

# **Oracle® Revenue Management and Billing Cloud Service**

Release 8.1 Patch Set

## **REST Services Configuration Guide**

Revision 4.0

F74324-01

November 2022

## Oracle Revenue Management and Billing Cloud Service REST Services Configuration Guide

F74324-01

**Copyright Notice**

Copyright © 2014, 2022 Oracle and/or its affiliates. All rights reserved.

**Trademark Notice**

Oracle, Java, JD Edwards, PeopleSoft, and Siebel are registered trademarks of Oracle Corporation 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.

**License Restrictions Warranty/Consequential Damages Disclaimer**

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 de-compilation of this software, unless required by law for interoperability, is prohibited.

**Warranty Disclaimer**

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.

**Restricted Rights Notice**

If this software or related documentation 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 RIGHTS**

Oracle programs, including any operating system, integrated software, any programs installed on the hardware, documentation, and/or technical data delivered to U.S. Government end users are “commercial computer software” or “commercial technical data” 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, documentation, and/or technical data shall be subject to license terms and restrictions as mentioned in Oracle License Agreement, and to the extent applicable, the additional rights set forth in FAR 52.227-19, Commercial Computer Software--Restricted Rights (June 1987). No other rights are granted to the U.S. Government.

**Hazardous Applications Notice**

This software 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 in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use of this software. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software in dangerous applications.

**Third-Party Content, Products, and Services Disclaimer**

This software and documentation may provide access to or information on 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.

# Preface

---

## About This Document

This document will help you to understand how to configure federated Web service login to access protected REST services on the ORMB Cloud environments.

## Intended Audience

This document is intended for customers using Oracle Revenue Management and Billing Cloud Service. It assumes that you have administrative privileges on the host where you want to install the software.

## Organization of the Document

The information in this document is organized into the following sections:

Section No.	Section Name	Description
Section 1	Federated REST Services with JWT	Explains how to use the JWT services to access the protected REST resources of an end-user.

## Conventions

The following conventions are used across the document:

Convention	Meaning
<b>boldface</b>	Boldface indicates graphical user interface elements associated with an action, or terms defined in the text.
<i>italic</i>	Italic indicates a document or book title.
<code>monospace</code>	Monospace indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or information that an end-user needs to enter in the application.

## Acronyms

The following acronyms are used in this document:

Acronym	Meaning
ORMB	Oracle Revenue Management and Billing
JWT	JSON Web Tokens

## Related Documents

You can refer to the following documents for more information:

Document Name	Description
<i>Oracle Revenue Management and Billing Cloud Service Release 8.1 Patch Set Release Notes</i>	Lists the feature enhancements and client platforms and browsers that are supported in this release. It highlights different roles and responsibilities of Oracle and Customer in deploying, configuring, and maintaining the Oracle Revenue Management and Billing Cloud Service. It also highlights the known issues in this release.
<i>Oracle Revenue Management and Billing Cloud Service Licensing Guide</i>	Lists different features which are offered when you acquire a license for the following cloud services: <ul style="list-style-type: none"> <li>• Oracle Financial Services Revenue Management and Billing</li> <li>• Oracle Insurance Revenue Management and Billing</li> </ul> It also provides the licensing information of Oracle software and third-party JARs and components which are included in the above-mentioned cloud services.
<i>Oracle Revenue Management and Billing Cloud Service Federated Identity Configuration Guide</i>	Provides an overview of federated SSO login. It explains how to configure federated SSO login with SAML for the ORMB Cloud Service.
<i>Oracle Revenue Management and Billing Cloud Service End User Provisioning Guide</i>	Explains how to setup the security administrator account for the ORMB Cloud Service. It also explains how to manage users and user groups for the ORMB Cloud Service. In addition, it explains how to import and export bulk users and user groups for the ORMB Cloud Service.
<i>Oracle Revenue Management and Billing Cloud Service SFTP Authentication and Access Permissions Guide</i>	Explains how to configure SFTP authentication for the ORMB Cloud Service. It also explains how to access the SFTP server using WinSCP, how to create the directories and files on the SFTP server, and how to set the read, write, and execute permissions for a file or folder on the SFTP server.
<i>Oracle Revenue Management and Billing Cloud Service SaaS Reporting using OAS</i>	Provides an overview of the ORMB SaaS reporting architecture. It also explains how to use Oracle Analytics Server for ORMB SaaS reporting.

# Contents

---

1. Federated REST Services with JWT .....	1
1.1 JWT (OAuth 2.0) Terminology .....	1
1.2 Federated Web Service Login Overview.....	2
1.3 JWT (OAuth 2.0) Implementation and Configuration .....	3

# 1. Federated REST Services with JWT

ORMB provides out of the box JWT Services, which allows a Client Application to access protected REST resources that belong to an end-user. JWT (OAuth 2.0) clients can use OAuth 2.0 flows to access resources protected by WebLogic. JWT (OAuth 2.0) client can be an application, or a service created and controlled by the customer organization, or it can be an application or a service created and controlled by another organization that requires access to resources protected by WebLogic.

In the ORMB application server, customer should configure custom JWT Assertion to handle the JWT requests. They should also configure an Authorization server that issues JWT tokens, which are used by the ORMB application server to authenticate the service requests.

## 1.1 JWT (OAuth 2.0) Terminology

Common terminologies used in OAuth 2.0 are:

- **Resource Owner** - An entity capable of authorizing access to a protected resource. When the resource owner is a person, it is called as a user.
- **JWT Client** - A third-party application that requires access to the private resources of the resource owner. The OAuth client can make protected resource requests on behalf of the resource owner after the resource owner grants it authorization. OAuth 2.0 introduces two types of clients: **confidential** and **public**. Confidential clients are registered with a client secret, while public clients are not.
- **Authorization Server** - The server that gives JWT clients scoped access to a protected resource on behalf of the resource owner. The server issues an access token to the JWT client after it performs the following actions successfully:
  - Authenticate the resource owner
  - Validate a request or an authorization grant
  - Obtain resource owner authorization

**Note:** An authorization server can also be a resource server.

- **Access Token** - A string that represents the authorization granted to the JWT client by the resource owner. This string represents specific scope and duration of access. It is granted by the resource owner and is enforced by the JWT server.
- **Protected Resource** - A restricted resource that can be accessed from the JWT client using authenticated requests
- **Resource Server** - The server that hosts the protected resources. It uses access tokens to accept and respond to protected resource requests. The resource server might be the same as the authorization server.
- **Authorization Grant** - A grant that represents the resource owner authorization to access its protected resources. JWT clients use an authorization grant to obtain an access token. There are four authorization grant types: Authorization Code, Implicit, Resource Owner Password Credentials, and Client Credentials.

The following diagram shows how JWT roles generally interact with each other:

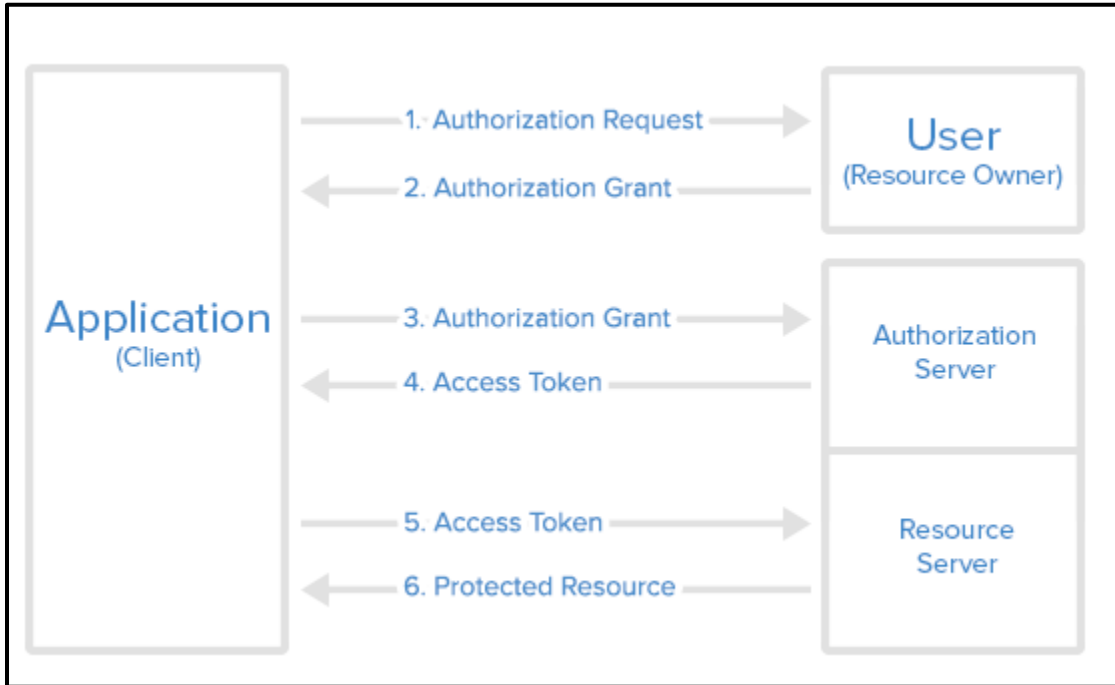


Figure 1: JWT Roles

## 1.2 Federated Web Service Login Overview

IDP Users (ORMB Applications login users) are expected to be configured in the ORMB application, either manually or through some provisioning process. Customers should have a provisioning process in place to add users into the ORMB application. ORMB provides REST service to add user into ORMB Application from super/Admin users. ORMB also provides a Webservice user to customer for first time Webservice call for user provisioning process.

Following are the steps included in the web service flow:

1. When a client application wants to access the resources of a resource owner hosted on a resource server, the client application must first obtain an authorization grant.
2. The resource owner gives authorization grant to a client application, in cooperation with the authorization server associated with the resource server.
3. The client application sends its client ID 000000 to the authorization server, so that the authorization server knows which application is trying to access the protected resources.
4. If the authorization server accepts these values, it sends back a JWT access token.
5. The client application now uses the JWT access token to request resources from the resource server. The access token serves as both authentication of client and resource owner (user), and authorization to access the resources.



### 1.3 JWT (OAuth 2.0) Implementation and Configuration

The main steps involved in JWT implementation are:

1. End-users get JWT token from the authorization server.
2. User requests REST Services with the JWT token. (WebLogic Server acts as the REST Service endpoint.)
3. WebLogic authenticates the JWT token and returns an appropriate response to the client.

The following image shows an overview of the different ORMB components and the interaction between them:

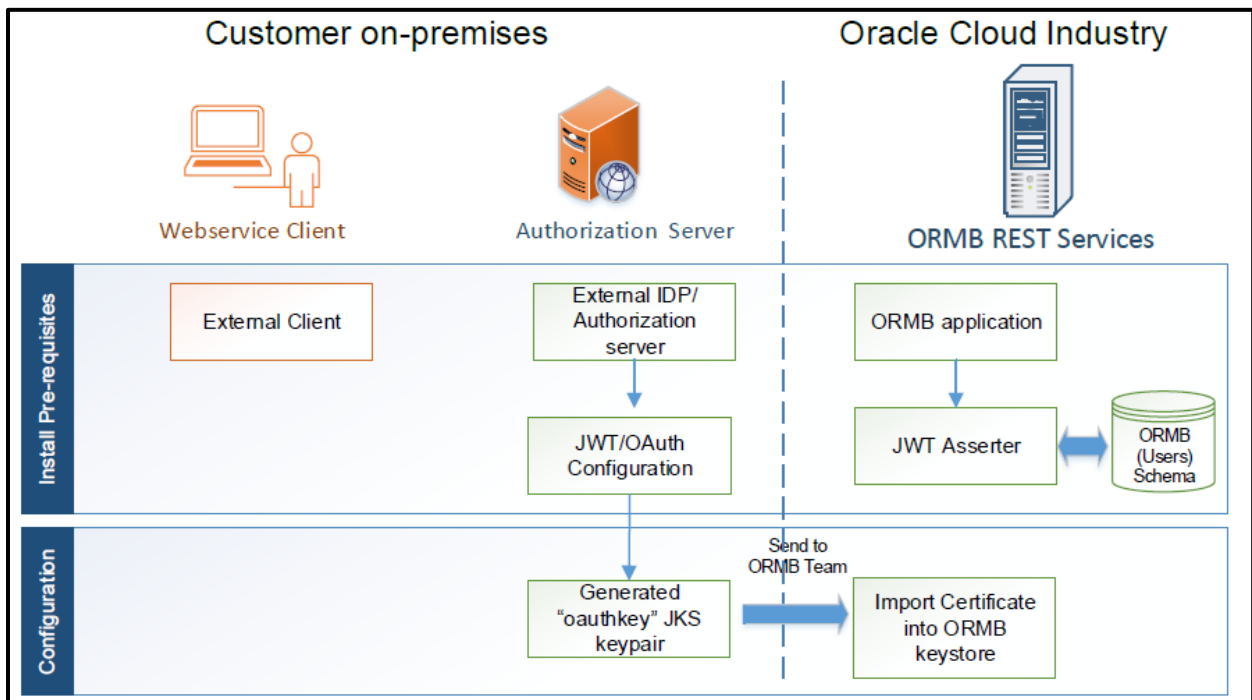


Figure 2: Overview of ORMB Components