Mobile Application Builder Guide-iOS Guide Oracle Banking Digital Experience Release 22.2.0.0.0

Part No. F72987-01

November 2022



Mobile Application Builder Guide-iOS Guide

November 2022

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/

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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

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

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 Release 22.2.0.0.0, refer to the following documents:

Oracle Banking Digital Experience Installation Manuals



2. OBDX Servicing Application

2.1 Prerequisite

- Download and Install node js as it is required to run npm and cordova commands.
- XCode to be download from Mac App Store.
- OBDX iOS App is supported only on current iOS version and only one version preceding that.

2.2 Create Project

Ensure Nodejs Version is >= 12 and latest Xcode version

- 1. Extract iOS workspace from installer and place in a folder.
- 2. The workspace by default contains framework for running on devices. Hence to run the application on simulator, delete and copy the 4 frameworks (OBDXExtensions.framework, OBDXFramework, framework, Cordova.framework) from installer/simulator to zigbank\platforms\ios directory.

2.3 Create Project Using Remote UI

Make the following changes to index.html using any code editor of choice:

In var server_url, put the same KEY_SERVER_URL to be used in app.plist
 In workspace create a copy of index.html in the same folder and rename it to home.html.

In index.html/home.html in workspace update jet_url = "https://static.oracle.com/cdn"On the server side where UI is deployed in framework/js/configurations/config.js set Jet "baseUrl" as https://static.oracle.com/cdn/jet After this proceed to **2.5 Open Project in Xcode**.

2.4 Create Project Using Local UI by adding UI to workspace

Use any 1 option below of a/b

- a. Building un-built UI (required in case of customizations)
 (UI is same for internet and mobile, same build process of internet to be followed)
- b. Using built UI (out of box shipped with installer)

Available at --

OBDX_Installer/installables/ui/deploy (Main release, OBDX installer), OBDX_Patch_Installer/installables/ui/deploy (Patchsets)

Create a copy of index.html in the same folder and rename it to home.html.



Copy folders(components, extensions, framework, images, flows, Izn, home.html, partials, resource, index.html, build.fingerprint) to workspace (zigbank/platforms/ios/www)

Note: When copying to www, index.html already present in the workspace should be replaced)

Ensure webhelp folder is not copied.

Download oraclejet-x.y.source zip file

x.y refer to the version of Oracle JET used

- 1. Unzip & copy is and css folders to workspace as below
 - a. assets\www\framework\js\libs\oraclejet\x.y.0\js
 - b. assets\www\framework\js\libs\oraclejet\x.y.0\css
- 2. In config.js update values as highlighted below
 - a. {hostedAt:"local",baseUrl:"framework/js/libs/oraclejet"
- 3. In index.html update require.js path
 - a. framework/js/libs/oraclejet/x.y.0/js/libs/require/require.js

2.5 Open project in Xcode

Open Xcode by clicking ZigBank.xcodeproj at zigbank/platforms/ios/

- 1. Adding URLs to app.plist (ZigBank/Resources)
 - a. NONOAM (DB Authenticator setup)

SERVER_TYPE	NONOAM
KEY_SERVER_URL	https://mumaa012.in.oracle.com:18443/
WEB_URL	https://mumaa012.in.oracle.com:18443/

b. OBDXTOKEN (Token based mechanism)

SERVER_TYPE	OBDXTOKEN
KEY_SERVER_URL	https://mumaa012.in.oracle.com:18443
WEB_URL	https://mumaa012.in.oracle.com:18443

c. OAUTH Setup (Refer to installer pre requisite documents for OAuth configurations)



SERVER_TYPE	OAUTH
KEY_SERVER_URL	Eg. https://mumaa012.in.oracle.com:18443/ (This URL must be of OHS without webgate)
WEB_URL	Eg. https://mumaa012.in.oracle.com:18443/
KEY_OAUTH_PROVIDER_URL	http://mum00aon.in.oracle.com:14100/oauth2/rest/token
APP_CLIENT_ID	<base64 clientid:secret="" of=""> of Mobile App client</base64>
APP_DOMAIN	OBDXMobileAppDomain
WATCH_CLIENT_ID	<base64 clientid:secret="" of=""> of wearables</base64>
WATCH_DOMAIN	OBDXWearDomain
SNAPSHOT_CLIENT_ID	<base64 clientid:secret="" of=""> of snapshot</base64>
SNAPSHOT_DOMAIN	OBDXSnapshotDomain
LOGIN_SCOPE	OBDXMobileAppResServer.OBDXLoginScope

d. IDCS Setup

SERVER_TYPE	IDCS	
KEY_SERVER_URL	Eg. https://mumaa012.in.oracle.com:18443/ (This URL must be of OHS without webgate)	
WEB_URL	Eg. https://mumaa012.in.oracle.com:18443/	
KEY_OAUTH_PROVIDER_URL	http://obdx- tenant01.identity.c9dev0.oc9qadev.com/oauth2/v1/toke n	
APP_CLIENT_ID	<base64 clientid:secret="" of=""> of Mobile App client</base64>	
WATCH_CLIENT_ID	<base64 clientid:secret="" of=""> of wearables</base64>	
SNAPSHOT_CLIENT_ID	<base64 clientid:secret="" of=""> of snapshot</base64>	
LOGIN_SCOPE	obdxLoginScope	
OFFLINE_SCOPE	urn:opc:idm:myscopes offline_access	



e. Common configurations

CurrencyCode	Currency code for Siri Payments		
PaymentPurposeRequiredFlag	Payment purpose required for Siri payments		
SUITENAME	Group identifier for sharing keystore information. Same as given in app groups (mandatory to be given same as App Group name)		
BankName	Name of bank to be shown on touch id / face id popup		
CertificateType	Extension of SSL Pinned certificates (Eg cer/der)		
PinnedUrl	Pinning URL to be entered here.		
PinnedCertificateName	Houses the certificate name (without extension) of the pinning certificate. Old certificate (about to expire) and new one can co-exist.		
SSLPinningEnabled	To enable SSL Pinning		
SSLPinningEnabledNoNetworkCall	Provides the option of whether to load the login page if SSL Pinning fails. SSLPinningEnabled must be set to 1 for it to work.		
	 If set to 1 and SSLPinningEnabled is set to 1 then if SSL Pinning fails, then login page does not load. 		
	 If set to 0 and SSLPinningEnabled is set to 1 then if SSL Pinning fails, then login page loads. 		
ForceUpdate	To enable/disable updating of app forcibly		
AppStoreID	ID of the app in AppStore for force update		
AppStoreURL	URL to identify app in AppStore for force update		
WatchOATCorp	To enable/disable Own Account Transfer through Apple Watch for corporate users only		
WatchSnapshot	To enable/disable snapshot capability in Apple Watch		
SiriRequiredFlag	To enable/disable Siri capability		
DomainDeployment	To enable/disable domain-based deployment		



2. Adding chatbot support to mobile application (Optional) (refer section **ODA Chatbot Inclusion** for more details)

CHATBOT_ID	The tenant ID
CHATBOT_URL	The web socket URL for the ChatApp application in ODA

Adding eKYC verification support to mobile application (Optional) (see section eKYC Implementation more details)

LX_CLIENT_ID	The client ID

4. Adding Bundle Identifiers

Bundle identifiers needs to be added in the Info.plist of each the frameworks along with the Signing Capabilities tab in Xcode. For example, the bundle identifier used is abc.def.ghi.jkl. The steps to be followed are,

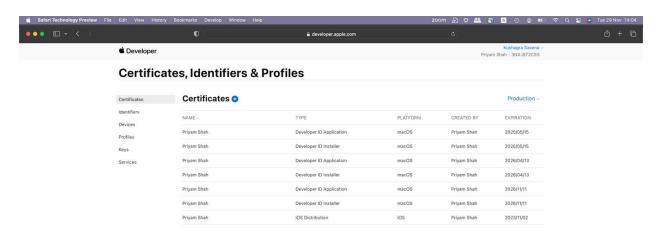
- Right click on OBDXFramework.framework(in Xcode's Project Navigator) -> Show in Finder
- When the finder directory opens the right click OBDXFramework.framework -> Show package contents.
- Open Info.plist and set Bundle identifier as abc.def.ghi.jkl.OBDXFramework
- Repeat the steps for the other three frameworks as well, with the following values:
 - > Bundle identifier for Cordova.framework : abc.def.ghi.jkl.Cordova
 - Bundle identifier for OBDXExtensions.framework : abc.def.ghi.jkl.OBDXExtensions
 - Bundle identifier for OBDXWatchFramework.framework : abc.def.ghi.jkl. OBDXWatchFramework
- 5. Siri-Payload.plist (ZigBank/Resources) is provided to specify entries in the Siri payload based on transaction types (internal, domestic or international). Entries common to all the transaction types can also be entered.

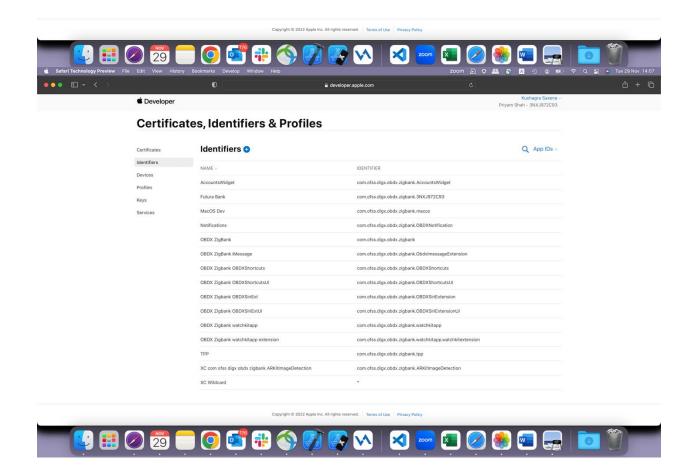
2.6 <u>Generating Certificates for Development, Production and Push Notifications</u>

Create all certificates (by uploading CSR for keychain utility), provisioning profiles and push certificates as shown below by login in developer console. For development add device UUIDs and add same to provisioning profiles. Add capabilities as shown below and ensure the bundle identifier matches the one of the application in Xcode

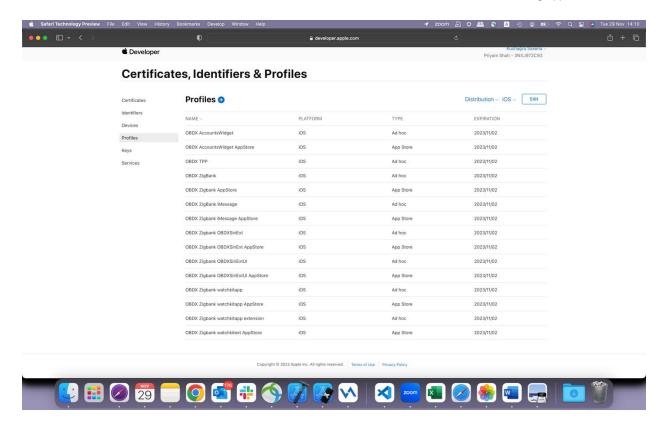


OBDX Servicing Application

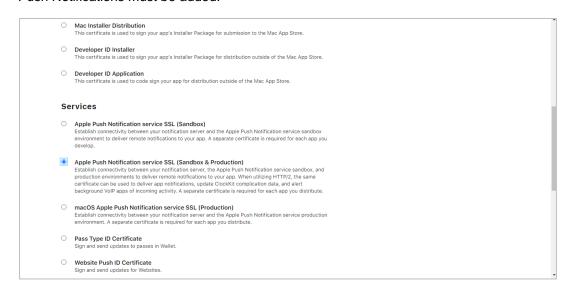






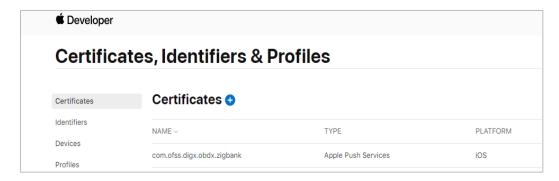


Ensure AppGroups capability is added to all profiles and for mobile profile SiriKit, App Groups, Push Notifications must be added.



Note the certificate/bundle name

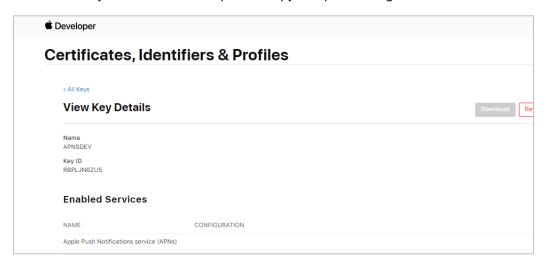




Note the Team ID from top right corner

Navigate to the "Keys" section and create APNS key

Note APNS key and download the .p8 file. Copy the .p8 to config/resources\mobile



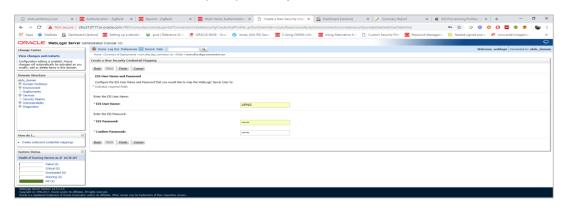
Update the password as shown below -

Sr. No.	Table	PROP_ID	CATEGORY_ID	PROP_VA LUE	Purpose
1	DIGX_FW_CO NFIG_ALL_B	APNS	DispatchDetails	<key id=""></key>	Provides key of .p8 certificate
2	DIGX_FW_CO NFIG_ALL_B	APNSKeySto re	DispatchDetails	DATABAS E or CONNECT OR	Specifies whether to pick certificate password from database or from connector. Default DB (No change)
3	DIGX_FW_CO NFIG_ALL_B	APNSCertKe yStore	DispatchDetails	DATABAS E or CONNECT OR	Specifies whether to pick certificate from database or from connector. Default DB (No change)



4	DIGX_FW_CO NFIG_ALL_B	proxy	DispatchDetails	<pre><pre><pre><pre><pre><pre>protocol, proxy_add ress></pre></pre></pre></pre></pre></pre>	Provides proxy address, if any, to be provided while connecting to APNS server. Delete row if proxy not required. Example: HTTP,148.50.60.8,80
5	DIGX_FW_CO NFIG_ALL_B	CERT_TYPE	DispatchDetails	For dev push certs add row with value 'dev'	For prod push certificates this row is not required
6	DIGX_FW_CO NFIG_VAR_B	APNSCert		Eg –BEGIN PRIVATE KEY abcdEND PRIVATE KEY	Open the .p8 file and copy contents to column (Update for all entities)
7	DIGX_FW_CO NFIG_VAR_B	APNS_BUND LE		Eg. com.ofss.d igx.obdx.zi gbank	Bundle Name (Update for all entities)
8	DIGX_FW_CO NFIG_VAR_B	APNS_TEAM ID		Eg. 3NX1974C 93	Team ID of Apple developer account (Update for all entities)

If CONNECTOR is selected in Step 2 update key as below





2.7 Push Notification Actionable Alerts Configuration

To enable deep linking with actionable alerts make the following changes on the server end to the push notifications payload:

- 1. Send the "category" as "pac".
- 2. Send the required deep-linking URL in "SUMMARY_TEXT".

2.8 Push Notification 2FA configuration

If Push notification 2fa is enabled at bank side for any transaction then, the screen displays message to wait for the push notification to accept/reject the transaction authentication. The message as well contains a timer of 5 minutes displayed on the UI. This value is set in the UI code. If bank needs to change this value, bank needs to update the value in UI code:

File path: channel/metadata/user-components/push-out-of-band/push-out-of-band/hook.js

Code to be changed: const mins = <<value>>;

Update the value to what bank needs to set it. This value is in minutes.

So, ideally 5 minutes (existing value in base UI code) is an ideal time. Any changes made in this value should satisfy below pre-condition.

- 1. There is an OTP expiration time set in "digx_fw_config_ALL_b" table.
- 2. Also, there is business policy check set to 10 minutes for validation of the generated 2fa token. Bank can write their own business policy where they can modify the 10 minutes time.

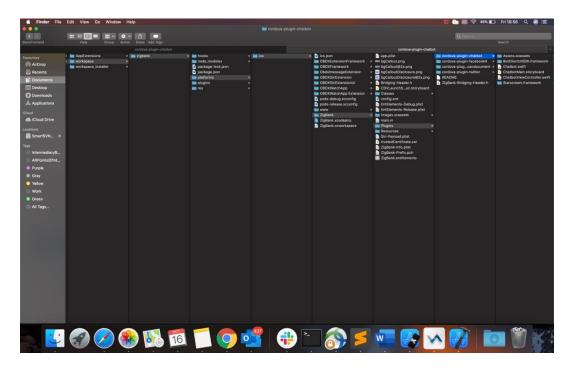
So, the time in UI code should not exceed 10 minutes and OTP expiration time in "digx_fw_config_ALL_b" table.

2.9 ODA Chatbot Inclusion

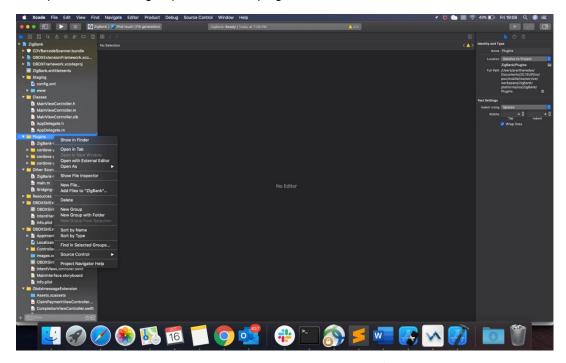
To enable ODA Chatbot services in the mobile app, the following changes needs to be made:

- 3. Copy the folder "cordova-plugin-chatbot" from the SVN path : workspace_installer/AppExtensions/ODAChatbot The frameworks can be found at ODA Client SDK for iOS x.y.z Latest in https://www.oracle.com/downloads/cloud/amce-downloads.html#license-lightbox. After downloading and unzipping the latest version the frameworks for an actual device and simulator can be found inside the folders named "FrameworksActualDevice" and "FrameworksSimulator" respectively. Frameworks to be chosen as per the target and pasted inside "cordova-plugin-chatbot".
- 4. Paste the folder "cordova-plugin-chatbot", copied previously in the path : workspace_installer/Zigbank/plugins A screenshot of the destination in Finder is attached herewith.



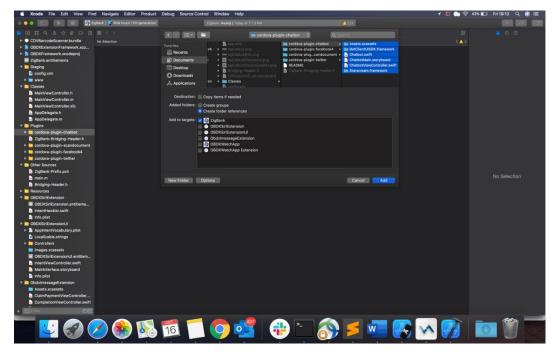


5. Open the Zigbank.xcodeproj file, right click on "Plugins" folder and select "New Group" option. Name the group as "cordova-plugin-chatbot".

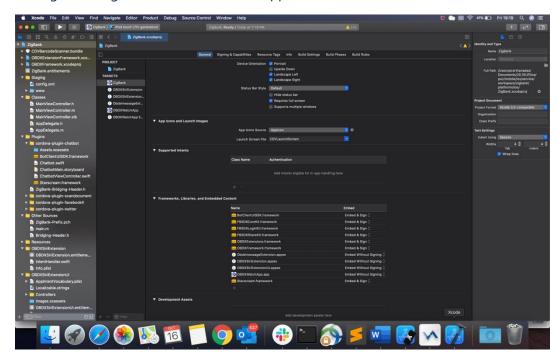


6. Right click on the newly created group and select "Add files to "Zigbank"" option, and add all the contents of "cordova-plugin-chatbot" folder, pasted previously.





7. After addition of the files, go to "General" tab for "Zigbank" target and under the "Frameworks, Libraries and Embedded Content" section change the embed type of the frameworks "Starscream.framework" and "BotClientUISDK.framework" to "Embed and Sign". Failing to do so will make the app crash after installation.



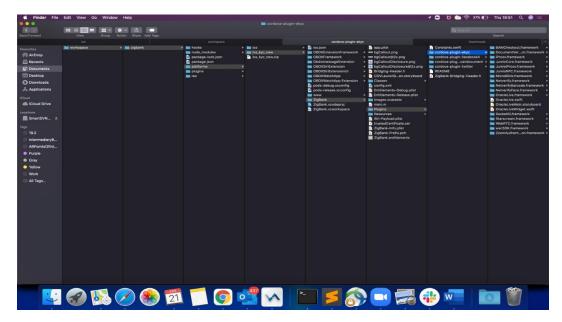
2.10 eKYC Implementation

To enable eKYC please follow the steps mentioned below:

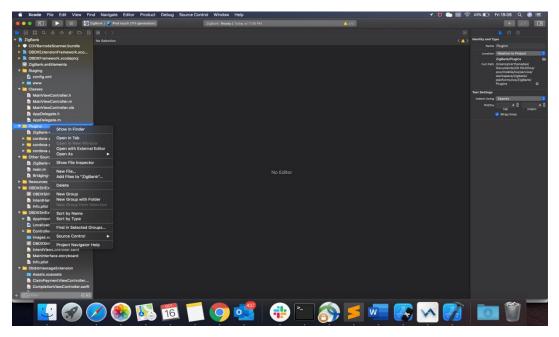


- 1. Download the iOS ID Verification SDK from <u>oracle.live.api-ios-id-verification.zip</u> from Oracle Live Experience. All the frameworks inside "release" folder of "oracle.live.api-ios-id-verification" are needed viz.
 - OracleLive.framework
 - WebRTC.framework
 - wscSDK.framework
- 2. Go to https://mobile-sdk.jumio.com/com/jumio/ios/jumio-mobile-sdk/ and navigate to the latest version to download the Jumio frameworks. Unzip the downloaded folder the following frameworks are of use to us:
 - BAMCheckout.framework
 - DocumentVerification.framework
 - iProov.framework
 - JumioCore.framework
 - JumioProov.framework
 - JumioNFC.framework
 - Microblink.framework
 - Netverify.framework
 - NetverifyBarcode.framework
 - NetverifyFace.framework
 - SocketIO.framework
 - Starscream.framework
 - ZoomAuthentication.framework
- 3. Paste the frameworks downloaded in the previous steps in the folder "cordova-plugin-ekyc" from the SVN path: workspace_installer/AppExtensions/eKYC
- 4. Paste the folder "cordova-plugin-ekyc", copied previously, in the path
 : workspace installer/Zigbank/plugins A screenshot of the destination in Finder is attached herewith.



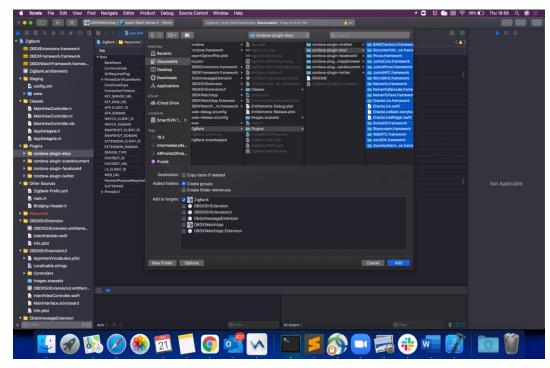


5. Open the Zigbank.xcodeproj file, right click on "Plugins" folder and select "New Group" option. Name the group as "cordova-plugin-ekyc".

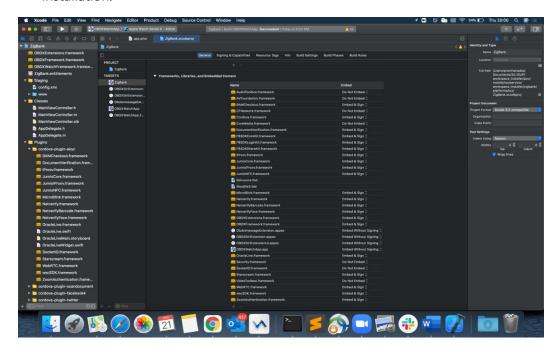


6. Right click on the newly created group and select "Add files to "Zigbank"" option, and add all the contents of "cordova-plugin-ekyc" folder, pasted previously.





7. After addition of the files, go to "General" tab for "Zigbank" target and under the "Frameworks, Libraries and Embedded Content" section change the embed type of all the frameworks to "Embed and Sign". Failing to do so will make the app crash after installation.



Home

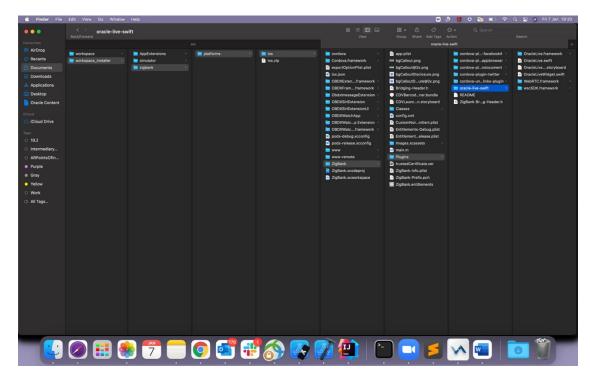


2.11 Oracle Live Experience Implementation

Pre-requisite: Kindly provide the LX client ID in the field LX_CLIENT_ID in app.plist.

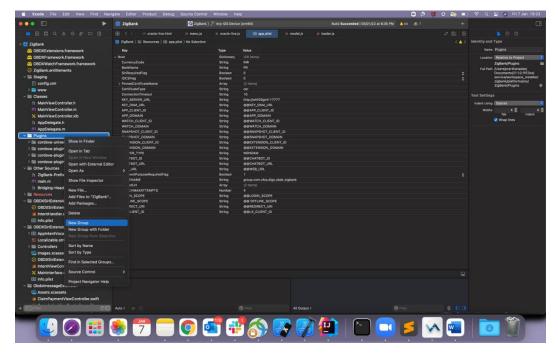
Please follow the steps mentioned below to enable Oracle Live Experience.

- 1. Download the Live Experience iOS SDK from https://www.oracle.com/downloads/cloud/oracle-live-experience-downloads.html. All the frameworks inside "release" folder of "oracle.live.api-ios" are needed viz.
 - OracleLive.framework
 - WebRTC.framework
 - wscSDK.framework
- 2. Paste the frameworks downloaded in the previous steps in the folder "oracle-live-swift" from the SVN path: workspace installer/AppExtensions/ oracle-live-swift
- 3. Paste the folder "oracle-live-swift", copied previously, in the path : workspace_installer/Zigbank/plugins A screenshot of the destination in Finder is attached herewith.

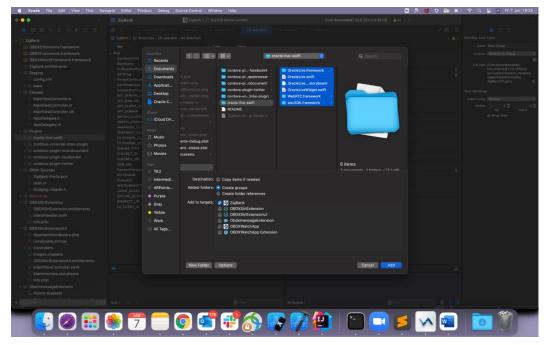


4. Open the Zigbank.xcodeproj file, right click on "Plugins" folder and select "New Group" option. Name the group as "oracle-live-swift".



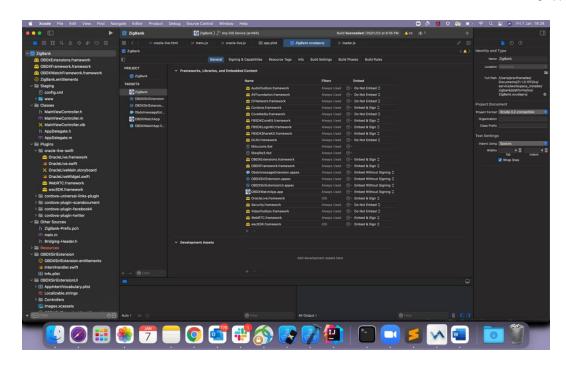


5. Right click on the newly created group and select "Add files to "Zigbank"" option, and add all the contents of "oracle-live-swift" folder, pasted previously.



6. After addition of the files, go to "General" tab for "Zigbank" target and under the "Frameworks, Libraries and Embedded Content" section change the embed type of all the newly added frameworks to "Embed and Sign". Failing to do so will make the app crash after installation.







2.12 Widget Functionality

Widget, showing account balance of default account and last 3 transactions of the same account, can be added to the phone home screen. If default account is not set, then the details of the account fetched first is shown.

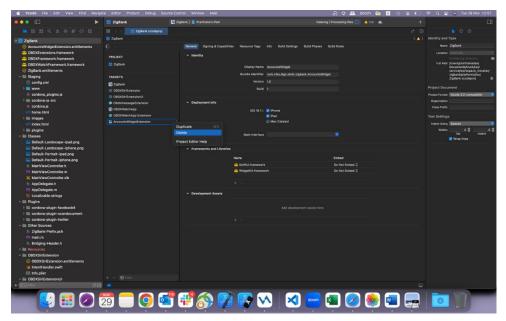
Prerequisite:

Quick Snapshot feature needs to be enabled in the app.

Removal of Widget functionality from workspace :

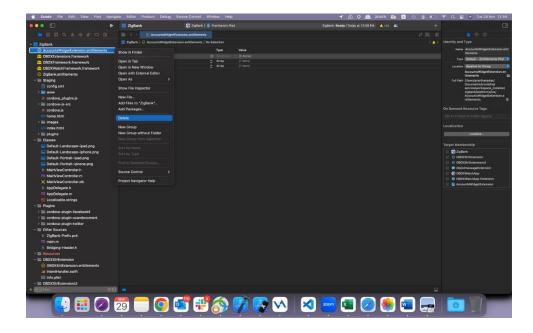
To remove the widget functionality from workspace please carry out the following steps:

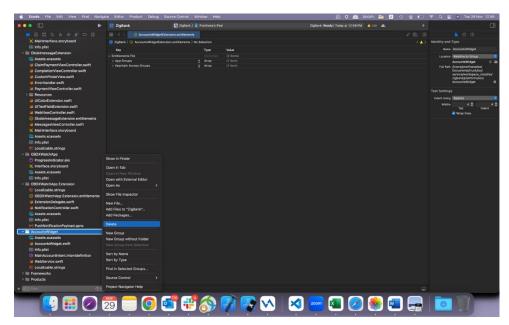
1. Please delete "AccountsWidgetExtension" from the "Targets" section.



2. Please delete "AccountsWidgetExtension.entitlements" file and "AccountsWidget" folder from Project navigator.



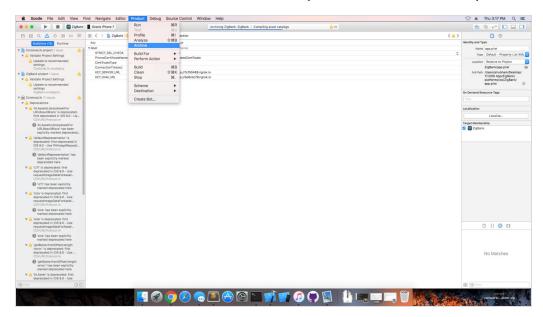




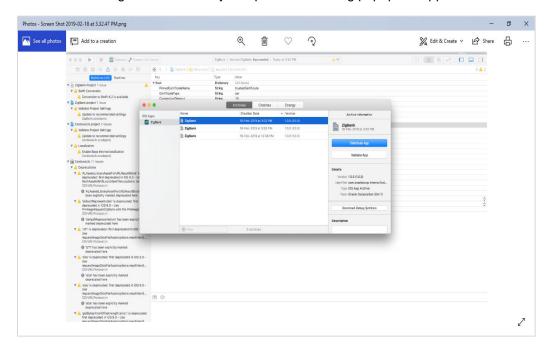


3. Archive and Export

a. In the Menu bar click on Product -> Archive (Select Generic iOS Device)

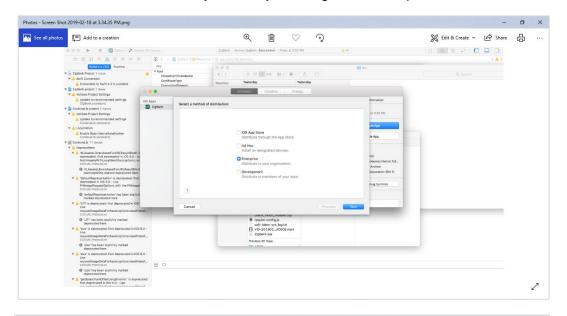


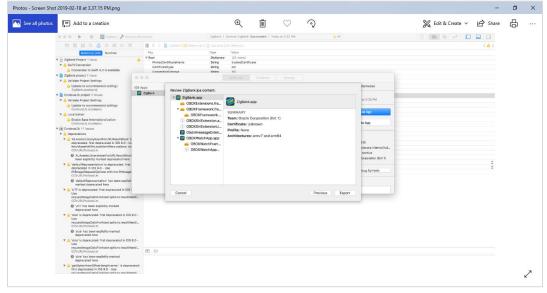
b. After archiving has successfully completed. Following popup will appear

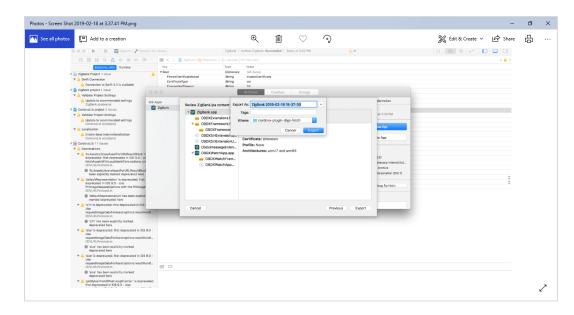




c. Click on Distribute App in the right pane of the popup -> select the Method of Distribution -> Choose Provisioning Profile according to the method of distribution -> select Next -> Review the contents and click on Export -> Export and generate the .ipa







To run the application on simulator copy & replace 4 frameworks (.framework files) from /simulator to zigbank/platforms/ios/

Home



4. OBDX Authenticator Application

4.1 Authenticator UI (Follow any one step below)

4.1.1 Using built UI

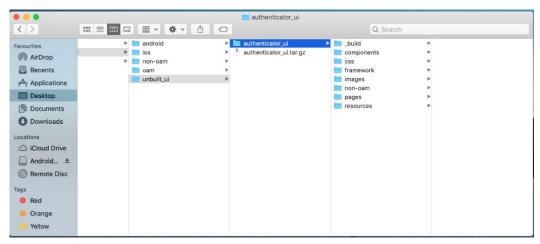
For TOKEN-BASED - Unzip dist.tar.gz directory from OBDX_Patch_Mobile\authenticator\TOKEN-BASED

For Non-OAM - Unzip dist.tar.gz directory from OBDX_Patch_Mobile\authenticator\NON-OAM

For OAM - Unzip dist.tar.gz directory from OBDX_Patch_Mobile\authenticator\OAM

4.1.2 **Building UI manually**

1. Extract authenticator_ui.tar.gz from OBDX_Patch_Mobile\authenticator\unbuilt_ui. The folder structure is as shown:



- d. OAM Based Authentication
 - 1. Open Terminal at "_build" level.
 - 2. Run following command:

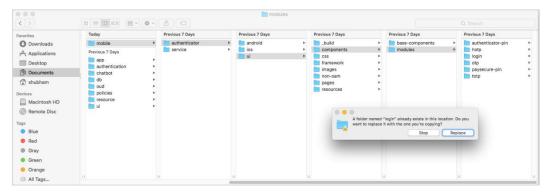
```
sudo npm install -g grunt-cli
sudo npm install
node render-requirejs/render-requirejs.js
grunt authenticator --verbose
```

3. After running above commands and getting result as "Done, without errors." a new folder will be created at "build" level with name as "dist".



e. NON-OAM Based Authentication

1. Copy "non-oam/login" folder and Replace it at location "components/modules/" [in ui folder] location. This will replace existing "login" folder.



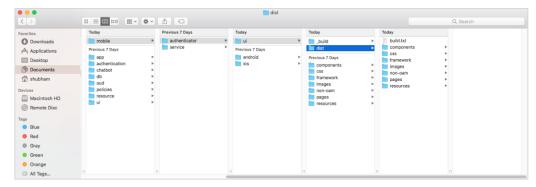
- 2. Open Terminal at "_build" level.
- 3. Run following command:

```
sudo npm install -g grunt-cli
sudo npm install
node render-requirejs/render-requirejs.js
grunt authenticator --verbose
```

4. After running above commands and getting result as "Done, without errors." a new folder will be created at "build" folder level with name as "dist".

```
_build — -bash — 80×24
Running "add-cordova" task
Reading ../dist/framework/js/pages/require-config.js...OK
Writing ../dist/framework/js/pages/require-config.js...OK
Done, without errors.
Execution Time (2017-07-24 15:04:08 UTC+5:30)
loading tasks
                           10.2s
                                                49%
clean:preBuildCleanUp
                            11ms
                                  996
copy:main
                            6.4s
                                         31%
sass:dist
                                  996
                            12ms
htmlmin:min
                            98ms
inlinecss:main
                                  996
                             3ms
uglify:updatedBuild
                            1.7s
string-repla...eplacements
                            25ms
require
                             1ms
requirejs:compile
                            2.2s
                                  11%
clean:postBuildCleanUp
                                  1%
                           151ms
authenticator-tasks
                             7ms
                                  0%
add-cordova
                             7ms
                                  0%
Total 20.9s
dhcp-in-ofss-10-180-59-57:_build obdxuser$
```





- f. Token Based Authentication Mechanism
 - a. Copy the "token-based/login" folder and replace it at the "components/modules/" [in ui folder] location. This will replace the existing the login folder.
 - b. Open the terminal at "_build" level.
 - c. Run the following commands:

```
sudo npm install -g grunt-cli
sudo npm install
node render-requirejs/render-requirejs.js
grunt authenticator --verbose
```

d. After running above commands and getting result as "Done, without errors." A new folder will be created at "_build" folder level with name as "dist".

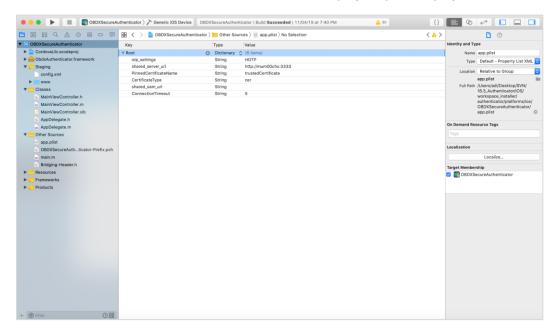
4.2 Authenticator Application Workspace Setup

- 1. Unzip and navigate to iOS workspace as shipped in installer.
- 2. Open the workspace as shown below and find and replace the following generated UI files from "ui/dist" folder:
 - components
 - > css
 - framework
 - images
 - pages
 - resources





3. Double click on OBDXSecureAuthenticator.xccodeproj to open the project in Xcode



Update HOTP or TOTP in above screenshots and update the server URL.

- 4. The application can be archived using steps in Section 4.3 for running on device
- **5.** To run the application on simulator, copy & replace the framework from simulator/ObdxAuthenticator.framework to /authenticator/platforms/ios/



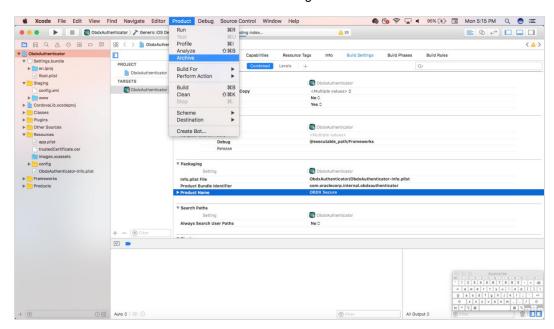
6. Adding bundle identifiers:

Bundle identifiers needs to be added in the Info.plist of each the frameworks along with the Signing Capabilities tab in Xcode. For example, let us assume that the bundle identifier used is abc.def.ghi.jkl. The steps to be followed are,

- 1.Right click on ObdxAuthenticator.framework(in Xcode's Project Navigator) -> Show in Finder
- 2. When the Finder directory opens then right click ObdxAuthenticator.framework -> Show package contents.
- 3. Open Info.plist and set Bundle identifier as abc.def.ghi.jkl.ObdxAuthenticator
- 4. Bundle identifier for Cordova. framework: abc.def.ghi.jkl. Cordova

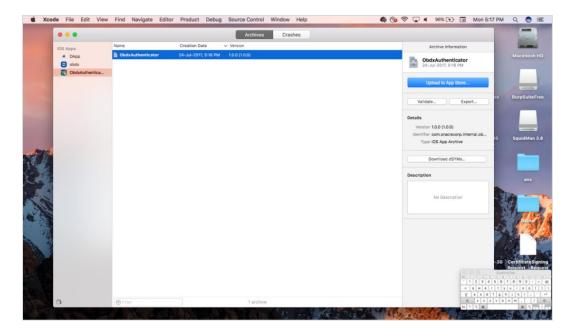
4.3 **Building Authenticator Application**

1. Set the simulator to Generic iOS device. Then go to Product -> Archive.



2. Choose your Archive and then click "Export". .ipa file will be generated





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