

Oracle Banking APIs

User Interface Guide

Release 19.2.0.0.0

Part No. F25154-01

December 2019

ORACLE®

User Interface Guide
December 2019

Oracle Financial Services Software Limited
Oracle Park
Off Western Express Highway
Goregaon (East)
Mumbai, Maharashtra 400 063
India

Worldwide Inquiries:

Phone: +91 22 6718 3000

Fax: +91 22 6718 3001

www.oracle.com/financialservices/

Copyright © 2019, Oracle and/or its affiliates. All rights reserved.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are “commercial computer software” pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. 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 failsafe, 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.

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.

This software or hardware and documentation may provide access to or information on 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. 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.

Table of Contents

1. Preface	4
1.1 Intended Audience	4
1.2 Documentation Accessibility	4
1.3 Access to Oracle Support	4
1.4 Structure	4
1.5 Related Information Sources	4
2. Pre-requisite	5
3. User Interface Build	6
4. UI deployment	8
5. Configuration to run UI on Oracle HTTP Server	10
6. Oracle HTTP Server Commands	13
6.1 Starting Oracle HTTP Server Instances from the Command Line	13
6.2 Stopping Oracle HTTP Server Instances from the Command Line	13
7. Configuring User Interface	14
8. Language Pack	18
8.1 Adding new Language	18
8.2 Deployment of the Language pack	18

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=accandid=docacc>.

1.3 Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit

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

<http://www.oracle.com/pls/topic/lookup?ctx=accandid=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 chapter covers the following:

- Task performed in the User Interface Build
- Steps to run the User Interface Build

1.5 Related Information Sources

For more information on Oracle Banking APIs Release 19.2.0.0.0, refer to the following documents:

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

2. Pre-requisite

OHS software along with instance should be available for use.

For further detailed configuration of Oracle HTTP Server, please refer to <https://docs.oracle.com/middleware/12213/webtier/administer-ohs/toc.htm>

3. User Interface Build

The current GUI build is based on Grunt.

Grunt is a JavaScript Task Runner - an automation tool for performing repetitive tasks like minification, compilation, unit testing, linting etc.

The tasks performed during a typical GUI build are:

- Pre Build checks (For some development rules)
- ESLint for the JS files.
- SCSS compilation to CSS
- CSS optimization
- HTML minification
- JS minification
- Require JS optimization to pack all the dependencies of a component into single file.
- Generate integrity for all component files.
- Cache Busting for resources.

Creating component artifacts for metadata generated by UI Workbench:

Follow steps below to generate the artifacts from metadata

- First make sure that NodeJS is installed on the machine
- Place **com.ofss.digx.utils.uiworkbench** and **obapi-ui-workbench-core** as sibling directory to **channel**, thus making all three directories in the same level.
- Open a terminal inside **obapi-ui-workbench-core** directory and run following commands
 - **npm install**
 - **npm run-script build**
- In **com.ofss.digx.utils.uiworkbench** directory open the package.json file and remove dependency of **@obapi/uiworkbench-core**
- Open the terminal inside **com.ofss.digx.utils.uiworkbench** directory and run following commands
 - **npm install**
 - **npm link ../obapi-ui-workbench-core**
- Make sure that swagger documentation (JSON) is hosted and available on some server.
- Replace all the instances of <http://mum00boa.in.oracle.com:18777/swagger/json/openapi.json> to locally available [openapi.json](#) URL.
- Remove npm install @obapi/uiworkbench-core in **generate-artifacts.sh** which is present under com.ofss.digx.utils.uiworkbench
- Execute **./generate-artifacts.sh**

Running UI Build:

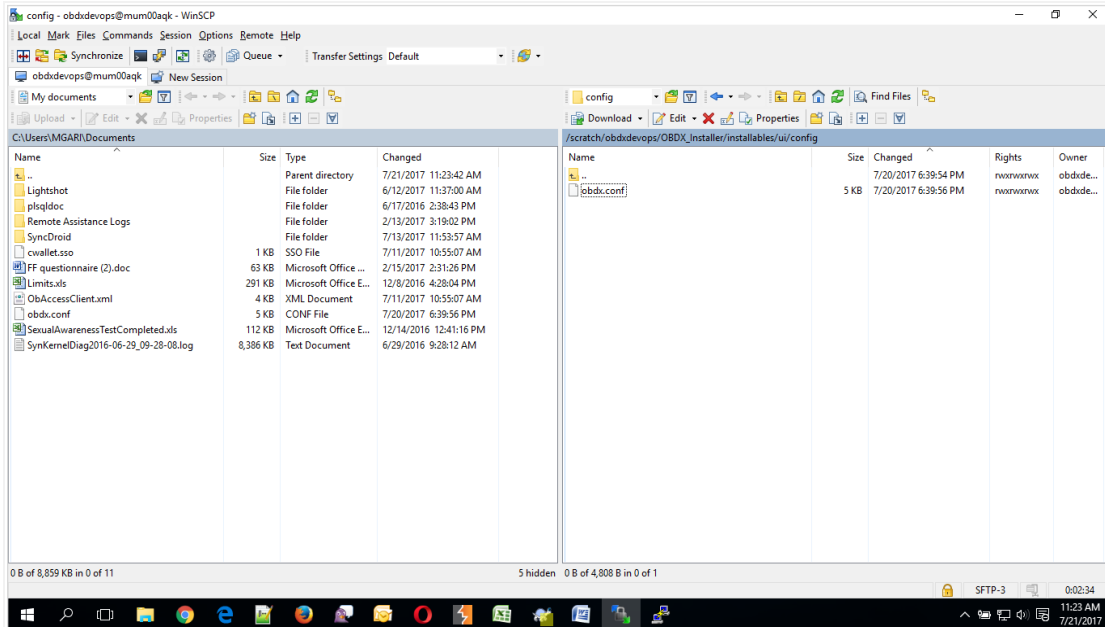
Follow steps below to run UI Build:

- First make sure that NodeJS is installed on the machine and grunt is available in global scope. Make sure to refer **_build/package.json** to check the apt NodeJS version for the OBAPI Release.
- Open terminal inside channel/_build folder and run **npm install** to setup the UI Workspace.
- Now run **build.sh** to run the build.

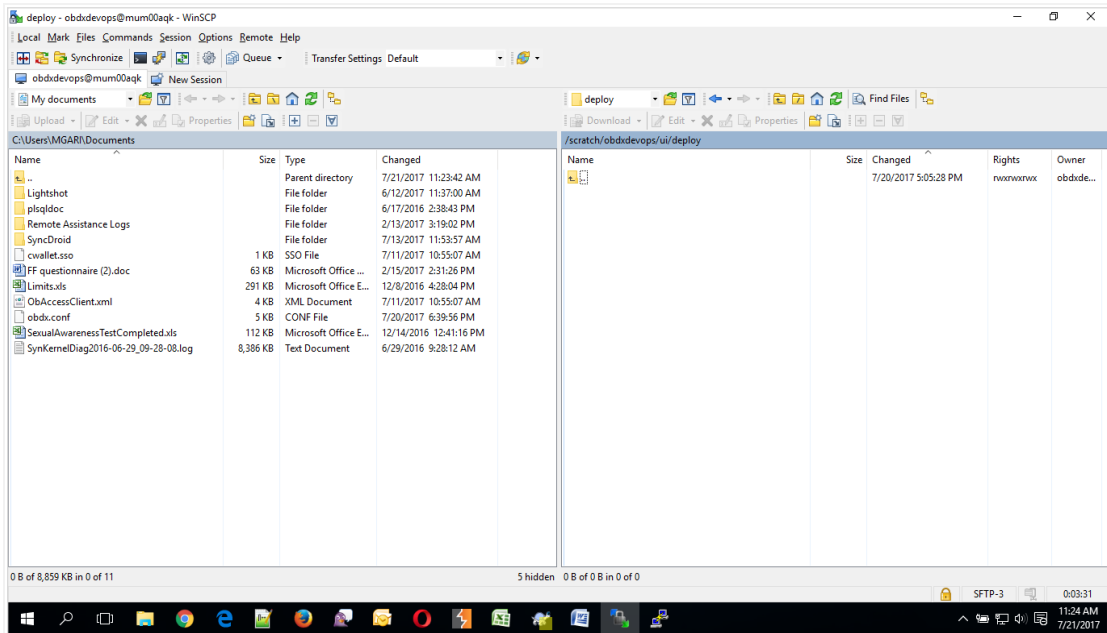
4. UI deployment

Below steps needs to be performed for UI deployment on OHS server.

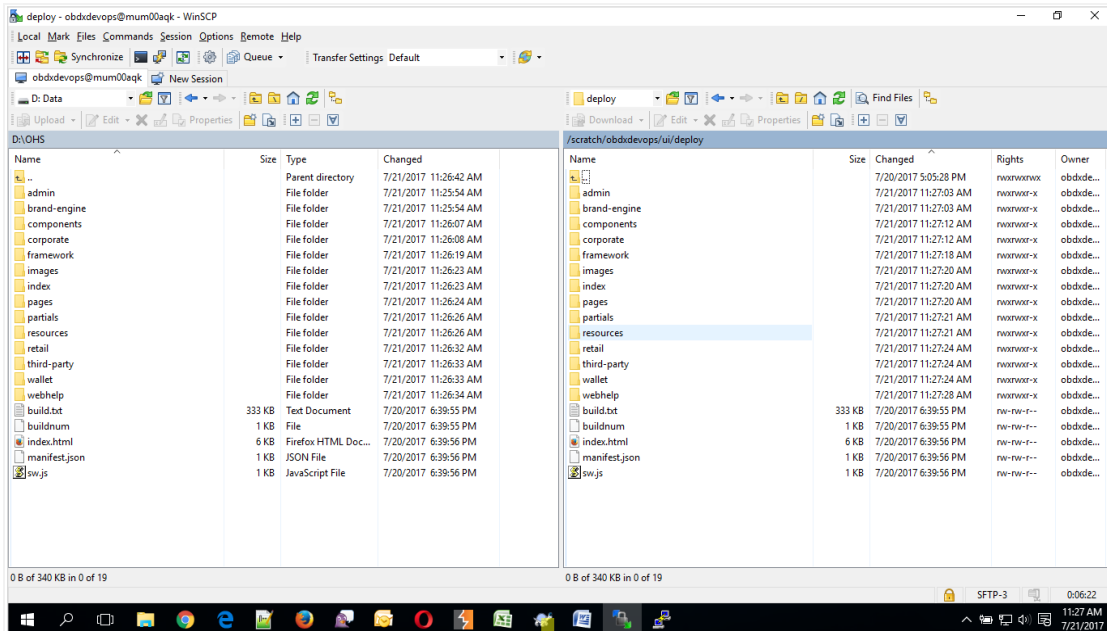
Copy the obapi.conf from OBAPI_Installer/installables/ui/config directory into the instance config directory (where httpd.conf is present). httpd.conf file is present at **{DOMAIN_HOME}/config/fmwconfig/components/OHS/{componentName}**



- Create a directory where obapi UI files would be deployed on OHS server.



- Copy all files / directories from OBAPI_Installer/installables/ui/deploy into newly created directory.



[Home](#)

5. Configuration to run UI on Oracle HTTP Server

Make sure following OHS modules must be loaded

- mod_rewrite.so
- mod_deflate.so
- mod_expires.so
- mod_mime.so
- mod_headers.so

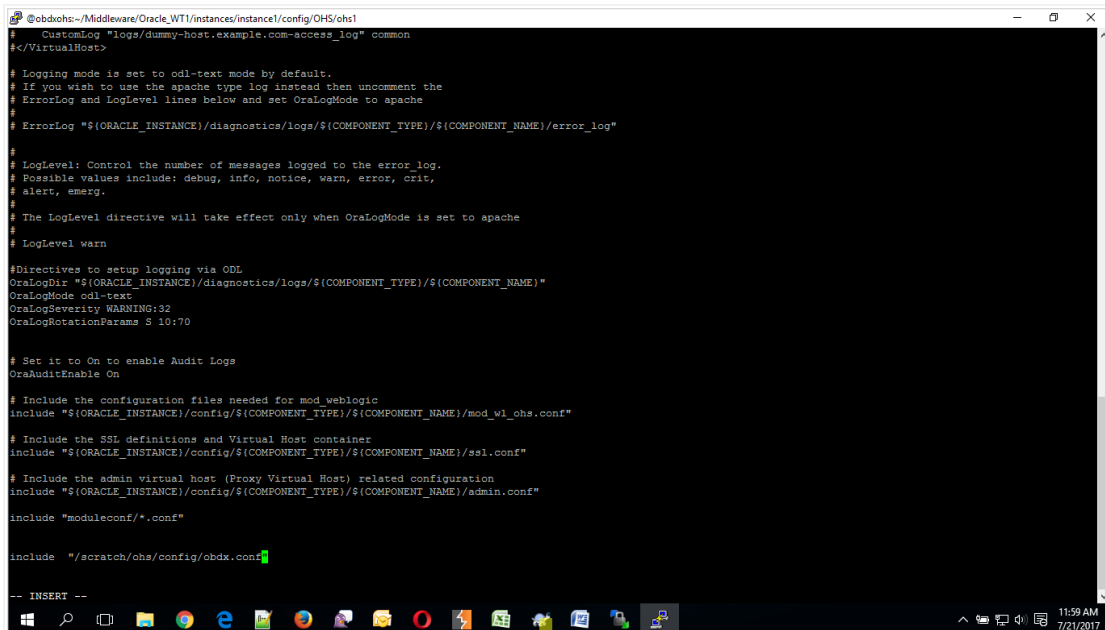
Following are the changes needed to be done in the obapi.conf file and place this file in same folder where httpd.conf file exists.

1. Replace the <CHANNEL_PATH> (all occurrences) with the newly created directory (from previous UI deployment step).
2. Configuration for Content Security Policy, refer to the below document
Oracle Banking APIs Security Guide

Include the obapi.conf into httpd.conf using below configuration

```
include "obapi.conf" (needs to be added in httpd.conf)
```

Read obapi.conf for inline documentation.



```
@obdxohs:~/Middleware/Oracle_WT1/instances/instance1/config/OHS/ohs1
# CustomLog "logs/dummy-host.example.com-access_log" common
#</VirtualHost>

# Logging mode is set to odl-text mode by default.
# If you wish to use the apache type log instead then uncomment the
# ErrorLog and LogLevel lines below and set OraLogMode to apache
#
# ErrorLog "${ORACLE_INSTANCE}/diagnostics/logs/${COMPONENT_TYPE}/${COMPONENT_NAME}/error_log"
#
# LogLevel: Control the number of messages logged to the error_log.
# Possible values include: debug, info, notice, warn, error, crit,
# alert, emerg.
#
# The LogLevel directive will take effect only when OraLogMode is set to apache
#
# LogLevel warn

#Directives to setup logging via ODL
OraLogDir "${ORACLE_INSTANCE}/diagnostics/logs/${COMPONENT_TYPE}/${COMPONENT_NAME}"
OraLogMode odl-text
OraLogSeverity WARNING:32
OraLogRotationParams S 10:70

# Set it to On to enable Audit Logs
OraAuditEnable On

# Include the configuration files needed for mod_weblogic
include "${ORACLE_INSTANCE}/config/${COMPONENT_TYPE}/${COMPONENT_NAME}/mod_wl_ohs.conf"

# Include the SSL definitions and Virtual Host container
include "${ORACLE_INSTANCE}/config/${COMPONENT_TYPE}/${COMPONENT_NAME}/ssl.conf"

# Include the admin virtual host (Proxy Virtual Host) related configuration
include "${ORACLE_INSTANCE}/config/${COMPONENT_TYPE}/${COMPONENT_NAME}/admin.conf"

include "moduleconf/*.conf"

include "/scratch/ohs/config/obdx.conf"

-- INSERT --
```

Following are the changes need to be done in mod_wl_ohs.conf which is present at **{DOMAIN_HOME}/config/fmwconfig/components/OHS/{componentName}**

Copy below configuration into mod_wl_ohs.conf

```
<IfModule weblogic_module>
    WebLogicHost HOSTNAME
    WebLogicPort MANAGE_SERVER_PORT
    Debug ON
    WLLogFile DIR/FILENAEME
    MatchExpression /digx/*
    MatchExpression /digx-auth/*
    MatchExpression /digx-social/*
</IfModule>
```

Configure below properties

- a. HOSTNAME – Weblogic server hostname (where OBAPI weblogic domain is configured)
- b. MANAGE_SERVER_PORT – Weblogic manage server port (where OBAPI application is deployed)
- c. DIR / FILENAME – Path where log file should be generated

Sample configuration (for reference purpose only)

```
<IfModule weblogic_module>
    WebLogicHost wls_server1
    WebLogicPort 7003
    Debug ON
    WLLogFile /tmp/weblogic_obp.log
    MatchExpression /digx/*
</IfModule>
```

```

@obdxkhs-~/Middleware/Oracle_WT1/instances/instance1/config/OHS/ohs1
drwx----- 1 devops devops 4096 Nov 10 2016 fastcgi
drwx----- 1 devops devops 4096 Nov 10 2016 fcgi-bin
drwx----- 1 devops devops 4096 Nov 10 2016 htddocs
-rw-rw-r-- 1 devops devops 38092 Jul 21 06:29 httpd.conf
-rw-r----- 1 devops devops 38047 Nov 10 2016 httpd.conf.ORIG
drwxr-xr-x 1 devops devops 4096 Nov 10 2016 icons
drwx----- 1 devops devops 4096 Nov 10 2016 keystores
-rw-r----- 1 devops devops 12959 Nov 10 2016 magic
drwx----- 1 devops devops 4096 Nov 10 2016 man
drwx----- 1 devops devops 12288 Nov 10 2016 manual
-rw-r----- 1 devops devops 15020 Nov 10 2016 mime.types
drwx----- 1 devops devops 4096 Nov 10 2016 mod_pls1
-rw-r----- 1 devops devops 617 Jul 20 10:45 mod_wl_ohs.conf
drwx----- 1 devops devops 4096 Nov 10 2016 moduleconf
drwx----- 1 devops devops 4096 Nov 10 2016 proxy-wallet
-rw-r----- 1 devops devops 2986 Nov 10 2016 ssl.conf
drwxr-xr-x 1 devops devops 4096 Nov 11 2016 webgate
-rw-rw-r-- 1 devops devops 2121 Nov 11 2016 webgate.conf
[devops@obdxkhs ohs1]$
[devops@obdxkhs ohs1]$
[devops@obdxkhs ohs1]$
[devops@obdxkhs ohs1]$ vi mod_wl_ohs.conf
[devops@obdxkhs ohs1]$ cat mod_wl_ohs.conf
# NOTE : This is a template to configure mod_weblogic.

LoadModule weblogic_module      "${ORACLE_HOME}/ohs/modules/mod_wl_ohs.so"

# This empty block is needed to save mod_wl related configuration from EM to this file when changes are made at the Base Virtual Host Level
<IfModule weblogic_module>
    WebLogicHost mmm00aqq
    WebLogicPort 7003
    Debug ON
    WLogLevel /tmp/weblogic.log
    MatchExpression /digx/*
</IfModule>

# <Location /weblogic>
#     SetHandler weblogic-handler
#     PathTrim /weblogic
#     ErrorPage http://WEBLOGIC_HOME:WEBLOGIC_PORT/
# </Location>

[devops@obdxkhs ohs1]$

```

6. Oracle HTTP Server Commands

6.1 Starting Oracle HTTP Server Instances from the Command Line

You can start up Oracle HTTP Server instances from the command line via a script.

1. Ensure that Node Manager is running.
2. Enter the following command:

```
Linux or UNIX: $DOMAIN_HOME/bin/startComponent.sh componentName
```

```
Windows: %DOMAIN_HOME%\bin\startComponent.cmd componentName
```

For example:

```
$DOMAIN_HOME/bin/startComponent.sh ohs1
```

The startComponent script contacts the Node Manager and runs the nmStart() command.

When prompted, enter your Node Manager password. The system responds with these messages:

```
Successfully started server componentName...
Successfully disconnected from Node Manager...

Exiting WebLogic Scripting Tool.
```

6.2 Stopping Oracle HTTP Server Instances from the Command Line

You can stop Oracle HTTP Server instances from the command line via a script.

Enter the following command:

```
Linux or UNIX: $DOMAIN_HOME/bin/stopComponent.sh componentName
```

```
Windows: %DOMAIN_HOME%\bin\stopComponent.cmd componentName
```

For example:

```
$DOMAIN_HOME/bin/stopComponent.sh ohs1
```

This command invokes WLST and executes the nmKill() command.

The stopComponent command will not function if the Node Manager is not running.

For more commands refer the following URL:

<https://docs.oracle.com/middleware/1221/webtier/administer-ohs/getstart.htm>

7. Configuring User Interface

All the UI configurations are available in config.js while which is present under the <CHANNEL_PATH>\framework\js\configurations directory. JavaScript object for the configuration is declare by the name “configuration”. Application freeze this object so its value cannot be change in running memory.

Category of the configuration:

i18n: All the internalization specific configuration mentioned in this. Currently this category have list of rtl locales

```
i18n: {
  rtlLocales: ["ar", "he", "ku", "fa", "ur", "dv", "ha", "ps", "yi"]
}
```

Sharding: Domain sharding is a technique used to increase the amount of simultaneously downloaded resources for a particular website by using multiple domains. This allows websites to be delivered **faster** to users as they do not have to wait for the previous set of resources to be downloaded before beginning the next set. Implementer can introduce 3 additional domains for the UI

1. **apiBaseUrl:** If the HTTP server and the application server are on same host, the property is set as "" otherwise set to host name and port of the application server.
imageResourcePath: The base path from which the image resources are to be fetched. It can also be a relative path pointing to the same domain the page is running on or a fully qualified path to different server on which images are hosted
2. **webHelpContentURL:** Domain where the web help content is hosted.

```
sharding: {
  imageResourcePath: "/images",
  apiBaseUrl: "",
  webHelpContentURL : ""
}
```

Service Worker: A service worker is a script that your browser runs in the background, separate from a web page, opening the door to features that don't need a web page or user interaction. The core feature discussed in this tutorial is the ability to intercept and handle network requests, including programmatically managing a cache of responses. Implementer can enable or disable it by changing this property.

```
serviceWorker: {
  enabled: true
}
```

Authentication: OBAPI product ships with two type of authentication methods:

1. OAM Authentication
2. Non OAM Authentication (OBAPIAuthenticator)

Configuring OAM Authentication set type as OAM and also provide the provider URL of OAM in providerURL property.

For Non OAM set type as OBAPIAuthenticator.

In the application, setting secure and public page is required. For this two properties are exposed as pages.securePage and pages.publicPage. As name suggest pages.securePage have the pathname of secure page and pages.publicPage have the pathname of public/unsecure page.

```
authentication: {
  type: "OBAPIAuthenticator",
  providerURL: "",
  pages: {
    securePage: "home.html",
    publicPage: "index.html"
  }
}
```

Third Party API's: Some of the application module required integration with third party provider like facebook, linkedin, google etc. So in this category we maintained all the sdk url, api keys and provider url of third party api's

```
thirdPartyAPIs: {
  facebook: {
    url: "",
    sdkURL: "",
    apiKey: ""
  },
  linkedin: {
    sdkURL: "",
    apiKey: ""
  },
  googleMap: {
    url: "",
    sdkURL: "",
    apiKey: ""
  }
}
```

Oracle Jet: OBAPI UI used Oracle Jet as the library. Oracle Jet also exposed over the CDN (content delivery network). So implementer has the choice to Oracle Jet as local deployment or from CDN. In hostedAt property supports two values “cdn” or “local”. **baseUrl** property used for base url of the Oracle Jet and version property used for the used Oracle Jet Version.

```
oracleJet: {
  hostedAt: "cdn",
  baseUrl: "https://mumaa012.in.oracle.com/jet",
  version: "7.1.0"
}
```

API Catalogue: This category used for several context root available in OBAPI API's and their default versions.

```
apiCatalogue: {
  base: {
    contextRoot: "digx",
    defaultVersion: "v1"
  },
  extended: {
    contextRoot: "digx/ext",
    defaultVersion: "v1"
  },
  social: {
    contextRoot: "digx-social",
    defaultVersion: "v1"
  },
  "digx-auth": {
    contextRoot: "digx-auth/ext",
    defaultVersion: "v1"
  },
  "digx-auth-extended": {
    contextRoot: "digx-auth",
    defaultVersion: "v1"
  }
}
```

System Configuration: This category of configuration is used for system level properties. Brief description of properties are below:

componentAccessControlEnabled: Component access check(through role transaction mapping) is enabled or not. Depending of this property menu or link will filtered.

requestThrottleSeconds: OBAPI UI can cached service responses and it also distribute one API response to several caller. For example if 3 widgets calling same API, in this case application fire only one API and distribute its response to all the callers. requestThrottleSeconds property used for caching time of the response. Unit is in second. It means if you set requestThrottleSeconds as

5(second) it means if application fire same API within 5 second application return the same response which it fire earlier.

defaultEntity: Default entity if entity cannot be derived.

sslEnabled: SSL is enabled or not.

loggingLevel: Logging level of OBAPI UI.

buildTimestamp: Time stamp of the build.

```
system: {
  componentAccessControlEnabled: true,
  requestThrottleSeconds: 5,
  defaultEntity: "",
  sslEnabled: true,
  loggingLevel: "LEVEL_ERROR",
  buildTimestamp: BuildFingerPrint.timeStamp
}
```

Analytics: This category of configuration is used for enabling or disabling third party and OBAPI analytics in application.

```
analytics: {
  thirdPartyAnalytics: {
    enabled: false,
    analyticsProvider: ""
  },
  obapiAnalytics: {
    enabled: false,
    eventsThreshold: 5,
    inactivityTimeout: 10 * 60 * 1000
  }
}
```

Development Configuration: This category of configuration is used during development phase. This should be disabled (development.enabled set as false) in the production mode. In this category we also have property for enabling accessibility checks during run time.

```
development: {
  enabled: false,
  checkAccessibility: false,
  axeUrl: "https://cdnjs.cloudflare.com/ajax/libs/axe-core/3.3.2/axe.min.js"
}
```

8. Language Pack

Out of box OBAPI comes with two language i.e. French and Arabic. Language pack of these languages are shipped along with the product. Please note since translation is a continuous process so some or the translation can be missing in the language pack which will be updated in next patch set release. The resource bundle key which translation is missing, you find the English string in place of the actual translated string.

8.1 Adding new Language

Implementer can add new language in the application by adding new row in **digx_fw_locale** table. This table has two columns locale code the description which comes in the drop down.

Example: For Arabic and French implementer can run following script respectively on OBAPI Schema

```
insert into digx_fw_locale (code, description) values ('ar', 'Arabic');
insert into digx_fw_locale (code, description) values ('fr', 'Français');
```

8.2 Deployment of the Language pack

Language pack can be classified in the following types

Database Scripts:

1. Login to OBAPI Schema
2. Execute following SQL files :

```
OBAPI_<VERSION>_TRANSLATION_PACK\<LOCALE>\seed\digx_fw_error_messages.sql
OBAPI_<VERSION>_TRANSLATION_PACK\<LOCALE>\seed\digx_fw_info_messages.sql
```

3. Commit the changes

```
commit;
```

Weblogic Configuration:

1. Copy all files/ directories from
OBAPI_<VERSION>_TRANSLATION_PACK\<LOCALE>\config to \${OBAPI_HOME}\config
hosted on Weblogic Server

Note: The path for \${OBAPI_HOME}\config can be found under Managed Server classpath which is accessible via Weblogic Administration

UI Configuration:

1. Copy complete
OBAPI_<VERSION>_TRANSLATION_PACK\<LOCALE>\channel\resources\nls\<LOCALE>
> directory to <CHANNEL_PATH>/resources/nls/
2. Create a new <LOCALE> directory in <CHANNEL_PATH>/partials/help
3. Copy all existing files from <CHANNEL_PATH>/partials/help to
<CHANNEL_PATH>/partials/help/<LOCALE>
4. Override all help files from
OBAPI_<VERSION>_TRANSLATION_PACK\<LOCALE>\channel\partials\help\<LOCALE>
to <CHANNEL_PATH>/partials/help/<LOCALE>

[Home](#)