

UK Open Banking Configuration Guide
Oracle Banking Digital Experience
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UK Open Banking Configuration Guide

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1. Preface

1.1 Intended Audience

This document is intended for the following audience:

- Customers
- Partners

1.2 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>.

1.3 Access to Oracle Support

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<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

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 Digital Experience Patchset Release 21.1.2.0.0, refer to the following documents:

- Oracle Banking Digital Experience Installation Manuals

2. Objective and Scope

Background

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

Scope

- Headers Configuration
- Properties
- SAML Integration
- 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	OBDX 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 two types of headers configuration available for UK Open Banking.

- System Headers (i.e. Mandatory Headers and its respective value validation)
- Configuration Headers (i.e. Mandatory Headers).

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

System Headers:- As of now in OOTB one header has been added as mandatory “x-fapi-financial-id” with value as “491308330388688” (This is a random value and can be changed. This value is issued by OBIE and corresponds to the Organization Id of the ASPSP in the Open Banking Directory). This value needs to be configured by Bank or ASPSP. This header needs to be sent by the TPP to the ASPSP mandatorily with the same value. 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 ('uk%%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-fapi-interaction-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.

```
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 ('uk%%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';
```

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6. Properties

Below are the properties required to be updated in the UK 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_EXPIRY_DAYS	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

Token Settings

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

OAuth Identity Domain Maintenance will require below maintenance to configure UI Component for Authorizing consent.

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

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8. Extensibility and Code Conventions

Code Convention of Account API's

Accounts related API should use below arguments and return type for working with UK Open Banking

Arguments

SessionContext sessionContext

com.ofss.digx.app.openbanking.dto.accounts.uk.AccountRequestDTO
accountRequestDTO

Return Type

BaseResponseDTO<T>

Where T extends DataTransferObject

Any service implemented with the above type of argument will be compatible with UK Open Banking.

Code Convention of Payment API's

Payment related API should use below arguments and return type for working with UK Open Banking

Arguments

Create and Read Method

SessionContext sessionContext

Any DTO Object which extends com.ofss.digx.app.openbanking.dto.consent.uk.UKPaymentDTO

Any service implemented with the above type of argument will be compatible with UK Open Banking.

Error Message Framework

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

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

```

{
  "Code": "...",
  "Id": "...",
  "Message": "...",
  "Errors": [
    {
      "ErrorCode": "...",
      "Message": "...",
      "Path": "...",
      "Url": "..."
    }
  ]
}
1.1

```

The UK Open Banking specified error response is handled using DIGX_OB_UK_OBDX_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
UK_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.

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

```
Insert into DIGX_OB_UK_OBDX_ERROR_MAP
(DIGX_ERROR_CODE,UK_ERROR_CODE,PATH,URL) values ('%%OBDX Error
Code%%','%%Open Banking specified error code%%', '%%Path%%', '%%URL%%');
```

For example –

```
Insert into DIGX_OB_UK_OBDX_ERROR_MAP
(DIGX_ERROR_CODE,UK_ERROR_CODE,PATH,URL) values
('DIGX_OB_0010','UK.OBIE.Field.Missing', 'Data.Initiation ',null);
```

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

```
select * from DIGX_OB_UK_OBDX_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';
```

Permission Response Handler

Permissions is used in only Account API's. Based on Permissions, Response is generated based on permissions.

OBAPI consists of Permission Handler against each type of permissions. This configuration is available in the table **DIGX_OB_UK_PERMISSIONS_PRIMARY**

The contents of the table are as follows:

Column Name	Description
SERVICEID	Represents the OBAPI Service Id for which the permission and its handler is available
PERMISSION	Represents Permission
RESPONSEHANDLER	Represent Permission Handler

Permission Handler can be overridden or can be newly introduced. This will be required for additional fields mapping which is not available OOTB. Steps for the same are as follows

Introducing Permission Handler

New Permission Handler should implement interface IResponseHandler

New Permission Handler should have below methods

public static <T implements IResponseHandler> getInstance()

public <T extends DataTransferObject> assembleResponse(DataTransferObject object, List<String> permissions) – This method assembles response from object to the required response object which needs to be shown in the API response. Object is the response got from the base service and T will be the response object required by API specifications. Assembling of the values will be done in this method

public int getPriority() – This defines the high priority of the handler to be applied for assembling response in case of permissions and its handler has been consented by the user i.e. Basic and Detail permission will have different handlers but if the consent is for both the permissions the priority of the handler will decide which needs to be executed on high priority.

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