Oracle® Cloud

Administering Oracle Event Hub Cloud Service — Dedicated
# Contents

## Preface

<table>
<thead>
<tr>
<th>Audience</th>
<th>viii</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documentation Accessibility</td>
<td>viii</td>
</tr>
<tr>
<td>Related Resources</td>
<td>viii</td>
</tr>
<tr>
<td>Conventions</td>
<td>ix</td>
</tr>
</tbody>
</table>

## 1 About Oracle Event Hub Cloud Service

<table>
<thead>
<tr>
<th>About Oracle Event Hub Cloud Service</th>
<th>1-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>About Oracle Event Hub Cloud Service Offerings</td>
<td>1-2</td>
</tr>
<tr>
<td>About Instances in OCI Oracle Cloud Infrastructure</td>
<td>1-2</td>
</tr>
<tr>
<td>Differences Between Instances in Oracle Cloud Infrastructure Classic and Oracle Cloud Infrastructure</td>
<td>1-3</td>
</tr>
<tr>
<td>Oracle PaaS Integrations</td>
<td>1-4</td>
</tr>
</tbody>
</table>

## 2 Getting Started with Oracle Event Hub Cloud Service — Dedicated

| Before You Begin with Oracle Event Hub Cloud Service — Dedicated | 2-1  |
| How to Begin with Oracle Event Hub Cloud Service — Dedicated Subscriptions | 2-1  |
| About Roles and Users for Oracle Event Hub Cloud Service — Dedicated | 2-2  |
| Typical Workflow for Oracle Event Hub Cloud Service — Dedicated     | 2-2  |

## 3 Accessing Oracle Event Hub Cloud Service — Dedicated

<p>| Accessing the Oracle Event Hub Cloud Service Console | 3-1  |
| Accessing Using the CLI                              | 3-2  |
| Accessing Using the REST API                          | 3-2  |
| Generating a Secure Shell (SSH) Public/Private Key Pair | 3-5  |
| Generating an SSH Key Pair on Windows Using the PuTTYgen Program | 3-5  |
| Generating an SSH Key Pair on UNIX and UNIX-Like Platforms Using the ssh-keygen Utility | 3-6  |
| Connecting to a Cluster Node Through Secure Shell (SSH) | 3-7  |
| Connecting to a Node By Using PuTTY on Windows        | 3-7  |</p>
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecting to a Node By Using SSH on UNIX</td>
<td>3-8</td>
</tr>
<tr>
<td>Using Oracle Identity Cloud Service for Authentication</td>
<td>4-1</td>
</tr>
<tr>
<td>Roles in Oracle Identity Cloud Service</td>
<td>4-2</td>
</tr>
<tr>
<td>Adding Oracle Identity Cloud Service Users</td>
<td>4-2</td>
</tr>
<tr>
<td>Making REST API Calls to Topics That Use Identity Cloud Service</td>
<td>4-3</td>
</tr>
<tr>
<td>SSL Communication</td>
<td>5-1</td>
</tr>
<tr>
<td>Configuring Kafka Client with Oracle Event Hub Cloud Service — Dedicated CA</td>
<td>5-1</td>
</tr>
<tr>
<td>Configuring Kafka Brokers and Clients with Third Party Trusted Public CA</td>
<td>5-2</td>
</tr>
<tr>
<td>Kafka Connect</td>
<td>6-1</td>
</tr>
<tr>
<td>About Kafka Connect</td>
<td>6-1</td>
</tr>
<tr>
<td>Configuring Kafka Connect</td>
<td>6-2</td>
</tr>
<tr>
<td>Kafka Connect Components</td>
<td>6-2</td>
</tr>
<tr>
<td>JDBC Connector</td>
<td>6-3</td>
</tr>
<tr>
<td>JDBC Source Connector</td>
<td>6-3</td>
</tr>
<tr>
<td>JDBC Sink Connector</td>
<td>6-5</td>
</tr>
<tr>
<td>JDBC Connector with Autonomous Data Warehouse</td>
<td>6-7</td>
</tr>
<tr>
<td>OCS Connector</td>
<td>6-9</td>
</tr>
<tr>
<td>OCS Sink Connector</td>
<td>6-9</td>
</tr>
<tr>
<td>Kafka Connect Converters</td>
<td>6-14</td>
</tr>
<tr>
<td>OCI Connector</td>
<td>6-16</td>
</tr>
<tr>
<td>OCI Sink Connector</td>
<td>6-16</td>
</tr>
<tr>
<td>Custom Connectors</td>
<td>6-21</td>
</tr>
<tr>
<td>Mirror Maker</td>
<td>7-1</td>
</tr>
<tr>
<td>Setting up Mirror Maker</td>
<td>7-1</td>
</tr>
<tr>
<td>General Messaging System</td>
<td>8-1</td>
</tr>
<tr>
<td>About General Messaging System</td>
<td>8-1</td>
</tr>
<tr>
<td>Components in GMS</td>
<td>8-1</td>
</tr>
<tr>
<td>Creating Channels in Event Hub Console</td>
<td>8-2</td>
</tr>
<tr>
<td>Creating Configuration in Event Hub Console</td>
<td>8-2</td>
</tr>
</tbody>
</table>
9  Managing Oracle Event Hub Cloud Service — Dedicated

Creating a Cluster by Using QuickStart Template 9-1
  Creating a QuickStart Cluster 9-2
  Basic on OCI 9-2
  Basic 9-3
  Basic With REST Proxy 9-3
  Recommended 9-4
  Comparing QuickStart Templates 9-4
Creating a Cluster with Stack Manager 9-5
Creating a Custom Cluster 9-6
Deleting a Cluster 9-12
Restarting a Node 9-13
Scaling a Cluster Out 9-13
Scaling a Node Up/Down 9-13
Stopping and Starting a Cluster 9-14
Restarting and Soft Restarting a Cluster 9-14
Viewing Activities for Clusters 9-15
Viewing All Clusters 9-15
Viewing Details for a Cluster 9-15

10  Managing Oracle Event Hub Cloud Service

Creating a Topic 10-1
Deleting a Topic 10-3
Editing a Topic 10-3
Producing to and Consuming from a Topic 10-3
Scaling a Topic 10-4
Viewing Activities for Topics 10-4
Viewing All Topics 10-4
Viewing Details for a Topic 10-5
Viewing Event Hub Console for a Topic 10-5

11  Managing Event Hub Console

Accessing the Event Hub Console 11-1
Managing Topics using Event Hub Console 11-2
  Creating a Topic in Event Hub Console 11-2
  Viewing Details of a Topic in Event Hub Console 11-3
  Editing a Topic in Event Hub Console 11-4
Preface

Administering Oracle Event Hub Cloud Service — Dedicated explains how to provision Oracle Event Hub Cloud Service — Dedicated Clusters & Topics, and ensure reliable functioning of them. This document explains how to perform these tasks by using the Oracle Cloud web interface.

Topics:

• Audience
• Documentation Accessibility
• Related Resources
• Conventions

Audience

This document is intended for users who want to quickly spin up Oracle Event Hub Cloud Service Cluster and use Oracle Event Hub Cloud Service Topic.

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.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Related Resources

For related information, see these Oracle resources:

• About Oracle Cloud in Getting Started with Oracle Cloud
• REST API for Oracle Event Hub Cloud Service - Dedicated
• REST API for Oracle Event Hub Cloud Service - Topic
• REST API for Oracle Event Hub Cloud Service - Produce/Consume
• PaaS Service Manager Command Line Interface Reference
The following text conventions are used in this document:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boldface</strong></td>
<td>Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.</td>
</tr>
<tr>
<td><em>italic</em></td>
<td>Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.</td>
</tr>
<tr>
<td>monospace</td>
<td>Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.</td>
</tr>
</tbody>
</table>
1

About Oracle Event Hub Cloud Service

This chapter describes Oracle Event Hub Cloud Service.

Topics

• About Oracle Event Hub Cloud Service
• About Oracle Event Hub Cloud Service Offerings
• About Instances in OCI Oracle Cloud Infrastructure
• Differences Between Instances in Oracle Cloud Infrastructure Classic and Oracle Cloud Infrastructure
• Oracle PaaS Integrations

About Oracle Event Hub Cloud Service

Oracle Event Hub Cloud Service and Oracle Event Hub Cloud Service — Dedicated leverages the combined power of Oracle Cloud and Apache Kafka to enable you to work with streaming data. You can quickly create, configure and manage your Topics and Clusters in the cloud while Oracle manages the underlying infrastructure.

Massive amounts of data are generated every minute by various modern organizations. A significant challenge to processing incoming data is the very high frequency at which they are generated. This makes it hard to consume and process these data. Oracle Event Hub Cloud Service, a streaming data platform, enables you to meet this challenge. Oracle Event Hub Cloud Service enables you to unify and organize these data and make it easily accessible and available for consumption anytime by anyone ranging from an engineer to an advanced analytic machine.

To manage your streaming data, Oracle Event Hub Cloud Service:

• Acts as a message broker for transfer of data between various systems.
• Enables you to produce and consume messages.
• Enables you to access the data whenever the need arises.

An instance of Oracle Event Hub Cloud Service is called a Topic. All messages are organized into Topics. You can send messages to a Topic and you can read messages from a Topic. A system that sends messages to a Topic is called Producer. A system that reads messages from a Topic is called Consumer. An instance of Oracle Event Hub Cloud Service — Dedicated is called a Cluster. Topic is an entity created on top of Clusters. You can create multiple Topics on a Cluster. Oracle Cloud enables you to directly create Cluster and Topic and start producing and consuming immediately without the need to worry about the underlying infrastructure.
About Oracle Event Hub Cloud Service Offerings

Oracle Event Hub Cloud Service and Oracle Event Hub Cloud Service — Dedicated are supported by the full spectrum of Oracle Cloud platforms.

Oracle Public Cloud

Oracle Public Cloud is a broad set of best in class, integrated services that provide you with subscription-based, self-service access. All these services are completely managed, hosted and supported by Oracle. Oracle Public Cloud enables you to purchase required subscription and start working with it without the need to worry about infrastructure. It also provides a seamless integration with other Oracle Public Cloud services.

Oracle Cloud Infrastructure

Oracle Cloud Infrastructure combines the elasticity and utility of public cloud with the granular control, security, and predictability of on-premises infrastructure to deliver high-performance, high availability and cost-effective infrastructure services.

Oracle Cloud at Customer

Oracle Cloud at Customer is an on-premises solution providing public cloud services that deliver agility, and control over the data and software running on your premises, enabling you to build cloud-native applications connected to your core IT applications and critical data. Oracle Cloud at Customer enables you to run Oracle Public Cloud services in your own datacenter on an Oracle Engineered System platform through a subscription service managed by Oracle.

Availability

The matrix below provides information about availability of Oracle Event Hub Cloud Service and Oracle Event Hub Cloud Service — Dedicated across multiple Oracle Cloud platforms.

<table>
<thead>
<tr>
<th>Oracle Cloud platform</th>
<th>Oracle Public Cloud</th>
<th>Oracle Cloud Infrastructure</th>
<th>Oracle Cloud at Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Event Hub Cloud Service</td>
<td>supported</td>
<td>supported</td>
<td>supported</td>
</tr>
<tr>
<td>Oracle Event Hub Cloud Service — Dedicated</td>
<td>supported</td>
<td>supported</td>
<td>supported</td>
</tr>
</tbody>
</table>

Throughout the book, we have called out features that do not apply to a specific Oracle Cloud platform. In some cases, we have called out features that are available on a specific Oracle Cloud platform.

About Instances in OCI Oracle Cloud Infrastructure

You can create Oracle Event Hub Cloud Service — Dedicated Clusters and Topics in Oracle Cloud Infrastructure.
See Prerequisites for Oracle Platform Services on Oracle Cloud Infrastructure in the Oracle Cloud Infrastructure documentation for details of the prerequisites.

The platform that your Cluster provides in either type of infrastructure is substantially the same. A few differences exist in the underlying infrastructure components and in the supported capabilities. Awareness of these differences will help you choose an appropriate infrastructure when creating a Cluster.

- **Regions and Availability Domains**: While creating a Cluster, you select a region in Oracle Cloud Infrastructure or Oracle Cloud Infrastructure Classic. If you select a region in Oracle Cloud Infrastructure, then you also select an *Availability Domain*. A region in Oracle Cloud Infrastructure has multiple isolated availability domains, each with separate power and cooling. The availability domains within a region are interconnected using a low-latency network.

- **Compute shapes**: The range of compute shapes that you can select from when creating a Cluster is different for Oracle Cloud Infrastructure and Oracle Cloud Infrastructure Classic.

- **Scaling Clusters & nodes**: In Oracle Cloud Infrastructure, you can scale the Cluster’s compute nodes.

- **Network access to Clusters**: Regardless of the infrastructure that you create your Cluster in, the rules to provide network access to the deployment are pre-configured for you. The interfaces that you use to manage these rules depend on the infrastructure that the deployment is created in:
  - For deployments in Oracle Cloud Infrastructure, you configure the rules, called *security rules*, in the Oracle Cloud Infrastructure interfaces.
  - For deployments in Oracle Cloud Infrastructure Classic, you configure the rules, called *access rules*, in the Oracle Event Hub Cloud Service — Dedicated Oracle Event Hub Cloud Service — Dedicated Cluster. Note that these access rules prohibit access by default (with the exception of SSH access on port 22), and you must enable them to provide access to other ports.

- **Subnets and IP networks**: In Oracle Cloud Infrastructure, you must attach each Cluster to a subnet, which is a part of a virtual cloud network that you create in Oracle Cloud Infrastructure. In Oracle Cloud Infrastructure Classic, you can optionally attach a Cluster to an IP network that you define beforehand.

- **IP reservations**: For the Clusters that you create in Oracle Cloud Infrastructure Classic, you can assign pre-reserved public IP addresses to the Cluster nodes. IP reservations aren’t supported for Clusters created in Oracle Cloud Infrastructure.

- **Load balancing and User Authentication**: Oracle Event Hub Cloud Service — Dedicated does not support Load balancing and User Authentication in Oracle Cloud Infrastructure.
### Oracle Cloud Infrastructure

#### Availability Domains
- Not Available

Each region has multiple isolated availability domains, with separate power and cooling. The availability domains within a region are interconnected using a low-latency network. When creating an instance, you can select the availability domain that the instance should be placed in.

#### Compute Shapes
- Standard and high memory shapes. **Note:** The list of available shapes may vary by region.

**Note:** The list of available shapes may vary by region.

#### Networking
- You can attach instances to IP networks defined in Oracle Cloud Infrastructure Classic.

**Note:** You must attach each instance to a subnet, in a virtual cloud network (VCN) created in Oracle Cloud Infrastructure.

#### Using Oracle Identity Cloud Service to control access to applications deployed on the instance.
- In accounts that use Oracle Identity Cloud Service, while creating an instance, you can enable Oracle Identity Cloud Service (IDCS) as the identity provider for applications deployed on the instance/clusters.

**Not supported.**

### Oracle PaaS Integrations

Various Oracle Platform as a Service (PaaS) offerings are integrated with Oracle Event Hub Cloud Service.

- **Oracle Big Data Cloud:** You can associate the Oracle Event Hub Cloud Service Topic when you are creating the Oracle Big Data Cloud instance. See Oracle Big Data Cloud Create Instance: Service Details page in the Using Oracle Big Data Cloud book for details.

- **Oracle Internet of Things Cloud Service:** You can use Oracle Event Hub Cloud Service Topics in the Oracle Internet of Things Cloud Service. See Before You Use the Cloud Service page in the Administering Oracle Internet of Things Cloud Service book for details.

- **Oracle Integration Cloud:** You can use Oracle Event Hub Cloud Service — Dedicated cluster for doing stream analytics in Oracle Integration Cloud. See Getting Started with Stream Analytics page in the Using Stream Analytics in Oracle Integration Cloud book for details.
Getting Started with Oracle Event Hub Cloud Service — Dedicated

This chapter describes how to get started with Oracle Event Hub Cloud Service — Dedicated.

Topics

• Before You Begin with Oracle Event Hub Cloud Service — Dedicated
• How to Begin with Oracle Event Hub Cloud Service — Dedicated Subscriptions
• About Roles and Users for Oracle Event Hub Cloud Service — Dedicated
• Typical Workflow for Oracle Event Hub Cloud Service — Dedicated

See Oracle Cloud Terminology in Getting Started with Oracle Cloud for definitions of terms found in this and other documents in the Oracle Cloud library.

Before You Begin with Oracle Event Hub Cloud Service — Dedicated

Before you start using Oracle Event Hub Cloud Service — Dedicated, you should be familiar with the following:

• Oracle Cloud. See Getting Started with Oracle Cloud.
  Apache Kafka

Before you create a Topic/Cluster:

• On Oracle Cloud, sign up for a free credit promotion or purchase a subscription. You cannot create an Oracle Event Hub Cloud Service — Dedicated Cluster until you do so.

• (Optional) Create a Secure Shell (SSH) public/private key pair to provide when you create a cluster. See Generating a Secure Shell (SSH) Public/Private Key Pair.

How to Begin with Oracle Event Hub Cloud Service — Dedicated Subscriptions

This topic does not apply to Oracle Cloud at Customer.

Obtain a subscription to Oracle Cloud before signing and accessing the Oracle Event Hub Cloud Service - Dedicated console.

You can obtain subscriptions to Oracle Cloud in several different ways.
• Free Promotion subscription
  You can sign up for a 30–day Oracle Cloud promotion and receive free credits. This promotion applies to eligible Oracle Infrastructure as a Service (Oracle IaaS) and Platform as a Service (Oracle PaaS) services.
  See Requesting and Managing Free Oracle Cloud Promotions in Getting Started with Oracle Cloud.

• Universal Credits subscription
  In the Universal Credits subscription model, you commit to pay a certain amount up-front annually, based on a monthly cost estimate.
  See About Universal Credits in Getting Started with Oracle Cloud.

• Other subscriptions
  For other subscription methods, see Buying an Oracle Cloud Subscription in Getting Started with Oracle Cloud.

About Roles and Users for Oracle Event Hub Cloud Service — Dedicated

The Oracle Event Hub Cloud Service — Dedicated uses roles to control access to tasks and resources. A role assigned to a user gives certain privileges to that user.

When the Oracle Event Hub Cloud Service — Dedicated account is first set up, the service administrator is given the Administrator role.

A user with the Administrator role has complete administrative control over the service. This user can create and terminate clusters, add and delete nodes, monitor cluster health, stop and start clusters, and manage other life cycle events. When the cluster is no longer needed, the administrator terminates it.

Typical Workflow for Oracle Event Hub Cloud Service — Dedicated

To start using Oracle Event Hub Cloud Service — Dedicated, refer to the typical task workflow.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get a trial or purchase a subscription.</td>
<td>Provide your information, and sign up for a free trial or purchase a subscription to Oracle Event Hub Cloud Service — Dedicated.</td>
<td>How to Begin with Oracle Event Hub Cloud Service — Dedicated Subscriptions</td>
</tr>
<tr>
<td>Add and manage users and roles</td>
<td>Optionally, create additional accounts for your cloud users and assign the necessary roles.</td>
<td>Adding Users and Assigning Roles in Getting Started with Oracle Cloud. About Roles and Users for Oracle Event Hub Cloud Service — Dedicated</td>
</tr>
<tr>
<td>Access the service console</td>
<td>Access the service console.</td>
<td>Accessing the Oracle Event Hub Cloud Service Console</td>
</tr>
<tr>
<td>Task</td>
<td>Description</td>
<td>More Information</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Create a SSH key pair</td>
<td>Create SSH public/private key pairs to facilitate secure access to all virtual machines in your service.</td>
<td>Connecting to a Cluster Node Through Secure Shell (SSH)</td>
</tr>
<tr>
<td>Create a Cluster</td>
<td>Use the Create Service wizard in the Oracle Event Hub Cloud Service — Dedicated page to create a Cluster. This will create a Oracle Event Hub Cloud Service — Dedicated Cluster.</td>
<td>Creating a Custom Cluster For REST APIs, see REST API for Oracle Event Hub Cloud Service - Platform</td>
</tr>
<tr>
<td>Create a Topic</td>
<td>Use the Create Service wizard in the Oracle Event Hub Cloud Service page to create a Topic. This will create Oracle Event Hub Cloud Service Topic in the Oracle Event Hub Cloud Service — Dedicated Cluster.</td>
<td>Creating a Topic For REST APIs, see REST API for Oracle Event Hub Cloud Service - Topic</td>
</tr>
<tr>
<td>Produce to and Consume from a Topic</td>
<td>Use the REST API or the Java Native API to produce to and consume from a Topic.</td>
<td>Producing to and Consuming from a Topic For REST APIs, see REST API for Oracle Event Hub Cloud Service - Produce/Consume</td>
</tr>
<tr>
<td>View runtime metrics for Topic.</td>
<td>Access the service metrics graph to display usage metrics or request response time. Create and manage connectors to connect to other services. create credential stores for keystore integration.</td>
<td>Accessing the Event Hub Console</td>
</tr>
<tr>
<td>Create and manage connectors.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create Credential Stores.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Accessing Oracle Event Hub Cloud Service — Dedicated

This section describes how to access the consoles and interfaces available for Oracle Event Hub Cloud Service — Dedicated.

Topics

• Accessing the Oracle Event Hub Cloud Service Console
• Accessing Using the CLI
• Accessing Using the REST API
• Generating a Secure Shell (SSH) Public/Private Key Pair
• Connecting to a Cluster Node Through Secure Shell (SSH)

Accessing the Oracle Event Hub Cloud Service Console

Oracle Event Hub Cloud Service can be accessed through a web-based console.

To access the console:

1. Display the Sign In to Oracle Cloud page by clicking the My Services URL link in your Welcome email or by following these instructions:
   b. Click Sign In.
   c. In the My Services box, select the data center where your services are located: Public Cloud Services - NA or Public Cloud Services - EMEA.
   d. Click My Services.

2. On the Sign In to Oracle Cloud page, enter your user name, your password, and the name of your identity domain. Then, click Sign In.
   The My Services dashboard opens.

3. To access the service, Click the navigation menu in the top corner of the My Services dashboard and then select the required service.

   The service console opens. If this is the first time the service has been accessed, a Welcome page is displayed.
Accessing Using the CLI

You can use a command line interface (CLI) to create and manage Oracle Event Hub Cloud Service clusters and also perform many other tasks you can perform using the web-based consoles.

The Oracle PaaS Service Manager CLI enables you to manage the lifecycle of various services in Oracle Public Cloud, including Oracle Event Hub Cloud Service. See PaaS Service Manager Command Line Interface Reference.

Accessing Using the REST API

You can use the REST API to manage Oracle Event Hub Cloud Service — Dedicated clusters and Oracle Event Hub Cloud Service topics.

There are multiple REST API services that help you manage the cluster and topics.

Table describing REST APIs for managing clusters and topics.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Connection Details</th>
<th>More Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Clusters</td>
<td>Create, delete, and/or manage Oracle Event Hub Cloud Service — Dedicated clusters.</td>
<td><strong>Host:</strong> The REST Endpoint that was provided during subscription. Alternatively, you can find the REST Endpoint information in the Oracle Event Hub Cloud Service — Dedicated Service Details page. See Viewing Additional Information on the Service Details Page in Managing and Monitoring Oracle Cloud. <strong>Authentication:</strong> Your IDCS username and password as provided during subscription. <strong>Example:</strong> <a href="https://psm.europe.oraclecloud.com">https://psm.europe.oraclecloud.com</a></td>
<td>See All REST Endpoints in REST API for Oracle Event Hub Cloud Service - Dedicated.</td>
</tr>
<tr>
<td>Task</td>
<td>Description</td>
<td>Connection Details</td>
<td>More Details</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Manage Topics</td>
<td>Create, delete, and/or manage Oracle Event Hub Cloud Service topics.</td>
<td><strong>Host:</strong> The REST Endpoint that was provided during subscription. Alternatively, you can find the REST Endpoint information in the Oracle Event Hub Cloud Service Service Details page. See Viewing Additional Information on the Service Details Page in Managing and Monitoring Oracle Cloud. <strong>Authentication:</strong> Your IDCS username and password as provided during subscription. <strong>Example:</strong> <a href="https://psm.europe.oraclecloud.com">https://psm.europe.oraclecloud.com</a></td>
<td>See All REST Endpoints in REST API for Oracle Event Hub Cloud Service.</td>
</tr>
</tbody>
</table>

You can work with Oracle Event Hub Cloud Service Topics using REST APIs. Various functionality are supported through REST API. Below table summarizes the REST API operations on a topic.

Table describing REST APIs for various Kafka operations.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Connection Details — IDCS enabled</th>
<th>Connection Details — Non IDCS (NGINX)</th>
<th>More Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Produce and Consume to topic</td>
<td>Produce, and/or Consume to an Oracle Event Hub Cloud Service topic.</td>
<td><strong>Host:</strong> You can get the Topic URL in the topic details section. See Viewing Details for a Topic. To know the host URL using REST API, execute the View a Service Instance REST API. The response will contain the restProxyUri which is the host URL. <strong>Authentication:</strong> Your IDCS credentials using OAuth 2.0 mechanism. See Making REST API Calls to Topics That Use Identity Cloud Service <strong>Example:</strong> <a href="https://someidcslink/restproxy/topics/clustername-topicname">https://someidcslink/restproxy/topics/clustername-topicname</a></td>
<td><strong>Host:</strong> You can get the Topic URL in the topic details section. See Viewing Details for a Topic. To know the host URL using REST API, execute the View a Service Instance REST API. The response will contain the restProxyUri which is the host URL. <strong>Authentication:</strong> The username and password that you provided during cluster creation. See Creating a Custom Cluster. <strong>Example:</strong> <a href="https://10.20.30.40:1080/restproxy/topics/clusternametopicname">https://10.20.30.40:1080/restproxy/topics/clusternametopicname</a></td>
<td>See All REST Endpoints in REST API for Oracle Event Hub Cloud Service - Produce/Consume V2.</td>
</tr>
</tbody>
</table>
### Task

<table>
<thead>
<tr>
<th>Description</th>
<th>Connection Details — IDCS enabled</th>
<th>Connection Details — Non IDCS (NGINX)</th>
<th>More Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kafka Connect</strong></td>
<td>Create, delete, and/or manage Kafka Connectors.</td>
<td></td>
<td>See All REST Endpoints in REST API for Oracle Event Hub Cloud Service - Connect.</td>
</tr>
<tr>
<td><strong>Host:</strong> You can get the <strong>Connect URL</strong> in the topic details section. See <strong>Viewing Details for a Topic</strong>. To know the host URL using REST API, execute the <strong>View a Service Instance</strong> REST API. The response will contain the <strong>connectUri</strong> which is the host URL. <strong>Authentication:</strong> Your IDCS credentials using OAuth 2.0 mechanism. See <strong>Making REST API Calls to Topics That Use Identity Cloud Service</strong>. <strong>Example:</strong> <a href="https://someconnectidcslink/connect">Connect URL</a> <strong>Note:</strong> The host is different from the REST Proxy host.</td>
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</tr>
<tr>
<td><strong>Schema Registry</strong></td>
<td>Oracle Event Hub Cloud Service. The <strong>schema registry</strong> provides a serving layer for your metadata. Store and retrieve Avro schemas using this schema registry REST API.</td>
<td></td>
<td>See All REST Endpoints in REST API for Oracle Event Hub Cloud Service - Schema Registry.</td>
</tr>
<tr>
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<td></td>
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</tr>
</tbody>
</table>
Generating a Secure Shell (SSH) Public/Private Key Pair

Several tools exist to generate SSH public/private key pairs. The following sections show how to generate an SSH key pair on UNIX, UNIX-like and Windows platforms.

Generating an SSH Key Pair on Windows Using the PuTTYgen Program

The PuTTYgen program is part of PuTTY, an open source networking client for the Windows platform.

To generate an SSH key pair on Windows using the PuTTYgen program:

1. Download and install PuTTY or PuTTYgen.
   
   To download PuTTY or PuTTYgen, go to http://www.putty.org/ and click the You can download PuTTY here link.

2. Run the PuTTYgen program.
   
   The PuTTY Key Generator window is displayed.

3. Set the Type of key to generate option to SSH-2 RSA.

4. In the Number of bits in a generated key box, enter 2048.

5. Click Generate to generate a public/private key pair.
   
   As the key is being generated, move the mouse around the blank area as directed.

6. (Optional) Enter a passphrase for the private key in the Key passphrase box and reenter it in the Confirm passphrase box.

   ❗️ Note:

   While a passphrase is not required, you should specify one as a security measure to protect the private key from unauthorized use. When you specify a passphrase, a user must enter the passphrase every time the private key is used.

7. Click Save private key to save the private key to a file. To adhere to file-naming conventions, you should give the private key file an extension of .ppk (PuTTY private key).

   ❗️ Note:

   The .ppk file extension indicates that the private key is in PuTTY's proprietary format. You must use a key of this format when using PuTTY as your SSH client. It cannot be used with other SSH client tools. Refer to the PuTTY documentation to convert a private key in this format to a different format.

8. Select all of the characters in the Public key for pasting into OpenSSH authorized_keys file box.
Make sure you select all the characters, not just the ones you can see in the narrow window. If a scroll bar is next to the characters, you aren't seeing all the characters.

9. Right-click somewhere in the selected text and select Copy from the menu.

10. Open a text editor and paste the characters, just as you copied them. Start at the first character in the text editor, and do not insert any line breaks.

11. Save the text file in the same folder where you saved the private key, using the .pub extension to indicate that the file contains a public key.

12. If you or others are going to use an SSH client that requires the OpenSSH format for private keys (such as the ssh utility on Linux), export the private key:
   a. On the Conversions menu, choose Export OpenSSH key.
   b. Save the private key in OpenSSH format in the same folder where you saved the private key in .ppk format, using an extension such as .openssh to indicate the file's content.

Generating an SSH Key Pair on UNIX and UNIX-Like Platforms Using the ssh-keygen Utility

UNIX and UNIX-like platforms (including Solaris and Linux) include the ssh-keygen utility to generate SSH key pairs.

To generate an SSH key pair on UNIX and UNIX-like platforms using the ssh-keygen utility:

1. Navigate to your home directory:

   
   $ cd $HOME

2. Run the ssh-keygen utility, providing as filename your choice of file name for the private key:

   
   $ ssh-keygen -b 2048 -t rsa -f filename

   The ssh-keygen utility prompts you for a passphrase for the private key.

3. Enter a passphrase for the private key, or press Enter to create a private key without a passphrase:

   Enter passphrase (empty for no passphrase): passphrase

   Note:

   While a passphrase is not required, you should specify one as a security measure to protect the private key from unauthorized use. When you specify a passphrase, a user must enter the passphrase every time the private key is used.

   The ssh-keygen utility prompts you to enter the passphrase again.

4. Enter the passphrase again, or press Enter again to continue creating a private key without a passphrase:

   Enter the same passphrase again: passphrase
5. The ssh-keygen utility displays a message indicating that the private key has been saved as \textit{filename} and the public key has been saved as \textit{filename.pub}. It also displays information about the key fingerprint and randomart image.

Connecting to a Cluster Node Through Secure Shell (SSH)

To gain local access to the tools, utilities, and other resources on a cluster node associated with Oracle Event Hub Cloud Service, you use Secure Shell (SSH) client software to establish a secure connection and log in as the user \texttt{oracle} or the user \texttt{opc}.

By default, network access to cluster nodes associated with Oracle Event Hub Cloud Service is provided by Secure Shell (SSH) connections on port 22. Port 22 is the standard TCP/IP port that is assigned to SSH servers.

Several SSH clients are freely available. The following sections describe how to use SSH clients on UNIX, UNIX-like, and Windows platforms to connect to a cluster node associated with Oracle Event Hub Cloud Service.

\begin{quote}
\textbf{Note:}
\begin{enumerate}
\item The \texttt{ora\_p2kafka\_ssh} access rule controls SSH access to a cluster. The rule is created automatically when a cluster is created and is disabled by default. Before you can connect to a cluster through SSH, you must enable the \texttt{ora\_p2kafka\_ssh} access rule.
\item The \texttt{ora\_p2confluent\_ssh} access rule controls SSH access to the node to work on produce and consume. The rule is created automatically when a cluster is created and is disabled by default. Before you can connect to the node through SSH, you must enable the \texttt{ora\_p2confluent\_ssh} access rule.
\end{enumerate}
\end{quote}

Connecting to a Node By Using PuTTY on Windows

PuTTY is a freely available SSH client program for Windows.

\textbf{Before You Begin}

Before you use the PuTTY program to connect to a node, you need the following:

- The IP address of the node
- The SSH private key file that pairs with the public key associated with the cluster

  The public key was associated with your cluster when it was created. If you don’t have the private key that’s paired with the public key, contact your administrator.

  The private key file must be of the PuTTY .ppk format. If the private key file was originally created on the Linux platform, you can use the PuTTYgen program to convert it to the .ppk format.

\textbf{Procedure}

To connect to a node using the PuTTY program on Windows:
1. Download and install PuTTY.
   To download PuTTY, go to [http://www.putty.org/](http://www.putty.org/) and click the You can download PuTTY here link.

2. Run the PuTTY program.
   The PuTTY Configuration window is displayed, showing the Session panel.

3. In Host Name (or IP address) box, enter the IP address of the node.

4. Confirm that the Connection type option is set to SSH.

5. In the Category tree, expand Connection if necessary and then click Data.
   The Data panel is displayed.

6. In the Auto-login username box, enter opc. As the opc user, you can use the sudo command to gain root access to the node, as described in the last step, below.

7. Confirm that the When username is not specified option is set to Prompt.

8. In the Category tree, expand SSH and then click Auth.
   The Auth panel is displayed.

9. Click the Browse button next to the Private key file for authentication box.
    Then, in the Select private key file window, navigate to and open the private key file that matches the public key that is associated with the cluster.

10. In the Category tree, click Session.
    The Session panel is displayed.

11. In the Saved Sessions box, enter a name for this connection configuration. Then, click Save.

12. Click Open to open the connection.
    The PuTTY Configuration window is closed and the PuTTY window is displayed.
    If this is the first time you are connecting to the VM, the PuTTY Security Alert window is displayed, prompting you to confirm the public key. Click Yes to continue connecting.

### Connecting to a Node By Using SSH on UNIX

UNIX and UNIX-like platforms (including Solaris and Linux) include the ssh utility, an ssh client.

**Before You Begin**

Before you use the ssh utility to connect to a node, you need the following:

- The IP address of the node
- The ssh private key file that pairs with the public key associated with the cluster
  - The public key was associated with your cluster when it was created. If you don’t have the private key that’s paired with the public key, contact your administrator.

**Procedure**

To connect to a node using the ssh utility on UNIX and UNIX-like platforms:
1. In a command shell, set the file permissions of the private key file so that only you have access to it:

   $ chmod 600 private-key-file

   *private-key-file* is the path to the ssh private key file that matches the public key that is associated with the cluster.

2. Run the ssh utility:

   $ ssh -i private-key-file opc@node-ip-address

   where:

   - *private-key-file* is the path to the ssh private key file.
   - *opc* is the opc operating system user. As opc, you can use the *sudo* command to gain root access to the node, as described in the next step.
   - *node-ip-address* is the IP address of the node in *x.x.x.x* format.

   If this is the first time you are connecting to the node, the ssh utility prompts you to confirm the public key. In response to the prompt, enter *yes*. 
4

Using Oracle Identity Cloud Service for Authentication

This chapter describes using Oracle Identity Cloud Service for authentication to Oracle Event Hub Cloud Service topics.

Topics

• Using Oracle Identity Cloud Service for Authentication
• Connecting to Oracle Identity Cloud Service from the Service Console
• Roles in Oracle Identity Cloud Service
• Adding Oracle Identity Cloud Service Users
• Making REST API Calls to Topics That Use Identity Cloud Service

Using Oracle Identity Cloud Service for Authentication

Oracle Event Hub Cloud Service users can access the topic using their own identity through Oracle Identity Cloud Service (IDCS).

In the Oracle Identity Cloud Service (IDCS) method of authentication, users can access the topic with their own IDCS identity and credentials, so that credentials don’t need to be shared among topic users. In this case, IDCS is used to manage user accounts and access for the topic, and all authorization and authentication for the topic is handled through IDCS.

Connecting to Oracle Identity Cloud Service from the Service Console

When you create a Topic, an IDCS management application is created for the Topic. You can connect to the UI for this IDCS application from the Oracle Event Hub Cloud Service console.

To connect to the IDCS application for the Topic:

1. Open the Oracle Event Hub Cloud Service console.
2. Click the name of the Topic.
   An overview page with Topic details is displayed.
3. Expand Show more.
4. Click the link next to IDCS Application and log in with your IDCS credentials.
   An instance of IDCS opens on the Application tab and lists Topic details.

The IDCS console has the following tabs for the Topic:

• Details - Displays information about the Topic, including the application ID.
• **Configuration** - Displays configuration information about the Topic, including the client ID and client secret, primary audience, and scope. This information will be needed to make REST API calls to the Topic.

• **Application Roles** - Displays roles. There is currently just one role: Administrator.

• **Groups** - Displays groups.

• **Users** - Displays users.

### Roles in Oracle Identity Cloud Service

This overview briefly describes the roles that are relevant to Oracle Event Hub Cloud Service — Dedicated and Oracle Event Hub Cloud Service.

Below are the roles that are available for Oracle Event Hub Cloud Service — Dedicated.

**OEHPCS-Administrators**: The OEHCS-Administrators has the privilege to do all the admin role operation on the Cluster.

Below are the roles that are available for Oracle Event Hub Cloud Service.

**Topic Producer**: Topic Producer role enables the users to only produce to the Topic.

**Topic Consumer**: Topic Consumer role enables the users to only consume from the Topic.

**Topic Owner**: Topic Owner role enables the users to both produce and consume from the Topic.

### Adding Oracle Identity Cloud Service Users

To access a Topic that uses Oracle Identity Cloud Service (IDCS) for authentication, Topic users must first have valid IDCS credentials. Administrators manage the provisioning of users in IDCS and perform the task of adding users.

To add users:

1. Open the Oracle Event Hub Cloud Service console.
2. Click the name of the Topic.
   
   An overview page with Topic details is displayed.
3. Expand **Show more**.
4. Click the link next to **IDCS Application** and log in with your IDCS credentials.
   
   An instance of IDCS opens on the **Application** tab and lists Topic details.
5. Click the Identity Cloud Service **Users** tab at the top of the page (not the Users tab for the Topic).
6. Click **Add** and provide user details, then click **Finish**.
   
   The Details page is displayed for the user. An email will be sent to the user with login information.
Making REST API Calls to Topics That Use Identity Cloud Service

In Oracle Event Hub Cloud Service, Oracle Identity Cloud Service (IDCS), along with the OAuth 2.0 authentication mechanism is used. The OAuth 2.0 token service provided by IDCS enables secure access to REST endpoints. This section describes how to interact with OAuth-enabled Topics using REST.

To make REST API calls to a Topic and produce and consume, you'll need to gather some information about the Topic, get an access token, and then use a REST client application such as `cURL` to perform REST API calls. Those steps are described in the following procedure.

To make REST API calls to a Topic:

1. Open the Oracle Event Hub Cloud Service console.
2. Click the name of the Topic.
   
   An overview page with Topic details is displayed.
3. Expand `Show more`.
4. Make note of the ID next to `IDCS Application`. This is the application ID for the Topic.
5. Click the link next to `IDCS Application` and log in with your IDCS credentials.
   
   An instance of IDCS opens on the `Applications` tab and lists Topic details.
6. Get the client ID and client secret for the cluster application:
   a. In the IDCS console, click the `Configuration` tab for the Topic application and expand the `General Information` section.
   b. Make note of the client ID, then click `Show Secret` and make note of the client secret. The client secret is essentially the client password and should not be shared.
7. Get the primary audience and scope:
   a. On the `Configuration` tab, expand the `Resources` section.
   b. Make note of the primary audience and scope.
      
      The primary audience identifies the Topic REST endpoint's resource server.
      
      There is currently just one scope. The available format of scope is "/{tenantname}-{ehcstopicname}". With this scope, all Topic related resources are accessible to everyone who logs in with valid IDCS credentials.
      
      The `Resources` section also shows the expiration period for the access token. The access token provides a session (with scope and expiration) that your client application can use to perform tasks in IDCS using REST APIs. The expiration period for the token is seven days. After seven days, you'll need to get another access token to continue to make REST API calls to the Topic.
8. Use the information you've gathered to create the REST request for the access token. The following steps use `cURL` to get the token:
   a. Using `client_credentials` grant type:

```bash
Chapter 4
Making REST API Calls to Topics That Use Identity Cloud Service
4-3
```

ORACLE

4-3
If you require to use grant_type as `client_credentials`, then in a text editor, prepare the `curl` command as follows:

```
curl -k -X POST -u "CLIENT_ID:CLIENT_SECRET" -d "grant_type=client_credentials&scope=THESCOPE" "IDCS_URL/oauth2/v1/token" -o access_token.json
```

Where:

- **CLIENT_ID** is the client ID.
- **CLIENT_SECRET** is the client secret.
- **THESCOPE** is the concatenation of the primary audience and the scope. For example, in the below code, “https://primary-audience-url.com:443” is the primary audience and “/tenantname-topicname” is the scope.

```
https://primary-audience-url.com:443/tenantname-topicname
```

- **IDCS_URL** is the Oracle Identity Cloud Service URL for the IDCS instance that’s associated with the Topic.

For example:

```
curl -k -X POST -u "123456789ABCDEFGHIJK_APPID:b9008819-0f0b-44c3-b266-b07746f9d9f9" -d "grant_type=client_credentials&scope=https://primary-audience-url.com:443/tenantname-topicname" "https://IDCS-server.com/oauth2/v1/token" -o access_token.json
```

b. **Using ‘password’ grant_type:**

If you require to use grant_type as ‘password’, then in a text editor, prepare the `curl` command as follows:

```
curl -k -X POST -u "CLIENT_ID:CLIENT_SECRET" -d "grant_type=password&username=THEUSERNAME&password=THEPASSWORD&scope=THESCOPE" "IDCS_URL/oauth2/v1/token" -o access_token.json
```

Where:

- **CLIENT_ID** is the client ID.
- **CLIENT_SECRET** is the client secret.
- **THEUSERNAME** is the username.
- **THEPASSWORD** is the password.
- **THESCOPE** is the concatenation of the primary audience and the scope. For example, in the below code, “https://primary-audience-url.com:443” is the primary audience and “/tenantname-topicname” is the scope.

```
https://primary-audience-url.com:443/tenantname-topicname
```

- **IDCS_URL** is the Oracle Identity Cloud Service URL for the IDCS instance that’s associated with the Topic.

For example:

```
curl -k -X POST -u "123456789ABCDEFGHIJK_APPID:b9008819-0f0b-44c3-b266-b07746f9d9f9" -d "grant_type=password&username=peter@oracle.com&password=apassword#123&scope=https://primary-audience-url.com:443/tenantname-topicname" "https://IDCS-server.com/oauth2/v1/token" -o access_token.json
```
9. At the command prompt, enter the cURL command you created in the previous step.

10. Open the access token file (access_token.json) in a text editor and copy the access_token value.

11. Use the access token to produce and consume to the Topic. For IDCS authentication, the token type is Bearer.
SSL Communication

Oracle Event Hub Cloud Service — Dedicated allows clients and brokers to communicate over Secure Socket Layer (SSL) using a dedicated port. This is available only when the login method is through Oracle Identity Cloud Service (IDCS). This enables you to securely produce and consume to the Topic using Kafka native APIs from a public machine. Oracle Event Hub Cloud Service — Dedicated Clusters are provisioned with self-signed certificates. These self-signed certificates are signed by Oracle Event Hub Cloud Service — Dedicated Certificate Authority (CA).

Topics

- Configuring Kafka Client with Oracle Event Hub Cloud Service — Dedicated CA
- Configuring Kafka Brokers and Clients with Third Party Trusted Public CA

Configuring Kafka Client with Oracle Event Hub Cloud Service — Dedicated CA

Perform the following steps to configure Oracle Event Hub Cloud Service — Dedicated CA in the Kafka client machine:

1. Download CA certificate from the provisioned cluster.
   
   To download the Oracle Event Hub Cloud Service - Dedicated CA, follow the below steps:
   
   a. SSH to any of the Kafka Broker VMs.
   b. Navigate to the below location.
      
      `/u01/app/oracle/tools/oehp/ssl/ca/ca-cert`
   c. Download the CA available there to your client.
   
2. Import into Kafka client trust store.
   
   You can import the Oracle Event Hub Cloud Service — Dedicated Cluster CA for Self-signed certificates using the following command:
   
   `keytool -keystore <Client trust store> -alias EHCSCARoot -import -file <EHCS CA Certificate file>`

3. The following is an example configuration for a client for the PLAIN mechanism. Create a file named `Kafka_client_jaas.conf` and store the below code.

   ```
   KafkaClient {
       org.apache.kafka.common.security.plain.PlainLoginModule required
       username="tenantname"
       password="Bearer <IDCS oauth token generated for the cluster>;"
   };
   ```

4. The KafkaClient section in the above code describes how the clients such as producer and consumer can connect to the Kafka Broker.
5. The properties username and password in the KafkaClient section are used by clients to configure the user for client connections. In this example, provide the tenant name for the username and provide the generated oauth token for the password.

6. Pass the JAAS config file location as JVM parameter to each client JVM.

-Djava.security.auth.login.config=/etc/kafka/kafka_client_jaas.conf

7. Configure the following properties in producer.properties or consumer.properties:

security.protocol=SASL_SSL
sasl.mechanism=PLAIN
ssl.truststore.location=<Download CA cert absolute location>
ssl.truststore.password=<Trust store password>
ssl.endpoint.identification.algorithm=https (optional)

Configuring Kafka Brokers and Clients with Third Party Trusted Public CA

Kafka brokers and clients can be configured with third party trusted public CA.

Configuring Kafka broker

Oracle Event Hub Cloud Service provides authentication in two ways either using Basic Authentication or using Oracle Identity Cloud Service (IDCS) based OAuth. The Oracle Event Hub Cloud Service - Dedicated cluster with IDCS offering is provisioned with SASL SSL support on 9093 port and self - signed certificate. After provisioning, if you want to change signed certificate to a third party trusted public CA, follow the steps provided below. You should manually handle the expiration of signed certificate.

1. Stop the Oracle Event Hub Cloud Service - Dedicated cluster.
2. Get all required CA root and intermediate certificates and import them into keystore of each Kafka broker.
3. Get a signed certificate for each Kafka broker from CA and import it into keystore of each Kafka broker.
4. Start the Oracle Event Hub Cloud Service - Dedicated cluster.

Configuring Kafka client

Follow the steps as provided in the section for configuring Kafka Client. See Configuring Kafka Client with Oracle Event Hub Cloud Service — Dedicated CA. If you have already configured Oracle Event Hub Cloud Service Dedicated CA Kafka client, then you need to make sure that root certificate of CA is available in the client trust store.
Kafka Connect

This chapter describes Kafka Connect and its support in Oracle Event Hub Cloud Service — Dedicated.

Topics

• About Kafka Connect
• Configuring Kafka Connect
• Kafka Connect Components
• JDBC Connector
  – JDBC Source Connector
  – JDBC Sink Connector
  – JDBC Connector with Autonomous Data Warehouse
• OCS Connector
  – OCS Sink Connector
  – Kafka Connect Converters
• OCI Connector
  – OCI Sink Connector
• Custom Connectors

About Kafka Connect

Kafka Connect is a scalable and reliable tool for streaming data between Apache Kafka and other systems.

You can choose to have Kafka Connect while creating a new Dedicated Cluster. This is an optional component. Refer to Creating a Custom Cluster section.

Often there are times when you need to use some commonly available systems for producing and consuming from Apache Kafka. A few examples include HDFS, File system, Database, etc. Kafka Connect is a predefined connector implementation of such common systems. There are two types of connectors, namely source connector and sink connector. The source connector ingests data from producer and feeds them into Topics. The sink connector delivers data from Topics into consumers.

Oracle Event Hub Cloud Service provides several Oracle Managed connectors that can be used to stream data from commonly used systems. Below are the currently available connectors:

• JDBC Connector
• File Connector
• Oracle Object Storage Cloud Service Connector
Kafka Connect can be managed from both REST proxy and web user interface.

- For managing Kafka Connect using REST APIs, see Accessing Using the REST API.
- For managing Kafka Connect using Web based User Interface, see Managing Connectors.

## Configuring Kafka Connect

You need to enable Kafka Connect and provide required credentials when you create the Oracle Event Hub Cloud Service — Dedicated Cluster. Refer to Creating a Custom Cluster section for details. Once the Cluster is provisioned with Kafka Connect VM, you can go to the Service Overview page to see the Kafka Connect and its resources listed there.

### Viewing Details of VM

You can expand the Resources tree to see the host name and public IP of the Kafka Connect VM. Each Kafka Connect VM has a separate entry for the host name and public IP. Once you have the Kafka Connect facility enabled, you have the ability to create a Connector instance. At this point no data is sourced or sinked from the Topic. You have to make a REST call and setup a Connector instance.

Each of these Kafka Connect VMs exposes their REST APIs using the port 8083. Since this is NGNIX enabled cluster, you don't have access to the 8083 port on which the REST API is running. This is fronted by the NGNIX port 1080 and on HTTPS.

From an NGNIX enabled cluster, you can access the REST API by using the Public IP address listed for that Connect VM and use the port 1080 over an HTTPS protocol. For example, `https://public ip address:1080/connect/`. This is the root URL for connect. You can use Basic authentication here. You need to provide the username and password that you provided while creating the cluster in the UI.

You can get the list of supported source and sink using the url, `https://public ip address:1080/connect/connector-plugins`

You can get a list of active connectors by using the url, `https://public ip address:1080/connect/connectors`

Once the Connect process is up and running, you can create the Source or Sink connectors.

---

**Note:**

You should create a Topic before creating an instance of Connect. Connect does not auto create Topics.

## Kafka Connect Components

This section briefly describes the components that are relevant to Kafka Connect.

**Connectors** manage copying of data between Kafka and other systems. A connector defines the source (Producer) from which the data should be copied and the destination (Consumer) to which the data should be copied. Connectors come in two
flavors, source connectors and sink connectors. The connector that takes data from a Producer and feeds them into a topic is called source connector. The connector that takes data from a Topic and delivers them to a Consumer is called Sink Connector. Each connector instance can be considered as an independent job. Oracle provides various predefined Source and Sink Connectors for your ease of use.

Tasks are elements that copy the data between systems. Each connector job is broken into many simple tasks. This aids in scalability and parallelism. The tasks do not store their state within themselves. Instead they are stored in special type of topics namely config.storage.topic and status.storage.topic. Each of these tasks can be started, stopped, or restarted any time. This aids in providing a resilient, and scalable data pipeline.

Mode of Operation is of two types. When only one VM is created for Kafka Connect, then it is Standalone mode. When two or more VMs are created for Kafka Connect, then it is Distributed mode. Currently maximum of 4 VMs can be created for Kafka Connect. If more than one VM is created, then they all run the same process in the distributed mode and they share data via internal topics. That is, a distributed connect process runs on all the selected VMs.

Converters are elements that change the format of data. The formats that cannot be handled directly by Kafka Connect are first converted to a desired format before being used by Kafka Connect. This is achieved using Converters. Converters can be reused between various connectors, hence they are held separately from a connector. Converters can be used both at source and sink. For Example, a converter can take input from HDFS and convert it to JSON and send it to a Kafka Topic. Similarly, a converter can take JSON from a Kafka Topic and convert it to HDFS before sending it to storage.

**JDBC Connector**

JDBC Connector is available both as source connector and sink connector. JDBC source connector enables you to import data from any relational database with a JDBC driver into Kafka Topics. Similarly, JDBC sink connector enables you to export data from Kafka Topics into any relational database with a JDBC driver.

**Topics**

- JDBC Source Connector
- JDBC Sink Connector
- JDBC Connector with Autonomous Data Warehouse

**JDBC Source Connector**

JDBC source connector enables you to import data from any relational database with a JDBC driver into Kafka Topics.

You require the following before you use the JDBC source connector.

- A database connection with JDBC driver
- An Event Hub Topic that is enabled with Kafka Connect.
- AVRO format.
- Cluster with REST Proxy VMs
• Schema Registry

Note:

• Schema Registry is need only for Avro converters.
• Schema Registry is not needed for Schema Aware JSON converters.
• Default value is used when Schema Registry is not provided.

Given below is the payload required for creating a JDBC source connector.

```json
{

    "name": "",
    "config": {
        "connector.class": "",
        "tasks.max": "",
        "topic.prefix": "",
        "connection.url": "",
        "connection.user": "",
        "connection.password": "",
        "connection.password.secure.key": "",
        "mode": "",
        "incrementing.column.name": "",
        "table.whitelist": "",
        "key.converter": "",
        "value.converter": ""
    }
}
```

Below is an example of a JDBC source connector.

POST /connectors HTTPS
Host: 
Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json

```json
{

    "name": "myconnectorname",
    "config": {
        "connector.class": "io.confluent.connect.jdbc.JdbcSourceConnector",
        "tasks.max": "1",
        "topic.prefix": "mytopic",
        "connection.url": "jdbc:mysql://<mymysqlurl>:<portnumber>/schemaname",
        "connection.user": "myusername",
        "connection.password": "mypassword",
        "connection.password.secure.key": "mycredentialstorekey",
        "mode": "incrementing",
        "incrementing.column.name": "id",
        "table.whitelist": "authors",
        "key.converter": "io.confluent.connect.avro.AvroConverter",
        "value.converter": "io.confluent.connect.avro.AvroConverter"
    }
}
```

Given is the definition of various configuration options available.
<table>
<thead>
<tr>
<th>Element Name</th>
<th>Element Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Unique name for the connector. Attempting to register again with same name will fail.</td>
</tr>
<tr>
<td>config</td>
<td>Element that defines various configs. The exact config details are defined in the child element of this element.</td>
</tr>
<tr>
<td>connector.class</td>
<td>The Java Class for the connector. For JDBC source connector, the Java class is io.confluent.connect.jdbc.JdbcSourceConnector</td>
</tr>
<tr>
<td>tasks.max</td>
<td>The maximum number of tasks that should be created for this connector. The connector may create fewer tasks if it cannot achieve this tasks.max level of parallelism.</td>
</tr>
<tr>
<td>topic.prefix</td>
<td>A list of topics to use as input for this connector.</td>
</tr>
<tr>
<td>connection.url</td>
<td>JDBC connection url.</td>
</tr>
<tr>
<td>connection.user</td>
<td>Database user name.</td>
</tr>
<tr>
<td>connection.password</td>
<td>Database password. For additional security, it is recommended to use connection.password.secure.key instead of this entry.</td>
</tr>
<tr>
<td>connection.password.secure.key</td>
<td>You can provide your Credential Store key instead of connection.password. For details, see Credential Store.</td>
</tr>
<tr>
<td>mode</td>
<td>The mode for updating the table each time it is polled.</td>
</tr>
<tr>
<td>incrementing.column.name</td>
<td>Use a strictly incrementing column on each table to detect only new rows.</td>
</tr>
<tr>
<td>table.whitelist</td>
<td>List of tables to include in copying. If specified, table.blacklist may not be set.</td>
</tr>
<tr>
<td>key.converter</td>
<td>The key converter to be used.</td>
</tr>
<tr>
<td>value.converter</td>
<td>The value converter to be used.</td>
</tr>
</tbody>
</table>

**JDBC Sink Connector**

JDBC sink connector enables you to export data from Kafka Topics into any relational database with a JDBC driver.

You require the following before you use the JDBC Sink Connector.

- A database connection with JDBC Driver
- An Event Hub Topic that is enabled with Kafka Connect.
- AVRO format.
- Schema Registry
- Cluster with REST Proxy VMs

Given below is the payload required for creating a JDBC sink connector.

```json
{
    "name": "",
    "config": {
        "connector.class": "",
        "tasks.max": "",
        "topics": ""
    }
}
```
"connection.url":"",
"connection.user":"",
"connection.password":"",
"connection.password.secure.key":"",
"auto.create":"",
"key.converter":"",
"value.converter":""
}

Below is an example of a JDBC sink connector.

POST /connectors HTTPS
Host: Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{
"name": "myconnectorname",
"config": {
   "connector.class": "io.confluent.connect.jdbc.JdbcSinkConnector",
   "tasks.max": "1",
   "topics": "mytopic",
   "connection.url": "jdbc:mysql://<mymysqlurl>:<portnumber>/schemaname",
   "connection.user": "myusername",
   "connection.password": "mypassword",
   "connection.password.secure.key": "mycredentialstorekey",
   "auto.create": "true",
   "key.converter": "io.confluent.connect.avro.AvroConverter",
   "value.converter": "io.confluent.connect.avro.AvroConverter"
}
}

Given is the definition of various configuration options available.

<table>
<thead>
<tr>
<th>Element Name</th>
<th>Element Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Unique name for the connector. Attempting to register again with same name will fail.</td>
</tr>
<tr>
<td>config</td>
<td>Element that defines various configs. The exact config details are defined in the child element of this element.</td>
</tr>
<tr>
<td>connector.class</td>
<td>The Java Class for the connector. For JDBC sink connector, the Java class is io.confluent.connect.jdbc.JdbcSinkConnector</td>
</tr>
<tr>
<td>tasks.max</td>
<td>The maximum number of tasks that should be created for this connector. The connector may create fewer tasks if it cannot achieve this tasks.max level of parallelism.</td>
</tr>
<tr>
<td>topics</td>
<td>A list of topics to use as input for this connector.</td>
</tr>
<tr>
<td>connection.url</td>
<td>JDBC connection url.</td>
</tr>
<tr>
<td>connection.user</td>
<td>Database user name.</td>
</tr>
<tr>
<td>connection.password</td>
<td>Database password. For additional security, it is recommended to use connection.password.secure.key instead of this entry.</td>
</tr>
<tr>
<td>connection.password.secure.key</td>
<td>You can provide your Credential Store key instead of connection.password. For details, see Credential Store.</td>
</tr>
<tr>
<td>auto.create</td>
<td>Whether to automatically create the destination table based on record schema if it is found to be missing by issuing create.</td>
</tr>
<tr>
<td>Element Name</td>
<td>Element Description</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>key.converter</td>
<td>The key converter to be used.</td>
</tr>
<tr>
<td>value.converter</td>
<td>The value converter to be used.</td>
</tr>
</tbody>
</table>

**JDBC Connector with Autonomous Data Warehouse**

You can use JDBC source and sink connector to connect to Autonomous Data Warehouse.

Perform the below steps to use JDBC source or sink connector to connect to Autonomous Data Warehouse.

1. SSH into the Oracle Event Hub Cloud Service - Dedicated cluster. See Connecting to a Cluster Node Through Secure Shell (SSH).
2. Navigate to the `/u01/oehpcs` directory.
3. Create a directory to store the Autonomous Data Warehouse client credential (wallet) files. Example: `/u01/oehpcs/wallet`.
   For downloading the Autonomous Data Warehouse client credential (wallet) files, see Downloading Client Credentials (Wallets).
4. Copy the wallet zip files you intend to use separately into each Connect VM and unzip the wallet zip files.
5. The `tnsnames.ora` file is provided in the wallet file. The `tnsnames.ora` file contains multiple database service names identifiable as high, medium, etc. See Predefined Database Service Names for Autonomous Data Warehouse. Example:

```
testdb_high = (description= (address=(protocol=tcps)(port=1000) (host=abc.indbeta-east-4.oraclecloud.com)) (connect_data=(service_name=testdb_high.abc.oraclecloud.com)) (security=(ssl_server_cert_dn="CN=abc.indbeta-east-4.oraclecloud.com,OU=Oracle BMCS IN,O=Oracle Corporation,L=Bengaluru,ST=Karnataka,C=IN") )
```
6. Create the connection url in the below format with the details.

```
"connection.url": "jdbc:oracle:thin:@<service_name>?TNS_ADMIN=<wallet_path_on_VM>"
```

Note: The `service_name` is the database service name as present in the `tnsnames.ora` file.

Note: The `wallet_path_on_VM` is the path where you have placed the wallet files.

7. Below is an example of the connection url. You can choose any one of the database service names based on the requirement. See.

```
"connection.url": "jdbc:oracle:thin:@testdb_high?TNS_ADMIN=/u01/oehpcs/wallet/"
```
Given below is a sample payload required for creating a JDBC source connector. Notice the connection url below. For details regarding the JDBC source connector payload, see JDBC Source Connector.

POST /connectors HTTPS
Host:
Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{
    "name": "myconnectorname",
    "config": {
        "connector.class": "io.confluent.connect.jdbc.JdbcSourceConnector",
        "tasks.max": "1",
        "topic.prefix": "mytopic",
        "connection.url": "jdbc:oracle:thin:@testdb_high?TNS_ADMIN=/u01/oehpcs/wallet/",
        "connection.user": "myusername",
        "connection.password": "mypassword",
        "connection.password.secure.key": "mycredentialstorekey",
        "mode": "incrementing",
        "incrementing.column.name": "id",
        "table.whitelist": "authors",
        "key.converter": "io.confluent.connect.avro.AvroConverter",
        "value.converter": "io.confluent.connect.avro.AvroConverter"
    }
}

Given below is a sample payload required for creating a JDBC sink connector. Notice the connection url below. For details regarding the JDBC sink connector payload, see JDBC Sink Connector.

POST /connectors HTTPS
Host:
Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{
    "name": "myconnectorname",
    "config": {
        "connector.class": "io.confluent.connect.jdbc.JdbcSinkConnector",
        "tasks.max": "1",
        "topics": "mytopic",
        "connection.url": "jdbc:oracle:thin:@testdb_high?TNS_ADMIN=/u01/oehpcs/wallet/",
        "connection.user": "myusername",
        "connection.password": "mypassword",
        "connection.password.secure.key": "mycredentialstorekey",
        "auto.create": "true",
        "key.converter": "io.confluent.connect.avro.AvroConverter",
        "value.converter": "io.confluent.connect.avro.AvroConverter"
    }
}
OCS Connector

OCS Sink Connector allows you to export data from a Kafka Topic into an Object Storage Classic Cloud instance.

Topics

- OCS Sink Connector
  - Default Partitioner
  - Time Partitioner
  - Hourly Partitioner
  - Daily Partitioner
  - Field Partitioner
  - Configuration Parameters

- Kafka Connect Converters
  - AVRO format support
  - Parquet format support

OCS Sink Connector

OCS Sink Connector allows you to export data from a Kafka Topic into an Object Storage Classic Cloud instance.

You require the below before you use the OCS Sink Connector

- An Object Storage Classic Cloud subscription with an instance.
- An Event Hub Topic that is enabled with Kafka Connect.

**NOTE:** For OCS connector, the key and value converters are all "ByteArrayConverter". It means we don't parse key and value in any special format such as Avro or Parquet. The data in the Kafka Topic can be partitioned as per our requirement before the data gets stored. There are multiple partitioners that are available for OCS Sink Connector as below.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Partitioner</td>
<td>The Default Partitioner preserves the Kafka partitions.</td>
</tr>
<tr>
<td>Time Based Partitioner</td>
<td>The Time Based Partitioner partitions data according to ingestion time. The time based partitioner itself can be configured in the following three types.</td>
</tr>
<tr>
<td></td>
<td>• Time Partitioner — Data received in the given block of time is partitioned separately.</td>
</tr>
<tr>
<td></td>
<td>• Hourly Partitioner — Data received each hour is partitioned separately.</td>
</tr>
<tr>
<td>Field Partitioner</td>
<td>The Field Partitioner partitions the data to different directories according to the value of the partitioning field specified in partition.field.name.</td>
</tr>
</tbody>
</table>
Default Partitioner

The default partitioner partitions the data as per the store flush size. Given below is the payload required for the default partitioner.

```json
{
    "name": "",
    "config": {
        "format.class": "",
        "connector.class": "",
        "tasks.max": "",
        "flush.size": "",
        "topics": "",
        "ocs.container": "",
        "ocs.username": "",
        "ocs.password": "",
        "ocs.password.secure.key": "",
        "ocs.tenant": "",
        "storage.class": "",
        "key.converter": "",
        "value.converter": "",
        "partitioner.class": ""
    }
}
```

Below is an example of a default partitioner for OCS.

POST /connectors HTTPS
Host: Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json

```json
{
    "name": "myocsconnector",
    "config": {
        "format.class": "oracle.oehpcs.connect.swift.SourceFormat",
        "connector.class": "oracle.oehpcs.connect.swift.SwiftSinkConnector",
        "tasks.max": "1",
        "flush.size": "1",
        "topics": "mytopic",
        "ocs.container": "https://tenantname.storage.oraclecloud.com/v1/Storage-tenantname/mycontainer",
        "ocs.username": "Storageadmin",
        "ocs.password": "mypassword",
        "ocs.password.secure.key": "mycredentialstorekey",
        "ocs.tenant": "Storage-tenantname",
        "storage.class": "oracle.oehpcs.connect.swift.SwiftStorage",
        "key.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
        "value.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
        "partitioner.class": "oracle.oehpcs.connect.swift.partitioner.SwiftDefaultPartitioner",
    }
}
```

Time Partitioner

In Time based partitioner, all the data in a given time frame will be stored in the given directory. The minimum granularity is hour. For the time partitioner to be effective, provided the below additional required parameters in addition to the config parameters in the default partitioner.
Below is an example of a time partitioner for OCS.

POST /connectors HTTPS
Host:
Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{
    "name": "myocsconnector",
    "config": {
        "format.class": "oracle.oehpcs.connect.swift.SourceFormat",
        "connector.class": "oracle.oehpcs.connect.swift.SwiftSinkConnector",
        "tasks.max": "1",
        "flush.size": "1",
        "topics": "mytopic",
        "ocs.container": "https://tenantname.storage.oraclecloud.com/v1/Storage-tenantname/mycontainer",
        "ocs.username": "Storageadmin",
        "ocs.password": "mypassword",
        "ocs.password.secure.key": "mycredentialstorekey",
        "ocs.tenant": "Storage-tenantname",
        "storages.class": "oracle.oehpcs.connect.swift.SwiftStorage",
        "key.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
        "value.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
        "partitioner.class": "oracle.oehpcs.connect.swift.partitioner.SwiftTimeBasedPartitioner",
        "partition.duration.ms": "1",
        "path.format": "©year©-YYYY/©month©-MM/©day©-dd/©hour©-HH/",
        "locale": "UTF-8",
        "timezone": "America/Los_Angeles"
    }
}

Hourly Partitioner

In Hour based partitioner, all the data in a given hour will be stored in the given directory. For the hour partitioner to be effective, provided the below additional required parameters in addition to the config parameters in the default partitioner.

"locale":"",
"timezone":""

Below is an example of a hourly partitioner for OCS.

POST /connectors HTTPS
Host:
Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{
    "name": "myocsconnector",
    "config": {
        "format.class": "oracle.oehpcs.connect.swift.SourceFormat",
        "connector.class": "oracle.oehpcs.connect.swift.SwiftSinkConnector",
        "tasks.max": "1",
        "flush.size": "1",
        "topics": "mytopic",
        "ocs.container": "https://tenantname.storage.oraclecloud.com/v1/Storage-
"
tenantname/mycontainer",
    "ocs.username": "Storageadmin",
    "ocs.password": "mypassword",
    "ocs.password.secure.key": "mycredentialstorekey",
    "ocs.tenant": "Storage-tenantname",
    "storage.class": "oracle.oehpcs.connect.swift.SwiftStorage",
    "key.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
    "value.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
    "partitioner.class": "oracle.oehpcs.connect.swift.partitioner.SwiftDailyPartitioner",
    "locale": "UTF-8",
    "timezone": "America/Los_Angeles"
}).

**Daily Partitioner**

In day based partitioner, all the data in a given day will be stored in the given directory. For the day partitioner to be effective, provided the below additional required parameters in addition to the config parameters in the default partitioner.

"locale": ",
"timezone": 

Below is an example of a daily partitioner for OCS.

POST /connectors HTTPS
Host:
Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{

"name": "myocsconnector",
"config": {

    "format.class": "oracle.oehpcs.connect.swift.SourceFormat",
    "connector.class": "oracle.oehpcs.connect.swift.SwiftSinkConnector",
    "tasks.max": "1",
    "flush.size": "1",
    "topics": "mytopic",
    "ocs.container": "https://tenantname.storage.oraclecloud.com/v1/Storage-
tenantname/mycontainer",
    "ocs.username": "Storageadmin",
    "ocs.password": "mypassword",
    "ocs.password.secure.key": "mycredentialstorekey",
    "ocs.tenant": "Storage-tenantname",
    "storage.class": "oracle.oehpcs.connect.swift.SwiftStorage",
    "key.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
    "value.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
    "partitioner.class": "oracle.oehpcs.connect.swift.partitioner.SwiftDailyPartitioner",
    "locale": "UTF-8",
    "timezone": "America/Los_Angeles"
}).

**Field Partitioner**

In Field based partitioner, the data is partitioned as per the field specified. However, since the field based partitioner need to parse the schema, we need Avro converter to work together to enable field partitioner. At the same time, the value of "partition.field.name" should be the valid field of value.schema. For the field partitioner
to be effective, provided the below additional required parameters in addition to the
config parameters in the default partitioner.

"format.class": "",
"key.converter": "",
"value.converter": "",
"partitioner.class": "",
"key.converter.schema.registry.url": "",
"value.converter.schema.registry.url": "",
"partition.field.name": ""

Below is an example of a field partitioner with Avro for OCS.

POST /connectors HTTPS
Host:
Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{
  "name": "myocsconnector",
  "config": {
    "format.class": "io.confluent.connect.hdfs.avro.AvroFormat",
    "connector.class": "oracle.oehpcs.connect.swift.SwiftSinkConnector",
    "tasks.max": "1",
    "flush.size": "1",
    "topics": "mytopic",
    "ocs.container": "https://tenantname.storage.oraclecloud.com/v1/Storage-tenantname/mycontainer",
    "ocs.username": "Storageadmin",
    "ocs.password": "mypassword",
    "ocs.password.secure.key": "mycredentialstorekey",
    "ocs.tenant": "Storage-tenantname",
    "storage.class": "oracle.oehpcs.connect.swift.SwiftStorage",
    "key.converter": "io.confluent.connect.avro.AvroConverter",
    "value.converter": "io.confluent.connect.avro.AvroConverter",
    "partitioner.class": "oracle.oehpcs.connect.swift.partitioner.SwiftFieldPartitioner",
    "key.converter.schema.registry.url": "http://<schemaregistryurl>:<portnumber>",
    "value.converter.schema.registry.url": "http://<schemaregistryurl>:<portnumber>",
    "partition.field.name": "name"
  }
}

Configuration Parameters

Below is the definition of various configuration options available.

<table>
<thead>
<tr>
<th>Element Name</th>
<th>Element Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Unique name for the connector. Attempting to register again with same name will fail.</td>
</tr>
<tr>
<td>config</td>
<td>Element that defines various configs. The exact config details are defined in the child element of this element.</td>
</tr>
<tr>
<td>connector.class</td>
<td>The Java Class for the connector. For Storage sink connector, the Java class is io.confluent.connect.swift.SwiftSinkConnector.</td>
</tr>
<tr>
<td>tasks.max</td>
<td>The maximum number of tasks that should be created for this connector. The connector may create fewer tasks if it cannot achieve this level of parallelism.</td>
</tr>
<tr>
<td>flush.size</td>
<td>Number of records written to store before invoking file commits.</td>
</tr>
<tr>
<td>Element Name</td>
<td>Element Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>topics</td>
<td>A list of topics to use as input for this connector.</td>
</tr>
<tr>
<td>ocs.container</td>
<td>Oracle Object Storage container url.</td>
</tr>
<tr>
<td>ocs.username</td>
<td>Oracle Object Storage connection user name.</td>
</tr>
<tr>
<td>ocs.password</td>
<td>Oracle Object Storage connection password. For additional security, it is recommended to use <code>ocs.password.secure.key</code> instead of this entry.</td>
</tr>
<tr>
<td>ocs.password.secure.key</td>
<td>You can provide your Credential Store key instead of <code>ocs.password</code>. For details, see Credential Store.</td>
</tr>
<tr>
<td>ocs.tenant</td>
<td>Oracle Object Storage tenant name.</td>
</tr>
<tr>
<td>storage.class</td>
<td>Defines the underlying storage layer class.</td>
</tr>
<tr>
<td>key.converter</td>
<td>The key converter to be used.</td>
</tr>
<tr>
<td>value.converter</td>
<td>The value converter to be used.</td>
</tr>
<tr>
<td>partitioner.class</td>
<td>The partitioner to use when writing data to the store.</td>
</tr>
<tr>
<td>partition.duration.milliseconds</td>
<td>The duration of a partition in milliseconds used by TimeBasedPartitioner. The default value -1 means that we are not using TimeBasedPartitioner.</td>
</tr>
<tr>
<td>path.format</td>
<td>This configuration is used to set the format of the data directories when partitioning with TimeBasedPartitioner. The format set in this configuration converts the Unix timestamp to proper directories strings. For example, if you set <code>path.format='year'=YYYY/'month'=MM/'day'=dd/'hour'=HH</code>, the data directories will have the format <code>/year=2015/month=12/day=07/hour=15/</code>.</td>
</tr>
<tr>
<td>locale</td>
<td>The locale to use when partitioning with TimeBasedPartitioner.</td>
</tr>
<tr>
<td>timezone</td>
<td>The timezone to use when partitioning with TimeBasedPartitioner.</td>
</tr>
</tbody>
</table>

**Kafka Connect Converters**

Converters help to change the format of data from one format into another format. Converters are decoupled from connectors to allow reuse of converters between connectors naturally. The Converter used at Source and Sink can take input and output to different set of formats. For Example, at the Source Connector, a Converter can take input from JDBC and convert it to AVRO and send it to Kafka Topic. Similarly, at the Sink Connector, a Converter can take input from Kafka Topic as AVRO and send it to OCS. Notice that the data flows from JDBC to OCS.

AVRO Converter is the most common and recommended Converter. This is because the AVRO format is considered to be more stable.

**AVRO format support**

You can store data in AVRO format from Kafka Topic into any Sink using AVRO Converter.

**Note:** This is currently available only in OCS Connector.

The following additional elements in payload can be used to Sink data from Kafka Topic into OCS in AVRO format. Refer OCS Sink Connector for details.
Below is an example OCS Sink Connector with AVRO Converter

POST /connectors HTTPS
Host: Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{
    "name": "myocsconnector",
    "config": {
        "format.class": "io.confluent.connect.hdfs.avro.AvroFormat",
        "connector.class": "oracle.oehpcs.connect.swift.SwiftSinkConnector",
        "tasks.max": "1",
        "flush.size": "1",
        "topics": "mytopic",
        "ocs.container": "https://tenantname.storage.oraclecloud.com/v1/Storage-tenantname/mycontainer",
        "ocs.username": "Storageadmin",
        "ocs.password": "mypassword",
        "ocs.tenant": "Storage-tenantname",
        "storage.class": "oracle.oehpcs.connect.swift.SwiftStorage",
        "key.converter": "io.confluent.connect.avro.AvroConverter",
        "value.converter": "io.confluent.connect.avro.AvroConverter",
        "partitioner.class": "oracle.oehpcs.connect.swift.partitioner.SwiftDefaultPartitioner",
        "key.converter.schema.registry.url": "http://<schemaregistryurl>:<portnumber>",
        "value.converter.schema.registry.url": "http://<schemaregistryurl>:<portnumber>",
    }
}

Parquet format support

To enable Connector to support Parquet format, we need to first produce data in AVRO format to Kafka broker and start an OCS Sink Connector with AVRO Converter and Parquet format.

Note: This is currently available only in OCS Connector.

The following additional elements in payload can be used to Sink data from Kafka Topic into OCS in Parquet format.

"format.class":"

Below is an example OCS Sink Connector for Parquet format through AVRO Converter

POST /connectors HTTPS
Host: Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{

Chapter 6
OCS Connector
6-15
"name": "myocsconnector",
"config": {
    "format.class": "io.confluent.connect.hdfs.parquet.ParquetFormat",
    "connector.class": "oracle.oehpcs.connect.swift.SwiftSinkConnector",
    "tasks.max": "1",
    "flush.size": "1",
    "topics": "mytopic",
    "ocs.container": "https://tenantname.storage.oraclecloud.com/v1/Storage-tenantname/mycontainer",
    "ocs.username": "Storageadmin",
    "ocs.password": "mypassword",
    "ocs.tenant": "Storage-tenantname",
    "storage.class": "oracle.oehpcs.connect.swift.SwiftStorage",
    "key.converter": "io.confluent.connect.avro.AvroConverter",
    "value.converter": "io.confluent.connect.avro.AvroConverter",
    "partitioner.class": "oracle.oehpcs.connect.swift.partitioner.SwiftDefaultPartitioner",
    "key.converter.schema.registry.url": "http://<schemaregistryurl>:<portnumber>",
    "value.converter.schema.registry.url": "http://<schemaregistryurl>:<portnumber>",
}
}

Notice that the only difference between the AVRO and Parquet format Converters is the format.class element.

OCI Connector

OCI Sink Connector allows you to export data from a Kafka Topic into an Oracle Object Storage instance.

Topics

- OCI Sink Connector
  - Default Partitioner
  - Time based Partitioner
  - Hourly Partitioner
  - Daily Partitioner
  - Configuration Parameters

OCI Sink Connector

OCI Sink Connector allows you to export data from a Kafka Topic into an Oracle Cloud Storage instance.

You need to have following requirements to create and use the OCI Sink Connector.

- An Oracle Cloud Storage subscription with an instance.
- An Event Hub Topic that is enabled with Kafka Connect.

**NOTE:** For Oracle Cloud Storage connector, we provide two converters ByteArrayConverter and AvroConverter. ByteArrayConverter does not parse key and value. ByteArrayConverter take data as a byte array. AvroConverter supports Avro
and Parquet formats. Users need to first register their schema to the Schema Registry to use AvroConverter.

You can partition the Kafka Topic as per your requirement before storing the data in Oracle Cloud Storage. There are multiple partitioners available for OCI Sink Connector as below.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Partitioner</td>
<td>The Default Partitioner preserves the Kafka partitions.</td>
</tr>
<tr>
<td>Time Based Partitioner</td>
<td>The Time Based Partitioner partitions data according to ingestion time. You can configure the time based partitioner in three different types.</td>
</tr>
<tr>
<td></td>
<td>• Time Partitioner — Data received in the given block of time is partitioned separately.</td>
</tr>
<tr>
<td></td>
<td>• Hourly Partitioner — Data received each hour is partitioned separately.</td>
</tr>
<tr>
<td></td>
<td>• Daily Partitioner — Data received each day is partitioned separately.</td>
</tr>
</tbody>
</table>

Default Partitioner

The default partitioner partitions the data as per the store flush size. Given below is the payload required for the default partitioner.

```json
{
    "name": "",
    "config": {
        "format.class": "",
        "connector.class": "",
        "tasks.max": "",
        "flush.size": "",
        "topics": "",
        "oci.url": "",
        "oci.hostname": "",
        "oci.fingerprint": "",
        "oci.fingerprint.secure.key": "",
        "oci.user.id": "",
        "oci.tenant.id": "",
        "oci.pem.file.path": "",
        "storage.class": "",
        "key.converter": "",
        "value.converter": "",
        "partitioner.class": ""
    }
}
```

Below is an example of a default partitioner for OCI.

POST /connectors HTTPS
Host: Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json

```json
{
    "name": "myOCIconnector",
    "config": {
        "format.class": "oracle.oehpcs.connect.swift.SourceFormat",
        "connector.class": "oracle.oehpcs.connect.oci.OCIObjectStorageSinkConnector",
        "tasks.max": "1",
        "flush.size": "1",
        "topics": "mytopic",
        "oci.url": "oci://servicetype@identitydomain/instance",
    }
}
```
"oci.hostname": "https://<your object storage>.oraclecloud.com",
"oci.fingerprint": "<my oci fingerprint>",
"oci.fingerprint.secure.key": "<my credential store key>",
"oci.user.id": "<my oci userid>",
"oci.tenant.id": "<my oci tenant>",
"oci.pem.file.path": "<path of pem file>/file.pem",
"storage.class": "oracle.oehpcs.connect.oci.OCIObjectStorage",
"key.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
"value.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
"partitioner.class": "oracle.oehpcs.connect.swift.partitioner.SwiftDefaultPartitioner",
}

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Time based Partitioner

In time based partitioner, all the data in a given time frame will be stored in the given directory in OCI Storage after the OCI Sink Connector is created. The minimum granularity is hour. For the time partitioner to be effective, provided the below additional required parameters in addition to the config parameters in the default partitioner.

"partition.duration.ms": "",
"path.format": "",
"locale": "",
"timezone": ""

Below is an example of a time partitioner for OCI.

POST /connectors HTTPS
Host:
Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
|
"name": "myOCIconnector",
"config": {
  "format.class": "oracle.oehpcs.connect.swift.SourceFormat",
  "connector.class": "oracle.oehpcs.connect.oci.OCIObjectStorageSinkConnector",
  "tasks.max": "1",
  "flush.size": "1",
  "topics": "mytopic",
  "oci.url": "oci://servicetype@identitydomain/instance",
  "oci.hostname": "https://<your object storage>.oraclecloud.com",
  "oci.fingerprint": "<my oci fingerprint>",
  "oci.fingerprint.secure.key": "<my credential store key>",
  "oci.user.id": "<my oci userid>",
  "oci.tenant.id": "<my oci tenant>",
  "oci.pem.file.path": "<path of pem file>/file.pem",
  "storage.class": "oracle.oehpcs.connect.oci.OCIObjectStorage",
  "key.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
  "value.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
  "partitioner.class": "oracle.oehpcs.connect.swift.partitioner.SwiftTimeBasedPartitioner",
  "timezone": "America/Los_Angeles",
  "partition.duration.ms": "1000",
  "path.format": "©year©-YYYY/©month©-MM/©day©-dd/©hour©-HH/",
  "locale": "UTF-8",
}

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Hourly Partitioner

In hour based partitioner, all the data in a given hour will be stored in the given directory. For the hour partitioner to be effective, provided the below additional required parameters in addition to the config parameters in the default partitioner.

```
"locale": "",
"timezone": ""
```

Below is an example of a hourly partitioner for OCI.

```
POST /connectors HTTPS
Host: Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{
  "name": "myOCIconnector",
  "config": {
    "format.class": "oracle.oehpcs.connect.swift.SourceFormat",
    "connector.class": "oracle.oehpcs.connect.oci.OCIObjectStorageSinkConnector",
    "tasks.max": "1",
    "flush.size": "1",
    "topics": "mytopic",
    "oci.url": "oci://servicetype@identitydomain/instance",
    "oci.hostname": "https://<your object storage>.oraclecloud.com",
    "oci.fingerprint": "<my oci fingerprint>",
    "oci.fingerprint.secure.key": "<my credential store key>",
    "oci.user.id": "<my oci userid>",
    "oci.tenant.id": "<my oci tenant>",
    "oci.pem.file.path": "<path of pem file>/file.pem",
    "storage.class": "oracle.oehpcs.connect.oci.OCIObjectStorage",
    "key.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
    "value.converter": "oracle.oehpcs.connect.swift.ByteArrayConverter",
    "partitioner.class": "oracle.oehpcs.connect.swift.partitioner.SwiftHourlyPartitioner",
    "timezone": "America/Los_Angeles",
    "locale": "UTF-8",
  }
} © http://[your_connector_rest_server]:1080/connect/connectors
```

Daily Partitioner

In day based partitioner, all the data in a given day will be stored in the given directory. For the day partitioner to be effective, provided the below additional required parameters in addition to the config parameters in the default partitioner.

```
"locale": "",
"timezone": ""
```

Below is an example of a daily partitioner for OCI.

```
POST /connectors HTTPS
Host: Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{
  "name": "myOCIconnector",
  "config": {
    "format.class": "oracle.oehpcs.connect.swift.SourceFormat",
    "connector.class": "oracle.oehpcs.connect.oci.OCIObjectStorageSinkConnector",
```

6-19
Configuration Parameters

Below is the definition of various configuration options available.

<table>
<thead>
<tr>
<th>Element Name</th>
<th>Element Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Unique name for the connector. Attempting to register again with same name will fail.</td>
</tr>
<tr>
<td>config</td>
<td>Element that defines various configs. The exact config details are defined in the child element of this element.</td>
</tr>
<tr>
<td>connector.class</td>
<td>The Java Class for the connector. For Storage sink connector, the Java class is oracle.oehpcs.connect.oci.OCIObjectStorageSinkConnector.</td>
</tr>
<tr>
<td>tasks.max</td>
<td>The maximum number of tasks that should be created for this connector. The connector may create fewer tasks if it cannot achieve this level of parallelism.</td>
</tr>
<tr>
<td>flush.size</td>
<td>Number of records written to store before invoking file commits.</td>
</tr>
<tr>
<td>topics</td>
<td>A list of topics to use as input for this connector.</td>
</tr>
<tr>
<td>oci.url</td>
<td>Oracle Cloud Storage connection url.</td>
</tr>
<tr>
<td>oci.hostname</td>
<td>Oracle Cloud Storage connection host name.</td>
</tr>
<tr>
<td>oci.fingerprint</td>
<td>Oracle Cloud Storage connection fingerprint. For additional security, it is recommended to use oci.fingerprint.secure.key instead of this entry.</td>
</tr>
<tr>
<td>oci.fingerprint.secure.key</td>
<td>You can provide your Credential Store key instead of oci.fingerprint. For details, see Credential Store.</td>
</tr>
<tr>
<td>oci.pem.file.path</td>
<td>path of the pem file containing the authentication information.</td>
</tr>
<tr>
<td>oci.tenant.id</td>
<td>Oracle Cloud Storage tenant id.</td>
</tr>
<tr>
<td>storage.class</td>
<td>Defines the underlying storage layer class.</td>
</tr>
<tr>
<td>key.converter</td>
<td>The key converter to be used.</td>
</tr>
<tr>
<td>value.converter</td>
<td>The value converter to be used.</td>
</tr>
<tr>
<td>partitioner.class</td>
<td>The partitioner to use when writing data to the store.</td>
</tr>
<tr>
<td>Element Name</td>
<td>Element Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>partition.duration.m</td>
<td>The duration of a partition in milliseconds used by TimeBasedPartitioner. The default value -1 means that we are not using TimeBasedPartitioner.</td>
</tr>
<tr>
<td>path.format</td>
<td>This configuration is used to set the format of the data directories when partitioning with TimeBasedPartitioner. The format set in this configuration converts the Unix timestamp to proper directory strings. For example, if you set path.format='year'=YYYY/'month'=MM/'day'=dd/'hour'=HH, the data directories will have the format /year=2015/month=12/day=07/hour=15/.</td>
</tr>
<tr>
<td>locale</td>
<td>The locale to use when partitioning with TimeBasedPartitioner.</td>
</tr>
<tr>
<td>timezone</td>
<td>The timezone to use when partitioning with TimeBasedPartitioner.</td>
</tr>
</tbody>
</table>

Custom Connectors

Oracle Event Hub Cloud Service - Dedicated provides the connector plugins using which you can provision various components such as JDBC source connector, JDBC sink connector, Object Store sink connector, etc. Additionally, Oracle Event Hub Cloud Service - Dedicated also provides custom connector feature. Using this custom connector, you can add any new type of connector that you need to use.

Perform the following steps to create a custom connector.

1. SSH into the Oracle Event Hub Cloud Service - Dedicated cluster. See Connecting to a Cluster Node Through Secure Shell (SSH).
2. Navigate to the /u01/oehpcs/custom-connectors directory. This is where you store the custom connector files.
3. The /u01/oehpcs/custom-connectors directory and its contents should have read access for the user ‘oracle’.
4. Copy the connector plugin resource you intend to use separately into each Connect VM.
5. In the web UI, navigate to the instances page and restart the Oracle Event Hub Cloud Service - Dedicated.
   
   **Note:** This rolling restart of all the VMs (including Kafka Brokers, Rest Proxy, and Kafka Connect) is required as the connect process picks up this new custom connector only after this restart.
6. To confirm that the new custom connector is picked up, you can use the Connect REST Endpoint to list all the connector plugins.

**Note:**

The /u01/oehpcs/custom-connectors directory is not affected when the service gets patch updates. If a customer wants a patch to use a later version of their plugin, they need to replace the new version into /u01/oehpcs/custom-connectors directory and then do patching. Similarly, if user just wants newer version of plugin to be used, they need to copy the plugin into /u01/oehpcs/custom-connectors directory and restart the service.
Mirror Maker

Mirror Maker is a tool for copying data between two Oracle Event Hub Cloud Service—Dedicated clusters. Mirror Maker increases throughput and facilitates disaster recovery. In addition, it enables you to maintain a replica of an existing cluster.

Topics

- Setting up Mirror Maker

Setting up Mirror Maker

If you have two Oracle Event Hub Cloud Service—Dedicated clusters, you can setup mirror for the topic that is present in one cluster to another topic that is present in a different cluster.

Perform the following steps to create a mirror.

1. Create a Oracle Event Hub Cloud Service topic in the cluster that you want to mirror. This is considered as the source.

2. Create another Oracle Event Hub Cloud Service topic in another cluster. This is the destination in which the source topic will be mirrored.

3. The destination topic must have the same name as the source topic and must be appended with some suffix.

   The general format for the destination topic name should be \{sourcetopicname\} \{anysuffix\}. For Example, If the source topic name is ‘topic1’, then the destination topic name should be ‘topic1replica’.

   **Note:**

   We cannot have two topics with the same name within a PSM tenancy. So we are including a suffix to the destination topic name.

   **Note:**

   You may want to create the destination topic with similar configuration to the source topic. But this is not mandatory.

4. Create an access rule that allows specific/public traffic to connect to the destination cluster. See Oracle Event Hub Cloud Service—Dedicated: Access Rules Page. Without this access rule, the destination cluster cannot connect to the source cluster.

   Provide the below details for creating the access rule:

   - **Rule Name:** mirrormakerpublicaccess
• **Source**: PUBLIC-INTERNET
• **Destination**: kafka_KAFKA_ZK_SERVER
• **Destination Ports**: 6667
• **Protocol**: TCP

5. SSH into the destination cluster. See Connecting to a Cluster Node Through Secure Shell (SSH). Create a folder to store the consumer and producer config files. Example: /u01/oehpcs/confluent/etc/mirror-maker

6. Create the consumer configuration file and name it as `sourceClusterConsumer.config`. You can provide any name you require.

7. Provide the following code in the `sourceClusterConsumer.config` file.

   ```
   bootstrap.servers=<public ip of the source cluster>:6667
   group.id=<consumer_group_id_for_this_mirrormaker .e.g. topic1-group>
   exclude.internal.topics=true
   auto.offset.reset=earliest
   partition.assignment.strategy=org.apache.kafka.clients.consumer.RoundRobinAssignor
   ```

8. Create the producer configuration file and name it as `targetClusterProducer.config`. You can provide any name you require.

9. Provide the following code in the `targetClusterProducer.config` file.

   ```
   bootstrap.servers=<public ip of the target cluster>:6667
   acks=-1
   max.inflight.requests.per.connection=1
   compression.type=none
   ```

10. Execute the following command in the destination cluster.

    ```
    nohup \
     /u01/oehpcs/confluent/bin/kafka-mirror-maker.sh \
     --consumer.config /u01/oehpcs/confluent/etc/mirror-maker/ 
     sourceClusterConsumer.config \
     --producer.config /u01/oehpcs/confluent/etc/mirror-maker/ 
     targetClusterProducer.config \
     --num.streams 2 \
     --whitelist ".*" \
     --message.handler kafka.tools.OehcsTopicSuffixMirrorMakerHandler \
     --message.handler.args <destination topic suffix .e.g. replica> 
     > log-file-name.log 2&1 &
    ```

11. If you produce the message in the source topic on the source cluster, the message will be mirrored in the destination topic in the destination cluster.
General Messaging System

This chapter explains about General Messaging System (GMS). It covers the following sections:

Topics:

• About General Messaging System
• Components in GMS
• Creating Channels in Event Hub Console
• Creating Configuration in Event Hub Console
• Importing Configuration in Event Hub Console

About General Messaging System

General Messaging system (GMS) is an API that facilitates asynchronous messaging between various services.

General Messaging System (GMS) is enabled automatically if you choose to have Kafka Connect while creating a new Dedicated Cluster. This is an optional component. Refer to Creating a Custom Cluster section.

Components in GMS

There are various components in GMS that help the users understand and configure the elements to get desired execution.

GMS Application is deployed on Oracle Event Hub Cloud Service cluster and has both REST Proxy and Web User Interface. It is mainly for asynchronous web services for service orchestration between microservices. It is intended to be deployed as PaaS service in near future.

GMS request is the envelope for publisher's payload currently in JSON format with a well-defined schema.

GMS channel is a GMS entity which is associated with default GMS configurations. GMS channel provides a secure endpoint for a publisher to publish GMS events for asynchronous REST communication.

GMS configuration is the meta-data looked up by GMS in runtime to compose a GMS request and maintained on GMS repository by subscribers or publishers through GMS config REST resources and Web User Interface. Meta-data currently includes URI, Method, headers, authorization, routing, control parameters etc. Subscribers manage their GMS configuration to receive events from various publishers. Publishers manage GMS configuration to receive the response by GMS callback mechanism.
**GMS connection** is set of topics+connectors which are bootstrapped as part of cluster provisioning. It is an abstraction created for GMS clients to not worry about underlying infrastructure.

**Messaging Pattern Templates** are provided by GMS on Config UI for creating GMS configurations for asynchronous application integrations.

## Creating Channels in Event Hub Console

To create a channel, use the New Channel wizard in the Event Hub Console as described in the following procedure.

**Procedure**

To create a channel in Event Hub Console:

1. Open the Event Hub Console
2. Go to Channels tab.
3. Click **New Channel**.
   
   The Event Hub Console, create new channel page is displayed.
4. In the new channel page, provide the details and complete the section.
5. The following table provides the description of each element in the new channel creation page.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Name</td>
<td>Specify a Unique name for the Channel.</td>
</tr>
<tr>
<td>Configuration Name</td>
<td>Select a configuration for Channel Connectors.</td>
</tr>
</tbody>
</table>

6. Click **ok** to create a new channel.

## Creating Configuration in Event Hub Console

To create a Configuration, use the New Configuration wizard in the Event Hub Console as described in the following procedure.

**Procedure**

To create a Configuration in Event Hub Console:

1. Open the Event Hub Console
2. Go to Channels tab and go to Configurations sub-tab.
3. Click **New**.
   
   The Event Hub Console, create new Configuration page is displayed.
4. In the new Configuration page, provide the details and complete the section.
5. The following table provides the description of each element in the new Configuration creation page.
### Importing Configuration in Event Hub Console

To import a Configuration, use the Import Configuration wizard in the Event Hub Console as described in the following procedure.

**Procedure**

To import a Configuration in Event Hub Console:

1. Open the Event Hub Console
2. Go to Channels tab and go to Configurations sub-tab.
3. Click **Import**
   The Event Hub Console, import configuration page is displayed.
4. In the import configuration page, provide the details and complete the section.
5. The following table provides the description of each element in the import configuration page.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Name</td>
<td>Specify a Unique name for the Configuration.</td>
</tr>
<tr>
<td>Configuration Type</td>
<td>Select a configuration type from the drop down displayed.</td>
</tr>
<tr>
<td></td>
<td>- Request with no response</td>
</tr>
<tr>
<td></td>
<td>- Request with no response having token refresh</td>
</tr>
<tr>
<td></td>
<td>- Request with response to publisher</td>
</tr>
<tr>
<td></td>
<td>- Request with response to publisher having token refresh</td>
</tr>
<tr>
<td></td>
<td>- Request with response tracking</td>
</tr>
<tr>
<td>Configuration</td>
<td>Provide the JSON formatted configuration. A sample configuration is provided for reference.</td>
</tr>
</tbody>
</table>

6. Click **Import** to import the Configuration.
Managing Oracle Event Hub Cloud Service — Dedicated

This chapter describes tasks to manage the life cycle of the Oracle Event Hub Cloud Service — Dedicated service.

Topics

• Creating a Cluster by Using QuickStart Template
• Creating a Cluster with Stack Manager
• Creating a Custom Cluster
• Deleting a Cluster
• Restarting a Node
• Scaling a Cluster Out
• Scaling a Node Up/Down
• Stopping and Starting a Cluster
• Restarting and Soft Restarting a Cluster
• Viewing Activities for Clusters
• Viewing All Clusters
• Viewing Details for a Cluster

Creating a Cluster by Using QuickStart Template

QuickStart templates give you the fastest, easiest way to create an Oracle Event Hub Cloud Service — Dedicated Cluster.

Topics

• Creating a QuickStart Cluster
• Basic on OCI
• Basic
• Basic With REST Proxy
• Recommended
• Comparing QuickStart Templates
Creating a QuickStart Cluster

Use the QuickStart page to choose from one of the available Oracle Event Hub Cloud Service — Dedicated templates.

To create a Cluster:

1. Navigate to the Oracle Event Hub Cloud Service — Dedicated Console and click the QuickStarts link.
   Alternatively, from the My Services Dashboard click Create Instance. Within the Quick Start Services tab click the Create button for the Oracle Event Hub Cloud Service — Dedicated option.
   The QuickStarts page displays.

2. Enter an Instance Name for the Cluster.

3. Click the Create button below the template you want to provision:
   - Basic on OCI
   - Basic
   - Basic With REST Proxy
   - Recommended

4. Click the Download link. When prompted by your web browser, save this archive file to your local machine.
   The Create button is now enabled.

5. Click Create.
   The Stacks page displays. Your new cloud stack is <instanceName>QS.

6. Click the name of the stack.
   The Stack Details page displays.

7. Periodically refresh this page to monitor the progress of the new Oracle Event Hub Cloud Service — Dedicated Cluster and Oracle Event Hub Cloud Service Topic.

Click the name of your new Oracle Event Hub Cloud Service — Dedicated Cluster to view its details or perform management operations. To return to the Oracle Cloud Stack Manager console at a later time, click Navigation Icon at the top left corner of the page (next to the Oracle logo), and then choose Oracle Cloud Stack.

In order to delete this Oracle Event Hub Cloud Service — Dedicated Cluster, you must use Oracle Cloud Stack Manager. See Deleting a Cloud Stack in Using Oracle Cloud Stack Manager.

Basic on OCI

This Oracle Event Hub Cloud Service — Dedicated template comprises of a single ZooKeeper and broker node where you can produce and consume with native access only. Basic template comes with a Topic hosted on it. This cluster is hosted on Oracle Cloud Infrastructure (OCI).

When you execute this template, Oracle Cloud provisions an Oracle Event Hub Cloud Service — Dedicated Cluster as well as an Oracle Event Hub Cloud Service Topic.
This simple template implements a typical development or test environment, or a production environment for a basic application that doesn't require resources.

This template includes:

• A basic configuration Kafka Cluster with single ZooKeeper and Broker.
• A Topic on the Cluster with 2 partitions and 24 hours log retention period.
• Supports Produce and Consume via native access only.

You can scale up your Kafka node at a later time if your applications require more compute or storage capacity. See Scaling a Node Up/Down.

Basic

This Oracle Event Hub Cloud Service — Dedicated template comprises of a single ZooKeeper and broker node where you can produce and consume with native access only. Basic template comes with a Topic hosted on it.

When you execute this template, Oracle Cloud provisions an Oracle Event Hub Cloud Service — Dedicated Cluster as well as an Oracle Event Hub Cloud Service Topic. This simple template implements a typical development or test environment, or a production environment for a basic application that doesn't require resources.

This template includes:

• A basic configuration Kafka Cluster with single ZooKeeper and Broker.
• A Topic on the Cluster with 2 partitions and 24 hours log retention period.
• Supports Produce and Consume via native access only.

You can scale up your Kafka node at a later time if your applications require more compute or storage capacity. See Scaling a Node Up/Down.

Basic With REST Proxy

This Oracle Event Hub Cloud Service — Dedicated template comprises of a single ZooKeeper and broker nodes together with a REST Proxy node where you can produce and consume with native access or REST (OAuth 2.0) access. Comes with a Topic hosted on it.

When you execute this template, Oracle Cloud provisions an Oracle Event Hub Cloud Service — Dedicated Cluster as well as an Oracle Event Hub Cloud Service Topic. This simple template implements a typical development or test environment, or a production environment for a basic application that doesn't require heavy resources.

This template includes:

• A basic configuration Kafka Cluster with single ZooKeeper, Broker and REST Proxy nodes.
• A Topic on the Cluster with 2 partitions and 24 hours log retention period.
• Supports Produce and Consume via native access and REST (OAuth 2.0) access.

You can scale up your Kafka node and REST Proxy node at a later time if your applications require more compute or storage capacity. See Scaling a Node Up/Down.
Recommended

This Oracle Event Hub Cloud Service — Dedicated template comprises of 3 ZooKeeper and 5 broker nodes where you can produce and consume with native access or REST (OAuth 2.0) access. Recommended template comes with a Topic hosted on it.

When you execute this template, Oracle Cloud provisions an Oracle Event Hub Cloud Service — Dedicated Cluster as well as an Oracle Event Hub Cloud Service Topic. This template implements a high-performance, production-level environment that requires high availability.

This template includes:

- A recommended configuration Kafka cluster with 3 ZooKeeper and 5 Broker nodes.
- A Topic on the Cluster with 2 partitions and 24 hours log retention period.
- Supports Produce and Consume via native access and REST (OAuth 2.0) access.

You can scale up your Kafka, ZooKeeper, or REST Proxy nodes at a later time if your applications require more compute or storage capacity. See Scaling a Node Up/Down.

Comparing QuickStart Templates

Compare the attributes of each Oracle Event Hub Cloud Service — Dedicated QuickStart template, including the amount of cloud resources that each template consumes.

<table>
<thead>
<tr>
<th>Template</th>
<th>Basic on OCI</th>
<th>Basic with REST Proxy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Kafka Brokers</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Kafka Compute Shape</td>
<td>OC2m - 2.0 OCPU, 30.0GB RAM</td>
<td>OC2m - 2.0 OCPU, 30.0GB RAM</td>
</tr>
<tr>
<td>Usable Topic Storage</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Total Allocated Storage</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>REST Proxy Enabled</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Number of REST Proxy nodes</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>REST Proxy Compute Shape</td>
<td>OC1m - 1.0 OCPU, 15.0GB RAM</td>
<td>OC1m - 1.0 OCPU, 15.0GB RAM</td>
</tr>
<tr>
<td>Number of ZooKeeper nodes</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>ZooKeeper Compute Shape</td>
<td>OC1m - 1.0 OCPU, 15.0GB RAM</td>
<td>OC1m - 1.0 OCPU, 15.0GB RAM</td>
</tr>
</tbody>
</table>
Creating a Cluster with Stack Manager

Use Oracle Cloud Stack Manager to provision instances of both Oracle Event Hub Cloud Service and Oracle Big Data Cloud as a single operation.

Oracle Cloud Stack Manager is a component of Oracle Cloud that enables you to create multiple cloud resources as a single unit called a stack. You create, delete and manage these resources together as a unit, but you can also access, configure, and manage them through their service-specific interfaces. Stacks also define the dependencies between your stack resources, so that Oracle Cloud Stack Manager creates and destroys the resources in a logical sequence.

Stacks are created from templates. Oracle Cloud Stack Manager includes a certified Oracle stack template named **Oracle-OEHCS-BDCSCE-StackTemplate**. This template creates a stack that’s comprised of these resources:

- A cluster in Oracle Event Hub Cloud Service.
- A cluster in Oracle Big Data Cloud that is connected to the Oracle Event Hub Cloud Service cluster.
- A storage container in Oracle Cloud Infrastructure Object Storage Classic to support cloud backups for both the Oracle Event Hub Cloud Service and Oracle Big Data Cloud clusters.

Get Started

Create a stack using the **Oracle-OEHCS-BDCSCE-StackTemplate** template. Refer to these topics in *Using Oracle Cloud Stack Manager*:

- Accessing Oracle Cloud Stack Manager
- Creating a Cloud Stack

A video and a tutorial are also available.

**Video**

**Tutorial**

**Template Parameters**

In the **Oracle-OEHCS-BDCSCE-StackTemplate** template, the values of these input parameters can be customized for each stack creation:

- Event Hub compute shape, number of Kafka brokers, and usable topic storage
- Big Data Cloud compute shape, number of nodes, usable HDFS storage, and cluster user name
- SSH public key for VM administration
• Name of the Oracle Cloud Infrastructure Object Storage Classic container to create
• Oracle Cloud Infrastructure Object Storage Classic user name and password

Customize the Template

Export and update the Oracle-OEHCS-BDCSCE-StackTemplate template in order to customize your stack’s behavior. Modify the template’s name and contents, such as adding a template parameter or changing the parameters used to create the Oracle Event Hub Cloud Service instance. See:

• Exporting a Template in Using Oracle Cloud Stack Manager
• Creating a Template in Using Oracle Cloud Stack Manager
• REST API for Oracle Event Hub Cloud Service - Platform
• REST API to Manage Oracle Big Data Cloud

Creating a Custom Cluster

To create a custom cluster, use the Oracle Event Hub Cloud Service — Dedicated Create New Instance wizard as described in the following procedure.

Before You Begin

When you create a cluster, you may need to provide information about other resources:

• An SSH public/private key pair
  An SSH public key is used for authentication when you use an SSH client to connect to a node associated with the cluster. When you connect, you must provide the private key that matches the public key.
  You can have the wizard create a public/private key pair for you, or you can create one beforehand and upload or paste its private key value. If you want to create a key pair beforehand, you can use a standard SSH key generation tool.

Procedure

To create a cluster:

1. Open the Oracle Event Hub Cloud Service — Dedicated console. See Accessing the Oracle Event Hub Cloud Service Console.
2. Click Create Instance.
   The Oracle Event Hub Cloud Service — Dedicated Create New Instance wizard starts and the Instance page is displayed.
3. On the Instance page, provide the following basic service instance information.
### Element | Description
--- | ---
**Instance Name** | Specify a name for the cluster. Choose a name that is unique within the tenant domain that will be used to identify the new cluster. The name:
- Must contain one or more characters.
- Must not exceed 30 characters.
- Must start with an ASCII letter: a to z, or A to Z.
- Must contain only ASCII letters or numbers.
- Must not contain a hyphen.
- Must not contain any other special characters.
- Must be unique within the identity domain.

**Description** | (Optional) Enter a short description of the new cluster.

**Notification E-mail** | (Optional) Specify an E-mail address where you would like updates about the cluster creation operation to be sent.

**Region** | (Available only if your identity domain is enabled for regions.)
The region for the Cluster. If you choose a region that supports Oracle Cloud Infrastructure, the **Availability Domain** and **Subnet** fields are displayed, and the deployment will be created on Oracle Cloud Infrastructure. Otherwise, the deployment will be created on Oracle Cloud Infrastructure Classic.

Select region **us-seattle-1, us-phoenix-1 or us-ashburn-1** for Oracle Cloud Infrastructure. If you select any other region, the cluster will be created in Oracle Cloud Infrastructure Classic.

Choose No Preference to let the Oracle Event Hub Cloud Service — Dedicated choose an Oracle Cloud Infrastructure Classic region for you.
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability Domain</td>
<td>(Available only on Oracle Cloud Infrastructure)</td>
</tr>
</tbody>
</table>
|                      | Select the availability domains. You can also use **Multiple Availability Domains** based on requirement. You need to select multiple availability domains using the multi-checkbox input present there. A region can have multiple isolated availability domains, each with separate power and cooling. The availability domains within a region are interconnected using a low-latency network. **Oracle Event Hub Cloud Service - Dedicated** provides **HA (High Availability)** by providing the ability to have Kafka Brokers, Zookeepers, REST Proxy, and Connect across multiple availability domains. You can select the multiple availability domains at the time of provisioning to leverage this High Availability feature. When the cluster is created, each node of Kafka, Zookeeper, REST Proxy, and Connect are placed evenly across the selected availability domains. For example, if you have selected 3 availability domains, and if you select a 3 node REST proxy, then each REST Proxy node is placed in separate availability domains. It is recommended to choose the number of nodes of Kafka, Zookeeper, REST Proxy, and Connect as multiple of number of availability domains selected so that services are evenly placed across availability domains. The service to availability domain placement is done in round robin allocation. When a topic is created on a cluster with replication factor >1, then Kafka’s Broker Rack Awareness feature ensures that the topic leader and its replica partitions are created on brokers across the availability domains. As a result, in case of one availability domain failure, the other availability domains are still available and user can continue to use the topic from other availability domains as long as replication factor is > 1.
**Element** | **Description**
--- | ---
**Subnet** | (Available only on Oracle Cloud Infrastructure) Select the Oracle Cloud Infrastructure subnet to which the nodes of your instance must be attached. Select the subnet from a virtual cloud network (VCN) that you had created previously in Oracle Cloud Infrastructure. See Prerequisites for Oracle Platform Services on Oracle Cloud Infrastructure in the Oracle Cloud Infrastructure documentation. 
This field provides a No Preference option and a list of the available subnets. The **Subnet** menu lists the available subnets in the form `compartmentName | vcnName | subnetName`. For each selection on the menu, a tooltip details the compartment name, VCN name, subnet name, and subnet ID.
- To have the subnet assigned automatically, select No Preference. The subnet `ManagedCompartmentForPaaS | svc-vcn | svc-subnet-...` is used for your instance.
- To assign a subnet explicitly, select a suitable subnet from the available options. Don't select `ManagedCompartmentForPaaS | svc-vcn | lb-subnet-...` even if it is displayed.
- If none of the available subnets meets your networking requirements, then cancel the Create Instance wizard. 
In Oracle Cloud Infrastructure, create the required VCN and subnets, create policies to allow Oracle Event Hub Cloud Service — Dedicated clusters to use the VCN, and select the appropriate subnet while creating your instance. See Prerequisites for Oracle Platform Services on Oracle Cloud Infrastructure in the Oracle Cloud Infrastructure documentation.
In case, you choose multiple Availability Domain, then you need to select the subnet separately for each Availability domain that you selected.

**Tags** | (Optional) Select existing tags or add tags to associate with the cluster. 
To select existing tags, select one or more check boxes from the list of tags that are displayed on the pull-down menu. 
To create tags, click **Click to create a tag** to display the **Create Tags** dialog box. In the **New Tags** field, enter one or more comma-separated tags that can be a key or a key:value pair. 
If you do not assign tags during provisioning, you can create and manage tags after the service instance is created. See Creating, Assigning, and Unassigning Tags.

**Software Release** | Select a Kafka Release for creating this cluster. This software release version controls the features provided by the service.
Below are the currently available software releases.
- Kafka Release 2.0.x
- Kafka Release 1.1.x
- Kafka Release 0.10.2.x

4. On the Service Details page, provide additional configuration parameters for Oracle Event Hub Cloud Service - Dedicated. Complete the **Configuration** section.
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| Deployment Type                 | Type of deployment for the service. There are two types:  
|                                 | a. **Basic** deployment runs Kafka broker and Zookeeper on same node(s). Choose this configuration if you need a minimal cluster footprint. This is typical for development/test clusters.  
|                                 | b. **Recommended** deployment runs Kafka brokers and Zookeeper on different nodes. When you choose this type, the Zookeeper section also loads. Choose this configuration if you need high availability. This is the recommended configuration for production clusters. You can scale out to add dedicated Kafka brokers in both cases. For high availability, minimum of 3 Zookeeper and 2 Kafka broker nodes are recommended. |
| SSH Public Key                  | The SSH public key to be used for authentication when using an SSH client to connect to a node associated with your cluster.  
|                                 | Click **Edit** to specify the public key. You can upload a file containing the public key value, paste in the value of a public key, or have the wizard generate a key pair for you.  
|                                 | If you paste in the value, make sure the value does not contain line breaks or end with a line break.  
|                                 | If you have the wizard generate a key pair for you, make sure you download the zip file containing the keys that the wizard generated.                                                                                                                                                                                                                                                                            |
| Enable authentication with Oracle Identity Cloud Service | Select to authenticate Oracle Event Hub Cloud Service requests against Oracle Identity Cloud Service. Enabling this option also creates an Oracle managed load balancer for the service and topic instances. If not selected, you need to authenticate using the basic authentication. |

5. On the Service Details page, complete the **Kafka** section.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Nodes/Brokers</td>
<td>Number of Kafka brokers to be allocated to the cluster. You can choose 1 or 3 nodes for Basic deployment type. The 3 node configuration provides high availability by running 1 Zookeepers and 2 Kafka brokers. You can scale out additional dedicated Kafka VMs as needed. For the Recommended deployment type, the number of Kafka brokers must be at least 2 and not more than 20.</td>
</tr>
<tr>
<td>Compute Shape</td>
<td>Number of Oracle Compute Units (OCPUs) and amount of memory (RAM) for each node of the new cluster. The compute shape is the number of Oracle Compute Units (OCPUs) and amount of memory (RAM) that you want to allocate to these nodes. The VM.Standard and BM.Standard shapes are supported. For complete list of Compute Shapes, see <strong>Service Limits — Oracle Event Hub Cloud Service — Dedicated</strong>.</td>
</tr>
<tr>
<td>Usable Topic Storage (GB)</td>
<td>Amount of topic storage to be allocated to the cluster.</td>
</tr>
</tbody>
</table>
### Total Allocated Storage (GB)
Total allocated storage for the cluster. You are billed for this amount. This is determined based on the Usable Topic Storage specified by the user. Actual allocated physical storage will be twice the value specified in Usable Topic Storage as topic data is replicated.

### Network Type
(Available only on Oracle Cloud Infrastructure)
The network type decides how the Kafka listeners are configured whether using public IP or private host names. You can choose between **Public** or **Private** (default) network.

6. On the Service Details page, complete the **Credentials** section. This section is displayed only when **Enable authentication with Oracle Identity Cloud Service** is not selected.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| User Name          | User name to authenticate requests to Topic URL and/or Connect URL. The User Name:  
  • Must be between 2 to 25 characters.  
  • Must start with a letter.  
  • Must contain only letters or numbers. |
| Password           | User password to authenticate requests to Topic URL and/or Connect URL. The Password:  
  • Must be at least 8 characters.  
  • Must have at least one lower case letter.  
  • Must have at least one upper case letter.  
  • Must have at least one number.  
  • Must have at least one special character. |
| Confirm Password   | Enter the password again to confirm. |

7. On the Service Details page, complete the **REST Proxy** section.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Nodes</td>
<td>Number of REST Proxy nodes. Running multiple REST proxy servers ensures high availability. Recommended number for REST proxy nodes is 2. You can choose between 1, 2, 3, and 4.</td>
</tr>
</tbody>
</table>
| Compute Shape      | Number of Oracle Compute Units (OCPUs) and amount of memory (RAM) to be used for REST proxy servers. The compute shape is the number of Oracle Compute Units (OCPUs) and amount of memory (RAM) that you want to allocate to these REST proxy servers. The VM.Standard and BM.Standard shapes are supported.  
  For complete list of Compute Shapes, see **Service Limits — Oracle Event Hub Cloud Service — Dedicated.** |

8. On the Service Details page, complete the **Zookeeper** section. This is displayed only when the Deployment Type is selected as Basic.
9. On the Service Details page, complete the **Kafka Connect** section.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable Kafka Connect</td>
<td>Enabling Kafka Connect creates the Kafka Connect Service.</td>
</tr>
<tr>
<td>Number of Connect Nodes</td>
<td>Number of Kafka Connect nodes. You can choose between 1, 2, 3, and 4.</td>
</tr>
<tr>
<td>Compute Shape</td>
<td>Several OCPU/RAM combinations are offered. Number of Oracle Compute Units (OCPUs) and amount of memory (RAM) to be used for Kafka Connect nodes. The compute shape is the number of Oracle Compute Units (OCPUs) and amount of memory (RAM) that you want to allocate to these Kafka Connect nodes. The VM.Standard and BM.Standard shapes are supported. For complete list of Compute Shapes, see Service Limits — Oracle Event Hub Cloud Service — Dedicated.</td>
</tr>
</tbody>
</table>

10. Click **Next** to advance to the Confirmation page.

11. On the Confirmation page, review the information listed.

**Download the Instance Attributes in JSON Format:** Click 🔄 to download a JSON-format file containing the parameters you specified in the provisioning wizard. You can use the JSON-formatted file as a sample to construct the request body for creating instances using the REST API. Note that the file contains placeholders for passwords.

If you're satisfied with what you see, click **Create** to create the Oracle Event Hub Cloud Service — Dedicated cluster.

If you need to change something, click **Previous** at the top of the wizard to step back through the pages, or click **Cancel** to cancel out of the wizard without creating a new cluster.

---

**Deleting a Cluster**

Administrators can delete (terminate) a Cluster when it's no longer needed.

To delete a Cluster:

1. Open the Oracle Event Hub Cloud Service — Dedicated console. See **Accessing the Oracle Event Hub Cloud Service Console**.
2. From the menu for the Cluster, select **Delete**, and then confirm the action. The entry is removed from the list of clusters displayed in the console.

### Restarting a Node

Administrators can restart nodes.

To restart a node:

1. Open the Oracle Event Hub Cloud Service — Dedicated console.
2. Click the name of the Cluster containing the node you want to restart.
   
   The Service Overview page with Cluster details is displayed. The nodes are listed under Resources.
3. From the menu for the node, select **Restart** and confirm the desired action.

### Scaling a Cluster Out

Administrators can scale out a Cluster by adding new Kafka brokers.

To scale out a Cluster:

1. Open the Oracle Event Hub Cloud Service — Dedicated console.
2. Click the name of the Cluster you want to scale out.
   
   The Service Overview page with Cluster details is displayed.
3. From the menu for the Cluster at the top of the page, select **Scale Out**.
   
   The Scale Out window is displayed.
4. Scale out the Cluster as desired:
   
   - **Number of New Kafka Brokers:** Number of Kafka brokers you want to add, between 1 and 10.
   - **Number of New REST Proxy Nodes:** Number of REST Proxy Nodes you want to add.
5. Click **Scale Out**.

   Nodes are added and the updated values are displayed in the Service Overview page.

### Scaling a Node Up/Down

You can scale a node up or down by modifying the compute shape. The node can be of Kafka, Kafka Connect or REST Proxy.

To scale a node out:

1. Open the Oracle Event Hub Cloud Service — Dedicated console.
2. Click the name of the Cluster, whose node you want to scale up/down. The Service Overview page with Cluster details is displayed.

3. From the menu for the resources node, select **Scale Up/Down**. You could choose any of Kafka, Kafka Connect or REST Proxy nodes. The Scale Up/Down overlay is displayed.

4. Scale Up/Down the node as desired:
   - **Compute Shape**: The compute shape to use for the servers. Choose from the available compute shapes.

5. Click **Yes, Scale Up/Down VM**. Nodes are updated with the new compute shape and the updated values are displayed in the Service Overview page.

### Stopping and Starting a Cluster

Administrators can stop, and start a cluster from the Oracle Event Hub Cloud Service — Dedicated console.

To stop or start a Cluster:

1. Open the Oracle Event Hub Cloud Service — Dedicated console. See [Accessing the Oracle Event Hub Cloud Service Console](#).

2. From the menu for the Cluster, select and confirm the desired action.
   - **Stop**: When you stop a Cluster, you can't access the Cluster and you can't perform management operations on it except to start the Cluster or delete it. Stopping a Cluster is like pausing it.
   - **Start**: When you start a Cluster, you can access it again and perform management operations.
   - **Restart**: When you restart a Cluster, the Cluster is stopped and then immediately started again. Thus, the information about what happens when stopping and starting a Cluster applies to restarting a Cluster as well, just in immediate succession.

### Restarting and Soft Restarting a Cluster

Administrators can restart or soft restart a cluster from the Oracle Event Hub Cloud Service — Dedicated console.

To soft restart or restart a Cluster:

1. Open the Oracle Event Hub Cloud Service — Dedicated console. See [Accessing the Oracle Event Hub Cloud Service Console](#).

2. From the menu for the Cluster to be restarted, select restart.
3. A pop up window for restart appears.
4. **Restart**: To perform full restart, select the **Perform VM Restart** check box. This will restart all the servers and VMs that are present in the selected cluster.
5. **Soft Restart**: To perform soft restart, don’t select the **Perform VM Restart** check box. This will restart only the servers. The VMs will not be restarted. This will save huge amount of time required for a VM to restart.

### Viewing Activities for Clusters

Administrators can view activities for Clusters from the Oracle Event Hub Cloud Service — Dedicated Activity page.

To view activities for Clusters:
1. Open the Oracle Event Hub Cloud Service — Dedicated console. See **Accessing the Oracle Event Hub Cloud Service Console**.
2. Click **Activity**.
   The Activity page is displayed, showing the list of all activities started within the past 24 hours. You can use the Start Time Range field to specify a start time range other than the default of the previous 24 hours. For information about the details on this page, see **Oracle Event Hub Cloud Service — Dedicated: Activity Page**.
3. Use the options in the Search Activity Log section to filter the results to meet your needs. You can search on start time range, full or partial service name, activity status, and operation type. Click **Search**. View the results in the table that follows.

### Viewing All Clusters

Administrators can view all Cluster associated with Oracle Event Hub Cloud Service — Dedicated.

To view all Clusters:
1. Open the Oracle Event Hub Cloud Service — Dedicated console. See **Accessing the Oracle Event Hub Cloud Service Console**.
   The Oracle Event Hub Cloud Service — Dedicated console opens on the Instances page, showing a list of all Clusters. For information about the details on the page, see **Oracle Event Hub Cloud Service — Dedicated: Instances Page**.

### Viewing Details for a Cluster

Administrator can view detailed information for a Cluster from the Oracle Event Hub Cloud Service — Dedicated Service Overview page.

To view details for a Cluster:
1. Open the Oracle Event Hub Cloud Service — Dedicated console. See **Accessing the Oracle Event Hub Cloud Service Console**.
2. Click the name of the Cluster for which you want to view more information.
An Service Overview page with Oracle Event Hub Cloud Service — Dedicated details is displayed. For information about the details on this page, see Oracle Event Hub Cloud Service — Dedicated: Instance Overview Page.
Managing Oracle Event Hub Cloud Service

This section describes tasks to manage the life cycle of the Oracle Event Hub Cloud Service service.

Topics

• Creating a Topic
• Deleting a Topic
• Editing a Topic
• Producing to and Consuming from a Topic
• Scaling a Topic
• Viewing Activities for Topics
• Viewing All Topics
• Viewing Details for a Topic
• Viewing Event Hub Console for a Topic

Creating a Topic

To create a topic, use the Oracle Event Hub Cloud Service Create New Instance wizard as described in the following procedure.

Before You Begin

When you create a topic, you may need to provide information about the Oracle Event Hub Cloud Service — Dedicated cluster.

Procedure

To create a topic:

1. Open the Oracle Event Hub Cloud Service console.
2. Click Create Instance.
   The Oracle Event Hub Cloud Service Create New Instance wizard starts and the Instance page is displayed.
3. In the Instance page, provide the basic service instance information. Complete the Details section.
**Instance Name**

Specify a name for the Topic. Choose a name that is unique within the tenant domain that will be used to identify the new Topic. The name:

- Must contain one or more characters.
- Must not exceed 30 characters.
- Must start with an ASCII letter: a to z , or A to Z.
- Must contain only ASCII letters or numbers.
- Must not contain a hyphen.
- Must not contain any other special characters.
- Must be unique within the identity domain.

**Description**

(Optional) Enter a short description for the new topic.

**Notification Email**

(Optional) Specify an E-mail address where you would like updates about the topic creation operation to be sent.

**Hosted On**

Select the Oracle Event Hub Cloud Service — Dedicated cluster from the drop down to host this topic on your cluster.

**Tags**

(Optional) Select existing tags or add tags to associate with the cluster.

To select existing tags, select one or more check boxes from the list of tags that are displayed on the pull-down menu.

To create tags, click **Click to create a tag** to display the Create Tags dialog box. In the New Tags field, enter one or more comma-separated tags that can be a key or a key:value pair.

If you do not assign tags during provisioning, you can create and manage tags after the service instance is created. See Creating, Assigning, and Unassigning Tags

4. In the Instance page, complete the **Topic** section.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Partitions</strong></td>
<td>Number of partitions to be created in the topic. Minimum 1 and Maximum 256.</td>
</tr>
<tr>
<td><strong>Retention Period (Hours)</strong></td>
<td>The duration (in hours) for which logs in the topic should be retained. Minimum 1 and Maximum 336 hours i.e. 14 days.</td>
</tr>
<tr>
<td><strong>Log Cleanup Policy</strong></td>
<td>Specify the cleanup policy for logs. You can choose between Delete and Compact. Delete policy deletes the log after retention period. Compact policy ensures that Kafka will always retain at least the last known value for each message key within the log of data for a single topic partition. Use Compact only with messages that specify keys.</td>
</tr>
</tbody>
</table>

5. Click **Next** to advance to the Confirmation page.

6. On the Confirmation page, review the information listed.
Download the Instance Attributes in JSON Format: Click to download a JSON-format file containing the parameters you specified in the provisioning wizard. You can use the JSON-formatted file as a sample to construct the request body for creating instances using the REST API. Note that the file contains placeholders for passwords.

If you're satisfied with the information that you see, click Create to create the Oracle Event Hub Cloud Service topic.

If you need to change something, click Previous at the top of the wizard to step back through the pages, or click Cancel to cancel out of the wizard without creating a new topic.

Deleting a Topic

Users can delete (terminate) a Topic when it’s no longer needed.

To delete a Topic:
1. Open the Oracle Event Hub Cloud Service console.
2. From the menu for the Topic, select Delete, and then confirm the action. The entry is removed from the list of Topics displayed in the console.

Editing a Topic

Users can edit a Topic by modifying the retention period.

To edit a Topic:
1. Open the Oracle Event Hub Cloud Service console.
2. From the menu for the Topic you want to edit, select Edit.
   The Edit window is displayed.
3. Edit the Topic as desired:
   • Retention Period (Hours): The duration (in hours) for which logs in the Topic should be retained. Minimum 1 hour and maximum 336 hours.
4. Click Ok.
   Retention Period is updated and the values can be viewed in the Service Overview page.

Producing to and Consuming from a Topic

The Producer API allows applications to send streams of data to topics in the cluster. The Consumer API allows applications to read streams of data from topics in the
Scaling a Topic

Users can scale an Oracle Event Hub Cloud Service instance by adding partitions.

To scale an instance:

1. Open the Oracle Event Hub Cloud Service console.
2. From the menu for the Topic you want to scale, select Scale Instance.
   
   The Scale Instance window is displayed.
3. Scale the Topic as desired:
   
   • **Number of additional partitions**: Number of additional partitions. Total number of partitions cannot exceed 16.
4. Click Scale Instance.

Nodes are added and the updated values are displayed in the Service Overview page.

Viewing Activities for Topics

Users can view activities for Topic from the Activities page.

To view activities for Topics:

1. Open the Oracle Event Hub Cloud Service console. See Accessing the Oracle Event Hub Cloud Service Console.
2. Click Activity.
   
   The Activity page is displayed, showing the list of all activities started within the past 24 hours. You can use the Start Time Range field to specify a start time range other than the default of the previous 24 hours. For information about the details on this page, see Oracle Event Hub Cloud Service: Activity Page.
3. Use the options in the Search Activity Log section to filter the results to meet your needs. You can search on start time range, full or partial service name, activity status, and operation type. Click Search. View the results in the table that follows.

Viewing All Topics

Users can view all Topics associated with Oracle Event Hub Cloud Service.

To view all Topics:

1. Open the Oracle Event Hub Cloud Service console.
   
   The Oracle Event Hub Cloud Service console opens on the Services page, showing a list of all Topics. For information about the details on the page, see Oracle Event Hub Cloud Service: Instances Page.
## Viewing Details for a Topic

Users can view detailed information for a Topic from the Instances page.

To view details for a Topic:

1. Open the Oracle Event Hub Cloud Service console and go the Instances page.
2. Click the name of the instance for which you want to view more information.

A pop-up page with more information about the instance is displayed.

Description of each element in the More Information section of the topic details.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>This field denotes the name of the Topic. Note that the name of Oracle Event Hub Cloud Service instance is not same as the name of the Topic.</td>
</tr>
<tr>
<td>Retention Period</td>
<td>The duration (in hours) for which logs in this topic is retained.</td>
</tr>
<tr>
<td>Partitions</td>
<td>Number of partitions that is created for this topic.</td>
</tr>
<tr>
<td>Log Cleanup Policy</td>
<td>Log cleanup policy for this topic.</td>
</tr>
<tr>
<td>Subscription Id</td>
<td>Identification number for the subscription to this service. Refer to the Subscription ID whenever you contact Oracle about making changes to the subscription.</td>
</tr>
<tr>
<td>IDCS App ID</td>
<td>Link to the IDCS App for the current topic.</td>
</tr>
<tr>
<td>Topic URL</td>
<td>The REST Proxy URL that can be used to produce and consume from the topic using REST API.</td>
</tr>
<tr>
<td>Connect URL</td>
<td>The URL that can be used for Kafka Connect operations using REST API.</td>
</tr>
<tr>
<td>Created On</td>
<td>Date on which this topic is created.</td>
</tr>
</tbody>
</table>

## Viewing Event Hub Console for a Topic

Users can view metric and connector information for a Topic from the Event Hub Console.

To view the Event Hub Console:

1. Open the Oracle Event Hub Cloud Service Console and go the Instances page.
2. From the menu for any of the Topic, select Event Hub Console.
3. Event Hub Console opens and asks for credentials.
   - For IDCS: Provide the IDCS username and password to login into Event Hub Console.
• For Non-IDCS: Provide the username and password that you entered during Cluster creation.
Managing Event Hub Console

Event Hub Console provides metrics for the Topics and it offers Connector UI using which you can manage a connector.

This section describes tasks to manage various features in Event Hub Console.

Topics

- Accessing the Event Hub Console
- Managing Topics using Event Hub Console
  - Creating a Topic in Event Hub Console
  - Viewing Details of a Topic in Event Hub Console
  - Editing a Topic in Event Hub Console
  - Deleting a Topic in Event Hub Console
  - Viewing Metrics for a Topic in Event Hub Console
- Event Hub Console: Monitoring Tab
- Credential Store
- Managing Connectors
  - Viewing Connectors for a Topic
  - Creating Source Connector
    * Creating JDBC Source Connector
    * Creating File Source Connector
  - Creating Sink Connector
    * Creating JDBC Sink Connector
    * Creating Web Service Sink Connector
    * Creating Oracle Cloud Storage Sink Connector
    * Creating Oracle Cloud Storage Classic Sink Connector
    * Creating File Sink Connector
  - Editing the Connector Config
  - Viewing Details for a Task
  - Deleting a Connector

Accessing the Event Hub Console

Oracle Event Hub Cloud Service can be accessed through a web-based console.

To access the console:
1. Open the Oracle Event Hub Cloud Service Console.

2. From the menu for any of the Topic, select **Event Hub Console**.

3. **Event Hub Console** opens and asks for credentials.
   - For IDCS: Provide the IDCS username and password to login into Event Hub Console.
   - For Non-IDCS: Provide the username and password that you entered during Cluster creation. See Creating a Custom Cluster

### Managing Topics using Event Hub Console

This section describes tasks to manage the life cycle of Topics using Event Hub Console

**Topics**

- Creating a Topic in Event Hub Console
- Viewing Details of a Topic in Event Hub Console
- Editing a Topic in Event Hub Console
- Deleting a Topic in Event Hub Console
- Viewing Metrics for a Topic in Event Hub Console

### Creating a Topic in Event Hub Console

To create a topic, use the New Topic wizard in the Event Hub Console as described in the following procedure.

**Procedure**

To create a topic in Event Hub Console:

1. Open the Event Hub Console

2. Got to Topics tab.

3. Click **New Topic**
   - The Event Hub Console, Create New Topic page is displayed.

4. In the New Topic page, provide the basic service instance information and complete the section.

5. The following table provides the description of each element in the New Topic creation page.
Element | Description
--- | ---
Topic Name | Specify a name for the Topic. Choose a name that is unique within the tenant domain that will be used to identify the new Topic. The name:
- Must contain one or more characters.
- Must not exceed 30 characters.
- Must start with an ASCII letter: a to z, or A to Z.
- Must contain only ASCII letters or numbers.
- Must not contain a hyphen.
- Must not contain any other special characters.
- Must be unique within the identity domain.
Partitions | Number of partitions to be created in the topic. Minimum 1 and Maximum 256.
Replication Factor | Number of replications that should be created for the Topic.
Log Cleanup Policy | Specify the cleanup policy for logs. You can choose between Delete and Compact. Delete policy deletes the log after retention period. Compact policy ensures that Kafka will always retain at least the last known value for each message key within the log of data for a single topic partition. Use Compact only with messages that specify keys.
Retention Period (Hours) | The duration (in hours) for which logs in the topic should be retained. Minimum 1 and Maximum 336 hours i.e. 14 days.

6. Click **ok** to create a new topic.

### Viewing Details of a Topic in Event Hub Console

You can view the detailed information for a Topic from the Event Hub Console.

To view details for a topic in Event Hub Console:

1. Open the Event Hub Console.
2. Go to Topics tab.
3. From the menu for the Topic you want to edit, select **View**.
   The View pop up page is displayed with the Topic name as the title.
4. The following table provides the description of each element in the View page.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partitions</td>
<td>Number of partitions that is created for this topic.</td>
</tr>
</tbody>
</table>
5. Click **Close** to dismiss the View page.

### Editing a Topic in Event Hub Console

You can edit the topic based on your requirement.

To edit a topic in Event Hub Console:

1. Open the Event Hub Console
2. Go to Topics tab.
3. From the menu for the Topic you want to edit, select **Edit**.
   
   The Edit window is displayed.
4. Edit the Topic as desired:
5. The following table provides the description of each element in the Edit Topic page.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replication Factor</td>
<td>Number of replications that is created for this Topic.</td>
</tr>
<tr>
<td>Log Cleanup Policy</td>
<td>Log cleanup policy for this topic.</td>
</tr>
<tr>
<td>Retention Period (Hours)</td>
<td>The duration (in hours) for which logs in this topic is retained.</td>
</tr>
<tr>
<td>Topic URL</td>
<td>Direct URL to the current Topic. You can copy the URL using the icon displayed at the end of the URL.</td>
</tr>
</tbody>
</table>

6. Click **ok** to save the changes.

### Deleting a Topic in Event Hub Console

You can delete the topic when its no longer needed.

To delete a topic in Event Hub Console:

1. Open the Event Hub Console
2. Go to Topics tab.
3. From the menu for the Topic you want to delete, select **Delete**.
4. In the Delete Confirmation dialog box, Click **Yes** to delete the topic.
Viewing Metrics for a Topic in Event Hub Console

You can view the metrics for the topic in Event Hub Console.

To View metrics for a topic in Event Hub Console:

1. Open the Event Hub Console.
2. Go to Topics tab.
3. From the menu for the Topic you want to edit, select Metrics.

The Metrics page is displayed. See Event Hub Console: Monitoring Tab

Event Hub Console: Monitoring Tab

The Monitoring tab displays information for all Topic.

Topics

• What You See on the Monitoring tab

What You See on the Monitoring tab

To view as charts, you can click on the menu displayed in the top right corner in each of the metrics.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instance Summary</td>
<td>Displays the summary of the Topic with the following details.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Brokers</strong> — Specifies the number of brokers.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Under Replicated Partitions</strong> — Specifies the number of partitions that</td>
</tr>
<tr>
<td></td>
<td>has at least one out of sync replicas.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Offline Partitions</strong> — Specifies the number of partitions that are</td>
</tr>
<tr>
<td></td>
<td>offline.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Active Controllers</strong> — Specifies the number of controllers that are</td>
</tr>
<tr>
<td></td>
<td>active.</td>
</tr>
<tr>
<td>Brokers</td>
<td>Displays the details of the brokers in the Topic.</td>
</tr>
<tr>
<td></td>
<td>• Id — Id of the broker.</td>
</tr>
<tr>
<td></td>
<td>• Host — Name of the host where the broker is present.</td>
</tr>
<tr>
<td></td>
<td>• Status — Current status of the broker. Green indicates the broker is up</td>
</tr>
<tr>
<td></td>
<td>and running.</td>
</tr>
<tr>
<td></td>
<td>• Partitions — Total number of partitions in the broker.</td>
</tr>
<tr>
<td>Element</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| Throughput  | Displays the number of bytes that goes in and out of the Topic.  
  • Bytes In — Total number of Bytes produced to the Topic per second.  
    – 1 min — Total number of Bytes produced in the last one minute.  
    – 5min — Total number of Bytes produced in the last 5 minutes.  
    – 15 min — Total number of Bytes produced in the last one minutes.  
    – mean — Aggregate of Byte rate produced.  
  • Bytes Out — Total numbers of Bytes consumed from the Topic per second.  
    – 1 min — Total number of Bytes consumed in the last one minute.  
    – 5min — Total number of Bytes consumed in the last 5 minutes.  
    – 15 min — Total number of Bytes consumed in the last one minutes.  
    – mean — Aggregate of Byte rate consumed. |
| Messages In | Displays the number of messages in to the Topic.  
  • Total — Total number of messages in.  
    – 1 min — Total number of messages in in the last one minute.  
    – 5min — Total number of messages in in the last 5 minutes.  
    – 15 min — Total number of messages in in the last one minutes.  
    – mean — Aggregate of messages in. |
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| Produce Requests | Displays the number of produce requests to the Topic.  
  • Total — Total number of Produce requests to the Topic.  
    – 1 min — Total number of Produce requests in the last one minute.  
    – 5min — Total number of Produce requests in the last 5 minutes.  
    – 15 min — Total number of Produce requests in the last one minutes.  
    – mean — Aggregate of Produce requests.  
  • Failed — Total numbers of Produce requests to the Topic that failed.  
    – 1 min — Total number of Produce requests failed in the last one minute.  
    – 5min — Total number of Produce requests failed in the last 5 minutes.  
    – 15 min — Total number of Produce requests failed in the last one minutes.  
    – mean — Aggregate of Produce requests failed. |
| Fetch Requests | Displays the number of fetch requests from the Topic.  
  • Total — Total number of fetch requests from the Topic.  
    – 1 min — Total number of fetch requests in the last one minute.  
    – 5min — Total number of fetch requests in the last 5 minutes.  
    – 15 min — Total number of fetch requests in the last one minutes.  
    – mean — Aggregate of fetch requests.  
  • Failed — Total numbers of fetch requests to the Topic that failed.  
    – 1 min — Total number of fetch requests failed in the last one minute.  
    – 5min — Total number of fetch requests failed in the last 5 minutes.  
    – 15 min — Total number of fetch requests failed in the last one minutes.  
    – mean — Aggregate of fetch requests failed. |
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follower Fetch Requests</td>
<td>Displays the number of follower fetch requests from the Topic.</td>
</tr>
<tr>
<td></td>
<td>• Total — Total number of follower fetch requests from the Topic.</td>
</tr>
<tr>
<td></td>
<td>• 1 min — Total number of follower fetch requests in the last one minute.</td>
</tr>
<tr>
<td></td>
<td>• 5min — Total number of follower fetch requests in the last 5 minutes.</td>
</tr>
<tr>
<td></td>
<td>• 15min — Total number of follower fetch requests in the last one minutes.</td>
</tr>
<tr>
<td></td>
<td>• mean — Aggregate of follower fetch requests.</td>
</tr>
<tr>
<td></td>
<td>• Failed — Total numbers of follower fetch requests to the Topic that failed.</td>
</tr>
<tr>
<td></td>
<td>• 1 min — Total number of follower fetch requests failed in the last one minute.</td>
</tr>
<tr>
<td></td>
<td>• 5min — Total number of follower fetch requests failed in the last 5 minutes.</td>
</tr>
<tr>
<td></td>
<td>• 15min — Total number of follower fetch requests failed in the last one minutes.</td>
</tr>
<tr>
<td></td>
<td>• mean — Aggregate of follower fetch requests failed.</td>
</tr>
<tr>
<td>In-Sync replicas (ISRs)</td>
<td>Displays the number of in-sync replicas from the Topic.</td>
</tr>
<tr>
<td></td>
<td>• ISRs Expands — Total number of in-sync replicas during expands from the Topic.</td>
</tr>
<tr>
<td></td>
<td>• 1 min — Total number of in-sync replicas in the last one minute.</td>
</tr>
<tr>
<td></td>
<td>• 5min — Total number of in-sync replicas in the last 5 minutes.</td>
</tr>
<tr>
<td></td>
<td>• 15min — Total number of in-sync replicas in the last one minutes.</td>
</tr>
<tr>
<td></td>
<td>• mean — Aggregate of in-sync replicas.</td>
</tr>
<tr>
<td></td>
<td>• ISRs Shrinks — Total numbers of in-sync replicas during shrinks from the Topic.</td>
</tr>
<tr>
<td></td>
<td>• 1 min — Total number of in-sync replicas in the last one minute.</td>
</tr>
<tr>
<td></td>
<td>• 5min — Total number of in-sync replicas in the last 5 minutes.</td>
</tr>
<tr>
<td></td>
<td>• 15min — Total number of in-sync replicas in the last one minutes.</td>
</tr>
<tr>
<td></td>
<td>• mean — Aggregate of in-sync replicas.</td>
</tr>
</tbody>
</table>

**Credential Store**

Credential store is a key value pair repository of credentials used to access external systems.
Credential store helps to secure your password. Using this credential store, you assign a key to your actual password. Once assigned, you can share the key to others or embed the key in programs and configuration files. By using this credential store, you can keep your actual password secret while sharing the key to others. Also when there is a change in your password, you can just update the credential store with new password leaving the key unaltered.

Viewing Credential Store

To view the credential store for a cluster:

1. Open the Oracle Event Hub Cloud Service - Dedicated console.
2. From the menu of the cluster for which you want to view the credential store information, select Event Hub Console.
3. A new window opens. If you are using IDCS for authentication, provide your IDCS credentials. Else if you are not using IDCS, provide the credentials that you entered while creating the Oracle Event Hub Cloud Service - Dedicated cluster.
4. The Event Hub Console opens. Select the Settings tab to see the Credential Store section.

Creating a new Credential

The Credential store persists the details you provide as key-value pair. To create a new credential key-value pair:

1. Go to the Credential Store section in the Settings tab in the Event Hub Console page.
2. Click New.
3. An popup window New Entry opens up with two input fields, Key and Credential.
4. Provide a key name of your choice in the Key field.
5. Provide the actual password that you want to secure in the Credential field and submit.

Example

Below is an example of a JDBC source connector that uses credential store. In the Below code, connection.user is the actual user name, connection.password is the actual password, connection.password.secure.key is the credential store key for the actual password. Note that in the below code, you need not provide connection.password instead you provide connection.password.secure.key, thus securing your actual password.

```
POST /connectors HTTPS
Host: 
Authorization: Basic Auth (Provide the credentials used when creating the cluster)
Content-Type: application/json
{
  "name": "myconnectorname",
  "config": {
    "connector.class": "io.confluent.connect.jdbc.JdbcSourceConnector",
  }
}
Managing Connectors

This section describes tasks to manage the life cycle of Kafka Connectors.

Topics

• Viewing Connectors for a Topic
• Creating Source Connector
  – Creating JDBC Source Connector
  – Creating File Source Connector
• Creating Sink Connector
  – Creating JDBC Sink Connector
  – Creating Web Service Sink Connector
  – Creating Oracle Cloud Storage Sink Connector
  – Creating Oracle Cloud Storage Classic Sink Connector
  – Creating File Sink Connector
• Editing the Connector Config
• Viewing Details for a Task
• Deleting a Connector

Viewing Connectors for a Topic

Users can view connector information for a Topic from the Overview page.

To view the connector information for a Topic:

1. Open the Oracle Event Hub Cloud Service console.
2. From the menu of the Topic for which you want to view the connector information, select View Metrics.

An overview pop-up page with two tabs namely Topic and Connectors is displayed.
3. Select Connectors tab to see the connector information.

Creating Source Connector

You can create a source connector using the new connector wizard. You can connect from various systems using this connector. This section covers in detail about each source connector.

Topics:

• Creating JDBC Source Connector
• Creating File Source Connector

Creating JDBC Source Connector

To create a JDBC Source Connector, use the new connector wizard as described in the following procedure.

Before You Begin

When you create a connector, you must provide the below information:

• topic name: Name of Oracle Event Hub Cloud Service topic
• Database access and credential details:
  – Connection URL: JDBC connection URL
  – Connection User: JDBC connection username
  – Connection Password: JDBC connection password

Procedure

To create a source connector:

1. Go to the Connectors page. See Viewing Connectors for a Topic page.
2. Click New Connector.
   The new connector wizard starts. There are four pages in the wizard. The Type page is displayed.
3. On the Type page, you can select the type of the connector you want to use. Click Select in the Source Connector box.
4. There are two sections in the System/Topic page. The Source Connectors section, where you choose the type of source and the Event Hub Topics section, where you choose the topic. Select JDBC in Source connectors section. In Event Hub Topics section, Topic selection is not required as this will be done in the Configure section.
5. Based on the type of source you select on the System/Topic page, you will have input fields in the Configure page. Since you have selected JDBC as the source, this page will request for JDBC related configurations.
6. In the Configure page, complete all the sections.

Connector Config
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| Connector Name | Unique name for the connector.  
  - **Type**: String  
  - **Default**:  
  - **Example**: myjdbcconnector |
| Max Tasks | The maximum number of tasks that should be created for this connector. The connector may create fewer tasks if it cannot achieve this level of parallelism.  
  - **Type**: Integer  
  - **Default**: 1  
  - **Example**: 1 |
| Key Converter Class | Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the keys in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:  
  - **Schema-aware JSON**  
  - **Avro**  
  - **Type**: String  
  - **Default**: Avro  
  - **Example**: Avro |
| Value Converter Class | Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the values in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:  
  - **Schema-aware JSON**  
  - **Avro**  
  - **Type**: String  
  - **Default**: Avro  
  - **Example**: Avro |

**Connector**

---

Chapter 11  
Managing Connectors
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic Prefix</td>
<td>Prefix to prepend to table names to generate the name of the Kafka topic to publish data to, or in the case of a custom query, the full name of the topic to publish to.</td>
</tr>
<tr>
<td></td>
<td><strong>In Case of Query</strong>: Provide entire topic name. This will be “prefix+tablename”.</td>
</tr>
<tr>
<td></td>
<td><strong>In case of Blacklist/Whitelist</strong>: Provide only the prefix. The name of the table will be appended automatically.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong>: For each table, there must be a topic already created by the user. Topics are not auto generated. The name of the topic must be of the format “prefix+tablename”. No other format is allowed. For example, if there is a table “customer”, then there must exist a topic named “XYZcustomer”, where “XYZ” can be any string, “XYZ” can be empty string as well. In such case, the topic name will be same as the table name.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>:</td>
</tr>
<tr>
<td>Poll Interval (msec)</td>
<td>Frequency in ms to poll for new data in each table.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: 5000</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: 5000</td>
</tr>
<tr>
<td>Batch Max Rows</td>
<td>Maximum number of rows to include in a single batch when polling for new data. This setting can be used to limit the amount of data buffered internally in the connector.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: 100</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: 100</td>
</tr>
<tr>
<td>Table Poll Interval (msec)</td>
<td>Frequency in ms to poll for new or removed tables, which may result in updated task configurations to start polling for data in added tables or stop polling for data in removed tables.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: 60000</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: 60000</td>
</tr>
<tr>
<td>Timestamp Delay Interval (msec)</td>
<td>How long to wait after a row with certain timestamp appears before getting included in the result. You may choose to add some delay to allow transactions with earlier timestamp to complete. The first execution will fetch all available records (i.e. starting at timestamp 0) until current time minus the delay. Every following execution will get data from the last time we fetched until current time minus the delay.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: 0</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: 0</td>
</tr>
<tr>
<td>Numeric Precision Mapping</td>
<td>Whether or not to attempt mapping NUMERIC values by precision to integral types.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: Yes/No</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: No</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: No</td>
</tr>
</tbody>
</table>

Database
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection URL</td>
<td>JDBC connection URL.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> jdbc:mysql://127.0.0.1:1001/</td>
</tr>
<tr>
<td>Connection User</td>
<td>JDBC connection user id.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> myjdbcusername</td>
</tr>
<tr>
<td>Connection Password</td>
<td>JDBC connection password. There are two options to choose from as given below:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Direct Entry:</strong> If you want to provide your JDBC connection password, select this option.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Credential Store:</strong> If you want to provide your credential store key instead of your actual password, select this option. Once you select this option, all the existing keys in the credential store are listed in the drop-down. You can select the appropriate key. For more details, see Credential Store.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> myjdbcpassword</td>
</tr>
<tr>
<td>Table Types</td>
<td>By default, the JDBC connector will only detect tables with type TABLE from the source Database. This config allows a command separated list of table types to extract.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> List</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> Table</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> Table</td>
</tr>
<tr>
<td>Whitelisted Tables</td>
<td>List of tables to include in copying. If specified, Blacklisted Tables may not be set.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> List</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> Student</td>
</tr>
<tr>
<td>Blacklisted Tables</td>
<td>List of tables to exclude from copying. If specified, Whitelisted Tables may not be set.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> List</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> Marks</td>
</tr>
<tr>
<td>Schema Pattern</td>
<td>Schema pattern to fetch tables metadata from the database: * &quot;&quot; retrieves those without a schema, * null (default) means that the schema name should not be used to narrow the search, all tables metadata would be fetched, regardless of their schema.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
</tbody>
</table>
### Query

If specified, the query to perform to select new or updated rows. Use this setting if you want to join tables, select subsets of columns in a table, or filter data. If used, this connector will only copy data using this query – whole-table copying will be disabled. Different query modes may still be used for incremental updates, but in order to properly construct the incremental query, it must be possible to append a WHERE clause to this query (i.e. no WHERE clauses may be used). If you use a WHERE clause, it must handle incremental queries itself.

- **Type:** String
- **Default:**
- **Example:** `select studentid, courseid from marks;`

### Connection Attempts

Maximum number of attempts to retrieve a valid JDBC connection. The create connector fails after the maximum number of attempts exhausts.

### Connection Backoff (msec)

Backoff time in milliseconds between connection attempts.

### Query Mode

The mode for updating a table each time it is polled. Options include:

- **Bulk** - perform a bulk load of the entire table each time it is polled
- **Incrementing** - use a strictly incrementing column on each table to detect only new rows. Note that this will not detect modifications or deletions of existing rows
- **Timestamp** - use a timestamp (or timestamp-like) column to detect new and modified rows. This assumes the column is updated with each write, and that values are monotonically incrementing, but not necessarily unique
- **Timestamp+Incrementing** - use two columns, a timestamp column that detects new and modified rows and a strictly incrementing column which provides a globally unique ID for updates so each row can be assigned a unique stream offset

- **Type:** String
- **Default:**
- **Example:** Bulk

### Incrementing Column Name

The name of the strictly incrementing column to use to detect new rows. Any empty value indicates the column should be autodetected by looking for an auto-incrementing column. This column may not be nullable.

- **Type:** String
- **Default:**
- **Example:** studentid

### Timestamp Column Name

The name of the timestamp column to use to detect new or modified rows. This column may not be nullable.

- **Type:** String
- **Default:**
- **Example:** enrollmentdate
Validating Non Null

By default, the JDBC connector will validate that all incrementing and timestamp tables have NOT NULL set for the columns being used as their ID/timestamp. If the tables don’t, JDBC connector will fail to start. Setting this to false will disable these checks.

- **Type:** Yes/No
- **Default:** Yes
- **Example:** Yes

**Transforms**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transforms</td>
<td>Aliases for the transformations to be applied to records. Please enter a comma separated list of aliases.</td>
</tr>
</tbody>
</table>

7. Click **Next** to advance to the Review/Create page.

8. On the Review/Create page, review the information listed. If you’re satisfied with what you see, click **Create** to create the connector.

   If you need to change something, click **Prev** at the top of the wizard to step back through the pages, or click **Cancel** to cancel out of the wizard without creating a new connector.

Creating File Source Connector

To create a File Source Connector, use the new connector wizard as described in the following procedure.

**Before You Begin**

When you create a connector, you must provide the below information:

- **topic name:** Name of Oracle Event Hub Cloud Service topic.
- **File Path:** Path of the file.

**Procedure**

To create a source connector:

1. Go to the Connectors page. See **Viewing Connectors for a Topic** page.

2. Click **New Connector**.

   The new connector wizard starts. There are four pages in the wizard. The Type page is displayed.

3. On the Type page, you can select the type of the connector you want to use. Click **Select** in the Source Connector box.

4. There are two sections in the System/Topic page. The Source Connectors section, where you choose the type of source and the Event Hub Topics section, where you choose the topic. Select **File** in Source connectors section and select the desired topic in the Event Hub Topics section. The data from files will be streamed into the topic selected here.
5. Based on the type of source you select on the System/Topic page, you will have input fields in the Configure page. Since you have selected File as the source, this page will request for files related configurations.

6. In the Configure page, complete all the sections.

**Connector Config**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Name</td>
<td>Unique name for the connector.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: myfileconnector</td>
</tr>
<tr>
<td>File</td>
<td>The path of file for the connector.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: C:\allfiles\myfile.txt</td>
</tr>
<tr>
<td>Batch Size</td>
<td>Specifies how many records to attempt to batch together for insertion into the destination table, when possible.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: 2000</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: 1000</td>
</tr>
<tr>
<td>Max Tasks</td>
<td>The maximum number of tasks that should be created for this connector. The connector may create fewer tasks if it cannot achieve this level of parallelism.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: 1</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: 1</td>
</tr>
<tr>
<td>Key Converter Class</td>
<td>Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the keys in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:</td>
</tr>
<tr>
<td></td>
<td>• JSON</td>
</tr>
<tr>
<td></td>
<td>• Avro</td>
</tr>
<tr>
<td></td>
<td>• String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: JSON</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: JSON</td>
</tr>
<tr>
<td>Value Converter Class</td>
<td>Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the values in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:</td>
</tr>
<tr>
<td></td>
<td>• JSON</td>
</tr>
<tr>
<td></td>
<td>• Avro</td>
</tr>
<tr>
<td></td>
<td>• String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: JSON</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: JSON</td>
</tr>
</tbody>
</table>

**Transforms**
Creating Sink Connector

You can create a Sink Connector using the New Connector wizard. You can connect into various systems using this connector. This section discuss in detail about each Sink Connector.

Topics:
- Creating JDBC Sink Connector
- Creating Web Service Sink Connector
- Creating Oracle Cloud Storage Sink Connector
- Creating Oracle Cloud Storage Classic Sink Connector
- Creating File Sink Connector

Creating JDBC Sink Connector

To create a JDBC Sink Connector, use the New Connector wizard as described in the following procedure.

Before You Begin

When you create a connector, you must provide the below information:
- **topic name**: Name of Oracle Event Hub Cloud Service topic
- Database access and credential details:
  - **Connection URL**: JDBC connection URL
  - **Connection User**: JDBC connection username
  - **Connection Password**: JDBC connection password

Procedure

To create a sink connector:

1. Go to the Connectors page. See Viewing Connectors for a Topic page.
2. Click **New Connector**.

The new connector wizard starts. There are four pages in the wizard. The Type page is displayed.

7. Click **Next** to advance to the Review/Create page.

8. On the Review/Create page, review the information listed. If you're satisfied with what you see, click **Create** to create the connector.

If you need to change something, click **Prev** at the top of the wizard to step back through the pages, or click **Cancel** to cancel out of the wizard without creating a new connector.
3. On the Type page, you can select the type of the connector you want to use. Click Select in the Sink Connector box.

4. There are two sections in the System/Topic page. The Event Hub Topics section, where you choose the topic and the Sink Connectors section, where you choose the type of sink. Select the desired topic in the Event Hub Topics section and select JDBC in Sink connectors section. The data from the selected topics will be streamed into the JDBC. You can choose multiple topics as source here.

5. Based on the type of sink you select on the System/Topic page, you will have input fields in the Configure page. Since you have selected JDBC as the sink, this page will request for JDBC related configurations.

6. In the Configure page, complete all the sections.

**Connector Config**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Name</td>
<td>Unique name for the connector.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> myjdbcconnector</td>
</tr>
<tr>
<td>Max Tasks</td>
<td>The maximum number of tasks that should be created for this connector.</td>
</tr>
<tr>
<td></td>
<td>The connector may create fewer tasks if it cannot achieve this level of</td>
</tr>
<tr>
<td></td>
<td>parallelism. Default is 1.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> 1</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> 1</td>
</tr>
<tr>
<td>Key Converter Class</td>
<td>Converter class used to convert between Kafka Connect format and the</td>
</tr>
<tr>
<td></td>
<td>serialized form that is written to Kafka. This controls the format of the</td>
</tr>
<tr>
<td></td>
<td>keys in messages written to or read from Kafka, and since this is</td>
</tr>
<tr>
<td></td>
<td>independent of connectors it allows any connector to work with any</td>
</tr>
<tr>
<td></td>
<td>serialization format. Supported classes are:</td>
</tr>
<tr>
<td></td>
<td>• Schema-aware JSON</td>
</tr>
<tr>
<td></td>
<td>• Avro</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> Avro</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> Avro</td>
</tr>
<tr>
<td>Value Converter Class</td>
<td>Converter class used to convert between Kafka Connect format and the</td>
</tr>
<tr>
<td></td>
<td>serialized form that is written to Kafka. This controls the format of the</td>
</tr>
<tr>
<td></td>
<td>values in messages written to or read from Kafka, and since this is</td>
</tr>
<tr>
<td></td>
<td>independent of connectors it allows any connector to work with any</td>
</tr>
<tr>
<td></td>
<td>serialization format. Supported classes are:</td>
</tr>
<tr>
<td></td>
<td>• Schema-aware JSON</td>
</tr>
<tr>
<td></td>
<td>• Avro</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> Avro</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> Avro</td>
</tr>
</tbody>
</table>

**Connection**
## Data Mapping

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Table Name Format</strong></td>
<td>A format string for the destination table name.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> ${topic}</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> ${topic}</td>
</tr>
<tr>
<td><strong>Primary Key Mode</strong></td>
<td>Primary Key Mode, supported modes are:</td>
</tr>
<tr>
<td></td>
<td>• None - No keys utilized</td>
</tr>
<tr>
<td></td>
<td>• Kafka - Kafka coordinates are used as the PK</td>
</tr>
<tr>
<td></td>
<td>• Record Key - Field(s) from the record key are used, which may be a primitive or a struct</td>
</tr>
<tr>
<td></td>
<td>• Record Value - Field(s) from the record value are used, which must be a struct</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> None</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> Kafka</td>
</tr>
</tbody>
</table>
### Primary Key Fields

List of comma-separated primary key field names. The runtime interpretation of this config depends on the "pk.mode": "none" Ignored as no fields are used as primary key in this mode. "kafka" Must be a trio representing the Kafka coordinates, defaults to ".connect_topic,.connect_partition,.connect_offset" if empty. "record_key" If empty, all fields from the key struct will be used, otherwise used to extract the desired fields - for primitive key only a single field name must be configured. "record_value" If empty, all fields from the value struct will be used, otherwise used to extract the desired fields.

- **Type:** List
- **Default:**
- **Example:** studentid, courseid

### Field Whitelist

List of comma-separated record value field names. If empty, all fields from the record value are utilized, otherwise used to filter to the desired fields. Note that "pk.fields" is applied independently in the context of which field(s) form the primary key columns in the destination database, while this configuration is applicable for the other columns.

- **Type:** List
- **Default:**
- **Example:** subject, marks

### DDL Support

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auto-Create</strong></td>
<td>Whether to automatically create the destination table based on record schema if it is found to be missing by issuing CREATE.</td>
</tr>
<tr>
<td></td>
<td><strong>Type:</strong> Yes/No</td>
</tr>
<tr>
<td></td>
<td><strong>Default:</strong> No</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Auto-Evolve</strong></th>
<th>Whether to automatically add columns in the table schema when found to be missing relative to the record schema by issuing ALTER.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type:</strong> Yes/No</td>
<td></td>
</tr>
<tr>
<td><strong>Default:</strong> No</td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong> No</td>
<td></td>
</tr>
</tbody>
</table>

### Retries

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum Retries</strong></td>
<td>The maximum number of times to retry on errors before failing the task.</td>
</tr>
<tr>
<td></td>
<td><strong>Type:</strong> Integer</td>
</tr>
<tr>
<td></td>
<td><strong>Default:</strong> 10</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> 10</td>
</tr>
</tbody>
</table>

### Transforms
### Transforms

*Aliases for the transformations to be applied to records. Please enter a comma separated list of aliases.*

- **Type:** String
- **Default:**
- **Example:**

### Writes

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Insert Mode** | The insertion mode to use. Supported modes are:  
  - Insert - Use standard SQL INSERT statements  
  - Upsert - Use the appropriate upsert semantics for the target database if it is supported by the connector  
- **Type:** String  
- **Default:** Insert  
- **Example:** Insert  

| **Batch Size** | Specifies how many records to attempt to batch together for insertion into the destination table, when possible.  
- **Type:** Integer  
- **Default:** 3000  
- **Example:** 3000  

7. Click **Next** to advance to the Review/Create page.

8. On the Review/Create page, review the information listed. If you're satisfied with what you see, click **Create** to create the connector.

   If you need to change something, click **Prev** at the top of the wizard to step back through the pages, or click **Cancel** to cancel out of the wizard without creating a new connector.

---

**Creating Web Service Sink Connector**

To create a Web Service Sink Connector, use the New Connector wizard as described in the following procedure.

### Before You Begin

When you create a connector, you must provide the below information:

- **topic name**: Name of Oracle Event Hub Cloud Service topic.
- **Web Service URI**: Service URI to connect the required service from this connector.

### Procedure

To create a sink connector:

1. Go to the Connectors page. See Viewing Connectors for a Topic page.
2. Click **New Connector**.

   The new connector wizard starts. There are four pages in the wizard. The Type page is displayed.
3. On the Type page, you can select the type of the connector you want to use. Click Select in the Sink Connector box.

4. There are two sections in the System/Topic page. The Event Hub Topics section, where you choose the topic and the Sink Connectors section, where you choose the type of sink. Select the desired topic in the Event Hub Topics section and select Web Service in Sink connectors section. The data from the selected topics will be streamed into the Web Service you provide. You can choose multiple topics as source here.

5. Based on the type of sink you select on the System/Topic page, you will have input fields in the Configure page. Since you have selected Web Service as the sink, this page will request for files related configurations.

6. In the Configure page, complete all the sections.

**Connector Config**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Name</td>
<td>Unique name for the connector.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: myfileconnector</td>
</tr>
<tr>
<td>Max Tasks</td>
<td>The maximum number of tasks that should be created for this connector. The connector may create fewer tasks if it cannot achieve this level of parallelism.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: 1</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: 1</td>
</tr>
<tr>
<td>Key Converter Class</td>
<td>Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the keys in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:</td>
</tr>
<tr>
<td>Value Converter Class</td>
<td>Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the values in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:</td>
</tr>
</tbody>
</table>

**Transforms**
Creating Oracle Cloud Storage Sink Connector

To create an Oracle Cloud Storage Sink Connector, use the New Connector wizard as described in the following procedure.

Before You Begin

When you create a connector, you must provide the below information:

1. Click Next to advance to the Review/Create page.
2. On the Review/Create page, review the information listed. If you're satisfied with what you see, click Create to create the connector.
   If you need to change something, click Prev at the top of the wizard to step back through the pages, or click Cancel to cancel out of the wizard without creating a new connector.
- **topic name**: Name of Oracle Event Hub Cloud Service topic
- OCI Oracle Cloud Storage access and credential details:
  - **OCI URL**: OCI Cloud Storage Bucket URL where data needs to be written. e.g: "oci://servicetype@identitydomain/instance"
  - **OCI hostname**: OCI Cloud Storage URL, eg: "https://<your object storage>.oraclecloud.com"
  - **OCI PEM fingerprint**: OCI Cloud Storage PEM Key Fingerprint for given service
  - **OCI PEM file path**: OCI Cloud Storage PEM File Path on the connect VM
  - **OCI userid**: OCI Cloud Storage User OCID for given service
  - **OCI tenant id**: OCI tenant id

**Note:**
OCI currently supports only OCI Object Storage.

**Procedure**

To create a sink connector:

1. Go to the Connectors page. See Viewing Connectors for a Topic page.
2. Click **New Connector**.
   
The new connector wizard starts. There are four pages in the wizard. The Type page is displayed.
3. On the Type page, you can select the type of the connector you want to use. Click Select in the Sink Connector box.
4. There are two sections in the System/Topic page. The Event Hub Topics section, where you choose the topic and the Sink Connectors section, where you choose the type of sink. Select the desired topic in the Event Hub Topics section and select Oracle Cloud Storage in Sink connectors section. The data from the selected topics will be streamed into the Oracle Cloud Storage. You can choose multiple topics as source here.
5. Based on the type of sink you select on the System/Topic page, you will have input fields in the Configure page. Since you have selected Oracle Cloud Storage as the sink, this page will request for Oracle Cloud Storage related configurations.
6. In the Configure page, complete all the sections.

**Connector Config**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connector Name</strong></td>
<td>Unique name for the connector.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: mystorageconnector</td>
</tr>
</tbody>
</table>
### Max Tasks

The maximum number of tasks that should be created for this connector. The connector may create fewer tasks if it cannot achieve this level of parallelism.

- **Type:** Integer
- **Default:** 1
- **Example:** 1

### Key Converter Class

Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the keys in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:

- Avro
- Bytes
- **Type:** String
- **Default:** Bytes
- **Example:** Bytes

### Value Converter Class

Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the values in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:

- Avro
- Bytes
- **Type:** String
- **Default:** Bytes
- **Example:** Bytes

### Connector

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flush Size</td>
<td>Number of records written to Oracle Cloud Storage before invoking file commits.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Type:</strong> Integer</td>
</tr>
<tr>
<td></td>
<td>- <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>- <strong>Example:</strong></td>
</tr>
<tr>
<td>Schema Cache Size</td>
<td>The size of the schema cache used in the Avro converter.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Type:</strong> Integer</td>
</tr>
<tr>
<td></td>
<td>- <strong>Default:</strong> 1000</td>
</tr>
<tr>
<td></td>
<td>- <strong>Example:</strong> 1000</td>
</tr>
</tbody>
</table>

### Oracle Cloud Storage

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCI Cloud Storage URL</td>
<td>OCI Cloud Storage URL, eg: &quot;https://&lt;your object storage&gt;.oraclecloud.com&quot;</td>
</tr>
<tr>
<td></td>
<td>- <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>- <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>- <strong>Example:</strong></td>
</tr>
<tr>
<td>Element</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Bucket URL</strong></td>
<td>OCI Cloud Storage Bucket URL where data needs to be written. e.g: &quot;oci://servicetype@identitydomain/instance&quot;</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
<tr>
<td><strong>Tenant OCID</strong></td>
<td>OCI Tenancy OCID</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
<tr>
<td><strong>User OCID</strong></td>
<td>OCI Cloud Storage User OCID for given service, it is clear text, not recommended, should use java keystore</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
<tr>
<td><strong>PEM File Path</strong></td>
<td>OCI Cloud Storage PEM File Path on the connect VM.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
<tr>
<td><strong>PEM Key Fingerprint</strong></td>
<td>OCI Cloud Storage PEM Key Fingerprint for given service. There are two options to choose from as given below:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Direct Entry:</strong> If you want to provide your PEM Key Fingerprint, select this option.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Credential Store:</strong> If you want to provide your credential store key instead of your actual password, select this option. Once you select this option, all the existing keys in the credential store are listed in the drop-down. You can select the appropriate key. For more details, see Credential Store.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
</tbody>
</table>

### Partitioner

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Partitioner Class</strong></td>
<td>The partitioner to use when writing data to HDFS. You can use &quot;DefaultPartitioner&quot;, which preserves the Kafka partitions; &quot;FieldPartitioner&quot;, which partitions the data to different directories according to the value of the partitioning field specified in &quot;partition.field.name&quot;; &quot;TimebasedPartitioner&quot;, which partitions data according to the time ingested to Storage. Supported classes are:</td>
</tr>
<tr>
<td></td>
<td>• Default Partitioner</td>
</tr>
<tr>
<td></td>
<td>• Field Based Partitioner</td>
</tr>
<tr>
<td></td>
<td>• Time Based Partitioner</td>
</tr>
<tr>
<td></td>
<td>• Hourly Based Partitioner</td>
</tr>
<tr>
<td></td>
<td>• Daily Based Partitioner</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> Default Partitioner</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> Default Partitioner</td>
</tr>
<tr>
<td>Element</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Partition Field Name</strong></td>
<td>The name of the partitioning field when Field Partitioner is used.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
<tr>
<td><strong>Partition Duration (msec)</strong></td>
<td>The duration of a partition milliseconds used by TimeBasedPartitioner. The default value -1 means that we are not using TimebasedPartitioner</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> -1</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> -1</td>
</tr>
<tr>
<td><strong>Path Format</strong></td>
<td>This configuration is used to set the format of the data directories when partitioning with &quot;TimeBasedPartitioner&quot;. The format set in this configuration converts the Unix timestamp to proper directories strings. For example, if you set &quot;path.format='year'=YYYY/'month'=MM/'day'=dd/'hour'=HH/&quot;, the data directories will have the format &quot;/year=2015/month=12/day=07/hour=15&quot;.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> 'year'=YYYY/'month'=MM/'day'=dd/'hour'=HH/</td>
</tr>
<tr>
<td><strong>Locale</strong></td>
<td>The locale to use when partitioning with TimeBasedPartitioner.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
<tr>
<td><strong>Timezone</strong></td>
<td>The timezone to use when partitioning with TimeBasedPartitioner.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
</tbody>
</table>

**Schema**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Schema Compatibility</strong></td>
<td>The schema compatibility rule to use when the connector is observing schema changes. The supported configurations are NONE, BACKWARD, FORWARD and FULL. Supported types are:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> None</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> None</td>
</tr>
</tbody>
</table>

**Storage**
### Element Description

<table>
<thead>
<tr>
<th>Storage Class</th>
<th>The underlying storage layer. The default is Oracle Cloud Storage. Currently OCIObjectStorage only is supported.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> OCIObjectStorage</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> OCIObjectStorage</td>
</tr>
</tbody>
</table>

### Transforms

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transforms</td>
<td>Aliases for the transformations to be applied to records. Please enter a comma separated list of aliases.</td>
</tr>
</tbody>
</table>

7. Click **Next** to advance to the Review/Create page.

8. On the Review/Create page, review the information listed. If you're satisfied with what you see, click **Create** to create the connector.

If you need to change something, click **Prev** at the top of the wizard to step back through the pages, or click **Cancel** to cancel out of the wizard without creating a new connector.

### Creating Oracle Cloud Storage Classic Sink Connector

To create an Oracle Cloud Storage Classic Sink Connector, use the New Connector wizard as described in the following procedure.

#### Before You Begin

When you create a connector, you must provide the below information:

- **topic name**: Name of Oracle Event Hub Cloud Service topic
- OCS Oracle Cloud Storage Classic access and credential details:
  - **OCS Container**: Oracle Cloud Storage container URL. For example: "https://tenantname.storage.oraclecloud.com/v1/Storage-tenantname/mycontainer"
  - **OCS user name**: OCS username for given service
  - **OCS password**: OCS password for given service
  - **OCS tenant name**: OCS Swift tenant name

**Note:**

OCI currently supports Swift Storage.

#### Procedure

To create a sink connector:

1. Go to the Connectors page. See Viewing Connectors for a Topic page.
2. Click **New Connector**.
The new connector wizard starts. There are four pages in the wizard. The Type page is displayed.

3. On the Type page, you can select the type of the connector you want to use. Click Select in the Sink Connector box.

4. There are two sections in the System/Topic page. The Event Hub Topics section, where you choose the topic and the Sink Connectors section, where you choose the type of sink. Select the desired topic in the Event Hub Topics section and select Oracle Cloud Storage Classic in Sink connectors section. The data from the selected topics will be streamed into the Oracle Cloud Storage Classic. You can choose multiple topics as source here.

5. Based on the type of sink you select on the System/Topic page, you will have input fields in the Configure page. Since you have selected Oracle Cloud Storage Classic as the sink, this page will request for Oracle Cloud Storage Classic related configurations.

6. In the Configure page, complete all the sections.

**Connector Config**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connector Name</strong></td>
<td>Unique name for the connector.</td>
</tr>
<tr>
<td><strong>Type</strong>: String</td>
<td><strong>Default</strong>:</td>
</tr>
<tr>
<td><strong>Example</strong>: mystorageconnector</td>
<td></td>
</tr>
<tr>
<td><strong>Max Tasks</strong></td>
<td>The maximum number of tasks that should be created for this connector. The connector may create fewer tasks if it cannot achieve this level of parallelism.</td>
</tr>
<tr>
<td><strong>Type</strong>: Integer</td>
<td><strong>Default</strong>: 1</td>
</tr>
<tr>
<td><strong>Example</strong>: 1</td>
<td></td>
</tr>
<tr>
<td><strong>Key Converter Class</strong></td>
<td>Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the keys in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:</td>
</tr>
<tr>
<td><strong>Type</strong>: String</td>
<td></td>
</tr>
<tr>
<td><strong>Default</strong>: Bytes</td>
<td></td>
</tr>
<tr>
<td><strong>Example</strong>: Bytes</td>
<td></td>
</tr>
<tr>
<td><strong>Value Converter Class</strong></td>
<td>Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the values in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:</td>
</tr>
<tr>
<td><strong>Type</strong>: String</td>
<td></td>
</tr>
<tr>
<td><strong>Default</strong>: Bytes</td>
<td></td>
</tr>
<tr>
<td><strong>Example</strong>: Bytes</td>
<td></td>
</tr>
</tbody>
</table>
### Connector

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flush Size</strong></td>
<td>Number of records written to Oracle Cloud Storage Classic before invoking file commits.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
<tr>
<td><strong>Schema Cache Size</strong></td>
<td>The size of the schema cache used in the Avro converter.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> 1000</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> 1000</td>
</tr>
</tbody>
</table>

### Internal

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Format Class</strong></td>
<td>The format class to use when writing data to Oracle Cloud Storage Classic. Supported classes are:</td>
</tr>
<tr>
<td></td>
<td>• Source</td>
</tr>
<tr>
<td></td>
<td>• Parquet</td>
</tr>
<tr>
<td></td>
<td>• Avro</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> Source</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> Source</td>
</tr>
</tbody>
</table>

### Partitioner

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Partitioner Class</strong></td>
<td>The partitioner is used when writing data to Object Store. You can use &quot;DefaultPartitioner&quot;, which preserves the Kafka partitions; &quot;FieldPartitioner&quot;, which partitions the data to different directories according to the value of the partitioning field specified in &quot;partition.field.name&quot;; &quot;TimeBasedPartitioner&quot;, which partitions data according to the time ingested to Storage. Supported classes are:</td>
</tr>
<tr>
<td></td>
<td>• Default Partitioner</td>
</tr>
<tr>
<td></td>
<td>• Field Based Partitioner</td>
</tr>
<tr>
<td></td>
<td>• Time Based Partitioner</td>
</tr>
<tr>
<td></td>
<td>• Hourly Based Partitioner</td>
</tr>
<tr>
<td></td>
<td>• Daily Based Partitioner</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> Default Partitioner</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> Default Partitioner</td>
</tr>
<tr>
<td><strong>Partition Field Name</strong></td>
<td>The name of the partitioning field when Field Partitioner is used.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
</tbody>
</table>
### Element Description

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Partition Duration</strong> &lt;br&gt;&lt;br&gt;(msec)</td>
<td>The duration of a partition milliseconds used by TimeBasedPartitioner. The default value -1 means that we are not using TimeBasedPartitioner. If TimeBasedPartitioner is chosen, this field must be a positive number.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> -1</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> -1</td>
</tr>
<tr>
<td><strong>Path Format</strong></td>
<td>This configuration is used to set the format of the data directories when partitioning with &quot;TimeBasedPartitioner&quot;. The format set in this configuration converts the Unix timestamp to proper directories strings. For example, if you set &quot;path.format='year'-YYYY/'month'-MM/'day'-dd/'hour'-HH&quot;, the data directories will have the format &quot;/year=2018/month=12/day=07/hour=15&quot;.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> 'year'=2018/'month'=01/'day'=31/'hour'=23/</td>
</tr>
<tr>
<td><strong>Locale</strong></td>
<td>The locale to use when partitioning with TimeBasedPartitioner.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
<tr>
<td><strong>Timezone</strong></td>
<td>The timezone to use when partitioning with TimeBasedPartitioner.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong></td>
</tr>
</tbody>
</table>

### Schema

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Schema Compatibility</strong></td>
<td>The schema compatibility rule to use when the connector is observing schema changes. Supported types are:</td>
</tr>
<tr>
<td></td>
<td>• None</td>
</tr>
<tr>
<td></td>
<td>• Backward</td>
</tr>
<tr>
<td></td>
<td>• Forward</td>
</tr>
<tr>
<td></td>
<td>• Full</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> None</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> None</td>
</tr>
</tbody>
</table>

### Storage

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Storage Class</strong></td>
<td>The underlying storage layer. Currently SwiftStorage only is supported.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type:</strong> String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default:</strong> SwiftStorage</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example:</strong> SwiftStorage</td>
</tr>
</tbody>
</table>

**Oracle Cloud Storage Classic**
### Cloud Storage Container
Oracle Cloud Storage Container. For example, https://a9999999.storage.oraclecloud.com/v1/Storage-a9999999/oehcs-container
- **Type:** String
- **Default:**
- **Example:** https://mytest.storage.oraclecloud.com/v1/Storage-mytest/oehcs-container

### User Name
OCS User Name for given service.
- **Type:** String
- **Default:**
- **Example:**

### Password
OCS Password for given service. There are two options to choose from as given below:
- **Direct Entry:** If you want to provide your connection password, select this option.
- **Credential Store:** If you want to provide your credential store key instead of your actual password, select this option. Once you select this option, all the existing keys in the credential store are listed in the drop-down. You can select the appropriate key. For more details, see [Credential Store](#).
- **Type:** String
- **Default:**
- **Example:** mypassword

### Transforms
Aliases for the transformations to be applied to records. Please enter a comma separated list of aliases.

1. Click **Next** to advance to the Review/Create page.

2. On the Review/Create page, review the information listed. If you're satisfied with what you see, click **Create** to create the connector.

If you need to change something, click **Prev** at the top of the wizard to step back through the pages, or click **Cancel** to cancel out of the wizard without creating a new connector.

### Creating File Sink Connector
To create a File Sink Connector, use the New Connector wizard as described in the following procedure.

#### Before You Begin
When you create a connector, you must provide the below information:
- **topic name:** Name of Oracle Event Hub Cloud Service topic.
- **File Path:** Path of the file.
Procedure

To create a sink connector:

1. Go to the Connectors page. See Viewing Connectors for a Topic page.
2. Click New Connector.

   The new connector wizard starts. There are four pages in the wizard. The Type page is displayed.

3. On the Type page, you can select the type of the connector you want to use. Click Select in the Sink Connector box.

4. There are two sections in the System/Topic page. The Event Hub Topics section, where you choose the topic and the Sink Connectors section, where you choose the type of sink. Select the desired topic in the Event Hub Topics section and select File in Sink connectors section. The data from the selected topics will be streamed into the files. You can choose multiple topics as source here.

5. Based on the type of sink you select on the System/Topic page, you will have input fields in the Configure page. Since you have selected File as the sink, this page will request for files related configurations.

6. In the Configure page, complete all the sections.

Connector Config

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Name</td>
<td>Unique name for the connector.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: myfileconnector</td>
</tr>
<tr>
<td>File</td>
<td>The path of file for the connector.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: /u01/oehpacs/myfile.txt</td>
</tr>
<tr>
<td>Max Tasks</td>
<td>The maximum number of tasks that should be created for this connector. The connector may create fewer tasks if it cannot achieve this level of parallelism.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: Integer</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: 1</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: 1</td>
</tr>
<tr>
<td>Key Converter Class</td>
<td>Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the keys in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:</td>
</tr>
<tr>
<td></td>
<td>• JSON</td>
</tr>
<tr>
<td></td>
<td>• Avro</td>
</tr>
<tr>
<td></td>
<td>• String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Type</strong>: String</td>
</tr>
<tr>
<td></td>
<td>• <strong>Default</strong>: JSON</td>
</tr>
<tr>
<td></td>
<td>• <strong>Example</strong>: JSON</td>
</tr>
</tbody>
</table>
**Value Converter Class**

Converter class used to convert between Kafka Connect format and the serialized form that is written to Kafka. This controls the format of the values in messages written to or read from Kafka, and since this is independent of connectors it allows any connector to work with any serialization format. Supported classes are:

- JSON
- Avro
- String

**Type:** String

**Default:** JSON

**Example:** JSON

---

**Transforms**

Aliases for the transformations to be applied to records. Please enter a comma separated list of aliases.

7. Click **Next** to advance to the Review/Create page.

8. On the Review/Create page, review the information listed. If you're satisfied with what you see, click **Create** to create the connector.

   If you need to change something, click **Prev** at the top of the wizard to step back through the pages, or click **Cancel** to cancel out of the wizard without creating a new connector.

---

**Editing the Connector Config**

Users can edit a connector configuration for both source and sink connectors.

To edit the connector configuration:

1. Go to the Connectors Page. See Viewing Connectors for a Topic page.

2. From the menu for the connector you want to edit, select **Edit Config**.

   The Edit window is displayed.

3. Edit the connector configuration as desired and submit.

   **Note:**

   The changes to the connector config take immediate effect. There is no need to restart the cluster/connector.

---

**Viewing Details for a Task**

Users can view detailed information for a Task from the connectors page.

To view details for a Task:

2. From the action menu for the connector of interest, select Task Details.
   An overview pop-up page with Task details is displayed with the below details.
   - **Id**: Id of the various tasks present in the connector.
   - **Status**: Status of the task if running or paused.
   - **Worker Id**: Id of the workers.
   - **Log**: exception log of that specific task if any.

Deleting a Connector

Users can delete (terminate) a connector when it's no longer needed.

To delete a connector:

1. Go to the Connectors page. See Viewing Connectors for a Topic page.

2. From the action menu of the connector to be deleted, select Delete, and then confirm the action. The entry is removed from the list of connectors displayed in the console.
Managing Tags

A tag is an arbitrary key or a key-value pair that you can create and assign to your Oracle Event Hub Cloud Service and Oracle Event Hub Cloud Service — Dedicated instances. You can use tags to organize and categorize your instances, and to search for them.

Topics:
• Creating, Assigning, and Unassigning Tags
• Finding Tags and Instances Using Search Expressions

Creating, Assigning, and Unassigning Tags

You can create and assign tags to instances while creating the instances or later. When you no longer need certain tags for an instance, you can unassign them.

To assign tags to an instance or to unassign tags:

1. Navigate to the Overview page for the instance for which you want to assign or unassign tags.
2. Click Manage this service in the instance name bar at the top.
3. Select Manage Tags or Add Tags.
   If any tags are already assigned, then the menu shows Manage Tags; otherwise, it shows Add Tags.
4. In the Manage Tags dialog box, create and assign the required tags, or unassign tags:
   • In the Assign section, in the Tags field, select the tags that you want to assign to the instance.
   • If the tags that you want to assign don’t exist, then select Create and Assign in the Tags field, and click just above the field. Enter the required new tags in the Enter New Tags field.
   • To unassign a tag, in the Unassign section, look for the tag that you want to unassign, and click the X button next to the tag.

   ![Note:]
   You might see one or more tags with the key starting with ora_. Such tags are auto-assigned and used internally. You can’t assign or unassign them.
   • To exit without changing any tag assignments for the instance, click Cancel.
5. After assigning and unassigning tags, click OK for the tag assignments to take effect.
Finding Tags and Instances Using Search Expressions

A tag is an arbitrary key or a key-value pair that you can create and assign to your instances. You can use tags to organize and categorize your instances, and to search for them. Over time, you might create dozens of tags, and you might assign one or more tags to several of your instances. To search for specific tags and to find instances that are assigned specific tags, you can use filtering expressions.

For example, on the home page of the web console, you can search for the instances that are assigned a tag with the key `env` and any value starting with `dev` (example: `env:dev1, env:dev2`), by entering the search expression `env:'dev%'` in the Search field.

Similarly, when you use the REST API to find tags or to find instances that are assigned specific tags, you can filter the results by appending the optional `tagFilter={expression}` query parameter to the REST endpoint URL.

- To find specific tags: `GET paas/api/v1.1/tags/{identity_domain}/tags?tagFilter={expression}`
- To get a list of instances that are assigned specific tags: `GET paas/api/v1.1/instancemgmt/{identity_domain}/instances?tagFilter={expression}`

Syntax and Rules for Building Tag-Search Expressions

- When using cURL to send tag-search API requests, enclose the URL in double quotation marks.

  **Example:**

  ```
  ```

  This request returns all the tags that have the key `env`.

- Enclose each key and each value in single quotation marks. And use a colon (:) to indicate a key:value pair.

  **Examples:**

  ```
  'env'
  'env':'dev'
  ```

- You can include keys or key:value pairs in a tag-filtering expression.
<table>
<thead>
<tr>
<th>Sample Expression</th>
<th>Description</th>
<th>Sample Search Result</th>
</tr>
</thead>
</table>
| 'env'             | Finds the tags with the key `env`, or the instances that are assigned the tags with that key. | The following tags, or the instances that are assigned any of these tags: env:dev  
env:qa |
| 'env': 'dev'      | Finds the tag with the key `env` and the value `dev`, or the instances that are assigned that tag. | The following tag, or the instances that are assigned this tag env:dev |
| 'env': 'dev%'     | Finds the tags with the key `env` and a value starting with `dev`, or the instances that are assigned such tags. | The following tags, or the instances that are assigned any of these tags: env:dev  
env:dev1 |
| 'env': 'dev_'     | Finds the tags with the key `env` and the value `devX` where `X` can be any one character, or finds the instances that are assigned such tags. | The following tags, or the instances that are assigned any of these tags: env:dev1  
env:dev2 |

- You can build a tag-search expression by using actual keys and key values, or by using the following wildcard characters.

  - `%` (percent sign): Matches any number of characters.
  - `_` (underscore): Matches one character.

- To use a single quotation mark ("), the percent sign (%), or the underscore (_) as a literal character in a search expression, escape the character by prefixing a backslash (\).
You can use the Boolean operators AND, OR, and NOT in your search expressions:

<table>
<thead>
<tr>
<th>Sample Expression</th>
<th>Description</th>
<th>Sample Search Result</th>
</tr>
</thead>
</table>
| 'env' OR 'owner'  | Finds the tags with the key env or the key owner, or the instances that are assigned either of those keys. | The following tags, or the instances that are assigned any of these tags:  
  env:dev  
  owner:admin |
| 'env' AND 'owner' | Finds the instances that are assigned the tags env and owner.  
  **Note:** This expression won’t return any results when used to search for tags, because a tag can have only one key. | The instances that are assigned all of the following tags:  
  env:dev  
  owner:admin |
| NOT 'env'         | Finds the tags that have a key other than env, or the instances that are assigned such tags.  
  **Note:** Untagged instances as well will satisfy this search expression. | The following tags, or the instances that are assigned any of these tags or no tags:  
  owner:admin  
  department |
| ('env' OR 'owner') AND NOT 'department' | Finds the tags that have the key env or the key owner but not the key department, or the instances that are assigned such tags. | The following tags, or the instances that are assigned any of these tags:  
  env:dev  
  owner:admin |
Oracle Cloud Pages in Oracle Event Hub Cloud Service — Dedicated

Topics
- Oracle Event Hub Cloud Service — Dedicated: Access Rules Page
- Oracle Event Hub Cloud Service — Dedicated: Activity Page
- Oracle Event Hub Cloud Service — Dedicated: Instances Page
- Oracle Event Hub Cloud Service — Dedicated: Instance Overview Page
- Oracle Event Hub Cloud Service — Dedicated: SSH Access Page

Oracle Event Hub Cloud Service — Dedicated: Access Rules Page

The Oracle Event Hub Cloud Service — Dedicated Access Rules page displays rules used to control network access to the Clusters. You use the page to view, manage, and create security rules.

Topics
- What You Can Do from the Access Rules Page
- What You See on the Access Rules Page

What You Can Do from the Access Rules Page
Use the Access Rules page to perform add, delete and update the rules.

What You See on the Access Rules Page
The following table describes the key information shown on the Oracle Event Hub Cloud Service — Dedicated: Access Rules page.
Menu that provides the following options to manage the Cluster:

- **Start** — Start all the virtual machines (VMs) hosting the nodes of the Cluster.
- **Stop** — Stop all the virtual machines (VMs) hosting the nodes of the Cluster.
- **Restart** — Restart all the virtual machines (VMs) hosting the nodes of the Cluster.
- **Scale Out** — Add a node to this Cluster.
- **Access Rules** — Manage access rules that control network access to service components.
- **SSH Access** — Associate an SSH public key to the Cluster.
- **View Activity** — View activities for all cloud services in your identity domain.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create Rule</td>
<td>Click to create a new access rule.</td>
</tr>
<tr>
<td>Results per page</td>
<td>Specifies the number of results you want to view per page. The default value is 10.</td>
</tr>
<tr>
<td>Refresh</td>
<td>Refreshes the page.</td>
</tr>
<tr>
<td>Status</td>
<td>Access rule status indicator. Displays an icon that indicates whether the access rule is enabled or disabled.</td>
</tr>
<tr>
<td></td>
<td>• <img src="on.png" alt="on" /> — Indicates the access rule is enabled.</td>
</tr>
<tr>
<td></td>
<td>• <img src="off.png" alt="off" /> — Indicates the access rule is disabled.</td>
</tr>
<tr>
<td>Rule Name</td>
<td>Name of the access rule. When creating an access rule, this must start with a letter, followed by letters, numbers, hyphens, or underscores.</td>
</tr>
<tr>
<td>Source</td>
<td>Hosts from which traffic should be allowed. Possible value is PUBLIC-INTERNET, or a custom value in the form of an IP address.</td>
</tr>
<tr>
<td>Destination</td>
<td>Service component to which traffic should be allowed.</td>
</tr>
<tr>
<td>Ports</td>
<td>Port or range of ports for the access rule.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Protocol for the access rule.</td>
</tr>
<tr>
<td>Description</td>
<td>Description of the access rule (optional).</td>
</tr>
<tr>
<td>Element</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>Rule Type</td>
<td>Type of access rule. Access rule types are:</td>
</tr>
<tr>
<td></td>
<td>• <strong>DEFAULT</strong>—Access rules created automatically when the service was created. Can be enabled or disabled, but not deleted.</td>
</tr>
<tr>
<td></td>
<td>• <strong>SYSTEM</strong>—Access rules created by the system. Cannot be enabled, disabled, or deleted.</td>
</tr>
<tr>
<td></td>
<td>• <strong>USER</strong>—Access rules created by you or another user. Can be enabled, disabled, or deleted.</td>
</tr>
<tr>
<td>(for the access rule)</td>
<td>Menu that provides the following options:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Enable</strong>—Enables the access rule.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Disable</strong>—Disables the access rule.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Delete</strong>—Deletes the access rule (USER rules only).</td>
</tr>
</tbody>
</table>

### Oracle Event Hub Cloud Service — Dedicated: Activity Page

The Activity page displays activities for all cloud services in your identity domain. You can restrict the list of activities displayed using search filters.

#### Topics

- **What You Can Do from the Activity Page**
- **What You See on the Activity Page**

#### What You Can Do from the Activity Page

Use the Activity page to view operations for all Clusters in your identity domain. You can use the page’s Search Activity Log section to filter the list of displayed operations based on:

- The time the operation was started
- The status of the operation
- The name of the Cluster on which the operation was performed
- The service type of the Cluster on which the operation was performed
- The type of the operation

In the table of results, you can:

- Click any column heading to sort the table by that column.
- Click the triangle at the start of an operation’s row to see more details about that operation.
## What You See on the Activity Page

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displays</td>
<td>Displays Search Activity Log to search and review activities of Cloud Services in your identity domain.</td>
</tr>
<tr>
<td>Start Time Range</td>
<td>Filters activity results to include only operations started within a specified time range.</td>
</tr>
<tr>
<td>Operation Status</td>
<td>Filters operations by status of the operation: • All • Scheduled • Running • Succeeded • Failed You can select any subset of status types. The default value is All.</td>
</tr>
<tr>
<td>Service Name</td>
<td>Filters the activity results to include operations only for the specified Cluster. You can enter a full or partial Cluster name.</td>
</tr>
<tr>
<td>Service Type</td>
<td>Filters the activity results to include operations only for instances of the specified service type. The default value is the current cloud service.</td>
</tr>
<tr>
<td>Operation</td>
<td>Filters the activity results to include selected types of operations. You can select any subset of the given operations. The default value is All.</td>
</tr>
<tr>
<td>Search</td>
<td>Searches for activities by applying the filters specified by the Start Time Range, Operation Status, Service Name, Service Type, and Operation fields, and displays activity results in the table.</td>
</tr>
<tr>
<td>Reset</td>
<td>Clears the Start Time Range and Service Name fields, and returns the Operation Status, Service Type, and Operation fields to their default values.</td>
</tr>
<tr>
<td>Results Per Page</td>
<td>Specifies the number of results you want to view per page. The default value is 10.</td>
</tr>
<tr>
<td>Refresh</td>
<td>Refreshes the page.</td>
</tr>
<tr>
<td>Operation</td>
<td>Shows the type of operation performed on the Cluster.</td>
</tr>
<tr>
<td>Service Name</td>
<td>Shows the name of the Cluster. You can sort the column in ascending or descending order.</td>
</tr>
<tr>
<td>Element</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Service Type</td>
<td>Shows the type of cloud service for this Cluster. You can sort the column in ascending or descending order.</td>
</tr>
<tr>
<td>Operation Status</td>
<td>Shows the status of the Cluster. You can sort the column in ascending or descending order.</td>
</tr>
<tr>
<td>Start Time</td>
<td>Shows the time the operation started. You can sort the column in ascending or descending order.</td>
</tr>
<tr>
<td>End Time</td>
<td>Shows the time the operation ended, if the operation is complete. You can sort the column in ascending or descending order.</td>
</tr>
<tr>
<td>Initiated By</td>
<td>Shows the user that initiated the operation. The user can be any user in the identity domain who initiated the operation or, for certain operations such as automated backup, System. You can sort the column in ascending or descending order.</td>
</tr>
</tbody>
</table>

**Oracle Event Hub Cloud Service — Dedicated: Instances Page**

The Oracle Event Hub Cloud Service — Dedicated: Instances page displays all the available clusters.

**Topics**

- What You Can Do from the Instances Page
- What You See on the Instances Page

**What You Can Do from the Instances Page**

Use the Oracle Event Hub Cloud Service — Dedicated: Instances page to perform tasks described in the following topics:

- Viewing All Clusters
- Creating a Custom Cluster
- Viewing Details for a Cluster
- Stopping and Starting a Cluster
- Deleting a Cluster
What You See on the Instances Page

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome!</td>
<td>Click to go to the Welcome page.</td>
</tr>
<tr>
<td>Instances</td>
<td>Navigation menu providing access to various services the user has purchased.</td>
</tr>
<tr>
<td>Activity</td>
<td>Click to go to the Activity page.</td>
</tr>
<tr>
<td>SSH Access</td>
<td>Click to go to the SSH Access page.</td>
</tr>
<tr>
<td>Refresh</td>
<td>Click to refresh the page.</td>
</tr>
<tr>
<td>Summary</td>
<td>Summary of resources being used:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Instances</strong> — Total number of configured clusters.</td>
</tr>
<tr>
<td></td>
<td>• <strong>OCPUs</strong> — Total number of Oracle CPUs allocated across all clusters.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Memory</strong> — Total amount of compute node memory allocated across all</td>
</tr>
<tr>
<td></td>
<td>clusters.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Storage</strong> — Total amount of storage allocated across all clusters.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Public IPs</strong> — Number of public IP addresses allocated across all</td>
</tr>
<tr>
<td></td>
<td>clusters.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Used/Total Partitions</strong> — Number of used &amp; total partitions across all</td>
</tr>
<tr>
<td></td>
<td>clusters.</td>
</tr>
<tr>
<td>Search</td>
<td>Enter a full or partial cluster name to filter the list of clusters to</td>
</tr>
<tr>
<td></td>
<td>include only those that contain the string in their name.</td>
</tr>
<tr>
<td>Create Instance</td>
<td>Click to create a new cluster. See <a href="#">Creating a Custom Cluster</a> page.</td>
</tr>
<tr>
<td>Status</td>
<td>Current status of the cluster.</td>
</tr>
<tr>
<td>Version</td>
<td>Version of Oracle Event Hub Cloud Service — Dedicated configured on the</td>
</tr>
<tr>
<td></td>
<td>cluster.</td>
</tr>
<tr>
<td>Nodes</td>
<td>Number of nodes.</td>
</tr>
<tr>
<td>Capacity</td>
<td>The number of partitions the cluster can support. This field indicates both</td>
</tr>
<tr>
<td></td>
<td>the used partitions and the total number of available partitions.</td>
</tr>
<tr>
<td>Created On/Submitted On</td>
<td>The date when the creation request was submitted.</td>
</tr>
<tr>
<td>OCPUs</td>
<td>Number of Oracle CPUs associated with the cluster.</td>
</tr>
<tr>
<td>Memory</td>
<td>Amount of compute node memory in GBs associated with the cluster.</td>
</tr>
<tr>
<td>Storage</td>
<td>Amount of raw block storage in GBs associated with the cluster.</td>
</tr>
<tr>
<td>Element</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>menu icon (for each deployment)</td>
<td>Menu that provides the following options:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Start</strong> — Click to start all the virtual machines (VMs) hosting the nodes of the cluster.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Stop</strong> — Click to stop all the virtual machines (VMs) hosting the nodes of the cluster.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Restart</strong> — Click to restart all the virtual machines (VMs) hosting the nodes of the cluster.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Access Rules</strong> — Click to navigate to the Access Rules page.</td>
</tr>
<tr>
<td></td>
<td>• <strong>SSH Access</strong> — Add another SSH public key or replace the existing SSH public key associated with the cluster.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Delete</strong> — Click to delete the cluster.</td>
</tr>
</tbody>
</table>

| Instance Create and Delete History | Listing of attempts to create or delete a cluster. Click the triangle icon next to the title to view the history listing. |

Oracle Event Hub Cloud Service — Dedicated: Instance Overview Page

The Oracle Event Hub Cloud Service — Dedicated: Instance Overview page displays overview information of a cluster.

Topics

• **What You Can Do from the Instance Overview Page**

• **What You See on the Overview Tab**

• **What You See On The Administration Tab**

What You Can Do from the Instance Overview Page

Use the Oracle Event Hub Cloud Service — Dedicated: Instance Overview page to perform tasks described in the following topics:

• **Viewing Details for a Cluster**

• **Stopping and Starting a Cluster**
What You See on the Overview Tab

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| (for the cluster) | Menu that provides the following options to manage the cluster:  
  - **Start** — Start all the virtual machines (VMs) hosting the nodes of the cluster.  
  - **Stop** — Stop all the virtual machines (VMs) hosting the nodes of the cluster.  
  - **Restart** — Restart all the virtual machines (VMs) hosting the nodes of the cluster.  
  - **Scale Out** — Add a node to this cluster  
  - **Access Rules** — Manage access rules that control network access to service components.  
  - **SSH Access** — Associate an SSH public key to the cluster.  
  - **View Activity** — View activities for all cloud services in your identity domain. |
| ![Start] | Click to start all the virtual machines (VMs) hosting the nodes of this cluster. |
| ![Stop] | Click to stop all the virtual machines (VMs) hosting the nodes of this cluster. |
| ![Restart] | Click to restart all the virtual machines (VMs) hosting the nodes of this cluster. |
| ![Add Node] | Click to add a node to this cluster. |
| ![Cluster Health] | Click to display the health of this cluster. |
| Instance Overview | Displays overview information for the cluster. |
| ![Refresh] | Click to refresh the page. |
| Nodes, OCPUs, Memory, and Storage | Summary of resources being used:  
  - **Nodes** — Total number of nodes for this cluster.  
  - **OCPUs** — Total number of Oracle CPUs allocated for this cluster.  
  - **Memory** — Total amount of compute node memory allocated for this cluster.  
  - **Storage** — Total amount of storage allocated for this cluster. |
<p>| Status | Status of the cluster. |
| Authentication Type | Type of authentication chosen for this cluster. |
| (for Kafka) | Displays information for the Kafka nodes. |
| State | Status of the Virtual Machines (VMs) used for the Kafka nodes. |
| Compute Shape | The compute shape used for the Kafka nodes. |</p>
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connect Descriptor</td>
<td>The IP address and connection description of the server hosting the Kafka nodes.</td>
</tr>
<tr>
<td>Deployment Type</td>
<td>The deployment type of the cluster.</td>
</tr>
<tr>
<td>(for Resources under Kafka)</td>
<td>Displays resource information for the Kafka nodes.</td>
</tr>
<tr>
<td>Host Name</td>
<td>Name of the Virtual Machine(VM) hosting the Kafka node.</td>
</tr>
<tr>
<td>Public IP</td>
<td>IP address of the Virtual Machine(VM) hosting the Kafka node.</td>
</tr>
<tr>
<td>Instance</td>
<td>The number of master and slave nodes assigned within the Kafka node.</td>
</tr>
<tr>
<td>OCPUs</td>
<td>Total number of Oracle CPUs allocated for the Kafka node.</td>
</tr>
<tr>
<td>Memory</td>
<td>Total amount of compute node memory allocated for the Kafka node.</td>
</tr>
<tr>
<td>Storage</td>
<td>Total amount of storage allocated for the Kafka node.</td>
</tr>
<tr>
<td>(for Resources under Kafka)</td>
<td>Menu that provides the following options:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Start</strong>— Start the virtual machine (VM) hosting the Kafka node.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Stop</strong>— Stop the virtual machine (VM) hosting the Kafka node.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Restart</strong>— Restart the virtual machine (VM) hosting the Kafka node.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Scale Up/Down</strong>— Scale Up/Down the Kafka node.</td>
</tr>
<tr>
<td>(for Kafka Connect)</td>
<td>Displays information for the Kafka Connect nodes.</td>
</tr>
<tr>
<td>State</td>
<td>Status of the Virtual Machines (VMs) used for the Kafka Connect nodes.</td>
</tr>
<tr>
<td>Compute Shape</td>
<td>The compute shape used for the Kafka Connect nodes.</td>
</tr>
<tr>
<td>Connect User Name</td>
<td>User Name to access the Kafka Connect.</td>
</tr>
<tr>
<td>Enable Kafka Connect</td>
<td>Whether Kafka Connect is enabled or disabled for this cluster.</td>
</tr>
<tr>
<td>(for Resources under Kafka Connect)</td>
<td>Displays resource information for the Kafka Connect nodes.</td>
</tr>
<tr>
<td>Host Name</td>
<td>Name of the Virtual Machine(VM) hosting the Kafka Connect node.</td>
</tr>
<tr>
<td>Public IP</td>
<td>IP address of the Virtual Machine(VM) hosting the Kafka Connect node.</td>
</tr>
<tr>
<td>Instance</td>
<td>The number of master and slave nodes assigned within the Kafka Connect node.</td>
</tr>
<tr>
<td>OCPUs</td>
<td>Total number of Oracle CPUs allocated for the Kafka Connect node.</td>
</tr>
<tr>
<td>Element</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Memory</td>
<td>Total amount of compute node memory allocated for the Kafka Connect node.</td>
</tr>
<tr>
<td>Storage</td>
<td>Total amount of storage allocated for the Kafka Connect node.</td>
</tr>
</tbody>
</table>
| [ ] (for Resource under Kafka Connect) | Menu that provides the following options:  
• **Restart**— Restart the virtual machine (VM) hosting the Kafka Connect node.  
• **Scale Up/Down**— Scale Up/Down the Kafka Connect node. |
| [ ] (for REST Proxy)              | Displays information for the REST proxy nodes.                                                                                                   |
| State                             | Status of the Virtual Machines (VMs) used for the REST proxy nodes.                                                                               |
| Compute Shape                     | The compute shape used for the REST proxy nodes.                                                                                                  |
| User Name                         | User Name to access the REST proxy.                                                                                                               |
| Enable REST Access                | Whether REST proxy is enabled or disabled for this cluster.                                                                                      |
| [ ] (for Resources under REST Proxy) | Displays resource information for the REST proxy nodes.                                                                                           |
| Host Name                         | Name of the Virtual Machine(VM) hosting the REST proxy node.                                                                                     |
| Public IP                         | IP address of the Virtual Machine(VM) hosting the REST proxy node.                                                                                |
| Instance                          | The number of master and slave nodes assigned within the REST proxy node.                                                                         |
| OCPUs                             | Total number of Oracle CPUs allocated for the REST proxy node.                                                                                            |
| Memory                            | Total amount of compute node memory allocated for the REST proxy node.                                                                            |
| Storage                           | Total amount of storage allocated for the REST proxy node.                                                                                       |
| [ ] (for Resources under REST Proxy) | Menu that provides the following options:  
• **Restart**— Restart the virtual machine (VM) hosting the REST proxy node.  
• **Scale Up/Down**— Scale Up/Down the REST proxy node. |

**What You See On The Administration Tab**

The following table describes the key information shown on the Administration tab of the Oracle Event Hub Cloud Service — Dedicated: Instance Overview page.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available Patches</td>
<td>Displays available patches with this cluster.</td>
</tr>
<tr>
<td>[ ]</td>
<td>Click to refresh the page.</td>
</tr>
</tbody>
</table>
The SSH Access page enables you to view and add SSH public keys to Oracle Event Hub Cloud Service — Dedicated Clusters in your identity domain. You can restrict the list of Clusters displayed using search filters.

### Topics

- **What You Can Do from the SSH Access Page**
- **What You See on the SSH Access Page**

### What You Can Do from the SSH Access Page

Use the SSH Access page to view and add SSH public keys to the deployments in your identity domain.

You can use the page’s search section to filter the list of displayed Clusters based on the Cluster name. In the table of results, you can:

- Click any column heading to sort the table by that column.
- Click the triangle at the start of a Cluster’s row to see more details.

### What You See on the SSH Access Page

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Menu](image) (for the resource) | Menu that provides the following options:  
  - **Precheck**  — Perform a patch pre check.  
  - **Patch**  — Perform a patch update. |
| ![Display activities](image) (for Patch and Rollback History) | Click to display the list of activities performed on the patch. |

---

**Oracle Event Hub Cloud Service — Dedicated: SSH Access Page**

The SSH Access page enables you to view and add SSH public keys to Oracle Event Hub Cloud Service — Dedicated Clusters in your identity domain. You can restrict the list of Clusters displayed using search filters.
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Name</td>
<td>Shows the name of the Cluster.</td>
</tr>
<tr>
<td>Service Type</td>
<td>Shows the type of service for this Cluster.</td>
</tr>
<tr>
<td>Last Update</td>
<td>Shows the most recent time the SSH keys for this Cluster were updated.</td>
</tr>
</tbody>
</table>

**Actions**

Click the **Add New Key** button to associate another SSH public key to this Cluster, or to replace the existing SSH public key for the Cluster.

The **Add New Key** overlay is displayed with its **Key value** field displaying the deployment’s most recent SSH public key.

Specify the public key using one of the following methods:

- Select **Upload a new SSH Public Key value from file** and click **Browse** to select a file that contains the public key.
- Select **Key value**. Delete the current key value and paste the new public key into the text area. Make sure the value does not contain line breaks or end with a line break.

The **Add New Key** button is enabled only if the service is running.
Oracle Cloud Pages in Oracle Event Hub Cloud Service

Topics
- Oracle Event Hub Cloud Service: Activity Page
- Oracle Event Hub Cloud Service: Instances Page

Oracle Event Hub Cloud Service: Activity Page

The Activity page displays activities for all cloud services in your identity domain. You can restrict the list of activities displayed using search filters.

Topics
- What You Can Do from the Activity Page
- What You See on the Activity Page

What You Can Do from the Activity Page

Use the Activity page to view operations for all instances in your identity domain. You can use the page’s Search Activity Log section to filter the list of displayed operations based on:

- The time the operation was started
- The status of the operation
- The name of the Topic on which the operation was performed
- The service type of the Topic on which the operation was performed
- The type of the operation

In the table of results, you can:

- Click any column heading to sort the table by that column.
- Click the triangle at the start of an operation’s row to see more details about that operation.

What You See on the Activity Page

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🗂️</td>
<td>Displays Search Activity Log to search and review activities of Cloud Services in your identity domain.</td>
</tr>
<tr>
<td>Element</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Start Time Range</td>
<td>Filters activity results to include only operations started within a specified time range.</td>
</tr>
<tr>
<td>Operation Status</td>
<td>Filters operations by status of the operation:</td>
</tr>
<tr>
<td></td>
<td>• All</td>
</tr>
<tr>
<td></td>
<td>• Scheduled</td>
</tr>
<tr>
<td></td>
<td>• Running</td>
</tr>
<tr>
<td></td>
<td>• Succeeded</td>
</tr>
<tr>
<td></td>
<td>• Failed</td>
</tr>
<tr>
<td></td>
<td>You can select any subset of status types. The default value is All.</td>
</tr>
<tr>
<td>Service Name</td>
<td>Filters the activity results to include operations only for the specified Topic. You can enter a full or partial Topic name.</td>
</tr>
<tr>
<td>Service Type</td>
<td>Filters the activity results to include operations only for instances of the specified service type. The default value is the current cloud service.</td>
</tr>
<tr>
<td>Operation</td>
<td>Filters the activity results to include selected types of operations. You can select any subset of the given operations. The default value is All.</td>
</tr>
<tr>
<td>Search</td>
<td>Searches for activities by applying the filters specified by the Start Time Range, Status, Service Name, Service Type, and Operation fields, and displays activity results in the table.</td>
</tr>
<tr>
<td>Reset</td>
<td>Clears the Start Time Range and Service Name fields, and returns the Status and Operation fields to their default values.</td>
</tr>
<tr>
<td>Results Per Page</td>
<td>Specifies the number of results you want to view per page. The default value is 10.</td>
</tr>
<tr>
<td>Refresh</td>
<td>Refreshes the page.</td>
</tr>
<tr>
<td>Display Status</td>
<td>Displays status messages for the given operation. Clicking on the resulting downward arrow hides the status messages.</td>
</tr>
<tr>
<td>Operation</td>
<td>Shows the type of operation performed on the Topic.</td>
</tr>
<tr>
<td>Service Name</td>
<td>Shows the name of the Topic.</td>
</tr>
<tr>
<td></td>
<td>You can sort the column in ascending or descending order.</td>
</tr>
<tr>
<td>Service Type</td>
<td>Shows the type of cloud service for this Topic.</td>
</tr>
<tr>
<td></td>
<td>You can sort the column in ascending or descending order.</td>
</tr>
<tr>
<td>Operation Status</td>
<td>Shows the status of the Topic.</td>
</tr>
<tr>
<td></td>
<td>You can sort the column in ascending or descending order.</td>
</tr>
<tr>
<td>Start Time</td>
<td>Shows the time the operation started.</td>
</tr>
<tr>
<td></td>
<td>You can sort the column in ascending or descending order.</td>
</tr>
</tbody>
</table>
Oracle Event Hub Cloud Service: Instances Page

The Oracle Event Hub Cloud Service: Instances page displays all the topics.

Topics

- What You Can Do from the Instances Page
- What You See on the Instances Page

What You Can Do from the Instances Page

Use the Oracle Event Hub Cloud Service: Instances page to perform tasks described in the following topics:

- Viewing All Topics
- Creating a Topic
- Viewing Details for a Topic
- Deleting a Topic

What You See on the Instances Page

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome!</td>
<td>Click to go to the Welcome page.</td>
</tr>
<tr>
<td></td>
<td>Navigation menu providing access to various services the user has purchased.</td>
</tr>
<tr>
<td>Instances</td>
<td>Click to go to the Instances page.</td>
</tr>
<tr>
<td>Activity</td>
<td>Click to go to the Activity page.</td>
</tr>
<tr>
<td></td>
<td>Click to refresh the page.</td>
</tr>
<tr>
<td>Summary</td>
<td>Summary of resources being used:</td>
</tr>
<tr>
<td>Topics, and Partitions</td>
<td>• Topics — Number of topics.</td>
</tr>
<tr>
<td></td>
<td>• Partitions — Number of partitions across all the topics.</td>
</tr>
<tr>
<td>Element</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>Search by instance name or tags</td>
<td>Enter a full or partial topic name to filter the list of topics to include only those that contain the string in their name.</td>
</tr>
<tr>
<td>Create Instance</td>
<td>Click to create a new topic.</td>
</tr>
<tr>
<td>Topic</td>
<td>The full name of the topic.</td>
</tr>
<tr>
<td>Partitions</td>
<td>Number of partitions allocated to the topic.</td>
</tr>
<tr>
<td>Created On / Submitted On</td>
<td>The date when the creation request was submitted.</td>
</tr>
</tbody>
</table>
| menu icon (for each deployment) | Menu that provides the following options:  
  - **Event Hub Console** — Navigate to Event Hub Console.  
  - **Scale Service** — Scale the topic by adding partitions.  
  - **Edit** — Edit the retention period of the topic.  
  - **Delete** — Click to delete the topic. |
| Instance Create and Delete History | Listing of attempts to create or delete a topic. Click the triangle icon next to the title to view the history listing. |
Service Limits

There are various service limits in the Oracle Event Hub Cloud Service and Oracle Event Hub Cloud Service — Dedicated. Below is the summary of such service limits.

Topics

- Service Limits — Oracle Event Hub Cloud Service
- Service Limits — Oracle Event Hub Cloud Service — Dedicated

Service Limits — Oracle Event Hub Cloud Service

The below table is the summary of various service limits in Oracle Event Hub Cloud Service.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Limit values for Oracle Public Cloud</th>
<th>Limit values for Oracle Cloud Infrastructure</th>
<th>Limit values for Oracle Cloud at Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics</td>
<td>Maximum number of Topics you can create. You can create a Topic using 'Create' option.</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Partitions</td>
<td>Number of partitions you can have in a Topic. You can change the number of partitions using 'Scale' option.</td>
<td>Minimum 1 and Maximum 256 (Default: 2)</td>
<td>Minimum 1 and Maximum 256 (Default: 2)</td>
<td>Minimum 1 and Maximum 256 (Default: 2)</td>
</tr>
<tr>
<td>Retention Period (Hours)</td>
<td>Number of hours log should be retained. You can change the retention period using 'Edit'.</td>
<td>Minimum 1 and Maximum 336 hours i.e. 14 days (Default: 24)</td>
<td>Minimum 1 and Maximum 336 hours i.e. 14 days (Default: 24)</td>
<td>Minimum 1 and Maximum 336 hours i.e. 14 days (Default: 24)</td>
</tr>
</tbody>
</table>
### Service Limits — Oracle Event Hub Cloud Service — Dedicated

The below table is the summary of various service limits in Oracle Event Hub Cloud Service — Dedicated.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Limit values for Oracle Public Cloud</th>
<th>Limit values for Oracle Cloud Infrastructure</th>
<th>Limit values for Oracle Cloud at Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clusters</strong></td>
<td>Maximum number of Clusters you can create. You can create a Cluster using 'Create' option.</td>
<td>Unlimited</td>
<td>Unlimited</td>
<td>Unlimited</td>
</tr>
<tr>
<td><strong>Deployment Type</strong></td>
<td>Recommended deployment runs Kafka Brokers and ZooKeeper on different nodes. Basic Deployment runs Kafka Broker and ZooKeeper on same node(s). You cannot change the Deployment Type once created.</td>
<td>Basic or Recommended&lt;br&gt;&lt;<strong>Default:</strong> Basic&lt;br&gt;&lt;<strong>Recommended:</strong> Recommended</td>
<td>Basic or Recommended&lt;br&gt;&lt;<strong>Default:</strong> Basic&lt;br&gt;&lt;<strong>Recommended:</strong> Recommended</td>
<td>Basic or Recommended&lt;br&gt;&lt;<strong>Default:</strong> Basic&lt;br&gt;&lt;<strong>Recommended:</strong> Recommended</td>
</tr>
<tr>
<td>Feature</td>
<td>Description</td>
<td>Limit values for Oracle Public Cloud</td>
<td>Limit values for Oracle Cloud Infrastructure</td>
<td>Limit values for Oracle Cloud at Customer</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------</td>
<td>---------------------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Number of Nodes in Basic Deployment</td>
<td>The number of Kafka and ZooKeeper nodes. You can change the Number of nodes using 'Scale Out'.</td>
<td>Possible values: 1 or 3</td>
<td>Possible values: 1 or 3</td>
<td>Possible values: 1 or 3</td>
</tr>
<tr>
<td></td>
<td>Default: 1</td>
<td>Default: 1</td>
<td>Default: 1</td>
<td>Default: 1</td>
</tr>
<tr>
<td></td>
<td>Recommended: 3</td>
<td>Recommended: 3</td>
<td>Recommended: 3</td>
<td>Recommended: 3</td>
</tr>
<tr>
<td>Feature</td>
<td>Description</td>
<td>Limit values for Oracle Public Cloud</td>
<td>Limit values for Oracle Cloud Infrastructure</td>
<td>Limit values for Oracle Cloud at Customer</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
</tbody>
</table>
| **Compute Shape in Basic Deployment** | The compute shape to use for Kafka servers. You can change the Compute Shape using 'Scale Up/Down'. | Four shapes are available:  
  - OC1m - 1.0 OCPU, 15.0GB RAM  
  - OC2m - 2.0 OCPU, 30.0GB RAM  
  - OC3m - 4.0 OCPU, 60.0GB RAM  
  - OC4m - 8.0 OCPU, 120.0GB RAM | Below shapes are available:  
  - VM.Standard 1.1 - 1.0 OCPU, 7.0GB RAM  
  - VM.Standard 2.1 - 2.0 OCPU, 15.0GB RAM  
  - VM.Standard 1.2 - 2.0 OCPU, 14.0GB RAM  
  - VM.Standard 2.2 - 2.0 OCPU, 30.0GB RAM  
  - VM.Standard 1.4 - 4.0 OCPU, 28.0GB RAM  
  - VM.Standard 2.4 - 4.0 OCPU, 60.0GB RAM  
  - VM.Standard 1.8 - 8.0 OCPU, 56.0GB RAM  
  - VM.Standard 2.8 - 8.0 OCPU, 120.0GB RAM  
  - VM.Standard 1.16 - 16.0 OCPU, 112.0GB RAM  
  - VM.Standard 2.16 - 16.0 OCPU, 240.0GB RAM  
  - VM.Standard 2.24 - 24.0 OCPU, 320.0GB RAM  
  - BM.Standard 1.36 - 36.0 OCPU, 112.0GB RAM | Four shapes are available:  
  - OC1m - 1.0 OCPU, 15.0GB RAM  
  - OC2m - 2.0 OCPU, 30.0GB RAM  
  - OC3m - 4.0 OCPU, 60.0GB RAM  
  - OC4m - 8.0 OCPU, 120.0GB RAM  
  - VM.Standard 1.1 - 1.0 OCPU, 7.0GB RAM  
  - VM.Standard 2.1 - 2.0 OCPU, 15.0GB RAM  
  - VM.Standard 1.2 - 2.0 OCPU, 14.0GB RAM  
  - VM.Standard 2.2 - 2.0 OCPU, 30.0GB RAM  
  - VM.Standard 1.4 - 4.0 OCPU, 28.0GB RAM  
  - VM.Standard 2.4 - 4.0 OCPU, 60.0GB RAM  
  - VM.Standard 1.8 - 8.0 OCPU, 56.0GB RAM  
  - VM.Standard 2.8 - 8.0 OCPU, 120.0GB RAM  
  - VM.Standard 1.16 - 16.0 OCPU, 112.0GB RAM  
  - VM.Standard 2.16 - 16.0 OCPU, 240.0GB RAM  
  - VM.Standard 2.24 - 24.0 OCPU, 320.0GB RAM  
  - BM.Standard 1.36 - 36.0 OCPU, 112.0GB RAM |

**Default:** OC2m - 2.0 OCPU, 30.0GB RAM  

---
<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Limit values for Oracle Public Cloud</th>
<th>Limit values for Oracle Cloud Infrastructure</th>
<th>Limit values for Oracle Cloud at Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Kafka Brokers</strong></td>
<td>The number of Kafka brokers. You can change the number of Kafka brokers using 'Scale Out'.</td>
<td>256.0GB RAM</td>
<td>Default: VM.Standard2.1 - 1.0 OCPU, 15.0GB RAM</td>
<td>Minimum 0 and Maximum 20 Default: 5</td>
</tr>
<tr>
<td>Feature</td>
<td>Description</td>
<td>Limit values for Oracle Public Cloud</td>
<td>Limit values for Oracle Cloud Infrastructure</td>
<td>Limit values for Oracle Cloud at Customer</td>
</tr>
<tr>
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</tr>
</tbody>
</table>
| Kafka Compute Shape | The compute shape to use for Kafka servers. You can change the Compute Shape using 'Scale Up/Down'. | Four shapes are available: • OC1m - 1.0 OCPU, 15.0GB RAM  
• OC2m - 2.0 OCPU, 30.0GB RAM  
• OC3m - 4.0 OCPU, 60.0GB RAM  
• OC4m - 8.0 OCPU, 120.0GB RAM  
**Default:** OC2m - 2.0 OCPU, 30.0GB RAM | Below shapes are available: • VM.Standard 1.1 - 1.0 OCPU, 7.0GB RAM  
• VM.Standard 2.1 - 2.0 OCPU, 15.0GB RAM  
VM.Standard 1.2 - 2.0 OCPU, 14.0GB RAM  
• VM.Standard 2.2 - 2.0 OCPU, 30.0GB RAM  
• VM.Standard 1.4 - 4.0 OCPU, 28.0GB RAM  
• VM.Standard 2.4 - 4.0 OCPU, 60.0GB RAM  
• VM.Standard 1.8 - 8.0 OCPU, 56.0GB RAM  
• VM.Standard 2.8 - 8.0 OCPU, 120.0GB RAM  
• VM.Standard 1.16 - 16.0 OCPU, 112.0GB RAM  
• VM.Standard 2.16 - 16.0 OCPU, 240.0GB RAM  
• VM.Standard 2.24 - 24.0 OCPU, 320.0GB RAM  
• BM.Standard 1.36 - 36.0 OCPU, 216.0GB RAM  
• BM.Standard 2.36 - 36.0 OCPU, 432.0GB RAM  
• BM.Standard 2.72 - 72.0 OCPU, 864.0GB RAM  
• BM.Standard 2.144 - 144.0 OCPU, 1728.0GB RAM | Four shapes are available: • OC1m - 1.0 OCPU, 15.0GB RAM  
• OC2m - 2.0 OCPU, 30.0GB RAM  
• OC3m - 4.0 OCPU, 60.0GB RAM  
• OC4m - 8.0 OCPU, 120.0GB RAM  
**Default:** OC1m - 1.0 OCPU, 15.0GB RAM |
### Feature Description

<table>
<thead>
<tr>
<th>Feature</th>
<th>Limit values for Oracle Public Cloud</th>
<th>Limit values for Oracle Cloud Infrastructure</th>
<th>Limit values for Oracle Cloud at Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>256.0GB RAM</td>
<td>Default: VM.Standard2.1 - 1.0 OCPU, 15.0GB RAM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of ZooKeeper Nodes</td>
<td>Possible values: 1,3 or 5 Default: 3 Recommended: 3</td>
<td>Possible values: 1,3 or 5 Default: 3 Recommended: 3</td>
<td>Possible values: 1,3 or 5 Default: 3 Recommended: 3</td>
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<tr>
<td></td>
<td>You cannot change the number of ZooKeeper nodes once created.</td>
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</tr>
<tr>
<td>Feature</td>
<td>Description</td>
<td>Limit values for Oracle Public Cloud</td>
<td>Limit values for Oracle Cloud Infrastructure</td>
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</tr>
<tr>
<td>ZooKeeper</td>
<td>The compute shape to use for ZooKeeper servers.</td>
<td>Four shapes are available:</td>
<td>Below shapes are available:</td>
</tr>
<tr>
<td>Compute Shape</td>
<td>You can change the Compute Shape using 'Scale Up/Down'.</td>
<td>• OC1m - 1.0 OCPU, 15.0GB RAM</td>
<td>• VM.Standard 1.1 - 1.0 OCPU, 7.0GB RAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• OC2m - 2.0 OCPU, 30.0GB RAM</td>
<td>• VM.Standard 2.1 - 1.0 OCPU, 15.0GB RAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• OC3m - 4.0 OCPU, 60.0GB RAM</td>
<td>• VM.Standard 1.2 - 2.0 OCPU, 14.0GB RAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• OC4m - 8.0 OCPU, 120.0GB RAM</td>
<td>• VM.Standard 2.2 - 2.0 OCPU, 30.0GB RAM</td>
</tr>
<tr>
<td>Default: OC1m</td>
<td></td>
<td>Default: OC1m - 1.0 OCPU, 15.0GB RAM</td>
<td>Default: OC1m - 1.0 OCPU, 15.0GB RAM</td>
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</tr>
<tr>
<td>REST Proxy Number of Nodes</td>
<td>The number of REST Proxy nodes. You can change the number REST Proxy nodes using 'Scale Out'.</td>
<td>Possible values: 1, 2, 3 or 4 Default: 1 Recommended: 2</td>
<td>Possible values: 1, 2, 3 or 4 Default: 1 Recommended: 2</td>
</tr>
<tr>
<td>Feature</td>
<td>Description</td>
<td>Limit values for Oracle Public Cloud</td>
<td>Limit values for Oracle Cloud Infrastructure</td>
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</tbody>
</table>
| REST Proxy      | The compute shape to use for REST Proxy servers. You can change the Compute Shape using 'Scale Up/Down'. | Three shapes are available:  
- OC1m - 1.0 OCPU, 15.0GB RAM  
- OC2m - 2.0 OCPU, 30.0GB RAM  
- OC3m - 4.0 OCPU, 60.0GB RAM | Below shapes are available:  
- VM.Standard 1.1 - 1.0 OCPU, 7.0GB RAM  
- VM.Standard 2.1 - 1.0 OCPU, 15.0GB RAM  
- VM.Standard 1.2 - 2.0 OCPU, 14.0GB RAM | Three shapes are available:  
- OC1m - 1.0 OCPU, 15.0GB RAM  
- OC2m - 2.0 OCPU, 30.0GB RAM  
- OC3m - 4.0 OCPU, 60.0GB RAM |
<p>| Compute Shape   | Default: OC1m - 1.0 OCPU, 15.0GB RAM | | Default: OC1m - 1.0 OCPU, 15.0GB RAM | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Kafka Connect</strong></td>
<td>The number of Kafka Connect nodes.</td>
<td>Possible values: 1, 2, 3 or 4</td>
<td>Possible values: 1, 2, 3 or 4</td>
<td>Possible values: 1, 2, 3 or 4</td>
</tr>
<tr>
<td><strong>Number of Nodes</strong></td>
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<td>Default: 1</td>
<td>Default: 1</td>
<td>Default: 1</td>
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<td>Recommended: 2</td>
<td>Recommended: 2</td>
<td>Recommended: 2</td>
</tr>
</tbody>
</table>

- RAM: 256.0GB
  - BM.Standard: 2.52 - 52.0 OCPU, 768.0GB RAM

**Default:**
- VM.Standard1.1 - 1.0 OCPU, 7.0GB RAM

**Recommended:**
- 2
<table>
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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Kafka Connect Compute Shape</strong></td>
<td>The compute shape to use for Kafka Connect servers.</td>
<td>Three shapes are available:</td>
<td>Below shapes are available:</td>
<td>Three shapes are available:</td>
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<tr>
<td></td>
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<td>• OC1m - 1.0 OCPU, 15.0GB RAM</td>
<td>• VM.Standard 1.1 - 1.0 OCPU, 7.0GB RAM</td>
<td>• OC1m - 1.0 OCPU, 15.0GB RAM</td>
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<td></td>
<td></td>
<td>• OC2m - 2.0 OCPU, 30.0GB RAM</td>
<td>• VM.Standard 2.1 - 1.0 OCPU, 15.0GB RAM VM.Standard 1.2 - 2.0 OCPU, 14.0GB RAM</td>
<td>• OC2m - 2.0 OCPU, 30.0GB RAM</td>
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<tr>
<td></td>
<td></td>
<td>• OC3m - 4.0 OCPU, 60.0GB RAM</td>
<td>• VM.Standard 2.2 - 2.0 OCPU, 30.0GB RAM VM.Standard 1.4 - 4.0 OCPU, 28.0GB RAM</td>
<td>• OC3m - 4.0 OCPU, 60.0GB RAM</td>
</tr>
<tr>
<td>Default: OC1m - 1.0 OCPU, 15.0GB RAM</td>
<td></td>
<td></td>
<td>• VM.Standard 2.4 - 4.0 OCPU, 60.0GB RAM VM.Standard 1.8 - 8.0 OCPU, 56.0GB RAM</td>
<td>• Default: OC1m - 1.0 OCPU, 15.0GB RAM</td>
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<td>• VM.Standard 2.8 - 8.0 OCPU, 120.0GB RAM VM.Standard 1.16 - 16.0 OCPU, 112.0GB RAM</td>
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<td>• VM.Standard 2.16 - 16.0 OCPU, 240.0GB RAM</td>
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<td>• VM.Standard 2.24 - 24.0 OCPU, 320.0GB RAM</td>
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<td>• BM.Standard 1.36 - 36.0 OCPU,</td>
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<td>• BM.Standard 2.52 - 52.0 OCPU,</td>
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<td>768.0GB RAM</td>
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<td>Default: VM.Standard1.1 - 1.0 OCPU, 7.0GB RAM</td>
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</tbody>
</table>