Berlin Open Banking Configuration Guide
Oracle Banking APIs
Patchset Release 22.1.2.0.0

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1. Preface

1.1 Intended Audience

This document is intended for the following audience*:*

- Customers
- Partners

1.2 Documentation Accessibility

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1.4 Structure

This manual is organized into the following categories:

Preface gives information on the intended audience. It also describes the overall structure of the User Manual.

The subsequent chapters describes following details:

- Introduction
- Preferences & Database
- Configuration / Installation.

1.5 Related Information Sources

For more information on Oracle Banking APIs Patchset Release 22.1.2.0.0, refer to the following documents:

- Oracle Banking APIs Installation Manuals
- Oracle Banking APIs Licensing Guide

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2. Objective and Scope

2.1 Background

Open Banking Configuration Document provides the various configurations required to enable Berlin Open Banking in OBAPI.

Scope

- Headers Configuration
- Properties
- OAuth Configuration
- Code Convention and Extensibility

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3. Technology Stack

Software	Version
Java	Java JDK or JRE version 8
OBDX/OBAPI	21.1.0.0.0
OAuth	OBAPI Internal OAuth

Abbreviations

OOTB	Out of the Box
TPP	Third Party Providers
ASPSP	Account Servicing Payment Service Provider

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4. Pre-requisites

- Java JDK or JRE version 7 or higher must be installed. For installation of Java please refer **Installation Guide.**

- OAuth Setup

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5. Headers Configuration

There are three types of headers configuration available for Berlin Open Banking.

- System Headers (i.e. Mandatory Headers and its respective value validation)
- Configuration Headers (i.e. Mandatory Headers).
- API Configuration Headers (i.e. Mandatory Headers of a specific API)

Below are the configuration steps and Out of the box header already configured in the system.

System Headers:- Both Header name and Header value are validated for System Headers.

For configuring more system headers, below script is to be executed in the OBAPI Admin schema.

Insert into DIGX_FW_CONFIG_ALL_B (PROP_ID, CATEGORY_ID, PROP_VALUE,

FACTORY_SHIPPED_FLAG, PROP_COMMENTS, SUMMARY_TEXT, CREATED_BY,

CREATION_DATE, LAST_UPDATED_BY, LAST_UPDATED_DATE, OBJECT_STATUS,

OBJECT_VERSION_NUMBER) values ('berlin.%%**HEADER**

NAME%%','OpenbankingSystemHeaders','%%HEADERVALUE%%','N',null,'Open Banking','ofssuser',sysdate,'ofssuser',sysdate,'Y',1);

Below Query is used to check the System Headers in the system

select * from digx_fw_config_all_b where category_id = 'OpenbankingSystemHeaders';

Configuration Headers :- As of now in OOTB one header has been added as mandatory - "X-Request-ID". This header is required to be sent by the TPP to the ASPSP mandatorily with any value.

Only header name is validated in case of Configuration Headers.

For configuring more config headers, below script is to be executed in the OBDX/OBAPI Admin schema.

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Insert into DIGX_FW_CONFIG_ALL_B (PROP_ID, CATEGORY_ID, PROP_VALUE, FACTORY_SHIPPED_FLAG, PROP_COMMENTS, SUMMARY_TEXT, CREATED_BY, CREATION_DATE, LAST_UPDATED_BY, LAST_UPDATED_DATE, OBJECT_STATUS, OBJECT_VERSION_NUMBER) values ('berlin.%%**HEADER NAME**%%',' OpenbankingConfigHeaders',null,'N',null,'Open Banking','ofssuser',sysdate,'ofssuser',sysdate,'Y',1);

Below Query is used to check the System Headers in the system

select * from digx_fw_config_all_b where category_id = 'OpenbankingConfigHeaders';

API Configuration Headers :- As of now in OOTB multiple headers have been added as mandatory. This header is required to be sent by the TPP to the ASPSP mandatorily with a corresponding suitable value.

Header name is validated if the entry is made for requested API only in case of API Configuration Headers.

For configuring more api config headers, below script is to be executed in the OBDX/OBAPI Admin schema.

Insert into DIGX_FW_CONFIG_ALL_B (PROP_ID, CATEGORY_ID, PROP_VALUE, FACTORY_SHIPPED_FLAG, PROP_COMMENTS, SUMMARY_TEXT, CREATED_BY, CREATION_DATE, LAST_UPDATED_BY, LAST_UPDATED_DATE, OBJECT_STATUS, OBJECT_VERSION_NUMBER) values ('%%**API_PATH**%%.%%**HTTP_METHOD**%%',' OpenbankingApiConfigHeaders',%%**HEADER NAME**%%,'N',null,'Open Banking','ofssuser',sysdate,'ofssuser',sysdate,'Y',1);

Example : Insert into DIGX_FW_CONFIG_ALL_B (PROP_ID, CATEGORY_ID, PROP_VALUE, FACTORY_SHIPPED_FLAG, PROP_COMMENTS,   SUMMARY_TEXT, CREATED_BY, CREATION_DATE, LAST_UPDATED_BY,   LAST_UPDATED_DATE, OBJECT_STATUS, OBJECT_VERSION_NUMBER)   values ('accounts/{account-id}/balances.GET','OpenbankingApiConfigHeaders','Consent-ID','N',null,'Open Banking','ofssuser',sysdate,'ofssuser',sysdate,'Y',1);

Below Query is used to check the System Headers in the system

select * from digx_fw_config_all_b where category_id = 'OpenbankingApiConfigHeaders';

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6. Properties

Below are the properties required to be updated in the Berlin Open Banking. Please find the below properties, its purpose and OOTB values.

Table: DIGX_FW_CONFIG_ALL_B

Category-Id : OpenBankingConfig

Property Id	Property Value (Out of the Box)	Purpose
CONSENT_EXPIRYD AYS	90	This value is used to check if expiry date send by TPP for the Account Access Consent is not more than 90 days and if it is more than 90 days then ASPSP will reject this value

Table:- AUTH_CONFIG

Category-Id :-AuthServerConfig

Note: Prior to changing the value of SIGNER to X509RS256 or X509PS256, make sure to generate Public and Private Key Pair in Security Keys Section by logging in as admin.

Property Id	Property Value	Purpose
SIGNER	MAC/no row – MAC Signer X509RS256 – x509 signed token with RS256 algorithm X509PS256 - x509 signed token with PS256 algorithm	The algorithm used to generate JWT token
OAUTH_REDIRECT_ HOST_PORT	http://{{HOST}}:{{PORT}}	'HOST' refers to the hostname/IP of the application 'PORT' refers to the application's port

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7. OAuth Configuration

7.1 UI configuration

1. OAuth Identity Domain Maintenance will require below maintenance to configure UI Component for Authorizing consent. Kindly refer "Core User Manual → OAuth 2.0 → Identity Domain Definition" for detailed "Identity Domain Definition" setup.

   The value of Consent Page URL (Menu -> OAuth -> Identity Domain Maintenance) is configured as http://host:port?homeComponent=authorize-consent-berlin&homeModule=open-banking&applicationType=auth&menuNavigationAvailable=false.

2. Please ensure that digx-berlinob.war is deployed and it is in active state.

3. Navigate to <ui_deploy_folder>/framework/js/api-catalogue.js and please ensure below snippet if domain is set as "berlinob" for obc.

```
obc: {
    application: "obc",
    defaultVersion: "v1",
    domain: "berlinob"
},
```

7.2 Code_challenge and Code_verifier configuration

Table: AUTH_CONFIG

Category-Id : AuthServerConfig

Property Id	Property Value	Purpose
isCodeChallengeEnabled	true/false	To enable/disable code_challenge and code_verifier funtionality. The default value is 'false'.

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8. Extensibility and Code Conventions

Error Message Framework

The Error Message Framework helps convert the OBAPI error response according to the BERLIN Open Banking Specifications.

The error response structure for Open Banking Read/Write APIs is as follows:

```
{ "tppMesages" :[

{

  "category" : "",

  "path" : "",

  "code" : "",

  "text" : ""

}

]

}
```

The Berlin Open Banking specified error response is handled using DIGX_OB_BERLIN_OBAPI_ERROR_MAP table.

The contents of the table are as follows:

Column Name	Description
DIGX_ERROR_CODE	Represents the OBAPI error codes. This is a Primary and Unique Key
BERLIN_ERROR_CODE	Represents the Open Banking specified error code
PATH	Represents the reference to the JSON Path of the field with error. Can be null.
URL	Represents the URL to help remediate the problem, or provide more information etc. Can be null.

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For mapping OBAPI error codes with Berlin Open Banking specified codes below script can be used:

Insert into DIGX_OB_BERLIN_OBAPI_ERROR_MAP

(DIGX_ERROR_CODE,BERLIN_ERROR_CODE,PATH,URL) values **('%%OBAPI Error**

Code%%',%%Open Banking specified error code%%', '%%Path%%', '%%URL%%');

Below Query is used to check the OBAPI errors mapped with BERLIN Open Banking specified error codes in the system

select * from DIGX_OB_BERLIN_OBAPI_ERROR_MAP;

For configuring HTTP status codes with custom message, below script can be used:

Insert into DIGX_FW_CONFIG_ALL_B (PROP_ID, CATEGORY_ID, PROP_VALUE, FACTORY_SHIPPED_FLAG, PROP_COMMENTS, SUMMARY_TEXT, CREATED_BY, CREATION_DATE, LAST_UPDATED_BY, LAST_UPDATED_DATE, OBJECT_STATUS, OBJECT_VERSION_NUMBER)

values ('%%**HTTP Status code**%%','OpenBankingErrorConfig','%%**Error Message**%%','N',null,'OpenBanking Error Message','ofssuser',sysdate,'ofssuser',sysdate,'Y',1);

Below Query is used to check the Open Banking HTTP status codes in the system select * from digx_fw_config_all_b where category_id = ' OpenBankingErrorConfig';

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