Oracle® Public Cloud Machine

Using Oracle SOA Cloud Service Release 17.1.2

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This guide describes how to provision and use Oracle SOA Cloud Service to manage and monitor your SOA composite applications in the cloud.



Oracle Public Cloud Machine Using Oracle SOA Cloud Service, Release 17.1.2

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Preface

Using Oracle SOA Cloud Service describes how to use Oracle SOA Cloud Service to manage and monitor your SOA composite applications in the cloud.

Topics:

- Audience
- Related Resources
- Conventions

Audience

Oracle Public Cloud Machine Using Oracle SOA Cloud Service is intended for users who want to manage and monitor SOA composite applications on Oracle Public Cloud Machine.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

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Related Resources

See these related Oracle resources:

- Oracle Public Cloud Machine https://cloud.oracle.com/cloudmachine
- Cloud Machine Documentation
- Public Cloud Machine Using Oracle Managed File Transfer Cloud Service

Conventions

The following text conventions are used in this document:

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

Getting Started with Oracle SOA Cloud Service

Review the following topics to learn about how Oracle SOA Cloud Service works. These topics provide information about Oracle SOA Cloud Service concepts and components to help you get started with creating your own integrations.

Topics

- About Oracle SOA Cloud Service
- About the Components of Oracle SOA Cloud Service
- Before You Begin with Oracle SOA Cloud Service
- Managing the Life Cycle of Oracle SOA Cloud Service Instances
- Keeping Your Service Instances Manageable by Oracle SOA Cloud Service
- Accessing Oracle SOA Cloud Service Console
- About the User Interfaces of Oracle SOA Cloud Service
- Provisioning Oracle SOA Cloud Service
- Prerequisites to Provisioning Oracle SOA Cloud Service
- Using the Provisioning Wizard
- Post-Provisioning Tasks for the Integration Analytics Cluster Service Type
- About Oracle SOA Cloud Service Roles and User Accounts
- About the Cloud Adapter Pack

About Oracle SOA Cloud Service

Oracle SOA Cloud Service provides a PaaS (Platform as a Service) computing platform solution for running the following applications in the cloud:

- Oracle SOA Suite
- Oracle Service Bus
- Oracle Managed File Transfer
- Oracle Real-Time Integration Business Insight
- Oracle Business Activity Monitoring

Oracle B2B

Oracle SOA Suite provides a complete set of service infrastructure components for designing, deploying, and managing composite applications. The components of the suite are described in About the Components of Oracle SOA Cloud Service.

Oracle SOA Cloud Service uses the *Active* high availability (HA) policy when it provisions instance compute nodes. Using the Active policy causes the virtual machine (VM) to automatically fail over to another physical compute node in the same compute zone in case the primary compute node fails.

Oracle SOA Cloud Service provides a rich variety of features that enable you to save time and money in the following ways:

- **Reduce costs.** You can reduce IT maintenance and administrative costs. Oracle handles all platform provisioning, installation, and domain configuration, though you will assume the administrator role. Oracle SOA Cloud Service is subscription-based, meaning you only pay when using the service. No large investment in hardware and IT expertise is required. This lets you fully concentrate on design, test, and deployment of integration solutions.
- **Create test environments in the cloud.** You can quickly create application test environments in your private cloud.

In addition, you can extend your enterprise to the cloud and deploy Oracle SOA Suite projects where you need them. For example, you can integrate an Oracle Sales Cloud new customer account with a Siebel application. This enables a customer that purchases a product through Oracle Sales Cloud to receive support for that product through the Siebel system. For this same Oracle Sales Cloud event, you can also synchronize the customer account information to an on-premises finance application to ensure that the billing and accounts receivable modules receive payment from the customer.

You can connect to on-premises applications through Oracle Messaging Cloud Service for asynchronous messaging, with web services to an on-premises Oracle Service Bus or Oracle SOA Suite infrastructure through a web proxy in the DMZ, or through a virtual private network

About the Components of Oracle SOA Cloud Service

Oracle SOA Cloud Service consists of the following Oracle components. Oracle SOA Cloud Service supports both the 12.1.3 and 12.2.1.2 versions of Oracle SOA Suite and its constituent components.

- Oracle SOA Suite. Oracle SOA Suite is a comprehensive, hot-pluggable software suite that enables you to build, deploy, and manage integrations using serviceoriented architecture (SOA). Oracle SOA Suite provides the following capabilities:
 - Consistent tooling
 - A single deployment and management model
 - End-to-end security
 - Unified metadata management

Oracle SOA Suite enables you to transform complex application integrations into agile and reusable service-based applications to shorten the time to market, respond faster to business requirements, and lower costs. Critical business services, such as customer, financial, ordering information, and others that were

previously accessible only in packaged application user interfaces can now be rapidly modeled for mobile devices such as smart phones and tablets.

SOA Suite includes the following core components:

- BPEL (Business Process Execution Language) Orchestrates integration processes.
- Human Workflow Creates interactions that require human input, like approvals or manual routing decisions.
- Business Rules Defines flexible business rules to direct actions in an integration process, such as approval routing decisions.
- Mediator Mediates messages and provides routing and the capability to transform simple message flows.

See:

- Understanding Oracle SOA Suite 12.2.1.2
- Understanding Oracle SOA Suite 12.1.3

and

- Developing SOA Applications with Oracle SOA Suite 12.2.1.2
- Developing Applications with Oracle SOA Suite 12.1.3
- Oracle Service Bus. Oracle Service Bus provides standards-based integration for high-volume SOA environments. Oracle Service Bus is a core component in Oracle SOA Cloud Service, acting as a back-bone for SOA messaging. Oracle Service Bus connects, mediates, and manages interactions between heterogeneous services, legacy applications, packaged applications, and multiple enterprise service bus (ESB) instances across an enterprise-wide service network. Oracle Service Bus adheres to the SOA principles of building coarse-grained, loosely coupled, and standards-based services, creating a neutral container in which business functions can connect service consumers and back-end business services, regardless of underlying infrastructure.

See:

- Administering Oracle Service Bus 12.2.1.2
- Administering Oracle Service Bus 12.1.3

and

- Developing Services with Oracle Service Bus 12.2.1.2
- Developing Services with Oracle Service Bus 12.1.3
- Oracle Technology Adapters. Oracle JCA-compliant adapters enable you to
 integrate your business applications, and provide a robust, lightweight, highlyscalable and standards-based integration framework for disparate applications to
 communicate with each other.

With the growing need for business process optimization, efficient integration with existing back-end applications has become the key to success. To optimize business processes, you can integrate applications by using JCA 1.5 compliant resource adapters. Adapters support a robust, light weight, highly scalable, and

standards-based integration framework, which enables disparate applications to communicate with each other. For example, adapters enable you to integrate packaged applications, legacy applications, databases, and Web services. Using Oracle JCA adapters, you can ensure interoperability by integrating applications that are heterogeneous, provided by different vendors, based on different technologies, and run on different platforms.

See:

- Understanding Technology Adapters 12.2.1.2
- Understanding Technology Adapters 12.1.3
- Oracle Cloud Adapters. Cloud adapters simplify and accelerate integration with your SaaS applications. These adapters provide value to your SaaS integrations.
 Specifically, they provide lower costs of implementation and maintenance, ease of use, improved developer productivity and faster time-to-market for SaaS application integrations.

See:

- About Adapters for Oracle SOA Cloud Service
- About the Cloud Adapter Pack
- Oracle B2B. Oracle B2B is an e-commerce gateway that enables the secure and reliable exchange of business documents between an enterprise and its trading partners. Oracle B2B supports business-to-business document standards, security, transports, messaging services, and trading partner management. With Oracle B2B used as a binding component within an Oracle SOA Suite composite application, end-to-end business processes can be implemented. Oracle B2B also supports Health Level 7, which enables health care systems to communicate with each other.

You can include the service type that includes Oracle B2B when you provision your Oracle SOA Cloud Service service instance.

See:

- User's Guide for Oracle B2B 12.2.1.2
- User's Guide for Oracle B2B 12.1.3
- Oracle Enterprise Scheduler. Oracle Enterprise Scheduler is installed with Oracle SOA Cloud Service. Oracle Enterprise Scheduler enables you to define, schedule and run jobs. A job is a unit of work done on an application's behalf. For example, you might define a job that runs a particular PL/SQL function or command-line process.

See:

- Administering Oracle Enterprise Scheduler 12.2.1.2
- Administering Oracle Enterprise Scheduler 12.1.3

and

- Developing Applications for Oracle Enterprise Scheduler 12.2.1.2
- Developing Applications for Oracle Enterprise Scheduler 12.1.3

Oracle Real-Time Integration Business Insight. Oracle Real-Time Integration Business Insight is an application designed for business users. The application provides a business-friendly experience, allowing users to model, collect, and monitor business-level metrics using web-based dashboards. There is no need to modify already-deployed integrations and applications.

Oracle Real-Time Integration Business Insight is included with the Integration Analytics Cluster service type. Cloud instances of this application work with SOA Suite 12.2.1.2 and Oracle Service Bus 12.2.1.2 SOA Cloud Service instances.

See:

- Getting Started with Oracle Real-Time Integration Business Insight 12.2.1.2
- Understanding Oracle Real-Time Integration Business Insight 12.2.1.2
- Administering Oracle Real-Time Integration Business Insight 12.2.1.2
- Using Oracle Real-Time Integration Business Insight 12.2.1.2
- Oracle Business Activity Monitoring. Oracle Business Activity Monitoring (Oracle BAM) is used to monitor business processes for making tactical and strategic decisions. You can create dashboards that contain graphical views of data updated either in real time as streams or on a scheduled basis. Oracle BAM also supports alerting capabilities for business users to monitor business events, manage business exceptions, and continuously optimize their processes.
 - Oracle BAM is included in the Integration Analytics Cluster service type.
 - See Monitoring Business Activity with Oracle BAM 12.2.1.2
- Oracle Managed File Transfer Cloud Service. Oracle Managed File Transfer (MFT) is a high performance, standards-based, end-to-end managed file gateway. It features design, deployment, and monitoring of file transfers using a lightweight web-based design-time console that includes transfer prioritization, file encryption, scheduling, and embedded FTP and sFTP servers.

See Using Oracle Managed File Transfer Cloud Service.

About Adapters for Oracle SOA Cloud Service

Oracle SOA Cloud Service includes a number of adapters.

All of the technology adapters delivered with SOA Suite are available for Oracle SOA Cloud Service Service Bus and/or SOA Suite domain types. Connectivity to onpremises applications should be verified, and either SSH tunnels or VPN service should be used for connectivity to on-premises applications.

Oracle Cloud Adapters

Oracle Cloud Adapters are automatically installed and available as part of the Oracle SOA Cloud Service provisioned environment.

Oracle SOA Cloud Service supports the following cloud adapters for the SOA and OSB service types in version **12.2.1.2**:

- Oracle Sales Cloud Adapter
- Oracle RightNow Cloud Adapter
- Oracle Eloqua Cloud Adapter (outbound from Oracle SOA Cloud Service to Eloqua only)

- Salesforce Adapter
- Oracle ERP Cloud Adapter
- Oracle NetSuite Cloud Adapter (outbound from Oracle SOA Cloud Service to NetSuite only)

The SOA Cloud Service supports the following cloud adapters for the SOA and OSB service types in version **12.1.3**:

- Oracle Sales Cloud Adapter
- Oracle RightNow Cloud Adapter
- Oracle Eloqua Cloud Adapter
- Salesforce Cloud Adapter
- Oracle HCM Adapter (For integration with HCM, please refer to the following blogs.)
 - Integrating with HCM using MFT
 - HCM Rest Atom Feeds with Oracle SOA Cloud Service
 - HCM File integration using Oracle SOA Cloud Service

Certified Application Adapters

The following enterprise application adapters are available:

- Oracle E-Business Suite Adapter 12.2.1.2
- Integration Adapter for SAP R/3 12.2.1.2
- Integration Adapter for JD Edwards World 12.2.1.2 / 12.1.3
- Integration Adapter for Siebel 12.2.1.2

Before You Begin with Oracle SOA Cloud Service

There are some prerequisites before you begin using Oracle SOA Cloud Service.

Before you begin using Oracle SOA Cloud Service to create a service instance, you must have access details to a database and a remote storage disk, and have obtained details for the following: a database network through which the service instance will access the database, and a public network that will be used to access the service instance. You are also required to have a secure shell (SSH) public/private key pair so you can provide the public key when you create the service instance.

Database

Oracle SOA Cloud Service requires access to an existing relational database that contains the standard Oracle Fusion Middleware schemas. The schemas are required by Oracle Java Required Files (JRF).

You can use an on-premises database or a database that is deployed through Oracle Database Cloud Service.

Note:

 To coordinate restoration of database backups with restoration of Oracle SOA Cloud Service instances, consider using a database for which Flashback and Database Point-in-Time-Recovery support is enabled.

When you create an Oracle SOA Cloud Service instance, you have to provide the following information about the database:

- Connection string to the database in one of these formats: host:port:SID or host:port/service_name
- User name for the database administrator
- Password for the database administrator, or the password that was specified when the Oracle Database Cloud Service database deployment was created

Networks

When creating an Oracle SOA Cloud Service instance, you have to provide a public access network and a database network.

Contact your Oracle Cloud Administrator for the following networks:

- Public Access Network: The path to the network that will be used to access
 the service instance, in the format /tenant_name/public/
 EoIB_vNet_name. For example, /mytenant/public/vnet-EoIBvlan3072.
- Database Network: The path to the network through which the service instance will access the database that contains the Oracle Fusion Middleware component schemas. For example, /mytenant/public/IPoIB-dbaccess.

Remote Backup

Oracle SOA Cloud Service uses a remote networked disk to store Oracle SOA Cloud Service instance backups.

The remote networked disk is not permanently attached to the service instance's WebLogic Server Administration Server virtual machine.

A remote networked disk is not required for service instances created at the Oracle SOA Cloud Service—Virtual Image service level. Only service instances created at the service level of Oracle SOA Cloud Service require access to a remote backup disk.

When creating an Oracle SOA Cloud Service instance, you specify the remote backup disk to use by providing the URI in one of the following formats:

- host_name:absolute_path_to_remote_backup_disk
- host_ip:absolute_path_to_remote_backup_disk

Note: A remote backup disk share must be owned by oracle:oracle or uid=1101 and gid=1000, and the permissions rwxr-xr-x or rwx-----must be given.

• Virtual Machine (VM) public key

An SSH public/private key pair is used for authenticating access to a VM through an SSH client. You generate an SSH public/private key pair using a standard SSH key generation tool. See Accessing a VM Through a Secure Shell (SSH).

You may use the same SSH public/private key pair that you used for creating a service instance in Oracle Database Cloud Service.

When you're ready to create an Oracle SOA Cloud Service instance, you'd be prompted to supply the VM public key.

To connect to a VM in an Oracle SOA Cloud Service instance, you'd supply the paired private key when logging in to the machine using an SSH client.

JDeveloper

The current release of Oracle SOA Cloud service works with versions 12.1.3 and 12.2.1.2 of Oracle JDeveloper. You can download the Oracle SOA Suite 12.1.3 QuickStart (which includes Oracle JDeveloper) from Oracle SOA Suite 12.1.3 QuickStart Download and the 12.2.1.2 version from Oracle SOA Suite 12.2.1.2.0 QuickStart Download.

Prior to using Oracle SOA Cloud Service, ensure also you're familiar with the following:

• Oracle Compute Cloud Service on Oracle Cloud Machine

For information about Oracle Compute Cloud Service on Oracle Cloud Machine, see *Using Oracle Compute Cloud Service on Oracle Cloud Machine*.

• Oracle Compute VMs

Oracle SOA Cloud Service runs on Oracle Compute VMs.See *Using Oracle Compute Cloud Service* for information about disk images, compute shapes, storage volumes, public IP addresses, and SSH public/private key pairs.

Oracle WebLogic Server

Applications are deployed to Oracle WebLogic Server. Oracle SOA Cloud Service supports Oracle WebLogic Server 12*c* (12.1.3 and 12.2.1.2).

• Oracle Traffic Director

To provide load balancing for applications, Oracle SOA Cloud Service uses Oracle Traffic Director Release 12c. Starting with Release 12c, Oacle Traffic Director administration tasks are performed from Oracle Enterprise Manager Fusion Middleware Control. When accessing Oracle Traffic Director from the Oracle SOA Cloud Service Console, you are directed to Oracle Enterprise Manager Fusion Middleware Control:

https://hostname/em

To use and configure Oracle Traffic Director, see *Oracle Traffic Director Administrator's Guide*.

Managing the Life Cycle of Oracle SOA Cloud Service Instances

This section describes how to manage the life cycle of Oracle SOA Cloud Service instances.

Topics:

- About Life Cycle Management of Oracle SOA Cloud Service Instances
- Typical Workflow for Managing the Life Cycle of Oracle SOA Cloud Service **Instances**
- Creating an Instance
- Exploring the Oracle SOA Cloud Service Console
- Exploring the Oracle SOA Cloud Service Instance Overview Page
- Suspending an Oracle SOA Cloud Service Instance
- Stopping and Starting an Oracle SOA Cloud Service Instance and Individual VMs
- Deleting an Oracle SOA Cloud Service Instance
- Exploring the Oracle SOA Cloud Service Instance Overview Page

About Life Cycle Management of Oracle SOA Cloud Service Instances

With a few clicks of the mouse, you can create an Oracle WebLogic Server production environment in the cloud that is based on best practices, optimized for high performance and reliability, and is integrated with your Oracle service instances.

When you create an Oracle SOA Cloud Service instance, you create and configure an Oracle Fusion Middleware Infrastructure domain with the resources defined in the following table.

Resources	Description
Administration Server	Operates as the central control entity for the configuration of the entire domain. It maintains the domain's configuration documents and distributes changes in the configuration documents to managed servers.
	Each Oracle SOA Cloud Service instance has one server instance that hosts the administration server.
Managed Servers	Host business applications, application components, Web services, and their associated resources.
	When creating a service instance, you can configure up to four managed servers, then scale out, as needed.
	Each Oracle SOA Cloud Service instance has one or more managed servers, each hosted by its own administration server.
	By default, the managed servers are named as follows: $first8charsOfDomainName_server_n$ (where n starts with 1 and is incremented by 1 for each additional managed server to guarantee unique names).

Resources	Description
Cluster	Consists of multiple Oracle WebLogic Server instances running simultaneously and working together to provide increased scalability and reliability. In a cluster, most resources and services are deployed identically to each managed server (as opposed to a single managed server), enabling failover and load balancing.
	A cluster is configured automatically for a production-level service instance.
	By default, the cluster name is generated from the first eight characters of the Oracle SOA Cloud Service instance name using the following format: first8charsOfServiceInstanceName_cluster.
Load Balancer	Employs Oracle Traffic Director for load balancing to manage routing requests across all managed servers and provide failover and replication.
	It is recommended that you enable the load balancer when you configure more than one managed server in your environment. Enabling the load balancer is optional.

If you want more information about Oracle WebLogic Server domains, see WebLogic Server Domains in *Understanding Oracle WebLogic Server*.

After the Oracle SOA Cloud Service instance is created, the administration server in the domain is started automatically. You can deploy applications and manage the domain resources using the standard administration tools, including Enterprise Manager Fusion Middleware Control, Oracle WebLogic Server Administration Console, Oracle WebLogic Scripting Tool (WLST), Node Manager, and Oracle Traffic Director Console.

Note:

If you extend your domain using the administration tools, for example, to add an additional cluster, you are responsible for maintaining those additional resources.

Typical Workflow for Managing the Life Cycle of Oracle SOA Cloud Service Instances

To manage the life cycle of Oracle SOA Cloud Service instances, consider the typical workflow described in the following table.

Note:

The table provides links to information about how to perform each task by using the web browser-based Oracle SOA Cloud Service Console. For information about using the REST API to manage the life cycle of Oracle SOA Cloud Service instances, see REST API for Oracle SOA Cloud Service.

Task	Description	More Information
Create an Oracle SOA Cloud Service instance	Create a new Oracle SOA Cloud Service instance by stepping through the Oracle SOA Cloud Service provisioning wizard.	Creating an Instance

Task	Description	More Information
View all Oracle SOA Cloud Service instances	View status, resource allocation, and other details for all Oracle SOA Cloud Service instances.	Exploring the Oracle SOA Cloud Service Console
View detailed information about an Oracle SOA Cloud Service instance	View status, resource allocation, and other details for an Oracle SOA Cloud Service instance.	Exploring the Oracle SOA Cloud Service Instance Overview Page
Suspend an Oracle SOA Cloud Service instance	Disable the load balancer to block any new traffic to an Oracle SOA Cloud Service instance temporarily while maintenance is performed.	Suspending an Oracle SOA Cloud Service Instance
Stop, start, or restart a service instance or individual server VMs	Stop service instances or individual server VMs. Restart the administration server or individual server VMs if reboot is needed.	Stopping and Starting an Oracle SOA Cloud Service Instance and Individual VMs
Delete an Oracle SOA Service instance	Manage access to an Oracle SOA Cloud Service instance by deleting the service instance.	Deleting an Oracle SOA Cloud Service Instance

Keeping Your Service Instances Manageable by Oracle SOA Cloud Service

Following best practices ensures that your Oracle SOA Cloud Service instances stay manageable.

Reliable management of Oracle SOA Cloud Service instances requires a specific software environment that includes service instances of Oracle Database Cloud Service and a secure shell (SSH) public key. For details on these features, see Before You Begin with Oracle SOA Cloud Service.

To keep your service instances manageable by Oracle SOA Cloud Service, follow these guidelines:

- To ensure that you can restore the database for an Oracle SOA Cloud Service
 instance without risking data loss for other service instances, do not use the same
 Oracle Database Cloud Service as a Service instance with multiple Oracle SOA
 Cloud Service instances. Backups of an Database Cloud Service instance that are
 used with multiple Oracle SOA Cloud Service instances contain data for all the
 Oracle SOA Cloud Service instances.
- Apply only patches that are available through Oracle SOA Cloud Service. Do not apply patches from any other source.
- Use only the default domain that was provisioned when a service instance was created. Do not add any Oracle WebLogic Server domains to the service instance.
- If you plan to integrate multi-domain environments, ensure that the first eight characters of your Oracle SOA Cloud Service instance name are unique so that all domains and associated resources have unique names.

By default, the names of the domain and cluster in the Oracle SOA Cloud Service instance are generated from the first eight characters of the Oracle SOA Cloud Service instance name, and will use the following formats, respectively:

- first8charsOfServiceInstanceName_domain
- first8charsOfServiceInstanceName_cluster

See:

- Fusion Middleware Administering JMS Resources for Oracle WebLogic Server 12.2.1.2
- Fusion Middleware Administering JMS Resources for Oracle WebLogic Server 12.1.3.0
- Add managed servers to a service instance only by scaling out the Oracle WebLogic Server cluster in the service instance. Do not use Oracle WebLogic Server administrative interfaces for this purpose.

For information about how to scale out the cluster in a service instance, see Scaling Out an Oracle SOA Cloud Service Cluster.

Do not attach custom storage volumes to a service instance's VMs.

Any custom storage volumes that you attach are detached if the service instance is restarted.

If a service instance requires additional storage, add storage by scaling the service instance's cluster as explained in Scaling Out an Oracle SOA Cloud Service Cluster.

 Do not detach, change file access permissions for, or change the mount point of any disk volume that Oracle SOA Cloud Service attaches to a service instance's VMs during creation of the service instance.

For details about these volumes, see About the Disk Volumes.

 Except for the DOMAIN_HOME volume, do not change the content of any disk volume that Oracle SOA Cloud Service attaches to a service instance's VMs during creation of the service instance.

For details about these volumes, see About the Disk Volumes.

- Do not change the egress and ingress network and security settings of any infrastructure resources that the service instance uses.
- Do not close any ports or protocols that Oracle SOA Cloud Service opened during creation of a service instance.

You can open new ports and protocols, but closing existing ports and protocols may impair the functioning of a service instance.

See Understanding the Default Access Ports.

- Do not detach NAT IP addresses from any of a service instance's VMs.
- Do not change the Oracle Fusion Middleware component schemas with which a service instance was provisioned.
- Do not change the ports for the Oracle WebLogic Server administration server and the Oracle Traffic Director administration server.
- Do not change OS users and SSH key settings that Oracle SOA Cloud Service configured during creation of a service instance.

Accessing Oracle SOA Cloud Service Console

You access Oracle SOA Cloud Service through a service web console or the REST API.

For information about using the REST API to access Oracle SOA Cloud Service, see REST API for Oracle SOA Cloud Service.

To access Oracle SOA Cloud Service through a web console, use the direct URL for your service console in your web browser.

Provide a user name (user ID), password, and tenant domain to sign in. Contact your Oracle Cloud administrator or tenant ddministrator for your sign-in credentials and the URL to access the service console.

About the User Interfaces of Oracle SOA Cloud Service

The following sections explore the Oracle SOA Cloud Service Console and Instance Overview Page.

Exploring the Oracle SOA Cloud Service Console

You can use the Oracle SOA Cloud Service Console to view all existing Oracle SOA Cloud Service instances and to create new instances.

The following table describes the key information shown on the Oracle SOA Cloud Service Console.

Element	Description
III Instances	Click to return to the SOA Cloud Service Console main page.
Identity Domain	Identity domain for the Oracle SOA Cloud Service account.
G	Click to refresh the page. The date and time the page was last refreshed are displayed adjacent to this button.
Instances (In top row)	Number of Oracle SOA Cloud Service instances in the identity domain.
OCPUs	Total number of Oracle CPUs allocated across all Oracle SOA Cloud Service instances.
Memory	Total amount of memory in GBs allocated across all Oracle SOA Cloud Service instances.
Storage	Total amount of storage in GBs allocated across all Oracle SOA Cloud Service instances.
Public IPs	Total number of public IP addresses allocated across all Oracle SOA Cloud Service instances.
Instances (heading)	All Oracle SOA Cloud Service instances in the identity domain.
Enter a full or partial service na	Enter a full or partial instance name to filter the list of instances to include only the instances that contain the string in their service name.
Create Instance	Click to create a new Oracle SOA Cloud Service instance. See Creating an Instance.

Element	Description
	Oracle SOA Cloud Service instance. Click this icon to view more details about that instance.
X	Status icon indicating that the Oracle SOA Cloud Service instance is being created.
A	Status icon indicating the Oracle SOA Cloud Service instance is undergoing maintenance or terminating.
A	Status icon indicating that the Oracle SOA Cloud Service instance failed to be created. This icon can also mean that the service instance has stopped. For more information about the stopped service instance, see the Activity section of this page.
Instance Name	The name of the instance. Click this icon to view more details about that instance.
Version	Version of Oracle WebLogic Server configured for the Oracle SOA Cloud Service instance.
Edition	Software edition. SOA Cloud Service only supports the Enterprise edition.
Nodes	Number of nodes allocated for the Oracle SOA Cloud Service instance.
Load Balancer	Flag indicating that the load balancer is configured for the Oracle SOA Cloud Service instance. If not configured, this field does not appear.
Submitted On	When status is In Progress, date and time in UTC that the Oracle SOA Cloud Service instance creation request was submitted.
Created On	When provisioning is complete, the date and time in UTC that the Oracle SOA Cloud Service instance was created.
OCPUs	Number of Oracle CPUs allocated for the Oracle SOA Cloud Service instance.
Memory	Amount of memory in GBs allocated for the Oracle SOA Cloud Service instance.
Storage	Amount of storage in GBs allocated for the Oracle SOA Cloud Service instance.

ement Description	
ī	Menu icon can provide the following options based on the service types you have provisioned:
	 Open WebLogic Server Console—Open the WebLogic Console to administer your application environment. See Accessing an Administration Console for Software that a Service Instance Is Running.
	 Open Fusion Middleware Control—Open Fusion Middleware Control to administer your application environment. See Accessing an Administration Console for Software that a Service Instance Is Running.
	 Open Load Balancer Console—Open the console to administer the load balancer, if the load balancer has been configured for the service instance. See Administering the Load Balancer for an Oracle SOA Cloud Service Instance.
	 Open Service Bus Console—Open the Oracle Service Bus Console.
	Open Insight Composer—Open the Insight Composer.
	 Open BAM Composer—Open the Oracle BAM Composer.
	• Open B2B Console—Open the Oracle B2B Console.
	Open Worklist Application—Open the Oracle Worklist Application.
	• Delete —Delete the service instance.
Failed provisioning requests (in last 7 days)	Shows instances that could not be provisioned in the last week. The following information about the instance is provided:.
	• The name of the instance
	• The version
	The date the provisioning failed
	Details explaining the failure

Related Topics

• Exploring the Oracle SOA Cloud Service Instance Overview Page

Exploring the Oracle SOA Cloud Service Instance Overview Page

You can use the Overview tile on the Oracle SOA Cloud Service Instance page to view overview information for a specific Oracle SOA Cloud Service instance. To access this page, click an instance name or icon in the Oracle SOA Cloud Service Console.

The following table describes the key information shown on the Oracle SOA Cloud Service Console.

Element	Description
Instances	Click to return to the Oracle SOA Cloud Service Console. In addition, you can use the breadcrumb to navigate.
WebLogic Server Version	Version of Oracle WebLogic Server configured for the Oracle SOA Cloud Service instance. For example: 12.1.3.0.
Description	Description of the Oracle SOA Cloud Service instance.

Element Description		
≣	Menu icon can provide the following options based on the service types you have provisioned:	
	 Open WebLogic Server Console—Open the WebLogic Console to administer your application environment. 	
	 Open Fusion Middleware Control—Open Fusion Middleware Control to administer your application environment. 	
	 Open Load Balancer Console—Open the console to administer the load balancer, if the load balancer has been configured for the service instance. 	
	 Open Service Bus Console—Open the Oracle Service Bus Console. 	
	 Open Insight Composer—Open the Insight Composer. 	
	 Open BAM Composer—Open the Oracle BAM Composer. 	
	• Open B2B Console—Open the Oracle B2B Console.	
	 Open Worklist Application—Open the Oracle Worklist Application. Start—Start the instance. 	
	Stop—Stop the instance.	
G-	Click to refresh the page. The date and time the page was last refreshed are displayed adjacent to this button.	
OVERVIEW	Click the Overview tile to access the Oracle SOA Cloud Service Instance	
avg response time: 0.0	Overview page (this page) at anytime. The Overview tile displays the number of running nodes for the Oracle SOA Cloud Service instance.	
U 3 running nodes		
ADMINISTRATION	Click the Administration tile to backup and restore your work. See:	
patches available	Backing Up and Restoring an Oracle SOA Cloud Service Instance	
08-Jul-2014 2:00 AM GMT last backup		
TOPOLOGY 3 nodes load balancer enabled	Click the Topology tile to view the nodes defined for the Oracle SOA Cloud Service instances.	
	Select the Topology tile to add and remove nodes from the cluster. When the Topology tile is selected, the Add Node button appears and a menu appears on the right side of the node that you can use to scale, remove, start, stop and	
	restart the node.	
	The Topology tile displays the total number of nodes and the load balancer status.	
	If there is no load balancer configured for the service instance, the information is displayed here. For information about load balancers, see Administering the Load Balancer for an Oracle SOA Cloud Service Instance.	
Nodes	Number of nodes defined for the Oracle SOA Cloud Service instance.	
OCPUs	Total number of Oracle CPUs allocated for the Oracle SOA Cloud Service instance.	

Element	Description	
Memory	Total amount of memory in GBs allocated for the Oracle SOA Cloud Service instance.	
Storage	Total amount of storage in GBs allocated for the Oracle SOA Cloud Service instance.	
Public IPs	Total number of public IP addresses allocated for the Oracle SOA Cloud Service instance.	
Heap Usage	Percent of available heap space that is being used by the Oracle SOA Cloud Service instance.	
\$	Retrieves real-time monitoring information: Date and time each node was last started or information was updated. Click the icon to update the information.	
	Add a node to the cluster. The button is enabled when the Topology tile is selected.	
	 Provides information about the administration server or managed server: Managed Server—The name of the managed server. Public IP—Public IP address of the administration server. Up Since—Date and time the server started. Appears only after you click the Monitoring icon. Heap Usage—The percentage heap space used as compared to the total heap space in GBs available. Appears only after you click the Monitoring icon. If you click the percentage number, the heap usage graph is displayed. OCPUs—The number of Oracle CPUs allocated for the virtual machine. Memory—Amount of memory in GBs allocated to the virtual machine. Storage—Amount of storage in GBs allocated to the virtual machine. If the Topology tile is selected and multiple nodes are active, managed server nodes include a menu from which you can remove the node. 	
•	 Provides information about the load balancer: Public IP—Public IP address of the load balancer. Host—Name of the load balancer. Content endpoint—Information about the content endpoint. Up Since—Date and time the load balancer started. Appears only after you click the Monitoring icon OCPUs—The number of Oracle CPUs allocated for the load balancer. Memory—Amount of memory in GBs allocated to the load balancer. Storage—Amount of storage in GBs allocated to the load balancer. 	

Element	Description	
Associated Services	Information about the Oracle Database Cloud Service instance used by the Oracle SOA Cloud Service instance.	
	 Java Service Name—Name of the Oracle Java Cloud Service instances used by the Oracle SOA Cloud Service instance. Database Service Name—Name of the Oracle Database Cloud Service instances used by the Oracle SOA Cloud Service instance. The name was specified during the process of creating the Oracle SOA Cloud Service instance. 	
Additional Information	 More information you need to know about the service instance. Edition: Software edition. Valid values include: Standard or Enterprise. Service Level: Level of service. Oracle SOA Cloud Service is the only value. Subscription Type: Billing frequency. Note that SOA Cloud Service only supports the <i>monthly</i> billing frequency. Created On: Date and time in GMT when the Oracle SOA Cloud Service instance was created. Created By: Account used to create the Oracle SOA Cloud Service instance. Identity Domain: Identity domain for the Oracle SOA Cloud Service instance. 	

Related Topics

Exploring the Oracle SOA Cloud Service Console

Provisioning Oracle SOA Cloud Service

Use the provisioning wizard to conveniently provision instances to use in Oracle SOA Cloud Service.

To provision instances, you run a simple provisioning wizard that provides you with a choice of service types (standalone Oracle SOA Suite with technology adapters, standalone Oracle Service Bus with technology adapters, or Oracle SOA Suite and Oracle Service Bus together with technology adapters) and node configuration. You can also choose to install the Integration Analytics Cluster, or Oracle Managed File Transfer Cluster.

The SOA Cloud Service environment provides Oracle SOA Suite versions 12.1.3 and 12.2.1.2 on a single virtual machine, Oracle WebLogic Server default configurations, simplified provisioning for a single node instance, self-management tools, and secure shell (SSH) access to the virtual machine. The environment also provides simplified node cluster provisioning; simplified configuration to preexisting DBaaS and SaaS environments; and cloud self-management tools for automated backup/recovery, patching, and scaling, local and central monitoring and management, centralized provisioning, comprehensive APIs, and upgrading.

Oracle handles all node provisioning, installation, and domain configuration after you make your selections. There are some prerequisites that you have to address before you provision. They are described in Prerequisites to Provisioning Oracle SOA **Cloud Service.**

Prerequisites to Provisioning Oracle SOA Cloud Service

Before you begin using Oracle SOA Cloud Service to create a service instance, you must have access details to a database and a remote storage disk, and have obtained details for the following: a database network through which the service instance will access the database, and a public network that will be used to access the service instance. You are also required to have a secure shell (SSH) public/private key pair so you can provide the public key when you create the service instance.

Topics

- SSH Key Pair
- Database
- Networks
- Remote Backup

SSH Key Pair

Oracle SOA Cloud Service requires a secure shell (SSH) public/private key pair for authenticating access to a virtual machine through an SSH client.

You can use an SSH public/private key pair that you have already created and saved to a file. If using Oracle Database Cloud Service, you may use the same SSH public/private key pair for provisioning an Oracle Database Cloud Service database deployment and an Oracle SOA Cloud Service instance.

If necessary, you can generate a new key pair by using a standard SSH key generation tool. For more information, see:

- Creating an SSH Key Pair
- The Create an SSH key pair tutorial

When you create an Oracle SOA Cloud Service instance, you are prompted to supply the public key.

To connect to a virtual machine in an Oracle SOA Cloud Service instance, you supply the paired private key when logging in to the machine using an SSH client.

Database

Oracle SOA Cloud Service requires access to an existing relational database that contains the standard Oracle Fusion Middleware schemas. The schemas are required by Oracle Java Required Files (JRF).

You can use an on-premises database or a database that is deployed through Oracle Database Cloud Service.

Note:

- To coordinate restoration of database backups with restoration of Oracle SOA Cloud Service instances, consider using a database for which Flashback and Database Point-in-Time-Recovery support is enabled.
- Oracle Real Application Clusters (RAC) database deployments are supported if you use Oracle Database Cloud Service. For information about provisioning Database as a Service database deployments, see Creating a Database Deployment in Using Oracle Database Cloud Service.

When you create an Oracle SOA Cloud Service instance, you have to provide the following information about the database:

- User name for the database administrator
- Password for the database administrator, or the password that was specified when the Oracle Database Cloud Service database deployment was created

Networks

When creating an Oracle SOA Cloud Service instance, you have to provide a public access network and a database network.

Contact your Oracle Cloud Administrator for the following networks:

- Public Access Network: The path to the network that will be used to access the service instance, in the format /tenant_name/public/EoIB_vNet_name. For example, /mytenant/public/vnet-EoIB-vlan3072.
- Database Network: The path to the network through which the service instance will access the database that contains the Oracle Fusion Middleware component schemas. For example, /mytenant/public/IPoIB-dbaccess.

Remote Backup

Oracle SOA Cloud Service uses a remote networked disk to store Oracle SOA Cloud Service instance backups.

The remote networked disk is not permanently attached to the service instance's WebLogic Server Administration Server virtual machine.

A remote networked disk is not required for service instances created at the Oracle SOA Cloud Service—Virtual Image service level. Only service instances created at the service level of Oracle SOA Cloud Service require access to a remote backup disk.

When creating an Oracle SOA Cloud Service instance, you specify the remote backup disk to use by providing the URI in one of the following formats:

- host_name:absolute_path_to_remote_backup_disk
- host ip:absolute path to remote backup disk

Note: A remote backup disk share must be owned by oracle: oracle or uid=1101 and gid=1000, and the permissions rwxr-xr-x or rwx----must be given.

Using the Provisioning Wizard

You subscribe to Oracle SOA Cloud Service by running the provisioning wizard. This section describes the pages that are displayed in the provisioning wizard.

Topics

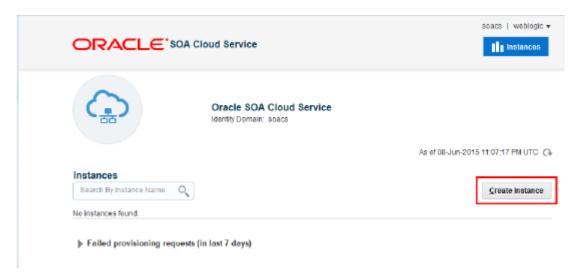
- Creating an Instance
- Selecting the Service Type
- Selecting the Software Image
- Specifying Instance Details
- Confirming Your Selections

Creating an Instance

Start the provisioning process by creating a new instance.

Log in to SOA Cloud Service and then create a new instance.

1. Click Create Instance.



The **Domain Type** page appears.

Selecting the Service Type

Select the service type and billing frequency for your Oracle SOA Cloud Service instance.

The following service types are available. See About the Components of Oracle SOA Suite Cloud Suite for information about the service type components.

Service Type	Components Installed
Service Bus Cluster	Install and configure only Oracle Service Bus, Oracle Enterprise Scheduler, Oracle Technology Adapters, and Oracle Cloud Adapters. Note : This service type is only available with the 12.1.3 software image.
SOA Cluster	Install and configure only Oracle SOA Suite, Oracle Technology Adapters, Oracle Enterprise Scheduler, and Oracle Cloud Adapters. Note: This service type is only available with the 12.1.3 software image.
SOA and Service Bus Cluster	Install and configure Oracle SOA Suite, Oracle Service Bus, Oracle Enterprise Scheduler, Oracle Technology Adapters, and Oracle Cloud Adapters. Note: Do not use the SOA and Service Bus Cluster 12.2.1.2 service type in a production environment. In a later release, this service type will be combined into a single SOA and Service Bus and B2B Cluster service type selection. There will not be a way to upgrade to this combined service type. However, you can use the SOA and Service Bus Cluster service type for testing.
SOA and B2B Cluster	Install and configure Oracle SOA Suite, Oracle B2B, Oracle Technology Adapters, and Oracle Cloud Adapters. Note: This service type is only available for selection with the 12.1.3 software image. To provision this service type in 12.2.1.2, you must use the REST API.
MFT Cluster	Install and configure only Oracle Managed File Transfer Cloud Service. See <i>Using Oracle Managed File Transfer Cloud Service</i> .
Integration Analytics Cluster	Install and configure Oracle Real-Time Integration Business Insight and Oracle Business Activity Monitoring. See <i>Getting Started with Oracle Real-Time Integration Business Insight</i> .

Selecting the Software Image

Select the version of Oracle SOA Cloud Service that you want to use.

Specifying Instance Details

Specify details about your instance.

Topics

- Instance Configuration
- WebLogic Administrator
- Database Configuration
- Load Balancer
- Network Configuration
- Backup Configuration

Instance Configuration

Specify the information to configure your instance, then click **Enter**.

Item	Description
Instance Name	Use the following conventions to compose your instance name:
	 The name must start with a letter. The name cannot contain more than 30 characters. The name cannot contain special characters other than the hyphen character. The name cannot include a hyphen in the first eight characters. The first eight characters of the name are used for the domain name and cluster name.
Description	Describe the instance.
Cluster Size	SOA Cloud service always creates a domain with one or more servers in a cluster.
	Choose the cluster size. Choose between 1, 2, or 4 virtual machines.
	Note: If you configure more than one node, it is highly recommended that you enable the load balancer later on this page.

Item	Description
Compute Shape	Choose a CPU/memory pairing.
	Select the number of Oracle Compute Units (OCPUs) and amount of RAM memory that you want to allocate for the load balancer. The larger the compute shape, the greater the processing power.
	Valid compute shapes include:
	 OC1M: 1 OCPU and 15 GB memory OC2M: 2 OCPUs and 30 GB memory OC3M: 4 OCPUs and 60 GB memory OC4M: 8 OCPUs and 120 GB memory Note that you cannot change the compute shape after you have created the Oracle SOA Cloud Service instance.
SSH Public Key	Specify the value of the VM Public Key, or the name of the file that contains the public key value.
	Define the public key for the secure shell (SSH). This key is used for authentication when connecting to the Oracle SOA Cloud Service instance using an SSH client.
	Click Edit to display the public key input for VM access and specify the public key using one of the following methods:
	 Select Key file name and click Choose File to select a file that contains the public key for the secure shell (SSH).
	• Select Key name and enter the name of the compute SSH key object referring to the public key. Enter the key name using the following format: /Compute-identity-domain/username/key-name.

WebLogic Administrator

 $Specify\ information\ about\ your\ Oracle\ WebLogic\ Server\ administrator.$

Item	Description
User Name	The user name of the Oracle WebLogic Server Administrator.
	Note that you can change the user name through the WebLogic Server Administration Console after you have created the instance.

Item	Description
Password	 Specify an Oracle WebLogic Server Administrator password that meets the following criteria: It must begin with a letter. It must contain between 8 and 30 characters. It must contain at least one number. Optionally, it can contain any number of the following special characters: "\$#_". For example: Ach1z0#d.
Confirm Password	Retype the password.

Database Configuration

Specify information about your database.

Note:

In the Database Configuration section in the Service Details page of the Provision New Java Cloud Service wizard, specify connection and administrator information.

Item	Description
Name	Select an existing production-level Oracle Database Cloud Service database deployment for storing the Oracle required schema for the service instance, or specify a connection string for an on-premises database
	The connection string must be in one of the following formats: • host:port:SID
	 host:port/service_name
	Note that the <i>service_name</i> path must be fully qualified.
	The database deployment you choose must not be configured with a Backup Destination set to None. You must select one of the other available backup options in the database deployment prior to creating this service instance.
	Note: To ensure that you can restore the database for an Oracle SOA Cloud Service instance without risking data loss for other service instances, do not use the same Oracle Database Cloud Service database deployment with multiple Oracle SOA Cloud Service instances. Backups of an Oracle Database Cloud Service database deployment that is used with multiple Oracle SOA Cloud Service instances contain data for all the Oracle SOA Cloud Service instances. If you restore the database while restoring an Oracle SOA Cloud Service instance, data for all the Oracle SOA Cloud Service instance, data for all the Oracle SOA Cloud Service instances is restored.
	Only Database Cloud Service database deployments that are up and running are available in the list. If your Database Cloud Service database deployment is In Progress, it will not appear in the list.
Administrator User Name	Enter the user name for the database administrator.
	For database deployments based on Oracle WebLogic Server 12c (12.1.3) or Oracle WebLogic Server 12c (12.2.1), this value must be set to a database user with SYSDBA system privileges. You can use the default user SYSDBA or any user that has been granted the SYSDBA

or any user that has been granted the ${\tt SYSDBA}$

privilege.

Item	Description
Password	Enter the database administrator user password.

Note: Oracle SOA Suite automatically creates SOA schemas in this database, such as SOAINFRA and MDS. The SOA schemas take the same password that you specified in the WebLogic Administrator section of this wizard.

Load Balancer

Specify whether or not you want to use the load balancer.

Note: If you do not select a load balancer, then the managed server URLs (b2bconsole, worklistapp) are not accessible using the load balancer IP address. You will have to create SSH tunnels to access these URLs.

Item	Description
Provision Load Balancer	Choose whether or not to use the load balancer. A load balancer delivers the following benefits:
	 Manages the routing of requests across all managed servers.
	 Enables you to configure the routing policy.
	 Enables you to suspend an Oracle SOA Cloud Service instance temporarily to perform routine maintenance, as described in Suspending an Oracle SOA Suite Cloud Service Instance.
	If you have more than one node in your cluster and do not choose a load balancer, then only one server receives all of the work requests, while the other server(s) in the cluster are idle. The server that receives all of the HTTP requests might become overloaded, while the other servers are under utilized.
	Note that you can add a load balancer later if you did not configure a load balancer while you created your Oracle SOA Cloud Service instance. For information on adding a load balancer, see Adding a Load Balancer to an Oracle SOA Cloud Service Instance.

Item	Description
Load Balancer Policy	Least Connection Count. Passes each new request to the managed server with the least number of connections. This policy is useful for smoothing distribution when managed servers slow down. managed servers with greater processing power receive more connections over time.
	 Least Response Time. Passes each new request to the managed server with the fastest response time. This policy is useful when managed servers are distributed across networks. Round Robin. Passes each new request to the next managed server in line, evenly distributing requests across all managed servers regardless of the number of connections or response time.
Compute Shape	Select the number of Oracle Compute Units (OCPUs) and amount of RAM memory that you want to allocate for the load balancer. The larger the compute shape, the greater the processing power.
	 Valid compute shapes include: OC1M: 1 OCPU and 15 GB memory OC2M: 2 OCPUs and 30 GB memory OC3M: 4 OCPUs and 60 GB memory OC4M: 8 OCPUs and 120 GB memory Note that you cannot change the compute shape after you have created the Oracle SOA Cloud Service instance.

Network Configuration

Specify information about your network.

Item	Description
Public Access Network	Select the name of the public access network by using the following format: /tenant/public/EoIB_vNet. For example: smtenant/public/vnet-EoIB-vlan3072.
Database Network	Select the database network from the drop-down list.

Backup Configuration

Specify information about your backup configuration.

Item	Description
NFS Remote Backup	Specify the location of the remote networked disk that is not permanently attached to the WebLogic Server Administration Server by using one of the following formats: • hostname: absolute_path • ip_address: absolute_path The Cloud Administrator should provide the tenant's network connectivity to the database By default, all backups are moved to the remote networked disk from day one, specified by this path.

Confirming Your Selections

The confirmation page displays the configuration values you choose in the provisioning wizard.

Review the service details. If you need to change the service details, use the navigation bar or **Previous** button at the top of the wizard to step back through the pages in the wizard. Click **Cancel** to cancel out of the wizard without creating a new service instance. If you are satisfied with your choices on the Confirmation page, click **Create**.

Note:

It takes about an hour and a half to create the instance. You are notified by email when it has been created.

Post-Provisioning Tasks for the Integration Analytics Cluster Service Type

Complete the following tasks after provisioning an Integration Analytics Cluster instance.

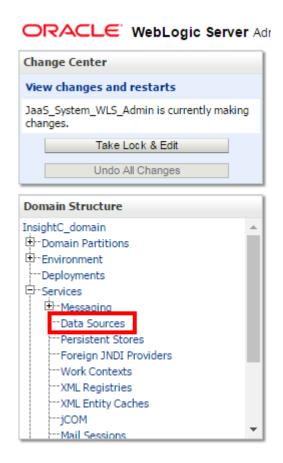
Topics

 Configuring Data Sources to Point to Real-Time Integration Business Insight Schema

Configuring Data Sources to Point to Real-Time Integration Business Insight Schema

After provisioning an Integration Analytics Cluster service type instance, you must configure the SOA/Service Bus data sources for instances you want to monitor with Oracle Real-Time Integration Business Insight.

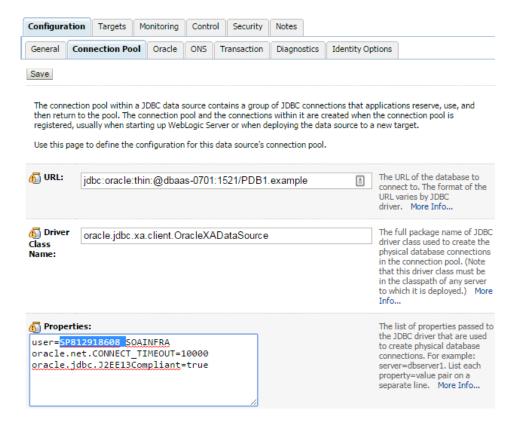
- 1. Collect required information about the Oracle Real-Time Integration Business Insight schema:
 - a. Open the WebLogic Server Administration Console for your Integration Analytics instance.
 - **b.** Expand **Services**, and then click **Data Sources**.



- c. Click BamDataSource, and then click the Connection Pool tab.
- **d.** From **Properties**, copy the user prefix and paste into a text editor. The prefix should look similar to this example: SP812918608_

```
🚮 Properties:
user=SP812918608 SOAINFRA
oracle.net.CONNECT TIMEOUT=10000
oracle.jdbc.J2EE13Compliant=true
```

- e. Copy the value of the URL field and paste into a text editor. The value should look similar to this example: jdbc:oracle:thin:@192.168.0.1:1521/PDB1.oraclecloud.example
- **2.** To configure the SOA/Service Bus datasources:
 - **a.** Open the WebLogic Server Administration Console for your SOA/Service Bus instance.
 - **b.** Expand **Services**, and then click **Data Sources**.
 - **c.** Click **BamDataSource**, and then click the **Connection Pool** tab.
 - d. Click Lock & Edit to start a new edit session.
 - **e.** From **Properties**, replace the user prefix with the Oracle Real-Time Integration Business Insight user prefix you copied in Step 1d.



- f. Replace the contents of the URL field with the value you copied in Step 1e, and then click Save.
- g. Click Data Sources.
- h. Click BamNonJTADataSource, and then click the Connection Pool tab.
- i. From **Properties**, replace the user prefix with the Oracle Real-Time Integration Business Insight user prefix you copied in Step 1d.
- Replace the contents of the URL field with the value you copied in Step 1e, and then click Save.

- k. Click Data Sources.
- I. Click mds-bam, and then click the Connection Pool tab.
- **m.** From **Properties**, replace the user prefix with the Oracle Real-Time Integration Business Insight user prefix you copied in Step 1d.

Note:

The schema suffix for the **mds-bam** data source is _MDS, not _SOAINFRA like the other data sources mentioned in this task. Ensure you don't change the suffix.

```
Properties:

user=SP812918608_MDS

oracle.net.CONNECT_TIMEOUT=10000

SendStreamAsBlob=true
```

- **n.** Replace the contents of the **URL** field with the value you copied in Step 1e, and then click **Save**.
- **o.** Click **Activate Changes** to activate the session.
- **3.** Restart the SOA/Service Bus managed server. See Stopping, Starting, and Restarting Managed Server and Load Balancer VMs.

The SOA/Service Bus data sources are configured when the server restarts. You can now connect to these servers with Oracle Real-Time Integration Business Insight.

About Oracle SOA Cloud Service Roles and User Accounts

Oracle SOA Cloud Service uses roles to control access to tasks and resources. A role assigned to a user gives certain privileges to the user.

The following table summarizes the responsibilities of each cloud role in the context of Oracle SOA Cloud Service.

Role	Responsibilities		
Tenant User	 Use the Oracle SOA Cloud Service Console to create and manage service instances within a specific tenant. See the next table for more details. 		
	 Consume the network, compute, and storage resources allocated to a specific tenant. 		
	Note: Tenant Users should contact their Oracle Cloud Administrator or Tenant Administrator for their user sign-in credentials and the URL to access Oracle SOA Cloud Service.		
Tenant Administrator	Has permissions similar to a Tenant User.Create and manage Tenant Users within a specific tenant.		

Role	Res	Responsibilities	
Oracle Cloud Administrator	•	Create cloud tenants and configure the tenants for Oracle SOA Cloud Service.	
	•	Create users and assign them roles.	
	•	Create cloud networks and assign them to tenants.	
	•	Create remote file systems to use for Oracle SOA Cloud Service backups.	

The following table summarizes the privileges given to a **Tenant User** in Oracle SOA Cloud Service:

Description of Privilege	More Information	
Can create and delete service instances	Managing the Life Cycle of Oracle SOA Cloud Service Instances	
Can stop and start service instances, and virtual machines	Stopping and Starting an Oracle SOA Cloud Service Instance and Individual VMs	
Can suspend and enable service instances by disabling and enabling the load balancer	Suspending an Oracle SOA Cloud Service Instance	
Can scale, patch, and back up or restore service instances	 Scaling An Oracle SOA Cloud Service Instance Backing Up and Restoring an Oracle SOA Cloud Service Instance 	
Can administer load balancers for service instances	Administering the Load Balancer for an Oracle SOA Cloud Service Instance	

When you create an Oracle SOA Cloud Service instance, the following Oracle Compute VM and Oracle WebLogic Server administrative user accounts are created:

Account	Description	More Information
VM OS User	The opc user has root privileges on the OS running on a VM:	Accessing a VM Through a Secure Shell (SSH)
	 Can connect to a VM through SSH for direct VM-level access to an Oracle Java Cloud Service instance 	
	 Can create other OS accounts on a VM using the appropriate OS tool through the SSH interface 	
	The oracle user cannot be used to log into a machine:	
	 Only has regular user permissions to start and stop Oracle products that have been installed on the machine 	
	Note that there are no default passwords for either the opc or oracle user.	
	SSH access to the VM by the opc user is based on the public key provided at the time the Oracle Java Cloud Service instance was provisioned.	
	You provide the private key when you log in to the VM as opc. Once logged in, as a root user you can switch to the oracle user with:	
	sudo su - oracle	
WebLogic Administrator	Can manage Oracle WebLogic Server in Oracle SOA Cloud Service	 Accessing an Administration Console for Software that a Service Instance Is Running
	Can access and use the WebLogic Server Administration Console	 Using the WebLogic Server Administration Console to Deploy and Undeploy an Application
	Can manage users and groups in the embedded LDAP	• Oracle WebLogic Server 12 <i>c</i>
	Can configure other identity providers	(12.2.1) Administration Console Online Help
	Can deploy and undeploy applications using the WebLogic Server Administration Console	 Oracle WebLogic Server 12c (12.1.3) Administration Console Online Help

Note:

You provide the user name and password for the WebLogic Administrator when you create an Oracle SOA Cloud Service instance.

The credentials and permissions for the WebLogic Administrator and all end user accounts that the administrator creates are stored and managed in Oracle WebLogic Server.

About the Cloud Adapter Pack

Cloud adapters simplify and accelerate integration between SaaS applications, and between on-premises applications and SaaS applications. These adapters provide lower costs of implementation and maintenance, ease of use, improved developer productivity and faster time-to-market for Saas application integrations. The cloud adapters are automatically included with Oracle SOA Suite Cloud Service.

Topics

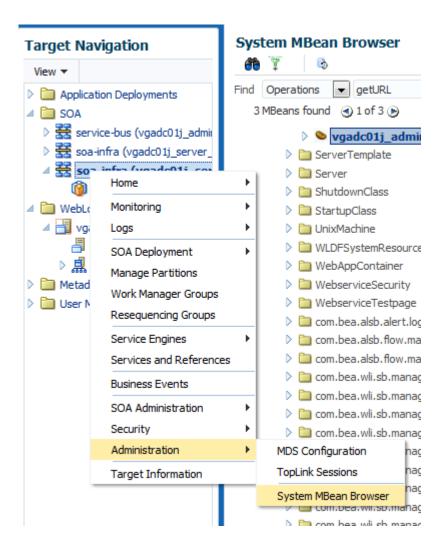
 Adding a Managed Server IP in a Non Proxy Host to Enable Deployment From Fusion Middleware Control

Adding a Managed Server IP in a Non Proxy Host to Enable Deployment From Fusion Middleware Control

If you use the cloud adapter pack, before you can use Fusion Middleware Control to deploy applications, you must add a managed server IP in to a non proxy host.

The following steps describe how to add a managed server IP to a non proxy host.

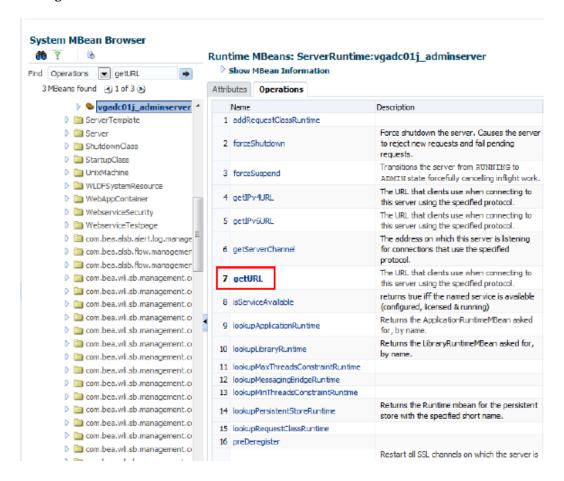
- **1.** Log in to Fusion Middleware Control.
- **2.** Find the server in the **Target Navigation** pane.
- **3.** Right-click the server and select **Administration** > **System MBean Browser**.



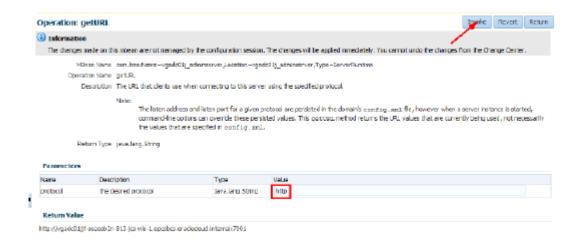
- **4.** Search for the getURL operation.
 - **a.** Click the binocular icon.
 - **b.** Select **Operations**.
 - **c.** Type "getURL"
 - **d.** Click the arrow button to start the search.



5. Click getURL.



6. Type http in the **Value** field and then click **Invoke**.



7. Follow the instructions in Configuring the Proxy Server for Runtime in Oracle Cloud *Adapters Postinstallation Configuration Guide* 12.2.1.2/12.1.3 to update the setDomainEnv.sh file.

You must invoke getURL operation for all the MBeans found (each MBean maps to a managed server in the cluster). Note all the IPs and update the non proxy hosts in setDomainEnv.sh and you can include the host IP address explicitly as shown in the following:

```
-Dhttp.proxyHost=www-proxy.my.url.com -Dhttp.proxyPort=80 -
Dhttp.nonProxyHosts=localhost | *.my.url.com | *.internal | 127.0.0.1 | 10.196.75.214 |
10.*.*.* | *.foo.com | etc -Dhttps.proxyHost=www-proxy.my.url.com -Dhttps.proxyPort=80
```

You must restart the servers (both administration and managed) for this settings to take effect.

Differences Between the Cloud and On-Premises Environments

Many of the Oracle SOA Cloud Service components differ slightly depending on which environment you are using. This chapter highlight these differences.

Topics

- Platform Differences Between the Cloud and On-Premises Environments
- Differences Between Oracle SOA Cloud Service on Oracle Cloud Machine and on Oracle Public Cloud
- Differences Between the Cloud and On-Premises Environments

Platform Differences Between the Cloud and On-Premises Environments

This table describes high-level differences between running Oracle SOA in the cloud and on-premises environments.

Oracle SOA Cloud Service	Oracle SOA Suite On-Premises
Available by subscription.	You install Oracle SOA Suite on your own hardware.
Provisioning of Oracle SOA Cloud Service automatically includes Oracle Java Cloud Service, which provides an Oracle WebLogic Server domain.	You create the complete domain.
Oracle SOA Cloud Service provides OPC-based backup services.	You must develop your own archival infrastructure.
You can either select an existing database (Oracle Database Cloud Service) in the tenant or enter the connection string of an on-premises database.	You must install a database.
High availability functionality is provided by default using a virtual machine restart.	You must set up an environment based on your high availability requirements.
Load balancing is provided by the built-in Oracle Traffic Director.	Oracle HTTP Server serves as the load balancer.

Oracle SOA Suite On-Premises Oracle SOA Cloud Service Application deployment directly from Oracle Applications can be deployed directly JDeveloper to the cloud is not supported. You from Oracle JDeveloper. must use one of the deployment mechanisms described in Deploying and Undeploying Applications for an Oracle SOA Cloud Service Instance. External network access must be configured Network access for on-premises networks at the virtual machine level and the Oracle varies from site to site, as well as logic Traffic Director level. processes. Usually it is completely open to employees, as long as they have the Logins to the virtual machine can be done right credentials. through an SSH tunnel. Oracle Business Process Management Suite is not After installing Oracle SOA Suite Cloud available with Oracle SOA Cloud Service. Service, you can install Oracle Business Instead, you can subscribe to Oracle Process Process Management Suite on top of it. Cloud Service or run Oracle Business Process Management Suite on Oracle Java Cloud Service. Tutorial Oracle Integration Continuous Availability **Oracle Integration Continuous** features such as the following are not supported: Availability features are supported. Circuit Breaker Composite Instance Patching Automatic Service Migration (ASM) support **Integration Workload Statistics** In-Memory SOA

For information about specific feature differences between the Oracle SOA and Oracle Service Bus cloud and on-premises environments, see Differences in Oracle SOA Behavior in the Cloud.

Differences Between Oracle SOA Cloud Service on Oracle Cloud Machine and on Oracle Public Cloud

Some features of Oracle SOA Suite behave differently on Oracle Cloud Machine than they do on Oracle Public Cloud. Here are some of the differences.

- During provisioning on Oracle Cloud Machine, you do not specify a database connection. Instead you specify a connection to a network that provides access to a database.
- Oracle Cloud Machine supports direct connection to an external database. Oracle Database Cloud Service is not required.
- Oracle Cloud Machine uses NFS directories for storage.
- Oracle API Manager is not supported on Oracle Cloud Machine.
- Database backup is not provided in Oracle Cloud Machine. Oracle Cloud Machine provides domain backup, you back up the database using your normal procedures.

Differences in Oracle SOA Behavior in the Cloud

Some features of Oracle SOA behave differently in the cloud than in an on-premises environment.

- Because shared disk is currently not available, writing to a shared file from
 multiple managed servers running in a cluster is not possible. To make this work
 in the cloud, managed servers would have to write to a file on their own local
 disks, and then an additional process would have to consolidate the files on one of
 the VMs.
- File adapter read actions each managed server only reads from its local directory.
- JMS store and JTA transaction logs must use the Oracle database instead of file stores.
- Oracle B2B large file processing Files are written to the local file system of the managed server that processes the message. The Oracle B2B Console cannot read the file unless it is running on the same managed server (you see random behavior).
- Connectivity between Oracle SOA Cloud Service adapters and on-premises
 applications might be blocked by your corporate firewall. Connections can be
 established by using an SSH tunnel from the application server to which the
 adapter connects.
- The SOA debugger and automatic SOA composite application tester (unit tester) in Oracle JDeveloper are not supported when connecting to the SOA Cloud Service server.
- Reports are not supported in Oracle Real-Time Integration Business Insight, installed as part of the Integration Analytics Cluster service type.
- The iWay application adapters listed under Application Adapters (iWay) on Oracle Cloud Adapters Documentation are not supported by Oracle SOA Cloud Service.
- The Oracle Traffic Director *high availability features* 12.2.1.2/12.1.3 are not supported with Oracle SOA Cloud Service.
- Dehydration does work in the cloud as it does in the on-premises environment as described in Fusion Middleware Administering Oracle SOA Suite and Oracle Business Process Management Suite 12.2.1.2/12.1.3

Developing Applications with Oracle SOA Cloud Service

This chapter describes how to develop applications for Oracle SOA Cloud Service.

Topics

- Deploying and Undeploying Applications for an Oracle SOA Cloud Service Instance
- Accessing a VM Through a Secure Shell (SSH)
- Understanding the Default Access Ports
- Using an OTD Host Name with an Oracle Service Bus Business Service
- Using the Frontend Host and HTTPS Port Values in the WSDL URL for Inbound Cloud Adapters

Deploying and Undeploying Applications for an Oracle SOA Cloud Service Instance

This section describes deploying and undeploying applications to an Oracle SOA Cloud Service instance by using: Fusion Middleware Control, the WebLogic Server Administration Console, and WLST commands. You cannot deploy and undeploy applications directly through the Oracle SOA Cloud Service Console.

Note: It is currently not possible to deploy applications directly from Oracle JDeveloper to the cloud. You must use one of the deployment mechanisms described in this chapter.

Topics:

- Overview of Deployment Tasks for an Oracle SOA Cloud Service Instance
- Using Oracle Enterprise Manager Fusion Middleware Control to Deploy an Application
- Using the WebLogic Server Administration Console to Deploy and Undeploy an Application
- Using WLST Commands to Deploy and Undeploy an Application
- Accessing an Application Deployed to an Oracle SOA Cloud Service Instance

Overview of Deployment Tasks for an Oracle SOA Cloud Service Instance

Consider the typical tasks for deploying and undeploying an application to an Oracle SOA Cloud Service instance, as shown in the following table.

Task Description		More Information	
Use Fusion Middleware Control	Deploy and undeploy applications just as you would for an on-premise service instance.	Using Oracle Enterprise Manager Fusion Middleware Control to Deploy an Application	
Use the WebLogic Server Administration Console	Deploy and undeploy applications just as you would for an on-premise service instance.	Using the WebLogic Server Administration Console to Deploy and Undeploy an Application	
Use WLST commands	Use WLST commands online or offline to deploy an application.	Using WLST Commands to Deploy and Undeploy an Application	
Access a deployed application	Copy the public IP address of the load balancer into the URL for the application.	Accessing an Application Deployed to an Oracle SOA Cloud Service Instance	

Using Oracle Enterprise Manager Fusion Middleware Control to Deploy an Application

You can use Oracle Enterprise Manager Fusion Middleware Control to deploy and undeploy an application to an Oracle SOA Cloud Service instance, just as you would deploy and undeploy the application to an on-premises service instance.

Note: Before you can use Oracle Enterprise Manager Fusion Middleware Control to deploy an application, you must add a managed server IP as described in Adding a Managed Server IP in a Non Proxy Host to Enable Deployment From Fusion Middleware Control.

Oracle Enterprise Manager Fusion Middleware Control is one of the consoles available through the Oracle SOA Cloud Service Console. For information about opening Oracle Enterprise Manager Fusion Middleware Control, see Accessing an Administration Console for Software that a Service Instance Is Running.

The following table shows additional resources.

For	See	In
Oracle Enterprise Manager Fusion Middleware Control12.1.3	Deploying, Undeploying, and Redeploying Java EE Applications	Administering Oracle Fusion Middleware

Using the WebLogic Server Administration Console to Deploy and Undeploy an Application

You can use the Oracle WebLogic Server Administration Console to deploy and undeploy an application to an Oracle SOA Service instance, just as you would deploy and undeploy the application to an on-premises service instance.

The Oracle WebLogic Server Administration Console is one of the consoles available through the Oracle SOA Cloud Service Console. For information about opening the Oracle WebLogic Server Administration Console, see Accessing an Administration Console for Software that a Service Instance Is Running.

Topics

- Using the WebLogic Server Administration Console to Deploy and Undeploy an Application
- Using the WebLogic Server Administration Console to Start an Application
- Using the WebLogic Server Administration Console to Undeploy an Application

Using the WebLogic Server Administration Console to Start an Application

You must start the application to make it ready to accept requests.

To start an application:

- **1.** From the menu on the SOA Cloud Service Console, open the WebLogic Server Administration Console.
- 2. In the Change Center, click Lock & Edit.
- **3.** On Deployments table on the WebLogic Server Administration Console, select the application.
- **4.** Click **Start**, then **Servicing all requests**.
- **5.** On the Start Deployments dialog, click **Yes** to confirm the deployment.

The application is now in the **Active** state and is ready to accept requests.

Using the WebLogic Server Administration Console to Undeploy an Application

You can use the WebLogic Server Administration Console to undeploy an application from an Oracle SOA Cloud Service instance.

This table provides additional sources of information for learning about undeploying an application.

For	See	ln
Oracle Fusion Middleware CONTROL 12.1.3	Remove an application or module from a domain	Oracle WebLogic Server Administration Console Online Help

To undeploy the application:

- 1. From the menu on the SOA Cloud Service Console, open the WebLogic Server Administration Console.
- In the Change Center of the WebLogic Server Administration Console, click Lock & Edit.
- **3.** In the left pane of the WebLogic Server Administration Console, select **Deployments**.

- **4.** In the right pane, select the check boxes next to the application you want to remove, and click **Delete**.
- **5.** Click **Yes** to confirm your decision and remove the application.
- **6.** To activate your changes, in the Change Center of the WebLogic Server Administration Console, click **Activate Changes**.

Using WLST Commands to Deploy and Undeploy an Application

You can use WLST commands to deploy and undeploy an application to and from an Oracle SOA Cloud Service instance. All WLST commands are supported.

You can use a secure shell (SSH) to connect to the virtual machine (VM) that hosts the administration server and run WLST commands locally. For information, see Creating an SSH Tunnel. When running WLST commands locally on the VM, you can use WLST online and offline. You can only undeploy an application online. For more information, see Running WLST Commands Local to the VM in *Using Oracle Java Cloud Service*.

Alternatively, if you are not connected to the VM that hosts the administration server, you can connect to the administration server using WLST commands online and run WLST commands remotely, for example, from a command shell in your local environment. When running WLST commands remotely, you can use WLST commands for deployment and undeployment online only. See Running WLST Commands from a Different Host in *Using Oracle Java Cloud Service*.

This table provides references to additional sources of information for learning about using WLST commands.

For	See	In
Oracle Fusion Middleware	 Using WLST Online to Deploy Applications 12.2.1.2 Using WLST Online to Deploy Applications 12.1.3 	Oracle Fusion Middleware Understanding the WebLogic Scripting Tool
A description of all of the SOA and Business Process Management commands that are available to use with the WebLogic Scripting Tool (WLST)	 Oracle Cloud WLST Command Reference for SOA Suite 12.2.1.2 Oracle Cloud WLST Command Reference for SOA Suite 12.1.3 	

Accessing an Application Deployed to an Oracle SOA Cloud Service Instance

You can access an application deployed to an Oracle SOA Cloud Service instance through a URL in a browser.

To access a deployed application:

- 1. From the menu on the SOA Cloud Service Console, open the Service Bus Console.
- **2.** Copy the Host IP Address of the load balancer or managed server, depending on whether your Oracle SOA Cloud Service instance has a load balancer.

3. Find the context-root of the application.

The context-root is defined in the service project as a project property, or in the weblogic.xml file. The context-root might or might not be the same as the internal application name.

- a. Navigate to the Oracle SOA Cloud Service Console.
- **b.** From the Oracle SOA Cloud Service Console, open the WebLogic Server Administration Console.
- **c.** Select *domain* > Deployments, where *domain* is the domain where the application is deployed.
- **d.** In the Deployments table, click on the name of your service.

The Settings dialog is displayed.

- **e.** In the Overview tab, locate the context-root.
- **4.** Open a browser.
- **5.** In the address bar, specify the URL of the application:

```
https://public_IP_of_load_balancer_or_managed_server:port/application_context_root
```

or

http://public_IP_of_load_balancer_or_managed_server:port/
application_context_root

- **a.** Paste the Host IP Address of the load balancer or managed server into the URL.
- **b.** Specify the port number.

The default ports differ according to whether you created the service instance on which the application by using the service instance creation wizard accessible on Oracle SOA Cloud Service Console REST API for Oracle SOA Cloud Service. The HTTP port is disabled if you created the service instance by using the service instance creation wizard.

See Understanding the Default Access Ports.

c. Specify the context-root for the application.

If you do not want to specify the IP address and port when you access the application, you can create a custom URL To do this, you must acquire and configure a third-party DNS provider to map the custom URL. See Defining a Custom URL for an Application Deployed to an Oracle Java Cloud Service Instance in *Using Oracle Java Cloud Service*.

6. If you receive a warning, accept the signed certificate.

The application opens in your browser.

Accessing a VM Through a Secure Shell (SSH)

You can access the services and resources provided by a service instance's VM by logging into the machine through a secure shell (SSH). You can use any SSH utility

you prefer. For example, if you are using Windows, you might use PuTTY; if you are using Linux, you might use OpenSSH.

Topics:

- Creating an SSH Key Pair
- Creating an SSH Tunnel
- Accessing a VM or Load Balancer

Creating an SSH Key Pair

When accessing a VM through SSH, you need a public/private key pair you obtained here when you provision the service instance for the VM that contains the Oracle WebLogic Administration Server.

For example, to obtain the key pair by using the keygen utility with the -t rsa parameter; you would enter:

```
ssh-keygen -t rsa
```

You can also use PuTTY to create the key pair.



You must supply the public key you obtained here when you provision the service instance and use its paired private key when you access it. This can be a key that you already created and saved to a file. This file can then be uploaded during VM provisioning.

Creating an SSH Tunnel

To access an administration server's VM from a host that is not the VM running WebLogic in Oracle SOA Cloud Service, you must create an SSH tunnel between your local host and the Oracle SOA Cloud Service. With that tunnel in place, you can use the resources of that server, such as the WebLogic Scripting Tool (WLST), as if it were local.

To create an SSH tunnel, use your preferred SSH client to provided the following tunneling information:

- The path to the private key corresponding to the public key used at the time of provisioning.
- The administration server's IP address.

You can create the tunnel by using the SSH client of your choice. You can also use PuTTY to create the SSH tunnel.

Tutorial

\$> ssh -i path to private key opc@ip address of administration server -L 9001:ip address of administration server:9001 -N

For example:

```
$> ssh -i id_rsa opc@111.111.111.111 -L 9001:111.111.111.111:9001 -N
```

Note:

Once activity is completed, press <ctrl> C to shut down the SSH tunnel.

Accessing a VM or Load Balancer

You can access a VM or load balancer through a secure shell utility.

To access a VM or load balancer through SSH:

Note: The examples in this procedure apply to Linux users accessing the VM by using OpenSSH.

- **1.** From the Oracle SOA Cloud Service Console, select the service instance associated with the VM or load balancer you want to access.
- **2.** From the Oracle SOA Cloud Service Instance page, click the service instance you want to access.

The Oracle SOA Cloud Service Instance page is displayed with the Overview tile in focus, displaying detailed information about the service instance.

3. On the list of nodes, note either the IP address of the administration server or the load balancer, depending on which server you want to access.

This address is specified in the typical octet format (111.111.111.111).

Note: The console displays IP addresses only for the administration server and the load balancer, not the managed servers.

4. Launch a secure shell (SSH) client of your choice and connect to the administration server's or load balancer's virtual machine.

Provide the following:

- The path to the private key corresponding to the public key used at the time of provisioning.
- The administration server's IP address.

in this format:

 $\verb| ssh-i| path to private key opc@IP address of the administration server/load balancer| \\$

For example:

```
ssh -i id_rsa opc@111.111.111.111
```

When the VM command line appears, you can use any resource accessible from the machine; for example, the WebLogic Scripting Tool.

Accessing a VM Through Virtual Network Computing (VNC)

You can access the services and resources that an Oracle SOA Cloud Service VM provides by logging into the VM through VNC.

You can use any VNC client utility to access a VM. For example, if you are using Windows, you might use RealVNC or TightVNC; if you are using Linux, you might use the vncviewer utility included with your Linux distribution.

By default, the port used by the VNC server on a Oracle SOA Cloud Service VM is not directly accessible through the Internet. An SSH tunnel enables access to the VNC server port on your local machine. An SSH tunnel also ensures that VNC communication is using a secure channel.

In order create a VNC session on a VM, you must first identify the public IP address of the VM and connect to it with SSH, as described in Accessing a VM Through a Secure Shell (SSH).

1. SSH to the VM and switch to the oracle user:

```
sudo su - oracle
```

Note: The oracle VM user has regular OS user permissions. It is intended to be used to start and stop Oracle products that have been installed on the VM, or to run other Oracle applications and utilities on the VM.

2. Disable the desktop screensaver lock for this user:

```
gconftool-2 -s -t bool /apps/gnome-screensaver/lock_enabled false
```

This Linux property controls whether or not the desktop prompts you for the user's password when in screensaver mode.

3. Start the VNC server on the VM:

```
vncserver :1 -nolisten tcp -localhost -geometry 1680x1050
```

Note:

The VNC server is not directly accessible from clients outside of this VM. An SSH tunnel will be used to enable external and secure access to the VNC server.

By default, the listen port for VNC session :1 is 5901, session :2 is 5902, and so on.

If your local machine has a smaller display resolution, use a different geometry setting such as 1024×768 .

- **4.** When prompted, enter a password for this VNC session.
- **5.** Disconnect from the VM.
- **6.** Create an SSH tunnel to localhost: 5901 on the VM.

```
ssh -i path_to_private_key -L 5901:localhost:5901 opc@VM_IP_address -N For example:
```

```
ssh -i /home/myuser/id_rsa -L 5901:localhost:5901 opc@111.111.111.111 -N
```

7. Launch your VNC client application and connect to localhost:5901.

8. When prompted, enter the password that you previously configured for this VNC session.

You can use VNC to work with any resource accessible from the VM, including graphical applications. For example, you can launch the Fusion Middleware Configuration Wizard application on the Administration Server VM.

Note: After your VNC work is complete, you can perform a <ctrl> C to shut down the SSH tunnel.

Note: To terminate the VNC server on the VM, run vncserver -kill :1.

Understanding the Default Access Ports

To use Oracle resources through Oracle SOA Cloud Service, access them through the default ports.

Ports Available from Within the Oracle Cloud Network

Resource	Protocol	Default Port for Release 16.4.5 and Earlier	Default Port for Release 17.1.3 and Later
Oracle WebLogic Server Administration Console	HTTP	7001	9071
Oracle Fusion Middleware Control	HTTP	7001	9071
Managed Server	HTTP	8001	9073
	HTTPS	8002	9074
Database	SQL Net	1521	1521

Ports Available from Outside the Oracle Cloud Network

Resource	Protocol	Default Port
Oracle WebLogic Server Administration Console	HTTPS	7002
Oracle Fusion Middleware Control	HTTPS	7002
Oracle Traffic Director Administration Console	HTTPS	8989
End user applications when the load balancer is enabled	HTTP HTTPS	80* 443

Resource	Protocol	Default Port
End user applications when the load balancer is disabled and there are multiple managed servers	HTTP HTTPS	9073* 9074
End user applications when the load balancer is disabled and there is only one managed server	HTTP HTTPS	80* 443
Service instance VM	SSH	22
Oracle Traffic Director VM	SSH	22

The diagram in About the Deployment Topology of Virtual Machines (*Using Oracle* Java Cloud Service) illustrates port allocation in an Oracle SOA Cloud Service VM deployment topology.

Note: If a service instance is created with the Create New Oracle SOA Cloud Service Instance wizard, the HTTP port is disabled. You cannot enable the HTTP port for such a service instance through any of the interfaces to Oracle SOA Cloud Service, such as the Service Console or the REST API.

If the service instance was created by using the Create New Oracle SOA Cloud Service Instance wizard, the default ports are as follows:

- If a load balancer is enabled, the HTTP port is disabled and the HTTPS port is 443 by default.
- If a load balancer is not present and the service instance contains more than one managed server, the HTTP port is disabled and the HTTPS port is 8002/9074.
- If a load balancer is not present and the Oracle SOA Cloud Service instance contains only one managed server, the server ports are 443 for HTTPS and disabled for HTTP.

If the service instance was created by using the REST API, the default ports are as follows:

- If a load balancer is present, the default ports for applications are 80 for HTTP and 443 for HTTPS. You can reconfigure these ports.
- If a load balancer is not present and the Oracle SOA Cloud Service instance contains more than one managed server, the default ports are 8001/9073 for HTTP and 8002/9074 for HTTPS.
- If a load balancer is not present and the Oracle SOA Cloud Service instance contains only one managed server, the managed server ports are set to 80 and 443 respectively. You can reconfigure these ports.

^{*} For end user applications, the default ports depend on how the service instance was created:

You can continue to use HTTPS port 8081 to access an application running on an existing service instance that was created by using the Create New Oracle SOA Cloud Service Instance wizard. In this case, HTTP port 8080 is disabled and you can no longer use this port to access your application.

For information about creating a service instance by using the REST API, see Create a Service Instance in *Oracle Cloud REST API for Oracle SOA Cloud Service*.

For information about how to reconfigure ports by using the REST API, see Updating the Default Access Ports When Creating a Service Instance Using the REST API in REST API for Oracle SOA Cloud Service.

Accessing Oracle SOA Cloud Service URLs Externally Using a Public IP Address

Oracle SOA Cloud Service URLs can be accessed externally using a public IP address. Use port 80 with the HTTP protocol and port 443 with the HTTPS protocol. This redirects access to port 8001. For example, to access the B2B console using HTTPS:

https://public_IP_address:443/b2bconsole

Using an OTD Host Name with an Oracle Service Bus Business Service

When configuring a business service URI in Oracle Service Bus, you must use the Oracle Traffic Director (OTD) host name, rather than the public IP address, if its metadata points to a service deployed on Oracle Weblogic Server in the same Oracle SOA Cloud Service environment.

For example:

- When using a proxy server in the Oracle Service Bus configuration, use the real host name and use port 80.
- Then the OTD host name is http://xz-osbxy-drop5-1vm-20-jcslb-1:8080

Using the Frontend Host and HTTPS Port Values in the WSDL URL for Inbound Cloud Adapters

If you use the cloud adapters in the inbound direction (Oracle Sales Cloud, Oracle RightNow Cloud, and Oracle HCM Cloud), you must specify the frontend host and HTTPS port values found in the Oracle WebLogic Server Administration Console in your WSDL URL. .

Use a WSDL URL of the following format:

https://frontend_hostname:frontend_HTTPS_port/integration/flowsvc/adapter/partition_name/composite_name/service_name/version?wsdl

For example:

https://host.mycompany.com:8080/integration/flowsvc/osc/default/oscinbound/OscService/v1.0/?wsdl

To obtain the frontend host and HTTP port values, perform the following steps:

1. Log in to the Oracle WebLogic Server Administration Console.

https://hostname:7002/console

- **2.** Expand **Environment**, then select **Clusters**.
- **3.** Click the cluster name.
- **4.** Click the **HTTP** tab.
- **5.** Update the following values as shown in the table.

Field	Value
Frontend Host	The admin_host
Frontend HTTP Port	HTTP_port (typically, the default value is 80)
Frontend HTTPS Port	HTTPS_port (typically, default value is 443)

6. Restart the servers to have the values take effect

Administering Oracle SOA Cloud Service

Review the following topics to learn about how Oracle SOA Cloud Service works.

Topics

- Using the Oracle SOA Cloud Service Consoles
- Accessing an Administration Console for Software that a Service Instance Is Running
- Deleting an Oracle SOA Cloud Service Instance
- Stopping and Starting an Oracle SOA Cloud Service Instance and Individual VMs
- Suspending an Oracle SOA Cloud Service Instance
- Scaling An Oracle SOA Cloud Service Instance
- Backing Up and Restoring an Oracle SOA Cloud Service Instance
- Administering the Load Balancer for an Oracle SOA Cloud Service Instance
- Performing a JNDI Lookup of JMS Resources Deployed on the Administration Server
- Tuning the Database Parameters

Using the Oracle SOA Cloud Service Consoles

Use the Oracle SOA Cloud Service Console and the Oracle SOA Cloud Service Instance page to administer Oracle SOA Cloud Service instances.

Use the SOA Cloud Service Console and the Oracle SOA Cloud Service Instance page for administrative functions such as:

- Monitoring instance activity
- Scaling in and out
- Backing up and restoring

The SOA Cloud Service Console and the Oracle SOA Cloud Service Instance page are described in detail in the topics listed below.

Topics

- Exploring the Oracle SOA Cloud Service Console
- Exploring the Oracle SOA Cloud Service Instance Overview Page

Accessing an Administration Console for Software that a Service **Instance Is Running**

From an Oracle SOA Cloud Service instance, you can access the administration consoles for the software that the service instance is running.

You can access these consoles:

- WebLogic Server Console
- Fusion Middleware Control
- Load Balancer Console
- Oracle Service Bus Console
- 1. In the Oracle SOA Cloud Service Console, click for the desired service instance and choose the command to open the console that you want to access:

To access this console	Click this shortcut
WebLogic Server Console	Open WebLogic Server Console
Fusion Middleware Control	Open Fusion Middleware Control
Load Balancer Console	Open Load Balancer Console
Oracle Service Bus Console	Open Service Bus Console

A new browser opens and you are redirected to the selected console's login page.

If the server is protected with a self-signed certificate, you are warned that this certificate is not trusted.

2. Accept the certificate.

For example, if you are using Firefox, select I Understand the Risk.

- **3.** Follow the remaining browser-dependent steps to accept the certificate.
 - For example, if you are using Firefox, the Add Security Exception dialog appears and you would select Confirm Security Exception.
- 4. When the console login page appears, enter the log-in credentials you entered for WebLogic Administrator when you created the service instance.

Deleting an Oracle SOA Cloud Service Instance

When you no longer require an Oracle SOA Cloud Service instance, you can delete it.

Only an administrator can delete a service instance, as described in About Oracle SOA Cloud Service Roles and User Accounts.

Note: When you delete an instance, everything is deleted, *including backups*.

To delete an Oracle SOA Cloud Service instance:

- 1. From the menu for the service instance on the Oracle SOA Cloud Service Console, select **Delete**.
- 2. Enter the database administrator user name and password and click **Delete**.

The database itself is not deleted. Only the repository and schemas created for the Oracle SOA Cloud Service instance are deleted.

Once deleted, the Oracle SOA Cloud Service is removed from the list of service instances displayed on the Oracle SOA Cloud Service Console and storage and OCPUs are released..

3. (Optional) If you try to delete a service instance, and the service instance is not deleted properly, click the **Retry Delete** button to try to delete the service instance again.

Service instances are not deleted properly when failed resources are not cleaned up completely.

When you click Retry Delete, the software cleans up the fails resources and attempts to delete the service instance.

The **Retry Delete** button is displayed for as long as the failed resources exist. If this is the case, click the **Retry Delete** button and wait. Repeat this process for as long as the **Retry Delete** button is displayed.

Stopping and Starting an Oracle SOA Cloud Service Instance and Individual VMs

You can stop and start an Oracle SOA Cloud Service instance and, when the service instance is running, start, stop, and restart individual server or load balancer VMs.

Topics

- About Stopping and Starting an Oracle SOA Cloud Service Instance and Individual VMs
- Stopping and Starting an Oracle SOA Cloud Service Instance
- Restarting the Administration Server VM
- Stopping, Starting, and Restarting Managed Server and Load Balancer VMs

About Stopping and Starting an Oracle SOA Cloud Service Instance and Individual VMs

You can stop and start an Oracle SOA Cloud Service instance and, when the service instance is running, stop, start, and restart individual server or load balancer VMs.

Note: The stop and restart procedures stop VMs. If you want to shut down the WebLogic Administration Server or Managed Server processes running on the VMs, without stopping the VMs, see Shutting Down and Starting the WebLogic Server Managed Servers and Administration Server Processes on VMs in Using Oracle Java Cloud Service. You might want to do this if you have other processes besides the servers running on the VMs and you do not want to shut down these other processes.

This topic describes why you would want to stop or start a service instance, or stop, start, or restart individual server or load balancer VMs. This topic also describes what happens when service instances are stopped and started, and how to monitor these operations.

Why Stop an Oracle SOA Cloud Service Instance

Stopping an Oracle SOA Cloud Service instance frees up compute resources used by the service instance's VMs. Metering for those resources stops.

What Happens When an Oracle SOA Cloud Service Instance is Stopped or Started

Stopping and starting an Oracle SOA Cloud Service instance has the following results:

- Stopping the service instance: The VMs on which the administration server, managed servers, and load balancer, are running are stopped. You cannot start, stop, or restart the administration server, managed server, or load balancer VMs individually while the service instance is stopped.
- Starting the service instance: All VMs on which the administration server, managed server and load balancer are running are started. You can restart the administration server, and stop, start, or restart the managed servers and load balancer VMs individually.

Note: Block storage should not be added manually by using the Oracle Compute Cloud Service because VM restart detaches that block storage. To reattach the block storage, you must use the Oracle Compute Cloud Service. However, block storage added manually is not deleted when an Oracle SOA Cloud Service instance is restarted. You must delete it manually. Instead of attaching block storage manually, add storage by scaling a node. For more information, see Scaling an Oracle SOA Cloud Service Node.

Why Stop, Start, or Restart an Administration Server, Managed Server, or Load Balancer VM

If an Oracle SOA Cloud Service instance is running:

- You can restart the VMs on which the Administration Server, Managed Server, or load balancer are running if you are experiencing problems with the server that would warrant a reboot. The restart operation is the same as stopping the server or load balancer VM, then starting it immediately.
- You can stop the VMs on which the Managed Server or the load balancer are running to free up resources and stop metering those resources. You might also want to stop the service instance instead of scaling, keeping the server or load balancer ready for a later time. If you stop all but one Managed Server VM, you might want to stop the load balancer VM because it is not needed.
- You can start a Managed Server or load balancer VM if it is stopped and you want to use it again. Metering begins again.

How Do I Monitor the Stop, Start, or Restart Operation

You can monitor progress of a stop, start, or restart operation on the Activity section of the Oracle SOA Cloud Service Instance Overview page. The Oracle SOA Cloud Service Instance Overview page is described in Exploring the Oracle SOA Cloud Service Instance Overview Page.

The Activity section indicates what kind of operation is in progress, and whether it is in progress or complete. When the operation ends, the start and end time of the operation is displayed.

Stopping and Starting an Oracle SOA Cloud Service Instance

You can stop and start an Oracle SOA Cloud Service instance through the Oracle SOA Cloud Service Instance Overview page or the Topology page.

To stop or start an Oracle SOA Cloud Service instance:

- 1. Navigate to the Oracle SOA Cloud Service Instance Overview page:
 - **a.** Click the name of the Oracle SOA Cloud Service instance you want to stop or start.

The Oracle SOA Cloud Service Instance page is displayed with the Overview tile in focus, displaying detailed information about the service instance.

- Click the Menu icon in the right corner of the page and select Start or Stop.
 A confirmation dialog is displayed.
- 3. Click **OK** in the confirmation dialog.

A yellow status icon is displayed adjacent to the service instance icon while the service instance is in the process of stopping or starting. An entry shows that a stop or start operation is in progress.

When the operation completes, the Oracle SOA Cloud Service instance is stopped or started. The yellow icon is no longer displayed. A red icon is displayed when the service instance is stopped. The entry for the service shows that the stop or start operation has ended.

Restarting the Administration Server VM

You can restart the VM on which the Administration Server is running, in an Oracle SOA Cloud Service instance that is in a running state.

To restart the Administration Server:

- **1.** Navigate to the Topology page:
 - a. Click the name of the service instance in which you want to restart the Administration Server.

The Oracle SOA Cloud Service Instance page is displayed with the Overview tile in focus, displaying detailed information about the service instance.

b. Click the Topology tile.

The Oracle SOA Cloud Service Instance page is refreshed with the Topology tile in focus.

2. Click the Menu icon adjacent to the Administration Server row and select Restart.

A confirmation dialog is displayed.

3. Click **OK** in the confirmation dialog.

A yellow status icon is displayed next to the service icon.

The Administration Server VM starts. The yellow icon is no longer displayed.

Stopping, Starting, and Restarting Managed Server and Load Balancer VMs

You can stop, start, and restart the VMs on which the Managed Servers or the load balancer are running in an Oracle SOA Cloud Service instance if the service instance is in a running state. Restarting a Managed Server or load balancer VM is the same as stopping it, then starting it.

- 1. Navigate to the Topology page:
 - **a.** Click the name of the service instance in which you want to start, stop, or restart a Managed Server or load balancer VM.

The Oracle SOA Cloud Service Instance page is displayed with the Overview tile in focus, displaying detailed information about the service instance.

b. Click the Topology tile.

The Oracle SOA Cloud Service Instance page is refreshed with the Topology tile in focus.

2. Click the Menu icon to the right of the Managed Server or load balancer row and select **Stop**, **Start**, or **Restart**.

A confirmation dialog is displayed.

3. Click **OK** in the confirmation dialog.

The Managed Server or load balancer VM is stopped, started, or restarted.

Restarting WebLogic Servers

You can start and stop servers in an Oracle SOA Cloud Service (SOACS) instance by using the WebLogic Server Administration Console and via WebLogic Scripting Tool (WLST) commands.

Oracle SOA Cloud Service is built on top of Oracle Java Cloud Service, which in turn is built on top of Oracle WebLogic Server. When you create a SOACS instance, an Oracle WebLogic domain is provisioned across all machines that are part of that SOACS instance.

An Oracle WebLogic Domain is made up of a set of WebLogic server instances that work together to host and operate your Java EE applications. Within the domain only one WebLogic server instance is responsible for administrative operations, such as creating new server instances or deploying applications. That privileged server is referred to as the administration server, whereas all the rest are managed servers.

The administration server also hosts the WebLogic Server Administration Console.

You can start and stop both the administration and the managed servers in two ways:

- Using the WebLogic Server Administration Console
- Using WLST Commands

Tutorial

Suspending an Oracle SOA Cloud Service Instance

You can disable the load balancer to suspend the Oracle SOA Cloud Service instance temporarily, to block any new traffic from being delivered to the service instance. This is useful when you want to perform routine maintenance on an Oracle SOA Cloud Service instance, but do not want to stop the service instance. Once the maintenance activities have been completed, you can re-enable the load balancer to allow traffic to be delivered.

See Disabling or Enabling the Load Balancer for an Oracle Cloud Service Instance.

Note:

If a load balancer is not configured, you cannot suspend the Oracle SOA Cloud Service instance.

Scaling An Oracle SOA Cloud Service Instance

You can scale an Oracle SOA Cloud Service instance by scaling a cluster or a node.

Determine what you need to scale from metrics associated with the service instance. For example, if response times are long, consider scaling out the cluster. Or if heap usage is high, consider scaling up the nodes in the cluster.

You cannot scale a service instance if the service instance is under maintenance such as during patching or backing up.

Topics:

- About Scaling an Oracle SOA Cloud Service Cluster
- About Scaling an Oracle SOA Cloud Service Node

Note:

For information about using REST resources to scale Oracle SOA Cloud Service instances, see REST API for Oracle SOA Cloud Service.

About Scaling an Oracle SOA Cloud Service Cluster

Scale an Oracle SOA Cloud Service cluster to add nodes to or remove nodes from the cluster in response to changes in the load on the cluster. A node is a virtual machine (VM) running a managed server instance that is a member of a cluster.

About Scaling Out an Oracle SOA Cloud Service Cluster

Scaling **out** an Oracle SOA Cloud Service cluster adds one node to the cluster.

Before scaling out an Oracle SOA Cloud Service cluster, ensure that all these conditions are met:

- You have the Oracle SOA administrator role as described in About Oracle SOA Cloud Service Roles and User Accounts.
- The service instance is **not** under maintenance.

If any of these conditions is not met, the scaling operation fails and Oracle SOA Cloud Service logs an error message.

Oracle SOA Cloud Service logs a message when scaling out is started or completed, or when a failure is detected. You can view these messages as explained in Viewing Scaling Requests.

If an attempt to scale out a cluster fails, Oracle SOA Cloud Service does the following:

- Logs any diagnostic information.
- Sets the status of the service instance to RUNNING to allow other operations to continue.
- Returns the service instance to its original shape.
- Deletes the VM that it created to run the additional managed server instance.

About Scaling In an Oracle SOA Cloud Service Cluster

Scaling in an Oracle SOA Cloud Service cluster removes the selected node from the cluster.

Before scaling in an Oracle SOA Cloud Service cluster, ensure that the cluster contains at least one managed server node in addition to the node for the administration server and first managed server. You cannot scale in a cluster that contains only the node for the administration server and first managed server. If you no longer require that node, you must delete the entire service instance. For instructions, see Deleting an Oracle SOA Cloud Service Instance.

By default, Oracle SOA Cloud Service scales in a cluster gracefully by shutting down the managed server instance before removing the managed server instance from the cluster and terminating its VM. To ensure that the node is removed even if the managed server instance is unresponsive, you can choose to forcibly scale in a cluster.

If an attempt to scale in a cluster fails, Oracle SOA Cloud Service does the following:

- Logs any diagnostic information.
- Sets the status of the service instance to RUNNING to allow other operations to continue.
- Cleans up any stale resources.

About Scaling an Oracle SOA Cloud Service Node

You can scale an Oracle SOA Cloud Service node to change its compute shape in response to changes in workload or to add block storage to a node that is running out of storage. However, you cannot remove block storage from a node.

You can scale only the Administration Server node and Managed Server nodes in a WebLogic Server cluster. Oracle SOA Cloud Service does not support scaling for other nodes in a service instance, such as the load balancer node.

You must scale each node in a cluster individually. You cannot scale all nodes in a cluster in a single operation.

About Changing the Compute Shape of a Node

You can change the compute shape of a node to adjust capacity in response to changes in workload. The compute shape specifies the number of Oracle Compute Units (OCPUs) and amount of memory (RAM) that you want to allocate to the node.

Oracle SOA Cloud Service provides a set of compute shapes that are optimized for different use cases. Choose from a set of all-purpose and memory-intensive shapes. The larger the compute shape, the greater the processing power.

- To meet the demands of heavier workloads, scale up the compute shape of a node by choosing a larger compute shape.
 - For example, changing the compute shape from OC1M to OC2M doubles the capacity of the node from one OCPU to two OCPUs and doubles the amount of RAM allocated to the node.
- To save costs if the workload is lightened, scale down the compute shape of a node by choosing a smaller compute shape.
 - For example, changing the compute shape from OC2M to OC1M reduces the capacity of the node by half from two OCPUs to one OCPU and reduces the amount of RAM allocated to the node by half.

Note: To optimize performance and balance the load on Managed Sever instances correctly, ensure that the compute shapes of all nodes in a cluster are the same. When routing requests to Managed Server instances, the load balancer treats all Managed Sever instances as being equivalent.

About Adding Block Storage to a Node

You can add block storage to a node that is running out of storage. When you add storage to a node, an Oracle Compute Cloud Service storage volume is created and attached to the node's VM.

Note: You cannot remove block storage from a node.

The new storage volume created by scaling remains attached and available to the node's VM even when the service instance is restarted or is stopped and then started. Also, this storage volume exists until you delete the service instance, at which time the storage volume is also deleted.

You can add the storage to a new volume or one of the following existing volumes:

- Backup storage volume (Administration Server node only)
- Domain home storage volume
- Middleware home storage volume

For details of these volumes, see About the Disk Volumes.

You can add storage a maximum of five times to a storage volume.

Caution: Before adding storage to the domain home or middleware home storage volume, back up the service instance to avoid the risk of data loss. For instructions, see Initiate an On-Demand Backup of an Oracle SOA Cloud Service Instance.

Scaling Out an Oracle SOA Cloud Service Cluster

You can scale out an Oracle SOA Cloud Service cluster to add one node to the cluster. When you scale out, Oracle SOA Cloud Service creates a new VM running an Oracle WebLogic Server managed server instance.

Note:

Scaling out Integration Analytics clusters is not supported in this release.

To scale out an Oracle SOA Cloud Service cluster:

- **1.** Navigate to the Topology page:
 - **a.** Click the name of the service instance with the cluster that you want to scale out.

The Oracle SOA Cloud Service Instance page is displayed with the **Overview** tile in focus, displaying detailed information about the service instance.

b. Click the **Topology** tile.

The Topology page is displayed.

2. Click Add Node.

The Add Node dialog box is displayed.

- **3.** To confirm you want to scale out the cluster, click **Add Node**.
- **4.** After a few moments, click the (Refresh) icon to update the page.

You might need to click the icon more than once to see any change to the page.

After a few moments of processing, the new node appears on the Topology page. The **Topology** tile shows the number of nodes increased by one. For a description of the items in the node line item, see Exploring the Oracle SOA Cloud Service Instance Overview Page

At any time during the scaling process, you can check its status by opening the

Activity section and clicking for the affected node. A status panel will appear.

Note: After scale-out, you must restart the administration server and all managed servers. This applies to both SOA and OSB domain configuration types, Failure to restart servers post scale-out can impact functionality.

Scaling In an Oracle SOA Cloud Service Cluster

You can scale in an Oracle SOA Cloud Service cluster to remove a selected node from the cluster. When you scale in, Oracle SOA Cloud Service removes the selected Oracle WebLogic Server managed server instance and the VM that it is running on.

To scale in an Oracle SOA Cloud Service cluster:

- **1.** Navigate to the Topology page.
 - **a.** Click the name of the service instance with the cluster that you want to scale in.

The Oracle SOA Cloud Service Instance page appears, with the **Overview** tile in focus, displaying detailed information about the service instance.

b. Click the **Topology** tile.

The Topology page is displayed.

- **2.** From the menu for the node you want to remove, choose **Remove Node**. The Remove Node dialog box is displayed.
- 3. In the Remove Node dialog box, confirm how you want to scale in.
 - To scale in gracefully, click Remove Node.
 - To forcibly scale in, select **Force Remove** and click **Remove Node**.

 If you forcibly scale in, Oracle SOA Cloud Service removes the node even if the node's VM or managed server instance is unresponsive.
- **4.** After a few moments, click the (Refresh) icon to update the page. You might need to click the icon more than once to see any change to the page.

After a few moments of processing, the node is removed from the Topology page. The **Topology** tile shows the number of nodes decreased by one..

Note: At any time during the scaling process, you can check its status by opening the Activity section and clicking for the affected node. A status panel will appear.

Note: After scale-in, you must restart the administration server and all managed servers. This applies to both Oracle SOA and Oracle Service Bus domain configuration types, Failure to restart servers post scale-in can impact functionality.

Scaling an Oracle SOA Cloud Service Node

You can scale an Oracle SOA Cloud Service node to change its compute shape in response to changes in workload or to add storage to a node that is running out of storage. However, you **cannot** remove block storage from a node.

To scale an Oracle SOA Cloud Service node:

- **1.** Navigate to the Topology page.
 - **a.** Click the name of the service instance with the cluster that you want to scale in.

The Oracle SOA Cloud Service Instance page appears, with the **Overview** tile in focus, displaying detailed information about the service instance.

b. Click the **Topology** tile.

The Topology page is displayed.

2. From the menu for the node, choose **Scale Up/Down**.

The Scale Up/Down Server dialog box opens.

3. In the Scale Up/Down Server dialog box, specify the new compute shape of the node, how much storage to add to the node, and where to add the storage, and then click **Yes**, **Scale Up/Down Server**.

Option	Description	
New Compute Shape	From the drop-down list, select the new compute shape for the node.	
	• To scale up the node, choose a larger compute shape than the current compute shape.	
	• To scale down the node, choose a smaller compute shape than the current compute shape.	
Additional Storage (GB)	Enter a whole number in the range 1-1,000 to specify the number of Gbytes of block storage you want to add, if any.	
Add Storage to	If you are adding block storage, from the drop-down list, select one of the following storage volumes to which the storage will be added:	
	Create New Storage Volume	
	 Extend Backup Storage Volume 	
	 Extend Domain Home Storage Volume 	
	Extend Middleware Home Storage Volume	

While Oracle SOA Cloud service is applying your changes, it puts the service instance into Maintenance mode, changes the state of the node to Configuring, and stops any servers running on the node. After applying your changes, Oracle SOA Cloud service starts any servers that should run on the node.

Note: If you scale out a cluster in a service instance after scaling any of its nodes, the new node has the compute shape and the amount of storage with which the service instance was originally created. To ensure that all nodes in your cluster are equivalent, you must scale the new node to match the other nodes in your cluster.

Viewing Scaling Requests

You can view scaling requests to check the status of ongoing scaling requests, and the success or failure of previous requests.

To view ongoing or past scaling requests:

- **1.** Navigate to the Topology page.
 - **a.** In the Oracle SOA Cloud Service Console, click the name of the service instance for which you want to view scaling activity.

The Oracle SOA Cloud Service Instance page is displayed with the **Overview** tile in focus, displaying detailed information about the service instance.

b. Click the **Topology** tile.

The Topology page is displayed.

2. If necessary, click the to adjacent to the Activity section head.

The Activity section of the Topology page opens.

The Activity section of the Topology page provides a detailed history of the operations that have been performed on the instance.

Understanding the Impact of Scaling on JMS Transport URLs

When you add (scale out) or remove (scale in) nodes, you must reconfigure the JMS transport URIs in Oracle Service Bus.

The JMS transport in Oracle Service Bus is configured with JMS URIs of the following format:

jms://cluster_address/connection_factory/UDQ

For example, if you do not reconfigure the JMS URI after scaling in (such as removing the second node in a two-node cluster), sending messages to UDQ results in the following exception:

The invocation resulted in an error: [JMSPool:169803]JNDI lookup of the JMS connection factory weblogic.jms.ConnectionFactory failed: javax.naming.ServiceUnavailableException: slc07pjl-soaqa-2vm-otd-0616-osb-jcs-wls-2 [Root exception is java.net.UnknownHostException: slc07pjl-soaqa-2vm-otd-0616-osb-jcs-wls-2].

Backing Up and Restoring an Oracle SOA Cloud Service Instance

This section explains how to back up and restore an Oracle SOA Cloud Service instance.

Topics:

- About Backup and Restoration of Oracle SOA Cloud Service Instances
- Typical Workflow for Backing Up and Restoring an Oracle SOA Cloud Service Instance
- Configuring Automated Backups for an Oracle SOA Cloud Service Instance
- Initiate an On-Demand Backup of an Oracle SOA Cloud Service Instance
- Delete a Backup
- Restoring an Oracle SOA Cloud Service Instance from a Backup
- Returning an Oracle SOA Cloud Service Instance to Service After Restoration from a Backup
- Exploring the Backup Page

About Backup and Restoration of Oracle SOA Cloud Service Instances

By backing up your Oracle SOA Cloud Service instances, you can preserve them in a particular state. If you later make configuration changes to a service that you don't want, you can undo them by restoring the service instance's configuration data from a backup. You can also restore the software to its current official patch set update (PSU) level.

Topics:

- Contents of a Backup
- How Backups Are Initiated
- Where Backups Are Stored
- What Happens During a Backup
- How Restorations Are Initiated
- How Restorations Are Initiated

Contents of a Backup

What a backup contains depends on whether the backup is an **incremental backup** or a **full backup**.

For details about the volumes that are backed up, see About the Disk Volumes in *Using Oracle Java Cloud Service*.

Topics:

- Contents of an Incremental Backup
- Contents of a Full Backup
- Links Between an Incremental Backup and Its Related Full Backup
- Items that Are Not Backed Up

Contents of an Incremental Backup

An incremental backup contains only runtime artifacts of each managed virtual machine in the service instance.

Note:

All incremental backups are automated scheduled backups. You cannot create an incremental backup on demand.

While creating an incremental backup, Oracle SOA Cloud Service promotes the backup to a full backup if any of the following conditions are met:

- The configuration data of the service instance has been restored since the last scheduled full backup.
- The service instance has been scaled out since the last scheduled full backup.

- Oracle SOA Cloud Service can now reach a virtual machine that it could not reach during the last scheduled full backup.
- The last full scheduled backup is no longer available.

You can recognize a promoted backup in the list of available backups from its type and creation time. Any full, automated backup created at the scheduled time for an incremental backup has been promoted.

Contents of a Full Backup

A full backup contains all the runtime artifacts required to restore the service instance's configuration data.

Specifically, a full backup contains these items:

- The Oracle WebLogic Server domain configuration of the service instance, which consists of these items:
 - The \$DOMAIN_HOME volume of each virtual machine
 Managed Server persistent stores that are not stored in the database are stored under \$DOMAIN_HOME. Examples of Managed Server persistent stores are transaction logs and Java Message Service (JMS) providers.
 - Oracle WebLogic Server domain configuration files in the \$MW_HOME volume of the Administration Server virtual machine
- Oracle Traffic Director configuration for the load balancer

Note:

Oracle SOA Cloud Service does **not** back up any software, including Oracle Fusion Middleware software installed on the \$MW_HOME volume. You are responsible for ensuring that you can re-install any software that you have installed on a service instance's VMs if necessary.

Links Between an Incremental Backup and Its Related Full Backup

Each incremental backup is linked to the last full backup that was performed before the incremental backup. As a result, each full backup is linked to all incremental backups that were performed between that full backup and the next full backup.

You can restore a service instance from an incremental backup without the need to restore the full backup to which the incremental backup is linked. In this situation, you are responsible for ensuring that the service instance is in a consistent state after the service instance is restored. See Restoring an Oracle SOA Cloud Service Instance from a Backup.

However, you **cannot** delete or archive a full backup to which one or more incremental backups are linked. If you want to delete or archive a full backup to which incremental backups are linked, you must delete or archive the linked backups first. See Delete a Backup.

Items that Are Not Backed Up

Oracle SOA Cloud Service ensures that backups contain only the volumes that are needed for a proper restoration of a service instance.

Therefore, the following items are **not** backed up:

- Users' custom volumes
- The \$JDK_HOME volume, which contains the JDK software
- Software binary files in the \$MW_HOME volume

Oracle SOA Cloud Service does not back up the database to which it is connected. If you are using a database that supports backups such as Oracle Database Cloud Service, you can coordinate the backups to occur on the same schedule as Oracle SOA Cloud Service. Similarly, if you use Oracle SOA Cloud Service to restore a service instance from a backup, you can also separately restore the database from a backup taken at the same time.

How Backups Are Initiated

Backups are initiated in several different ways.

- Oracle SOA Cloud Service initiates scheduled automated backups on the following default schedule:
 - Full backups are initiated weekly starting 12 hours after a service instance was created, rounded to the nearest five-minute interval.
 - For example, if a service instance is created at 1:01 PM on a Monday, full backups are initiated at 1:00 AM on Tuesdays.
 - Incremental backups are initiated every day except the day of a full backup at the same time that full backups are initiated.
 - For example, if a service instance is created at 1:01 PM on a Monday, incremental backups are initiated at 1:00 AM every day except Tuesdays.

You can change the schedule on which automated backups are initiated as explained in Configuring Automated Backups for an Oracle SOA Cloud Service Instance.

Note:

You cannot configure how often backups are performed, only when they are performed.

- You can initiate a backup immediately without having to wait for the next scheduled backup as explained in Initiate an On-Demand Backup of an Oracle SOA Cloud Service Instance.
- Oracle SOA Cloud Service initiates a full backup immediately before an Oracle SOA Cloud Service instance is patched.
- Oracle SOA Cloud Service initiates an incremental backup immediately before an Oracle SOA Cloud Service instance is scaled in or scaled out.

Where Backups Are Stored

Oracle SOA Cloud Service stores all backups on a remote file system. To speed up restorations from recent backups, Oracle SOA Cloud Service also keeps a local copy of any backup it has recently created.

Note: Do not attempt to download the backup files generated by Oracle SOA Cloud Service. These files are encrypted and not accessible offline. You must use Oracle SOA Cloud Service to restore a service instance from a backup.

How Backups on a Remote File System Are Stored

By default, Oracle SOA Cloud Service stores backups on the remote file system that was specified when the service instance was created. You can choose to store the backups on a different file system as explained in Configuring Automated Backups for an Oracle SOA Cloud Service Instance.

Note: If the file system contains backup archives that Oracle SOA Cloud Service has moved there, it cannot be changed.

Oracle SOA Cloud Service automatically deletes a backup when the retention period for the backup has elapsed.

How Local Copies of Backups Are Stored

Oracle SOA Cloud Service stores local copies in a dedicated volume mounted on the block storage attached to the virtual machine where the Administration Server is running. A backup fails if there is insufficient free space on this volume.

How long Oracle SOA Cloud Service keeps the local copy of a backup before deleting it depends on the extent of the backup:

- For an incremental backup, Oracle SOA Cloud Service keeps the local copy for seven days.
- For a full backup, Oracle SOA Cloud Service keeps the local copy for as long as the local copy of its last related incremental backups is kept, or for seven days, whichever is longer.

How Backups and Local Copies Are Deleted Automatically

After completing the day's scheduled backup, Oracle SOA Cloud Service deletes any backups or local copies that are due to be deleted that day. If the scheduled backup fails because of insufficient space, backups and local copies that are due to be deleted are still deleted.

Note:

When an Oracle SOA Cloud Service instance is deleted, all its backups are deleted.

What Happens During a Backup

During a backup of an Oracle SOA Cloud Service instance, the service instance continues to run and all applications deployed to the service instance remain available.

To prevent configuration changes during a backup, Oracle SOA Cloud Service locks the Oracle WebLogic Server domain. After locking the domain, Oracle SOA Cloud Service backs up files on each node as described in Contents of a Backup.

Note:

Do **not** to attempt to start the administration server while a backup is in progress.

While the backup is in progress, you cannot start any other management operation on the service instance.

When the backup is complete, Oracle SOA Cloud Service unlocks the Oracle WebLogic Server domain. If the backup is a scheduled backup, Oracle SOA Cloud Service also cleans up aged backups as follows:

- It deletes from local storage all backups old enough to be stored only on a remote file system.
- It deletes from wherever they are stored any remaining copies of backups whose retention period has elapsed.

If the scheduled backup fails because of insufficient space, the aged backups are still cleaned up.

Note:

Oracle SOA Cloud Service does not automatically remove transaction records when backing up a service instance. Therefore, you must remove transaction records after you restore a service instance from a backup.

How Restorations Are Initiated

Restorations are initiated in a couple different ways.

- You can initiate a restoration as explained in Restoring an Oracle SOA Cloud Service Instance from a Backup.
- Oracle SOA Cloud Service initiates a restoration after a failed attempt to patch a service instance to return the service instance to the state it was in before the failed attempt.

Typical Workflow for Backing Up and Restoring an Oracle SOA Cloud Service Instance

To back up and restore an Oracle SOA Cloud Service instance, consider this typical workflow.

Note:

Except where noted, the table provides one or more links to information about how to perform each task by using the web-browser-based Oracle SOA Cloud Service administration console. For information about using REST endpoints to perform these tasks, see REST API for Oracle SOA Cloud Service

Task	Description	More Information
Configure automated backups for an Oracle SOA Cloud Service instance	Customize the following properties of automated backups for an Oracle SOA Cloud Service instance: • When automated backups are performed • Where backups more than seven days old are stored • How long new backups are retained	Configuring Automated Backups for an Oracle SOA Cloud Service Instance
Initiate an on-demand backup of an Oracle SOA Cloud Service instance	Create a backup immediately without having to wait for the next scheduled backup.	Initiate an On-Demand Backup of an Oracle SOA Cloud Service Instance
Delete a backup	Delete a backup that you no longer require to release storage or prevent an Oracle SOA Cloud Service instance from being restored from the backup.	Delete a Backup
Restore an Oracle SOA Cloud Service instance from a backup	Return an Oracle SOA Cloud Service instance to a particular state or recover a service instance after a loss of data.	Restoring an Oracle SOA Cloud Service Instance from a Backup
Return an Oracle SOA Cloud Service instance to service after restoration from a backup	Modify a restored service instance to return it to the state you require and perform steps to return the service instance to service that Oracle SOA Cloud Service does not automate.	Returning an Oracle SOA Cloud Service Instance to Service After Restoration from a Backup
Download a backup	Use a REST endpoint to move a backup from an Oracle Storage Cloud Service container to block storage.	Archive and Download a Backup in REST API for Oracle SOA Cloud Service
Archive a backup	Use a REST endpoint to move a backup from block storage to an Oracle Storage Cloud Service container.	Archive and Download a Backup in REST API for Oracle SOA Cloud Service

Configuring Automated Backups for an Oracle SOA Cloud Service Instance

Use the *Oracle SOA Cloud Service* console to configure automated backups to customize when the service instance is backed up and how backups are stored.

You can customize the following properties of the service instance:

- When automated backups are initiated. By default, backups are performed at the following times:
 - Full backups are initiated weekly starting 12 hours after the service instance was created, rounded to the nearest five-minute interval.

For example, if a service instance is created at 1:01 PM on a Monday, full backups are initiated at 1:00 AM on Tuesdays.

Incremental backups are initiated every day except the day of a full backup at the same time that full backups are initiated.

For example, if a service instance is created at 1:01 PM on a Monday, incremental backups are initiated at 1:00 AM every day except Tuesdays.

Note:

You cannot configure how often backups are performed, only when they are performed.

Where backups are stored. By default, backups are stored in the remote file system that you provided when the service instance was created.

Because the changes affect only one service instance, you can configure different values for these properties for each of your service instances.

> **Note:** You cannot configure automated backups for an Oracle SOA Cloud Service instance while the service instance is being backed up.

To configure automated backups for an Oracle SOA Cloud Service instance:

- 1. Navigate to the Oracle SOA Cloud Service Backup page.
 - **a.** Click the name of the service instance for which you want to configure automated backups.

The Oracle SOA Cloud Service Instance page is displayed with the Overview tile in focus, displaying detailed information about the service instance.

b. Click the Administration tile.

The Oracle SOA Cloud Service Instance page is refreshed with the Administration tile in focus.

c. Click the Backup tab.

The Backup page is displayed.

2. Click Configure Backups.

The Configure Backups dialog box opens.

- 3. In the Configure Backups dialog box, set the options to configure automated backups for the service instance.
 - **a.** In the Schedule section, set options to configure when automated backups are performed:

Note:

All times must be for the Coordinated Universal Time (UTC) time zone, not vour local time zone.

Option	Description
Full Backup	From the drop-down lists, select the day of the week and the time of day UTC when you want full backups to be performed.
Incremental Backup	From the drop-down list, select the time of day UTC when you want incremental backups to be performed.

- **a.** In the **NFS Remote Backup** field, enter the remote file-system directory where you want backups to be stored.
- 4. Click Save.

Delete a Backup

You can delete a backup that you no longer require to release storage or prevent an Oracle SOA Cloud Service instance from being restored from the backup.

Note:

You can delete a full backup only if no incremental backups are linked to it. If you attempt to delete a full backup to which one or more incremental backups is linked, the attempt fails.

To delete a backup:

- 1. Navigate to the Oracle SOA Cloud Service Backup page.
 - **a.** Click the name of the service instance for which you want to delete a backup.

The Oracle SOA Cloud Service Instance page is displayed with the Overview tile in focus, displaying detailed information about the service instance.

b. Click the Administration tile.

The Oracle SOA Cloud Service Instance page is refreshed with the Administration tile in focus.

c. Click the Backup tab.

The Backup page is displayed.

2. From the menu for the backup in the list of available backups, choose **Delete**.

If you want to delete a full backup to which incremental backups are linked, you must delete or archive the linked backups first. If you attempt to delete a full backup to which one or more incremental backups is linked, the attempt fails.

For information about how to archive a backup, see "Archive and Download a Backup" in REST API for Oracle SOA Cloud Service.

3. When prompted, confirm that you want to delete the backup.

Initiate an On-Demand Backup of an Oracle SOA Cloud Service Instance

You can create a backup immediately without having to wait for the next scheduled backup.

Create a backup when making major changes to your service instance, for example, in these situations:

- Before any configuration changes that you may need to undo
- Before deploying an application
- After deploying an application

Note:

Do not to attempt to start the administration server while a backup is in progress.

To initiate an on-demand backup of an Oracle SOA Cloud Service instance:

- 1. Navigate to the Oracle SOA Cloud Service Backup page.
 - a. Click the name of the service instance for which you want to initiate an ondemand backup.

The Oracle SOA Cloud Service Instance page is displayed with the Overview tile in focus, displaying detailed information about the service instance.

b. Click the Administration tile.

The Oracle SOA Cloud Service Instance page is refreshed with the Administration tile in focus.

c. Click the Backup tab.

The Backup page is displayed.

2. Click **Back Up Now**.

The Back Up Now dialog box opens.

3. In the Back Up Now dialog box, set the following options:

Option	Description
Keep Forever	Whether to keep the backup indefinitely:
	 Yes—Keep the backup indefinitely or until it is deleted manually.
	 No—Delete the backup at the end of the default retention period for the service instance's backups. The default retention period is 30 days.
	You can keep indefinitely only a full backup, not an incremental backup.
Notes	Up to 255 characters of free-form text to provide additional information about the backup. This text is displayed in the Notes field for the backup in the list of available backups.
	Provide information to enable an administrator to determine when to restore from the backup, for example, why the backup was created, or the state of the service instance at the time of the backup.

4. Click Back Up.

The Backup page is updated to show that the backup is in progress.

While the backup is in progress, you cannot start any other management operation on the service instance.

When the backup is complete, it is added to the list of available backups on the Backup page.

Restoring an Oracle SOA Cloud Service Instance from a Backup

You can restore an Oracle SOA Cloud Service instance from a backup to return the service instance to a particular state or recover the service instance after a loss of data.

Note:

If you restore a service instance's configuration files from a backup in which the hosts do not match the hosts in the service instance, Oracle SOA Cloud Service handles the mismatch as follows:

- If the service instance contains any managed server hosts that are not in the backup, Oracle SOA Cloud Service warns you that it cannot restore the managed server hosts that are not part of the backup.
 - Before trying to restore again, you can scale in the service instance to delete the nodes that correspond to these managed server hosts. See Scaling In an Oracle SOA Cloud Service Cluster.
 - If you choose to continue without scaling in the service instance, Oracle SOA Cloud Service asks you to confirm that you understand that the service instance will be scaled in automatically.
- If the backup contains any hosts that are not in the service instance, Oracle SOA Cloud Service does **not** attempt to remove the managed servers on these hosts from the administration server configuration. You must use Oracle WebLogic Server to remove the managed servers on these hosts from the administration server configuration.

After you restore a service instance's configuration files from a backup that does not match the service instance, you might need to modify the restored service instance to return it to the state you require. See Returning an Oracle SOA Cloud Service Instance to Service After Restoration from a Backup.

You can restore a service instance from an incremental backup without the need to restore the full backup to which the incremental backup is linked. In this situation, you are responsible for ensuring that the service instance is in a consistent state after the service instance is restored.

Restoration from a backup that is stored on block storage is faster than restoration from a backup that is stored in an Oracle Storage Cloud Service container.

Before restoring an Oracle SOA Cloud Service instance from a backup, you must disable the load balancer for the service instance as explained in Disabling or Enabling the Load Balancer for an Oracle Cloud Service Instance.

To restore an Oracle SOA Cloud Service instance from a backup:

- 1. Navigate to the Oracle SOA Cloud Service Backup page.
 - **a.** Click the name of the service instance that you want to restore from a backup.

The Oracle SOA Cloud Service Instance page is displayed with the Overview tile in focus, displaying detailed information about the service instance.

b. Click the Administration tile.

The Oracle SOA Cloud Service Instance page is refreshed with the Administration tile in focus.

c. Click the Backup tab.

The Backup page is displayed.

2. From the menu for the backup in the list of available backups, choose **Restore**.

Note:

If you choose to restore from an incremental backup, you are responsible for ensuring that the service instance is in a consistent state after the service instance is restored.

A dialog box in which to set options for restoring from the backup opens.

3. In the dialog box, select the types of files that you want to restore and click Restore.

Note:

You cannot use Oracle SOA Cloud Service to restore the database. To restore the database, you must use Oracle Database Cloud Service to restore from the associated database backup as identified by its RMAN tag. For instructions, see Restoring from a Specific Backup in *Using Oracle Database Cloud Service*.

The Backup page is updated to show that the restoration is in progress. While the restoration is in progress, you cannot start any other management operation on the service instance.

When the restoration is complete, it is added to the restoration history in the Backup page.

Returning an Oracle SOA Cloud Service Instance to Service After Restoration from a Backup

After restoring an Oracle SOA Cloud Service instance from a backup, you must perform additional steps to return the service instance to service. You may also need to modify the service instance to return it to the state you require.

If a service instance has been scaled since a backup was created, the topology of the service instance and the topology of the backup no longer match. If you restore the service instance's configuration files from the backup, Oracle SOA Cloud Service handles such topology mismatches as follows:

- If the service instance contains any managed server hosts that are not in the backup, Oracle SOA Cloud Service warns you that it cannot restore the managed server hosts that are not part of the backup.
 - Before trying to restore again, you can scale in the service instance to delete the nodes that correspond to these managed server hosts.
 - If you choose to continue without scaling in the service instance, Oracle SOA Cloud Service asks you to confirm that you understand that the service instance will be scaled in automatically.
- If the backup contains any hosts that are not in the service instance, Oracle SOA
 Cloud Service does not attempt to remove the managed servers on these hosts
 from the administration server configuration. You must use Oracle WebLogic
 Server to remove the managed servers on these hosts from the administration
 server configuration.

You must also remove a restored service instance's transaction logs and enable the load balancer for the service instance to resume the handling of incoming requests.

To return an Oracle SOA Cloud Service instance to service:

- **1.** On theOracle SOA Cloud Service Backup Page, click the text Status Completed for the last successful restoration in the Restore History of the service instance.
 - A set of progress messages for the restoration is displayed.
- **2.** Examine the progress messages to determine whether the backup contained any hosts that are not in the service instance.
- **3.** If the backup contained any hosts that are not in the service instance, modify the service instance as follows:
 - **a.** Use Oracle WebLogic Server to remove the managed servers on these hosts from the administration server configuration.
 - **b.** If you require your service instance to contain the number of nodes in the backup, scale out the service instance.
- **4.** If you scaled in the service instance to delete any nodes and you require your service instance to contain the number of nodes it contained before you restored it, scale out the service instance.
- **5.** Remove the service instance's transaction records.

Oracle SOA Cloud Service does not provide any tools for removing a service instance's transaction records. Instead, use Oracle WebLogic Server for this purpose.

See:

- Accessing a VM Through a Secure Shell (SSH)
- Relevant documentation for the release of Oracle WebLogic Server that your service instance is running:
 - For release 12c (12.1.3), see How to Remove Transaction Records in Developing JTA Applications for Oracle WebLogic Server 12c (12.1.3).
- **6.** Enable the load balancer for the service instance as explained in Disabling or Enabling the Load Balancer for an Oracle Cloud Service Instance.

Exploring the Backup Page

You can use the Backup page to back up and restore an Oracle SOA Cloud Service instance, and to manage backups for the service instance.

What You Can Do from the Backup Page

You can perform these tasks from the Backup page:

- Configuring Automated Backups for an Oracle SOA Cloud Service Instance
- Initiate an On-Demand Backup of an Oracle SOA Cloud Service Instance
- Delete a Backup
- Restoring an Oracle SOA Cloud Service Instance from a Backup

What You See on the Backup Page

The following table describes the key information shown on the Backup page.

Element	Description	
Instances buton	Follow this link to return to the Oracle SOA Cloud Service Console.	
(adjacent to the service	Menu icon provides the following options:	
instance name)	 Open WebLogic Server Console—Open the WebLogic Console to administer your application environment. 	
	 Open Fusion Middleware Control Console—Open Fusion Middleware Control to administer your application environment. 	
	 Open Load Balancer Console—Open the console to administer the load balancer, if the load balancer has been configured for the service instance. 	
WebLogic Server Version	Version of Oracle WebLogic Server configured for the Oracle SOA Cloud Service instance. For example: 12.1.3.0.	
Description	Description of the Oracle SOA Cloud Service instance.	
Topology	Shows the node configuration.	
Incremental backup	Indicates the schedule for running incremental backups. See Configuring Automated Backups for an Oracle SOA Cloud Service Instance.	
Full backup	Indicates the schedule for running full backups. See Configuring Automated Backups for an Oracle SOA Cloud Service Instance.	
Most Recent Backup 🛕	Indicates that the most recent backup failed and the time of its failure.	
	Click the icon for information about why the backup attempt was unsuccessful.	
Last Successful Backup	Indicates the time of the last successful backup.	

Element	Description
G	Click to refresh the page. The date and time the page was last refreshed is displayed adjacent to this button.
Configure Backups	Click Configure Backups to set when scheduled backups should occur and to specify how backups are stored.
	See Configuring Automated Backups for an Oracle SOA Cloud Service Instance.
Back Up Now	Click Back Up Now to create an on-demand backup of the Oracle SOA Cloud Service instance.
	See Initiate an On-Demand Backup of an Oracle SOA Cloud Service Instance.
Storage Cloud Container Used	The total amount of space, in MBytes or GBytes, that backups are occupying in the Oracle Storage Cloud Service container for storing backups that are more than seven days old. This amount includes space that is occupied by backups that have been manually uploaded to the container, if any, in addition to the space occupied by backups that Oracle SOA Cloud Service has moved there.
	This information is omitted for an service instance that is configured to store backups only on block storage.
Available Backups	List of available backups. By default, only backups for the last 7 days are listed.
₽	In-progress backup for the Oracle SOA Cloud Service instance. The backup will not be available for use in restoring the service instance until it is completed.
	The backup is identified by the date and time when the backup was created, which is displayed adjacent to icon that represents the backup.
	Click the icon to see additional information about the backup.
	Completed backup for the Oracle SOA Cloud Service instance. The backup is available for use in restoring the service instance.
T)	The backup is identified by the date and time when the backup was created, which is displayed adjacent to icon that represents the backup.
	Click the icon to see additional information about the backup.

Element	Description	
	Completed scheduled backup after which Oracle SOA Cloud Service tried but failed to move or delete one or more older backups. For information about when and why Oracle SOA Cloud Service moves or deletes older backups, see Where Backups Are Stored. The backup is still available for use in restoring the service instance.	
	To find out why Oracle SOA Cloud Service could not move or remove the older backup, place the cursor over the icon.	
	The presence of the older backup may cause future backups to fail because of insufficient space. For information about how to prevent future backups from failing in this way see Problems with Backup and Restoration.	
	The backup is identified by the date and time when the backup was created, which is displayed adjacent to icon that represents the backup.	
	Click the icon to see additional information about the backup.	
Туре	 A comma-separated pair of words that describes the type of the backup. The first word in the pair describes the extent of the backup: Incremental—The backup contains only the runtime artifacts of each managed virtual machine in the service instance. Full—The backup contains runtime artifacts and files that change infrequently or do not change. See Contents of a Backup. The second word in the pair indicates how the backup was initiated: If the backup was initiated automatically at the scheduled time, the text "scheduled" is displayed. If the backup was initiated by a user, the user name of the user who initiated the backup is displayed. If the backup was initiated in response to another management operation by a user, the name of the user is displayed. 	
	See How Backups Are Initiated.	
Available Until	The date and time until which the backup will be retained.	
Location	The location where the backup is stored:	
	 Disk—The backup is stored on the block storage of the virtual machine where the Administration Server is running. Oracle Storage Cloud Service—The backup is stored in the Oracle Storage Cloud Service container for storing the service instance's backups that are more than seven days old. 	
	See Where Backups Are Stored.	

Element	Description	
Contains	A row of up to three icons that indicates the content of the backup:	
	 —Indicates that the backup contains binary files. 	
	 —Indicates that the backup contains configuration files. 	
	 —Indicates that the backup contains database files. 	
Notes	Click the text Notes to display the notes that were provided when the backup was created or the restoration was performed.	
I	Menu icon provides the following options:	
	 Restore—Restore the Oracle SOA Cloud Service instance from the backup. See Restoring an Oracle SOA Cloud Service Instance from a Backup. 	
	• Delete —Delete the backup. See Delete a Backup.	

Related Topics

- Exploring the Oracle SOA Cloud Service Console
- Exploring the Oracle SOA Cloud Service Instance Overview Page

Administering the Load Balancer for an Oracle SOA Cloud Service Instance

This section explains how to administer the load balancer for a Oracle SOA Cloud Service instance.

Topics:

- Overview of Load Balancer Administration Tasks
- Disabling or Enabling the Load Balancer for an Oracle Cloud Service Instance
- Adding a Load Balancer to an Oracle SOA Cloud Service Instance
- Configuring a Load Balancer for an Oracle SOA Cloud Service Instance
- About Load Balancer Virtual Machines
- Exploring the Load Balancer Page

Overview of Load Balancer Administration Tasks

You perform load balancer administration tasks for an Oracle SOA Cloud Service instance as required.

Task	Description	More Information
Disable or enable the load balancer	Disable the load balancer to suspend an Oracle SOA Cloud Service instance during maintenance, or enable the load balancer to resume a service instance after maintenance.	Disabling or Enabling the Load Balancer for an Oracle Cloud Service Instance
Add a load balancer	Add a load balancer to an Oracle SOA Cloud Service instance that was created without a load balancer.	Adding a Load Balancer to an Oracle SOA Cloud Service Instance
Configure the load balancer	Add up to two load balancer nodes. Use the Oracle Traffic Director administration console to configure the Oracle Traffic Director software that is used as the load balancer for an Oracle SOA Cloud Service instance.	Configuring a Load Balancer for an Oracle SOA Cloud Service Instance

Disabling or Enabling the Load Balancer for an Oracle Cloud Service Instance

You can disable the load balancer for an Oracle SOA Cloud Service instance to suspend the service instance during maintenance, or enable the load balancer to resume a service instance after maintenance.

When enabled, the load balancer forwards the requests it receives from clients to the Oracle WebLogic Server managed servers in your service instance. When disabled, the load balancer stops forwarding such requests, but instead responds with a maintenance message and the HTTP status code 503.

Note: You cannot enable or disable the load balancer for a service instance while the service instance is being backed up.

To enable or disable the load balancer for a service instance:

1. From the Services page of the Oracle SOA Cloud Service Console, click an existing service instance.

The Overview page is displayed.

- 2. Click Administration.
- 3. Click the Load Balancer tab.
- **4.** Click the button that is available to change the status of the load balancer.
 - To disable a load balancer that is enabled, click **Disable Traffic**.
 - To enable a load balancer that is disabled, click Enable Traffic.

Adding a Load Balancer to an Oracle SOA Cloud Service Instance

You can add a load balancer to an Oracle SOA Cloud Service instance after its creation.

For any Oracle SOA Cloud Service instance that contains more than one Managed Server node, a load balancer provides these benefits:

- Manages the routing of requests across all Managed Servers.
- Enables you to configure the routing policy.
- Enables you to suspend a service instance temporarily to perform routine maintenance, as described in Suspending an Oracle SOA Cloud Service Instance.

A service instance can include zero or one load balancer nodes (VMs). Each node is assigned a separate public IP address.

Oracle Traffic Director (OTD) is used as the load balancer for a service instance.

To add a load balancer to a service instance:

1. From the Services page of the Oracle SOA Cloud Service Console, click an existing service instance.

The Overview page is displayed.

2. Navigate to the Topology page. Click **Add Load Balancer**.

The Add Load Balancer dialog box opens.

3. Select the routing policy and compute shape for the load balancer, and the user name and password for the Oracle Traffic Director administrator.

The user name and password for the Oracle Traffic Director administrator are used to access the Oracle Traffic Director administration console as described in Accessing an Administration Console for Software that a Service Instance Is Running.

Note: If you add a load balancer to an Oracle SOA Cloud Service instance after the service instance was created, you must define the user name and password for the Oracle Traffic Director administrator explicitly. The user name and password are **not** set by default to the user name of the WebLogic Server administrator. This behavior differs from the behavior when a load balancer is added to a service instance while the service instance is being created.

Table 4-1 Load Balancer Options Common to Provisioning a Service and Adding a Load Balancer

Option	Description
Load Balancer Policy	Select the policy to use for routing requests to the load balancer.
	Valid policies include:
	 Least Connection Count—Passes each new request to the Managed Server with the least number of connections. This policy is useful for smoothing distribution when Managed Servers get bogged down. Managed Servers with greater processing power to handle requests will receive more connections over time. Lowest Response Time—Passes each new request to the Managed Server with the fastest response time. This policy is useful when Managed Servers are distributed across networks. Round Robin—Passes each new request to the next Managed Server in line, evenly distributing requests across all Managed Servers regardless of the number of connections or response time.
Compute Shape	Select the number of Oracle Compute Units (OCPUs) and amount of RAM memory that you want to allocate to the VM for the load balancer. The larger the compute shape, the greater the processing power. Valid compute shapes include:
	• OC3: 1 OCPU and 7.5 GB memory
	OC4: 2 OCPUs and 15 GB memory OC5: 4 OCPUs and 30 CB memory
	OC5: 4 OCPUs and 30 GB memoryOC6: 8 OCPUs and 60 GB memory
	You can also change the compute shape after you create the Oracle SOA Cloud Service instance. See Scaling an Oracle SOA Cloud Service Node.
User Name	The name must be between 8 and 128 characters long and cannot contain any of the following characters:
	• Tab
	BracketsParentheses
	ParenthesesThese special characters:
	Left angle bracket (<)
	Left angle bracket (<)Right angle bracket (>)
	- Ampersand (&)
	- Pound sign (#)
	Pipe symbol ()

Table 4-1 (Cont.) Load Balancer Options Common to Provisioning a Service and Adding a Load Balancer

Password	The password must meet these requirements:
	 Starts with a letter Is between 8 and 30 characters long Contains letters, at least one number, and, optionally, any number of these special characters:
	 Dollar sign (\$) Pound sign (#) Underscore (_) No other special characters are allowed.

4. Click Add Load Balancer.

The Overview page is updated to show that the load balancer is being added.

While the load balancer is being added, the service instance is in maintenance status and you cannot start any other management operation on the service instance.

After the load balancer is added, information about the load balancer is also available on the Load Balancer tab on the Administration page.

If you require the WebLogic Plug-in Enabled control to be set in Oracle WebLogic Server, you must set this control manually. If you add a load balancer to an Oracle SOA Cloud Service instance after the service instance was created, Oracle SOA Cloud Service does **not** set the WebLogic Plug-in Enabled control in Oracle WebLogic Server for you. This behavior differs from the behavior when a load balancer is added to a service instance while the service instance is being created.

For details, see Understanding the use of "WebLogic Plugin Enabled".

Configuring a Load Balancer for an Oracle SOA Cloud Service Instance

Oracle Traffic Director is used as the load balancer for an Oracle SOA Cloud Service instance.

Oracle SOA Cloud Service does not provide any interfaces for configuring the load balancer for an Oracle SOA Cloud Service instance. Instead, you use the Oracle Traffic Director administration console to configure the load balancer.

- 1. Navigate to the Oracle SOA Cloud Service Console.
- 2. Click for the desired service instance and select **Load Balancer Console**.
- **3.** Log in to Oracle Traffic Director Administration Console using the credentials that you defined when provisioning your Oracle SOA Cloud Service instance.
- **4.** For service instances running Oracle Traffic Director 12*c* refer to:
 - Features of Oracle Traffic Director in Administering Oracle Traffic Director
 - Overview of Administration Tasks in Administering Oracle Traffic Director

For information about the topology of Oracle Traffic Director instances in an Oracle SOA Cloud Service instance, see About the Deployment Topology of Virtual Machines in *Using Oracle Java Cloud Service*.

About Load Balancer Virtual Machines

If a load balancer is enabled for an Oracle SOA Cloud Service instance, the Oracle Traffic Director (OTD) administration server is hosted on one virtual machine (VM).

The following table lists the file paths found on the load balancer VM:

Name	Path	Description
JAVA_HOME	/u01/jdk	Java installation
ORACLE_HOME	/u01/app/ oracle/ middleware/otd	Oracle Traffic Director installation
DOMAIN_HOME	/u01/data/otd- instance/ otd_domain	Oracle WebLogic Server domain that is used to manage and monitor Oracle Traffic Director

Exploring the Load Balancer Page

You can use the Load Balancer page to view and change the status of the load balancer for an Oracle SOA Cloud Service instance.

What You Can Do from the Load Balancer Page

You can perform these tasks from the Load Balancer page:

Disabling or Enabling the Load Balancer for an Oracle Cloud Service Instance

What You See on the Load Balancer Page

The following table describes the key information shown on the Load Balancer page.

Description	
Click Disable Traffic to disable the load balancer. You see this button only if the load balancer is enabled.	
See Disabling or Enabling the Load Balancer for an Oracle Cloud Service Instance.	
Click Enable Traffic to enable the load balancer. You see this button only if the load balancer is disabled.	
See Disabling or Enabling the Load Balancer for an Oracle Cloud Service Instance.	

Performing a JNDI Lookup of JMS Resources Deployed on the Administration Server

For a Java client to perform a JNDI lookup of JMS resources deployed on the administration server, an SSH tunnel must be established between the client and the administration server that has a public IP address.

To perform a JNDI lookup of JMS resources:

Note: An SSH tunnel *cannot* be established between a client and a host that does not have a public IP address. This prevents a Java client from performing a JNDI lookup of JMS resources deployed on the servers.

1. Create an SSH tunnel to the administration server:

```
ssh -v -i opc_rsa -L 7001:AdminHostIP:7001 opc@AdminHostIP -N
```

where AdminHostIP is the IP address on the administration server.

2. Create an SSH tunnel to the managed server.

```
ssh -v -i opc_rsa -L 8001:MS1IP:8001 opc@MS1HOSTNAME -N
```

where MS1IP is the IP address on the managed server and MS1HOSTNAME is the hostname of the managed server.

See Creating an SSH Tunnel to a Port in the Virtual Machine.

Understanding JVM Heap Size Settings

When you provision an Oracle SOA Cloud Service instance and specify a compute shape, the JVM heap size for WebLogic Server and Load Balancer processes is determined automatically.

Default Heap Sizes

The compute shape you select for a WebLogic Server cluster determines the availability of RAM on VMs in this cluster, and the amount of available RAM is used to determine the preset heap size for the JVM processes running on the VMs.

The following table shows the Oracle SOA Cloud Service JVM heap size settings for each compute shape.

Compute Shape	Min Heap Size	Max Heap Size	Configured Garbage Collector
OC1M	256 MB	10 GB	Garbage First (-XX:+UseG1GC)
OC2M	256 MB	24 GB	Garbage First (-XX:+UseG1GC)
OC3M	256 MB	24 GB	Garbage First (-XX:+UseG1GC)
OC4M	256 MB	24 GB	Garbage First (-XX:+UseG1GC)

Custom Heap Sizes

After provisioning a service instance, you can change the heap size by using the WebLogic Server Administration Console. Refer to one of the following publications:

- Increasing the heap size for a managed server in *Administration Console Online Help* (12.2.1.2)
- Increasing the heap size for a managed server in *Administration Console Online Help* (12.1.3)

Set Java options for servers started by Node Manager in Administration Console Online Help (10.3.6) (specify the Java option to increase the heap size; for example: -Xmx3q

The heap size is also set when you choose a shape for the load balancer. You cannot change the heap size for the load balancer.

Tuning the Database Parameters

When you subscribed to an Oracle Database Cloud Service instance, you selected the computing power for the instance's virtual machine from a list of supported Oracle CPU (OCPU) and processor RAM combinations. The values for some database initialization parameters are the same for the OC1M (1 OCPU, 15 GB RAM) and OC3M (4 OCPU, 60 GB RAM) combinations, which may cause performance issues. This section describes how to set these database parameters and perform additional tasks to improve performance.

Tune the database parameters:

- Connect with the SYS user account.
- Execute the following SQL syntax in SQL*Plus:

```
SQL> alter system set distributed_lock_timeout = 1400 scope = spfile;
alter system set Processes = 1500 scope = spfile;
alter system set db_securefile = ALWAYS;
```

- **3.** To achieve better throughput, resize the **redo log** to be 2 GB.
- 4. Create the data files for the Oracle SOA schema with the initial size equal to the maximum size allowed. Otherwise, data source-related errors are reported. For example:

```
SQLRecoverableException: IO Error: Socket read timed out
```

- **5.** If you turn on the archive log for the database, the system can run out of connections for the SOADataSource. Its Maximum Capacity is set to 300 when the archive log mode is off. As a workaround, set the following parameters:
 - Set the **Maximum Capacity** for **SOADataSource** to 400.
 - Reduce the counts for the following worker managers:
 - Set the count for **SOAIncomingRequests_maxThreads** to 60.
 - Set the count for **SOAInternalProcessing_maxThreads** to 150.
- Remove the expired archive files to prevent a disk full error.
 - Connect with the SYS user account.
 - Execute the following SQL syntax in SQL*Plus:

```
SQL> alter system set db_flashback_retention_target = 45 scope=both;
restart DB
```

Run the delarch. sh script shown below to periodically delete the expired archive log files.

```
#!/bin/sh
```

```
##
         Purge Database Archive Logs
                                                  ##
                                                  ##
source /home/oracle/.bashrc
test -z ${ORACLE_HOME} && echo "Please set ORACLE_HOME first" &&
exit 1;
test ! -d ${ORACLE_HOME} && echo "Please make sure you have set ORACLE_HOME
correctly:
${ORACLE_HOME}" && exit 1;
#delete ${1} archivelog until time 'SYSDATE-1/(24*6)';
function rmArch(){
${ORACLE_HOME}/bin/rman target / <<EOF
crosscheck archivelog all;
delete ${1} archivelog until time 'SYSDATE-1/(24*6)';
YES
delete backup;
YES
delete datafilecopy all;
YES
exit
EOF
totalcount=0
#interval=${1:-1800}
interval=${1:-300}
while [ : ]
dо
rmArch $2
ts=$(date)
let "totalcount=totalcount+1"
echo ""
echo ""
echo "========="
echo "==
echo "==
             SUMMARY
                                    =="
echo "==
echo "========""
echo ""
echo ""
tname='v$asm_diskgroup';
tname2='v$recovery_file_dest';
${ORACLE_HOME}/bin/sqlplus -s sys/welcome1 as sysdba <<EOF
set feedback 0
set serveroutput on
execute dbms_output.put_line('Disk Group space usage (In GigaByte)');
col total format 999,999,999.00
col available format 999,999,999.00
SELECT ROUND(total_mb / 1024) "TOTAL", ROUND(free_mb / 1024) "AVAILABLE"
FROM ${tname} ;
execute dbms_output.put_line('Archive Log space usage (In Gigabyte)');
col space_total format 999,999,999.00
col prc_used format 999,999,999.00
SELECT ROUND(SPACE_LIMIT / (1024*1024*1024))
SPACE_total,ROUND(((SPACE_USED / (1024*1024*1024)) * 100) / (SPACE_LIMIT /
(1024*1024*1024)), 2) PRC_USED FROM ${tname2};
```

```
EOF
echo "TotalCount: $totalcount"
echo "Last run at $ts"
echo "Will start another run in $interval seconds"
sleep $interval
done
```

Tune the Oracle WebLogic Server:

Add the following JVM argument to the Domain_Home/bin/ setStartupEnv.sh file:

-XX:ReservedCodeCacheSize=1024m

Troubleshooting Oracle SOA Cloud Service

Review the following topics to learn about how Oracle SOA Cloud Service works. These topics provide information about Integration Cloud Service concepts and components to help you get started with creating your own integrations.

Topics

- Increasing the Oracle Traffic Director Timeout Value
- Problems with Backup and Restoration
- How to Use a Browser to Access the WSDL of a Composite That is Deployed onto a SOA Server

Increasing the Oracle Traffic Director Timeout Value

When Oracle Traffic Director handles many requests simultaneously, exception errors can occur. To handle these requests, you must increase the timeout value.

```
<Jun 23, 2015 6:56:22 AM UTC> <Error> <oracle.integration.platform.blocks.soap>
<BEA-000000>
<Unable to dispatch request to
http://host/WebServices_WebLogicFusionOrderDemo_CreditCardAuthorization/
CreditAuthorizationPort due to
xception javax.xml.ws.WebServiceException: javax.xml.soap.SOAPException:
javax.xml.soap.SOAPException: Message send failed: Connection timed out
    at
    oracle.j2ee.ws.client.jaxws.DispatchImpl.invoke(DispatchImpl.java:1381)
        at
    oracle.j2ee.ws.client.jaxws.OracleDispatchImpl.synchronousInvocationWithRetry( OracleDispatchImpl.java:237)
    at
    oracle.j2ee.ws.client.jaxws.OracleDispatchImpl.invoke(OracleDispatchImpl.java: 108)
    . . .</pre>
```

To increase the timeout value for Oracle Traffic Director:

1. Log in to Oracle Traffic Director:

```
https://OTD_host:/8989
```

- **2.** Click **Configurations**.
- 3. Click Advanced Settings.
- **4.** Change the time out value to 3600.
- Click Save.

Click Deploy Changes.

Problems with Backup and Restoration

Problems might occur when you attempt backup or restoration.

The following solutions apply to problems with backup and restoration operations for Oracle SOA Cloud Service.

The Oracle Traffic Director is not backed up

Typically, this occurs when the traffic director is currently busy servicing other requests.

Verify that Oracle Traffic Director is running and in a healthy state, and try backup again.

To check the health of the Oracle Traffic Director:

- Navigate to the Oracle SOA Cloud Service Console.
 - **a.** In the Oracle SOA Cloud Service section, Click **Open Service Console**. The Oracle SOA Cloud Service Console is displayed.
- **2.** Open the Load Balancer Console for your service.

For more information, see Accessing Oracle SOA Cloud Service Console.

The Oracle Traffic Director Administration Console login screen is displayed.

Log in with your user name and password.

The Oracle Traffic Director Administration Console is displayed.

4. On the left panel, select **Services**.

The Services page is displayed on the right.

Click on the **Configurations** tab in the upper left corner of the console and select opc-config.

The Configuration table is displayed.

Notice whether a green check mark appears in the cell containing the load balancer name.

If there is a green check mark next to Instance Running, your load balancer is running and healthy. Otherwise, your load balancer is not running.

There is not enough space for my backup

The backup storage area does not have enough space for the backup operation to create the archive.

To check for available space, log in to the VM and check the size of the backup mounted directory under /u01/data/backup. For information about how to log in to the VM, see Accessing a VM Through a Secure Shell (SSH).

If there is not enough space for the backup, do one of the following:

Delete any unwanted backups. For more information, see Delete a Backup.

Archive one or more backups to an Oracle Storage Cloud Service container. For more information, see Archiving or Downloading a Backup for a Service Instance in REST API for Oracle SOA Cloud Service.

The restoration operation fails and generates an error about pre-check failure

Either one or more servers are currently unreachable, or there is not enough space on one of the storage volumes.

To find the reason for the restoration failure:

- Navigate to the Backup page.
 - a. Sign in to the My Services application at http://cloud.oracle.com. The My Services Dashboard is displayed.
 - In the Oracle SOA Cloud Service section, click **Open Service Console**. The Oracle SOA Cloud Service Console is displayed.
 - Click the name of the service instance for which you want to find the restoration status information.
 - The Oracle SOA Cloud Service Instance page is displayed with the Overview tile in focus, displaying detailed information about the service instance.
 - Click the Administration tile.
 - The Oracle SOA Cloud Service Instance page is refreshed with the Administration tile in focus.
 - **e.** Click the Backup tab.
 - The Backup page is displayed.
- Locate the icon for the restoration that failed.
- Click on the date to the right of the icon.

A pop-up containing the status details is displayed.

If the problem is that a server is unreachable, the software automatically attempts a scale-in operation. Try restoring the service again.

If there is not enough space for the backup, do one of the following:

- Delete any unwanted backups. For more information, see Delete a Backup.
- Archive one or more backups to an Oracle Storage Cloud Service container. For more information, see "Archive and Download a Backup" in REST API for Oracle SOA Cloud Service.

One of my backups is showing a warning icon

When a scheduled backup is completed, Oracle SOA Cloud Service tries to move older backups from block storage and delete older backups from the Oracle Storage Cloud Service container. If Oracle SOA Cloud Service cannot move or delete the older



backups, the **newly completed** backup shows a warning icon, thus:

This problem does not affect the newly completed backup. However, the presence of the older backups may cause future backups to fail because of insufficient space.

To prevent such failures, ensure that Oracle SOA Cloud Service can remove the older backups when the next scheduled backup is completed:

To find out why Oracle SOA Cloud Service could not move or remove the backups, place the cursor over the icon.

A text rollover appears that contains detailed information about why Oracle SOA Cloud Service could not move or remove the backups.

2. Correct the problem that prevented Oracle SOA Cloud Service from moving or removing the backups.

For example, to correct an access permission problem, ensure that the user name and password for the administrator of the Oracle Storage Cloud Service container are correct. If necessary, change them as explained in Configuring Automated Backups for an Oracle SOA Cloud Service Instance

When the next scheduled backup is completed, determine whether it shows the



icon for a successful backup, thus:

- If so, no further action is required.
- If the next scheduled backup also shows the warning icon, contact Oracle Support Services.

How to Use a Browser to Access the WSDL of a Composite That is Deployed onto a SOA Server

This topic describes how to use a browser or SOAP client to access the WSDL of a composite that is deployed to an Oracle SOA Cloud Service server.

After deploying a SOA composite, you can see the WSDL URL in the Test Web Service page as described in the Fusion Middleware Security and Administrator's Guide for Web Services. You can use the following steps to modify the WSDL URL from the Test WebServices page to work in a browser or SOAP client.

- 1. On the Oracle SOA Cloud Service console page, find the instance in which the composite is running. Click the menu on the right of the instance entry on the Oracle SOA Cloud Service console page. Select Open WebLogic Server Console from the menu.
- 2. Get the IP address of the WebLogic server console from the browser URL field.

For example: 12.251.267.111

- 3. Copy the WSDL URL from the Test WebServices page WSDL field to your browser or SOAP client's URL field.
- 4. Replace the host name portion of the WSDL URL with the IP address from the Weblogic server console.

http://ws_console_IP_address/services/default/HelloWorld/ helloworlddprocess_client_ep?WSDL

For example:

http://12.251.267.111/services/default/HelloWorld/ helloworlddprocess_client_ep?WSDL

Frequently Asked Questions for Oracle SOA Cloud Service

Review frequently asked questions about Oracle SOA Cloud Service.

To view the FAQ, follow these steps:

- 1. Go to: https://cloud.oracle.com/home.
- **2.** Under the Platform dropdown, click **SOA** in the Integration section.
- 3. Click Learn More.
- 4. Click FAQ.