Berlin Open Banking Configuration Guide
Oracle Banking Digital Experience
Patchset Release 21.1.1.0.0

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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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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 21.1.1.0.0, refer to the following documents:

- Oracle Banking Digital Experience Installation Manuals

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

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

4. Pre-requisites

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

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.

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';

<u>API Configuration Headers :-</u> 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';

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_EXPIRYDAYS	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

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

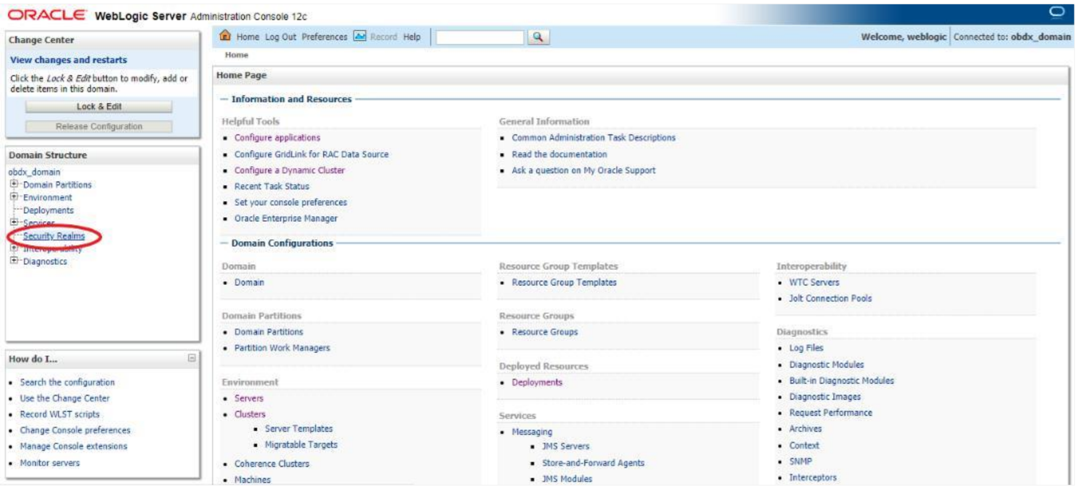
7. OAuth Configuration

7.1 UI configuration

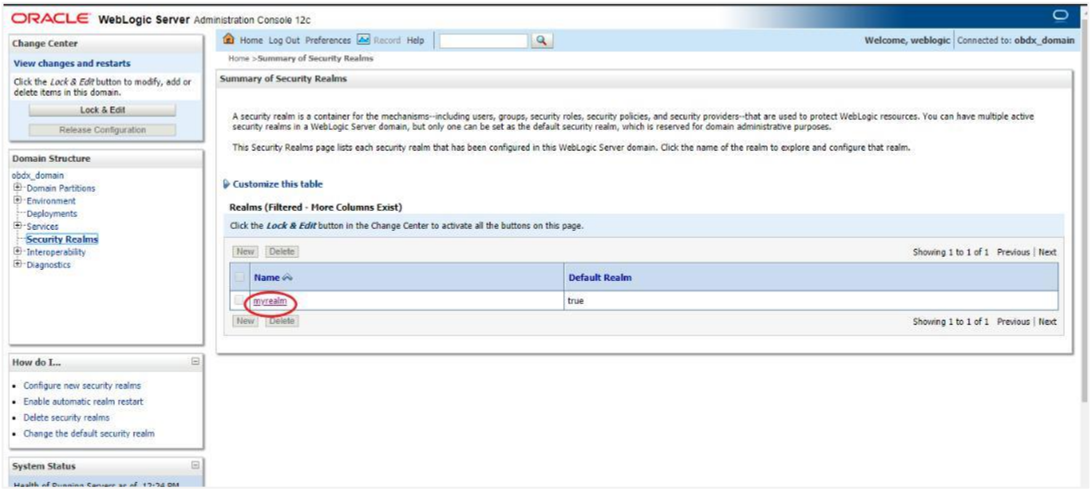
OAuth Identity Domain Maintenance will require below maintenance to configure UI Component for Authorizing consent.

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

7.2 Weblogic configuration



Click the *Lock & Edit* button to modify, add or delete items in this domain.


ORACLE WebLogic Server Administration Console 12c
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: obdx_domain
Home >Summary of Security Realms
Change Center
View changes and restarts
Lock & Edit
Release Configuration
Domain Structure
obdx_domain
Domain Partitions
Environment
Deployments
Services
Security Realms
Interoperability
Diagnostics
How do I...
Configure new security realms
Enable automatic realm restart
Delete security realms
Change the default security realm
System Status
Customize this table
New
Delete
Showing 1 to 1 of 1 Previous | Next

Click the *Lock & Edit* button to modify, add or delete items in this domain.

Summary of Security Realms

A security realm is a container for the mechanisms--including users, groups, security roles, security policies, and security providers--that are used to protect WebLogic resources. You can have multiple active security realms in a WebLogic Server domain, but only one can be set as the default security realm, which is reserved for domain administrative purposes.

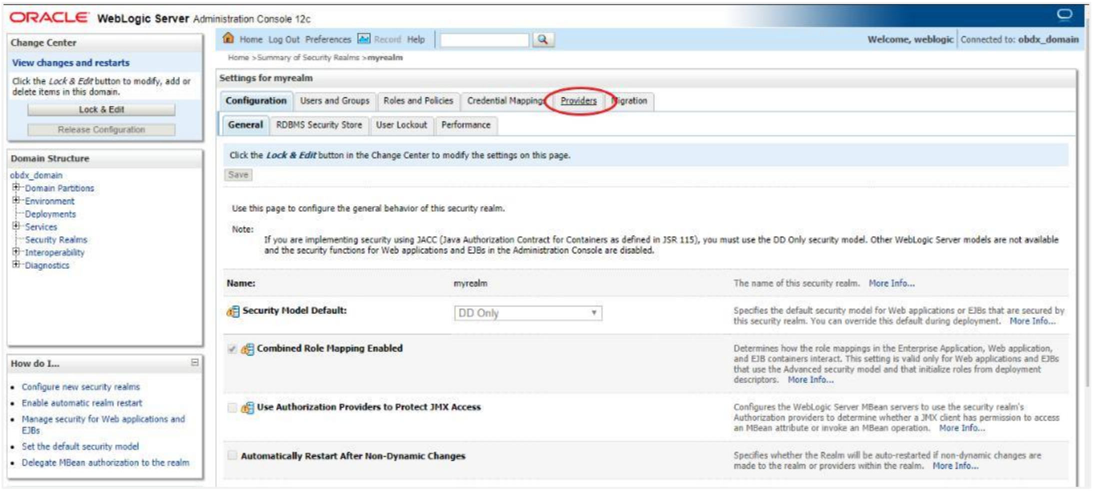
This Security Realms page lists each security realm that has been configured in this WebLogic Server domain. Click the name of the realm to explore and configure that realm.

Realms (Filtered - More Columns Exist)

Click the ***Lock & Edit*** button in the Change Center to activate all the buttons on this page.

Name	Default Realm
myrealm	true

Health of Running Servers as of 12:24 PM



Home >Summary of Security Realms >**myrealm**

Settings for myrealm

Click the *Lock & Edit* button to modify, add or delete items in this domain.

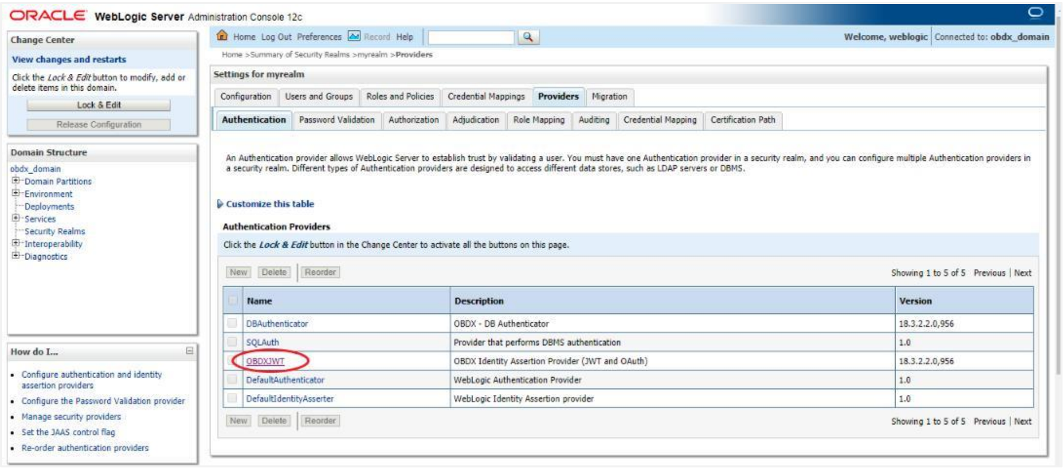
- Configure new security realms
- Enable automatic realm restart
- Manage security for Web applications and EJBs
- Set the default security model
- Delegate MBean authorization to the realm

Click the ***Lock & Edit*** button in the Change Center to modify the settings on this page.

Use this page to configure the general behavior of this security realm.

Note:
If you are implementing security using JACC (Java Authorization Contract for Containers as defined in JSR 115), you must use the DD Only security model. Other WebLogic Server models are not available and the security functions for Web applications and EJBs in the Administration Console are disabled.

Name:	myrealm	The name of this security realm. More Info...
Security Model Default:	DD Only	Specifies the default security model for Web applications or EJBs that are secured by this security realm. You can override this default during deployment. More Info...
☑ **Combined Role Mapping Enabled**		Determines how the role mappings in the Enterprise Application, Web application, and EJB containers interact. This setting is valid only for Web applications and EJBs that use the Advanced security model and that initialize roles from deployment descriptors. More Info...
□ **Use Authorization Providers to Protect JMX Access**		Configures the WebLogic Server MBean servers to use the security realm's Authorization providers to determine whether a JMX client has permission to access an MBean attribute or invoke an MBean operation. More Info...
□ **Automatically Restart After Non-Dynamic Changes**		Specifies whether the Realm will be auto-restarted if non-dynamic changes are made to the realm or providers within the realm. More Info...



Home >Summary of Security Realms >myrealm >**Providers**

Settings for myrealm

Click the *Lock & Edit* button to modify, add or delete items in this domain.

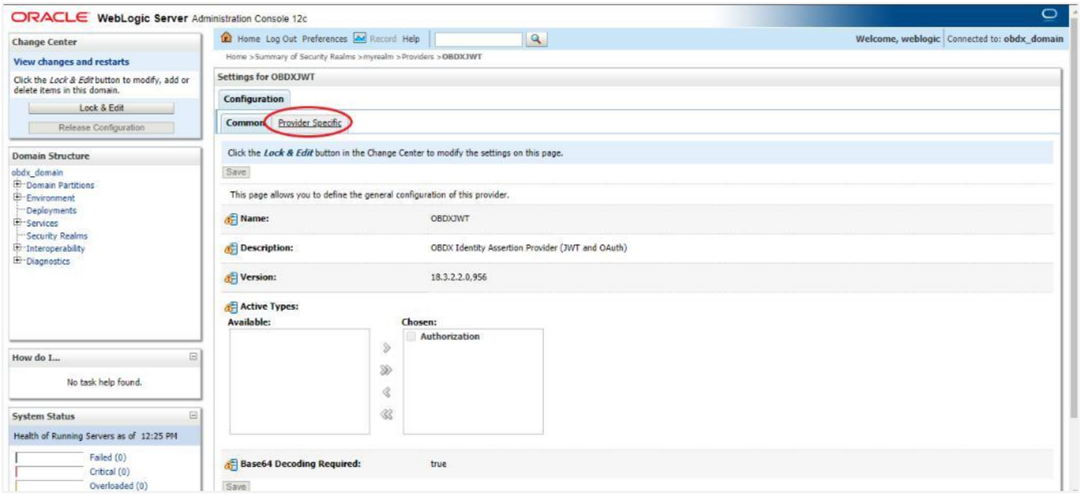
- Configure authentication and identity assertion providers
- Configure the Password Validation provider
- Manage security providers
- Set the JAAS control flag
- Re-order authentication providers

An Authentication provider allows WebLogic Server to establish trust by validating a user. You must have one Authentication provider in a security realm, and you can configure multiple Authentication providers in a security realm. Different types of Authentication providers are designed to access different data stores, such as LDAP servers or DBMS.

Authentication Providers

Click the ***Lock & Edit*** button in the Change Center to activate all the buttons on this page.

□	Name	Description	Version
□	DBAuthenticator	OBDX - DB Authenticator	18.3.2.2.0,956
□	SQLAuth	Provider that performs DBMS authentication	1.0
□	OBDXJWT	OBDX Identity Assertion Provider (JWT and OAuth)	18.3.2.2.0,956
□	DefaultAuthenticator	WebLogic Authentication Provider	1.0
□	DefaultIdentityAsserter	WebLogic Identity Assertion provider	1.0



Home >Summary of Security Realms >myrealm >Providers >**OBDXJWT**

Settings for OBDXJWT

Click the *Lock & Edit* button to modify, add or delete items in this domain.

No task help found.

Health of Running Servers as of 12:25 PM

Failed (0)
Critical (0)
Overloaded (0)

Click the ***Lock & Edit*** button in the Change Center to modify the settings on this page.

This page allows you to define the general configuration of this provider.

Name: OBDXJWT

Description: OBDX Identity Assertion Provider (JWT and OAuth)

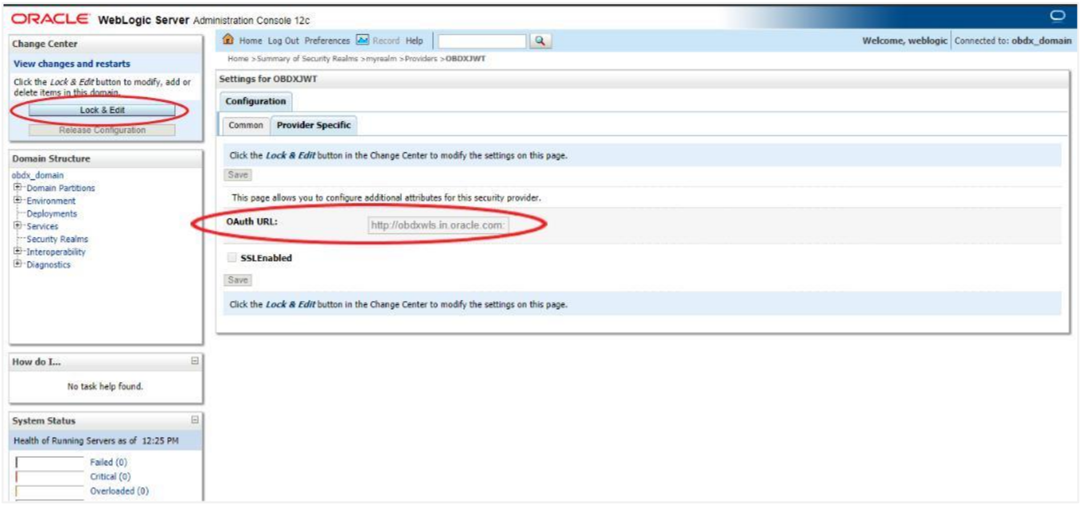
Version: 18.3.2.2.0,956

Active Types:

Available:

Chosen: □ Authorization

Base64 Decoding Required: true



Click the *Lock & Edit* button to modify, add or delete items in this domain.

No task help found.

Health of Running Servers as of 12:25 PM

Click the ***Lock & Edit*** button in the Change Center to modify the settings on this page.

This page allows you to configure additional attributes for this security provider.

OAuth URL: http://obdxwls.in.oracle.com:

□ **SSLEnabled**

Click the ***Lock & Edit*** button in the Change Center to modify the settings on this page.

7.3 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’.

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_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
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.

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

Insert into DIGX_OB_BERLIN_OBDX_ERROR_MAP

(DIGX_ERROR_CODE,BERLIN_ERROR_CODE,PATH,URL) values **('%%OBDX 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_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';

Home