SAP Fiori Mobile (v2.1.x)

Introduction

What are hybrid mobile apps?

Hybrid mobile apps are web applications wrapped up their own browser which can run on any of the mobile platforms (Android, iOS, Windows etc.). The big advantage of a hybrid app is that it has a single code base, whereas a native app must be re-written for each platform.

Apache Cordova is an open-source framework for developing hybrid apps. To use native features (beyond those already available via hmtl5,) apps can make use of plugins. These plugins handle the platform-specific code and are available for single or multiple platforms. Plugins are available to access the GPS, accelerometer or camera, for example.

SAP have written their own plugins, branded as Kapsel, to handle things like logon and offline OData. These bring an enterprise flavour to hybrid apps.

What is Fiori Mobile?

Until recently SAP's recommended approach was to use the Hybrid Application Toolkit (or HAT) in order to build hybrid apps. The app build took place on the developer's PC or Mac. The HAT gained a reputation for being tricky to set up and that hindered the use of hybrid apps within the SAP ecosystem.

Fiori Mobile has at its core a cloud-build service, so there is no need to install the HAT. We can trigger the build from Web IDE. We specify the (already deployed) Fiori app(s) that we want to package and after a few minutes we can download the .apk (for Android) and .ipa (for iOS) files ready to be installed on mobile devices.

Does it work?

The cloud build service works well. It typically build for both platforms in about 8 minutes without issueas. There have only been a couple of occasions when builds failed due to technical problems.

There are some facets to the technology which don't feel mature yet. One area is the offline OData features. When using Fiori Mobile things work differently to the more conventional hybrid and native apps. One example would be the destinations, because Fiori Mobile apps use a generated destination which reference the SAP Cloud Platform (CP) portal service.

My point is not that offline OData seems immature, rather that the offline features can be tricky when used with Fiori Mobile apps. We are still receiving assistance from SAP to get the offline features of our app optimised. This is a shame, because shared data and the handling of delta requests, for example, are two features which justify the ‘middleware’ approach to offline that SAP have taken.

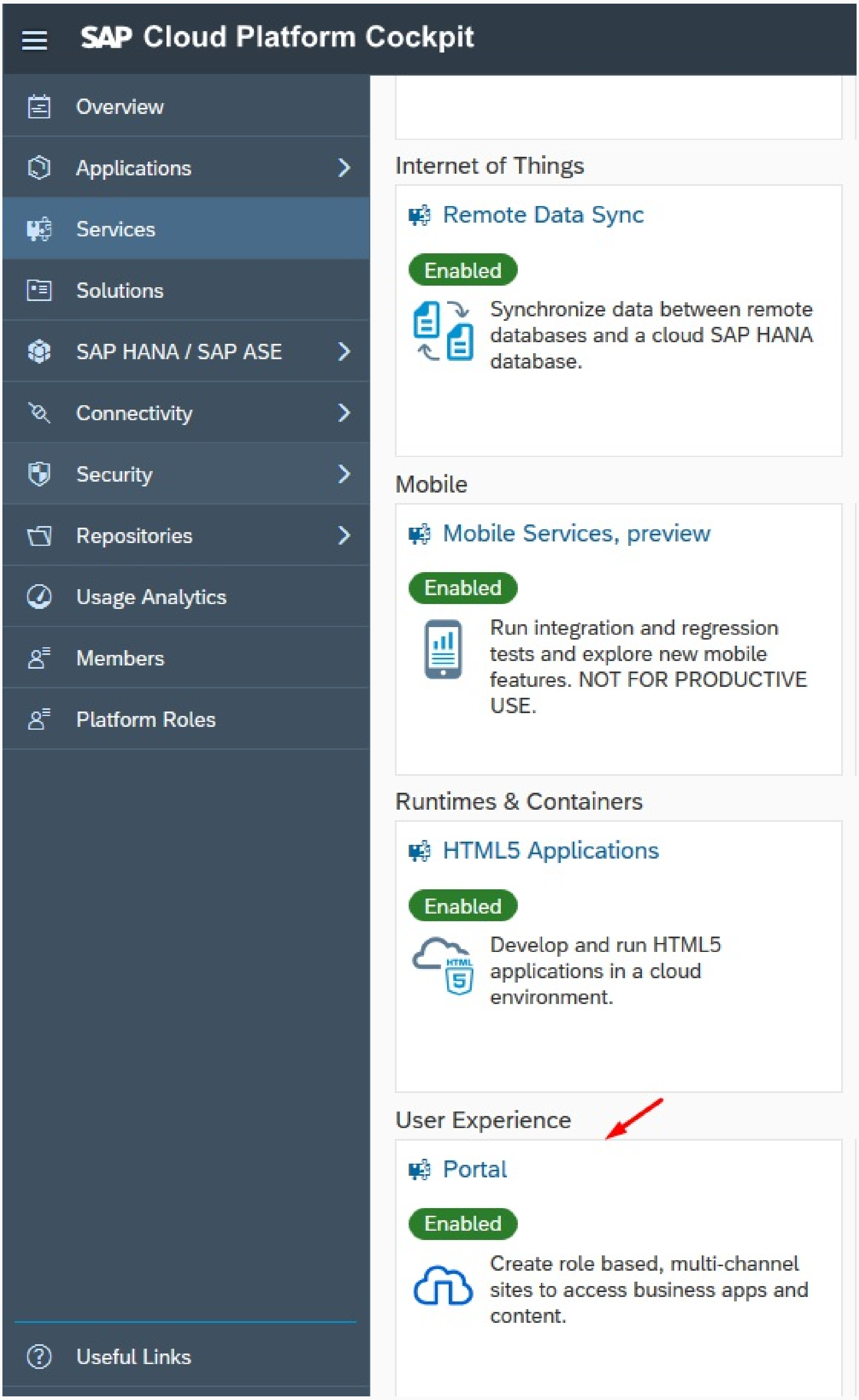
Authentication has also been a challenge. On a previous project I used the Fiori Client in conjunction with SAP Cloud Identity (now officially SAP Cloud Platform Identity Authentication). The Fiori Client stored the username and password on the device so that the user didn’t need to enter them every time their session timed out. We haven’t achieved that yet with our Fiori Mobile app.

Account and Services

If you have production account browse on HCP Cockpit and log in. If you use trial account log in here

As we said before there is two ways to build SAP Fiori mobile application:

1. Using **Fiori Mobile Service.** Note that this service have been discontinued from March 31, 2018. Strategic features available in the mobile service for SAP Fiori have been incorporated into SAP Cloud Platform mobile service for development and operations. However you can use this service if you have old account that already has enabled that service. Using this service require two other services to be enabled: **Portal Service** and **SAP Web IDE Full-Stack Service**.



Internet of Things

Remote Data Sync

Enabled

Synchronize data between remote databases and a cloud SAP HANA database.

Mobile

Mobile Services, preview

Enabled

Run integration and regression tests and explore new mobile features. NOT FOR PRODUCTIVE USE.

Runtimes & Containers

HTML5 Applications

Enabled

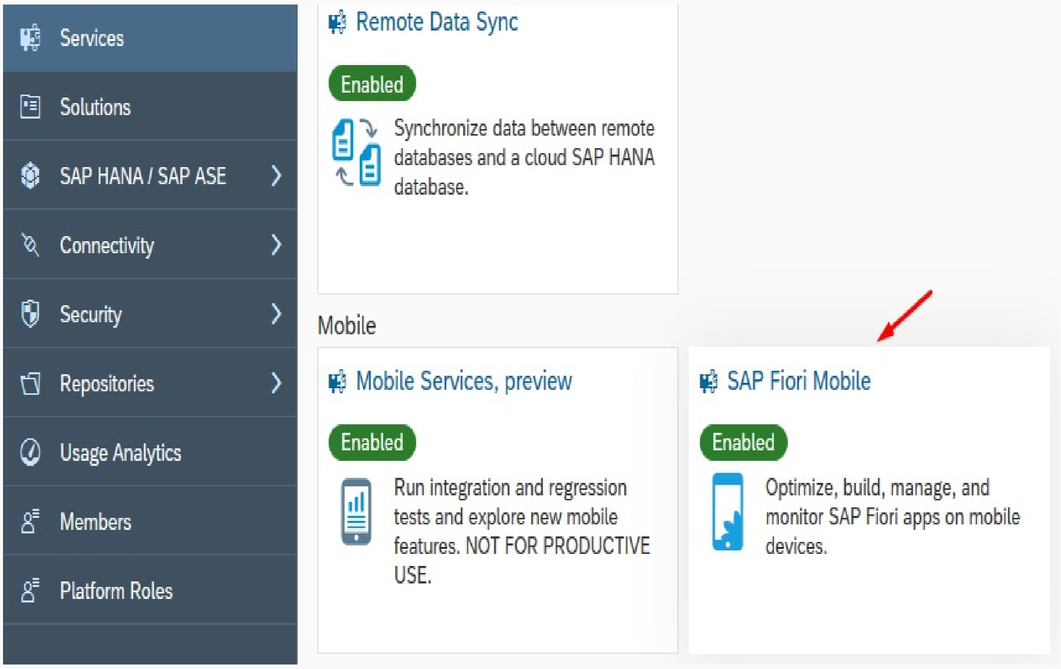
Develop and run HTML5 applications in a cloud environment.

User Experience

Portal

Enabled

Create role based, multi-channel sites to access business apps and content.



Remote Data Sync

Enabled

Synchronize data between remote databases and a cloud SAP HANA database.

Mobile

Mobile Services, preview

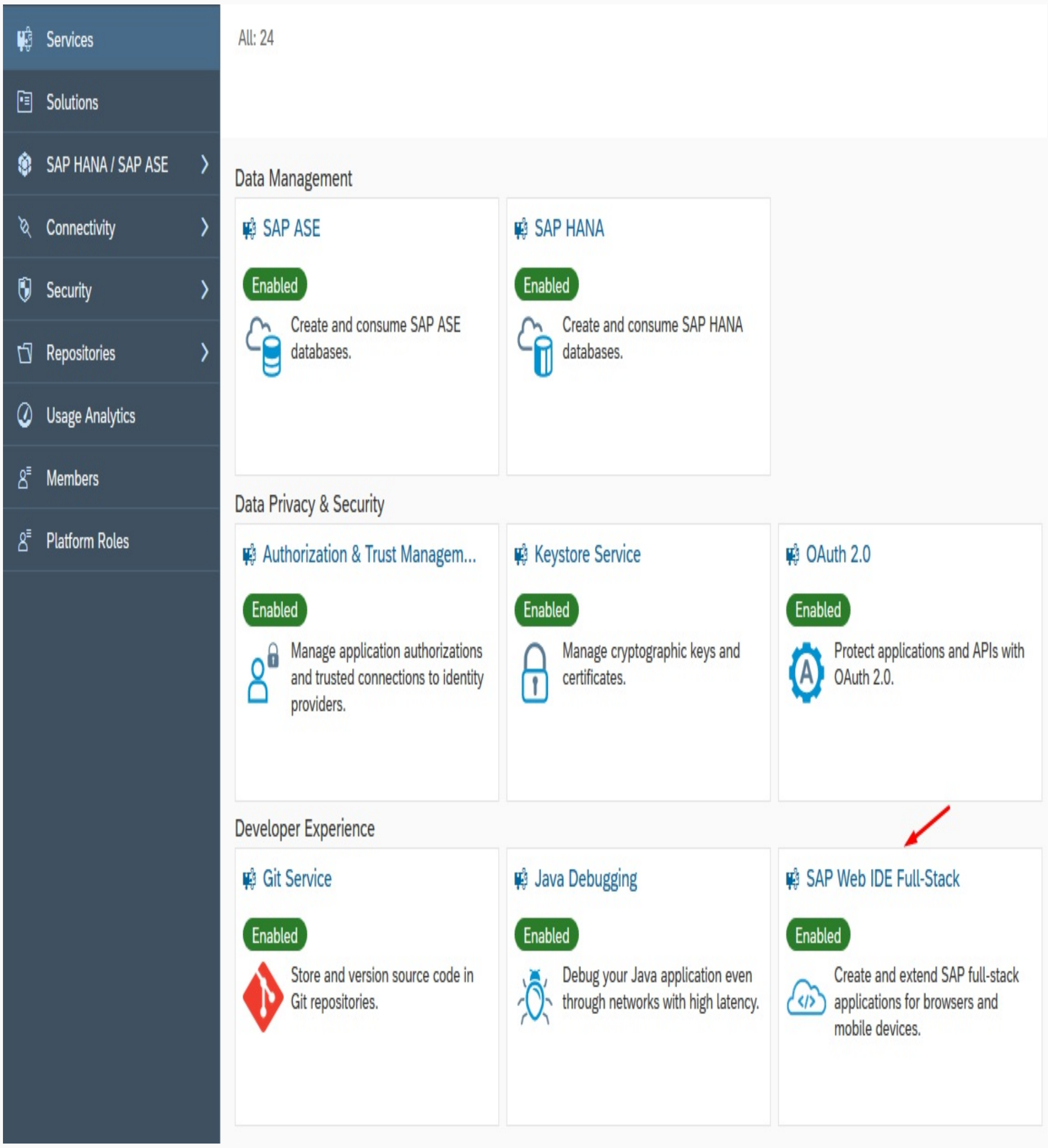
Enabled

Run integration and regression tests and explore new mobile features. NOT FOR PRODUCTIVE USE.

SAP Fiori Mobile

Enabled

Optimize, build, manage, and monitor SAP Fiori apps on mobile devices.



All: 24

Data Management

SAP ASE

Enabled

Create and consume SAP ASE databases.

SAP HANA

Enabled

Create and consume SAP HANA databases.

Data Privacy & Security

Authorization & Trust Managem...

Enabled

Manage application authorizations and trusted connections to identity providers.

Keystore Service

Enabled

Manage cryptographic keys and certificates.

OAuth 2.0

Enabled

Protect applications and APIs with OAuth 2.0.

Developer Experience

Git Service

Enabled

Store and version source code in Git repositories.

Java Debugging

Enabled

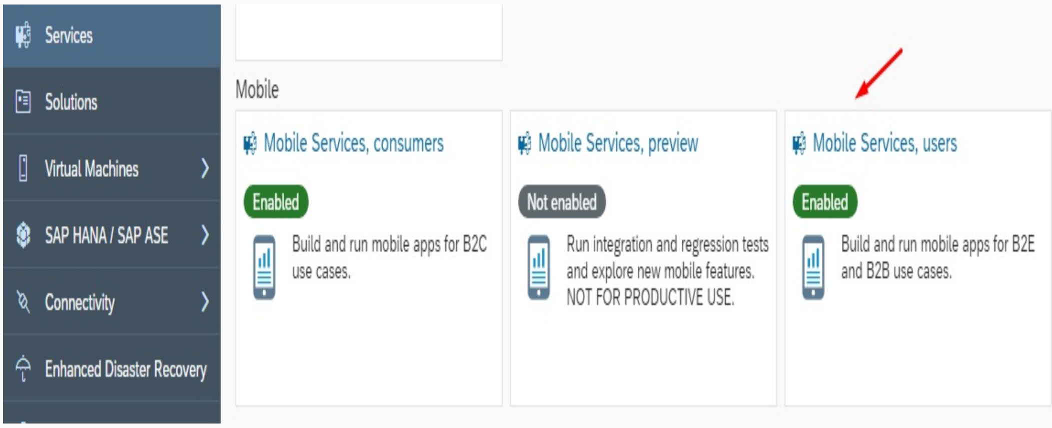
Debug your Java application even through networks with high latency.

SAP Web IDE Full-Stack

Enabled

Create and extend SAP full-stack applications for browsers and mobile devices.

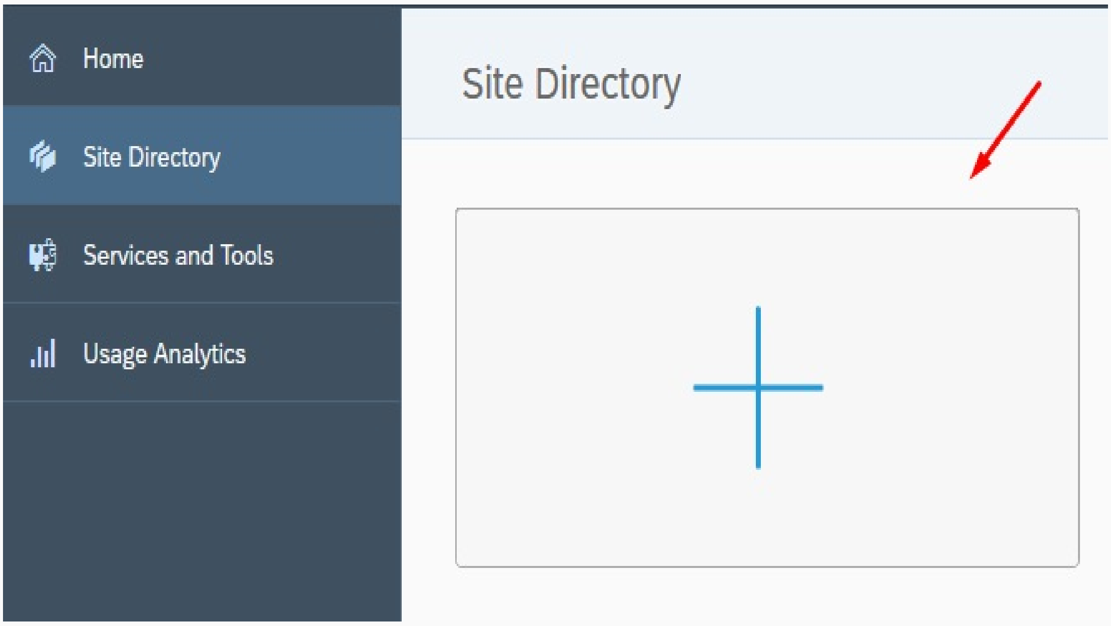
2. Using **HAT** (Hybrid Application Toolkit) extension in **SAP Web IDE Full-Stack Service.** Using this extension require **Mobile Services** to be enabled.


Services
Solutions
Virtual Machines
SAP HANA / SAP ASE
Connectivity
Enhanced Disaster Recovery
Mobile
Mobile Services, consumers
Enabled
Build and run mobile apps for B2C use cases.
Mobile Services, preview
Not enabled
Run integration and regression tests and explore new mobile features. NOT FOR PRODUCTIVE USE.
Mobile Services, users
Enabled
Build and run mobile apps for B2E and B2B use cases.

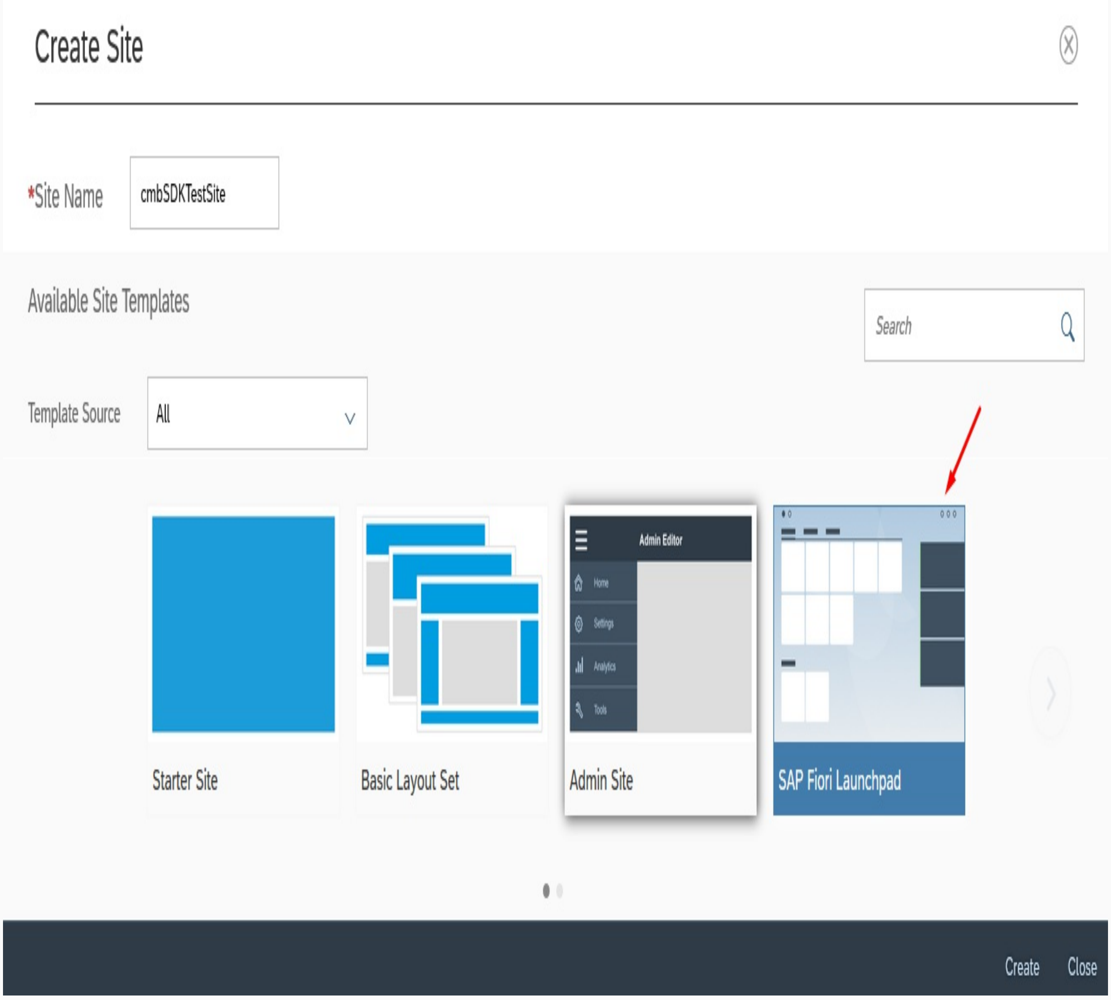
Create Fiori Launchpad

If we use SAP Fori Mobile Service to build mobile application first we need to create and publish site where application will be deployed. Otherwise if we use HAT skip this step and continue with Create Fiori Project

Go to **Portal Service** and create new Site Directory



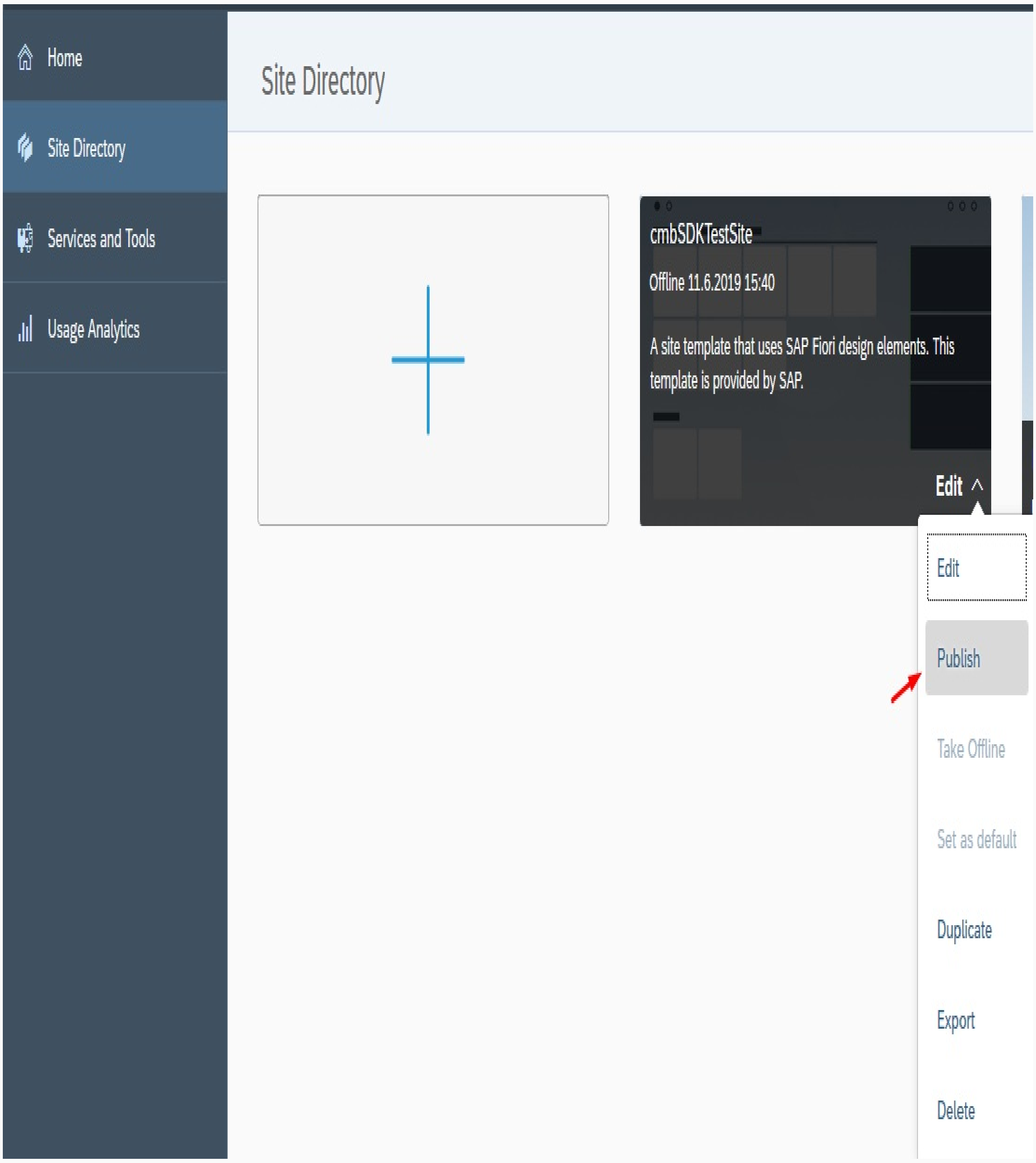
A popup will be displayed. Enter your **Site Name**, choose **SAP Fiori Launchpad** as Template Source and click Create

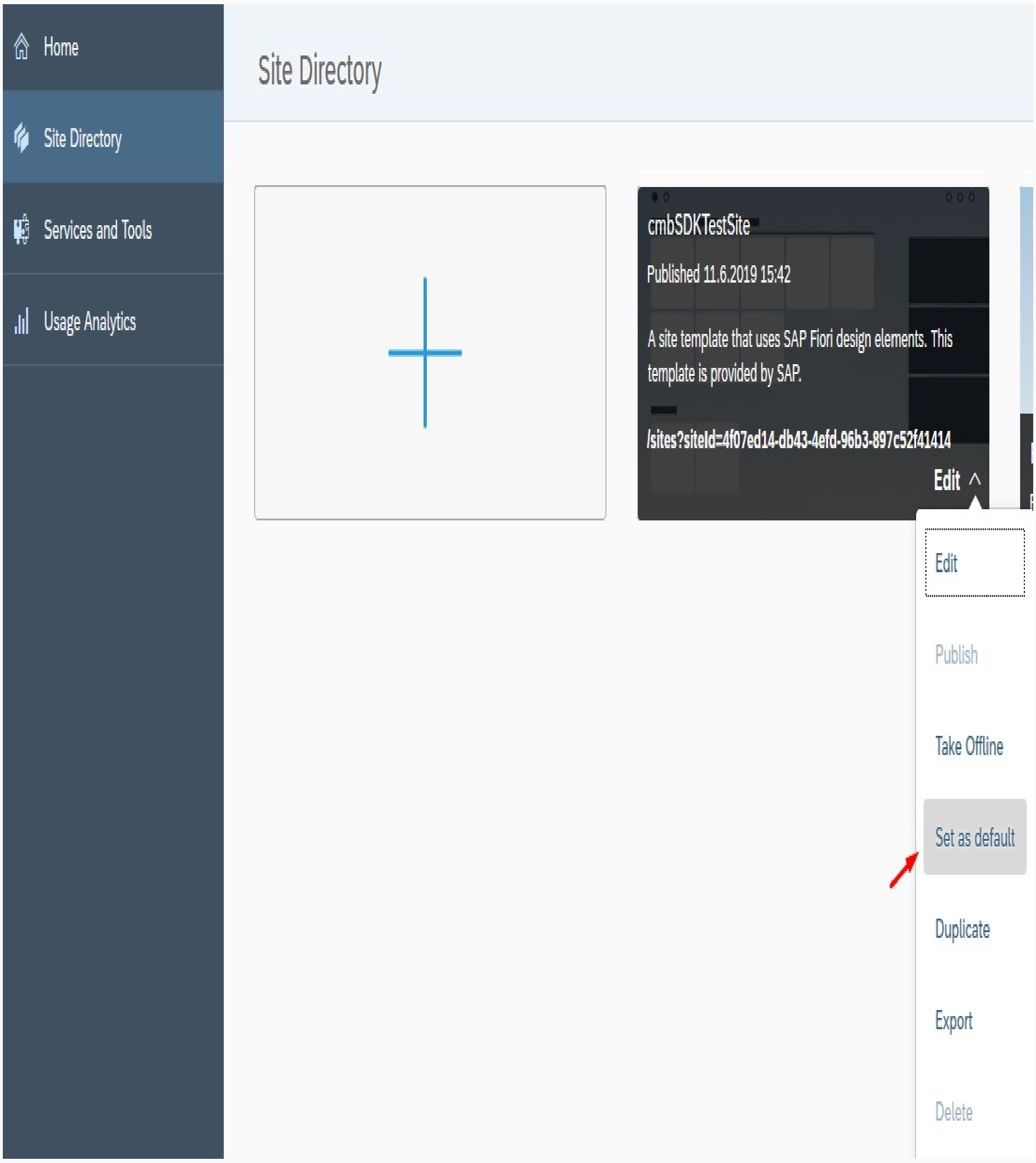


Site Name: cmbSDKTestSite

Following this you will be redirected to SAP Fiori Configuration Cockpit. Close the tab and go back to Admin Space for Portal Service.

Now we need to Publish this Site and Set as default.

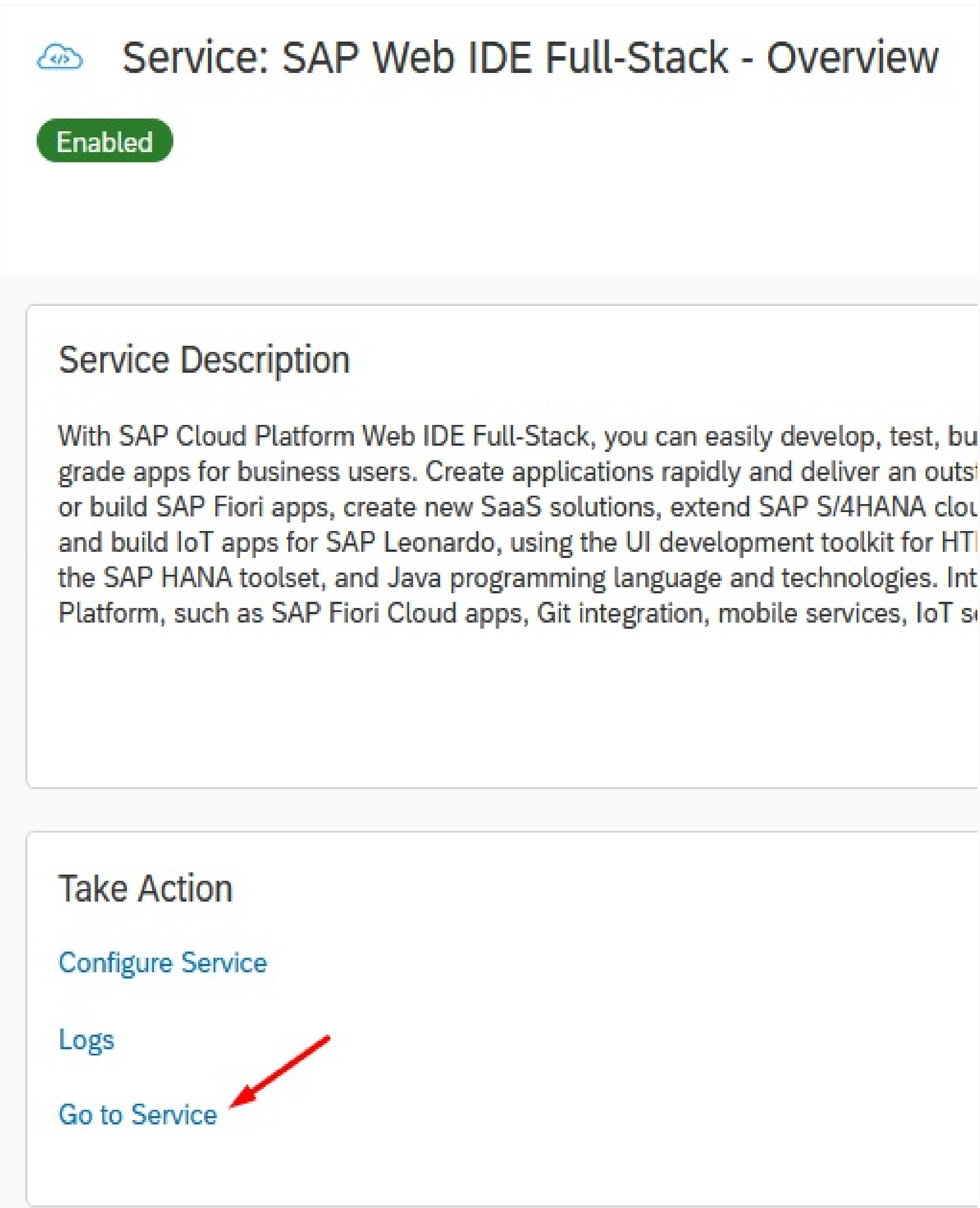

Home
Site Directory
Services and Tools
Usage Analytics
Site Directory
cmbSDKTestSite
Offline 11.6.2019 15:40
A site template that uses SAP Fiori design elements. This template is provided by SAP.
Edit
Edit
Publish
Take Offline
Set as default
Duplicate
Export
Delete


Home
Site Directory
Services and Tools
Usage Analytics
Site Directory
cmbSDKTestSite
Published 11.6.2019 15:42
A site template that uses SAP Fiori design elements. This template is provided by SAP.
/sites?siteId=4f07ed14-db43-4efd-96b3-897c52f41414
Edit
Edit
Publish
Take Offline
Set as default
Duplicate
Export
Delete

Create Fiori Project

Once we create and publish cmbSDKTestSite we can create our Fiori project (if we use Fiori Mobile Service to build mobile application, otherwise if we use HAT we don't need to publish site on Launchpad and creating Fiori project will be our first step).

Go to Services tab again, open SAP Web IDE Full-Stack service, and click on Go to Service



Service: SAP Web IDE Full-Stack - Overview

Enabled

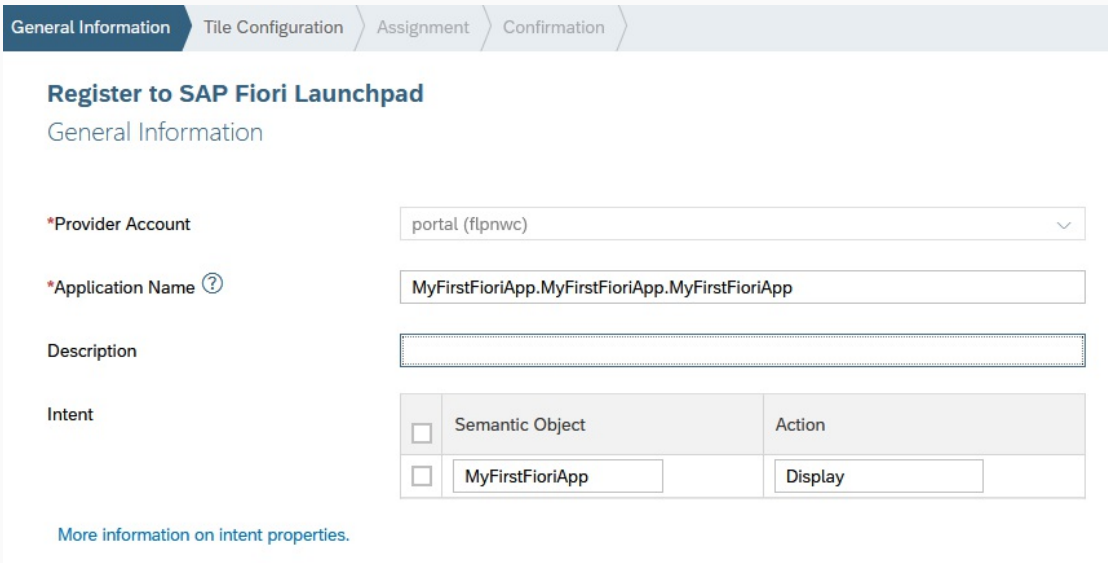
Service Description

With SAP Cloud Platform Web IDE Full-Stack, you can easily develop, test, bu
grade apps for business users. Create applications rapidly and deliver an outst
or build SAP Fiori apps, create new SaaS solutions, extend SAP S/4HANA clou
and build IoT apps for SAP Leonardo, using the UI development toolkit for HT
the SAP HANA toolset, and Java programming language and technologies. Int
Platform, such as SAP Fiori Cloud apps, Git integration, mobile services, IoT s

Take Action

A new tab will be opened. From here we will start to create our Fiori project.

- Click on New Project from Template



Register to SAP Fiori Launchpad

General Information

*Provider Account: portal (flpnwc)

*Application Name: MyFirstFioriApp.MyFirstFioriApp.MyFirstFioriApp

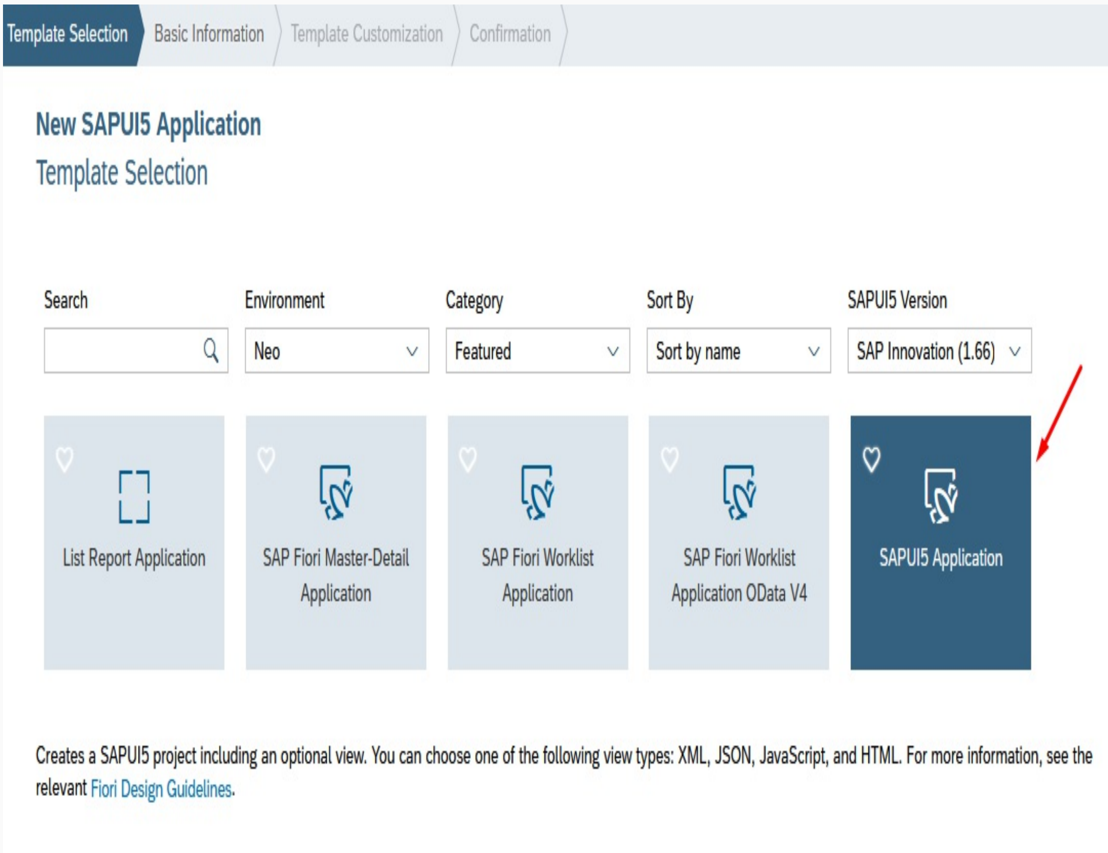
Description:

Intent:

☐	Semantic Object	Action
☐	MyFirstFioriApp	Display

More information on intent properties.

- Choose SAPUI5 Application from Template Selection



New SAPUI5 Application

Template Selection

Search:

Environment: Neo

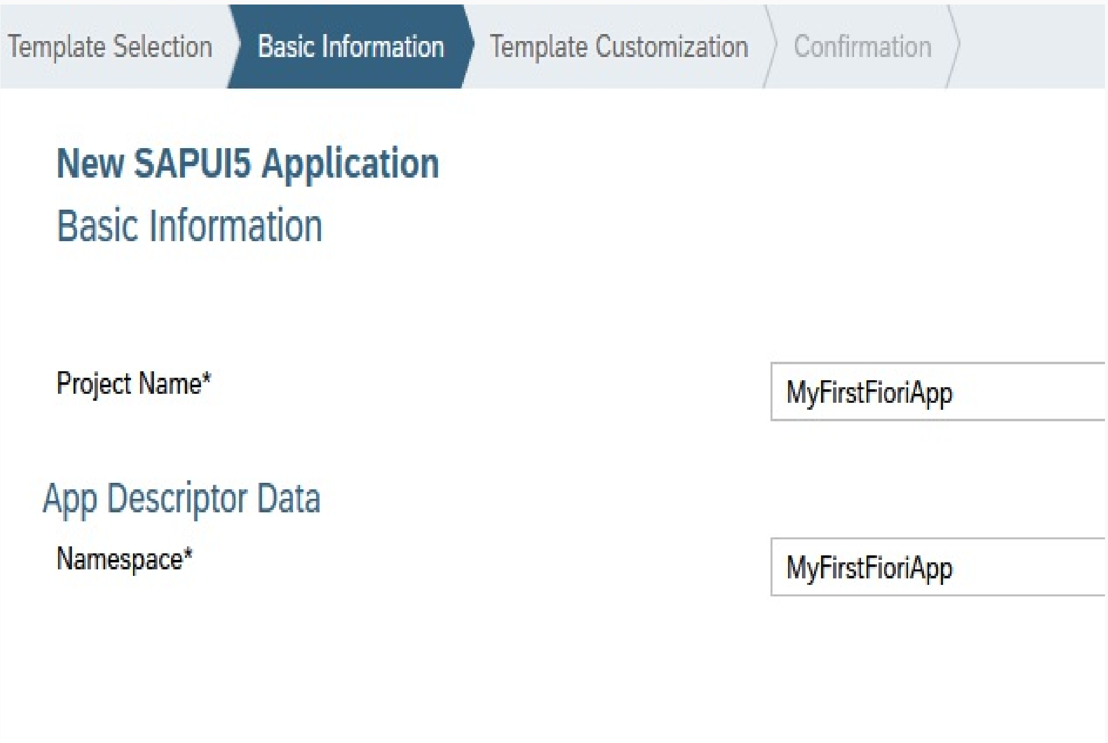
Category: Featured

Sort By: Sort by name

SAPUI5 Version: SAP Innovation (1.66)

Creates a SAPUI5 project including an optional view. You can choose one of the following view types: XML, JSON, JavaScript, and HTML. For more information, see the relevant Fiori Design Guidelines.

- Set your Project Name and Namespace



New SAPUI5 Application

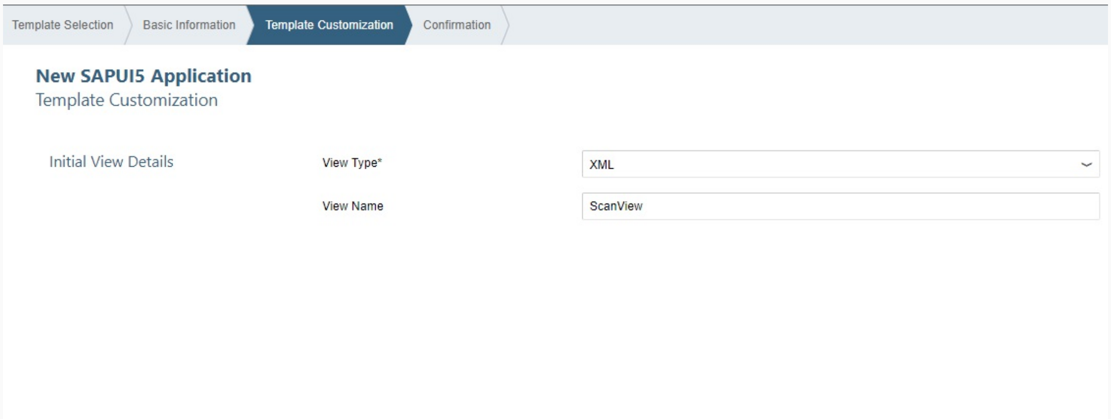
Basic Information

Project Name*: MyFirstFioriApp

App Descriptor Data

Namespace*: MyFirstFioriApp

- Choose the View Type and set the View Name. In our sample we will use XML View. Click Finish and your Fiori project is created.



New SAPUI5 Application

Template Customization

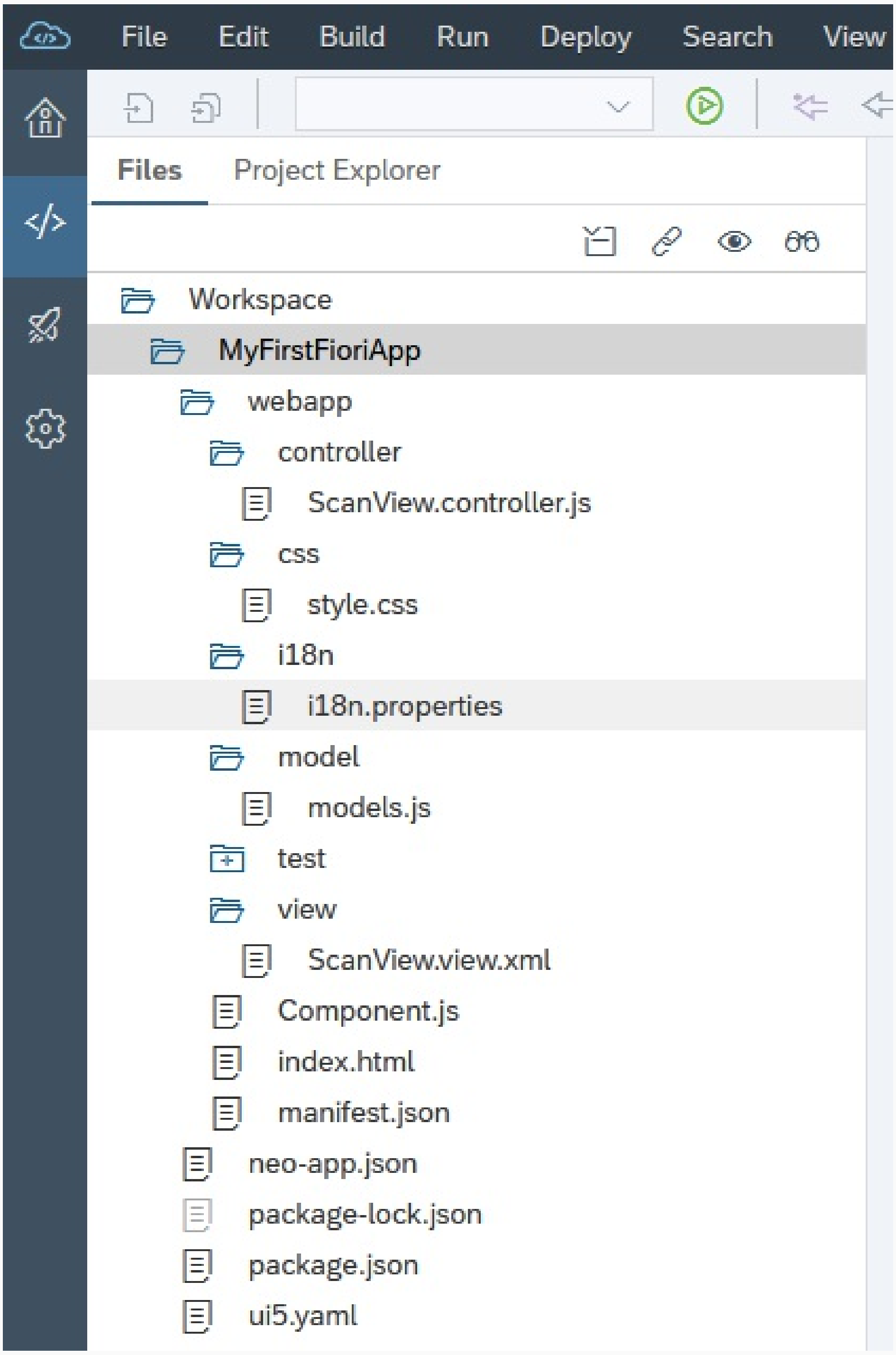
Initial View Details

View Type*: XML

View Name: ScanView

How to use cmbSDK cordova plugin

In the SAP Web IDE Workspace we can see all files that our Fiori project inludes.



Open *Component.js* file.

Component.js is the first point of our application, we can say that it serves as index which encapsulates all our applications details, i.e. view names, routing details, main view, applications type(Full Screen or SplitApp), application service configuration etc..

Here in **init** function we will configure our plugin. Set properties that we need, set callback functions, call some methods, etc..

```
sap.ui.define([
        "sap/ui/core/UIComponent",
        "sap/ui/Device",
	"MyFirstFioriApp/MyFirstFioriApp/model/models"
], function (UIComponent, Device, models) {
	"use strict";

	var oEventBus = sap.ui.getCore().getEventBus();
	var scannerIsInitialized = false;

	return UIComponent.extend("MyFirstFioriApp.MyFirstFioriApp.Component", {

		metadata: {
			manifest: "json"
		},

		/**
		 * The component is initialized by UI5 automatically during the startup of the app a
nd calls the init method once.
		 * @public
		 * @override
		 */
		init: function () {
			// call the base component's init function
			UIComponent.prototype.init.apply(this, arguments);

			// enable routing
			this.getRouter().initialize();

			// set the device model
			this.setModel(models.createDeviceModel(), "device");

			if (!scannerIsInitialized) {

				scannerIsInitialized = true;
				window.readerConnected = 0;
				window.scannerActive = false;

				cmbScanner.addOnResume(function (result) {
					cmbScanner.setAvailabilityCallback((readerAvailability) => {
						if (readerAvailability === cmbScanner.CONSTANTS.AVAI
LABILITY_AVAILABLE) {
							oEventBus.publish("ScanView", "SetConnection
Status", {
								statusText: "AVAILABLE"
							});
							cmbScanner.connect((result) => {});
						} else {
							oEventBus.publish("ScanView", "SetConnection
Status", {
								statusText: "NOT AVAILABLE"
							});
						}
					});
					if (Device.os.android) {
						cmbScanner.connect((result) => {});
					}
				});

				cmbScanner.addOnPause(function (result) {
					if (Device.os.android) {
						cmbScanner.disconnect();
					}
					cmbScanner.setAvailabilityCallback();
```

```
                                });

                                cmbScanner.setPreviewContainerPositionAndSize(0, 0, 100, 50);

                                cmbScanner.setConnectionStateDidChangeOfReaderCallback((connectionSt
ate) => {
                                        if (connectionState === cmbScanner.CONSTANTS.CONNECTION_STAT
E_CONNECTED) {
                                                oEventBus.publish("ScanView", "SetConnectionStatus",
 {
                                                        statusText: "CONNECTED"
                                                });
                                                if (window.readerConnected != connectionState) {
                                                        cmbScanner.setSymbologyEnabled("SYMBOL.DATAM
ATRIX", true);
                                                        cmbScanner.setSymbologyEnabled("SYMBOL.C128"
, true);
                                                        cmbScanner.sendCommand("SET TRIGGER.TYPE 2")
;
                                                }
                                        } else if (connectionState == cmbScanner.CONSTANTS.CONNECTIO
N_STATE_DISCONNECTED) {
                                                oEventBus.publish("ScanView", "SetConnectionStatus",
 {
                                                        statusText: "DISCONNECTED"
                                                });
                                        } else if (connectionState == cmbScanner.CONSTANTS.CONNECTIO
N_STATE_CONNECTING) {
                                                oEventBus.publish("ScanView", "SetConnectionStatus",
 {
                                                        statusText: "CONNECTING"
                                                });
                                        } else if (connectionState == cmbScanner.CONSTANTS.CONNECTIO
N_STATE_DISCONNECTING) {
                                                oEventBus.publish("ScanView", "SetConnectionStatus",
 {
                                                        statusText: "DISCONNECTING"
                                                });
                                        }
                                        window.readerConnected = connectionState;
                                });

                                cmbScanner.setAvailabilityCallback((readerAvailability) => {
                                        if (readerAvailability === cmbScanner.CONSTANTS.AVAILABILITY
_AVAILABLE) {
                                                oEventBus.publish("ScanView", "SetConnectionStatus",
 {
                                                        statusText: "AVAILABLE"
                                                });
                                                cmbScanner.connect((result) => {});
                                        } else {
                                                oEventBus.publish("ScanView", "SetConnectionStatus",
 {
                                                        statusText: "NOT AVAILABLE"
                                                });
                                        }
                                });

                                cmbScanner.setActiveStartScanningCallback((result) => {
                                        if (result === true)
                                                window.scannerActive = true;
```

```
                    else
                        window.scannerActive = false;
                });

                cmbScanner.setPreviewOptions(cmbScanner.CONSTANTS.PREVIEW_OPTIONS.DE
FAULTS | cmbScanner.CONSTANTS.PREVIEW_OPTIONS.HARDWARE_TRIGGER);

                cmbScanner.setCameraMode(cmbScanner.CONSTANTS.CAMERA_MODES.NO_AIMER)
;


                var sdkKEY = "";
                if (Device.os.android)
                    sdkKEY = this.getModel("i18n").getProperty("MX_MOBILE_LICENS
E_ANDROID");
                else
                    sdkKEY = this.getModel("i18n").getProperty("MX_MOBILE_LICENS
E_iOS");

                cmbScanner.registerSDK(sdkKEY);

                cmbScanner.loadScanner(0, (result) => {
                    cmbScanner.connect((result) => {});
                });

                oEventBus.subscribe("Component", "LoadScanner", this.loadScanner, th
is);
            }
        },
        loadScanner: function (sChanel, sEvent, oData) {
            cmbScanner.disconnect((result) => {
                cmbScanner.loadScanner(oData.selectedDevice, (result) => {
                    cmbScanner.connect((result) => {});
                });
            });
        },
        onExit: function () {
            oEventBus.unsubscribe("Component", "LoadScanner", this.loadScanner, this);
            cmbScanner.disconnect();
            cmbScanner.setAvailabilityCallback();
        }
    });
});
```

cmbScanner is an object that represents our plugin. With this object we can access all API methods and Constants from our plugin.

- **scannerIsInitialized** - variable to make sure that we set some functions for initialization only one time
- **window.readerConnected** - global variable that is changed every time when the reader connection state is changed
- **window.scannerActive** - global variable that shows us if scanning is active or not
- **cmbScanner.addOnPause** - in this method we disconnection from reader device on Android (on iOS this is handled automatically), and stop listening to availability changing
- **cmbScanner.addOnResume** - in this method we try to connect with reader device again and set callback for availability changing

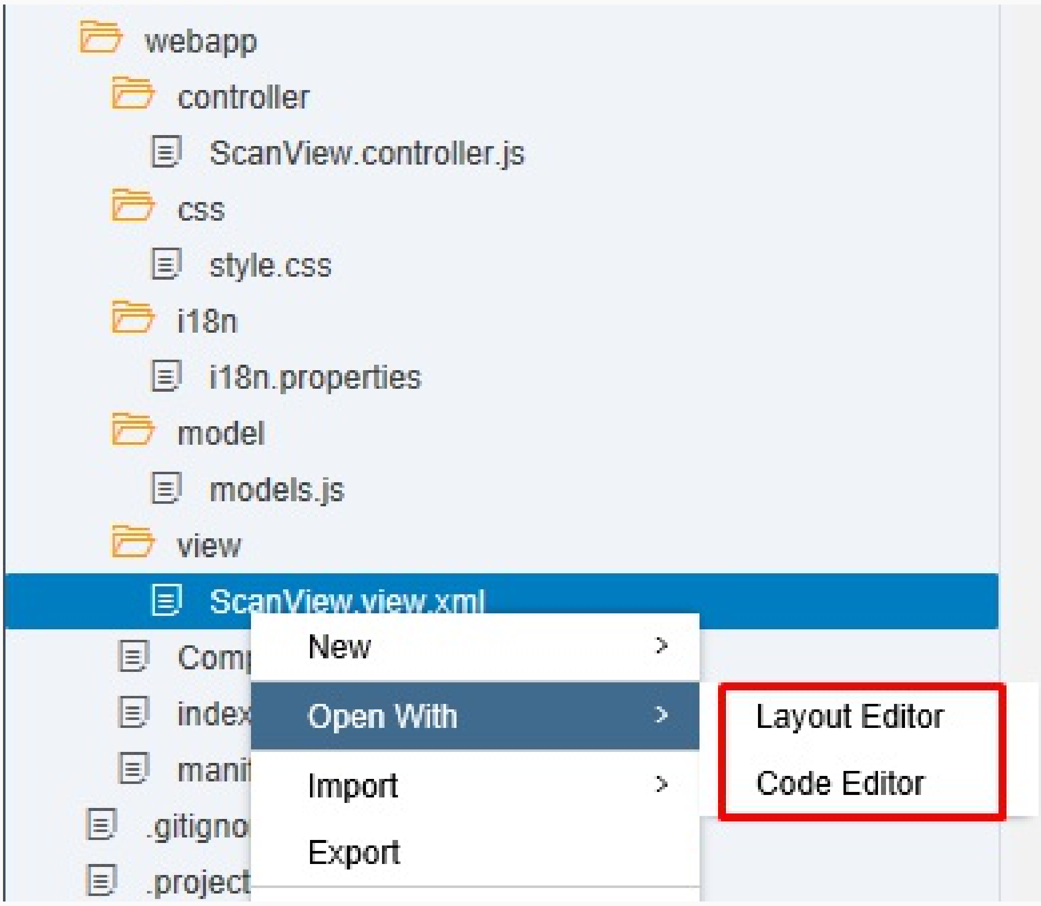
- **cmbScanner.setPreviewContainerPositionAndSize** - to set the size and position of the preview container. Learn more here.
- **cmbScanner.setConnectionStateDidChangeOfReaderCallback** - all **connect/disconnect** events should be handled within the callback function set with this API method. If connection state is **connected** we set some reader device settings with API methods or directly with sendCommand() method. Here in this example we enable symbologies and set trigger type. Also here we should Licensing the SDK. We will speak about this later in this section
- **cmbScanner.setAvailabilityCallback** - to monitor for availability of the MX device. If MX device is available we try to connect. Learn more here.
- **cmbScanner.setActiveStartScanningCallback** - to monitor the state of the scanner. Learn more here.
- **cmbScanner.loadScanner** - to get a scanner up and running. Learn more here.

Here we are only configuring reader device, handling connections, availability, etc.. We will do scanning and getting results in other views. If we want to notify users about every connection state changed or other info about reader device we will be using EventBus sap object. With this object we can publish function and call them from any view in the application. In this example on connection state changed with EventBus we are calling **SetConnectionStatus** function that is implemented in view where scanning is performed and set label text to show user current connection state.

Now open **ScanView.view.xml** and add this code:

```
<mvc:View controllerName="MyFirstFioriApp.MyFirstFioriApp.controller.ScanView" xmlns:mvc="sap.ui.core.mvc" displayBlock="true" xmlns="sap.m"
        xmlns:core="sap.ui.core">
        <Shell id="shell">
                <App id="app">
                        <pages>
                                <Page id="page" title="{i18n>title}">
                                        <subHeader>
                                                <Toolbar id="__toolbar2" width="100%">
                                                        <content>
                                                                <FlexBox id="__box0" width="100%" alignContent="Center" alignItems="Start" direction="Column" fitContainer="true" justifyContent="Center">
                                                                        <items>
                                                                                <Select id="selectActiveDevice" items="{/Devices}" textAlign="Center" selectedKey="0" change="activeDeviceChanged">
                                                                                        <core:Item text="{text}" key="{key}"/>
                                                                                </Select>
                                                                        </items>
                                                                </FlexBox>
                                                                <Label id="lblStatus" text="DISCONNECTED" width="100%" textAlign="End" design="Bold"/>
                                                        </content>
                                                </Toolbar>
                                        </subHeader>
                                        <content>
                                                <FlexBox id="flexBoxContainer" width="100%" alignContent="Start" alignItems="Start" direction="Column" fitContainer="true"/>
                                        </content>
                                        <footer>
                                                <Toolbar id="__toolbar1" width="100%">
                                                        <content>
                                                                <Button id="btnScan" press="btnScanP
ress" text="Scan" width="100%"/>
                                                        </content>
                                                </Toolbar>
                                        </footer>
                                </Page>
                        </pages>
                </App>
        </Shell>
</mvc:View>
```

You can design view with CodeEditor or with LayoutEditor.



After that open **ScanView.controller.js** and add this code

```
sap.ui.define([
        "sap/ui/core/mvc/Controller"
], function (Controller) {
        "use strict";

        var oEventBus = sap.ui.getCore().getEventBus();
        var oModel = new sap.ui.model.json.JSONModel();
        oModel.setData({
                Devices: [{
                        key: "0",
                        text: "MX Device"
                }, {
                        key: "1",
                        text: "Mobile Camera"
                }]
        });

        return Controller.extend("MyFirstFioriApp.MyFirstFioriApp.controller.ScanView", {
                onInit: function () {
                        this.getView().setModel(oModel);
                },

                onAfterRendering: function () {
                        window.scannerActive = false;
                        switch (window.readerConnected) {
                        case cmbScanner.CONSTANTS.CONNECTION_STATE_CONNECTED:
                                this.getView().byId("lblStatus").setText("CONNECTED");
                                break;
                        case cmbScanner.CONSTANTS.CONNECTION_STATE_DISCONNECTED:
                                this.getView().byId("lblStatus").setText("DISCONNECTED");
                                break;
                        case cmbScanner.CONSTANTS.CONNECTION_STATE_CONNECTING:
                                this.getView().byId("lblStatus").setText("CONNECTING");
                                break;
                        case cmbScanner.CONSTANTS.CONNECTION_STATE_DISCONNECTING:
                                this.getView().byId("lblStatus").setText("DISCONNECTING");
                                break
                        default:
                                this.getView().byId("lblStatus").setText("UNKNOWN");
                                break;
                        }
                        oEventBus.subscribe("ScanView", "SetConnectionStatus", this.setConnectionSta
tus, this);

                        cmbScanner.setResultCallback((result) => {

                                if(result && result.readResults && result.readResults.length > 0){

                 result.readResults.forEach((item, index) => {

                     if (item.goodRead == true) {
                                                //Perform some action on barcode read
                                                //example:
                       var verticalLayoutContainer = new sap.ui.layout.VerticalLayout(null, {
                                                        width: "100%"
                                                }).addStyleClass("sapUiSmallMarginTop");
                                                verticalLayoutContainer.addContent(new sap.m.Label({
                                                        text: item.symbologyString + ":",
                                                        textAlign: "Begin",
                                                        design: "Bold"
                                                }).addStyleClass("sapUiSmallMarginBegin"));
                                                verticalLayoutContainer.addContent(new sap.m.Text({
                                                        text: item.readString,
                                                        textAlign: "Begin"
                                                }).addStyleClass("sapUiSmallMarginBegin"));
                                                this.getView().byId("flexBoxContainer").addItem(vert
icalLayoutContainer);

                     }
                     else{
```

```
                                                //Perform some action when no barcode is read or just leave it empty
                     }
                 });
             }
                        });
                },

                btnScanPress: function () {
                        if (window.readerConnected === cmbScanner.CONSTANTS.CONNECTION_STATE_CONNECTED) {
                                if (window.scannerActive === true) {
                                        cmbScanner.stopScanning();
                                } else {
                                        cmbScanner.startScanning();
                                }
                        }
                },

                setConnectionStatus: function (sChanel, sEvent, oData) {
                        this.getView().byId("lblStatus").setText(oData.statusText);
                },

                activeDeviceChanged: function () {

                        cmbScanner.disconnect((result) => {
                                oEventBus.publish("Component", "LoadScanner", {
                                        selectedDevice: parseInt(this.getView().byId("selectActiveDevice").getSelectedKey())
                                });
                        });
                },

                onExit: function () {
                        oEventBus.unsubscribe("ScanView", "SetConnectionStatus", this.setConnectionStatus, this);
                        if (window.readerConnected === cmbScanner.CONSTANTS.CONNECTION_STATE_CONNECTED) {
                                if (window.scannerActive === true) {
                                        cmbScanner.stopScanning();
                                }
                        }
                        cmbScanner.setResultCallback((result) => {
                                return false;
                        });
                }
        });
});
```

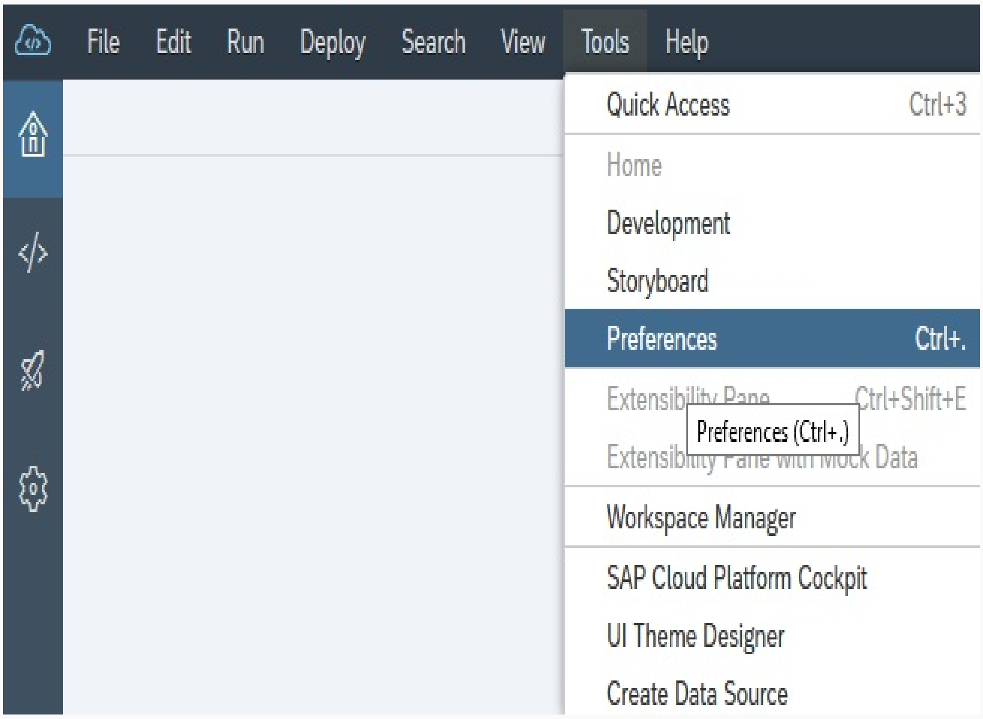
In this view we have a Scan button to startScanning()/stopScanning() and cmbScanner.setResultCallback to handle successful scan results.

Build Fiori Mobile Application

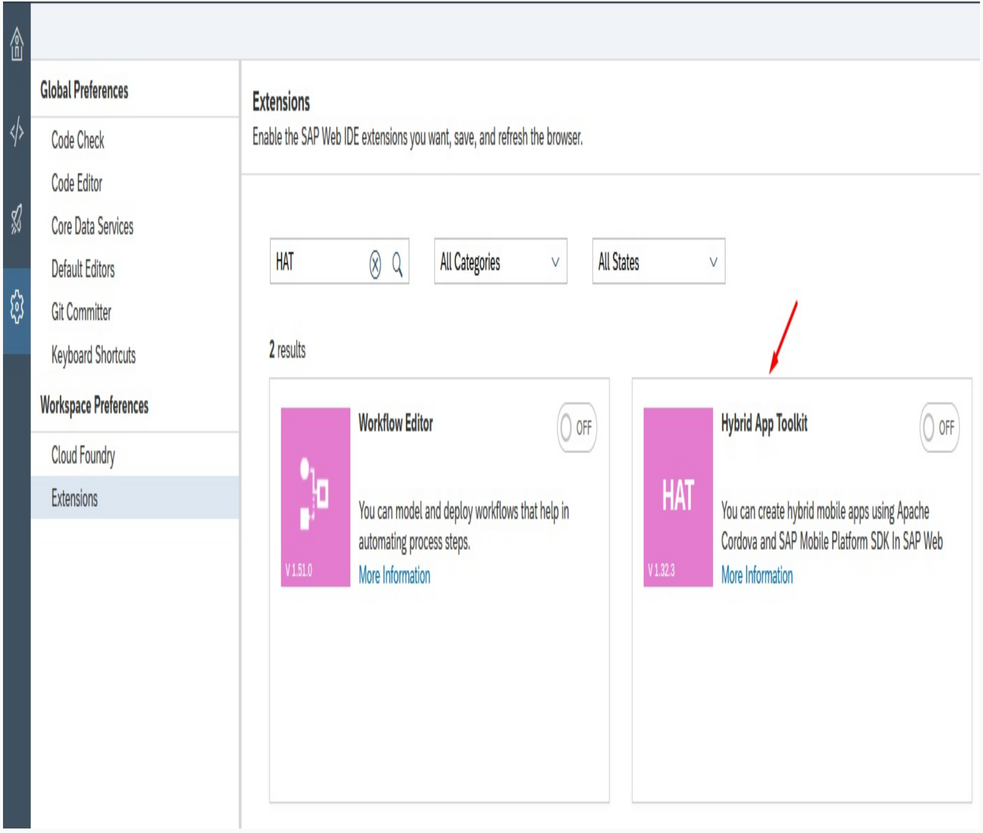
In this section we will explain how to build Fiori Mobile Application (generate .ipa and .apk files).

1. Using **HAT** (Hybrid Application Toolkit)

- First we need to enable **HAT** extension in SAP Web IDE Workspase. Open Tools->Preferences:



- Navigate to Extensions section and search for HAT extension:



Extensions

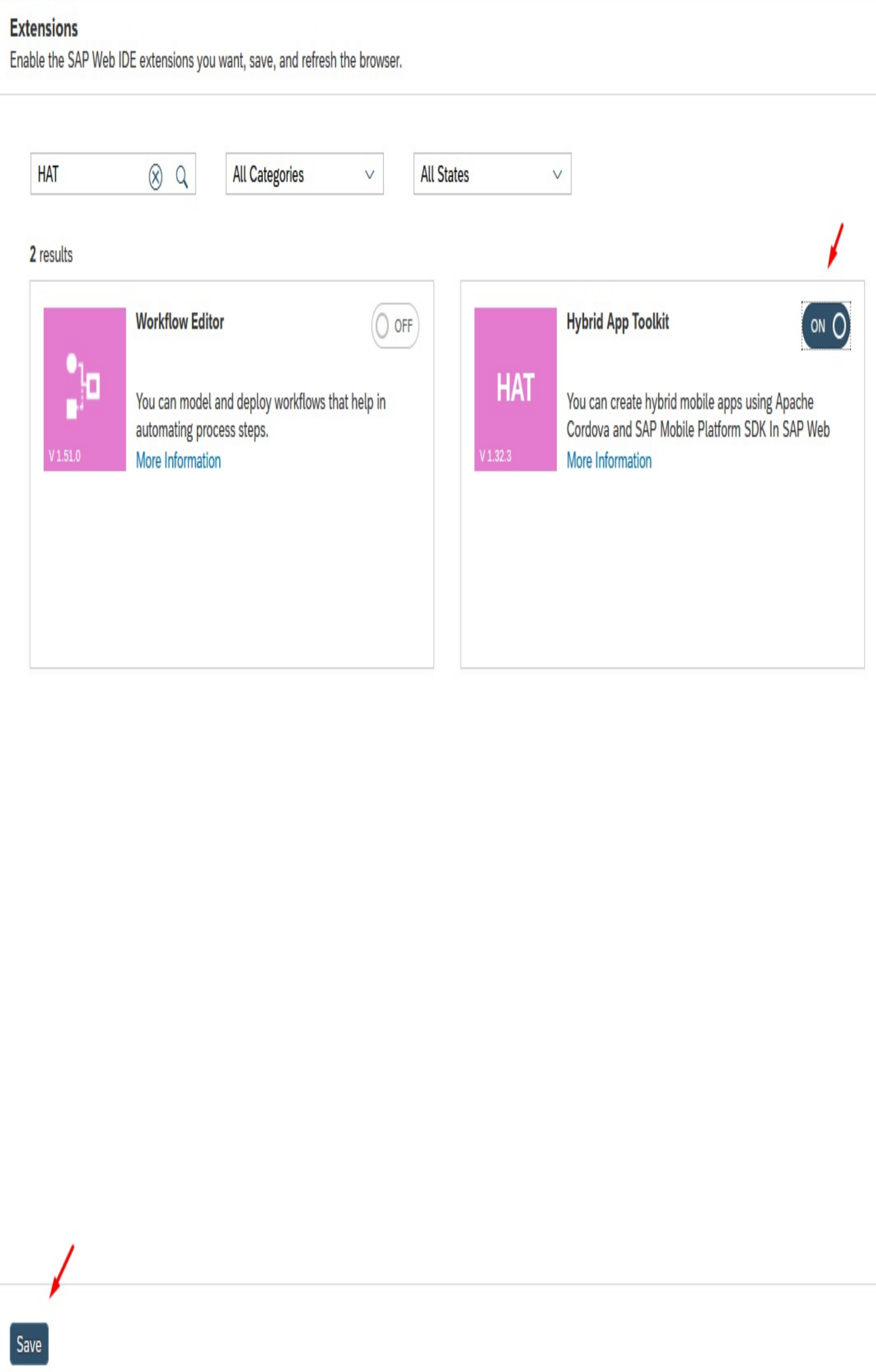
Enable the SAP Web IDE extensions you want, save, and refresh the browser.

HAT

You can model and deploy workflows that help in automating process steps.

You can create hybrid mobile apps using Apache Cordova and SAP Mobile Platform SDK In SAP Web

By default HAT extension is disabled. Enable HAT extension and click Save. After enabling we will need to refresh SAP Web IDE.



Extensions

Enable the SAP Web IDE extensions you want, save, and refresh the browser.

2 results

Workflow Editor

You can model and deploy workflows that help in automating process steps.

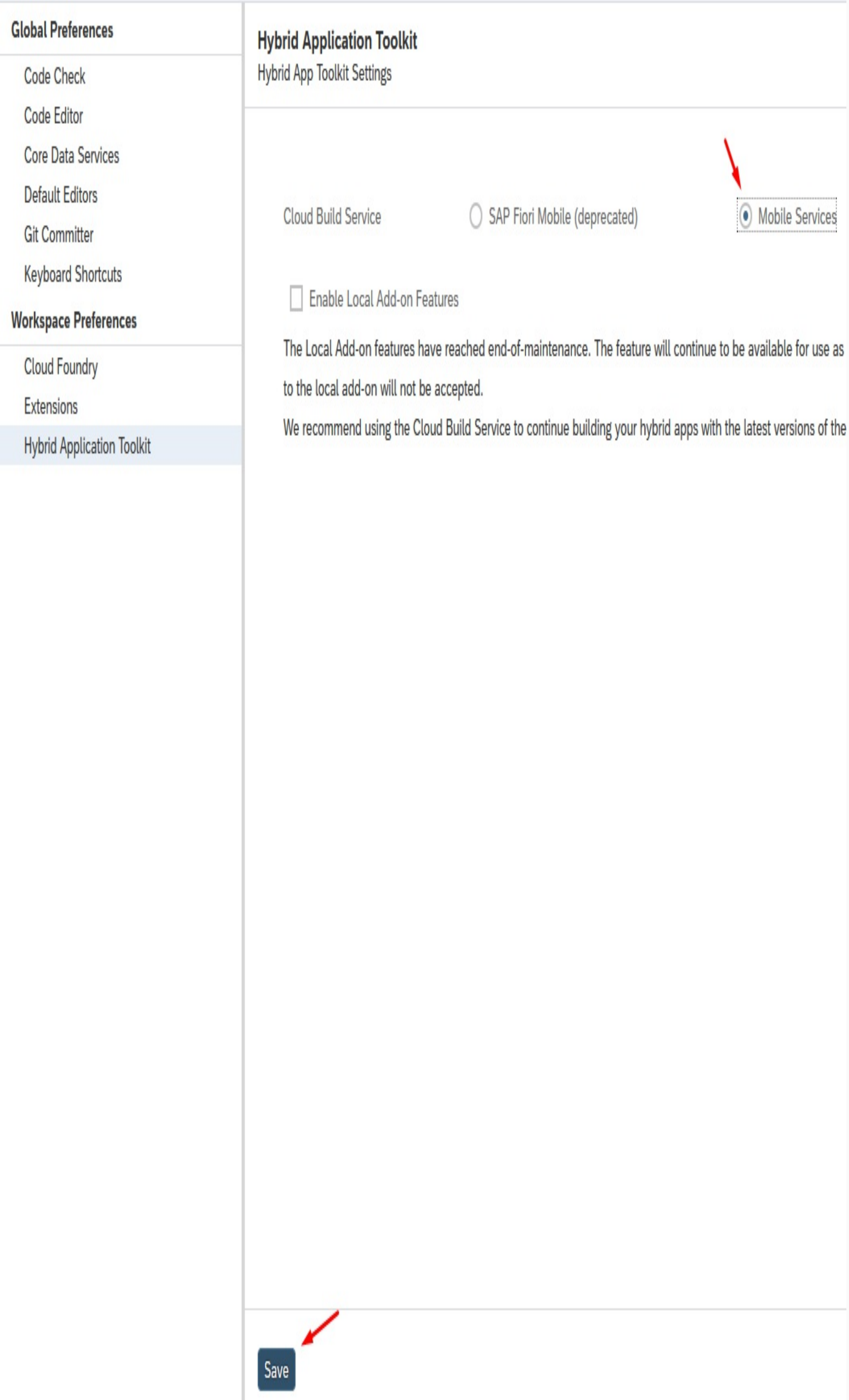
More Information

Hybrid App Toolkit

You can create hybrid mobile apps using Apache Cordova and SAP Mobile Platform SDK In SAP Web

More Information

- After enabling HAT go again in Tools->Preferences. If you have both Fiori Mobile and Mobile Services enabled you will have options to select one that will be used as Cloud Build Service. Please choose **Mobile Services** and click Save:



Hybrid Application Toolkit

Hybrid App Toolkit Settings

Cloud Build Service ○ SAP Fiori Mobile (deprecated) ● Mobile Services

☐ Enable Local Add-on Features

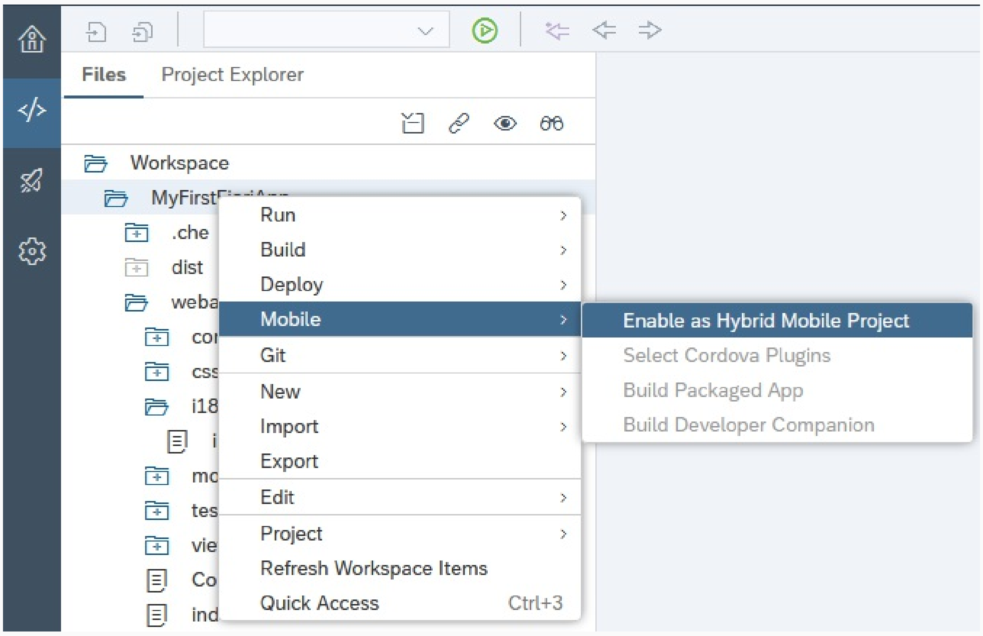
The Local Add-on features have reached end-of-maintenance. The feature will continue to be available for use as

to the local add-on will not be accepted.

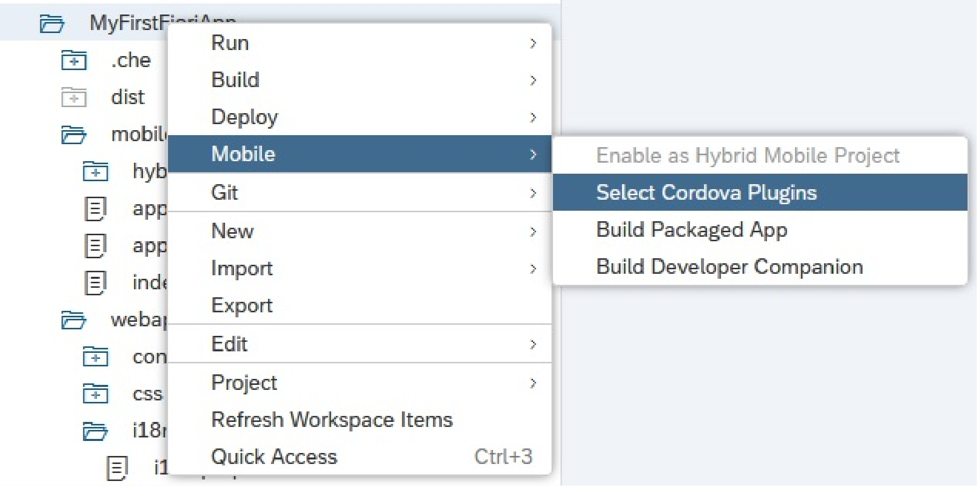
We recommend using the Cloud Build Service to continue building your hybrid apps with the latest versions of the

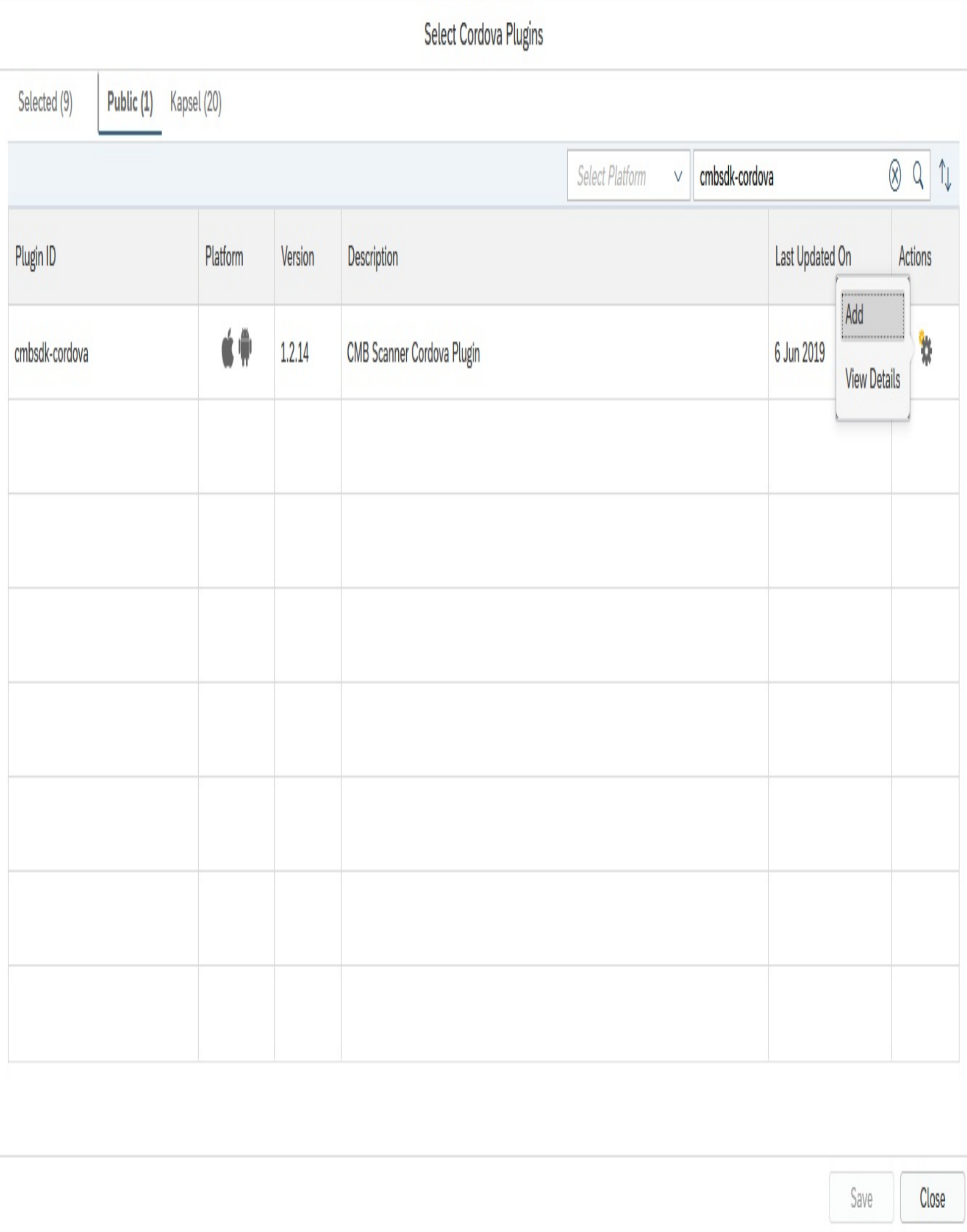
If you don't see these radio buttons you don't need to do anything. **Mobile Service** will be enabled by default.

- Now right click on project root and you will see Mobile section. Click **Enable as Hybrid Mobile Project**



- You can see that some new files are added in our project that allow us to build this project as mobile application. Before build we need to add our **cmbsdk-cordova** plugin. Click on Select Cordova Plugins, find cmbsdk-cordova plugin from public plugins and add in this project. Don't forget to click Save when you add plugin.

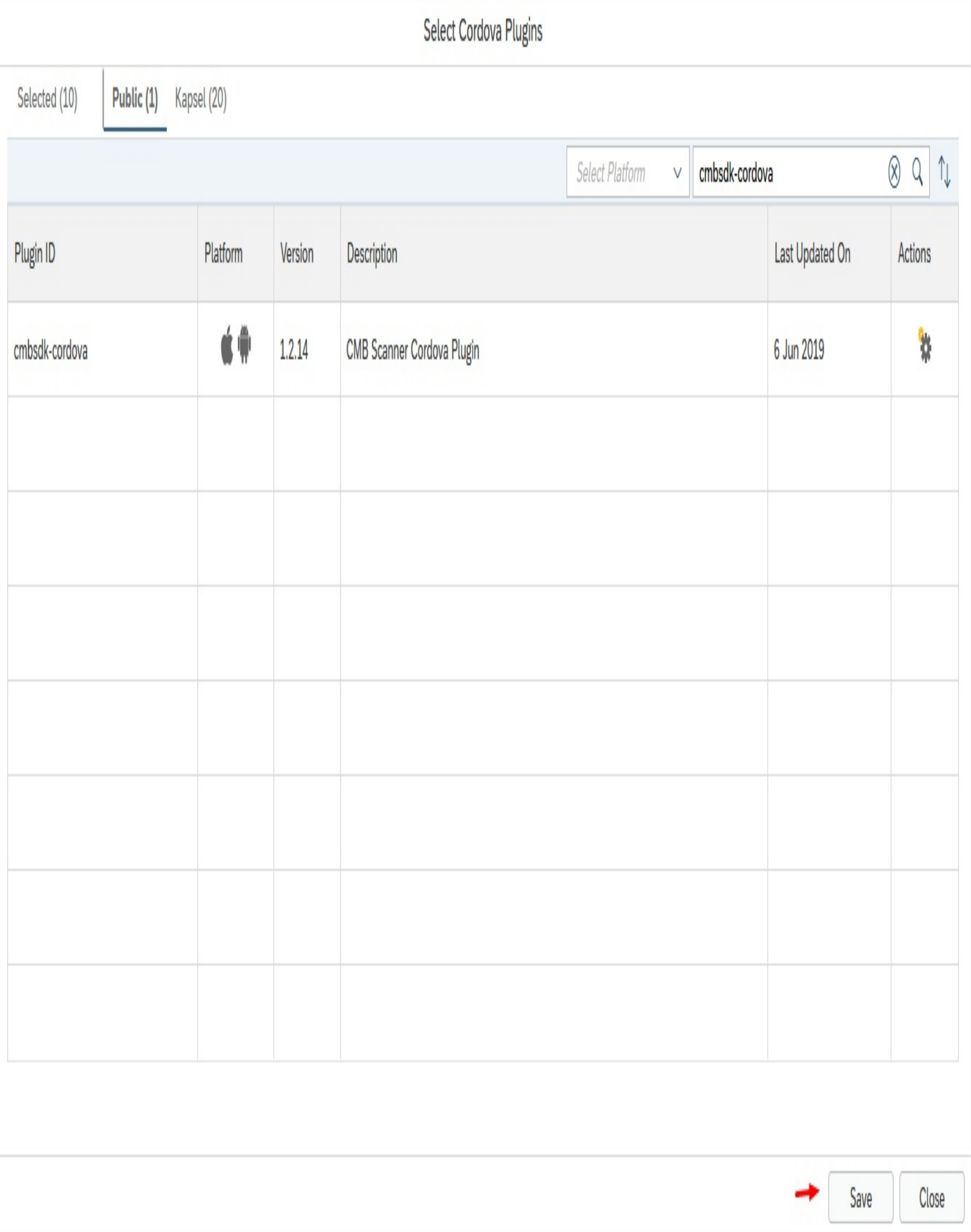




Select Cordova Plugins

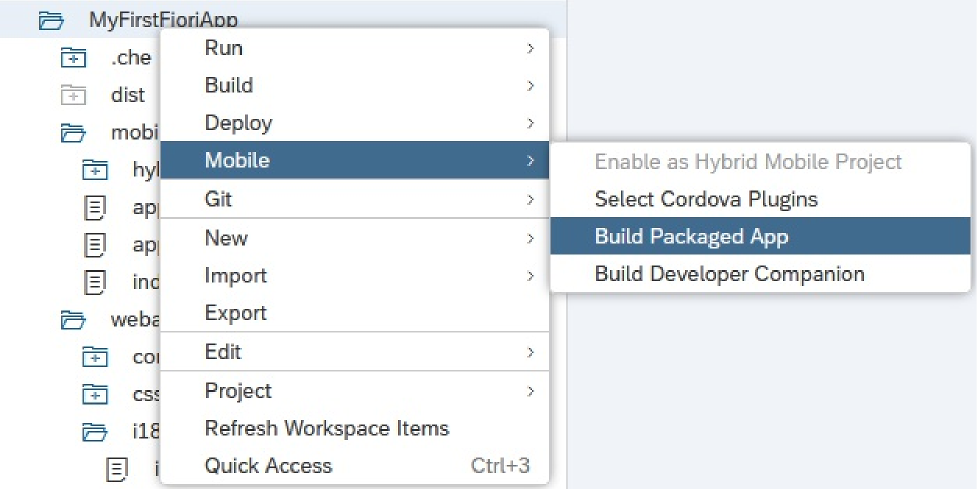
cmbsdk-cordova

Plugin ID	Platform	Version	Description	Last Updated On	Actions
cmbsdk-cordova		1.2.14	CMB Scanner Cordova Plugin	6 Jun 2019	

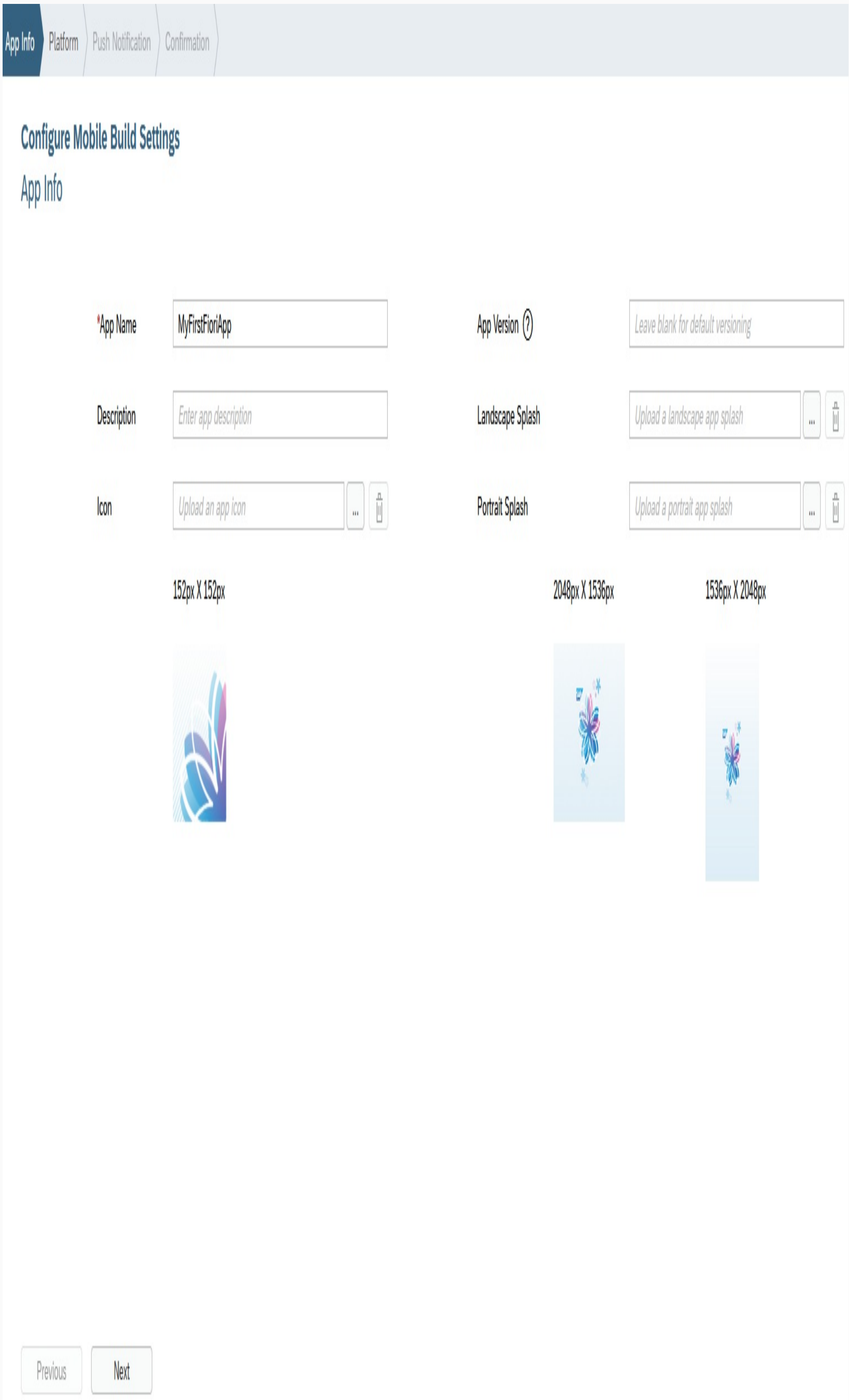


Plugin ID	Platform	Version	Description	Last Updated On	Actions
cmbsdk-cordova		1.2.14	CMB Scanner Cordova Plugin	6 Jun 2019	

- We are ready to build our mobile application and generate .ipa and .apk files. Click on **Build Packaged App** from Mobile menu.



- Set your application details



Configure Mobile Build Settings

App Info

*App Name: MyFirstFioriApp

App Version: Leave blank for default versioning

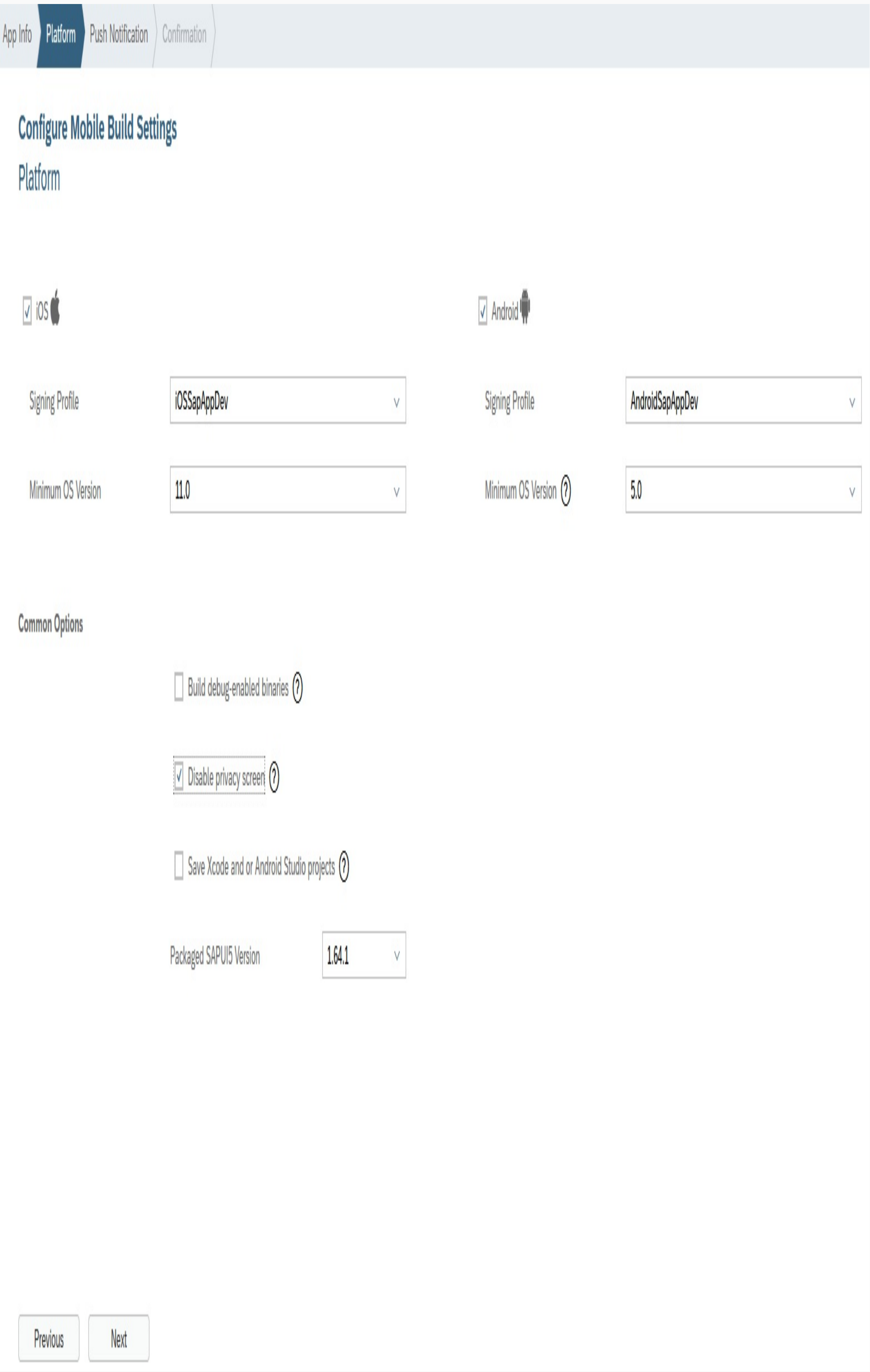
Description: Enter app description

Landscape Splash: Upload a landscape app splash

Icon: Upload an app icon

Portrait Splash: Upload a portrait app splash

- Choose platform or both iOS and Android platforms, select signing profiles (or create one if you don't have) and set some common options



Configure Mobile Build Settings

Platform

☑ iOS

Signing Profile: iOSSapAppDev

Minimum OS Version: 11.0

☑ Android

Signing Profile: AndroidSapAppDev

Minimum OS Version: 5.0

Common Options

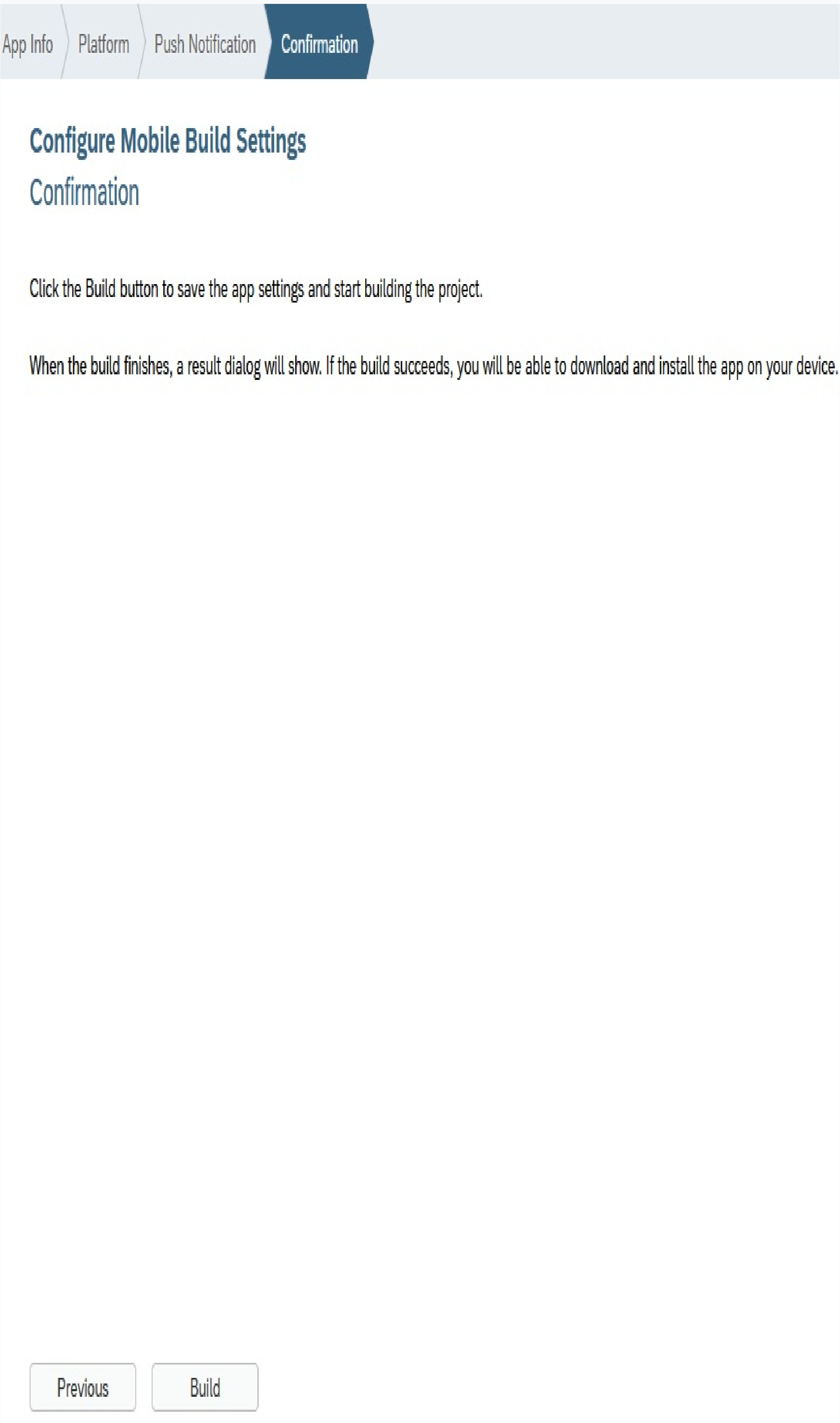
☐ Build debug-enabled binaries

☑ Disable privacy screen

☐ Save Xcode and or Android Studio projects

Packaged SAPUI5 Version: 1.64.1

- Start building process



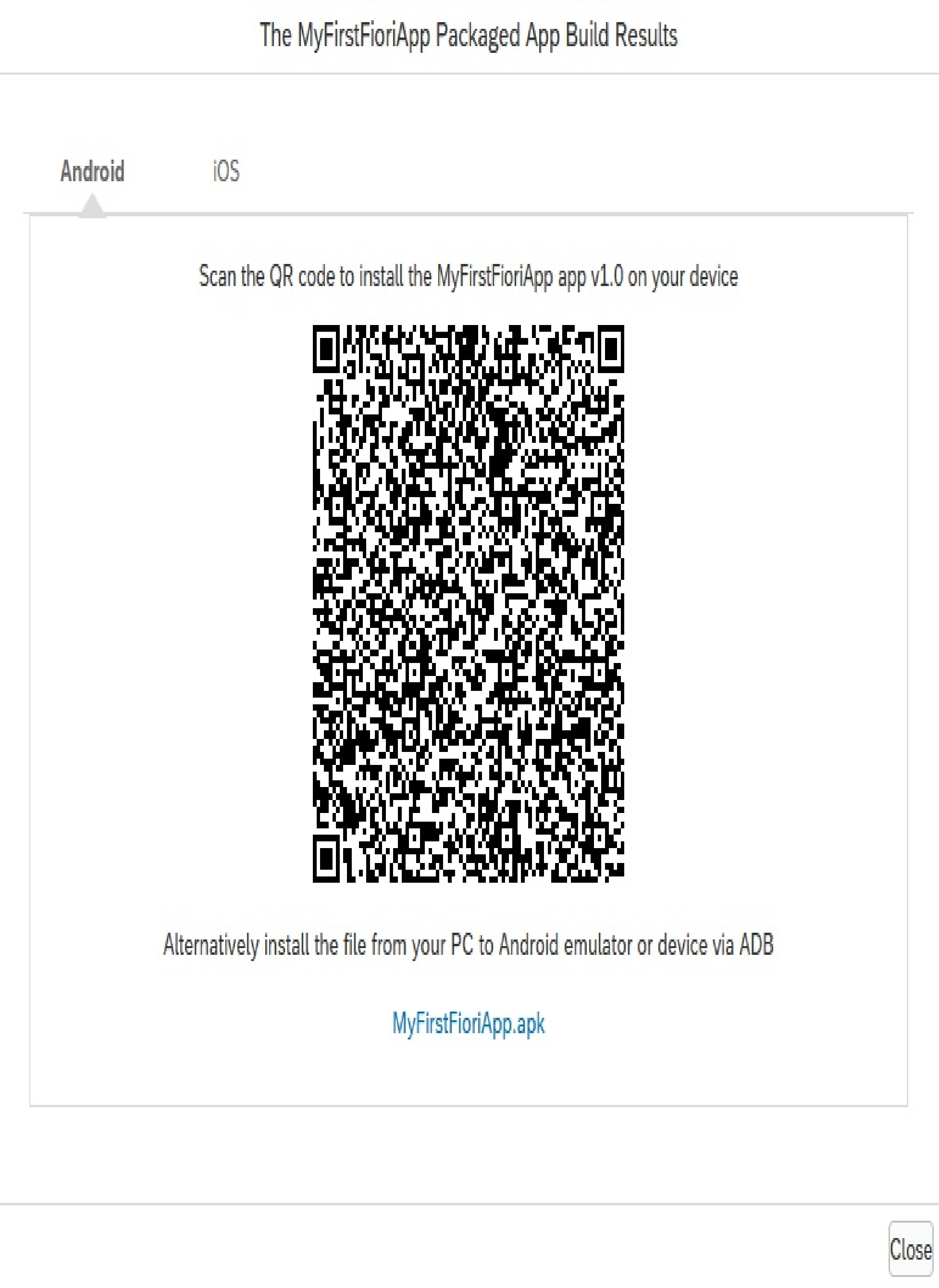
Configure Mobile Build Settings

Confirmation

Click the Build button to save the app settings and start building the project.

When the build finishes, a result dialog will show. If the build succeeds, you will be able to download and install the app on your device.

- When building process is finished popup from where you can download .ipa and .apk files will be shown



The MyFirstFioriApp Packaged App Build Results

Scan the QR code to install the MyFirstFioriApp app v1.0 on your device

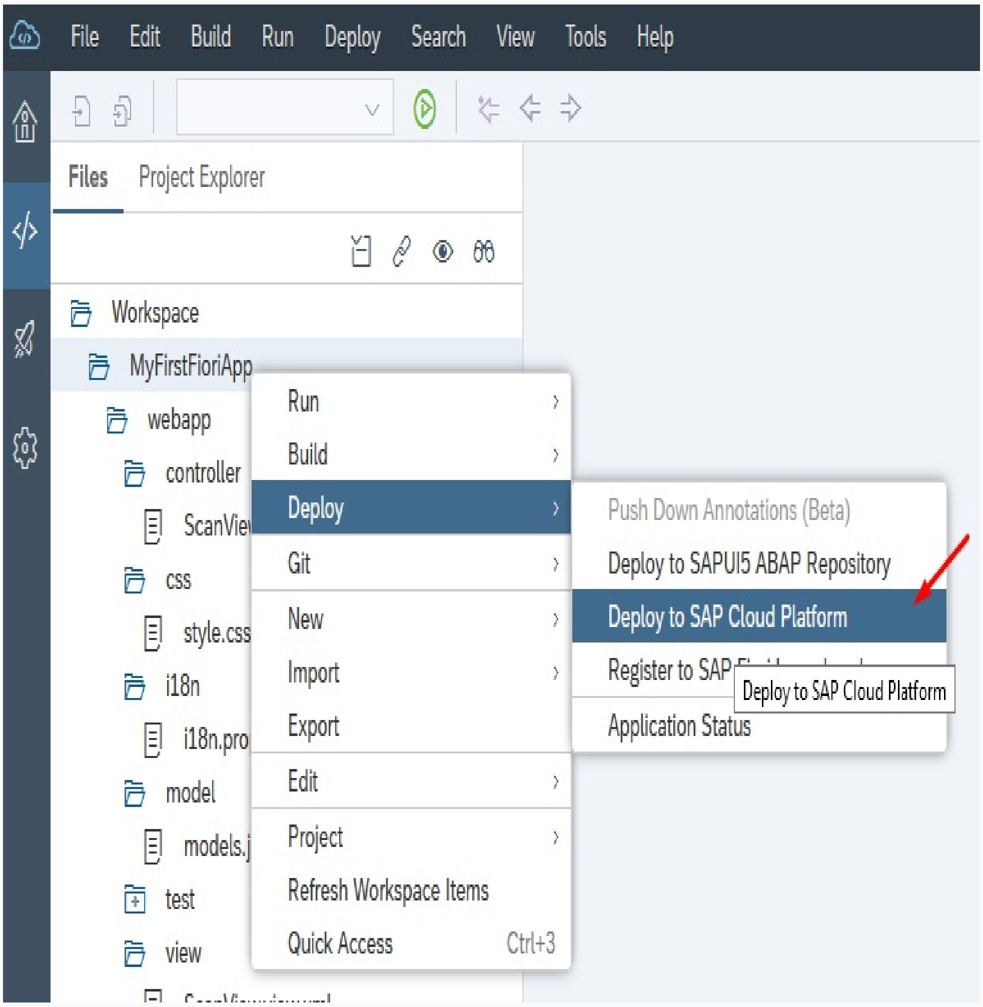
Alternatively install the file from your PC to Android emulator or device via ADB

MyFirstFioriApp.apk

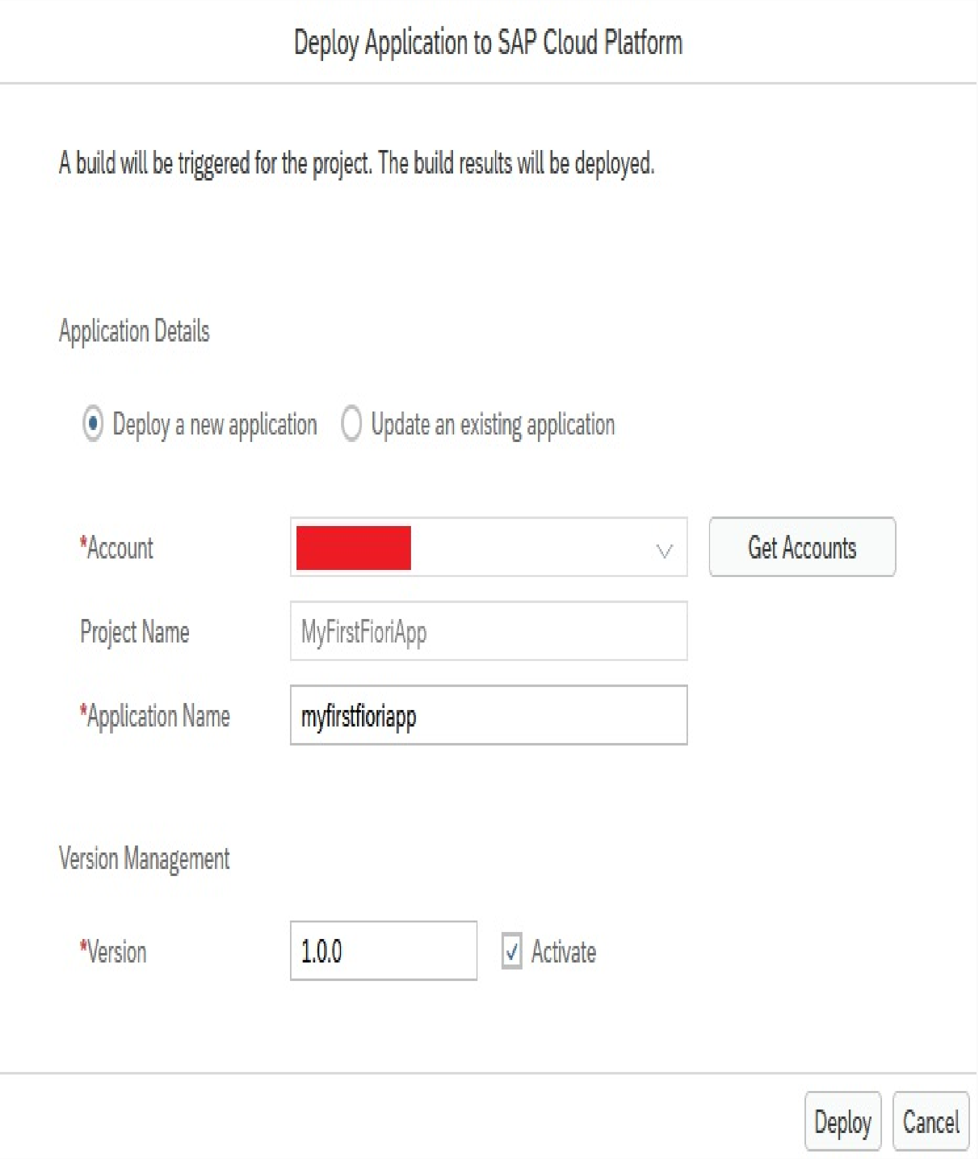
2. Using **Fiori Mobile Service**

Before we start to build our Fiori Mobile Application with Fiori Mobile Service we need to deploy our project on SAP HANA Cloud Platform.

- Right click on project folder then select Deploy and choose Deploy to SAP Cloud Platform



- Set application details and click Deploy



Deploy Application to SAP Cloud Platform

A build will be triggered for the project. The build results will be deployed.

Application Details

● Deploy a new application ○ Update an existing application

*Account: [redacted]

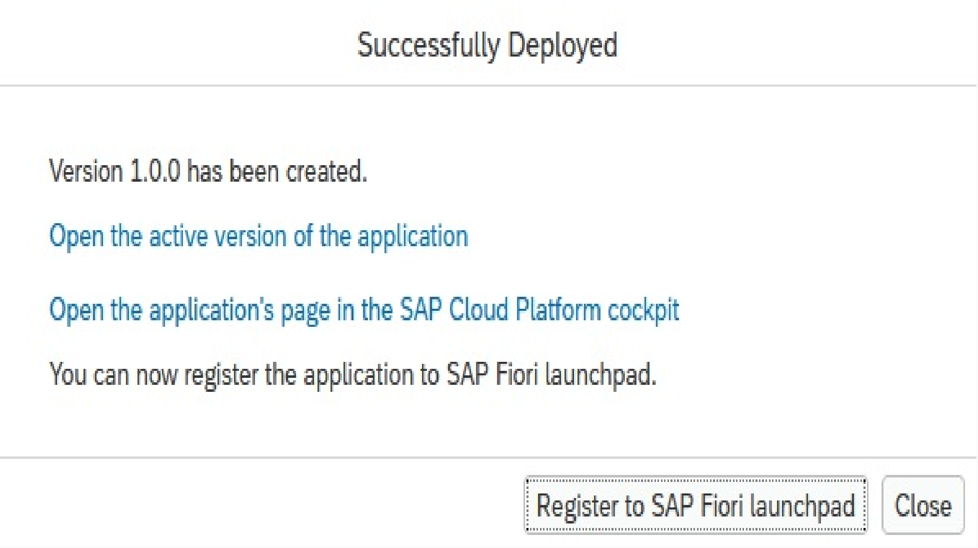
Project Name: MyFirstFioriApp

*Application Name: myfirstfioriapp

Version Management

*Version: 1.0.0 ☑ Activate

- After a successful deploy, the next step is to Register to SAP Fiori launchpad that we've created in the previous section.



Successfully Deployed

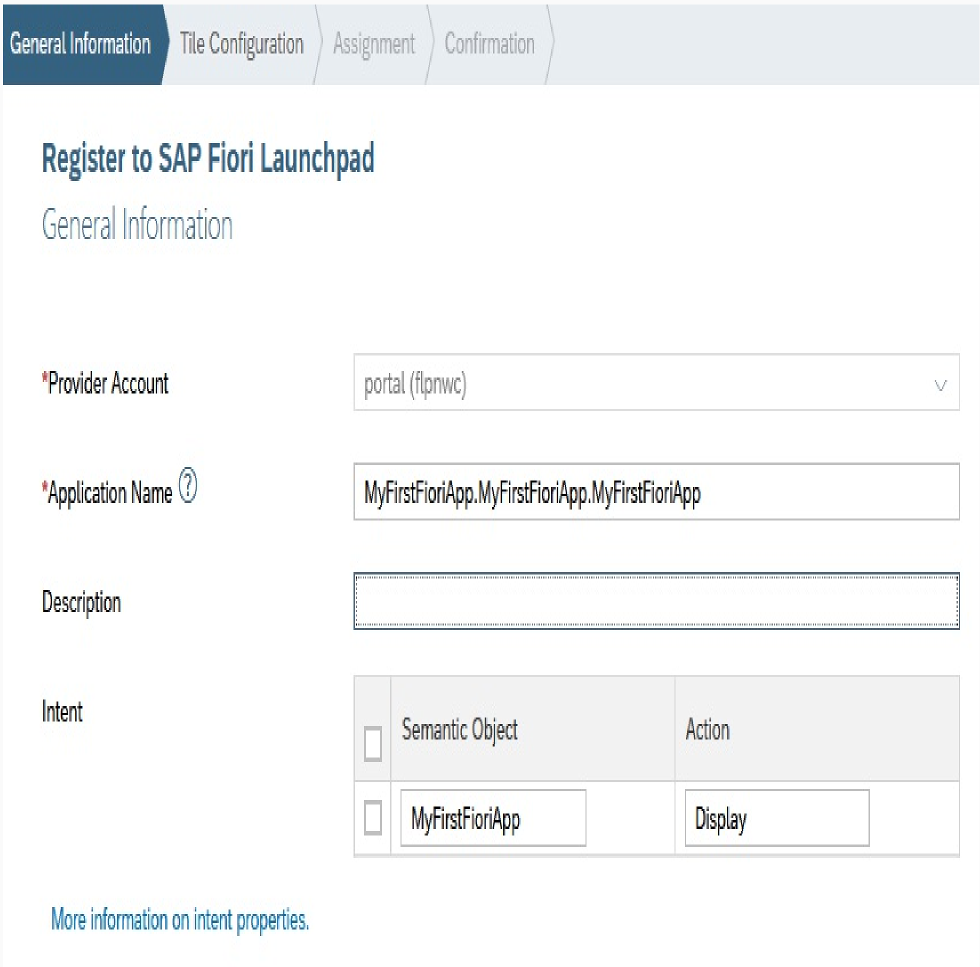
Version 1.0.0 has been created.

Open the active version of the application

Open the application's page in the SAP Cloud Platform cockpit

You can now register the application to SAP Fiori launchpad.

- Choose account and set application name



Register to SAP Fiori Launchpad

General Information

*Provider Account: portal (flpnwc)

*Application Name: MyFirstFioriApp.MyFirstFioriApp.MyFirstFioriApp

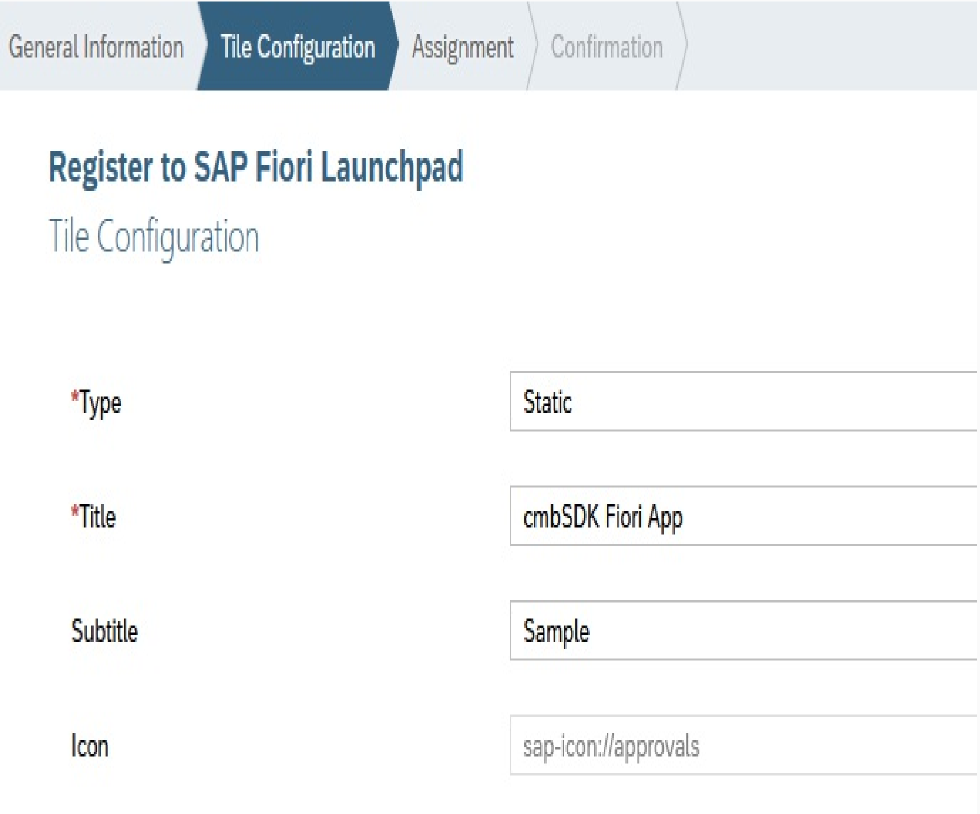
Description:

Intent

☐	Semantic Object	Action
☐	MyFirstFioriApp	Display

More information on intent properties.

- Set Type (Static by default), set Title, and Subtitle



Register to SAP Fiori Launchpad

Tile Configuration

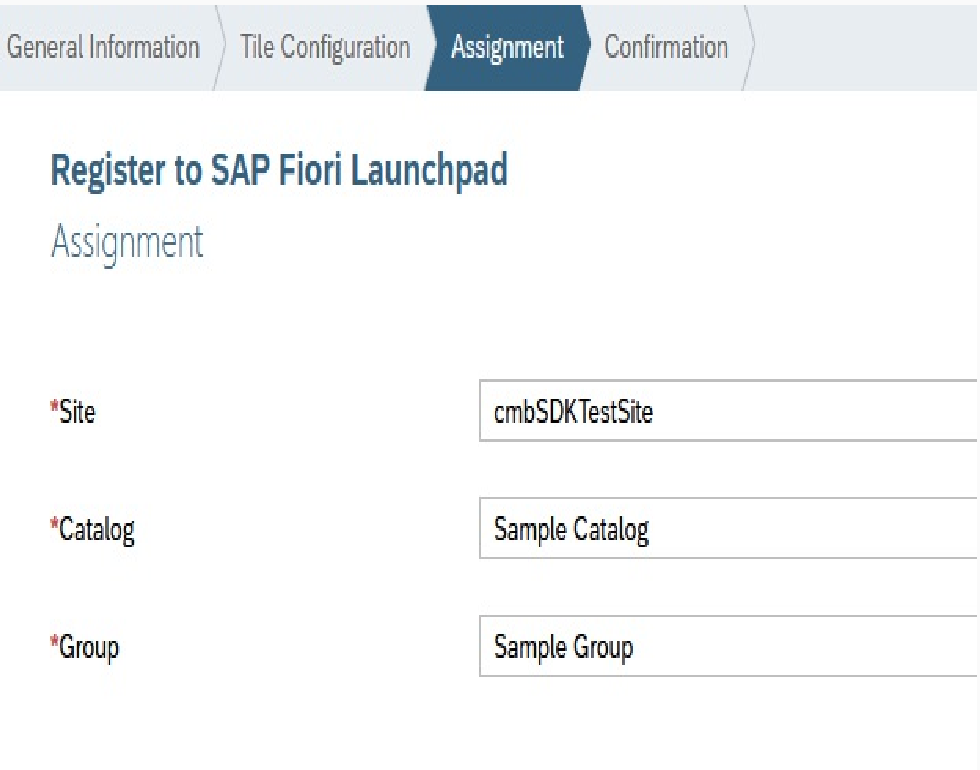
*Type: Static

*Title: cmbSDK Fiori App

Subtitle: Sample

Icon: sap-icon://approvals

- Choose Site that we create before, catalog, and group (sample catalog and group is created by default)



Register to SAP Fiori Launchpad

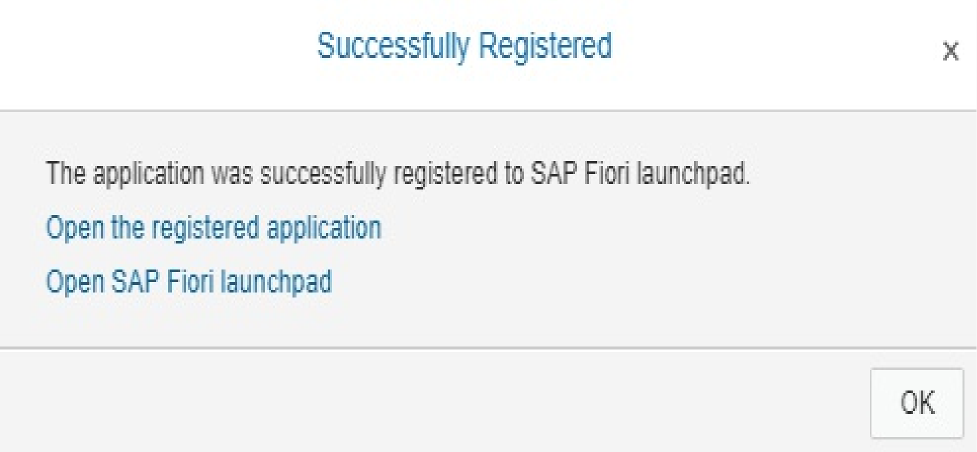
Assignment

*Site: cmbSDKTestSite

*Catalog: Sample Catalog

*Group: Sample Group

- Click finish on Confirmation tab and if everything is fine the popup below will be shown. Click OK to close this popup. With these steps we deploy our project on HCP and now we can continue to build our Fiori Mobile Application



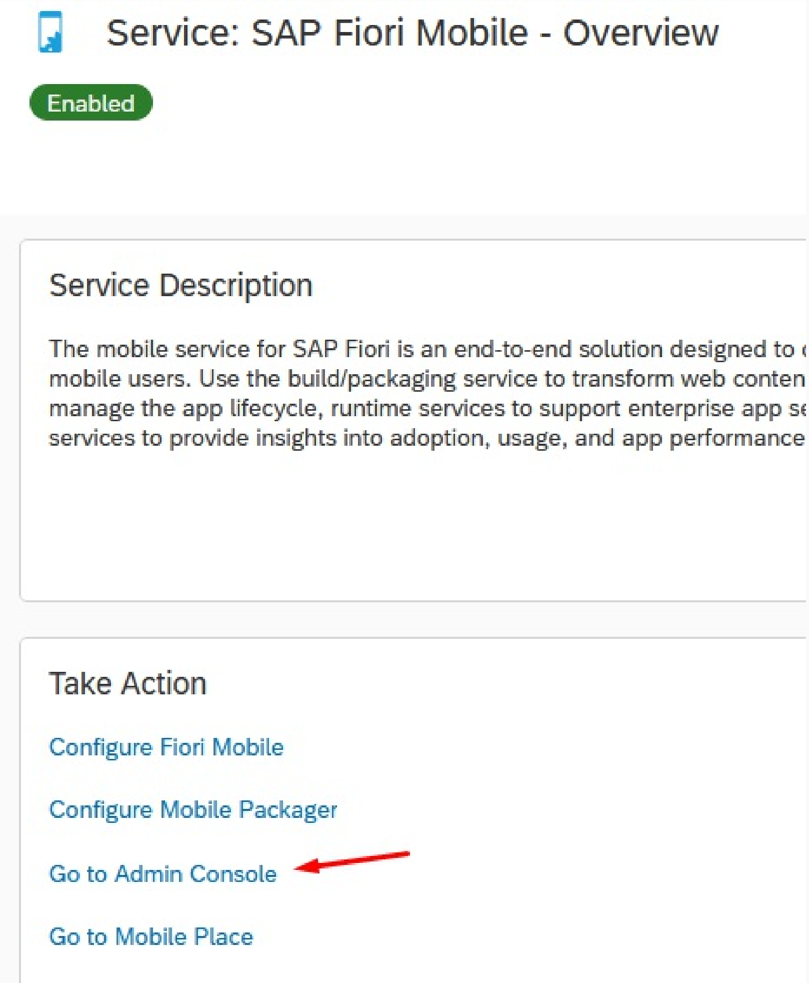
Successfully Registered

The application was successfully registered to SAP Fiori launchpad.

Open the registered application

Open SAP Fiori launchpad

- Go to Services tab again, open Fiori Mobile service, and click on Go to Admin Console



Service: SAP Fiori Mobile - Overview

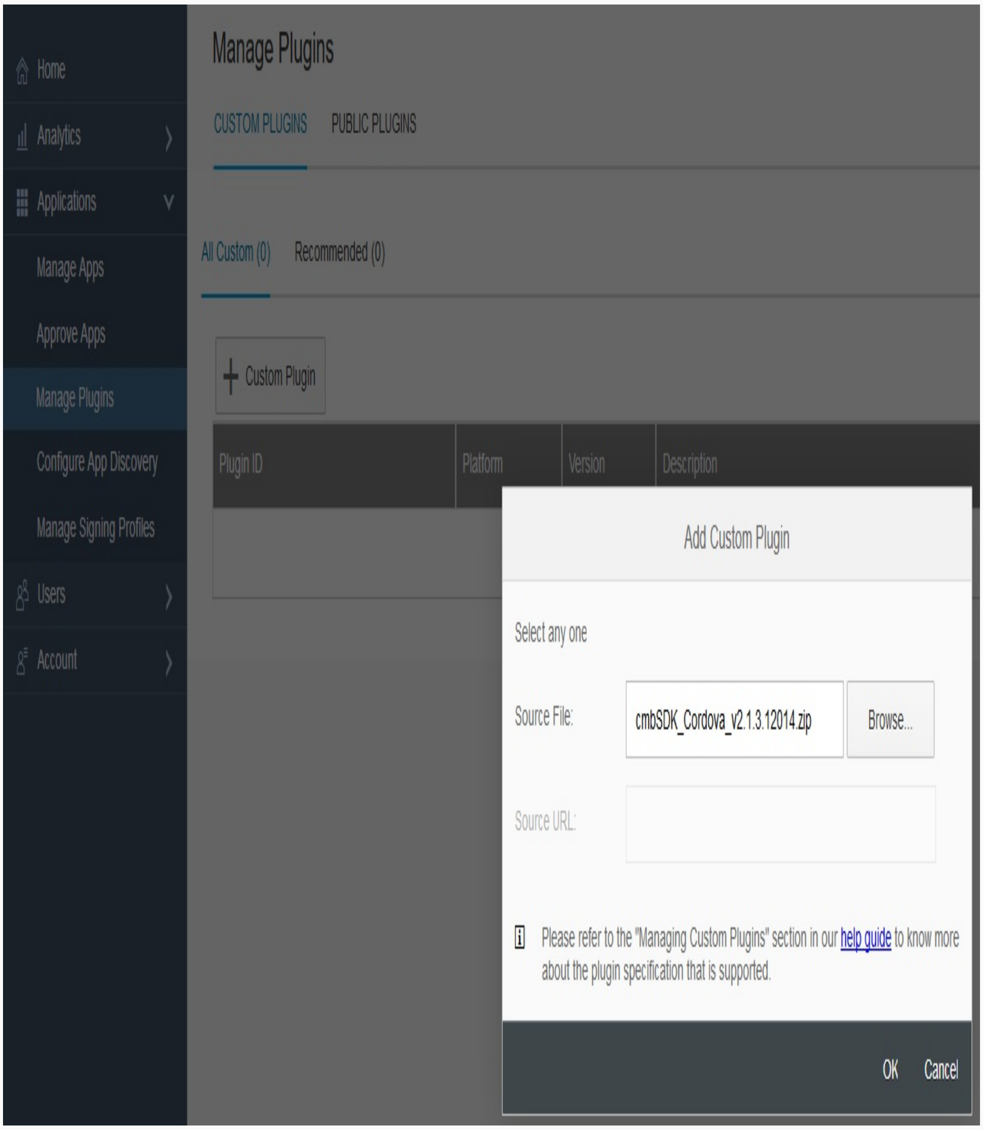
Enabled

Service Description

The mobile service for SAP Fiori is an end-to-end solution designed to
mobile users. Use the build/packaging service to transform web conten
manage the app lifecycle, runtime services to support enterprise app se
services to provide insights into adoption, usage, and app performance

Take Action

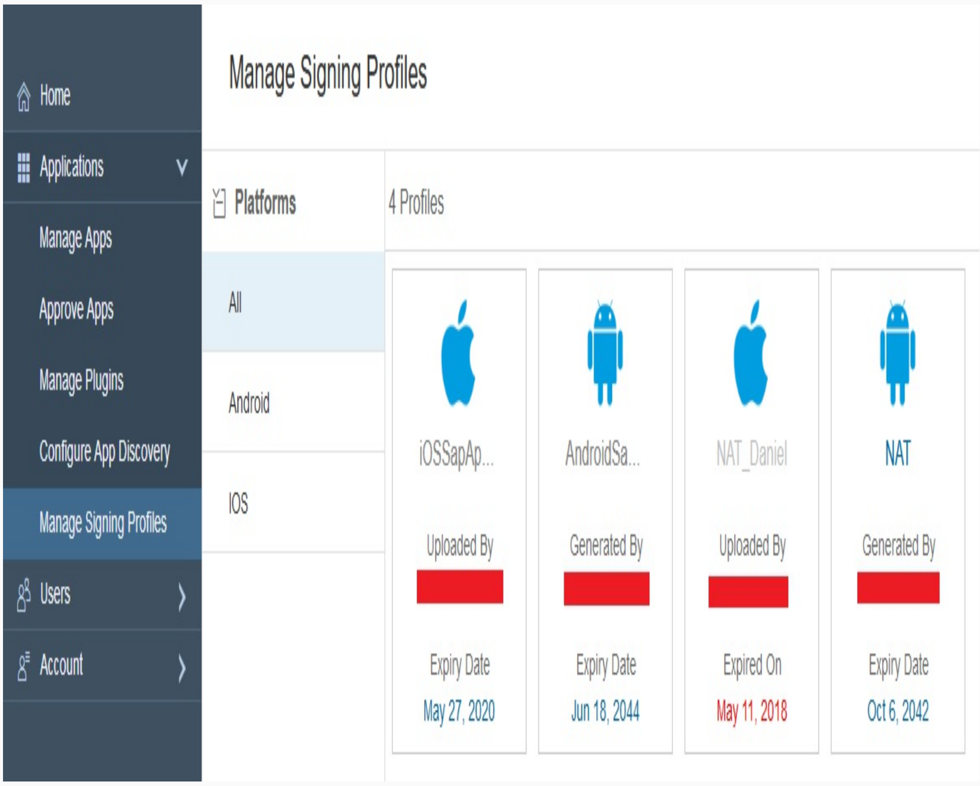
- Open Manage Plugins section and upload **cmbsdk-cordova** plugin as custom plugin. You can download latest plugin on this link.



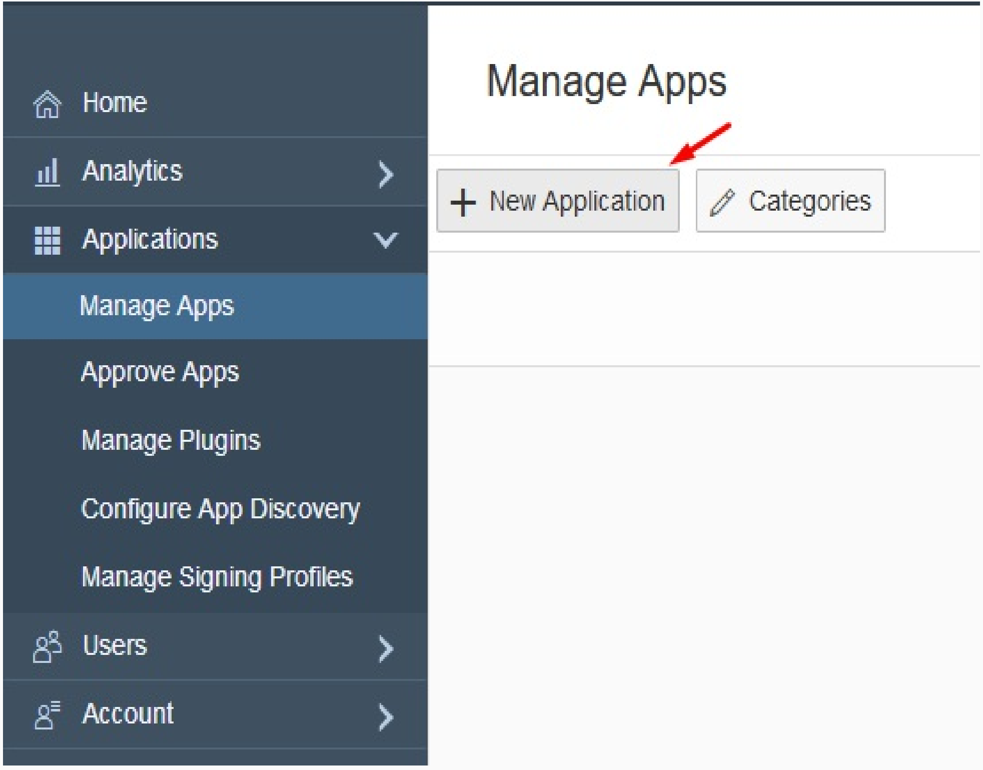
Source File: cmbSDK_Cordova_v2.1.3.12014.zip

Please refer to the "Managing Custom Plugins" section in our help guide to know more about the plugin specification that is supported.

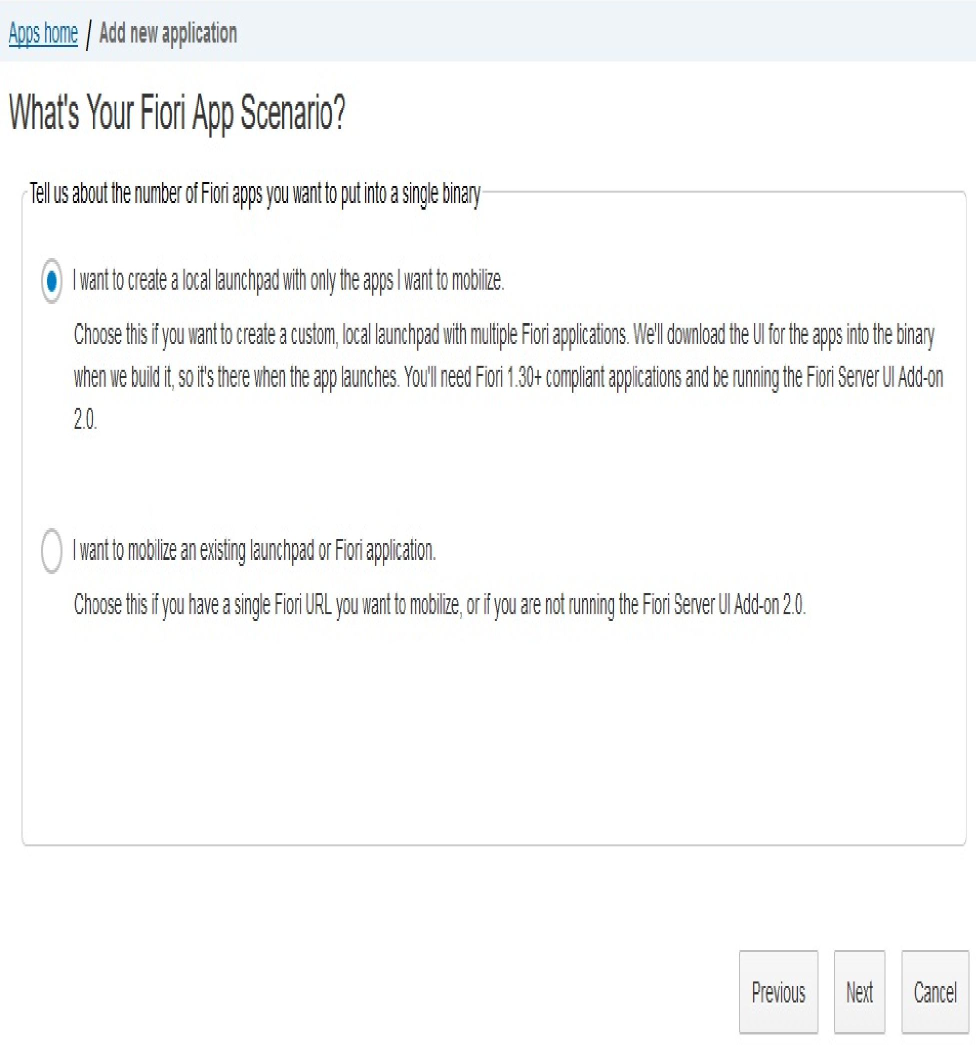
- Next manage your singing profiles. Open Manage Signing Profiles section and create new ones if you don't have already



- Now open Manage Apps section and create New Application



- Select first option



Apps home / Add new application

What's Your Fiori App Scenario?

Tell us about the number of Fiori apps you want to put into a single binary

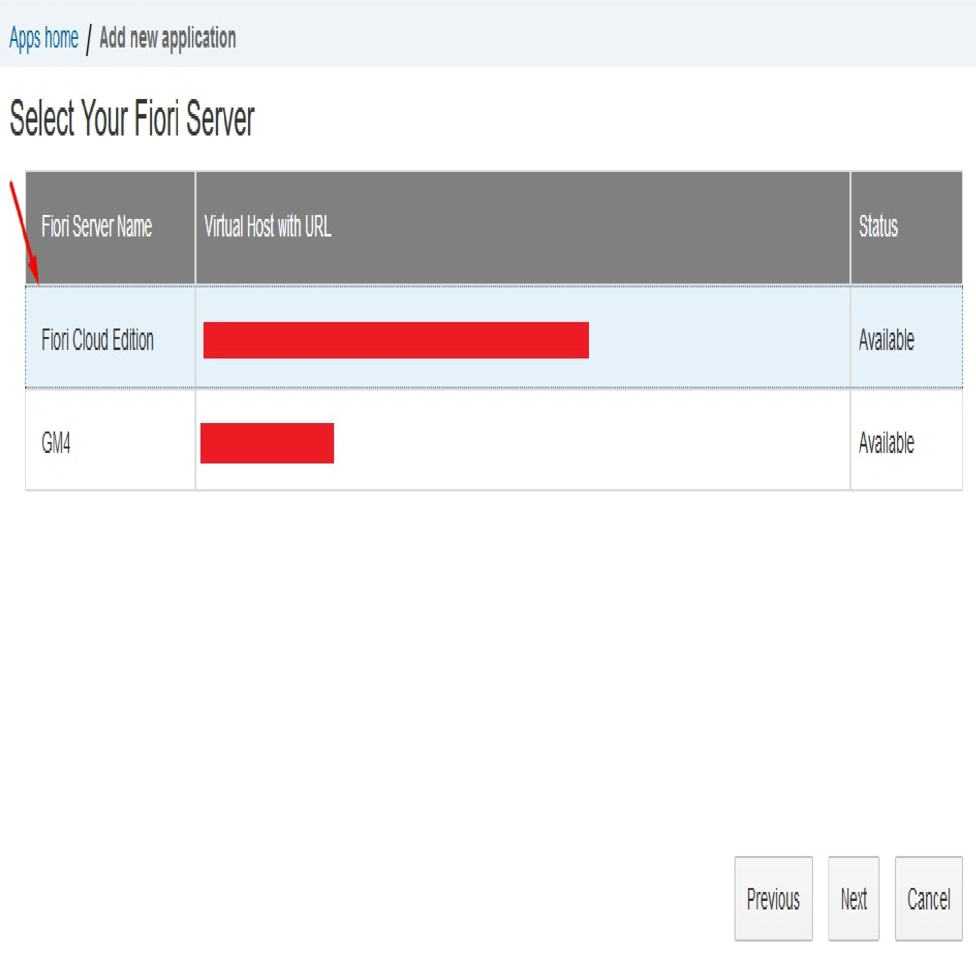
● I want to create a local launchpad with only the apps I want to mobilize.

Choose this if you want to create a custom, local launchpad with multiple Fiori applications. We'll download the UI for the apps into the binary when we build it, so it's there when the app launches. You'll need Fiori 1.30+ compliant applications and be running the Fiori Server UI Add-on 2.0.

○ I want to mobilize an existing launchpad or Fiori application.

Choose this if you have a single Fiori URL you want to mobilize, or if you are not running the Fiori Server UI Add-on 2.0.

- Select your Fiori Cloud Edition as Fiori Server

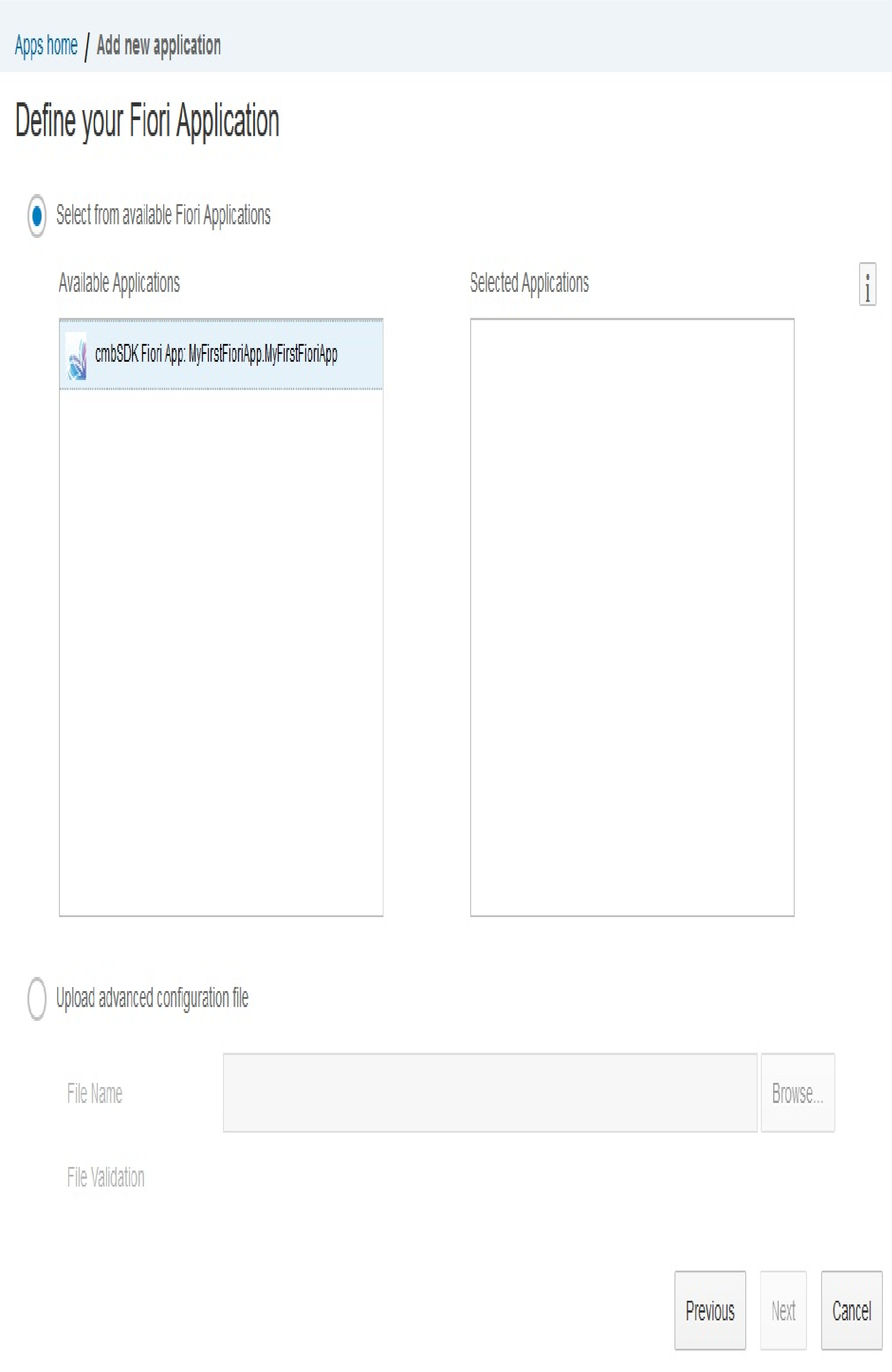


Apps home / Add new application

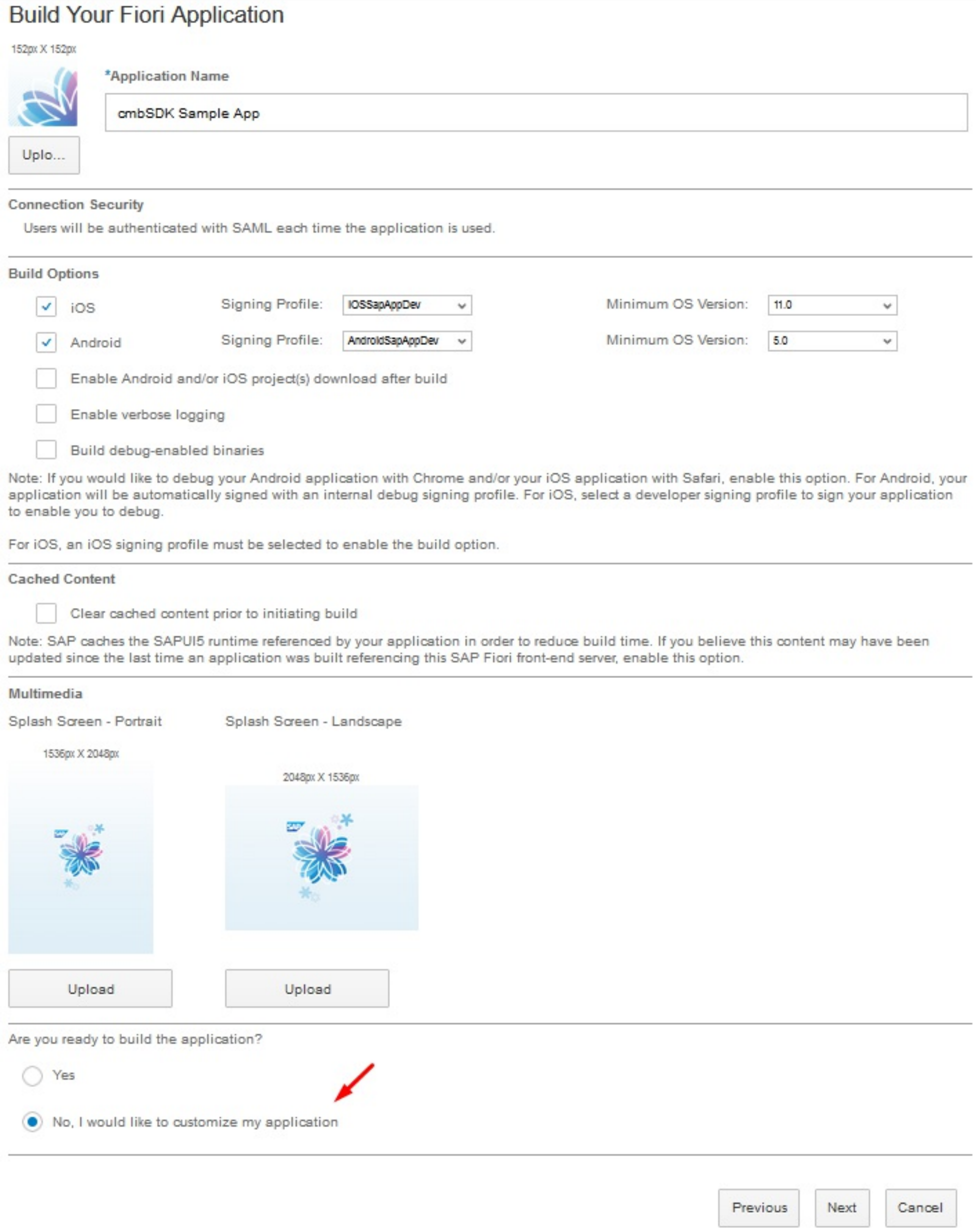
Select Your Fiori Server

Fiori Server Name	Virtual Host with URL	Status
Fiori Cloud Edition	[redacted]	Available
GM4	[redacted]	Available

- Select application that we created before (with double click or drag&drop)


Apps home / Add new application
Define your Fiori Application
● Select from available Fiori Applications
Available Applications
Selected Applications
cmbSDK Fiori App: MyFirstFioriApp.MyFirstFioriApp
○ Upload advanced configuration file
File Name
Browse...
File Validation
Previous
Next
Cancel

- Set you application name and signing profiles. At the bottom of page you have question "Are you ready to build the application ?". Select "No, I would like to customize my application".



Build Your Fiori Application

152px X 152px

*Application Name: cmbSDK Sample App

Connection Security

Users will be authenticated with SAML each time the application is used.

Build Options

☑ iOS Signing Profile: IOSSapAppDev Minimum OS Version: 11.0

☑ Android Signing Profile: AndroidSapAppDev Minimum OS Version: 5.0

☐ Enable Android and/or iOS project(s) download after build

☐ Enable verbose logging

☐ Build debug-enabled binaries

Note: If you would like to debug your Android application with Chrome and/or your iOS application with Safari, enable this option. For Android, your application will be automatically signed with an internal debug signing profile. For iOS, select a developer signing profile to sign your application to enable you to debug.

For iOS, an iOS signing profile must be selected to enable the build option.

Cached Content

☐ Clear cached content prior to initiating build

Note: SAP caches the SAPUI5 runtime referenced by your application in order to reduce build time. If you believe this content may have been updated since the last time an application was built referencing this SAP Fiori front-end server, enable this option.

Multimedia

Splash Screen - Portrait 1536px X 2048px

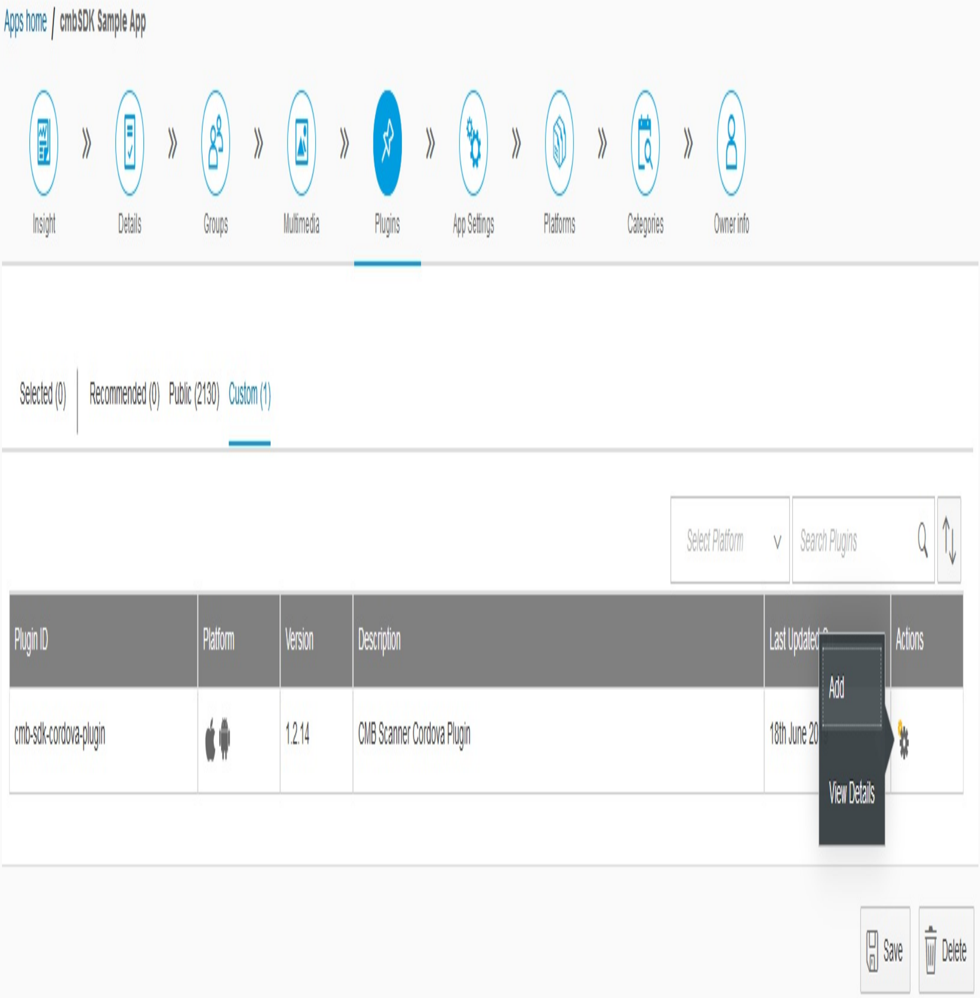
Splash Screen - Landscape 2048px X 1536px

Are you ready to build the application?

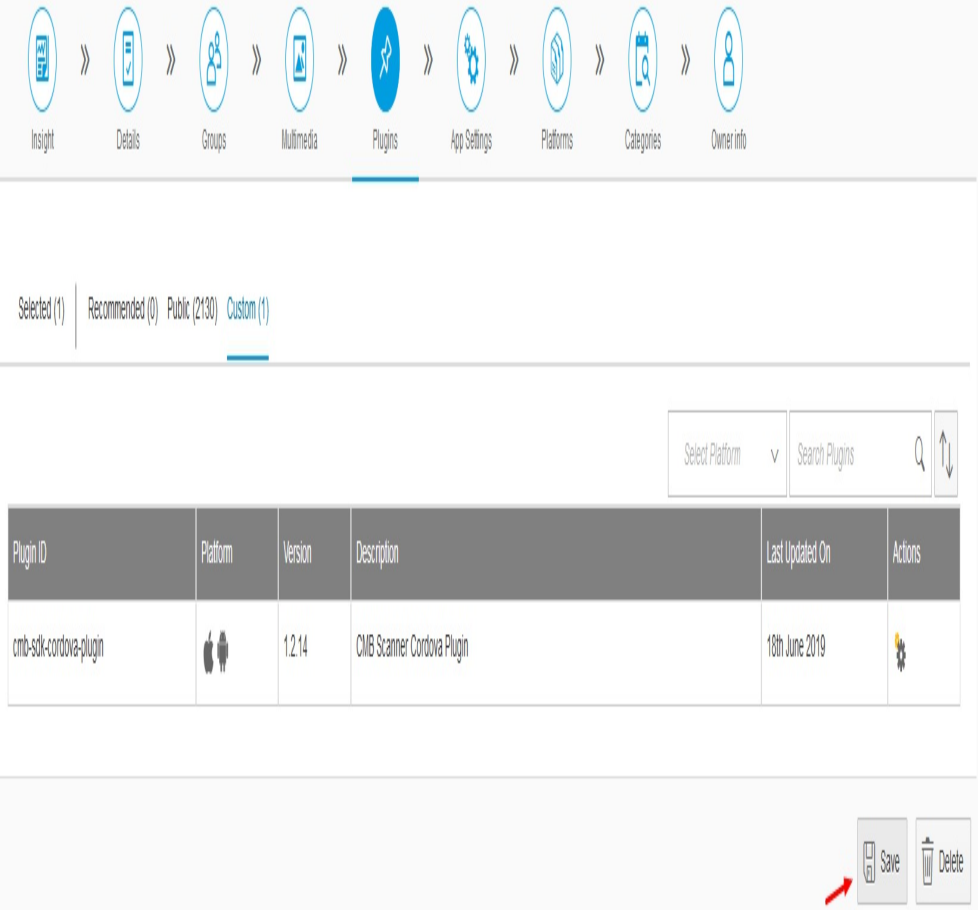
○ Yes

● No, I would like to customize my application

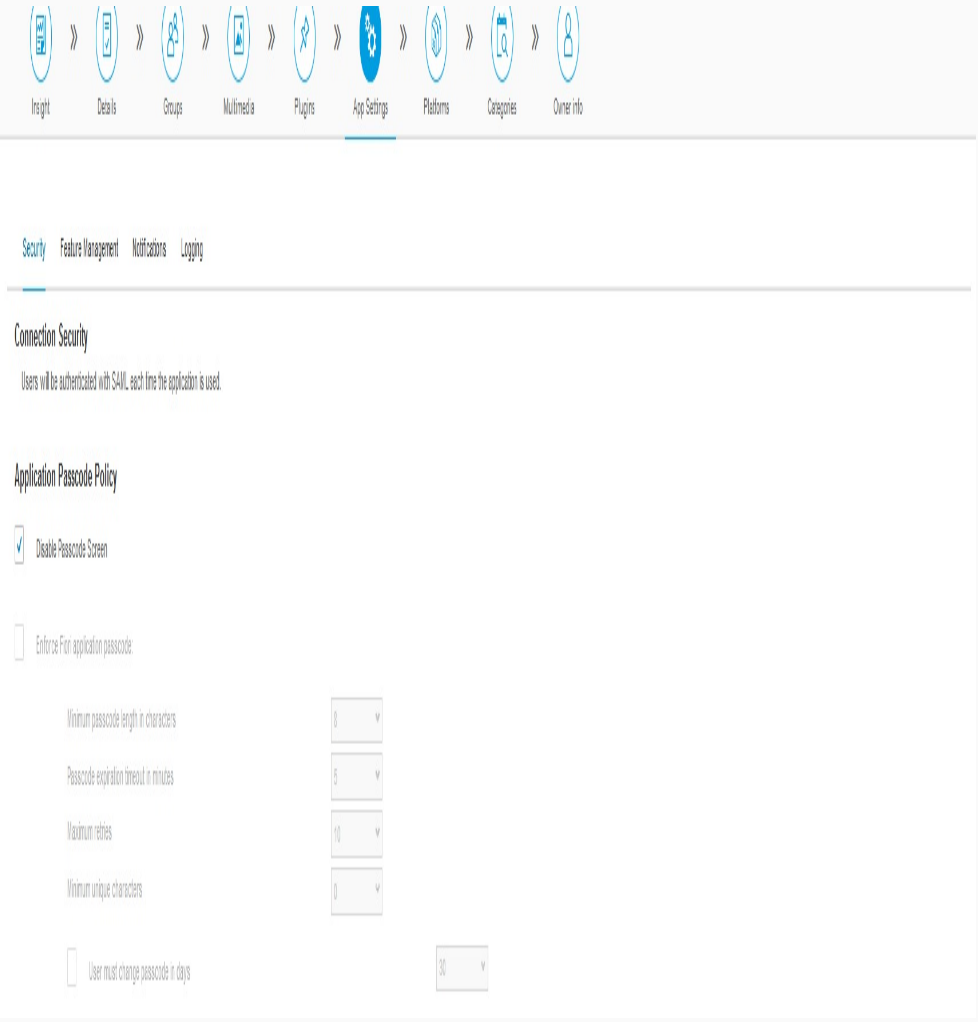
- Window where we can continue with app customization will be opened. From here we will add plugin that we uploaded before and disable passcode screen. You can set some others parameters per your needs. Also important thing here is to save every change that will be made.



Plugin ID	Platform	Version	Description	Last Updated	Actions
cmb-sdk-cordova-plugin		1.2.14	CMB Scanner Cordova Plugin	18th June 20	



Plugin ID	Platform	Version	Description	Last Updated On	Actions
cmb-sdk-cordova-plugin		1.2.14	CMB Scanner Cordova Plugin	18th June 2019	



Connection Security

Users will be authenticated with SAML each time the application is used.

Application Passcode Policy

☑ Disable Passcode Screen

☐ Enforce Fiori application passcode:

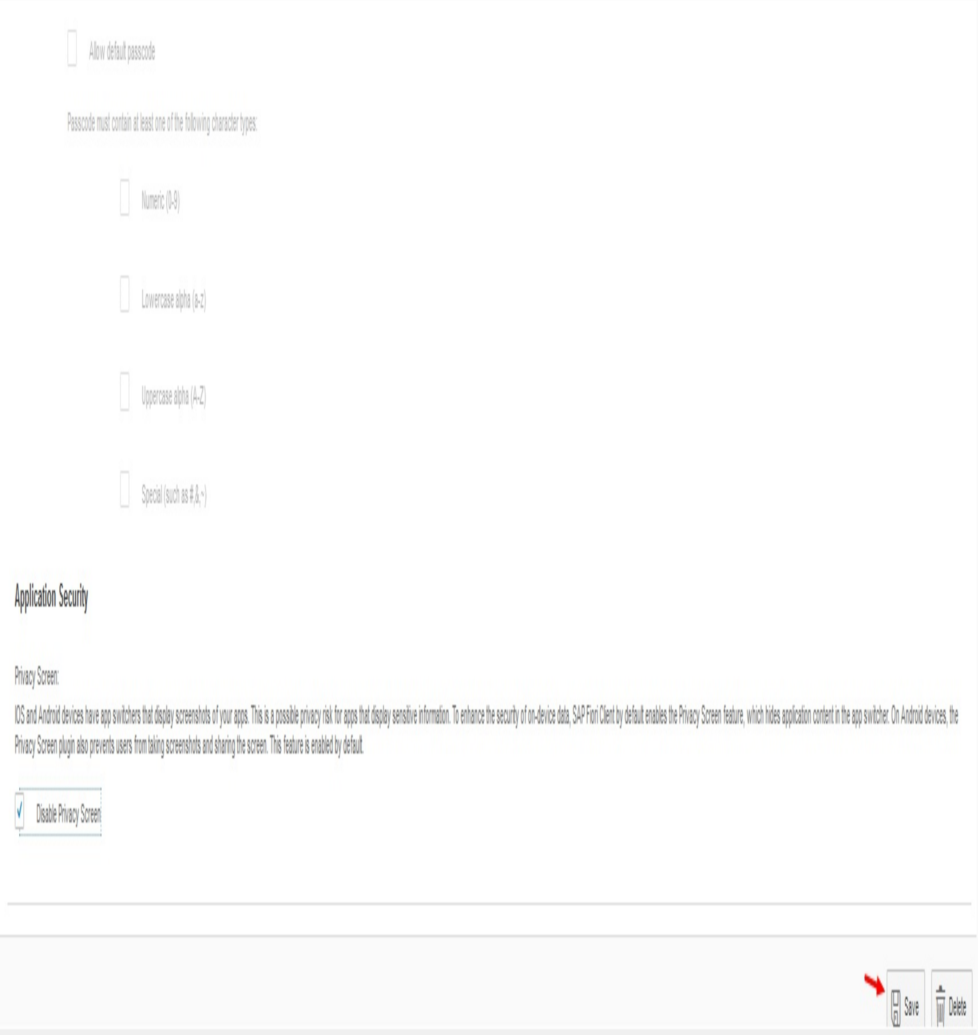
Minimum passcode length in characters: 8

Passcode expiration timeout in minutes: 5

Maximum retries: 10

Minimum unique characters: 0

☐ User must change passcode in days: 30



☐ Allow default passcode

Passcode must contain at least one of the following character types:

☐ Numeric (0-9)

☐ Lowercase alpha (a-z)

☐ Uppercase alpha (A-Z)

☐ Special (such as #,&,~)

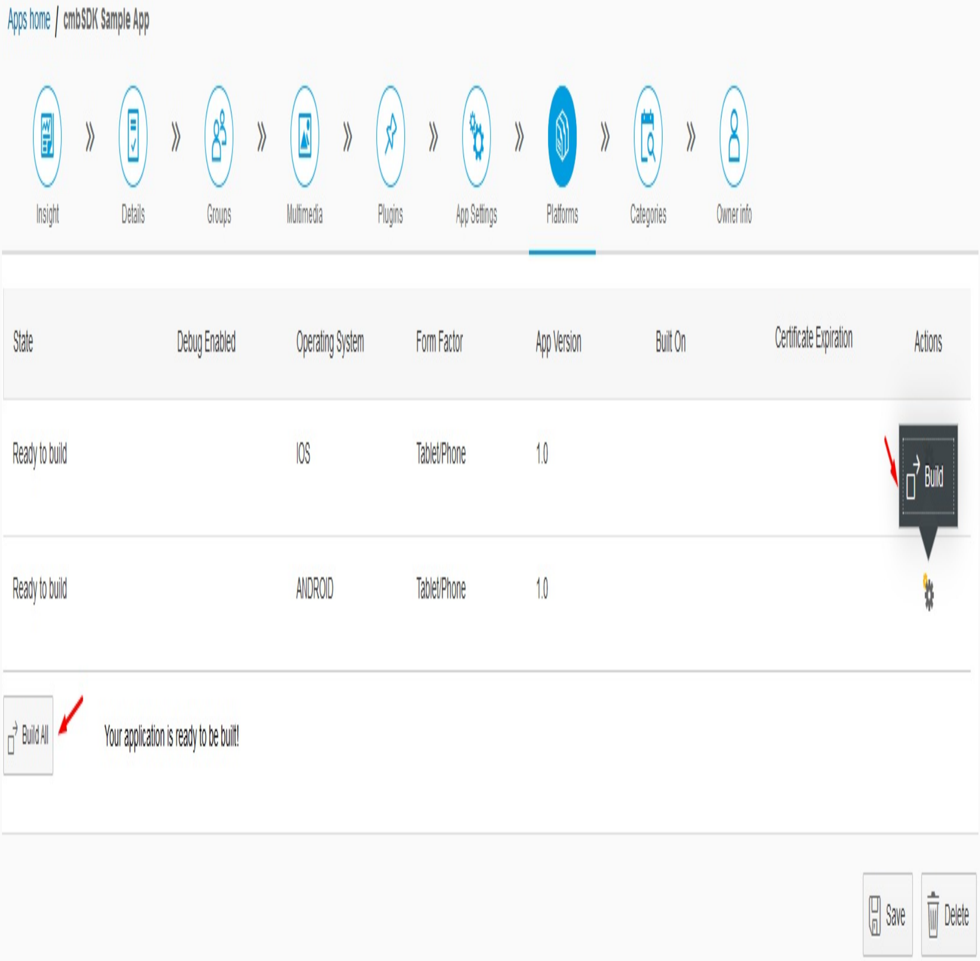
Application Security

Privacy Screen:

IOS and Android devices have app switchers that display screenshots of your apps. This is a possible privacy risk for apps that display sensitive information. To enhance the security of on-device data, SAP Fiori Client by default enables the Privacy Screen feature, which hides application content in the app switcher. On Android devices, the Privacy Screen plugin also prevents users from taking screenshots and sharing the screen. This feature is enabled by default.

☑ Disable Privacy Screen

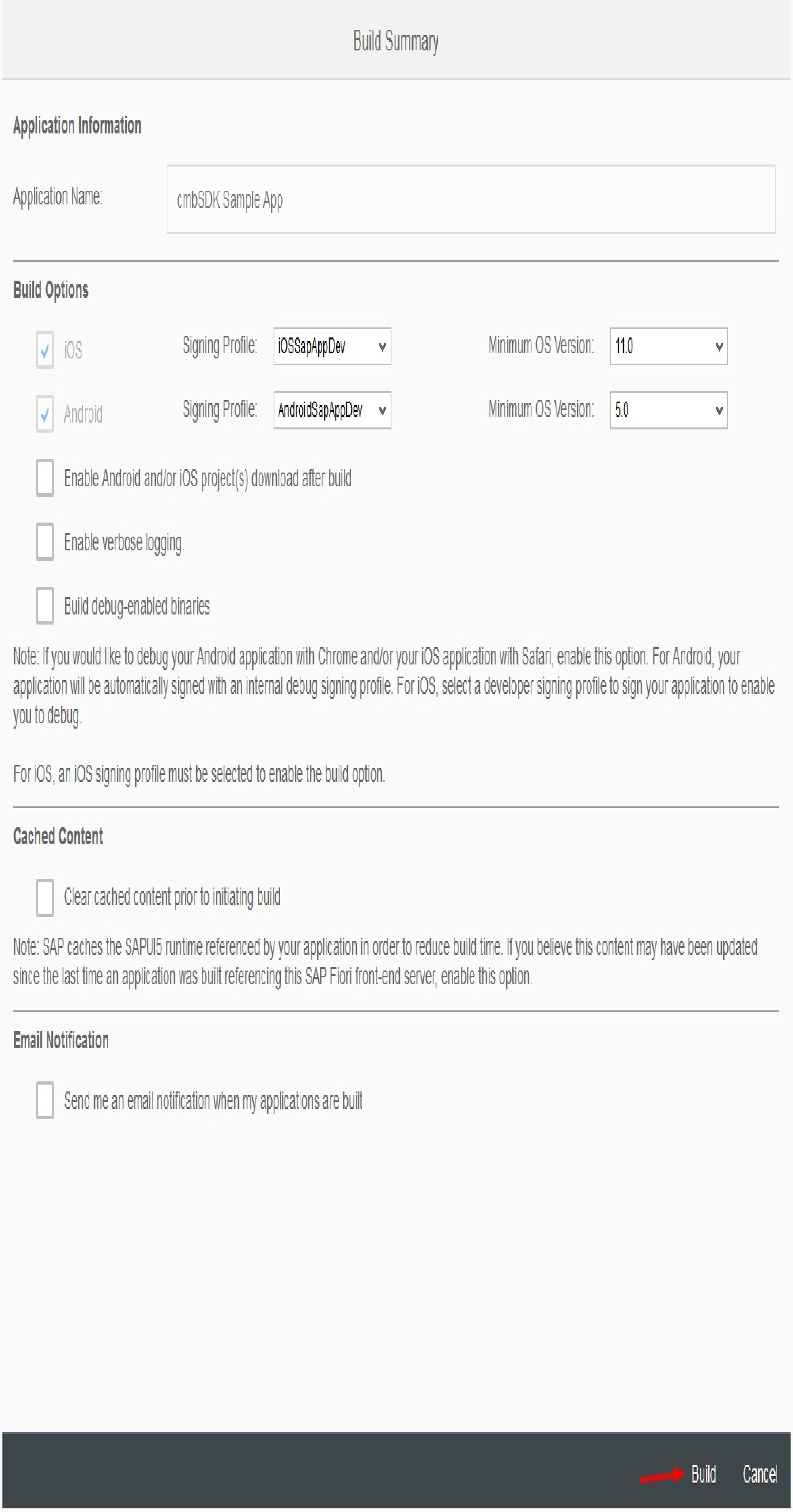
- We are ready to build our mobile application and generate .ipa and .apk files. Navigate to Platforms and click **Build All** button if you want to build both iOS and Android platform together, or you can build one by one from Actions grid column.



State	Debug Enabled	Operating System	Form Factor	App Version	Built On	Certificate Expiration	Actions
Ready to build		IOS	Tablet/Phone	1.0			Build
Ready to build		ANDROID	Tablet/Phone	1.0			

Your application is ready to be built!

Build popup will be shown. Click Build button and wait while building process finish.



Build Summary

Application Information

Application Name: cmbSDK Sample App

Build Options

☑ iOS — Signing Profile: iOSSapAppDev — Minimum OS Version: 11.0

☑ Android — Signing Profile: AndroidSapAppDev — Minimum OS Version: 5.0

☐ Enable Android and/or iOS project(s) download after build

☐ Enable verbose logging

☐ Build debug-enabled binaries

Note: If you would like to debug your Android application with Chrome and/or your iOS application with Safari, enable this option. For Android, your application will be automatically signed with an internal debug signing profile. For iOS, select a developer signing profile to sign your application to enable you to debug.

For iOS, an iOS signing profile must be selected to enable the build option.

Cached Content

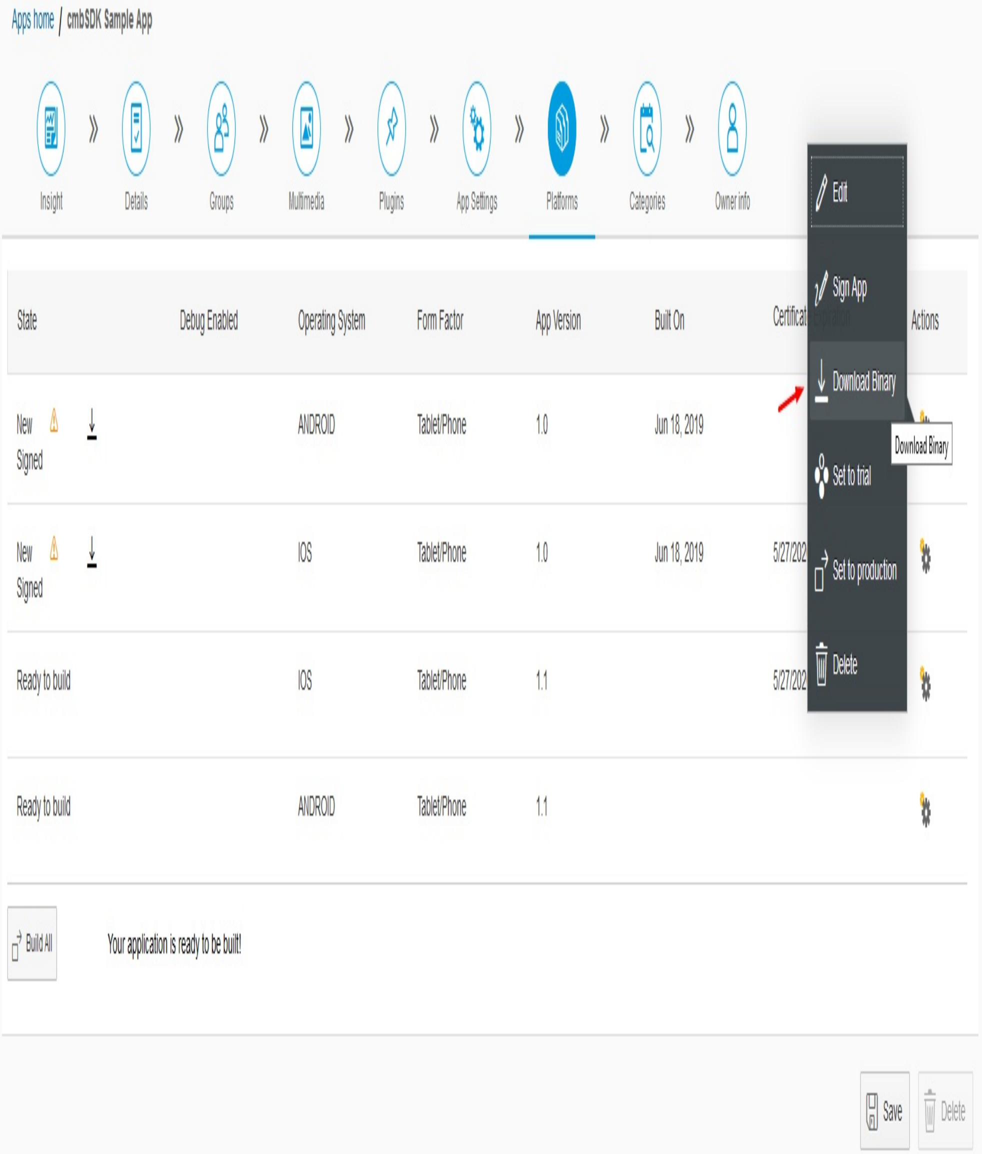
☐ Clear cached content prior to initiating build

Note: SAP caches the SAPUI5 runtime referenced by your application in order to reduce build time. If you believe this content may have been updated since the last time an application was built referencing this SAP Fiori front-end server, enable this option.

Email Notification

☐ Send me an email notification when my applications are built

- When building process is finished you can download binary (.ipa or .apk) file and install application on your mobile device



State	Debug Enabled	Operating System	Form Factor	App Version	Built On	Certificat	Actions
New Signed		ANDROID	Tablet/Phone	1.0	Jun 18, 2019		
New Signed		IOS	Tablet/Phone	1.0	Jun 18, 2019	5/27/202	
Ready to build		IOS	Tablet/Phone	1.1		5/27/202	
Ready to build		ANDROID	Tablet/Phone	1.1			

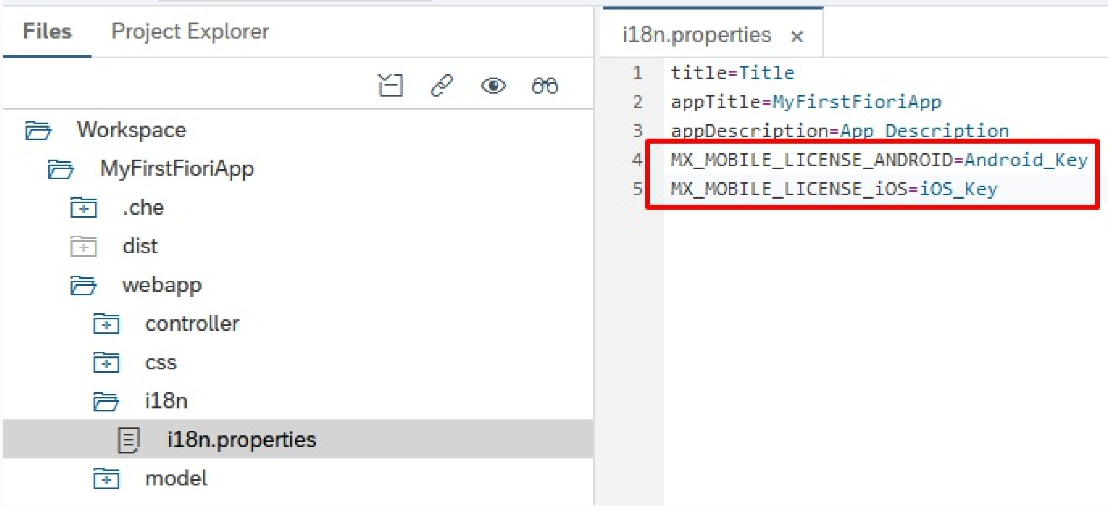
Your application is ready to be built!

Licensing the SDK

If you plan to use the **cmbSDK** to do mobile scanning with a smartphone or a tablet (without the MX mobile terminal), the SDK requires the installation of a license key. Without a license key, the SDK will still operate, although scanned results will be blurred (the SDK will randomly replace characters in the scan result with an asterisk character).

Contact your Cognex Sales Representative for information on how to obtain a license key including trial licenses which can be used for 30 days to evaluate the SDK.

After obtaining your license key open i18n.properties file in your project on SAP WEB IDE service, and set your obtained keys.



```
title=Title
appTitle=MyFirstFioriApp
appDescription=App Description
MX_MOBILE_LICENSE_ANDROID=Android_Key
MX_MOBILE_LICENSE_iOS=iOS_Key
```

Then go back to the *Component.js* file and check this code:

```
...

var sdkKEY = "";
if (Device.os.android)
   sdkKEY = this.getModel("i18n").getProperty("MX_MOBILE_LICENSE_ANDROID");
else
   sdkKEY = this.getModel("i18n").getProperty("MX_MOBILE_LICENSE_iOS");

cmbScanner.registerSDK(sdkKEY);

...
```

You can see that you read this key from i18n.properties and call **cmbScanner.registerSDK** method to register SDK with your license key.