

What's New for Oracle Integration

Learn about the new and changed features of Oracle Integration.

 **Note:**

Starting in June 2020, the minimum Oracle Integration version required for each new feature is listed in the component tables. To learn your version, select the **About** option located under the user name icon in the upper right corner of the Oracle Integration page.

 **Note:**

The information in this guide applies to all of your Oracle Integration instances. It doesn't matter which edition you're using, what features you have, or who manages your cloud environment. You'll find what you need here, including notes about any differences between the various flavors of Oracle Integration when necessary.

Environment differences are highlighted by the following badges:



Applies only to Oracle Integration Classic (user-managed).



Does not apply to Oracle Integration Classic (user-managed).

 **Note:**

Learn about new and changed endpoints for the Oracle Integration REST API. See [REST API for Oracle Integration](#).

Topics:

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December 2020

New Features

Integration and Connectivity Features

Feature	Description	Minimum Version Required
Integration and Connectivity - New video	We continue to add new videos to our Training page in the Oracle Help Center. The latest video for your enjoyment is Use the Switch Action in Oracle Integration .	N/A

November 2020

New Features

Common Features

Feature	Description	Published
Data retention	Manage your space centrally in the common Data Retention settings area. See Set Data Retention for Oracle Integration Features in <i>Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i> .	20.4.2.0.0 (201009.0200.37961)
Update window	Functional updates for Oracle Integration Generation 2 are provided each quarter in two windows typically two weeks apart. Use tagging in the Oracle Cloud Infrastructure Console to identify when your Oracle Integration Generation 2 instances are updated See Choose Your Update Window in <i>Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i> .	20.4.2.0.0 (201009.0200.37961)
Oracle Integration announcements	Users can view announcements communicating timely, important information about their Oracle Integration service. They can also view a list of past and ongoing announcements. <ul style="list-style-type: none">To enable announcements (administrators), see Enable Announcements to Display in Oracle Integration in <i>Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i>.To view announcements (users), see View Oracle Integration Announcements in <i>Getting Started with Oracle Integration Generation 2</i>.	20.4.2.0.0 (201009.0200.37961)

Feature	Description	Published
Usage metrics now includes Visual Builder metering	Oracle Integration usage metrics now reflect Visual Builder usage, in addition to Integration and Process. See Monitoring Billable Messages and About Visual Builder Usage in <i>Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i> .	20.4.2.0.0 (201009.0200.37961)
Adapter monitoring metrics	You can view adapter inbound processing and outbound message invocation times and adapter inbound and outbound requests in the Oracle Cloud Infrastructure Console. See Viewing Message Metrics in <i>Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i> .	20.4.2.0.0 (201009.0200.37964)

Integration and Connectivity Features

Feature	Description	Minimum Version Required
Scheduled integration tracking	When you select Submit Now or Start a Schedule , an integration instance is immediately created. This instance appears on the Track Instances page and confirms not only that your action is successful, but also enables you to immediately track the execution. See Start and Pause an Integration Schedule in <i>Using Integrations in Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37961)
Configuration Editor Enhancements	If your standalone integration type or package type is a recipe or an accelerator, you can activate or deactivate the integration from the Configuration Editor page. See Edit and Replace Dependent Resources in <i>Using Integrations in Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37961)
Recover Unsaved Integration Changes	You can recover unsaved changes in an integration that crashes during design time because of a browser crash, loss of network connectivity, a server going down, and so on. See Recover Unsaved Integration Changes in <i>Using Integrations in Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37961)
Support for binary payloads in local integrations	You can create a parent integration using a REST Adapter invoke connection configured with the Open API URL connection type to pass a binary payload to a child integration. See Invoke a Co-located Integration from a Parent Integration in <i>Using Integrations in Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37961)

Feature	Description	Minimum Version Required
Configure SPF and DKIM values in notification emails	<p>You can optionally configure Sender Policy Framework (SPF) and Domain Keys Identified Mail (DKIM) values when configuring notification emails.</p> <p>See <i>Send Service Failure Alerts, System Status Reports, and Integration Error Reports by Notification Emails</i> in <i>Using Integrations in Oracle Integration</i>.</p>	20.4.2.0.0 (201009.0200.37961)
Support for XML files containing repeating elements and multiple namespaces.	<p>You can read large XML files containing repeating elements and multiple namespaces.</p> <p>See <i>Configure a Stage File Action</i> in <i>Using Integrations in Oracle Integration</i>.</p>	20.4.2.0.0 (201009.0200.37961)
Apache Kafka Adapter - Inbound polling support	<p>Apache Kafka is one of the modern pillars in enterprise's big data and digital ecosystem today, where large volumes of messages are ingested and consumed for depicting the state of business at a rapid pace. The Apache Kafka Adapter already supports a wide array of use cases such as publishing messages to specific topics and partitions, consuming messages from specific consumer groups, and reading from the beginning/latest topic. With this release, the Apache Kafka Adapter now allows integration architects to poll for messages in the Kafka system by configuring the Kafka connection as a trigger in an integration flow. Note that inbound polling configuration is only supported for the Kafka platform hosted behind a corporate firewall or on a private VCN network, along with the connectivity agent. This enables you to consume a high volume of messages from the Kafka topic and consume them in the integration flow.</p> <p>See <i>Apache Kafka Adapter Capabilities</i> in <i>Using the Apache Kafka Adapter with Oracle Integration</i>.</p>	20.4.2.0.0 (201009.0200.37961)
Apache Kafka Adapter - Confluent platform support	<p>The Apache Kafka Adapter now supports integrating with Kafka hosted on the Confluent platform. Confluent Cloud is a widely-used event streaming platform powered by Kafka that enables you to leverage Apache Kafka in a fully managed, scalable, and serverless architecture in the cloud. See <i>Configure Confluent Kafka with the Apache Kafka Adapter</i> in <i>Using the Apache Kafka Adapter with Oracle Integration</i>.</p>	

Feature	Description	Minimum Version Required
Oracle NetSuite Adapter - Token-based authentication support	<p>The Oracle NetSuite Adapter has enhanced its concurrency limit. This means you receive a high concurrency limit when integrating with Oracle NetSuite using Oracle Integration, regardless of your Oracle NetSuite license. The enhanced concurrency limit is applicable only for invokes performed through connections created using the new TBA Authorization Flow security policy introduced in the Oracle NetSuite Adapter. The TBA Authorization Flow security policy provides multiple benefits to customers:</p> <ul style="list-style-type: none"> • It is more secure because you don't have to enter the credentials in Oracle Integration. • You receive an enhanced concurrency limit whenever invokes are performed using such connections. • It is very simple to configure the connection. You only need to click the Provide Consent button on the Connections page and follow the prompts. <p>See Oracle NetSuite Adapter Capabilities in <i>Using the Oracle NetSuite Adapter with Oracle Integration</i> and Oracle Integration November 2020 update for Oracle Applications Adapters.</p>	20.4.2.0.0 (201009.0200.37961)
Oracle NetSuite Adapter - Support for Initialize / InitializeList operations	<p>Oracle Integration continues to invest in the Oracle NetSuite Adapter, further integrating with Oracle NetSuite application capabilities to meet customer needs and simplifying access and thereby addressing wider use cases. One such enhancement available with this release is support for the Initialize / InitializeList operations. This is a very powerful feature for integration architects because they do not need to populate the records from scratch. Instead, they can prepopulate the records from the reference objects. For example, if you are designing a flow to initiate a cash refund, the refund is now against the cash sale. The Oracle NetSuite Adapter allows you to initialize the cash refund record from the cash sale, where the cash sale is a reference object and details such as createdfrom, line items, and amount are prepopulated.</p> <p>See Invoke Operation Page in <i>Using the Oracle NetSuite Adapter with Oracle Integration</i> and Oracle Integration November 2020 update for Oracle Applications Adapters.</p>	20.4.2.0.0 (201009.0200.37961)

Feature	Description	Minimum Version Required
REST Adapter - Generation of sample cURL command	<p>The REST Adapter is a versatile adapter that enables customers to communicate with a wide array of products and services such as Oracle Functions, OCI Object storage, AWS S3, and so on, making it one of the cornerstone adapters for your modern integration solutions. As you look to leverage the REST Adapter for integrating with a wide array of products and services, you have a variety of available configuration options such as security policy, headers, parameters, and so on. As these options are configured at different stages, they get lost and you can lose visibility into the configuration. Oracle Integration addresses this need by providing an option in the Adapter Endpoint Configuration Wizard Summary page to generate the sample cURL command.</p> <p>See REST Adapter Capabilities in <i>Using the REST Adapter with Oracle Integration</i>.</p>	20.4.2.0.0 (201009.0200.37961)
REST Adapter - Standard OAuth policy improvements	<p>The REST Adapter supports a variety of OAuth security policies out of the box (for example, OAuth Client Credentials, OAuth Resource Owner Password Credentials, and OAuth Authorization Code Credentials). One challenge is that different vendors have implemented these policies in different ways because the OAuth specification defines a high level exchange of information between participating parties. This leaves the details of implementation on the implementer. Oracle Integration is looking to support as many vendors as possible and still make it simple for customers to connect to and communicate with all the digital REST services using the supported OAuth security policy. With this in mind, the REST Adapter now supports an additional configuration parameter called Client Authentication on the Connections page. The client authentication parameters enable you to configure how Oracle Integration exchanges security tokens over the wire (for example, whether the client ID and secret are sent as a part of the basic authentication header or in the body).</p> <p>See Configure Connection Security for Invoke Connections in <i>Using the REST Adapter with Oracle Integration</i>.</p>	20.4.2.0.0 (201009.0200.37961)

Feature	Description	Minimum Version Required
REST Adapter - Connectivity properties improvements	<p>The REST Adapter is used for a wide variety of use cases, and requires additional flexibility such as querying and overriding the connectivity properties such as base URI, relative URI, or even absolute endpoint URI. This helps you to address scenarios in which you want to conditionally change endpoints based on the received payload. The REST Adapter already supports connectivity properties for the invoke endpoint. However, in previous releases, it supported only the request side. With this release, the REST Adapter supports connectivity properties for the invoke response, trigger request, and response: all four possible interactions. As an example, you want to pass the location for the next integration flow in the response of the current trigger flow. This can be achieved now by referring to the trigger REST resource base URI along with XSLT functions to formulate the location of the next integration flow. See <i>Set REST Adapter Connectivity Properties in the Mapper</i> in <i>Using the REST Adapter with Oracle Integration</i>.</p>	20.4.2.0.0 (201009.0200.37961)
Salesforce Adapter - Enablement for Salesforce Government Cloud customers	<p>The Salesforce Adapter was recently enhanced to eliminate the need to upload the enterprise WSDL on the Connections page. With this enhancement, customers who were using the Salesforce Government Cloud were unable to create new connections due to login considerations, as mentioned in this help document. With this release, the Salesforce Adapter provides support for creating a connection with the Salesforce.com application that can integrate with Salesforce Government Cloud. See <i>Prerequisites for Creating a Connection in Using the Salesforce Adapter with Oracle Integration</i> and Oracle Integration - Adapter Enhancements to Non Oracle Applications.</p>	20.4.2.0.0 (201009.0200.37961)
Shopify Adapter - New modules support	<p>The Shopify Adapter enables you to create an integration with a Shopify application in Oracle Integration. With this release, the Shopify Adapter extends these capabilities with the following new features:</p> <ul style="list-style-type: none"> • Invoke (target) connection support for performing various operations against objects from the Plus (Gift cards) and Shopify Payments modules • Trigger (source) connection support for performing various types of actions against events from the FulfillmentEvents and Fulfillments modules <p>See <i>Shopify Adapter Capabilities in Using the Shopify Adapter with Oracle Integration</i>.</p>	20.4.2.0.0 (201009.0200.37961)

Feature	Description	Minimum Version Required
Oracle Autonomous Data Warehouse Adapter, Oracle Autonomous Transaction Processing Adapter, and Oracle Database Cloud Service Adapter - Support for wallet-based authentication with privately hosted databases	<p>In previous releases, when connecting to a privately hosted database using Autonomous Database - Dedicated (Oracle Autonomous Transaction Processing - Dedicated or Oracle Autonomous Data Warehouse - Dedicated) or Oracle Database Cloud Service with the connectivity agent, the only supported security option was JDBC Basic Authentication. With this release, you can also specify JDBC over SSL. This allows you to connect to a privately-hosted cloud database and leverage wallet-based authentication.</p> <p>See <i>Configure Connection Security in Using the Oracle Autonomous Transaction Processing Adapter with Oracle Integration</i>, <i>Configure Connection Security in Using the Oracle Autonomous Data Warehouse Adapter with Oracle Integration</i>, <i>Configure Connection Security in Using the Oracle Database Cloud Service Adapter with Oracle Integration</i> and Security Improvements for Database & FTP Adapters.</p>	20.4.2.0.0 (201009.0200.37961)
Oracle Autonomous Data Warehouse Adapter, Oracle Autonomous Transaction Processing Adapter, and Oracle Database Cloud Service Adapter - Automatic database wallet and password refresh	<p>Oracle Wallet can be used to securely store your database credentials. Wallet rotation provides the ability to create a new wallet and invalidate the existing wallet. When the wallet is rotated or expires (or if using Basic Authentication and the database password is changed), a corresponding change is required in the Oracle Integration connection for that database. Once the connection is modified in Oracle Integration, you needed to deactivate and reactivate the integrations that used that connection. This sometimes meant that hundreds of integrations required reactivation, which was very impractical. With this release, it is no longer necessary to deactivate and reactivate the integrations. However, you still need to update the Connections page with a new wallet password, as applicable.</p> <p>See <i>Configure Connection Security in Using the Oracle Autonomous Transaction Processing Adapter with Oracle Integration</i>, <i>Configure Connection Security in Using the Oracle Autonomous Data Warehouse Adapter with Oracle Integration</i>, and <i>Configure Connection Security in Using the Oracle Database Cloud Service Adapter with Oracle Integration</i>.</p>	20.4.2.0.0 (201009.0200.37961)

Feature	Description	Minimum Version Required
Oracle Autonomous Transaction Processing Adapter - Support for connecting with a serverless (ATP-S) database configured with a private endpoint	<p>The Oracle Autonomous Transaction Processing (ATP) database is becoming more widely adopted, along with its use within integration flows using Oracle Integration. When configuring your database, you can specify that it uses a private endpoint within your VCN of your tenancy. This allows you to keep all traffic to and from your database off the public internet. When using the Oracle Autonomous Transaction Processing Adapter in Oracle Integration to connect to an ATP instance using a private endpoint, you must set up the connectivity agent.</p> <p>See Oracle Autonomous Transaction Processing Adapter Capabilities in <i>Using the Oracle Autonomous Transaction Processing Adapter with Oracle Integration</i> and <i>Security Improvements for Database & FTP Adapters</i>.</p>	20.4.2.0.0 (201009.0200.37961)
PayPal Adapter - Inbound support and new modules	<p>PayPal is a global payment provider that enables vendors to receive payments digitally from their customers and make payments to their suppliers. The PayPal Adapter enables you to create an integration with a PayPal application in Oracle Integration. With this release, the PayPal Adapter provides inbound support. This means it can be configured as a trigger connection in an integration for the events related to the Billing, Invoicing, Payment, Checkout, and Catalog modules. Furthermore, the PayPal Adapter has been enhanced to support the Transaction Search, Subscriptions, Add Tracking, and Invoicing modules.</p> <p>See PayPal Adapter Capabilities in <i>Using the PayPal Adapter with Oracle Integration</i> and <i>Oracle Integration - Adapter Enhancements to Non Oracle Applications</i>.</p>	20.4.2.0.0 (201009.0200.37961)

Feature	Description	Minimum Version Required
FTP Adapter - Message payload security capabilities with privately-hosted SFTP servers	<p>When integrating with an FTP server that is hosted on-premises behind a firewall, you configure a connectivity agent in Oracle Integration to establish connectivity. In previous releases, there were certain security-related options that were not available when using the FTP Adapter with the connectivity agent. In particular:</p> <ul style="list-style-type: none"> • Encrypting the message payload • Decrypting the message payload • Signing the message payload • Verifying the signed message payload <p>The above options can now be leveraged with the connectivity agent while communicating with the privately-hosted SFTP server.</p> <p>See FTP Adapter Capabilities in <i>Using the FTP Adapter with Oracle Integration</i> and Security Improvements for Database & FTP Adapters.</p>	20.4.2.0.0 (201009.0200.37961)
Oracle ERP Cloud Adapter, Oracle Engagement Cloud Adapter, and Oracle HCM Cloud Adapter - Selectively pick child REST resources	<p>The Oracle Fusion Application adapters are key strategic adapters for Oracle Integration. Oracle Integration continues to update these adapters with features to meet your needs and improve the overall adapter experience. One improvement with this release is the ability to selectively pick child REST resources. This enables you to pick and chose the child resources needed for your businesses. Without this feature, you would have all child resources in the integration artifacts, resulting in an unmanageable number of elements to traverse through in the mapper and unnecessary loads at runtime.</p> <p>See Oracle ERP Cloud Adapter Capabilities in <i>Using the Oracle ERP Cloud Adapter with Oracle Integration</i>, Oracle Engagement Cloud Adapter Capabilities in <i>Using the Oracle Engagement Cloud Adapter with Oracle Integration</i>, Oracle HCM Cloud Adapter Capabilities in <i>Using the Oracle HCM Cloud Adapter with Oracle Integration</i>, and Oracle Integration November 2020 update for Oracle Applications Adapters.</p>	20.4.2.0.0 (201009.0200.37961)
ServiceNow Adapter - Graceful downgrade of user experience	<p>The ServiceNow Adapter enables you to create an integration with ServiceNow in Oracle Integration. The ServiceNow Adapter has been enhanced to run with as few privileges as possible. With this release, you must provide minimal accesses on the tables to configure the ServiceNow Adapter as a trigger or an invoke connection in an integration. See Prerequisites for Creating a Connection in <i>Using the ServiceNow Adapter with Oracle Integration</i> and Oracle Integration - Adapter Enhancements to Non Oracle Applications.</p>	20.4.2.0.0 (201009.0200.37961)

Feature	Description	Minimum Version Required
REST API Enhancements	There are new REST APIs for monitoring integrations, updating a library, cloning packages and updating package dependencies. See the What's New topic under Get Started in Oracle Integration REST API.	20.4.2.0.0 (201009.0200.37961)

Process Features

Feature	Description	Minimum Version Required
Process analytics APIs available in Oracle Integration	A Process analytics category has been added to the Oracle Integration REST APIs for tracking and monitoring Process-related items. See the What's New topic under Get Started in Oracle Integration REST API.	20.4.2.0.0 (201009.0200.37961)
Web form enhancements	We've made the following enhancements: <ul style="list-style-type: none"> Reusable code snippets can now be used in conditional If blocks. See Reuse Event Snippets in <i>Using Processes in Oracle Integration</i>. New functions (Is First and Is Last) were added to control loop statements in form events by checking if the current element is the first item or the last item on a list. A new function, Get application name, was added to return the current application name. See Specify Functions in <i>Using Processes in Oracle Integration</i> 	20.4.2.0.0 (201009.0200.37961)

Integration Insight Features

Feature	Description	Minimum Version Required
Embedded dashboards and business transactions	Embed Integration Insight dashboards and business transaction visualizations in other applications in an iFrame. See Embed Integration Insight Components in Other Applications in <i>Using Integration Insight in Oracle Integration Generation 2</i> .	20.4.2.0.0 (201009.0200.37964)
Console manifest	Generate a console manifest to find the IDs for the associated model, dashboards, milestones, unique instance identifier, and indicators (dimensions and measures). See Generate a Console's Manifest in <i>Using Integration Insight in Oracle Integration Generation 2</i> .	20.4.2.0.0 (201009.0200.37964)

Feature	Description	Minimum Version Required
Support for updating mapped integration versions	Update a model to use different versions of the integrations to which its milestones are mapped. See Update a Model to Use Different Versions of Mapped Integrations in <i>Using Integration Insight in Oracle Integration Generation 2</i> .	20.4.2.0.0 (201009.0200.37964)
Support for additional Integrations actions	Map model milestones to additional Integrations actions: Log, Notification, Switch, Throw New Fault. Note: If you want to map model milestones to any of these actions in integrations activated prior to 20.4.2, you must reactivate those integrations to use the new actions in Integration Insight. See Supported Integrations Actions in <i>Using Integration Insight in Oracle Integration Generation 2</i> .	20.4.2.0.0 (201009.0200.37964)
User interface improvements	Identify missing items more easily in your Integration Insight models with user interface enhancements for: <ul style="list-style-type: none"> Assigning the unique instance identifier when model milestones are mapped to multiple integrations. See Define a Unique Instance Identifier in <i>Using Integration Insight in Oracle Integration Generation 2</i>. Notifications of incomplete mapping with a summary view of unmapped milestones. See Define Milestones in <i>Using Integration Insight in Oracle Integration Generation 2</i>. 	20.4.2.0.0 (201009.0200.37964)

File Server Features

Feature	Description	Minimum Version Required
Enable File Server	In the navigation pane, the File Server link always appears to administrators in the Settings menu. If File Server isn't yet enabled, selecting the link directs to instructions for enabling it in the Oracle Cloud Infrastructure Console. See Enable File Server in <i>Using File Server with Oracle Integration Generation 2</i> .	20.4.2.0.0 (201009.0200.37964)
Allowlist public IP addresses	Wanting to allowlist (explicitly allow identified entities access) certain public IP addresses for File Server? See Allowlist Public IP Addresses in <i>Using File Server with Oracle Integration Generation 2</i> .	20.4.2.0.0 (201009.0200.37964)

Feature	Description	Minimum Version Required
Sorting on the Folders page	Click columns to sort folders by name or creation date. By default, folders are sorted by creation date, starting with most recent. See Configure SFTP Folders in <i>Using File Server with Oracle Integration Generation 2</i> .	20.4.2.0.0 (201009.0200.37964)
Filter by enabled or disabled users on the Users page	Filter options now include an Enable field that lets you list all users, enabled only, or disabled only users. See Configure Users in <i>Using File Server with Oracle Integration Generation 2</i> .	20.4.2.0.0 (201009.0200.37964)
Effective home on Users page	You can now more easily see user permissions on the Users page. If a user isn't configured but is part of a group that's configured, these applied permissions are reflected. See Configure Users in <i>Using File Server with Oracle Integration Generation 2</i> .	20.4.2.0.0 (201009.0200.37964)
Apply permissions to multiple users/groups at once	On the folder Permissions page, you can now quickly assign a permission to all users or groups listed for the folder. In addition, a tag identifies newly added or modified users or groups to easily identify those needing permissions set. See Set Folder Permissions in <i>Using File Server with Oracle Integration Generation 2</i> .	20.4.2.0.0 (201009.0200.37964)
Security algorithms deprecation	The following algorithms are being deprecated: Cipher Suites: <ul style="list-style-type: none"> • 3des-cbc • aes128-cbc • aes192-cbc • aes256-cbc Message Authentication Algorithms: <ul style="list-style-type: none"> • hmac-sha1-96 • hmac-sha1 For more information, see Security algorithms to be deprecated in <i>Known Issues for Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37964)

B2B for Oracle Integration Features

Feature	Description	Published
Implementation Guide	You can generate implementation guides for B2B schemas that can be shared with your trading partners. See Generate an Implementation Guide in <i>Using B2B for Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37961)

Visual Builder Features

Feature	Description	Published
Enable Visual Builder in new Oracle Integration instances	To use Visual Builder in new Oracle Integration instances, first enable it for use in the Oracle Cloud Infrastructure Console. (No action is needed for existing Oracle Integration already using Visual Builder.) See Enable Visual Builder in <i>Administering Oracle Visual Builder</i> .	20.4.2.0.0 (201009.0200.37964)
Business object limitation removed	Visual Builder business rules (including server-side validations, triggers, object functions, and declarative workflow) are now enabled in Oracle Integration Generation 2 environments.	20.4.2.0.0 (201009.0200.37964)
Usage metrics includes Visual Builder metering	Oracle Integration usage metrics now include Visual Builder usage. See Monitoring Billable Messages and About Visual Builder Usage in <i>Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i> .	20.4.2.0.0 (201009.0200.37961)
Oracle Redwood Design System	Web apps that you create using this release of VB Studio now use the Redwood theme, a theme created with the Oracle Redwood Design System. Oracle Redwood Design System is the new Oracle standard for application look and feel. The Designer within VB Studio has also adopted a Redwood theme. See Develop Applications in <i>Developing Applications with Oracle Visual Builder in Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37964)
Manage runtime dependencies	Your applications are no longer automatically upgraded to the new major runtime versions of Visual Builder Runtime and Oracle JET after your instance of VB Studio is upgraded. You decide when to upgrade your applications using the UI that has been introduced for this purpose. See Manage Runtime Dependencies for Visual Applications in <i>Developing Applications with Oracle Visual Builder in Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37964)

Feature	Description	Published
Audits	<ul style="list-style-type: none"> Status indicators Red overlay icons now appear in the Navigator to identify app artifacts that include audit errors. Red underline appears on the Navigator entry and the tab for the file that includes the error. Errors are generated for broken variable and type references. Warnings are generated for unused action chains, constants, events, event listeners, types, and variables. For action chains, audits have been added to validate that required fields in the action include values. Oracle JET Audit Framework The Audits feature now references up the Oracle JET Audit Framework (JAF) tool and metadata from Oracle's content distribution network (CDN). You can configure the built-in rules that JAF provides. See Audit Application Code in <i>Developing Applications with Oracle Visual Builder in Oracle Integration</i>. 	20.4.2.0.0 (201009.0200.37964)
Horizontal text tabs for artifacts in the Designer	The artifact section tabs for page flows, event listeners, and so on now appear as horizontal text tabs above the artifact instead of as a vertical icon bar. See Understand the Designer in <i>Developing Applications with Oracle Visual Builder in Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37964)
Business object data caching	You can now define a caching strategy to safely store your business object's data and improve performance, by editing the Resource Cache Control setting on a business object's Endpoints tab. Because all application data is deemed sensitive, by default, no data is cached. See Control Data Caching for Business Objects in <i>Developing Applications with Oracle Visual Builder in Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37964)
Create variables	You can now create variables from within the Assign Variables dialog that you open from the Action Chains editor. See Add an Assign Variables Action in <i>Developing Applications with Oracle Visual Builder in Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37964)

Feature	Description	Published
Mobile applications	<ul style="list-style-type: none"> Deep links for mobile applications The Visual Builder Runtime now supports deep linking. Application behavior depends on the app and the environment where the app runs. Android and iOS mobile apps that you build in VB Studio can be opened from deep links. For PWAs, iOS does not support deep links while Android provides ready-to-use support for deep links. See Support Deep Linking from Mobile Applications in <i>Developing Applications with Oracle Visual Builder in Oracle Integration</i>. Adaptive icons for Android mobile applications Adaptive icons that display as a variety of shapes on different Android devices are now supported for mobile applications built on VB Studio. The sample application image archive (available in an application's Resources section) includes adaptive icons that you can use as a base when you create custom images for your application. If your application uses an older image archive, VB Studio will try to use those icons as adaptive icons, but it is best to provide your own icons that are in line with Android specifications. VB Studio does not validate your icons and cannot guarantee that they will be compatible. See Change the Splash Screen and Icons Used by a Mobile Application and Enable PWA Support in <i>Developing Applications with Oracle Visual Builder in Oracle Integration</i>. 	20.4.2.0.0 (201009.0200.37964)
Action chain tests	The <code>grunt-vb-build</code> NPM package now includes a <code>vb-test</code> Grunt task that runs the action chain tests in your visual application on your computer. See Test Action Chains Using the <code>vb-test</code> Grunt Task in <i>Developing Applications with Oracle Visual Builder in Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37964)
Upgrade the Oracle Sample R13 SaaS LightBlue Theme	If your application uses the Oracle SaaS R13 Light Theme, you need to upgrade the theme in your application before you run the application using this release. See Update Your Oracle SaaS Application Template Theme in <i>Known Issues for Oracle Integration</i> .	20.4.2.0.0 (201009.0200.37964)

Resolved Issues

This release of Oracle Integration includes a number of resolved issues. For details, log in to support.oracle.com and search for document ID 2731136.1.

October 2020

New Features

Common Features

Feature	Description	Minimum Version Required
New videos	<p>We continue to add new videos to our Training page in the Oracle Help Center. Here are the latest videos for your enjoyment:</p> <ul style="list-style-type: none">• Connect on-premises apps to the cloud with the connectivity agent <p>Key Oracle Integration capabilities:</p> <ul style="list-style-type: none">• Integrations• Process Automation• Insight• B2B• File Server• Visual Builder <p>Integration design patterns and best practices:</p> <ul style="list-style-type: none">• Architectural principles• Integration types and common patterns• Integration anti-patterns: common pitfalls	N/A
Improved search of documentation	<p>We'd like to let you know about major improvements to our help center's search that were recently rolled out by the Information Development team. To use search, navigate to https://docs.oracle.com/en/cloud/paas/integration-cloud/index.html and enter a search query in the top utility bar. New features include:</p> <ul style="list-style-type: none">• A utility bar in the Oracle Help Center• Search preview as you enter search queries• A new book roll-up feature that shows the best results for each publication• A new way to search for more detailed content within a publication• Product cards that include all or part of a product name in a search query• New filters to refine search results• Static thumbnails that identify videos in search results• Separate search indexes for non-English content	N/A

September 2020

New Features

Integration and Connectivity Features

Feature	Description	Minimum Version Required
Integrations and Connectivity - New video	We continue to add new videos to our fundamental integration vocabulary and concepts series. The latest video provides an overview of how to use the while action in an integration. See Use a While Action in Oracle Integration .	N/A

Resolved Issues

Integration and Connectivity Resolved Issues

Issue	Resolution
Package import certificate	An issue in which part of the package import certificate was not overwritten if it existed was resolved.
Certificate export	An issue in which multiple certificates were used, but only one was exported, was resolved.
Display of activity stream timestamps	All timestamps in the activity stream are now displayed in the user's time zone.
Activity stream rendering in non-Google Chrome browsers	The activity stream user interface is now rendered in non-Google Chrome browsers such as Safari, and Edge, and Firefox.
Display of timestamps in downloaded activity stream JSON file	The downloaded JSON file from the activity stream user interface now shows timestamps in the user's time zone.
Duplicate timestamps in the downloaded activityStream.json file	An issue with duplicate timestamps in the downloaded activityStream.json file was resolved.
Activation failures	An issue in which activations fail for integrations with stage file actions inside a loop inside a global fault handler was resolved.
For-each action	An issue in which the for-each action was not created for schema elements extending a simple type was resolved.
Lookup updates	An issue in which a lookup was getting updated with a single column using the update lookup REST API was resolved.

August 2020

New Features

Common Features

Feature	Description	Minimum Version Required
New Oracle Integration Home page for Generation 2	<p>If you're an Oracle Integration Generation 2 user, you'll see a markedly different home page when you sign in. You can quickly navigate to the product features you want, view a mini dashboard of relevant metrics and status, get access to the new accelerators and recipes, and go directly to your current tasks, applications, and work in progress.</p> <p>See <i>Get Familiar with the Home Page in Getting Started with Oracle Integration Generation 2</i>.</p>	20.2.3.0.0 (200705.0200.36414)
New accelerators and recipes	<p>Oracle Integration Generation 2 offers a rich set of run-ready business integrations or technical patterns called accelerators, and sample templates called recipes. Accelerators and recipes, which bundle all the resources required by the integrations into one package, help you jump-start your integration development. Simply install, configure, and activate.</p> <p>You'll find some of the available accelerators and recipes listed on the Home page. You can also search the entire collection.</p> <p>See <i>Integration Accelerators and Recipes in Getting Started with Oracle Integration Generation 2</i>.</p>	20.2.3.0.0 (200705.0200.36414)
Usage Metrics includes Integration Insight	<p>Monitor your usage more accurately now that Integration Insight usage is included. Each business transaction in Integration Insight counts as one message.</p> <p>See <i>Monitoring Billable Messages in Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i>.</p>	20.2.3.0.0 (200705.0200.36414)
Usage Metrics error notification bar improvements	<p>We made minor usability improvements to the Usage Metrics page.</p> <ul style="list-style-type: none"> The error notification bar remains until you close it. Improved error messages show more error details. <p>See <i>Monitoring Billable Messages in Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i>.</p>	20.2.3.0.0 (200705.0200.36413)

Integration and Connectivity Features

Feature	Description	Minimum Version Required
Integrations and Connectivity - New videos	<p>We continue to add new videos to our fundamental integration vocabulary and concepts series. The latest videos describe some key components used in the Create an Integration to Import and Process Bulk Files sample in <i>Using the FTP Adapter with Oracle Integration</i>:</p> <ul style="list-style-type: none"> • Bulk File Transfer with the FTP Adapter • Use the Stage File Action in Oracle Integrations • Use the For-Each Action in Oracle Integrations 	N/A
Oracle Cloud Infrastructure Streaming Service Adapter - New adapter	<p>Oracle Integration is pleased to announce the addition of the Oracle Cloud Infrastructure Streaming Service Adapter to its growing list of connectivity adapters. The Oracle Cloud Infrastructure Streaming service provides a fully managed, scalable, and durable storage solution for consuming continuous, high-volume streams of data. The Oracle Cloud Infrastructure Streaming Service Adapter lets you connect directly to the Oracle Cloud Infrastructure streaming service hosted on a public subnet or through the connectivity agent to the Oracle Cloud Infrastructure streaming service hosted on a private subnet. The Oracle Cloud Infrastructure Streaming Service Adapter enables an integration architect to publish and consume messages from the Oracle Cloud Infrastructure Streaming service in a simple declarative manner. This greatly simplifies how application updates can be posted on the Oracle Cloud Infrastructure Streaming service, or consumed from the Oracle Cloud Infrastructure streaming service making Oracle Integration a router of continuously-consumed messages on the Oracle Cloud Infrastructure streaming service.</p> <p>See Oracle Cloud Infrastructure Streaming Service Adapter Capabilities in <i>Using the Oracle Cloud Infrastructure Streaming Service Adapter with Oracle Integration</i></p>	20.2.3.0.0 (200705.0200.36413)

Feature	Description	Minimum Version Required
PayPal Adapter - New adapter	<p>Oracle Integration is pleased to announce the addition of the PayPal Adapter to its growing list of adapters. PayPal is a global payment provider that enables vendors to receive payments digitally from their customers and make payments to their suppliers. With the PayPal Adapter, Oracle NetSuite Adapter, and Shopify Adapter, Oracle Integration now enables you to connect and automate your business processes for web store, inventory management, order fulfillment, and so on easily through powerful Oracle Integration orchestration and transformation capabilities. See PayPal Adapter Capabilities in <i>Using the PayPal Adapter with Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
AS2 Adapter - New adapter	<p>Applicability Statement 2 (AS2) is a very popular HTTP-based protocol to transfer files or messages securely over the internet. AS2 is predominantly used in B2B communications to exchange electronic documents between companies. The AS2 protocol is defined by the Internet Engineering Task Force (IETF) and covers the following key aspects of data security:</p> <ul style="list-style-type: none"> • Privacy • Data integrity • Authenticity • Nonrepudiation of origin and receipt <p>The AS2 Adapter enables you to build integrations with endpoints for receiving and processing AS2 protocol-based files and messages and sending messages and files to external endpoints supporting the AS2 protocol.</p> <p>See AS2 Adapter Capabilities in <i>Using the AS2 Adapter with Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)

Feature	Description	Minimum Version Required
Oracle Talent Acquisition Cloud (Taleo EE) Adapter - Bulk export support	<p>Oracle Talent Acquisition Cloud is the world's most widely used recruitment platform. Oracle Talent Acquisition Cloud customers conventionally perform bulk import-based and bulk export-based integrations to update data in Oracle Talent Acquisition Cloud and extract updated data from Oracle Talent Acquisition Cloud. The current Oracle Talent Acquisition Cloud (Taleo EE) Adapter already supports performing bulk import of records to load/update the data into Oracle Talent Acquisition Cloud instances. With this feature, the Oracle Talent Acquisition Cloud (Taleo EE) Adapter now also supports performing bulk export to get data from Oracle Talent Acquisition Cloud. As an example, you may want to export new hires information and import the same information into your HRMS systems. See Implement the Export Candidate Data Pattern in <i>Using the Oracle Talent Acquisition Cloud (Taleo EE) Adapter with Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
REST Adapter - Consumption of REST APIs described using OpenAPI	<p>Oracle Integration continues to adopt open standards to help Oracle Integration customers simplify and streamline their integrations and reap the rewards from open standards. OpenAPI has indeed become a de facto standard for describing a REST API. The Oracle Integration REST Adapter in the conquest of open standards now supports consuming REST APIs described in OpenAPI specifications. This now helps Oracle Integration to easily integrate with applications and services that are exposing OpenAPI-based APIs descriptors. See Publish REST-Based Integrations as OpenAPI Documents in <i>Using the REST Adapter with Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)

Feature	Description	Minimum Version Required
File Adapter enhancements	<p>The File Adapter enables you to build integrations that allow for the reading and writing of files present in the local file system of your on-premises environment. This release contains the following significant enhancements:</p> <ul style="list-style-type: none"> • Retrieving of files within specific folders using the list operation • Moving or renaming of files • Reading and writing of files using a File Adapter-specific invoke connection • Reading and writing of files up to 1 GB in size <p>The above enhancements enable you to implement use cases such as the periodic retrieval of data extracts from on-premises applications and databases available in the local file system and the synchronization of this data with cloud applications, cloud databases, FTP servers, and external systems using Apache Kafka, Oracle Cloud Infrastructure Streaming Service, and so on. Similarly, synchronization of periodic extracts from SaaS applications, databases, and FTP servers to on-premises file systems is also possible with the help of the above enhancements.</p> <p>See <i>Invoke Operations Page in Using the File Adapter with Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
Salesforce Adapter - Outbound invocation support for consuming APEX classes	<p>Salesforce.com enables customers to extend their application by developing and deploying custom business logic as APEX classes in force.com. These APEX classes can be exposed by customers as REST APIs that allow for programmatic invocation by external clients. With the new release, the Salesforce Adapter has been enhanced to allow integrations to programmatically invoke the custom business logic deployed in force.com.</p> <p>See <i>Invoke Apex Operations Page in Using the Salesforce Adapter with Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
SAP Commerce Cloud (Hybris) Adapter - Customization support	<p>The SAP Commerce Cloud (Hybris) Adapter now provides native support for integrating with SAP Commerce Cloud instances that have customizations such as the presence of custom attributes, custom APIs, custom operations, and custom objects. The SAP Commerce Cloud (Hybris) Adapter now has the ability to discover these components and make them available for use in integrations. The SAP Commerce Cloud (Hybris) Adapter now also supports the B2B extension if enabled in SAP Commerce Cloud. See <i>SAP Commerce Cloud (Hybris) Adapter Capabilities in Using the SAP Commerce Cloud (Hybris) Adapter with Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)

Feature	Description	Minimum Version Required
Shopify Adapter - Enhancements	<p>The Shopify Adapter has been enhanced to support the following:</p> <ul style="list-style-type: none"> • Fetching the presentment prices for the product variants and current exchange adjustment data for the order transactions. The Shopify Adapter now lets the integration developer configure the required custom HTTP headers for the above use cases. • Inbound support for exposing the store name for all business events received. This support enables the integration developer to identify the event source. • Inbound support for the inventory level update business event. • Certified with the latest API version of 2020-04. <p>See <i>Shopify Adapter Capabilities in Using the Shopify Adapter with Oracle Integration</i>.</p>	
Basic routing to app driven orchestration integration conversion	<p>You must convert basic routing integrations to app driven orchestration integrations. Basic routing integrations offer limited action capabilities and are being deprecated. App driven orchestration integrations provide greater flexibility with more action capabilities.</p> <p>See Convert a Basic Routing Integration to an App Driven Orchestration Integration in <i>Using Integrations in Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
Import and export of design-time metadata in the user interface	<p>You can export and import archives of integration and process design-time metadata between instances. This feature can be useful if you want to move metadata from a test to a production environment, perform manual archival backups, or automate your environment to archive backups daily to a repository such as Git.</p> <p>See <i>Export and Import Design-Time Metadata Between Instances in Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i>.</p>	20.2.3.0.0 (200705.0200.36413)
Header support in local integrations	<p>You can add header support to the payload of the SOAP adapter used in the co-located (child) integration. Headers are optional elements that pass extra information about your application requirements. For example, you can use the header element to specify a digital signature for password-protected services.</p> <p>See <i>Invoke a Co-located Integration from a Parent Integration in Using Integrations in Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)

Feature	Description	Minimum Version Required
Build complex assignment statements	<p>You can incrementally build a message payload from one or more existing payloads with the stitch action. The stitch action provides an editor that enables you to assign values to variables. The stitch action supports both partial and full replacement of the message payload. The stitch action also supports both scalar and complex type variables.</p> <p>See Build Complex Assignment Statements with a Stitch Action in <i>Using Integrations in Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
User-friendly element names in the mapper	<p>You can view user-friendly display names instead of technical names for source and target elements in the mapper tree and for expressions in the Expression Builder. This eliminates the need to try and understand the technical, often cryptic, names that are difficult to correlate to the user-friendly display names you see in the endpoint application's user interface.</p> <p>See View User-Friendly Element Names in <i>Using the Oracle Mapper with Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
Configuration Editor enhancements	<p>The configuration editor for integrations and packages has been enhanced to show links to the associated connections, lookups, library functions, and PGP keys at the top of the page.</p> <p>See Edit and Replace Dependent Resources in <i>Using Integrations in Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
Override design-time properties in an integration	<p>You can configure integration properties outside of the regular integration design. At runtime, these integration properties take effect and override the values you configured at design time.</p> <p>See Override Design-Time Properties in an Integration in <i>Using Integrations in Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
Test REST Adapter Trigger Connection-Based Integrations	<p>You can test app driven orchestration integrations designed with a REST Adapter trigger connection from Oracle Integration. This eliminates the need to use third-party software to run this type of integration.</p> <p>See Test REST Adapter Trigger Connection-Based Integrations in <i>Using Integrations in Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
Oracle Policy Automation Adapter - New name	<p>Oracle Policy Automation Adapter is renamed Oracle Intelligent Advisor Adapter.</p>	20.2.3.0.0 (200705.0200.36413)


Process Features

Feature	Description	Minimum Version Required
DRD decision modeling	<p>Model your decisions visually using our new graph view. This decision requirement diagramming (DRD) tool is aligned with the DMN standard. You can easily move models from list view to graph view.</p> <p>See Understand Decision Model Views in <i>Using Processes in Oracle Integration</i>.</p>	20.2.2.0.0 (200524.0200.36290)
Disable/enable events in forms	<p>You can now dynamically enable or disable events added to your forms.</p> <p>See Configure Events in <i>Using Processes in Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
Form filters	<p>We've added the following capabilities for filters while specifying events in form controls:</p> <ul style="list-style-type: none"> • Add an <i>And</i> condition for filtering data where the result will be the intersection of the filter condition with another filter condition. • Specify another filter as the source type. • Add expressions to connectors in Options Source Properties. • To analyze and troubleshoot payload errors for filters and connectors in forms, you can now view: <ul style="list-style-type: none"> – Filter logs – Connector logs <p>See Specify Filters in Events in <i>Using Processes in Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)
Multi-operation Integration support	<p>In Oracle Integration, integrations were recently expanded to expose multiple operations that can trigger them. Multi-endpoints means multiple resources and operation available in an integration, so we've added support for multi-operation REST integrations in processes. In a process application, we read and create all the resources, operations, and types (representing the payload) that the integration exposes and allow you to choose which one to call in each activity.</p> <p>See Expose Multiple Operations with a Pick Action in <i>Using Integrations in Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)

Feature	Description	Minimum Version Required
Import over TIP using REST	<p>We've added the option of importing an .exp file as a tip of an already existing application of the same name. This option is important for CI/CD use cases.</p> <p>In post calls to create a process application in a specified space (/oic/api/1.0/spaces/{spaceId}/projects), two new boolean parameters are available to overwrite an existing project when importing an application with the same name:</p> <ul style="list-style-type: none"> • <code>overwrite</code>: If set to true, the existing process application is overwritten with the imported one. The default value is false. • <code>discardUnpublishedChanges</code>: If set to true, unpublished changes in the existing process application are discarded and the existing application is overwritten by the application being imported. The default value is false. <p>Note that <code>discardUnpublishedChanges</code> must be set to true if there are unpublished changes in an existing application. If there are unpublished changes and <code>discardUnpublished</code> is set to false, the import fails and a message indicates unpublished changes.</p>	20.2.3.0.0 (200705.0200.36413)
Terminate action available in dynamic processes	<p>We added support for a Terminate action for dynamic processes in Workspace (runtime). See End Dynamic Processes and Activities in <i>Using Integrations in Oracle Integration</i>.</p>	20.2.3.0.0 (200705.0200.36413)

Integration Insight Features

Feature	Description	Minimum Version Required
Insight tile on Oracle Integration home page	<p>The redesigned Oracle Integration home page includes an Insight tile that provides a summary status of your Integration Insight models or consoles, depending on your role.</p> <p>See View a Summary Status of All Models and View a Summary Status of All Consoles in <i>Using Integration Insight in Oracle Integration Generation 2</i>.</p>	20.2.3.0.0 (200705.0200.36414)

Feature	Description	Minimum Version Required
Revised console filter selection	<p>On the Consoles page, the Filter </p> <p>icon allows you to filter the list of consoles by active, inactive, or all consoles. The Inactive filter replaces the previously separate Inactive (Deactivated Model) and Inactive (Failed Model) filters.</p> <p>See <i>Work with the Consoles Page</i> in <i>Using Integration Insight in Oracle Integration Generation 2</i>.</p>	20.2.3.0.0 (200705.0200.36414)
Usage metrics	<p>Integration Insight is included in Oracle Integration usage metrics. Each business transaction in Integration Insight is considered one message.</p> <p>See <i>Monitoring Billable Messages</i> in <i>Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i>.</p>	20.2.3.0.0 (200705.0200.36414)

File Server Features

Feature	Description	Minimum Version Required
Users and Groups are now listed as pages instead of tabs	<p>We've separated the Users and Groups listing from tab to page-based. So you now configure users and groups on separate pages selected from the navigation pane.</p> <p>See <i>Configure Users and Configure Groups</i> in <i>Using File Server with Oracle Integration Generation 2</i>.</p>	20.2.3.0.0 (200705.0200.36414)
Group configurations and permissions now shown for users	<p>Group configurations and permissions are now shown for users on the Users page. If an unconfigured user is part of an active group, all properties from the groups are displayed in the list and the details section and status are grayed out.</p> <p>See <i>Configure Users</i> in <i>Using File Server with Oracle Integration Generation 2</i>.</p>	20.2.3.0.0 (200705.0200.36414)

Resolved Issues

Integration and Connectivity Resolved Issues

Issue	Resolution
Oracle Monetization Cloud Adapter - Notification of end of life (EOL)	If you are currently using the Oracle Monetization Cloud Adapter or need to create a new integration to Oracle Monetization Cloud with Oracle Integration, you can instead use a generic adapter such as the REST Adapter or SOAP Adapter.
Oracle Integration instance performance issue	A performance issue that made Oracle Integration production instances very slow and prevented integration activation was resolved.
Oracle Integration for SaaS Generation 2 metering console issue	An issue that caused the metering console to function incorrectly in Oracle Integration for SaaS Generation 2 environments was resolved.
Large integration performance issue	An issue with the performance of loading a large integration and scrolling through the integration canvas was resolved.
Integrations landing page issue	An error that occurred when you clicked the Info icon on the Integrations landing page was resolved.
JavaScript error when editing an integration	An issue in which editing an integration caused a JavaScript error was resolved.
Approved sender issue	An issue related to registering an approved sender if you had already registered the from address field in a different instance for the same CNS account was resolved. This issue occurred in Oracle Integration, and not Oracle Integration Generation 2.
Complex variable deletion in a for-each action	An issue related to deleting a complex type variable in a for-each action was resolved.
Invalid payload error handling	The error handling in the Lookup REST API when an invalid payload is sent was improved.
sFTP connection testing	An issue related to sFTP connection testing was resolved.
Package REST API error handling	An issue with error handling in the Package REST API when an invalid orderBy value is sent was resolved.
Activity stream log size	The activity stream log size was increased from 24 MB to 100 MB.
IntegrationMonitor role issue	An issue related to the IntegrationMonitor role accessing integration details run from the Tracking page was resolved.
Integrations landing page issue	A display issue on the Integrations landing page where the integration list contained a Publish to OIC integration was resolved.
Auditing message issue	An issue with the auditing message related to activation steps was fixed.
Lookup import issue	An issue in which a multibyte character is present in a lookup import was resolved.
Instance and error searching	You can now search for instances or errors by specifying the timestamp in the client timezone while using the date range filter option on the Tracking and Errors pages.
Stage file write encryption issue	An issue where encryption was not working when enabled as part of a stage file write inside a for-each loop was resolved.

Issue	Resolution
Integration canvas improvement	The integration canvas was improved where the connection group is not expanded by default in the drawer and connections are sorted by the last updated date in the inline menu and connection drawer.
instanceld field data type change.	The data type of instanceld field was changed from integer to string.
Stage file action issue	An issue with the Remove Trailer field of the Read Entire File operation in the stage file action was resolved.
Activity stream log wording updates	The wording when writing the payload for stage file actions to the activity stream log was changed.
Integration canvas improvement	The user experience in the integration canvas while adding or repositioning actions where the integration contains a switch with a large number of branches was improved.
Scope action variable visibility issue	An issue with variable visibility inside a scope action in the integration canvas was resolved.
Unqualified or no namespaces with a for-each action	An issue with unqualified or no namespaces with a for-each action was resolved.
Export option with a large number of integrations in a package	An issue with the export option when there are a large number of integrations within a package was resolved.
Terminated integration count	The processed count now includes the terminated count along with the successful and error count metrics.
Message package shown on the About page	An issue with the number of message packs shown on the About page was resolved.
Empty WSDL file generated by a for-each action	An issue where an empty WSDL file was generated under some scenarios by the for-each action that resulted in an exception error when opening the mapper was resolved.
Fetching integration metrics with the REST APIs	An issue with fetching integration metrics using offset and limit parameters for the monitoring/integrations REST API was resolved.
Pick action issue	An issue when a pick action trigger was used and a throw new fault action was used, the newly added action was not persisted was resolved.
Scope action scrolling issue	An issue that allows you to grab the scroll bar on a scope action was resolved.
New Delete Global Fault option	A Delete Global Fault option was added as part of the Global Fault dropdown list for easy discovery.
REST API time window filter	The time window filter is now supported when fetching integration data using the monitoring/integration REST API.
Schedule pausing issue	An issue with pausing a schedule was resolved.
Identity certificate upload	An issue with uploading an identity certificate in Oracle Integration Generation 2 only was resolved.
Payload information (inside loops) in the activity stream	Partially available payload information (inside loops) is now displayed in the activity stream user interface. This situation occurs when partial data rotates out of the <code>ics-flow.log</code> file.

Issue	Resolution
Notification action body in the activity stream	The activity stream user interface now handles and renders correctly even if the notification action body has <style> tag elements.
Lookup cell value character size increase	The lookup cell value was increased from 1024 characters to 2048 characters.
Package keywords issue	An issue related to keywords with packages was resolved.
Connectivity agent cluster status in a notification email	An issue with the status of connectivity agents grouped in a cluster in a notification email was resolved.
Notification action use of the from address field	The notification action uses the first part of the from address instead of the ICS Mail service . For example, if the from address is abc@domain.com, the email goes as abc.
Activities inside a for-each action in the activity stream	A display issue with activities inside a for-each action in the activity stream user interface was resolved.
Lookup import issue	A lookup import issue in which the file contained an empty line at the end or the lookup already existed and the lookup filename was different from the lookup name was resolved.
Expression Builder searches in the mapper	An issue with searching for functions and elements in the Expression Builder in Oracle Integration Generation 2 was resolved.
Finding source references in the mapper	An issue with finding the sources referenced in a location path containing the wildcard character in the mapper was resolved.
Complex source node dropped on a simple target node	An issue in which a complex source node can only be dropped on a simple target node when both nodes are repeating was resolved.
AnyType element in the mapper	An issue with dragging and dropping an AnyType element in the mapper was resolved.
Schema elements mapped out of order	An issue that occurred when schema attributes were mapped out of order was resolved.
Attributes containing underscores	An issue with attributes containing underscores in the mapper was resolved.
Line endings handled by EDI Translate action	An issue in which Windows-style line endings (CR + LF) were not handled correctly by the EDI Translate action after the EDI segment terminator, whereas Linux-style line endings (only LF) worked fine, has been resolved. Either type of line ending is now correctly handled.
NetSuite Adapter file cabinet	An issue with getting file content from files in the file cabinet in the NetSuite Adapter was resolved.
REST Adapter duplication integration instances	An issue in which duplicate integration instances were getting created when using the REST Adapter as a trigger connection in an integration was resolved.

Process Resolved Issues

Issue	Resolution
Load More link not visible on My Tasks page	An issue where the Load More link wasn't easily visible at the bottom of the My Tasks page has been resolved.

Issue	Resolution
Edited human task with new blank required fields able to be submitted	This issue was resolved by including a confirmation message upon submit that confirms if the user wants to continue without validation.
Issue creating connectors to two integrations, one with modeled SOAP fault	A collision type namespace issue when using two SOAP integrations was resolved.
Not able to select multiple tasks to perform actions	An error regarding multiple task selection was resolved.
Task worklist displays incorrect task actions	An issue regarding task action visibility was resolved.
Intermittent gateway error	An issue where browser 502/504 errors occurred while editing a process application has been resolved.

File Server Resolved Issues

Issue	Resolution
Permissions not shown in group details	On the File Server Users page with the Groups tab selected, when you expand a group, permissions on the folders appear blank. The workaround is to click Permissions (key icon), which displays the Permissions page with the correct permissions for the group.
Public key not saved for unconfigured user	If you upload a public key for a user that has not been configured yet for File Server, the key isn't saved. The workaround is to configure the user first and then upload the key.
Uploading a public key using Firefox on a Mac doesn't work	If you try to upload a public key for a user using Firefox on a Mac, the popup closes and the upload is not successful. The workaround is to use Chrome.
Default idle timeout incorrectly listed	On the File Server Settings page, the default value shown on screen for the Idle Timeout field in the General section is incorrectly displayed as 600. The default value is 240 seconds.
Home and permissions not shown in expanded view	User effective home and permissions are not shown in search view and expanded view when group is enabled.
Display issues switching between Users and Groups tabs	Issues were discovered when switching between Users and Groups tabs. Separate pages are now shown for users and groups.

July 2020

New Features

Integration and Connectivity Features

Feature	Description	Minimum Version Required
Integrations to Processes integration enhancement	When creating an integration that invokes a process, you can select a check box to use the default version of the process. This action enables the default process version to be triggered regardless of the version you selected. For example, if the process you selected is using process version 4.0, and the process version is later upgraded to version 4.1, this means that none of your integrations must be deactivated, edited, and reactivated. The process automatically starts using the latest version of the process (for this example, version 4.1). See <i>Create an Integration that Invokes a Process</i> in <i>Using Integrations in Oracle Integration</i> .	20.2.2.0.0 (200517.0200.35623)

June 2020

New Features

File Server Features

Feature	Description	Minimum Version Required
File Server support in Oracle Integration	File Server in Oracle Integration is available in selected data centers. For information about the rollout dates by region, see <i>Availability in Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i> . File Server provides an SFTP-compliant repository for storing and retrieving files. For more information, see <i>About File Server</i> in <i>Using File Server with Oracle Integration Generation 2</i> .	20.2.2.0.0 (200524.0200.35761)

Common Features

Feature	Description	Minimum Version Required
Persona-based Oracle Help Center	The Oracle Integration Get Started page in the Oracle Help Center has been redesigned to focus on the three key user personas: business user, developer, and administrator. Click a specific user persona to access documentation, videos, and tutorials of tasks and concepts applicable to that user. See <i>Oracle Integration in the Oracle Help Center</i> .	N/A

Feature	Description	Minimum Version Required
Usage metrics	<p>We've added a Usage Metrics consumption chart that enables you to monitor the number of messages you are consuming. We've also included details and examples on Integration and Process usage.</p> <p>See Monitoring Billable Messages in Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2.</p>	20.2.2.0.0 (200517.0200.35622)

Integration and Connectivity Features

Feature	Description	Minimum Version Required
Integrations and Connectivity - New video series describing fundamental integration vocabulary and concepts	<p>New to Integrations and Connectivity or simply interested in taking a refresher course in fundamental vocabulary and concepts? The following video series is available:</p> <ul style="list-style-type: none"> Oracle Integration: A First Look Elements of an Integration Integration Adapters: A Quick Definition Integration Patterns: A First Look Oracle Data Mapper: A First Look Configure a Simple Integration in Oracle Integration 	N/A
Integrations UI enhancements - Progressive Web App UI experience	<p>The navigation experience for Integrations has been enhanced to make it quicker and easier to navigate in Oracle Integration. The new UI is built using Oracle JavaScript Extension Toolkit (Oracle JET), which utilizes the full benefits of JavaScript, CSS3, and HTML5 design and development principles. This new UI is compliant with the latest UX standards and offers a consistent user experience across integration designer pages. See Integration Pages - Progressive Web App UI Experience and Get Started with Integrations in Using Integrations in Oracle Integration.</p>	20.2.2.0.0 (200517.0200.35622)

Feature	Description	Minimum Version Required
Salesforce Adapter - Elimination of WSDL upload task on the Connections page	<p>The Salesforce Adapter has undergone a significant productivity enhancement with the elimination of the need to upload the enterprise WSDL on the Connections page. You were previously required to generate and download the enterprise WSDL file from https://www.salesforce.com and upload it on the Connections page. This was painstaking because the updated WSDL upload was required every time you performed a customization in Salesforce.com. This enhancement greatly simplifies the Connections page by asking you to simply select the target Salesforce instance type (for example, production or sandbox environment and Salesforce API version). Existing connections continue to work the same (with upload of the WSDL), but new connections created are not required to generate and upload the enterprise WSDL in the Salesforce connection. See Configure Connection Properties in <i>Using the Salesforce Adapter with Oracle Integration</i></p>	20.2.2.0.0 (200529.1400.35761)
Oracle NetSuite Adapter - Custom fields made human-readable	<p>Oracle Integration continues to focus on enriching Oracle NetSuite Adapter capabilities by incrementally meeting NetSuite customer needs. The Oracle NetSuite Adapter is an all-around resourceful adapter in the Oracle Integration adapter portfolio, supporting a wide array of use cases for the integration specialist to implement in a declarative way. The integration specialist can use the Oracle NetSuite Adapter to make real-time invocations to NetSuite to perform create, read, update, and delete operations and perform extensive search operations on standard and custom business objects. With this update, native support is added for seamlessly using custom fields in all supported operations. However, there was one caveat with the existing adapter: custom fields in standard business objects were not human-readable in the mapper. With this update, the Oracle NetSuite Adapter has undergone a significant productivity enhancement. Custom fields found in standard business objects are now human-readable in the mapper and are also entirely portable. See Custom Fields Discovery with the Oracle NetSuite Adapter in <i>Using the Oracle NetSuite Adapter with Oracle Integration</i></p>	20.2.2.0.0 (200529.1400.35761)

Feature	Description	Minimum Version Required
Shopify Adapter - Event support	<p>The Shopify Adapter has been enhanced to support consuming business events from Shopify. Shopify generates a wide array of business events on supported resources when certain actions are completed on resources, such as customer, order, addition of product, and so on. This enables an integration architect to trigger integrations in near real time as a desired business event occurs in the Shopify resources. The Shopify Adapter also added support for custom fields created with the Metafields object.</p> <p>See <i>Shopify Adapter Capabilities in Using the Shopify Adapter with Oracle Integration</i></p>	20.2.2.0.0 (200517.0200.35622)
Oracle HCM Cloud Adapter - Native HCM Data Loader (HDL) support	<p>Oracle Integration continues to simplify integration with Oracle HCM Cloud by adding native support for more Oracle HCM Cloud integration touch points. Oracle Integration now supports Oracle HCM Data Loader (HDL) jobs, a powerful tool for bulk data loading into Oracle HCM Cloud. The Oracle HCM Cloud Adapter has been enhanced with native support for invoking HDL jobs and monitoring the status in a declarative way. With enhancements done to Oracle HCM Cloud to let you generate an Oracle Integration-compliant data definition document for your data files, bulk data import of large data files using HDL is vastly simplified using the Oracle HCM Cloud Adapter and Oracle Integration.</p> <p>See <i>Import Business Objects with the HCM Data Loader (HDL) Using the Oracle HCM Cloud Adapter with Oracle Integration</i></p>	20.2.2.0.0 (200517.0200.35622)

Process Features

Feature	Description	Minimum Version Required
Certificates	<p>Administrators can now manage runtime certificates for processes and integrations centrally from the Oracle Integration Settings menu.</p> <ul style="list-style-type: none">• Developers continue to upload and manage certificates during <i>design time</i> in Process, as described in Manage Security Certificates during Design Time in <i>Using Processes in Oracle Integration</i>.• Administrators upload and manage certificates for <i>runtime</i> by selecting Settings in the Oracle Integration home page, then Certificates. See Upload an SSL Certificate in <i>Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i>.	20.2.2.0.0 (200517.0200.35622)

May 2020

New Features

Common Features

Feature	Description	Published
Stopping and starting Oracle Integration Generation 2 instances	<p>You can stop and start Oracle Integration Generation 2 instances. After a stop request is initiated, the instance goes into a pausing state. During the pausing state, no new integrations and processes are started. In-flight integrations and processes continue until they either complete or reach a checkpoint. When the integrations and processes are no longer running, the instance goes into a completely paused state. During this state, Oracle Integration design time, settings, and monitoring capabilities are unavailable. See Stopping and Starting an Oracle Integration Instance in <i>Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i>.</p>	May 4

Integration and Connectivity Features

Feature	Description	Published
Marketo Adapter - Import bulk data support	This feature allows integrations to seamlessly perform bulk imports of large data sets into Marketo such as importing bulk leads or campaigns from Mailchimp. See Process Large Data Sets Asynchronously with Different Bulk Operations in <i>Using the Marketo Adapter with Oracle Integration</i> .	May 20
Integrations - Access integration metadata	You can access the integration name, identifier, and version instead of hardcoding those values in integrations. You can also access runtime data and environment data inside the integration. See Use Metadata in Integrations in <i>Using Integrations in Oracle Integration</i> .	May 20
Integrations - Editing and replacing dependent resources in individual integrations or in all integrations in a package	You can edit the connections, lookups, library functions, and PGP keys of an integration or all the integrations in a package from a single page in Oracle Integration. You can also replace a connection with another connection of the same role and replace PGP keys in an integration or in all the integrations of a package. See Edit and Replace Dependent Resources in a Package and Edit and Replace Dependent Resources in an Integration in <i>Using Integrations in Oracle Integration</i> .	May 20
Oracle Mapper - JET user interface	The Oracle Mapper has moved from an Application Development Framework (ADF) user interface to a JavaScript Extension Toolkit (JET) user interface. See Get Started with the Mapper in <i>Using the Oracle Mapper with Oracle Integration</i> .	May 4

April 2020

New Features

Integration Insight Features

Feature	Description	Published
Integration Insight support in Oracle Integration	Integration Insight is available in Oracle Integration. With Integration Insight, business users can define milestones that an integration architect maps to an integration to extract meaningful business metrics in real time, allowing business executives to gain insight into their business using dashboards. For more information, see Using Integration Insight in <i>Oracle Integration Generation 2</i> .	April 30

B2B for Oracle Integration Features

Feature	Description	Published
B2B for Oracle Integration support in Oracle Integration	Oracle Integration now provides business-to-business (B2B) support in integrations. B2B for Oracle Integration provides for the secure and reliable exchange of business documents between Oracle Integration and trading partners. Oracle Integration supports the EDI X12 business protocol for the exchange of business documents between Oracle Integration and trading partners. See Introduction to B2B for Oracle Integration in <i>Using B2B for Oracle Integration</i> .	April 27

Integration Features

Feature	Description	Published
Support for sending and receiving attachments while invoking private SOAP APIs or invoking private REST APIs	This feature enables an integration developer to receive and send attachments from SOAP private endpoints with the connectivity agent. This enables the SOAP Adapter to process files from services running within a corporate firewall. The SOAP Adapter can send and receive attachment files of up to 1 GB in size from cloud to ground, and vice versa. This feature also enables an integration developer to receive and send attachments from REST private endpoints with the connectivity agent. This enables the REST Adapter to process files from services running within a corporate firewall. The REST Adapter can send and receive attachment files of up to 1 GB in size from cloud to ground, and vice versa.	April 30
Notification actions - Attachment support in Generation 2	Attachments are supported in notification actions in Oracle Integration Generation 2. See Send Notification Emails During Stages of the Integration with a Notification Action in <i>Using Integrations in Oracle Integration</i> .	April 24
Scheduled integration status	Scheduled integration status is now included as part of migration. See Learn About Migrating to Oracle Cloud Infrastructure in <i>Migrating Oracle Integration Classic Instances to Oracle Cloud Infrastructure</i> and Learn About Migrating to Oracle Cloud Infrastructure in <i>Migrating Oracle Integration Cloud Service and Process Cloud Service Instances to Oracle Cloud Infrastructure</i> .	April 24
Oracle Asserter - Saving recordings	The number of Oracle Asserter recordings that you can save has increased to twelve. See Test Integration Instances in <i>Using Integrations in Oracle Integration</i> .	April 24

Feature	Description	Published
Oracle HCM Cloud Adapter - getAll operation enhancements	The Oracle HCM Cloud Adapter REST getAll operation includes support for the effectiveDate query parameter. See Oracle HCM Cloud Adapter Capabilities in <i>Using the Oracle HCM Cloud Adapter with Oracle Integration</i> .	April 24

Process Features

Feature	Description	Published
My Tasks	We've resolved a user experience issue with the Process runtime navigation experience. When you select My Tasks from the Oracle Integration navigation pane in the home page, full runtime options become available. Instead of clicking an Initiate Request button, select My Apps in the navigation pane to start a process application. See Tour the My Tasks Page in <i>Using Processes in Oracle Integration</i> .	April 24
External UI custom payload	Define a custom payload for your external UI connection. See Create an External UI Connection.	April 24
Forms	We added these web form enhancements: <ul style="list-style-type: none"> • Simple text control: Use this new basic control to include labels without binding on your forms. See Configure Simple Text Fields in <i>Using Processes in Oracle Integration</i>. • Current browser language: A new function was added that returns the user browser locale (language). See Specify Functions in <i>Using Processes in Oracle Integration</i>. • Select/Unselect All action: A new action added to the Checklist control enables users to select/unselect all options. See Select or Unselect All Check List Options in <i>Using Processes in Oracle Integration</i>. 	April 24

Resolved Issues

Integration Resolved Issues

Issue	Resolution
FTP Adapter - PGP key	The FTP Adapter supports use of the PGP key without a pass phrase.

Issue	Resolution
Oracle Commerce Cloud Adapter - Security token	A security token is no longer displayed in the Connections page of the Oracle Commerce Cloud Adapter.
Lookups - Display dependencies	Display dependencies for lookups are now shown in the APIs and user interface.

Process Resolved Issues

Issue	Resolution
Form preview doesn't trigger on load events	An issue where the form preview didn't trigger with On Load events was resolved.
Process names with spaces caused issues	An issue where the filenames of attachments passed to another process were changed if they contained spaces (a space was changed to a code) was resolved.
Unable to test activate	An issue where activating a process in test mode resulted in a version override error has been resolved.
Error activating a process application using REST API	A REST API issue with customization payload during activation was resolved.
Removed customize form controls from translation editor	A web form issue with localization on a customized presentation was resolved.
Administrators and process owners can reassign tasks	Administrators and process owners can reassign tasks, even when they are not the current task assignee.

March 2020

New Features

Common Features

Feature	Description	Published
Oracle Integration Generation 2 monitoring metrics in the One Console of Oracle Cloud Infrastructure	You can view charts that show the total number of message requests received, message requests that succeeded, and message requests that failed for each instance. See <i>Viewing Message Metrics in Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i> .	March 4

Integration Features

Feature	Description	Published
Registered library updates	You can update an already registered library with an updated Javascript file. See Update Library Functions in <i>Using Integrations in Oracle Integration</i> .	March 26
Oracle NetSuite Adapter - Asynchronous API support	The Oracle NetSuite Adapter is one of the key adapters in the Oracle Integration portfolio. Oracle Integration continues to focus on enriching this adapter by targeting NetSuite customer needs. The current Oracle NetSuite Adapter in Oracle Integration already allows the integration specialist to configure the Oracle NetSuite Adapter to make real-time invocations to NetSuite to perform create, read, update, and delete operations and perform extensive search operations on standard and custom business objects. With this update, support is added for submitting all of the above operations in an asynchronous mode. This capability allows integrations to seamlessly perform bulk imports of large data sets into NetSuite and bulk data extracts from NetSuite in a declarative way. See Oracle NetSuite Adapter Capabilities and Implement Common Patterns Using the Oracle NetSuite Adapter in <i>Using the Oracle NetSuite Adapter with Oracle Integration</i> .	March 25
Apache Kafka Adapter - Mutual TLS and TLS security policy support	The Apache Kafka Adapter introduced earlier this month has been significantly updated with support for TLS and mutual TLS based authentications. Mutual TLS-based authentication uses Kafka brokers to assert the client identity before establishing the trusted communication channel. This enables the Kafka brokers to ensure that the requests sent by Oracle Integration through the Apache Kafka Adapter are trustable and no man-in-the-middle attack has occurred. See Configure Connection Security in <i>Using the Apache Kafka Adapter with Oracle Integration</i> .	March 25
Connectivity Agent - Automatic upgrade on Windows	The connectivity agent is a pivotal part of Oracle Integration, enabling integrations and the exchange of information between on-premises applications and Oracle Integration. Customers currently running the connectivity agent on Windows have been required to upgrade the connectivity agent manually. This created a challenge for customers trying to keep updated to the latest connectivity agent version. The automatic upgrade feature relieves customers of this requirement. Customers are required to manually upgrade for one last time, after which the connectivity agent automatically upgrades itself and no further manual upgrade is required.	March 19

Feature	Description	Published
REST Adapter - Multiple resources and verbs support	<p>Oracle Integration announces yet another structural improvement in the REST Adapter. The REST Adapter had previously supported publishing only a single resource with a single verb in inbound orchestrated integrations. This created an impediment for creating pure resource-based APIs in Oracle Integration and forced integration architects to create multiple integrations to support different verbs and subresources. The REST Adapter now supports adding multiple verbs to the resource and adding subresources in the inbound definition. As an example, assume you want to have a single resource to support different combinations of operations on a sales order resource through multiple verbs and subresources. You can now design such an orchestrated integration and pick the verb, resource, or subresource from the client as desired using a single resource URI.</p> <p>See REST Adapter Capabilities in <i>Using the REST Adapter with Oracle Integration</i> and Receive Requests for Multiple Resources in a Single REST Adapter Trigger Connection in <i>Using Integrations in Oracle Integration</i>.</p>	March 16
Oracle Asserter - Integration testing framework support	<p>The Oracle Asserter testing framework enables you to record tests of integration instances and replay them to reproduce potential issues. You can simulate the behavior of both a trigger connection and the response from an invoke connection. You can also export integrations with recordings and import and test the integration in a different environment (for example, move it from a design environment to a test environment). You can also submit recordings to Oracle for analysis of errors.</p> <p>See Test Integration Instances in <i>Using Integrations in Oracle Integration</i>.</p>	March 13
Notification actions - Attachment support	<p>You can add attachments to emails in a notification action.</p> <p>See Send Notification Emails During Stages of the Integration with a Notification Action in <i>Using Integrations in Oracle Integration</i>.</p>	March 13
Invoking co-located, active integrations from a parent integration	<p>You can invoke a co-located (child), active integration from the parent integration that you are designing through use of the local integration adapter. Co-located means the integration is running on the same host instance or in the same domain. Upon activation and invocation of the parent integration, it invokes and consumes the co-located integration.</p> <p>See Invoke a Co-located Integration from a Parent Integration in <i>Using Integrations in Oracle Integration</i>.</p>	March 13

Feature	Description	Published
For-each action - Support for parallel processing	<p>If you drag a for-each action into a scheduled integration or the for-each action is not inside a while action, for-each action, scope action, and so on, an additional field called Process items in parallel is visible at the bottom of the dialog. When selected, iterations of the for-each action are run in parallel.</p> <p>See Loop over Repeating Elements with a For-Each Action in <i>Using Integrations in Oracle Integration</i>.</p>	March 13
Activity stream enhancements	<p>The activity stream has been enhanced to combine the audit trail with tracing information and provide a more compact and easily readable activity stream.</p> <p>See Track Business Identifiers in Integrations During Runtime in <i>Using Integrations in Oracle Integration</i>.</p>	March 13
Oracle HCM Cloud Adapter - Deprecation of certain Oracle HCM Cloud SOAP APIs	<p>Following Oracle HCM Cloud's deprecation of some of their SOAP APIs, the Oracle HCM Cloud Adapter has been enhanced to only show supported SOAP APIs in the Adapter Endpoint Configuration Wizard.</p> <p>For the current list of SOAP APIs supported by Oracle HCM Cloud, see Business Object Services in <i>Cloud SOAP Web Services for Oracle HCM Cloud</i> and also Oracle HCM Cloud Adapter Capabilities in <i>Using the Oracle HCM Cloud Adapter with Oracle Integration</i>.</p>	March 10
Slack Adapter - New adapter	<p>Oracle Integration announces the general availability of the Slack Adapter in the social and productivity space. Slack is a collaboration hub that helps enterprises automate their workflows, enhance team productivity, and gain business efficiency by streamlining their business processes. The Slack Adapter provides support for outbound-based integrations with Slack. This enables integrations to publish updates to individuals or channels as necessary through Slack. As an example, you want to publish sales order updates for critical customers to the critical sales orders channels so that customer sales representatives can easily stay updated with their key customer order information.</p> <p>See Slack Adapter Capabilities in <i>Using the Slack Adapter with Oracle Integration</i>.</p>	March 3

Feature	Description	Published
Box Adapter - New adapter	<p>Oracle Integration announces a new addition to its growing list of connectivity adapters. The Box Adapter is the newest addition to the list. Box.com provides content management and file sharing as a cloud service. The Box Adapter supports both inbound and outbound integrations with Box.com on the Oracle Integration platform. You can create outbound integrations to upload your business critical documents such as sales orders, service contract agreements, lease agreements, and so on as parts of integrations. You can also create inbound integrations that are triggered based on real-time events in Box such as <i>file is modified</i>. As an example, you want to execute an integration that updates your ERP backend system with supplier acknowledgment of the order (that is, whenever the supplier uploads the confirmation/acknowledgment document for the order in the Box.com folder). The Box Adapter enables organizations to share, process, and streamline business critical documents between Oracle, non-Oracle, cloud, or on-premises applications with rich integration capabilities as well as a vast number of adapters to connect to these applications.</p> <p>See Box Adapter Capabilities in <i>Using the Box Adapter with Oracle Integration</i>.</p>	March 3
Apache Kafka Adapter - New adapter	<p>Oracle Integration announces the addition of the Apache Kafka Adapter to its growing list of connectivity adapters. In an era of digital transformation, more and more enterprises are looking to leverage Apache Kafka for streamlining the publishing and consumption of information across various cloud and on-premises business applications. The Apache Kafka Adapter connects to the Apache Kafka distributed publish-subscribe messaging system from Oracle Integration and enables an integration architect to publish and consume messages from a Kafka topic.</p> <p>See Kafka Adapter Capabilities in <i>Using the Apache Kafka Adapter with Oracle Integration</i></p>	March 3

Process Features

Feature	Description	Published
Header support in SOAP connectors	<p>You can use headers specified in the WSDL of a SOAP connector to create data inputs and outputs during data association.</p> <p>See Use SOAP Headers in Data Associations in <i>Using Processes in Oracle Integration</i>.</p>	March 23

Feature	Description	Published
Web form events	<p>We added the following enhancements:</p> <ul style="list-style-type: none"> Support for looping, enabling you to execute the same action multiple times in a form control. <p>See Examples of Loops in Forms in <i>Using Processes in Oracle Integration</i>.</p> <ul style="list-style-type: none"> Dynamically populate information about a current logged in user's data such as name, email, user id and so on in forms using the Current Logged in User Data function. <p>See Example of Current Logged in User Data Function in <i>Using Processes in Oracle Integration</i>.</p>	March 23
Tag assignees in comments	<p>Users can now notify task assignees of comments by tagging them using an @ keyword. In the Comments field, tag assignees in one of these ways:</p> <ul style="list-style-type: none"> Enter @assignees to send an email to all users assigned the task. Enter @userid (for example @john doe) to address specific users in task comments. An email notification addressing the specified user is sent. <p>See How do I send email notifications from a comment? and Email Notifications from Comments in Tasks in <i>Using Processes in Oracle Integration</i>.</p>	March 26
New translation framework for multi language support	<p>We added support for human task title and action localization and overall process application localization.</p> <p>See Localize Applications in <i>Using Processes in Oracle Integration</i>.</p>	March 23
Micro process	<p>Dynamically discover active BPMN processes in other process applications, for cross-application process reuse.</p> <p>See Create and Use Micro Processes in <i>Using Processes in Oracle Integration</i>.</p>	March 23
External UI	<p>You can now use an external form in human tasks to interact with end users.</p> <p>See Create an External UI Connection in <i>Using Processes in Oracle Integration</i>.</p>	March 26

Visual Builder Features

Feature	Description	Published
OpenAPI 3	<p>Visual Builder now supports the use of REST services described by the OpenAPI 3 specification.</p> <p>When you open an existing visual application in this release or import a ZIP containing a visual application, Visual Builder upgrades the pre-existing <code>service.json</code> file (Swagger v2 format) to an <code>openapi3.json</code> file that uses the OpenAPI 3 format. If this operation fails because, for example, the <code>service.json</code> file is invalid, you will need to edit the <code>service.json</code> file so that it is valid and Visual Builder can successfully upgrade to the OpenAPI 3 format in the <code>openapi3.json</code> file.</p> <p>In addition, all <code>*-flow.json</code> files in web and mobile apps will have references to <code>services/*/service.json</code> in the services map upgraded to point to the new <code>openapi3.json</code> file.</p> <p>Visual Builder continues to support the use of REST services that are described by JSON files using the Swagger v2 specification.</p> <p>For information about creating connections to REST services, see Work with Service Connections.</p>	March 18
Application Profiles	<p>Use application profiles to specify different application configurations for different environments and deployments. You can, for example, use an application profile to specify a service connection to different REST instances (development, test, and production) for each lifecycle phase of application development. See About Application Profiles.</p>	March 18
Connection Type(s) for CORS	<p>Connection type is a new field where you control how your service connections communicate with external REST services depending on whether these services support CORS or not. Visual Builder automatically migrates service connections in existing applications to the appropriate connection type. The Direct (Bypass Proxy) authentication mechanism no longer appears and, in this release, the equivalent configuration is an authentication type of None and a connection type of Dynamic, Service supports CORS. See Use an Appropriate Connection Type to Handle CORS for REST Services.</p>	March 18
Oracle Cloud Infrastructure API Signature 1.0	<p>You can now use a signature to create an AppID flow using a single Oracle Cloud Infrastructure (OCI) user to natively connect to OCI endpoints. See Fixed Credentials Authentication Mechanisms.</p>	March 18

Feature	Description	Published
Action Chain Tests	Visual Builder now provides test automation capabilities for action chains, helping you to adopt test driven development. A new declarative interface helps you to define tests for the action chains in your web and mobile applications that you can run individually or simultaneously. See Test Action Chains.	March 18
New Array Data Provider	The page model provides a new built-in type, <code>vb/ArrayDataProvider2</code> , which new applications should use. The legacy <code>vb/ArrayDataProvider</code> type is supported in existing applications. <code>ArrayDataProvider2</code> does not allow writes to individual properties of <code>ArrayDataProvider2.data</code> , unlike the legacy <code>ArrayDataProvider</code> . Instead, <code>ArrayDataProvider2</code> supports using either the <code>fireDataProviderEventAction</code> or the <code>assignVariablesAction</code> to mutate data, while the legacy <code>ArrayDataProvider</code> supports only the <code>assignVariablesAction</code> . See Array Data Provider 2.	March 18
Custom JET and Runtime Versions for Mobile Applications	You can now specify custom JET and runtime versions for mobile applications where previously you could only do this for web and progressive web apps. See Specify Custom JET and Runtime Versions for Applications.	March 18
Favicons for Web Applications	Oracle Visual Builder now provides two default favicons for use in web applications and Progressive Web Apps. One favicon is for use in light mode and the other is for use in dark mode. Overwrite the default favicons if you want to use your own favicons. See About Application Resources.	March 18
Mobile Build Configurations	The mobile build configurations that you define for Android and iOS must be assigned to an application profile. The checkboxes that you previously used to specify a default build configuration for publish or stage operations have been removed. See Build Mobile Applications.	March 18
Business Processes	Application profiles can be used to manage the connection to the Process Servers that your visual applications use. See Configure the Connection to a Process Server.	March 18
Open URL Action for Native Mobile Applications	The existing Open URL action has been updated to support opening local file attachments on native mobile applications. See Open URL Action.	March 18
<code>\$application.deployment</code>	The <code>\$application.deployment</code> built-in variable has been added to facilitate code sharing between web, mobile, and progressive web applications developed using Visual Builder. See Built-in Variables.	March 18

Feature	Description	Published
Create File Menu Action	<p>A Create File menu action is now available on folders in the source navigator tree to allow you to create custom files and subfolders almost anywhere in your app.</p> <p>The following are the exceptions where Visual Builder does not show the Create File menu action on a folder:</p> <ul style="list-style-type: none"> • Some folders are special and do not allow for the creation of singular files: <ul style="list-style-type: none"> – Root folders for web and mobile apps – Any folder in the hierarchy with the name <i>flows</i> or <i>components</i> • Some folders already have a Create action that creates singular files, in which case adding a Create File action would be superfluous: <ul style="list-style-type: none"> – <code>resources/js</code> – <code>resources/css</code> 	March 18
Create JS and CSS Files	You can now more easily create JS and CSS files by using the Create JS File and Create CSS File dialogs that you invoke from the + icon that appears beside the entries for these artifacts in the Navigator.	March 18
New vbDataProviderNotification Event Listener	You can register an event listener for <code>vbDataProviderNotification</code> code events to display any errors from the Service Data Provider.	March 18
Improvements to the Events Editor	<p>The following improvements were made to the Events editor:</p> <ol style="list-style-type: none"> 1. Event Payloads are shown with full details in the Mapper. If there is no payload for an event it is not shown. 2. When creating a new listener for Events, new action chains are populated with input parameters matching the event's payload and are also mapped automatically. 3. The default action chain created for vbBeforeEnter and vbBeforeExit listeners returns a payload with <code>cancel</code> set to <code>false</code>, plus a description describing how to cancel this action. 	March 18


Feature	Description	Published
Secure Storage	Sensitive data such as passwords and certificates are no longer stored in areas of storage excluded from versioning and export (private storage). Instead, they are stored in the new secure storage of Visual Builder, which is a repository of sensitive pieces of data keyed by a unique key that is stored in the source. This makes it possible to securely transfer sensitive data between Visual Builder instances. Source files, such as mobile build configuration files, now contain references to the secure storage rather than private storage. Visual Builder updates all existing applications to use secure storage.	March 18
Reset an Expired Password or ATP Wallet for Your Oracle DB Instance	Visual Builder administrators can now reset an expired password or an ATP wallet for the Oracle DB instances that you use to replace the database provisioned with your Visual Builder instance. See Reset an Expired Password or ATP Wallet for Your Oracle DB Instance .	March 18

Feature	Description	Published
Business Object REST Endpoints	You can now add or remove the endpoints that the business objects in your visual application expose. Using a new business object resource editor, you can configure the business object to include only the endpoints that you require, thereby reducing the size of the metadata file that describes your business object REST endpoints. See Add or Remove Exposed Endpoints .	March 18

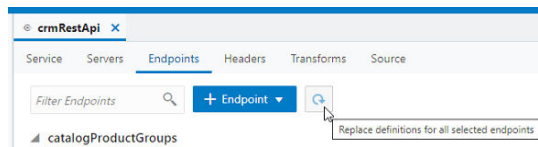
 **Note:**

For existing applications, especially those that contain many business objects, we strongly recommend that you trim the exposed endpoints of each business object to include only those that you require. You can apply the default setting to expose only the first level of endpoints for each object, but if deeper nested endpoints were included in the object's resource definition, you must modify the default selection to

Feature	Description	Published
Business Object Data Manager	The Data tab now includes menu buttons that allow you to duplicate data rows and to filter the fields that display in the data table. See Edit the Data in Business Objects .	March 18
Business Object Diagram	Business object diagrams now show object accessor field names by default in a separate field of the business object node. You can disable the default behaviour using the Fields and Show Object Accessors menu entries that you access from the menu for the business object diagram. Also, you can now save business object diagrams to your computer as SVG or PNG graphic files. See Work with the Business Object Diagrammer .	March 18
Visual Builder Grunt Tasks	<ul style="list-style-type: none"> A new task, <code>vb-package</code>, can be used to package visual application sources. It can also perform application optimization (<code>vb-optimize</code>) and generate a build manifest (<code>vb-manifest</code>). See vb-package. The <code>vb-manifest</code> task now includes two new options. The <code>xx-version</code> option allows you to set an alternative version value for the visual extension manifest, and the <code>git-repository-url</code> option specifies the URL for the Git repository. See vb-manifest. The <code>vb-build</code> task now includes two options, <code>cdnURL</code> and <code>insertBaseURL</code>, that facilitate the hosting of application assets on a Content Delivery Network (CDN). See Host an Application on a Content Delivery Network (CDN). 	March 18
Oracle Visual Builder Add-in for Excel	<p>Visual Builder includes version 2.1 of the add-in. Notable changes in this newer version include:</p> <ul style="list-style-type: none"> Ability to create tables and other layouts using OpenAPI 3 service descriptions Ability to modify details of service description, such as alter a field title Ability to configure lists of values for any REST service Support for object-typed fields and subfields A prompt for path parameter values Ability to apply custom actions to existing rows Ability to edit the form fields for an existing parent row in a Form-over-Table layout <p>See Get Started with the Oracle Visual Builder Add-in for Excel.</p>	March 18

 include those endpoints.

Feature	Description	Published
Internet Explorer 11	Visual Builder runtime has deprecated the use of Internet Explorer 11. Users will now receive a deprecation warning if accessing a Visual Builder application from Internet Explorer. In a subsequent release of Visual Builder in the second half of 2020, Visual Builder runtime will discontinue support of Internet Explorer 11.	March 18
Upgrade the Oracle Sample R13 SaaS LightBlue Theme	If your application uses the Oracle SaaS R13 Light Theme, you need to upgrade the theme in your application before you run the application using this release. For more details and instructions on how to perform the upgrade of the theme, read this blog post .	March 18
Lists of Values Endpoints for Oracle Cloud Applications	<p>This is not a new feature, but be aware that Oracle Cloud Applications (OCA) has changed the way that it manages lists of values endpoints. The service connections that you created in visual applications prior to this release might use an older version of the definition for lists of values endpoints from OCA. This does not create problems for existing applications, but we advise you to use the Replace definitions for all selected endpoints button on the service connections in your visual applications that use these types of endpoints to refresh all definitions. Clicking the Replace definitions for all selected endpoints button marks an older version of an endpoint as obsolete, but does not remove it from your apps as a web or mobile app might reference this endpoint in some screens. In Visual Builder's Endpoints tab, a strike through appears for an endpoint that has been marked as obsolete.</p> <p>For best performance and to use the latest way of surfacing the endpoints for lists of values, we recommend that you manually replace the obsolete endpoints in your web and mobile apps to use the newer definition for lists of values endpoints from OCA.</p> <p>The following image shows the Replace definitions for all selected endpoints button. For information about service connections in visual applications, see About Service Connections.</p>	March 18



February 2020

New Features

Common Features

Feature	Description	Published
Oracle Integration for Oracle SaaS provisioning	<p>Oracle Integration for Oracle SaaS Generation 2 is now available for provisioning. Oracle Integration for Oracle SaaS Generation 2 is a streamlined version of Oracle Integration that gives you the features and benefits of Oracle Integration with a focus on SaaS.</p> <p>See Oracle Integration for Oracle SaaS in <i>Provisioning and Administering Oracle Integration and Oracle Integration for SaaS, Generation 2</i></p>	February 28

Integration Features

Feature	Description	Published
Migration enhancements	<ul style="list-style-type: none">Scheduled parameters are supported when migrating Oracle Integration.The Merge feature for merging artifacts and configurations when migrating to an instance is supported.	February 28
Logging changes	Logger settings and log file downloads are not available in Oracle Integration Generation 2. Tracking and tracing are improved to make problem resolution easier.	February 28
REST API update	The Audit API is enhanced to support pagination.	February 28
FTP Adapter - Support for integrating with a privately hosted sFTP server	<p>You can configure the FTP Adapter with the connectivity agent. This means the FTP Adapter can process files from FTP/FTP(s)/sFTP servers running within a corporate firewall. The FTP Adapter can also transfer files up to 1 GB in size from cloud to ground, and vice versa.</p> <p>See FTP Adapter Capabilities in <i>Using the FTP Adapter with Oracle Integration</i>.</p>	February 19

Feature	Description	Published
Oracle ERP Cloud Adapter, Oracle HCM Cloud Adapter, and Oracle Engagement Cloud Adapter - Simplification of the Connections page	<p>The Connections page for the Oracle ERP Cloud Adapter, Oracle HCM Cloud Adapter, and Oracle Engagement Cloud Adapter (formally Oracle Sales Cloud Adapter) previously required you to enter the service catalog URL, the interface catalog URL and events catalog URL. Customers found that gathering this information was painstaking and error prone. This enhancement greatly simplifies the connection page by asking you to simply enter the cloud base URL, which is a URL pattern, starting with <code>https://</code> (for example, <code>https://customer_chosen_domain_name.fa.DC.oraclecloud.com</code>). Oracle Integration deciphers the rest of the information pertaining to service catalog, interface catalog, and event catalog URLs automatically.</p> <p>See Configure Connection Properties in <i>Using the Oracle ERP Cloud Adapter with Oracle Integration</i>, Configure Connection Properties in <i>Using the Oracle HCM Cloud Adapter with Oracle Integration</i>, and Configure Connection Properties in <i>Using the Oracle Engagement Cloud Adapter with Oracle Integration</i>.</p>	February 19
Shopify Adapter - New adapter	<p>The Shopify Adapter is now available in Oracle Integration. The Shopify Adapter enables you to create an integration with a Shopify application in Oracle Integration. The Shopify Adapter provides support for the Orders, Products, Inventory, and Customers modules. Use the Shopify Adapter to create, update, or delete records in Shopify.</p> <p>See Shopify Adapter Capabilities in <i>Using the Shopify Adapter with Oracle Integration</i>.</p>	February 19
SAP Commerce Cloud (Hybris) Adapter - New adapter	<p>The SAP Commerce Cloud (Hybris) Adapter is now available in Oracle Integration. The SAP Commerce Cloud (Hybris) Adapter enables you to create an integration with an SAP Commerce Cloud application in Oracle Integration. Use the SAP Commerce Cloud (Hybris) Adapter to create, update, or delete records into SAP Commerce Cloud and perform create, update, query, or delete operations against objects defined under Omni Commerce Connect (OCC) of the SAP Commerce Cloud.</p> <p>See SAP Commerce Cloud (Hybris) Adapter Capabilities in <i>Using the SAP Commerce Cloud (Hybris) Adapter with Oracle Integration</i>.</p>	February 19

Feature	Description	Published
Oracle Responsys Adapter - Support for merging data into Responsys supplemental tables	You can merge data into Responsys supplemental tables. A supplemental table is required if nonprofile data, such as purchase data or product information, must be transferred into Oracle Responsys using the Oracle Responsys Adapter. See <i>Create a Supplemental Table in Using the Oracle Responsys Adapter with Oracle Integration</i> .	February 19

Process Features

Feature	Description	Published
New security policy for UiPath adapter	The UiPath Robotic Process Automation Adapter provides support for a new security policy to authenticate against the Cloud or Community Edition of the UI Path orchestrator. See <i>Understand the UiPath Robotic Process Automation Adapter in Using the UiPath Robotic Process Automation Adapter with Oracle Integration</i> .	February 28
Form layout enhancements	You can now group controls both horizontally and vertically in panels and sections. You can place and position controls within panels and sections as in the normal form canvas. See <i>Position Controls on Forms and Place Controls in Panels, Sections, or Tabs in Using Processes in Oracle Integration</i> .	February 28
Event subprocess	Use event subprocesses to handle exceptions that occur in the runtime life cycle of a process and cause it to fail. See <i>Handle Errors with Event Subprocesses in Using Processes in Oracle Integration</i> .	February 28
Expression builder usability	We've improved the web form expression builder you use to configure dynamic behavior such as events, actions, conditions, and functions. See <i>Add Dynamic Behavior to a Form in Using Processes in Oracle Integration</i> .	February 28

Resolved Issues

Integration Resolved Issues

Issue	Resolution
Nested anonymous complex types	Nested anonymous complex types in WSDLs are supported.
Performance improvements	Multiple performance improvements have been implemented.

Issue	Resolution
Salesforce Adapter - Local process calling	When used as a trigger connection, the Salesforce Adapter can call a local process.
Retrieve Integration API enhancements	The Retrieve Integration API now provides dependent lookups and integrations.
Improved error reporting	Error reporting is improved for activation failures.
Consumption of Swagger documents	Consumption of Swagger documents with a request/response type as a top-level JSON array are supported.
FTP Adapter - Passive IP support	The FTP Adapter supports the use of a passive IP.
Open API document - octet-stream support	The octet-stream is supported in a published Open API document.
Notification action checking	A check is added for if there are no contacts specified in the notification action.
REST Adapter - Amazon Execute API	The REST Adapter supports the Amazon Execute API.
Integration activation cancellation	You can cancel an integration activation request if event activation takes longer than 10 minutes. You can also check the status of activation through an icon in the user interface.

Process Resolved Issues

Issue	Resolution
Comments not updated when approving multiple tasks	An issue where comments entered when approving multiple tasks were not retained was resolved.
Required property symbol (*) disappearing	An issue with a missing asterisk on the web form's select control was resolved.

January 2020

New Features

Integration Features

Feature	Description	Published
Oracle Autonomous Data Warehouse Adapter - New adapter	<p>The Oracle Autonomous Data Warehouse Adapter is now available in Oracle Integration. The Oracle Autonomous Data Warehouse Adapter enables you to integrate the Oracle Autonomous Data Warehouse database instance with Oracle Integration. Use the Oracle Autonomous Data Warehouse Adapter to execute SQL queries or stored procedures in the Oracle Autonomous Data Warehouse database.</p> <p>See Oracle Autonomous Data Warehouse Adapter Capabilities in <i>Using the Oracle Autonomous Data Warehouse Adapter with Oracle Integration</i>.</p>	January 28
Oracle Autonomous Transaction Processing Adapter - Connectivity agent support	<p>Oracle Integration announces support for connecting with a privately-hosted Oracle Autonomous Transaction Processing database instance using the connectivity agent and the Oracle Autonomous Transaction Processing Adapter.</p> <p>See Oracle Autonomous Transaction Processing Adapter Capabilities in <i>Using the Oracle Autonomous Transaction Processing Adapter with Oracle Integration</i>.</p>	January 28
REST Adapter - Octet-Stream support for inbound (trigger) direction	<p>REST continues to be an important technological pivot for integrating systems in a simple, rapid, and revolutionary way. Oracle Integration further enhances the REST Adapter to enable sending binary files to REST APIs through the <code>application/octet-stream</code> content-type. This enables you to send binary files read from one end to another end seamlessly. As an example, you can build an integration flow to expose a REST endpoint that can accept structured/unstructured content such as CSV-formatted files and PDF documents as raw/binary data and have them processed and sent to downstream applications such as Oracle ERP Cloud/sFTP servers.</p> <p>See REST Adapter Trigger Request Page and REST Adapter Trigger Response Page in <i>Using the REST Adapter with Oracle Integration</i>.</p>	January 21

Feature	Description	Published
Publishing interfaces for Oracle Integration flows as OpenAPI documents	Oracle Integration continues to adopt open standards for publishing integration flows and simplify consumption of Oracle Integration flows from external systems. In the same endeavor, the REST Adapter in Oracle Integration has started automatically publishing OpenAPI documents for all of the Oracle Integration flows that have the REST Adapter as a trigger. OpenAPI has become a de facto standard for describing a REST API. You can download the OpenAPI documents and use the documents to build the client applications for consuming the Oracle Integration flow exposed as a REST API.	January 21
Oracle Engagement Cloud Adapter and Oracle ERP Cloud Adapter - Custom business event support	Oracle Integration can consume custom business events that are configured on custom objects in Oracle Fusion Applications. The Oracle Engagement Cloud Adapter and Oracle ERP Cloud Adapter provide support for consumption and processing of events that are raised based on operations on custom objects. See Oracle Engagement Cloud Adapter Capabilities in <i>Using the Oracle Engagement Cloud Adapter with Oracle Integration</i> and Oracle ERP Cloud Adapter Capabilities in <i>Using the Oracle ERP Cloud Adapter with Oracle Integration</i> .	January 21
Oracle Engagement Cloud Adapter - Upsert operation support	Oracle Engagement Cloud Adapter (Sales Cloud) has been enhanced to support the upsert operation. This enables the service invoke to perform an update on a business (REST) resource if it exists or create a new business resource if it doesn't exist. This simplifies how you create/update a business resource without worrying about the existence of the business resource. You select the upsert operation for the selected business resource from the Select the Operation to Perform on the Selected Resource list on the Operations page when configuring the Oracle Engagement Cloud Adapter as an invoke connection. See Invoke Operations Page in <i>Using the Oracle Engagement Cloud Adapter with Oracle Integration</i> and REST API for Oracle Engagement Cloud in <i>Cloud REST API for Oracle Sales Cloud</i> .	January 10

Feature	Description	Published
Gmail Adapter and Microsoft Calendar Adapter - Attachment support	<p>The Gmail Adapter and Microsoft Calendar Adapter are critical parts of the connectivity portfolio enabling an integration architect to poll/send mail or invites to the appropriate resources. The Gmail Adapter and Microsoft Calendar Adapter have been further enhanced to support sending attachments through mail and calendar invites. For example, assume you want to fetch a sales proposal document and send it as an attachment through mail. This can now be easily achieved using the Gmail Adapter and Microsoft Calendar Adapter.</p> <p>See Invoke Operation Selection Page in <i>Using the Gmail Adapter with Oracle Integration</i> and Invoke Operations Page in <i>Using the Microsoft Calendar Adapter with Oracle Integration</i>.</p>	January 7
FTP Adapter - FTP Multilevel authentication support	<p>This policy uses multiple independent credentials to log in to the server. This process creates an extra layer of defense against unauthorized users. With this policy, you provide a user name, user password, private key, and private key passphrase to connect to the sFTP server. You also configure the first authentication sequence between the password and the public key.</p> <p>See FTP Adapter Capabilities in <i>Using the FTP Adapter with Oracle Integration</i>.</p>	January 2

Process Features

Feature	Description	Published
REST API updates	<p>We've made improvements to Process Instance APIs in the Oracle Integration REST APIs.</p> <p>See the What's New topic under Get Started in Oracle Integration REST API.</p>	January 31

Resolved Issues

Integration Resolved Issues

Issue	Resolution
FTP Adapter - PGP decryption	The FTP Adapter can decrypt a PGP-encrypted file if the file is encrypted with a simple signature.

December 2019

New Features

Integration Features

Feature	Description	Published
Oracle ERP Cloud Adapter - Simplification when integrating with File-Based Data Integration (FBDI)	Use of FBDI with the Oracle ERP Cloud Adapter is a widely adopted feature. However, the prerequisite for enabling this capability (filing a service request against Oracle ERP Cloud to get the required certificates) was daunting. The Oracle ERP Cloud Adapter has simplified integration with FBDI significantly by removing this prerequisite. See Oracle ERP Cloud Adapter Capabilities in <i>Using the Oracle ERP Cloud Adapter with Oracle Integration</i> .	December 5
Oracle SOA Suite Adapter - New adapter	Oracle Integration greatly simplifies how to use your existing Oracle SOA Suite (including Oracle Service Bus) and Oracle SOA Cloud Service investments to build new hybrid integrations with the Oracle SOA Suite Adapter. The Oracle SOA Suite Adapter can connect, discover, and invoke composites/projects on Oracle SOA Suite/Oracle Service Bus or Oracle SOA Cloud Service with simplicity and ease. The Oracle SOA Suite Adapter supports connecting to Oracle SOA Suite/Oracle Service Bus or Oracle SOA Cloud Service directly or through the connectivity agent if Oracle SOA Suite/Oracle Service Bus are behind a firewall. See Oracle SOA Suite Adapter Capabilities in <i>Using the Oracle SOA Suite Adapter with Oracle Integration</i> .	December 5
IBM MQ Series JMS Adapter - New adapter	Oracle Integration now supports integrating with an IBM MQ Series JMS server. The IBM MQ Series JMS Adapter supports both invoke- and trigger-based operations with IBM MQ Series by publishing messages to the queue or subscribing to the messages in a topic. See IBM MQ Series JMS Adapter Capabilities in <i>Using the IBM MQ Series JMS Adapter</i> .	December 5
Oracle Intelligent Advisor Adapter - Inbound support	The Oracle Intelligent Advisor Adapter can be used for regulated industries such as public sector, financial services, medical devices, and retail; for human resources decision-making; or anywhere that policy-based decisions must be integrated. The Oracle Intelligent Advisor Adapter has been enhanced for inbound support (that is, triggering an integration based on an event in the Oracle Policy Automation tool). See Oracle Policy Automation Adapter Capabilities in <i>Using the Oracle Intelligent Advisor Adapter with Oracle Integration</i> .	December 5

Process Features

Feature	Description	Published
Read only form control containers	You can now set form container controls to read-only, making all contained controls automatically read-only rather than having to individually set them with this property. See <i>Place Controls in Panels, Sections, or Tabs in Using Processes in Oracle Integration</i> .	December 19
Configure query parameters dynamically in form connector calls	We added support in form REST connector calls to use expressions when setting query parameters. See <i>Execute REST Connector Calls in Events in Using Processes in Oracle Integration</i> .	December 4

Visual Builder Note

Feature	Description	Published
Business rules are disabled in Oracle Integration Generation 2 environments	The ability to define Business Rules (including server-side validations, triggers, object functions, and declarative workflow) is available in all environments except in Oracle Integration Generation 2. You'll see a message in the Business Rules tab for business objects if business rules can't be configured in your environment.	December 4

Resolved Issues

Integration Resolved Issues

Issue	Resolution
Escaping standard XML characters	You can escape standard XML characters that were coming as part of the value in the QueryCSV MTOM response for the Oracle Service Cloud Adapter.
REST Adapter mappings	Mappings reflect the change in query parameters in the REST Adapter.
Oracle Commerce Cloud Adapter performance	A runtime slowness issue with the Oracle Commerce Cloud Adapter has been resolved.
Integration completion reporting	There is improved reporting of integration completions in the activity stream.
Twitter Adapter mappings	Mappings reflect the change in query parameters for the Twitter Adapter.
FTP Adapter schema upload	You can upload a schema containing an attribute reference in the FTP Adapter.
LinkedIn Adapter REST API support	LinkedIn REST API version 2 in the LinkedIn Adapter is supported.

Issue	Resolution
Email notification message failures	A detailed description of failed messages in email notifications is provided.

Process Resolved Issues

Issue	Resolution
Integration connection timeout	You can now modify the default timeout of integration flows discovered from Processes to a lower value than 30 seconds.
Opening form displays blank page	An issue was resolved where a form didn't render properly when opened. The error message included <i>Cannot read property 'length'</i> .
API did not return retired instances along with active applications	Resolved an issue where the ProcessMetadataService.listProcessMetadataSummary API omitted retired applications from its list of active process applications. These retired applications are still valid as they hold references to completed process instances and need to be available via API calls.
User list issue during dynamic process role assignment	An issue was resolved where not all available active users could be found when browsing to assign roles in dynamic processes.
Player flow does not work for human tasks	An issue was resolved where running a new process instance using the player resulted in the process instance getting stuck at the first human task after initiating the process via a form start.
Unable to update some integrations in process applications	An issue was resolved where existing integration flows in a process application could not be successfully updated.
Error mapping roles during test activation	An issue was resolved where activating in the test partition resulted in the error message <i>Failed to map roles to the current user</i> .
Deleted web service instance listed in manage web service list	Process SOAP WSDLs now properly refresh when message-based start events are removed from the process and a new version is activated.

November 2019

New Features

Common Features

Feature	Description	Published
New to Oracle Integration?	<ul style="list-style-type: none">If you have created an Oracle Cloud account on or after November 13th in one of the following seven regions, you can create instances in Oracle Cloud Infrastructure Gen 2. To get started, see Provisioning and Administering Oracle Integration on Oracle Cloud Infrastructure.<ul style="list-style-type: none">US East (Ashburn)US West (Phoenix)Canada Southeast (Toronto)India West (Mumbai)South Korea Central (Seoul)Australia East (Sydney)Japan East (Tokyo)For all other customers, see the provisioning steps described in Ready, Set Up, Go.	November 13

Integration Features

Feature	Description	Published
ServiceNow Adapter - Attachment support	You can download, upload, or delete attachment metadata from or to a specific record in a module when configuring the ServiceNow Adapter as an invoke connection. See Invoke Action Page in <i>Using the ServiceNow Adapter with Oracle Integration</i> .	November 27
Marketo Adapter - New adapter	Marketo is a SAAS-based customer relationship management system that helps automate marketing campaigns and sales lead generation. The Marketo Adapter enables you to create an integration with a Marketo application. You can configure the Marketo Adapter as an invoke connection in an integration in Oracle Integration. See Marketo Adapter Capabilities in <i>Using the Marketo Adapter with Oracle Integration</i> .	November 17
Enhanced diagnostics for inbound flows	Oracle Integration continues to improve the diagnostics and troubleshooting experience by providing more self-service mechanisms to alert users of system failures. Oracle Integration now captures inbound flow launch failures and shows it as a fault on the Monitoring page.	November 17

Process Features

Feature	Description	Published
DMN samples	<p>Developers can now easily create a decision model by selecting a sample model and saving it under a new name. Advanced developers can promote decision models to samples to share with others.</p> <p>See Create a Decision Model from a Sample and Promote Decision Models as Samples to the Gallery in <i>Using Processes in Oracle Integration</i>.</p>	November 27
From email registration	<p>We improved and resolved some issues related to properly registering "From" email addresses.</p>	November 27
Extract and reuse event snippets	<p>Developers can now define complex event snippets once and reuse them across other events and across presentations of the same form.</p> <p>See Reuse Event Snippets in <i>Using Processes in Oracle Integration</i>.</p>	November 27
Support predefined variables in dynamic processes	<p>We added support for predefined variables to dynamic processes, particularly to track the process instance ID.</p>	November 27
Data purge for dynamic processes and analytics	<p>We added support to purge dynamic process instances along with other process instances using the same process purge setting.</p> <p>See Schedule Instances Archive and Purge in <i>Using Processes in Oracle Integration</i>.</p>	November 27
Web forms	<p>We've added the following enhancements to web forms:</p> <ul style="list-style-type: none"> • Clear error: A new action called <i>Clear Error</i> lets you clear error messages in form fields. • Side by side controls: You can now place form controls beside each other inside form containers such as panels, tabs, tables, sections, and repeatable sections. • Append and delete values: You can append and delete values to/from a select control. See Add an Option to a List of Value Field and Clear All Options From a List of Value Field in <i>Using Processes in Oracle Integration</i>. • Date functions: We've added new functions for date manipulation. See Specify Functions in <i>Using Processes in Oracle Integration</i>. • Reorder actions in events: You can now easily reorder actions within form control events. See Configure Events in <i>Using Processes in Oracle Integration</i>. • Reorder columns in tables: You can now easily reorder table columns. 	November 13

Feature	Description	Published
New bot activity in the structured process editor	Drag the new Bot element onto the BPMN canvas to add an RPA (Robotic Process Automation) native activity to your process. See <i>Work with Bot Activities in Using Processes in Oracle Integration</i> .	November 13
Migrating basic forms to web forms	Here's a reminder that when you migrate process applications that contain basic forms from Oracle Process Cloud Service to Oracle Integration, a placeholder web form is created automatically. Opening the imported form completes the transformation from basic form to web form. The new web form contains business objects, presentations, and layouts identical to the original form. Note that certain features of basic forms aren't supported or supported differently in web forms. See <i>Processes Migration Restrictions and Perform Post Import Steps for Processes in Migrating Oracle Integration Cloud Service and Process Cloud Service Instances to Oracle Cloud Infrastructure</i> .	November 13
Dynamic Process on screen text enhancements	We've improved our overall terminology consistency for dynamic process modeling.	November 13

Resolved Issues

Integration Resolved Issues

Issue	Resolution
Sample request payloads	Sample request payloads have been added to the Open API/Swagger definition for integration endpoints.
Oracle HCM Cloud Adapter AbsoluteEndpointURI element	The Oracle HCM Cloud Adapter AbsoluteEndpointURI element in the mapper correctly overrides configured endpoints at runtime.
REST Adapter JSON sample	The formatting is retained when pasting an inline JSON sample in the REST Adapter.
EFF element descendant types	EFF element descendant types successfully appear in the mapper after re-editing and regeneration.
Integration deactivation	An integration with an active schedule can be deactivated without causing performance issues.
Faulted instances	Faulted instances are created in monitoring for any authentication failures while calling integration endpoints.

Issue	Resolution
Activity stream	The activity stream does not throw an <code>ICSLogReader:readLogLines()</code> error when data is not present.
Instance execution status	Instance execution status is not reported as both a success and failure when the instance has faulted on the Monitoring page.
REST Adapter request and response	Integrations in which the REST Adapter is configured with a multipart/form-data request and JSON or XML sample response are successfully activated.
Oracle Database Adapter operation change	You can change the operation configured for the Oracle Database Adapter during editing in the Adapter Endpoint Configuration Wizard.
Instance tracking data	When there is a large amount of instance tracking data, an <code>EclipseLink</code> error does not appear on the Monitoring page.
XPath validation issues in the Expression Builder	A <code>NullPointerException</code> error due to XPath validation issues in the Expression Builder no longer occurs.
Oracle Database Cloud Service Adapter-based integrations	Existing Oracle Database Cloud Service Adapter-based integrations can connect to a migrated Oracle Autonomous Transaction Processing database. It is recommended that you use the Oracle Autonomous Transaction Processing Adapter for new connections and integrations created after migration to the Oracle Autonomous Transaction Processing database.
Low database space	When underlying database space is low, an <code>EclipseLink</code> -related error is not displayed on the Monitoring page.
FTP Adapter with PGP encrypted and signed files	PGP encrypted and signed files with the FTP Adapter are processed successfully.
xsi:nil attribute in the REST Adapter	The <code>xsi:nil</code> attribute in the provided JSON sample for the REST Adapter is supported.
FTP Adapter and PASV mode	PASV mode for the Microsoft IIS FTP server in the FTP Adapter is supported.
REST Adapter translation of array elements	Translation of array elements having empty strings in XML to JSON in the REST Adapter is supported.
Oracle HCM Cloud Adapter Atom feed entries	The Oracle HCM Cloud Adapter does not miss Atom feed entries with identical update dates.
Artifact propagation during activation	Artifact propagation during activation through an automatic retry is successful.
REST Adapter and empty JSON arrays	An issue with generation of empty JSON arrays in the REST Adapter has been resolved.

Issue	Resolution
Tracking instance for a scheduled orchestrated integration	You can view the tracking instance for a scheduled orchestrated integration whose scheduled parameters did not have default values.
Lookups referenced in the integration	Lookups referenced in the integration are packaged in the IAR file.

Process Resolved Issues

Issue	Resolution
Exception cloning a structured process	A null pointer exception that prevented correct BPMN process cloning has been resolved.
Dynamic process issue	An issue where an activity activation was not being evaluated after a milestone was executed has been resolved.
Process issue with Integrations tab	An issue where integration flows from within a process application were not displayed has been resolved.
QuickStart human tasks set to 1 day expiration	An issue where human tasks in QuickStart Apps were set to expire in 1 day was resolved.
Start Form error after upgrade	A CORS issue when invoking UI snippets embedded in other applications (such as Sales Cloud or Content and Experience) was resolved.
Suspended state upon form submission	An issue where a process instance was incorrectly set to a suspended state after a form was submitted has been resolved.
Reassigning tasks to groups	An issue where task reassignment to an Oracle IDCS group was not working correctly has been resolved.
Getting specific fields from /tasks not working as expected	The <code>taskID</code> attribute in the GET REST API <code>/tasks?fields=X,Y,Z</code> endpoint was missing and restored.
Structured process suspended when invoked from a dynamic process	Resolved an issue where a BPMN process was suspended when it was invoked from a dynamic process.
Host missing in Swagger Json	Resolved an issue where the Process REST API Swagger file was missing the host attribute, resulting in applications such as Visual Builder unable to dynamically discover Process REST APIs.
Slow deletion of dynamic process roles	Resolved a performance issue concerning deleting dynamic process roles using Internet Explorer 11.
Unable to change a form control's name	Resolved an issue where it was not possible to change a form control's name once dropped onto the main form canvas.
Spaces did not show all users	Resolved an issue where not all Oracle IDCS users were shown when assigning space membership.
Decision model overwrite	To prevent undesired side effects, a warning now displays when you activate a decision model runtime version that contains interface changes.
Invalid taskid resulting in 500 error	A 500 error that displayed when calling <code>/tasks/{taskId}/payload</code> REST API endpoint with an invalid <code>taskId</code> was resolved.

Issue	Resolution
Email notification issue	An issue registering email addresses when setting up email notification has been resolved.
REST connector trimmed leading zeros	An issue has been resolved where values retrieved via connectors to display in form select controls removed prefixed zeros for numeric values represented as strings.
Activation cleared role membership	An issue was resolved where activation cleared BPMN role memberships for existing activated process applications.
Attachment names with white spaces	An issue was resolved where email notifications with attachment files containing white spaces in them weren't delivered.
Dynamic process activities corrupted	An issue that occurred when two concurrent tasks called from a dynamic process were executed at the same time was resolved.
Human task expiration incorrectly set	An issue was resolved where all human tasks in a cloned BPMN process were set to 1 day expiration.
Improperly populated connector select controls	An issue where web form select controls backed by connector information were not properly populated has been resolved.
Attachment names containing spaces	Implemented a consistent way of displaying attachment names containing white spaces using the process and task REST API endpoints.
Incorrect .exp file created	Exporting an application snapshot via REST API created an incorrect export file.
Null field incorrectly rendered	An issue where a null keyword used in email notifications still rendered has been resolved.
Attachments panel can't be closed	An issue where the Attachments panel couldn't be closed after downloading an attachment from the Process details page has been resolved.
Process Applications page not loading	An issue where the Process Applications list page did not load has been resolved.

October 2019

New Features

Integration Features

Feature	Description	Published
REST Adapter - Payload format name change in the Adapter Endpoint Configuration Wizard	When creating an invoke connection in the Adapter Endpoint Configuration Wizard, the Raw request and response payload format selection is now called Binary on the Request and Response pages.	October 14

Feature	Description	Published
REST Adapter - Oracle Cloud Infrastructure (OCI) Signature Version 1 security policy support	<p>As Oracle Cloud Infrastructure continues to build modern, scalable, and secure cloud services, security has its prime place in the Oracle Cloud solution. In the same endeavor, Oracle Cloud Infrastructure provides a signature to enable a more robust and secure way of invoking Oracle Cloud Infrastructure services. The REST Adapter now supports Oracle Cloud Infrastructure signature-based authentication to facilitate invoking Oracle Cloud Infrastructure cloud service REST APIs such as Oracle functions, streaming, storage and so on as an integral part of Oracle Integration orchestration flows.</p> <p>See REST Adapter Concepts in <i>Using the REST Adapter with Oracle Integration</i>.</p>	October 11
Monitoring pages - Custom time range with which to filter the search for instances	<p>You can specify a custom time range with which to filter the search for instances with the From and To buttons on the monitoring pages for Integrations. This enables you to select a time range as small as a minute and track only those instances processed within that specified time range. The specified time range is preserved by default and applied to the data being displayed when you navigate from one monitoring page to another (for example, when you move from the Track Instances page to the Integrations, Track Runs, or Errors page).</p> <p>See Track Business Identifiers in Integrations During Runtime in <i>Using Integrations in Oracle Integration</i>.</p>	October 11
Orchestrated integrations - Pseudo view and layout view	<p>Multiple layouts of an orchestrated integration are provided. Pseudo view enables you to view the integration vertically with child nodes indented. Details about each node in the integration are displayed to the right. You can edit the integration by selecting the + sign to invoke an inline menu for adding invokes and actions. Layout view enables you to view the integration horizontally or vertically.</p> <p>See Create an Orchestrated Integration in <i>Using Integrations in Oracle Integration</i>.</p>	October 11

Process Features

Feature	Description	Published
Improved activation experience	<p>The override option when activating a process application is no longer available. This is to avoid accidentally selecting it and losing all the instances for the version that you are activating.</p> <ul style="list-style-type: none">• If you want to delete all the existing instances for testing purposes, select the test partition when you activate your process application. If you use the test partition, the existing instances are deleted each time you activate.• To keep existing instances, activate using the production partition, and use incremental version numbers each time you activate. To delete all the existing instances in a production partition, deactivate the process version and then reactivate it again using the same version number. When you deactivate a version of a process, that version ceases to exist. <p>See <i>Activate Applications in Using Processes in Oracle Integration</i>.</p>	October 30, 2019

September 2019

New Features

New Common Features

Feature	Description	Published
My Services replaced with Platform Services in the Oracle Cloud Infrastructure Console	<p>After signing into Oracle Cloud, account administrators use the Oracle Cloud Infrastructure Console to access Integration under Platform Services. Previously you accessed these services from the My Services Dashboard.</p> <p>See <i>Access Oracle Integration in Administering Oracle Integration</i> and the Oracle Cloud Infrastructure Blog.</p>	September 9

Integration Features

Feature	Description	Published
Scheduled parameters - business identifier assignment	<p>You can create and assign scheduled parameters as business identifiers that enable you to track fields in messages during runtime.</p> <p>See <i>Create Parameters in Scheduled Integrations in Using Integrations in Oracle Integration</i>.</p>	September 20

Visual Builder Features

Feature	Description	Published
Upgrade Oracle JET design time and runtime	The Visual Builder design-time was upgraded to use JET 7.0.1 and the JET runtime was upgraded to version 7.1.0.	September 27
New declarative actions	<p>The following new actions have been added:</p> <ul style="list-style-type: none">• A new geolocation action has been added to allow declarative access to the user's current location.• A new Share action allows mobile applications to invoke the native sharing capabilities of the host platform and share content with other applications, such as Facebook, Twitter, and Slack.• Support for Cordova's pause and resume events (<code>vbPause</code>, <code>vbResume</code>) was added. The <code>vbPause</code> event fires when the native platform puts the application into the background, typically when the user switches to a different application. The <code>vbResume</code> event fires when the native platform pulls the application out from the background.• A "video" option was added to the list of <code>mediaType</code> parameters of the <code>TakePhoto</code> action. Selecting "video" will record a video or allow an existing videos to be selected. In web apps, selecting the video <code>mediaType</code> will open a dialog where non-video files are filtered out. In PWA apps on iOS and Android and iOS native apps, the option allows video recording using the camera, or selecting a video file. In Android native apps, only file selection is allowed. Recording using the camera is not supported.	September 27
New Custom Event contract	A new "navigateToItem" custom event is declared by default in new mobile and web applications created with templates using navigation items (drawer/tab) on the root page (or Shell Page). The custom event provides an easy way for you to configure navigation between items/tabs. An event listener for switching the item/tab is defined by default in the root or shell page.	September 27
New UI for building filters	A new UI has been added in the mapper to help with creating <code>FilterCriterion</code> to filter the output for SDP (Service Data Provider) variables and call REST actions.	September 27

Feature	Description	Published
Added support for registering your own Oracle DB instance	<p>An administrator can now use a wizard in the Tenant Settings to switch the Tenant schema to another Oracle DB instance that has more space. By using your own Oracle DB instance you will also have direct SQL access to the tables created for your business objects.</p> <p>In the wizard, the administrator can specify a DBaaS or Autonomous Database instance. The wizard includes a tool for selecting which projects in the tenant are downloaded prior to switching to the new DB instance.</p>	September 27
New UI for managing user roles	<p>The UI in the Settings editor for creating and managing user roles in a visual application has been updated and streamlined. When creating a user role, the user role and the users and groups assigned to it, are now created directly in the IDCS application.</p> <p>The "virtual roles" mechanism used in earlier releases is no longer supported. If you are developing an application that used virtual roles, you will need to use the new UI to replicate those users and roles because the virtual roles won't be converted to the new role mapping mechanism.</p>	September 27
Improvements in Action Chain editor	<p>The following improvements and features were added to support for Actions:</p> <ul style="list-style-type: none"> <li data-bbox="594 1056 1130 1161">• The action chain editor is now displayed as a tab within the artifact tab in the Designer. This makes it easier to switch between the action chain and other artifact editors. <li data-bbox="594 1182 1130 1423">• The action chain editor now includes an overview window that shows the entire diagram when in diagram view. The visible part of the diagram is highlighted. When zooming or panning the diagram, the overview window updates its highlighted area to match. Also clicking on the overview window or dragging the highlighted area pans the diagram. 	September 27

Feature	Description	Published
Improved templates and wizards for mobile apps	<p>The following improvements were made to the wizards and templates for mobile apps:</p> <ul style="list-style-type: none"> • A new wizard was added for creating root pages, allowing you to select the nav style and page template. When creating a new root page, you can choose to create new flows or select existing flows for the new root page. If the nav-style of the new root page is None, you can choose to create a flow or page, and choose page templates. • The wizard for creating apps now allows you to select from multiple nav styles (Horizontal, Vertical and None), page templates for individual flows can be selected, and the UI was improved for Nav styles that need multiple items. • The application no longer has a single scrollbar enabled at the root of the application. Instead, the scrollbar is within the content of the template. • The tab bar at the top of an application can be locked in place, and the content in a tab can now be scrolled. This is implemented by default in new mobile applications. Existing applications can add it by simply slotting the tab bar to the "navigationBarTop" slot and moving it directly into the "oj-ext-mobile-page-template" parent node. • Scrolling now supports momentum scrolling for a more native feel on iOS. • Safe margins for iPhone X (R, S, SMAX) are correct in portrait and landscape modes. • New pages created with the "Summary with Content" template now use content scrolling, and the summary is locked in place. • Two new template pages can now be created with the wizards: Form and List. Sample code is provided as starting points for the ListView and Form layouts commonly used in mobile applications. 	September 27

Feature	Description	Published
Improved templates and wizards for web apps	<p>The following improvements were made to the wizards and templates for web apps:</p> <ul style="list-style-type: none"> • The wizard for creating web apps now supports two navigation styles: None and Tabbed. • The tabbed web application template is responsive, providing a shell that displays the navigation drawer in smaller screen sizes (like phones), and a tabbed display in desktop/tablet form factors. • The wizard for creating root pages allows you to select existing flows or create a new flow. When nav-style None is selected you can choose if you want to create a flow. 	September 27
Added PWA loading spinner	<p>The starter mobile application template now adds a spinner to the <code>index.html</code>. This spinner is taken down once the application is initialized and content is displayed.</p>	September 27
Extra Headers for Basic Auth in Mobile apps	<p>It is now possible to specify extra HTTP headers when using Basic Auth authentication in Mobile apps, enabling integration with Oracle Mobile Hub (OMH).</p>	September 27
Improvements to the Events editor	<p>The following improvements were made to the Events editor:</p> <ul style="list-style-type: none"> • The event listeners UI has been updated to show more information about where events are fired and which components are firing them. • Events and their payloads can now be defined in the Events editor and fired using the Fire Custom Event action. This allows the runtime to propagate events to their desired listeners and to help you configure when the events are fired. 	September 27

Feature	Description	Published
Improvements to the Page Designer	<p>The following improvements and features were added to the Page Designer:</p> <ul style="list-style-type: none"> • The Component Palette, Page Structure and Property Inspector panels are now visible in Code view. Switching between Design and Code modes only swaps the canvas and code editor. Component selection and changes are now synced across all panels and views. • You can now drag and drop components from the Components Palette directly into the Code view and reposition them in Code view using the Page Structure view. • Cut/Copy/Paste is now supported for selected components in the Page Structure view and Design mode. The actions can be invoked using standard shortcuts (ctrl+x, ctrl+c and ctrl+v, CMD key on macOS), and are also available in the component's popup menu. When a component is pasted into a page it is automatically assigned a unique ID. When a component is pasted on a different page, all property values that are expressions are removed. • A "Temporary Override" option has been added to some properties in the Property Inspector which allows you to set a temporary value for the property. The value is only applied during design time. For boolean-type properties, you can select a Temporary Override option of Off, True or False in the component's popup menu. In the Page Structure view, an orange badge is used to indicate when a Temporary Override is currently used on a component. The Temporary Override settings are only valid until the page designer is reloaded or the page's code is edited in Code mode. The Temporary Override option is available for the following component properties: <ul style="list-style-type: none"> – "test" property of <code>oj-bind-if</code> component. Using this enables the contents wrapped by the IF to be displayed in the page designer. The option allows you to override a default value of false that would otherwise be the result of the IF condition. – "expanded" property of <code>oj-collapsible</code> – "expanded" property of <code>oj-ext-mobile-navigation-bar-drawer</code> – "initial-visibility" property of <code>oj-dialog</code> • The <code>oj-dialog</code> component is now supported in the Design mode and has been added to the Components Palette. When designing 	September 27

Feature	Description	Published
	<p>an app, you can choose to keep dialog components open in the canvas while designing its contents by using the Temporary Override option in the Property Inspector or the component's popup menu to set the initial-visibility property. In Live mode you can invoke the action that opens the dialog, for example, if the dialog opens when a button is clicked. When the dialog is open in the canvas, only the components inside the dialog on the canvas are selectable and drop indication feedback is enabled for them.</p> <ul style="list-style-type: none"> • Unused component import is removed from the page model when the last instance of the component is deleted from the page. • Components dropped into a parent's slot are wrapped with a template element if the slot's metadata includes attribute data. • Non-field components dropped into a form layout container are now all accompanied by a label component to allow default column alignment with regular field components. • Layout helpers have been added for simple non-component HTML elements (for example, <code><div></code>). This enables children (deleting, moving, adding child components) inside the element to be easily manipulated. 	

Feature	Description	Published
Improvements to the Property Inspector in Page Designer	<p>The following improvements and features were added to the Property Inspector in the Page Designer:</p> <ul style="list-style-type: none"> • Docs hyperlink has been added to the help popups on properties and slots of the component in its Property Inspector. The link leads to the particular JSdoc page in the component's documentation based on its metadata. • Menu components in Slots sections now offer Divider and Menu Multi-Select subcomponents in the Add Action drop-down. • In the Table Columns customizer, the drop-down list of identified column fields has been renamed from "Fields" to "Simple Field Columns". The list includes only the fields which are not represented by separate components in the column templates' code. • Basic support for a mobile application's Drawer component (available in New Mobile Application wizard as Vertical navigation style option) was added to the Property Inspector. In the Page Structure view, you can now see a "Mobile Navigation Bar - Drawer" component after opening the Page Designer for an application's root page (root pages / app). In the Property Inspector, the Drawer component contains: <ul style="list-style-type: none"> – A Navigation Items section which helps you customize the navigation items in the drawer, similar to customizing items of the Bottom Bar component – An Expanded property with a Temporary Override section that allows you to force a value to be True in the design time. This enables you to make the Drawer visible on the canvas so that you can work with it visually. • The Styling section in the General tab now displays classes for components that have a predefined set of styling classes listed in its styleclasses metadata. 	September 27
Improvements to Quick Starts	<p>When using a Quick Start, the following improvements were made to help locate data in the Endpoint Selector:</p> <ul style="list-style-type: none"> • improvements to how the focus is shown for single items • improved tooltip for switch between simplified and advanced mode • the search keyword is now highlighted 	September 27

Feature	Description	Published
Enhancements to Business Object editor	<p>The following improvements and features were added to the Business Objects editor:</p> <ul style="list-style-type: none"> In the Diagrams view, when no objects are selected in the diagram you can now select which business objects are displayed in the Property Inspector. When a business object is selected, you can use the Property Inspector to edit the business object, its fields and relationships. The business object directory structure has changed. All json files for the artifacts (business objects and diagrams) are now under the businessObjects directory. Business object metadata defined in Application Settings is now stored in businessObjects.json instead of settings/security.json. 	September 27
Enhanced business object security definitions	<p>Enhancements were made to the Data Security Rules section that you use to define business object security. Support for Groovy expressions has been improved. You can now use a Groovy expression to identify the current user instead of a JavaScript expression, and you can use any expression that can be evaluated to a literal constant when the business object REST API is called. When creating conditions, you can now also choose fields from a related object in the Field drop-down list.</p>	September 27
Added support for constant variables	<p>Constant variables are now supported when you add a new variable. A constant can have a value specified via its default value or when provided as an input parameter, but it cannot be changed at runtime.</p>	September 27
Improved UI for Service Catalog	<p>Catalog settings can now be defined both for the tenant and at the application level. When editing the catalog settings at the application level, you can view the current tenant settings and choose to override them.</p>	September 27

Feature	Description	Published
Improvements to connecting to Fusion Applications catalogs in the Tenant Settings	<p>In the Tenant Settings editor, specifying the base URL for a Fusion Applications catalog for the tenant has been simplified:</p> <ul style="list-style-type: none"> You now only need to supply a valid Fusion Applications base URL. The path to the interface catalog will now be resolved automatically. When you enter the FA base URL, the connection is tested to ensure that the endpoint is accessible without authentication and is CORS compliant. The catalog will not be created if these criteria are not met. . <p>The alternative to setting the catalog at the tenant level is to set it at the visual application level where more options are available.</p>	September 27
Improvements to the External Build process	<p>The following improvements were made to support using the external build tools:</p> <ul style="list-style-type: none"> Support was added for creating custom <code>requirejs</code> module bundles for visual applications. You can use this to help improve application performance by creating multiple bundles and customizing the content of each bundle. You can then control which bundles are loaded initially and which are loaded when they are needed. The external build can be configured to produce bundles that conform to the pure EcmaScript 5 standard supported by older browsers and also produce an ES6 set of bundles. This allows you to write more modern code (EcmaScript 6) in your application and also have an application that can run on IE11 and other old browsers. 	September 27
EcmaScript 2018 support	<p>The code editor for <code>.js</code> files now has editing and audit support for EcmaScript 2018 (ES2018) in mobile apps and when using the external build process. ES2018 is not supported in web apps, which continue to use ES5.</p>	September 27
JET Audit tool added	<p>The JET audit tool has been integrated into the design time. The tool currently works on all HTML files, and can help produce pages that conform to the JET guidelines.</p>	September 27
Added settings for JET and runtime versions	<p>It is now possible to specify a Visual Builder runtime and JET version in web and mobile application settings.</p>	September 27
Added support for IDCS multi-stripe	<p>Visual Builder can now be used in IDCS accounts which use multiple stripes.</p>	September 27
Improved Who am I dialog	<p>The UI of the Who am I dialog is streamlined to be more intuitive, and to disallow some combinations of selected items.</p>	September 27

August 2019

New Features

Integration Features

Feature	Description	Published
FTP Adapter - FTP server operating system selection	<p>The FTP Adapter connecting to an FTP server over SSL can be hosted on a Unix or Windows operating system. Because Unix and Windows both have different line ending characters, the FTP Adapter must know the operating system to parse the file correctly. The FTP Adapter is enhanced to list the operating system for selection on the Connections page. An additional option is provided to let you select the channel of encryption (namely, control, data, both, and none).</p> <p>See Configure Connection Properties in <i>Using the FTP Adapter with Oracle Integration</i>.</p>	August 22
Orchestrated integrations - Wait action enhancement	<p>In addition to hours and minutes, you can delay the execution of an integration for seconds with a wait action.</p> <p>See Delay Integration Execution for a Specified Time Period with a Wait Action in <i>Using Integrations in Oracle Integration</i>.</p>	August 22
Oracle Database Cloud Service Adapter - Support for direct connectivity	<p>Oracle Integration now supports direct connectivity with Oracle Database Cloud Service without connecting through the connectivity agent. Customers that have migrated to the Oracle Autonomous Transaction Processing database can use existing Oracle Database Cloud Service Adapter-based integration flows to connect to the migrated database. However, Oracle recommends that you use the Oracle Autonomous Transaction Processing Adapter for new connections/new integrations created after migration to the Oracle Autonomous Transaction Processing database.</p> <p>See Prerequisites for Creating a Connection in <i>Using the Oracle Database Cloud Service Adapter with Oracle Integration</i>.</p>	August 22
Oracle Engagement Cloud Adapter - New name	<p>Oracle Sales Cloud Adapter is renamed to Oracle Engagement Cloud Adapter.</p>	August 22

Process Features

Feature	Description	Published
REST API updates	We've made improvements to Process Instance APIs in the Oracle Integration REST APIs. See the What's New topic under Get Started in Oracle Integration REST API.	August 22

Resolved Issues

Integration Resolved Issues

Issue	Resolution	Publication Date
Activity stream	The activity stream for notification and wait actions has been improved.	August 22
Oracle Engagement Cloud Adapter	When using the Oracle Engagement Cloud Adapter (formerly the Oracle Sales Cloud Adapter), the Oracle Engagement Cloud client (through SOA Composer) can now call an Oracle Integration service without an endpoint security policy error.	August 22
Oracle Engagement Cloud Adapter	The Oracle Engagement Cloud Adapter is successfully listed/filtered in the Create Connection - Select Adapter dialog.	
Oracle Cloud Customer Connect forum	Messages and cross-linking to the Oracle Cloud Customer Connect forum during integration activation failures have been improved.	August 22
Oracle Autonomous Transaction Processing Adapter	The Oracle Autonomous Transaction Processing Adapter now accepts case insensitive connection names.	August 22
	When using the , you no longer receive an error when you click SQL Edit and add a parameter to query by clicking Add New .	August 22
Integration activation	New integration activation attempts are now handled successfully when the server is down.	August 22
List of errors page	The created/last updated date is shown in the list of errors page.	August 22
Recoverable errors	You can search, view, or filter by recoverable errors.	August 22
Expression Builder	An Expression Builder expression containing a function call with an incorrect number of parameters now shows as invalid.	August 22
Lookup cloning	Cloning a lookup through the REST API when the lookup does not exist no longer results in an HTTP 500 error.	August 22
Mapper performance	Performance when closing the mapper and returning to the canvas has been improved.	August 22

Issue	Resolution	Publication Date
Integration activation	You can now activate an integration when a stage read action is used alongside an application adapter.	August 22
Oracle Integration	Oracle Integration REST API performance for listing lookups and connections has been improved.	August 22
Redirect URLs	Redirect URLs are successfully resolving on Oracle Integration instances.	August 22
Host key security	The host key security between Oracle Integration and Oracle Managed File Transfer no longer fails with a CASDK-0004 Host Key Verification error.	August 22
ServiceNow Adapter	All plugins that are activated in a ServiceNow instance are enabled. You can send attachments using the ServiceNow Adapter. The labels have also been modified for describing operations.	August 22

Process Resolved Issues

Issue	Resolution	Published
Space sharing error	When editing a space, users couldn't share a space on the space details page.	August 22
Application unlock	Improved the message shown when users unlock a process application on the design-time Administration page.	August 22

July 2019

New Features

Integration Features

Feature	Description	Published
Throw New Fault action - New orchestrated integration action	You can create and throw your own faults in an integration with a throw new fault action. During configuration of this action, you define the condition under which to throw the fault and the point in the integration at which to throw the fault. You can add this action at the end of a block (for example, a for-each action, switch action, and so on). Nothing can be dropped after this action in the block. See <i>Throw Faults with a Throw New Fault Action in Using Integrations in Oracle Integration</i> .	July 26

Feature	Description	Published
Scheduled integrations - Override scheduled parameters	You can override schedule parameter values set at design-time when submitting an ad-hoc schedule request or starting a schedule in an activated integration. This feature enables you to provide parameter values while invoking an integration without deactivating it. See <i>Override Schedule Parameter Values in Using Integrations in Oracle Integration</i> .	July 26
Oracle Field Service Adapter - OAuth security policy support	Support is provided for configuring the Oracle Field Service Adapter to use the OAuth security policy. Recommendations are also provided for when to use Basic Authentication or OAuth (Client Credentials) as your security policy. See <i>Configure Connection Security and Migrate to Oracle Field Service Cloud Version 19c in Using the Oracle Field Service Adapter with Oracle Integration</i> .	July 19
Salesforce Adapter - Support for the Resource Owner Password Credential (ROPC) for OAuth	Oracle Integration supports a wide array of security policy mechanisms to connect and authenticate with Salesforce.com applications. The newest addition to the authentication schemes is the ROPC security policy. This policy enables you to refresh the OAuth token without having to authenticate. See <i>Use the Salesforce OAuth Three-Legged Security Policy in Using the Salesforce Adapter with Oracle Integration</i> .	July 19
Stage file action - File reference and schema support	You can specify a file reference to process when you select to read the entire file, read a file in segments, or unzip a file. Support is also provided for ZIP/JSON/XML-based schemas. See <i>Process Files in Scheduled Integrations with a Stage File Action in Using Integrations in Oracle Integration</i> .	July 19
Business identifiers - Primary and secondary values search	You can search for values across both primary and secondary business identifier values on the Tracking page. See <i>Track Business Identifiers in Integrations During Runtime in Using Integrations in Oracle Integration</i> .	July 19
Scheduled integrations - Initiating an instance	You can select how to initiate an instance of an activated integration when prompted. <ul style="list-style-type: none"> Ad hoc request: The instance is executed independently of the scheduled run for the integration (if any). As part of schedule: The instance runs in sequence with the scheduled run and shares schedule parameters (if any) See <i>Create a Schedule in Using Integrations in Oracle Integration</i> .	July 19

June 2019

New Features

Common Features

Feature	Description
New Oracle Integration user roles	Two new user roles are available with instances provisioned after May 8th: <ul style="list-style-type: none">• ServiceInvoker: This role enables you to execute an integration from outside the Oracle Integration user interface. The user cannot log in to the Oracle Integration user interface with this role.• ServiceViewer: This role enables you to navigate to all Integrations resource pages (for example, integrations, connections, lookups, libraries, and so on) and view details. The user cannot edit any resources or navigate to the administrative setting pages.
Quiesced mode	We improved error messaging for administrators when Oracle Integration is in a quiesced mode.

Integration Features

Feature	Description
SurveyMonkey Adapter - API version support	The SurveyMonkey Adapter now supports API version 3.
New adapter - Oracle Autonomous Transaction Processing Adapter	The Oracle Autonomous Transaction Processing Adapter enables you to integrate the Oracle Autonomous Transaction Processing database with Oracle Integration through use of direct connectivity. Use the Oracle Autonomous Transaction Processing Adapter to execute SQL queries or stored procedures in the Oracle database. See Oracle Autonomous Transaction Processing Adapter Capabilities in <i>Using the Oracle Autonomous Transaction Processing Adapter with Oracle Integration</i> .
Oracle Utilities Adapter - Secure WSDL, REST, and OAuth 2.0 support.	The Oracle Utilities Adapter provides support for the following: <ul style="list-style-type: none">• Secure WSDL support• An enhanced REST interfaces user interface• REST catalog parsing enhancements if the adapter is running with the connectivity agent See Oracle Utilities Adapter Capabilities in <i>Using the Oracle Utilities Adapter with Oracle Integration</i> .

Feature	Description
FTP Adapter - Signing support	Supports signing verification and validation during the download of PGP-encrypted files from an sFTP server. Signing provides a method for authenticating the sender of the file. See FTP Adapter Capabilities in <i>Using the FTP Adapter with Oracle Integration</i> .
Scheduled integrations canvas - Defining the schedule	You can click the Schedule icon at the top of a scheduled integration to display an option for invoking the Edit Schedule page to define the schedule details. See Create a Scheduled Integration in <i>Using Integrations in Oracle Integration</i> .
Unlocking an integration	You can unlock an integration that you own. For example, when an integration you created is in edit mode and the browser crashes, the integration becomes locked. You can unlock this integration and resume re-editing. See Unlock an Integration in <i>Using Integrations in Oracle Integration</i> .
SOAP Adapter- OAuth security policy support	You can configure inbound SOAP endpoints with the OAuth 2.0 security policy. See SOAP Adapter Capabilities in <i>Using the SOAP Adapter with Oracle Integration</i> .








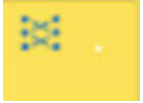


Process Features

Feature	Description
Canvas changes	We've introduced unified and better color coded icons in our structured process modeling canvas. You'll see new toolbars and icons in the elements palette. See New Process Icons for a side-by-side comparison of new and old icons. <ul style="list-style-type: none"> • Icons: Many items stay the same color: Human tasks are still green, Decisions are yellow, and System and Integrations are still blue. But we've introduced new colors: <ul style="list-style-type: none"> – Events, such as Form Start and End, are purple. – Gateways are orange. – Note icons (Other category) are pink. • Toolbar: All icon functionality stays the same, but they've been repositioned and updated.
Common expression builder in Decision modeling editor	We've enhanced the design-time interface of decision models for consistency and ease of use. Entering expressions in decision tables, decision input data, or type definition is now a uniform, intuitive experience. Additionally, new modes are now supported in decision table cells that make populating tables quick and simple. See Define Decision Input and Type and Define Decision Table Input in <i>Using Processes in Oracle Integration</i> .





















Feature	Description
Conditional expressions in data association	You can now control data execution in runtime for both structured and dynamic processes by applying conditions while mapping data from the Data Association editor. In such cases, data executes in runtime only when the defined condition is met. See Define Conditions for Data Associations in <i>Using Processes in Oracle Integration</i> .
Smart sentries in dynamic processes	<p>Define smart sentries as conditions that decide if an activity, stage, or process gets activated or terminated.</p> <ul style="list-style-type: none"> • Add a decision to a dynamic process: Apply an activated decision to a stage or activity's condition so that it activates or terminates the stage or activity. See Smart Sentries in Dynamic Processes in <i>Using Processes in Oracle Integration</i>. • Add a REST connector to activate or terminate a stage, activity, or process in a dynamic process. See Configure a REST Sentry in a Dynamic Process in <i>Using Processes in Oracle Integration</i>.
Promote process application samples to the gallery for easy sharing	<p>The QuickStart gallery has expanded to include samples in addition to QuickStart Apps. From any regular process application, developers can promote it to the gallery. Other users can then browse the gallery, select a sample, and create their own copy of the sample application.</p> <p>See Promote Applications as Samples to the Gallery in <i>Using Processes in Oracle Integration</i>.</p>
QuickStart Apps enhancements	<p>We've made it easier for users to create process applications from QuickStart Apps and added flexibility for developers:</p> <ul style="list-style-type: none"> • When users create by starting from the gallery, items now display a QUICKSTART or SAMPLE label to easily distinguish them. • We made usability improvements to QuickStart Apps. Developers can better order artifacts of different types (such as approvals, submits, roles, integrations, and others) and users can more easily configure apps. <p>See Create Your First Application (a Quick Start) in <i>Using Processes in Oracle Integration</i>.</p>
Robotic process automation adapter for Automation Anywhere	Use the new Automation Anywhere Integrations adapter to automate repetitive human tasks and integrate with applications that do not offer APIs or for which there is no adapter. See Integrate with Robotic Process Automation Tools in <i>Using Processes in Oracle Integration</i> and Understand the Automation Anywhere Adapter in <i>Using the Automation Anywhere Adapter with Oracle Integration</i> .
REST API updates	<p>We've made additions and added examples to the Process/Process Instance APIs in the Oracle Integration REST APIs. For example:</p> <ul style="list-style-type: none"> • Retrieve Activities Flow for a Process Instance: Use the new <code>activityType</code> query parameter to the to return only a subset of activities that match the specified type. • Update the Process State: Use the new <code>suspend</code> and <code>resume</code> actions to alter the flow of a process by passing <code>activityChanges</code> in the JSON body. <p>See the What's New topic under Get Started in Oracle Integration REST API.</p>
Application activation	We improved the process application activation dialog so that it now shows your current retention policy settings.

Feature	Description
Dynamic process enhancements	<p>We've added support for the following special types of data association to dynamic processes (already supported in structured processes):</p> <ul style="list-style-type: none"> • Transformations: Use them for input and output data types that don't match. They're particularly useful for matching slightly differing data attributes, such as address or employee data. See <i>Work with Transformations in Using Processes in Oracle Integration</i>. • Append to arrays: Use the Append action in the data association editor to add elements to a target array. See <i>Append to Array in Using Processes in Oracle Integration</i>. • Array filter: Now available in dynamic processes. In the Data Association editor of a structured process or transformation, you can selectively filter elements from a source array object and assign them to a target array. See <i>Filter Array Data Objects in Using Processes in Oracle Integration</i>.
Forms enhancements	<p>Updates include:</p> <ul style="list-style-type: none"> • You can now access an object from a Select control while displaying one value but using other non-visible object attributes in select control events. For example, you might show the label of an object, but use the ID internally to populate other form controls. See <i>Configure Drop-down Select Fields in Using Processes in Oracle Integration</i>. • You can now easily reorder actions in web form events. • You can now reorder table columns in web forms.
Data retention	We improved the process application activation dialog so that it now shows your current retention policy settings.

New Process Icons

Category	Icon	New	Old
Human	Submit		
Human	Approve		
System	Abstract		
System	Data Mapper		
System	Service		

Category	Icon	New	Old
System	Call		
System	Send		
System	Receive		
System	Notify		
System	Dynamic Process		
System	Decision		
System	Sub-Process		
Events	Start		
Events	Form Start		
Events	Message Start		
Events	Message Catch		
Events	Timer Catch		
Events	Error Boundary		
Events	Message Throw		

Category	Icon	New	Old
Events	End Event		
Events	Message End		
Events	Error End		
Events	Terminate End		
Gateways	Exclusive		
Gateways	Inclusive		
Gateways	Parallel		
Gateways	Event Based		
Integrations	Integration		
Other	Note		

Resolved Issues

Integration Resolved Issues

Issue	Resolution
FTP Adapter - Host key security	Host key security between Oracle Integration and MFTP no longer fails for the FTP Adapter with the following error: CASDK-0004 Host Key Verification.
SOAP Adapter - Usability enhancements	Text for the SOAP Adapter in the user interface has been enhanced to improve usability.
REST Adapter - Usability enhancements	In-context help for the multiple operations feature in the REST Adapter has been added.
REST Adapter - Use in a for loop	When using the REST Adapter in a for loop, you can specify individual parameters as repeating elements.

Issue	Resolution
REST Adapter - Parse special characters.	The REST Adapter can parse JSON responses with special characters such as an @.
REST Adapter - Schemas with reserved words	The REST Adapter now provides a design time error instead of an activation failure error when the schema provided uses a reserved namespace.
SOAP Adapter - Rejected messages	Messages rejected by an inbound SOAP Adapter trigger are no longer shown in the Tracking page with an invalid flow version.
Integration activation error	Integration activation no longer fails with out-of-memory errors in the logs.
Salesforce Adapter - Field types change	An issue is resolved where a change in field types to sObject by Salesforce in version 46 had resulted in the query parser being unable to resolve the relationship. This had previously resulted in a NullPointerException.
Activation failure error	The java.lang.NoClassDefFoundError: weblogic/application/Module activation failure error has been fixed.
Oracle HCM Cloud Adapter - ATOM feed entries	Oracle HCM Cloud Adapter processing no longer fails if entries in the ATOM feed have a title with a tab character.
Salesforce Adapter - IAR project import issue	After importing the project IAR in 19.2.1, the Use Default Header checkbox was selected on the Operation page. This was unexpected and has been resolved.
Connectivity agent - install location	The connectivity agent installation experience is the same regardless of whether the agent installer is run from a directory other than the agent install location.
Microsoft SQL Server Adapter - Usability enhancement	Text for the Microsoft SQL Server Adapter in the user interface has been enhanced to improve usability.
FTP Adapter - Timeout period increase	When using the connectivity agent with the FTP Adapter, the timeout period for runtime requests has been changed to 580 seconds.
FTP Adapter - Digital signing	The FTP Adapter supports digital signing.
SOAP Adapter - Error message enhancement	SOAP Adapter error messages have been enhanced to include remedial actions when the inbound connection has no security policy configured (and therefore, defaulted to Username Token policy) and if the runtime request does not have the Username Token policy.
Connectivity agent - Temp files reduction	The number of temp files created by the connectivity agent has been reduced.
Connectivity agent restart	Restarting an already running connectivity agent no longer causes PID file deletion.

Issue	Resolution
Oracle ERP Cloud Adapter - OAuth support	Support is provided for OAuth (manual OAuth client creation is required) in the Oracle ERP Cloud Adapter.
Workday Adapter - User domain policy access	The Workday Adapter user is now only given domain policy access to the feature that they are using (Web Services, RAAS, or EIB) instead of to all three. When testing the connection, only access to that specific feature is validated.
Oracle Autonomous Transaction Processing Adapter - Error message enhancements	More helpful and actionable error messages are provided for when the wrong password or service name is entered for the Oracle Autonomous Transaction Processing Adapter.
Oracle E-Business Suite Adapter - Open interfaces	Support has been added for open interfaces to the Oracle E-Business Suite Adapter.
Ariba response message sandboxResponse element	The sandboxResponse element has been added in the Ariba response message. This element is used when creating an integration to test whether Ariba is accepting the upload request or the request is already in progress.
Connectivity agent installation location	A useful error is shown when the connectivity agent installer is run when pointing to a JAR file in a different folder.
SOAP Adapter - Validation improvements	Validation has been improved for duplicate SOAP and HTTP headers in the SOAP Adapter.
SOAP Adapter - invalid data types	Validation and testing no longer passes for a WSDL with invalid data types in the SOAP Adapter.
Connectivity agent upgrade	Generated backups are deleted as a part of the connectivity agent upgrade.
SAP Concur Adapter - Summary page issue	You no longer face an issue with the Summary page when configuring the SAP Concur Adapter in an integration.
Salesforce endpoint configuration	You can now configure the Salesforce endpoint while configuring a SOQL-Query operation when any field name in the SOQL query contains " from " (surrounded by white spaces).
Requests with a no content-length header	Requests with a no content-length header no longer return a 500 error instead of a 411 error in the adapter framework.
Oracle Responsys Adapter - Profile extensions	The Oracle Responsys Adapter now shows profile extensions for the profile list containing space.
Oracle ERP Cloud Adapter - Connection description	The description is now shown for the Oracle ERP Cloud Adapter connection.

Issue	Resolution
Oracle Advanced Queuing (AQ) Adapter	When used with the Oracle Advanced Queuing (AQ) Adapter, a connectivity agent error message now shows what was required to alleviate the error.
Oracle Utilities Adapter - Enhancements	Open authorization support and fault handling in REST is provided in the Oracle Utilities Adapter.
SAP Adapter - Mapping issue	You can refresh the SAP Adapter in an integration without losing any of the mappings in an integration.
FTP Adapter - Connections page validation	Validation has been added on the Connections page of the FTP Adapter for an incorrect PGP encryption key.
Integrations page performance improvement	Performance has been improved when saving integrations on the Integrations page.
Bell notification icon linking improvement	When you click the bell notification icon for a failed connectivity agent in the upper right corner of the page, a dialog is displayed with a link to the Dashboard page for more details.
Valid predicates	The Expression Editor correctly identifies valid predicates.
<code>attributeFromDefault</code> attribute	Support is provided for the <code>attributeFromDefault</code> attribute in XML schemas.
Migration of expressions with wildcard characters	The migration of expressions with wildcard characters from Oracle Integration Service to Oracle Integration is supported.
Improved error messages for integration activation failures	A user friendly error message and remedial actions are provided for errors introduced when activating an integration that was imported into a service instance with missing lookup artifacts.
Reclaim space procedures improvements	Reclaim space procedures (shrink and move) in Oracle Integration have been enhanced to include the dynamic process tables of Processes.
Integration invocation from global fault handlers	The invocation of integrations from global fault handlers during a resubmit is now supported.
Load performance improvements	The load performance for the Home, Monitoring, and Design-time Metrics pages has been improved.
Substitution groups	Schemas that have substitution groups are supported.
Help link updates	The Help page links for the Agents page, Connections page, Create New Connection page, and Settings page have been updated.
Scheduled orchestration job cancellation	A scheduled orchestration job is now canceled when the underlying database experienced a service disruption.

Issue	Resolution
Runs page improvement	The wrong information is no longer displayed on the Runs page.
Tracking page improvements	Consistent terminology in reporting the status of integration executions in the Tracking pages is provided.
Tracking variable deletion	If the trigger connection for a Basic Routing integration changes to point to a different resource, the tracking variable is deleted.
Stage file action ZIP file	The stage file action no longer creates a corrupted ZIP file if the input directory was the parent of the output.
Connections page API key field	The field length of the API key field in the Connections page has been increased to 2048 characters.
DocuSign Adapter - Authorize code flow support	Supports the authorize code flow in the DocuSign connection.
REST Adapter - Trigger connection	A trigger connection using an XML schema no longer fails with a CASDK-0005 error.
Oracle Advanced Queuing (AQ) Adapter - Password special character support	Activation no longer fails when the password had special characters.
Microsoft Email Adapter - Attachment element in the mapper	An attachment element now appears in the mapper.
Oracle E-Business Suite Adapter - Test connection issue	A test connection no longer fails intermittently with an Unexpected Error or Internal Server Error (NullPointerException).
SAP Adapter - New interface	Implemented a new interface to CloudSapAdapter (class) and added logic in handleActivation (method) to refresh the JCA after any connection change.
- Error message enhancement	The error message has been enhanced for when the payload size exceeds the threshold.
- Connectivity agent credentials	New credentials with the connectivity agent are now reflected at design time.
Oracle Database Cloud Service Adapter - Special character validation	Enhanced special character validation at design time is provided.
SOAP Adapter - Timestamp issue	A timestamp is now received in the response from an invoke, although it was sent as a part of the request.
Salesforce Adapter - SOQL query operation	The SOQL query operation can now build a parentRelationshipField based on a CAM-contained relationships map that is built through a describeSObject API call, instead of relying on a CAM-contained CloudDataObjectNode.
ServiceNow Adapter - Field Service Management enhancements	The Field Service Management plug-in in the adapter and the dependent plug-ins of the Field Service Management plug-in have been enabled.

Issue	Resolution
SAP Ariba Adapter - CombinedDataPull enhancements	Valid entries for the value of "Data Import Task Name" and "File Name" for the "CombinedDataPull" sheet are created.
Oracle ERP Cloud Adapter - SAML assertion signature digest verification	Multiple error codes are now displayed when a SAML assertion signature digest verification failed with callbacks.
Workday Adapter - Integration regeneration and activation	The adapter can now select the version from the runtime WSDL (the version on which the Workday Adapter endpoint was originally configured) after regeneration and activation of the integration. For creating and editing an integration, the Workday Adapter can now pick the latest version from the Connections page.
Oracle ERP Cloud Adapter - Create and Update Contact	The adapter no longer fails when Create and Update Contact are used in the same integration.
Function callouts	Function callouts have been renamed to Javascript in the user interface.
Delete Schedule REST API	The Delete Schedule REST API no longer throws a <code>NullPointerException</code> when invoked on active schedules.
Trigger metadata connection refresh	The second tracking field now appears after refreshing the trigger metadata connection.
Scheduled integration runs	Fixed an issue where scheduled integration runs (in an error state) were shown even when run with an unauthorized user account.
Mapper error reporting	The mapper now reports an error on a specific invalid mapping.
Assign action help text	The help text for the assign action has been improved.
Connection security policy	A null pointer exception is handled in case of an invalid or null security policy for a connection.
Trigger menu of orchestrated integration	Adapters that do not support trigger functionality now longer appear in the trigger menu of an orchestrated integration.
Retrieve Monitoring Metrics REST API	The Retrieve Monitoring Metrics REST API is no longer missing the <code>LastUpdated</code> field.
Mapping Recommendations Settings page	The help text on the Mapping Recommendations Settings page has been improved.
Notification email copyright date	The copyright date in the footer note of the notification email sent from Oracle Integration has been fixed.
Batch retry	If a batch processing error is received after a server restart (recovery mode), the job can use that information to retry the batch.

Issue	Resolution
XSL maps	Issues related to the usage of unsupported functions in the XSL map are reported and successfully handled.
Schema elements in for-each groups	Schema elements in for-each groups that have substitution groups are successfully handled.
XPath expressions	Quotes in XPath expressions are successfully handled.

Process Resolved Issues

Issue	Resolution
Nested forms	Resolved issue when attaching form images as email notifications when the forms contained other nested forms.
Link fix	Fixed the Learn More link on the Oracle Integration Welcome page.
List scroll	List scroll issue prevented all available process applications from being shown.
Clone applications	Users with Space viewer only permissions could not clone process applications.
My Apps	An internal memory cache synchronization issue prevented the My Apps Workspace page from opening.
Append in dynamic process arrays	Using the append operation in dynamic process array data associations resulted in an error.
Null keywords incorrectly included in email notifications	Email notifications included "null" keywords even when null checks were added to the email notification template via Mustache syntax.
Attachments panel couldn't be closed	The Attachments panel on the Process Details page couldn't be closed after downloading a file. This issue occurred in Workspace, not on the My Tasks page from the Oracle Integration Home page.
Process attachment API issue	The process attachment API incorrectly replaced a space with a "+" character in the attachment file name was resolved.
500 error returned with invalid taskID for payload endpoint	A 500 error was returned when an invalid taskId was used accessing the REST API endpoint /tasks/{taskId}/payload.
Warning missing when overwriting decision model after changes	The warning dialog was not shown when overwriting an existing decision model and its input and output parameter changes.
Attachments couldn't be added when documents not configured	Users couldn't add attachments to tasks on the Workspace Task Details page when Content and Experience wasn't configured.
Loading time for large processes	We've improved process loading and renderization for very large processes rendered incrementally. The loading time is affected by the browser being used. The loading issue was more common with Internet Explorer version 11.
Issue loading integrations	Process could no longer load integrations after a used integration (previously discovered and used) was removed from the active integrations list.

Issue	Resolution
My Apps returned blank page	The My Apps page was not loading correctly and showing a blank page due to concurrent access to a time-consuming operation.
Decision connector editable when read only	A DMN connector was editable when the model was read-only.
Presentation not cloned	A form presentation containing many controls couldn't be cloned.
Form print issue in Firefox	Printing a web form with multiple tabs in Firefox omitted the first tab.
Human task action issue	Human task actions containing non-ASCII characters caused the action processing to break the page. This happened more frequently when showing actions with accents or similar characters in non-English languages.
Audit API response fix	Fixed values provided in the Audit API response where <code>infoRequestedFrom</code> and <code>infoSubmittedTo</code> parameters were returning <code>userid</code> instead of the display name.

May 2019

New Features

Common Features

Feature	Description
Improved Home page loading time	Through dynamic loading, we've improved the speed and performance of the Oracle Integration Home page and its sections.
Oracle Integration Home page - Common About page	A common About page is now accessible from the Oracle Integration Home page.

Integration Features

Feature	Description
Recovery job ID search on Tracking page	Searching on the Tracking Instances page has been enhanced to search for recovery job IDs that run to process failed instances. See <i>Manage Business Identifiers for Tracking Fields in Messages</i> in <i>Using Integrations in Oracle Integration</i> .
JMS Adapter - Header support	JMS headers in both the trigger and invoke directions are supported. You can set message headers to dequeue messages from queues and set message headers to enqueue messages into queues. See <i>Oracle WebLogic JMS Adapter Capabilities</i> in <i>Using the Oracle WebLogic JMS Adapter with Oracle Integration</i>

Process Features

Feature	Description
Query parameter added to REST endpoint	The new activityType parameter enables you to return only a subset of activities that match the specified type.

Resolved Issues

Integration Resolved Issues

Issue	Resolution
Connectivity agent - Restart	Improved the agent restart time after an agent is upgraded.
Connectivity agent - Group updates	Added support to update the agent group through the Oracle Integration REST API.
Adapter SDK	An issue in the adapter SDK for a protected/secured WSDL (using the SOAP proxy) with an authorization header is resolved.
SOAP Adapter - Callback invoke	A callback invoke fails if configured with the URL instead of an uploaded WSDL.
FTP Adapter - Error message	Improved the error message for when a user enters the wrong host key.
FTP Adapter - Design-time	Improved the design-time experience for multi-level authentication.
JMS Adapter - Inbound header element	A JMS inbound header element (for example, Message Id) being mapped to a JMS outbound header element (for example, Correlation Id) no longer throws an exception upon activation.
Adobe eSign Adapter - Regional subdomains	Adobe eSign Adapter: Fixed support for regional subdomains (for example, na1, na2, in, and em2 in OAuth).
Oracle ERP Cloud Adapter - Error message improvement	Oracle ERP Cloud Adapter: Improved the user error message when an FBFI upload integration shows errors for being unable to move a file at the target location.
REST Adapter - Error message improvement	REST Adapter: Improved the user error message when an <code>ArrayIndexOutOfBoundsException</code> occurs during JSON translation.
File Adapter - Pipe-separated file content	Fixed an issue when reading pipe-separated file content while skipping certain lines.
Adapter SDK custom validation	Enhanced the adapter SDK to support custom validation of connection properties.
Integration runtime failure	Integrations no longer fail at runtime when the dynamic invoke feature is not enabled. No headers are available in an incoming SOAP payload and there is at least one mapping done.

Issue	Resolution
Application WSDL validation	Enhanced adapters to intelligently validate application WSDLs where the target namespaces do not match the parent schema import. 'Import' is used instead of 'Include' or cross-referenced schemas are present without import namespaces in the definition.
Operation invocation on Fusion Applications	Invoking operations on custom objects for Fusion Applications adapters no longer fail.
Error message improvement	Improved error message with an action recommendation when an adapter 'Test Connection' fails due to a self-signed certificate not having the subject alternate name.
Collapsed scope actions	Users can reposition collapsed scopes within orchestration integration flows.
Activation errors	Activation errors caused by XML schema definitions containing references to it are successfully handled (recursive schema imports or includes).

Process Resolved Issues

Issue	Resolution
Import issue	Deleting a process application and then re-importing it under the same name resulted in the old deleted process application rather than the new version.
Process application open issue	An internal server error was fixed that prevented process applications from opening in Process design time.
Identities REST endpoint issue	An HTTP 500 error was returned when invoking the bpm/api/4.0/identities REST endpoint when Oracle Identity Cloud Service (IDCS) contained a very large number of users. A similar situation occurred with the Identities web form control and other select controls in Process forms when Oracle Integration was pulling a full list of users, and was resolved.
Correlations issue	Users were prevented from opening the FX correlations mapping editor and configuring correlations in structured (BPMN) processes.
Web form preview mode issue	Web form elements visible when editing were not visible in Preview mode.
Title update issue	The process instance and task titles were not properly updated when configured inside a parallel gateway. After the fix, the main thread title propagates to all child threads inside the parallel gateway flow.

April 2019

New Integration Features

Feature	Description
Orchestrated integrations - nested scopes	<p>You can add nested (child) scope actions to a basic scope action. This provides a more sophisticated way of organizing or separating actions into a subsection of the integration.</p> <p>See Manage a Group of Actions and Fault Handlers with a Scope Action of <i>Using Integrations in Oracle Integration</i>.</p>
Oracle E-Business Suite Adapter - Support for Java APIs as invokes (targets) in integrations	<p>The Oracle E-Business Suite Adapter supports Java-based APIs including Java Bean Services and Application Module Services subtypes from Oracle Integration when adding the Oracle E-Business Suite Adapter as invoke (target) connections.</p> <p>In addition to PL/SQL, concurrent program, open interface REST services, Java APIs are now available as REST services for invocation from Oracle Integration.</p> <p>See Oracle E-Business Suite Adapter Capabilities and Invoke Oracle E-Business Suite Java APIs from Oracle Integration in <i>Using the Oracle E-Business Suite Adapter with Oracle Integration</i>.</p>
Oracle Advanced Queuing (AQ) Adapter - New video	<p>See how the Oracle Advanced Queuing (AQ) Adapter supports the trigger connection using the object queue data type in Oracle Integration.</p> <p>See Use the Oracle Advanced Queuing (AQ) Adapter for Object Queue Type.</p>
Canceling long running integration instances	<p>You can cancel an integration instance that is not completing as expected.</p> <p>See Cancel a Running Integration Instance in <i>Using Integrations in Oracle Integration</i>.</p>
Unlocking scheduled integrations	<p>When a schedule is in edit mode and the browser crashes, the schedule becomes locked, which prevents it from being edited. You can unlock an integration schedule to resume editing.</p> <p>See Unlock an Integration Schedule in <i>Using Integrations in Oracle Integration</i>.</p>
Oracle NetSuite Adapter - Token-based authentication	<p>Token-based authentication allows you to generate secure, revocable, and nonexpiring tokens for integration clients to use when connecting to Oracle NetSuite. The end user credentials are never exposed and the password does not expire.</p> <p>See Oracle NetSuite Adapter Capabilities in <i>Using the Oracle NetSuite Adapter with Oracle Integration</i>.</p>

Feature	Description
Oracle NetSuite Adapter - Custom records	<p>You can perform CRUD operations on custom records in an integration. Custom records are dynamic and customizable building blocks that enable you to create custom fields, lists, and special links with other NetSuite records and transactions.</p> <p>See Oracle NetSuite Adapter Capabilities in <i>Using the Oracle NetSuite Adapter with Oracle Integration</i>.</p>
REST Adapter - Amazon Web Services (AWS) Signature Version 4 support	<p>The REST Adapter can invoke external REST endpoints supporting the Amazon Web Services (AWS) Signature Version 4 authentication type.</p> <p>See Configure the REST Adapter to Consume an Amazon Web Services (AWS) REST API in <i>Using the REST Adapter with Oracle Integration</i>.</p>

New Process Features

Feature	Description
Clone processes	<p>As a time saver, you can now clone processes within a process application. On the Processes page in design time, click the new clone icon for a structured or dynamic process, and specify a new name. Cloning copies all design-time metadata for the process. Forms and integrations used in the process are linked to but not cloned, and data associations are retained.</p> <p>See Clone a Structured Process and Clone a Dynamic Process in <i>Using Processes in Oracle Integration</i>.</p>
Forms divider	<p>Use the new divider control to separate your forms into sections or categories.</p> <p>See Configure Divider Controls in <i>Using Processes in Oracle Integration</i>.</p>
Dynamic process service task errors	<p>When a service task fails to execute in runtime, an icon now appears for the service task under Activities. Hover your cursor on the error to see details about the service task failure's cause.</p>

March 2019

New Integration Features

Feature	Description
Migrate to Oracle Cloud Infrastructure	<p>Ready to move your integrations to our most powerful infrastructure platform?</p> <ul style="list-style-type: none"> • See Learn About Migrating to Oracle Cloud Infrastructure in <i>Migrating Oracle Integration Classic Instances to Oracle Cloud Infrastructure</i>. • See Learn About Migrating to Oracle Cloud Infrastructure in <i>Migrating Oracle Integration Cloud Service and Process Cloud Service Instances to Oracle Cloud Infrastructure</i>.

Feature	Description
Connectivity agent high availability	<p>You can use the connectivity agent in high availability environments. You install the connectivity agent twice on different hosts. There are no differences in agent installation. You specify the same agent group identifier during both installations.</p> <p>See Use the Agent in High Availability Environments of Using Integrations in Oracle Integration.</p>
Oracle HCM Cloud Adapter - Support future-dated events for Atom feeds	<p>The Oracle HCM Cloud Adapter now supports the new approach to future-dated entries in Oracle HCM Cloud and also enables you to choose how you want to handle future-dated entries when consuming ATOM feeds from Oracle HCM Cloud.</p> <p>See Oracle HCM Cloud Adapter Capabilities of Using the Oracle HCM Cloud Adapter with Oracle Integration.</p>
Oracle Advanced Queuing (AQ) Adapter - New video	<p>The Oracle Advanced Queuing (AQ) Adapter supports the trigger connection using the raw queue data type in Oracle Integration.</p> <p>See Use the Oracle Advanced Queuing Adapter for Business Event System.</p>

New Process Features

Feature	Description
Migrate to Oracle Cloud Infrastructure	<p>Ready to move your processes to our most powerful infrastructure platform?</p> <ul style="list-style-type: none"> • See Learn About Migrating to Oracle Cloud Infrastructure in Migrating Oracle Integration Classic Instances to Oracle Cloud Infrastructure. • See Learn About Migrating to Oracle Cloud Infrastructure in Migrating Oracle Integration Cloud Service and Process Cloud Service Instances to Oracle Cloud Infrastructure.
Oracle Process Mobile 6.1 available	<p>The Oracle Process Mobile app has been certified and released for both iOS and Android. Users can download it from the Apple Store and Google Play. The app works for both Oracle Process Cloud Service and Oracle Integration flows (both autonomous and classic).</p> <p>Follow these tips:</p> <ul style="list-style-type: none"> • Uninstall any previous versions of the app before installing the new version. • Install version 6.1. Avoid installing an older version with the same name but an older version number.
New videos	<p>New to Process and want to learn more? See About Process in Oracle Integration.</p> <p>See how you can invoke processes from integrations:</p> <ul style="list-style-type: none"> • See Invoke a Process from an Integration: Build a Process. • See Invoke a Process from an Integration: Build and Track an Integration.
Array manipulations in web forms	<p>You can use the new array manipulation actions to perform various operations on arrays (such as set, insert, append, clean, and delete) when an event occurs.</p> <p>See Work with Presentations in Using Processes in Oracle Integration.</p>

New Visual Builder Features

Feature	Description
Support for Progressive Web Application	You can now enable the mobile applications that you create in Visual Builder as Progressive Web Apps. Among other benefits, this allows you to distribute your application through a URL for users to access.
Take Photo action	The Take Photo action has been enhanced so that, in addition to mobile applications, you can use it in web and Progressive Web Apps that you create in Visual Builder. The runtime behavior depends on the type of application that you use the action in.
Open URL action replaces Navigate to External action	A new action, Open URL, replaces the deprecated Navigate to External action. Using the Open URL action, you can choose where to open the URL: <ul style="list-style-type: none">• From a web application, in a new or existing browser tab• From a mobile application, in the native browser, such as Safari on iOS, in app browser, or the current web view
New Navigation Drawer template for mobile apps	For mobile applications, Visual Builder now provides a new navigation option that you can implement when you select the Vertical navigation style when creating a new mobile application.
Improvements to staging and publishing using DevCS	The workflow for staging and publishing using the Developer Cloud Service pipeline has been improved.
Improved support for the Component Exchange	You can now use the Component Exchange component catalog to add reusable components published by Oracle to your application. In the Component Exchange, you can now see all available versions of a component in addition to the latest one, and choose the version you want to install.

Feature	Description
Improvements to the Page Designer	<p>The following improvements and features were added to the Page Designer:</p> <ul style="list-style-type: none"> • You can now select multiple components in the canvas and in the Page Structure view. On the canvas, you select multiple components by holding the Shift key while clicking on the components. In Page Structure View, you select multiple components by holding the Ctrl/Cmd key while clicking on nodes of the tree. <p>When multiple components are selected, they can be moved together to a different place on the same page, and actions invoked in the popup menu are applied to all the selected items. When the Delete action is selected, all the selected components are removed. The Surround actions make the chosen option the common parent of the selected components, for example, two selected adjacent components can be surrounded with one <code>oj-bind-if</code>. Selecting the Parent submenu in the popup menu will show all the common parents of the selected components.</p> <ul style="list-style-type: none"> • The Page Structure view has been redesigned and the following functions added: <ul style="list-style-type: none"> – An options dropdown menu was added – Tooltips on nodes now show all details, including IDs, classes and content hints even when these details are hidden in the tree – A new popup was added showing the slots on nodes of components which have slots – Special wrapping <code>div</code> elements used for sizing inside grid container are now displayed as Cell and Gap elements • The Variables drop-down in the Property Inspector now includes a Create Variable action for all scopes to allow direct creation of a new variable to bind to the property. • The <code>oj-tab-bar</code> component now preserves the selected tab while the page is refreshing in canvas.
Changes to Security settings	<p>The following changes were made to how security settings are configured:</p> <ul style="list-style-type: none"> • Anonymous access is now set at the level of the artifacts (web, mobile, service connections, business objects) instead of the visual application. The Allow Anonymous Access checkbox in the visual application's Settings editor has been removed. • A Business Objects tab has been added to the visual application's Settings editor, and the Security tab has been removed. The tab contains security settings for business objects, the URLs for the Catalog APIs and the tool for getting an access token.

Feature	Description
Improvements to Application Wizard	The design of the New Application wizard has been updated.
Improvements to business rules editor	A new tab was added to the Editor's palette for object functions that shows the parameters of the current object function. This list of parameters updates automatically when you edit the function's parameters using the business rules Property Inspector.
Support for secure static headers for web services	You can now define secure static headers at the server level. The header value is encrypted and stored by the vb proxy, and the vb proxy will apply the secure header when a request is made by the service. Warning messages are shown if the service connection is not using the vb proxy.
Improvements to Audits	You can now select individual issues and use the menu in the Audits pane to execute all tasks related to the selected issue, including fixing the issue.
Improvements to translations	When downloading translation files, the downloaded file is now fully ARB-compliant.
Improved support for Excel Add-in	The UI for the REST console has been improved.
Changes to relationships between business objects	<p>The way relationships between business objects are modeled in the <code>entity.json</code> has been modified to improve scalability. The <code>entity.json</code> of both business objects in a relationship now contain some details of the relationship. This enables the existence of all relationships for a given business object to be known without loading the whole data model.</p> <p>The following changes were made to the UI for relationships:</p> <ul style="list-style-type: none"> • In the Overview tab, incoming relationships (for example, 1:M) are shown as a dotted line until clicked, at which point the full details from the owning business object are loaded to enable the cardinality and required status to be determined. • In the Relationship Editor, the optional Accessor name fields that only appeared in Edit mode has been replaced with mandatory relationship name fields in both Edit and Create. Using the name as an accessor is optional, and you can enable and disable the option. • Many-to-many relationships are no longer derived from the existence of the two many-to-one relationships, but are persisted in <code>entity.json</code>. If a many-to-many is needed and the intersection business object already exists, this can be selected in a dropdown list in the Create Relationship dialog.
Optimized mobile template size	The Debug and the Release versions of the iOS and Android templates have been optimized to reduce their size.

February 2019

New Integration Features

Feature	Description
Oracle Advanced Queuing (AQ) Adapter - New video	See how the Oracle Advanced Queuing (AQ) Adapter supports both trigger and invoke connections using the Business Event System in Oracle Integration. See <i>Use the Oracle Advanced Queuing Adapter for Business Event System</i>.
Oracle Talent Acquisition Cloud (Taleo EE) Adapter - New adapter	Use the Oracle Talent Acquisition Cloud (Taleo EE) Adapter to asynchronously import data in bulk into Oracle Talent Acquisition Cloud (Taleo EE) (formerly known as Taleo Enterprise Edition) from other applications. You can also import attachments when you use the Oracle Talent Acquisition Cloud (Taleo EE) Adapter to import data from an external application into Oracle Talent Acquisition Cloud (Taleo EE). The Oracle Talent Acquisition Cloud (Taleo EE) Adapter is supported only as an invoke in an integration flow; adding it as a trigger is not supported. See Oracle Oracle Talent Acquisition Cloud (Taleo EE) Adapter Capabilities of <i>Using the Oracle Talent Acquisition Cloud (Taleo EE) Adapter with Oracle Integration</i>.

New Process Features

Feature	Description
Saving web form data	You can capture form data at multiple points in a process, and store it in a database or file system for archiving or auditing purposes. For example, you might capture a form snapshot after an end user submits a form and then again after a manager approves the form. See <i>Save Web Form Data</i> in <i>Using Processes in Oracle Integration</i>.
If-Then-Else decisions	You can now introduce additional test statements (Else If statements) in If-Then-Else decisions. See <i>Create If-Then-Else Statements</i> in <i>Using Processes in Oracle Integration</i>.
Set analytics retention	You can set the number of days to retain completed analytics before automatic purging. The default number of retention days is 7. Because increasing retention days increases database consumption, you'll need to balance your organization's retention needs with database capacity. Specify the retention setting in runtime administration. See <i>Schedule Analytics Archive and Purge</i> in <i>Using Processes in Oracle Integration</i>.
Array filtering in structured processes	In the Data Association editor of a structured process or transformation, you can selectively filter elements from a source array object and assign them to a target array. See <i>Filter Array Data Objects</i> in <i>Using Processes in Oracle Integration</i>.

Feature	Description
Decision FEEL loops	You can now create a Loop decision to iterate over lists or arrays. This decision type supports For, Every, and Some loops. See <i>Create Loops in Using Processes in Oracle Integration</i> .
Decision modeling best practices	We've added guidelines to make decision models easy to develop, maintain, and interpret. These best practices use a simple vacation days decision calculation as an example. See <i>Best Practices for Modeling Decision Logic in Using Processes in Oracle Integration</i> .
IMPORTANT: Set instances purge retention	Here's a reminder to set the number of days to retain completed process instances before they get purged. (Purged instances cannot be recovered.) The default number of retention days is 7. Because increasing retention days increases database consumption, you'll need to balance your organization's retention needs with database capacity. Specify the retention setting in runtime administration. See <i>Schedule Instances Archive and Purge in Using Processes in Oracle Integration</i> .

January 2019

New Common Features

Feature	Description
Streamlined product name	For simplicity, we've shortened our name from Oracle Integration Cloud to Oracle Integration . Our user-managed version is now called Oracle Integration Classic . This change has no impact on functionality.

New Integration Features

Feature	Description
Errors are displayed for rejected messages in trigger connections	Inbound rejected messages are tracked. These are messages that are too large and are rejected by the inbound adapters. The audit trail page shows the trigger connection in red when a rejected message is encountered.

New Process Features

Feature	Description
Use base64 images in forms	You can now upload images encoded in base64 format to forms. See <i>Upload and Preview a Base64 Image in Using Processes in Oracle Integration</i> .

December 2018

New Common Features

Feature	Description
Change the BYOL Metering Option of an Existing Instance	<p>You can change the BYOL metering option of an already existing instance, as necessary. This feature is useful for the following scenarios:</p> <ul style="list-style-type: none">• You selected the wrong option when creating a new Oracle Integration instance and need to change it.• You need to shift the location of an on-premises license in the cloud. For example, you need to move the license from one Oracle Integration instance to another or even to a different type of cloud service instance such as Oracle SOA Cloud Service. <p>See Change the BYOL Metering Option of an Existing Instance in <i>Administering Oracle Integration</i>.</p>

New Integration Features

Feature	Description
E-mail notification addresses	<p>You can send an e-mail notification from an e-mail address of your choice.</p> <p>See Send Notification Emails During Stages of the Integration with a Notification Action and Send Service Failure Alerts, System Status Reports, and Integration Error Reports by Notification Emails in <i>Using Integrations in Oracle Integration</i>.</p>
Oracle Field Service Adapter - filter expression support	<p>Support is provided for entering filter expressions when subscribing to events in the Adapter Endpoint Configuration Wizard. You enter the filter expression to apply to the operation. Only events matching this filter are added to the event subscription.</p> <p>See Trigger Events Filter Selection Page in <i>Using the Oracle Field Service Adapter with Oracle Integration</i>.</p>
Improved icons	Icons have been improved in the Integrations canvas.
REST API enhancement	Pagination with a limit and offset in integrations, connections, and lookups is supported.

New Process Features

Feature	Description
New dynamic process Integration activity	<p>Easily insert and configure integration activities in dynamic processes using the new Integration activity. Add an activity, select Integrations, and choose an integration that has been activated and set to visible. Configure its use as needed.</p> <p>See <i>Create Activities and Define General Properties for an Activity in Using Processes in Oracle Integration</i>.</p>
Improved web forms expression editor	<p>We've streamlined the user experience to make it easier to build expressions in web forms. As you add actions, conditions, and connectors, and filters, use the collapse icons to see summaries and the expand icons to view and edit details.</p> <p>See <i>Add Dynamic Behaviors to a Form in Using Processes in Oracle Integration</i>.</p>
Drive dynamic behavior in web form screenflow	<p>Use dynamic data, such as values entered in controls, payload data, or data from connectors to trigger the Change Presentation action.</p> <p>See <i>Change Form Presentations Dynamically in Using Processes in Oracle Integration</i>.</p>
New performance management QuickStart App added	<p>We're adding more ready-to-activate QuickStart Apps you can use as is or adapt as needed. The new Performance Management app manages the performance management cycle for managers who review employee performance within an organization.</p>
New simple forms editor	<p>Ready to create a form in seconds? Select Use Simple Editor when creating the form, then use the simple intuitive interface to quickly build your form. If at any time you need options available only in the full form editor, click the Use Full Editor button to upgrade the form to full editor mode.</p> <p>See <i>Use the Simple Editor in Using Processes in Oracle Integration</i>.</p>
Streamlined process application and decision model creation	<p>Creating process applications and decision models is now faster and more intuitive. Click Processes on the Oracle Integration Home page. Process application and decision models now have separate links in the navigation pane. Click either link to see its new streamlined list, then Create to try out creating applications or models.</p> <p>See <i>Quick Tour of the Processes Page in Using Processes in Oracle Integration</i>.</p>
Robotic process automation adapter for UiPath	<p>You can now use robotic process automation (RPA) tools in your structured and dynamic processes to extend process automation. Use the new UiPath Integrations adapter to automate repetitive human tasks and integrate with applications that do not offer APIs or for which there is no adapter.</p> <p>See <i>Integrate with Robotic Process Automation Tools in Using Processes in Oracle Integration</i> and <i>Understand the UiPath Robotic Process Automation Adapter in Using the UiPath Robotic Process Automation Adapter with Oracle Integration</i>.</p>

Feature	Description
Expanded Process task view for authorized users	<p>We've provided the Process Owner and Process Reviewer roles better visibility into the task history of process instances. Users assigned these special roles see a task history dropdown field with two options:</p> <ul style="list-style-type: none"> • Task View (default) shows the current task's history. • Full View shows history for all tasks executed in the process so far. <p>The assigned role determines the task details available:</p> <ul style="list-style-type: none"> • Process Owners see tasks for processes they own by selecting Administered by Me under My Tasks. They can see task details of all tasks (current and completed) in the process. • Process Reviewers see tasks for processes they review by selecting Reviewed By Me under My Tasks. Process Reviewers can see task details for current tasks; they see completed tasks but without details. <p>See Assign and Manage Roles in <i>Using Processes in Oracle Integration</i>.</p>
Dynamic process iFrame support	<p>We've made dynamic process components available for iFrame integration using embeddable components. For example, you can now embed case details, dynamic process instance lists, and milestone and activity lists.</p> <p>See Experiment with Process UI Components in <i>Using Processes in Oracle Integration</i>.</p>
Timezone support on forms	<p>The Date Time control has been enhanced to adjust to users' timezones. When a user enters data into a Date Time control, the timezone information of the user is saved in UTC format. When other users access this data, the date-time information is displayed in timezones specific to them.</p> <p>See Configure Date and Time Fields in <i>Using Processes in Oracle Integration</i>.</p>
Business object updates (WSDL)	<p>You can now update external business objects being used in a process application by uploading a new WSDL file. (Updates for XSD and JSON files were also recently added.) A warning is displayed if incompatible definitions are found.</p> <p>See Work with Web Service Definition Files in <i>Using Processes in Oracle Integration</i>.</p>

New Visual Builder Features

Feature	Description
Upgrade to Oracle JET 6.0	The Visual Builder generated applications now use Oracle JET 6.0 libraries and components.

Feature	Description
Improvements to the Page Designer	<p>The following improvements were made to the Page Designer for visual applications:</p> <ul style="list-style-type: none"> • iPad added as device option in the Page Designer for mobile apps • Quick Starts now generate ojAction events instead of click events for buttons • The Settings editor for a shell page now contains a Default Flow setting to be used when nested flows are embedded in the page using the Flow Container component (oj-vb-content) • Pages in design-time are now automatically refreshed when navigating to them to update data changed in a different page (for example, when saving data in Live mode in one tab that affects the data displayed in another tab.) • Empty container-like components on the canvas are now highlighted to indicate the area they occupy (rendered border) and their name (gray label). This applies to the Form Layout, Grid/Flex/Bar Containers and Rows, and Toolbar and Masonry components. • Support for drop handling for flex in mobile page templates was improved. • Improved drop support for oj-form-layout means that any component can be dropped into a form layout, and form layouts can also be nested. A component can be paired with the oj-label that precedes it in the source code, so components without a label-hint attribute set can have their label in the form. • A Flow Container component was added to represent the oj-vb-content element. The component can be used in the page to embed a nested flow's page.
Improvements to Quick Starts	<p>The following improvements were made to Quick Starts:</p> <ul style="list-style-type: none"> • The Bind Data step of Quick Starts for List View, Table and Create/Edit/Detail pages now includes component selection dropdown for all the selected fields. • Quick Starts now generate ojAction events for buttons instead of previously generated click events • Updated default label position attribute (label-edge) in forms generated by Quick Starts for web and mobile apps.
Improvements to Action Chain editor	<p>The following improvements were made to support for working with actions in the Action Chain editor:</p> <ul style="list-style-type: none"> • When adding a Call Component Method action, the component id input is now populated with a list of ids from the page. Upon selection, the component method input is also populated with the methods that are valid for the selected component. • When adding a Call REST Endpoint action, placeholders are now shown for the failure outcome in addition to the success outcome.
Added support for nested flows	<p>Visual Builder now supports nested flows, and the following features were added:</p> <ul style="list-style-type: none"> • The Settings editor for pages now contains a Default Flow setting that is used when a nested flow is embedded in the page using the Flow Container component. • Nested flows can be created in the flows folder under any flow.
Added support for iPad deployment for mobile apps	iPad was added as a deployment target option when building mobile apps.

Feature	Description
Support for Integrations	A new tab for setting the Oracle Integration server URL and authentication was added in the application's Settings editor. An Oracle Integration service catalog was added that lists REST integrations defined in Oracle Integration, and you can now use the service connection wizard to select integrations from the catalog and add them to your application.
Improved support for installing components	The following improvements were made to support adding components: <ul style="list-style-type: none"> • A mechanism was added for updating components installed from Component Exchange. • When opening an application, the Component Exchange is automatically checked for new versions of installed components, and a message is displayed when updates are available. • The window displaying Component Exchange items now contains individual Browse, Installed and Updates tabs. The Updates tab lists the new versions of components when they are available and can be used to update components.
Improvements in the Property Inspector	The following improvements were made to the Property Inspector for visual applications: <ul style="list-style-type: none"> • An Array type customizer in the All tab for array types can be used to create and manage the array items. • A Slots customizer in the General tab and in Page Structure view now lists the component's slots in a logical order. <ul style="list-style-type: none"> – default slot first, contextMenu slot last, the other slots in between – startIcon, endIcon slots (for example, for button components) – start, middle, end slots (for example, for a bar layout component) • For components inside For Each, the <code>\$current</code> and the <code>As</code> alias are now available in the mapper/expression editor opened from Property Inspector. • The names of action chains created from the Events tab now have "Chain" appended to the name (for example, <code>ButtonActionChain</code>).
Improvements to Event Listeners	The mapper for custom events and variable change listeners now displays <code>\$event</code> in the sources. Notification messages are now displayed when an event listener refers to an action chain that does not exist, calls an action chain without mapping required parameters and calls an action chain with unrecognized parameters.
New notifications for variables and types	Notifications were added to indicate invalid or missing details for variables and types: <ul style="list-style-type: none"> • Type is not defined as a valid object or array • Type references another type that doesn't exist • Type references an invalid type • Variables: Default value is invalid • Variables: SDP: No endpoint defined • Variables: MSDP: No SDPs specified
Settings window now opens in tab	The application's Settings are now displayed in an editor tab in the designer instead of a modal window.
Support for child business objects in business rules editor	The custom code editor for business rules now contains the option to select a template with code for working with child business objects.
Added support for Visual Builder Add-in for Excel plugin	The Oracle Visual Builder Add-in for Excel is a plug-in for Microsoft Excel that allows Excel users to edit business data available from Oracle REST services.

Feature	Description
Support for vanity URLs	You can now specify a vanity URL for an application in the Application tab of the visual application's Settings editor.

November 2018

New Integration Features

Feature	Description
Oracle HCM Cloud Adapter, Oracle Engagement Cloud Adapter, and Oracle ERP Cloud Adapter - Parent and child business resource support	<p>When configuring the adapter as an invoke connection, you can select parent business resources and their corresponding child business resources.</p> <p>See Oracle ERP Cloud Adapter Capabilities in <i>Using the Oracle ERP Cloud Adapter with Oracle Integration</i>, Oracle HCM Cloud Adapter Capabilities in <i>Using the Oracle HCM Cloud Adapter with Oracle Integration</i>, and Oracle Sales Cloud Adapter Capabilities in <i>Using the Oracle Engagement Cloud Adapter with Oracle Integration</i>.</p>
IBM DB2 Adapter and MySQL Adapter - Table operation enhancements	<p>Support is provided for performing operations on a table: insert, update, insert or update (merge), and select.</p> <p>See Oracle DB2 Adapter Capabilities in <i>Using the IBM DB2 Adapter with Oracle Integration</i> and MySQL Adapter Capabilities in <i>Using the MySQL Adapter with Oracle Integration</i>.</p>
Oracle WebLogic JMS Adapter - Schema archive upload support	<p>The upload of a schema archive is supported. A schema archive can have a single top level schema with nested imports and includes that contain absolute or relative paths.</p> <p>See JMS Adapter Capabilities in <i>Using the Oracle WebLogic JMS Adapter with Oracle Integration</i>.</p>
Oracle Advanced Queuing (AQ) Adapter raw and object support	<p>Raw and object queues are supported.</p> <p>See Oracle Advanced Queuing (AQ) Adapter Capabilities in <i>Using the Oracle Advanced Queuing (AQ) Adapter with Oracle Integration</i>.</p>
Oracle HCM Cloud Adapter, Oracle Engagement Cloud Adapter, and Oracle ERP Cloud Adapter - dynamic endpoint invocation support	<p>You can dynamically invoke a REST endpoint/URL at runtime without requiring you to configure any extra invoke connection or REST outbound details.</p> <p>See Oracle ERP Cloud Adapter Capabilities in <i>Using the Oracle ERP Cloud Adapter with Oracle Integration</i>, Oracle HCM Cloud Adapter Capabilities in <i>Using the Oracle HCM Cloud Adapter with Oracle Integration</i>, and Oracle Sales Cloud Adapter Capabilities in <i>Using the Oracle Engagement Cloud Adapter with Oracle Integration</i>.</p>

New Process Features

Feature	Description
Forms	<p>We've added the following enhancements to the forms editor:</p> <ul style="list-style-type: none">• Presentation customizer: You now have the option of customizing presentations in addition to cloning them. Customizing creates a new presentation whose controls are linked to the base presentation, and you choose which controls are visible. See <i>Work with Presentations in Using Processes in Oracle Integration</i>.• Post connectors in events: You can now initiate a POST operation while executing REST connector calls in form events and set the request-body data for the operation. See <i>Execute REST Connector Calls in Events in Using Processes in Oracle Integration</i>.• Matches function: This new function checks if two strings or expressions match and returns a Boolean value. See <i>Specify Functions in Using Processes in Oracle Integration</i>.• Global error handling: When configuring global connectors, select the new Ignore connector error option to ensure that even though error handler messages appear in controls, all other events execute normally when a form loads. See <i>Global Connectors in Work with Presentations in Using Processes in Oracle Integration</i>.• Train component PDF support: You can now print forms that contain train component controls. Note that only the selected step is printed. See <i>Configure Advanced Controls in Using Processes in Oracle Integration</i>.
Append to an array	<p>Use the new Append action in the data association editor to add elements to a target array. See <i>Append to Array in Using Processes in Oracle Integration</i>.</p>
Data mapping default value	<p>While mapping data within structured processes, you can now specify a fallback (default) value in addition to a data source argument. See <i>Get or Else functions in Work with Expressions in Using Processes in Oracle Integration</i>.</p>
Multiple output decision tables	<p>You can now create decision tables with more than one output variable. See <i>Define Decision Table Output in Using Processes in Oracle Integration</i>.</p>

Feature	Description
Business object updates (XSD and JSON)	<p>As part of iterative design, you can now update external business objects already being used in a process application by uploading a new XSD or JSON file. A warning is displayed if incompatible definitions are found.</p> <p>See Upload a New Version of a XML Schema File in Using Processes in Oracle Integration.</p>
Dynamic processes	<p>REST API options for retrieving dynamic process resources were added. These endpoints are useful for calling dynamic processes from Visual Builder.</p> <p>See the What's New topic under Get Started in Oracle Integration REST API.</p> <p>Note that by selecting Form as input to a dynamic process, you can now use either a form or REST service to start a process. See Define Process Input and Output in Using Processes in Oracle Integration.</p>

October 2018

New Common Features

Feature	Description
Oracle Integration - Export design-time metadata support	<p>Support is provided for exporting Oracle Integration design-time metadata from a user-managed environment to an autonomous environment. You can also export an Oracle Integration instance running in one autonomous environment to another autonomous environment.</p> <p>See Move Assets Between Environments in Administering Oracle Integration.</p>

New Integration Features

Feature	Description
SOAP Adapter - Dynamic endpoint discovery support	<p>Supports is provided for the dynamic discovery of endpoints. This is useful for scenarios in which the endpoint invoked by the SOAP Adapter must be dynamically configured based on runtime logic.</p> <p>See SOAP Adapter Capabilities in Using the SOAP Adapter with Oracle Integration</p>

Feature	Description
Oracle E-Business Suite Adapter - Support for open interface tables and views as invokes (targets) in integrations.	The Oracle E-Business Suite Adapter supports outbound integrations with open interface tables and views from Oracle Integration when adding the Oracle E-Business Suite Adapter as invoke (target) connections. In addition to PL/SQL and concurrent program REST services, open interface tables and views are now available as REST services for invocation from Oracle Integration. See <i>Using the Oracle E-Business Suite Adapter</i> .
REST API enhancement	You can change the connection in an integration using the REST API.

New Process Features

Feature	Description
Upgrade process applications	Use an automated tool to move process applications from Oracle Process Cloud Service or another Oracle Integration instance to Oracle Integration. If you prefer, you can import and upgrade process applications individually. See Import Process Assets to Oracle Integration in <i>Administering Oracle Integration</i> .
Forms enhancements	We've added the following enhancements to the forms editor: <ul style="list-style-type: none"> • Assign names to events: You can now assign names to events in events options. This helps you easily identify multiple events configured for a control or presentation. See Configure Events in <i>Using Processes in Oracle Integration</i>. • Labels on repeatable sections: You can now assign labels to repeatable sections. See Configure Repeatable Sections in <i>Using Processes in Oracle Integration</i>. • Events enhancements: We now support relational operations within events. We've also added new logical functions. See Specify Functions in <i>Using Processes in Oracle Integration</i>.
Integration updates	Easily keep integrations in process applications up-to-date. On the Integrations view, icons identify integrations that have been deactivated or deleted, or active ones whose definitions have changed. Choose the update option that works for your process application. See Update Integrations in <i>Using Processes in Oracle Integration</i> .
Embeddable components	We've added new information on integrating Process snippets such as forms or task lists into other environments such as ERP, CX, or HCM applications. See Best Practices for Embedding Process UI Components in <i>Using Processes in Oracle Integration</i> .

New Visual Builder Features

Feature	Description
Upgrade to Oracle JET 5.2	The Visual Builder generated applications now use Oracle JET 5.2 libraries and components.
Improvements to the Page Designer	<p>The following improvements were made to the Page Designer for visual applications:</p> <ul style="list-style-type: none">• HTML serialization has been improved to minimize escape characters in attribute values:<ul style="list-style-type: none">– Single quotes (') are used to delimit an attribute value if the value contains more double quotes (") than single quotes– The symbols "greater than" (>) and "lesser than" (<) are not escaped in attribute values– Ampersands (&) in attribute values are not escaped when they are immediately followed by a white-space character or another ampersand• The Delete button for components in the Property Inspector was removed. You now delete components using the Delete item in the context menu at the top of the Property Inspector.• The All tab in the Property Inspector now displays an indicator when a property has a sub-property where values have been set.• The Property Inspector header now contains a Back button with the parent component name in some cases<ul style="list-style-type: none">– Components in named slots of parents - e.g. "< Button Icon" for an icon in a slot of a button– Components that declare a link to one of its ancestor tags - e.g. "< List View Swipe Tile" where swipe action tile is in a swipe actions element inside a list view's template element• The Property Inspector now provides improved support for CCA component metadata:<ul style="list-style-type: none">– Create General and Data tabs for properties marked in their component.json with propertyGroup 'common' or 'data'– When marked with 'format', the following properties will have more specialized customizers created in the Property Inspector: date, time, datetime, color.– Events marked as 'common' will appear in event Quick Starts, and as 'suggested' events in the Create Event UI• A tool for uploading images and accessing an image gallery was added to the Data tab for image components in the Property Inspector.• The List View in the Property Inspector now contains a customizer for Swipe Actions.• The HTML code editor now supports Oracle JET 5.1 elements. Insight shows element and attribute documentation. Insight also helps with attribute enumeration values and binding variables.

Feature	Description
Improvements to Quick Starts	<p>The following improvements were made to Quick Starts:</p> <ul style="list-style-type: none"> • Variables created by Quick Starts now use a shorter "SDP" suffix instead of the previously long "ServiceDataProvider" • Types are now created by Quick Starts into the page scope instead of the flow scope • Add Data to List Quick Start now generates components into slots of oj-vb-list-item row CCA (instead of binding fields to attributes of the CCA). • The Select Endpoint step of Quick Starts now contains an updated Endpoint picker. The panel shows the simplified view by default and contains an option to switch to the detailed view. • The Bind Data step of Quick Starts has been updated to have an Endpoint Structure view where you can drag and drop fields to select them. The step contains an area for adding fields that are included in the data but not rendered in the page. • For mobile apps, the Edit Page and Delete Action Quick Starts now generate the appropriate action in List View as a swipe action. • A Quick Start Create Static List of Options was added for generating combobox, select and radio buttons components
Improvements to Action Chain editor	<p>The following improvements were made to the Action Chain editors:</p> <ul style="list-style-type: none"> • Actions that are not fully configured will show a warning symbol. A tooltip will indicate the missing configuration. • Clicking placeholder node will open a menu with options for adding an action. • Action chains can be renamed in the Property Inspector • Flow input parameters can be specified for navigateToPage events that changeFlow. • A text field for filtering actions was added to the Actions palette.
Improvements to the Artifact Browser	<p>You can now import single files and zip archives by dragging them from your local system directly onto folders in the Artifact Browser. The Import Resources dialog box opens when you add the file.</p>
Improved support for variables and types	<p>The following improvements were made to the support for variables and types:</p> <ul style="list-style-type: none"> • You can now create Multi Service Data Provider (MSDP) variables. • Types can be promoted to a wider scope, allowing them to be reused and reducing the number of duplicated type definitions across pages. • Unsupported attributes of ADP/SDP/MSDP have been removed. • The event listener tab for variables has been simplified • Add field is exposed consistently for types

Feature	Description
Improved support for connecting to services	<p>The following improvements were made to the connecting to services:</p> <ul style="list-style-type: none"> In the Services tab of the application's Settings dialog box, a button was added for testing the connection to the catalog URL using the authentication credentials. Problems connecting to the URL are displayed in the dialog box. In the Authentication tab of the Services editor, the "Allow anonymous access" option replaces "Use different authentication for a logged in user". The upper authentication option is for the logged in user and the lower authentication option is for anonymous users. The Source tab for displaying the Swagger now contains the property "anonymousAuthentication" and the property "diffAuth" is no longer used. In the Authentication tab of the Services editor, "Propagate Current User Identity" was added as an authentication mechanism. This is the preferred option for propagating identity from web or mobile apps to service connections. In order to use the new Implicit Flow authentication at the web app level or "Basic" authentication at the mobile app level, the authentication mechanism for service connections needs to be set to "Propagate Current User Identity". <p>In previous releases, mobile apps that were set with "Basic" at the app level could use "Direct" as an authentication mechanism to propagate identity to services. With this release this combination will no longer propagate identity. Instead of using "Direct", the authentication mechanism for these service connections will be automatically changed to "Propagate Current User Identity" when the visual application is reopened. You are strongly advised to review the service connections for mobile apps that use identity propagation. You must also restage/republish these apps for the new changed settings to take effect and to consume any security related fixes, which is recommended.</p> In the Authentication tab of the Services editor, a new authentication type "Same as Authenticated User" is available when the Allow Anonymous Access option is selected. When "Same as Authenticated User" is selected, the anonymous user will inherit the user credentials from the logged in user (the credentials selected in the Authentication Mechanism dropdown list). Developers can now test service endpoints as an anonymous user by selecting As Anonymous User in the Test tab of a service endpoint. This feature can be use when the Allow Anonymous Access option is selected in the service's Authentication tab and an anonymous authentication mechanism is selected in the dropdown list. In the Endpoints tab of the Services editor, a button was added that enables you to replace the service definitions of all selected endpoints with the latest updated definitions from the service. The Replace Definitions button is available when the registered service connection is registered via the Catalog (Fusion Applications) or a service specification document ("ADF Describe"). The button opens the service wizard and you are prompted to verify the definitions that will be replaced.

Feature	Description
Improved support for business objects	<p>The following changes were made to the business object editors:</p> <ul style="list-style-type: none"> In the business object Diagrammer, the context menu now contains a Find command (cmd+f or ctrl+f) for locating a business object in the Diagrammer. In the Business Objects panel of the Artifact Browser you can open the contextual menu of a business object and select Find in Diagram to locate the business object in the Diagrammer. In the Endpoints tab of the business object editor, you can now click an endpoint to view the endpoint's details in the editor. The editor is read-only, but you can use the Test tab to send requests and see the responses with specified parameter values.
Changes to build settings for mobile apps	<p>The following changes were made to the configuration for mobile app build settings:</p> <ul style="list-style-type: none"> The Build Profiles tab was renamed to Build Configurations. For each platform, you can now individually specify the default build configuration that is used for staging and for publishing. The option was added to force the built app to run in portrait mode.
Permission strings for iOS mobile apps	You can now provide custom permission strings to replace the strings provided by Oracle Visual Builder for the mobile apps it builds for iOS.
Updated application templates	Web and mobile application templates have been updated to use oj-messages, which provides a more modern UI as well as support for additional display options. New applications will automatically be created using the new templates. Existing apps would need to be manually migrated to use oj-messages.
Improvements to security settings	<p>The following changes were made to the security configuration settings:</p> <ul style="list-style-type: none"> Instance administrators can now use a Certificates page to upload and manage certificates, including self-signed certificates. User identity is now propagated to other co-located services without any explicit login when "Oracle Cloud Account" authentication is used. Added support for OAuth2 implicit grant flow in the web app settings.
Improved support for translations	In the Property Inspector you can now choose the resource bundle to use for storing a translation string.
Improved Git support	Git Tags are no longer used for keeping track of application sources. Commit SHAs are now used instead of tags.

September 2018

New Integration Features

Feature	Description
Timezone support in scheduled integrations	<p>When you create a scheduled integration, you can specify the preferred timezone.</p> <p>See <i>Create a Schedule and View Future Runs in Using Integrations in Oracle Integration</i>.</p>

Feature	Description
Monitoring Integrations page enhancements for scheduled integrations	<p>For scheduled integrations on the Monitor Integrations page, navigation links are provided that take you to the Schedule and Future Runs page.</p> <p>See Monitor Integrations in <i>Using Integrations in Oracle Integration</i>.</p>
Oracle Service Cloud (RightNow) Adapter - New name	<p>The Oracle RightNow Adapter has been renamed to the Oracle Service Cloud (RightNow) Adapter.</p> <p>See Oracle Service Cloud (RightNow) Capabilities in <i>Using the Oracle Service Cloud (RightNow) Adapter with Oracle Integration</i>.</p>
Oracle Intelligent Advisor Adapter - New adapter	<p>The Oracle Intelligent Advisor Adapter enables you to send data from any cloud or on-premises application to Oracle Policy Automation for complex decision-making. Use the Oracle Intelligent Advisor Adapter for regulated industries such as public sector, financial services, medical devices, and retail; for human resources decision-making; or for anywhere policy-based decisions must be integrated.</p> <p>See Oracle Policy Automation Adapter Capabilities of <i>Using the Oracle Intelligent Advisor Adapter with Oracle Integration</i></p>
Oracle Talent Cloud for Midsize (Taleo BE) Adapter - New adapter	<p>The Oracle Talent Cloud for Midsize (Taleo BE) Adapter enables you to create an integration in Oracle Integration. The Oracle Talent Cloud for Midsize (Taleo BE) Adapter uses Oracle Talent Cloud for Midsize (Taleo BE) (formerly known as Taleo Business Edition) APIs to provide access to objects and operations such as requisitions, employees, offers, and so on.</p> <p>See Oracle Talent Cloud for Midsize (Taleo BE) Adapter Capabilities in <i>Using the Oracle Talent Cloud for Midsize (Taleo BE) Adapter with Oracle Integration</i>.</p>
Microsoft SQL Server Adapter and Oracle Database Cloud Service Adapter - Table operation enhancements	<p>Support is provided for performing operations on a table: insert, update, insert or update (merge), and select.</p> <p>See Oracle Database Cloud Service Adapter Capabilities in <i>Using the Oracle Database Cloud Service Adapter with Oracle Integration</i> and Microsoft SQL Server Adapter Capabilities in <i>Using the Microsoft SQL Server Adapter with Oracle Integration</i>.</p>
Oracle HCM Cloud Adapter and Oracle ERP Cloud Adapter - File upload to Oracle WebCenter Content	<p>You can upload files to Oracle WebCenter Content (Universal Content Manager) in encrypted or unencrypted format. Oracle WebCenter Content provides a unified repository to store unstructured content, enabling organizations to deliver the content to business users in the proper format.</p> <p>See Oracle ERP Cloud Adapter Capabilities of <i>Using the Oracle ERP Cloud Adapter with Oracle Integration</i> and Oracle HCM Cloud Adapter Capabilities of <i>Using the Oracle HCM Cloud Adapter with Oracle Integration</i>.</p>

New Process Features

Feature	Description
New Service activity in dynamic processes	Use this new activity to invoke an external service, such as an OIC integration or a REST connector, from a dynamic process. See <i>Create Activities in Using Processes in Oracle Integration</i> .
New Train control in forms	Use this new control to sequentially guide users through a multistep web form activity. See <i>Configure Advanced Controls in Using Processes in Oracle Integration</i> .
Print forms	The new Print action lets you print a presentation of a form when an event occurs. See <i>Work with Presentations in Using Processes in Oracle Integration</i> .
Form event enhancements	You can now monitor form logs and test your form with custom payload data. See <i>Preview Forms and Their Payload in Using Processes in Oracle Integration</i> .
Process runtime enhancements	We've added these enhancements to improve process execution: <ul style="list-style-type: none">• Maximum number of loops or activities: To prevent a process executing a very large number of loops or activities as part of a single process instance, the number of direct/indirect loops is restricted to 1000, at which point execution is suspended. This restriction prevents audit data growth and releases system resources.• Repeat failure/exception handling: To ensure that a process instance does not result in repeated exceptions, especially when invoking an external service, we've limited auto-recovery on faulted process instances to two times.

August 2018

New Common Features

Feature	Description
Common logging configuration for Oracle Integration	Administrators can adjust logger levels and download logs for all features in one place by selecting the Settings link in the navigation pane on the main Home page. See <i>Configuring Logging Settings in Administering Oracle Integration</i> .
New learning path	A new learning path showcasing the Integrations and Visual Builder features in a Weather API example is available on the Tutorials page in the Oracle Help Center: <ul style="list-style-type: none">• Rain or Shine, Oracle Integration Has You Covered

Feature	Description
New security, authentication, and authorization for Oracle Integration REST APIs using OAuth	Authentication and authorization in Oracle Integration is managed by Oracle Identity Cloud Service. Oracle Integration REST APIs as well as REST endpoints exposed in integrations are protected using OAuth token-based authentication. See <i>Security, Authentication, and Authorization in REST API for Oracle Integration</i> .
Oracle Integration Service to Oracle Integration export/import	You can export your Oracle Integration Service design-time metadata as an archive and import that archive into Oracle Integration. You do not need to manually configure connection endpoints and passwords and then activate the exported integrations in Oracle Integration. Integration activations occur automatically. See <i>Move Assets Between Environments in Administering Oracle Integration</i> .

New Integration Features

Feature	Description
Oracle Advanced Queuing (AQ) Adapter - Outbound messaging support	Enqueueing of messages in the outbound (invoke) direction is supported. You select the queue destination for outbound messages and configure the message format. You also select to use an existing schema or no schema (message is sent in opaque format). See <i>Oracle Advanced Queuing (AQ) Adapter Capabilities in Using the Oracle Advanced Queuing (AQ) Adapter with Oracle Integration</i> .
REST Adapter - Two-way SSL support	Support is provided for consuming external REST APIs that are protected using transport level security. The REST Adapter supports one-way SSL and two-way SSL. Oracle Integration supports a certificate management user interface to upload public certificates for external APIs that are protected either using lesser known certifying authorities (CA) or self-signed certificates. External REST APIs hosted on a two-way SSL server require client side (Oracle Integration) identity. Oracle Integration provides support for exchanging the client side identity with the server hosting the external API. See <i>Creating an Integration that Consumes External REST APIs Hosted on a Two-Way SSL-Enabled Server of Using the REST Adapter with Oracle Integration</i>
Oracle Database Adapter – SELECT operation support	Performing a SELECT operation against database tables is supported. See <i>Oracle Database Adapter Capabilities in Using the Oracle Database Adapter with Oracle Integration</i> .

Feature	Description
Orchestrated integrations - Inline menu for adding actions	<p>When you hover your cursor over an action/node in an orchestrated integration, a list appears with selections for Commonly Used, Connections, Actions, and Integration Artifacts. Only actions that are allowed to be placed between the two nodes in question are displayed. You can search for an item by typing in the search box. Only matching components appear in the output.</p> <p>See Adding Actions Through an Inline Menu in <i>Using Integrations in Oracle Integration</i>.</p>
Stage file action - Schema creation enhancements	<p>Support is provided for creating schemas from XML, JSON, and ZIP file formats in stage file actions of orchestrated integrations.</p> <p>See Configuring a Stage File Action in <i>Using Integrations in Oracle Integration</i>.</p>
Note action	<p>You can add placeholder notes similar to sticky notes to an orchestrated integration.</p> <p>See Adding Placeholder Notes with a Note Action in <i>Using Integrations in Oracle Integration</i>.</p>
Integration activation - Detection of incomplete functions	<p>If you attempt to activate an integration that includes a function that is not completely configured, an error message is displayed in the banner. You must complete configuration of this function before you can activate the integration.</p> <p>See Activating an Integration in <i>Using Integrations in Oracle Integration</i>.</p>

New Process Features

Feature	Description
Call a dynamic process from a structured process	<p>You can now call a dynamic process from a structured process. From the process editor, drag and drop a Dynamic Process element from the palette's System category, select the dynamic process from the process application to call, and map data input to the dynamic process using data association.</p> <p>See Use a Dynamic Process in a Structured Process in <i>Using Processes in Oracle Integration</i>.</p>
Decision tables	<p>You can now open decision tables and relations in an expanded dialog for easy editing.</p> <p>See Using Decision Tables in <i>Using Processes in Oracle Integration</i>.</p>
REST APIs	<p>REST API options were added or modified. For example, deploy (activate) a process application and return the activated application's version.</p> <p>See the What's New topic under Get Started in Oracle Integration REST API.</p>
My Tasks	<p>Quickly view and access your tasks in a streamlined list right from the Home page. Open additional options only as needed.</p> <p>See Quick Tour of the My Tasks page in <i>Using Processes in Oracle Integration</i>.</p>

Feature	Description
Forms	<p>This release includes several enhancements for web forms:</p> <ul style="list-style-type: none"> • Use the new array Concat function to concatenate array values as needed. For example, use the function to join values from two tables in a single table. See <i>Specifying Functions in Using Processes in Oracle Integration</i>. • For panels in a form, you can add a header and a description to the top of a panel. Also, you can use style themes to format the header. For a section in a form, a new style theme lets you indent sections. See <i>Placing Controls in Panels, Sections, or Tabs and Styling Properties in Using Processes in Oracle Integration</i>.
Process/Decision Modeling lifecycle	<p>We've made enhancements to help you easily sync up your process model decision business objects with their decision model after making changes.</p> <ul style="list-style-type: none"> • Now a decision connector within an application displays an incompatibility error when the data interface is updated for the decision model version associated with it. You can use the Update definition link on the connector to resolve this error. • Similarly, decision connectors display errors if the associated decision snapshot is deactivated or if the decision model is deleted. <p>See <i>Adding Decisions to Applications and Processes in Using Processes in Oracle Integration</i>.</p>
Decision modeling	<p>Easily edit your decision models from within your process application. (No need to close the application and open the decision model.) From the application, select the Decisions component in the navigation pane and click the new Edit option to modify the decision model. To see the decision model snapshot already deployed and used by the application, click the decision component name instead.</p> <p>See <i>Adding Decisions to Applications and Processes in Using Processes in Oracle Integration</i>.</p>
Dynamic Process default values	<p>We've set default values to enable developers to more quickly create and activate a dynamic process. For example, leave defaults selected so you can skip defining roles and assigning them to human tasks until after your dynamic process is up and running.</p> <p>See <i>Learn dynamic processing basics in Using Processes in Oracle Integration</i>.</p>
Dynamic Process inline validation	<p>As you add and configure activities and stages in dynamic processes, get immediate feedback and fix errors inline--right where you are instead of while testing or activating the process application.</p> <p>See <i>Working With Inline Validations in Using Processes in Oracle Integration</i>.</p>
Dynamic Process role management	<p>You can now permanently retain role mappings for application activations. Role mappings for an existing version of an application activated to production are retained even if you choose to overwrite the version during activation.</p> <p>See <i>Creating Process Roles in Using Processes in Oracle Integration</i>.</p>

Feature	Description
QuickStart Apps	<p>We've added new personalization options you can make available to users of your QuickStart Apps:</p> <ul style="list-style-type: none"> • Let users select a different form and associated presentation for a human task activity or a start form event, from those defined in the process. Also, you can let users edit and customize certain form properties. • Let users change activity names in the QuickStart App. • Use the new simple expression editor for certain properties associated with Submit/Approve and Notification tasks. <p>See <i>Decide What Settings Users Can Customize</i> and <i>Customize the QuickStart App</i> in <i>Using Processes in Oracle Integration</i>.</p>

New Integration Insight Features



Applies only to Oracle Integration Classic (user-managed).

Feature	Description
Console purge support	<p>You can now purge metrics and events data for all consoles or an individual console, selecting to purge all data or only data from a specified number of days or weeks.</p> <p>See <i>Working with the Consoles Page</i> and <i>Working with Preconfigured and Custom Dashboards</i>.</p>
New Integration Insight videos	<p>New videos are available on the Videos page on the Oracle Help Center to provide visual instructions for using Integration Insight to complete the tasks required to generate dashboards where you can monitor your business processes:</p> <ul style="list-style-type: none"> • Create a Connection • Create a Model • Define a Milestone • Reinitialize the Unique Identifier • Map a Milestone to an Integration • Define Extraction Criteria for the Unique Identifier
UI and usability enhancements	<p>The Business Transactions dashboard and the Business Transaction Details page have been updated to improve your experience.</p> <p>See <i>Working with the Business Transactions Dashboard</i> and <i>Business Transaction Details</i> in <i>Using Integration Insight in Oracle Integration</i>.</p>
Consolidated documentation in one publication	<p>The Integration Insight documentation that was published in four separate publications is consolidated into a single guide: <i>Using Integration Insight in Oracle Integration</i></p>

Feature	Description
Support for new Integrations actions	<p>You can now map milestones to these Integrations actions:</p> <ul style="list-style-type: none"> • Assign • Error Hospital • Fault Return • Raise Error • Stop <p>See Supported Integrations Features in <i>Using Integration Insight in Oracle Integration</i>.</p>
New custom dashboard chart types	<p>You can now create custom dashboards using the Line and Scatter chart types.</p> <p>See Creating Custom Dashboards in <i>Using Integration Insight in Oracle Integration</i>.</p>
New dashboard filter setting	<p>The Preferences page has been removed, and the setting Use as Default for all Consoles has been moved to the dashboard Filter settings.</p> <p>See Filtering Dashboards in <i>Using Integration Insight in Oracle Integration</i>.</p>

New Visual Builder Features

Feature	Description
Redesigned user interface and application architecture for building visual applications	<p>The application designer now supports creating richer user interfaces by providing access to a broader set of Oracle JET UI components, direct access to the source code of your page, and a more robust visual development environment. The tool now provides greater flexibility for creating custom user interfaces and adding richer behavior. The redesigned application architecture enables easier access to external sources of data, visual definition of business logic flows, and more refined control over the user interface functionality.</p> <p>The Home page for visual applications using the new architecture is now the default for Visual Builder.</p>
Upgrade to Oracle JET 5.1	<p>The Visual Builder generated applications now use Oracle JET 5.1 libraries and components.</p>

Feature	Description
Improvements to the Page Designer	<p>The following features were added to the Page Designer for visual applications:</p> <ul style="list-style-type: none"> • Live and Code toggles replaced with a three-state toggle Live / Design / Code • Device selection dropdown in toolbar of mobile page designer redesigned with separate Landscape / Portrait toggles • Drag and drop support in the canvas is now based on HTML5 • A new Icon component was added to the Component Palette (a span with icon class) • Icon gallery items have been updated to add labels and improve spacing for the various preview sizes. • JET text components now support virtual keyboards so on mobile devices an appropriate keyboard shows up. This has been added to the Property Inspector for appropriate text fields and defaulted correctly by component type. • New components can now be added to the Component Palette from the Component Exchange and added to pages like other components. • The Train (<code>oj-train</code>) and Switcher (<code>oj-switcher</code>) components and Bar Layout Container were added to the Components palette. • The Bar layout container was added as a layout option for pages, and components can be positioned into the Start, Middle and End areas of the container. It is now possible to switch between any of the layout options. • A popup menu for components on the canvas and in the Page Structure view enables you to surround the component with <code>oj-bind-if</code>, <code>oj-bind-for-each</code>, or <code>oj-defer</code> components, or a Flex container. • Masonry Layout and Masonry Tile layout components are now supported. Drop feedback is available for positions between existing tiles, and the size, layout and order of tiles can be configured. • The following components were added to the Components Palette: Masonry Layout, Masonry Tile, Navigation List, Conveyor Belt, Film Strip, Messages, and Password Input field. • The Component Palette now contains a Picker category containing Inline Data Picker, Inline Date Time Picker, Color Palette and Color Spectrum components. • A Quick Start was added in the Events tab for table components to create action chains triggered by first-selected-row events. • The <code>filterCriterion</code> parameter replaces <code>filterCriteria</code> in the Add Data Quick Start.
Improvements in the Page Structure view	<p>The following improvements were made to the Page Structure view for visual applications:</p> <ul style="list-style-type: none"> • Components can now be dragged from the palette into the Page Structure view, from the Page Structure view onto the canvas, and moved within the Page Structure view • The Page Structure view now displays more details about components • In the Page Structure view, slots are visible as nodes that can be drop targets. You can use the Show Slots toggle in the Page Structure to show and hide the nodes. • You can now delete or surround elements using a popup menu in the Page Structure view.


Feature	Description
Improvements to Property Inspector	<p>The following improvements were made to the Property Inspector for visual applications:</p> <ul style="list-style-type: none"> • In the Property Inspector, an icon chooser was added for the following components: menus, tabs, radio buttons, comboboxes, selects and checkboxes • In the Property Inspector, the Slots section of some components now contains a (+) action for adding a new component directly into the slot: <ul style="list-style-type: none"> – Mobile Page Template component - slots Left Side (startControl) and Right Side (endControl) offer Button and Menu – Button component - slots startIcon and endIcon offer Icon and Image – many JET components - contextMenu slot offers Menu • Variable selection popup and expression editor for components in List View and Table components now include <code>\$current</code> object with its attributes. Child component's event mapper in List View now includes <code>\$current</code> object with its attributes, including <code>\$current.key</code>. <code>\$current.key</code> is passed to action chains as key parameter for components inside List View and Table components. List View and Table components now set the single selection mode on selection event quick start, if not set previously. • <code>oj-vb-list-item</code> component (list row CCA) now has a general Property Inspector tab with customizers for its attributes • Datetime, Date and Time field components now have formatting options
Improvements to Quick Starts	<p>The following improvements were made to the Quick Starts in visual applications:</p> <ul style="list-style-type: none"> • pages generated by Quick Starts now include flow name as the prefix of the page name (for example, <code>main-edit-bo1</code>, or <code>item1-edit-bo1</code>). • new icons on Quick Starts tab in Property Inspector • Chart Quick Starts now generate data bindings with the JET 5.1.0 Chart Data Provider • The Field selection step in Quick Starts now includes a filter field to help locate fields in the endpoint structure panel. • Rich-type related metadata from Swagger is taken into account when creating field components in Quick Starts. With the Rich types implemented in business objects, we now generate proper components on our pages and honor the format attribute of the selected fields. Examples of the new fields include email, URL, phone, and percentage. This also includes showing proper icon in the endpoint structure. Numeric fields in business objects get additional hints for minimum, maximum and few others such as scale and precision. Generated components take those hints into account. String fields in business objects get additional hints for <code>minLength</code>, <code>maxLength</code> and <code>pattern</code>. When generated into form pages as a string input component, these should be honored and translated into proper component's attributes and validators. • In the page-related Quick Starts, nested objects for Create/Detail pages implemented by allowing users to select items from inside an array. When finished the page will have an initial single empty item in the array in the record variable and generated UI components will bind to that single item. • In the Edit Page Quick Start, a warning is displayed when a read-only field is selected, and conditional update based on ETag + If-Match has been added into the Edit pages generated by the Quick Start.


Feature	Description
Improvements to Business Rules editor	<p>The following improvements were made to the Business Rules editor:</p> <ul style="list-style-type: none"> • Field-level triggers are now supported, for actions triggered by changes to a field. • The criteria builder now supports reference fields when building conditions. Fields from the references of the references, recursively, are also now supported.
Support for uploading single files	You can now upload individual files from the Artifact Browser and create folders using the import dialog box.
Simplified process for importing and exporting resources and applications	<p>The process for importing and exporting visual application archives and resources are now the same. When exporting a visual application, you can now choose if you want to include the data in custom business objects in the ZIP archive. You can now easily expand and modify application archives locally and create a new archive that you can import. When importing an archive without business object data, the business objects are created but there are no records. You can import ZIP and OVB application archives.</p>
Reorganized structure in Artifact Browser	The logical view of web and mobile applications in the Artifact Browser has been reorganized to simplify locating and creating artifacts.
Improved options for service connections	<p>In visual applications, the Settings dialog box provides details on the URL of the Services Catalog and the authentication used to access the catalog. Web service connections can be marked as server side only connections by selecting the Server Only Connections check box on the service tab.</p> <p>You can now generate “Bearer” type access tokens that can be used with Oracle Cloud Account, User Assertion OAuth 2.0, Client Credentials OAuth 2.0, and Resource Owner OAuth 2.0 authentication to access Catalog and Business Object APIs from outside Visual Builder.</p>
Improvements to Processes integration	<p>The following improvements were made for integrating visual applications with Processes:</p> <ul style="list-style-type: none"> • A new Perform Task Action trigger was added to perform actions on a task • A new Detail Page Quick Start was added for defining detail pages for process objects • An Add Task Actions Quick Start was added for tables/lists of process tasks. The Quick Start adds controls to the page that allow actions to be performed on the task that's selected in the collection. • Added support for starting a process based on a Form Start event. • Enhanced functionality so that users can start processes accepting complex parameters. The UI for mapping complex parameters for actions and triggers has been improved. • The Processes pane in the Artifact Browser now contains menu items to open the Processes design time (Composer) and runtime (Workspace) pages.
Improvements to Audits window	<p>The following improvements were made to the Audits window for visual applications:</p> <ul style="list-style-type: none"> • Filtering is now possible by text and type/severity • A progress bar was added to indicate scanning progress

Feature	Description
Improved support for translations	<p>The following improvements were made to the support for translations:</p> <ul style="list-style-type: none"> • Clicking the translation icon in the Property Inspector opens a popup dialog where you can specify a description for strings and the key. • A Translations tab was added to the Settings page for app artifacts, flow artifacts and pages to create and delete translations bundles. • The Property Inspector for visual applications now includes a button for generating keys for strings and including them in translation bundles. The file format for translations has been updated to allow adding metadata to the keys in the translation bundle. • The Translations tab in the Settings window can be used for uploading and downloading resource bundles. The default format for resource bundles is now ARB (Application Resource Bundle) to facilitate translating resources using various tools.
Improvements to the Variables and Types editor	<p>The following improvements were made to the Variables and Types editors:</p> <ul style="list-style-type: none"> • The UI was modified to make the Edit Type from Endpoint more discoverable. • Improved the drop down for selecting types to provide help hints on the data providers.
Support for application templates	<p>If there are any application templates available in the Component Exchange associated with your instance, you will now see an option to choose an application template when you create a new visual application.</p>
Component Exchange Integration	<p>Service administrators can now set the location of a Component Exchange instance in the Tenant Settings.</p>

May 2018

New Common Features

Feature	Description
<p>Oracle Integration managed by Oracle</p>  Does not apply to Oracle Integration Classic (user-managed).	<p>Oracle Integration managed by Oracle is a new service offering that provides a unified platform in which you can automate processes, integrate applications, analyze results, and visually build custom enterprise applications. You install Oracle Integration, but Oracle manages your service instance, including performing backups, upgrades, patching, scaling in/out, database administration, and more. This enables you to concentrate fully on designing and deploying your applications.</p> <p>See What Is Oracle Integration in <i>Administering Oracle Integration</i>.</p>

Feature	Description
Support for Oracle Integration managed by Oracle on Oracle Cloud Infrastructure  Does not apply to Oracle Integration Classic (user-managed).	When Oracle manages Oracle Integration, it runs on Oracle Cloud Infrastructure. Oracle Cloud Infrastructure combines the elasticity and utility of public cloud with the granular control, security, and predictability of on-premises infrastructure to deliver high-performance, high availability, and cost-effective infrastructure services. Oracle Cloud Infrastructure is an enterprise cloud, capable of running traditional multi-tiered enterprise applications, high-performance workloads, and modern serverless and container-based architectures. See Oracle Cloud Infrastructure and What Is Oracle Integration in <i>Administering Oracle Integration</i> .

New Integration Features

Feature	Description
On-premises connectivity agent	The next generation connectivity agent with a significantly smaller foot print of less than 150 MB is delivered with Oracle Integration. This enables you to build integrations that can exchange messages between Oracle Integration and on-premises assets behind a fire wall. The connectivity agent is certified to run on JDK 8 and 9. The agent is certified to run on OEL 6 and 7, RHEL 6 and 7, SUSE Enterprise 12, and Windows Standard 2016. This next-generation connectivity agent eliminates the need for you to manually upgrade the agent whenever Oracle Integration is upgraded. The agent upgrade occurs automatically whenever Oracle Integration is upgraded/patched. With a significant reduction in foot print, the download and installation of the connectivity agent are completed in less than a few minutes. See <i>About Agents and Integrations Between On-Premises Applications and Oracle Integration and Downloading and Running the Connectivity Agent Installer</i> in <i>Using Integrations in Oracle Integration</i> .
Oracle NetSuite Adapter - Basic search and pagination	You can define a search criteria based on the fields of a selected business object. See <i>Oracle NetSuite Adapter Capabilities in Using the Oracle NetSuite Adapter with Oracle Integration</i> .
FTP Adapter - GZIP support	With the support of this feature, your customers/partners can upload files to sFTP/FTP servers as GZIP files. The FTP Adapter can download, uncompress the GZIP files, and stage them for downstream processing. See <i>FTP Adapter Capabilities in Using the FTP Adapter with Oracle Integration</i> .

Feature	Description
FTP Adapter - Read file operation file size support	<p>The FTP Adapter now supports reading files up to 10 MB in size with the read file operation. With this capability, additional modeling and processing activities needed for downloading and staging the files and using a stage file action for reading the file in segments are eliminated for processing files up to 10 MB in size.</p> <p>See What You See on the FTP Adapter Invoke Operations Properties Page in <i>Using the FTP Adapter with Oracle Integration</i>.</p>
Oracle Commerce Cloud Adapter - New business objects	<p>New trigger request and invoke operation business objects are provided. For invoke connections, files, audiences, organization requests, and bulk import/export process operation business objects are provided.</p> <p>See Adding the Oracle Commerce Cloud Adapter Connection to an Integration in <i>Using the Oracle Commerce Cloud Adapter with Oracle Integration</i>.</p>
REST Adapter - OAuth 1.0 One Legged Authentication	<p>The OAuth 1.0 One Legged Authentication security policy enables web sites or applications (consumers) to access protected resources from a web service (service provider) through an API without requiring you to disclose your service provider credentials to consumers.</p> <p>An Oracle NetSuite application, for example, protects the RESTlets using OAuth 1.0a token-based authentication. You can use the REST Adapter to invoke Oracle NetSuite REST APIs using a connection configured with this policy.</p> <p>See How Do I Configure the REST Adapter to Consume a REST API Protected with OAuth 1.0a One-Legged Authentication in <i>Using the REST Adapter with Oracle Integration</i>.</p>
REST Adapter and SOAP Adapter - Size enforcements on messages and attachments	<p>The REST Adapter and SOAP Adapter enforce new size limits on messages and attachments.</p> <p>For the REST Adapter, there are multipart request and responses in the inbound and outbound directions, respectively. The size limit on attachments is applicable in both the inbound and outbound directions, getting the response from the external service. For example, the REST Adapter trigger cannot take more than 1 GB of attachments combined. Assume there are two multipart attachments that are 500 MB in size. Only two attachments can be sent in that request as the inbound limit is 1 GB. This is the same with outbound responses, if an external service is sending two multipart attachments of 500 MB in size. Only two attachments can be consumed because the outbound response limit is 1 GB for the total number of attachments.</p> <p>The SOAP Adapter can handle an incoming unstructured payload (MTOM) of up to 512 MB in size.</p> <p>See SOAP Adapter Capabilities in <i>Using the SOAP Adapter with Oracle Integration</i>.</p>

Feature	Description
Describing data definitions using a set of XML schema definitions in the REST Adapter, FTP Adapter, and File Adapter (complex schema support)	<p>Do you have the need to describe the data structure for an XML-formatted message/file using a set of XML schema definitions (XSD)? Starting with this release, the FTP Adapter, File Adapter, and REST Adapter now allow for an archive (ZIP) of XML schema definitions to be uploaded to describe the data structure. The FTP Adapter and File Adapter provide this capability for read and write operations. The REST Adapter provides this support for describing the data structure when the application/XML content type is selected for request and/or response messages in both trigger and invoke connections.</p> <p>See REST Adapter Capabilities in <i>Using the REST Adapter with Oracle Integration</i>, FTP Adapter Capabilities in <i>Using the FTP Adapter with Oracle Integration</i>, and File Adapter Capabilities in <i>Using the File Adapter with Oracle Integration</i>.</p>
Describing data definitions using a sample XML document in the REST Adapter, FTP Adapter, and File Adapter	<p>The REST Adapter, FTP Adapter, and File Adapter now allow you to upload sample XML documents to provide data definitions for XML-formatted messages/files. The FTP Adapter and File Adapter provide this capability for read and write operations on XML-formatted files. The REST Adapter provides support for describing the data structure when the application/XML content type is selected for request and/or response messages in both trigger and invoke connections.</p> <p>See REST Adapter Capabilities in <i>Using the REST Adapter with Oracle Integration</i>, FTP Adapter Capabilities in <i>Using the FTP Adapter with Oracle Integration</i>, and File Adapter Capabilities in <i>Using the File Adapter with Oracle Integration</i>.</p>
Describing data definitions using a sample JSON document in the REST Adapter, FTP Adapter, and File Adapter	<p>The REST Adapter, FTP Adapter, and File Adapter now support for allowing customers to upload sample JSON documents for describing the data definitions. The FTP Adapter and File Adapter provide this capability for read and write operations for JSON-formatted files. The REST Adapter provides this support for furnishing the data definition when the application/JSON content type is selected for request and/or response messages in both trigger and invoke connections.</p> <p>See REST Adapter Capabilities in <i>Using the REST Adapter with Oracle Integration</i>, FTP Adapter Capabilities in <i>Using the FTP Adapter with Oracle Integration</i>, and File Adapter Capabilities in <i>Using the File Adapter with Oracle Integration</i>.</p>
Oracle Siebel Adapter IP2017 certification	<p>Oracle Siebel Adapter is certified on IP2017. See the Oracle Integration Adapters Certification matrix.</p>

Feature	Description
Oracle Database Adapter - Bulk data import support for insert and update operations	<p>Oracle Integration is delivering a much-sought after feature - the Oracle Database Adapter allows integration developers to declaratively define an insert-only operation and update-only operation on one or more tables. This new feature supports the sending of multiple records (for example, multiple employees details can be inserted/updated in a single request). It also supports relations (for example, multiple employees within one department can be inserted/updated in a single request).</p> <p>The Oracle Database Adapter enables Oracle Integration to send 10 MB of data to an Oracle database in a single request.</p> <p>The Oracle Database Adapter now enables you to declaratively construct your complex DML statements such as insert and update in a few clicks using a graphical editor. The editor supports only insert and update operations. The Adapter Endpoint Configuration Wizard guides you to select schemas, tables, and relationships to construct the data structure that you want to send to the database. The wizard also helps you to filter the attributes from the selected data structure to fine tune the data you may want to send to the database instead of sending all attributes.</p> <p>Another salient aspect of this feature is that the adapter can accept a collection of records to send to the database as a single unit of work.</p> <p>The following use cases can be implemented using this new capability:</p> <ul style="list-style-type: none"> • Bulk data insert – You can perform mass inserts. For example, up to 10 MB in the target application's database in a single transaction in conjunction with orchestration and mapper capabilities. You can model integrations such as the synchronization of customer data from a CSV file to an Oracle database to use this capability. • Bulk data update - You can perform mass updates. For example, updates of employee benefits from Oracle HCM Cloud to an on-premises database up to 10 MB in the target application's database system in a single transaction in conjunction with orchestration and mapper capabilities. <p>See Oracle Database Adapter Capabilities in <i>Using the Oracle Database Adapter with Oracle Integration</i>.</p>

Feature	Description
Oracle Advanced Queuing (AQ) Adapter and Oracle WebLogic JMS Adapter - Support for size enforcement and rejection handling	<p>Support is provided for processing payloads up to 10 MB in size.</p> <p>See Oracle Advanced Queuing (AQ) Adapter Capabilities in <i>Using the Oracle Advanced Queuing (AQ) Adapter with Oracle Integration</i>.</p> <p>See Oracle WebLogic JMS Adapter Capabilities in <i>Using the Oracle WebLogic JMS Adapter with Oracle Integration</i>.</p>
Oracle Service Cloud (RightNow) Adapter - Upload and download attachment support	<p>You can download a file as an attachment from Oracle RightNow Cloud to Oracle Integration. After the file is downloaded, the Oracle Service Cloud (RightNow) Adapter exposes the file reference in the mapper for use by other adapters for further processing.</p> <p>Similarly, the Oracle Service Cloud (RightNow) Adapter provides support for uploading a file as an attachment to Oracle RightNow Cloud. An integration flow can be modeled to upload a file as an attachment to an object in Oracle RightNow Cloud.</p> <p>See Oracle RightNow Cloud Capabilities in <i>Using the Oracle Service Cloud (RightNow) Adapter with Oracle Integration</i>.</p>
Oracle Service Cloud (RightNow) Adapter - Syntactic validation of ROQL-based tabular queries (QueryCSV)	<p>Syntactic validation of ROQL-based tabular queries (QueryCSV) is done automatically to catch any syntactic errors.</p>
SOAP Adapter - Attachment support	<p>The SOAP Adapter now supports sending attachments as part of the payload to an external SOAP API and receiving attachments as part of the responses received from the SOAP APIs.</p> <p>The SOAP Adapter automatically discovers and supports attachments found in external SOAP APIs based on the Message Transmission Optimization Mechanism (MTOM) standard defined by the World Wide Web Consortium (W3C). Use cases such as the following can be implemented using the new capabilities. You can use the Send Attachments in Request feature in the SOAP Adapter to stream an employee's data file from Oracle Integration to UCM in Oracle HCM Cloud prior to submitting a request to Oracle HCM Cloud by invoking the Oracle HCM data loader service. Similarly, you can use the Accept Attachments in Response option in the SOAP Adapter to let the SOAP Adapter stream the Business Intelligence Publisher report available in UCM to Oracle Integration, which can be accessed and processed by downstream actions within that integration flow.</p> <p>See SOAP Adapter Capabilities in <i>Using the SOAP Adapter with Oracle Integration</i>.</p>

Feature	Description
SOAP Adapter - Support for uploading a ZIP file with multiple WSDLs and schemas	<p>The SOAP Adapter provides support for uploading complex SOAP interfaces. The WSDL archive can consist of WSDLs along with any number of artifacts such as WSDLs and schemas referenced within. The archive can be uploaded through the SOAP connection. You can use this connection for invoking an external SOAP operation defined in the WSDL archive. Similarly, you can use this connection as a trigger for implementing an integration supporting one of the operations defined in the WSDL archive. For example, you can use this feature to implement integrations that expose SOAP endpoints using OAGIS-based object definitions.</p> <p>See SOAP Adapter Capabilities in <i>Using the SOAP Adapter with Oracle Integration</i>.</p>
Oracle HCM Cloud Adapter - HCM Atom feed support	<p>The Oracle HCM Cloud Adapter supports subscribing to the HCM Atom feed. Atom feeds enable you to track changes made to feed-enabled resources in Oracle Global Human Resources Cloud.</p> <p>See Oracle HCM Cloud Adapter Capabilities in <i>Using the Oracle HCM Cloud Adapter with Oracle Integration</i>.</p>
Oracle HCM Cloud Adapter - HCM data extracts support	<p>The HCM data extracts feature in Oracle HCM Cloud is a flexible tool for generating data files and reports in Oracle HCM Cloud. The Oracle HCM Cloud Adapter can be configured to automatically download HCM extracts from Oracle HCM Cloud to Oracle Integration and have them be accessible for downstream processing. For example, you can schedule to run the benefits data extract in Oracle HCM Cloud and have a scheduled orchestrated integration built to automatically download the extracts to Oracle Integration and send all or partial information to downstream applications.</p> <p>See Oracle HCM Cloud Adapter Capabilities in <i>Using the Oracle HCM Cloud Adapter with Oracle Integration</i>.</p>
New adapter - Oracle Enterprise Performance Management Cloud Adapter	<p>The Oracle Enterprise Performance Management Cloud Adapter enables you to connect to Oracle Enterprise Performance Management Cloud. This enables organizations to:</p> <ul style="list-style-type: none"> • Simplify the close process in Oracle Financial Consolidation and Close Cloud and Oracle Tax Reporting Cloud • Streamline the close process through automation • Leverage first-in-class consolidation and tax reporting functionality <p>See Oracle Enterprise Performance Management Cloud Adapter Capabilities in <i>Using the Oracle Enterprise Performance Management Cloud Adapter with Oracle Integration</i>.</p>

Feature	Description
New adapter - Oracle Database Cloud Service Adapter	<p>The Oracle Database Cloud Service Adapter facilitates integration with Oracle Database Cloud Service using the connectivity agent.</p> <p>See Oracle Database Cloud Service Adapter Capabilities in <i>Using the Oracle Database Cloud Service Adapter with Oracle Integration</i>.</p>
Oracle Utilities Adapter - trigger-based support for manual upload of WSDLs for a particular service	<p>You can also manually upload a WSDL in the trigger (inbound) direction for a specific service instead of parsing the WSDL from the HTTP-based service catalog WSDL specified in the Connections page. This option enables you to upload a WSDL for a particular service in which element-to-element mappings can be performed to deal with anytype elements.</p> <p>See Oracle Utilities Adapter Capabilities in <i>Using the Oracle Utilities Adapter with Oracle Integration</i>.</p>
Workday Adapter	<p>Workday is a SAAS-based human capital management system that also supports financial management systems for organizations. Workday can be the one system for all your organizational activities such as recruiting, payroll, finance, inventory, and so on.</p> <p>See Getting Started with the Workday Adapter in <i>Using the Workday Adapter with Oracle Integration</i>.</p>
SAP SuccessFactors Adapter - inbound events support	<p>Trigger (inbound) support is provided for receiving event notifications from SuccessFactors.</p> <p>See SuccessFactors Adapter Capabilities in <i>Using the SAP SuccessFactors Adapter with Oracle Integration</i>.</p>
SAP Concur Adapter - API option support	<p>The SAP Concur Adapter provides support for Concur's Extract API and Payment Batch API. Concur's Extract Web Service enables you to request the extract of available data objects, such as approved expense reports, travel requests, and payment requests. Concur's Payment Batch API enables you to manage payment batches and collect their batch files.</p> <p>See Configuring Concur Adapter Invoke API Option Properties in <i>Using the SAP Concur Adapter with Oracle Integration</i> and <i>Using the SAP Concur Adapter with Oracle Integration</i>.</p>

New Process Features

Feature	Description
Activation	<p>We've enhanced the process application activation wizard:</p> <ul style="list-style-type: none"><li data-bbox="777 407 1370 512">• In addition to SOAP integrations, you can now configure REST integrations during activation. Note that you must configure OIC integrations in the Integrations feature.<li data-bbox="777 527 1370 604">• If a process application doesn't use any REST or SOAP integrations, the Customization step is skipped and you proceed directly to validation.<li data-bbox="777 619 1370 724">• If you opt to use credentials configured during design time, they are automatically populated for you during runtime activation. Otherwise, you can create separate credentials for runtime. <p>See <i>Activating Applications in Using Processes in Oracle Integration</i>.</p>
Email notifications	<p>Help end users more easily respond to tasks by customizing their email notifications. In addition to templates and actions, you can now specify:</p> <ul style="list-style-type: none"><li data-bbox="777 898 1370 976">• When emails are sent (upon assignment, completion, or error). You can even specify a different template and subject for each status.<li data-bbox="777 991 1370 1068">• How forms associated with tasks are included as attachments (as images, PDF files, inline, or not included).<li data-bbox="777 1083 1370 1161">• Whether documents or other files previously attached to tasks are included as email attachments. <p>See <i>Configuring Email Notifications in Using Processes in Oracle Integration</i>.</p>

Feature	Description
Forms	<p>Web form enhancements include:</p> <ul style="list-style-type: none"> • Execute actions on columns: We've added new actions that let you hide or show table columns when an event occurs. In addition, we've added a new property in the Properties pane that lets you hide table columns. • Execute an action on all rows: We've added new event actions that let you: <ul style="list-style-type: none"> – Retrieve a control's value and apply it to each row of a table or repeatable section (For Each). See <i>Configuring Tables in Using Processes in Oracle Integration</i>. – Copy values from one column to another for each row of a table or copy values from one control to another for each row of a repeatable section (Current Iteration Row). See <i>Configuring Tables in Using Processes in Oracle Integration</i>. • Change presentations dynamically: A new action lets you dynamically switch a form's presentation, with the option of retaining the modified payload. For example, in a travel request application, change the presentation and available controls based on whether the user selects a one-way or roundtrip flight radio button. See <i>Changing Form Presentations Dynamically in Using Processes in Oracle Integration</i>. • Resize uploaded images: You can now control an image's height and width on the Styling tab.
Data association process activity	<p>A new activity, called Data Mapper, has been added to the structured process editor under System elements. Its sole purpose is to map data.</p> <p>Use it to assign values to data objects when other activities that use data association (such as human or service tasks) are not needed at that point in the process. Or include a Data Mapper activity to initialize variables for the entire process. This activity can have output only.</p> <p>See <i>Working with Data Mapper Elements in Using Processes in Oracle Integration</i>.</p>
Auto mapping	<p>Auto mapping is available in both structured and dynamic process editors. Click the Auto Mapping icon in the Data Association window and Process makes its best guess on data values to map, based on names and data types. You may need to make adjustments, but auto mapping works well for straightforward use cases.</p>

Feature	Description
Custom properties for structured process activities	<p>You can now assign values to process activities for use in runtime.</p> <p>Begin by defining properties and assigning them fixed values in design time, then use a process metadata REST API endpoint in runtime to access the assigned values.</p> <p>See Assigning Custom Properties to Structured Process Activities in <i>Using Processes in Oracle Integration</i>.</p>
Test activate dynamic processes	<p>You can now test your dynamic processes, without needing to activating them each time to see changes.</p> <p>See Test Activate Your Application in <i>Using Processes in Oracle Integration</i>.</p>
Dynamic process patterns	<p>We've added new process patterns to get you quickly up and started creating dynamic processes. You'll see the available patterns when you add a dynamic process to a process application.</p> <p>See Creating a Dynamic Process in <i>Using Processes in Oracle Integration</i>.</p>
Customize JSON before importing business objects	<p>You can now edit generated JSON before you import business objects from JSON. This allows you to make any adjustments needed to the best guesses made during generation but before import.</p> <p>See Importing a Business Object from JSON in <i>Using Processes in Oracle Integration</i>.</p>
REST APIs	<p>New API options were added for dynamic processes. For example, create a new dynamic process instance after first fetching deployed dynamic process definitions. You can create a new dynamic process instance using either the id or key from the response.</p> <p>See the What's New topic under Get Started in Oracle Integration REST API.</p>

January 2018

New Common Features

Feature	Description
Quick Start instance provisioning	<p>You can provision an Oracle Integration instance with a single click. This instance automatically includes an Oracle Database Classic Cloud Service instance, but does not include an Oracle Cloud Infrastructure Object Storage Classic container instance. This instance is useful for testing integrations.</p> <p>See Creating a Quick Start Instance with a Single Click of <i>Administering Oracle Integration</i>.</p>

New Integration Features

Feature	Description
Integration activation and deployment phases	<p>When you activate an integration, the banner message tells you that it is submitted for activation and to click refresh if activation status is in progress. When you click the refresh icon, the Active icon is displayed in green, if integration deployment is successful.</p> <p>See <i>Activating an Integration of Using Integrations in Oracle Integration</i>.</p>
Oracle Field Service Adapter — Business object and operations enhancements	<p>A new business object and several operations have been added.</p> <p>See <i>Configuring Oracle Field Service Adapter Invoke Operations Properties of Using the Oracle Field Service Adapter with Oracle Integration</i>.</p>
Batch size configuration in the MySQL Adapter and DB2 Adapter	<p>You can set the batch size under Advanced Options when configuring the MySQL Adapter and DB2 Adapter in the Adapter Endpoint Configuration Wizard.</p> <p>See <i>What You See on the Trigger Polling Strategy and Options Page of Using the MySQL Adapter with Oracle Integration</i> and <i>What You See on the Trigger Polling Strategy and Options Page of Using the IBM DB2 Adapter with Oracle Integration</i>.</p>

New Integration Insight Features



Applies only to Oracle Integration Classic (user-managed).

Feature	Description
End-to-end business process visibility enhancements	<p>It's now easier to get visibility into business processes that are implemented across more than one integration.</p> <p>See <i>Event Correlation Across Multiple Integrations and Adding Additional Unique Instance Identifier Associations in Using Integration Insight in Oracle Integration</i>.</p> <p>When you import a model from a previous version of Insight that has more than one unique instance identifier mapping, Insight either uses the predefined extraction criteria to associate the identifier to an existing milestone or creates a new milestone and associates the identifier to it.</p> <p>See <i>What Happens When You Import a Model with Multiple Unique Instance Identifier Mappings in Using Integration Insight in Oracle Integration</i>.</p>

December 2017

New Common Features

Feature	Description
Instance provisioning with the Oracle Cloud Stack Template	<p>You can create an Oracle Integration instance with the Oracle Cloud Stack template. A template consists of a set of services that are provisioned together (for example, Oracle Integration, Oracle Database Classic Cloud Service, and the Oracle Cloud Infrastructure Object Storage Classic container). A stack is an actual provisioned instance of a template. This option enables you to automatically provision an Oracle Database Classic Cloud Service and the Oracle Cloud Infrastructure Object Storage Classic container along with Oracle Integration during stack template provisioning.</p> <p>See Creating an Instance with the Oracle Cloud Stack Template in <i>Administering Oracle Integration</i>.</p>
REST API	<p>Functions in <i>REST API for Oracle Integration</i> that are related to instance management and provisioning have been moved to a separate document for easier reference. You can now access the following REST API documents in Oracle Integration:</p> <ul style="list-style-type: none">• REST API for Oracle Integration• REST API for Managing Oracle Integration Classic <p>The <i>REST API for Oracle Integration</i> now displays functions by feature. Functions are grouped under Integrations, Process, and Integration Insight.</p>

New Integration Features

Feature	Description
REST Adapter — Support for dynamic REST endpoints	<p>The REST Adapter enables you to dynamically change the (invoke) outbound endpoint configuration.</p> <p>See REST Adapter Capabilities in <i>Using the REST Adapter with Oracle Integration</i>.</p>
FTP Adapter — Self-diagnosing sFTP server connectivity issues	<p>You can self-diagnose connectivity issues while integrating with external sFTP servers.</p> <p>See Testing the Connection in <i>Using the FTP Adapter with Oracle Integration</i>.</p>
Oracle Service Cloud (RightNow) Adapter — Oracle RightNow Cloud August 2017 certification	<p>The Oracle Service Cloud (RightNow) Adapter is certified on the Oracle RightNow Cloud August 2017 release.</p> <p>See Obtaining the Oracle RightNow Cloud WSDL in <i>Using the Oracle Service Cloud (RightNow) Adapter with Oracle Integration</i>.</p>

Feature	Description
Oracle NetSuite Adapter — Support for custom attributes	<p>While invoking the Oracle Talent Cloud for Midsize (Taleo BE) Adapter to create, retrieve, or update any record in the Oracle NetSuite application, you can map values for the custom field types exposed by that particular business object in the mapper.</p> <p>See Oracle NetSuite Adapter Capabilities and Mapping Values for Custom Fields of <i>Using the Oracle NetSuite Adapter with Oracle Integration</i>.</p>
Enabling or Disabling Tracing on Active Integrations	<p>You can enable or disable tracing on activated integrations without re-activating them. You can perform these actions on individual integrations or globally on all integrations.</p> <p>See Enabling or Disabling Tracing on Active Integrations in <i>Using Integrations in Oracle Integration</i>.</p>
Diagnostic framework enhancements	<p>Enhancements have been made to the collection of incident diagnostics:</p> <ul style="list-style-type: none"> • Incident creation enhancements for test connection failure, migration failure, and database threshold levels being reached. • Custom dump creation enhancements inside the incident folders for generated runtime artifacts and diagnostic logs. • Use of diagnostic framework log detection features to include additional error codes during incident creation. • Enhancements in the execution of custom dumps.
Navigational enhancements in orchestrated integrations and the activation messages of integrations	<p>The following enhancements are provided:</p> <ul style="list-style-type: none"> • Ability to create and edit connections from within the integration canvas of an orchestrated integration. • Ability to view expanded integration activation messages in the banner of the Integrations page that show the “submit now” URL and Tracking Runs page link for scheduled integrations and the same endpoint trigger URL and Tracking page link for unscheduled integrations. <p>See Activating an Integration and Defining Inbound Triggers and Outbound Invokes of <i>Using Integrations in Oracle Integration</i>.</p>
Repositioning of stage file actions	<p>You can reposition a stage file action (except for the Read File in Segments operation) in an orchestrated integration.</p> <p>See Creating an Orchestrated Integration of <i>Using Integrations in Oracle Integration</i>.</p>

New Process Features

Feature	Description
Using integrations in processes	<p>Working with previously created integrations is now even easier in the process editor. You can specify which active integrations, connectors, and web services you want to show in the palette, so developers just drag and drop them and they're configured for use.</p> <p>See Using Integrations in Processes in <i>Using Processes in Oracle Integration</i>.</p>
Web form enhancements	<p>The forms editor includes the following enhancements:</p> <ul style="list-style-type: none">• Rich Text Editor control: Add a rich text editor control into web forms to allow users to enter various types of content, like multimedia, web links, formatted texts, and more. See Configuring Rich Text Editor Controls in <i>Using Processes in Oracle Integration</i>.• Outcome management: You can now specify custom outcomes (such as Approve, Reject, On Hold, and so on) for a form using events. In addition, you can specify conditions to prevent users from submitting a form. See Specifying Custom Outcomes for Forms in <i>Using Processes in Oracle Integration</i>.• Localization: Use the new Translate button in the forms editor to supply localized strings for form controls. In runtime, users can then view a localized version of the form by choosing their preferred language. See Localizing Web Forms in <i>Using Processes in Oracle Integration</i>.
Dynamic process and connector support in QuickStart Apps	<p>You can now allow users to customize settings related to a dynamic process or connector within a QuickStart App.</p> <p>See Decide What Settings Users Can Customize in <i>Using Processes in Oracle Integration</i>.</p>

New Integration Insight Features



Applies only to Oracle Integration Classic (user-managed).

Feature	Description
Map milestones to the start or end of Invoke actions in integrations	<p>When you map a milestone to an Invoke action, you can now choose whether the milestone is considered passed on entry or on exit of the Invoke action. This also affects when values are extracted for associated identifiers and indicators.</p> <p>See Mapping a Milestone to an Integration in <i>Using Integration Insight in Oracle Integration</i>.</p>

Feature	Description
Force model deactivation and deletion	You can now force the deactivation and deletion of models that encounter errors during these actions due to changes to the Integrations instance to which milestones are mapped. See Deactivating a Model and Deleting a Model in <i>Using Integration Insight in Oracle Integration</i> .
Create a draft of an activated model in the Integrations feature	A model must be in a Draft state before mapping to it. You can now create a draft of an activated model in the Integrations feature as you map to it. See Mapping a Milestone to an Integration in <i>Using Integration Insight in Oracle Integration</i> .

New Oracle Cloud Infrastructure Streaming Service Adapter Features



Applies only to Oracle Integration Classic (user-managed).

Feature	Description
GoldenGate Integration	Oracle GoldenGate is a comprehensive software package for real-time data integration and replication in heterogeneous IT environments. The product set enables high availability solutions, real-time data integration, transactional change data capture, data replication, transformations, and verification between operational and analytical enterprise systems. See Understanding GoldenGate Integration in <i>User's Guide</i> .
New Spatial Patterns	New spatial patterns like Spatial Speed, Geo Code, Interaction Single Stream, Interaction Two Stream, Proximity patterns and many more. These patterns provide advanced capabilities like analyzing the speed of a moving object, obtain geo code of a location, and so on See Spatial Patterns in <i>User's Guide</i> .
Query Group Stage	A query group stage lets you do aggregations on multiple group bys and multiple windows. It is a collection of groups, where each of the group has its own window. See Working with Query Group Stage in <i>User's Guide</i> .

October 2017

New Integration Features

Feature	Description
REST Adapter Enhancements	<ul style="list-style-type: none">• REST Adapter API Key-Based Authentication security policy This policy enables you to provide secure access to APIs. The resource owner generates an API key for a given client application with required authorization and then shares this generated API key. The client application is then required to pass this API key with the request for accessing protected resources. See Integrating APIs with API Key-Based Authentication in <i>Using the REST Adapter with Oracle Integration</i>.• Support for application/octet-stream MIME Attachment (Raw) Payloads Support for Raw binary attachments in payloads has been added. See REST Adapter Capabilities in <i>Using the REST Adapter with Oracle Integration</i>.• Support for simple execution of co-located integrations. Co-located integrations are in the same POD or domain. See REST Adapter Capabilities in <i>Using the REST Adapter with Oracle Integration</i>.• When you activate an integration with a REST trigger, at the top of the Integrations page an endpoint metadata URL is provided with which you can inspect the shape of the API. This metadata includes additional information about the endpoint description, the endpoint URI and the swagger URI.
Invoking co-located SOAP endpoints	<p>Oracle Integration can determine if an outbound SOAP endpoint is invoked by an integration that is local (co-located) or remote to Oracle Integration. Co-located means the integrations are running on the same host instance or in the same domain. If the outbound endpoint is co-located, the endpoint is invoked using an optimized HTTP request using a JSON Web Token (JWT) token for authorization.</p> <p>See SOAP Adapter Concepts in <i>Using the SOAP Adapter with Oracle Integration</i>.</p>



Integration Echo (1.0) was activated successfully.
You can access it via <http://12mpg.us.oracle.com:7003/ic/api/integration/v1/flows/rest/ECHO/1.0/metadata>.

Feature	Description
Oracle Field Service Adapter enhancements	<p>There are several enhancements to the Oracle Field Service Adapter:</p> <ul style="list-style-type: none"> • When a new custom property is added in Oracle Field Service Cloud, you can view it in the mapper for an existing integration by clicking the Oracle Field Service Adapter in an integration and selecting Regenerate Artifact. • New business objects and events have been added for selection to the Operations page and the Events page of the Adapter Endpoint Configuration Wizard. <p>See Oracle Field Service Adapter Capabilities and Adding the Oracle Field Service Cloud Adapter Connection to an Integration in <i>Using the Oracle Field Service Adapter with Oracle Integration</i>.</p>
New functions available in the Expression Builder for integrations	<p>The following functions that were previously available only in the mapper are now available in the Expression Builder. The integration patterns that support these functions are also listed. For orchestrated integrations, you can use these functions in assign, logger, notification, filter, and switch activities.</p> <ul style="list-style-type: none"> • Advanced functions <ul style="list-style-type: none"> – generate-guid (in orchestrated integrations and template integrations) – lookup-xml (in orchestrated integrations and template integrations) – parseEscapedXML (in orchestrated integrations only) • Mathematical functions <ul style="list-style-type: none"> – square-root (in orchestrated integrations and template integrations) • String functions <ul style="list-style-type: none"> – compare-ignore-case (in orchestrated integrations and template integrations) – createDelimitedString (in orchestrated integrations only) – format-string (in orchestrated integrations only) – getContentAsString (in orchestrated integrations only) – get-localized-string (in orchestrated integrations and template integrations) – index-within-string (in orchestrated integrations and template integrations) – last-index-within-string (in orchestrated integrations and template integrations) – left-trim (in orchestrated integrations and template integrations) – right-trim (in orchestrated integrations and template integrations)

Feature	Description
Viewing integrations in read-only mode	<p>You can assign the ServiceUser role to users who require read-only access to integrations. A user with this role cannot create, edit, clone, or import integrations. They can download and export integrations.</p> <p>See <i>What Users Can Do in Integrations by Role in Administering Oracle Integration</i>.</p>
Logging details about integration execution	<p>If you do not enable tracing, minimal logging details are created in <code>ics-flow.log</code> to indicate when the activated integration begins and completes execution (regardless of execution success or failure). You can download the logs on the Dashboard page.</p> <p>See <i>Activating an Integration in Using Integrations in Oracle Integration</i>.</p>
Loading the latest integration sample versions	<p>You can upgrade your instance to include the latest sample integration versions. If a sample integration is active or locked, it is not overwritten.</p> <p>See <i>Loading Newer Versions of the Sample Integrations in Using Integrations in Oracle Integration</i>.</p>
Editing integrations with incomplete connections	<p>You can edit the completed connections, actions, and maps in this type of integration. You cannot edit the endpoints based on incomplete connections. Instead, you must first edit the endpoints for those connections on the Connections page.</p> <p>See <i>Editing an Integration with Incomplete Connections in Using Integrations in Oracle Integration</i>.</p>
Specifying separate retention times for successful and faulted integration instances	<p>You can view the quiesced, unquiesced, and warning thresholds for your database and the percentage of the database that has been used. If you have the Administrator role, you can also set values for the quiesced threshold, unquiesced threshold, warning threshold, and retention times for successful and faulted instances. You can also perform both automatic and ad-hoc purges of the database.</p> <p>See <i>Purging and Retaining Data in the Database in Using Integrations in Oracle Integration</i>.</p>
Invoking a process from an integration	<p>You can invoke a process from an orchestrated integration. When you drag the process node into an integration, the Select Process wizard is invoked and prompts you to select an application, process, and operation to invoke.</p> <p>See <i>Creating an Integration that Invokes a Process in Using Integrations in Oracle Integration</i>.</p>

New Process Features

Feature	Description
Using integrations in processes	<p>Seamlessly incorporate integrations into processes directly from the process editor. Drag and drop an integration element from the palette to the process flow, and select the active integration to call.</p> <p>See Using Integrations in Processes in <i>Using Processes in Oracle Integration</i>.</p>
New dynamic processes	<p>This release introduces a powerful and flexible new dynamic process editor and runtime experience for modeling and running unstructured processes. Use the dynamic process editor to model unpredictable processes that depend on knowledge worker input or changing conditions. You can even call structured processes from a dynamic process.</p> <p>See Ready to create a dynamic process? and Developing and Using Dynamic Processes in <i>Using Processes in Oracle Integration</i>.</p>

Feature	Description
Web form enhancements	<p>The forms editor includes the following enhancements:</p> <ul style="list-style-type: none"> <li data-bbox="777 323 1373 558"> <p>• Filters for LOVs: You can now specify filters for controls that accept list of values (LOV) as input. Filters provide a way to selectively extract data from a data source (such as payload or an external connector) and display the filtered data as options of the control.</p> <p>See Specifying Filters for Controls in <i>Using Processes in Oracle Integration</i>.</p> <li data-bbox="777 569 1373 716"> <p>• Event filters: You can also define a filter within an event and use the filter data in other controls through event actions and conditions.</p> <p>See Specifying Filters in Events in <i>Using Processes in Oracle Integration</i>.</p> <li data-bbox="777 726 1373 926"> <p>• Data first forms using arrays and enums: The array and enum data types are now mapped to appropriate controls. From the Business Types Palette, you can now use business types that contain these data types to create a web form.</p> <p>See Creating a Web Form Based on a Business Type in <i>Using Processes in Oracle Integration</i>.</p> <li data-bbox="777 936 1373 1083"> <p>• Number and Money controls: The increment/decrement buttons are now hidden by default.</p> <p>See Configuring Number Fields and Configuring Currency (Money) Fields in <i>Using Processes in Oracle Integration</i>.</p> <li data-bbox="777 1094 1373 1209"> <p>• Reorder conditions: You can reorder conditions within an event window.</p> <p>See Specifying Conditions in <i>Using Processes in Oracle Integration</i>.</p> <li data-bbox="777 1220 1373 1398"> <p>• Check if empty: Use the new operator called <code>is empty</code> within an event window to check if a particular property, such as value, of a control is empty or not.</p> <p>See Specifying Conditions in <i>Using Processes in Oracle Integration</i>.</p> <li data-bbox="777 1409 1373 1556"> <p>• Row Count: While configuring events for a table, use the new Row Count property to add a condition based on number of rows present within the table.</p> <p>See Configuring Tables in <i>Using Processes in Oracle Integration</i>.</p> <li data-bbox="777 1566 1373 1713"> <p>• Calculate the difference between dates: New interval functions are introduced which you can use to calculate the difference between two dates.</p> <p>See Specifying Functions in <i>Using Processes in Oracle Integration</i>.</p> <li data-bbox="777 1724 1373 1793"> <p>• CSS styling: New information is available on using cascading style sheets (CSS) to customize the look and feel of web form elements.</p>

Feature	Description
	See Customizing Web Forms Using CSS in <i>Using Processes in Oracle Integration</i> .

New Integration Insight Features

 Applies only to Oracle Integration Classic (user-managed).

Feature	Description
Map integrations to milestones	You can map integrations to Insight model milestones and define extraction criteria for identifiers and indicators in the Integrations feature. See Mapping Milestones to Integrations in <i>Using Integration Insight in Oracle Integration</i> .
Oracle JET dashboards	Oracle JET dashboards help you gain insight into your business processes. See Console and Dashboards for a Single Business Process in <i>Using Integration Insight in Oracle Integration</i> .

New Oracle Cloud Infrastructure Streaming Service Adapter Features

 Applies only to Oracle Integration Classic (user-managed).

Feature	Description
Query Stage	Configures a SQL-like query on the data stream and comprises additional sources for Joins, Filters, Summaries, Group By, Time Windows, and so on. See Application Artifacts in <i>User's Guide</i> .
Rule Stage	Applies conditional (IF - THEN) logic to the events in the stream. You can check for specific conditions and assign values to fields based on the results of your checks. See Application Artifacts in <i>User's Guide</i> .

New Visual Builder Features

Feature	Description
Simple aggregations	Support for simple aggregations for most chart types has been added to the Page Designer. See Adding a Chart Component to a Page in <i>Using Oracle Visual Builder - Classic Applications</i> .

Feature	Description
Modeling relationships	The Data Designer has improved support for modeling relationships, including support for creating One to One and Many to Many relationship, and a new visual editor to help you specify cardinality and relationship properties. See Viewing, Creating, and Editing Business Object Relationships in <i>Using Oracle Visual Builder - Classic Applications</i> .
Row-level security	Support for row-level security in the Data Designer has been improved to allow more fine-grained security settings and a query builder for creating simple conditions. See Securing Business Objects in <i>Using Oracle Visual Builder - Classic Applications</i> .
Multi-select component	A multiselect component bound to a many-to-many relationship has been added to the Page Designer. See Adding a Multi-select Component to a Page in <i>Using Oracle Visual Builder - Classic Applications</i> .
Import applications with Process definitions	Visual Builder applications containing Process definitions can be exported and imported. When importing an application you are prompted to specify an existing Process application that contains all the process definitions required by the application you are importing. You can use this method to move an application from a development to a staging or production environment.

Supported Oracle JET version

Feature	Description
Upgrade to Oracle JET 3.1.0	The Visual Builder designtime and your generated applications now use Oracle JET 3.1.0 libraries and components.

Oracle Integration on Oracle Cloud at Customer

The features available to you in Oracle Integration on Oracle Cloud at Customer exclude the latest features added after [May 2018](#).

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Oracle® Cloud What's New for Oracle Integration,
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