

Oracle® Banking Corporate Lending Process Management API Security Guide



Release 14.8.0.0.0
G30096-01
April 2025

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Preface

This topic contains following sub-topics:

- [Purpose](#)
- [Audience](#)
- [Documentation Accessibility](#)
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- [Related Resources](#)
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Purpose

This document provides security-related usage and configuration recommendations for Oracle Banking Corporate Lending Process 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 Corporate Lending Process 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.

**Note:**

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 Corporate Lending Process Management application.

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 customer access to and use of Oracle support services will be pursuant to the terms and conditions specified in their Oracle order for the applicable services.

Critical Patches

Oracle advises customers to get all their security vulnerability information from the Oracle Critical Patch Update Advisory, which is available at [Critical Patches, Security Alerts and Bulletins](#). All critical patches should be applied in a timely manner to make sure effective security, as strongly recommended by [Oracle Software Security Assurance](#).

Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

Related Resources

For more information on any related features, refer to the following documents:

- *Routing Hub Configuration User Guide*

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. |
| <i>italic</i> | Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values. |
| <code>monospace</code> | Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter. |

Screenshot Disclaimer

Personal information used in the interface or documents is dummy and does not exist in the real world. It is only for reference purposes.

Acronyms and Abbreviations

The list of the acronyms and abbreviations that are used in this guide are as follows:

Table 1 Acronyms and Abbreviations


| Acronyms | Abbreviations |
|----------|------------------------------------|
| API | Application Programming Interface |
| JSON | JavaScript Object Notation |
| JWT | JSON Web Tokens |
| OAM | Oracle Access Manager |
| OAuth | Open Authorization |
| SAML | Security Assertion Markup Language |
| SSO | Single Sign-On |

Basic Actions

Table 2 List of Basic Actions

| Action | Description |
|---------------------|--|
| Approve | Click Approve to approve the initiated report. This button is displayed, once the user click Authorize . |
| Audit | Click Audit to view the maker details, checker details of the particular record, and record status. This button is displayed only for the records that are already created. |
| Authorize | Click Authorize to authorize the record created. A maker of the screen is not allowed to authorize the report. Only a checker can authorize a record. This button is displayed only for the already created records. |
| Close | Click Close to close a record. This action is available only when a record is created. |
| Confirm | Click Confirm to confirm the performed action. |
| Cancel | Click Cancel to cancel the performed action. |
| Compare | Click Compare to view the comparison through the field values of old record and the current record. This button is displayed in the widget, once the user click Authorize . |
| Collapse All | Click Collapse All to hide the details in the sections. This button is displayed, once the user click Compare . |
| Expand All | Click Expand All to expand and view all the details in the sections. This button is displayed, once the user click Compare . |

Table 2 (Cont.) List of Basic Actions

| Action | Description |
|-----------------------------|--|
| New | Click New to add a new record. The system displays a new record to specify the required data. <div>  Note: The fields which are marked with Required are mandatory. </div> |
| OK | Click OK to confirm the details in the screen. |
| Save | Click Save to save the details entered or selected in the screen. |
| View | Click View to view the report details in a particular modification stage. This button is displayed in the widget, once the user click Authorize . |
| View Difference only | Click View Difference only to view a comparison through the field element values of old record and the current record, which has undergone changes. This button is displayed, once the user click Compare . |

Symbols and Icons

The following symbols and icons are used in the screens.

Table 3 Symbols and Icons - Common





| Symbol/Icon | Function |
|---|----------------|
|  | Minimize |
|  | Maximize |
|  | Close |
|  | Perform Search |

Table 3 (Cont.) Symbols and Icons - Common










| Symbol/Icon | Function |
|---|---------------------------------|
|  | Open a list |
|  | Add a new record |
|  | Navigate to the first record |
|  | Navigate to the last record |
|  | Navigate to the previous record |
|  | Navigate to the next record |
|  | Grid view |
|  | List view |
|  | Refresh |

Table 3 (Cont.) Symbols and Icons - Common








| Symbol/Icon | Function |
|---|--|
|  | Calendar |
|  | Filter |
|  | Copy a record |
|  | Click this icon to add a new row. |
|  | Click this icon to delete an existing row. |
|  | Click to view the created record. |
|  | Click to unlock, delete, authorize or view the created record. |

Table 4 Symbols and Icons - Audit Details



| Symbol/Icon | Function |
|---|---------------|
|  | A user |
|  | Date and time |

Table 4 (Cont.) Symbols and Icons - Audit Details







| Symbol/Icon | Function |
|---|-------------------------------|
|  | Unauthorized or Closed status |
|  | Authorized or Open status |

Table 5 Symbols and Icons - Widget

| Symbol/Icon | Function |
|---|---------------------|
|  | Open status |
|  | Unauthorized status |
|  | Closed status |
|  | Authorized status |

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 security-related guideline for developers.

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 Corporate Lending Process Management in order to exchange data. The Oracle Banking Corporate Lending Process Management Service API Gateway will cater 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 – used when any external system needs to add, modify or query information within Oracle Banking Corporate Lending Process Management.
- Outbound application integration – used when any external system needs to be accessed for processing transactions within Oracle Banking Corporate Lending Process Management.
- [API Layer](#)
This topic describes about the API Security.
- [List of Services](#)
This topic contains information about the list of API services.

1.1 API Layer

This topic describes about the API Security.

Oracle Banking Corporate Lending Process 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 Corporate Lending Process 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.

`http://<hostname>:<port>/api-gateway/createOauthUsers`

Sample Headers:

Header: **applid**: SECSRV001

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:

`http://<hostname>:<port>/api-gateway/modifyvalidity`

Sample headers:

Header: **applId:** SECSRV001

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

Header: **userId:** <USERID>

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

Sample Request Body:

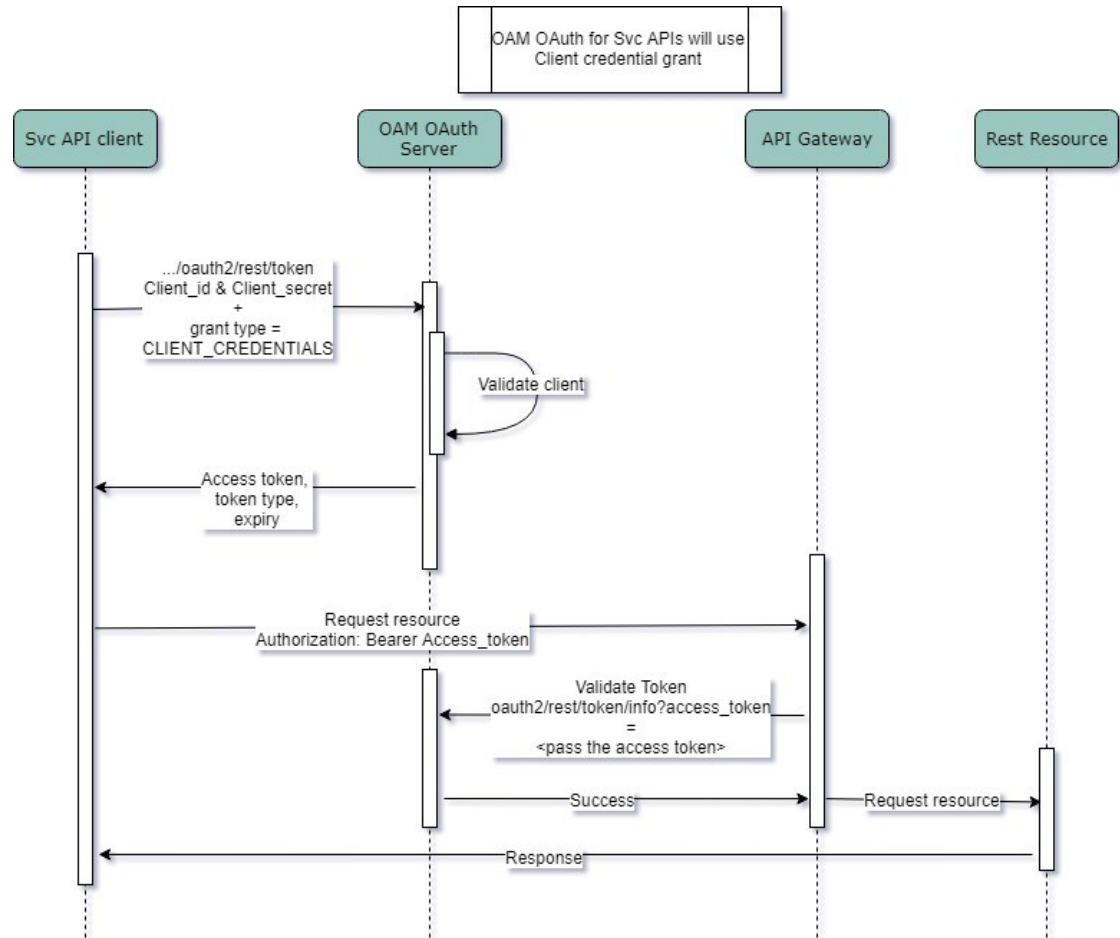
```
{"client_id":"<< clientId >>","validity":"<< Validity in seconds >>"}
```

API Security with OAuth

OAuth with OAM

The flow is depicted below

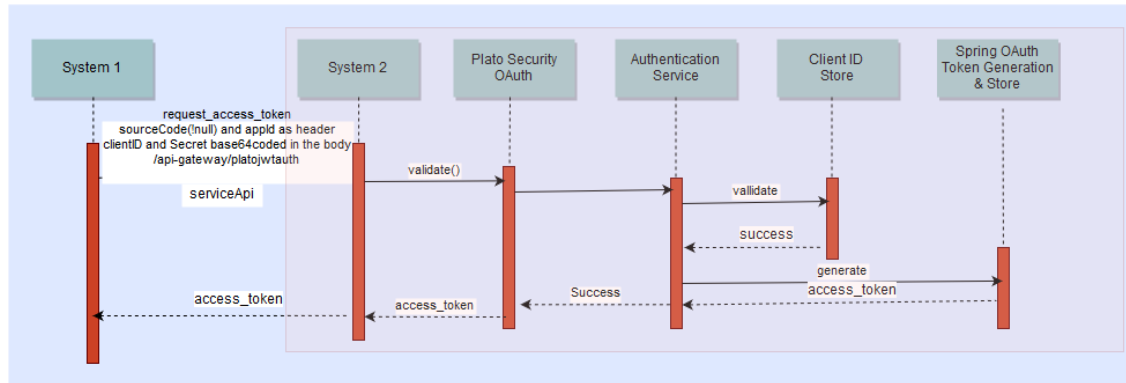
Figure 1-1 OAuth with OAM



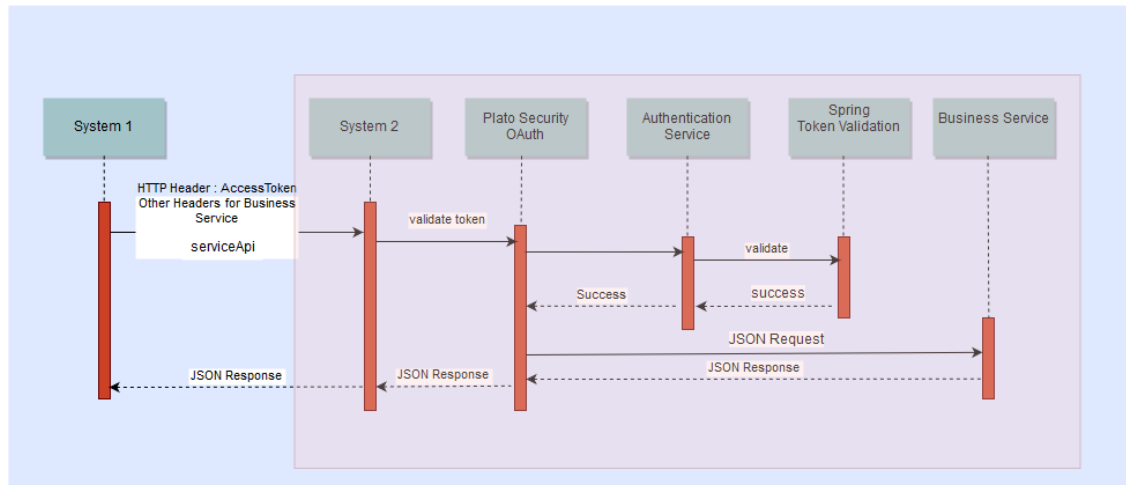
- API clients pass the client id & client secret and grant type as CLIENT CREDENTIALS. To get the access token, use the endpoint `/oauth2/rest/token`.
- API clients pass the access token in the authorization header as bearer token in their subsequent calls to access the Service API's.
- API Gateway validates 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 pass 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 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 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 facilities 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 contains information about the list of API services.

Refer to the Rest API Documentation for the list of API services.

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