

Oracle Utilities Customer Self Service

Whitepaper:
Creating and Deploying
a Mobile Client Application

Release 2.0.1

E38172-03

May 2013

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Overview

This guide describes the steps to be carried out for creation and deployment of a mobile client native application for Oracle Utilities Customer Self Service (OUCSS). This reference implementation of the native mobile application supports only a remote URL reference of the OUCSS 2.0.1 mobile browser application.

A sample ADF Mobile application is available (for reference only) and can be modified as needed in accordance with the client environment. Only Android and iOS platforms are supported at this time.

The sample application [CSSMobile_archive.maa](#) can be downloaded from [Oracle Support Knowledge Base Article 1503729.1](#).

Refer to the OUCSS 2.0.1 Installation and Implementation Guides for instructions on installation and configuration of the OUCSS 2.0.1 mobile browser application.

Additional Resources

For additional details see the following resources:

- *Oracle Utilities Customer Self Service Installation Guide* and the *Oracle Utilities Customer Self Service Implementation Guide*. Both documents are available on the Oracle Technology Network (OTN) in the Oracle Utilities Documentation section (at <http://www.oracle.com/technetwork/documentation/utilities-155272.html>, expand **Oracle Utilities Customer Self Service**, then choose **View Library** to select individual documents or **Download** the entire E37420-01 library).
- Additional development framework information is available online in the *Oracle Fusion Middleware Mobile Developer's Guide for Oracle Application Development Framework 11g Release 2 (11.1.2.4.0)* documentation at http://docs.oracle.com/cd/E37975_01/doc.111240/e24475/toc.htm (OTN part number E24475-02).

Acronyms and Definitions Used in this Document

OUCSS - Oracle Utilities Customer Self Service

iOS – Apple mobile operating system

Android – Google mobile operating system

Supported Environments

Platforms

ADF Mobile supports the following platforms:

- iOS 5 or later
- Android 2.3 or later

Supported Devices

ADF Mobile supports the following devices:

- Apple iPhone
- Apple iPad
- Apple iPod

- Android-powered devices

Software Requirements

iOS and Android native application development requires different versions of JDeveloper. Download the version appropriate to the operation system for which you are developing your mobile application.

JDeveloper

- Oracle JDeveloper 11.1.2.4.0 (see <http://www.oracle.com/technetwork/developer-tools/jdev/downloads/index.html>).

Note: OUCSS Mobile Browser application runs on JDeveloper/ADF Version 11.1.1.6.0 and only the Mobile Native Client Application requires JDeveloper 11.1.2.4.0.

iOS

- A computer running Mac OS 10.7 or later
- Xcode 5.2 or later (see <http://developer.apple.com/xcode/>)
- Version 5 or later of iOS SDK (see <http://developer.apple.com/devcenter/ios/>)
- An Apple Developer ID

Android

- Android SDK with Platform 2.3 or later and its tools (see <http://developer.android.com/sdk/>)

Environment Setup

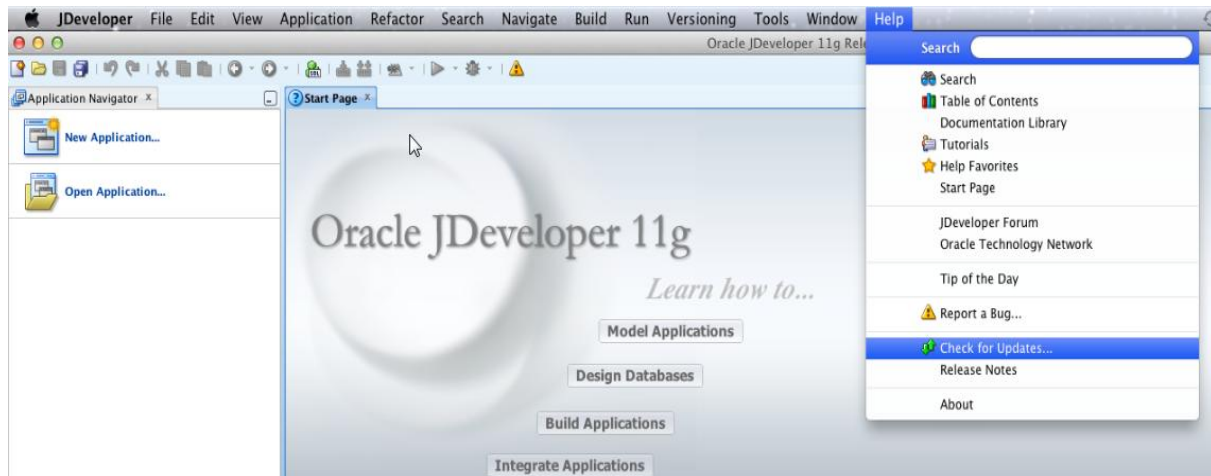
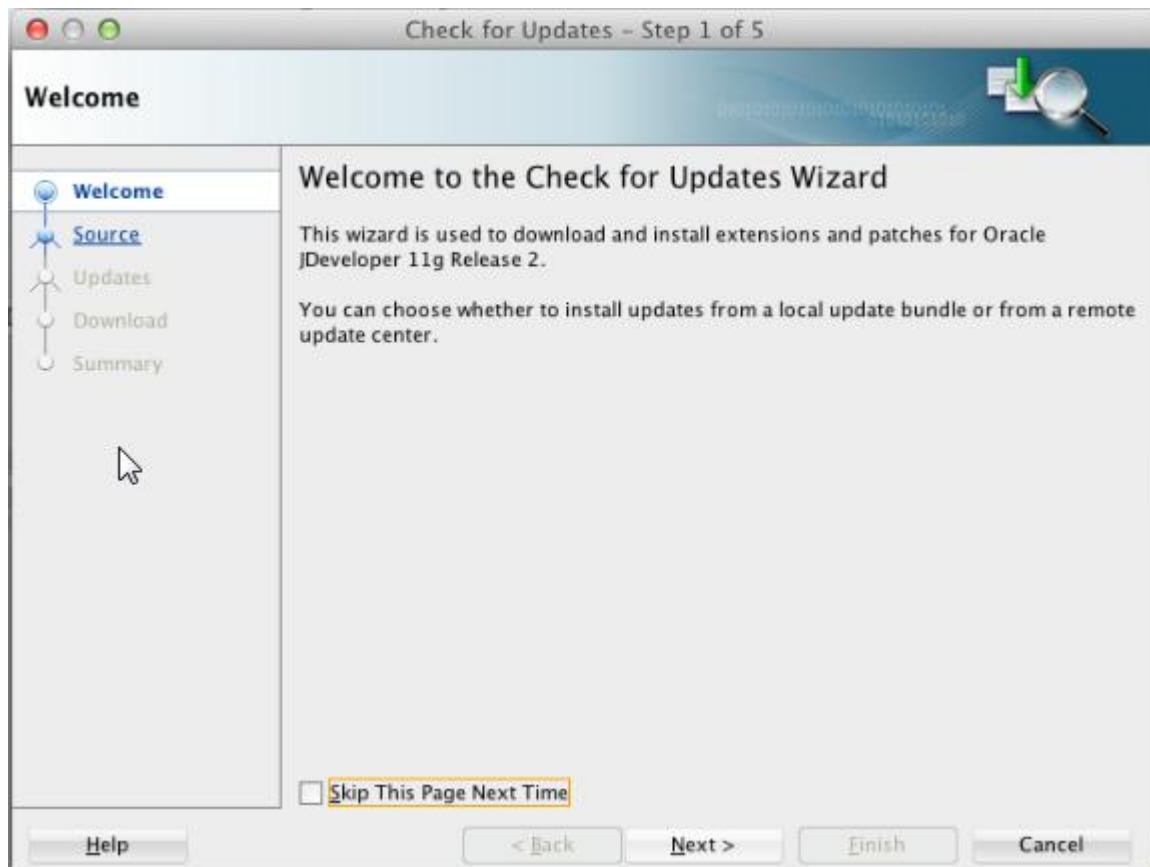
This section describes the settings and requirements for a successful installation and configuration required for ADF Mobile development.

Setting up JDeveloper

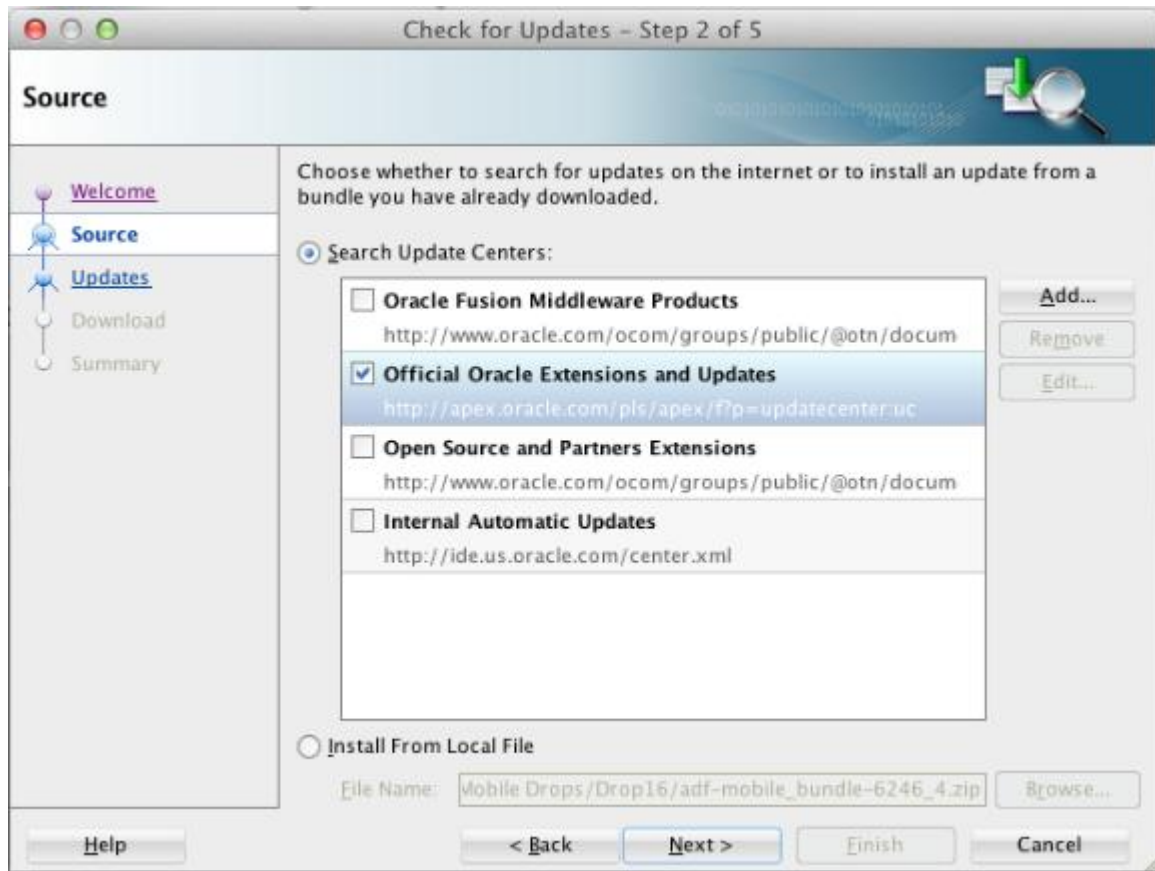
- 1 Download and install the version of Oracle JDeveloper that is appropriate to the operating system on which you are developing your mobile application.
- 2 Start JDeveloper and install the ADF Mobile extension.

The ADF Mobile extension can be installed from the zip file locally or from the Oracle site remotely

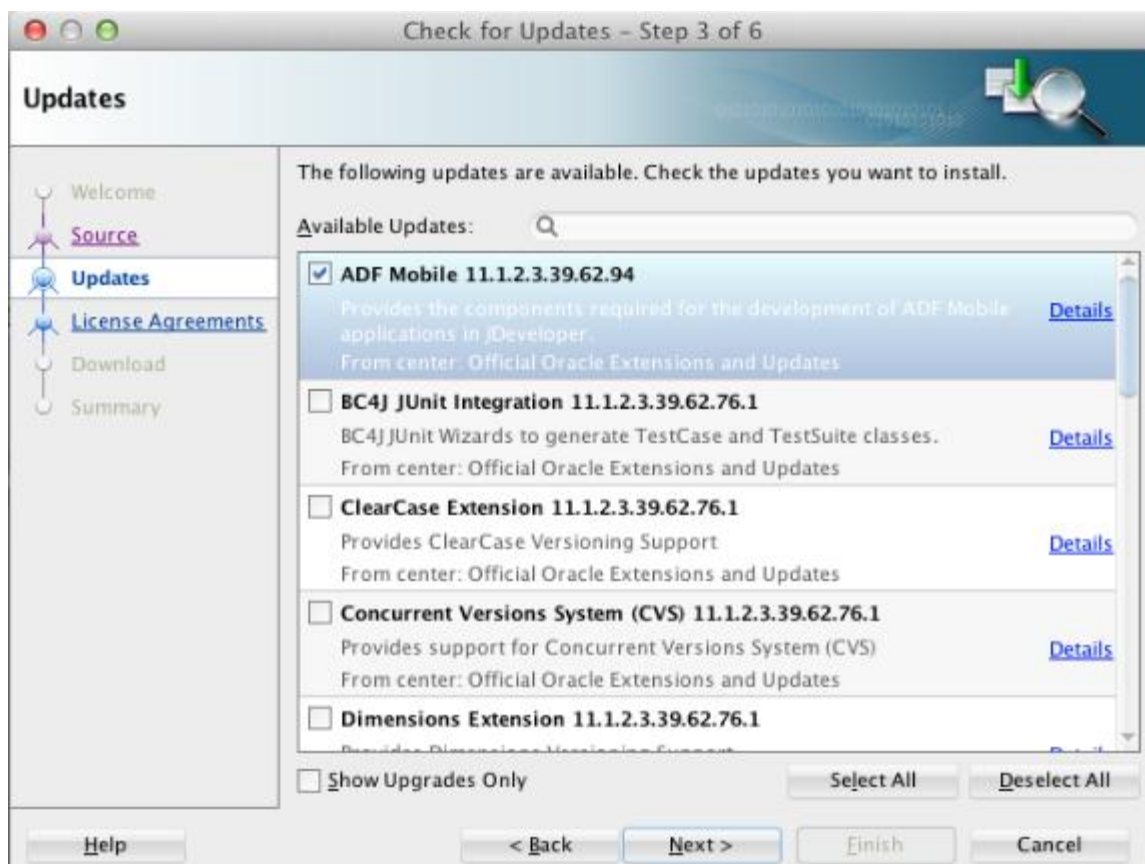
A. In JDeveloper, choose **Help**, then **Check for Updates**, and then click **Next**.



From this page you can install the ADF Mobile extension from a local zip file or from the Oracle site by selecting **Official Oracle Extensions and Updates**.



- B. Select **Official Oracle Extensions and Updates**, then click **Next**.
- C. On the **Updates** page, select the **ADF Mobile** update.

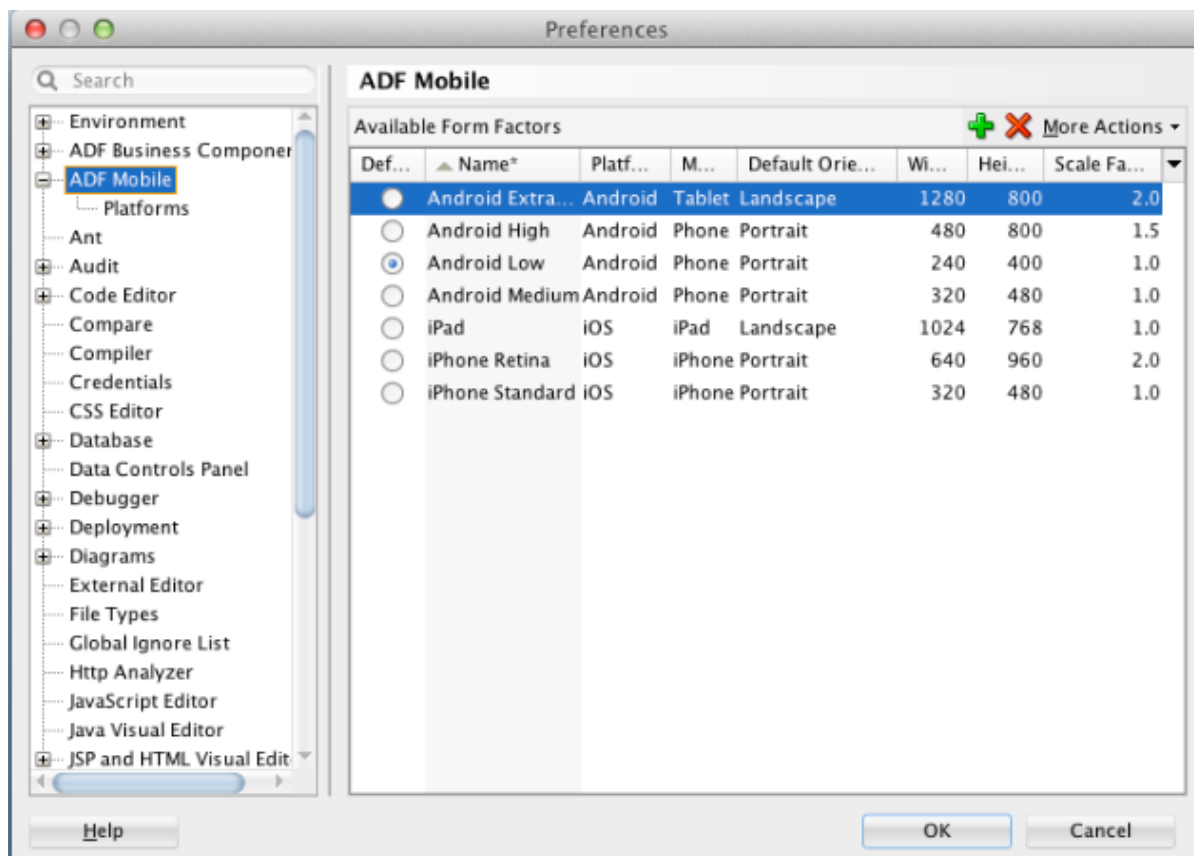


D. Click **Next** to continue, then click **Finish**.

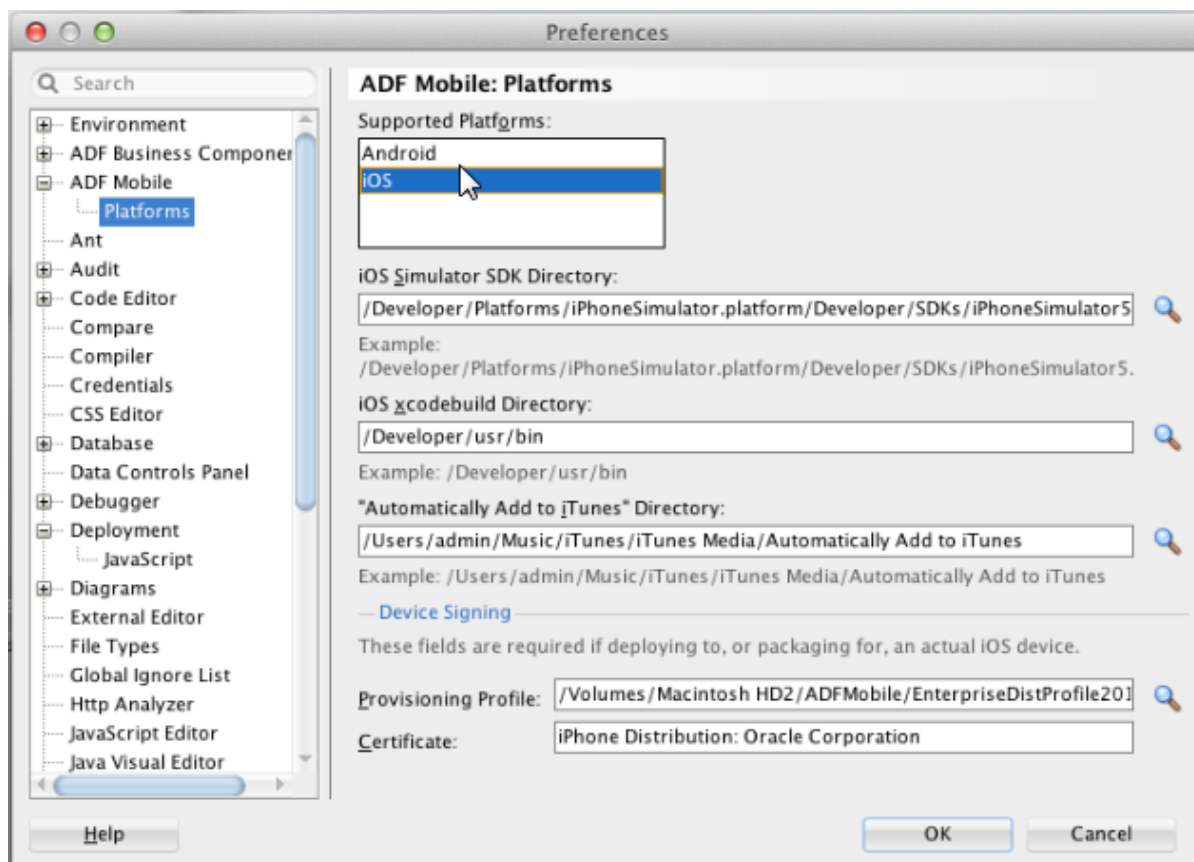
Note: For additional JDeveloper setup details, see section 3.3, [Setting Up JDeveloper](#), in the *Oracle Fusion Middleware Mobile Developer's Guide for Oracle Application Development Framework 11g Release 2 (11.1.2.4.0)* on the Oracle Technology Network (OTN).

Setup for iOS Development

- 1 Ensure you have the following installed and running:
 - A computer running Mac OS 10.7 or later.
 - Xcode 4.5.2 or later (see <http://developer.apple.com/xcode/>). After installing Xcode you must run it at least once and complete the Apple licensing and setup dialogs.
 - Version 5 or later of iOS SDK (see <http://developer.apple.com/devcenter/ios/>).
- 2 Create an Apple developer ID.
- 3 Configure platform preferences for iOS in JDeveloper:
 - A. Select **Tools > Preferences** from JDeveloper's main menu.
 - B. In the **Preferences** dialog, select **ADF Mobile**.
The ADF Mobile page that opens is populated with default form factor settings.



- C. Select **Platforms** from the tree to open the **ADF Mobile: Platforms** page that contains the path and configuration for supported platforms.
- D. Select **iOS** in **Supported Platforms** and specify the following:
 - iOS Simulator SDK location on your Mac OS-powered computer.
 - Location of the Xcode build utility.
 - Location of the iTunes media files, including the mobile applications that are synchronized to the iOS-powered device.
 - The iOS-powered device signing information.

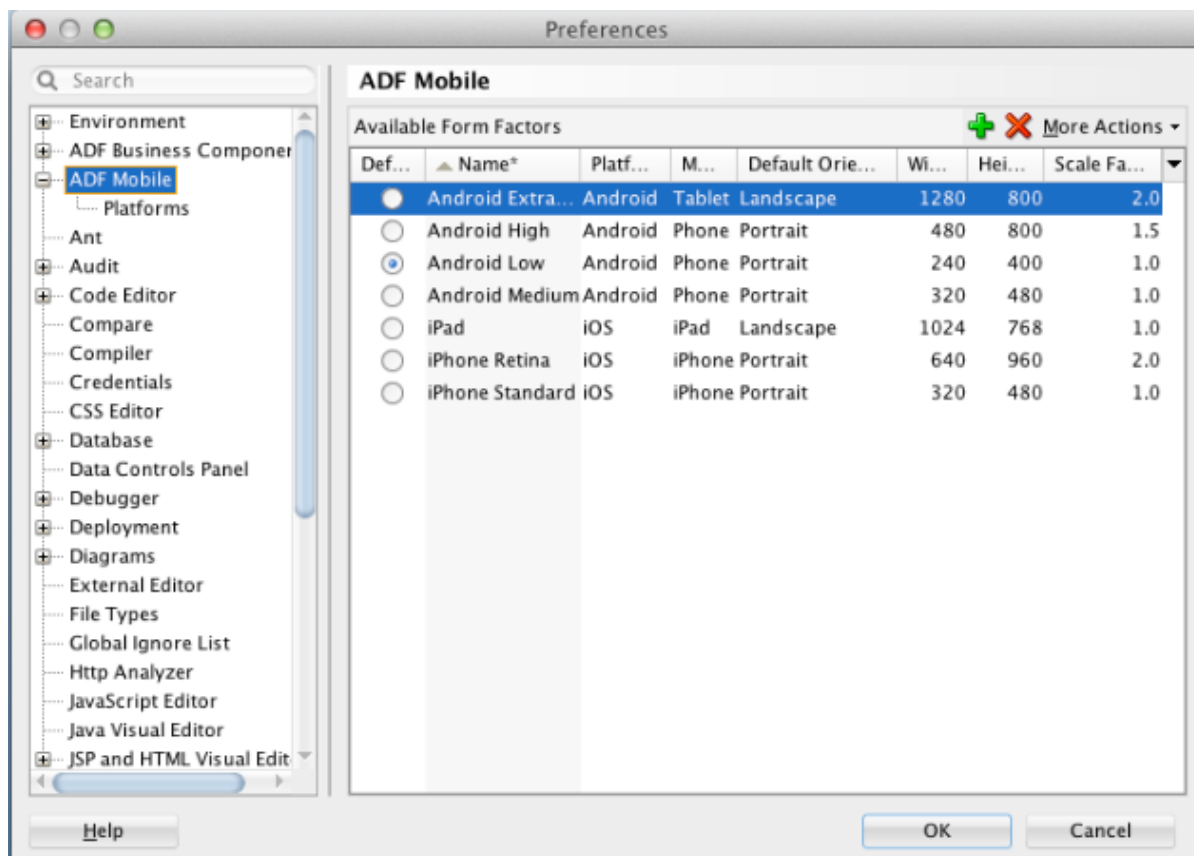


Note: For additional details on mobile application prerequisites, see section 3.2, [Prerequisites for Developing ADF Mobile Applications](#), in the *Oracle Fusion Middleware Mobile Developer's Guide for Oracle Application Development Framework 11g Release 2 (11.1.2.4.0)* on the Oracle Technology Network (OTN).

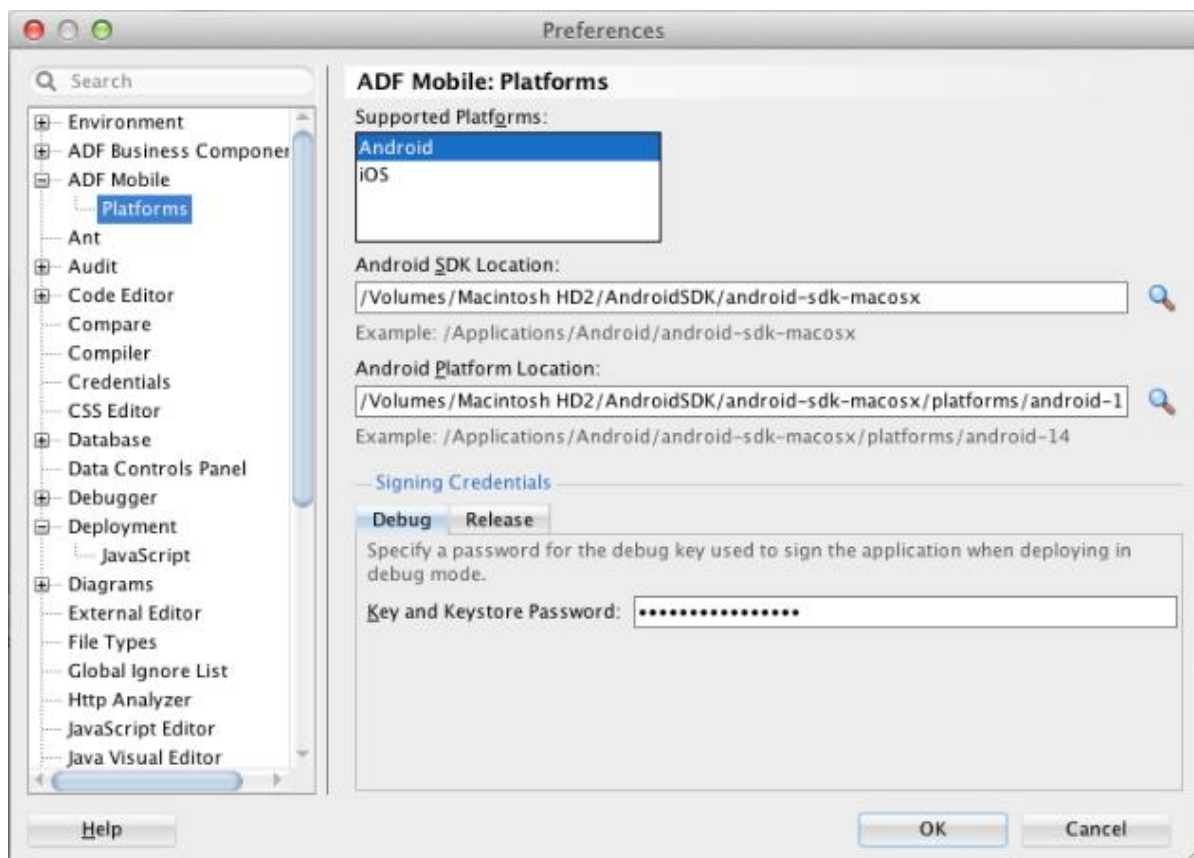
Setup for Android Development

1. Ensure you have the following:
 - A computer running Windows, Linux or Mac OS.
 - Android SDK with Platform 2.3 or later, and its tools, installed on the OS.
2. Configure platform preferences for Android in JDeveloper:
 - A. Select **Tools > Preferences** from JDeveloper's main menu.
 - B. In the **Preferences** dialog, select **ADF Mobile** from the tree.

The ADF Mobile page that opens is populated with default form factor settings.



- C. Select **Platforms** from the tree to open the **ADF Mobile: Platforms** page that contains the path and configuration for supported platforms
- D. Select **Android** in **Supported Platforms** and specify the following:
- The Android SDK location on your computer.
 - The local directory of your target Android platform.
 - Information on the signing credentials.



Note: For additional details on mobile application prerequisites, see section 3.2, [Prerequisites for Developing ADF Mobile Applications](#), in the *Oracle Fusion Middleware Mobile Developer's Guide for Oracle Application Development Framework 11g Release 2 (11.1.2.4.0)* on the Oracle Technology Network (OTN).

Sample Project

The sample project described in this section (available for download from [Oracle Support Knowledge Base Article 1503729.1](#)) uses the CSS Mobile browser application URL as a remote URL for the native mobile application. The sample project is packaged as a Mobile Application Archive and can be opened in JDeveloper. The sample project can be modified as needed for the client environment.

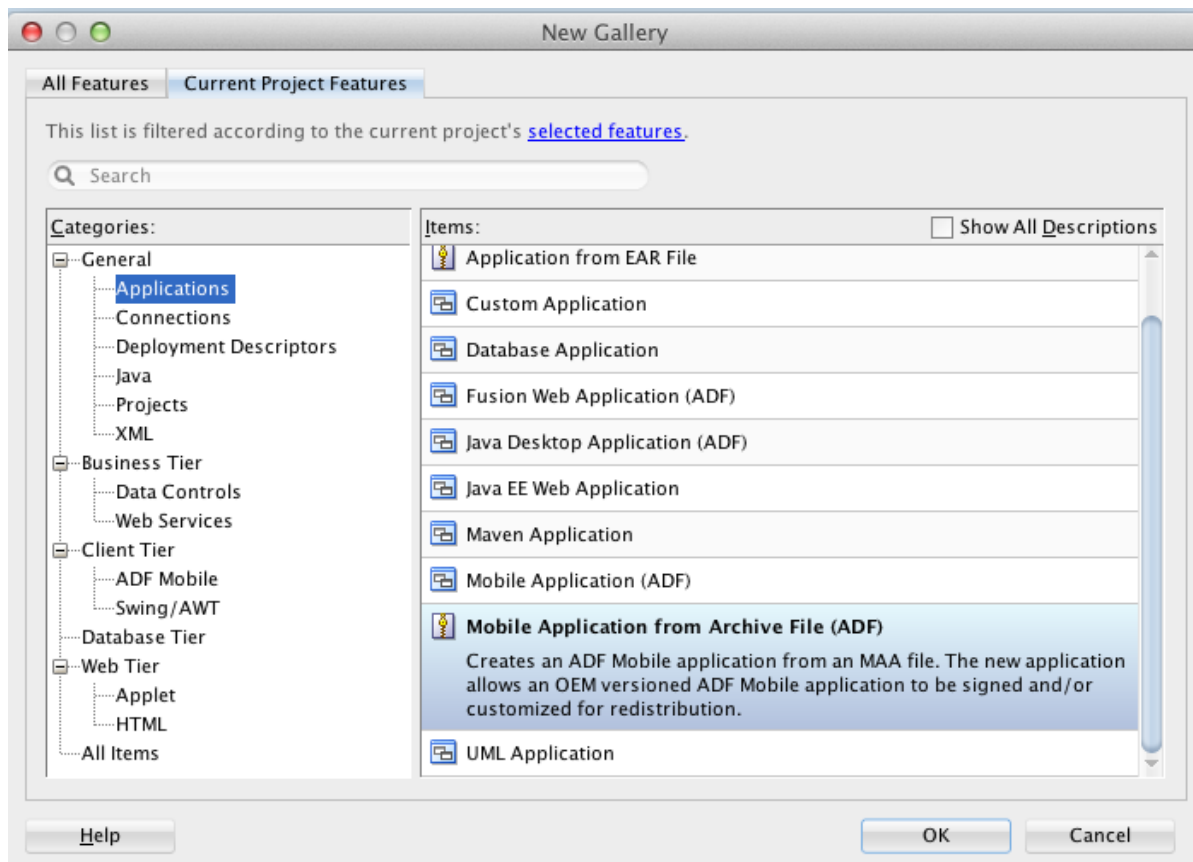
Note: The sample project uses the following:

- Mac OS X version 10.7.5
- JDeveloper 11.1.2.4.0
- iOS version 5
- Android SDK version 20.0.3 , Android Virtual Device with Platform 4.0.3 and API Level 15
- Xcode 4.5.2

Changes Required for Deployment

The sample project (“CSSMobile”) needs to be modified in accordance with the client environment, as described in the following procedure.

- 1 Download [CSSMobile_archive.maa](#) from Oracle Support and extract its contents to a folder on your hard disk drive.
- 2 Open CSSMobile_archive.maa in JDeveloper to modify the project. To open the Mobile application archive navigate in JDeveloper to File > New > General > Applications.
- 3 Select the Mobile Application from Archive File (ADF) option as shown below



- 4 Select the CSSMobile_archive.maa to create Mobile application from the sample mobile archive file and give it a new application name and click on the Next button

Mobile Application from Archive (ADF) – Step 1 of 2

Location

Provide the location of the ADF Mobile Application Archive (MAA) file as well as the location of the new application.

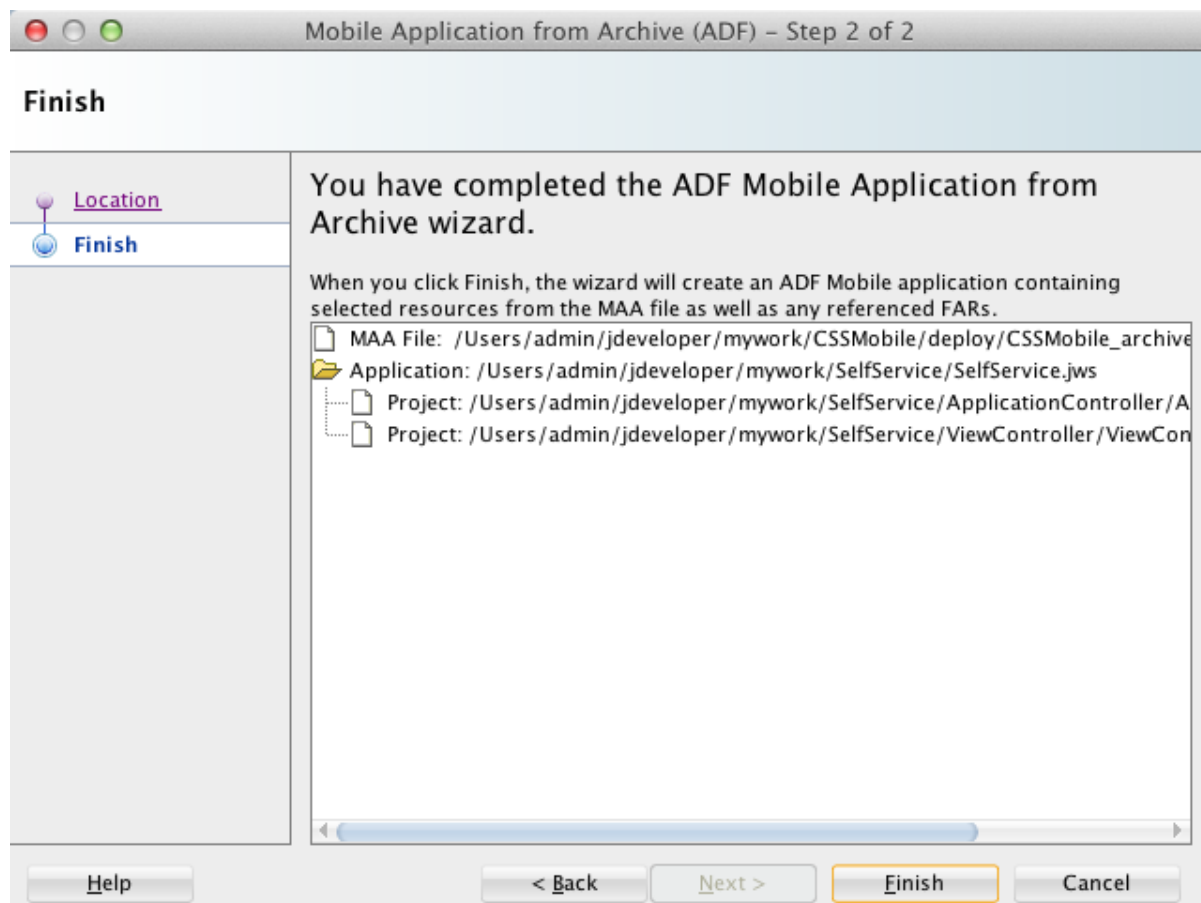
MAA File:
 Browse...

Application File:

Directory:
 Browse...

Help **< Back** **Next >** **Finish** **Cancel**

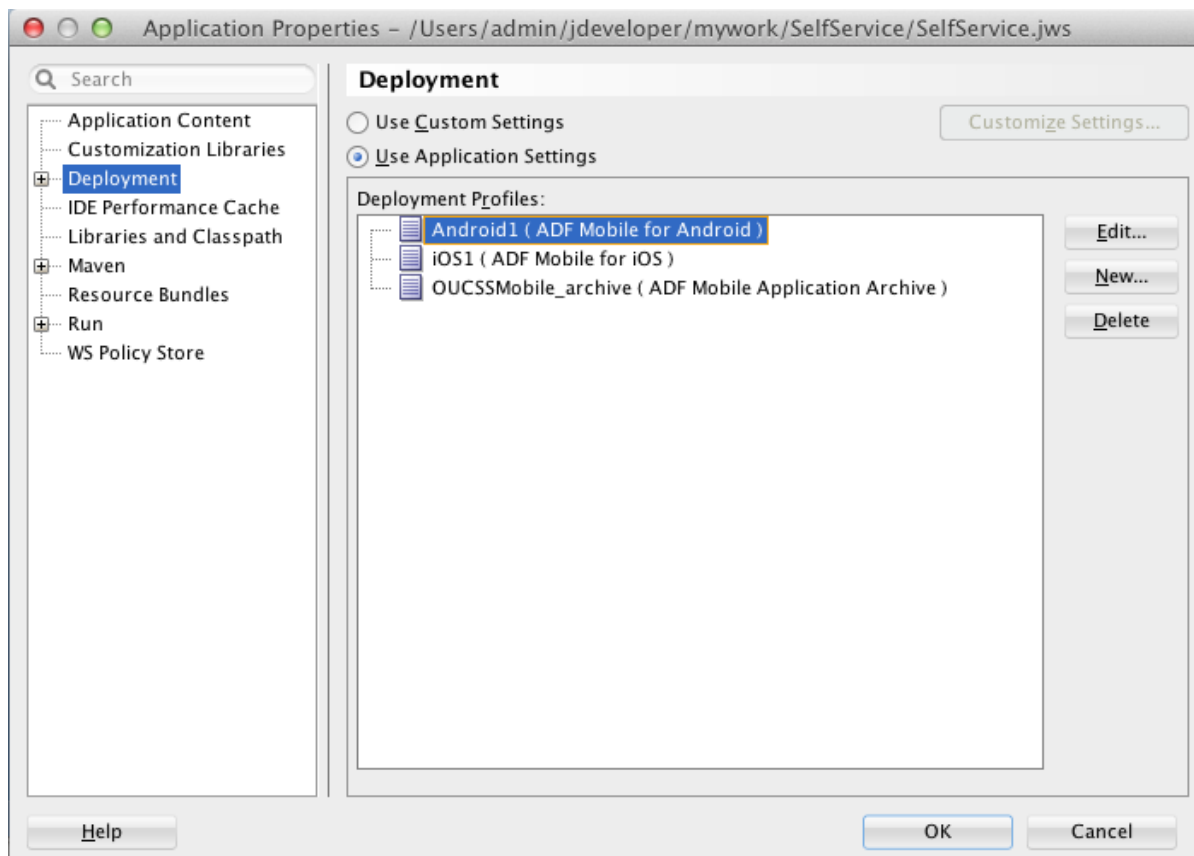
- 5 Click on Finish button



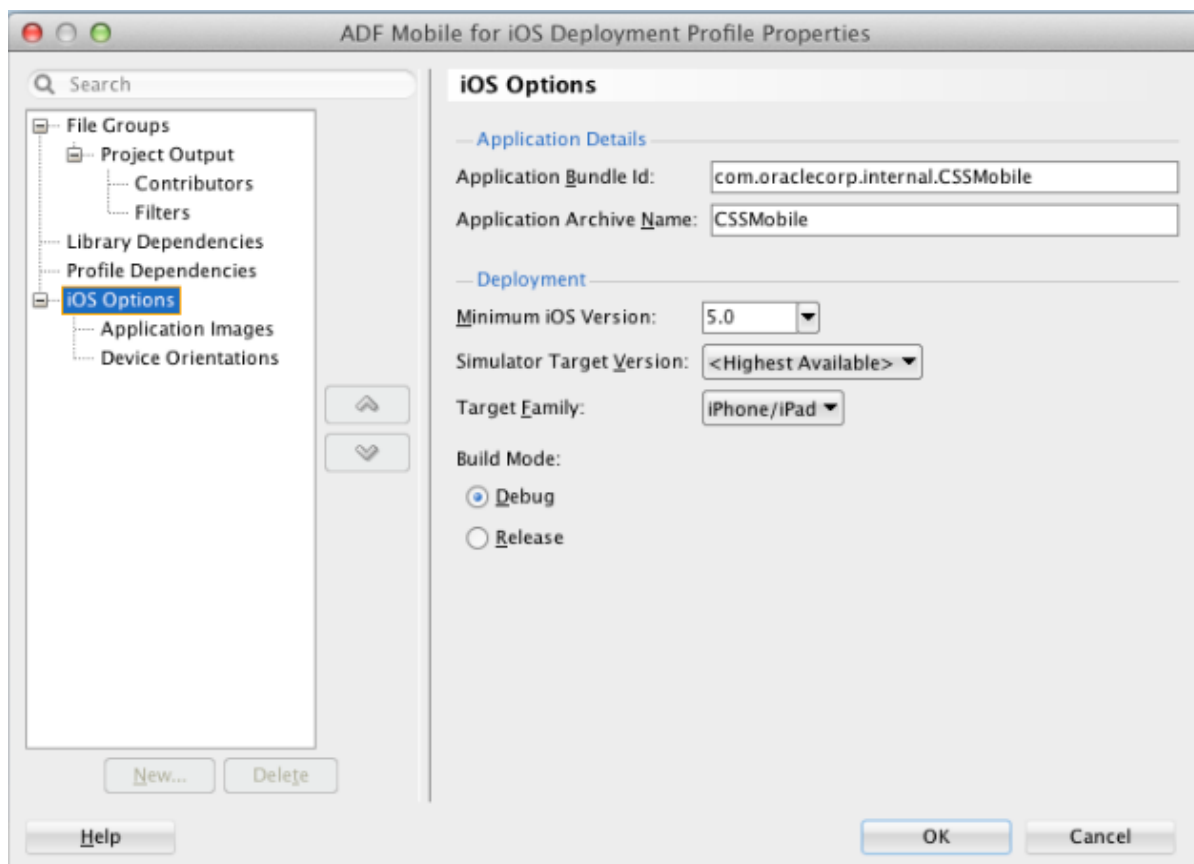
The sample project has a predefined deployment profile for the iOS platform and a second for the Android platform. Also there is a third deployment profile to create Mobile archive application file.

- For iOS: iOS1 (ADF Mobile for iOS)
- For Android: Android1 (ADF Mobile for Android)
- For Mobile application archive: CSSMobile_archive (ADF Mobile Application Archive)

To open the deployment profiles, navigate to **Application > Application Properties > Deployment**.



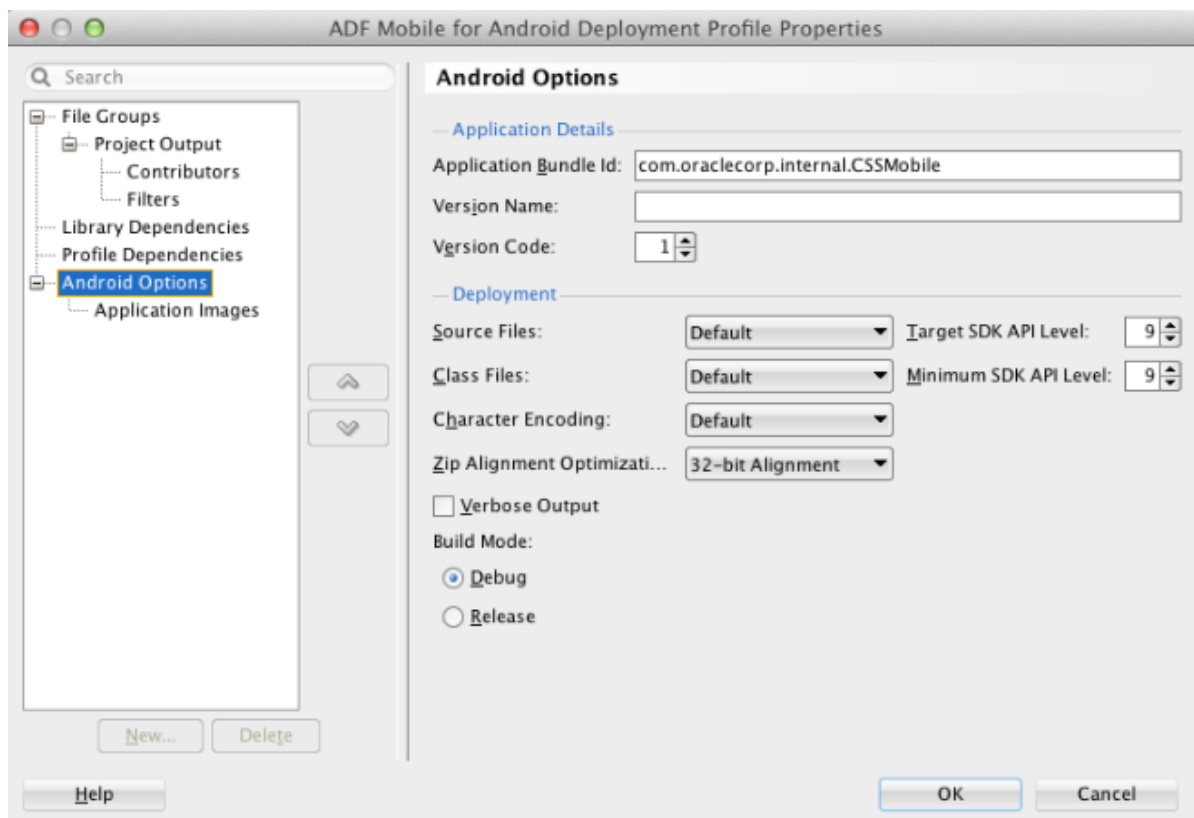
- 6 For iOS, modify the following options:
 - A. The Application Bundle Id is the **Application Id** specified in **admf-application.xml**.
 - B. Change the **Application Id** in **admf-application.xml** and the **Application Bundle Id** in the iOS Deployment profile options per the client naming convention.



Note: For additional details on creating a deployment profile, see section 17.2.4, [How to Create an iOS Deployment Profile](#), in the *Oracle Fusion Middleware Mobile Developer's Guide for Oracle Application Development Framework 11g Release 2 (11.1.2.4.0)* on the Oracle Technology Network (OTN).

For Android, modify:

- A. The Application Bundle Id is the **Application Id** specified in **adfmf-application.xml**.
- B. Change the **Application Id** in **adfmf-application.xml** and **Application Bundle Id** in the Android Deployment profile options per the client naming convention.

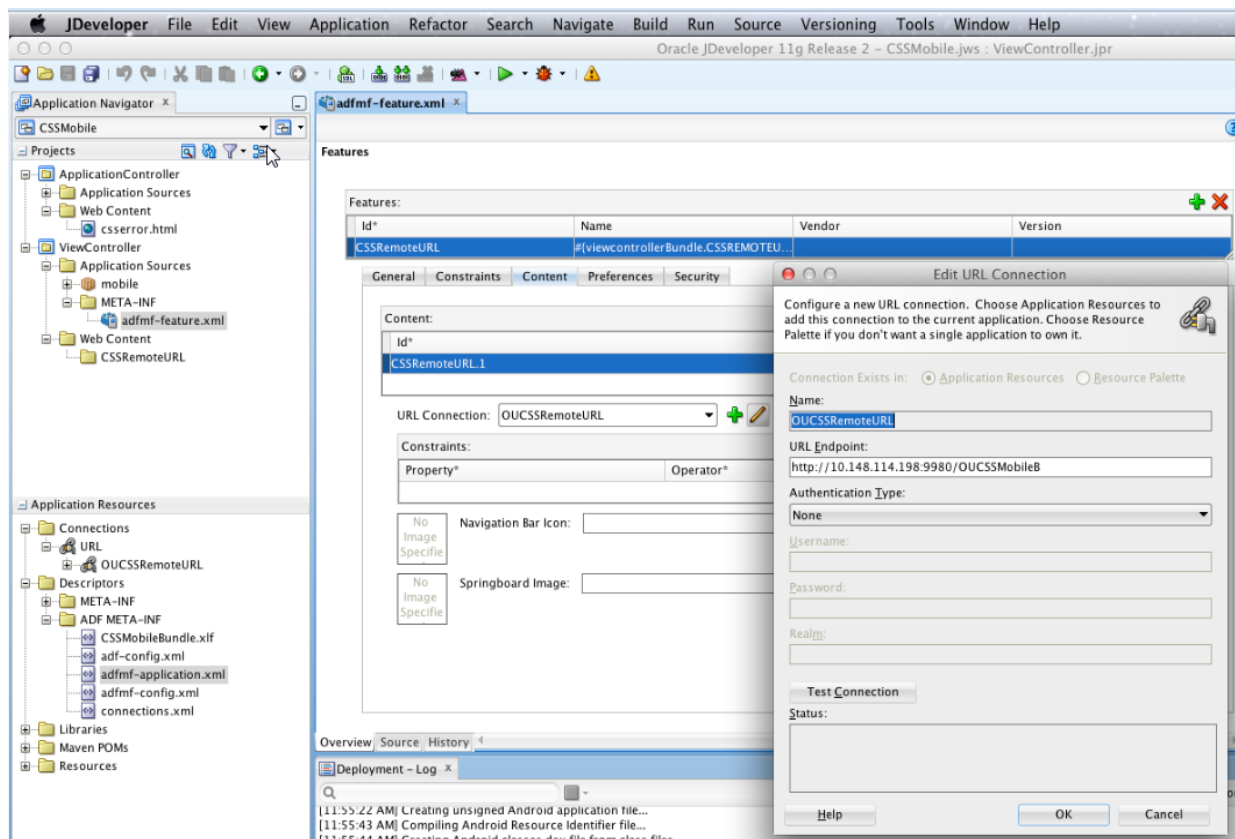


Note: For additional details on creating a deployment profile, see section 17.2.3, [How to Create an Android Deployment Profile](#), in the *Oracle Fusion Middleware Mobile Developer's Guide for Oracle Application Development Framework 11g Release 2 (11.1.2.4.0)* on the Oracle Technology Network (OTN).

Remote URL

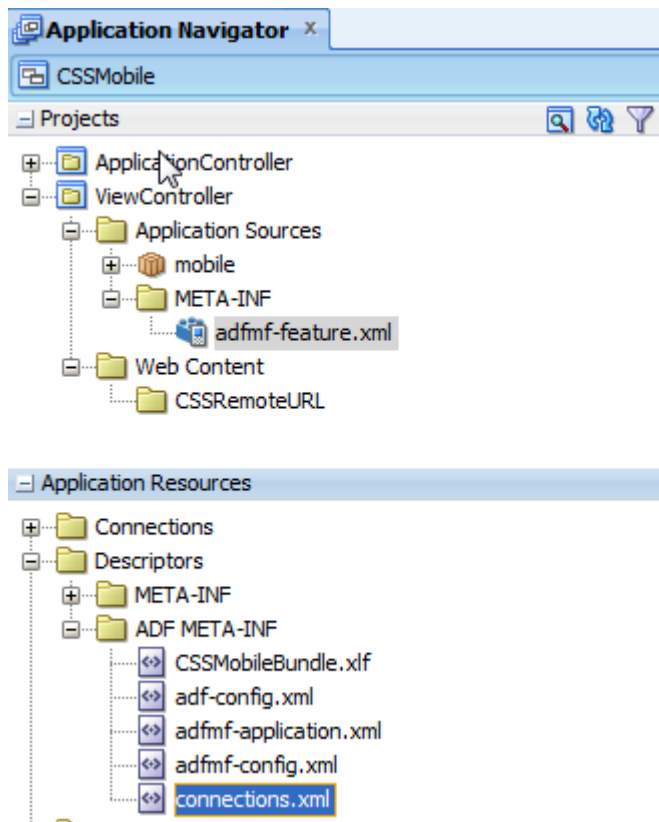
The Remote URL is the URL of the CSS Mobile browser application. This URL is used by the Mobile native application, and the CSS Mobile browser site is rendered within the CSS native application. The following procedure describes how to change the remote URL in accordance with the client environment.

- 1 In JDeveloper, open the `admf-feature.xml` file in **ViewController > Application Sources > META-INF**.
- 2 On the `admf-feature.xml` **Overview** page, select the **CSSRemoteURL** feature in the **Features** table.
- 3 Select the **Content** tab.
- 4 In the **Content** pane, click the **URL Connection** edit button.
- 5 An **Edit URL Connection** window opens to let you change the Remote URL using the **URL Endpoint** field.
- 6 Save the change, and redeploy the application to pick up the new remote URL.



Alternatively, the remote URL can be changed by modifying the **url** attribute for **urlconnection** in the **connections.xml** file (located in the **Application Resources/ADF META-INF** folder):

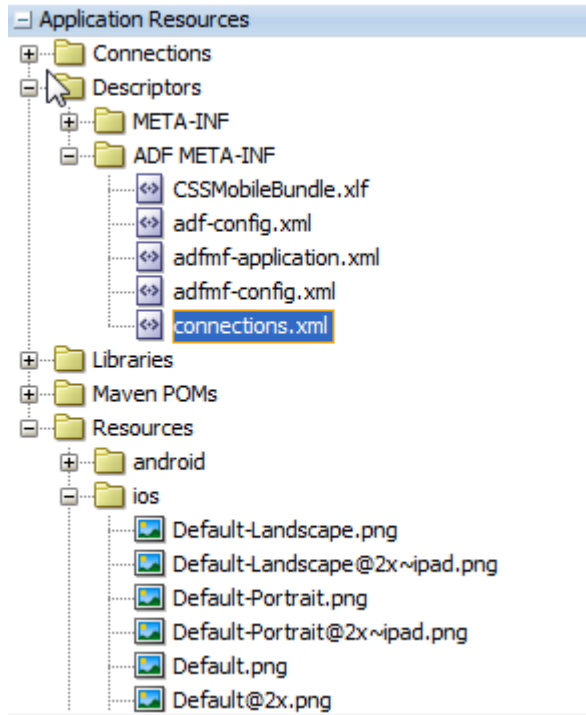
```
<urlconnection name="OUCSSRemoteURL"
url="http://<hostname>:<port>/OUCSSMobileB"/>
```



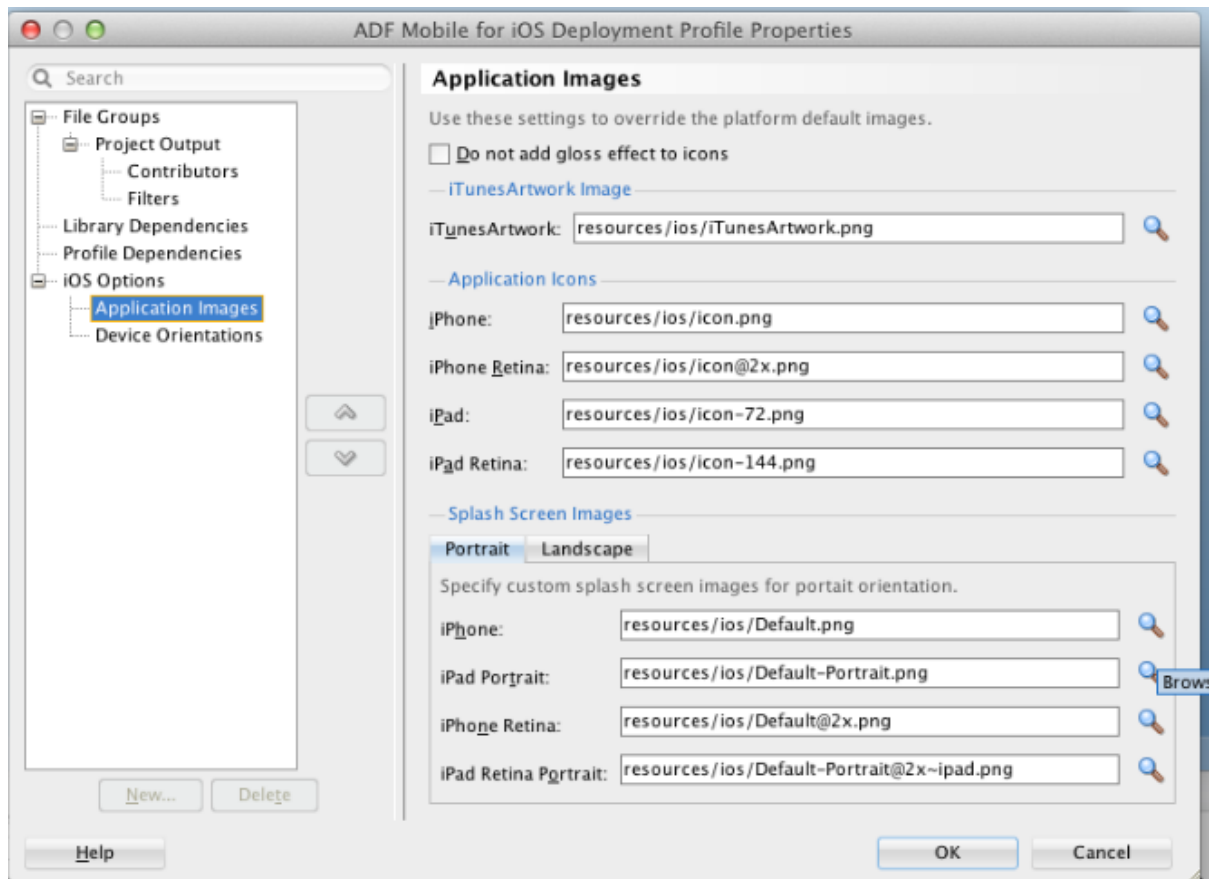
Images

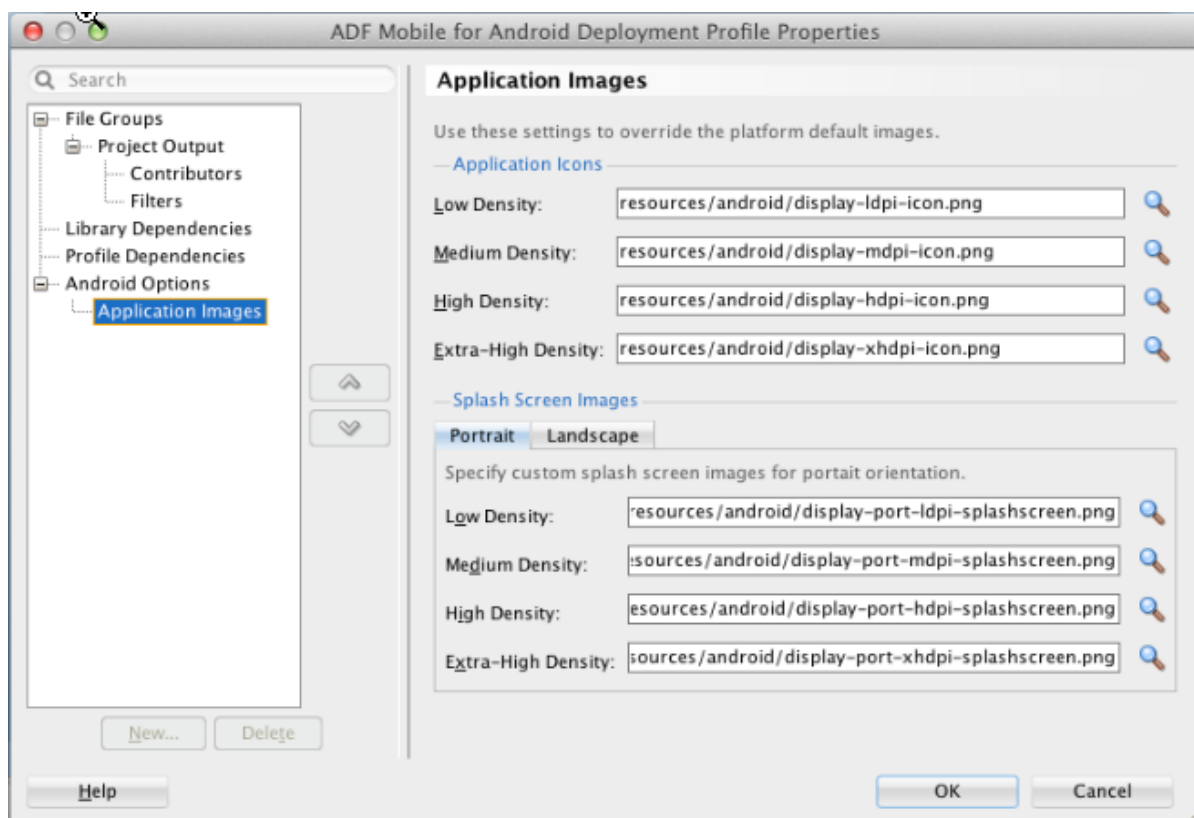
Images used for the CSS mobile native application are packaged as part of the JDeveloper project.

These images are contained in the **Application Resources/Resources** folder, with separate subfolders for iOS and Android:



To create new images and change the default images, use the respective **Resources/iOS** and **Resources/Android** folders. The deployment profiles for iOS and Android can be modified to use the new images.

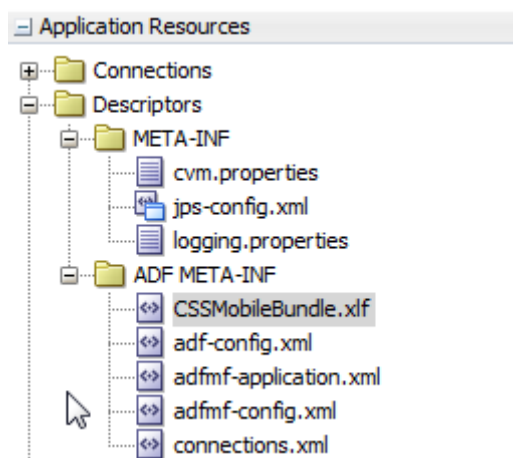
iOS images:

Android images:**Native Application Display Name**

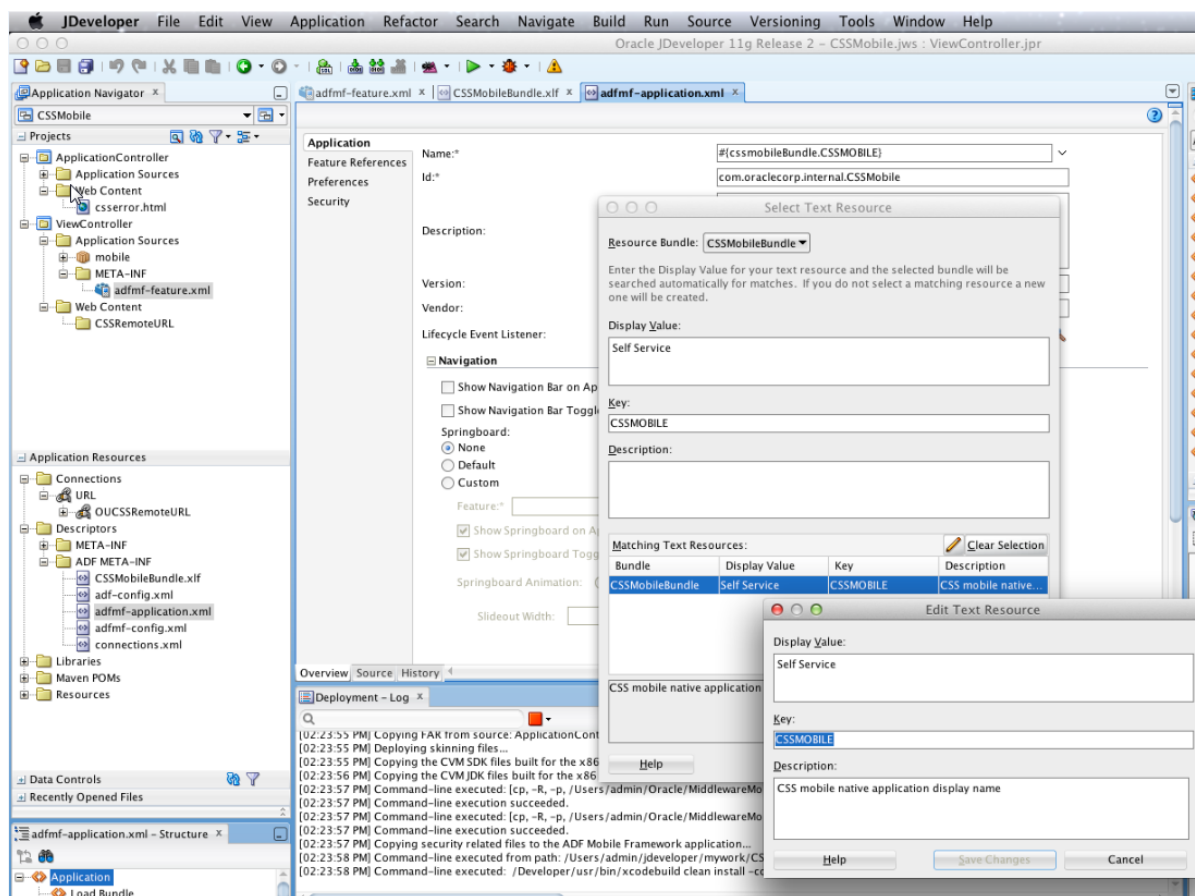
The native application name displayed on the device can be changed in accordance with client requirements.

The native application name is picked up from the `CSSMobileBundle.xlf` file. The name is used by `adfmf-application.xml`.

In JDeveloper, the `CSSMobileBundle.xlf` file is contained in the **Application Resources/Descriptors/ADF META-INF** folder:



- 1 To change the name, open `admf-application.xml` and go to **Overview**.
- 2 Click the down arrow after the **Name** field and click the **Select Text Resource** menu item.
This opens **CSSMobileBundle** in a dialog. The key **CSSMobile** is displayed in the **Matching Text Resources** table
- 3 Select the row with the **Key** column value **CSSMobile**, then click the **Edit** symbol.
This opens another dialog in which the **Display Value** can be modified and saved.
- 4 Redeploy the native application to pick up the new name.



Alternatively, the display name can be changed by directly editing the **CSSMobileBundle.xlf** as follows:

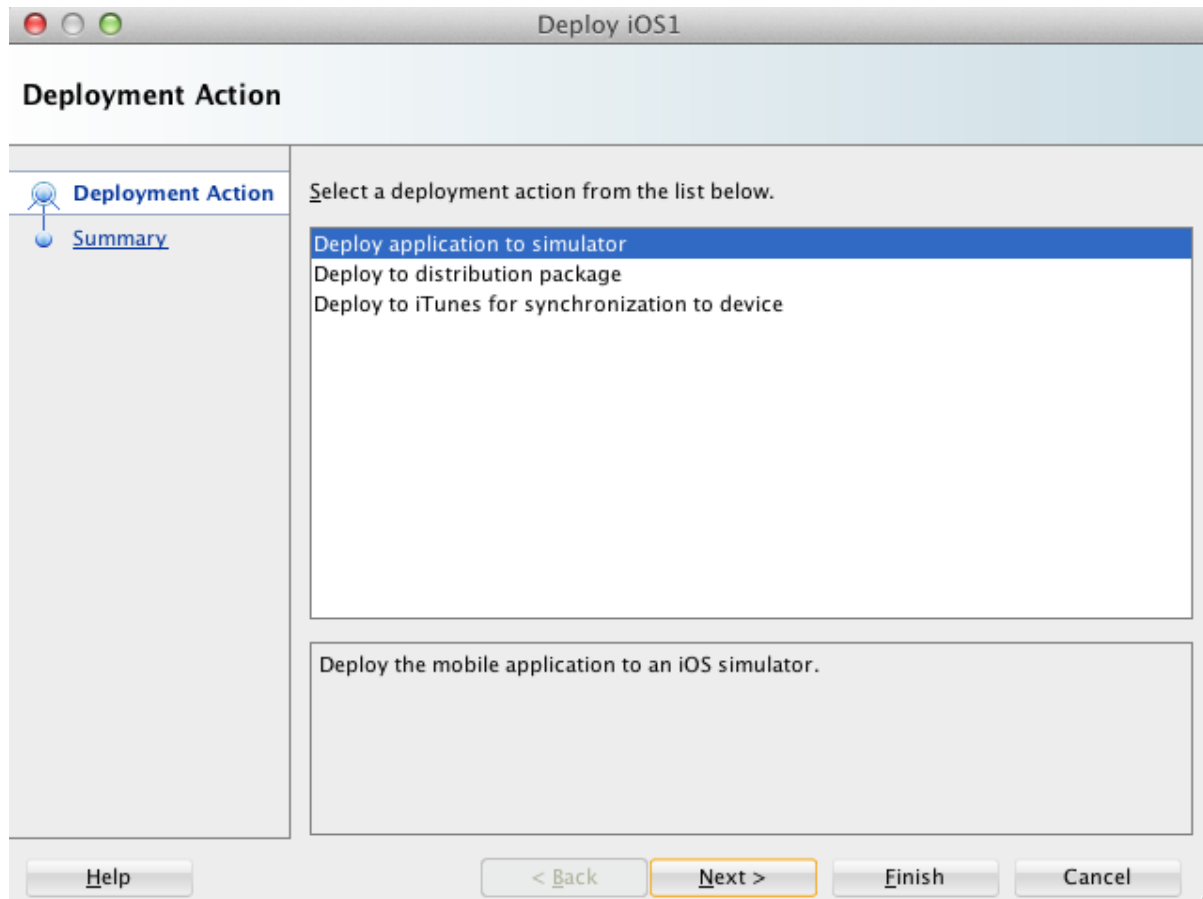
```
<source>CSSMobile</source>
```

Deploying the native application

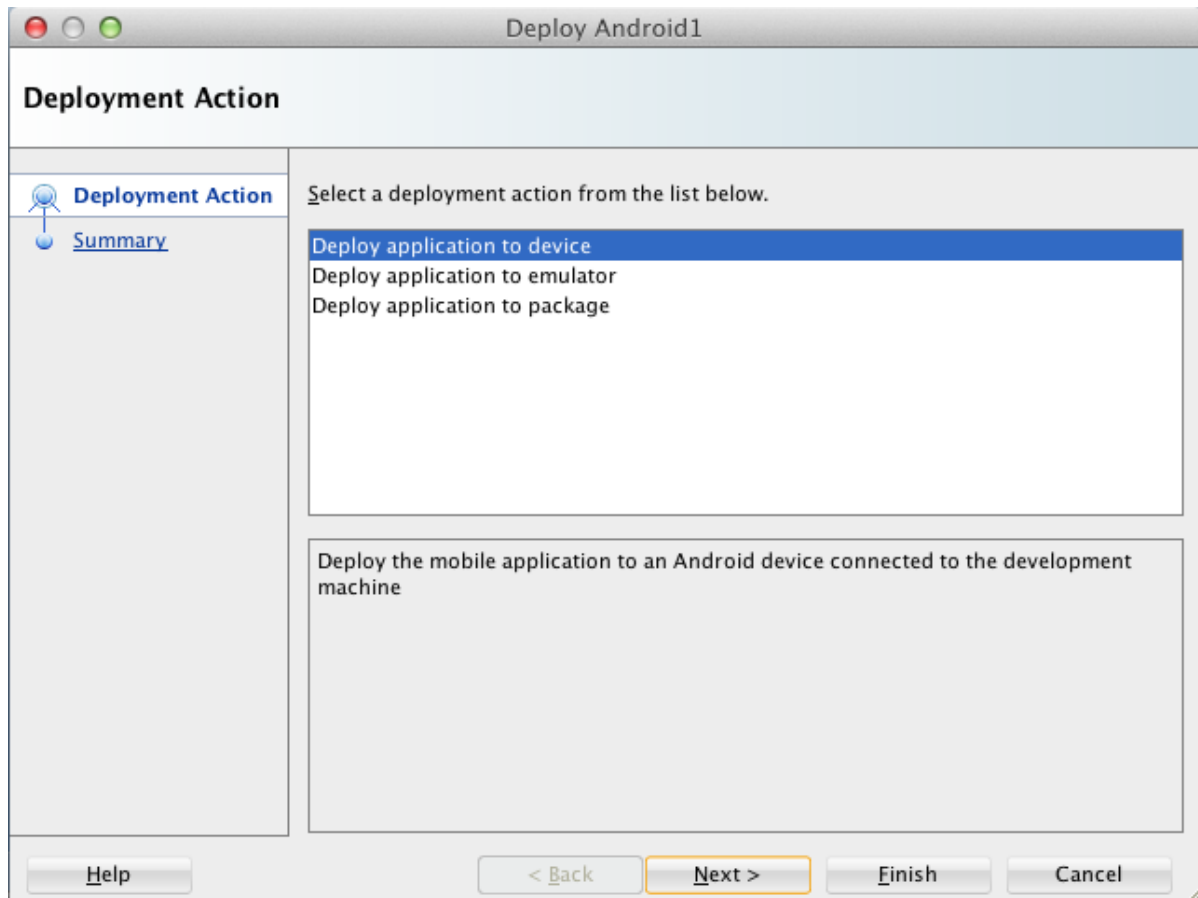
The modified sample application can be deployed to the iOS Simulator or Android emulator using JDeveloper. JDeveloper can also create the deployment packages for iOS (.ipa file) and Android (.apk file).

To deploy the application using JDeveloper, choose **Application > Deploy** on the menu, then select the iOS or Android deployment profile.

iOS deployment options are shown in the following image:



Android deployment options are shown in the following image:



Note: For additional detail, see section 17, Deploying [ADF Mobile Applications](#), in the *Oracle Fusion Middleware Mobile Developer's Guide for Oracle Application Development Framework 11g Release 2 (11.1.2.4.0)* on the Oracle Technology Network (OTN).