

Oracle® Database Mobile Server

Installation Guide

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Preface

This preface introduces you to the *Oracle Database Mobile Server Installation Guide*, discussing the intended audience, documentation accessibility, related documents, and conventions of this document.

Intended Audience

This manual is intended for users, who are new to the product, and administrators who are installing or upgrading Oracle Database Mobile Server.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Related Documents

Use the following manuals as reference when installing and configuring OracleAS, WebLogic or Glassfish server:

- *Oracle® Fusion Middleware Administrator's Guide*
- *Oracle® Fusion Middleware Installation Guide for Oracle WebLogic Server*
- *Oracle® GlassFish Server 3.0.1 Installation Guide*

Conventions

The following conventions are also used in this manual:

Convention	Meaning
.	Vertical ellipsis points in an example mean that information not directly related to the example has been omitted.
...	Horizontal ellipsis points in statements or commands mean that parts of the statement or command not directly related to the example have been omitted
boldface text	Boldface type in text indicates a term defined in the text, the glossary, or in both locations.
<i>italic</i>	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.
<i>italic monospace</i>	Italic monospace type indicates a variable in a code example that you must replace. For example: <pre>Driver=<i>install_dir</i>/lib/libtten.sl</pre> Replace <i>install_dir</i> with the path of your TimesTen installation directory.
< >	Angle brackets enclose user-supplied names.
[]	Brackets enclose optional clauses from which you can choose one or none.

Oracle Database Mobile Server Concepts

The following sections provide an introduction to Oracle Database Mobile Server and its components:

- [Section 1.1, "Overview of Oracle Database Mobile Server"](#)
- [Section 1.2, "Roadmap to Understanding and Using the Mobile Server"](#)

1.1 Overview of Oracle Database Mobile Server

Oracle Database Mobile Server provides a complete mobile infrastructure designed to run enterprise database applications for clients using either the Berkeley DB or SQLite databases. Oracle Database Mobile Server provides the infrastructure that makes the enterprise application and data store available even when communications to the enterprise itself are not available or reliable. Oracle Database Mobile Server brings the applications that were once limited to the base office and deploys these applications out into the world where they are most needed.

The following sections describe how you can use Oracle Database Mobile Server to streamline your operations in the field:

- [Section 1.1.1, "What is a Mobile Architecture?"](#)
- [Section 1.1.2, "What Are the Benefits of a Mobile Architecture?"](#)
- [Section 1.1.3, "Why Use Oracle Database Mobile Server?"](#)

1.1.1 What is a Mobile Architecture?

The mobile architecture completes the enterprise system by merging the enterprise infrastructure with every remote aspect of the organization. A mobile architecture contains the remote application, the remote database, and the remote rules of the business. The Oracle Database Mobile Server mobile infrastructure is responsible for connecting and synchronizing applications, associated data, and business rules with the applications, database, and business rules of the enterprise.

1.1.2 What Are the Benefits of a Mobile Architecture?

A mobile architecture with the proper design, security components, and implementation saves money. Oracle Database Mobile Server can remove some of the manual processes performed out in the field. In the past, you may have manually written down the information in the field and then manually entered the data in the enterprise database once you returned to the corporate environment. With Oracle Database Mobile Server, you can capture the data once in the field by entering the data into a client device. Then, this data is synchronized up to the enterprise without

returning to the office to manually enter data. This removes a loss of productivity due to manual processes and sends the data immediately to the enterprise where it belongs. In addition, data can flow bi-directionally. If you need information at the remote site that has been updated at the office, this data is brought down to the client device during synchronization.

An application is created, where the user enters data on a client device, known as the mobile client. The mobile client can use either Berkeley DB or the SQLite database as the client database. The data on either mobile client is synchronized with a back-end Oracle database. For example, if you have a sales force, each sales person retrieves only his/her data on the client device. Any modifications made on either the mobile client by the sales person in regards to his/her accounts or modified on the server by the office can be synchronized.

1.1.3 Why Use Oracle Database Mobile Server?

Oracle Database Mobile Server provides a complete mobile infrastructure suitable for almost any enterprise demands using the following:

- The mobile server repository resides in the back-end enterprise database, which links the enterprise data with the mobile data.
- The mobile server is a Web-based tier that integrates with Oracle WebLogic Server, Oracle Glassfish or OracleAS.

This accesses remote locations through different types of wireless or wired connectivity. It facilitates the major functions for the mobile option, such as synchronization, application management, device management, and so on.

- The mobile client uses a client database, which can be either Berkeley DB or a SQLite database, and the means for deploying applications developed using the most popular languages. The mobile client database stores the relational data in one or more data files on the file system on the client. While the SQLite database is already installed on many client devices, you can install the Berkeley database on most any device from a cell phone, to a personal digital assistant (PDA), Tablet PC, Laptop, and so on from the Mobile Manager.

1.2 Roadmap to Understanding and Using the Mobile Server

The mobile server is a compilation of two products: the mobile server and the mobile client.

In an enterprise system, the mobile server facilitates the synchronization of data between multiple mobile clients and Oracle databases. The mobile client facilitates the synchronization of data from an independently installed client database to the mobile server. The supported client databases are listed below:

- *SQLite client database*: If you are using the SQLite database as the client database, you must install this independently. If it is not already installed, refer to <http://www.sqlite.org/> for more information on installation, configuration and usage.
- *Berkeley DB*: If you are using the Berkeley DB with SQLite (BDB-SQLite) as the mobile client database, you must install this independently. If it is not already installed, refer to <http://www.oracle.com/technology/products/berkeley-db/index.html> for more information on installation, configuration, and usage.

In a mobile environment, BDB-SQLite must be installed from the mobile server to be enabled for synchronization. To properly install, develop and administer all components in the mobile server, first follow instructions in the mobile server books.

After installing the supported client database, install the mobile client, which includes the Sync Engine for managing synchronization between the client database and the back-end Oracle database. For details, see Chapter 2, "Installing the SQLite Mobile Client" in the *Oracle Database Mobile Server Mobile Client Guide*.

The following sections provide a roadmap for where to find the information to design, develop and manage the mobile server:

- [Section 1.2.1, "Designing and Developing your Mobile Applications"](#)
- [Section 1.2.2, "Synchronizing Data from a Mobile Client to the Oracle Database"](#)
- [Section 1.2.3, "Configuring and Managing the Mobile Server Environment"](#)
- [Section 1.2.4, "Performance Techniques"](#)

1.2.1 Designing and Developing your Mobile Applications

When you design a mobile application that provides synchronization of data from several users on multiple devices to one or more Oracle databases, you must carefully consider a balance between application functionality and minimizing the data being synchronized before you start to develop your application. Synchronization from multiple users and devices can cause performance issues. Thus, the design has an impact on how performant is the data synchronization.

To streamline your development, we have provided several sections guiding you through design decisions before developing a mobile application. For full details, see Chapter 1, "Overview for Designing Mobile Applications" in the *Oracle Database Mobile Server Developer's Guide*.

1.2.2 Synchronizing Data from a Mobile Client to the Oracle Database

The following sections describe each mobile client database type from which you can use to synchronize data to the back-end Oracle database:

- [Section 1.2.2.1, "Using the SQLite Database"](#)
- [Section 1.2.2.2, "Using Berkeley DB with SQLite"](#)

1.2.2.1 Using the SQLite Database

The SQLite database is a small, compact, and self-contained database available on multiple platforms and available to the public. It has a small footprint and is easy to install and administer. In addition, many devices already have the SQLite database installed, including Android and Blackberry devices.

If you want to use a SQLite database on any device and synchronize the data entered in the SQLite database to a back-end Oracle database, install the SQLite Mobile Client, which includes the Sync Engine that supports synchronization. For Win32, WinCE and Linux platforms, both automatic and manual synchronization is supported. On Android and Blackberry devices, only manual synchronization is supported. For more details, see Chapter 2, "Installing the SQLite Mobile Client" in the *Oracle Database Mobile Server Mobile Client Guide*.

1.2.2.2 Using Berkeley DB with SQLite

Berkeley DB is a small database that has a small footprint and is easy to administer. The mobile server gathers and synchronizes data from multiple mobile devices from several users.

Berkeley DB is its own product and is described completely in the *Berkeley DB documentation*. It can be used with the mobile server for synchronizing data to a back-end Oracle database or an Oracle RAC database.

1.2.3 Configuring and Managing the Mobile Server Environment

The Mobile Manager is a GUI tool that enables you to configure and manage the mobile server. Some of the functions you can perform through the Mobile Manager are as follows:

- Create users.
- Manage permissions.
- Execute statistics.
- Determine performance of your SQL queries.
- Resolve errors, including conflict errors.

Configuration and management of the mobile server are described in the *Oracle Database Mobile Server Administration and Deployment Guide*.

1.2.4 Performance Techniques

Mobile devices do not have the processing power and memory that standard enterprise systems maintain. If the mobile applications and infrastructure are not tuned appropriately they really are of little benefit to the organization.

The most important performance concepts for a mobile infrastructure are as follows:

- The time it takes to enter and retrieve data.
- The time it takes to synchronize data with the enterprise data store.

See *Oracle Database Mobile Server Troubleshooting and Tuning Guide* for techniques to enhance your performance for Oracle Database Mobile Server.

Third Party Licensing in Oracle Database Mobile Server

This chapter includes third-party license information for all third-party products included with Oracle Database Mobile Server. Oracle acknowledges that the following Third Party and Open Source software are used in the provided programs covered by this documentation.

- [Section 2.1, "SQLite Database"](#)
- [Section 2.2, "Sun Microsystems JDK 1.4.2, JDK 1.5 and JDK 1.6"](#)
- [Section 2.3, "Third Party Licensing for ZLib and JZLib"](#)

2.1 SQLite Database

Any SQLite database services that are provided with Oracle Database Mobile Server are provided as a convenience to you and are provided "AS IS" with no express or implied conditions, endorsements, guarantees, representations, or warranties of any kind by Oracle and Oracle assumes no liability whatsoever, in relation thereto.

2.2 Sun Microsystems JDK 1.4.2, JDK 1.5 and JDK 1.6

This product includes code provided by Sun Microsystems.



2.3 Third Party Licensing for ZLib and JZLib

Oracle gratefully acknowledges the contributions of Jean-loup Gailly and Mark Adler, the authors of zlib.

This product includes JZlib.

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Requirements Before Installation or Development

Before you install, you must check to see that you have the correct hardware and software necessary for using Oracle Database Mobile Server on your operating system. The requirements for each type of operating system are detailed in the following sections:

- [Section 3.1, "Include the Latest Patches"](#)
- [Section 3.2, "Release Notes"](#)
- [Section 3.3, "Supported Components and Technologies"](#)
- [Section 3.4, "Installation Requirements for the Oracle Database and Application Server in Working With Oracle Database Mobile Server"](#)
- [Section 3.5, "Hardware Requirements for Mobile Server on Windows"](#)
- [Section 3.6, "System Requirements For UNIX Systems"](#)
- [Section 3.7, "Recommended System Configuration For UNIX"](#)
- [Section 3.8, "System Requirements for Mobile Clients"](#)
- [Section 3.9, "Setting Up Location of the Datafile on the Server"](#)
- [Section 3.10, "Defining Synchronization Tablespace"](#)

3.1 Include the Latest Patches

For the latest information and patches, refer to Oracle *MetaLink* at the following Web site:

<http://metalink.oracle.com>

3.2 Release Notes

Read the *Oracle Database Mobile Server Release Notes* before installing Oracle Database Mobile Server, which are available as part of the documentation shipped with Oracle Database Mobile Server. The most up-to-date version is available at OTN at the following Web site:

<http://otn.oracle.com/documentation/index.html>

3.3 Supported Components and Technologies

The following sections detail the supported components and technologies:

- [Section 3.3.1, "Certified Oracle RDBMS to Use With Oracle Database Mobile Server"](#)
- [Section 3.3.2, "JDK Platform Support"](#)
- [Section 3.3.3, "Certified Application Server Configurations"](#)
- [Section 3.3.4, "Certified Platforms and Technologies for the Mobile Server"](#)
- [Section 3.3.5, "Certified Platforms for the Mobile Development Kit"](#)
- [Section 3.3.6, "Certified Versions for OID Support"](#)
- [Section 3.3.7, "Certified Browsers"](#)

3.3.1 Certified Oracle RDBMS to Use With Oracle Database Mobile Server

Use one of the following database versions with Oracle Database Mobile Server: Oracle 9.2, Oracle 10g Release 1 (10.1.0), Oracle 10g Release 2 (10.2.0), or Oracle 11g.

3.3.2 JDK Platform Support

For all mobile clients, use JDK 1.6. For the mobile server, the JDK version required depends on what version of the application server you are using.

Table 3–1 JDK Version Supported

Application Server Version Used	JDK Version Supported
Oracle WebLogic Suite 11g	JRockit JDK 1.6 or Sun JDK 1.6
Oracle Glassfish 3.1	Sun JDK 1.6
OracleAS 10g version 10.1.3.5.0	Sun JDK 1.6

You should install all of the patches required for the JDK version you are using on the Windows operating system. This is constantly under review and published on the JDK download page on the Sun Microsystems Web site.

Install the Sun Microsystems JDK before installing the mobile server or Mobile Development Kit. If you have JDK 1.4.2 installed, upgrade to version 1.6 as follows:

1. Uninstall the existing JDK version 1.4.2. If you do not remove this version first, then mobile server will continue to use version 1.4.2.
2. Install JDK version 1.6. After installation, verify that the JDK bin directory is in the system path.

The `JAVA_HOME` environment variable must be set to the directory where the Java Development Kit has been installed. For more information on `JAVA_HOME`, see [Section 3.7.1.2, "JAVA_HOME and PATH"](#) for setting the JAVA environment variables on Linux.

3.3.3 Certified Application Server Configurations

The following lists accepted configuration options for a middle-tier application server:

- Oracle WebLogic Server 11g Release 1, as long as Oracle Database Mobile Server is installed in the same `WL_HOME`.
- Oracle Glassfish Server 3.1. For more information, see the following site:

<http://www.oracle.com/technetwork/middleware/glassfish/documentation/index.html>

- Oracle Application Server 10g (10.1.3.5.0 Web Server), as long as the Oracle Database Mobile Server is installed in the same ORACLE_HOME.

3.3.4 Certified Platforms and Technologies for the Mobile Server

You can install the mobile server on the following platforms:

- Microsoft Windows 2003 (32-bit and 64-bit)
- Microsoft Windows 2008 (32-bit and 64-bit R2)
- Microsoft Windows XP Professional Edition with Service Pack 3, 32-bit
- Microsoft Windows 7 (32-bit and 64-bit)
- Oracle Enterprise Linux 5.0, or 6.0 (32-bit and 64-bit)

3.3.5 Certified Platforms for the Mobile Development Kit

The Mobile Development Kit (MDK) is certified for SUN JDK 1.6 and can be installed on the following platforms:

- Microsoft Windows 2003 (32-bit and 64-bit)
- Microsoft Windows 2008 (32-bit and 64-bit R2)
- Microsoft Windows XP Professional Edition with Service Pack 3, 32-bit
- Microsoft Windows 7 (32-bit and 64-bit)
- Oracle Enterprise Linux 5.0, or 6.0 (32-bit and 64-bit)

3.3.6 Certified Versions for OID Support

The following versions of OID are supported in conjunction with the mobile server:

- OID 10.1.4.
- OID 11.0

3.3.7 Certified Browsers

You can use any of the latest modern browsers.

3.4 Installation Requirements for the Oracle Database and Application Server in Working With Oracle Database Mobile Server

The following sections describe installation requirements for the Oracle Database and the application server you choose to use:

- [Section 3.4.1, "Installation Requirements for the Oracle Database for Working With a Mobile Client"](#)
- [Section 3.4.2, "Installation Requirements for Using an Application Server With Oracle Database Mobile Server"](#)

3.4.1 Installation Requirements for the Oracle Database for Working With a Mobile Client

When you synchronize the mobile client, your changes are updated in an Oracle back-end database. Thus, you must have either the Standard or Enterprise Edition Oracle database to use the synchronization ability of Oracle Database Mobile Server.

3.4.2 Installation Requirements for Using an Application Server With Oracle Database Mobile Server

Oracle Database Mobile Server uses a middle-tier application server to communicate between the mobile clients and the back-end Oracle database.

Install the appropriate application server before installing Oracle Database Mobile Server, which can be Oracle10g AS, Oracle WebLogic Server 11g, or Oracle Glassfish 3.0.1.

Note: For more information about how Oracle Database Mobile Server works with the middle-tier and the back-end database, see Chapter 1, "Overview for Designing Mobile Applications" in the *Oracle Database Mobile Server Developer's Guide*.

The following sections provide additional information when installing certain application servers:

- [Installing Oracle WebLogic Server 11g Release 1](#)
- [Installing OracleAS Version 10.1.2](#)
- [Installing OracleAS Version 10.1.3](#)

3.4.2.1 Installing Oracle WebLogic Server 11g Release 1

Make sure that you install Oracle WebLogic before installing Oracle Database Mobile Server. Then, set `ORACLE_HOME` to `WL_HOME`.

3.4.2.2 Installing OracleAS Version 10.1.2

Install OracleAS before installing Oracle Database Mobile Server. When installing OracleAS, choose the Integrated Web and J2EE Server installation option.

Perform the following when installing the OracleAS version 10.1.2:

1. On the **Select a product to install** screen, select **Oracle Application Server**.
2. On the **What type of install do you want?** screen, select the **J2EE and Web Cache** option from the following options:
 - J2EE and Web Cache
 - Portal and Wireless
 - Business Intelligence and Forms

3.4.2.3 Installing OracleAS Version 10.1.3

Install OracleAS before installing Oracle Database Mobile Server. When installing OracleAS, choose the Integrated Web and J2EE Server installation option.

In the OracleAS version 10.1.3 install, choose the Advanced Installation Mode. In the second screen, you will see the following options:

1. J2EE Server and Process Management
2. Web Server and Process Management
3. Integrated Web Server, J2EE Server and Process Management
4. Oracle Toplink

Select ONLY option 3, the **Integrated Web Server, J2EE Server and Process Management**. This option provides all of the functionality that you need. Do not select any of the other options, as then your OracleAS installation will be missing functionality that is necessary for Oracle Database Mobile Server.

3.5 Hardware Requirements for Mobile Server on Windows

Before you install the mobile server, you must check to see that you have the correct hardware necessary for your Windows machines that use Oracle Database Mobile Server.

The hardware requirements for each component of Oracle Database Mobile Server for Windows are described in the following table:

Table 3–2 Hardware Requirements for Windows

Component	Hardware Requirements for this Component
Oracle Database Mobile Server	CPU: Pentium 4, 3 GHz Disk Space: 1 GB RAM: 1 GB Swap Space: 1535 MB
Oracle Database Mobile Server using OracleAS	See the OracleAS documentation for the OC4J container requirements. Swap Space: 1535 MB
Oracle Database Mobile Server using Oracle WebLogic Server	See the "Oracle Fusion Middleware System Requirements and Specifications 11g Release 1" document in the Oracle Fusion Middleware documentation.
Oracle Database Mobile Server using Oracle Glassfish Server	See the "Hardware and Software Requirements in Oracle GlassFish Server 3.0.1 Release Notes" document in the Oracle Fusion Middleware documentation.
Mobile Development Kit	CPU: Pentium 4, 3 GHz Disk Space: 512 MB RAM: 512 MB Swap Space: 1535 MB

Note: The requirements for mobile server is related to the number of users synchronizing and the amount of data transferred.

3.6 System Requirements For UNIX Systems

Before you install, you must check to see that you have the correct hardware and software that satisfy the minimum and general system requirements for the Web server on the UNIX machines that use Oracle Database Mobile Server. See the Web server documentation for these requirements.

3.7 Recommended System Configuration For UNIX

This section describes the following system configurations for UNIX-based systems:

- [Section 3.7.1, "Setting UNIX Environment Variables"](#)
- [Section 3.7.2, "Pre-Install Requirements Before Installing the MDK on LINUX"](#)
- [Section 3.7.3, "Creating UNIX Accounts and Groups"](#)
- [Section 3.7.4, "Configuring Kernel Parameters and Shell Limits for UNIX"](#)

3.7.1 Setting UNIX Environment Variables

The following sections describe the environment variables that must be set before starting Oracle Universal Installer:

- [Section 3.7.1.1, "ORACLE_HOME"](#)
- [Section 3.7.1.2, "JAVA_HOME and PATH"](#)
- [Section 3.7.1.3, "DISPLAY"](#)
- [Section 3.7.1.4, "TMP and TMPDIR"](#)

Note: Ensure your `PATH`, `CLASSPATH` and library path environment variables do not exceed 1024 characters. Longer values might generate errors such as "Word too long" during installation.

Refer to [Table 3–3](#) for the name of the library path environment variable for your platform.

[Table 3–3](#) lists the names of the library path environment variables for each platform.

Table 3–3 Library Path Environment Variable

Platform	Library Path Environment Variable
Linux	LD_LIBRARY_PATH
HP	SHLIB_PATH and LD_LIBRARY_PATH
AIX	LIBPATH

3.7.1.1 ORACLE_HOME

The Oracle home directory is the `root` directory in which Oracle software is installed. The `CLASSPATH` contains the entire path you enter for `ORACLE_HOME`; thus, the length of `ORACLE_HOME` effects the length of the `CLASSPATH`. There are limits to the length of the values of the `CLASSPATH` values with JDK. If the `ORACLE_HOME` path is long, this will result in a long `CLASSPATH` and might cause problems running Oracle Database Mobile Server. The workaround is to shorten `ORACLE_HOME` path.

The `ORACLE_HOME` environment variable must be set before starting the installer, which must be set to the directory where you want to install.

3.7.1.2 JAVA_HOME and PATH

The Linux platform requires the `JAVA_HOME` environment variable be set to the directory where the Java Development Kit has been installed. If the JDK has not been

installed, please install it before proceeding with the installation. For the appropriate JDK version, see [Section 3.3.2, "JDK Platform Support"](#).

Before installation of a Linux mobile server and the Linux MDK, set `JAVA_HOME` to the JDK 1.6 home directory. [Table 3–4](#) provides examples for the location where the JDK could be installed on the system.

Table 3–4 *JAVA_HOME Environment Variables*

Platform	Sample <i>JAVA_HOME</i> Environment Variable
HP	<code>/opt/java1.6</code>
AIX	<code>/usr/java161</code>

Initialize the `JAVA_HOME` and `PATH` environment variables, as follows:

```
export JAVA_HOME=$JAVA_HOME
export PATH=$JAVA_HOME/bin:$ORACLE_HOME/bin:$PATH
```

3.7.1.3 DISPLAY

Set the `DISPLAY` environment variable to refer to the X Server that will display the installer and Oracle Database Mobile Server. The format of the `DISPLAY` environment variable is:

```
hostname:display_number.screen_number
```

For example, set the `DISPLAY` environment variable, as follows:

```
setenv DISPLAY myhost:0.0
```

Oracle Database Mobile Server requires a running X server to properly create graphics for the installer, Web applications, and management tools. The frame buffer X server installed with your operating system requires that you remain logged in and have the frame buffer running at all times. If you do not want to do this, then you must use a virtual frame buffer, such as X Virtual Frame Buffer (XVFB) or Virtual Network Computing (VNC).

See Also:

- Your operating system documentation for more information on the `DISPLAY` environment variable.
- Oracle Technology Network (<http://otn.oracle.com>) for further information about obtaining and installing XVFB or other virtual frame buffer solutions. Search OTN for "frame buffer".

3.7.1.3.1 Installing From a Remote Machine Setting the `DISPLAY` environment variable enables you to run the Oracle Universal Installer remotely from another workstation. On the system where you launch the Oracle Universal Installer, set `DISPLAY` to the system name or IP address of your local workstation.

Note: You can use a PC X emulator to run the installer if it supports a PseudoColor color model or PseudoColor visual. Set the PC X emulator to use a PseudoColor visual, and then start the installer. Refer to the X emulator documentation for instructions on how to change the color model or visual settings.

If you get an Xlib error similar to "Failed to connect to server", "Connection refused by server," or "Can't open display" when starting the installer, then run the commands on your local workstations as listed in the following table.

Shell Types	On the Server Host Machine Where the Installer is Running	In the Session on Your Host
C Shell	prompt> setenv DISPLAY <hostname>:0.0	prompt> xhost +<hostname>
Bourne/Korn Shell	prompt> DISPLAY=<hostname>:0.0;export DISPLAY	prompt> xhost +<hostname>

3.7.1.4 TMP and TMPDIR

During installation, Oracle Universal Installer uses a temporary directory for swap space. This directory must meet the requirements listed in [Section 3.6, "System Requirements For UNIX Systems"](#) before installing Oracle Database Mobile Server. The installation may fail if you do not have sufficient space. The installer checks for the TMP and TMPDIR environment variable to locate the temporary directory. If the TMP environment variable is not set, then the installer uses the /tmp directory. If the TMPDIR environment variable is not set, then the installer uses the /var/tmp directory. Set the TMP and TMPDIR environment variable using the commands in the following table.

C Shell	Bourne/Korn Shell
prompt> setenv TMP <i>full_path</i>	prompt> TMP= <i>full_path</i> ;export TMP
prompt> setenv TMPDIR <i>full_path</i>	prompt> TMPDIR= <i>full_path</i> ;export TMPDIR

3.7.2 Pre-Install Requirements Before Installing the MDK on LINUX

Of all of the UNIX platforms, the MDK is only supported on the Linux platform. But before installing the MDK on your Linux system, modify the following environment variables:

Table 3–5 Linux Environment Variable

Linux Environment Variable	Description
JDKDIR	Point to the JDK installation directory
MOBILE_HOME	\$ORACLE_HOME/mobile/sdk
LD_LIBRARY_PATH	/usr/lib:\$JDKDIR/jre/lib/i386:\$JDKDIR/jre/lib/i386/server:\$MOBILE_HOME/lib:\$LD_LIBRARY_PATH
CLASSPATH	.:\$ORACLE_HOME/mobile/sdk/bin/jsync.jar
PATH	\$JDKDIR/bin:\$MOBILE_HOME/bin:\$PATH

3.7.3 Creating UNIX Accounts and Groups

The following UNIX account and groups are required for the installation process:

- [Section 3.7.3.1, "UNIX Group Name For the Oracle Universal Installer Inventory"](#)
- [Section 3.7.3.2, "UNIX Account to Own Oracle Software"](#)

3.7.3.1 UNIX Group Name For the Oracle Universal Installer Inventory

Use the `admintool` or `groupadd` utility to create a group name. In the following text the group name is `oinstall`. The `oinstall` group will own Oracle Universal Installer's `oraInventory` directory. The `oracle` user account that runs the installer must have the `oinstall` group as its primary group and `dba` as its secondary group.

For more information on these utilities, refer to your operating system documentation.

3.7.3.2 UNIX Account to Own Oracle Software

The `oracle` account is the UNIX account that owns Oracle software for your system. You must run Oracle Universal Installer from this account.

Create an `oracle` account with the properties listed in [Table 3–6](#).

Table 3–6 Oracle Account Properties

Variable	Property
Login Name	Select any name to access the account. This document refers to the name as the <code>oracle</code> account.
Group Identifier	The <code>oinstall</code> group.
Home Directory	Select a home directory consistent with other user home directories.
Login Shell	The default shell can be either the C, Bourne, or Korn shell.

Note: Do not use `root` as the `oracle` account.

3.7.4 Configuring Kernel Parameters and Shell Limits for UNIX

Depending on your operating system, see one of the following sections for information on checking the software requirements:

- [Section 3.7.4.1, "Configuring Shell Limits and System Configuration Parameters on AIX"](#)
- [Section 3.7.4.2, "Configuring Kernel Parameters on HP-UX"](#)
- [Section 3.7.4.3, "Configuring the Kernel Parameters on Linux"](#)
- [Section 3.7.4.4, "Set Shell Limits for the User oracle"](#)

3.7.4.1 Configuring Shell Limits and System Configuration Parameters on AIX

On AIX systems, you do not need to configure kernel parameters. However, Oracle recommends that you set shell limits and system configuration parameters as described in this section.

3.7.4.1.1 Configuring Shell Limits for AIX Systems Verify that the shell limits shown in the following table are set to the values shown. The procedure following the table describes how to verify and set the values.

Table 3–7 Shell Limits

Shell Limits as shown in <code>smit</code>	Recommended Value
Soft FILE size	-1 (Unlimited)
Soft CPU time	-1 (Unlimited) -- this is the default value

Table 3–7 (Cont.) Shell Limits

Shell Limits as shown in smit	Recommended Value
Soft DATA segment	-1 (Unlimited)
Soft STACK size	-1 (Unlimited)

To view or change the current value specified for these shell limits, follow these steps:

1. Enter the `smit` command: `#smit chuser`
2. In the **User Name** field, enter the user name of the Oracle software owner, such as `oracle`.
3. Scroll down the list and verify that the value shown for the soft limits listed in the previous table is -1. If necessary, modify the existing value to be -1.
4. Press F10 to exit.

3.7.4.1.2 Configure System Configuration Parameters for AIX Verify that the **Maximum number of processes** allowed for each user is set to 2048 or greater. The procedure following the table describes how to verify and set the value.

1. Enter the `smit` command: `#smit chgsys`
2. Verify that the value shown for **Maximum number of PROCESSES** allowed per user is greater than or equal to 2048.
3. Press F10 to exit.

Ensure that the `ARG_MAX` setting is set to the maximum value for AIX 5L:

1. Check the `ARG_MAX` setting, as follows:


```
prompt> getconf ARG_MAX
```
2. If the value is less than 524288, then run the following command as the root user:


```
#chdev -l sys0 -a ncargs=128
```

3.7.4.2 Configuring Kernel Parameters on HP-UX

Verify that the kernel parameters shown in the following table are set either to the formula shown or to values greater than or equal to the recommended value shown. The procedure following the table describes how to verify and set the values.

Table 3–8 Kernel Parameters for HP-UX

Parameter	Recommended Formula or Value
<code>nfile</code>	3000
<code>nproc</code>	2048

To view or modify the current value or formula specified for these kernel parameters, do the following:

1. Optionally, set the `DISPLAY` environment variable to specify the display of the local system, as follows:
 - Bourne, Bash, or Korn shell:


```
$ DISPLAY=localhost:0.0 ; export DISPLAY
```
 - C shell:

```
$ setenv DISPLAY localhost:0.0
```

2. Start System Administration Manager (SAM): `#!/usr/sbin/sam`
3. Choose the **Kernel Configuration** area, then choose the **Configurable Parameters** area.
4. Check and possibly modify the value or formula specified for each of these parameters.
5. Exit from SAM.
6. If you modified the value specified for any parameter, then reboot the system with the following: `#!/sbin/shutdown -r -now`
7. If necessary, when the system restarts, log in and switch the user to `root`.

3.7.4.3 Configuring the Kernel Parameters on Linux

Verify that the kernel parameters shown in the following table are set either to the formula shown, or to values greater than or equal to the recommended value shown. The procedures following the table describe how to verify and set the values.

Table 3–9 Kernel Parameters on Linux

Parameter	Value	File
<code>file-max</code>	131072	<code>/proc/sys/fs/file-max</code>

To view or modify the current value specified for these kernel parameters, do the following:

1. Enter the following command to view the current value of the `file-max` kernel parameter:

```
# /sbin/sysctl -a | grep file-max
```

2. To modify the value, do the following:

- a. Create or edit the `/etc/sysctl.conf` file and add the following.

```
fs.file-max = 131072
```

By specifying the values in the `/etc/sysctl.conf` file, they persist when you reboot the system.

- b. Change the current values of the kernel parameter with the following command:

```
# /sbin/sysctl -p
```

Review the output from this command to verify that the values are correct. If the values are incorrect, then perform these steps again.

- c. On UnitedLinux only, enter the following command to cause the system to read the `/etc/sysctl.conf` file when it reboots:

```
# chkconfig boot.sysctl on
```

3.7.4.4 Set Shell Limits for the User oracle

To improve the performance of the software on Linux systems, you must increase the following shell limits for the oracle user, depending on the user's default shell:

Table 3–10 Shell Limits for Linux Systems

Bourne or Bash Shell Limit	Korn Shell Limit	C or tcsh Shell Limit	Hard Limit
nofile	nofile	descriptors	16384
noproc	processes	maxproc	16384

To increase the shell limits, do the following:

1. Add the following lines to the `/etc/security/limits.conf` file, where the arrow (`->`) represents the tab character:

```
* -> -> soft -> nproc -> -> 2047
* -> -> hard -> nproc -> -> 16384
* -> -> soft -> nofile -> -> 2047
* -> -> hard -> nofile -> -> 16384
```

2. Add the following line to the `/etc/pam.d/login` file, if it does not already exist:

```
session required /lib/security/pam_limits.so
```

3. Depending on the `oracle` user's default shell, make the following changes to the default shell start-up file:

- For the Bourne, Bash, or Korn shell, add the following lines to the `/etc/profile` file:

```
if [ $USER = "oracle" ]; then
  if [ $SHELL = "/bin/ksh" ]; then
    ulimit -p 16384
    ulimit -n 16384
  else
    ulimit -u 16384 -n 16384
  fi
fi
```

- For the C or `tcsh` shell, add the following lines to the `/etc/csh.login` file:

```
if ( $USER == "oracle" ) then
  limit maxproc 16384
  limit descriptors 16384
endif
```

3.8 System Requirements for Mobile Clients

The system requirements for either mobile client—Berkeley DB or SQLite—are covered in the *Oracle Database Mobile Server Mobile Client Guide*.

3.9 Setting Up Location of the Datafile on the Server

If you do not want to have the datafile for your Oracle Database Mobile Server applications stored in the default location in the Oracle database, then modify the database configuration file to include the directory where you want your datafile stored. Configure the default directory for new data files in the `db_create_file_dest` parameter. Once updated, restart the Oracle database. This must be done before installing Oracle Database Mobile Server. Refer to your database administration guide for details on how to modify the `db_create_file_dest` parameter.

3.10 Defining Synchronization Tablespace

By default, the synchronization tablespace is SYNCSEVER, and is stored in the `mobilexx.dbf` file in the default location for the database under `ORACLE_HOME`, where `xx` is a number between 1 and 25. The tablespace name, filename, and file location for the tablespace is defined in the `$ORACLE_HOME/Mobile/Server/admin/consolidator_o8a.sql` script file, which is executed during the mobile server installation process. So, if you want to modify the tablespace, there are a few tasks you need to perform BEFORE you install the mobile server.

Tablespace layout across multiple disks can improve the performance of mobile server data synchronization, as it reduces movement of the disk heads and improves I/O response time.

For full details on how to alter the synchronization tablespace, see Section 1.2.6, "Synchronization Tablespace Layout" in the *Oracle Database Mobile Server Troubleshooting and Tuning Guide* for more information.

Installation of Oracle Database Mobile Server

This chapter describes all of the details for you to install Oracle Database Mobile Server, including the following:

- [Section 4.1, "Oracle Database Mobile Server Installation Considerations"](#)
- [Section 4.2, "Starting Oracle Universal Installer"](#)
- [Section 4.3, "Installing Oracle Database Mobile Server"](#)
- [Section 4.4, "Post-Installation Configuration Requirements"](#)
- [Section 4.5, "Starting Mobile Server"](#)
- [Section 4.6, "Testing Your Mobile Server Installation"](#)
- [Section 4.7, "Removing Demo Applications"](#)
- [Section 4.8, "How to Uninstall Oracle Database Mobile Server"](#)

4.1 Oracle Database Mobile Server Installation Considerations

Note the following issues before you start your installation:

- [Section 4.1.1, "Installing Multiple Languages on a Single Solaris Machine"](#)
- [Section 4.1.2, "National Language Support for Chinese, Japanese, and Korean \(CJK\)"](#)
- [Section 4.1.3, "Mobile Server on a DHCP Server is Not Supported"](#)

4.1.1 Installing Multiple Languages on a Single Solaris Machine

With Oracle Database Mobile Server installed in a Solaris environment, you cannot install multiple languages on a single Solaris machine. Instead, you must perform a separate installation for each language.

4.1.2 National Language Support for Chinese, Japanese, and Korean (CJK)

The mobile server and Mobile Development Kit have full National Language Support for Simplified Chinese, Japanese, and Korean (CJK). Only the client database component in the MDK supports the Traditional Chinese language.

4.1.3 Mobile Server on a DHCP Server is Not Supported

The Oracle Database Mobile Server can only be installed on a server with a static IP address; thus, the mobile server does not function correctly if installed on a DHCP server.

4.2 Starting Oracle Universal Installer

Oracle Database Mobile Server uses Oracle Universal Installer to guide you through each step of the installation process. The Oracle Universal Installer provides the following features:

- Describes installation options for Oracle Database Mobile Server
- Detects pre-set environment variables and configuration settings
- Sets environment variables and configuration during installation
- Offers configuration options for a customized installation of Oracle Database Mobile Server
- Deinstalls products

The Oracle Universal Installer automatically checks your computer prior to installation to verify that your system meets operational requirements. [Table 4–1](#) lists the prerequisite checks that are performed.

Table 4–1 Oracle Universal Installer Automatic Prerequisite Checks

Prerequisite Checks	See Also
Check for enough disk space for installation	Section 3.7, "Recommended System Configuration For UNIX"
On UNIX systems, checks for <code>TMP</code> and <code>TMPDIR</code> variable and sufficient swap space	Section 3.7, "Recommended System Configuration For UNIX"

You start the Oracle Universal Installer using different methods for each type of operating system, as detailed in the following steps:

- [Section 4.2.1, "Starting the Oracle Universal Installer on Windows"](#)
- [Section 4.2.2, "Starting Oracle Universal Installer on UNIX"](#)

4.2.1 Starting the Oracle Universal Installer on Windows

Insert the CD-ROM labeled Oracle Database Mobile Server. The Welcome screen appears.

4.2.2 Starting Oracle Universal Installer on UNIX

Follow these steps to start Oracle Universal Installer and install Oracle Database Mobile Server:

1. Insert the CD into the CD-ROM drive. Mount the installation CD-ROM.
2. Run Oracle Universal Installer from the CD-ROM:

Note: Ensure you are **not** logged in as the `root` user when you start the Oracle Universal Installer.

- a. Log in as the `oracle` user.
- b. Start the installer by entering the following command:

```
prompt> mount_point/disk1/runInstaller
```

This launches Oracle Universal Installer, which installs Oracle Database Mobile Server.

4.2.2.1 Using the oraInventory Directory

The Oracle Universal Installer creates the `oraInventory` directory the first time it is run on a computer. The `oraInventory` directory keeps an inventory of products that the Oracle Universal Installer installs on your computer, as well as other installation information. If you have previously installed Oracle products, then you may already have an `oraInventory` directory.

When a UNIX group name is created and specified, the Oracle Universal Installer grants the specified group the permission to write to the `oraInventory` directory. If another group attempts to run the installer, then they must have permission to write to the `oraInventory` directory. If they do not have permission, then the installation will fail.

The location of `oraInventory` is defined in the `oraInst.loc` file. See [Table 4-1](#) for the location of the `oraInst.loc` file for your system.

The latest installation log file is stored in:

```
/your_base_directory/oraInventory/logs/installActiontoday's_date_time.log
```

The `your_base_directory` identifier is the location for your installation files and `today's_date_time` is the date and time of installation. Log file names of previous installation sessions take the form `installActionstoday's_date_time.log`.

Do not delete or manually alter the `oraInventory` directory or its contents. Doing so can prevent the installer from locating products that you have installed on your system.

4.2.2.2 Location of Files on UNIX

The following table lists the location of the `oratab` and `oraInst.loc` file for each platform:

Table 4-2 File Locations for Each Platform

Platform	oratab and emtab	oraInst.loc
AIX	/etc	/etc
HP	/etc	/var/opt/oracle
Linux	/etc	/etc

4.3 Installing Oracle Database Mobile Server

Oracle Database Mobile Server consists of two main components: the Oracle Database Mobile Server and Mobile Development Kit. Each is installed separately from the Oracle Database Mobile Server CD-ROM. The following sections describe all of your installation options:

- [Section 4.3.1, "GUI Install of the Mobile Server and MDK Components"](#)
- [Section 4.3.2, "Silent Install of Mobile Server and MDK Components"](#)
- [Section 4.3.3, "Providing High Availability with a Farm of Multiple Mobile Servers"](#)
- [Section 4.3.4, "Install Oracle Database Mobile Server on Linux"](#)

- [Section 4.3.5, "Mobile Client Install"](#)
- [Section 4.3.6, "Custom Install"](#)

4.3.1 GUI Install of the Mobile Server and MDK Components

Once the Oracle Universal Installer is initiated, perform the following steps to install Oracle Database Mobile Server:

1. On the Welcome screen, click **Next**.
2. On the Installation Types screen, choose the type of installation to execute. Your options are as follows:
 - Mobile Server
 - Mobile Development Kit
 - Custom

The first two are the main components of Oracle Database Mobile Server. The custom option is for advanced users only. Each of these Install options are discussed in the following sections:

- [Section 4.3.1.1, "Installation of the Mobile Server"](#)
- [Section 4.3.1.2, "Installation of Mobile Development Kit"](#)

4.3.1.1 Installation of the Mobile Server

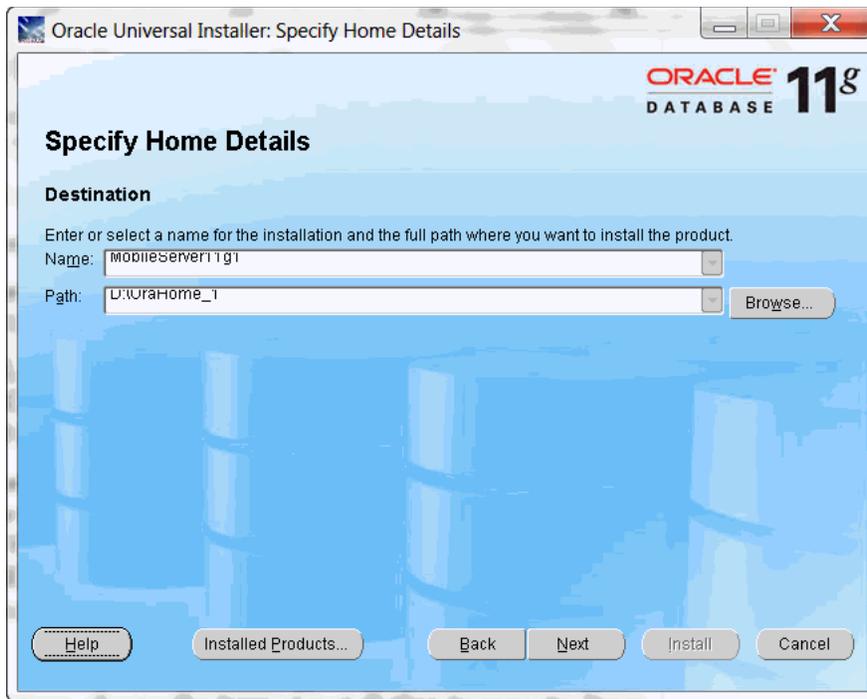
Install the Oracle Database Mobile Server from the Installation Types screen, as follows:

Note: When you install the mobile server with OracleAS or WebLogic as the middle-tier, some default values are chosen for you. If you install the mobile server without an application server, you will be prompted for additional information.

1. Choose **Mobile Server** and click **Next**.

Figure 4–1 Select Mobile Server

2. On the Specify Home screen, enter the name and path where you want to install Oracle Database Mobile Server, which cannot include any spaces. You should install Oracle Database Mobile Server into a new or existing Oracle Home. When you use OracleAS, WebLogic, or Glassfish as your middle-tier, install Oracle Database Mobile Server into the same Oracle Home where the application server is installed.

Figure 4–2 Specify Home Details

3. Enter the TCP/IP listener port for the mobile server. When using OracleAS or WebLogic, the ports defined in these application servers are used.

The default values are as follows:

- Windows platform: Port 80 for an HTTP connection; port 443 for an HTTPS connection.
- UNIX platform: Port 8888 for an HTTP connection; port 4443 for an HTTPS connection.

Click **Next**.

4. Click **Yes** to install the mobile server repository. For this option, always click **Yes** to install the repository—even if one has already been created. If you are installing a mobile server on another host that shares an existing repository, selecting yes updates the repository with the shared mobile server information. You only select **No** if instructed to for a certain environment. Click **Next**.
5. Click **Yes** or **No** indicating if you want the demo applications installed on the server. Click **Next**.
6. On the Summary page, click **Install** to start the installation of mobile server, which is installed in your Oracle Home.

Note: If you previously clicked **Yes** to installing the mobile server repository, then the Repository Wizard is now launched to create and populate the repository with the mobile server schema.

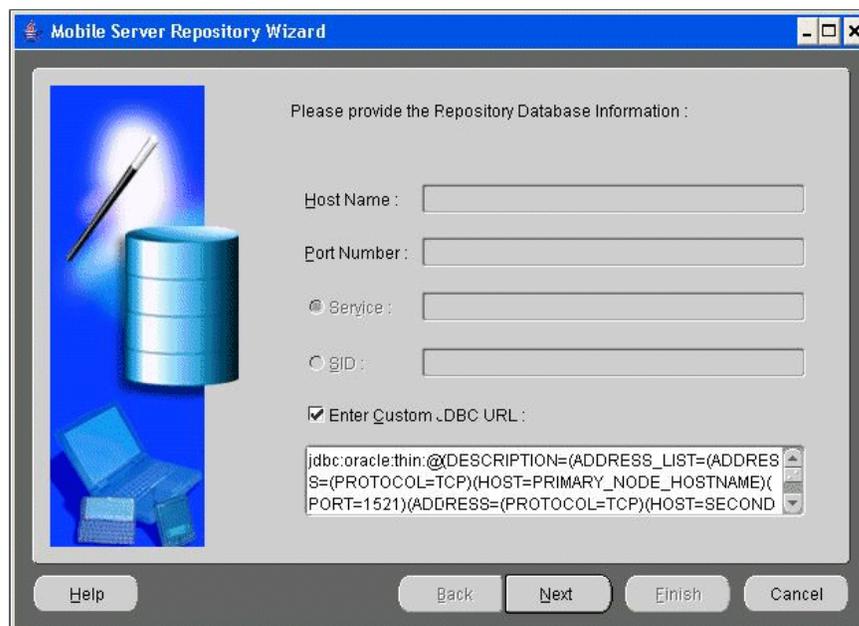
7. Provide the URL for the back-end Oracle database for the mobile server repository, as follows:

- If you are connecting to a single Oracle database, provide the hostname, port and SID or service name.
- If you are connecting to an Oracle RAC database, select the **Enter Custom JDBC URL** checkbox and enter the JDBC URL for this database. This is shown in [Figure 4-3](#).

An Oracle RAC database URL takes the following format:

```
jdbc:oracle:thin:@(DESCRIPTION=
  (ADDRESS_LIST=
    (ADDRESS=(PROTOCOL=TCP)(HOST=PRIMARY_NODE_HOSTNAME)(PORT=1521))
    (ADDRESS=(PROTOCOL=TCP)(HOST=SECONDARY_NODE_HOSTNAME)(PORT=1521))
  )
  (CONNECT_DATA=(SERVICE_NAME=DATABASE_SERVICENAME)))
```

Figure 4-3 Enter JDBC URL for Back-End Database in Repository Wizard



The mobile server installs its meta-data in the back-end database. If you are not sure of the values to enter for the URL, then you can query the data dictionary to obtain these values. Connect as `SYSTEM` and run the following queries.

To retrieve the SID, execute:

```
select instance_name from v$instance;
```

If you need to retrieve the port number, check the `listener.ora` file on the back-end database.

Click **Next**.

8. The Repository Wizard asks for a user name and password, which will be used to connect to the back-end database, create the schema and assign database privileges for the mobile server. When the mobile server accesses the repository, it uses the repository user name/password. This defaults to the user `MOBILEADMIN` and the password is set during install.

Before you provide the user name, this user has to have the following privileges to create the mobile server repository in the back-end database:

- CREATE TABLESPACE, CREATE USER
- The following privileges are required with the Admin option:
ALTER ANY TABLE, ALTER SESSION, ALTER SYSTEM, ANALYZE ANY,
CREATE SESSION, CREATE ANY SEQUENCE, CREATE ANY VIEW,
CREATE ANY TRIGGER, CREATE ANY INDEX, CREATE ANY TABLE,
CREATE ANY SYNONYM, CREATE ANY PROCEDURE, CREATE
PROCEDURE, CREATE SEQUENCE, CREATE SYNONYM, CREATE TABLE,
CREATE VIEW, CREATE INDEXTYPE, DELETE ANY TABLE, DROP ANY
SEQUENCE, DROP ANY PROCEDURE, DROP ANY VIEW, DROP ANY
SYNONYM, DROP ANY TRIGGER, DROP ANY INDEX, DROP ANY TABLE,
INSERT ANY TABLE, SELECT ANY TABLE, SELECT ANY DICTIONARY,
SELECT_CATALOG_ROLE, UPDATE ANY TABLE

Note: You can set the mobile server privileges independently through an API. See Section 3.7, "Set DBA or Operational Privileges for the Mobile Server" in the *Oracle Database Mobile Server Developer's Guide*.

Click **Next**.

9. If this is a new repository, the following message is displayed:

No existing repository found. A new repository will be installed.

Click **Next**.

10. Enter the user name and password for the mobile server repository. The default name is MOBILEADMIN. This schema contains all database objects used by the mobile server. Also, check whether you want to install sample applications or not. Click **Next**.

Note: If you choose to install the samples, then the following mobile server user accounts will be created: S11U1, JOHN, JANE, JACK, and JUNE. These user accounts have default passwords; thus, after the installation completes, you should immediately modify the passwords through Mobile Manager.

You should install the samples only on a development system; you should NEVER install the samples on a production mobile server. Doing so creates a security risk on your production environment. The default user accounts that are created as part of the samples may cause a security risk, as they could provide unauthorized access to your production system.

11. Enter the mobile server administrator user name and password that you will use to log into the Mobile Manager.
12. Enter the client schema user name and password for the schema where the demo applications are installed. When the user accesses the user data in the mobile server repository, the mobile server authenticates the schema user name and password before access is provided to the user data.
13. A summary screen appears informing you if a repository is installed or not. Click **Next**.

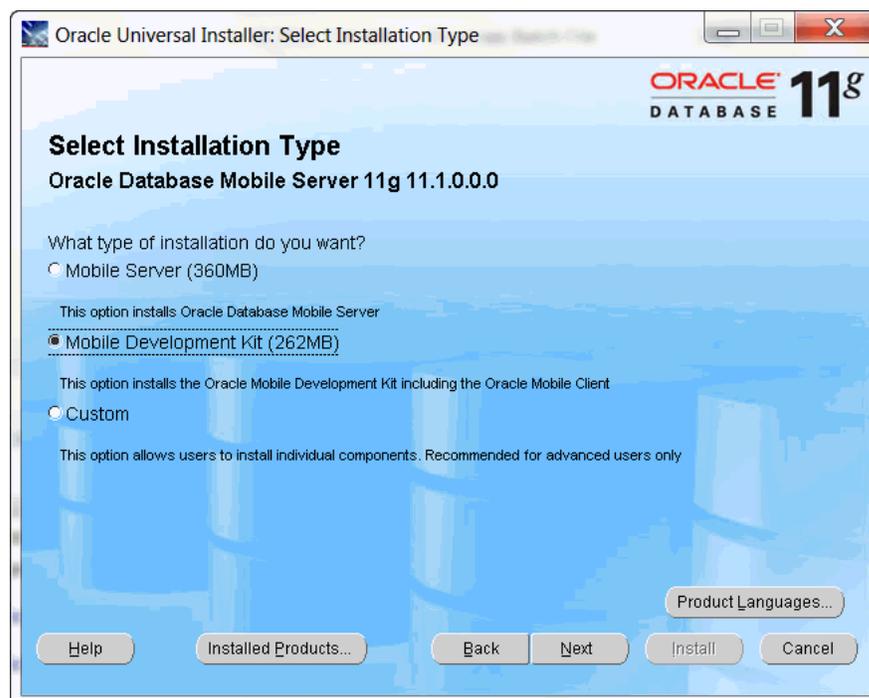
14. The installation screen appears. Wait until the install is completed. Click **Next**.
15. Once the repository wizard is finished, click **Finish** to leave the wizard.
16. Click **Exit** to complete the installation.
17. Review the installation log files for any errors, which are located in `ORACLE_HOME\mobile\server`. The `repository.log` file contains the log file of all general installation errors; the `samples.log` file contains a log of the sample installation errors.
18. When you configure multiple mobile servers against a single repository, this is known as a farm. You must enable the Device Manager, Mobile Manager and mobile client to work properly in a farm environment. For information on configuring all mobile servers to act properly in a farm, see Section 1.2, "Manage Mobile Server Farms" in the *Oracle Database Mobile Server Administration and Deployment Guide*.
19. If you are installing on top of any version of the application server, then restart the application server.

4.3.1.2 Installation of Mobile Development Kit

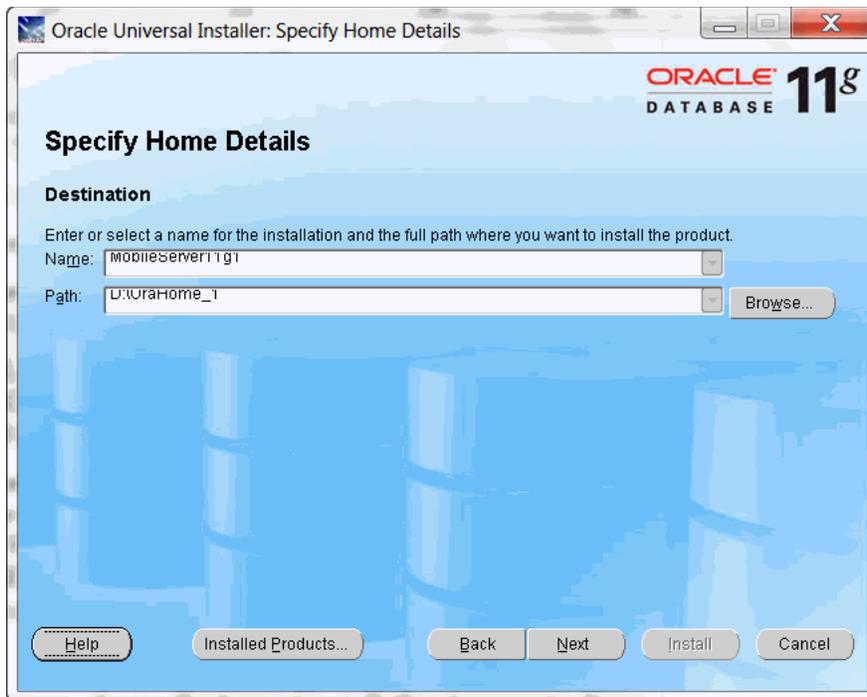
Install Mobile Development Kit from the Installation Types screen by performing the following:

1. Choose the Mobile Development Kit and clicking **Next**.

Figure 4–4 Select Mobile Development Kit



2. On the Specify Home Details screen, enter the name and path where you want to install Oracle Database Mobile Server, which cannot include any spaces. You should install Oracle Database Mobile Server into a new or existing Oracle Home. When you use OracleAS, WebLogic, or Glassfish as your middle-tier, install Oracle Database Mobile Server into the same Oracle Home where the application server is installed.

Figure 4-5 Specify Home Details

3. On the Summary screen, click **Install**. Click **Exit** to return to the installation screen. You have now installed the Mobile Development Kit.

4.3.2 Silent Install of Mobile Server and MDK Components

You can execute a command-line tool that runs the installer in silent mode. That is, it installs either the Mobile Development Kit or the mobile server for you without having to use the Installation GUI. The following sections describe how to silently install these components on either the Windows or UNIX platforms:

- [Section 4.3.2.1, "Silent Install for Mobile Server or Mobile Development Kit on Windows"](#)
- [Section 4.3.2.2, "Silent Install Mobile Server or the Mobile Development Kit on UNIX"](#)

4.3.2.1 Silent Install for Mobile Server or Mobile Development Kit on Windows

The `setup.exe` command can be executed to run the installer in silent mode for Windows, as follows:

```
setup.exe -responseFile
/full_directory_path/stage/Response/oracle.mobile.install_type_2.rsp
-silent -nowelcome
```

There are two response files that contain variables that define how the mobile server or the MDK are installed. The following sections describe the response files:

- [Section 4.3.2.1.1, "Response File for Mobile Server Install"](#)
- [Section 4.3.2.1.2, "Response File for MDK Install"](#)

4.3.2.1.1 Response File for Mobile Server Install Variables to be filled for silent install in the response file `oracle.mobile.install_type_2.rsp` to install Oracle Database Mobile Server are as follows:

- Define the `ORACLE_HOME` destination directory, as follows:

```
ORACLE_HOME="\private\mobile\orahome"
```

- Define the name for your Oracle Home, as follows:

```
ORACLE_HOME_NAME="ORAHOME"
```

- Provide the hostname, port, and user for the back-end database, where the repository is to be installed, as follows:

```
s_repo_jdbc_url=("jdbc:oracle:thin:@<host>:<port>:<sid>")
```

- Specify true or false if the repository is to be created on the back-end database, as follows:

```
b_repository=false
```

- Provide the mobile server port number, where incoming clients connect to it, as follows:

```
s_mobile_port="80"
```

- Provide the database system user name and password, as follows:

```
s_mobile_sysdb_username="myuser"
s_mobile_sysdb_pwd="mypwd"
```

- Provide the mobile server schema name and password, as follows:

```
s_mobile_mb_user="myschema"
s_mobile_mb_pwd="myschemapwd"
```

- Provide the demo schema user name and password, as follows:

```
s_mobile_demoschema_username="demoschema"
s_mobile_demoschema_pwd="demoschemapwd"
```

- Provide the mobile server administrator user name and password, as follows:

```
s_mobile_admin_username="adminuser"
s_mobile_admin_pwd="adminpwd"
```

4.3.2.1.2 Response File for MDK Install Variables in the `oracle.mobile.install_type_1.rsp` response file to install MDK, are as follows:

```
ORACLE_HOME="c:\mobile\orahome"
ORACLE_HOME_NAME="ORAHOME"
```

4.3.2.2 Silent Install Mobile Server or the Mobile Development Kit on UNIX

You can install the mobile server and/or the Mobile Development Kit by using the `runInstaller` command, which is on the top level of the CD or the downloaded ZIP file for the product.

There are two response files that contain variables that define how the mobile server or the MDK are installed, which are located in the `stage/Response` folder of the CD or ZIP file.

Note: When you use OracleAS or WebLogic as your middle-tier, install Oracle Database Mobile Server into the same Oracle Home where the application server is installed.

4.3.2.2.1 Response File for Mobile Server Install The response file for installing the mobile server is `oracle.mobile.install_type_2.rsp`. The variables that you can modify in this file for defining your install are as follows:

- Define the `ORACLE_HOME` destination directory, as follows:

```
ORACLE_HOME="\private\mobile\orahome"
```

- Define the name for your Oracle Home, as follows:

```
ORACLE_HOME_NAME="ORAHOME"
```

- Provide the hostname, port, and user for the back-end database, where the repository is to be installed, as follows:

```
s_repo_jdbc_url=("jdbc:oracle:thin:@<host>:<port>:<sid>")
```

- Specify true or false if the repository is to be created on the back-end database, as follows:

```
b_repository=false
```

- Provide the mobile server port number, where incoming clients connect to it, as follows:

```
s_mobile_port="80"
```

- Provide the database SYSTEM user name and password, as follows:

```
s_mobile_sysdb_username="myuser"
s_mobile_sysdb_pwd="mypwd"
```

- Provide the mobile server schema name and password, as follows:

```
s_mobile_mb_user="myschema"
s_mobile_mb_pwd="myschemapwd"
```

- Provide the mobile server demo schema user name and password, as follows:

```
s_mobile_demoschema_username="demoschema"
s_mobile_demoschema_pwd="demoschemapwd"
```

- Provide the mobile server admin user name and password, as follows:

```
s_mobile_admin_username="adminuser"
s_mobile_admin_pwd="adminpwd"
```

4.3.2.2.2 Response File for MDK Install The response file for installing the MDK is `oracle.mobile.install_type_1.rsp`. You can define two variables in this file for your install—the Oracle Home and the name for the Oracle Home—as follows:

```
ORACLE_HOME="c:\mobile\orahome"
ORACLE_HOME_NAME="ORAHOME"
```

4.3.2.2.3 Execute Silent Install of Mobile Server and MDK on UNIX After modifying the response files, if you want to install both the mobile server and the MDK, then execute

the `runInstaller` command twice. Each execution is provided a different response file. The following installs the mobile server, as follows:

```
./runInstaller -responseFile
    /full_directory_path_to_response_file/oracle.mobile.install_type_2.rsp
    -silent -nowelcome
```

where the options for this command are as follows:

Table 4-3 The runInstaller Command Options

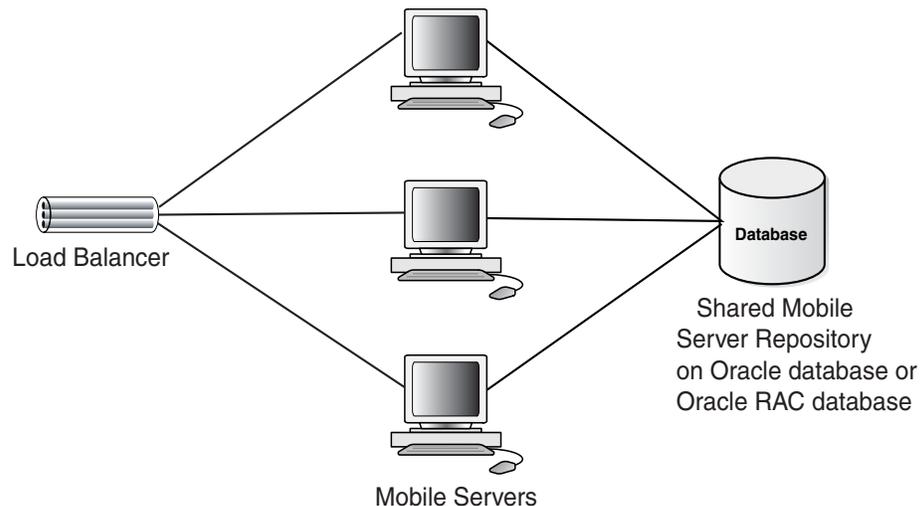
Command Option	Description
<code>responseFile</code>	Provide the path and name of the response file for the component that you are installing. There are two response files: one for installing the mobile server and one for installing the MDK.
<code>silent</code>	Always use this option, as it defines that this is a silent installation.
<code>nowelcome</code>	Stops the GUI from displaying.

4.3.3 Providing High Availability with a Farm of Multiple Mobile Servers

In some cases, you may want to have multiple mobile servers using the same mobile server repository on an Oracle database or an Oracle RAC database. For example, as [Figure 4-6](#) shows, if you wanted to load balance your mobile clients across multiple mobile servers, you could add a load balancer—such as Oracle WebLogic Server Clusters or the Glassfish Cluster Server Instance—before the shared mobile servers, and then your clients would be balanced across these mobile servers, of which each accesses the same data in the shared repository.

This is the type of configuration that entails an Oracle Database Mobile Server Farm.

Figure 4-6 Multiple Mobile Servers Sharing a Repository



You can install multiple mobile servers, each on its own host, that use the same mobile server repository, as follows:

1. Install the load balancer. Oracle Database Mobile Server certifies WebLogic Server Clusters or the Glassfish Cluster Server Instance as a load balancer. You can use any load balancer as long as the `JSESSIONID` is used.

2. Install the first mobile server and the mobile server repository following the instructions in [Section 4.3.1.1, "Installation of the Mobile Server"](#).

Note: Each mobile server in the farm must use Glassfish or WebLogic Server.

3. Install additional mobile servers. For each subsequent mobile server, follow the instructions in [Section 4.3.1.1, "Installation of the Mobile Server"](#), supplying the same JDBC URL for the back-end Oracle database where the mobile server repository exists. This URL can be either a regular JDBC URL or an Oracle RAC URL. Select **Yes** for creating the repository, which registers the shared mobile server with the repository.
4. Configure mobile servers with the load balancer URL. Because the mobile client accesses any of these mobile servers through a load balancer, you need to configure each mobile server with the load balancer URL. This ensures that when the `setup.exe` is downloaded by the client, that the client is automatically configured with the load balancer URL, instead of the mobile server URL.

This process is similar to how the mobile server is configured to use with a reverse proxy. Configure both the `reverse_proxy` and `DM_AUTO_SYNC_CACHE` parameters in the `mobile.ora` configuration file, as follows:

```
[MOBILE]
REVERSE_PROXY=http://<load_balancer_hostname>:<port_number>/mobile
DM_AUTO_SYNC_CACHE=YES
```

5. Configure the load balancer to honor the `JSESSIONID` cookie. When a user logs into a mobile server, an HTTP session is created for that user. An HTTP cookie with the name `JSESSIONID` is sent back to the mobile client. Subsequent HTTP requests from the mobile client will contain the HTTP cookie, which allows the mobile server to identify the session for that user.

In a configuration with multiple mobile servers and a load balancer, you must ensure that the load balancer is configured to route HTTP requests within the same HTTP session to the same mobile server. To do this, configure the load balancer to honor the `JSESSIONID` cookie.

If the load balancer uses a different algorithm to distribute HTTP requests, such as round-robin or server-load based, then the mobile server will not work correctly.

6. Perform additional configuration for device management and data synchronization for all mobile servers in the farm as described in [Section 1.2, "Manage Mobile Server Farms"](#) in the *Oracle Database Mobile Server Administration and Deployment Guide*.

4.3.4 Install Oracle Database Mobile Server on Linux

Oracle Database Mobile Server includes a Mobile Development Kit for Linux.

The following sections provide considerations when installing Oracle Database Mobile Server on a Linux platform:

- [Section 4.3.4.1, "Patch Required if Using Linux Redhat 3.0"](#)
- [Section 4.3.4.2, "Providing Enough Swap Space on the Linux Platform"](#)

4.3.4.1 Patch Required if Using Linux Redhat 3.0

If you install Oracle Database Mobile Server on Linux Redhat 3.0 and the following error occurs, apply the 3006854 patch and start the installation again.

```
Error occurred during initialization of VM Unable to load native library:
/tmp/myhost/jre/lib/i386/libjava.so: symbol __libc_wait, version
GLIBC_2.0 not defined in file libc.so.6 with link time reference.
```

4.3.4.2 Providing Enough Swap Space on the Linux Platform

If the swap space is not sufficient on your Linux machine, then modify the value for the `SWAP_SPACE` variable in the `install/linux/oraparam.ini` file. The default value is set to `SWAP_SPACE=1536`. For example, if your machine is not as powerful, decrease the swap space; for example, `SWAP_SPACE=1024`.

4.3.5 Mobile Client Install

The mobile client can use either the Berkeley DB or SQLite database. If you have the Berkeley DB or SQLite database installed on your mobile device, install the appropriate mobile client, which downloads the Sync Engine. For instructions on how to install the mobile client, see Chapter 2, "Installing the Mobile Client" in the *Oracle Database Mobile Server Mobile Client Guide*.

4.3.6 Custom Install

The custom install option enables a user to install separate components within the Mobile Development Kit and mobile server. This is only for the user who is familiar with these components and not for the beginner.

4.4 Post-Installation Configuration Requirements

The following describes any post-installation requirements:

- [Section 4.4.1, "User Name and Password for WebLogic Server Domain"](#)

4.4.1 User Name and Password for WebLogic Server Domain

When installing the mobile server on the WebLogic Server, a new domain is created in the WebLogic Server called `mobileserver`. You can log into the WebLogic Server console for administration tasks, such as changing the port number or checking traces.

The new WebLogic Server domain is the `mobileserver` domain. The default administrator user name is `weblogic`. The password is set to the mobile repository schema password appended with `weblogic123`. You should modify this password after your first login.

4.5 Starting Mobile Server

You can start the mobile server through the Windows All Programs item or automatically when you start the middle-tier. Both options are described below:

- Select All Programs->Oracle Database Mobile Server 11g->Mobile Server
- The mobile server is automatically started when you start the middle-tier, as follows:
 - Start the mobile server by executing the following:

```
cd ORACLE_HOME\Mobile\Server\bin
runmobileserver
```

Note: The `runmobileserver` script contains the default Java flags. If you want to modify the flags for how mobile server is started, you can modify the `runmobileserver` script.

- Start the application server—OracleAS, WebLogic, or Glassfish—either through the Windows Services panel or through the appropriate GUI.

4.6 Testing Your Mobile Server Installation

To test whether your mobile server was installed correctly, test your mobile server through a browser with the following URL:

```
http://<machine-name>[:port]/mobile
```

4.7 Removing Demo Applications

Before you use Oracle Database Mobile Server in a production environment, you may wish to remove the demo applications. To remove the demo applications, execute the following batch file:

```
demoinstaller [-install | -uninstall] <sys_user> <sys_pwd> <mobile_user> <mobile_pwd>
```

where the options are as follows:

Option	Description
-install or -uninstall	-install: install the demos -uninstall: remove the demos
<sys_user> <sys_pwd>	Provide the system user name and password that are used to drop the schema in which the demos are installed.
<mobile_user> <mobile_pwd>	Provide the mobile server log on user name and password, which is necessary to remove the demos from the repository.

The removal process enables you to delete the schema into which the applications were installed. If you did not use the schema for any other purpose, then allow the batch file to remove the demo application schema.

4.8 How to Uninstall Oracle Database Mobile Server

After you remove the Oracle Database Mobile Server components through the Oracle Universal Installer, also perform the following tasks:

1. Delete the following directories:
 - `ORACLE_HOME\Mobile`
 - If you are using WebLogic, delete the `<app_server_deployment_dir>\mobile` directory.

- If you are using OracleAS, delete the *ORACLE_HOME\j2ee\home\applications\mobileserver* directory.
- 2. Drop TABLESPACE SYNCSERVER INCLUDING CONTENTS
- 3. Delete the *Mobile01.dbf* database file from the operating system.

Upgrade Oracle Database Mobile Server

The following sections describe the steps for upgrading your Oracle Database Mobile Server software:

- [Section 5.1, "Migrate Oracle Database Lite 10g Release 3 to Oracle Database Mobile Server"](#)
- [Section 5.2, "Upgrade Your Oracle Database Lite from 10g Release 1 or 2 to 10g Release 3"](#)

5.1 Migrate Oracle Database Lite 10g Release 3 to Oracle Database Mobile Server

This is the first version of the Oracle Database Mobile Server, which contains most of the components of the previous Oracle Database Lite product, with a few exceptions. The Oracle Lite client is no longer supported. Instead, all synchronization originates from either a Berkeley DB or SQLite client. Thus, if you have been using Oracle Database Lite in the past, all Oracle Database Lite Mobile Clients will need to be migrated to either of these supported mobile clients. In addition, your mobile server needs to be upgraded to the 11g version of the mobile server.

The following sections detail how you can migrate Oracle Database Lite 10g Release 3 to Oracle Database Mobile Server 11g Release 1 for both your existing mobile server and mobile clients.

- [Section 5.1.1, "Pre-Upgrade Instructions"](#)
- [Section 5.1.2, "Mobile Server Farm Upgrade"](#)
- [Section 5.1.3, "Migrate Oracle Database Lite 10.3.0.3.0 to Oracle Database Mobile Server 11.1.0.0.0"](#)
- [Section 5.1.4, "Upgrade Your Existing Applications"](#)
- [Section 5.1.5, "Upgrade Mobile Clients"](#)

5.1.1 Pre-Upgrade Instructions

Before you can migrate the mobile server of your Oracle Database Lite 10.3.0.3.0 to Oracle Database Mobile Server 11g, perform the following:

1. Upgrade to a supported Oracle Database Lite Version

You can only migrate an Oracle Database Lite version 10.3.0.3.0 to Oracle Database Mobile Server 11g. Therefore, if your current version of Oracle Database Lite is previous to version 10.3.0.3.0, this must first be upgraded to Oracle Database Lite 10.3.0.3.0 and all patches applied before migrating to Oracle Database Mobile

Server 11g. Details for migrating Oracle Database Lite versions 10.1 and 10.2 to Oracle Database Lite version 10.3 is described in [Section 5.2, "Upgrade Your Oracle Database Lite from 10g Release 1 or 2 to 10g Release 3"](#).

[Table 5–1](#) shows what software is supported when migrating from an Oracle Database Lite 10.3.0.3 and its installed application server to Oracle Database Mobile Server 11g Release 1 and supported application servers.

Table 5–1 Upgrading Oracle Database Lite 10.3.0.3.0 to Oracle Database Mobile Server 11.1.0.0.0

From Previous Oracle Database Lite Version	To Oracle Database Mobile Server 11g Release 1 Base	Same Oracle Home	Separate Oracle Home
Oracle Database Lite 10.3.0.3 Standalone	Oracle WebLogic Server 11g Release 1	Not Supported	Supported
	Glassfish 3.1	Not Supported	Supported
	Oracle iAS 10.1.3.5.0	Not Supported	Supported
Oracle Database Lite 10.3.0.3 with WebLogic 11g Release 1	Oracle WebLogic Server 11g Release 1	Supported	Supported
	Glassfish 3.1	Not Supported	Supported
	Oracle iAS 10.1.3.5.0	Not Supported	Supported
Oracle Database Lite 10.3.0.3 with Oracle iAS 10.1.3.5.0	Oracle WebLogic Server 11g Release 1	Not Supported	Supported
	Glassfish 3.1	Not Supported	Supported
	Oracle iAS 10.1.3.5.0	Supported	Supported

- If you use OID 10.1.2 to manage user information for Oracle Database Lite 10.3.0.3.0, upgrade to OID version 10.1.4 or 11.1.1.5.

Note: If you are not currently using OID, but would like to use OID with Oracle Database Mobile Server 11g Release 1, follow instructions in [Section 5.2.6, "Migrate Your Users From the Mobile Server Repository to the Oracle Internet Directory \(OID\)"](#).

[Table 5–2](#) shows supported OID versions when migrating from Oracle Database Lite 10.3.0.3 to Oracle Database Mobile Server 11g Release 1. Refer to *Oracle Fusion Middleware Upgrade Guide for Oracle Identity Management 11g Release 1 (11.1.1)* for detailed instructions on how to upgrade OID.

Table 5–2 Upgrading OID When Migrating Oracle Database Lite 10.3.0.3.0 with OID to Oracle Database Mobile Server 11.1.0.0.0

Installed Application Server and OID Version	Upgrade To OID Version
Oracle iAS 10.1.3.5.0 with OID 10.1.2	Oracle iAS 10.1.3.5.0 with OID 10.1.4 or OID 11.1.1.5
Oracle iAS 10.1.3.5.0 with OID 10.1.4	You can continue using Oracle iAS 10.1.3.5.0 with OID 10.1.4 or upgrade to OID 11.1.1.5
WebLogic 11g Release 1 with OID 10.1.4	You can continue using WebLogic 11g Release 1 with OID 10.1.4 or upgrade to OID 11.1.1.5

- If you are using Oracle Database Lite 10.3.0.3.0 Mobile Server Standalone, migrate to one of the supported application servers on a separate `ORACLE_HOME`:

OracleAS, WebLogic, or Glassfish. See [Section 3.3.3, "Certified Application Server Configurations"](#) for details on supported application servers.

4. If you are currently using WebLogic or OracleAS, you can do one of the following:
 - You can continue to use the installed application server as your application server as long as the version is a supported version. When you install the Oracle Database Mobile Server 11g, you can do so in either the same *ORACLE_HOME* or a separate *ORACLE_HOME*.
 - If you want to switch to a different application server, you must install Oracle Database Mobile Server 11g in a separate *ORACLE_HOME*.

See [Section 5.1.3.1.1, "Migrating in the Same ORACLE_HOME"](#) and [Section 5.1.3.1.2, "Migrating in a Separate ORACLE_HOME"](#) for additional information.

5. If you have OracleAS installed as the application server, but you want to migrate to WebLogic Server, refer to Oracle WebLogic SmartUpgrade directions on the following site:

<http://www.oracle.com/technetwork/middleware/downloads/smartupgrade-085160.html>

6. You must apply all patches before upgrading from Oracle Database Lite 10.3.0.3.0 to Oracle Database Mobile Server 11g Release 1.

5.1.2 Mobile Server Farm Upgrade

If you have multiple mobile servers in a farm that use the same mobile server repository on a back-end Oracle database, perform the following:

1. Shut down all mobile servers before you start the upgrade.
2. Upgrade one of these mobile servers and the mobile server repository.
3. Upgrade each additional mobile server that uses the repository.
4. Restart all mobile servers.

5.1.3 Migrate Oracle Database Lite 10.3.0.3.0 to Oracle Database Mobile Server 11.1.0.0.0

The following sections describe how to migrate from Oracle Database Lite 10.3.0.3.0 to the Oracle Database Mobile Server 11g:

- [Section 5.1.3.1, "Decision to Upgrade to the Same or a Separate ORACLE_HOME"](#)
- [Section 5.1.3.2, "Upgrade Your Mobile Server Repository"](#)

5.1.3.1 Decision to Upgrade to the Same or a Separate ORACLE_HOME

Migrating Oracle Database Lite 10.3.0.3.0 to Oracle Database Mobile Server 11.1.0.0.0 is supported in the same or separate *ORACLE_HOME*.

- [Section 5.1.3.1.1, "Migrating in the Same ORACLE_HOME"](#)
- [Section 5.1.3.1.2, "Migrating in a Separate ORACLE_HOME"](#)

5.1.3.1.1 Migrating in the Same ORACLE_HOME Refer to [Table 5–1](#) for the supported cases for migrating in the same *ORACLE_HOME*.

1. Install Oracle Database Mobile Server 11g Release 1 in *ORACLE_HOME*.

- Launch Oracle Universal Installer, on **Select Installation Type** page, select **Mobile Server**.
 - On the **Specify Home Details** page, choose the same `ORACLE_HOME` as your previous installation.
 - Follow the instructions to complete the install.
2. Execute the Repository Wizard to upgrade the repository.
 - If you choose to run Repository Wizard during install, the Repository Wizard launches automatically.
 - Alternatively, you can launch the Repository Wizard after installation. Refer to [Section 5.2.3, "Upgrade Your Mobile Server Repository"](#).
 3. Execute the application upgrade assistant to upgrade user applications to the new repository. For more information, refer to [Section 5.2.4, "Upgrade Your Existing Applications"](#).

5.1.3.1.2 Migrating in a Separate ORACLE_HOME Refer to [Table 5–1](#) for the supported cases for migrating in a separate `ORACLE_HOME`.

1. Install Oracle Database Mobile Server 11g Release 1 in a new `ORACLE_HOME`.
 - Launch Oracle Universal Installer, on **Select Installation Type** page, select **Mobile Server**.
 - On the **Specify Home Details** page, choose a new `ORACLE_HOME` that is different from your previous installation
 - Follow the instructions to complete the install.
2. Execute the Repository Wizard to upgrade the repository.
 - If you choose to run Repository Wizard during install, the Repository Wizard launches automatically.
 - Alternatively, you can launch Repository Wizard after installation. Refer to [Section 5.2.3, "Upgrade Your Mobile Server Repository"](#).
3. Execute the application upgrade assistant to upgrade user applications to the new repository. For more information, refer to [Section 5.2.4, "Upgrade Your Existing Applications"](#).
4. Uninstall the previous mobile server version from the old `ORACLE_HOME`.
 - Launch Oracle Universal Installer, click **Deinstall Products**.
 - Choose the previous mobile server that you want to uninstall, and click **Remove**.

5.1.3.2 Upgrade Your Mobile Server Repository

During installation of Oracle Database Mobile Server, the Repository Wizard detects if Oracle Database Lite 10.3.0.3.0 is installed and initiates the upgrade process, as follows:

Note: If you need to start the Repository Wizard outside of the install process, execute one of the following:

- Windows: %ORACLE_HOME%\Mobile\Server\admin\repwizard.bat
 - Linux: \$ORACLE_HOME/mobile/server/admin/repwizard
-
-

1. Enter the SYSTEM password. Click **Next**.
2. Select the schema that you are going to upgrade. Click **Next**.
3. Enter the password for the mobile server repository (MOBILEADMIN) and click **YES** to install the sample applications. Click **Next**.
4. A summary screen appears. Click **Next**.
5. After the repository is upgraded, click **Finish**.

In Oracle Database Mobile Server 11g, the repository location is set to %ORACLE_HOME%\Mobile\Server\admin\repository directory, which is different from previous releases.

5.1.4 Upgrade Your Existing Applications

You can upgrade all existing applications with the Application Upgrade Assistant. Since the Oracle Database Mobile Server 11g repository is in a new location, the Application Upgrade Assistant moves applications from the old to the new repository location.

The Application Upgrade Assistant is located as follows:

- On Windows:


```
%ORACLE_HOME%\Mobile\Server\admin\ApplicationUpgradeAssistant.bat
```
- On Linux:


```
$ORACLE_HOME/mobile/server/admin/ApplicationUpgradeAssistant.sh
```

On the command-line, supply the following:

- Mobile server repository name and password
- The *ORACLE_HOME* for the old mobile server repository
- The *ORACLE_HOME* for the new mobile server repository

Note: If you are upgrading from the same *ORACLE_HOME*, specify the same values for the old *ORACLE_HOME* and new *ORACLE_HOME*.

For example, on a Windows system, where the repository name is mobileadmin, password is manager, the old *ORACLE_HOME* is C:\Oracle\ora10gR3 and the new *ORACLE_HOME* is C:\Oracle\Middleware\wlserver_10.3, execute the Application Upgrade Assistant as follows:

```
ApplicationUpgradeAssistant mobileadmin manager
C:\Oracle\ora10gR3 C:\Oracle\Middleware\wlserver_10.3
```

The Application Upgrade Assistant will not upgrade applications for de-supported platforms, as follows:

- Applications on desupported platforms on Oracle Lite, Web-to-Go, OC4J, and BC4J platforms will not be upgraded.
- The default system folders and default application files for previous releases will not be upgraded, which includes `admin-web`, `msadmin`, `olsetup`, `devmgr`, `META-INF`, `plugins`, `setup`, and `webtogo`.
- In Oracle Database Mobile Server 11g, the system default Mobile Manager application is named `mobile`. However, if you deployed an application with the same name in Oracle Database Lite, the Application Upgrade Assistant will not upgrade it due to a name conflict. You will need to manually change your application name and redeploy it on the new Mobile Server.

5.1.4.1 Migrate Your Users From the Mobile Server Repository to Oracle Internet Directory (OID)

You can use the Oracle Internet Directory (OID), which is part of the Oracle Application Server, for storing and retrieving user information instead of the Mobile Server Repository. To use OID, you must migrate all user information from the existing repository into OID.

For more information, refer to Section 4.3.1.6 "Managing OID Users in the Mobile Server" in the *Oracle Database Mobile Server Administration and Deployment Guide*.

5.1.5 Upgrade Mobile Clients

Berkeley DB and SQLite Mobile Clients installed with the Oracle Database Lite Mobile Server version 10.3.0.3.0 can be upgraded to Oracle Database Mobile Server 11g Release 1.

Table 5–3 shows what mobile client platforms can be upgraded to the Oracle Database Mobile Server 11g Release 1.

Table 5–3 Upgrading Mobile Clients

Client Device Platform	Upgrade Instructions
SQLite or Berkeley DB Mobile Clients on Win32	Run <code>update.exe</code> or <code>msync.exe</code> , which launches <code>update.exe</code> after the synchronization completes.
SQLite or Berkeley DB Mobile Clients on Pocket PC 6.0, 6.5	Run <code>update.exe</code> or <code>msync.exe</code> , which launches <code>update.exe</code> after the synchronization completes.
SQLite or Berkeley DB Mobile Clients on Linux	Run <code>update</code> .
SQLite Mobile Client on Android	Run <code>update</code> .
SQLite Mobile Client on Blackberry	De-install the previous client version and install the appropriate 11g mobile client

5.1.5.1 Upgrade Oracle Mobile Clients from De-Supported Mobile Client Platforms

For Web-to-Go, OC4J, BC4J, and Branch Office Mobile Client platforms, there are no upgrade options since these client device platforms are no longer supported in Oracle Database Mobile Server 11g.

Table 5–4 shows how to migrate de-supported Mobile client platforms to available platforms in Oracle Database Mobile Server 11g Release 1.

Note: Do not cancel in the middle of the upgrade process.

Table 5–4 Upgrading from De-Supported Mobile Client Platforms

De-Supported Mobile Client Platform	Upgrade to the Available Platform
SQLite or Berkeley DB Mobile Clients on Pocket PC 2003	SQLite or Berkeley DB Mobile Clients on Pocket PC 6.0
SQLite or Berkeley DB Mobile Clients on Pocket PC 5.0	SQLite or Berkeley DB Mobile Clients on Pocket PC 6.0

If your device is Windows 6.0 or later, you must perform the following after the CAB files are downloaded to the device:

1. Click on the CAB files to extract the files to the device.
2. Start the Device Manager by executing `dmagent`, which detects available upgrade options and prompts the user to upgrade.

If you do not upgrade mobile client devices for de-supported platforms, you can still synchronize data and perform administration duties with the following restrictions:

- You can continue to administer de-supported client platforms, and they will appear in the platform tabs in the Mobile Manager. However, these platforms will not be available on the setup page for you to create new clients using these platforms.
- The applications that already exist on the de-supported client platforms will still execute as expected. You may also apply any patches for the application. However, you cannot deploy any new applications to that platform.
- If you do upgrade the client platform, you must re-package and re-publish each application as a new application for the new client platform.

5.2 Upgrade Your Oracle Database Lite from 10g Release 1 or 2 to 10g Release 3

If you have Oracle Database Lite 10g Release 1 or 2, you must upgrade to the latest version. The following sections describe the steps for upgrading your software:

- [Section 5.2.1, "Supported Versions for Upgrading Oracle Database Lite"](#)
- [Section 5.2.2, "Pre-Upgrade Instructions"](#)
- [Section 5.2.3, "Upgrade Your Mobile Server Repository"](#)
- [Section 5.2.4, "Upgrade Your Existing Applications"](#)
- [Section 5.2.5, "Installing Sample Applications"](#)
- [Section 5.2.6, "Migrate Your Users From the Mobile Server Repository to the Oracle Internet Directory \(OID\)"](#)
- [Section 5.2.7, "Remove the 10g Release 1 or 2 Installation"](#)
- [Section 5.2.8, "Remove Duplicate Mobile Server IDs from the Repository"](#)

5.2.1 Supported Versions for Upgrading Oracle Database Lite

Upgrading Oracle Database Lite from 10g Release 1 or 2 to 10g Release 3 is supported in the same or a separate *ORACLE_HOME* from the previous installation. Before you upgrade your Mobile Server from Oracle Database Lite 10g Release 2 to Release 3, be sure to apply all patches first.

The following sections describe how to perform the upgrade:

- [Section 5.2.1.1, "Upgrading in the Same ORACLE_HOME"](#)
- [Section 5.2.1.2, "Upgrading in a Separate ORACLE_HOME"](#)
- [Section 5.2.1.3, "Supported Oracle Database Lite Versions for Upgrade"](#)

5.2.1.1 Upgrading in the Same ORACLE_HOME

The Oracle Universal Installer detects the earlier version and uninstalls this version. All deployed application files and existing configuration files remain to be used by the new installation. When prompted, you can re-execute the Repository Wizard, which detects that the repository exists and runs the repository upgrade instead of the install.

5.2.1.2 Upgrading in a Separate ORACLE_HOME

These steps are the standard steps to follow when upgrading a Mobile Server in a separate *ORACLE_HOME* directory.

1. Install the desired version of Oracle Application Server into the new *ORACLE_HOME*. This step is optional.
2. Install Mobile Server in the new *ORACLE_HOME*.
3. Execute the Repository Wizard to upgrade the repository.
4. Execute the application upgrade assistant.
5. Uninstall the previous Mobile Server version from the old *ORACLE_HOME*.

5.2.1.3 Supported Oracle Database Lite Versions for Upgrade

[Table 5–5](#) details what versions of Oracle Database Lite and OracleAS installation can be upgraded to Oracle Database Lite 10.3.0.3

Table 5–5 Upgrading Oracle Database Lite 10.1.x to Oracle Database Lite 10.3.0.3

From <Version>	To Oracle Database Lite 10.3.0.3 Base	Same Oracle Home	Separate Oracle Home
10g R1 Standalone	Oracle iAS 10.1.3.5.0	Not Supported	Supported
	Oracle WebLogic Server 11g Rel 1	Not Supported	Supported
10g R1 with Oracle iAS 9.0.2	Any	Not Supported	Not Supported
10g R1 with Oracle iAS 9.0.3	Any	Not Supported	Not Supported
10g R1 with Oracle iAS 9.0.4	Any	Not Supported	Not Supported
10g R1 with Oracle iAS 10.1.2 with patch 5723922	Oracle iAS 10.1.3.5.0	Not Supported	Supported
	Oracle WebLogic Server 11g Rel 1	Not Supported	Supported

For Oracle Database Lite 10.0, support was removed for installations with Oracle *iAS* 9.0.2, 9.0.3 and 9.0.4. In addition, the OC4J version in the standalone installation is Oracle *iAS* version 9.0.4. You can apply the patch that enables support for Oracle *iAS* 10.1.2 and upgrades the version of standalone OC4J to Oracle *iAS* 10.1.2. The patch is 5723922: Needs migration path from Oracle *iAS* and OC4J 9.0.4.x to Oracle *iAS* 10.1.2.

In Oracle Database Lite 10.0, the path used was `mobile/j2ee/home`. However, in Oracle Database Lite 10.3, this was modified to use the `mobile/j2ee/mobileserver` path. This may cause problems with certain Oracle *iAS* upgrades.

Table 5–6 Upgrading Oracle Database Lite 10.2.x to Oracle Database Lite 10.3.0.3

From <Version>	To Oracle Database Lite 10.3.0.3 Base	Same Oracle Home	Separate Oracle Home
10g R2 Standalone	Oracle <i>iAS</i> 10.1.3.5.0	Not Supported	Supported
	Oracle WebLogic Server 11g Rel 1	Not Supported	Supported
10g R2 with Oracle <i>iAS</i> 9.0.4	Oracle <i>iAS</i> 10.1.3.5.0	Not Supported	Not Supported
	Oracle WebLogic Server 11g Rel 1	Not Supported	Not Supported
10g R2 with Oracle <i>iAS</i> 10.1.2 with patch 5723922	Oracle <i>iAS</i> 10.1.3.5.0	Not Supported	Supported
	Oracle WebLogic Server 11g Rel 1	Not Supported	Supported

For Oracle Database Lite 10.2, support was removed for installations with Oracle *iAS* 9.0.4. In addition, the OC4J version in the standalone installation is Oracle *iAS* version 9.0.4. You can apply the patch that enables support for Oracle *iAS* 10.1.2 and upgrades the version of standalone OC4J to Oracle *iAS* 10.1.2. The patch is 5723922: Needs migration path from Oracle *iAS* and OC4J 9.0.4.x to Oracle *iAS* 10.1.2.

Table 5–7 Upgrading Oracle Database Lite 10g Release 3 to Oracle Database Lite 10.3.0.3

From <Version>	To Oracle Database Lite 10.3.0.3 Base	Same Oracle Home	Separate Oracle Home
10.3.0.1 Standalone	Oracle <i>iAS</i> 10.1.3.5.0	Not Supported	Supported
	Oracle WebLogic Server 11g Rel 1	Not Supported	Supported
10.3.0.1 with Oracle <i>iAS</i> 10.1.2	Standalone	Not Supported	Supported
	Oracle <i>iAS</i> 10.1.2.0.2	Supported	Supported
	Oracle <i>iAS</i> 10.1.3.1.0	Not Supported	Supported
10.3.0.1 with Oracle <i>iAS</i> 10.1.3	Oracle <i>iAS</i> 10.1.3.5.0	Supported	Supported
	Oracle WebLogic Server 11g Rel 1	Supported	Supported
10.3.0.1 with Oracle <i>iAS</i> 10.1.3.1	Oracle <i>iAS</i> 10.1.3.5.0	Supported	Supported
	Oracle WebLogic Server 11g Rel 1	Supported	Supported

Table 5–8 Upgrading Oracle Database Lite with OID to Oracle Database Lite 10.3.0.3

From <Version>	From OID <Version>	To OID <Version>	Supported?
5.0.2.10	Oracle iAS 9.0.2	Any	Not Supported
10.0.0	Oracle iAS 9.0.2	Any	Not Supported
	Oracle iAS 9.0.3	Any	Not Supported
	Oracle iAS 9.0.4	Any	Not Supported
	Oracle iAS 10.1.2.	Oracle iAS 10.1.2 with OID 10.1.2	Supported
10.2.0.2	Oracle iAS 10.1.2.	Oracle iAS 10.1.3.5.0 with OID 10.1.4	Supported
	Oracle iAS 9.0.4	Any	Not Supported
10.3.0.1	Oracle iAS 10.1.2 with OID 10.1.2	Oracle iAS 10.1.2.0.2 with OID 10.1.2	Supported
	Oracle iAS 10.1.3.1 with OID 10.1.4	Oracle iAS 10.1.3.x with OID 10.1.4	Supported

5.2.2 Pre-Upgrade Instructions

In order to upgrade your Oracle Database Lite Installation, perform the following:

1. If you have multiple mobile servers that use the same mobile server repository on a back-end database, you must shut down all of these mobile servers before you start the upgrade. Then, upgrade one of these mobile servers and the mobile server repository. After this upgrade completes successfully, you can upgrade each additional mobile server that uses the repository. after all of the shared mobile servers are upgraded, you can restart them.
2. You can upgrade your existing Database Lite 10g Release 1 or 2 to the Release 3 in the same Oracle Home OR you can install the Release 2 of Oracle Database Lite in a separate Oracle home than your Database Lite 10g Release 1 or 2 home.

See [Chapter 4, "Installation of Oracle Database Mobile Server"](#) for instructions on how to install Oracle Database Lite. When the Repository Wizard is executed, see [Chapter 5.2.3, "Upgrade Your Mobile Server Repository"](#) for directions on how to upgrade the repository on the back-end database.

3. When you migrate any of your mobile servers to an instance running on a WebLogic Server, the the mobile server URL and port may change. Each client application, including `msync.exe`, that interacts with these mobile servers must apply the new server URL on the client side.

When the mobile server URL change occurs, perform the following on each client:

- a. Stop all processes on the client.
- b. Modify the URL on the client by opening `msync.exe`, change the server URL, and apply the changes.
- c. Perform a synchronization.

5.2.3 Upgrade Your Mobile Server Repository

During installation of Oracle Database Lite 10g Release 3, the Repository Wizard detects if Release 1 or 2 is installed and initiates the upgrade process, as follows:

Note: If you need to start the Repository Wizard outside of the install process, execute

```
ORACLE_HOME\Mobile\Server\admin\repwizard
```

1. Enter the `SYSTEM` password. Click **Next**.
2. Select the schema that you are going to upgrade. Click **Next**.
3. Enter the password for the Mobile Server Repository—`MOBILEADMIN`—and click **No** for installing the sample applications. Click **Next**.
4. A summary screen appears. Click **Next**.
5. After the repository is upgraded, click **Finish**.

To upgrade each individual mobile server, follow the instructions in [Section 5.2.2, "Pre-Upgrade Instructions"](#).

5.2.4 Upgrade Your Existing Applications

You have to upgrade existing applications only if you installed Oracle Database Lite 10g Release 3 in a separate `ORACLE_HOME` than Oracle Database Lite 10g Release 1 or 2. Thus, once you have installed the Oracle Database Lite 10g Release 3 in a new `ORACLE_HOME` and the Repository Wizard has upgraded the mobile server repository successfully, execute the Application Upgrade Assistant to upgrade your existing applications.

The Application Upgrade Assistant moves applications from the `ORACLE_HOME` for Oracle Database Lite 10g Release 1 or 2 to your the new `ORACLE_HOME` for Oracle Database Lite 10g Release 3.

The Application Upgrade Assistant is located in the following locations:

- On a Windows environment:


```
ORACLE_HOME\mobile\server\admin\ApplicationUpgradeAssistant.bat
```
- On a UNIX environment:


```
ORACLE_HOME/mobile/server/admin/ApplicationUpgradeAssistant.sh
```

On the command-line, supply the following:

- Mobile server repository name and password
- The old `ORACLE_HOME`
- The new `ORACLE_HOME`

For example, on a Windows system, where the repository name is `mobileadmin`, password is `manager`, the old `ORACLE_HOME` is `c:\oracle\ora10gR1` and the new `ORACLE_HOME` is `c:\oracle\ora10gR2`, execute the Application Upgrade Assistant, as follows:

```
ApplicationUpgradeAssistant mobileadmin manager
c:\oracle\ora10gR1 c:\oracle\ora10gR2
```

5.2.5 Installing Sample Applications

For the sample applications, you can either upgrade the existing sample applications, use the existing samples in Release 3, or install new sample applications. The Release 1 or 2 samples will still work in Release 3 without any upgrade.

To install samples use following command:

```
demoinstaller -install
[Database_Administrator_User_Name] [Database_Administrator_Password]
[Repository_Owner] [Repository_Password]
[Demo_user_name ] [Demo_password]
```

For Example:

```
demoinstaller -install system manager mobileadmin manager master master
```

The `demoinstaller` utility is located in the following directories:

- On a Windows environment:


```
ORACLE_HOME\mobile\server\demos\demoinstaller.bat
```
- On a UNIX environment:


```
ORACLE_HOME/mobile/server/demos/demoinstaller.sh
```

5.2.6 Migrate Your Users From the Mobile Server Repository to the Oracle Internet Directory (OID)

You can use the Oracle Internet Directory (OID), which is part of the Oracle application server, for storing and retrieving user information instead of the mobile server repository. To use OID, you must migrate all user information from the existing repository into OID.

When you migrate users from a mobile server repository into OID, you cannot have duplicate users in OID. So, if you migrate users from two repositories into a single OID, and you have users with the same name, but different passwords on two separate repositories, the user that is first migrated into OID is the one that is valid. The second attempt to migrate an existing username into OID from a different repository will not migrate and no message is provided. This can be a problem if you have two users in different repositories with different passwords.

Migrate existing users in the repository to OID through the `oiduser` tool, which is located in `ORACLE_HOME\Mobile\Server\bin`. The `oiduser` tool migrates existing users with either randomly-generated passwords or a common password.

The following sections describe how to migrate your users based on which Oracle Application Server you have installed:

- [Section 5.2.6.1, "Mobile Server Installed On Oracle Application Server 10.1.2.0.0"](#)
- [Section 5.2.6.2, "Mobile Server Installed on Oracle Application Server 10.1.3.1.0 or Higher"](#)

5.2.6.1 Mobile Server Installed On Oracle Application Server 10.1.2.0.0

Perform the following to migrate your users to OID:

1. Set the `IAS_MODE` parameter in the `webtogo.ora` file to YES.
2. If you are using Oracle9iAS, then explicitly grant permission to the `webtogo.jar` file, which enable calls originating from this JAR file. Grant this permission by

adding the following to the `jazn-data.xml` file, which is located in the `ORACLE_HOME/config` directory:

```
<grant>
  <grantee>
    <codesource>
      <url>file:$MIDTIER_ORACLE_HOME/mobile/server/bin/webtogo.jar</url>
    </codesource>
  </grantee>
  <permissions>
    <permission>
      <class>oracle.ias.repository.schemaimpl.CheckRepositoryPermission</class>
      <name>connectAs</name>
    </permission>
  </permissions>
</grant>
```

3. Migrate the user information using the `oiduser` tool, for either randomly-generated passwords or a common password, as follows:

- To use randomly-generated passwords for each user, execute the `oiduser` tool without the `-P` option, as follows:

```
oiduser <ORACLE_HOME> <Mobile Server Repository username> <Mobile
Server Repository password> <OID port number> <OID host name> <OID
password> <OID admin name> <OID subscriber name>
```

For example, the default setting would be:

```
oiduser <ORACLE_HOME> mobileadmin manager 389 ldap://myhost-pc1.com
welcome1 orcladmin dc=us,dc=oracle,dc=com
```

- To use a common password for all users, provide the common password with the `-P` option, as follows:

```
oiduser <ORACLE_HOME> <Mobile Server Repository username> <Mobile
Server Repository password> <-P> <common password> <OID port number> <OID
host name> <OID password> <OID admin name> <OID subscriber name>
```

where the common password is specified by you.

4. The `oiduser` tool generates the `LDAP.bat`, `oiduser.dat` and `mobile_oid_user` files. Copy these files to the same directory in the application infrastructure machine where OID is installed. You can copy them to any directory, as the `LDAP.bat` executable uses `oiduser.dat` and the `mobile_oid_user` executable uses the generated `oiduserfile.Idif` file.

Note: The `mobile_oid_user` executable requires that the `ldapadd` executable is in the `PATH`. The `ldapadd` executable is part of the application server installation.

- 5. Execute the `LDAP.bat` from the command-line with the `oiduser.dat` as input on the machine where the application server resides. This creates the `oiduserfile.Idif` file.**
- 6. Execute the `mobile_oid_user` file from the command-line on the application server machine. This creates the Oracle Database Lite users in the OID.**

All users from the Mobile Server Repository are now migrated to the OID with the passwords, as designated in step 1.

Perform the following to enable user authentication from OID on the Mobile Server:

1. Login to Mobile Manager as the administrator and select the appropriate server.
2. Click on the Administration tab.
3. Click **Edit Config File** to edit the `webtogo.ora` file for this server.
4. If `SSO_ENABLED` has a hash mark (#) before it, then eliminate the hash mark and set `SSO_ENABLED` to YES. Click **Apply**.
5. Restart both the application server and the Mobile Server.

5.2.6.2 Mobile Server Installed on Oracle Application Server 10.1.3.1.0 or Higher

Perform the following to migrate your users to OID:

1. Set the `IAS_MODE` parameter in the `webtogo.ora` file to YES.
2. Migrate the user information using the `oiduser` tool, for either randomly-generated passwords or a common password, as follows:
 - To use randomly-generated passwords for each user, execute the `oiduser` tool without the `-P` option, as follows:

```
oiduser <ORACLE_HOME> <Mobile Server Repository username> <Mobile  
Server Repository password> <OID port number> <OID host name> <OID  
password> <OID admin name> <OID subscriber name>
```

For example, the default setting would be:

```
oiduser <ORACLE_HOME> mobileadmin manager 389 ldap://myhost-pc1.com  
welcome1 orcladmin dc=us,dc=oracle,dc=com
```

- To use a common password for all users, provide the common password with the `-P` option, as follows:

```
oiduser <ORACLE_HOME> <Mobile Server Repository username> <Mobile  
Server Repository password> <-P> <common password> <OID port number> <OID  
host name> <OID password> <OID admin name> <OID subscriber name>
```

where the common password is specified by you.

All users from the Mobile Server Repository are now migrated to the OID with the required passwords.

If you want to enable Oracle Single Sign on on the Mobile Server then perform the following:

1. Login to Mobile Manager as the administrator and select the appropriate server.
2. Click on the Administration tab.
3. Click **Edit Config File** to edit the `webtogo.ora` file for this server.
4. If `SSO_ENABLED` has a hash mark (#) before it, then eliminate the hash mark and set `SSO_ENABLED` to YES. Click **Apply**.
5. Restart both the application server and the Mobile Server.

5.2.7 Remove the 10g Release 1 or 2 Installation

Once you have completed all of the upgrade exercises, you can now remove the Oracle Database Lite 10g Release 1 or 2 from your system. Only perform these steps if you have installed Oracle Database Lite 10g Release 3 in a separate `ORACLE_HOME`. In addition, this is not required, but is recommended for clarity.

1. Start the Oracle Universal Installer by double-clicking on `setup.exe`.
2. On the File Locations screen, enter the `ORACLE_HOME` and `PATH` for the 10g Release 1 or 2 installation. Click **Installed Products**.
3. On the Inventory screen, select the '+' next to the `ORACLE_HOME` for your 10g Release 1 or 2 installation. Then, click the box next to the installation that you are going to remove. Click **Remove**.
4. On the Confirmation screen, click **Yes**.
5. When the removal is complete, click **Close**.
6. To exit the Installer, click **Exit**.

5.2.8 Remove Duplicate Mobile Server IDs from the Repository

After migrating Oracle Database Lite 10g Release 1 or 2 to Release 3, you will see duplicate entries in the Mobile Manager Farms page. To delete these entries from the repository, use the `unregistermobileserver` utility:

```
unregistermobileserver <MobileServerId>
```

Following is the location of `unregistermobileserver`:

- On a Windows environment:

```
ORACLE_HOME\mobile\server\admin\unregistermobileserver.bat
```

- On a UNIX environment:

```
ORACLE_HOME/mobile/server/admin/unregistermobileserver.sh
```

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