Oracle Real-Time Scheduler

Hybrid Mobile Application Installation and Deployment Guide

Release 2.3.0.3.0

F11057-01

November 2018

ORACLE

Oracle Real-Time Scheduler Mobile Application Installation and Deployment Guide Release 2.3.0.3.0

Copyright © 2000, 2018 Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Contents

Preface ..... **i-i**
Audience ..... i-i
Related Documents ..... i-i
Conventions ..... i-ii
Acronyms and Definitions ..... i-ii

Chapter 1
Installation Overview **1-1**
Installation Overview 1-1

Chapter 2
Supported Platforms and Hardware Requirements **2-1**
Supported Environments and Platforms 2-2
Hardware Requirements 2-2
Pre-requisite Software 2-2
Build Environments vs Runtimes (for Windows 10 only) 2-2

Chapter 3
Installing Pre-Requisite Software **3-1**
Windows Environment 3-1

Chapter 4
Installing the Oracle Real-Time Scheduler Mobile Application **4-1**
Installing the Mobile Application SDK 4-1

Chapter 5
Building the Mobile Application **5-1**
Building the Mobile Application on Apache Cordova Project 5-2

Chapter 6
Deploying the Mobile Application **6-1**
Android Deployment 6-1
iOS Deployment 6-1
Windows 10 Deployment 6-1
Uninstalling the Windows 10 Application 6-1

Appendix A
Configurations **A-1**
Project Configurations A-1
Common Properties A-1
Proxy Settings A-1
Node js A-2
Git A-2

Preface

This guide describes how to install the mobility module of Oracle Real-Time Scheduler. This preface contains these topics:

- Audience
- Related Documents
- Conventions
- Acronyms and Definitions

Audience

This guide is intended for system administrators installing the hybrid mobility module of Oracle Real-Time Scheduler.

To complete this installation, you should have:

- Experience installing and configuring development environment for mobile applications, application servers and other software.
- Administrative privileges on the host where you are installing, building and deploying the software.

Related Documents

The following is the complete set of documentation available with this release.

Installation, Configuration, and Release Notes

- *Oracle Real-Time Scheduler Release Notes*
- *Oracle Real-Time Scheduler Quick Install Guide*
- *Oracle Real-Time Scheduler Server Application Installation Guide*
- *Oracle Real-Time Scheduler DBA Guide*
- *Oracle Real-Time Scheduler Hybrid Mobile Application Installation and Deployment Guide*

User Guides

- *Oracle Real-Time Scheduler Administrative User Guide*
- *Oracle Real-Time Scheduler Business User Guide*
- *Oracle Real-Time Scheduler Mobile Application User's Guide (Java-based)*
- *Oracle Real-Time Scheduler Hybrid Mobile Application User's Guide*

- *Oracle Real-Time Scheduler Hybrid Mobile Contractor Application User's Guide*

Map Editor Installation and User Guides

- *Oracle Real-Time Scheduler Map Editor User's Guide*
- *Oracle Real-Time Scheduler Map Editor Installation Guide*

Supplemental Documents

- *Oracle Real-Time Scheduler Server Administration Guide*
- *Oracle Real-Time Scheduler Security Guide*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Acronyms and Definitions

The following text conventions are used in this document:

Convention	Meaning
ORS	Oracle Real-Time Scheduler
MWM	Oracle Utilities Mobile Workforce Management
WLS	Weblogic Server
SDK	Software Development Kit
NPM	Node Package Manager
CLI	Apache Cordova Command Line Interface
OUI	Oracle Universal Installer
iOS	Apple mobile operating system
Android	Google mobile operating system

Chapter 1

Installation Overview

This chapter includes:

- Installation Overview

Installation Overview

Follow these steps to install, build and deploy the Oracle Real-Time Scheduler mobile application:

1. Install and configure Oracle Real-Time Scheduler server application as described in Oracle Real-Time Scheduler *Server Application Installation Guide*.
2. Review the mobile application architecture as described in Oracle Real-Time Scheduler *Mobile Application Implementation and Development Guide*.
3. Review and prepare for the download and installation of required Oracle and third-party software as described in the section Pre-requisite Software.(Required only for Windows 10 application).

   Note: Please review proxy settings setup as described in Appendix Configurations.
4. Plan your installation and prepare configuration properties for project as described in Appendix Configurations(Required only for Windows 10 application).
5. Determine the type of installation and follow the instructions in the chapter Installing the Oracle Real-Time Scheduler Mobile Application corresponding to that type of installation. (Required only for Windows 10 application).
6. Setup the project and build the mobile application. Follow the instructions in the chapter Building the Mobile Application corresponding to the selected runtime platform. (Required only for Windows 10 application).
7. Deploy the mobile application. Follow the instructions in the chapter Deploying the Mobile Application corresponding to the selected runtime platform.

Chapter 2

Supported Platforms and Hardware Requirements

This chapter includes:

- Supported Environments and Platforms
- Hardware Requirements
- Pre-requisite Software
- Build Environments vs Runtimes (for Windows 10 only)

Supported Environments and Platforms

The mobile application, based on HTML5, is supported for iOS, Android and Windows 10.

Hardware Requirements

The following are the hardware requirements for the mobile application:

iOS

iOS devices running iOS 8.1.x upto 9.2

Android

Android device running Android 4.4 or 5.0

Windows 10

Windows device (laptop/tablet) running Windows 10 operating system

Application Server

For information on the application servers supported by this release, refer to the section "Operating Systems and Application Servers" in the Oracle Real-Time Scheduler *Server Installation Guide*.

Pre-requisite Software

Note: The content of this section is only applicable for Windows 10.

The following software must be installed and configured prior to installation of the mobile application of Oracle Real-Time Scheduler:

- Node.js (v4.2.2) - a platform built on Chrome's JavaScript runtime for building fast, scalable network applications.
- Git (v1.9.4) - a repository which offers all of the distributed revision control and source code management functionality in order to have the mobile standard plugins.
- Apache Ant (v1.9.4) or above - for automating the software build processes.
- Ant contrib (v1.0b2)
- Java Development Kit (v1.7 or above) with Java Standard Edition for compiling the Ant tasks and builds.
- Cordova (v5.2.0) - a mobile development framework for enabling programmers to develop applications in HTML5, Javascript and CSS3 instead of relying on platform-specific APIs like those in iOS or Android. Cordova enables wrapping up of HTML, CSS and Javascript code depending upon the platform of the device.
- Microsoft Visual Studio 2015

Build Environments vs Runtimes (for Windows 10 only)

A build environment is a desktop or laptop on which the pre-requisite software (such as Apache Cordova Command Line Interface) and the mobile integrated development environments (Visual Studio) are installed.

Build environments allow for the customizing and packaging of mobile applications (such as .apk and .ipa files). An example build environment is Windows.

Runtimes are mobile devices where the generated artifacts like .appx are deployed. Runtimes have underlying operating systems such as Windows 10. An example runtime is a Windows device running Windows 10 operating system.

Chapter 3

Installing Pre-Requisite Software

This chapter describes the steps to install the pre-requisite software for the Windows environment.

The content of this chapter is applicable for Windows 10 only.

Windows Environment

Only Windows 10 runtime is supported on the Windows operating system.

The following procedure describes the steps to install the pre-requisite software on your Windows environment.

Note: The URLs noted in this section are download links to open-source software and are subject to occasional change.

1. Download and install Node.js (http://nodejs.org).
   a. To ensure that npm is working from the command line, execute the below command:

      ```
      npm -version
      ```

2. Download and install Git client (http://git-scm.com).
   a. Set the path variable as below, if Git is not in the path

      ```
      SET PATH=<Git Installed path>/bin;%PATH%
      ```

3. Verify whether the installation system is behind a corporate proxy. If yes, refer to the section Proxy Settings in this guide.
4. Install the Cordova module using the npm utility of Node.js. The Cordova module is automatically downloaded by the npm utility.

   ```
   npm install -g cordova@5.2.0
   ```

   Note: Ensure that the Cordova command executes successfully from any directory from command line after installation.
5. Download and install JDK 1.7 (http://www.oracle.com/technetwork/java/javase/downloads/index.html) or above.
   a. Configure the variable as JAVA_HOME.
   b. Add JAVA_HOME\bin to the path variable according to the environments.
   c. Once JDK is installed, Apache Ant runs successfully.
6. Download Apache Ant 1.9.x version (http://ant.apache.org/bindownload.cgi).
   a. Unzip the Ant at any preferred location.

b. Set the following environment variables.

```
SET ANT_HOME=<unzipped path>
```

c. Add the bin directory to the path variable.

```
SET PATH=%ANT_HOME%\bin;%PATH%
```

d. Ensure that Ant command executes successfully by running:

```
ant -version
```

7. Download ant-contrib.jar version (1.0b2 or later) from http://sourceforge.net/projects/ant-contrib/files/ant-contrib/ and copy the jar under the **ANT_HOME\lib** directory.
8. Download Microsoft Visual Studio 2015.

Chapter 4

Installing the Oracle Real-Time Scheduler Mobile Application

This chapter explains the steps to install the Oracle Real-Time Scheduler Mobile Application using the Oracle Universal Installer.

Note: The content of this chapter is applicable for Windows 10 only.

This chapter includes:

- Installing the Mobile Application SDK

Installing the Mobile Application SDK

To install the mobile application, perform these steps:

1. Download the Oracle Real-Time Scheduler v2.3.0 Hybrid Mobile Application Multiplatform.zip from the Oracle Software Delivery Cloud.
2. Unzip the file in a temporary directory <TEMPDIR>.
3. Upon extracting the zip file, a jar file called Mobile_Application_Installer.jar is created in the <TEMPDIR> directory.
4. Set the JAVA_HOME and PATH variables as shown in the examples below:

   Note: The minimum recommended version of JDK is 1.7.0_65 in order to launch the Oracle Universal Installer.

   Windows:

   ```
   set JAVA_HOME=<JAVA_INSTALL_LOCATION>\jdk1.7.0_65
   set PATH=%JAVA_HOME%\bin;%PATH%;.
   ```

5. Execute the following command:

   ```
   java -jar <TEMPDIR>/Mobile_Application_Installer.jar -logLevel finest
   ```

   The **Next Generation Oracle Universal Installer** is launched.

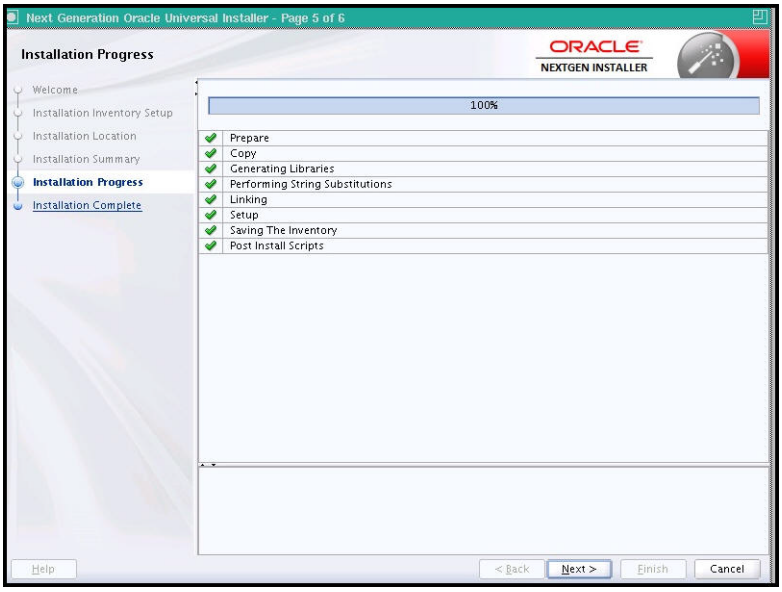
6. Click **Next** on the **Welcome** page of the Next Generation Oracle Universal Installer.
7. On the **Installation Inventory Setup** page, specify a directory where the installation metadata files are to be stored in the **Inventory Directory** field and click **Next**.

   Note: The **Installation Inventory Setup** page only appears for a first-time installation on your machine through **Oracle Universal Installer**.

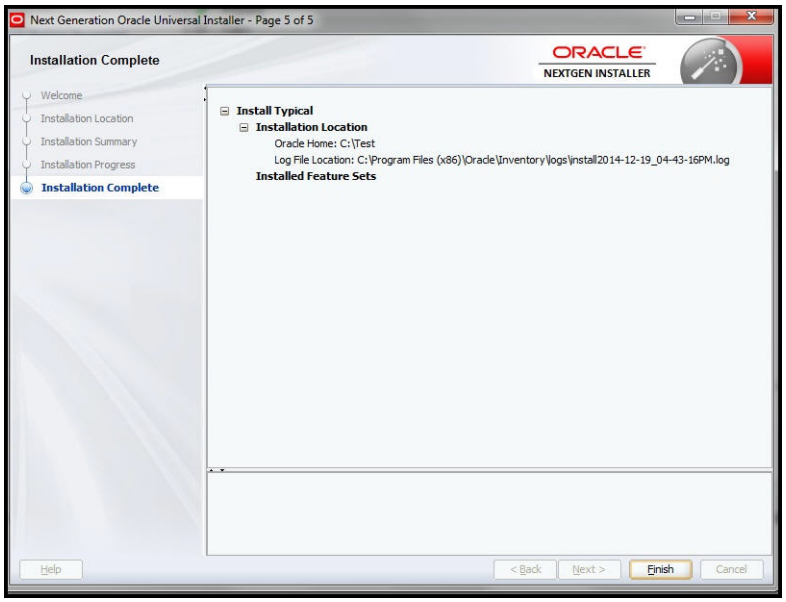
8. On the **Installation Location** page, browse and point to a local folder where you wish to install the mobile application (this is known as the <ORACLE_HOME>) and click **Next**.

   The **Installation Progress page** launches and displays the progress of the installation.

9. Click **Next** on the **Installation Progress** page, once the installation is shown as 100%.



   The **Installation Complete** page launches.



10. Click **Finish** on the **Installation Complete** page.

    This completes the installation of the mobile application SDK.

Chapter 5

Building the Mobile Application

This chapter describes the following steps for building the mobile application.

Note: The content of this chapter is applicable for Windows 10 only.

- Building the Mobile Application on Apache Cordova Project

Building the Mobile Application on Apache Cordova Project

This section describes how to build the mobile application using Apache Cordova.

Go to the location where the product has been extracted and run the following command:

```
cd <PRODUCT_HOME>/bin
ant –f InstallBuildProject.xml
Enter 'y'  when prompted for "Do you wish to Install windows
Application(y,n) :"
```

OR

If you wish to build the project using a different properties file, run the following command:

```
ant -f InstallBuildProject.xml -
DproductProperties=<DifferentLocation>/product_config_<xyz>.properties
```

This script performs the following:

- Copies code artifacts that are developed are copied from PRODUCT_HOME to CORDOVA_HOME.
- Compiles the internally developed and the Cordova provided plugins, with the Cordova build utility invoked by our ant wrapper scripts.
- Generates the appx files through the Cordova build command, based on the flag set in the properties file.

Chapter 6

Deploying the Mobile Application

This chapter describes the steps for deploying the mobile application and includes:

- Android Deployment
- iOS Deployment
- Windows 10 Deployment

Android Deployment

The Android application can be downloaded from the Google Play Store and installed.

iOS Deployment

The iOS application can be downloaded from Apple App Store and installed.

Windows 10 Deployment

Windows application (APPX) file is generated after you follow the steps in Building the Mobile Application on Apache Cordova Project. The application (APPX) file is created in the Cordova project under the folder <PRODUCT_HOME >/output or any other output folder as specified in the properties file. The file created is Oracle MWM 2.3.0.0.appx and can be installed on Windows 10 devices.

> **Note:** To prevent crashing of the open Windows applications, please close all open Windows store applications before proceeding with the following installation.

1. To install the APPX file on Windows device, make sure you have the content of <PRODUCT_HOME >/output in your device on which you are installing.
2. Right click **Add-AppDevPackage.ps1**, select Run with PowerShell.
3. On PowerShell screen enter "y" whenever prompted to accept.

Uninstalling the Windows 10 Application

To uninstall the Windows 10 application from your laptop/tablet, follow the steps below:

1. Go to **Start Menu**.
2. Search for **Oracle MWM**.
3. Right-click on the application and click **Uninstall**.

This uninstalls the Windows 10 application from your device.

Appendix A

Configurations

This appendix serves as a reference for the various configurations for building the Oracle Real-Time Scheduler mobile application, including:

- Project Configurations
- Proxy Settings

Project Configurations

The extracted folder or etc/config consists of the following configurable items:

- **internal_product_config.properties** - These properties are internal properties which are **not** intended to be changed. Oracle does not recommend you to change any of these entries.
- **product_config.properties** - The tables below describe the configurable properties in this file.

Common Properties

Property	Description	Example
cordova.project.directory	Apache Cordova Project directory location	C\:/ORS_Application/CordovaProjects/2.3.0_Release
install.windows.application	Option to create the Windows runtime from the Apache Cordova Project	y for Yes
projectId	Used to create the projects on devices. It is the package name of the application as well.	com.oraclecorp.internal.mwm.orsapplication
projectName	Name of the project to be generated.	ORS_Application

Proxy Settings

This section describes the configurations that are needed in order to bypass the corporate proxy for the following applications:

Node js

Run the below commands from Command line interface to bypass the npm entries:

```
npm config set proxy http://<<proxy-host>>:<<proxy-port>>
npm config set https-proxy http:// <<proxy-host>>:<<proxy-port>>
```

While running the commands, if you face any issues please create the directory

```
<Users-directory>\AppData\Roaming\npm
```

Git

For by passing the git entries, run the below commands from Command Line interface

```
git config --global http.proxy http:// <<proxy-host>>:<<proxy-port>>
git config --global https.proxy http:// <<proxy-host>>:<<proxy-port>>
```

In order to ensure that the below commands are successfully executed, go to the users folder.

Windows: - `C:/Users/<user-name>`

Ensure that the .npmrc and .gitconfig files are present. Ensure that the proxy host and proxy port details are defined for http and https protocols.