## Oracle<sup>®</sup> Public Cloud Machine

Using the Twitter Adapter Release 16.3.1 **E74263-02** 

October 2016

This guide describes how to configure and add the Twitter Adapter to an integration in Oracle Integration Cloud Service. Oracle Public Cloud Machine Using the Twitter Adapter, Release 16.3.1

E74263-02

Copyright © 2016, Oracle and/or its affiliates. All rights reserved.

Primary Author: Mark Kennedy

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

## Contents

Pre	eface	. v
	Audience	. v
	Related Resources	. v
	Conventions	. v
1	Getting Started with the Twitter Adapter	
	About the Twitter Adapter	1-1
	What Application Version Does the Twitter Adapter Support?	1-1
	About Oracle Integration Cloud Service	1-1
	About Oracle Integration Cloud Service Connections	1-2
	About Oracle Integration Cloud Service Integrations	1-2
	Typical Workflow for Creating and Including an Adapter Connection in an Integration	1-3
2	Creating a Twitter Adapter Connection	
	Prerequisites for Creating a Connection	2-1
	Uploading an SSL Certificate	2-2
	Creating a Connection	2-3
	Adding a Contact Email	2-4
	Configuring Connection Security	2-4
	Testing the Connection	2-5
	Editing a Connection	2-5
	Cloning a Connection	2-5
	Deleting a Connection	2-6
3	Creating an Integration	
4	Adding the Twitter Adapter Connection to an Integration	
	Configuring Basic Information Properties	4-1
	What You Can Do from the Basic Info Page	4-1
	What You See on the Basic Info Page	4-1
	Configuring Twitter Adapter Invoke Operation Properties	4-2
	What You Can Do from the Twitter Adapter Operation Selection Page	4-2

	What You See on the Twitter Adapter Operation Selection Page	4-2
	Reviewing Configuration Values on the Summary Page	4-3
	What You Can Do from the Summary Page	4-3
	What You See on the Summary Page	4-3
5	Creating Mappings and Lookups in Integrations	

## 6 Administering Integrations

## 7 Troubleshooting the Twitter Adapter

Changes that Can Invalidate Credentials Required for the Twitter Connection	7-1
Getting an Invalid or Expired Token Error Response	7-2

## Preface

*Using the Twitter Adapter* describes how to configure the Twitter Adapter as a connection in an integration in Oracle Integration Cloud Service.

#### **Topics:**

- Audience
- Related Resources
- Conventions

## Audience

*Using the Twitter Adapter* is intended for developers who want to use the Twitter Adapter in integrations in Oracle Integration Cloud Service.

## **Related Resources**

For more information, see these Oracle resources:

- Using Oracle Integration Cloud Service
- Using the Oracle Mapper
- Oracle Public Cloud Machine documentation in the Oracle Help Center: http://docs.oracle.com

## **Conventions**

The following text conventions are used in this document:

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

1

## **Getting Started with the Twitter Adapter**

Review the following conceptual topics to learn about the Twitter Adapter and how to use it as a connection in integrations in Oracle Integration Cloud Service. A typical workflow of adapter and integration tasks is also provided.

#### Topics

- About the Twitter Adapter
- What Application Version Does the Twitter Adapter Support?
- About Oracle Integration Cloud Service
- About Oracle Integration Cloud Service Connections
- About Oracle Integration Cloud Service Integrations
- Typical Workflow for Creating and Including an Adapter Connection in an Integration

### About the Twitter Adapter

The Twitter Adapter enables you to create an integration with a Twitter application. Twitter is an online social networking service that enables you to send and read short messages called tweets. If you register with Twitter, you can read and post tweets. If you do not log in, you can only read tweets.

The Twitter Adapter is one of many predefined adapters included with Oracle Integration Cloud Service. You can configure the Twitter Adapter as a connection in an integration in Oracle Integration Cloud Service. For information about Oracle Integration Cloud Service, connections, and integrations, see the following sections:

- About Oracle Integration Cloud Service
- About Oracle Integration Cloud Service Connections
- About Oracle Integration Cloud Service Integrations

### What Application Version Does the Twitter Adapter Support?

The Twitter Adapter is compatible with version 1.1 of the Twitter REST API.

## About Oracle Integration Cloud Service

Oracle Integration Cloud Service is a complete, secure, but lightweight integration solution that enables you to connect your applications in the cloud. It simplifies connectivity between your applications, and can connect both your applications that live in the cloud and your applications that still live on premises. Oracle Integration

Cloud Service provides secure, enterprise-grade connectivity regardless of the applications you are connecting or where they reside.

Oracle Integration Cloud Service provides native connectivity to Oracle Software as a Service (SaaS) applications, such as Oracle Sales Cloud, Oracle RightNow Cloud, and so on. Oracle Integration Cloud Service *adapters* simplify connectivity by handling the underlying complexities of connecting to applications using industry-wide best practices. You only need to create a *connection* that provides minimal connectivity information for each system. Oracle Integration Cloud Service *lookups* map the different codes or terms used by the applications you are integrating to describe similar items (such as country or gender codes). Finally, the visual data mapper enables you to quickly create direct mappings between the trigger and invoke data structures. From the mapper, you can also access lookup tables and use standard XPath functions to map data between your applications.

Once you integrate your applications and activate the integrations to the runtime environment, the dashboard displays information about the running integrations so you can monitor the status and processing statistics for each integration. The dashboard measures and tracks the performance of your transactions by capturing and reporting key information, such as throughput, the number of messages processed successfully, and the number of messages that failed processing. You can also manage business identifiers that track fields in messages and manage errors by integrations, connections, or specific integration instances.

### About Oracle Integration Cloud Service Connections

Connections define information about the instances of each predefined configuration you are integrating. Oracle Integration Cloud Service includes a set of predefined *adapters*, which are the types of applications on which you can base your connections, such as Oracle Sales Cloud, Oracle Eloqua Cloud, Oracle RightNow Cloud, and others. A connection is based on an adapter. A connection includes the additional information required by the adapter to communicate with a specific instance of an application (this can be referred to as metadata or as connection details). For example, to create a connection to a specific RightNow Cloud application instance, you must select the Oracle RightNow adapter and then specify the WSDL URL, security policy, and security credentials to connect to it.

#### **Video**

### About Oracle Integration Cloud Service Integrations

Integrations are the main ingredient of Oracle Integration Cloud Service. An integration includes at the least a trigger (source) connection (for requests sent to Oracle Integration Cloud Service) and invoke (target) connection (for requests sent from Oracle Integration Cloud Service to the target) and the field mapping between those two connections.

When you create your integrations, you build on the connections you already created by defining how to process the data for the trigger (source) and invoke (target) connections. This can include defining the type of operations to perform on the data, the business objects and fields against which to perform those operations, required schemas, and so on. To make this easier, the most complex configuration tasks are handled by Oracle Integration Cloud Service. Once your trigger (source) and invoke (target) connections are configured, the mappers between the two are enabled so you can define how the information is transferred between the trigger (source) and invoke (target) data structures for both the request and response messages.

#### **Video**

# Typical Workflow for Creating and Including an Adapter Connection in an Integration

You follow a very simple workflow to create a connection with an adapter and include the connection in an integration in Oracle Integration Cloud Service.

Step	Description	More Information
1	Create the adapter connections for the applications you want to integrate. The connections can be reused in multiple integrations and are typically created by the administrator.	Creating a Twitter Adapter Connection
2	Create the integration. When you do this, you add trigger and invoke connections to the integration.	Creating an Integration and Adding the Twitter Adapter Connection to an Integration
3	Map data between the trigger connection data structure and the invoke connection data structure.	Mapping Integration Cloud Service Data of Using Oracle Integration Cloud Service
4	(Optional) Create lookups that map the different values used by those applications to identify the same type of object (such as gender codes or country codes).	Creating Lookups of Using Oracle Integration Cloud Service
5	Activate the integration.	Managing Integrations of Using Oracle Integration Cloud Service
6	Monitor the integration on the dashboard.	Monitoring Integration Cloud Services of Using Oracle Integration Cloud Service
7	Track payload fields in messages during runtime.	Assigning Business Identifiers for Tracking Fields in Messages and Managing Business Identifiers for Tracking Fields in Messages of <i>Using Oracle</i> <i>Integration Cloud Service</i>
8	Manage errors at the integration level, connection level, or specific integration instance level.	Managing Errors of Using Oracle Integration Cloud Service

## **Creating a Twitter Adapter Connection**

A connection is based on an adapter. You define connections to the specific cloud applications that you want to integrate. The following topics describe how to define connections:

#### Topics

- Prerequisites for Creating a Connection
- Uploading an SSL Certificate
- Creating a Connection
- Editing a Connection
- Cloning a Connection
- Deleting a Connection

### **Prerequisites for Creating a Connection**

To use the Twitter Adapter, you must first have access to the Twitter API for your integration. To access the Twitter API, you must create an application.

To create an application:

**Note:** Create a separate Twitter application for every Oracle Integration Cloud Service instance.

- **1.** Go to the Twitter developer page at https://dev.twitter.com.
- 2. Create a new account or log in using an existing account if you already have one.
- 3. Click Manage Your Apps in the footer of the Twitter developer page.
- 4. Create a new application or select an existing one if already created.
- **5.** Authorize your application to use your Twitter account by clicking **Create my access token**.
- **6.** On the **Permissions** tab, ensure that the application has **Read and Write** permissions.
- **7.** Copy and paste the OAuth settings to a safe location, as displayed in the **Keys and Access Tokens** tab.

You need the following information. These keys contain sensitive data, and must be kept secret. If anyone gets this information, they can access your Twitter account.

- Consumer key
- Consumer secret
- Access token
- Access token secret

You specify this information when creating a connection in Configuring Connection Security.

**Note:** Before creating a Twitter connection, you must upload the trusted Twitter public certificate to Oracle Integration Cloud Service. The Twitter public certificate can be downloaded from https://twitter.com. Rename the public certificate file extension to .cer. To upload the certificate, see Uploading an SSL Certificate.

## Uploading an SSL Certificate

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

To upload a certificate:

**1.** From the Oracle Integration Cloud Service home page, click the **Administration** tab in the upper right corner.

All certificates currently uploaded to the trust store are displayed in the Certificates dialog. A navigation panel on the left side of the dialog displays the following details:

- All: Displays all certificates in Oracle Integration Cloud Service.
- **System**: Displays the certificates automatically included in Oracle Integration Cloud Service. These certificates cannot be deleted.
- **Uploaded**: Displays the certificates uploaded by individual users. These certificates can be deleted and updated.
- 2. Click Upload Certificate at the top of the page.
- 3. In the Upload Certificate dialog box, enter a unique identifier for the certificate.

This is a name you can use to identify the certificate.

- **4.** Click **Browse** to locate the certificate file (.cer).
- 5. Click Upload.

**6.** Click the certificate name to view details such as the subject of the certificate, the issuer of the certificate, the date the certificate was issued, and the date the certificate expires.

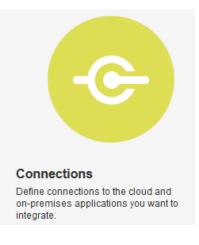
### **Creating a Connection**

The first step in creating an integration is to create the connections to the applications with which you want to share data.

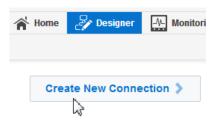
1. In the Integration Cloud Service toolbar, click Designer.



2. On the Designer Portal, click Connections.



3. Click Create New Connection.



The Create Connection — Select Adapter dialog is displayed.

**4.** Select an adapter from the dialog. You can also search for the type of adapter to use by entering a partial or full name in the Search field, and clicking **Search**.

The New Connection — Information dialog is displayed.

**5.** Enter the information to describe the connection. Use a meaningful name to help others find your connection when they begin to create their own integrations.

	Enter information that describes the connection. Use a meaningful name and description to help others find your connection when they create their own integrations. The Identifier must be unique and can be set only when the connection is created.	
* Connection Name	My_Connection	
* Identifier	MY_CONNECTION	
Description	Enter a brief description	

6. Click Create.

Your connection is created and you are now ready to configure connection details, such as email contact, connection properties, security policies, and connection login credentials.

#### Adding a Contact Email

From the Connection Administrator section of the connection, you can add a contact email address for notifications.

- 1. In the **Email Address** field, enter an email address to receive email notifications when problems occur.
- **2.** In the upper right corner, click **Save**.

#### **Configuring Connection Security**

Configure security for your Twitter connection by selecting the security policy and specifying the consumer key, consumer secret, access token, and access secret. The security policy grants you authorization access to the resources of the Twitter application.

- 1. Click Configure Credentials.
- **2.** In the **Security Policy** field, note that the **Custom Security Policy** security policy is displayed by default, and cannot be deselected.
- **3.** Complete the following fields with information created after completing the steps in Prerequisites for Creating a Connection.
  - **a.** In the **Consumer Key** field, enter the consumer key.
  - **b.** In the **Consumer Secret** field, enter the consumer secret.
  - c. In the Access Token field, enter the access token.
  - d. In the Access Secret field, enter the access token secret.

4. Click OK.

You are now ready to test your connection.

#### Testing the Connection

Test your connection to ensure that it is successfully configured.

1. In the upper right corner of the page, click Test.

If successful, the following message is displayed and the progress indicator shows 100%.

The connection test was successful!

- **2.** If your connection was unsuccessful, an error message is displayed with details. Verify that the configuration details you entered are correct.
- 3. When complete, click Save.

### **Editing a Connection**

You can edit connection settings after creating a new connection.

- 1. In the Oracle Integration Cloud Service toolbar, click Designer.
- 2. On the Designer Portal, click Connections.
- **3.** On the Connections page, select **Edit** from the connection **Actions** menu or click the connection name.

0	
~	d In
	$\gamma$
	Actions

The Connection page is displayed.

- **4.** To edit the notification email contact, change the email address in the **Email Address** field.
- To edit the connection properties, click Configure Connectivity. Note that some connections do not include this button. If your connector does not include a Configure Connectivity button, then click the Configure Credentials button.

#### **Cloning a Connection**

You can clone a copy of an existing connection. It is a quick way to create a new connection.

- 1. In the Oracle Integration Cloud Service toolbar, click Designer.
- 2. On the Designer Portal, click Connections.
- 3. On the Connections page, select Clone from the connection Actions menu.



The Clone Connection dialog is displayed.

- **4.** Enter the connection information.
- 5. Click Clone.
- **6.** Click **Edit** to configure the credentials of your cloned connection. Cloning a connection does not copy the credentials.

See Editing a Connection for instructions.

### **Deleting a Connection**

You can delete a connection from the connection menu.

- 1. In the Oracle Integration Cloud Service toolbar, click **Designer**.
- 2. On the Designer Portal, click Connections.
- 3. On the Connections page, click **Delete** from the connection **Actions** menu.



The Delete Connection dialog is displayed if the connection is not used in an integration.

4. Click Yes to confirm deletion.

## **Creating an Integration**

Integrations use the adapter connections you created to your applications, and define how information is shared between those applications. You can create, import, modify, or delete integrations; create integrations to publish or subscribe to messages; add and remove request and response enrichment triggers; and create routing paths for different invoke endpoints in integrations. Click the following topic for more information.

#### Topic

• Creating Integrations (in Using Oracle Integration Cloud Service)

4

## Adding the Twitter Adapter Connection to an Integration

When you drag the Twitter Adapter into the invoke area of an integration, the Adapter Endpoint Configuration Wizard is invoked. This wizard guides you through configuration of Twitter Adapter endpoint properties.

The following sections describe the wizard pages that guide you through configuration of the Twitter Adapter as an invoke in an integration. The Twitter Adapter cannot be used as a trigger in an integration.

#### Topics

- Configuring Basic Information Properties
- Configuring Twitter Adapter Invoke Operation Properties
- Reviewing Configuration Values on the Summary Page

For more information about the Twitter Adapter, see About the Twitter Adapter.

## **Configuring Basic Information Properties**

You can enter a name and description on the Basic Info page of each trigger and invoke adapter in your integration.

#### Topics

- What You Can Do from the Basic Info Page
- What You See on the Basic Info Page

#### What You Can Do from the Basic Info Page

You can specify the following values on the Basic Info page. The Basic Info page is the initial wizard page that is displayed whenever you drag an adapter to the trigger (source) or invoke (target) area supported by your adapter.

- Specify a meaningful name.
- Specify a description of the responsibilities.

#### What You See on the Basic Info Page

The following table describes the key information on the Basic Info page.

Element	Description
What do you want to call your endpoint?	<ul> <li>Provide a meaningful name so that others can understand the responsibilities of this connection. You can include English alphabetic characters, numbers, underscores, and dashes in the name. You cannot include the following:</li> <li>Blank spaces (for example, My Inbound Connection)</li> <li>Special characters (for example, #;83&amp; or righ(t)now4)</li> <li>Multibyte characters</li> </ul>
What does this endpoint do?	Enter an optional description of the connection's responsibilities. For example: This connection receives an inbound request to synchronize account information with the cloud application.

## **Configuring Twitter Adapter Invoke Operation Properties**

Enter the Twitter Adapter invoke operation selection parameters.

#### Topics

- What You Can Do from the Twitter Adapter Operation Selection Page
- What You See on the Twitter Adapter Operation Selection Page

#### What You Can Do from the Twitter Adapter Operation Selection Page

You can configure the following parameter on the invoke Twitter Adapter Operation page.

• Select the Twitter API operation to perform.

#### What You See on the Twitter Adapter Operation Selection Page

The following table describes the key information on the Twitter Adapter Operation Selection page.

Element	Description	
Select Operation	Select the Twitter API operation to invoke. Place your cursor over each operation to view a description of the operation.	
	<ul> <li>Search Tweets</li> <li>Get Followers IDs</li> <li>Get IDs of Retweeters</li> <li>Retweet</li> <li>Tweet</li> <li>Get Friends IDs</li> <li>Get Trends for Place</li> <li>Get Subscribers for List</li> <li>Get Followers List</li> </ul>	
	<ul> <li>Get Retweets of Me</li> <li>Get Friends List</li> <li>Lookup Statuses</li> <li>Get Trends Available</li> </ul>	

## **Reviewing Configuration Values on the Summary Page**

You can review the specified adapter configuration values on the Summary page.

#### Topics

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

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

You can review trigger (source) or invoke (target) configuration details from the Summary page. The Summary page is the final wizard page for each adapter after you have completed your configuration.

- View the configuration details you defined for the trigger (source) or invoke (target) adapter. For example, if you have defined an inbound trigger (source) adapter with a request business object and immediate response business object, specific details about this configuration are displayed on the Summary page.
- Click **Done** if you want to save your configuration details.
- Click a specific tab in the left panel or click **Back** to access a specific page to update your configuration definitions.
- Click **Cancel** to cancel your configuration details.

#### What You See on the Summary Page

The following table describes the key information on the Summary page.

Element	Description
Summary	Displays a summary of the trigger (source) of invoke (target) configuration values you defined on previous pages of the wizard.
	The information that is displayed can vary by adapter. For some adapters, the selected business objects and operation name are displayed. For adapters for which a generated XSD file is provided, click the XSD link to view a read-only version of the file.
	To return to a previous page to update any values, click the appropriate tab in the left panel or click <b>Back</b> .

## Creating Mappings and Lookups in Integrations

You must map data between trigger connections and invoke connections in integrations. You can also optionally create lookups in integrations.

#### Topics

- Mapping Integration Cloud Service Data (in Using Oracle Integration Cloud Service)
- Creating Lookups (in Using Oracle Integration Cloud Service)

## **Administering Integrations**

Oracle Integration Cloud Service provides you with the information and tools required to activate, monitor, and manage your integrations in the runtime environment.

#### Topic

• Administering Integration Cloud Service (in Using Oracle Integration Cloud Service)

7

## **Troubleshooting the Twitter Adapter**

Review the following topics to learn about troubleshooting issues with the Twitter Adapter.

#### Topics

- Changes that Can Invalidate Credentials Required for the Twitter Connection
- Getting an Invalid or Expired Token Error Response

## Changes that Can Invalidate Credentials Required for the Twitter Connection

The following issues can invalidate the Twitter credentials.

#### Regenerating your consumer key and consumer secret (by clicking on 'Regenerate Consumer Key and Secret' button for your app on the Twitter developer site).

**Solution**: Update the Twitter Adapter connection in Oracle Integration Cloud Service with the new values for consumer key, consumer secret, access token, and access token secret.

# Regenerate the access token and secret for your account (by clicking on 'Regenerate My Access Token and Access Secret' button for your app on the Twitter developer site)

**Solution**: Update the Twitter Adapter connection in Oracle Integration Cloud Service with the new values for consumer key, consumer secret, access token, and access token secret.

## Revoke access to your app (by clicking on 'Revoke access' and revoking access to this app on the Twitter developer site)

#### Solution:

- 1. Log in to the Twitter developer site and go to https://apps.twitter.com. Click the application name, and go to the Keys and Access Tokens tab.
- **2.** Click **Create my access token** to authorize this application to access your Twitter account.
- **3.** Update the Twitter Adapter connection in Oracle Integration Cloud Service with the new values of consumer key, consumer secret, access token, and access token secret.

## Getting an Invalid or Expired Token Error Response

The following error can occur if you have regenerated tokens or revoked access to your Twitter application.

Error code 89 : message : Invalid or Expired Token

**Solution**: Check the authorization for your application on the Twitter developer page and update the credentials for the adapter.

- 1. Log in to the Twitter developer page and go to https://apps.twitter.com.
- **2.** If you have revoked access to the application, provide access by clicking **Generate Access Token**.
- 3. Make a note of the following tokens in the Keys and Access Tokens tab:
  - Consumer key
  - Consumer secret
  - Access token
  - Access token secret
- 4. Update the Twitter Adapter connection with these credentials.