443`.

5. For each of the Oracle Visual Builder applications you created, complete the following steps:

**Note**

You need to perform steps **a** to **c** only if Oracle Visual Builder is used to process the tasks using external UI. For information about external UI connection, see [Create an External UI Connection](#).

- a. Open the security settings of the Oracle Visual Builder application.
  - b. Set the **Embedding** field to **Allow embedding in specified domains**.
  - c. In the **Domain URL** field, add the new Oracle Integration Generation 2 Process URL.
6. If a Oracle Visual Builder web application has any reference to the Process components page, for example, VB\_SERVER + "/ic/pub/components/pages/applist.html", then optionally you can create a new system variable for PCS as Oracle Integration Generation 2 PCS will now have a new URL.
  7. Redeploy the Oracle Visual Builder applications.

To update Process applications calling Oracle Visual Builder web applications as external UI:

1. Open the Process application and go to **Forms**.
2. Open the external UI form and use the staged or live Oracle Visual Builder application URL, for example, `https://oicvb-vb-axkbv4jfb37h.builder.toronto-1.ocp.oraclecloud.com/ic/builder/rt/ExternalUI_1_0/1.0/webApps/webapp/`.
3. Publish and activate the application.
4. In the workspace, open the task using the external UI form. The Oracle Visual Builder page is now available.

**Note**

- After updating the Oracle Visual Builder applications using the above steps, verify that the calls from Visual Builder to Process are working correctly.
- Completing the pre-upgrade steps to update Oracle Visual Builder applications will ensure the following:
  - Verification of Oracle Visual Builder connectivity to Process before the actual upgrade, preventing downtime after the upgrade.
  - Once you update Oracle Visual Builder to use the new host name and authorization policy, you do **not** need to revert it.
- **If updating Oracle Visual Builder is unsuccessful:** Revert the configuration changes and submit a service request (SR) on [My Oracle Support](#) to avoid a prolonged outage.
- **If you take no action before the upgrade:** You will need to perform the steps to update the Oracle Visual Builder applications after upgrading, which will result in downtime. It is highly recommended to complete these steps before upgrading.

**Note**

The calls from PCS to Oracle Visual Builder objects need to use REST connections configured with Basic Auth security policy only.

**Other Front-End Applications**

If you are using other front-end applications with Process APIs, you must update them to use the new host name. If you do not update the host name, you might encounter HTTP redirect errors.

**Oracle Content Management**

If you are using Process integrated with Oracle Content Management (OCM), you will need to update the host name for Process Automation in [OCM's integration settings](#). With the below change, the integration between OCM and Process will work until OCM reaches end of life.

- **If Process is only used to support OCM:** Contact your account team to reschedule your upgrade until you have moved off OCM (must be done by December 2025).
- **Otherwise:** Your instance will be upgraded using the phased upgrade for Process. The integration between OCM and Process will work until OCM reaches end of life.

**Process**

- It is recommended to pause or limit new development work until after the upgrade.
- For service registration to work as expected, ensure that your REST trigger utilizes the OAuth 2.0 and Basic Authentication security policy.
- If you have integrations called by processes, then:
  - Before upgrade: Enable OAuth and Basic Authentication for these integrations. The REST trigger for these integrations needs to have the OAuth and Basic Authentication security policy enabled. If it is using only OAuth or only Basic Authentication, then update it to use OAuth and Basic Authentication to avoid failures after upgrade.

**Note**

You need to use a REST trigger connection of trigger type only.

- After upgrade: Verify that integrations called by processes use OAuth and Basic Authentication as the security policy.
- If you have any dynamic processes on Oracle Integration Generation 2 that call integrations, then use REST connectors to deploy such processes on Oracle Integration 3. If you use native adapters instead of REST connectors to deploy such processes on Oracle Integration 3, it might cause failures.

## Post-Upgrade Tasks

Learn what happens after the phase 1 upgrade is complete and ensure you complete the post-upgrade tasks.

### Note

The following information applies only to customers who were migrated using the phased upgrade for Process.

After the phase 1 upgrade is complete, here's what happens and what you need to do:

### Oracle Integration Generation 2

### Note

You can still access your Oracle Integration Generation 2 environment post upgrade.

For example: `https://<original instance ID>-process.integration.ocp.oraclecloud.com/ic/home/`.

All existing (in-flight and completed) transactions will be available.

- On your Oracle Integration Generation 2 instance, only Process functionality will be available; all other components have been upgraded.
- No new development work should occur in Oracle Integration Generation 2 from this point onwards.
- The Oracle Integration Generation 2 instance will no longer be available in the Oracle Cloud Console, so management actions (such as start/stop) for your Oracle Integration Generation 2 instance are no longer possible.
- You can discover integrations in Oracle Integration 3 if you need to apply any fixes in your existing processes.
- Dynamic Process calls using the integrations activity will not work after the upgrade. As such, you will need to update your dynamic processes to use a service activity connection to call your integration(s). If you do not do this before the upgrade, you might experience service interruption post-upgrade.
- If you are calling any processes using their SOAP endpoints, you should note that the web service endpoints will not show the correct address in the designer. However, during runtime, calls will be correctly redirected by the Oracle Integration 3 instance. If you want to manually update your clients to use the correct WSDL endpoint, you can do so by performing the following steps:
  1. In the Oracle Integration Generation 2 instance, in the navigation pane, click **Processes**, and then click **Process Applications**. The Process Applications page appears.
  2. On the Process Applications page, click **Activate**. The Activate page appears listing the applications that you can manage.
  3. Click **Actions** , then select **Web Services**.

The Manage Web Services dialog appears.

4. In the Manage Web Services dialog, the **Exposed** tab displays the web services URL that the active application is exposing. Update the host name in this web service URL manually to use [the new host name](#).

### Oracle Integration 3

- Process will not be enabled in Oracle Integration 3 after the upgrade.
- Integrations that call Process have been migrated and activated.
- You will be able to discover new processes on Oracle Integration Generation 2 if you need to apply any fixes to existing solutions.
- Schedule integrations with a process action calling Process are not automatically started after phased upgrade. You need to start these schedule integrations after phased upgrade.

### Visual Builder and Other Front-End Applications

- If you have Visual Builder applications calling Process, and did not complete [the pre-upgrade steps](#), you must complete them now.
- Oracle Integration Generation 2 Processes will no longer be discoverable or available to call in action chains. You need to use Oracle Integration 3 Process for all new Visual Builder development initiatives.

### Validation

- Perform sanity checks to validate connectivity between integrations, front-end applications, and Process.
- Perform functional testing on your Process environment.

### Resume Operations

- Once validation is complete, business users can resume creating process instances and performing tasks.

## Upgrade to Oracle Integration 3: Phase 2

Learn about the steps in phase 2 of phased upgrade. Complete these steps to migrate Process workloads to Oracle Integration 3:

1. [Enable Process with Oracle Integration 3](#)
2. [Export and Import Process Applications](#)
3. [Refactor Process Applications](#)
4. [Update Clients that Call Process Applications](#)
5. [Promote Process Applications to Production](#)
6. [Perform Switchover to Oracle Integration 3 Process](#)
7. [Coexistence Period](#)
8. [Exit Oracle Integration Generation 2 Process](#)

## Enable Process with Oracle Integration 3

To use Process with Oracle Integration, an administrator needs to enable it from an Oracle Integration service instance in the Oracle Cloud Console.

When enabled, a Process instance is automatically provisioned with the Oracle Integration instance. In such a case, the two services become *associated* with each other and are listed in each other's Associated services page in the Oracle Cloud Console.

Key points about enabling Process with Oracle Integration:

- You can enable Process only with Oracle Integration 3 *Enterprise Edition*.
- You must ensure that the user who enables Process with Oracle Integration must exist in the identity domain of the Oracle Integration instance and must have **MANAGE** permissions on Process.
- You must ensure that you've set up the correct IAM policies to manage access to the Process instance. See *Set Up IAM Policies to Manage Process Automation Instance in Administering Oracle Cloud Infrastructure Process Automation*.
- A Process instance provisioned with Oracle Integration cannot be deleted independently. Such an instance is deleted whenever the Oracle Integration instance with which it is associated is deleted.
- A Process instance provisioned with Oracle Integration must be in the same tenancy, region, and compartment as the Oracle Integration instance. You cannot move the instance to a different compartment.

### Set Up IAM Policies to Manage Process Instance

To enable Process with Oracle Integration, you need to create Oracle Cloud Infrastructure Identity and Access Management (IAM) policies that allow Oracle Integration administrators belonging to a specified IAM group to manage the Process instance.

Set up the following IAM policies for Process:

- **Syntax:** allow group `<group_name>` to manage process-automation-instances in compartment `<compartment_name>`  
**Example:** allow group domain\_admins to manage process-automation-instances in compartment oicpa\_compartment
- **Syntax:** allow group `<group_name>` to read metrics in compartment `<compartment_name>`  
**Example:** allow group domain\_admins to read metrics in compartment oicpa\_compartment

See *About IAM Policies for Process Automation and Create an IAM Policy in an Identity Domain in Administering Oracle Cloud Infrastructure Process Automation*.

For information on IAM policies for Oracle Integration, see [About IAM Policies for Oracle Integration](#) and [Create an IAM Policy in an Identity Domain for Oracle Integration](#).

### Enable Process

To enable a Process instance with an Oracle Integration instance:

1. Open the navigation menu and click **Developer Services**. Under **Application Integration**, click **Integration**.

2. From the Compartment drop-down list, select the compartment in which you want to provision and enable a Process instance with an Oracle Integration instance. The page is refreshed to show any existing service instances in the selected compartment.
3. Choose an existing instance or [create an Oracle Integration instance](#) and select it. The Integration instance details page opens.
4. Click the **Enable** link for Process on the Integration instance information tab.
5. When prompted, click **Enable** to confirm that you want to enable Process. Note the following:
  - The Oracle Integration icon turns orange and its status changes to Updating.
  - It can take several minutes for the enablement to complete.
  - Once complete, that is when a Process instance gets enabled and provisioned with the Oracle Integration instance, the Oracle Integration icon changes back to green with an Active status and Process shows as Enabled.
6. To navigate to the Process instance that just got created, click **Associated services** under **Resources**.
7. Select the Process instance and view its details.

### Assign IDCS Application Roles to Manage Access

After Process is enabled, existing users with the **ServiceDeveloper** role will have access to the Process Designer and existing users with the **ServiceAdministrator** role will be able to perform administrative tasks in the Workspace.

## Export and Import Process Applications

Export Process applications from Oracle Integration Generation 2 and import them into Process on Oracle Integration 3.

1. **Determine which applications you want to migrate.**  
You may want to take this opportunity to clean up unnecessary applications. Think about whether you want to migrate only those applications that are in your production environment.  
  
If you're going to migrate individual applications, take note of the applications you want to migrate and any dependencies they have.
2. Migrate your applications using one of the following methods:
  - **Migrate all applications in bulk**
    - a. In the Oracle Cloud Console, create an Object Storage bucket. See [Creating an Object Storage Bucket](#).  
The storage bucket URL you'll need in the next step is in the following format:  
`https://swiftobjectstorage.region.oraclecloud.com/v1/namespace/bucket`  
Where:
      - *region* is the identifier of your Oracle Cloud Infrastructure (OCI) data center.
      - *namespace* is the tenancy where you created your bucket.
      - *bucket* is your bucket name.
    - b. Make a POST request to your Oracle Integration Generation 2 instance to export your applications:  
`curl -X POST https://Generation2_hostname/ic/api/process/v1/exportArtifactsInternal`

With the following payload:

```
{
  "jobId": "enter_a_descriptive_ID",
  "storageInfo": {
    "storageUrl": "Swift_storage_bucket_URL",
    "storageUser": "OCI_Console_user",
    "storagePassword": "OCI_Console_user_password"
  }
}
```

You'll know the export job is complete when you see the `process_status.json` file in your bucket. This file contains the status of the job, its completion percentage, and, if failed, the error message. You should also see the following content in your bucket:

- `Process/project` folder—contains all your process applications.
- `Process/dmn` folder—contains all your decision models.
- c. After the applications have been exported into your bucket, make a POST request to your Oracle Integration 3 instance to migrate your applications:  
`curl -X POST https://Integration3_hostname/process/api/v1/oic-migration/jobs/`

With your tenant ID:

`x-tenant-id: tenant_OCID`

And your bucket information:

```
{
  "bucketInfo": {
    "region": "region",
    "namespace": "namespace",
    "bucket": "bucket"
  }
}
```

See [Security, Authentication and Authorization](#) in *Developer API for Oracle Cloud Infrastructure Process Automation*.

- d. Wait for the migration job to complete. To check the status of the migration job:  
`curl http://localhost:8080/process/internal-api/v1/oic-migration/jobs/job_ID`
- **Migrate individual applications**
  - a. Export the Oracle Integration Generation 2 process applications.  
 In the Oracle Integration Generation 2 instance that includes the applications you want to migrate, export each application you want to migrate. See [Export an Application](#) in *Using Processes in Oracle Integration Generation 2*.
  - b. Import the process applications into Oracle Integration 3 Process.  
 In Oracle Integration 3 Process, import the Oracle Integration Generation 2 process applications. See [Import an Application](#) in *Using Oracle Cloud Infrastructure Process Automation*.

Oracle Integration 3 Process converts the legacy process applications to the latest product version.

### 3. Review the migration report.

When the import and conversion is complete, you'll see a migration report showing what was successfully imported, what needs additional work, and any items that couldn't be migrated. This gives you an idea of migration issues that you'll need to handle.

You can refer back to the original migration report in the main menu. See *Import an Application* in *Using Oracle Cloud Infrastructure Process Automation*.

## Refactor Process Applications

Refactor Process applications to resolve validation issues. Activate the applications on Oracle Integration 3 Process.

### Validate and Activate Imported Process Applications

To validate and activate your process applications, perform the following steps:

#### 1. Validate each application and fix any errors and warnings.

Validate each application from the Designer by clicking  and choosing **Validate** from the menu.

To resolve validation issues, see [How Upgrade Affects Process Features](#).

#### 2. Activate the application.

After you've resolved all validation errors, you can activate your application. See *Activate Applications* in *Using Oracle Cloud Infrastructure Process Automation*.

### Map Users and Groups to New Application Roles

Application Roles have significantly changed in Oracle Integration 3. ProcessOwner, AnalyticsViewer, and ProcessReviewer roles are now explicitly defined for each application, enabling you to control their members and permissions.

The following table shows how the Oracle Integration Generation 2 roles map to the Oracle Integration 3 Process roles.

| Oracle Integration Generation 2    | Oracle Integration 3 Process |
|------------------------------------|------------------------------|
| <application-name>.ProcessOwner    | Process Owner                |
| <application-name>.AnalyticsViewer | N/A                          |
| <application-name>.<swim-lane>     | <swim-lane>                  |
| <application-name>.ProcessReviewer | Process Reviewer             |

The new roles are available after the migration, but you need to add members (users and groups) to them. You'll probably need to reference your Oracle Integration Generation 2 environment to see which members should be assigned to each role.

If Oracle Integration 3 Process shares the same identity domain as your existing Oracle Integration Generation 2 instance, existing users and groups should be available for selection.

You can add members either before activation in the Designer or after activation in the Workspace.

- Work with Roles in Designer
- Manage Roles in Workspace

For additional information on Oracle Integration 3 Process, see *Configure Roles for Process Applications* in *Using Oracle Cloud Infrastructure Process Automation*.

## Update Clients that Call Process Applications

Depending on your specific usage, you'll perform different steps to update your clients.

Perform the steps that apply to your implementation:

- [Integrations Calling Process](#)
- [Integrations Called by Process](#)
- [Oracle Visual Builder Applications](#)
- [Non-Oracle-Integration Clients](#)
- [Verification](#)

### Integrations Calling Process

Integrations calling processes in Oracle Integration 3 will need to be updated to use the new Process action. To do this, create a new major version of your integration, add the new process action, and reference the process you want to start from Oracle Integration 3. Remove the legacy process action and activate your integration.

### Integrations Called by Process

Oracle Integration 3 Process supports REST-based communication only via Service Registration. This means that connectivity to SOAP-based integrations will no longer be possible.

If you have integrations that use a SOAP trigger and these are called by processes in Oracle Integration Generation 2, you will need to take additional steps to present a REST based interface to Oracle Integration 3 Process. This may mean that you need to do *one* of the following:

- Create REST-based wrapper integrations.  
or
- Change the existing trigger from SOAP to REST.

Review all the integration connections in the migrated process applications. Refresh connection metadata, ensuring that the latest definition is brought into your process application. Update any invalid data mappings and redeploy your process via a new version.

### Oracle Visual Builder Applications

The developer APIs for Process and Decision application change after the upgrade. As a result, you must update any Oracle Visual Builder applications that interact with them, replacing any [deprecated integration patterns](#). See *Work with Business Processes in Building Responsive Applications with Visual Builder Studio*.

To do this you may need to evaluate current process usage. Look through each of your Oracle Visual Builder applications and determine if they're making calls to developer APIs for Process via Action Chains, Direct Calls, or using embeddable process components (also referred to as CCA).

If your applications are calling Process endpoints, perform the following steps:

#### 1. Connect to Oracle Integration 3 Process.

Create a backend connection to Oracle Integration 3 Process. This backend will be used to establish a connection to the new Oracle Integration 3 Process instance. See *Connect to Developer APIs for Process Automation in Building Responsive Applications with Visual Builder Studio*.

## 2. Create a new version of your applications.

Oracle recommends, creating a new version of your Oracle Visual Builder applications to implement required changes. See *How to Create Versions of an Application in Developing Applications with Oracle Visual Builder*.

## 3. Action Chains

If your application is using action chains to start a process or take action on a task, you'll need to replace each of these with a REST-based Service Connection. Repeat these steps for each process action chain task.

### Triggering a Process

Replace the Start Process action chain with a Catalog based Service Connection.

- a. Navigate to Oracle Integration Generation 2 and take note of the process you're calling. You can determine this either from the action chain process step or from the processes tab in the application menu on the left.
- b. Create a Catalog-based Service Connection to your process in the new version of your Oracle Visual Builder application. See *Create a Service Connection from an OCI Process Automation Catalog in Building Responsive Applications with Visual Builder Studio*. Ensure that you select the same process you were referencing before.

#### Note

Your process should already be activated.

- c. Create a Type based on the endpoint of the above process. See *Create a Type from an Endpoint in Developing Applications with Oracle Visual Builder*.
- d. Create a Variable based on the above type. See *Create Variables in Developing Applications with Oracle Visual Builder*.
- e. Navigate to your action chains and perform the following actions:
  - i. Drag an Assign Variable Action above your current Start Process Action.
  - ii. Map the data fields and input parameters required to invoke your process.
  - iii. Drag the Call REST Action above your current Start Process Action.
  - iv. Configure the Call REST Action by selecting the POST/Instances endpoint.
  - v. Map the above Variable to the request body of the REST Action.
  - vi. Delete the legacy Start Process Action.
- f. Test the call, and ensure that your process is being called successfully in Oracle Integration 3 Process.

### GET Process Instance

Replace the Get Process Instance action chain with a Catalog-based Service Connection.

If you created a Catalog-based Service Connection to your process by following the steps above, you'll notice that Get Process Instance endpoint is now available in your service connection.

Replace the legacy Get Process Instance Process Action with a Call REST Action that is configured with the above endpoint, and re-map the instanceID field.

**Note**

The response payload values here have changed.

**Other Process Actions**

Perform the following steps for all other Process Actions such as Perform Task and Get Task:

- a. Navigate to Oracle Integration Generation 2 and take note of the Process Actions you're using.
- b. Replace these Actions with endpoint-based Service Connections. The following table maps each of these actions to the corresponding Developer API for Process.

| Oracle Visual Builder Action    | Developer API for Process                        | Description                                          |
|---------------------------------|--------------------------------------------------|------------------------------------------------------|
| Perform Task                    | POST /process/api/v1/tasks/{id}/complete         | Approval actions such as Approve, Reject, and so on. |
| Perform Task                    | PUT /process/api/v1/tasks/{id}                   | Update the Task Priority, Payload, Title, and such.  |
| Perform Task                    | PUT /process/api/v1/tasks/{id}/payload           | Update the Task Payload.                             |
| Perform Task                    | POST /process/api/v1/tasks/{id}/claim            | Claim a task.                                        |
| Perform Task                    | POST /process/api/v1/tasks/{id}/release          | Release a task.                                      |
| Perform Task                    | POST /process/api/v1/tasks/{id}/request-for-info | Request for information on a task.                   |
| Perform Task                    | POST /process/api/v1/tasks/{id}/submit-info      | Submit the requested information for a task.         |
| Perform Task                    | POST /process/api/v1/tasks/{id}/reassign         | Reassign a task.                                     |
| Get Task Collection             | GET /process/api/v1/tasks                        |                                                      |
| Get Task                        | GET /process/api/v1/tasks/{id}                   |                                                      |
| Get Deployed Process Collection | GET /process/api/v1/instances                    |                                                      |
| Get Process Instance Collection | POST /process/api/v1/instances                   |                                                      |

**4. Direct Calls**

The developer APIs for Process and Decision application change after the upgrade. As a result, you must update any direct service connections. See [Developer API for Oracle Cloud Infrastructure Process Automation](#).

**5. CCA Components**

If you're using Oracle Integration Generation 2 Process CCA components, you must replace them with their equivalent Oracle Integration 3Process component.

| Component Name | Oracle Integration Generation 2 CCA | Oracle Integration 3 Process Equivalent                                      |
|----------------|-------------------------------------|------------------------------------------------------------------------------|
| Task List      | oj-pcs-task-list                    | oj-opac-task-list                                                            |
| Task Detail    | oj-pcs-task-detail                  | oj-opac-task-detail                                                          |
| App List       | oj-pcs-app-list                     | oj-opac-applist                                                              |
| Start Form     | oj-pcs-start-form                   | oj-opac-start-form                                                           |
| DP List        | oj-pcs-dplist                       | oj-opac-instance-list (Displays both Structured Process and Dynamic process) |
| Visualization  | oj-pcs-visualization                | oj-opac-analytics (Cannot save visualizations)                               |

#### Note

If you have created and deployed a new version of your process, ensure that an alias has been defined for Oracle Visual Builder to call the new process.

### Non-Oracle-Integration Clients

If you're calling process applications from outside Oracle Integration (for example, your own custom application), you need to update the REST endpoints and authorization policies used to call the newly configured Oracle Integration 3 Process instance. For more information on the new API endpoints and supported authorization policies, see [Developer API for Oracle Cloud Infrastructure Process Automation](#).

### Verification

Perform a System Integration Test to validate your work.

Test the connectivity to the new process environment. This test should focus on validating the following interaction patterns based on your usage:

- Oracle Integration 3 Process - Oracle Integration 3 - Integrations
- Oracle Integration 3 - Integrations to Oracle Integration 3 - Processes
- Oracle Visual Builder - Applications to Oracle Integration 3 Process - Processes

## Promote Process Applications to Production

Move the Oracle Integration 3 assets to user acceptance and production instances.

You need to deploy the new version of all the Oracle Integration 3 assets such as Process applications, Oracle Visual Builder applications, and integrations to the higher environment for validation.

## Perform Switchover to Oracle Integration 3 Process

Perform the following steps:

1. Activate and deploy client changes to ensure that all new system-driven requests are sent to Oracle Integration 3 Process as previously described.
2. Communicate the new Oracle Integration 3 Process Workspace URL with users and ensure that users:
  - Bookmark the Oracle Integration 3 Process workspace.
  - Create new processes *only* in Oracle Integration 3 Process.

- Complete their new tasks in Oracle Integration 3 Process.
3. Retire the Oracle Integration Generation 2 applications so that no new processes can be created but the existing ones are allowed to complete. See [Manage Active Applications](#) in *Using Processes in Oracle Integration 2*.

**! Important**

From this point onwards, Oracle Integration 3 Process should handle all new requests.

## Coexistence Period

When Oracle Integration 3 Process starts serving new transactions in production, you'll likely enter what is known as a *coexistence period*.

During this time:

- New process instances will be served by Oracle Integration 3 Process.
- Existing process instances will continue to run on Oracle Integration Generation 2 Process until they complete.

**i Note**

During the coexistence period, users must perform tasks assigned to them in both Oracle Integration 3 Process and Oracle Integration Generation 2.

During this period, Process users should:

- Work primarily from the Oracle Integration 3 Process Workspace.
- Occasionally check the Oracle Integration Generation 2 My Tasks List.
- Rely on email-based approvals as much as possible, as the links in the emails will take them to the right place to perform the task.

The coexistence period lasts until all transactions created on Oracle Integration Generation 2 are complete. You should actively seek to shorten the duration of this period as much as possible. Here are some guidelines:

- Prevent the creation of new transactions on Oracle Integration Generation 2 by using the Retire functionality. This is applicable to all structured processes that don't contain receive activities. The retire functionality prevents the creation of new instances but also allows existing transactions to complete. See [Manage Active Applications](#) in *Using Processes in Oracle Integration 2*.
- Aim to actively expedite the completion of Oracle Integration Generation 2 instances as much as possible by following up with users to take action that sees them through to completion. You can see the number of open transactions per process and the assignee for associated tasks using a new report that is available if you navigate to **Process**, **Administration**, and then **Migration Report**.
- For very long-running process, instances that can't be completed in several months, explore the following options:
  - Recreate the instance in Oracle Integration 3 Process and use the Alter Flow functionality to update the payload and move the process instance to the current action (where it is currently in Oracle Integration Generation 2 Process). After this is done,

the existing Oracle Integration Generation 2 instance can be terminated. See *Alter the Flow of a Process* in *Using Oracle Cloud Infrastructure Process Automation*.

- Modify the migrated application so that it can be initiated using the latest state of the existing Oracle Integration Generation 2 process instance.

You can track the remaining Oracle Integration Generation 2 process transactions by clicking **My Tasks**, then choosing **Processes** in your Oracle Integration Generation 2 instance. You must sign in with a user who has the Service Administrator Role.

## Exit Oracle Integration Generation 2 Process

To avoid service disruption, you must plan to exit Oracle Integration Generation 2 Process by December 31, 2026. Process in Oracle Integration Generation 2 will be decommissioned on December 31, 2026.

You can move your Process applications to Oracle Integration 3 before December 31, 2026 by enabling Process in Oracle Integration 3. See [Enable Process with Oracle Integration 3](#). For information on exporting or importing Process application design-time artifacts, see [Migrate All Applications REST Endpoints](#).

Save runtime data from Oracle Integration Generation 2 Process. This step is important to ensure that you don't lose the history of completed transactions. You must do this *before* upgrade. See [Archive and Purge Data](#). Be aware of the following points:

- The archived information will be available in the configured Object Storage bucket.
- Attachments aren't included in the archive files. You must export these manually. See [Retrieve a Process Attachment as a Stream](#) in *REST API for Oracle Integration 2*.

## Limitations

Learn about the limitations post upgrade.

### Oracle Integration 3

#### Process

- After upgrade, for design-time artifacts, you need to update the web service URL manually. Otherwise, you might encounter an error. See [Post-Upgrade Tasks](#).
- After upgrade, if you try to reactivate any existing processes with an integration that was configured to use **Propagate Identity** before the upgrade, you will encounter an error indicating that no security is configured. The workaround is to select **Basic Security**.

#### Visual Builder

- Oracle Integration Generation 2 processes will no longer be discoverable or available to call in action chains. You need to use Oracle Integration 3 Process for all new Visual Builder development initiatives.
- Existing applications that reference Oracle Integration Generation 2 Process will continue to work after following the [prerequisites](#).

#### Integration

- Design-time discovery for Process instances with complex schema definitions is not supported. After upgrading, if your processes contain complex schemas, then there might be errors or failures if you try to generate artifacts.
- Schedule integrations with a process action calling Process are not automatically started after upgrade. You need to start these schedule integrations after upgrade.

- If you have Process applications calling integrations that use a trigger with no security policy, these integrations will fail after the upgrade with an error. To resolve this issue, ensure that any integrations called by Oracle Integration Generation 2 Process use a REST trigger connection of trigger type that supports the OAuth and Basic Auth security policy.

### Lifecycle Management

- The Oracle Integration 3 instance should not be deleted or shut down when Oracle Integration Generation 2 Process is active. If it is deleted or shut down, it will prevent the network traffic via the original URL from reaching the Oracle Integration Generation 2 instance.

### Insight

- Insight will not be available in Oracle Integration 3.
- Calls from Process to Insight will **not** be supported after the upgrade. Processes with Insight activities will continue to run (and no failure will occur on Insight activity), but as Insight is not available in Oracle Integration 3, no Insight data will be available.

### Oracle Integration Generation 2

#### Process

- No new development work should occur.
- Integration connectors will only support the generic credentials security policy.
- Process calls to Insight will no longer be supported after the upgrade.
- Dynamic Process calls using the integrations activity will not work after the upgrade. Oracle Integration Generation 2 Process does not show any error and erroneously indicates that the integration call is successful although it is not successful. You can reconfigure these calls to use the Service Task (calling the REST trigger on Oracle Integration 3).
- If there are any dynamic processes calling integrations using Generic Credentials as security, it will result in failures at runtime.
- Process Analytics will no longer be available after the upgrade. However, you can see the number of open instances per application using a new report that is available if you navigate to **Process, Administration**, and then **Migration Report**.
- REST triggers in integrations called by processes need to be set up with *OAuth and Basic Auth* security policy. If you have processes calling an integration with a REST trigger that is configured only with *OAuth* security policy or only with *Basic Auth* security policy, you will need to update it to use *OAuth and Basic Auth* security policy to avoid failures after upgrade.
- After the upgrade, when discovering integrations in a Process application, only integrations that use connections of trigger type are listed, and integrations that use connections of trigger and invoke type are not visible. To resolve this issue, use one of the following approaches:

#### Workaround 1:

1. Log in to Oracle Integration Generation 2 Process instance.
2. In the navigation pane, click **Processes**, and then click **Process Applications**. The Process Applications page appears.
3. On the Process Applications page, open the relevant Process application.

4. In the drop-down list (that appears in the upper right corner of the page), select **Integrations**.
5. Click the **Integrations** tab.
6. In the upper right corner, click **Create**, click **External**, and then click **SOAP** or **REST**. If you clicked **SOAP**, in the Add Service Connector dialog, complete the following steps:
  - a. Specify the WSDL URL.

#### **Note**

You can also select an existing definition from the drop-down list or upload a WSDL from your local machine.

- b. Click **Next**. This step validates WSDL.
- c. If validation of WSDL is successful, you need to specify details about the connector:
  - In the Basic Properties section, specify a name for the connector, select a port type, select a callback port type, and click **Next**.
  - In the Advanced Properties section, complete the settings (including security credentials for the connector).
- d. Click **Create**.

If you clicked **REST**, complete the following steps:

- a. In the Create REST Connector dialog, enter a name for the connector, specify the base URL of the integration, and then click **Create**.
- b. On the page that appears, in the **Configuration** section, click the **Security** tab.
- c. On the **Security** tab, specify the security credentials.
- d. At the top of the **Resources** section, click **Add**.
  - i. Click the new resource that was added to the Resources list to expand it.
  - ii. Enter a name for the resource.
  - iii. In the **Path** field, specify the integration URL path. For example: `/ic/api/integration/v1/flows/rest/PCS_example/1.0/items`.

7. Click **Save**.  
This new integration will be available in the Integrations section of this application.

**Workaround 2:** Configure the connections in the integration to be of trigger type only.

### Lifecycle Management

- You will no longer be able to manage (perform Lifecycle Management operations such as start/stop or update network access control lists) on the Oracle Integration Generation 2 instance after the upgrade.
- You will no longer see metric data (such as inbound/outbound requests, consumed messages, processing time metrics, and so on) for your Oracle Integration Generation 2 instance.

### Integration

- Integration and related features such as File Server and B2B will no longer be available.

### Visual Builder

- Visual Builder will no longer be available.

### Insight

- Insight will no longer be available.

## FAQs

Get answers to questions about phased upgrade for Process from Oracle Integration Generation 2 to Oracle Integration 3.

**1. I'm concerned that this upgrade might impact my business operations. What do you recommend I do?**

Perform the upgrade on a non-production instance first before performing it on a production instance. Validate connectivity and user access post upgrade.

**2. Some of my non-production instances have already been upgraded to Oracle Integration 3. What shall I do?**

We can migrate the remaining instances using phased upgrade for Process. If you only have a production instance on Oracle Integration Generation 2, you will not be able to test the upgrade in a non-production setting. However, you can rollback an upgrade if needed and restore to your pre-upgrade state.

**3. I am only using Process in Oracle Integration Generation 2. Do I need to go through this upgrade?**

Yes. This upgrade is essential for you to be able to retain your existing Oracle Integration Generation 2 Process instance.

**4. Can I delete the Oracle Integration 3 instance after upgrade as I am only using Process?**

Doing so would break any connectivity via the original host name. It is not recommended.

**5. Will I be able to discover Oracle Integration 3 integrations from Process after upgrade?**

Yes (for structured process but not for dynamic process).

**6. Will I be able to discover processes running on Oracle Integration Generation 2 from Oracle Integration 3 integrations after upgrade?**

Yes, you will be able to discover them after upgrade but with some limitations.

**7. I am moving or have partially moved to another Oracle Integration 3 instance. Do I need to go through this phased upgrade approach?**

If you want to retain your PCS instance past the EOL (End of Life) date of Oracle Integration Generation 2, then you must go through this phased upgrade approach.

**8. Will I be charged for both my Oracle Integration Generation 2 instance and Oracle Integration 3 instance after the Phase 1 upgrade?**

No, after the Phase 1 upgrade is completed, Oracle Integration Generation 2 (running Process) will no longer be billed. Process in Oracle Integration Generation 2 will be decommissioned on December 31, 2026.

## Automated In-Place Upgrade for Process

You can use automated in-place upgrade for Process under the following situations:

- You have no process usage (running or completed instances), or
- Your process usage is in a pre-production state, or
- You have short-lived process instances that can be completed in Oracle Integration Generation 2 before upgrade, or
- You are only using decision applications.

If this upgrade option fits your situation, complete the steps detailed in this topic.

## Prepare Your Initial Upgrade Environment

### ! Important

Oracle recommends that you first perform these steps on a non-production instance that isn't critical to your business. These steps may a while to complete, and this initial upgrade may identify issues that you need to resolve or account for prior to production upgrade.

If you have one of the following environments, you should follow the steps in this section to create a temporary environment for upgrade validation:

- If you're running production workloads in a single production instance and you don't have a non-production instance, any issues you encounter could cause downtime for process users.
- If your environment consists of a production instance and a single non-production instance that you rely on for backup and urgent fixes, you would be left without the backup until your production environment is upgraded.

If you have multiple non-production instances, you can skip to [Upgrade Your Non-Production Environment](#).

To create a temporary environment for upgrade validation, perform the following steps:

1. [Create a new Oracle Integration Generation 2 instance.](#)
2. [Copy your design-time metadata to the new instance.](#)  
The metadata can come from either a production or non-production instance. However, using production instance metadata means that you'll be more prepared for what you need to do when it's time to upgrade your actual production instance.
3. Continue with the steps in [Upgrade Your Non-Production Environment](#), and then test the upgrade.  
When you're ready to upgrade your other instances, you can export your refactored integrations and process applications to speed up the post-upgrade tasks for the instance that acted as the source of your copied design-time metadata.

## Upgrade Your Non-Production Environment

### ! Important

If you don't have a non-production instance, Oracle recommends you create a temporary environment for upgrade validation as described above.

Perform the following steps on your non-production environment.

| Task                                                                                                                                                                                                                                                                                                                      | When to perform the task         | Who performs the task | Task details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Analyze any design-time gaps</b>                                                                                                                                                                                                                                                                                       | Before upgrade                   | You                   | In the <b>Process Automation</b> precheck, expand <b>More details</b> and note any issues. See <a href="#">How Upgrade Affects Process Features</a> for workarounds or alternate solutions. You'll need to implement these options after upgrade to restore and activate your process applications. If you're using an unsupported feature and you're unable to follow the suggestions, contact your Oracle representative or file a service request.                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Bypass the active instances precheck</b>                                                                                                                                                                                                                                                                               | Before upgrade                   | You                   | Select <b>Ignore active instances and proceed with upgrade</b> , and then click <b>Save changes</b> . You will be asked to confirm your choice twice.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <div>  <b>Caution</b><br/>           Selecting this option will result in the loss of running (in-progress) and completed process instances. Be careful when selecting this option, especially in a production instance.         </div> |                                  |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| After you select this option, the Process Automation precheck changes to a warning, indicating that the precheck has been bypassed.                                                                                                                                                                                       |                                  |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Reschedule your upgrade</b>                                                                                                                                                                                                                                                                                            | Before upgrade                   | You                   | If necessary, <a href="#">reschedule your non-production instance upgrade</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Limit development work</b>                                                                                                                                                                                                                                                                                             | Two to three days before upgrade | You                   | During the two days leading up to the upgrade, pause or limit your development work as much as possible. Any changes that you make are saved, but they might cause the upgrade check to fail. In such cases, the upgrade would need to be re-scheduled. For example: <ul style="list-style-type: none"> <li>• Don't create or edit process or decision applications.</li> <li>• Don't create new process instances.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Upgrade Process</b>                                                                                                                                                                                                                                                                                                    | During upgrade                   | Oracle                | During upgrade, Oracle performs the following steps: <ul style="list-style-type: none"> <li>• Exports your process applications from Oracle Integration Generation 2.</li> <li>• Enables Process Automation in your upgraded Oracle Integration 3 instance.</li> <li>• Converts your existing process applications and imports them into your Oracle Integration 3 instance.</li> </ul> If any of your process applications use unsupported actions (for example, an Insight activity), Oracle replaces those actions with placeholder actions that you must replace or remove after upgrade. See <a href="#">Complete Post-Upgrade Tasks for Process Automation</a> . <p><b>Note:</b> Process instance data is not migrated to Oracle Integration 3. This means you won't see historical transactions created in Oracle Integration Generation 2 after upgrade.</p> |

| Task                               | When to perform the task | Who performs the task | Task details                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------|--------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Complete post-upgrade tasks</b> | After upgrade            | You                   | <p>Perform post-upgrade activities to restore your process applications to working order. See <a href="#">Service-Level Post-Upgrade Tasks for Process Automation</a>.</p> <p>If your process applications are part of a solution that involves Oracle Visual Builder or integrations, you may need to perform additional steps to update your other clients. See <a href="#">Update Clients that Call Process Applications</a>.</p> |

## Upgrade Additional Non-Production Environments

If you have additional non-production environments, you can perform the pre-upgrade steps from the table above. However, instead of completing the post-upgrade tasks, you might want to export your restored process applications and related artifacts (for example, Visual Builder applications) from the first environment and import them into the additional environments after upgrade. This could save you time not having to perform the post-upgrade steps on multiple environments.

## Upgrade Your Production Environment

### Important

If you want to follow this upgrade process for a production environment, be aware of the following:

- You may need to limit business users from creating new transactions prior to upgrade.
- You'll need to identify and complete running transactions prior to upgrade.
- There will be some downtime after upgrade to perform post-upgrade tasks. During this time, your business will not be able to run new processes.
- Process instance data is not migrated to Oracle Integration 3. This means you won't see historical transactions created or completed in Oracle Integration Generation 2 after upgrade.

Before deciding to proceed with this upgrade process:

- Evaluate how many running transactions are in your environment, and complete these transactions prior to upgrade. To view the running transactions:
  1. Sign in to your Oracle Integration Generation 2 instance as a user with the Service Administrator role.
  2. Click **My Tasks**, then choose **Processes**.
- Save runtime data from Oracle Integration Generation 2 Process. This step is important to ensure that you don't lose the history of completed transactions. You must do this *before* upgrade. See [Archive and Purge Data](#). Be aware of the following points:
  - The archived information will be available in the configured Object Storage bucket.
  - Attachments aren't included in the archive files. You must export these manually. See [Retrieve a Process Attachment as a Stream](#) in *REST API for Oracle Integration 2*.

If you decide to proceed with this upgrade process for your production environment, perform the steps from the table above.

## Migrate Process Applications to a New OCI Process Automation Instance

If you're actively using Process in a production environment, Oracle can't automatically migrate you to Process Automation during the upgrade to Oracle Integration 3. You'll have to perform the migration manually.

Migrating process applications to a new standalone OCI Process Automation instance is appropriate under the following situations:

- You are using process in production, and
- You have long-running process instances which can't be completed prior to upgrade, and
- You need to continue to serve new process application requests without any disruption, and
- You have integrations or Oracle Visual Builder applications that you do not want to disrupt with the process migration.

The upgrade path proposed below has been designed to limit disruption and maintain business continuity. It offers a well-tested approach for environments that have active (and usually long-running) process instances. It may not be applicable in all situations, so you should assess your own needs and implementation details to determine whether its appropriate for you.

The upgrade path can be broken down into three phases.

| Phase                                                                           | Description                                                                                                                                                                                                                                                                      | Where process users work                                                                  | Tasks                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Phase 1: Migrate Process Applications to OCI Process Automation</a> | The goal of this phase is to migrate your Oracle Integration Generation 2 Process applications to OCI Process Automation and restore them to a working order. This enables you to identify and correct any issues. This phase won't affect your existing production environment. | During this phase your process users continue to work in Oracle Integration Generation 2. | <ol style="list-style-type: none"> <li>1. <a href="#">Provision and Prepare an OCI Process Automation Instance</a></li> <li>2. <a href="#">Migrate Process Applications to the New Instance</a></li> <li>3. <a href="#">Map Users and Groups to New Application Roles</a></li> <li>4. <a href="#">Validate and Activate Imported Process Applications</a></li> <li>5. <a href="#">Update Clients that Call Process Applications</a></li> </ol> |

| Phase                                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Where process users work                                                                                                                                                                                                                                                        | Tasks                                                                                                                                                                                                                                   |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Phase 2: Switch to OCI Process Automation</a> | The goal of this phase is to ensure that all new process requests are served by OCI Process Automation. In this phase, you promote your process applications and their dependencies to production and point all end users and clients to use OCI Process Automation going forward.                                                                                                                                                                          | During this time your process users switch to using OCI Process Automation for all <i>new</i> requests. They may also need to complete <i>existing</i> requests in Oracle Integration Generation 2 until all instances started on Oracle Integration Generation 2 are complete. | <ol style="list-style-type: none"> <li>1. <a href="#">Promote Process Applications to Production</a></li> <li>2. <a href="#">Perform Switchover to OCI Process Automation</a></li> <li>3. <a href="#">Coexistence Period</a></li> </ol> |
| <a href="#">Phase 3: Upgrade to Oracle Integration 3</a>  | <p>The goal of this phase is to complete the upgrade of your existing Oracle Integration Generation 2 instance to Oracle Integration 3.</p> <p>At this stage there should be no running process instances in Oracle Integration Generation 2, making your instance eligible for upgrade to Oracle Integration 3.</p> <p>At the end of this phase you'll have an Oracle Integration 3 instance linked with a standalone OCI Process Automation instance.</p> | During this time your process users work exclusively in OCI Process Automation.                                                                                                                                                                                                 | <ol style="list-style-type: none"> <li>1. <a href="#">Prepare for Upgrade</a></li> <li>2. <a href="#">Complete Post-Upgrade Tasks for Process Automation</a></li> </ol>                                                                 |

## Phase 1: Migrate Process Applications to OCI Process Automation

Perform the following tasks to migrate your process applications to OCI Process Automation:

1. [Provision and Prepare an OCI Process Automation Instance](#)
2. [Migrate Process Applications to the New Instance](#)
3. [Map Users and Groups to New Application Roles](#)
4. [Validate and Activate Imported Process Applications](#)
5. [Update Clients that Call Process Applications](#)

### Provision and Prepare an OCI Process Automation Instance

Create a new OCI Process Automation instance. Oracle recommends you provision a standalone OCI Process Automation environment.

For more details on this recommendation, see [Upgrade FAQs](#).

**! Important**

The rest of these instructions are based on using a OCI Process Automation standalone instance. Do not deviate from this recommendation unless you have an alternative migration plan in place.

**1. Create a new OCI Process Automation standalone instance.**

See Provision a Process Automation Instance in *Administering Oracle Cloud Infrastructure Process Automation*.

When you create the instance:

- Select a metering model based on an Execution Pack to leverage free tier pricing during the upgrade.
- The user that creates the OCI Process Automation standalone instance must be from the same identity domain as the user that created your Oracle Integration Generation 2 instance.
- You must create the OCI Process Automation standalone instance in the same tenancy, the same region, and, preferably, the same compartment as your Oracle Integration Generation 2 instance.  
If you don't use the same compartment, make sure that the user that creates the OCI Process Automation instance has permissions to manage both the Oracle Integration instance and the OCI Process Automation instance.

You manage these permissions with [IAM policies](#).

**For Oracle Integration:**

- allow group `domain-name/group_name` to manage integration-instance in compartment `compartment-name`
- allow group `domain-name/group_name` to manage integration-instance in tenancy

For example:

- allow group `admin/oci-integration-admins` to manage integration-instance in tenancy

**For OCI Process Automation:**

- allow group `domain-name/group_name` to manage process-automation-instance in compartment `compartment-name`
- allow group `domain-name/group_name` to manage process-automation-instance in tenancy

For example:

- allow group `admin/oci-integration-admins` to manage process-automation-instance in tenancy

**2. Grant developers access to OCI Process Automation.**

To ensure your developers can access the newly provisioned OCI Process Automation instance and can work on subsequent tasks, ensure that they're assigned the appropriate application role to access the instance. See Assign Application Roles to Groups in an Identity Domain in *Administering Oracle Cloud Infrastructure Process Automation*.

**3. Register a *non-production* Oracle Integration Generation 2 instance for testing.**

If your process applications are calling existing integrations, register Oracle Integration Generation 2 in the new OCI Process Automation instance. This allows your OCI Process Automation instance to connect and discover your existing integrations.

Ensure that you use a *non-production* Oracle Integration Generation 2 instance for service registration in this step. Make sure that registering the selected Oracle Integration Generation 2 instance won't adversely impact any processes in production.

- a. Choose a *non-production* Oracle Integration Generation 2 instance to register.
- b. In the Oracle Cloud Console, find and take note of the OCID of the selected Oracle Integration Generation 2 instance.
- c. In OCI Process Automation, register the Oracle Integration Generation 2 instance. See *Register Services in Using Oracle Cloud Infrastructure Process Automation*.

#### Note

You may want to create a dedicated ServiceAccount user for this connection.

## Migrate Process Applications to the New Instance

Migrate your existing process applications to the new OCI Process Automation standalone instance.

### 1. Determine which applications you want to migrate.

You may want to take this opportunity to get rid of unnecessary applications. Think about whether you want to migrate only those applications that are in your production environment or if you want to also migrate applications that are in test and development.

If you're going to migrate individual applications, take note of the applications you want to migrate and any dependencies they have.

### 2. Migrate your applications using one of the following methods:

#### • Migrate all applications in bulk

- a. In the Oracle Cloud Console, create an Object Storage bucket. See [Creating an Object Storage Bucket](#).

The storage bucket URL you'll need in the next step is in the following format:

`https://swiftobjectstorage.region.oraclecloud.com/v1/namespace/bucket`

Where:

- *region* is the identifier of your Oracle Cloud Infrastructure (OCI) data center.
- *namespace* is the tenancy where you created your bucket.
- *bucket* is your bucket name.

- b. Make a POST request to your Oracle Integration Generation 2 instance to export your applications:

```
curl -X POST https://Generation2_hostname/ic/api/process/v1/
exportArtifactsInternal
```

With the following payload:

```
{
  "jobId": "enter_a_descriptive_ID",
  "storageInfo": {
    "storageUrl": "Swift_storage_bucket_URL",
```

```

        "storageUser": "OCI_Console_user",
        "storagePassword": "OCI_Console_user_password"
    }
}

```

You'll know the export job is complete when you see the `process_status.json` file in your bucket. This file contains the status of the job, its completion percentage, and, if failed, the error message. You should also see the following content in your bucket:

- `Process/project` folder—contains all your process applications.
  - `Process/dmn` folder—contains all your decision models.
- c. After the applications have been exported into your bucket, make a POST request to your Oracle Integration 3 instance to migrate your applications:
- ```
curl -X POST https://Integration3_hostname/process/api/v1/oic-migration/jobs/
```

With your tenant ID:

```
x-tenant-id: tenant_OCID
```

And your bucket information:

```

{
  "bucketInfo": {
    "region": "region",
    "namespace": "namespace",
    "bucket": "bucket"
  }
}

```

See [Security, Authentication and Authorization](#) in *Developer API for Oracle Cloud Infrastructure Process Automation*.

- d. Wait for the migration job to complete. To check the status of the migration job:
- ```
curl http://localhost:8080/process/internal-api/v1/oic-migration/jobs/job_ID
```

- **Migrate individual applications**

- a. Export the Oracle Integration Generation 2 process applications.  
In the Oracle Integration Generation 2 instance that includes the applications you want to migrate, export each application you want to migrate. See [Export an Application](#) in *Using Processes in Oracle Integration Generation 2*.
- b. Import the process applications into OCI Process Automation.  
In OCI Process Automation, import the Oracle Integration Generation 2 process applications. See [Import an Application](#) in *Using Oracle Cloud Infrastructure Process Automation*.

OCI Process Automation converts the legacy process applications to the latest product version.

3. **Review the migration report.**

When the import and conversion is complete, you'll see a migration report showing what was successfully imported, what needs additional work, and any items that couldn't be migrated. This gives you an idea of migration issues that you'll need to handle.

You can refer back to the original migration report in the main menu. See *Import an Application* in *Using Oracle Cloud Infrastructure Process Automation*.

## Map Users and Groups to New Application Roles

Application Roles have significantly changed in OCI Process Automation. ProcessOwner, AnalyticsViewer, and ProcessReviewer roles are now explicitly defined for each application, enabling you to control their members and permissions.

The following table shows how the Oracle Integration Generation 2 roles map to the OCI Process Automation roles.

| Oracle Integration Generation 2    | OCI Process Automation |
|------------------------------------|------------------------|
| <application-name>.ProcessOwner    | Process Owner          |
| <application-name>.AnalyticsViewer | N/A                    |
| <application-name>.<swim-lane>     | <swim-lane>            |
| <application-name>.ProcessReviewer | Process Reviewer       |

The new roles are available after the migration, but you need to add members (users and groups) to them. You'll probably need to reference your Oracle Integration Generation 2 environment to see which members should be assigned to each role.

If OCI Process Automation shares the same identity domain as your existing Oracle Integration Generation 2 instance, existing users and groups should be available for selection.

You can add members either before activation in the Designer or after activation in the Workspace.

- Work with Roles in Designer
- Manage Roles in Workspace

For additional information on OCI Process Automation, see *Configure Roles for Process Applications* in *Using Oracle Cloud Infrastructure Process Automation*.

## Validate and Activate Imported Process Applications

To validate and activate your process applications, perform the following steps:

### 1. Validate each application and fix any errors and warnings.

Validate each application from the Designer by clicking  and choosing **Validate** from the menu.

To resolve validation issues, see [How Upgrade Affects Process Features](#).

### 2. Activate the application.

After you've resolved all validation errors, you can activate your application. See *Activate Applications* in *Using Oracle Cloud Infrastructure Process Automation*.

## Update Clients that Call Process Applications

Depending on your specific usage, you'll perform different steps to update your clients.

Perform the steps that apply to your implementation:

- [Integrations Calling Process](#)
- [Integrations Called by Process](#)

- [Oracle Visual Builder Applications](#)
- [Non-Oracle-Integration Clients](#)
- [Verification](#)

### Integrations Calling Process

The developer APIs for Process Automation and Decision application have changed after the upgrade. You need to reconfigure the integration using the Process Automation call wizard. See [Reconfigure the Integration](#).

### Integrations Called by Process

OCI Process Automation supports REST based communication only via Service Registration. This means that connectivity to SOAP based integrations will no longer be possible.

If you have integrations that use a SOAP trigger and these are called by processes in Oracle Integration Generation 2, you will need to take additional steps to present a REST based interface to OCI Process Automation. This may mean that you need to do *one* of the following:

- Create REST-based wrapper integrations.  
or
- Change the existing trigger from SOAP to REST.

Additionally, for service registration to work as expected, ensure that your REST trigger utilizes the OAuth 2.0 or Basic Authentication Security policy.

### Oracle Visual Builder Applications

The developer APIs for Process Automation and Decision application change after the upgrade. As a result, you must update any Oracle Visual Builder applications that interact with them, replacing any [deprecated integration patterns](#). See *Work with Business Processes in Building Responsive Applications with Visual Builder Studio*.

To do this you may need to evaluate current process usage. Look through each of your Oracle Visual Builder applications and determine if they're making calls to developer APIs for Process Automation via Action Chains, Direct Calls, or using embeddable process components (also referred to as CCA).

If your applications are calling Process endpoints, perform the following steps:

- 1. Connect to OCI Process Automation.**  
Create a backend connection to OCI Process Automation. This backend will be used to establish a connection to the new OCI Process Automation instance. See *Connect to Developer APIs for Process Automation in Building Responsive Applications with Visual Builder Studio*.
- 2. Create a new version of your applications.**  
Oracle recommends, creating a new version of your Oracle Visual Builder applications to implement required changes. See *How to Create Versions of an Application in Developing Applications with Oracle Visual Builder*.
- 3. Action Chains**  
If your application is using action chains to start a process or take action on a task, you'll need to replace each of these with a REST-based Service Connection. Repeat these steps for each process action chain task.

### Triggering a Process

Replace the Start Process action chain with a Catalog based Service Connection.

- a. Navigate to Oracle Integration Generation 2 and take note of the process you're calling. You can determine this either from the action chain process step or from the processes tab in the application menu on the left.
- b. Create a Catalog-based Service Connection to your process in the new version of your Oracle Visual Builder application. See *Create a Service Connection from an OCI Process Automation Catalog* in *Building Responsive Applications with Visual Builder Studio*. Ensure that you select the same process you were referencing before.

**Note**

Your process should already be activated.

- c. Create a Type based on the endpoint of the above process. See *Create a Type from an Endpoint* in *Developing Applications with Oracle Visual Builder*.
- d. Create a Variable based on the above type. See *Create Variables* in *Developing Applications with Oracle Visual Builder*.
- e. Navigate to your action chains and perform the following actions:
  - i. Drag an Assign Variable Action above your current Start Process Action.
  - ii. Map the data fields and input parameters required to invoke your process.
  - iii. Drag the Call REST Action above your current Start Process Action.
  - iv. Configure the Call REST Action by selecting the POST/Instances endpoint.
  - v. Map the above Variable to the request body of the REST Action.
  - vi. Delete the legacy Start Process Action.
- f. Test the call, and ensure that your process is being called successfully in OCI Process Automation.

**GET Process Instance**

Replace the Get Process Instance action chain with a Catalog-based Service Connection.

If you created a Catalog-based Service Connection to your process by following the steps above, you'll notice that Get Process Instance endpoint is now available in your service connection.

Replace the legacy Get Process Instance Process Action with a Call REST Action that is configured with the above endpoint, and re-map the instanceID field.

**Note**

The response payload values here have changed.

**Other Process Actions**

Perform the following steps for all other Process Actions such as Perform Task and Get Task:

- a. Navigate to Oracle Integration Generation 2 and take note of the Process Actions you're using.
- b. Replace these Actions with endpoint-based Service Connections. The following table maps each of these actions to the corresponding Developer API for Process Automation.

| Oracle Visual Builder Action    | Developer API for Process Automation             | Description                                          |
|---------------------------------|--------------------------------------------------|------------------------------------------------------|
| Perform Task                    | POST /process/api/v1/tasks/{id}/complete         | Approval actions such as Approve, Reject, and so on. |
| Perform Task                    | PUT /process/api/v1/tasks/{id}                   | Update the Task Priority, Payload, Title, and such.  |
| Perform Task                    | PUT /process/api/v1/tasks/{id}/payload           | Update the Task Payload.                             |
| Perform Task                    | POST /process/api/v1/tasks/{id}/claim            | Claim a task.                                        |
| Perform Task                    | POST /process/api/v1/tasks/{id}/release          | Release a task.                                      |
| Perform Task                    | POST /process/api/v1/tasks/{id}/request-for-info | Request for information on a task.                   |
| Perform Task                    | POST /process/api/v1/tasks/{id}/submit-info      | Submit the requested information for a task.         |
| Perform Task                    | POST /process/api/v1/tasks/{id}/reassign         | Reassign a task.                                     |
| Get Task Collection             | GET /process/api/v1/tasks                        |                                                      |
| Get Task                        | GET /process/api/v1/tasks/{id}                   |                                                      |
| Get Deployed Process Collection | GET /process/api/v1/instances                    |                                                      |
| Get Process Instance Collection | POST /process/api/v1/instances                   |                                                      |

#### 4. Direct Calls

The developer APIs for Process Automation and Decision application change after the upgrade. As a result, you must update any direct service connections. See [Developer API for Oracle Cloud Infrastructure Process Automation](#).

#### 5. CCA Components

If you're using Oracle Integration Generation 2 Process CCA components, you must replace them with their equivalent OCI Process Automation component.

| Component Name | Oracle Integration Generation 2 CCA | OCI Process Automation Equivalent                                            |
|----------------|-------------------------------------|------------------------------------------------------------------------------|
| Task List      | oj-pcs-task-list                    | oj-opac-task-list                                                            |
| Task Detail    | oj-pcs-task-detail                  | oj-opac-task-detail                                                          |
| App List       | oj-pcs-app-list                     | oj-opac-applist                                                              |
| Start Form     | oj-pcs-start-form                   | oj-opac-start-form                                                           |
| DP List        | oj-pcs-dplist                       | oj-opac-instance-list (Displays both Structured Process and Dynamic process) |
| Visualization  | oj-pcs-visualization                | oj-opac-analytics (Cannot save visualizations)                               |

#### Non-Oracle-Integration Clients

If you're calling process applications from outside Oracle Integration (for example, your own custom application), you need to update the REST endpoints and authorization policies used to call the newly configured OCI Process Automation instance. For more information on the new API endpoints and supported authorization policies, see [Developer API for Oracle Cloud Infrastructure Process Automation](#).

## Verification

Perform a System Integration Test to validate your work.

Test the connectivity to the new process environment. This test should focus on validating the following interaction patterns based on your usage:

- OCI Process Automation - Processes to Oracle Integration Generation 2 - Integrations
- Oracle Integration Generation 2 - Integrations to OCI Process Automation - Processes
- Oracle Visual Builder - Applications to OCI Process Automation - Processes

## Phase 2: Switch to OCI Process Automation

Perform the following tasks to switch to OCI Process Automation:

1. [Promote Process Applications to Production](#)
2. [Perform Switchover to OCI Process Automation](#)
3. [Coexistence Period](#)

### Promote Process Applications to Production

Move the OCI Process Automation applications to user acceptance and production instances.

Decide how many instances you want to use to promote your changes to production. Map each selected Oracle Integration Generation 2 instance to a new OCI Process Automation instance. For each instance, complete the following steps.

#### Note

These steps are similar to the ones you performed during [Phase 1: Migrate Process Applications to OCI Process Automation](#). The main difference is that you should follow the your standard workflow for promoting code to production.

1. Provision a new OCI Process Automation standalone instance.  
This instance will act as a higher-environment, that is user acceptance or production. See Provision a Process Automation Instance in *Administering Oracle Cloud Infrastructure Process Automation*.
2. Register with the corresponding user acceptance or production Oracle Integration Generation 2 instance. See Register Services in *Using Oracle Cloud Infrastructure Process Automation*.
3. Export the OCI Process Automation applications that were activated and tested as part of [Phase 1: Migrate Process Applications to OCI Process Automation](#).  
You can perform the export from the user interface or a REST API. See Export an Application in *Using Oracle Cloud Infrastructure Process Automation* or [Developer API for Oracle Cloud Infrastructure Process Automation](#).
4. If you have integrations or Oracle Visual Builder applications calling process:
  - Export the Oracle Integration Generation 2 integrations that were updated to call OCI Process Automation. See [Import and Export Integrations](#) in *Using Integrations in Oracle Integration Generation 2*.

- Export the Oracle Visual Builder applications that were updated to call OCI Process Automation. See [Export a Visual Application](#) in *Developing Applications with Oracle Visual Builder*.
- 5. If you have integrations or Oracle Visual Builder applications calling process:
  - Promote the exported integrations into your higher user acceptance or production Oracle Integration Generation 2 environment. See [Import and Export Integrations](#) in *Using Integrations in Oracle Integration Generation 2*.
  - Promote exported Oracle Visual Builder applications into your higher user acceptance or production Oracle Integration Generation 2 environment. See [Import a Visual Application](#) in *Developing Applications with Oracle Visual Builder*.
- 6. Import process application into the higher user acceptance or production OCI Process Automation instance. You can perform the import in the user interface or a REST API. See [Register Services in Using Oracle Cloud Infrastructure Process Automation](#) or [Developer API for Oracle Cloud Infrastructure Process Automation](#).
- 7. Configure your process applications:
  - a. Update the credentials and base URL of any REST Connections. See [Configure REST Connectors in Designer](#) in *Using Oracle Cloud Infrastructure Process Automation*.
  - b. Update role members, assigning the right users and groups to the appropriate application roles in the new environment.
  - c. Activate your process applications. See [Activate Applications](#) in *Using Oracle Cloud Infrastructure Process Automation*.
- 8. Update any clients to connect to the higher user acceptance or production OCI Process Automation instance.
  - For Oracle Integration, update REST Connector to point to the new process instance.
  - For Oracle Visual Builder, create a new backend for the new process instance.
- 9. Perform system integration testing.

## Perform Switchover to OCI Process Automation

Perform the following steps:

1. Activate and deploy client changes to ensure that all new system-driven requests are sent to OCI Process Automation as previously described.
2. Communicate the new OCI Process Automation Workspace URL with users and ensure that users:
  - Bookmark the OCI Process Automation workspace.
  - Create new processes *only* in OCI Process Automation.
  - Complete their new tasks in OCI Process Automation.
3. Retire the Oracle Integration Generation 2 applications so that no new processes can be created but the existing ones are allowed to complete. See [Manage Active Applications](#) in *Using Processes in Oracle Integration 2*.

### Important

From this point onwards, OCI Process Automation should handle all new requests.

## Coexistence Period

When OCI Process Automation starts serving new transactions in production, you'll likely enter what is known as a *coexistence period*.

During this time:

- New process instances will be served by OCI Process Automation.
- Existing process instances will continue to run on Oracle Integration Generation 2 Process until they complete.

### Note

During the coexistence period users must perform tasks assigned to them in both OCI Process Automation and Oracle Integration Generation 2.

During this period process users should:

- Work primarily from the OCI Process Automation Workspace.
- Occasionally check the Oracle Integration Generation 2 My Tasks List.
- Rely on email-based approvals as much as possible, as the links in the emails will take them to the right place to perform the task.

The coexistence period lasts until all transactions created on Oracle Integration Generation 2 are complete. You should actively seek to shorten the duration of this period as much as possible. Here are some guidelines:

- Prevent the creation of new transactions on Oracle Integration Generation 2 by using the Retire functionality. This is applicable to all structured processes that don't contain receive activities. The retire functionality prevents the creation of new instances but also allows existing transactions to complete. See [Manage Active Applications](#) in *Using Processes in Oracle Integration 2*.
- Aim to actively expedite the completion of Oracle Integration Generation 2 instances as much as possible by following up with users to take action that sees them through to completion.
- For very long-running process, instances that can't be completed in several months, explore the following options:
  - Recreate the instance in OCI Process Automation and use the Alter Flow functionality to update the payload and move the process instance to the current action (where it is currently in Oracle Integration Generation 2 Process). After this is done, the existing Oracle Integration Generation 2 instance can be terminated. See *Alter the Flow of a Process* in *Using Oracle Cloud Infrastructure Process Automation*.
- Modify the migrated application so that it can be initiated using the latest state of the existing Oracle Integration Generation 2 process instance.

You can track the remaining Oracle Integration Generation 2 process transactions by clicking **My Tasks**, then choosing **Processes** in your Oracle Integration Generation 2 instance. You must sign in with a user who has the Service Administrator Role.

## Phase 3: Upgrade to Oracle Integration 3

Perform the following tasks to upgrade to Oracle Integration 3:

1. [Prepare for Upgrade](#)
2. [Complete Post-Upgrade Tasks for Process Automation](#)

## Prepare for Upgrade

Perform the following tasks to prepare for upgrade:

1. [Correct all precheck issues](#) before upgrade.  
The Process Automation precheck looks for any active process instances. This precheck may fail for a couple of reasons:
  - You have active process instances in Oracle Integration Generation 2. To see the active process instances, click **My Tasks**, then choose **Processes**. You must be signed in with a user that has the Service Administrator role to be able to see all process instances.
  - You've had active process instances in the past 30 days. Oracle allows an grace period of 30 days to ensure you have an opportunity to save and export your data from Oracle Integration Generation 2 Process. So, even if all runtime transactions are completed on your Oracle Integration Generation 2 instance and you've fully transitioned to OCI Process Automation, this precheck may fail.

If the Process Automation precheck is failing, decide what to do:

- If you have active process instances that you want to complete before upgrade, leave **Ignore active instances** unselected.
  - If all your active process instances are complete or you don't need them to complete, select **Ignore active instances**.
2. Select **Attach an OCI Process Automation instance** and supply the OCI Process Automation OCID. This option will attach your existing OCI Process Automation instance to your Oracle Integration 3 instance during upgrade. You must meet the following prerequisites:
    - The OCI Process Automation instance must be in the same region, tenancy, and compartment as the Oracle Integration instance.
    - The OCI Process Automation instance and the Oracle Integration Generation 2 instance must share the same identity domain.

When your instance has passed all prechecks, Oracle sends you an email with your scheduled upgrade window. See [View Your Upgrade Window](#).

3. Complete any other preparations you haven't already done. See [Prepare for the Upgrade to Oracle Integration 3](#).
4. Save runtime data from Oracle Integration Generation 2 Process. This step is important to ensure that you don't lose the history of completed transactions. You must do this *before* upgrade. See [Archive and Purge Data](#). Be aware of the following points:
  - The archived information will be available in the configured Object Storage bucket.
  - Attachments aren't included in the archive files. You must export these manually. See [Retrieve a Process Attachment as a Stream](#) in *REST API for Oracle Integration 2*.

## Complete Post-Upgrade Tasks for Process Automation

[Complete the post-upgrade tasks](#) to make sure users can access the new instance, data going to and from integrations can be sent through the firewall, and integrations work as expected. As noted, you don't need to complete the post-upgrade tasks for Process Automation as those are for a different upgrade path.

**Note**

Your existing service registration will continue to work for your upgraded Oracle Integration 3 instance, ensuring continued connectivity to integrations that you're already calling from your process applications.

**Clean Up Legacy Client Code**

If you still have integrations or Oracle Visual Builder applications that were used to communicate to Oracle Integration Generation 2, use this opportunity to clean them up.

**Changes You'll See After Upgrade**

After upgrade is complete, you'll see the following changes:

- In the Oracle Integration navigation menu, you'll see a **Process** option.
- In Oracle Cloud Console, when you view the Oracle Integration instance, you'll see that Process Automation is enabled.
- Process usage is metered under Oracle Integration.

## What to Do During Upgrade

What can you expect during the upgrade? The upgrade generally take less than ten minutes, but may take longer if you have a lot of files or a complex setup. During this time, Oracle Integration Generation 2 is unavailable.

**Note**

Prior to the upgrade, pause development work if you can. See [Limit Development Work Before the Upgrade](#).

Here's what you need to do on the day of the upgrade:

1. **On the day of the upgrade:** Make sure everyone stops work in Oracle Integration Generation 2 before the beginning of the upgrade window.
2. **When the upgrade begins:** Oracle sends an email when the upgrade begins. By default, upgrade notifications are automatically sent to the specified administrator email. Oracle recommends you have notifications sent to a distribution list or group email so that you don't miss important emails if someone leaves the company. You set who receives notifications on the **Upgrade** page. See "Upgrade Notifications" in [Configure Your Upgrade Settings](#).
3. **Wait for the upgrade to complete:** If you sign in during the downtime, a maintenance page indicates that the instance is temporarily unavailable.

During the downtime, Oracle completes the following tasks:

- a. Checks to make sure that the instance is still ready for upgrade.  
For example, you might begin using a deprecated feature after your instance passes the upgrade check. In such a case, your instance is no longer ready for upgrade. Oracle emails you to inform you that everyone will continue working in the Oracle Integration Generation 2 and provides the next steps.
- b. Stops the scheduled integrations in the Oracle Integration Generation 2 instance.

- c. Stops all activity, including design time and runtime, in the instance.  
If a scheduled integration is running in Oracle Integration Generation 2, the integration starts where it left off in Oracle Integration 3.
- d. Moves data to the new instance.  
The data that is moved includes integrations, connections, packages, certificates, settings, and other metadata, plus in-flight instance data. See [How Upgrade Affects Runtime Data](#).
- e. Updates the hostname of the Oracle Integration Generation 2 instance.  
The hostname points to the new Oracle Integration 3 instance. This change ensures that requests are sent to your new Oracle Integration 3 instance after the upgrade.
- f. Creates a mapping between the Oracle Cloud Infrastructure Identity and Access Management (IAM) and the new instance.  
This mapping ensures that security-related information from your Oracle Integration Generation 2 instance is present in your Oracle Integration 3 instance.
- g. Starts the scheduled integrations in the Oracle Integration 3 instance.

#### Note

For integrations that use three-legged OAuth 2.0, the redirect URIs that you specified for client applications do not change after upgrade, even though your instance gets a new URL. Additionally, when you need to register a new client application after the upgrade is complete, you must use the Oracle Integration Generation 2 redirect URI.

4. **After the upgrade finishes:** The Oracle Integration 3 instance starts processing all requests, and Oracle sends an email saying that the upgrade is complete.

#### Note

In rare situations, an issue prevents an upgrade from completing. When an upgrade doesn't complete, Oracle rolls back the changes, turns on the schedule in the Oracle Integration Generation 2 instance, and restores your access to the instance during the downtime period. You continue working in the Oracle Integration Generation 2 instance, with the same features you were using before the upgrade.

In such situations, Oracle sends an email that you can continue working in Oracle Integration Generation 2. Expect the email to arrive either within your upgrade window or soon after. You can schedule your upgrade for another time, and Oracle works with you to determine the next steps.

5. After you get the email saying the upgrade is complete, [complete the post-upgrade tasks](#).

## Complete Post-Upgrade Tasks

Oracle upgrades your Oracle Integration Generation 2 development instances first. Complete all post-upgrade tasks within three days of the upgrade date, so that you can report any issues.

Oracle upgrades your production instances approximately three weeks after your development instances.

Completing post-upgrade tasks is critical to make sure users can access the new instance, data going to and from integrations can be sent through the firewall, and integrations work as expected.

If you experience any issues after the upgrade, enter a service request (SR) on [My Oracle Support](#) or troubleshoot the issues. See [Troubleshoot Upgrade Issues](#).

**Note**

You'll see your stopped Oracle Integration Generation 2 instance in the Oracle Cloud Console for a period of time after the upgrade. Do not update, start, or delete this instance. Oracle removes it on your behalf when it is no longer needed.

Make sure the upgrade has completed before starting these tasks. See [What to Do During Upgrade](#).

## Summary of Post-Upgrade Tasks

| Impact                                                    | When                      | Tasks to complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ensure access to the instance                             | Immediately after upgrade | <ol style="list-style-type: none"> <li>1. <a href="#">Check the new Oracle Integration 3 instance</a></li> <li>2. <a href="#">Update the IAM policy with the new OCID</a></li> <li>3. <a href="#">Get the URL for the new instance and share it</a></li> </ol>                                                                                                                                                                                                                                                                                                                                                   |
| Ensure connectivity                                       | Immediately after upgrade | <ol style="list-style-type: none"> <li>1. <a href="#">Complete network rules configuration</a></li> <li>2. <a href="#">Upload new identity certificates for connections</a></li> <li>3. <a href="#">Regain connectivity with agents that weren't upgraded</a></li> <li>4. <a href="#">File Server: add the File Server IP address to your internal firewall allowlist</a><br/>Complete this task within one week after upgrade.</li> <li>5. <a href="#">File Server: update integrations and SFTP clients to use the new IP and port values</a><br/>Complete this task within one week after upgrade.</li> </ol> |
| Ensure integrations work                                  | Immediately after upgrade | <ol style="list-style-type: none"> <li>1. <a href="#">Change Developer API for Oracle Integration 3 calls from Basic Authentication to OAuth</a></li> <li>2. <a href="#">Check integrations if you selected Ignore activation failures or Ignore start schedule failures</a></li> <li>3. <a href="#">Take care of any requests that were rejected during the upgrade downtime</a></li> <li>4. <a href="#">Change service instance name</a></li> <li>5. <a href="#">Ensure integrations are updated to the latest supported format</a></li> </ol>                                                                 |
| Complete post-upgrade tasks for ignored precheck failures | Immediately after upgrade | <a href="#">Complete Post-Upgrade Tasks for Ignored Precheck Failures</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

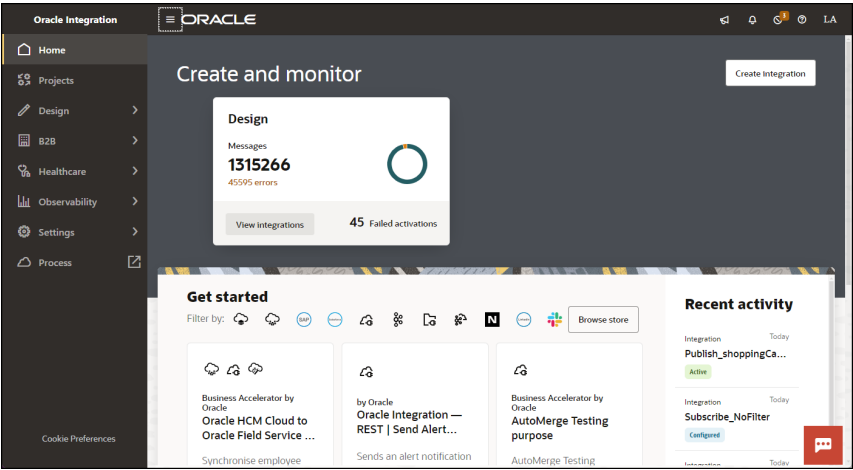
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| Impact                                                | When                         | Tasks to complete                                                           |
|-------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------|
| Complete Oracle Visual Builder post-upgrade tasks     | Immediately after upgrade    | <a href="#">Complete Post-Upgrade Tasks for Oracle Visual Builder</a>       |
| Complete Process Automation post-upgrade tasks        | Immediately after upgrade    | <a href="#">Complete Post-Upgrade Tasks for Process Automation</a>          |
| Complete integration instance ID post-upgrade updates | Within six months of upgrade | <a href="#">Perform Updates Required for Integration Instance ID Change</a> |
| Complete post-upgrade verification                    | Within two weeks of upgrade  | <a href="#">Follow Your Organization's Verification Procedures</a>          |

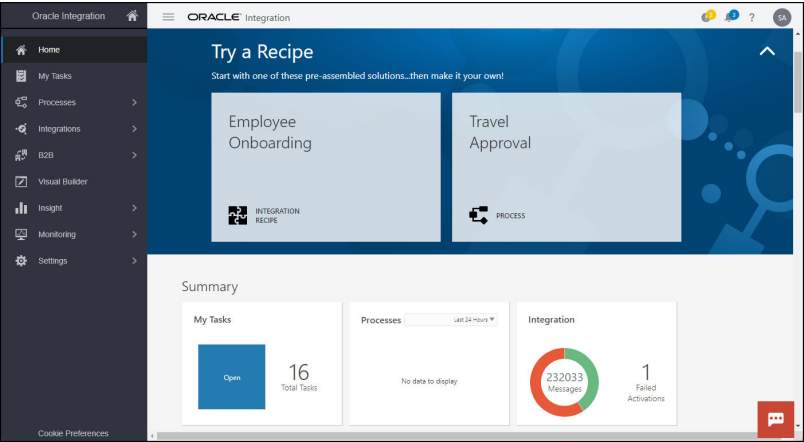
---

# Ensure Access to the Instance

| Task                                        | Who           | When                      | Tasks to complete                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------|---------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check the new Oracle Integration 3 instance | Administrator | Immediately after upgrade | Sign in to your Oracle Integration 3 instance using your existing credentials. Use your existing Oracle Integration Generation 2 bookmark (which redirects to the new URL) or use the new URL for the Oracle Integration 3 instance. See <a href="#">Access an Oracle Integration Instance</a> .<br>The upgrade completed if the interface looks like this: |



- The upgrade is still in progress if:
- You sign in and a page indicates that the service is unavailable.
  - You sign in and the user interface looks like this:



| Task                                          | Who                      | When                      | Tasks to complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------|--------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Update the IAM policy with the new OCID       | IAM policy administrator | Immediately after upgrade | <p>If your organization restricted access to the Oracle Integration Generation 2 instance based on the instance's Oracle Cloud ID (OCID), update the IAM policy to point to the new Oracle Integration 3 instance OCID.</p> <div data-bbox="850 394 969 428" data-label="Section-Header"> <p><b>Note</b></p> </div> <p>Users won't be able to sign in to Oracle Integration 3 until you update the OCID in the IAM policy.</p> <ol style="list-style-type: none"> <li>1. Sign in to Oracle Cloud Console.</li> <li>2. Get the new OCID value for the Oracle Integration 3 instance. See Viewing Instance Details.</li> <li>3. Update the OCID in your IAM policy. For instructions on updating the statements in an existing policy, see <a href="#">Using the Console</a> in the Oracle Cloud Infrastructure documentation.</li> </ol>                                   |
| Get the URL for the new instance and share it | Administrator            | Immediately after upgrade | <p>Get the URL for the new Oracle Integration 3 instance and share it with everyone who needs it. Existing bookmarks also redirect to the new URL, but you want to make sure everyone has the new URL. This is in the following format:</p> <p><code>https://design.integration.region.ocp.oraclecloud.com/?integrationInstance=query_parameter_representing_instance</code></p> <p>To get the new URL:</p> <ol style="list-style-type: none"> <li>1. Sign in to the Oracle Cloud Console.</li> <li>2. Open the navigation menu and click <b>Developer Services</b>.</li> <li>3. Under <b>Application Integration</b>, click <b>Integration</b>.</li> <li>4. Click the name of the new Oracle Integration 3 instance.</li> <li>5. To the right of the <b>Service console URL</b> field, click <b>Copy</b>.</li> <li>6. Share the URL with anyone who needs it.</li> </ol> |

## Ensure Connectivity

| Task                                             | Who                                                                                                                              | When                                          | Tasks to complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Complete network rules configuration             | Network administrator                                                                                                            | Prior to upgrade or immediately after upgrade | <p>If any of your integration connections target an Oracle Cloud Infrastructure service that supports network rules, such as Oracle Cloud Infrastructure Object Storage or Oracle Autonomous Database, and you've enabled those rules, you must complete any network rules configuration, including adding the Oracle Integration Service VCN to the rule.</p> <ol style="list-style-type: none"> <li>1. Sign in to Oracle Cloud Console.</li> <li>2. Get the OCID value for the Oracle Integration 3 instance. See Viewing Instance Details.</li> <li>3. Follow the rules for your target service. For example, for Oracle Autonomous AI Database Serverless, see <a href="#">Configure Access Control Lists When You Provision or Clone an Instance</a> in <i>Using Oracle Autonomous AI Database Serverless</i>.</li> <li>4. If the Oracle Cloud Infrastructure service you're accessing is in a different region than your Oracle Integration instance, allowlist the <b>OIC Outbound IP</b> address you collected when you <a href="#">updated your other allowlists</a> prior to upgrade.</li> </ol>                                                    |
| Upload new identity certificates for connections | Developer with connections that use identity certificates<br>Only one person from your organization needs to perform these steps | Immediately after upgrade                     | <p>Identity certificates establish client identity during two-way SSL communication. Connections that are based on the AS2 Adapter and the REST Adapter can use identity certificates.</p> <p>If your instance includes connections that use identity certificates, the identity certificates would have been removed during upgrade, so you need to generate new identity certificates and configure new JKS.</p> <p>Perform the following steps to upload a new identity certificate, test the connections that use the identity certificate, and activate any integrations that use the connections:</p> <ol style="list-style-type: none"> <li>1. Upload a new identity certificate.<br/>See Upload an SSL Certificate in <i>Using Integrations in Oracle Integration 3</i>.</li> <li>2. Test the connections that use the identity certificate so that their status changes from Draft to Configured.<br/>See Test the Connection in <i>Using Integrations in Oracle Integration 3</i>.</li> <li>3. Activate any integrations that use the connections.<br/>See Activate an Integration in <i>Using Integrations in Oracle Integration 3</i>.</li> </ol> |

| Task                                                  | Who                                         | When                      | Tasks to complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------|---------------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Regain connectivity with agents that weren't upgraded | Developer with agents that weren't upgraded | Immediately after upgrade | <p>Agents that weren't reachable during upgrade or didn't meet upgrade requirements weren't upgraded. After upgrade, if you see a message stating that some agents didn't meet upgrade eligibility and weren't upgraded, perform the following steps.</p> <p><b>Prerequisites</b></p> <p>Ensure connectivity from your connectivity agents to Oracle Cloud Infrastructure Identity and Access Management (IAM) and Oracle Integration 3:</p> <ul style="list-style-type: none"> <li>You should have added the IAM and Oracle Integration 3 IP addresses to your allowlists prior to upgrade, as described in <a href="#">Update Allowlists</a>.</li> <li>Add the Oracle Integration 3 design-time IP address to your allowlists. Use the following command to get the design-time IP address, replacing <i>region</i> with the region from your Oracle Integration 3 URL:<br/>nslookup design.integration.<i>region</i>.ocp.oraclecloud.com</li> </ul> <p><b>To manually upgrade your agents and regain connectivity with them:</b></p> <ol style="list-style-type: none"> <li>Stop the connectivity agent.</li> <li>Make sure that the agent prerequisites are complete: <ol style="list-style-type: none"> <li>Ensure that the connectivity agent is using JDK 17. If it isn't, set the JAVA_HOME and PATH environment variables to JDK17.</li> <li>Ensure that the agent is using the PKCS12 KeyStore. If it isn't, convert it using the following steps. <ol style="list-style-type: none"> <li>On the server that hosts the connectivity agent, create a backup of the keystore.jks file, which is located in the following folder:<br/><i>Agent_Install_Location</i>/agenthome/agent/cert</li> <li>Move the backup file to a different folder.</li> <li>Convert the JKS KeyStore to the PKCS12 KeyStore by running the following command from the command line:<br/>keytool -importkeystore -srckeystore keystore.jks -destkeystore keystore.p12 -srcstoretype JKS -deststoretype PKCS12 -deststorepass changeit -srcstorepass changeit</li> <li>Delete the keystore.jks file in the following location:<br/><i>Agent_Install_Location</i>/agenthome/agent/cert</li> </ol> </li> </ol> </li> <li>Download the agent installer ZIP file from Oracle Integration 3. <ol style="list-style-type: none"> <li>In the navigation pane, click <b>Design</b>, then <b>Agents</b>.</li> <li>Click <b>Download</b>, then <b>Connectivity agent</b>.</li> </ol> </li> <li>Extract oic_conn_agent_installer.zip to a new directory on your connectivity agent server.</li> <li>Delete your existing connectivity agent lib folder under <i>Agent_Install_Location</i>/agenthome/ and replace it with the lib folder from the ZIP file.</li> <li>Delete your existing version file under <i>Agent_Install_Location</i>/agenthome/ and replace it with the version file from ZIP file.</li> <li>Delete your existing connectivityagent.jar file under <i>Agent_Install_Location</i> and replace it with the connectivityagent.jar file from ZIP file.</li> </ol> |

| Task                                                                                | Who                                    | When                       | Tasks to complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------|----------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     |                                        |                            | <ol style="list-style-type: none"> <li>Delete your existing <code>cpi_upgradeutility.jar</code> file under <i>Agent_Install_Location</i> and replace it with the <code>cpi_upgradeutility.jar</code> file from ZIP file.</li> <li>In Oracle Integration 3, on the <b>Agents</b> page, hover over the agent group, click <b>Actions</b> ■■■, then select <b>Download config</b>. This step downloads a preconfigured <code>InstallerProfile.cfg</code> file for the agent group.</li> <li>Delete your existing <code>InstallerProfile.cfg</code> file under <i>Agent_Install_Location</i> and replace it with the <code>InstallerProfile.cfg</code> file you downloaded in the previous step.</li> <li>Restart the connectivity agent by running the following command:<br/><code>java -jar connectivityagent.jar</code></li> <li>Reactivate the integrations that are in the upgraded agent group.</li> </ol> |
| File Server: add the File Server IP address to your internal firewall allowlist     | File Server administrator or developer | Within one week of upgrade | <p>If your organization restricts the sites that internal resources can access, add the new File Server IP address to your internal firewall allowlist. The Oracle Integration Generation 2 IP address continues working for four months after the upgrade, and then Oracle retires them. However, Oracle recommends updating your firewall allowlist to use the new IP address now. That way, you don't risk forgetting to update the allowlist in the future.</p> <p>To get the File Server IP address:</p> <ol style="list-style-type: none"> <li>Sign in to Oracle Integration 3.</li> <li>In the navigation pane, click <b>Settings</b>, then <b>File Server</b>, then <b>Settings</b>.</li> <li>Under General, obtain the IP address for the File Server SFTP server.</li> </ol>                                                                                                                        |
| File Server: update integrations and SFTP clients to use the new IP and port values | File Server administrator or developer | Within one week of upgrade | <p>If you use File Server, update your integrations and SFTP clients so that they use the new IP and port values. The Oracle Integration Generation 2 IP and port values continue working for four months after the upgrade, and then Oracle retires them. However, Oracle recommends updating your integrations and SFTP clients to use the new values now. That way, you don't risk forgetting to update these values in the future.</p> <ol style="list-style-type: none"> <li>Sign in to Oracle Integration 3.</li> <li>In the navigation pane, click <b>Settings</b>, then <b>File Server</b>, then <b>Settings</b>.</li> <li>Under General, obtain the IP and port values for the File Server SFTP server.</li> <li>Update all integrations that call File Server so that they use the new IP and port values.</li> <li>Update all SFTP clients so that they use the new IP and port values.</li> </ol> |

## Ensure Integrations Work

| Task                                                                                                          | Who                     | When                                          | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Change Developer API for Oracle Integration 3 calls from Basic Authentication to OAuth                        | Developer               | Prior to upgrade or immediately after upgrade | If you didn't already update your API calls to use OAuth while completing prerequisites or pre-upgrade tasks, do so immediately after upgrade. In Oracle Integration Generation 2, you could use Basic Authentication to use the <a href="#">Oracle Integration REST API</a> and <a href="#">File Server REST API</a> . In Oracle Integration 3, you must use OAuth. You need to update any clients, scripts, integrations, and commands that use the Developer API for Oracle Integration 3 or the Developer API for File Server to connect using OAuth. For more information on authentication method support, see <a href="#">When is Basic Auth Supported in Oracle Integration 3</a> in <i>Provisioning and Administering Oracle Integration 3</i> . For details on using OAuth, see <a href="#">Security, Authentication, and Authorization</a> in <i>Developer API for Oracle Integration 3</i> or <a href="#">Security, Authentication, and Authorization</a> in <i>Developer API for File Server in Oracle Integration 3</i> . |
| Check integrations if you selected <b>Ignore activation failures</b> or <b>Ignore start schedule failures</b> | Administrator           | Immediately after upgrade                     | If you <a href="#">configured your upgrade settings</a> to proceed with the upgrade even if Oracle couldn't activate an integration or restart a schedule, take the appropriate steps: <ul style="list-style-type: none"> <li>If you selected <b>Ignore activation failures</b>, check the status of all your integrations, and activate integrations as needed.</li> <li>If you selected <b>Ignore start schedule failures</b>, check the schedules of your integrations, and manually start them if needed.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Take care of any requests that were rejected during the upgrade downtime                                      | Designated team members | Immediately after upgrade                     | Oracle Integration rejected all requests that were sent during the upgrade downtime. If needed, take action on requests that any clients sent to Oracle Integration during the downtime.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Change service instance name                                                                                  | Developer               | Immediately after upgrade                     | After you upgrade from Oracle Integration Generation 2 to Oracle Integration 3, the tenancy name is appended at the end of the service instance name (service instance display name) in the following format: <service instance name>-<tenancy name>. For example, if the service instance name is myinstance and the tenancy name is mytenancy, then it will be changed to myinstance-mytenancy after you upgrade to Oracle Integration 3. So, if your integrations use the service instance name, update the integrations so that they use the new service instance name; otherwise they will fail.                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Ensure integrations are updated to the latest supported format                                                | Developer               | Immediately after upgrade                     | If there were integrations in a configured state in Oracle Integration Generation 2 before upgrade, complete the following steps after upgrade to ensure these integrations are updated to the latest supported format of Oracle Integration 3: <ol style="list-style-type: none"> <li>Open the canvas for the integration.</li> <li>Click <b>Primary info</b>  in the toolbar above the integration canvas.</li> <li>Close the Primary info panel (by clicking on the canvas or by clicking <b>Primary info</b> ).</li> </ol> <p>The <b>Save</b> button will be enabled now for the integration.</p> <ol style="list-style-type: none"> <li>Click <b>Save</b>.</li> </ol> <p>If you activate your integration without performing the above steps, you might encounter issues for runtime instances.</p>                                                          |

## Complete Post-Upgrade Tasks for Ignored Precheck Failures

If you selected to ignore precheck failures, perform the steps associated with any failed prechecks:

| Precheck                        | Connection tasks | Integration tasks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Other tasks |
|---------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Delayed (Asynchronous) Response |                  | <p>After upgrade, you must rework or recreate integrations that used delayed (asynchronous) response with one of the following adapters:</p> <ul style="list-style-type: none"> <li>• Oracle CX Sales and B2B Service Adapter</li> <li>• Oracle ERP Cloud Adapter</li> <li>• Oracle HCM Cloud Adapter</li> <li>• Oracle Fusion Field Service Adapter</li> <li>• Salesforce Adapter</li> <li>• ServiceNow Adapter</li> </ul> <p><b>Application-driven integrations:</b> Application-driven integrations are changed to a draft state during upgrade. You must rework those integrations using the following steps:</p> <ol style="list-style-type: none"> <li>1. Create a simple invoke for success callbacks.</li> <li>2. Create an additional invoke for failure callbacks under the fault handler to catch the correct fault.</li> <li>3. Recreate your data mappings.</li> </ol> <p><b>Basic routing integrations:</b> Basic routing integrations aren't supported in Oracle Integration 3 and will show a blank canvas. You must delete those integrations and recreate them as application-driven integrations.</p> |             |

| Precheck             | Connection tasks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Integration tasks                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Other tasks |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Unsupported Adapters | <p>During upgrade, connections that used the following unsupported adapters were deleted:</p> <ul style="list-style-type: none"> <li>Automation Anywhere Adapter</li> <li>Evernote Adapter</li> <li>Oracle Messaging Cloud Service Adapter</li> <li>Oracle Monetization Cloud Adapter</li> <li>Oracle Taleo Business Edition (TBE) Adapter</li> <li>UiPath Robotic Process Automation Adapter</li> </ul> <p>You must create REST Adapter connections to replace the deleted unsupported adapter connections.</p> | <p>During upgrade, integrations that used unsupported adapters are changed to a draft state and any scheduled runs are canceled. You must rework those integrations using the following steps:</p> <ol style="list-style-type: none"> <li>1. Delete the invoke corresponding to the unsupported adapter connection and replace it with the new REST Adapter connection.</li> <li>2. After the integration is configured and activated, start the schedule.</li> </ol> |             |
| Custom Adapters      | <p>During upgrade, connections that used the custom adapters were deleted. You must create new connections using equivalent Oracle Integration 3 adapters to replace the deleted custom adapter connections.</p>                                                                                                                                                                                                                                                                                                 | <p>During upgrade, integrations that used unsupported adapters are changed to a draft state and any scheduled runs are canceled. You must rework those integrations using the following steps:</p> <ol style="list-style-type: none"> <li>1. Delete the invoke corresponding to the custom adapter connection and replace it with the new connection you created.</li> <li>2. After the integration is configured and activated, start the schedule.</li> </ol>       |             |
| Multiple Read File   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p>During upgrade, integrations that used the Read Multiple File operation are changed to a draft state. You must rework those integrations so that they don't use this pattern. For example, use a listFile operation to list the files, and use a for-each action to read each file individually.</p>                                                                                                                                                               |             |

| Precheck                         | Connection tasks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Integration tasks                                                                                                                                                                                                                                                                                                                                               | Other tasks |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Unsupported REST Types           | <p>During upgrade, connections that used the following unsupported REST types were changed to a draft state.</p> <ul style="list-style-type: none"> <li>• Metadata Catalog URL</li> <li>• Swagger Definition URL</li> <li>• RAML Definition URL</li> </ul> <p>You must update those connections using one of the following methods:</p> <ul style="list-style-type: none"> <li>• If you were using RAML or the Oracle metadata catalog, you can ask your REST service provider for a Swagger definition (if available). Oracle Fusion Applications should have a Swagger option available as this is a guideline for all Oracle Fusion Applications. If an alternative spec is not available, use the basic template in the REST Adapter by selecting REST API Base URL as the connection URL and defining the target API request using the Adapter Endpoint Configuration Wizard.</li> <li>• Another option if you were using RAML, is to convert RAML into an OpenAPI specification.</li> <li>• If you were using the Swagger definition URL, you can use the REST Adapter's new unified option to specify all OpenAPI specifications in a single field. This option provides more robust and complete support for the Swagger/OpenAPI specifications.</li> </ul> <p>See Configure Connection Properties for Invoke Connections in <i>Using the REST Adapter with Oracle Integration 3</i>.</p> | <p>During upgrade, integrations that used unsupported REST types were changed to a draft state and any scheduled runs were canceled.</p> <p>You must rework those integrations using the following steps:</p> <ol style="list-style-type: none"> <li>1. Activate the integration</li> <li>2. After the integration is activated, start the schedule.</li> </ol> |             |
| Basic Routing Duplicate App Name |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>Basic routing integrations aren't supported in Oracle Integration 3 and will show a blank canvas. You must delete those integrations and recreate them as application-driven integrations.</p>                                                                                                                                                               |             |

| Precheck                       | Connection tasks | Integration tasks                                                                                                                                                                                                                                                                    | Other tasks                                                                                  |
|--------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Publish/Subscribe Integrations |                  | Integrations that published messages or subscribed to messages from Oracle Integration, must be converted to event-driven orchestrations. You must delete the integrations and recreate them based on the precheck instructions for <a href="#">Publish/Subscribe Integrations</a> . |                                                                                              |
| Custom Endpoint URL            |                  |                                                                                                                                                                                                                                                                                      | Your custom endpoint wasn't migrated during upgrade. You must recreate your custom endpoint. |

## Complete Post-Upgrade Tasks for Oracle Visual Builder

To complete migration, perform the following steps:

| Task                                  | Who           | Tasks description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Update DNS record for custom endpoint | Administrator | <p>If you're using Oracle Visual Builder and your instance has a custom endpoint configured to use WAF V2 or a load balancer, update the custom endpoint DNS record's CNAME with the Oracle Visual Builder instance host name or the IP address of the Oracle Visual Builder Generation 2 load balancer. To update the load balancer:</p> <ul style="list-style-type: none"> <li>• Add a backend using the load balancer.</li> <li>• Add a new rule to the route table for the VCN (NAT Gateway) for the public load balancer CIDR (IP/32).</li> </ul> <p><b>Note:</b> You cannot use the same custom endpoint for both Oracle Visual Builder and Oracle Integration after the upgrade. If you use the same custom endpoint, you might run into issues.</p> |

| Task                                   | Who                         | Tasks description                                                                                                                                 |
|----------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Complete additional post-upgrade tasks | Development Operations team | <p>Complete the tasks described in <i>Tasks to Complete After the Upgrade in Administering Oracle Visual Builder in Oracle Integration 3</i>.</p> |

## Complete Post-Upgrade Tasks for Process Automation

Perform the following steps to complete migration to Process Automation in Oracle Integration 3.

### Note

If you performed a [manual migration of actively-used process applications](#), you don't need to perform these post-upgrade tasks.

## Reconfigure the Integration

After your instance is upgraded, the process action is converted from an Oracle Integration Generation 2 process action to an Oracle Integration 3 process action, and although the integration will be on Oracle Integration 3 process action, it will be in a deactivated state. So, you need to reconfigure the integration using the Process Automation call wizard.

For information about how you can reconfigure the integration using the Process Automation call wizard, see *Invoke a Process from an Integration with a Process Action in Using Integrations in Oracle Integration 3*.

## Application-Level Post-Upgrade Tasks for Process Automation

Perform the following tasks for each Process application.

| Task                         | Who                     | When                      | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------|-------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Update role mappings         | Developer/Administrator | Immediately after upgrade | <p>Role assignments have changed in Oracle Integration 3, so you must map your existing roles to the new roles. See <i>Configure Roles for Process Applications in Using Oracle Cloud Infrastructure Process Automation</i>.</p> <p><b>Process owners</b></p> <p>Add members who had the following roles to the <b>Process Owner</b> role in the new application:</p> <ul style="list-style-type: none"> <li>• &lt;application-name&gt;.ProcessOwner</li> <li>• &lt;application-name&gt;.AnalyticsViewer</li> <li>• auto-handler for the swim-lane</li> </ul> <p><b>Process reviewers</b></p> <p>Add members who had the &lt;application-name&gt;.ProcessReviewer role to the <b>Process Reviewer</b> role in the new application.</p> <p><b>Members with swimlane roles</b></p> <p>Add members who had a swim-lane role to the role assigned to the swimlane in the new application.</p> <p><b>Groups</b></p> <p>Change the old group to a role in the new application, and either add the group to the new role or add the members of the group to the new role.</p> <p><b>Roles</b></p> <p>Change the old role to a role in the new application, and add members to the new role.</p> <p><b>Members who can start a process</b></p> <p>In the process start properties, select the members who can start the process from one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>Role members with at least Use permission:</b> Allows any user assigned a role with Use or Manage permission to see and start the application. Note that in a structured process, a user does not need to be assigned to the swimlane to start the process.</li> <li>• <b>All users and external applications:</b> Allows any user or external application with access to Process Automation to see and start the application.</li> </ul> <p><b>Dynamic process roles</b></p> <p>Add members who had dynamic process roles to the dynamic process roles in the new application.</p> |
| Update connector credentials | Developer/Administrator | Immediately after upgrade | <p>Credentials aren't migration to Oracle Integration 3, so you must reconfigure authentication for your REST connectors. If there are multiple applications connecting to the same server you may want to create a global credential that can then be reused across applications. See <i>Configure Basic Auth Security in Using Oracle Cloud Infrastructure Process Automation</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Fix any errors and warnings  | Developer/Administrator | Immediately after upgrade | <p>Because there are <a href="#">differences in process features</a> between Oracle Integration Generation 2 and Oracle Integration 3, you'll need to validate your application and fix any errors or warnings. See "How are applications validated?" in <i>Applications at a Glance in Using Oracle Cloud Infrastructure Process Automation</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Activate application         | Developer/Administrator | Immediately after upgrade | <p>After you've resolved all validation errors, activate your application so new instances can be triggered and worked on. See <i>Activate Applications in Using Oracle Cloud Infrastructure Process Automation</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Service-Level Post-Upgrade Tasks for Process Automation

Depending on how you use Process, you'll perform different service-level steps after upgrade to Oracle Integration 3. Perform any steps that apply to your implementation.

| Task                                                                 | Who           | When                      | Details                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------|---------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allowlist the new Process Automation URL                             | Developer     | Immediately after upgrade | Add the new Process Automation URL to your allowlists. To find the new URL, click <b>Process</b> in the Oracle Integration 3 menu. You'll be redirected to the Process Automation URL.                                                                                                                                                                                                                                        |
| Update integrations to call Process Automation                       | Developer     | Immediately after upgrade | The developer APIs for Process Automation and Decision application have changed after the upgrade. You need to reconfigure the integration using the Process Automation call wizard. See <a href="#">Reconfigure the Integration</a> .                                                                                                                                                                                        |
| Update Oracle Visual Builder applications to call Process Automation | Developer     | Immediately after upgrade | The developer APIs for Process Automation and Decision application have changed after the upgrade. As a result, you must update any Oracle Visual Builder application that calls Oracle Cloud Infrastructure Process Automation, replacing any <a href="#">deprecated interaction patterns</a> . See Connect to Developer APIs for Process Automation in <i>Building Responsive Applications with Visual Builder Studio</i> . |
| Update external clients to call Process Automation                   | Developer     | Immediately after upgrade | If you're using Process CCA components in external applications, they won't work after the upgrade to Oracle Integration 3. You must transition to using the new Process Automation CCA components to leverage the APIs. See <a href="#">Developer API for Oracle Cloud Infrastructure Process Automation</a> .                                                                                                               |
| Share the new Process Automation URL                                 | Administrator | Immediately after upgrade | The URL used to access and interact with Process Automation has changed after the upgrade. Share the new URL with anyone who needs to administer Process Automation, start a new process, or view and act on their tasks.                                                                                                                                                                                                     |

## Perform Updates Required for Integration Instance ID Change

| Task                                                                           | Who       | When                            | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Complete updates required for integration instance ID changing to alphanumeric | Developer | Within six months after upgrade | <p>If you <a href="#">configured your upgrade settings</a> to <b>Enable flowid as numeric post upgrade</b>, you have six months post upgrade to make the updates required for the integration instance ID changing from numeric to alphanumeric.</p> <p>This change affects integration flows that are based on the integration instance ID being an integer (for example, when the integration instance ID is parsed in a database column with a numeric data type). After upgrade, if you run these integrations unchanged, without selecting <b>Enable flowid as numeric post upgrade</b> in the upgrade settings, you'll get a conversion exception error.</p> <p>Conversion Exception Description: The object [...], of class [class java.lang.String], could not be converted to [class java.math.BigDecimal].</p> <p>To accommodate the change you can either update the mapping in each affected integration or update the data type of the column that stores the integration instance IDs in your database.</p> <p><b>Note:</b> The suggested methods covered here are based on Oracle database services (such as Oracle Autonomous AI Database). Additional steps might be required for other database types.</p> <p><b>Method 1: Update the mapping in each affected integration</b></p> <p>In each affected integration, map the target attribute that contains the integration instance ID value to a new numeric value, UNIX time. The UNIX time is the number of seconds that have elapsed since the UNIX Epoch, starting with 1st January 1970 at 00:00:00 UTC. This value increments every second. The value can be parsed as an integer, and therefore doesn't require any database changes.</p> <p>Prior to upgrade you should have noted which integrations are affected, as described in the <a href="#">Instance ID Action precheck</a>.</p> <p>Perform the following steps for each affected integration:</p> <ol style="list-style-type: none"> <li>1. You can't edit an active integration, so, if the integration is active, deactivate it.</li> <li>2. Open the integration.</li> <li>3. Double-click the map that includes the integration instance ID.</li> <li>4. Find the target attribute that contains the integration instance ID value, and click it.</li> <li>5. In the Expression Builder, click .</li> <li>6. Enter the following expression: <pre>floor (((fn:current-dateTime() - xsd:dateTime ("1970-01-01T00:00:00" )) div xsd:dayTimeDuration ("PT1S" )) )</pre> </li> <li>7. Click  to save the expression.</li> <li>8. Go back to the integration canvas, and save your changes.</li> </ol> <p><b>Method 2: Update the data type of the affected column in your database</b></p> |

| Task | Who | When | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------|-----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |     |      | <p>In your database, change the data type of the column holding the integration instance ID to string (CHAR/VARCHAR). This approach doesn't involve any changes to your integrations.</p> <p><b>Note:</b> The solution is limited to database actions created using the operation <b>Run a SQL Statement</b>.</p> <p>Because the database column is already populated, you can't just change the column's data type. Instead, you'll perform the following steps. Run the following steps in SQL Developer.</p> <ol style="list-style-type: none"> <li>1. Take note of the Instance ID column name.</li> <li>2. Add a temporary column (for example, TEMP) of type VARCHAR.<br/>SQL syntax:<br/><code>ALTER TABLE <i>table-name</i> ADD <i>temporary-column</i> VARCHAR2(50);</code><br/>Example:<br/><code>ALTER TABLE FLOW_MANAGEMENT ADD TEMP VARCHAR2(50);</code></li> <li>3. Copy values from the source column (the one containing Instance IDs) to the temporary column.<br/>SQL syntax:<br/><code>UPDATE <i>table-name</i> SET <i>temporary-column-name</i> = <i>source-column-name</i></code><br/>Example:<br/><code>UPDATE FLOW_MANAGEMENT SET TEMP = FLOWID;</code></li> <li>4. Set the source column values to NULL.<br/>SQL syntax:<br/><code>UPDATE <i>table-name</i> SET <i>source-column-name</i> = NULL;</code><br/>Example:<br/><code>UPDATE FLOW_MANAGEMENT SET FLOWID = NULL;</code></li> <li>5. Update the source column type from NUMBER to VARCHAR.<br/>SQL syntax:<br/><code>ALTER TABLE <i>table-name</i> MODIFY <i>source-column-name</i> VARCHAR2(50);</code><br/>Example:<br/><code>ALTER TABLE FLOW_MANAGEMENT MODIFY FLOWID VARCHAR2(50);</code></li> <li>6. Copy the Instance ID values from the temporary column back to the source column.<br/>SQL syntax:<br/><code>UPDATE TABLE <i>table-name</i> SET <i>source-column-name</i> = <i>temporary-column-name</i></code><br/>Example:<br/><code>UPDATE FLOW_MANAGEMENT SET FLOWID = TEMP;</code></li> <li>7. Remove the temporary column.<br/>SQL syntax:<br/><code>ALTER TABLE <i>table-name</i> DROP COLUMN <i>temporary-column-name</i>;</code><br/>Example:<br/><code>ALTER TABLE FLOW_MANAGEMENT DROP COLUMN TEMP;</code></li> </ol> |

| Task                                  | Who           | When                            | Details                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------|---------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (Optional) Set the flow ID to numeric | Administrator | Within six months after upgrade | <p>After you've completed the required updates, you can optionally set the flow ID to numeric.</p> <ol style="list-style-type: none"><li>1. Sign in to Oracle Integration as an administrator.</li><li>2. Click <b>Settings</b>, then click <b>Miscellaneous</b>.</li><li>3. Change the flow ID type to <b>Alphanumeric</b>, then click <b>Save</b>.</li></ol> |

## Follow Your Organization's Verification Procedures

| Task                                                         | Who                     | When                           | Details                                                                                                                                                                                                                                  |
|--------------------------------------------------------------|-------------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Complete your organization's post-upgrade verification tasks | Designated team members | Within two weeks after upgrade | <p>Complete your organization's post-upgrade verification tasks, such as performing regression testing.</p> <p>Perform integration load testing in a development/stage instance before moving integrations to a production instance.</p> |

## Troubleshoot Upgrade Issues

Get help troubleshooting issues that might occur after the upgrade.

### Connection errors

If you don't add the new IP addresses to your allowlists, issues occur after the upgrade. For example, if you don't add the new ingress IP address, errors occur in your applications.

If you experience other issues, enter a service request (SR) on [My Oracle Support](#).

### Oracle Integration Generation 2 instance is visible

Your stopped Oracle Integration Generation 2 instance appears in the Oracle Cloud Console for a period of time after the upgrade. Do not update, start, or delete this instance. Oracle removes it on your behalf when it is no longer needed.

### Go back to your Oracle Integration Generation 2 instance

After the upgrade finishes, if you want to go back to using your Oracle Integration Generation 2, you must submit a service request (SR) through [My Oracle Support](#).

#### Important

Your instance will be rolled back to Oracle Integration Generation 2 in the same state it was when upgrade was performed. Any changes you made in the upgraded environment won't be reflected in the Oracle Integration Generation 2 environment if you roll back.

Do not delete your new Oracle Integration 3 instance, and do not start your Oracle Integration Generation 2 instance on your own.

**Note**

- Only Production instances can be rolled back.
- You must submit your SR requesting roll-back within three business days of upgrade completion.
- Your SR must include a reason that impacts your business.
- It can take up to one hour to roll back an instance.

## FTP Adapter connection fails after upgrade

If you configured the FTP Adapter to communicate with an SFTP server through the connectivity agent and selected the `diffie-hellman-group1-sha1` algorithm for the **SFTP Key Exchange Algorithm**, the integration that uses the FTP Adapter connection fails after the upgrade.

Update the connection, and on the Connections page, choose a different algorithm for **SFTP Key Exchange Algorithm**.

## 401 error when using the REST API

In Oracle Integration Generation 2, you could use Basic Authentication to use the [Oracle Integration REST API](#) and [File Server REST API](#). In Oracle Integration 3, you must use OAuth. You need to update any clients, scripts, integrations, and commands that use the Developer API for Oracle Integration 3 or the Developer API for File Server to connect using OAuth. For more information on authentication method support, see *When is Basic Auth Supported in Oracle Integration 3* in *Provisioning and Administering Oracle Integration 3*. For details on using OAuth, see [Security, Authentication, and Authorization](#) in *Developer API for Oracle Integration 3* or [Security, Authentication, and Authorization](#) in *Developer API for File Server in Oracle Integration 3*.

## Connectivity agent upgrade fails

If the connectivity agent fails to upgrade, you can roll back the upgrade.

To roll back the connectivity agent upgrade from Oracle Integration 3 to Oracle Integration Generation 2:

1. Log on to your connectivity agent on-premises host.
2. Stop the connectivity agent.
3. Make a note of the previous connectivity agent version listed in `agenthome/backups/`.
4. Run each of the following commands to overwrite the current version binaries with those of the previous version. Replace *previous\_version* in the commands with the actual version you noted in the previous step.

```
cp agenthome/backups/previous_version/CpiAgent.properties.old agenthome/agent/config/CpiAgent.properties
cp agenthome/backups/previous_version/agentstore.caks.old agenthome/agent/cert/agentstore.caks
cp agenthome/backups/previous_version/InstallerProfile.cfg.old
InstallerProfile.cfg
```

```
cp agenthome/backups/previous_version/connectivityagent.jar.old  
connectivityagent.jar  
cp agenthome/backups/previous_version/version.old agenthome/version  
rm agenthome/lib/*  
cp agenthome/backups/previous_version/lib.old/* agenthome/lib/
```

5. Start the connectivity agent.

## Known issues

You might run into other errors that are due to known issues.

- Common Issues
- Integrations Issues
- Process Automation Issues
- File Server Issues
- Visual Builder Issues

# A

## Service Limits

Review the following service limits for Oracle Integration 3 resources. A service limit is the quota or allowance set on a resource. You cannot change the service limits configured for your tenancy.

### Note

The service limits described below are enforced.

#### Topics:

- [Oracle Cloud Console Service Limits](#)
- [Component: Adapters](#)
- [Component: Integrations](#)
- [Component: Robotic Process Automation](#)
- [Component: File Server](#)
- [Component: Decisions](#)
- [Component: Process Automation](#)
- [Message Pack Usage and Synchronous/Asynchronous Requests](#)
- [Asynchronous Message Queue Depth](#)

## Oracle Cloud Console Service Limits

For more Oracle Cloud Console service limits, see [Service Limits](#) in the OCI documentation.

| Resource                                    | Service Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Integration service instances               | <ul style="list-style-type: none"><li>• 200 service instances per region</li></ul> <p><b>Note:</b> This value is the number of <i>service</i> instances you provision per region, and <i>not</i> the number of <i>integration</i> instances (for example, application and schedule) that you activate and monitor under the <b>Observability</b> tab in Oracle Integration.</p> <p>The ability to create service instances outside your home region depends on several factors. See <a href="#">Restrictions</a>.</p> |
| Private endpoints                           | <ul style="list-style-type: none"><li>• 1 private endpoint per service instance</li><li>• 1 subnet per private endpoint</li></ul>                                                                                                                                                                                                                                                                                                                                                                                     |
| Custom endpoints                            | <ul style="list-style-type: none"><li>• 1 custom endpoint per service instance</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Oracle Integration internal diagnostic logs | <ul style="list-style-type: none"><li>• 30 days - retained in Oracle Cloud Infrastructure Logging for debugging use</li></ul> <p>See <a href="#">Log Analytics</a>.</p>                                                                                                                                                                                                                                                                                                                                               |

## Component: Adapters

| Resource                                                                                                                      | Service Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connectivity agent memory                                                                                                     | A minimum of 8 GB memory with 4 GB of heap size dedicated to the on-premise agent's Java Virtual Machine (JVM). To include any other processes on the host besides the agent, increase the physical memory to a value greater than 8 GB.                                                                                                                                                                                                                                                                      |
| Connectivity agent message payloads                                                                                           | <ul style="list-style-type: none"> <li>10 MB through the use of compression</li> </ul> <b>All connectivity-agent-enabled adapters</b> <ul style="list-style-type: none"> <li>50 MB as request</li> <li>50 MB as response</li> </ul> <b>SOAP and REST adapters configured with connectivity agent</b> <ul style="list-style-type: none"> <li>50 MB (structured XML/JSON document) as response from SOAP/REST endpoints</li> <li>1 GB for attachments as part of a response from SOAP/REST endpoints</li> </ul> |
| Structured payloads (JSON, XML) for connectivity-agent-based adapters                                                         | <ul style="list-style-type: none"> <li><b>SOAP and REST:</b> 50 MB</li> <li><b>File and FTP invoke responses:</b> 50 MB</li> <li><b>Other protocols:</b> 10 MB (for example, database, JMS, MQ, Kafka, and others)</li> </ul>                                                                                                                                                                                                                                                                                 |
| Structured payloads for trigger connections and responses from invoke connections                                             | <ul style="list-style-type: none"> <li><b>Cloud endpoints:</b> 100 MB (not using the connectivity agent)</li> <li><b>Private endpoints:</b> 100 MB</li> </ul>                                                                                                                                                                                                                                                                                                                                                 |
| Binary (unstructured) payloads (for example, attachments, MTOM) for trigger connections and responses from invoke connections | <ul style="list-style-type: none"> <li>1 GB</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Private endpoint support                                                                                                      | <p>Connecting to private endpoints is supported in a growing list of adapters.</p> <p>See Adapters that Support Connecting to Private Endpoints in <i>Using Integrations in Oracle Integration 3</i>.</p>                                                                                                                                                                                                                                                                                                     |
| Apache Kafka Adapter                                                                                                          | <b>For invoke configurations</b><br>Produce/Consume Message operations: <ul style="list-style-type: none"> <li>10 MB with schema transformation for all the outbound operations</li> </ul>                                                                                                                                                                                                                                                                                                                    |
| AS2 Adapter                                                                                                                   | <ul style="list-style-type: none"> <li>100 MB</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Resource                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Service Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Database adapters</b> <ul style="list-style-type: none"> <li>Oracle Autonomous AI Lakehouse (LH) Adapter</li> <li>Oracle Autonomous AI Transaction Processing (ATP) Adapter</li> <li>Oracle AI Database Adapter</li> <li>Oracle Database Cloud Service Adapter</li> <li>IBM DB2 Adapter</li> <li>Microsoft SQL Server Adapter</li> <li>MySQL Adapter</li> <li>Netezza Adapter</li> <li>PostgreSQL Adapter</li> <li>SAP ASE (Sybase) Adapter</li> <li>Snowflake Adapter</li> </ul> | <b>For trigger configurations</b><br>Polling operations: <ul style="list-style-type: none"> <li>50 MB with schema transformation for agent-based endpoints</li> <li>100 MB with schema transformation through private endpoints</li> </ul> <b>For invoke configurations</b><br>Stored Procedure, Operation on Table, and Run PureSQL Statement operations: <ul style="list-style-type: none"> <li>10 MB with schema transformation for all the outbound operations</li> </ul> Database Select operations: <ul style="list-style-type: none"> <li>100 MB for public internet-based endpoints</li> <li>100 MB for private endpoints</li> <li>50 MB for agent-based endpoints</li> </ul> |
| File Adapter (available only with the connectivity agent)                                                                                                                                                                                                                                                                                                                                                                                                                            | Read File operations: <ul style="list-style-type: none"> <li>1 GB when used without a schema</li> <li>50 MB when using a schema for transformation</li> <li>50 MB for a read operation with structured payload</li> </ul> Polling with a connectivity agent: <ul style="list-style-type: none"> <li>50 MB</li> </ul> Download File operations: <ul style="list-style-type: none"> <li>1 GB</li> </ul> <b>Note:</b> The size of CSV files increases when translated into a message. Therefore, the file size must be less than 50 MB, so that the after-translation message size does not exceed 50 MB.                                                                                |
| FTP Adapter                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>For invoke configurations</b><br>Read File operations: <ul style="list-style-type: none"> <li>1 GB when used without a schema (when used with or without a connectivity agent)</li> <li>100 MB for cloud-based endpoints when using a schema for transformation</li> <li>50 MB for agent-based endpoints when using a schema for transformation</li> <li>100 MB for public internet-based endpoints</li> <li>100 MB for private endpoints</li> </ul> Download File operations: <ul style="list-style-type: none"> <li>1 GB (when used with or without a connectivity agent)</li> </ul> Write File operations: <ul style="list-style-type: none"> <li>There is no limit</li> </ul>  |
| <b>JMS adapters</b> <ul style="list-style-type: none"> <li>Oracle WebLogic JMS Adapter</li> <li>IBM MQ Series JMS Adapter</li> </ul>                                                                                                                                                                                                                                                                                                                                                 | <b>For trigger configurations</b><br>Consume Message operations: <ul style="list-style-type: none"> <li>10 MB with schema transformation</li> </ul> <b>For invoke configurations</b><br>Produce Message operations: <ul style="list-style-type: none"> <li>10 MB with schema transformation</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                |
| Oracle CPQ Adapter                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>50 MB for response payloads</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Oracle E-Business Suite Adapter                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>100 MB for public internet-based endpoints</li> <li>50 MB for agent-based endpoints</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Resource     | Service Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REST Adapter | <p><b>For trigger configurations</b></p> <ul style="list-style-type: none"> <li>• 3 MB for XML documents used for schema generation<br/>See REST Adapter Capabilities.</li> <li>• 1 GB for messages with attachments (for example, multipart/form-data)</li> <li>• 100 MB for incoming structured message payloads (any content-type header containing JSON, XML, HTML, YAML, or YML)</li> </ul> <p><b>Note:</b> If the string length for fields in a JSON payload exceeds 20 MB, you receive a translation failure error. See ORABPEL-15235 Translation Failure Occurrence in <i>Using the REST Adapter with Oracle Integration 3</i>.</p> <ul style="list-style-type: none"> <li>• 1 GB for incoming content as raw bytes (application/octet-stream as content type)</li> <li>• 100 KB for JSON sample files used to specify the response payload format in the Adapter Endpoint Configuration Wizard</li> </ul> <p><b>For invoke configurations</b></p> <ul style="list-style-type: none"> <li>• 3 MB for XML documents used for data definition generation<br/>See REST Adapter Capabilities.</li> <li>• 100 KB for JSON sample files used to specify the request payload format in the Adapter Endpoint Configuration Wizard</li> <li>• 1 GB for responses returned as part of invoke runtime binary data (application/octet-stream)</li> <li>• 50 MB for responses returned from agent-based endpoints for structured content (for example, JSON/CSV/XML, and so on)</li> <li>• 100 MB for responses returned from private endpoints for structured content (for example, JSON/CSV/XML, and so on)</li> <li>• 100 MB for responses returned from public internet-based endpoints for structured content (for example, JSON/CSV/XML, and so on)</li> </ul> |

| Resource                                                                                                                                                                                                                        | Service Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>REST-based adapters (adapters that expose REST endpoints on the inbound or adapters invoking external REST endpoints)</p> <p>For example, Oracle Commerce Cloud Adapter, Oracle Fusion Field Service Adapter, and so on.</p> | <p><b>For trigger configurations (wherever applicable)</b></p> <ul style="list-style-type: none"> <li>3 MB for XML documents used for schema generation<br/>See REST Adapter Capabilities.</li> <li>1 GB for messages with attachments (for example, multipart/mixed and multipart/form-data)</li> <li>100 MB for incoming structured message payloads (any content-type header containing JSON, XML, HTML, YAML, or YML)</li> <li>1 GB for incoming content as raw bytes (application/octet-stream as content type)</li> <li>100 KB for JSON sample files used to specify the response payload format</li> </ul> <p><b>For invoke configurations (wherever applicable)</b></p> <ul style="list-style-type: none"> <li>3 MB for XML documents used for data definition generation<br/>See REST Adapter Capabilities.</li> <li>1 GB for attachments in outbound requests</li> <li>100 KB for JSON sample files used to specify the request payload format</li> <li>50 MB for agent-based endpoints</li> <li>100 MB for private endpoints</li> <li>100 MB for public internet-based endpoints</li> </ul> |
| Salesforce Adapter                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>8 MB per batch (10,000 records)</li> </ul> <p>See Process Large Data Sets Asynchronously with Different Bulk Operations.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SAP Adapter                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>50 MB</li> </ul> <p>For the SAP Adapter as a trigger connection, the limit is 50 MB for all document types.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SAP Ariba Adapter                                                                                                                                                                                                               | See SAP Ariba Adapter Restrictions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SOAP Adapter                                                                                                                                                                                                                    | <p><b>For trigger configurations</b></p> <ul style="list-style-type: none"> <li>100 MB for structured payloads (XML) in requests and responses</li> </ul> <p><b>For invoke configurations</b></p> <ul style="list-style-type: none"> <li>100 MB for structured payloads (XML) in requests and responses</li> <li>50 MB for agent-based endpoints</li> <li>100 MB for private endpoints</li> <li>100 MB for public internet-based endpoints</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>SOAP-based adapters (adapters that expose SOAP endpoints on the inbound or adapters invoking external SOAP endpoints)</p> <p>For example, Oracle Logistics Adapter.</p>                                                      | <p><b>For trigger configurations (wherever applicable)</b></p> <ul style="list-style-type: none"> <li>100 MB for structured payloads (XML) in requests and responses</li> </ul> <p><b>For invoke configurations (wherever applicable)</b></p> <ul style="list-style-type: none"> <li>100 MB for structured payloads (XML) in responses</li> <li>50 MB for agent-based endpoints</li> <li>100 MB for private endpoints</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Connectivity-agent-based outbound adapter invocation timeout                                                                                                                                                                    | <ul style="list-style-type: none"> <li>4 minutes for connection timeout</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Outbound adapter invocation timeout                                                                                                                                                                                             | <ul style="list-style-type: none"> <li><b>READ timeout:</b> 5 minutes</li> <li><b>Connection timeout:</b> 5 minutes</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Resource                                                                                                                                                                                                                                                                                                                                                                         | Service Limit                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Integration timeout for: <ul style="list-style-type: none"> <li>• Oracle Autonomous AI Lakehouse (LH) Adapter</li> <li>• Oracle Autonomous AI Transaction Processing (ATP) Adapter</li> <li>• Oracle Database Cloud Service Adapter</li> <li>• MySQL Adapter</li> <li>• Microsoft SQL Server Adapter</li> <li>• Oracle AI Database Adapter</li> <li>• IBM DB2 Adapter</li> </ul> | <ul style="list-style-type: none"> <li>• 240 seconds</li> </ul> <p>Any integrations created after August 2021 that include stored procedure or PureSQL database operations will time out after this limit.</p> |

## Component: Integrations

| Resource                     | Service Limit                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Active integrations          | <ul style="list-style-type: none"> <li>• 800 active integrations</li> </ul> <p>See <i>Activate an Integration</i> in <i>Using Integrations in Oracle Integration 3</i>.</p>                                                                                                                                                                                                                      |
| Integration invocation depth | <ul style="list-style-type: none"> <li>• 16 invocations</li> </ul> <p>For example, a parent integration (schedule integration) invokes a child integration (application integration), which in turn recursively invokes the parent integration.</p> <p>Integration entry points along the request execution path are counted towards the limit. When 16 is exceeded, it results in an error.</p> |
| String size limit            | <p>If the size of a string variable exceeds 10,000 characters, a warning message is shown in the activity stream. Oracle Integration does not currently impose a limit on the size of string variables. However, this may be subject to change in the future, which could result in a flow execution failing when the limit is exceeded.</p>                                                     |
| Parallel action concurrency  | <p>Parallel action branches independent of the integration type (synchronous, asynchronous, and so on) count towards the concurrency limits on synchronous requests.</p> <p>For example, a parallel action with three branches needs two extra concurrency slots for the duration of the parallel action; one branch is counted towards the original flow already obtained.</p>                  |

| Resource                                                            | Service Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Triggers - concurrent requests                                      | <ul style="list-style-type: none"> <li>• <b>Synchronous:</b> 100 concurrent requests per message pack for a service instance that includes a new license and 400 concurrent requests per message pack for a service instance that uses an existing license (BYOL), up to a maximum of 2,000 (for 20 message packs)</li> </ul> <p>Increasing the concurrent request limit with additional message packs is useful if you have high concurrency requirements in respect to synchronous integration executions.</p> <p>For details about how concurrent request scalability is calculated, see <a href="#">Message Pack Usage and Synchronous/Asynchronous Requests</a>.</p> <p>Parallel action branches independent of the integration type (synchronous, asynchronous, and so on) count towards the concurrency limits on synchronous requests.</p> <p>For example, a parallel action with three branches needs two extra concurrency slots for the duration of the parallel action; one branch is counted towards the original flow already obtained.</p> |
| Asynchronous queue depth                                            | <p>The asynchronous messages queue depth available with the specific message pack assigned to your Oracle Integration instance.</p> <p>See <a href="#">Asynchronous Message Queue Depth</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Event integrations (integrations that can subscribe to events)      | <ul style="list-style-type: none"> <li>• 50 integrations per service instance</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Tracking events (per single integration instance/request execution) | <ul style="list-style-type: none"> <li>• <b>Non-error events:</b> 20,000</li> <li>• <b>Error events:</b> 30,000 (extra 10,000 if events are associated with errors)</li> <li>• <b>Maximum errors recorded:</b> 2,000</li> </ul> <p>After those limits are reached, events are no longer recorded in the activity stream, but they continue to be processed, and the integration instance overall state is calculated. This ensures that the integration instance state is updated in all scenarios.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Integration flow duration                                           | <ul style="list-style-type: none"> <li>• <b>Synchronous:</b> 5 minutes<br/>After that, an HTTP 502 occurs.</li> <li>• <b>Asynchronous:</b> 6 hours<br/>After that, the integration instance is marked as aborted due to deadline timeout.</li> <li>• <b>Scheduled:</b> 6 hours<br/>After that, the integration instance is marked as aborted due to deadline timeout.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Stage file action (in integrations) limits                          | <ul style="list-style-type: none"> <li>• <b>Read Entire File operations:</b> 100 MB<br/>For files greater than 100 MB, use the Read File in Segments operation.</li> <li>• <b>Encrypt File operations:</b> 1 GB</li> <li>• <b>Decrypt File operations:</b> 1 GB</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Synchronous integration message timeout                             | <ul style="list-style-type: none"> <li>• 300 seconds<br/>After that, the integration returns a timeout error.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Oracle Integration Messaging message size                           | <ul style="list-style-type: none"> <li>• 10 MB</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Resource                                                                   | Service Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Encode and decode file attachment content (mapper)                         | <ul style="list-style-type: none"> <li>10 MB for <code>encodeReferenceToBase64(String reference)</code> and <code>decodeBase64ToReference(String base64Content)</code> functions</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Lookups                                                                    | <ul style="list-style-type: none"> <li>Maximum number of rows in lookup table: No limit</li> <li>Maximum number of columns in lookup table: 100</li> <li>Maximum lookup import limit: 100 MB</li> <li>Maximum column length: 2,048 characters</li> <li>Domain name length: 50 characters</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Notification action limits                                                 | <ul style="list-style-type: none"> <li><b>Default method:</b> 500 KB maximum email body size (cannot be exceeded)<br/>The email body size and attachment size are both considered in calculating the total size for the default method. The maximum total size for the default method is 2 MB. For example, if the email body size of your message is 250 KB, you can attach files of up to 1.75 MB in encoded size to reach the total default value of 2 MB.</li> <li><b>Customer tenancy method:</b> 500 KB maximum email body size (cannot be exceeded)<br/>The email body size and attachment size are both considered in calculating the total size for the customer tenancy method. The total size can be increased until the maximum value supported by the Oracle Cloud Infrastructure Email Delivery Service is reached.<br/>For example, assume the total size supported by your customer tenancy is 4 MB. If the email body size of your message is 250 KB, you can attach files of up to 3.75 MB in encoded size to reach the total customer tenancy value 4 MB.<br/>See <a href="#">Configure Notification Emails and Email Delivery Service Capabilities and Limits</a>.</li> </ul> |
| Outbound emails (sent from Oracle Integration in a rolling 24-hour window) | <ul style="list-style-type: none"> <li><b>Default method:</b> 10,000 emails</li> <li><b>Customer tenancy method:</b> The limit is the number allowed by the Oracle Cloud Infrastructure Email Delivery Service.<br/>See <a href="#">Configure Notification Emails and Email Delivery Service Capabilities and Limits</a>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| JavaScript execution timeout                                               | <ul style="list-style-type: none"> <li>15 seconds</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| JavaScript function parameters                                             | <ul style="list-style-type: none"> <li>20 parameters</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| XSLT execution duration                                                    | <ul style="list-style-type: none"> <li>120 seconds</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Scheduled integrations - concurrent requests                               | <ul style="list-style-type: none"> <li><b>Scheduled or out-of-band:</b> 1<br/>An out-of-band request is a <i>run now</i> run associated with a schedule.</li> <li><b>Ad-hoc:</b> 1<br/>An ad-hoc request is a <i>run now</i> run <i>not</i> associated with a schedule.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Tenant and user requests                                                   | <ul style="list-style-type: none"> <li><b>User interface:</b> 100 requests per second per tenant and 20 requests per second per user</li> <li><b>Observability (instances/errors) API:</b> 50 requests per second</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Resource                                                                    | Service Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Schedule integrations - long-running integration duration                   | <ul style="list-style-type: none"> <li>6 hours</li> </ul> <p>After that, the integration is terminated by Oracle Integration.</p> <p>See When a Schedule Integration Instance Gets Terminated in <i>Using Integrations in Oracle Integration 3</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                                            |
| Loop iterations                                                             | <ul style="list-style-type: none"> <li><b>While loop:</b> 5,000 iterations</li> <li><b>For-each loop:</b> No limit</li> <li><b>Tracked loop iterations:</b> 1,000 iterations</li> </ul> <p>Maximum number of iterations captured across all loops for a single instance ID for which tracking data is captured.</p>                                                                                                                                                                                                                                                                                                                                                |
| Project limits (maximum per project)                                        | <ul style="list-style-type: none"> <li><b>Integrations:</b> 200 (regardless of whether activated or deactivated)</li> <li><b>Connections:</b> 100</li> <li><b>Lookups:</b> 100</li> <li><b>JavaScript libraries:</b> 50</li> <li><b>Deployments:</b> 100</li> <li><b>Queues:</b> 50</li> <li><b>Events:</b> 50</li> </ul> <p><b>Note:</b> There is no limit on the number of projects per instance.</p>                                                                                                                                                                                                                                                            |
| Parallel action branches                                                    | <ul style="list-style-type: none"> <li>5 branches</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Tracking variable value character limit                                     | <ul style="list-style-type: none"> <li>8,191 characters</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Maximum number of global variables                                          | <ul style="list-style-type: none"> <li>20</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Service instance data retention                                             | <p>Retention is based on the trace level set during integration activation:</p> <ul style="list-style-type: none"> <li><b>Production:</b> 32 days (default) for Standard and Enterprise editions, 184 days for Healthcare edition<br/>You can increase the data retention period for Standard and Enterprise editions if you want. See <a href="#">Edit the Data Retention Period</a>.</li> <li><b>Audit:</b> 8 days</li> <li><b>Debug (Not Recommended):</b> 24 hours<br/><b>Note:</b> After 24 hours, Debug (Not recommended) is automatically reset to Production. See Activate an Integration in <i>Using Integrations in Oracle Integration 3</i>.</li> </ul> |
| Time window for recovering a failed integration instance that's recoverable | <p>The integration instance is recoverable until one of the following occurs:</p> <ul style="list-style-type: none"> <li>It's aborted. This can happen due to integration deactivation.</li> <li>It's successfully recovered or the recovery leads to a nonrecoverable error.</li> <li>It's beyond its associated retention time, which is 32 days (default) for Standard and Enterprise editions, 184 days for Healthcare edition.</li> </ul>                                                                                                                                                                                                                     |
| Activity stream - displayable rows                                          | <ul style="list-style-type: none"> <li>5,000 rows (when expanding the tree)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Activity stream - total size (REST response)                                | <ul style="list-style-type: none"> <li>No limit</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Integration instances returned per monitoring request                       | <ul style="list-style-type: none"> <li>50 instances</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Resubmissions allowed per integration instance ID                           | <ul style="list-style-type: none"> <li>10 resubmissions</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Resource                                                                         | Service Limit                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Schedule parameter values character limit                                        | <ul style="list-style-type: none"> <li>256 characters</li> </ul>                                                                                                                                                                            |
| Schedule parameters per integration                                              | <ul style="list-style-type: none"> <li>5 parameters</li> </ul>                                                                                                                                                                              |
| Integration property values character limit                                      | <ul style="list-style-type: none"> <li>256 characters</li> </ul>                                                                                                                                                                            |
| Integrations and connections character limits                                    | <ul style="list-style-type: none"> <li><b>Name:</b> 50 characters</li> <li><b>Package name:</b> 50 characters</li> <li><b>Version:</b> 10 characters</li> <li><b>Description:</b> 1,024 characters</li> </ul>                               |
| Maximum <i>offset</i> supported (Instances and Errors API)                       | <ul style="list-style-type: none"> <li>500</li> </ul>                                                                                                                                                                                       |
| Maximum <i>limit</i> supported (Instances and Errors API)                        | <ul style="list-style-type: none"> <li>50</li> </ul>                                                                                                                                                                                        |
| Developer API for Oracle Integration 3 timeout                                   | <ul style="list-style-type: none"> <li>2 minutes</li> </ul>                                                                                                                                                                                 |
| Payloads for publishing and subscribing to events in integrations                | <ul style="list-style-type: none"> <li>The same limit supported by the inbound (trigger) adapter.<br/>See <a href="#">Component: Adapters</a>.</li> </ul>                                                                                   |
| Activity stream payloads                                                         | <ul style="list-style-type: none"> <li>32 KB per payload<br/>Payloads larger than 32 KB are stored in the Object Store. There is no limit for payloads stored in the Object Store.</li> <li>25 MB total per integration instance</li> </ul> |
| Oracle Cloud Infrastructure API Gateway limits                                   | <ul style="list-style-type: none"> <li>20 deployments per gateway</li> <li>50 routes per deployment</li> </ul> <p>This allows for a total of 1,000 integration endpoints per gateway.</p>                                                   |
| B2B for Oracle Integration - Trading partner management and B2B message tracking | See Manage Trading Partners and Track B2B Messages in <i>Using B2B for Oracle Integration 3</i> .                                                                                                                                           |

## Component: Robotic Process Automation

| Resource                | Service limit                                             |
|-------------------------|-----------------------------------------------------------|
| Robot instance duration | <ul style="list-style-type: none"> <li>4 hours</li> </ul> |

| Resource                                                                                                                                       | Service limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assigning a robot instance to an environment timeout                                                                                           | <p>Varies, depending upon the environments:</p> <ul style="list-style-type: none"> <li>If the environment pool contains no environments:<br/>0 seconds, and then the status of the robot instance changes to <b>Failed</b></li> <li>If the robot agent on the environment doesn't accept the request:<br/>30 seconds, and then Oracle Integration attempts to assign the robot instance to a different environment</li> <li>If all environments in the environment pool have a status of <b>Unavailable</b>:<br/>240 seconds, and then the status of the robot instance changes to <b>Failed</b></li> <li>If at least one environment in the environment pool has a status of <b>Available</b>:<br/>No limit</li> </ul> |
| File download timeout                                                                                                                          | <ul style="list-style-type: none"> <li>180 seconds by default but the robot builder can specify a different value while creating a robot</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| File download size                                                                                                                             | <ul style="list-style-type: none"> <li>50 MB</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Polling frequency (frequency at which the robot agent polls Oracle Integration for work)                                                       | <ul style="list-style-type: none"> <li>15 seconds</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Maximum time that Oracle Integration waits for the robot agent to poll for work before changing its environment's status to <b>Unavailable</b> | <ul style="list-style-type: none"> <li>35 seconds</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Service instance data retention                                                                                                                | <ul style="list-style-type: none"> <li><b>Production:</b> 32 days (default) for Standard and Enterprise editions, 184 days for Healthcare edition<br/>You can increase the data retention period for Standard and Enterprise editions if you want. See <a href="#">Edit the Data Retention Period</a>.</li> <li><b>Audit:</b> 8 days</li> <li><b>Debug (Not Recommended):</b> 24 hours<br/>After 24 hours, a robot instance's Debug tracing level automatically changes to Production.</li> </ul>                                                                                                                                                                                                                       |
| Environments in an environment pool                                                                                                            | <ul style="list-style-type: none"> <li>100 environments</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Robot character limits                                                                                                                         | <ul style="list-style-type: none"> <li><b>Name:</b> 50 characters</li> <li><b>Description:</b> 1,024 characters</li> <li><b>Keywords:</b> 1,024 characters</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment pool character limits                                                                                                              | <ul style="list-style-type: none"> <li><b>Name:</b> 50 characters</li> <li><b>Description:</b> 1,024 characters</li> <li><b>Keywords:</b> 1,024 characters</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Robot connection type character limits                                                                                                         | <ul style="list-style-type: none"> <li><b>Name:</b> 50 characters</li> <li><b>Description:</b> 1,024 characters</li> <li><b>Keywords:</b> 1,024 characters</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Robot connection character limits                                                                                                              | <ul style="list-style-type: none"> <li><b>Name:</b> 50 characters</li> <li><b>Description:</b> 1,024 characters</li> <li><b>Keywords:</b> 1,024 characters</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## Component: File Server

| Resource               | Service Limit                         |
|------------------------|---------------------------------------|
| Storage                | • 500 GB                              |
| Concurrent connections | • 50 connections per service instance |

## Component: Decisions

### Decision application service limits in a project

| Resource                                                                | Service limit |
|-------------------------------------------------------------------------|---------------|
| Maximum number of decision applications per project                     | 10            |
| Maximum number of decision applications across all projects             | 100           |
| Maximum number of versions that can be created per decision application | 25            |
| Maximum number of activated versions per decision application           | 10            |

### Service limits for a decision model

| Resource                                                                                                                    | Service limit |
|-----------------------------------------------------------------------------------------------------------------------------|---------------|
| Maximum number of concurrent executions for mutating PUT/PATCH/DELETE operations in <a href="#">Decision Lifecycle APIs</a> | 1             |
| Maximum number of decision nodes per decision model                                                                         | 50            |
| Maximum number of rules (rows) per decision table                                                                           | 100           |
| Maximum number of input expressions (columns) per decision table                                                            | 15            |
| Maximum number of key/value pairs per context decision                                                                      | 50            |
| Maximum number of conditions in if/else and nested if/else                                                                  | 100           |
| Maximum number of entries (row x column) in relation table                                                                  | 200           |
| Maximum number of input data per decision model                                                                             | 20            |
| Maximum number of business types per decision model                                                                         | 20            |
| Maximum number of services per decision model                                                                               | 10            |
| Maximum number of levels in nested decisions                                                                                | 2             |

## Component: Process Automation

For Process Automation service limits, see Service Limits in *Administering Oracle Cloud Infrastructure Process Automation*.

## Message Pack Usage and Synchronous/Asynchronous Requests

Concurrent request limits are based on the type of license you have and the number of message packs you subscribe to.

Your license type affects the synchronous and asynchronous request limits in the following ways:

- **New license:**
  - **Synchronous:** 100 concurrent requests per message pack, up to a maximum of 2,000 requests
  - **Asynchronous:** No limit; the following number of requests can execute at a time, the rest are queued; 50 requests per message pack, up to a maximum of 1,000 requests
- **Existing license (BYOL):**
  - **Synchronous:** 400 concurrent requests per message pack, up to a maximum of 2,000 requests
  - **Asynchronous:** No limit; the following number of requests can execute at a time, the rest are queued; 200 requests per message pack, up to a maximum of 1,000 requests

### Note

With version 25.06, the synchronous request limit ceiling was increased from 600 to 2,000, and the asynchronous request limit ceiling was increased from 300 to 1,000. This ceiling may be subject to change.

The following tables show the synchronous and asynchronous request limits based on license types and message packs.

### Concurrent limits for Oracle Integration instances that include a license

| Message Packs Assigned | Sync Request Limit for Included License | Async Request Limit for Included License |
|------------------------|-----------------------------------------|------------------------------------------|
| 1                      | 100                                     | 50                                       |
| 2                      | 200                                     | 100                                      |
| 3                      | 300                                     | 150                                      |
| 4                      | 400                                     | 200                                      |
| 5                      | 500                                     | 250                                      |
| 6                      | 600                                     | 300                                      |
| 7                      | 700                                     | 350                                      |
| 8                      | 800                                     | 400                                      |
| 9                      | 900                                     | 450                                      |
| 10                     | 1,000                                   | 500                                      |
| 11                     | 1,100                                   | 550                                      |
| 12                     | 1,200                                   | 600                                      |
| 13                     | 1,300                                   | 650                                      |
| 14                     | 1,400                                   | 700                                      |

| Message Packs Assigned | Sync Request Limit for Included License | Async Request Limit for Included License |
|------------------------|-----------------------------------------|------------------------------------------|
| 15                     | 1,500                                   | 750                                      |
| 16                     | 1,600                                   | 800                                      |
| 17                     | 1,700                                   | 850                                      |
| 18                     | 1,800                                   | 900                                      |
| 19                     | 1,900                                   | 950                                      |
| 20+                    | 2,000                                   | 1,000                                    |

#### Concurrent limits for Oracle Integration instances that use an existing license (BYOL)

| Message Packs Assigned | Sync Request Limit for BYOL | Async Request Limit for BYOL |
|------------------------|-----------------------------|------------------------------|
| 1                      | 400                         | 200                          |
| 2                      | 800                         | 400                          |
| 3                      | 1,200                       | 600                          |
| 4                      | 1,600                       | 800                          |
| 5+                     | 2,000                       | 1,000                        |

## Asynchronous Message Queue Depth

This section provides details about the asynchronous messages queue depth available with the specific message pack assigned to your Oracle Integration instance.

The following formula is used to calculate the asynchronous message queue depth:

$$\text{number\_of\_messages\_per\_hour} * 10$$

For example, 5,000 messages per hour multiplied by 10 gives you a limit of 50,000 messages.

$$5000 * 10 = 50000$$

This limit enables your instance to handle a spike of 10 times the usual number of requests, meaning you have a 10-hour backlog. A small cushion is added to this limit to ensure that message 50,001 is not rejected. However, you should focus on the limit for the number of messages you have assigned, and not rely on the small cushion.

The following table provides more specific details about message packs and queue limits.

#### **Note**

The upper queue limit is 600,000 messages. If you require more than 600,000 messages, contact Oracle.

| Message Packs | Messages Per Hour | Queue Limit (Number of Messages * 10) |
|---------------|-------------------|---------------------------------------|
| 1             | 5,000             | 50,000                                |
| 2             | 10,000            | 100,000                               |

| Message Packs | Messages Per Hour | Queue Limit (Number of Messages * 10) |
|---------------|-------------------|---------------------------------------|
| 3             | 15,000            | 150,000                               |
| 4             | 20,000            | 200,000                               |
| 5             | 25,000            | 250,000                               |
| 6             | 30,000            | 300,000                               |
| 7             | 35,000            | 350,000                               |
| 8             | 40,000            | 400,000                               |
| 9             | 45,000            | 450,000                               |
| 10            | 50,000            | 500,000                               |
| 11            | 55,000            | 550,000                               |
| 12            | 60,000            | 600,000                               |
| 20            | 100,000           | 600,000                               |

When the number of requests exceeds the upper limit allowed for your message pack, you receive the following error message:

```
{"type":"429","title":"Too busy right now. Please retry later. ","detail":"The service is temporarily busy. Please retry later."}
```

You can monitor requests using the Async queue depth metric chart. See [Available Metrics Charts](#).

You can create alarms on the Async queue depth metric chart that notify you when your message count exceeds a specific percentage. See [Create an Alarm to Monitor Async Backlog](#).

# B

## TLS Cipher Suites Support

Oracle Integration supports the following TLS cipher suites.

### Supported Cipher Suites

- TLS\_ECDHE\_RSA\_AES128\_GCM\_SHA256
- TLS\_ECDHE\_RSA\_AES256\_GCM\_SHA384

See Inbound and Outbound Endpoints and Transport Layer Security Server Version Support in *Using Integrations in Oracle Integration 3*.

### Deprecated Cipher Suites

If you use any of these cipher suites, replace them with a supported cipher suite.

The following cipher suites aren't supported as of October 2024.

- TLS\_DHE-RSA-AES128-GCM-SHA256
- TLS\_DHE-RSA-AES128-SHA256
- TLS\_DHE-RSA-AES256-GCM-SHA384
- TLS\_DHE-RSA-AES256-SHA256
- TLS\_ECDHE-RSA-AES128-SHA256
- TLS\_ECDHE-RSA-AES256-SHA384

### Deprecated Camerfirma certificates

The JDK will stop trusting TLS server certificates issued after Apr 15, 2025 and anchored by Camerfirma root certificates, in line with similar actions taken by Apple, Google, Microsoft and Mozilla. TLS server certificates issued on or before Apr 15, 2025 will continue to be trusted until they expire. Certificates issued after that date will be rejected.