

Oracle® Retail Mobile Merchandising

Installation Guide

Release 16.0

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Oracle Retail Mobile Merchandising, Installation Guide, Release 16.0

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- Are the implementation steps correct and complete?
- Did you understand the context of the procedures?
- Did you find any errors in the information?
- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
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Preface

This Installation Guide describes the requirements and procedures to install this Oracle Retail Mobile Merchandising release.

Audience

This Installation Guide is written for administrators that help push Oracle Retail Mobile Merchandising to the App Store.

Documentation Accessibility

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<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Related Documents

For more information, see the following documents in the Oracle Retail Mobile Merchandising Release 16.0 documentation set:

- *Oracle Retail Mobile Merchandising Release Notes*
- *Oracle Retail Mobile Merchandising User Guide*
- *Oracle Retail Mobile Merchandising Implementation Guide*
- *Oracle Retail Mobile Merchandising Security Guide*

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:

<https://support.oracle.com>

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 16.0) or a later patch release (for example, 16.0.1). If you are installing the base release or additional patch releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch releases can contain critical information related to the base release, as well as information about code changes since the base release.

Improved Process for Oracle Retail Documentation Corrections

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This process will prevent delays in making critical corrections available to customers. For the customer, it means that before you begin installation, you must verify that you have the most recent version of the Oracle Retail documentation set. Oracle Retail documentation is available on the Oracle Technology Network at the following URL:

<http://www.oracle.com/technetwork/documentation/oracle-retail-100266.html>

An updated version of the applicable Oracle Retail document is indicated by Oracle part number, as well as print date (month and year). An updated version uses the same part number, with a higher-numbered suffix. For example, part number E123456-02 is an updated version of a document with part number E123456-01.

If a more recent version of a document is available, that version supersedes all previous versions.

Oracle Retail Documentation on the Oracle Technology Network

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<http://www.oracle.com/technetwork/documentation/oracle-retail-100266.html>

(Data Model documents are not available through Oracle Technology Network. You can obtain them through My Oracle Support.)

Conventions

Navigate: This is a navigate statement. It tells you how to get to the start of the procedure and ends with a screen shot of the starting point and the statement “the Window Name window opens.”

This is a code sample

It is used to display examples of code

Preinstallation Tasks

Technical Concepts

The installer should understand the following technical concepts:

- JDeveloper 12.2.1.0.0
- Application servers
- XML manipulation
- Apple Enterprise Development setup and deployment
- Certificate creation and deployment

Technical Specifications

Runtime Support and Certification Matrix

Mobile Operating System	Version	Mobile Application Framework (MAF) Certified Devices	MAF Supported Devices	RGBU Certified Devices
iOS	11.x	<ul style="list-style-type: none"> ▪ iPad Mini 3 	<ul style="list-style-type: none"> ▪ iPhone (5S, 6, 6 Plus, 6S, 6S Plus, SE, 7, 7 Plus, 8, 8 Plus, X) ▪ iPod Touch (6th generation) ▪ iPad (5th generation) ▪ iPad Mini (2nd, 3rd and 4th generation) ▪ iPad Air (1st and 2nd generation) ▪ iPad Pro (1st and 2nd generation) 	
iOS	10.x	<ul style="list-style-type: none"> ▪ iPad 4 ▪ iPad Air 1 ▪ iPad Air 2 ▪ iPad Mini 3 ▪ iPhone 5S ▪ iPhone 7 	<ul style="list-style-type: none"> ▪ iPhone (5, 5C, 5S, 6, 6 Plus, 6S, 6S Plus, SE, 7, 7 Plus) ▪ iPod Touch (6th generation) ▪ iPad (4th generation) ▪ iPad Mini (2nd, 3rd and 4th generation) ▪ iPad Air (1st and 2nd generation) ▪ iPad Pro 	iPad 4th gen (10.3.3)
iOS	9.x	<ul style="list-style-type: none"> ▪ iPad 4 ▪ iPad Air 1 ▪ iPad Air 2 ▪ iPad Mini 2 ▪ iPad Mini 3 ▪ iPad Mini 4 ▪ iPad Pro 12.9" ▪ iPhone 6 ▪ iPhone 6 Plus ▪ iPhone 6S ▪ iPhone 6S Plus ▪ iPhone SE 	<ul style="list-style-type: none"> ▪ iPhone (4S, 5, 5C, 5S, 6, 6 Plus, 6S, 6S Plus, SE) ▪ iPod Touch (5th and 6th generation) ▪ iPad (3rd and 4th generation) ▪ iPad Mini (1st, 2nd, 3rd and 4th generation) ▪ iPad Air (1st and 2nd generation) 	iOS
		<ul style="list-style-type: none"> ▪ 	<ul style="list-style-type: none"> ▪ 	

Mobile Operating System	Version	Mobile Application Framework (MAF) Certified Devices	MAF Supported Devices	RGBU Certified Devices
Android	7.x	<ul style="list-style-type: none"> Google Nexus 6P Google Nexus 9 	Any device running Android 7.0 or above with Minimum 1 GHz processor / 1 GHz Dual Core or better (Recommended) and at least 1 GB of total RAM	
Android	6.x	<ul style="list-style-type: none"> Google Nexus 5 Google Nexus 6 Google Nexus 6P Google Pixel C Samsung Galaxy S7 Samsung Galaxy S7 Edge 	Any device running Android 6.0 or above with Minimum 1 GHz processor / 1 GHz Dual Core or better (Recommended) and at least 1 GB of total RAM	
Android	5.x	<ul style="list-style-type: none"> Google Nexus 4 Google Nexus 5 Google Nexus 7 Google Nexus 9 Samsung Galaxy Note 5 Samsung Galaxy S6 Samsung Galaxy S6 Edge Samsung Galaxy Tab A - SMT350 Samsung Galaxy Tab A - SMT800 Samsung Galaxy Tab Pro 12.2 SM-T900 	Any device running Android 5.0 or above with Minimum 1 GHz processor / 1 GHz Dual Core or better (Recommended) and at least 1 GB of total RAM	Asus Nexus 7 (5.0.2)
Android	4.4.x	<ul style="list-style-type: none"> Google Nexus 5 Google Nexus 7 2012 Google Nexus 7 2013 Motorola Xoom Samsung Galaxy Note 3 Samsung Galaxy Note 8 - GT-N5110 Samsung Galaxy Tab 8 - SMT700 Samsung Galaxy Tab - SM-T337V Samsung Galaxy Tab - SM-T310 	Any device running Android 4.4 or above with Minimum 1 GHz processor / 1 GHz Dual Core or better (Recommended) and at least 1 GB of total RAM	

Build Time Support

Mobile Platform	Mobile SDK Version	Native development tool version	JDeveloper Version	MAF Version
iOS	iOS SDK 10.x	Xcode 8.3. x	Oracle JDeveloper 12.2.1.0.0	2.4.2

Installing and Setting up the Application

This chapter describes how to install and configure JDeveloper and Oracle Retail Mobile Merchandising for iOS deployment.

Prerequisites

Deploying Oracle Retail Mobile Merchandising for use on an iOS device requires that you have a computer running Mac OS X set up for iOS development. For more information on the setup, including provisioning profiles and certificates, see Apple's documentation at <https://developer.apple.com/>. Additionally, you must have installed JDeveloper, Xcode and Oracle MAF extension. For more information, see their respective documentations.

Extracting Installer Artifacts

The artifacts required for installing Oracle Retail Mobile Merchandising are contained in the MobileMerchandising.zip file. Unzip this file to find the following:

File	Contents
RetailAppsPushServices.ear	Ear file used by Merch Mobile to push notifications to APN & GCM servers
MerchMobileArchive.maa	The main application archive. (Required to install or customize Oracle Retail Mobile Merchandising)
PlatformMobileArchive.maa	The mobile platform archive. (Required for some customizations.)
MerchMobileDemoData.zip	Demo data for demo mode.
certLoader.py	Utility script for importing APN/GCM certifications and private keys
pushNotificationMappingMod.sql	DDL script to alter push notifications table

Installing the MAF Extension

1. Download the latest MAF 2.4.2 extension release from [my oracle support](#). In the patches and updates tab, search for patch number 26597159.
Once downloaded, extract maf_bundle.zip file and rename the file as maf242.zip.
2. To install the MAF extension on already installed JDeveloper, see [Installing Mobile Application Framework with JDeveloper](#). When you reach "Installing the MAF Extension in JDeveloper" step 2, click the "Install from Local File" radio button and then locate and select maf242.zip that was downloaded in Step 1.

Configuring JDeveloper for iOS Deployment

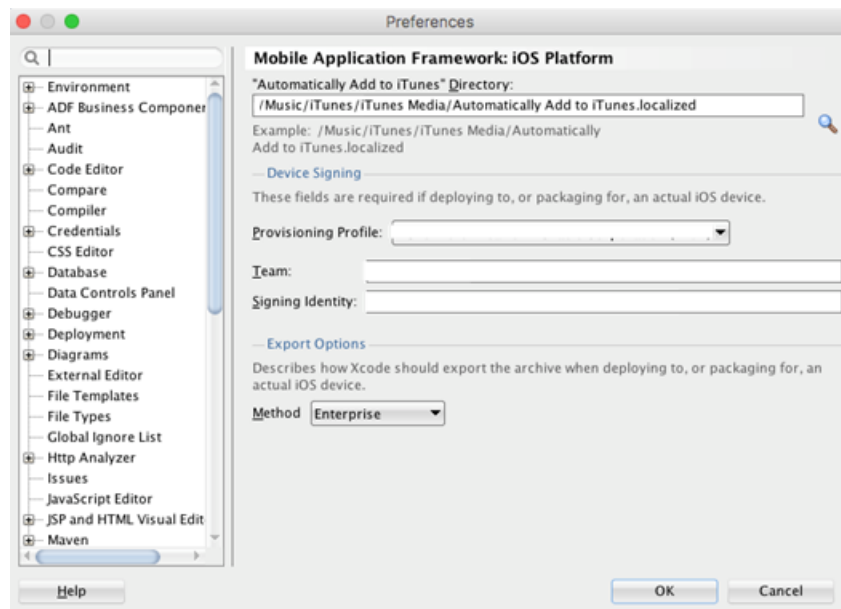
Configure JDeveloper using the following steps:

1. Launch JDeveloper.
2. Open the **Preferences** dialog from the JDeveloper menu.

3. Scroll down to **Mobile Application Framework** and expand it.
4. Select **iOS Platform**.
5. In the first box, use the browse button to select the **Automatically Add to iTunes directory**.
6. Select the **Provisioning Profile** from the drop-down list.
7. The Team field should be automatically populated once you select the provisioning profile.

Note: The team should correspond to the signing identity User ID, which should also be synonymous to your Organizational Unit. This information is found when you look up your signing certificate in your macOS keychain.

8. Enter the **name** of the signing identity corresponding to your development certificate.
9. Select the **Method** option that best describes how you want Xcode to export the archive for your application. This is dependent on the Provisioning Profile selected.



For more details on configuring JDeveloper to deploy to an iOS device, see *Oracle Mobile Application Framework Installing Oracle Mobile Application Framework 2.4.2* documentation.

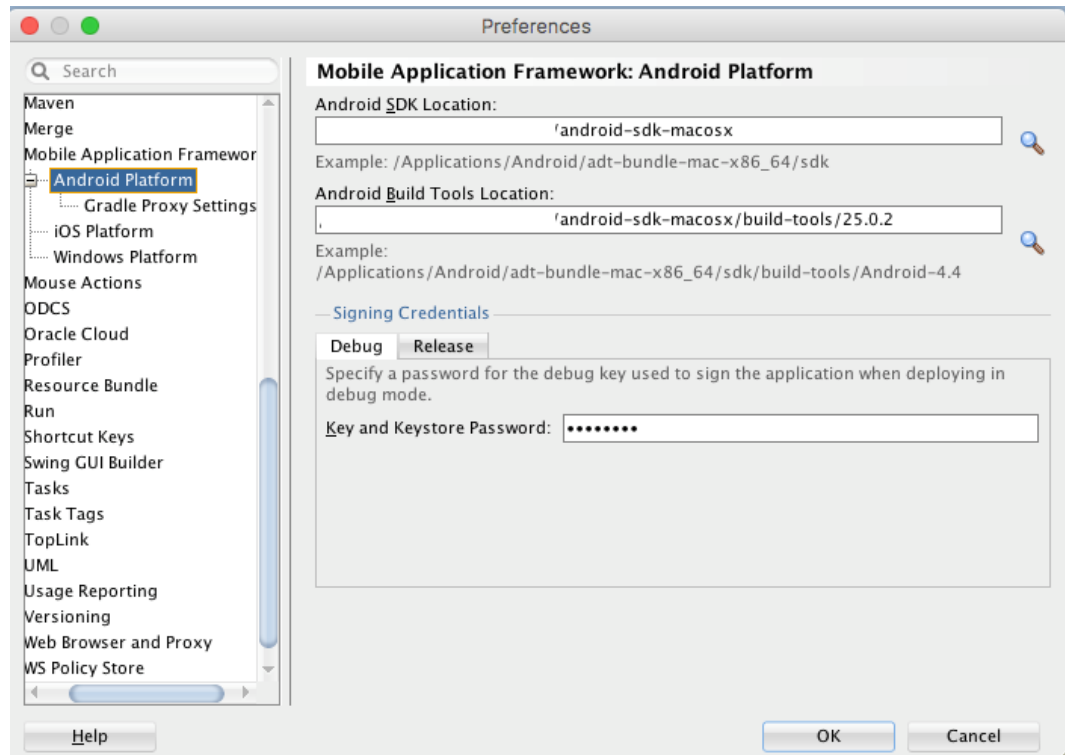
Note: Customers must use their own provisioning profile and signing identity to distribute the application.

Configuring JDeveloper for Android Deployment

Configure JDeveloper using the following steps for Android .apk generation.

1. Launch JDeveloper.
2. Open the **Preferences** dialog from the JDeveloper menu.
3. Scroll down to **Mobile Application Framework** and expand it.
4. Select **Android Platform**.
5. Install Android SDK. Version and install steps need to be provided.

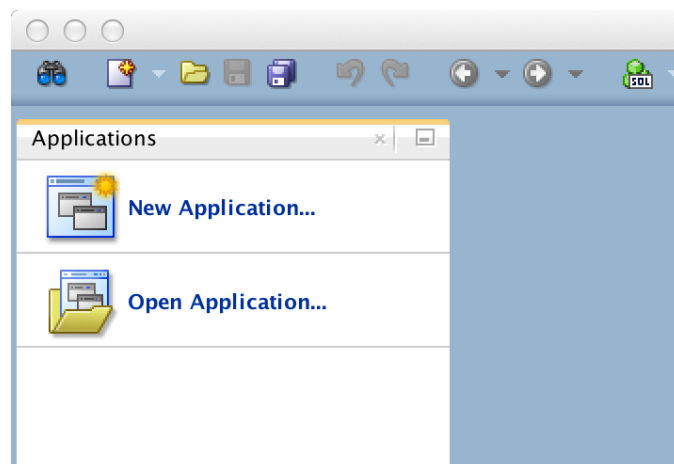
- Install "Android SDK Platform-tools" and "Android SDK Build-tools"
 - Review the certification matrix on the versions compatible with MAF
6. Complete the following: Android SDK location, build tools location and signing Credentials.



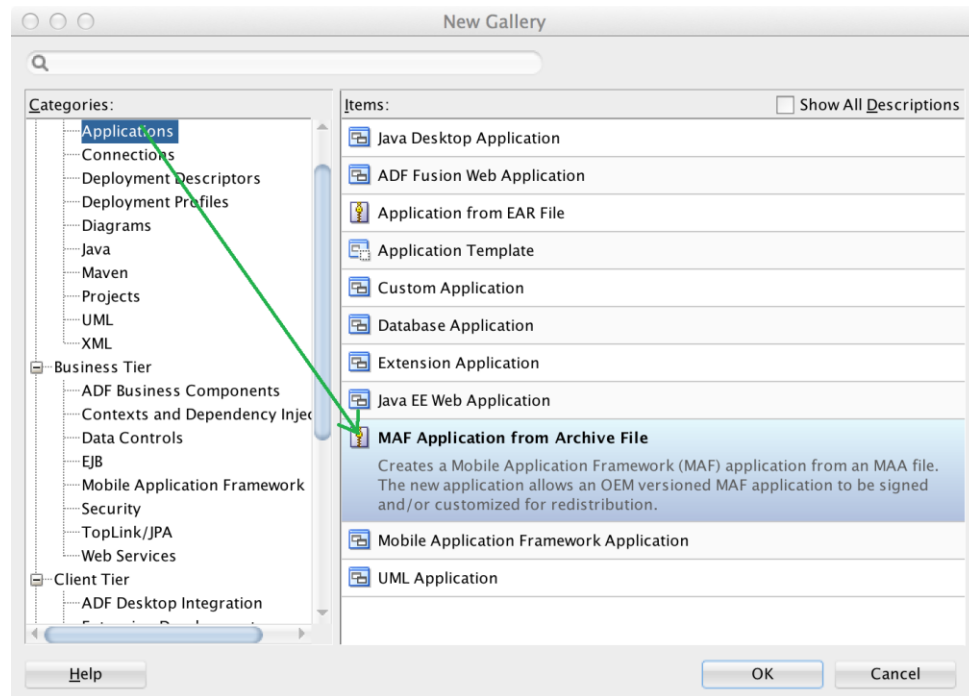
Creating a Workspace from the Archive

When you launch JDeveloper for the first time, you will encounter an empty workspace. The first thing that must be done is to create a new application from the provided .maa file. Use the steps that follow:

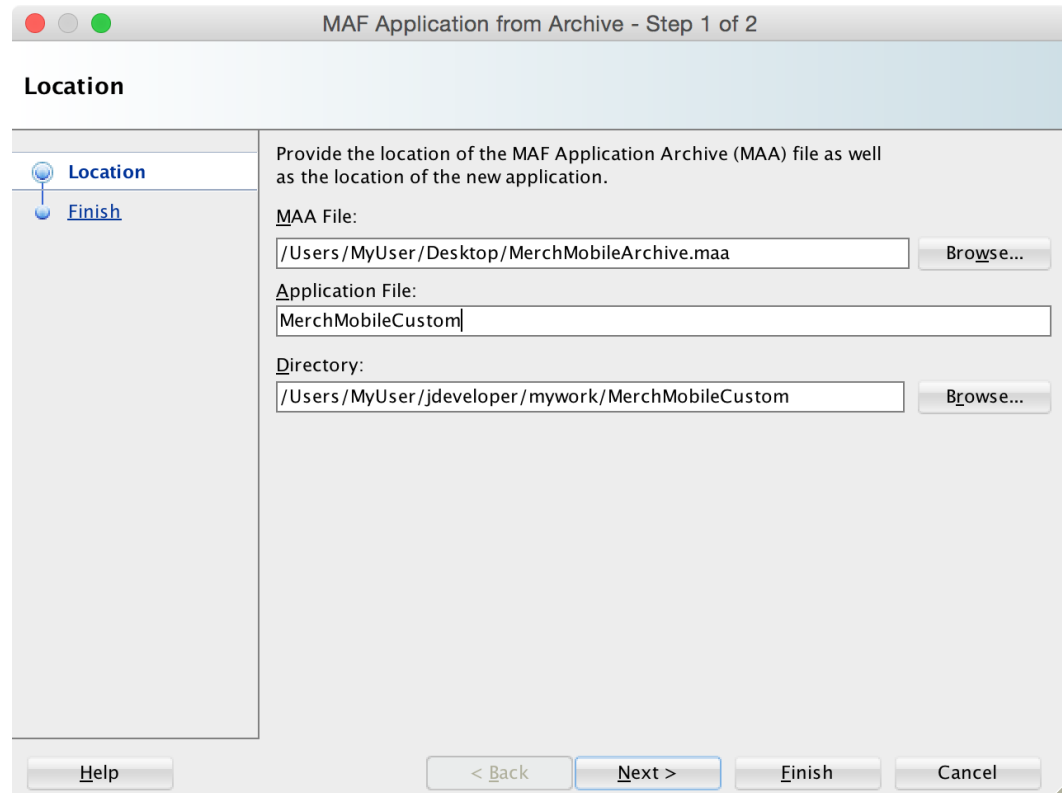
1. Open the **New Application** dialog (or open the general **New** dialog and select **Applications**).



2. Select **MAF Application from Archive File** and click **OK**.



3. In the wizard that opens, select the .maa file you want to create a custom application from (the main Merchandising app is packaged as MerchMobileArchive.maa). For instructions on how to retrieve MerchMobileArchive.maa see section [Extracting Installer Artifacts](#).
4. Enter a name for your application.
5. You can also change where the application will be saved (by default, <workspace>/<application name>).
6. Click **Finish** when you have entered the necessary information.



Configuring Application Settings

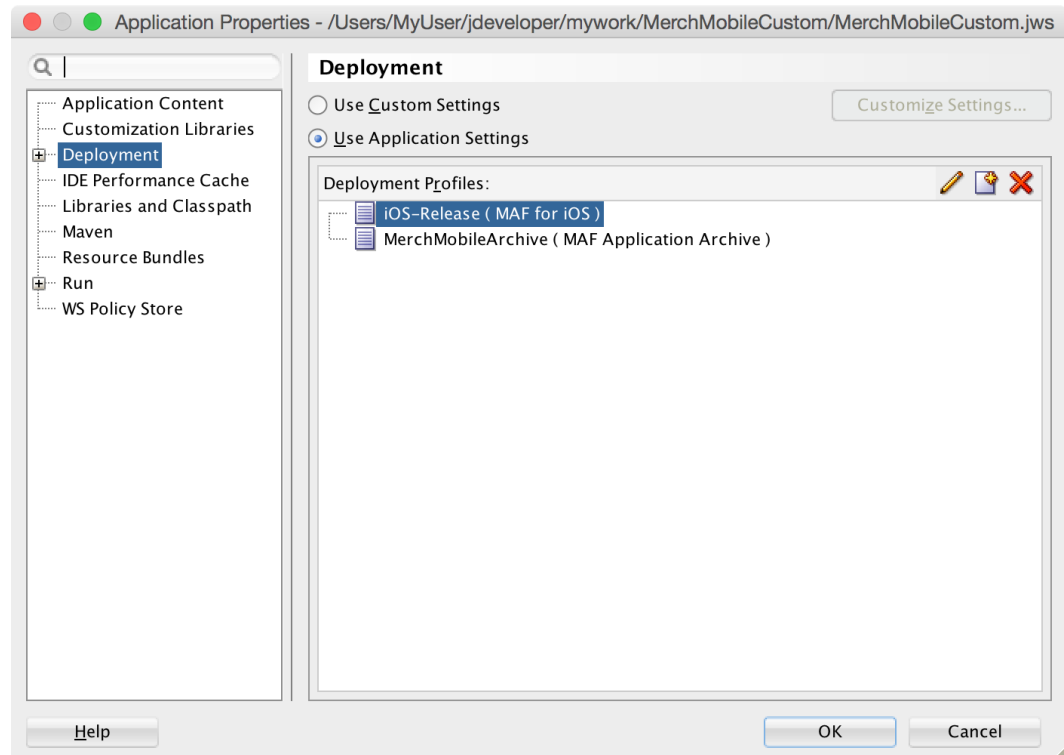
For instructions on how to configure settings such as service connections, see *Configuring the Application* Section in the *Oracle Retail Mobile Merchandising Implementation Guide*.

Configuring Application for iOS Deployment

To configure Mobile Merchandising for iOS deployment, use the following steps:

1. Open the workspace created above in [Creating a Workspace from the Archive](#).
2. Open the application properties (Application → Application Properties...).

- Under Deployment, select the **iOS-Release** deployment profile and click the pencil icon.

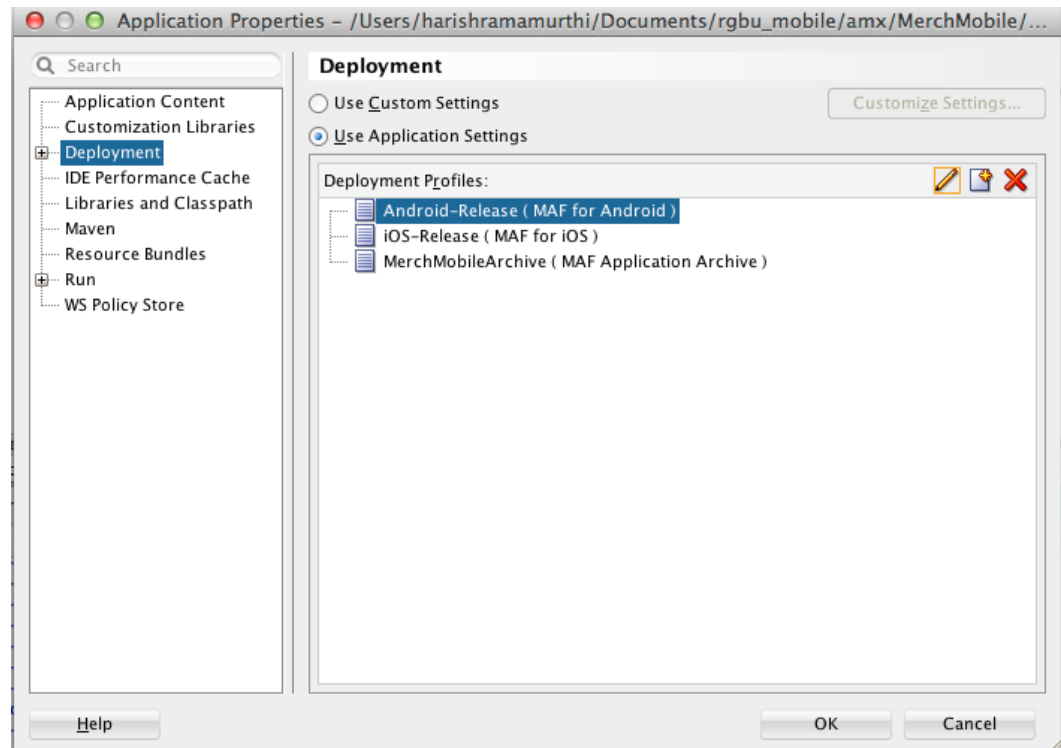


- Select iOS Options and confirm you have the correct Application Bundle Id and Application Archive Name (for more information about application bundle ids, refer to *Oracle Fusion Middleware Developing Mobile Applications with Oracle Mobile Application Framework* Documentation.)
- Confirm that the application deploys in **Release Mode**.
- Check the other settings as needed. By default, Disable Application Transport security (ATS) will not be checked. This is an option related to Apple's security requirements that started in iOS 9. Apple now requires all application communications to use HTTPS with TLS 1.2 for any server connections. For more information, refer to MAF's [security section](#)
- Click **OK**.

Configuring Application for Android Deployment

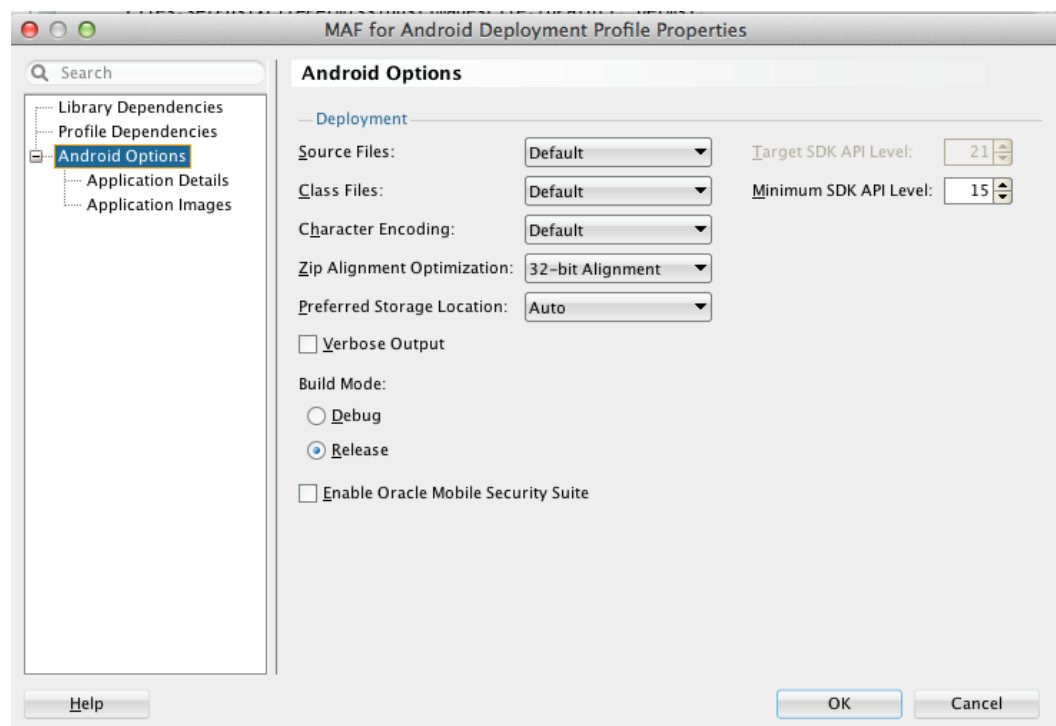
To configure Mobile Merchandising for Android deployment, use the following steps:

1. Open the workspace created above in [Creating a Workspace from the Archive](#).
2. Open the application properties (Application → Application Properties...).
3. Under Deployment, select the **Android-Release** deployment profile and click the pencil icon.



4. Select Android Options and confirm you have the correct SDK API.
5. Confirm that the application deploys in **Release Mode**.

6. Check the other settings as needed.



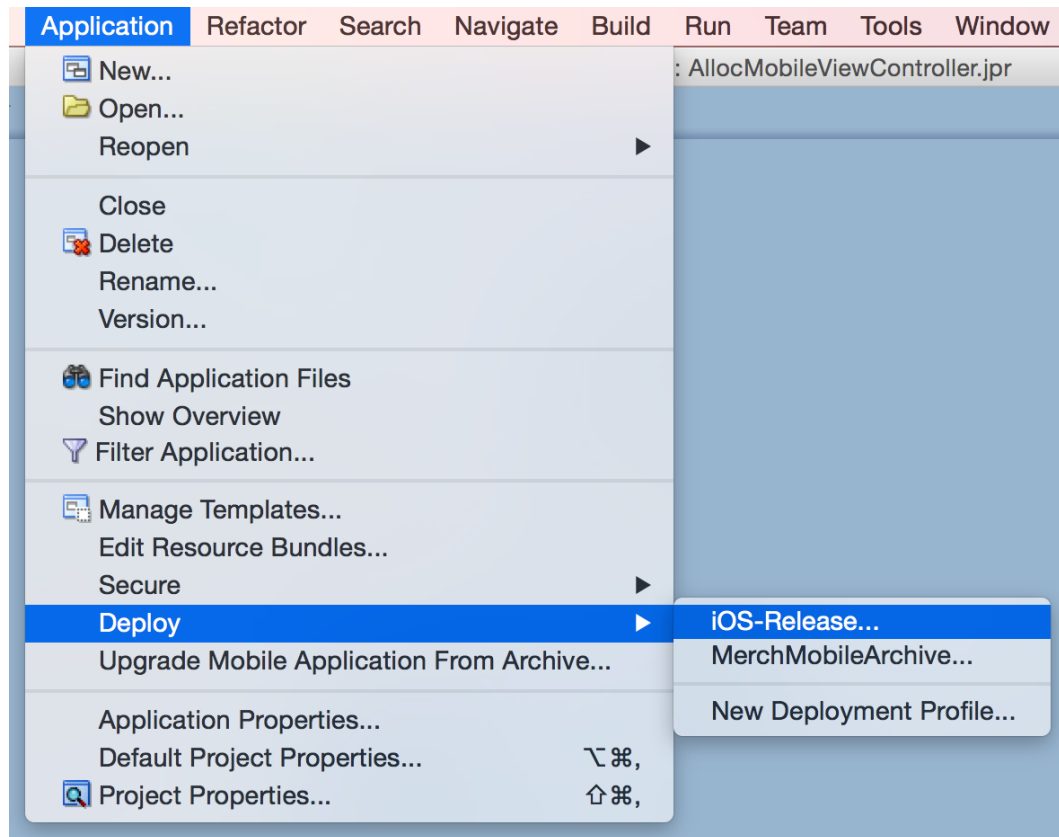
7. Click OK.

Deploying Application to .ipa File

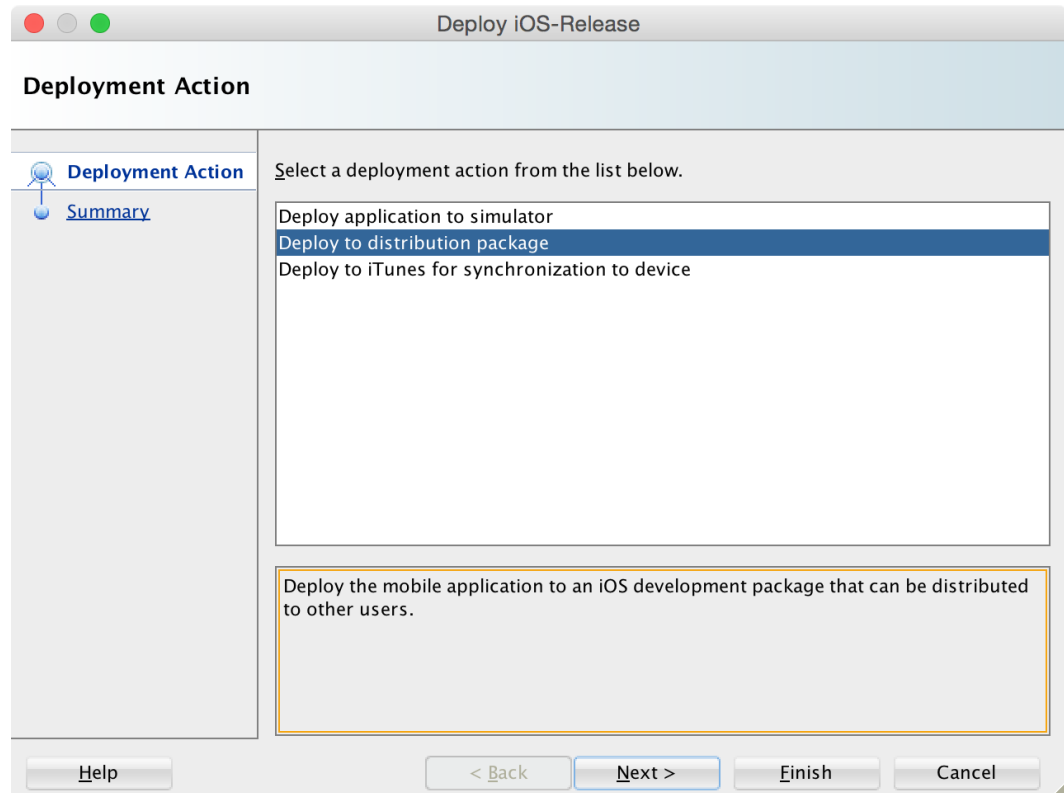
Note: If Oracle Retail Mobile Merchandising is already deployed to a device, it is recommended to delete it from the device before redeploying it again.

To deploy Mobile Merchandising to .ipa file, use the following steps:

1. In the **Application** menu, select **Deploy-><Profile Name>**.



2. Select **Deploy to distribution package**.
3. Press **Finish** to begin deployment.



4. You can view the progress of the deployment by opening the Log window. (Window → Log)
5. After a successful deployment you can find the .ipa file within your workspace under the deploy folder.

For Enterprise app distribution refer to <https://developer.apple.com/library/ios/documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html>.

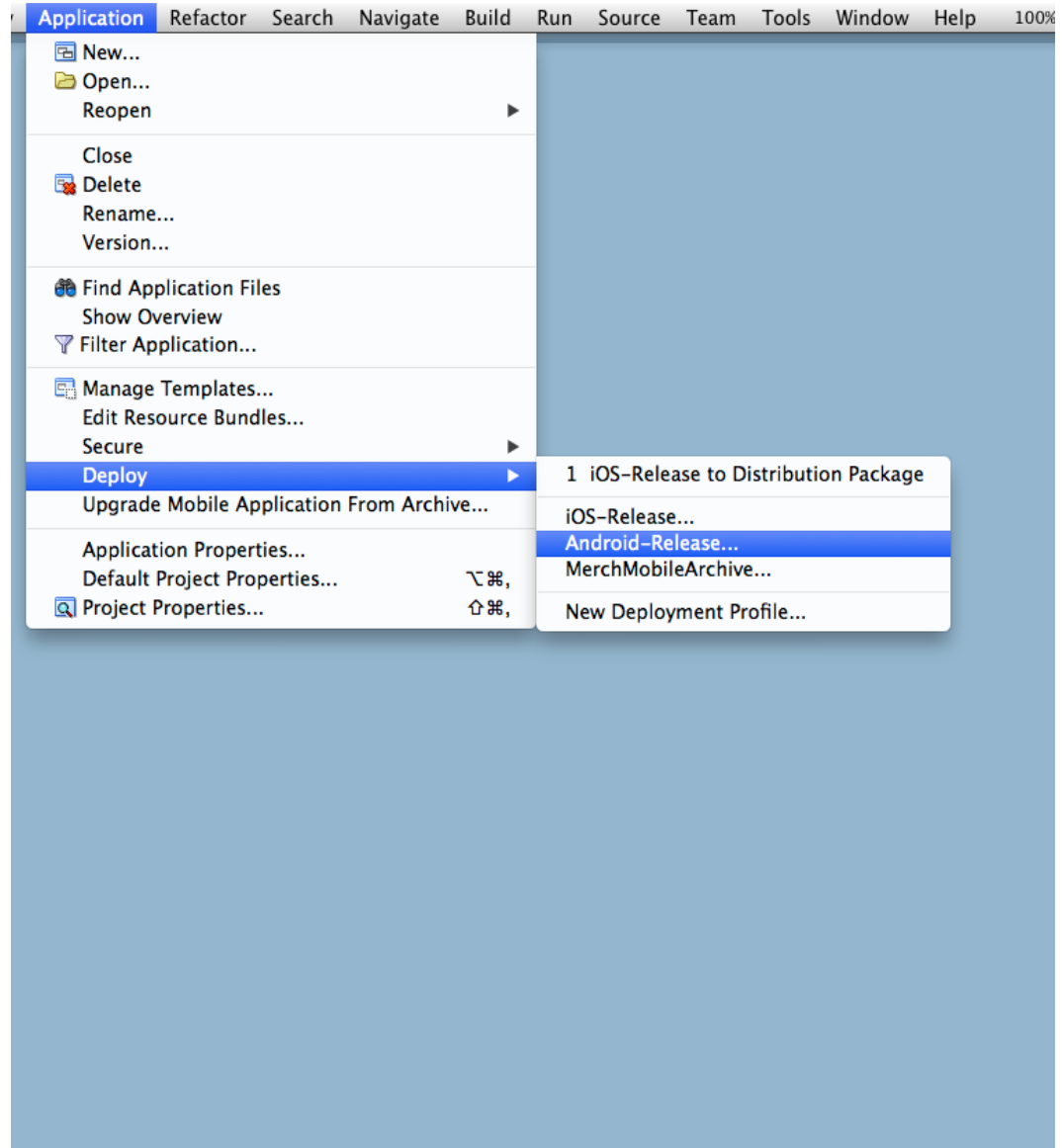
For other distribution options, see *Oracle Fusion Middleware Developing Mobile Applications with Oracle Mobile Application Framework* documentation.

Deploying Application to .apk File

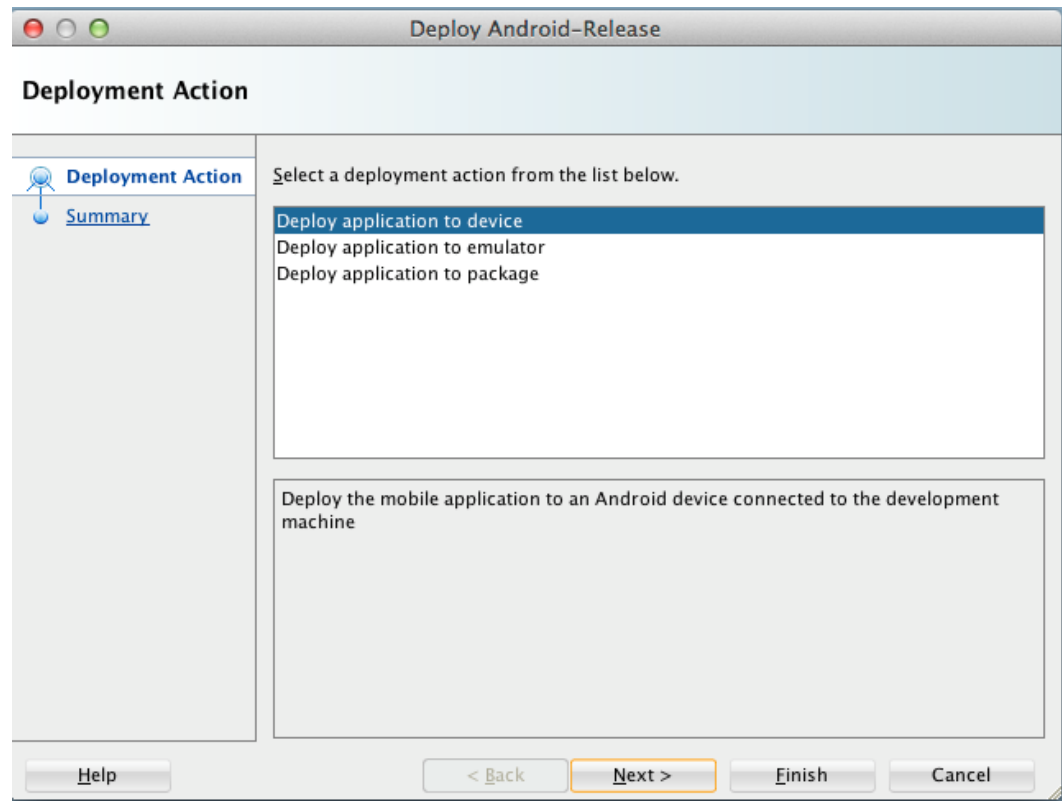
Note: If Oracle Retail Mobile Merchandising is already deployed to a device, it is recommended to delete it from the device before redeploying it again.

To deploy Mobile Merchandising to .ipa file, use the following steps:

1. In the **Application** menu, select **Deploy-><Profile Name>**.



2. Select **Deploy to distribution package**.
3. Press **Finish** to begin deployment.



4. You can view the progress of the deployment by opening the Log window.
(Window → Log)
5. After a successful deployment you can find the .apk file within your workspace under the deploy folder.

Second Screen Platform Deployment

Using Second Screen in the mobile app requires that the web app be configured to enable sending screens. This will require configuration and redeployment of the web application.

Application Configuration

The web.xml file of the retail application needs to have additional configurations added to support Second Screen. Add the following entry to the filters:

```
<filter>
  <description>Auxillary screen manager filter</description>
  <display-name>AuxScreenManagerFilter</display-name>
  <filter-name>AuxScreenManagerFilter</filter-name>
  <filter-
class>oracle.retail.apps.framework.uishell.auxscreen.AuxScreenManagerFilter</filter-
r-class>
  </filter>
```

Add the following entry to the filter mappings:

```
<filter-mapping>
  <filter-name>AuxScreenManagerFilter</filter-name>
  <servlet-name>Faces Servlet</servlet-name>
  <dispatcher>FORWARD</dispatcher>
  <dispatcher>REQUEST</dispatcher>
</filter-mapping>
```

Add the following entry to the resource references:

```
<resource-ref>
  <res-ref-name>
    jdbc/RetailPlatformDBDS
  </res-ref-name>
  <res-type>
    javax.sql.DataSource
  </res-type>
  <res-auth>
    Container
  </res-auth>
</resource-ref>
```

Open the connections.xml and add the following reference, changing the DB_ and credentialStoreKey entries to match your database environment:

```
<Reference name="RetailPlatformDB"
className="oracle.jdeveloper.db.adapter.DatabaseProvider"
credentialStoreKey="ApplicationDB" partial="false"
manageInOracleEnterpriseManager="true" deployable="true">
  <Factory
className="oracle.jdevimpl.db.adapter.DatabaseProviderFactory1212"/>
  <RefAddresses>
    <StringRefAddr addrType="subtype">
      <Contents>oraJDBC</Contents>
    </StringRefAddr>
    <StringRefAddr addrType="user">
      <Contents>DB_USER</Contents>
    </StringRefAddr>
    <StringRefAddr addrType="port">
      <Contents>DB_PORT</Contents>
    </StringRefAddr>
    <StringRefAddr addrType="hostname">
```

```
        <Contents>DB_HOST</Contents>
    </StringRefAddr>
    <SecureRefAddr addrType="password"/>
    <StringRefAddr addrType="serviceName">
        <Contents>DB_SCHEMA</Contents>
    </StringRefAddr>
    <StringRefAddr addrType="oraDriverType">
        <Contents>thin</Contents>
    </StringRefAddr>
</RefAddresses>
</Reference>
```

Server Configuration

Add a new configuration file named `MyRetailAppsViewController.properties` on the server and place the following entries in it:

```
websocket.relay.server.host=[hostName]
websocket.relay.server.port=[portNum]
uishell.aux.screen.enabled=true
```

Add the following property to the server's startup options:

```
-DRetailAppsViewController.properties=[file path of
MyRetailAppsViewController.properties]
```

Make sure the `RetailPlatformDBDS` data source is configured in the server the Retail applications are deployed to, and then run the `SecondScreenDBActivation.sql` script against it to create the tables to support the Second Screen service.

After configuring the retail applications and the server, you will need to restart the server for them to take effect and activate the Second Screen functions.

Push Notifications Deployment

To have the application receive push notifications requires additional configuration of the environment.

Prerequisite: Apple Certificate and Provisioning Profile

Using push notifications on iOS requires acquiring a security certificate and provisioning profile from Apple. These files are specific to the application and linked to the developer account with Apple that generated them; we cannot include them with the application as a result. Refer to Apple's developer site for instructions on how to create an account and generate these credentials.

Prerequisite: GCM Registration

Using push notifications on Android requires registering the application name with Google Cloud Messaging to receive an API key and sender ID. These will be needed to configure the service and mobile app respectively. As with Apple, these are linked to the account that generates them and we cannot include them in the application.

Server Configuration

In order to send notifications, the server requires additional configuration. You must import the certificate from Apple, configure proxy settings, and add the tables to support the services.

Once you have your key and certificate from Apple they need to be uploaded to the server. Details on how to do this can be found in the Oracle WebLogic Server and Oracle

Fusion Middleware documentation. They should be uploaded to the system app stripe as a keystore named RetailAppsPushServices.

We have packaged a convenience script for uploading .jks keystores and granting the needed permissions. If your key and certificate are not in a .jks format, you can use the keytool utility on the command line to convert the file. To use the script, open it and set the variables to point to your WebLogic server and the .jks file (as well as the associated credentials). Invoke the script using the wlst utility as follows:

```
<Oracle_Home>/oracle_common/common/bin/wlst.sh certLoader.py
```

For Android notifications, you will need to set the API key as a generic credential in WebLogic. The instructions for setting generic credentials can be found in the WebLogic Server documentation. The API key should be set in a map named “RetailAppsPushServices” under the key “gcmApiKey”.

Additionally, you will need to configure the proxy.properties file in the .ear with the proxy settings of your server environment. This is necessary for the services to be able to contact Apple’s servers to send notifications. If your environment does not have a proxy, leave the fields blank.

Finally, you need to add the tables backing the push notification service before you can install the .ear. Connect to the database backing the RetailPlatformDBDS data source and run the provided CreatePushMappings.sql script.

Once the server configuration is complete, deploy the RetailPushServices.ear file to your server (refer to the Fusion Middleware or WebLogic documentation for details on manual deployment).

MAF Configuration

To enable push notifications in Mobile Merchandising, you need to make the following changes in the configuration files:

- Enabled the Push Notification plugin in maf-application.xml
- Set ENABLE_PUSH_NOTIFICATIONS to true in adf-config.xml
- Set GCM_SENDER_ID to your Sender ID value in adf-config.xml if you will be deploying to Android devices. Set JDeveloper to use the push-enabled provisioning profile you acquired during the installation steps.
- Set both GCM_SENDER_ID and the push provisioning profile if you will be deploying to both types of devices

Demo Data Deployment

Demo mode allows the app to run against a set of demo data without requiring live services to be deployed. To make demo mode available the included MerchMobileDemoData.zip file should be hosted at a location which does not require authentication to access. The contents of MerchMobileDemoData.zip (JSON and images) can be customized as long as the structure (directory structure and JSON structure) is not modified. To run the app in demo mode the user will need to turn on the Demo Mode preference and provide the URL to the demo data zip file in the Demo Data URL preference. If Demo Mode is later turned off and the Retain Demo Data preference is also off then the demo data will be removed from the device. Note: Any change to demo mode preferences requires a restart of the app to take effect.

Appendix: Installation Order

This section provides a guideline as to the order in which the Oracle Retail applications should be installed. If a retailer has chosen to use some, but not all, of the applications the order is still valid less the applications not being installed.

Note: The installation order is not meant to imply integration between products.

Enterprise Installation Order

1. Oracle Retail Merchandising System (RMS), Oracle Retail Trade Management (RTM)
2. Oracle Retail Sales Audit (ReSA)
3. Oracle Retail Extract, Transform, Load (RETL)
4. Oracle Retail Warehouse Management System (RWMS)
5. Oracle Retail Invoice Matching (ReIM)
6. Oracle Retail Price Management (RPM)
7. Oracle Retail Allocation
8. Oracle Retail Mobile Merchandising (ORMM)
9. Oracle Retail Customer Engagement (ORCE)
10. Oracle Retail Xstore Office
11. Oracle Retail Xstore Point-of-Service, including Xstore Point-of-Service for Grocery, and including Xstore Mobile
12. Oracle Retail Xstore Environment
13. Oracle Retail EFTLink
14. Oracle Retail Store Inventory Management (SIM), including Mobile SIM
15. Oracle Retail Predictive Application Server (RPAS)
16. Oracle Retail Predictive Application Server Batch Script Architecture (RPAS BSA)
17. Oracle Retail Demand Forecasting (RDF)
18. Oracle Retail Category Management Planning and Optimization/Macro Space Optimization (CMPO/MSO)
19. Oracle Retail Replenishment Optimization (RO)
20. Oracle Retail Regular Price Optimization (RPO)
21. Oracle Retail Merchandise Financial Planning (MFP)
22. Oracle Retail Size Profile Optimization (SPO)
23. Oracle Retail Assortment Planning (AP)
24. Oracle Retail Item Planning (IP)
25. Oracle Retail Item Planning Configured for COE (IP COE)
26. Oracle Retail Advanced Inventory Planning (AIP)
27. Oracle Retail Integration Bus (RIB)
28. Oracle Retail Service Backbone (RSB)
29. Oracle Retail Financial Integration (ORFI)

- 30.** Oracle Retail Bulk Data Integration (BDI)
- 31.** Oracle Retail Integration Console (RIC)
- 32.** Oracle Commerce Retail Extension Module (ORXM)
- 33.** Oracle Retail Data Extractor for Merchandising
- 34.** Oracle Retail Clearance Optimization Engine (COE)
- 35.** Oracle Retail Analytic Parameter Calculator for Regular Price Optimization (APC-RPO)
- 36.** Oracle Retail Insights, including Retail Merchandising Insights (previously Retail Merchandising Analytics) and Retail Customer Insights (previously Retail Customer Analytics)
- 37.** Oracle Retail Order Broker