Mobile Application Builder Guide-iOS Guide
Oracle Banking Digital Experience
Release 21.1.0.0.0

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Mobile Application Builder Guide-iOS Guide

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Table of Contents

1. Preface 1–1

1.1 Intended Audience 1–1

1.2 Documentation Accessibility 1–1

1.3 Access to Oracle Support 1–1

1.4 Structure 1–1

1.5 Related Information Sources 1–1

2. OBDX Servicing Application 2–1

2.1 Pre requisite 2–1

2.2 Create Project 2–1

2.3 Create Project Using Remote UI 2–1

2.4 Create Project Using Local UI by adding UI to workspace 2–1

2.5 Open project in Xcode 2–2

2.6 Generating Certificates for Development, Production and Push Notifications 2–5

2.7 Push Notification Actionable Alerts Configuration 2–8

2.8 ODA Chatbot Inclusion 2–9

2.9 eKYC Implementation 2–11

2.10 Oracle Live Experience Implementation 2–14

3. Archive and Export 3–1

4. OBDX Authenticator Application 4–1

4.1 Authenticator UI (Follow any one step below) 4–1

4.2 Authenticator Application Workspace Setup 4–3

4.3 Building Authenticator Application 4–6

5. Adding Custom Cordova Plugin 5–7

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 21.1.0.0.0, refer to the following documents:

- Oracle Banking Digital Experience Installation Manuals

2. OBDX Servicing Application

2.1 Pre requisite

- 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 versions n (current) and n-1 release.

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, OBDXWatchFramework.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,lzn,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 js and css folders to workspace as below
   a. www\framework\js\libs\oraclejet\x.y.0\js
   b. 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)

SERVER_TYPE	OAUTH
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 of clientid:secret> of Mobile App client
APP_DOMAIN	OBDXMobileAppDomain
WATCH_CLIENT_ID	<Base64 of clientid:secret> of wearables
WATCH_DOMAIN	OBDXWearDomain
SNAPSHOT_CLIENT_ID	<Base64 of clientid:secret> of snapshot
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/token
APP_CLIENT_ID	<Base64 of clientid:secret> of Mobile App client
WATCH_CLIENT_ID	<Base64 of clientid:secret> of wearables
SNAPSHOT_CLIENT_ID	<Base64 of clientid:secret> of snapshot
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)

2. Adding chatbot support to mobile application (Optional) (see section 2.8 for more details)

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

3. Adding eKYC verification support to mobile application (Optional) (see section 2.9 for more details)

LX_CLIENT_ID	The client ID

4. Adding Bundle Identifiers

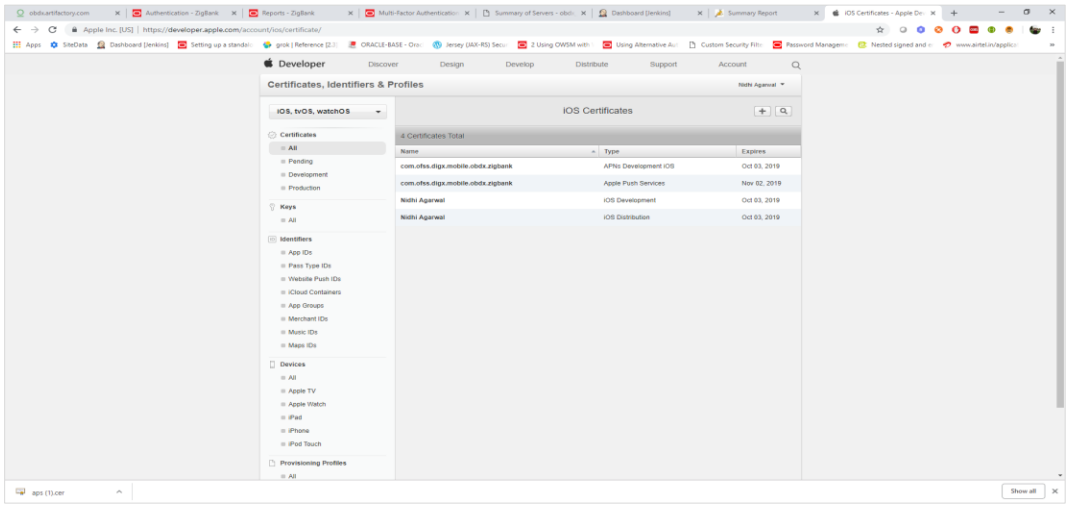
   Bundle identifiers needs to be added in the Info.plist of each the frameworks along with the Signing Capabilities tab in Xcode. For example, the bundle identifier used is abc.def.ghi.jkl. The steps to be followed are,

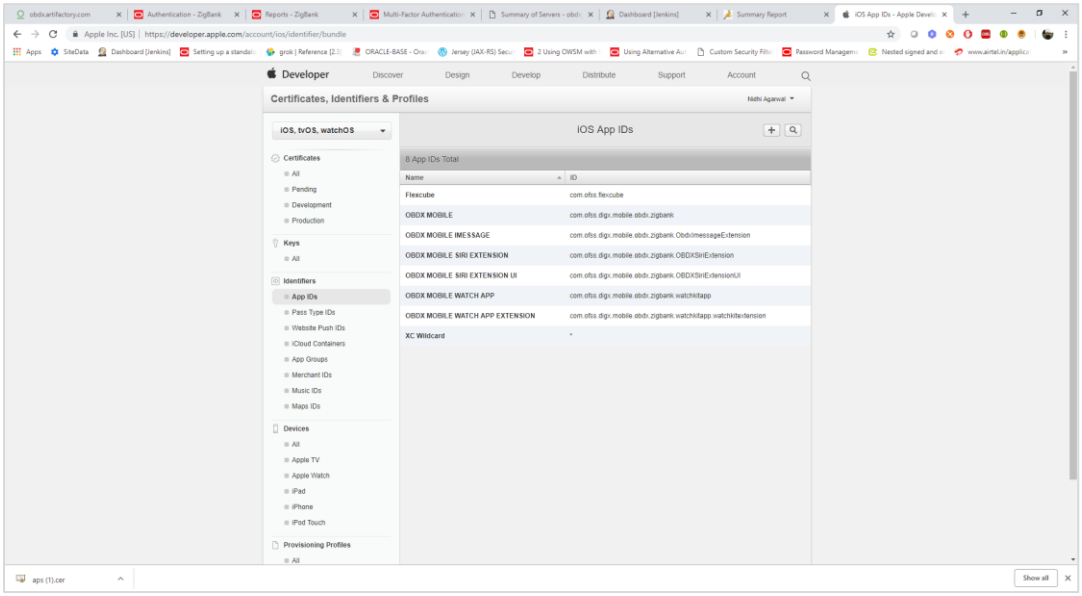
   - Right click on OBDXFramework.framework(in Xcode's Project Navigator) -> Show in Finder
   - When the finder directory opens the right click OBDXFramework.framework -> Show package contents.
   - Open Info.plist and set Bundle identifier as abc.def.ghi.jkl.OBDXFramework
   - Repeat the steps for the 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

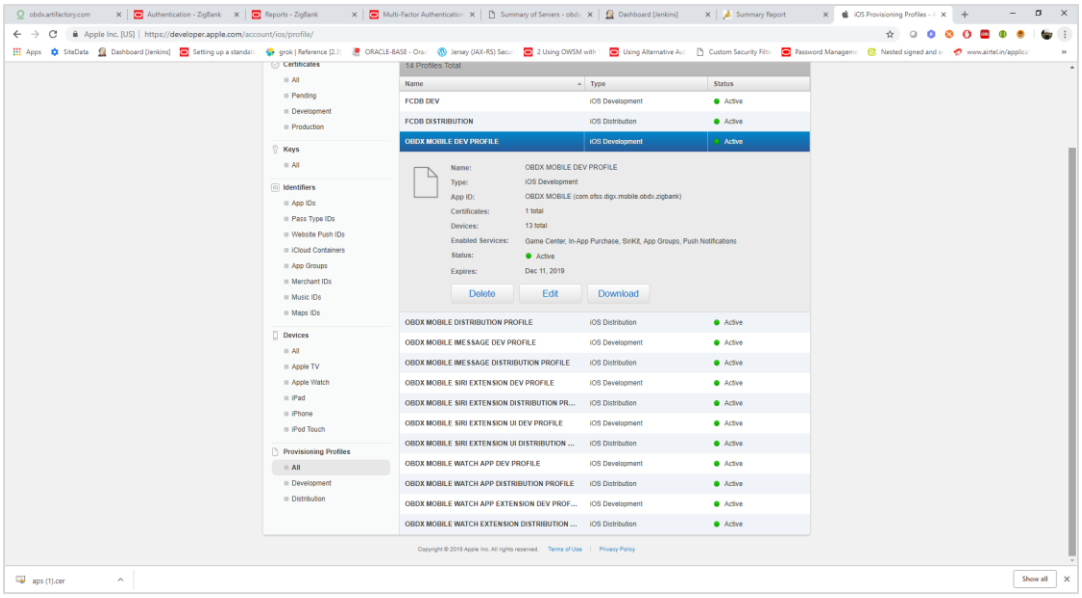
5. Siri-Payload.plist (ZigBank/Resources) is provided to specify entries in the Siri payload based on transaction types (internal, domestic or international). Entries common to all the transaction types can also be entered.

2.6 Generating Certificates for Development, Production and Push Notifications

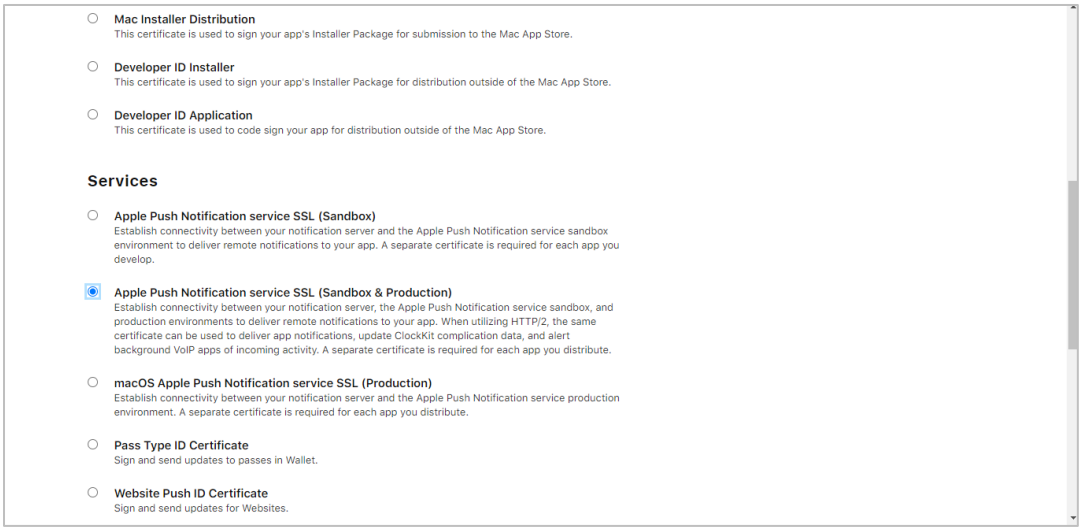
Create all certificates (by uploading CSR for keychain utility), provisioning profiles and push certificates as shown below by login in developer console. For development add device UUIDs and add same to provisioning profiles. Add capabilities as shown below and ensure the bundle identifier matches the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



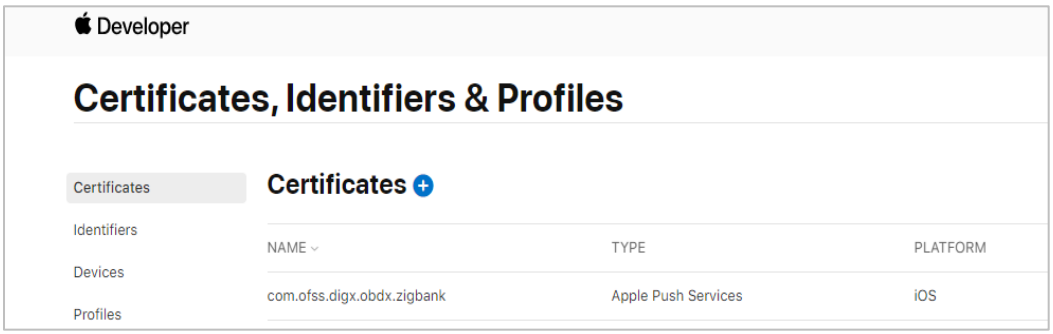




Ensure AppGroups capability is added to all profiles and for mobile profile SiriKit, App Groups, Push Notifications must by added.



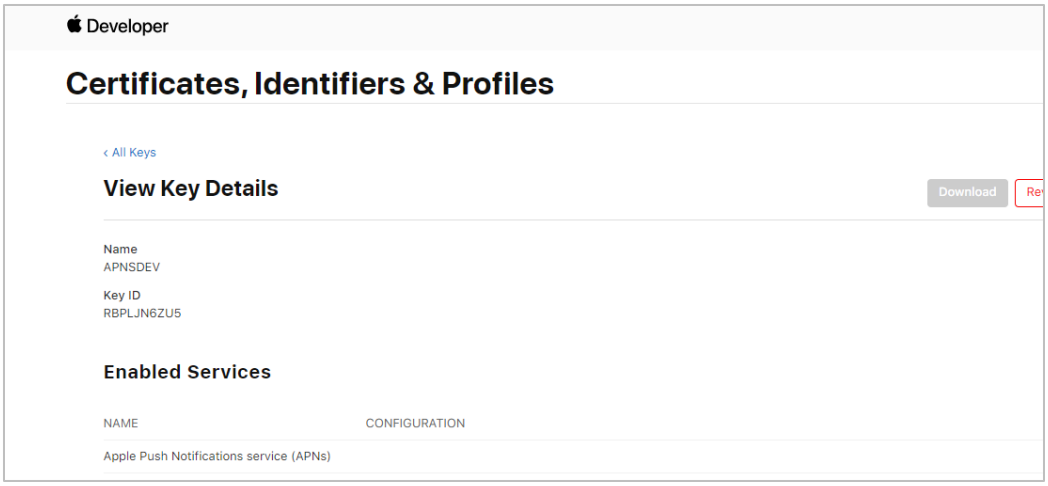
Note the certificate/bundle name



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

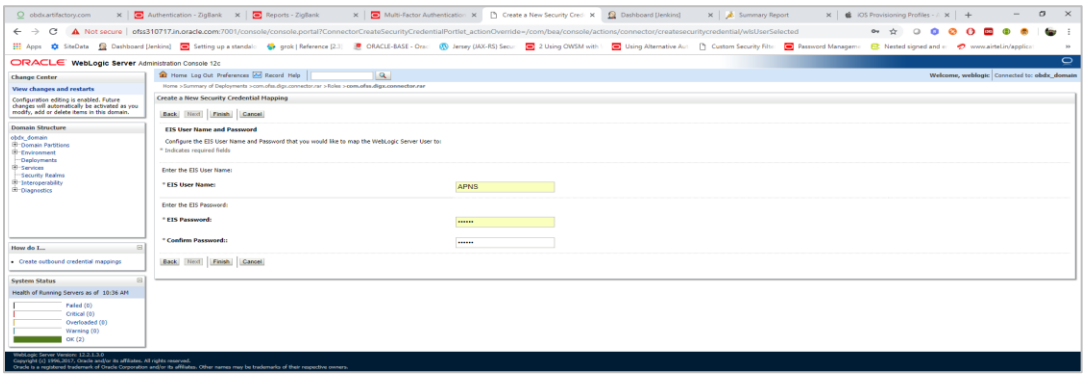


Update the password as shown below –

Sr. No.	Table	PROP_ID	CATEGORY_ID	PROP_VALUE	Purpose
1	DIGX_FW_CONFIG_ALL_B	APNS	DispatchDetails	<Key ID>	Provides key of .p8 certificate
2	DIGX_FW_CONFIG_ALL_B	APNSKeyStore	DispatchDetails	DATABASE or CONNECTOR	Specifies whether to pick certificate password from database or from connector. Default DB (No change)
3	DIGX_FW_CONFIG_ALL_B	APNSCertKeyStore	DispatchDetails	DATABASE or CONNECTOR	Specifies whether to pick certificate from database or from connector. Default DB (No change)
4	DIGX_FW_CONFIG_ALL_B	proxy	DispatchDetails	<protocol, proxy_address>	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_CONFIG_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_CONFIG_VAR_B	APNSCert		Eg – -----BEGIN PRIVATE KEY----- abcd -----END PRIVATE KEY-----	Open the .p8 file and copy contents to column (Update for all entities)
7	DIGX_FW_CONFIG_VAR_B	APNS_BUNDLE		Eg. com.ofss.digx.obdx.zigbank	Bundle Name (Update for all entities)
8	DIGX_FW_CONFIG_VAR_B	APNS_TEAM ID		Eg. 3NX1974C93	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:

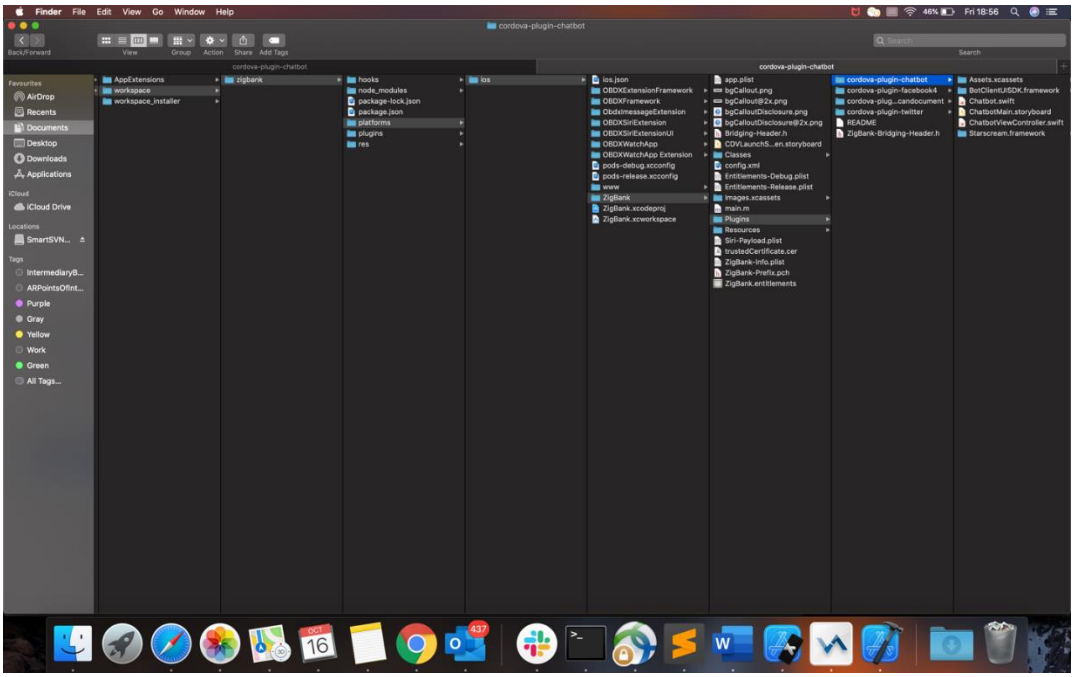
1. Send the “category" as “pac”.

2. Send the required deep-linking URL in “SUMMARY_TEXT”.

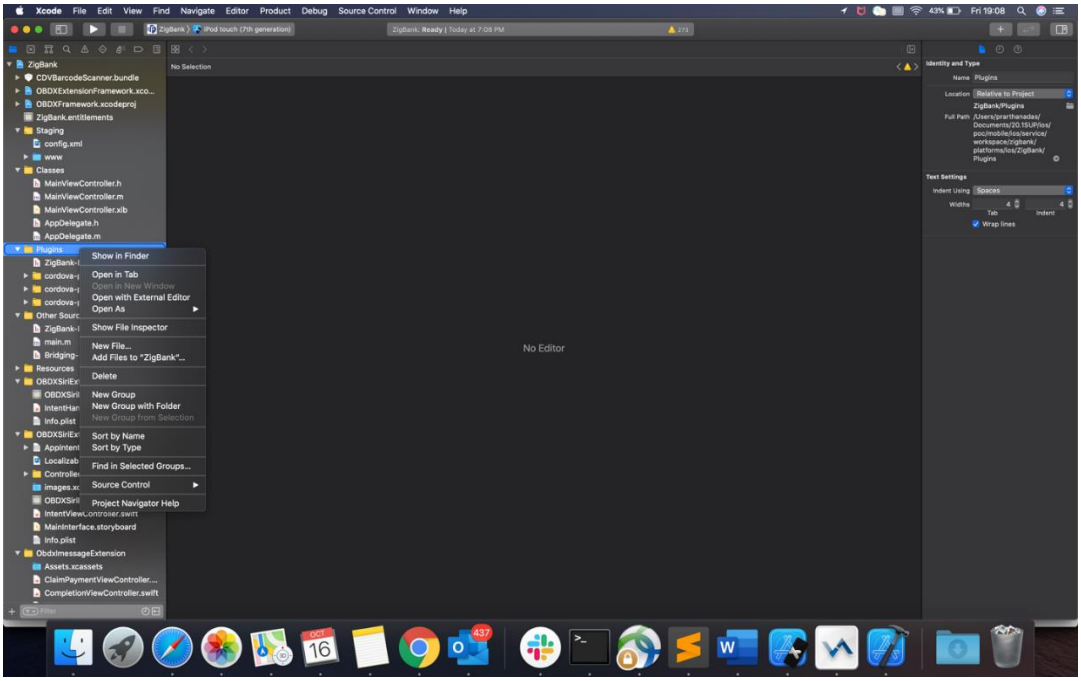
2.8 ODA Chatbot Inclusion

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

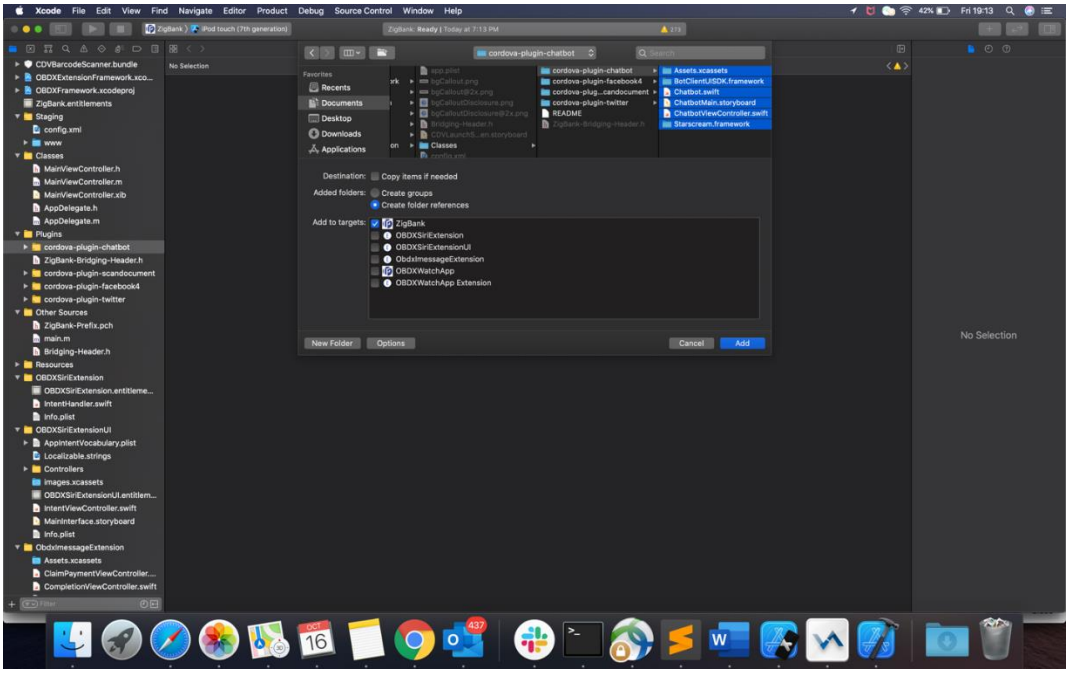
1. Copy the folder "cordova-plugin-chatbot" from the SVN path : workspace_installer/AppExtensions/ODAChatbot The frameworks can be found at ODA Client SDK for iOS x.y.z - Latest in https://www.oracle.com/downloads/cloud/amce-downloads.html#license-lightbox. After downloading and unzipping the latest 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".
2. 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.



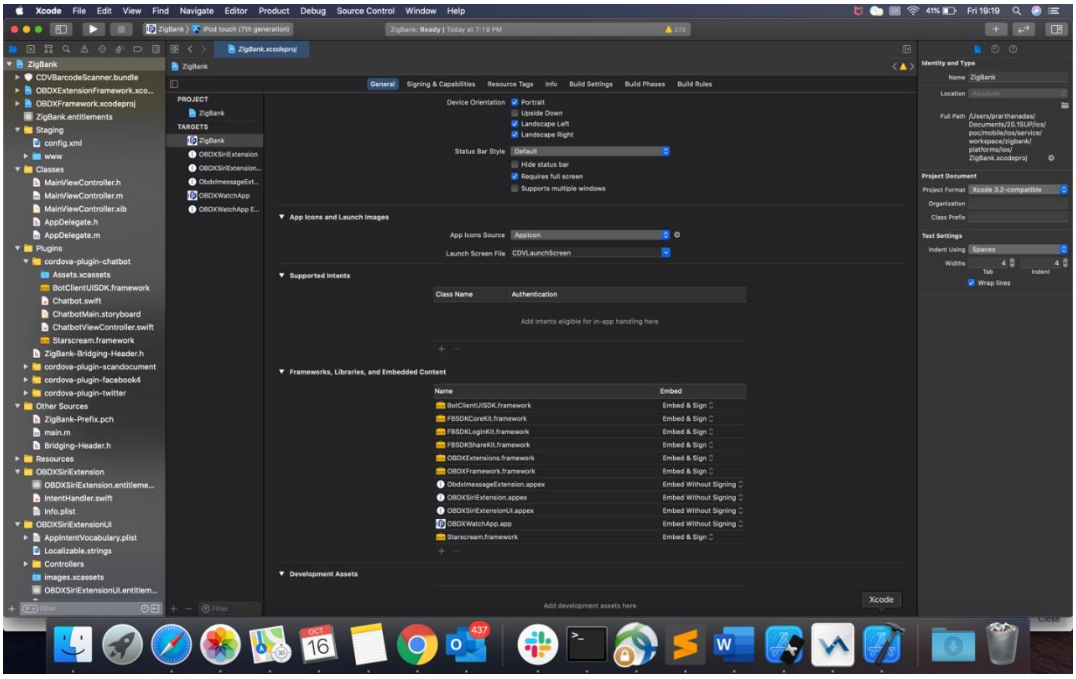
3. Open the Zigbank.xcodeproj file, right click on "Plugins" folder and select "New Group" option. Name the group as "cordova-plugin-chatbot".



4. 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.



5. 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.



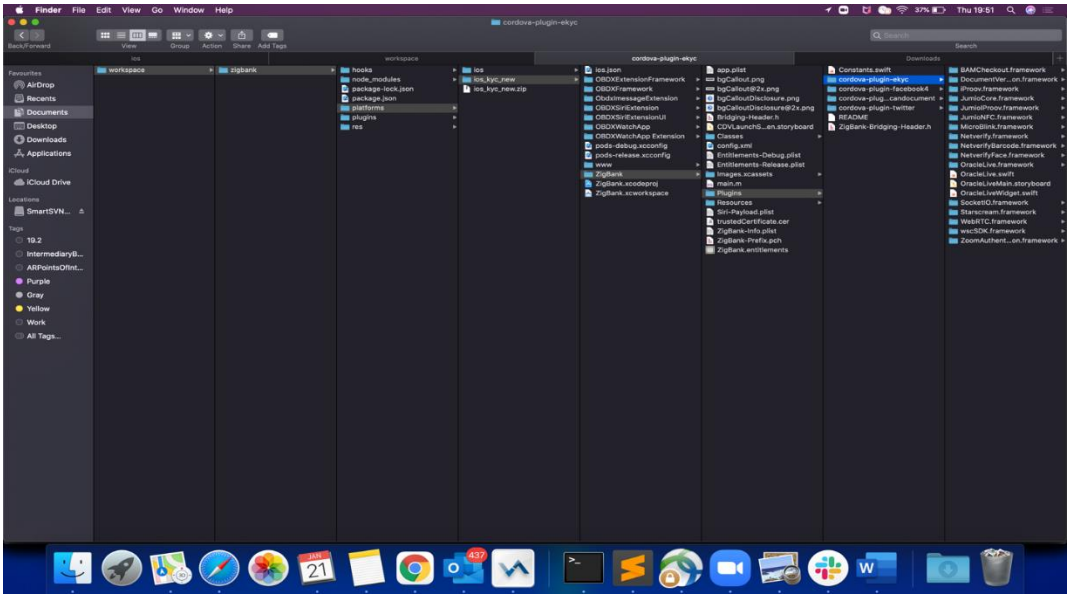
2.9 eKYC Implementation

To enable eKYC please follow the steps mentioned below:

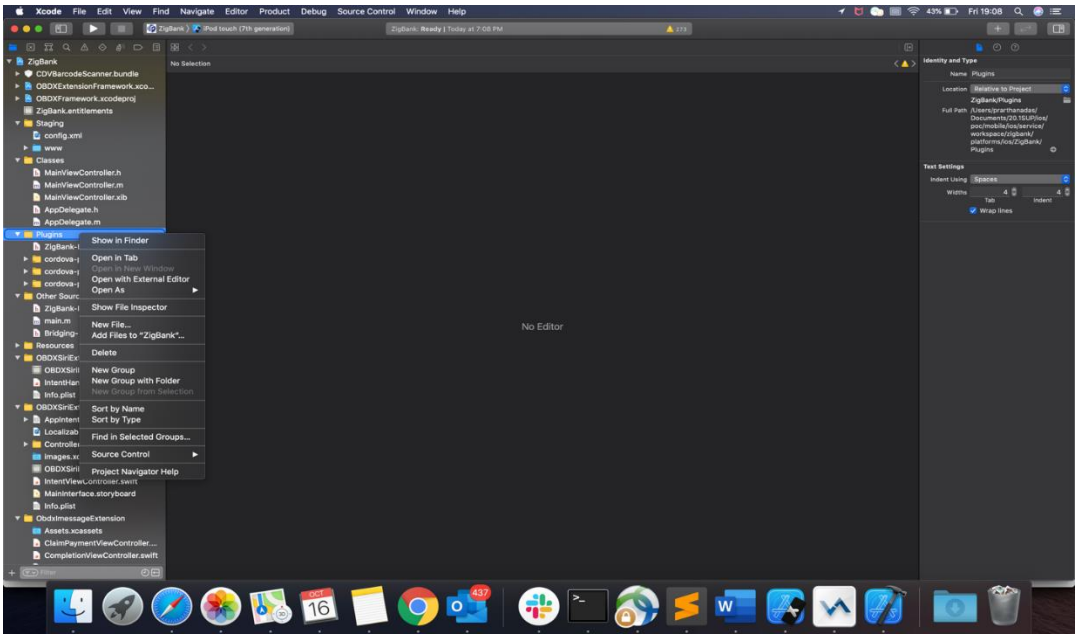
1. Download the iOS ID Verification SDK from oracle.live.api-ios-id-verification.zip from Oracle Live Experience. All the frameworks inside “release” folder of “oracle.live.api-ios-id-verification” are needed viz.
   - OracleLive.framework
   - WebRTC.framework
   - wscSDK.framework
2. Go to https://mobile-sdk.jumio.com/com/jumio/ios/jumio-mobile-sdk/ 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

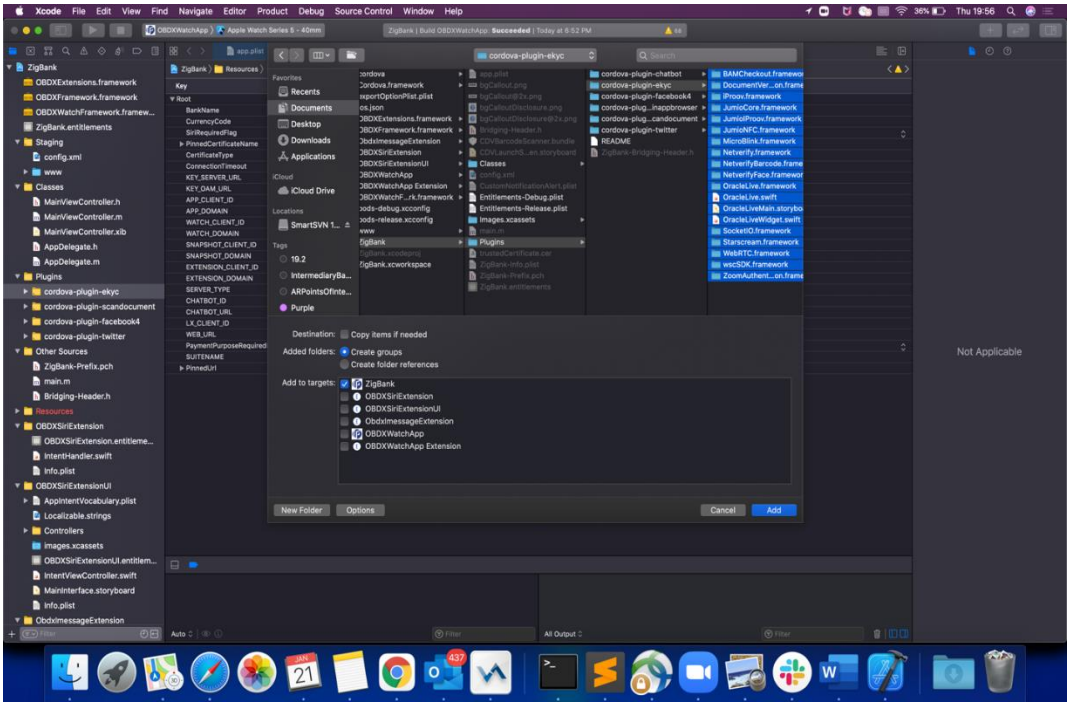
3. Paste the frameworks downloaded in the previous steps in the folder "cordova-plugin-ekyc" from the SVN path : workspace_installer/AppExtensions/eKYC
4. Paste the folder "cordova-plugin-ekyc", copied previously, in the path : workspace_installer/Zigbank/plugins A screenshot of the destination in Finder is attached herewith.



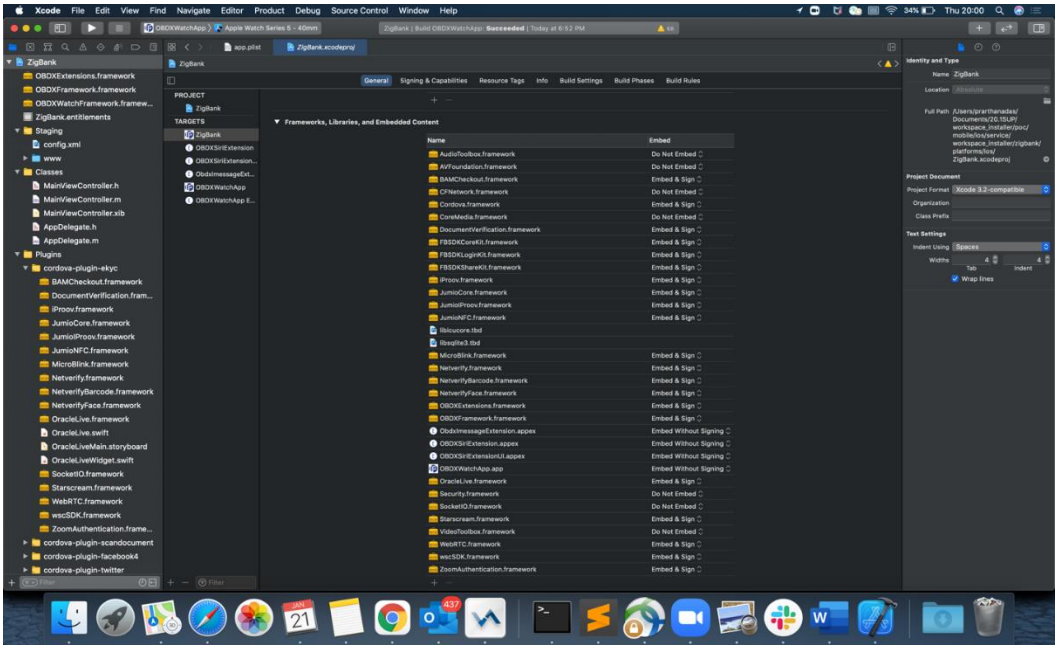
5. Open the Zigbank.xcodeproj file, right click on "Plugins" folder and select "New Group" option. Name the group as "cordova-plugin-ekyc".



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.



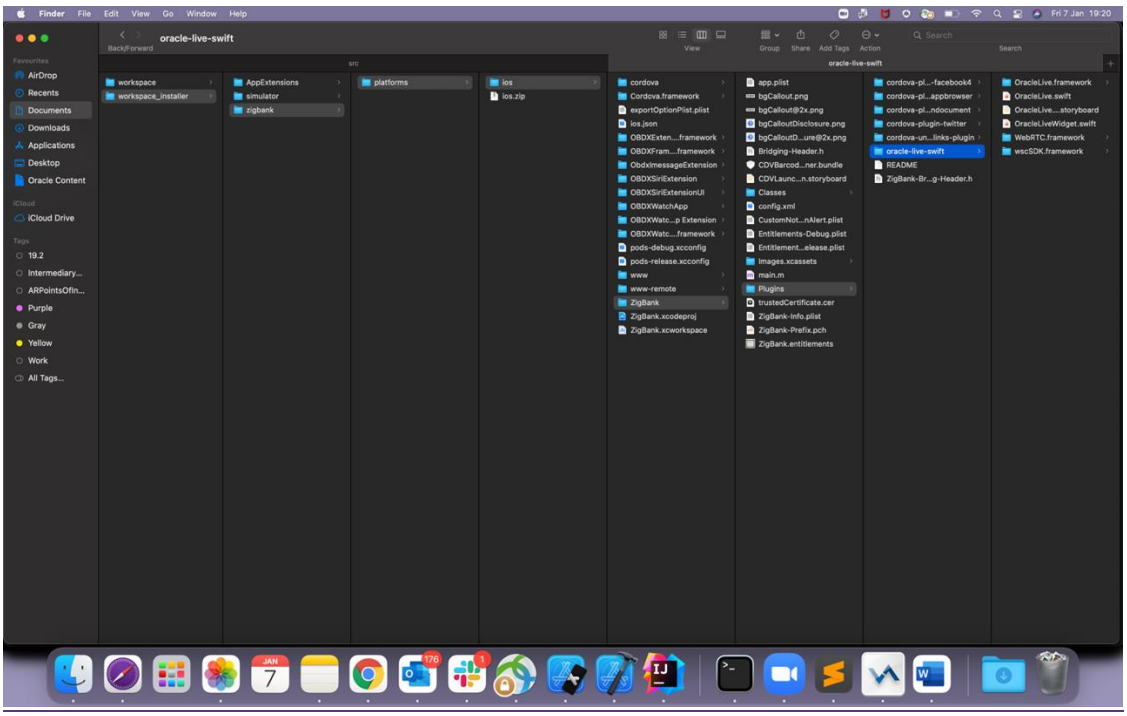
Home

2.10 Oracle Live Experience Implementation

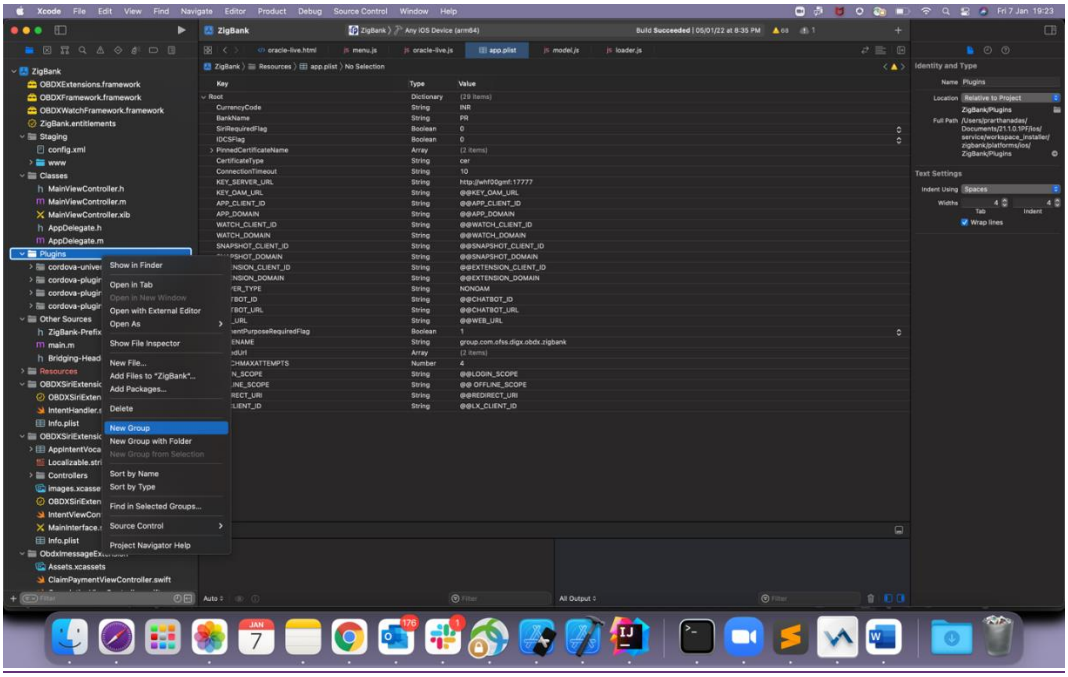
Pre-requisite : Kindly provide the LX client ID in the field LX_CLIENT_ID in app.plist.

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

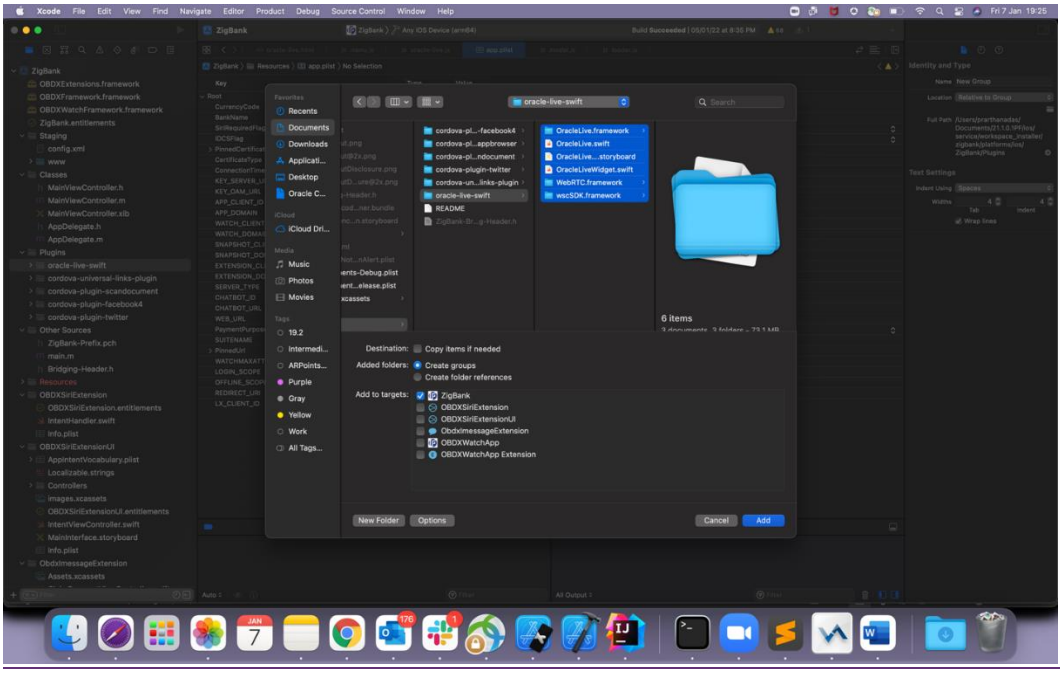
8. Download the Live Experience iOS SDK from https://www.oracle.com/downloads/cloud/oracle-live-experience-downloads.html . All the frameworks inside “release” folder of “oracle.live.api-ios” are needed viz.
    - OracleLive.framework
    - WebRTC.framework
    - wscSDK.framework
9. Paste the frameworks downloaded in the previous steps in the folder "oracle-live-swift" from the SVN path : workspace_installer/AppExtensions/ oracle-live-swift
10. 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.



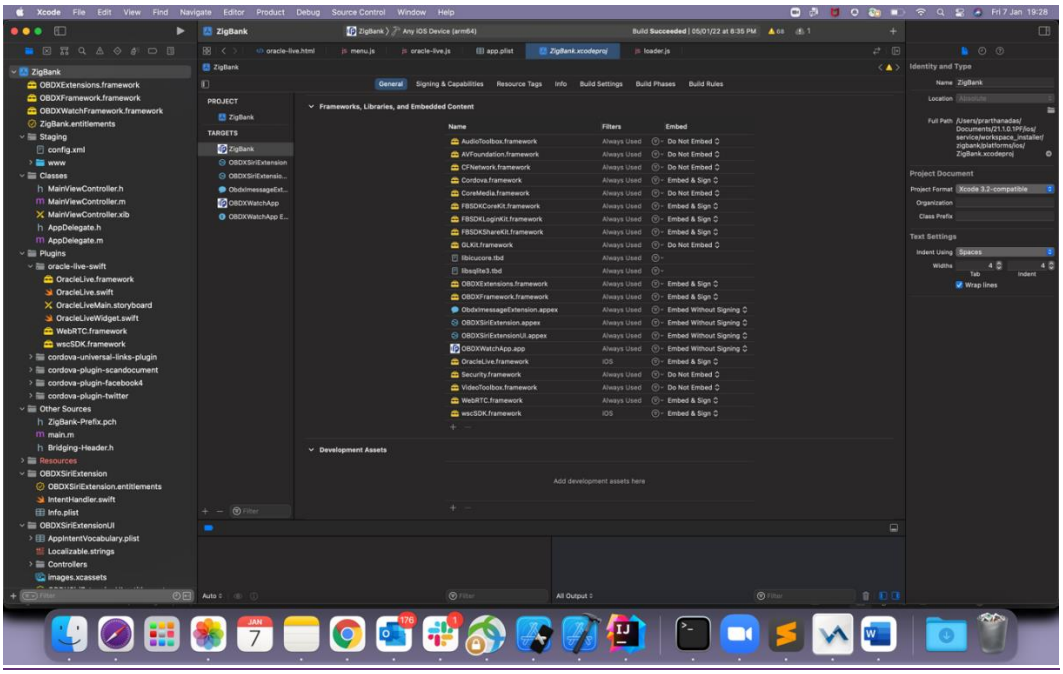
11. Open the Zigbank.xcodeproj file, right click on "Plugins" folder and select "New Group" option. Name the group as "oracle-live-swift".



12. 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.

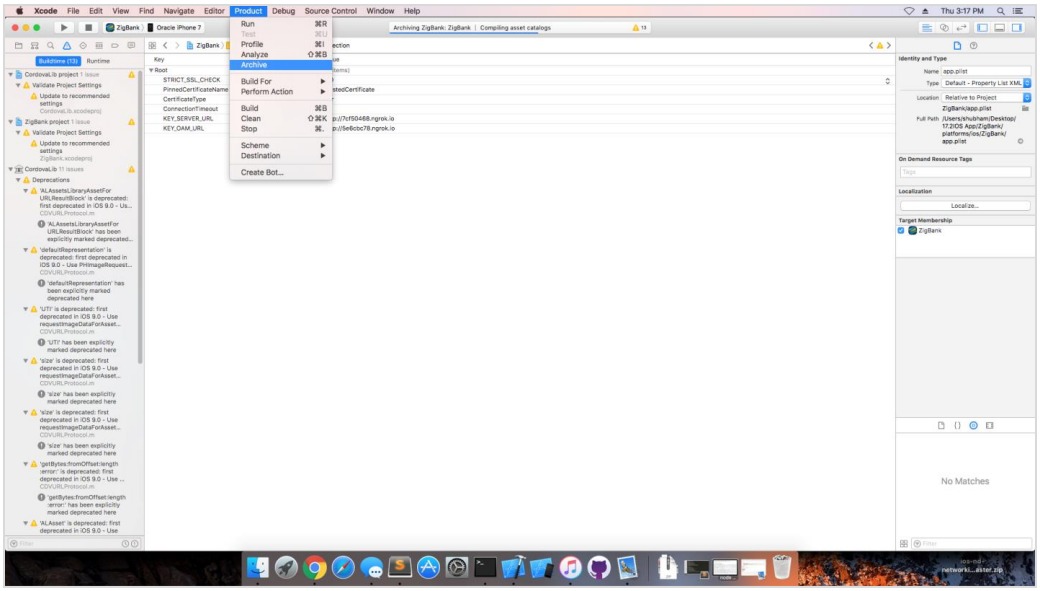


13. After addition of the files, go to "General" tab for "Zigbank" target and under the "Frameworks, Libraries and Embedded Content" section change the embed type of all the newly added frameworks to "Embed and Sign". Failing to do so will make the app crash after installation.

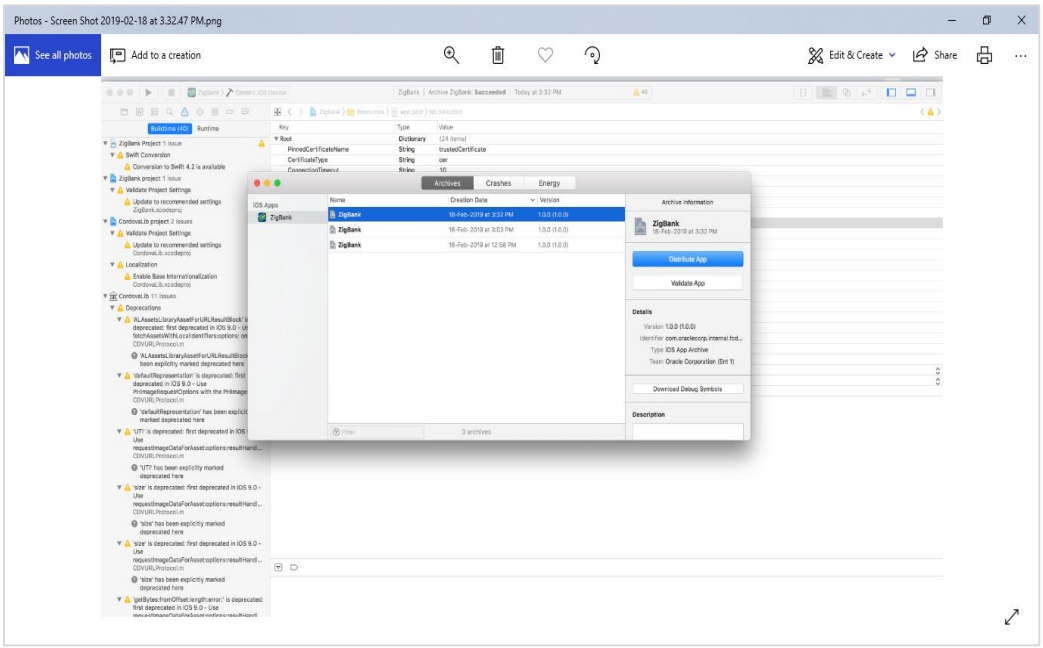


3. Archive and Export

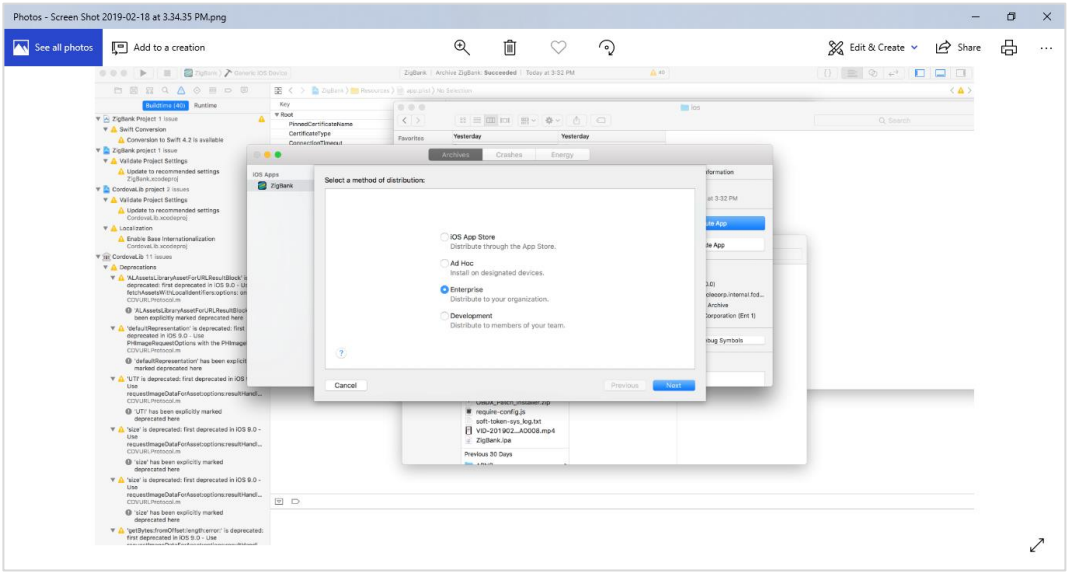
a. In the Menu bar click on **Product -> Archive (Select Generic iOS Device)**

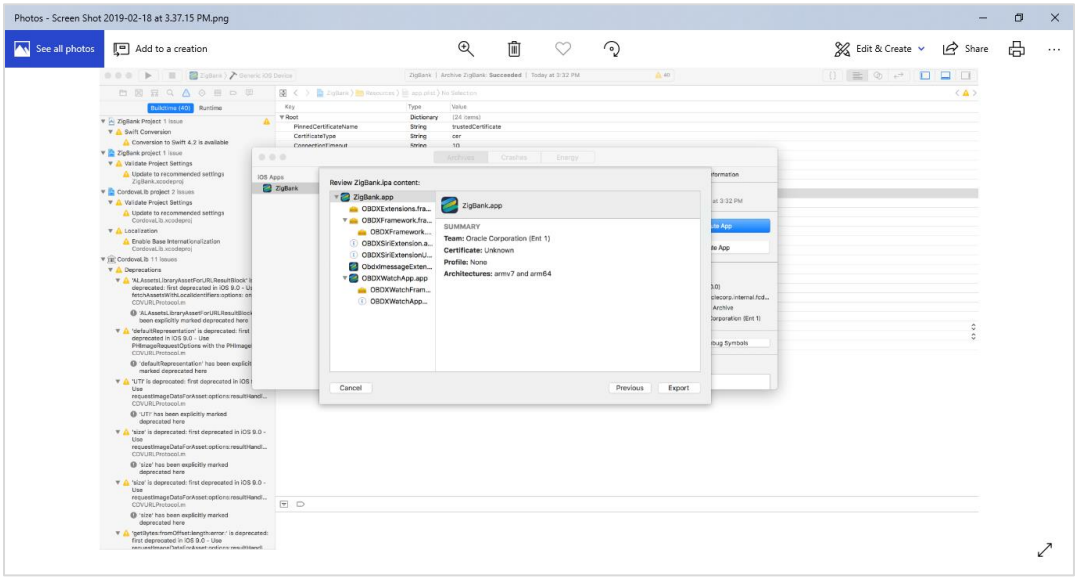


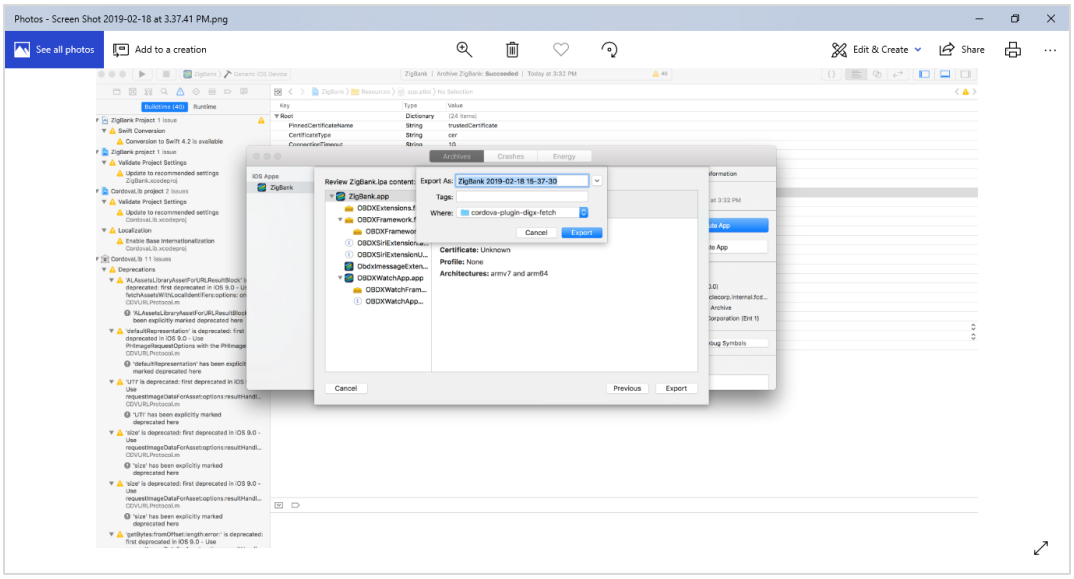
b. After archiving has successfully completed. Following popup will appear



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

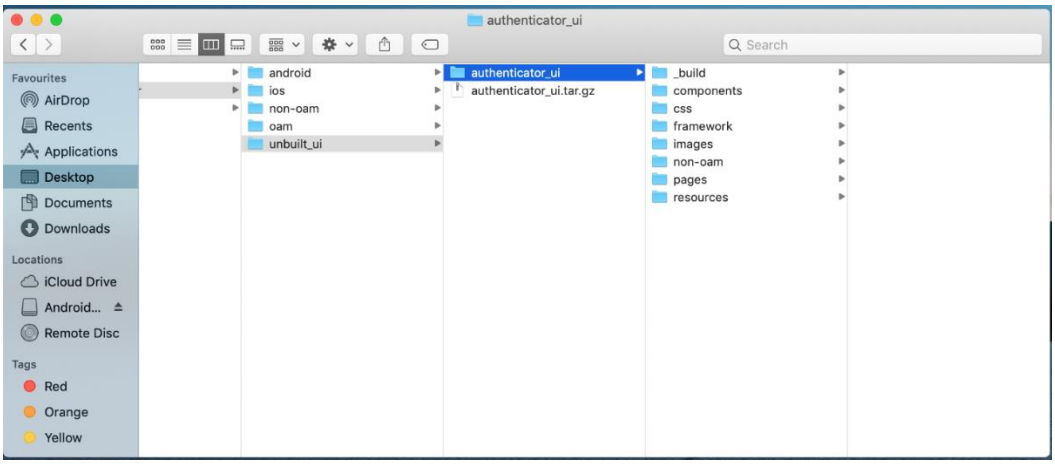
For Non-OAM - Unzip dist.tar.gz directory from OBDX_Patch_Mobile\authenticator\NON-OAM

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

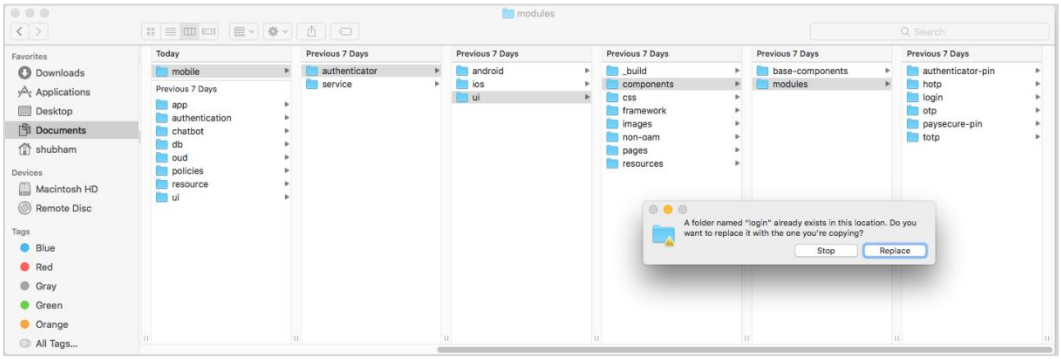
1. Open Terminal at *"_build"* level.
2. Run following command :

```
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

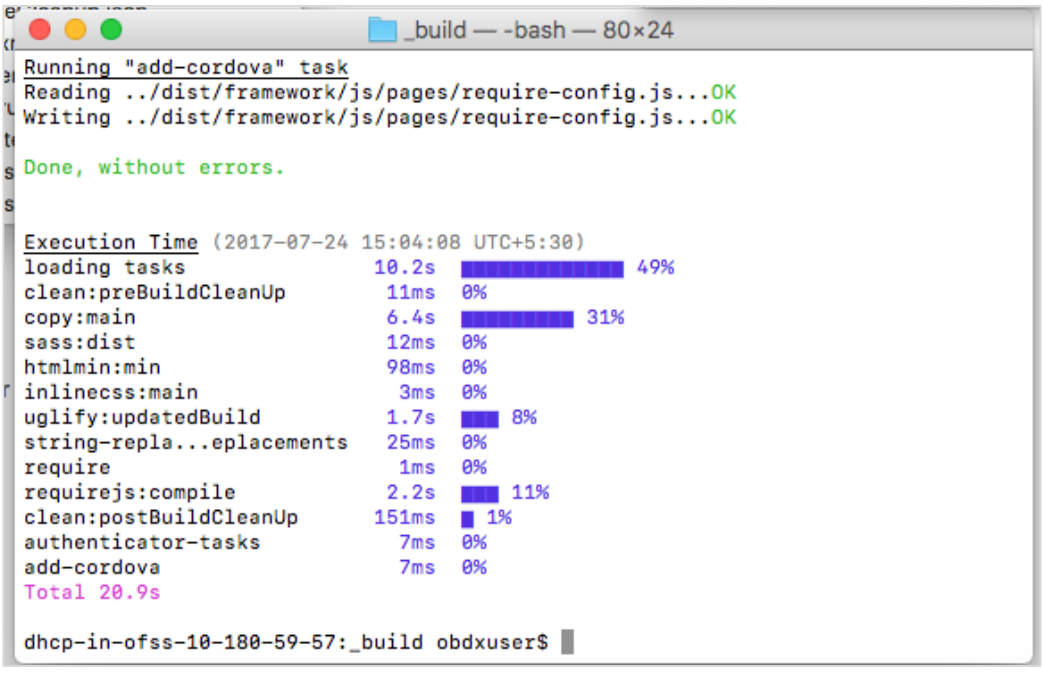
1. Copy "*non-oam/login"* folder and Replace it at location "*components/modules/" [in ui folder]* location. This will replace existing "*login*" folder.

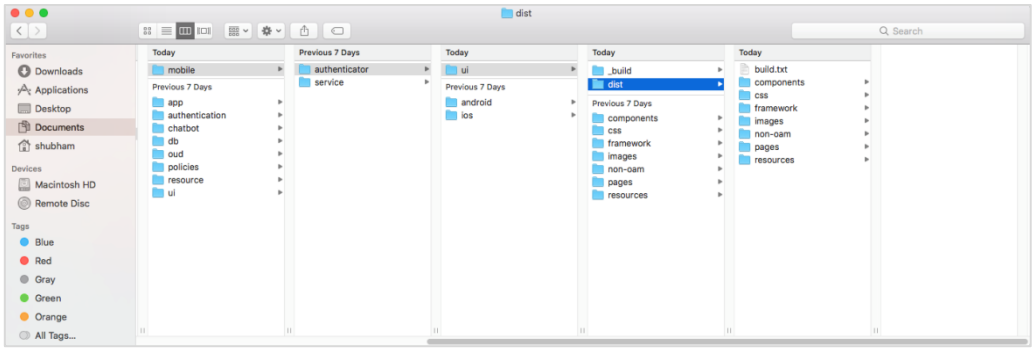


2. Open Terminal at "_build" level.
3. Run following command :

```
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".





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.

a. Copy & Paste the cordova and CordovaLib as givenbelow.

Run Following commands on terminal

1. Install cordova using the command

sudo npm install -g cordova

a. If you face the above error then set proxy using following commands on command line.

npm config set proxy <provide your proxy value here>

npm config set https-proxy <provide your proxy value here>

2. Create project using following command

cordova create <directory name> <package name / app identifier> <project name>

Eg : cordova create zigbank com.ofss.zigbank ZigBank

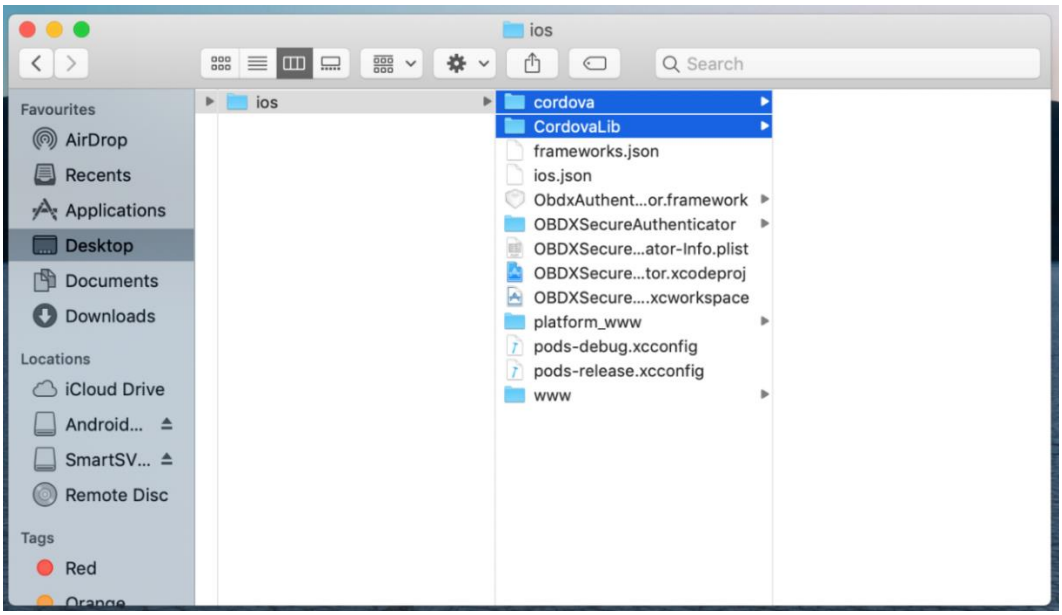
3. All subsequent commands need to be run within the project's directory

cd <directory name>

Eg: cd zigbank

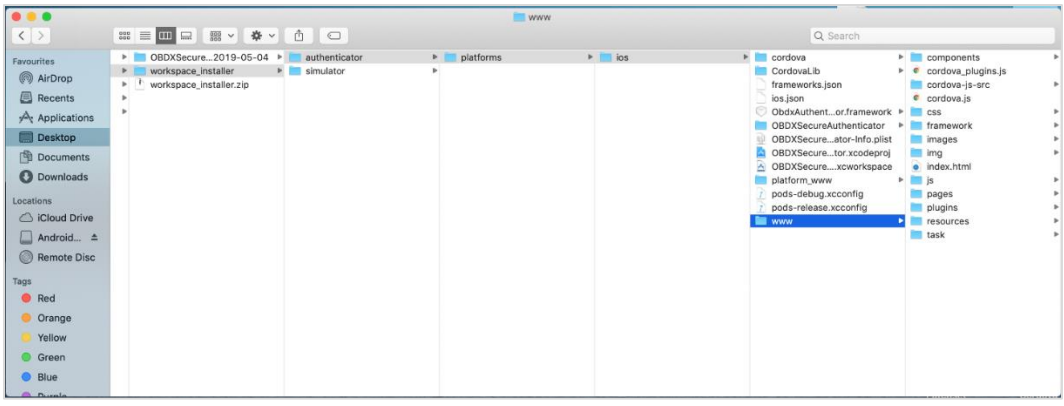
4. Add platform ios to the project using following command

   cordova platform add ios@4.x.x

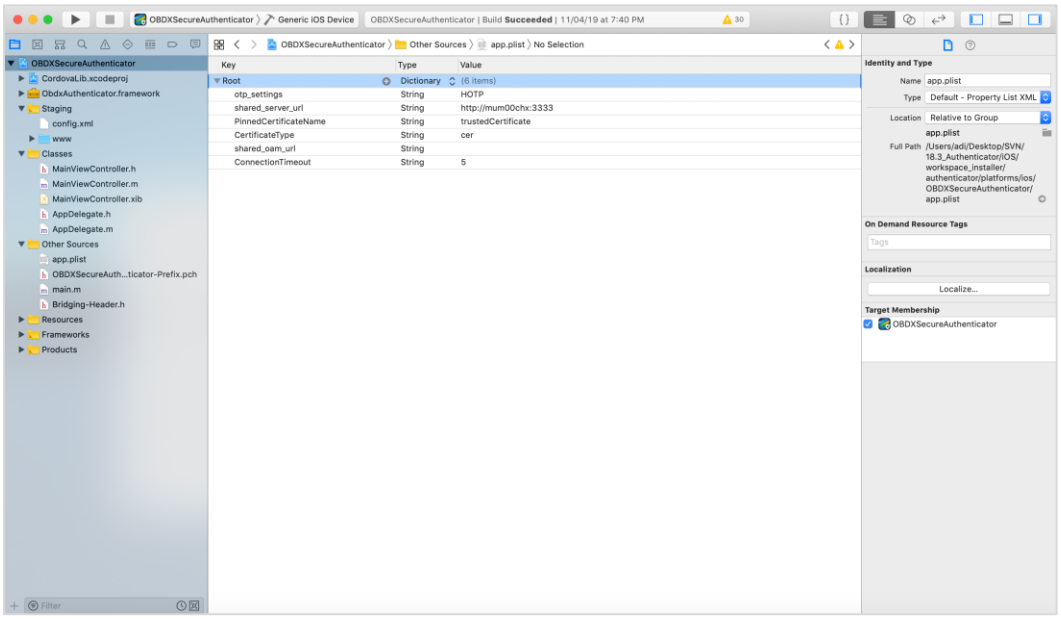


2. Open the workspace as shown below and find and replace the following generated UI files from "*ui/dist*" folder :

   - 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

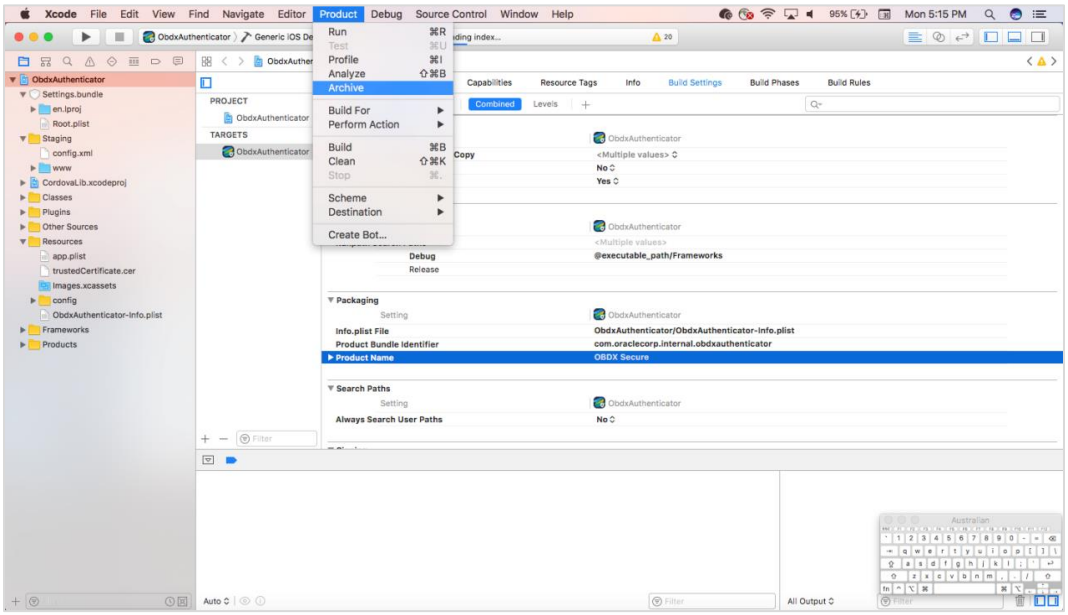
5. To run the application on simulator, copy & replace the framework from simulator/ObdxAuthenticator.framework to /authenticator/platforms/ios/

6. 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 –

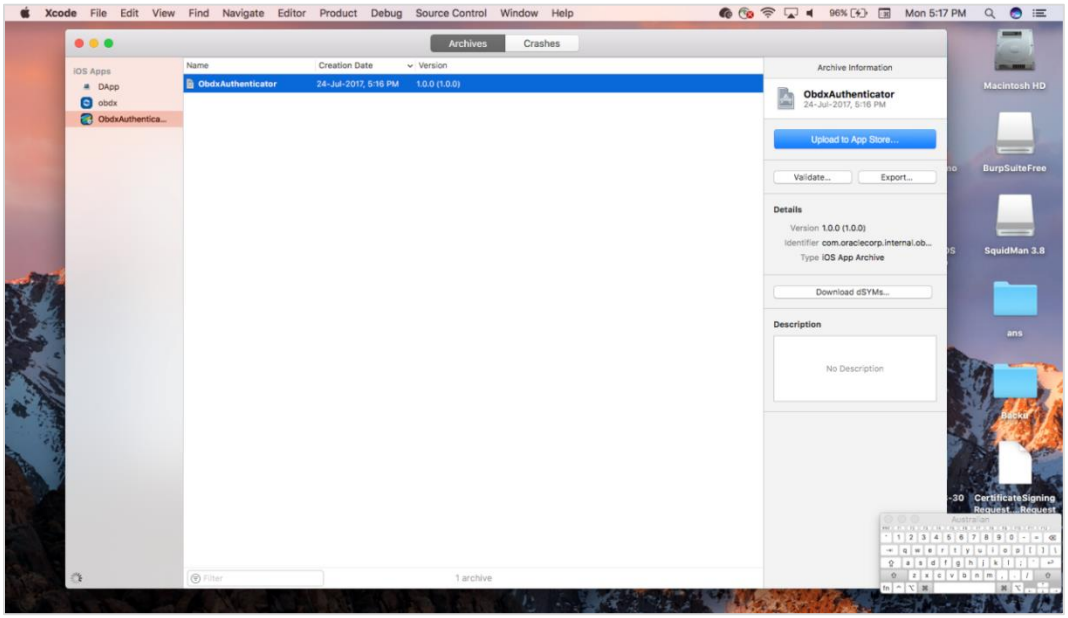
1. Right click on ObdxAuthenticator.framework(in Xcode's Project Navigator) -> Show in Finder
2. When the Finder directory opens then right click ObdxAuthenticator.framework -> Show package contents.
3. Open Info.plist and set Bundle identifier as abc.def.ghi.jkl.ObdxAuthenticator
4.Bundle identifier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



Home

5. Adding Custom Cordova Plugin

3. Create **a plugin** folder named cordova-plugin-getdirection under plugins folder of www (zigbank\platforms\ios\www\plugins) and create a www folder inside newly created folder and a .js file with the name mentioned in step-2 and it's contents as stated below.

For example,

cordova.define("cordova-plugin-getdirection", function(require, exports, module) {

var exec = cordova.require('cordova/exec');

exports.navigate = function(args, successCallback, errorCallback) {

cordova.exec(successCallback, errorCallback, "GetDirectionMapPlugin", "direction", [args]);

};

});

Here,

cordova-plugin-getdirection.getDirectionPlugin -> user defined id from cordova_plugins.js(zigbank\platforms\ios\ www\cordova_plugins.js)

GetDirectionMapPlugin: name of Obejective-C/Swift plugin class

direction: function to be called

navigate: this can be use in .js file to trigger this “direction” function

4. Make entry of plugin in cordova_plugins.js(zigbank\platforms\ios\www) as the following:

For example,

{

"id": "cordova-plugin-getdirection.getDirectionPlugin", : user defined id

“file”: “plugins/cordova-plugin-getdirection/www/mapgetdirection.js”, : path of plugin js file

"pluginId": "cordova-plugin-getdirection",

"clobbers": [

"window.getDirection": this can be used in any .js file to call plugin

]

}

5. Make entry of plugin class in config.xml(zigbank\platforms\ios\Zigbank) file of app as stated below:

For example,

<feature name="GetDirectionMapPlugin">

<param name="ios-package" value="GetDirectionMapPlugin" />

</feature>

The feature's name attribute should match what you specify as the JavaScript exec call's service parameter. The value attribute should match the name of the plugin's Objective-C/Swift class. The <param> element's name should always be ios-package. If you do not follow these guidelines, the plugin may compile, but Cordova may still not be able to access it.

6. Plugin invocation from any .js file:

For example,

window.getDirection.navigate({

originLatLng: origin,

destinationLatLng: location

})

window.getDirection : clobber defined in the cordova_plugin.js file

navigate: name of the function defined in plugin js file

Home