

Oracle® Database Lite

Getting Started Guide

10g (10.0.0)

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Oracle Database Lite Getting Started Guide 10g (10.0.0)

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If you have problems with the software, please contact your local Oracle Support Services.

Preface

This preface introduces you to the *Oracle Database Lite Getting Started Guide*, discussing the intended audience, documentation accessibility, structure, 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 Lite.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For additional information, visit the Oracle Accessibility Program Web site at

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Structure

This guide includes the following topics:

Chapter 1, "Pre-Installation Requirements"

This chapter instructs you how to prepare to install Oracle Database Lite.

Chapter 2, "Installation of Oracle Database Lite"

This chapter instructs you how to install Oracle Database Lite.

Chapter 3, "Upgrade Your Oracle Database Lite"

This chapter instructs you how to upgrade your version of Oracle Database Lite to the current version.

Chapter 4, "Quick Start for Oracle Database Lite"

This chapter directs you, as a user, how to perform three tasks—software distribution, application deployment, and data synchronization—through sample applications on distinct platforms.

Related Documents

Since both the standalone Mobile Server and the Mobile Server with Oracle9iAS or OracleAS use the Oracle Containers for J2EE (OC4J), the following manuals can be used as reference when configuring your application server:

- *Oracle Containers for J2EE Standalone User's Guide*
- *Oracle Containers for J2EE User's Guide*
- *Oracle Containers for J2EE Security 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.
< >	Angle brackets enclose user-supplied names.
[]	Brackets enclose optional clauses from which you can choose one or none.

Pre-Installation Requirements

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

- [Section 1.1, "Include the Latest Patches"](#)
- [Section 1.2, "Release Notes"](#)
- [Section 1.3, "Oracle Components That Work With Oracle Database Lite"](#)
- [Section 1.4, "System Requirements For Mobile Clients"](#)
- [Section 1.5, "System Requirements For Windows Systems"](#)
- [Section 1.6, "System Requirements For UNIX Systems"](#)
- [Section 1.7, "Recommended System Configuration For UNIX"](#)
- [Section 1.8, "Mounting the Installation CD-ROM For UNIX Systems"](#)

1.1 Include the Latest Patches

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

<http://metalink.oracle.com>

1.2 Release Notes

We recommend reading *Oracle Database Lite Release Notes* before installing Oracle Database Lite. *Oracle Database Lite Release Notes* are available as part of the documentation shipped with Oracle Database Lite. The most up-to-date version is also available at OTN at the following Web site:

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

1.3 Oracle Components That Work With Oracle Database Lite

Since Oracle Database Lite stores and retrieves your information in an Oracle database, you must have a back-end Oracle database version 8.1.7 or higher, either the Standard or Enterprise Edition.

If you do not want to have the datafile for your Oracle Database Lite 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 tablespace in the `db_create_file_dest`

parameter the database configuration file. Once updated, restart the Oracle database. This must be done before installing Oracle Database Lite. Refer to your database administration guide for details on how to modify the `db_create_file_dest` parameter.

In addition, Oracle Database Lite uses a middle-tier to communicate between the clients and the back-end database. You use one of the following as the middle-tier:

- Oracle Database Lite in standalone mode, which is automatically installed with Oracle Database Lite—This is the recommended configuration for development environments. Oracle Database Lite in standalone mode uses the standalone version of Oracle Containers for J2EE (OC4J).
- Either Oracle9i Application Server Release 2 (9.0.2 or 9.0.3) or Oracle Application Server 10g, which is not installed with Oracle Database Lite—This is the recommended configuration for production environments. If you choose to use the Oracle9i Application Server (Oracle9iAS) or Oracle Application Server 10g (OracleAS) as your middle-tier, then you must install it before installing Oracle Database Lite.

For more information about how Oracle Database Lite works with the middle-tier and the back-end database, see Section 2.1 "The Mobile Server Environment" in the *Oracle Database Lite Administration and Deployment Guide*.

1.4 System Requirements For Mobile Clients

Before you install, you must check to see that you have the correct hardware and software necessary for your Mobile Clients. The requirements for both are detailed in the following sections:

- [Section 1.4.1, "Hardware Requirements For Your Mobile Clients"](#)
- [Section 1.4.2, "Software Requirements For Your Mobile Clients"](#)

1.4.1 Hardware Requirements For Your Mobile Clients

The hardware requirements for your Mobile Clients are described in the following table:

Table 1–1 Hardware Requirements for Mobile Clients

Component	Hardware Requirements for this Component
Mobile Client for Win32	CPU: Pentium III 360 MHz Disk Space: 30 MB RAM: 128 MB
Mobile Client for Web-to-Go	CPU: Pentium III 360 MHz Disk Space: 40 MB RAM: 128 MB
Mobile Client for Palm	CPU: 68328 and 68328Z Disk Space: N/A RAM: 5 MB
Mobile Client for Windows CE/Pocket PC	CPU: ARM, XScale or x86 Storage Space: 8 MB RAM: 16 MB

Table 1–1 (Cont.) Hardware Requirements for Mobile Clients

Component	Hardware Requirements for this Component
Branch Office	CPU: Pentium III 360 MHz Disk Space: 40 MB RAM: 128 MB

1.4.2 Software Requirements For Your Mobile Clients

The software requirements for your Mobile Clients are described in the following table:

Table 1–2 Software Requirements for Mobile Clients

Component	Operating System	Other Software Requirements
Mobile Client for Win32	Windows NT Server 4.0 SP6a, Windows 2000, Windows XP, or Windows 2003	JDK 1.4.1 or higher Microsoft .NET Framework 1.1
Mobile Client for Web-to-Go	Windows NT Server 4.0 SP6a, Windows 2000, Windows XP, or Windows 2003	
Mobile Client for Palm	Palm OS 3.5, Palm OS 4.0, Palm OS 5 .x	N/A
Mobile Client for Windows CE/Pocket PC	Windows CE 3.0 or 3.0.1	If using JDBC, use the CrEme JDK version 3.24 from NSIcom. ActiveSync version 3.7.1 or later. Microsoft .NET Compact Framework 1.0
Branch Office	Windows NT Server 4.0 SP6a, Windows 2000, Windows XP, or Windows 2003	

You should install all of the patches required for the JDK 1.4.1 for the Windows operating system. This is constantly under review and published on the JDK download page on the Sun Microsystems Web site.

1.5 System Requirements For Windows Systems

Before you install, you must check to see that you have the correct hardware and software necessary for your Windows machines that use Oracle Database Lite. The requirements for both are detailed in the following sections:

- [Hardware Requirements For Windows](#)
- [Software Requirements For Windows](#)

1.5.1 Hardware Requirements For Windows

The hardware requirements for each component of Oracle Database Lite for Windows NT, Windows 2000, or Windows XP are described in the following table:

Table 1–3 Hardware Requirements for Windows

Component	Hardware Requirements for this Component
Mobile Server	CPU: Pentium III 1 GHz Disk Space: 500 MB RAM: 256 MB
Mobile Development Kit	CPU: Pentium III 1GHz Disk Space: 200 MB RAM: 256 MB

1.5.2 Software Requirements For Windows

The software requirements for each component of Oracle Database Lite for Windows NT, Windows 2000, or Windows XP are described in the following table:

Table 1–4 Software Requirements for Windows

Component	Operating System	Other Software Requirements
Mobile Server	Windows NT Server 4.0 SP6a, Windows 2000, Windows XP, or Windows 2003	If installed on top of Oracle9iAS version 9.0.2, use JDK 1.3. If installed on top of Oracle9iAS version 9.0.4 or OracleAS 10g, use JDK 1.4.1 or higher
Mobile Development Kit	Windows NT Server 4.0 SP6a, Windows 2000, Windows XP, or Windows 2003	If installed on top of Oracle9iAS version 9.0.2, use JDK 1.3. If installed on top of Oracle9iAS version 9.0.4 or OracleAS 10g, use JDK 1.4.1 or higher

You should install all of the patches required for the JDK 1.3 or 1.4.1 for the Windows operating system. This is constantly under review and published on the JDK download page on the Sun Microsystems Web site.

1.6 System Requirements For UNIX Systems

Before you install, you must check to see that you have the correct hardware and software necessary for your UNIX machines that use Oracle Database Lite. The requirements for both are detailed in the following sections:

- [Hardware Requirements For UNIX Systems](#)
- [Operating System Requirements For UNIX](#)
- [Software Requirements For UNIX Systems](#)

1.6.1 Hardware Requirements For UNIX Systems

[Table 1–5](#) lists the minimum hardware requirements for OracleAS UNIX-based systems.

Table 1–5 Minimum Hardware Requirements for UNIX Systems

Item	Minimum Requirement
display	256 color display
Sun SPARC CPU	Sun SPARC Ultra 1 or higher

Table 1–5 (Cont.) Minimum Hardware Requirements for UNIX Systems

Item	Minimum Requirement
AIX CPU	All AIX-compatible processors (64-bit)
HP CPU	HP 9000 Series HP-UX processor for HP-UX 11.0 (64-bit)
Linux CPU	Pentium II 233 MHz or better (32-bit)
Tru64 CPU	Alpha processor (64-bit)
Memory	512 MB
Disk space for Sun SPARC	1 GB
Disk space for AIX	1 GB
Disk space for HP	1 GB
Disk space for Linux	1 GB
Disk space for Tru64	1 GB
TMP or swap space	1 GB

1.6.2 Operating System Requirements For UNIX

Use the following operating system requirements for installing Oracle Database Lite as a standalone product:

- [Table 1–6](#) lists the operating system requirements for Sun SPARC-based systems.
- [Table 1–7](#) lists the operating system requirements for AIX-based systems.
- [Table 1–8](#) lists the operating system requirements for HP-based systems.
- [Table 1–10](#) lists the operating system requirements for Linux-based systems.
- [Table 1–13](#) lists the operating system requirements for Tru64-based systems.

For the latest information on operating system requirements, refer to *OracleMetaLink* at the following Web site:

<http://metalink.oracle.com>

Table 1–6 Operating System Requirements for Sun SPARC-Based Systems

Item	Requirement
Operating System	Sun Solaris 2.6, Solaris 7, or Solaris 8
Window Manager	Use any supported Sun Solaris window manager that supports Motif.

Table 1–7 Operating System Requirements for AIX-Based Systems

Item	Requirement
Operating System	AIX 5L version 5.2, Maintenance Level 1 or higher
Window Manager	Use any supported IBM AIX window manager that supports Motif, such as <code>dtwm</code> , <code>twm</code> , and <code>olwm</code> .

Table 1–8 Operating System Requirements for HP-Based Systems

Item	Requirement
Operating System	HP-UX 11.0 (64-bit)

Table 1–8 (Cont.) Operating System Requirements for HP-Based Systems

Item	Requirement
Quality Pack	For HP-UX 11.0 (64 bit), install the Quality Pack Sept 2002 (QPK11000 B.11.00.58.5) or higher.
Patches	PHKL_27813 s700_800 11.00 POSIX AIO;getdirent;MVFS;rcp;mmap/IDS patch
Window Manager	X Windows must be installed on the system from where the Installer is run. Use any supported X Windows server with support for Motif, such as dtwm, twm, and mwm.

Table 1–9 Operating System Requirements for HP-Based Systems

Item	Requirement
Operating System	HP-UX 11i (11.11) PA-RISC or higher
Quality Pack	Dec 2001 Consolidate Patches (Dec01GQPK11i_Aux_Patch B.03.02.06) or higher.
Patches	PHNE_28089 s700_800 11.11 cumulative ARPA Transport patch
Window Manager	X Windows must be installed on the system from where the Installer is run. Use any supported X Windows server with support for Motif, such as dtwm, twm, and mwm.

Table 1–10 Operating System Requirements for Red Hat Enterprise Linux AS/ES 2.1

Item	Requirement
Operating System	Red Hat Enterprise Linux AS/ES 2.1
Patches	Red Hat Patches Errata 25 kernel or a higher errata patch that is approved by Red Hat
Software Packages	pdksh-5.2.14-13

Table 1–11 Operating System Requirements for Red Hat Enterprise Linux AS 3.0

Item	Requirement
Operating System	Red Hat Enterprise Linux Advanced Server 3.0 The minimum supported kernel and glibc versions are 2.4.21-4-EL and glibc-2.3.2-95.3
Patches	Apply patch 3006854, which is downloadable from OracleMetaLink .
Software packages	pdksh-5.2.14

Table 1–12 Operating System Requirements for UnitedLinux

Item	Requirement
Operating System	UnitedLinux 1.0
Patches	SP2a: The minimum supported kernel and glibc versions are 2.4.19 and glibc-2.2.5-179. SP3: The minimum supported kernel and glibc versions are 2.4.21 and glibc-2.2.5-213
Software packages	pdksh-5.2.14

Table 1–13 Operating System Requirements for Tru64-Based Systems

Item	Requirement
Operating System	HP Tru64 UNIX 5.1B with Patch Kit 2 or higher
Operating system subsets	OSFCMPLRS, OSFLIBA, OSFPGMR, OSFSER, OSFX11
Patches	<p>Patch Kit 2 or higher:</p> <p>T64V51BB22AS0002-20030415</p> <p>HP Tru64 UNIX V5.1BPK2 (BL22 ERP Kit - Fix for multiple applications may be granted an exclusive lock on the same file:</p> <p>T64KIT0021665-V51BB22-E-20040220</p> <p>Tru64 UNIX V5.1B PK2/BL22 Early Release Patch - Fix for Potential Application Core Dump:</p> <p>T64KIT0021681-V51BB22-E-20040223</p> <p>HP Tru64 UNIX - Problem with IP Multicast Packets:</p> <p>T64KIT0019662-V51BB22-E-20030818</p> <p>HP Tru64 UNIX 5.1B PK2 BL22 Fixes for AdvFS Panic in _OtsMove; and Possible Memory Corruption:</p> <p>T64KIT0020879-V51BB22-E-20031125</p>
Window Manager	<p>X Windows must be installed on the system from where the Installer is run. Use any supported X Windows server with support for Motif, such as dtwm, twm, and mwm.</p> <p>The X environments, Basic X environments (OSF 11), and X Servers (OSFSER) are required to run graphical products.</p>

1.6.3 Software Requirements For UNIX Systems

For all UNIX systems, you must have the JDK installed. If you are installing on top of Oracle9iAS version 9.0.2, install the JDK 1.3; if you are installed on top of Oracle9iAS 9.0.4 or OracleAS 10g, install JDK 1.4.1 or higher. You should install all of the patches required for your JDK version for the appropriate operating system. This is constantly under review and published on the JDK download page on the appropriate operating system Web site.

1.7 Recommended System Configuration For UNIX

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

- [Section 1.7.1, "Setting UNIX Environment Variables"](#)
- [Section 1.7.2, "Creating UNIX Accounts and Groups"](#)
- [Section 1.7.3, "Configuring Kernel Parameters and Shell Limits for UNIX"](#)

1.7.1 Setting UNIX Environment Variables

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

- [Section 1.7.1.1, "ORACLE_HOME"](#)
- [Section 1.7.1.2, "JAVA13_HOME"](#)
- [Section 1.7.1.3, "DISPLAY"](#)
- [Section 1.7.1.4, "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 1–14](#) for the name of the library path environment variable for your platform.

[Table 1–14](#) lists the names of the library path environment variables for each platform.

Table 1–14 Library Path Environment Variable

Platform	Library Path Environment Variable
Tru64, Linux	LD_LIBRARY_PATH
HP	SHLIB_PATH and LD_LIBRARY_PATH
AIX	LIBPATH

1.7.1.1 ORACLE_HOME

The Oracle home directory is the `root` directory in which Oracle software is installed. 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 Lite. 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.

1.7.1.2 JAVA13_HOME

The `JAVA13_HOME` environment variable must 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. If the Oracle Database Lite is installed on top of Oracle9iAS version 9.0.2, use JDK 1.3. If installed on top of Oracle9iAS version 9.0.4 or OracleAS 10g, use JDK 1.4.1 or higher.

[Table 1–15](#) provides examples for the location where the JDK 1.3.1 could be installed on the system.

Table 1–15 JAVA13_HOME Environment Variables

Platform	Sample <code>JAVA13_HOME</code> Environment Variable
Tru64	<code>/usr/opt/java131</code>
HP	<code>/opt/java/java.1.3.1.02</code>
AIX	<code>/usr/java131</code>

1.7.1.3 DISPLAY

Set the `DISPLAY` environment variable to refer to the X Server that will display the installer. 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 Lite 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".

1.7.1.3.1 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 Where the Installer is Running	In the Session on Your Workstation
C Shell	<code>prompt> setenv DISPLAY hostname:0.0</code>	<code>prompt> xhost +server_name</code>
Bourne/Korn Shell	<code>prompt> DISPLAY=hostname:0.0;export DISPLAY</code>	<code>prompt> xhost +server_name</code>

1.7.1.4 TMP and TMPDIR

During installation, Oracle Universal Installer uses a temporary directory for swap space. This directory must meet the requirements listed in [Section 1.6.1, "Hardware Requirements For UNIX Systems"](#) before installing Oracle Database Lite. 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

1.7.2 Creating UNIX Accounts and Groups

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

- [Section 1.7.2.1, "UNIX Group Name For the Oracle Universal Installer Inventory"](#)
- [Section 1.7.2.2, "UNIX Account to Own Oracle Software"](#)

1.7.2.1 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.

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

1.7.2.2 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 1–16](#).

Table 1–16 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.

1.7.3 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 1.7.3.1, "Configuring Shell Limits and System Configuration Parameters on AIX"](#)
- [Section 1.7.3.2, "Configuring Kernel Parameters on HP-UX"](#)
- [Section 1.7.3.3, "Configuring the Kernel Parameters on Linux"](#)
- [Section 1.7.3.4, "Set Shell Limits for the User oracle"](#)

1.7.3.1 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.

1.7.3.1.1 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 1–17 Shell Limits

Shell Limits as shown in smit	Recommended Value
Soft FILE size	-1 (Unlimited)
Soft CPU time	-1 (Unlimited) -- this is the default 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.

1.7.3.1.2 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
```

1.7.3.2 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 1–18 Kernel Parameters for HP-UX

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

Table 1–18 (Cont.) Kernel Parameters for HP-UX

Parameter	Recommended Formula or Value
nproc	2048

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

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

1.7.3.3 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 1–19 Kernel Parameters on Linux

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

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

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


```
# /sbin/sysctl -a | grep file-max
```
- To modify the value, do the following:
 - 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.
 - 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
```

1.7.3.4 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 1–20 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
```

1.8 Mounting the Installation CD-ROM For UNIX Systems

Refer to these mounting procedures during installation as necessary:

- [Section 1.8.1, "Mounting CD-ROMs For AIX"](#)
- [Section 1.8.2, "Mounting CD-ROMs For HP"](#)
- [Section 1.8.3, "Mounting CD-ROMs For Linux"](#)
- [Section 1.8.4, "Mounting CD-ROMs For Tru64"](#)

1.8.1 Mounting CD-ROMs For AIX

Mount the disk to begin the installation. Follow these steps to mount the Oracle Database Lite CD-ROM manually:

1. Place the Oracle Database Lite CD-ROM Disk in the CD-ROM drive.
2. Log in as the `root` user and create a CD-ROM mount point directory, if one does not already exist, by using the following commands:

```
$ su root
# mkdir cdrom_mount_point_directory
```

3. Determine the CD-ROM device name by entering the following command:

```
# lsdev -Cc cdrom
```

The output should be similar to the following:

```
cd0 Available 10-60-00-4, 0 SCSI Multimedia CD-ROM Drive
```

4. Mount the CD-ROM drive on the mount point directory by entering the following commands:

```
# mount options device_name cdrom_mount_point_directory
```

5. Exit the root account:

```
# exit
```

[Example 1-1](#) shows how to mount the CD-ROM manually for AIX. In the following example, `/dev/cd0` is the CD-ROM device and `/cdrom` is the mount point.

Example 1-1 Mounting the CD-ROM manually for AIX

```
$ su root
# mkdir /cdrom
# mount -rv cdrfs /dev/cd0 /cdrom
# exit
```

Caution: Do not run the Installer while the CD-ROM directory is the current directory or you will be unable to unmount the current CD-ROM when prompted to do so.

1.8.2 Mounting CD-ROMs For HP

Mount the disk to begin the installation. Follow these steps to mount the Oracle Database Lite CD-ROM manually:

1. Place the Oracle Database Lite CD-ROM Disk in the CD-ROM drive.
2. Log in as the `root` user and create a CD-ROM mount point directory, if one does not already exist, by using the following commands:

```
$ su root
```



```
# mkdir cdrom_mount_point_directory
```

3. Determine the CD-ROM device name by entering the following command:

```
# ioscan -fun -C disk
```

The output should be similar to the following:

```
disk 10 10/12/5.2.0 sdisk CLAIMED DEVICE TOSHIBA CD-ROM
XM-5701TA /dev/dsk/c4t2d0 /dev/rdsk/c4t2d0
```

4. If there is not already an entry in the `/etc/pfs_fstab` file for your CD-ROM device, you must add one. As the `root` user, use a text editor to add a line, in the following format, to the `/etc/pfs_fstab` file:

```
device_file mount_point filesystem_type translation_method
```

In the preceding format, the first entry is the CD-ROM device, the second entry is the mount point, and the third entry indicates that the CD-ROM to be mounted is in ISO9660 format with Rockridge extensions.

The `device_file` in this example is `/dev/dsk/c4t2d0`. For a CD-ROM device with the path `/dev/dsk/c4t2d0`, you would enter the following:

```
/dev/dsk/c4t2d0 /SD_CDROM pfs-rrip xlat=unix 1 0
```

5. Log in as the `root` user with the following command:

```
$ su root
```

6. Enter the following commands:

```
# nohup /usr/sbin/pfs_mountd &
# nohup /usr/sbin/pfsd &
```

7. Place the Oracle Database Lite CD-ROM Disk in the CD-ROM drive and mount the CD-ROM by entering the following command:

```
# /usr/sbin/pfs_mount /SD_CDROM
```

8. Log out of the `root` account.

```
# exit
```

Follow these steps to unmount the CD-ROM:

1. Change to your system's root directory and log in as the `root` user:

```
$ cd /
$ su root
```

2. To unmount the CD-ROM, enter the following command:

```
# /usr/sbin/pfs_umount /SD_CDROM
```

3. Remove the CD-ROM from the CD-ROM drive:

```
# /usr/sbin/pfs_umount /SD_CDROM
```

1.8.3 Mounting CD-ROMs For Linux

Use the following instructions to mount the CD-ROM for Linux.

- [Section 1.8.3.1, "Mounting CD-ROMs For Linux With Auto Mounting Software"](#)
- [Section 1.8.3.2, "Mounting CD-ROMs For Linux Manually"](#)

1.8.3.1 Mounting CD-ROMs For Linux With Auto Mounting Software

Mount the disk to begin the installation. If you are using auto mounting software, the CD-ROM is mounted automatically to the directory specified in your auto mount configuration when you insert it into the CD-ROM drive.

To check whether you have auto mounting software, enter the following command:

```
$ ps -aux | grep automount
```

If you have auto mounting software, the output must be similar to the following:

```
root 628 0.0 0.2 1148 588 ? S 17:32 0:00 /usr/sbin/automount /misc file
/etc/auto.misc
```

In the preceding output, the `/etc/auto.misc` section defines the directory under the `/misc` file where the CD-ROM will be mounted.

- If the auto mounting software is running and configured properly, the CD-ROM is mounted automatically.
- If no lines are returned, the auto mounting software is not running, and you will have to mount the CD-ROM manually. Proceed to [Section 1.8.3.2](#).

1.8.3.2 Mounting CD-ROMs For Linux Manually

To mount the Oracle Database Lite CD-ROM manually, use the following steps:

1. Place the Oracle Database Lite CD-ROM Disk in the CD-ROM drive.
2. Log in as the `root` user and, if necessary, create a CD-ROM mount point directory by using the following commands:

```
$ su root
# mkdir cdrom_mount_point_directory
```

3. Mount the CD-ROM drive on the mount point directory by using the following commands:

```
# mount options device_name cdrom_mount_point_directory
```

4. Exit the `root` account.

```
# exit
```

If you are unsure of the correct device name, consult your system administrator. Typically, the device name is `/dev/cdrom`.

[Example 1-2](#) shows how to mount the CD-ROM manually for Linux.

Example 1-2 Mounting the CD-ROM For Linux Manually

```
$ su root
# mkdir /cdrom
# mount -t iso9660 /dev/cdrom /cdrom
# exit
```

Follow these steps to unmount the CD-ROM:

1. Change directory to the root directory of your system and log in as the `root` user by using the following commands:

```
$ cd /
$ su root
```

2. Unmount the CD-ROM by entering the following command:

```
# umount cdrom_mount_point_directory
```

3. Remove the CD-ROM from the CD-ROM drive.

1.8.4 Mounting CD-ROMs For Tru64

Follow these steps to mount the Oracle Database Lite CD-ROM manually:

1. Place the Oracle Database Lite CD-ROM Disk in the CD-ROM drive.
2. Log in as the root user and create a CD-ROM mount point directory, if one does not already exist, by using the following commands:

```
$ su root
# mkdir cdrom_mount_point_directory
```

3. Determine the CD-ROM device name by entering the following command:

```
$ ls /dev/disk/cdrom*c
```

The command should return a line similar to the following:

```
/dev/disk/cdrom0c
```

4. Mount the CD-ROM drive on the mount point directory, by using the following command:

```
# mount options device_name cdrom_mount_point_directory
```

5. Exit the `root` account.

```
# exit
```

[Example 1–3](#) shows how to mount the CD-ROM manually for Tru64.

Example 1–3 Mounting the CD-ROM For tru64 Manually.

```
$ su root
# mkdir /cdrom
# mount -t cdfs -r -o nodefperm, noversion, rrip /dev/disk/cdrom0c /cdrom
# exit
```

Follow these steps to unmount the next CD-ROM:

1. Change directory to the root directory of your system and log in as the `root` user by using the following commands:

```
$ cd /
$ su root
```

2. Unmount the CD-ROM by entering the following command:

```
# umount cdrom_mount_point_directory
```

3. Remove the CD-ROM from the CD-ROM drive.

Installation of Oracle Database Lite

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

- [Installing Oracle Database Lite](#)
- [Starting Mobile Server](#)
- [Testing Your Mobile Server Installation](#)

2.1 Starting Oracle Universal Installer

Oracle Database Lite 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 Lite
- 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 Lite
- Deinstalls products

The Oracle Universal Installer automatically checks your computer prior to installation to verify that your system meets operational requirements. [Table 2-1](#) lists the prerequisite checks that are performed.

Table 2-1 Oracle Universal Installer Automatic Prerequisite Checks

Prerequisite Checks	See Also
Check for enough disk space for Oracle home installation	Table 1-5, "Minimum Hardware Requirements for UNIX Systems"
On UNIX systems, checks for TMP and TMPDIR variable and sufficient swap space	Table 1-5, "Minimum Hardware Requirements for UNIX Systems"

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

- [Section 2.1.1, "Starting the Oracle Universal Installer on Windows"](#)
- [Section 2.1.2, "Starting Oracle Universal Installer on UNIX"](#)

2.1.1 Starting the Oracle Universal Installer on Windows

Insert the CD-ROM labeled Oracle Database Lite and double-click `setup.exe`. The Welcome screen appears.

2.1.2 Starting Oracle Universal Installer on UNIX

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

1. Insert the CD into the CD-ROM drive.
2. Mount the installation CD-ROM. For information on mounting the installation CD-ROM for your platform, see [Section 1.8, "Mounting the Installation CD-ROM For UNIX Systems"](#).
3. 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 Database Lite.

2.1.2.1 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 2–1](#) for the location of the `oraInst.loc` file for your system.

The latest installation log file is stored in:

```
/your_base_directory/oraInventory/logs/installActiontodays_date_time.log
```

The `your_base_directory` identifier is the location for your installation files and `todays_date_time` is the date and time of installation. Log file names of previous installation sessions take the form `installActionstodays_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.

2.1.2.2 Location of Files on UNIX

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

Table 2–2 File Locations for Each Platform

Platform	oratab and emtab	oraInst.loc
AIX	/etc	/etc

Table 2–2 (Cont.) File Locations for Each Platform

Platform	oratab and emtab	oralnst.loc
HP	/etc	/var/opt/oracle
Linux	/etc	/etc
Tru64	/etc	/var/opt/oracle

2.2 Installing Oracle Database Lite

Oracle Database Lite consists of two main components: Mobile Server and Mobile Development Kit. Each is installed separately from the Oracle Database Lite CD-ROM.

Note: For instructions on how to install Branch Office, see the Oracle Database Lite User's Guide for Branch Office. For instructions on how to create a Mobile Client and download an application, see [Chapter 4, "Quick Start for Oracle Database Lite"](#).

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

1. On the Welcome screen, click **Next**.
2. On the File Locations screen, enter the following:
 - In the Source field, either accept or enter a new location and name of the Oracle Database Lite `products.jar` file.
 - In the Destination field, enter the name and path of Oracle home. This is the Oracle home where you want to install Oracle Database Lite. You may choose to install Oracle Database Lite into a new or existing Oracle home. Take the following into consideration:
 - If you use Mobile Server in standalone mode for your middle-tier, do not use an Oracle home that has any version of Oracle9iAS or OracleAS installed.
 - If you use Oracle9iAS or OracleAS as your middle-tier, then you must install Oracle Database Lite into the same Oracle home where the application server is installed.

Click **Next**.

3. On the Installation Types screen, choose the components and 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 Lite. The custom option is for advanced users only. Each of these Install options are discussed in the following sections:

- [Installation of Mobile Development Kit](#)
- [Installation of Mobile Server](#)

- [Installation of Multiple Mobile Servers Against the Same Mobile Server Repository](#)
- [Custom Install](#)

2.2.1 Installation of Mobile Development Kit

Install Mobile Development Kit from the Installation Types screen by choosing the Mobile Development Kit and clicking **Next**. On the Summary screen, click **Install**. Click **Exit** to return to the installation screen.

You have now installed the Mobile Development Kit.

2.2.2 Installation of Mobile Server

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

1. Choose Mobile Server and click **Next**.
2. Provide the hostname, port, and SID for the back-end database for the Mobile Server Repository. Mobile Server installs its meta-data in the back-end database. If you are not sure, 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**.

3. 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**.
4. On the Mobile Server Configuration Options screen, enter the HTTP listener port for OC4J. Provide a port number for the OC4J HTTP listener if you are executing in standalone mode. The default value is 80. This screen only appears if you are using standalone. If you are using Oracle9iAS or OracleAS, the default ports are used. Click **Next**.

Note: If, after installation, you have port conflicts and need to change the port number for OC4J standalone, edit the file `ORACLE_HOME\mobile_oc4j\j2ee\home\config\http-web-site.xml` and modify the following with the alternate port number:

```
<web-site port="80" display-name="OracleAS Containers for J2EE HTTP  
Web Site">
```

5. On the Summary page, click **Install** to start the installation of Mobile Server, which is installed in your Oracle home.
6. If, previously, you 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.

The Repository Wizard asks for the `SYSTEM` password for the host where the back-end database resides. Enter the `SYSTEM` password. Click **Next**.

7. If this is a new Repository, the following message is displayed:

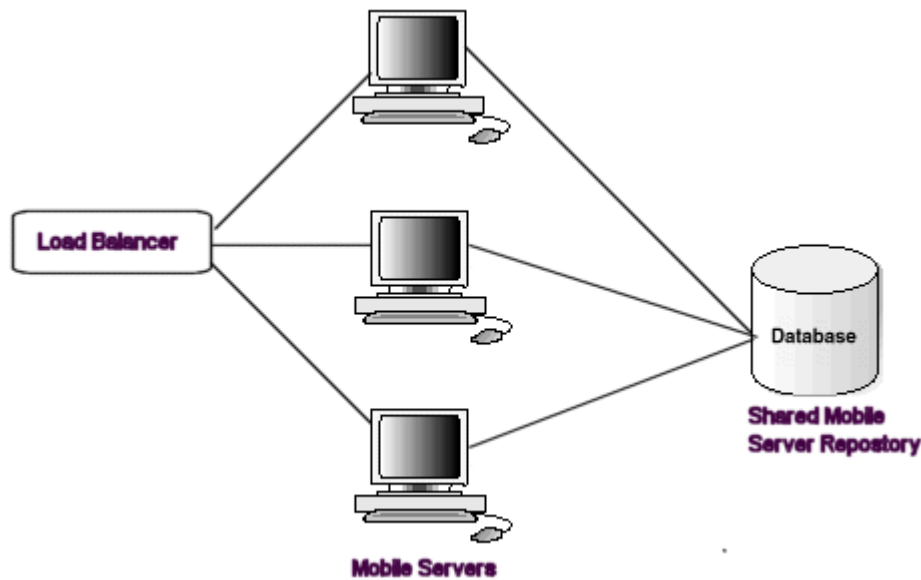
No existing Repository found. A new Repository will be installed.

Click **Next**.

8. Enter the schema name and password for the Mobile Server Repository. The default name is `MOBILEADMIN`. Also, check whether you want to install sample applications or not. Click **Next**.
9. A summary screen appears informing you if a repository is installed or not. Click **Next**.
10. The installation screen appears. Wait until the install is completed. Click **Next**.
11. Once the repository wizard is finished, click **Finish** to leave the wizard.
12. Click **Exit** to complete the installation.
13. 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.
14. If you are installing on top of any version of the application server, then restart the application server.

2.2.3 Installation of Multiple Mobile Servers Against the Same Mobile Server Repository

In some cases, you may want to have multiple Mobile Servers using the same Mobile Server repository. For example, as [Figure 2-1](#) shows, if you wanted to load balance your Mobile Clients across multiple Mobile Servers, you could add a load balancer, such as BIG-IP or Oracle WebCache, 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.

Figure 2–1 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 first Mobile Server and the Mobile Server Repository following the instructions in [Section 2.2.2, "Installation of Mobile Server"](#).
2. For each subsequent Mobile Server, follow the instructions in [Section 2.2.2, "Installation of Mobile Server"](#), supplying the same host name, port and SID where the Mobile Server Repository exists and select **Yes** for creating the repository, which registers the shared Mobile Server with the repository.

2.2.4 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.

2.3 Starting Mobile Server

Mobile Server is automatically started when you start the middle-tier, as follows:

- If you are using standalone Mobile Server, which uses OC4J standalone, start the standalone version by executing the following:

```
cd ORACLE_HOME\mobile_oc4j\j2ee\home
java -jar oc4j.jar
```

OR

- Start Oracle*9i*AS or OracleAS through the Windows Services panel. Alternatively, you can start the application server from the Oracle*9i*AS or OracleAS GUI.

Note: If you have installed the Web Cache with your application server installation, then you must always start the Web Cache in order for Mobile Server to execute properly. If Web Cache has not been started, you will receive a Page Not Found when directed to the `http://<application server host>:7777/webtogo/index.html` page.

2.3.1 Set the DISPLAY Property When Exporting Mobile Manager from a Solaris Machine to a Windows Machine

When you have Mobile Server installed on a Solaris machine, but you want to display the Mobile Manager screens on a Windows machine through Exceed or Tarantella, first set the `DISPLAY` property on the Solaris machine, as follows:

```
setenv DISPLAY hostname:0.0
```

This enables the screens to display properly on the Windows machine, when originating from the Solaris machine.

2.4 Testing Your Mobile Server Installation

To test whether your Mobile Server was installed correctly, test it in one of the following ways:

- If you are using the standalone version, test your Mobile Server through a browser with the following URL:

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

Note: If, after installation, you have port conflicts and need to change the port number for OC4J standalone, edit the file `ORACLE_HOME\mobile_oc4j\j2ee\home\config\http-web-site.xml` and modify the following with the alternate port number:

```
<web-site port="80" display-name="OracleAS Containers for J2EE HTTP Web Site">
```

- If you are using Oracle9iAS or OracleAS as your middle-tier, test Mobile Server through a browser with the following URL:

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

For more information on testing your installation using the samples, see [Chapter 4, "Quick Start for Oracle Database Lite"](#).

Upgrade Your Oracle Database Lite

If you have Oracle9i Lite version 5.0.2.x, you must upgrade to the latest version. This chapter discusses the steps for upgrading your software in the following sections:

- [Section 3.1, "Understand Desupported Devices"](#)
- [Section 3.2, "Upgrade Your Oracle Database Lite Installation"](#)
- [Section 3.3, "Upgrade Your Mobile Server Repository"](#)
- [Section 3.4, "Upgrade Your Existing Applications"](#)
- [Section 3.5, "Use the Appropriate Context for Your Mobile Server"](#)
- [Section 3.6, "Migrate Your Users From the Mobile Server Repository to the Oracle Internet Directory"](#)
- [Section 3.7, "Remove the 5.0.2.x Installation"](#)
- [Section 3.8, "New Consolidator Sequence Properties Added During Upgrade"](#)

3.1 Understand Desupported Devices

The following devices are not supported in Oracle Database Lite 10g:

- EPOC devices
- The following WinCE devices:

WinCE devices	WinCE devices	WinCE devices	WinCE devices
HPC_Pro\us\arm	HPC_Pro\us\sh3	HPC_Pro\us\sh4	HPC_Pro\us\mips
HPC_Pro\cn\arm	HPC_Pro\cn\sh3	HPC_Pro\cn\sh4	HPC_Pro\cn\mips
HPC_Pro\ja\arm	HPC_Pro\ja\sh3	HPC_Pro\ja\sh4	HPC_Pro\ja\mips
HPC_Pro\ka\arm	HPC_Pro\ka\sh3	HPC_Pro\ka\sh4	HPC_Pro\ka\mips
Pocket_PC\us\sh3	Pocket_PC\us\sh4	Pocket_PC\us\mips	Pocket_PC\cn\sh3
Pocket_PC\cn\sh4	Pocket_PC\cn\mips	Pocket_PC\ja\sh3	Pocket_PC\ja\sh4
Pocket_PC\ja\mips	Pocket_PC\ko\sh3	Pocket_PC\ko\sh4	Pocket_PC\ko\mips
Pocket_PC\ko\mips			

3.2 Upgrade Your Oracle Database Lite Installation

In order to upgrade your Oracle Database Lite Installation, you must first install the current version of Oracle Database Lite in a separate Oracle home than your 5.0.2.x version.

WARNING: Upgrading Oracle Database Lite version 5.0.1.x or previous versions is not supported with this process. You must first upgrade to 5.0.2.x before starting this process.

Before you start the installation, you should remove the data for the 5.0.2.x samples from the Mobile Server Repository by dropping the MASTER schema on the back-end database. The 5.0.2.x samples will not work with Oracle Database Lite 10g. If you want the new samples, then when you install Oracle Database Lite 10g, make sure that you click **Yes** to install the samples. This installs the samples on the Mobile Server and downloads the data for the samples in the back-end database for the Mobile Server Repository.

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.

See [Chapter 2, "Installation of Oracle Database Lite"](#) for instructions on how to install Oracle Database Lite. When the Repository Wizard is executed, see [Section 3.3, "Upgrade Your Mobile Server Repository"](#) for directions on how to upgrade the repository on the back-end database.

3.3 Upgrade Your Mobile Server Repository

During installation of Oracle Database Lite 10g, the Repository Wizard detects if you have a 5.0.2.x version of Oracle Database Lite installed and starts 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 **Yes** for installing 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 3.2, "Upgrade Your Oracle Database Lite Installation"](#).

3.4 Upgrade Your Existing Applications

Once you have installed the Oracle Database Lite 10g in a new Oracle home and the Repository Wizard has upgraded the Mobile Server Repository successfully, you must execute the Application Upgrade Assistant to upgrade your existing applications.

The Application Upgrade Assistant moves the applications from the 5.0.2.x Oracle home to your new 10g Oracle home. In addition, the assistant transforms your Mobile applications to the new application model. In previous versions, you could create a single Mobile application for all platforms with a single dataset. In 10g, you must create a single Mobile application for each platform, each with its own dataset. Thus, if you have the `myapp` application, the Application Upgrade Assistant will transform your `myapp` application into the following:

- Web platform: named `myapp` and exists in the `myapp` directory
- Win32 platform: named `myapp_win32` and exists in the `myapp/win32` directory
- Palm OS platform: named `myapp_palm` and exists in the `myapp/palm` directory
- WinCE platform: named appropriately by the language and in a directory that is also named according to the language, as follows:
 - English: The application is named `myapp_wce_Pocket_PC_us_arm` and exists in the `/myapp/wce/Pocket_PC/us/arm` directory.
 - Chinese: The application is named `myapp_wce_Pocket_PC_cn_arm` and exists in the `/myapp/wce/Pocket_PC/cn/arm` directory.
 - Japanese: The application is named `myapp_wce_Pocket_PC_jn_arm` and exists in the `/myapp/wce/Pocket_PC/jn/arm` directory.
 - Korean: The application is named `myapp_wce_Pocket_PC_ko_arm` and exists in the `/myapp/wce/Pocket_PC/ko/arm` directory.

Each application is upgraded with the dataset and access rights that was in the original application.

In addition, Oracle Database Lite 10g uses OC4J for all middle-tier functionality. Thus, all Mobile Web applications must now be contained within a J2EE WAR or JAR file. The Application Upgrade Assistant converts your applications by adding the required XML files and packages your Web applications into a WAR file and publishes these applications. However, for all future applications, you must create the XML files and package them into a WAR or JAR file.

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 Mobile Server Repository Name, the Mobile Server Repository Password, the old Oracle home and the new Oracle home. For example, on a Windows system, where the repository name is `mobileadmin`, its password is `manager`, the old Oracle home is `c:\oracle\ora502` and the new Oracle home is `c:\oracle\ora10g`, execute as follows:

```
ApplicationUpgradeAssistant mobileadmin manager c:\oracle\ora502 c:\oracle\ora10g
```

3.4.1 Manual Upgrade Instructions For Web-to-Go Applications in Retrieving the OraUserProfile Class

In previous versions, Web-to-Go applications retrieved the `OraUserProfile` class as follows:

```
OraUserProfile p = ((OraHttpServletRequest)req).getUserProfile();
```

For Oracle Database Lite 10g, all existing and future Mobile applications must retrieve the `OraUserProfile` class with the following lines:

```
HttpSession s = request.getSession(true);  
OraUserProfile p = (OraUserProfile)s.getAttribute ("x-mobileserver-user");
```

You must manually modify all existing Mobile applications to use the new method of retrieving the `OraUserProfile` class and then republish the application to complete the upgrade process for your 5.0.2.x Mobile applications.

3.5 Use the Appropriate Context for Your Mobile Server

The servlet context that you use for all Web-to-Go applications is changed for this version. You must add the `/webtogo/` servlet context to all URLs for your Web-to-Go applications. For example, in the past, you tested your Mobile Server using `<hostname:port>/sample1/hello`. For Oracle Database Lite 10g, enter `<hostname:port>/webtogo/sample1/hello`.

3.6 Migrate Your Users From the Mobile Server Repository to the Oracle Internet Directory

If you want, you can use the Oracle Internet Directory (OID) for storing and retrieving user information, instead of the Mobile Server Repository. To facilitate using OID, you must first migrate all user information from the repository into OID. Once migrated, you can use OID instead of the repository.

OID is part of the Oracle*9i*AS or OracleAS application server.

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

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

For example, the default setting would be:

```
oiduser <Oracle_Home> mobileadmin manager 389 myhost-pc1.com welcome1
```

- b. 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>
```


where the common password is specified by you.

Executing `oiduser` generates three files: `mobile_oid_user`, `oiduserfile.Idif` and `user.dat`. The `user.dat` file contains a list of users and the passwords created for them in step 1 or 2. This file is strictly for informational purposes.

2. Copy the `mobile_oid_user` and `oiduserfile.Idif` files to the same directory in the application infrastructure machine where OID is installed. You can copy them to any directory, as the `mobile_oid_user` is an executable that uses the `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.

3. Execute the `mobile_oid_user` file from the command-line on the application server infrastructure 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.

4. Restart both the application server and the Mobile Server.

3.7 Remove the 5.0.2.x Installation

Once you have completed all of the upgrade exercises, you can now remove the 5.0.2.x version of the Oracle Database Lite from your system. This is not a required step, but is recommended for clarity in the future.

1. Start up the Oracle Universal Installer by double-clicking on `setup.exe`.
2. On the File Locations screen, enter the Oracle home and path for the 5.0.2.x installation. Click **Installed Products**.
3. On the Inventory screen, select the '+' next to the Oracle home for your 5.0.2.x installation. Then, click the box next to the 5.0.2.x 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**.
7. Optionally, you can go into your directories and remove the directory where the 5.0.2.x installation existed.

3.8 New Consolidator Sequence Properties Added During Upgrade

Any upgrade from a previous version of the Mobile Server upgrades the Consolidator Sequences to a new Sequence model, which contains additional property information. The new Sequence properties have the following default values:

- `MIN_VALUE`: 0
- `WINDOW_SIZE`: 1000

- THRESHOLD: 100
- INCREMENT_BY: 1
- SEQUENCE_MODE: NA_SEQ

You can modify any of these properties through the Java `modifySequence` API, which is described fully in the *Consolidator Admin API Specification* JavaDoc.

Quick Start for Oracle Database Lite

As a user, there are three tasks that you normally perform—software distribution, application deployment, and data synchronization. This chapter uses the installed samples in Oracle Database Lite to demonstrate—quickly—how to perform these three functions on the Windows 32, Web-based, Windows CE, and Palm OS platforms. The following sections describe how to install the sample applications, start Oracle Database Lite, and then distribute, deploy, and sync your application on separate platforms.

- [Installing the Sample Applications](#)
- [Starting Oracle Database Lite and Its Job Scheduler](#)
- [Starting a Windows 32 Application](#)
- [Starting a Web-Based Application](#)
- [Starting a Windows CE Application](#)
- [Starting a Palm OS Application](#)

4.1 Installing the Sample Applications

As Step 8 in [Section 2.2.2, "Installation of Mobile Server"](#) notes, you should choose to install the sample applications while you are installing the Mobile Server. However, if you did not install them, start up the Repository Wizard on its own by executing one of the following:

- On Windows:
`ORACLE_HOME\mobile\server\admin\repwizard.bat`
- On UNIX:
`ORACLE_HOME/mobile/server/admin/repwizard.sh`

Follow Steps 6 through 11 in [Section 2.2.2, "Installation of Mobile Server"](#) to install the sample applications. The Repository Wizard detects whether the repository is installed or, if it exists, its status. The Repository Wizard takes the appropriate action.

4.2 Starting Oracle Database Lite and Its Job Scheduler

Before you can execute any of the sample applications, verify that the Oracle Database, Oracle Database Lite and its Job Scheduler is started. To start Oracle Database Lite, execute `java -jar oc4j.jar` on the Mobile Server host. Start the Job Scheduler, as follows:

1. Logon to the Mobile Server.

Start a browser with the URL `http://<Mobile Server>/webtogo`. Note that the Mobile Server host name that you provide is not the back-end database, but is the host where the Mobile Server and the middle-tier application server was installed.

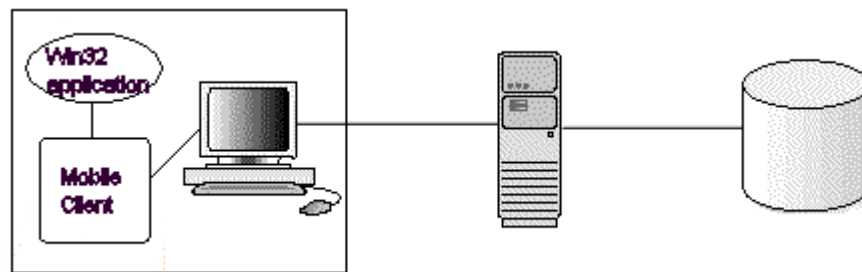
Also, the URL assumes that you are using the default port of 80. If there was a port conflict and you had to change the port number, use the URL `http://<Mobile Server>:<port_number>/webtogo`. For more information on modifying port numbers, see Step 4 of [Section 2.2.2, "Installation of Mobile Server"](#).

2. Logon as the administrator. The default administrator username/password is administrator/admin.
3. On the Mobile Workspace screen, click **Mobile Manager**. This brings up the list of Mobile Servers available.
4. Click on the Mobile Server with which you wish to connect. These are listed by host name and port number.
5. On the Mobile Server screen, verify that the Job Scheduler is running. This is indicated by a green check under the Status column in the Components section at the bottom of the page.
6. If the Job Scheduler is not running, select the button next to it and click the **Start** button.
7. Exit the Mobile Manager by closing the window.

4.3 Starting a Windows 32 Application

When you have a Windows 32 (Win32) machine that is set up to interact with Mobile Server, you have an environment similar to [Figure 4-1](#):

Figure 4-1 Windows 32 Interacting With Mobile Server



[Figure 4-1](#) demonstrates how the Mobile Server accesses the Mobile Server Repository, which exists in a back-end database. The Mobile Client and client applications are on the Win32 machine. The Mobile Client database synchronizes with the Mobile Server.

To install and use the sample application on your Windows 32 machine, verify that you have the correct environment, retrieve the sample from the Mobile Server and install it on your Win32 machine, as follows:

1. [Software Requirements for the Win32 Demo](#)
2. [Download the Mobile Client from the Mobile Server](#)
3. [Install the Mobile Client on the Win32 Device](#)
4. [Start the Win32 Sample Application](#)

5. [Enter and View Data in the Win32 Sample Application](#)
6. [Synchronize the Win32 Sample Application Data to the Database](#)

The sample application for the Win32 environment is the transportation demo.

Note: This section demonstrates how to install, deploy and use the transport demo. However, if you want to see how to build the transport demo, see Chapter 10, "Building Offline Mobile Applications for Win32: A Tutorial" in the *Oracle Database Lite Developer's Guide*.

4.3.1 Software Requirements for the Win32 Demo

The Win32 sample application requires Microsoft Windows 2000/XP and that you install Microsoft .NET Framework 1.1. For directions on how to install the .NET Framework, see the following:

<http://msdn.microsoft.com/netframework/technologyinfo/howtoget/>

4.3.2 Download the Mobile Client from the Mobile Server

To download the Mobile Client, do the following:

1. Open the Mobile Client Setup through the Mobile Server, as follows:
 - a. In a browser on your Win32 machine, point the browser to the Mobile Server using the URL `http://<Mobile Server>/webtogo/`.
 - b. On the upper right corner, click **Setup**.
2. Click **Oracle Lite Win32**.
3. The Save As dialog box appears. The file name field displays the executable setup file for the selected platform. Save the executable to a local directory on your Win32 machine.

4.3.3 Install the Mobile Client on the Win32 Device

You install the Mobile Client on your Win32 device by performing the following steps:

1. Navigate to the local directory on your Win32 machine and double-click the Mobile Client `setup.exe`.
2. On the Logon to Server screen, enter the username and password JUNIUS/JUNIUS and click **OK**. The Mobile Client is now installed.
3. Navigate to the `\bin` directory where you installed the Mobile Client—such as `c:\mobileclient\bin`—and launch the Mobile Sync application by double-clicking `msync.exe`.
4. On the Mobile Sync dialog box, verify that the correct information is filled in as follows:
 - Username and Password of JUNIUS/JUNIUS.
 - Check Save Password.
 - Enter the host name for the Mobile Server.
 Click **Apply**. Click **Sync**.
5. When the sync completes, the Sync Result Dialog appears. Click **OK**.

6. On the Oracle Lite Software Update window, click **Install** to install the Transport Demo (Transport_WIN32) on your system.
7. Select the directory where you would like to install the demo and click **OK**.

4.3.4 Start the Win32 Sample Application

The Win32 sample application is the transport application, which tracks delivery of packages for a trucking delivery service. To start the application, perform the following:

1. Launch the transport demo application on your client by navigating to the directory where you installed the demo and double-click on `transport.exe`.
2. Enter username and password of JUNIUS/JUNIUS when prompted to logon to the sample application. Click **OK**.

4.3.5 Enter and View Data in the Win32 Sample Application

The Win32 sample application—the transport application—enables you to add package delivery information for a truck delivery service.

1. On the Transport Demo screen, you can create or view a package. Click **Create Package**.
2. On the Create Package screen, fill in the following information about the package and the truck on which it is to be delivered:
 - Name of the package: Oracle Lite CD
 - Package weight: 5
 - Truck number: 1
 - The route taken to deliver package: Santa Clara Route
 - Package priority: HIGH

Click **Next**.

On the next screen, fill in the package delivery location, as follows:

- Street: 500 Oracle Parkway
- City: Redwood Shores
- State: CA

Click **Save**.

3. The "Package created successfully" dialog box displays. Click **OK**.
4. Click the **Exit** button, which is the icon with a red sphere, to return to the main screen.
5. On the Transport Demo screen, click **View Packages** to see the data you just entered.
6. Click the **Exit** button to return to the main screen of the transport demo.

4.3.6 Synchronize the Win32 Sample Application Data to the Database

After you have updated all of the records that you want on your client, you can synchronize the application data to the Mobile Server, which updates the database. To

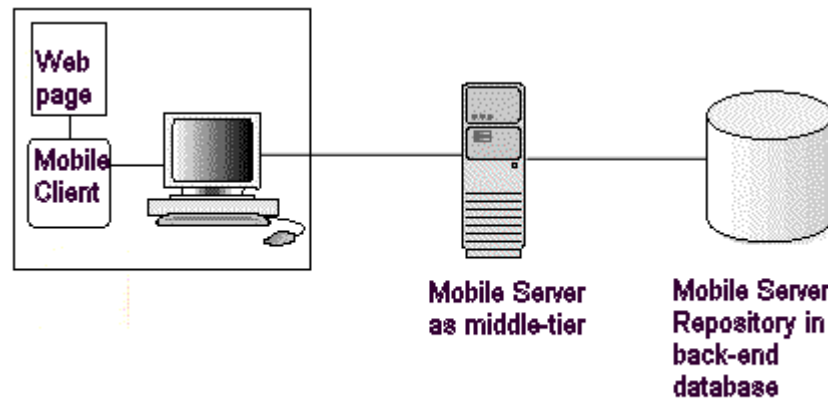
synchronize the data to the database, click the mSync button, which is the icon of a database with dual arrows.

You can check to see if the transport applications data was synchronized with the database by viewing the tables used by the sample—the Packages, Trucks and Routes tables—in the repository in the MASTER schema with username/password of MASTER/MASTER.

4.4 Starting a Web-Based Application

When you have a Web-based application that is set up to interact with Mobile Server, you have an environment similar to [Figure 4-2](#):

Figure 4-2 Web-Based Application Interacting With Mobile Server



To install and use the Web-based Mobile Client, verify that you have the correct environment, retrieve the sample from the Mobile Server and install it on your machine, as follows:

Note: You cannot access the Mobile Server from a Web application that is local to the Mobile Server; that is, you must access the Mobile Server from a machine that is remote to the host where Mobile Server is installed. Direct access is not supported.

1. [Download the Mobile Client from the Mobile Server](#)
2. [Install the Web Mobile Client](#)
3. [Enter and Sync Data in the Web Client Sample](#)

The Web sample application tracks your music. This sample application is also used as the base application for a tutorial on how to build Web-based applications. See Chapter 11, "Building Mobile Web Applications: A Tutorial" in the *Oracle Database Lite Developer's Guide* for a full description.

4.4.1 Download the Mobile Client from the Mobile Server

To download the Mobile Client, do the following:

1. Open the Mobile Client Setup through the Mobile Server, as follows:

- a. In a browser on your remote machine, point the browser to the Mobile Server using the URL `http://<Mobile Server>/webtogo/`.
 - b. On the upper right corner, click **Setup**.
2. Click **Oracle Lite WEB**.
3. The Save As dialog box appears. The file name field displays the executable setup file for the selected platform. Save the executable to a local directory on your machine—which is remote from the Mobile Server host.

4.4.2 Install the Web Mobile Client

You install the Web Mobile Client by performing the following steps:

1. Navigate to the local directory where you installed the Mobile Client and double-click the Mobile Client `setup.exe`.
2. On the Logon to Server screen, enter the username and password `JOHN/JOHN` and click **OK**.
3. If you are prompted for a port number, there is a conflict with the default port. Enter an unused port number and click **OK**. Use this port number when accessing the Web logon page through a URL.

The Web Mobile Client Sample is now installed.

4. The Web logon page should appear in your browser. Alternatively, you can launch it through a Web browser with URL `http://localhost/webtogo/index.html`.
5. Enter the username and password of `JOHN/JOHN`. Click **Logon**.
6. A confirmation and client initialization screen appears. Click **Next** to synchronize the new Web Client with the Mobile Server.
7. After installation, the client is restarted and the Web Workspace appears.

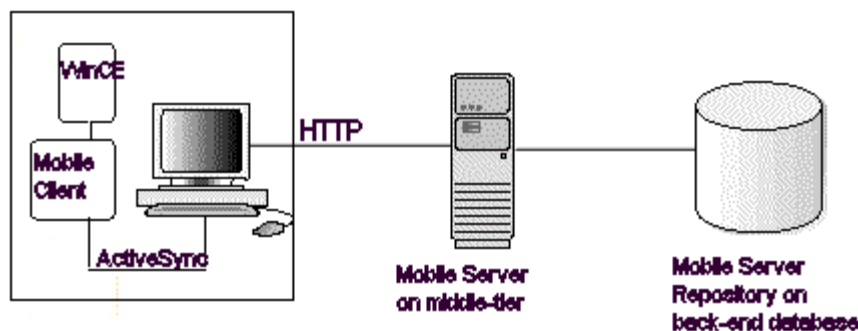
4.4.3 Enter and Sync Data in the Web Client Sample

There are several sample applications that you can try; however, this section talks about using `Sample3`, which tracks music.

1. Select the **Applications** tab. This shows the available samples that you can execute.
2. Click **Sample3**, which launches the application.
3. Add or change data in the `Sample3` application by adding musical record details, commit the changes, and close the application window.
4. Select the **Sync** tab to synchronize the modified data with the Mobile Server.
5. You can check to see if the data was synchronized with the database by viewing the `Records`, `Tracks`, and `Titles` tables in the back-end database.

4.5 Starting a Windows CE Application

When you have a Windows CE (WinCE) application that is set up to interact with Mobile Server, you have an environment similar to [Figure 4-3](#):

Figure 4–3 Windows CE Application Interacting With Mobile Server

To install and use the WinCE Mobile Client, verify that you have the correct environment, retrieve the sample from the Mobile Server and install it on your machine, as follows:

- [Verify the Software and Hardware Requirements for the Windows CE Demo](#)
- [Download the Mobile Client from the Mobile Server](#)
- [Install the Windows CE Mobile Client](#)
- [Enter and View Data in the WinCE Sample Application](#)
- [Synchronize the WinCE Application Data to the Database](#)

The WinCE sample application is the transport application.

Note: This section demonstrates how to install, deploy and use the transport demo. However, if you want to see how to build the transport demo, see Chapter 11, "Building Offline Mobile Applications for Windows CE: A Tutorial" in the *Oracle Database Lite Developer's Guide*.

4.5.1 Verify the Software and Hardware Requirements for the Windows CE Demo

The WinCE sample application requires the following:

- Software requirements: ActiveSync 3.5 or higher and Microsoft .NET Compact Framework 1.0. For information on how to install Microsoft .NET Compact Framework, see the following:
<http://msdn.microsoft.com/mobility/downloads/default.aspx/>
- Hardware requirements: Hardware as appropriate for the Pocket PC used. In this example, the device necessary is XScale with Pocket PC 2003.

4.5.2 Download the Mobile Client from the Mobile Server

To download the Mobile Client, do the following:

1. Open the Mobile Client Setup through the Mobile Server, as follows:
 - a. In a browser on your Windows machine that supports the WinCE device, open and point a browser to the Mobile Server host, which is remote to your machine, using the URL `http://<Mobile Server>/webtogo/`.

- b.** On the upper right corner, click **Setup**.
- 2.** Click on the sample that corresponds to the WinCE device that you have. For example, the XScale example is **Oracle Lite PPC2003 XScale**.
- 3.** The Save As dialog box appears. The file name field displays the executable setup file for the selected platform. Save the executable to a local directory on your machine.

4.5.3 Install the Windows CE Mobile Client

You install the Mobile Client on your Windows CE device by performing the following steps:

1. Navigate to the local directory on the Windows machine that supports the WinCE device and double-click the Mobile Client `setup.exe`.
2. On the Logon to Server screen, enter the username and password `JUNIUS/JUNIUS` and click **OK**.

The Windows CE Mobile Client is now registered with ActiveSync.

3. Launch the ActiveSync Launcher on the Windows machine. You will be asked if you would like to install Oracle Lite using the default application directory. Click **Yes**. this installs the Mobile Client libraries into the \ORACE directory on the Windows CE device.
4. On the Windows CE device, navigate to the \ORACE directory where you installed the Mobile Client and launch the Mobile Sync application by double-clicking msync . exe.
5. On the Mobile Sync dialog box, enter the following:
 - Username and Password of JUNIUS/JUNIUS.
 - Check Save Password.
 - Enter the host name for the Mobile Server.Click **Apply**. Click **Sync**.
6. When the sync completes, the Sync Result Dialog appears. Click **OK**.
7. On the Oracle Lite Software Update window, click **Install** to install the Transport Demo (Transport_PPC) on your system.
8. Select the directory where you would like to install the demo and click **OK**.

4.5.4 Enter and View Data in the WinCE Sample Application

The WinCE sample application—the transport demo—enables you to add package delivery information for a truck delivery service.

1. Launch the transport demo application on your client. Find the Transport demo in the program list under Start->Programs or through Explorer.
2. On the Transport Demo screen, you can create or view a package. Click **Create Package**.
3. On the Create Package screen, fill in the following information about the package and the truck on which it is to be delivered:
 - Name of the package: Oracle Lite CD
 - Package weight: 5

- Truck number: 1
- The route taken to deliver package: Santa Clara Route
- Package priority: HIGH

Click **Next**.

On the next screen, fill in the package delivery location, as follows:

- Street: 500 Oracle Parkway
- City: Redwood Shores
- State: CA

Click **Save**.

4. The "Package created successfully" dialog box displays. Click **OK**.
5. Click the **OK** button in the upper right-hand corner to return to the main screen.
6. On the Transport Demo screen, click **View Packages** to see the data you just entered.
7. Click the **Exit** button—which is the icon with a red sphere—to return to the main screen.

4.5.5 Synchronize the WinCE Application Data to the Database

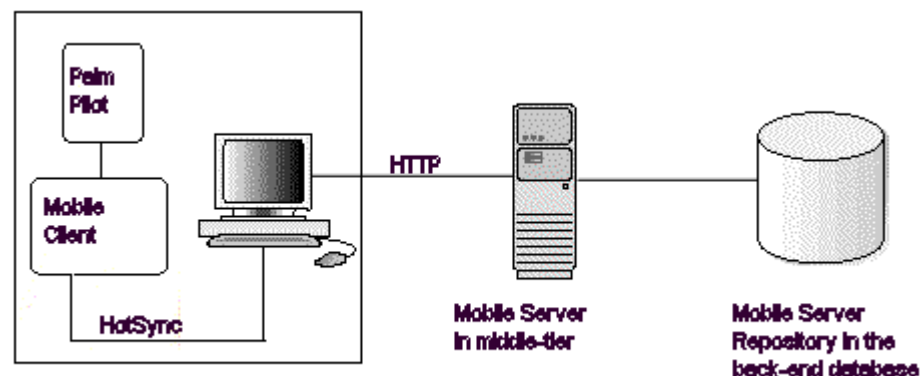
After you have updated all of the records that you want on your client, you can synchronize the data to the Mobile Server, which updates the database. To synchronize the data to the database, click the mSync button, which is the icon of a database with dual arrows, to synchronize the modified data with the Mobile Server.

You can check to see if the transport applications data was synchronized with the database by viewing the tables used by the sample—the Packages, Trucks and Routes tables—in the repository in the MASTER schema with username/password of MASTER/MASTER.

4.6 Starting a Palm OS Application

When you have a Palm OS application that is set up to interact with Mobile Server, you have an environment similar to [Figure 4-4](#):

Figure 4-4 *Palm OS Application Interacting With Mobile Server*



To install and use the Palm OS Mobile Client, verify that you have the correct environment, retrieve the sample from the Mobile Server and install it on your machine, as follows:

- [Verify the Software and Hardware Requirements for the Palm OS Demo](#)
- [Download the Mobile Client from the Mobile Server](#)
- [Install the Palm OS Mobile Client](#)
- [Execute the Palm OS Sample Application](#)

Instructions for building a Palm OS application are detailed in Chapter 7, "Developing Mobile Applications for Palm OS Devices" in the *Oracle Database Lite Developer's Guide*.

4.6.1 Verify the Software and Hardware Requirements for the Palm OS Demo

The Palm OS sample application requires the following:

- Software requirements: Palm Desktop 3.1 or higher and HotSync
- Hardware requirements: Palm OS 4.0 or higher device and a device cradle

4.6.2 Download the Mobile Client from the Mobile Server

To download the Mobile Client, do the following:

1. Open the Mobile Client Setup through the Mobile Server, as follows:
 - a. In a browser on the Windows machine that supports the Palm OS device, point to the remote Mobile Server host using the URL `http://<Mobile Server>/webtogo/`.
 - b. On the upper right corner, click **Setup**.
2. Click **Oracle Lite PALM**.
3. The Save As dialog box appears. The file name field displays the executable setup file for the selected platform. Save the executable to a local directory on your Windows machine.

4.6.3 Install the Palm OS Mobile Client

You install the Mobile Client on your Palm OS device by performing the following steps:

1. Navigate to the local directory on the Windows machine that supports the Palm OS device and double-click the Mobile Client `setup.exe`.

This copies the Mobile Client libraries into the Palm download folder.
2. Execute a HotSync and select the appropriate user. This installs the Palm libraries onto the Palm OS device.
3. On the Palm OS device, launch Mobile Sync application by double-clicking on mSync.
4. On the Mobile Sync dialog box, enter the following:
 - Username: JUNIUS
 - Password: JUNIUS
 - Check the Save Password checkbox
 - IP address of the Mobile Server

Click **Sync**.

5. Click the **OK** button when synchronization succeeds. The download of the Mobile Client is complete.

4.6.4 Execute the Palm OS Sample Application

The FormOrders sample application tracks orders. You first create an order and then add the items that are contained within the order. To execute the FormOrders application on your Palm, perform the following:

1. Navigate to the Oracle Lite folder on your Palm. Click the **FormOrders** icon to run the application.
2. Click New, which is the '+' sign, to create a new order.
3. Enter the following data for the new order:
 - Date: 1/1/04
 - Name: Oracle Corp.
 - Description: 10g

Click **Save**, which is the icon of the disk with the arrow pointing down.

4. Add items to the new Order by selecting the blank space under the Items column. Click New, the '+' sign, to add the first item.
5. Add in the item with the following data:
 - Date: 1/1/04
 - Items: Oracle Lite CD
 - Ordered: 250
 - Shipped: 250
 - Received: 250
 - Cost: 25000

Click **Exit**, which is the door icon.

6. The main Order screen updates with the first item.
7. Synchronize the data with Mobile Server by selecting Form->Sync Data With Mobile Server. Click OK when the sync succeeds.
8. Verify the updates on the Mobile Server by verifying the data in the Orders table [ORD_MASTER and ORD_DETAIL] in the MASTER on the back-end database.

Note: The data may not be immediately available depending on how often the MGP executes. The MGP is the process that performs the sync on the back-end database.

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