

Oracle® Banking Virtual Account Management API Security Guide



Release 14.6.0.0.0

F59114-01

May 2022

The Oracle logo, consisting of a solid red square with the word "ORACLE" in white, uppercase, sans-serif font centered within it.

ORACLE®

F59114-01

Copyright © 2018, 2022, Oracle and/or its affiliates.

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, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software" or "commercial computer software documentation" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. 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, Java, and MySQL are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Inside 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, Epyc, and the AMD 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

Preface

1 Securing API Services

1.1	API Security	1-1
1.2	List of Services	1-5

Index

Preface

Purpose

This guide provides security-related usage and configuration recommendations for Oracle Banking Virtual Account Management. This guide may outline procedures required to implement or secure certain features, but it is also not a general-purpose configuration manual.

Audience

This guide is primarily intended for Developers for Oracle Banking Virtual Account Management and third party or vendor software's. Some information may be relevant to IT decision makers and users of the application are also included. Readers are assumed to possess basic operating system, network, and system administration skills with awareness of vendor/third-party software's and knowledge of Oracle Banking Virtual Account Management application.

Scope

Read Sections Completely

Each section should be read and understood completely. Instructions should never be blindly applied. Relevant discussion may occur immediately after instructions for an action, so be sure to read whole sections before beginning implementation.

Understand the Purpose of this Guidance

The purpose of the guidance is to provide security-relevant code and configuration recommendations.

Limitations

This guide is limited in its scope to the security-related guidelines for developers.

List of Topics

This guide is organized as follows:

Table 1 List of Topics

Topics	Description
Securing API Services	This topic provides the information about securing the API services.

1

Securing API Services

This topic describes about securing API services.

Different applications deployed on disparate platforms and using different infrastructure need to be able to communicate and integrate seamlessly with Oracle Banking Virtual Account Management in order to exchange data. Oracle Banking Virtual Account Management Service API Gateway caters to these integration needs.

The integration needs supported by the Gateway can be broadly categorized from the perspective of the Gateway as follows,

- **Inbound application integration:** It is used when an external system needs to add, modify or query information within Oracle Banking Virtual Account Management.
- **Outbound application integration:** It is used when an external system needs to be accessed for processing transactions within Oracle Banking Virtual Account Management.
- [API Security](#)
This topic describes about the API Security.
- [List of Services](#)
This topic information about the List of API Services

1.1 API Security

This topic describes about the API Security.

Oracle Banking Virtual Account Management application provides the API Layer (also known as the Service API Layer), which is used by the external users to access the Oracle Banking Virtual Account Management functionalities.

Access to the API Layer is granted only through the following methods,

- OAuth with OAM (Oracle Access Manager)
- OAuth without OAM
- Oracle Banking Routing Hub

As stated before, in case the customer does not have OAM, an enterprise API Management layer should be implemented to protect the service API(s)

Register OAuth Clients with API Gateway

New Oath users can be registered with Oracle Banking Microservices Architecture using the below endpoint.

Sample Headers:

Header: **appId:** SECSR001

Header: **Content-Type:** application/json

Header: **userId**: <USERID>

Header: **Authorization**: Bearer <<JWT Access Token>>

Sample Request Body:

```
{
  "UserList": [
    {
      "clientId": "<< clientId >>",
      "clientSecret": "<< clientSecret >>",
      "validity": "<< Validity in seconds >>"
    },
    {
      "clientId": "<< clientId >>",
      "clientSecret": "<< clientSecret >>",
      "validity": "<< Validity in seconds >>"
    }
  ]
}
```

Modify Token Expiry of Registered OAuth Client

Token expiry time can be updated using the below endpoint:

Sample headers:

Header: **appId**: SECSR001

Header: **Content-Type**: application/json

Header: **userId**: <USERID>

Header: **Authorization**: Bearer <<JWT Access Token>>

Sample Request Body:

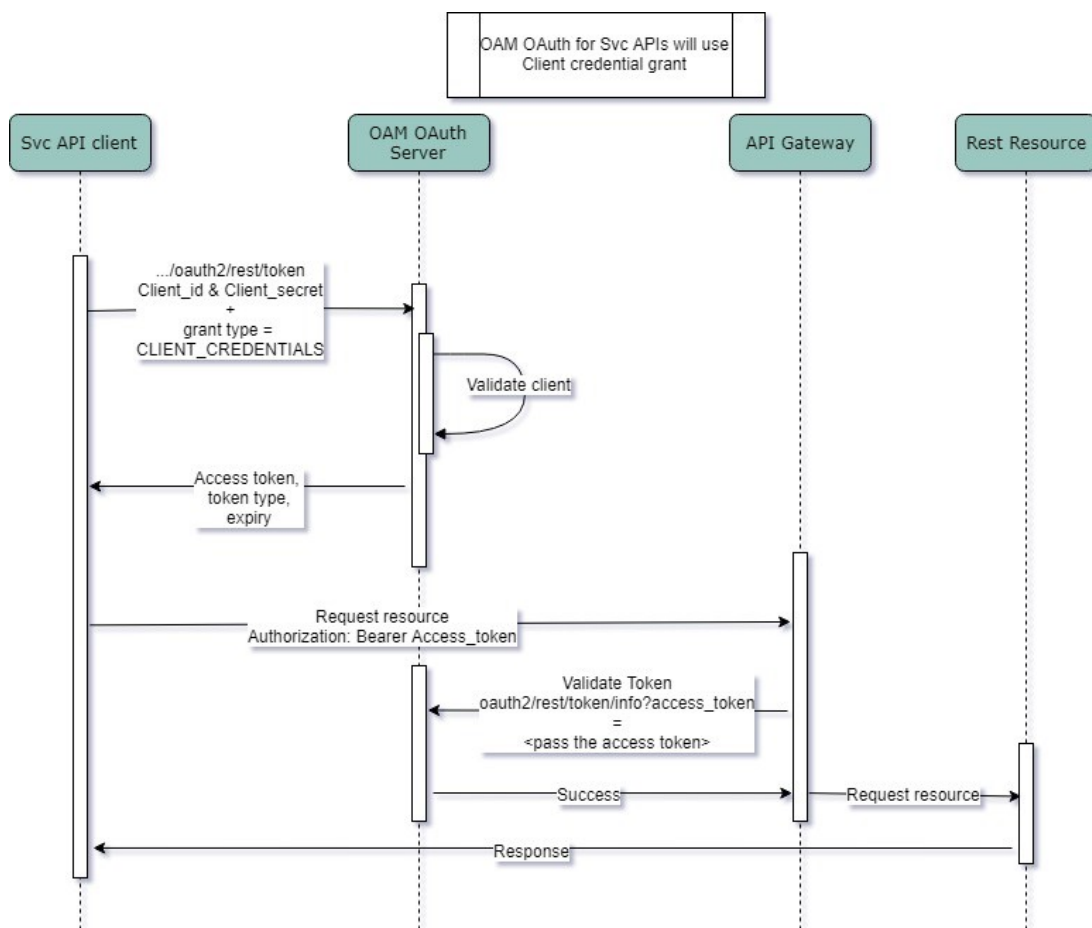
```
{"client_id":"<< clientId >>","validity":"<< Validity in seconds >>"}
```

API Security with OAuth

OAuth with OAM

The flow is depicted below

Figure 1-1 OAuth with OAM

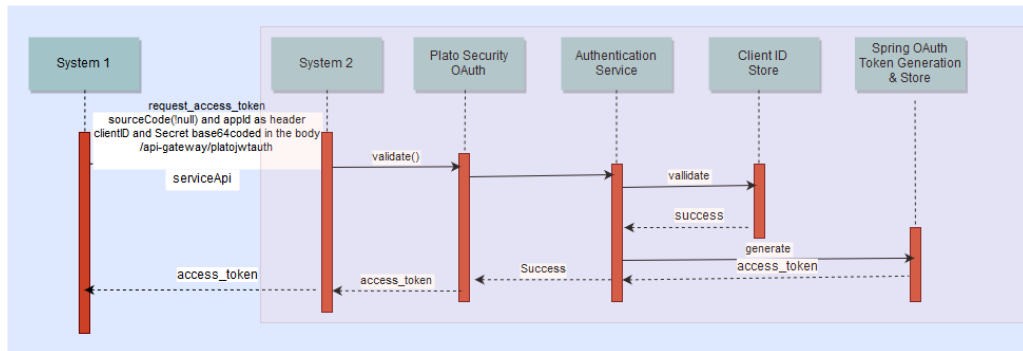


- API clients pass the client id & client secret and grant type as CLIENT CREDENTIALS. To get the access token, use the endpoint `/oauth2/rest/token`.
- API clients pass the access token in the authorization header as bearer token in their subsequent calls to access the Service API's.
- API Gateway validates the client access token on OAM Authorization server.
- If valid, it passes the request onto the Svc API's and gets the response.
- The client can refresh to get a new token before the current token expires. If the token expires, they can pass the client ID and client secret to get a new token.

OAuth without OAM

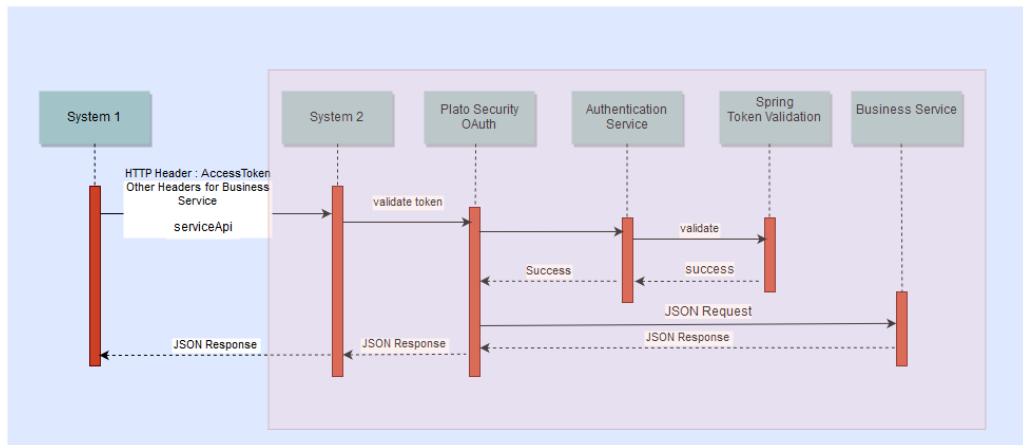
The flow for token generation is depicted below:

Figure 1-2 OAuth without OAM - Token Generation flow



The flow for accessing svc is depicted below:

Figure 1-3 OAuth without OAM - Accessing svc flow



- API clients passes the client id & client secret in the body and other required headers. To get the access token, use the below endpoint.

`http://<<hostname>>:<<port>>/api-gateway/platojwtauth/.`
- API clients passes the access token in the authorization header as bearer token in their subsequent calls to access the Service API's.
- API Gateway validates the client access token on Authorization server.
- If valid, it passes the request on to the Svc API's and gets the response.
- The client can refresh to get a new token before the current token expires. If the token expires, they can pass the client ID and client secret to get a new token. Additional facility of increasing the tokens are also provided.

Access APIs through Oracle Banking Routing Hub

If the external services (services in bank or consulting) need to access APIs in Oracle Banking Microservices Architecture modules, the services will first have to generate an

access token using Oracle Banking Routing Hub endpoints and then use the token to authorize themselves to access the endpoints.

Refer to **Authentication** section in **Routing Hub Configuration User Guide** for the further details.

1.2 List of Services

This topic information about the List of API Services

Refer to the **REST API Documentation** for the detailed inbound APIs.

Index

A

API Layer, [1-1](#)

L

List of Services, [1-5](#)

S

Securing API Services, [1-1](#)