

Agile Product Lifecycle Management

Database Install Guide

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Agile Product Lifecycle Management Database Install Guide, Release 9.3.3

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Preface

Agile PLM is a comprehensive enterprise PLM solution for managing your product value chain.

Audience

This document is intended for administrators and users of the Agile PLM products.

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

Oracle's Agile PLM documentation set includes Adobe® Acrobat PDF files. The Oracle Technology Network (OTN) website <http://www.oracle.com/technetwork/documentation/agile-085940.html> contains the latest versions of the Agile PLM PDF files. You can view or download these manuals from the website, or you can ask your Agile administrator if there is an Agile PLM Documentation folder available on your network from which you can access the Agile PLM documentation (PDF) files.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

Convention	Meaning
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Overview of Agile Database Installation

This chapter outlines the requisite tasks for successful installation of the Agile PLM Database and provides information on accessing the necessary software.

Task Overview

The sequence of actions required for the installation process is as follows:

1. Prepare the installation environment. See ["Agile System Requirements"](#) on page 2-1.
2. Download the appropriate Oracle Database Server software. For download instructions, see ["Obtaining Software from Oracle Support"](#) on page 1-2 (for a Patchset/Minipack), or ["Obtaining Software from Oracle Software Delivery Cloud"](#) on page 1-1 (for a major release).
3. Install Oracle Database Server.
4. Download the Agile PLM Database Installer, which is part of the Agile PLM software distribution. See ["Downloading the Agile PLM Software"](#) on page 1-2.
5. Run the Agile PLM Database Installer. See ["Installing the Agile Database on Windows"](#) on page 4-1 or ["Installing the Agile Database on UNIX"](#) on page 5-1.

Obtaining Software from Oracle Software Delivery Cloud

Major Oracle product releases are distributed as Media Packs on Oracle Software Delivery Cloud (<http://edelivery.oracle.com>). Refer to the Media Pack description or the list of products that you purchased on your Oracle Ordering Document. Then, view the Quick Install Guide License List to help you decide which Product Pack you need to select and search for the appropriate Media Pack(s) to download. Prior to downloading, verify that the product you are looking for is in the License and Options section of the Product Pack README. Oracle recommends that you print the README for reference.

There will be an itemized part list within each of the packs and you will need to download all items to have the complete download for the desired Oracle Agile release.

All Oracle Software Delivery Cloud files have been archived using Info-ZIP's highly portable Zip utility. After downloading one or more of the archives, you will need the UnZip utility or the WinZip utility to extract the files. You must unzip the archive on the platform for which it was intended. Verify that the file size of your downloaded file matches the file size displayed on Oracle Software Delivery Cloud. Unzip each Zip file to its own temporary directory.

Obtaining Software from Oracle Support

Oracle minor release products are distributed as a Patchset/Minipack, which is an electronic version of the software. To download the Product Patchset/Minipack, go to the My Oracle Support <https://support.oracle.com> website and search for the product. Refer to the description and review the Readme. After you review the Readme, download the Product Patchset/Minipack.

There will be one zip file which contains all Product binaries, documentation, and database files. Follow the installation instructions from the Install Guide to install the product.

Downloading the Agile PLM Software

To download the software from Oracle Support:

1. Log in and perform a search for the product using the search parameters provided.
2. Click the **Download Now** icon to download the software.
3. Extract the contents of the media pack and navigate to the **DB_Installer** folder. DB installers for all platforms are made available within the **DB_Installer** folder, regardless of the operating system on which you have chosen to install Agile PLM.

Agile System Requirements

Agile PLM 9.3.3 may be deployed in different configurations. The amount of time required to complete an installation depends on the complexity of your Agile PLM deployment.

Note: For installations using a certified localized language, all server components must be installed on computers running the same localized operating system. Clients can be running on the same localized or English operating system. For detailed information about using Agile with international operating systems, refer to the Agile support website: <http://www.oracle.com/agile/support.html>.

Agile can be distributed over a wide-area network with multiple servers or can be limited to one or two server computers with several client computers. In the latter case, Agile can usually be installed within a half day. However, network-based systems are inherently complex, and some installations require additional time.

Agile recommends installing Oracle Database Server on a separate computer from the other Agile components.

It is acceptable to install multiple server components on the same computer if sufficient hardware resources are available. However, the minimum hardware requirements must be increased based on the number of server components installed on a single computer.

For a complete list of hardware and software requirements, see the *Agile PLM Capacity Planning Guide*.

Installing Oracle Database Server

Before you install the Agile database, you must install the Oracle Database Server. You can download the Oracle Database Server Installer for major releases from Oracle Software Delivery Cloud (<http://edelivery.oracle.com>), and for a Patchset/Minipack, you can download from Oracle Support (<https://support.oracle.com>). Download instructions for each Oracle version/operating system are provided on the download page.

Note: After you install Oracle Database Server, you must install the Example products into your ORACLE_HOME, available at the download location. In an Oracle RAC environment, these products should be installed on all nodes. These products include some files required to create the Agile schema successfully.

For detailed instructions on how to install a particular Oracle Database Server version, refer to the appropriate Installation Guides listed in the Oracle Documentation (<http://www.oracle.com/technetwork/documentation/index.html>) web page.

Note: Make sure you select the database binaries that are compatible with the hardware you are using.

Related Documentation

Before you begin, it is important to be familiar with all the information about installing the Oracle database on different operating systems, and with the Optimal Flexible Architecture (OFA) reference material for administrators. You can review the information pertaining to your Oracle database server version at Oracle Documentation (<http://www.oracle.com/technetwork/documentation/index.html>).

Agile has made every attempt to be OFA-compliant. Any deviations from OFA guidelines are noted.

Before Installing Oracle Database Server on Windows

Before installing Oracle, you must:

- Verify that Windows has been configured correctly.
- Check to see that the Microsoft NTFS file system is used instead of FAT or FAT32, and convert the file system if necessary. See "[Checking the Windows File System](#)" on page 3-3 for directions.

- Determine the name of the Windows computer where Oracle is to be installed.

Note: It is recommended that the computer on which you are installing the Oracle database have at least two physical drives or two partitions. This enables you to place the operating system on the C drive and use the D drive for Oracle components. The examples in this chapter use a C and D drive.

- Be sure that you have Administrator privileges within Windows on the computers where you are installing Oracle and Agile PLM.
- Disable disk compression, if you are using it.
- Disable virus protection, if you are using it. Components used in the installer can be falsely identified as being infected and lock up the installation. You can turn the virus protection on after the installation is complete.

The following sections provide more information about these procedures.

Network Check

Before proceeding, it is important to confirm two settings to prevent difficulties from occurring.

Confirming Computer Name and Host Name

The computer where Oracle is installed must use the same value as both its computer name and its DNS host name. You can use the following procedures to identify the current values.

To determine the computer name for Windows:

1. Right-click the **My Computer** icon on the desktop, and choose **Properties** in the shortcut menu.
2. In the System Properties dialog box, click the **Computer Name** tab.
3. Note the name listed in the **Full Computer Name** field.

Note: Windows uses the same name for the computer name and DNS host name.

Confirming the Server Date

It is important to adjust the date and time of the computer. The date and time need to be correct when you work with your production data.

To confirm the date and time, click the **Date/Time** icon in the Windows Control Panel. Be sure to verify the **Time Zone** setting, too.

Caution: If you change the date or time after Agile PLM has been installed and started, you need to stop and restart the server immediately after the change.

Checking the Windows File System

Agile recommends that servers use NTFS (NT File System) rather than FAT or FAT32 (File Allocation Table), as NTFS is more robust.

To determine the file system type:

1. Check the file system used on the computer. Choose **Start > Administrative Tools > Computer Management**. Under **Computer Management** in the left pane, expand **Storage** and select **Disk Management**.

The Disk Administration window opens.

There must be at least two partitions or hard drives. If your computer uses NTFS, proceed with the Oracle installation. If your computer uses a FAT or FAT32 file system, Agile recommends converting it to NTFS before proceeding.

Important: Converting the file system deletes all current files on the drive. Backup all necessary files before converting the file system to NTFS.

2. Right-click the drive you want to reformat and choose **Format** in the shortcut menu.
3. In the File System field, change the file system type to **NTFS**.
4. Click **Start**.

The process takes several minutes. On completion, restart the system. You can proceed with the Oracle installation.

For Servers Configured with DHCP

If your server is configured with DHCP (Dynamic Host Configuration Protocol), there is a known issue with the Oracle Database Server installation. The installation fails and a warning message displays.

There are two possible solutions:

- Copy the Oracle Database Server installation software to your local disk and perform an off-network installation.
- Install the Microsoft Loopback adapter on the DHCP server, then add one entry to the hosts file.

To install the Microsoft Loopback adapter:

1. Click **Start > Control Panel > Add Hardware**.

The Add Hardware wizard appears.

2. Click **Next**.
3. Choose **Install the hardware that I manually select from a list (Advanced)**, and then click **Next**.
4. In the Common Hardware Types list, select **Network adapters**, then click **Next**.
5. In the Manufacturers list, select **Microsoft**.
6. In the Network Adapter list, select **Microsoft Loopback Adapter**, and then click **Next**.
7. Click **Next** to install the adapter.

8. Click Finish.

To configure the hosts file:

1. Open the hosts file, located at C:\Windows\System32\drivers\etc.
2. Add the following entry to the hosts file: 10.10.10.10 <host name>.<domain host name>

For example, if the full system name of your database server is db1.agile.agilesoft.com, the entry in the hosts file would be:

10.10.10.10 db1.agile.agilesoft.com db1

3. Save the file.

To configure the loopback IP address on the network:

1. On the database server, right-click the My Network Places icon.
2. Choose **Properties** to display the Network and Dial-up Connections window.
3. Locate a connection with the device name of Microsoft Loopback Adapter. This connection is usually Local Area Connection 2.
4. Right-click this connection icon.
5. Choose **Properties** to display the Local Area Connection 2 Properties dialog box.
6. On the General tab, select **Internet Protocol (TCP/IP)**, then click **Properties** to display the Internet Protocol (TCP/IP) properties dialog box.
7. On the General tab, choose **Use the following IP Address**.
8. Enter the following values:
IP address: 10.10.10.10
Subnet mask: 255.255.255.0
9. Click **OK**.
10. Click **Close**.

On completion, restart the system. You can proceed with the Oracle installation.

Installing the Agile Database on Windows

To install the Agile database on Windows:

1. Within the installation folder, double-click the **agile9330db_oracle.exe** file to start the installation on Windows. The Agile Database Configuration Utility appears.
2. Follow the instructions in "Creating the Agile Database on Windows" on page 4-1 to configure the database.
3. Complete the postinstallation steps described in "Database Postinstallation Tasks" on page 6-4.

Installation Notes

For best results, as you install:

- Follow directions in the order in which they are given. Do not attempt to install any components out of sequence.
- Oracle passwords and Agile passwords are case-sensitive. All other text entries, such as schema names and folder names, are not case-sensitive. To avoid confusion, all passwords and text entries in this guide appear in lowercase and should be typed as shown.
- When prompted for a host name, type the fully qualified name for the host, not the short name. For example, if a host is named `dbo`, type **dbo.agile.com**, not **dbo**.

Creating the Agile Database on Windows

The Agile Database Configuration Utility creates and configures the database used by Agile. To start this utility, double-click the database installer executable file.

Drop-down lists that allow disk selection show the available disk space. If the space is a negative value, you must select another drive.

Note: If you change a default value, you must click in the field to ensure that the change is activated.

To configure the database:

1. In the Destination Location dialog box of the Database Configuration Utility, accept the default location, **Agile9Tmp**, or click **Browse** to specify a destination of your choice. This is the location where template files are placed during the database installation. Throughout this document, this location is named **Agile9Tmp**. Click **Next**.

2. In the Oracle home dialog box, choose the appropriate ORACLE_HOME. This is the location where the Oracle software was installed. If you have multiple Oracle homes, make sure the correct Oracle home is selected in the list before continuing with the Database Configuration Utility. Click **Next**.
3. In the Oracle SID dialog box, accept the default **agile9** SID. If you want to change the SID, you must use an ID that is 4 to 8 characters in length to uniquely identify the Oracle SID. If you want to use an existing SID, you must remove it before you can reuse it. Click **Next**.

Note: If you only want to generate database scripts (for example, to upgrade an existing Agile schema), select the **Generate database scripts only** option. In this case, you should use an existing SID. Follow on-screen directions to generate scripts.

4. In the Database Security and Agile User Information dialog box, set the Internal/Sys password, SYSTEM password, CTXSYS password, Agile Schema Name, and Agile Schema Password. Each password must be at least 6 characters long. Click **Next**.
5. In the Database Size Estimate dialog box, choose a database sizing model. New Agile customers without an existing database to migrate should accept the default (**Small**). Click **Next**.

You can reselect a database sizing model depending on disk space available.

Note: Refer to the *Agile PLM Capacity Planning Guide* for database sizing information.

6. In the Tablespaces dialog box, accept the default, unless you have additional hard drives with sufficient space available that allow you to distribute the files across multiple hard drives. If you change the selection to a different drive location, click the letter of the drive to make sure it is selected. Click **Next**.
7. In the Redo Log Files and Control Files dialog boxes, accept the default, unless you have additional hard drives with sufficient space available that allow you to distribute the files across multiple hard drives. Click **Next**.
8. If you accept the default location for the files on one drive, a message appears notifying you about distributing the files across multiple drives (mirroring protection). If this is not an option, click **Next**. Otherwise, click **Back** and reassign files to different hard drives.
9. In the Archive Log File dialog box, accept the default, unless you have additional hard drives with sufficient space available that allow you to store the file on a different hard drive. Click **Next**.
10. In the Oracle Language Support dialog box, configure the NLS_LENGTH_SEMANTICS parameter to determine data type storage allocation by the database server. The default value is CHAR. Click **Next**.
11. Accept the default character set AL32UTF8. Click **Next**.

Note: For additional information about language support, refer to the *Oracle Globalization Support Guide*.

A Command Prompt window displays briefly.

12. You are prompted to install the Agile database. Click **Next**.

The script runs in a Command Prompt window for a while.

13. When instance creation is complete, a confirmatory message appears. Click **OK** to complete the process and exit.

Note: Oracle recommends that you change all Oracle database user passwords after you have created the Agile database. It is recommended to change these passwords periodically for security purposes:

Agile supports Full Text Search (FTS). FTS is a feature enabled through Oracle Text. Because of this feature, there is a fixed account, CTXSYS, referenced by some objects in the Agile schema. For security purposes, you can change the CTXSYS account password from its default, CTXSYS, to one of your own choice after Agile database creation and configuration.

Installing the Agile Database on UNIX

Preparing the Host Computer

This section describes how to prepare the installation environment on UNIX.

Preparation of the installation environment involves copying the Agile database utilities.:

To copy the Agile database utilities:

1. Log in as the user that was used to install the Oracle database software and create a temporary directory named "agile9330db:"

```
$ mkdir /home/oracle/agile9330db [Enter]
```

2. Download the appropriate Agile PLM media pack for your operating system to the **agile9330db** directory. For more information on obtaining the media pack, see ["Obtaining Software from Oracle Support"](#) on page 1-2 (for a Patchset/Minipack), or ["Obtaining Software from Oracle Software Delivery Cloud"](#) on page 1-1 (for a major release).

3. Change to the **agile9330db** directory, and extract the files from the **agile9330db_oracle.tar.gz** file:

```
$ cd /home/oracle/agile9330db [Enter]
```

```
$ gunzip -c agile9330db_oracle.tar.gz | tar xvf - [Enter]
```

The agile9330db_oracle.tar file contains the following files:

- agile9database.sh - shell script for creating the database instance and generating the database maintenance scripts
- agile9schema.dmp - agile schema dump file
- dbora - setup for the database automatic shutdown and startup
- pdqplm_plsql.jar - Java stored procedures for the Enterprise Data Quality Product integration
- profile.txt - oracle user .profile template
- Readme.txt - readme file
- system.txt - Solaris kernel parameters

Creating the Agile Database on UNIX

This section describes how to set up Oracle environment variables and create the default database instance and schema used by Agile using the Agile database creation utility.

To set up Oracle environment variables:

1. Log in as the user that was used to install the Oracle database software..
2. Create the environment parameter file `.profile` to include:

```
PATH=$PATH:/usr/local/bin:/usr/ccs/bin:/usr/openwin/bin:/usr/bin/X11
export PATH
ORACLE_HOME=<Location where you installed Oracle Database Server>
export ORACLE_HOME
```

For example:

```
(Oracle 11g) ORACLE_HOME=/u01/app/oracle/product/11.1.0/db_1;export ORACLE_HOME
ORACLE_BASE=<Oracle base folder location>;export ORACLE_BASE
```

For example:

```
ORACLE_BASE=/u01/app/oracle;export ORACLE_BASE
PATH=$PATH:$ORACLE_HOME/bin;export PATH
ORACLE_SID=agile9;export ORACLE_SID
NLS_LANG=AMERICAN_AMERICA.AL32UTF8;export NLS_LANG
```

3. The environment variables settings above are stored in the file `profile.txt` included with the Agile database utilities. If this is the first time you are configuring the host computer as a database server, copy the `profile.txt` file to **.profile**:

```
$ cat agile9330db/profile.txt > .profile [Enter]
```

4. Set environment variables:

```
$ ./.profile [Enter]
```

To start the installation:

1. Log in to the computer as the user you created while preparing the installation environment. For example, Oracle.
 - a. If necessary, edit the `.profile` file to change Oracle SID. By default, Agile uses agile9 as the Oracle SID:

```
$ vi .profile [Enter]
```

- b. Modify the value where `ORACLE_SID=agile9` by replacing agile9 with the SID you want to use.

Important: Check the `/var/opt/oracle/oratab` file and ensure that the specified Oracle SID has not been used. Specifying an existing Oracle SID can corrupt that database instance.

Note: The recommended SID length is 4-8 alphanumeric characters. (The default SID 'agile9' is six characters.)

- c. Source `.profile` to make the SID changes take effect:
`./profile` [Enter]
2. In a second terminal session, log in to the computer as the root user.
3. Create a directory named "oradata."

Note: The `agile9database.sh` file uses a placeholder mount point `/mpt`. You must change `/mpt` to match your mount points.

For example, if you have mount points at `/u01` and `/u02`, you can create an `oradata` folder on each mount point.

```
# mkdir -p /u01/oradata
```

```
# chown oracle:dba /u01/oradata
```

4. In the session where you are logged in as the Oracle user, create a `$ORACLE_BASE/admin` directory:

```
$ mkdir -p /u01/app/oracle/admin
```

 [Enter]

(Assuming `ORACLE_BASE` is set to `/u01/app/oracle`.)

```
chown -R oracle:dba /u01/app/oracle
```

You must now run the `agile9database.sh` script.

5. Change to the `/home/oracle/agile9330db` directory.
6. Modify the `agile9database.sh` script to match the mount points on your computer.

Note: Make sure `ORACLE_SID` matches the one you set for `.profile`, which should have taken effect after you ran `./profile`.

Note: The `agile9database.sh` file uses a placeholder mount point `/mpt`. You must change `/mpt` to match your mount points.

The values in the script that can be modified appear in bold. You should limit your editing only to these bold values.

The following code lists variables in bold that you may want to revise besides placeholder mount point `/mpt`:

```
#!/bin/sh
```

```
.
```

```
.
```

```
.
```

```
# AGILE9DB_BASE is the base directory for the OFA directories and maintenance scripts
```

```
# (create the directory before running this script)
```

```
# (default is $ORACLE_BASE/admin/$ORACLE_SID)
```

```
#
```

```
AGILE9DB_BASE=$ORACLE_BASE/admin/$ORACLE_SID
# Parameters determine location of datafiles, # controlfiles and logfiles
#
DATABASE_SYSTEM=/mpt/oradata/${ORACLE_SID} # SYSTEM tablespace
mount point
DATABASE_SYSAUX=/mpt/oradata/${ORACLE_SID} # SYSAUX tablespace
mount point
DATABASE_TOOLS=/mpt/oradata/${ORACLE_SID} # TOOLS tablespace mount
point
DATABASE_UNDO=/mpt/oradata/${ORACLE_SID} # RBS tablespace mount
point
DATABASE_TEMP=/mpt/oradata/${ORACLE_SID} # TEMP tablespace mount
point
DATABASE_USERS=/mpt/oradata/${ORACLE_SID} # USERS tablespace mount
point
DATABASE_INDX=/mpt/oradata/${ORACLE_SID} # INDX tablespace mount
point
DATABASE_AGILE_DATA1=/mpt/oradata/${ORACLE_SID} # AGILE_DATA1
tablespace mount point
DATABASE_AGILE_INDX1=/mpt/oradata/${ORACLE_SID} # AGILE_INDX1
tablespace mount point
DATABASE_AGILE_DATA2=/mpt/oradata/${ORACLE_SID} # AGILE_DATA2
tablespace mount point
DATABASE_AGILE_INDX2=/mpt/oradata/${ORACLE_SID} # AGILE_INDX2
tablespace mount point
DATABASE_AGILE_DATA3=/mpt/oradata/${ORACLE_SID} # AGILE_DATA3
tablespace mount point
DATABASE_AGILE_INDX3=/mpt/oradata/${ORACLE_SID} # AGILE_INDX3
tablespace mount point
DATABASE_AGILE_DATA4=/mpt/oradata/${ORACLE_SID} # AGILE_DATA4
tablespace mount point
DATABASE_AGILE_INDX4=/mpt/oradata/${ORACLE_SID} # AGILE_INDX4
tablespace mount point
DATABASE_AGILE_DATA5=/mpt/oradata/${ORACLE_SID} # AGILE_DATA5
tablespace mount point
DATABASE_AGILE_INDX5=/mpt/oradata/${ORACLE_SID} # AGILE_INDX5
tablespace mount point
DATABASE_LOGFILES1=/mpt/oradata/${ORACLE_SID} # REDOLOG file 1
mount point
DATABASE_LOGFILES2=/mpt/oradata/${ORACLE_SID} # REDOLOG file 2
mount point
DATABASE_LOGFILES3=/mpt/oradata/${ORACLE_SID} # REDOLOG file 3
mount point
```

```

DATABASE_LOGFILES4=/mpt/oradata/${ORACLE_SID} # REDOLOG file 4
mount point
DATABASE_CONTROL1=/mpt/oradata/${ORACLE_SID} # CONTROL file 1
mount point
DATABASE_CONTROL2=/mpt/oradata/${ORACLE_SID} # CONTROL file 2
mount point
DATABASE_CONTROL3=/mpt/oradata/${ORACLE_SID} # CONTROL file 3
mount point
DATABASE_ARCHIVE=/mpt/oradata/${ORACLE_SID}/arch # ARCHIVELOGS
#
# Parameters determining: Character Set
#
CHARACTER_SET=AL32UTF8
NATIONAL_CHARACTER_SET=AL16UTF16
NLS_LANG=American_America.AL32UTF8
#

```

7. Run the agile9database.sh script from the current directory:

```
$ ./agile9database.sh [Enter]
```

8. You are prompted to choose the Install Mode. Enter **I** to create the database instance, **S** to only generate maintenance scripts, or **q** to quit the installation. [Enter]
9. Enter the Agile PLM Instance name (ORACLE_SID). The default is agile9. If you want to change the SID, you must use an ID that is 4 to 8 characters in length to uniquely identify the Oracle SID. [Enter]
10. Enter the Agile PLM Schema Name. The default is agile.[Enter]
11. The next four prompts allow you to add passwords for the Agile PLM, SYS, SYSTEM, and CTXSYS schemas. Each password must be at least 6 characters in length. [Enter]
12. You are prompted about the database size that you want to install.
You should use the small database size unless you have consulted with an Agile Solutions Consultant or database administrator to ensure that the computer meets the minimum requirements for the specified database size.
13. Choose the NLS_LENGTH_SEMANTICS parameter to determine data type storage allocation by the database server. The default value is CHAR. [Enter]
14. Verify the values you have entered. Enter **I** to install.

Note: If you are unable to create files, ensure that all Oracle environment variables are set correctly and that the 'oracle' user has full (read, write, and execute) privileges on all directories referenced by agile9database.sh.

The script will run for a while.

Note: Oracle recommends that you change all Oracle database user passwords after you have created the Agile database. It is recommended to change these passwords periodically for security purposes

Creating an Oracle RAC Database and Schema for Agile PLM

You can create an Oracle Real Application Clusters (RAC) database instance for Agile PLM using the Oracle Database Configuration Assistant (DBCA), and then create an Agile PLM schema in that database instance.

Creating an Oracle RAC Database Instance for Agile PLM

To create an Oracle RAC database instance:

1. Start the Oracle Database Configuration Assistant. (From the **Start** menu, navigate to **All Programs > Oracle - <Oracle home> > Configuration and Migration Tools**, and choose **Database Configuration Assistant**). The Database Configuration Assistant: Welcome dialog appears.
2. Select the **Oracle Real Application Clusters** database option. Click **Next**.
3. In the Operations dialog, select **Create a Database**. Click **Next**.
4. In the Node Selection dialog, select all Oracle RAC nodes. Click **Next**.
5. In the Database Templates dialog, select **Custom Database**. Click **Next**.
6. In the Database Identification dialog, enter values for the Global Database Name and SID Prefix. For example, RAC.WORLD and RAC. Click **Next**.
7. In the Management Options dialog, click **Next** to accept the default selections. For more information on Oracle Enterprise Manager, see related documentation on the Oracle Technology Network (OTN) website
<http://www.oracle.com/technetwork/documentation/agile-085940.html>.
8. In the Database Credentials dialog, choose the **Use the Same Password for All Accounts** option. You can change the passwords later. Enter a password and confirm it. Click **Next**.
9. In the Storage Options dialog, select your preferred storage option. The storage option that you have on your system is automatically detected and appears selected. Click **Next**. Based on your selection, the Database Configuration Assistant will present further options. Follow on-screen directions to configure storage details.
10. Next, select the database components you require. In the Database Content dialog, under Database Components, select the following:
 - **Oracle Data Mining**
 - **Oracle Text**

- **Enterprise Manager Repository (Optional)**

Click **Next**.

11. In the Database Services dialog, to accept the current configuration details, click **Next**.

Note: At any stage, to change your selections, click **Back** and navigate to the appropriate dialog.

12. In the Initialization Parameters dialog, under **Memory**, select **Custom**. Provide desired SGA and PGA sizes or accept the default. Click **Next**.
13. In the Database Storage dialog, select the **Tablespaces** node. Create the following tablespaces in the instance.

- AGILE_DATA1
- AGILE_DATA2
- AGILE_DATA3
- AGILE_DATA4
- AGILE_DATA5
- AGILE_INDX1
- AGILE_INDX2
- AGILE_INDX3
- AGILE_INDX4
- AGILE_INDX5

Note: Data files should be sized at least 1GB each with autoextend enabled, and must be named as listed above. You can store the data file at any location on your hard drive.

14. Review the storage parameters and click **Next** to accept.
15. In the Creation Options dialog, **Create a Database** is the default selection. Click **Finish** to accept database creation settings.
16. In the Summary screen, click **OK** to start the database creation process.
17. Once the database creation is complete, a dialog appears with details of the newly created database instance. Make a note of the information for your records. Within this dialog, click **Password Management** and do the following:
 - a. Make sure that the CTXSYS account is not locked. If it is locked, log in to Oracle as 'sys' or 'system' and execute the SQL command:
alter user ctxsys account unlock;
 - b. Set the following account passwords:
 - system / manager
 - ctxsys / ctxsys
 - sys / oracle

You can change the passwords after schema creation is complete.

18. Click **Exit**. The Oracle RAC database instance creation is now complete.

Creating an Agile PLM Schema in an Existing Oracle RAC or Standalone Database Instance

The Oracle database stores data in virtual containers known as schemas. The Agile Database Configuration Utility creates the database, user account, and schema used by Agile. Additional schemas are not necessary; however, you can create additional Agile schemas with different user names if necessary.

Note: You should not use the Oracle Security Manager to create users.

To create a schema in the Oracle RAC Database Instance:

On UNIX:

1. Run **agile9database.sh** and choose the **Generate Maintenance Scripts Only** option to generate the Agile PLM 9.3.3 schema maintenance scripts.
2. Run **recreateagile.sh** to create the schema.

On Windows:

1. Run the database installer, described in ["Installing the Agile Database on Windows"](#) on page 4-1.
2. In the installer screen where you specify the Oracle SID, select the **Generate Database Scripts Only** check box. See Step 3 under ["Creating the Agile Database on Windows"](#) on page 4-1.
3. Follow on-screen instructions to generate scripts.
4. Run **recreateagile.bat** to create the schema.

There are three requirements around the package SYS.DBMS_SHARED_POOL for an Agile database. If the requirements are not met, and the package DBMS_SHARED_POOL does not exist in the SYS schema, you may receive a DBMS shared pool error or AGILE9_UTILS error.

To ensure that DBMS_SHARED_POOL requirements are met:

1. Log in to the database as 'sys' user.
2. Run the following command:

```
SQL> describe SYS.DBMS_SHARED_POOL
```

3. If you receive an error indicating that the object SYS.DBMS_SHARED_POOL does not exist, run the SQL script **dbmspool.sql** located at **ORACLE_HOME/RDBMS/admin**.
4. As 'sys' user, grant execute privileges to the agile schema user.

```
SQL> grant execute on SYS.DBMS_SHARED_POOL to AGILE;
```

Where AGILE is the agile schema user.

5. Connect to the database as the agile schema user, and run the following command:

```
SQL> create synonym DBMS_SHARED_POOL for SYS.DBMS.SHARED_POOL;
```

6. When the process completes, run the following command to compile the AGILE9_UTILS package:

```
SQL> alter package agile9_utils compile body;
```

The package should compile without errors. If the package compiles with errors, run the following command and correct the same:

```
SQL> show errors
```

Database Postinstallation Tasks

This section describes mandatory and optional postinstallation tasks to be completed, such as configuring Oracle network connectivity and setting up additional Oracle functionality.

Adding and Configuring a Listener

If this is the first time Oracle has been installed on the current computer, you need to add and configure a new database listener.

Note: If you are creating a new Agile database on the same computer, you only need to add the new database to the existing listener.

To add and configure a new Listener:

1. Start Oracle Net Manager:
On Windows, choose **Start > All Programs > <ORACLE_HOME> > Configuration and Migration Tools > Net Manager**.
On UNIX, run the command `$ netmgr &`.
2. In the Oracle Net Manager window, double-click the **Local** folder and select the **Listeners** folder.
3. Click **Create** in the toolbar to add a listener.
The Choose Listener Name dialog box appears.
4. Click **OK**.
5. In the **Listening Locations** drop-down list, select **Database Services**.
6. Click **Add Database**.

In the dialog box that appears, make the following changes:

Global Database Name: agile9

Oracle home Directory: <ORACLE_HOME>

SID: agile9

Note: If you used a different global database name or different home directory during the database installation, change the information as appropriate.

7. Choose **File > Save Network Configuration** to save your changes.
8. Close Oracle Net Manager.

To restart the database listener, open a Command Prompt window and type **lsnrctl reload**.

Adding and Configuring a Net Service

1. In the Oracle Net Manager window, double-click the **Local** folder and select the **Service Naming** folder.
2. Click **Create** in the toolbar to add a service name.
The Net Service Name Wizard starts.
3. In the **Net Service Name** field, type the name of the computer where the Oracle database is located (usually the current computer). Click **Next**.
4. You are prompted to select a network protocol. Select **TCP/IP (Internet Protocol)** and click **Next**.
5. Type the name of the computer where Oracle is located in the **Hostname** field (the same name you typed in step 3). Accept **1521** as the default port number. Click **Next**.
6. Select **Oracle8i or later** as the service name, and type **agile9** in the field. Click **Next**.
7. Click **Test** to test the service.
The test initially fails because the default uses the incorrect login.
8. Click **Change Login** to reset the username and password.
9. Type **agile** in the **Username** field and **tartan** in the **Password** field. Click **OK**.
10. Click **Test**. You should now see a message indicating that the test was successful.
11. Click **Close**.
12. Click **Finish** to exit the Net Service Name Wizard.
13. From the Net Manager menu, choose **File > Save Network Configuration** to save the service name.

Setting Up Automatic Shutdown and Startup for the Database on UNIX

To set up the Oracle database to automatically shut down and start when the host computer starts and shuts down:

1. Log in the system as **root**.
2. Create a file named "dbora" in the /etc/init.d directory:

```
# cat /home/oracle/agile9330db/dbora > /etc/init.d/dbora [Enter]
```
3. Link to the dbora file:

```
# ln -s /etc/init.d/dbora /etc/rc0.d/K10dbora [Enter]  
# ln -s /etc/init.d/dbora /etc/rc2.d/S99dbora [Enter]
```

Setting Up Optional Oracle Functionality

This section describes how to set up Oracle Net Manager and Oracle Enterprise Manager for administrative purposes.

Setting Up Oracle Net Manager

If you use the TNS_ADMIN environment variable to specify the location of Oracle Network Services configuration files (such as tnsnames.ora), move the files located in the \$ORACLE_HOME/network/admin directory to the directory specified by TNS_ADMIN.

To set up Oracle Net Manager on UNIX:

1. Log in as **root** and change the ownership of the /var/opt/oracle directory:

```
# chown -R oracle:dba /var/opt/oracle [Enter]
```
2. Switch to the Oracle user, and change to the \$ORACLE_HOME/network/admin directory:

```
# su - oracle [Enter]
```

```
$ cd $ORACLE_HOME/network/admin [Enter]
```
3. Move all the files to the directory defined by environment parameter TNS_ADMIN, which is /var/opt/oracle:

```
$ mv * /var/opt/oracle [Enter]
```

Configuring Oracle Enterprise Manager

You can use Database Control to perform many database administration and management tasks including SQL performance tuning.

To configure the Oracle network connection:

1. On Windows: Choose **Start > All Programs > Oracle - <ORACLE_HOME> > Configuration and Migration Tools > Database Configuration Assistant**.
On UNIX: Run the command **\$ dbca &**.
The Welcome screen appears.
2. Click **Next**.
3. Choose **Configure Database Options** on the Operations page. Click **Next**.
The Database page appears.
4. Select the agile9 database you just created. Click **Next**.
The Management Options page appears.
5. Check **Configure the Database with Enterprise Manager**. Click **Next**.
The Database Content page appears.
6. Accept the defaults. Click **Next**.
The Database Credentials page appears.
7. Enter a password for the DBSNMP and SYSMAN users. Click **Next**.
The Connection Mode page appears.
8. Select **Dedicated Server Mode**. Click **Finish**.
9. Click **OK** for confirmation. Database configuration begins.

When configuration completes, the Database Control URL displays. Make a note of this URL because it is how you log in to the database.

10. Click **OK** to close the Database Configuration Assistant.
11. Open a web browser and enter the Database Control URL.
12. Type the User Name and Password of the Agile database. Click **Login**.
13. Click **I agree** to accept the license agreement and display the Database Control page.

You have now finished installing and configuring the Agile PLM Database.

Setting Lexer Preference

Based on your installation requirement, you have the option to choose either BASIC lexer or WORLD lexer. The default lexer is BASIC. To overcome FTS limitations related to character searches, customers using the Japanese lexer should change from BASIC to WORLD lexer.

To switch lexer preference:

1. Stop the application server.
2. Run the database installer with the **Generate maintenance scripts** option selected.
3. Edit **recreateagile.bat** to switch the lexer.
Change: agile9_fts_prefs_lexer_basic.sql
To: agile9_fts_prefs_lexer_world.sql
4. Run **recreateagile.bat**.
5. Import customer data.
6. Restart the application server.

Setting up Enterprise Data Quality Product Integration

To set up integration between the Enterprise Data Quality Product and Agile PLM:

1. Enable Oracle JVM.
2. Run the agile9pdq_setup file, located in the \$ORACLE_BASE\admin\SID\create\agile directory.

Database Management

It is important to protect your Agile data and system files from loss. This section describes basic backup and recovery strategies and gives specific information about applying them to your Agile system used with Oracle products.

The instructions in this section are for system and database administrators who need to manage the Agile database.

Database Maintenance

This section provides database maintenance procedures.

Monthly Maintenance

As part of monthly maintenance activities, Oracle recommends the following:

- Rebuilding domain indexes to improve performance.
- Running Averify to check database integrity and tablespace free space.

Checking Database Space Allocation

Checking the tablespace data files in your Oracle database on a monthly basis can help determine how close your database storage is to maximum capacity. If any or all of the tablespaces are at least 90 percent, you should increase the disk space allocation for the specific tablespaces. One method for accomplishing this is to increase the data file size for the corresponding tablespaces, as follows:

1. Check the disk space for the hard drive where the Oracle database is located.
2. If there is less than 500 MB available, it is recommended that you increase disk space by adding to or replacing the hard drive.
3. To check the tablespace data files, start the **Enterprise Manager Console**. The Oracle Enterprise Manager Login dialog box appears.
4. Select **Launch standalone** and click **OK**.
5. Double-click the Databases folder and the name of the database.
6. Log in as follows, and then click **OK**:

Username:system

Password:manager

Service:host name (remote) or blank (local)

Connect As: normal

Note: Type the fully qualified host name of the computer in the **Service** field (or **Host String** in some cases) if you are not logging in on the same computer where you have installed Oracle or if you receive a TNS error message.

7. Under **Storage > Tablespaces**, select **System**, **Temporary**, **Agile_DATA1-5**, and **Agile_INDX1-5**. Determine if the amount of disk space each tablespace is using exceeds 90 percent. Make sure **Agile_INDX4** has enough space for file content index synchronization.

Note: If you need to increase the amount of available disk space, double-click the value in the **Size** field.

8. The Edit Datafile dialog box appears. Increase the amount of available disk space, and then click **OK**.

If possible, you should double the current disk space. If the disk space is not available on the hard drive, you should consider upgrading your hardware.

Note: This is a preventive and proactive measure, but is not required. All Agile tablespaces automatically extend by 10MB whenever additional disk space is needed and available.

Dynamic Versus Static IP Addresses

You can use dynamic IP addresses with "long-term lease" assignments, and static addresses, for Oracle systems. For best results, do not change the host name of computers in the system, and use static IP addresses.

Database Backup

You should institute a routine backup of all file systems on all servers.

Database losses are unfortunate, but they can and do occur. They can result from hardware failures, natural disasters, fire, power surges, and problems with administration and configuration. Whatever their cause, your best protection against business disruption and permanent data loss is an effective backup and recovery plan, applied as automatically as possible.

This chapter introduces several ways to back up and recover data. You will need additional information to adequately administer and protect your database. You may need to do a cost/benefit analysis to determine how often to back up critical data and to justify the labor, hardware, software, and storage costs involved. The following documents may be helpful:

- *Oracle Database Backup and Recovery Basics* (see Oracle Database Backup and Recovery Basics - http://www.oracle.com/pls/db111/portal.portal_db?selected=4&frame=#backup_and_recovery)
- *Oracle Database Recovery Manager User's Guide* (see Oracle Database Backup and Recovery Basics - http://www.oracle.com/pls/db111/portal.portal_db?selected=4&frame=#backup_and_recovery)

- *Oracle Database Concepts* (see Oracle Database Concepts - http://download.oracle.com/docs/cd/B28359_01/server.111/b28318/toc.htm)

Note: The documents are available on the Oracle Technology Network (OTN) Web site <http://www.oracle.com/technetwork/documentation/agile-085940.html>.

You must be a member of the Oracle Technology Network to have access to the site (becoming a member requires simply that you register at the site to gain access).

Backup and Recovery Strategy

When you are planning a backup and recovery strategy, you need to consider the following factors:

- **Database availability**

What is the database availability requirement for business operations? Is it required for 7X24X365 availability or only during standard business hours?

According to the availability requirement, different database backup methods can be adopted. If the database cannot be shut down, a hot online backup is the only choice.

- **ARCHIVELOG and NOARCHIVELOG mode**

A database can run in ARCHIVELOG or NOARCHIVELOG mode. It is a best practice is to have your PRODUCTION database in archive log mode. DEVELOPMENT and TEST environments need not be in archive log mode since they can be refreshed using PRODUCTION.

When the database is in operation, all database changes are recorded in redo log files. If the database is running in ARCHIVELOG mode, these redo log files are archived in the database archive log destination and are referred to as archived redo log files. A database running in ARCHIVELOG mode provides better protection from data loss. It can be recovered up to the point of failure. To perform a hot backup, a database must be running in ARCHIVELOG mode.

The default configuration for the Agile database is NOARCHIVELOG mode. You can change the database to ARCHIVELOG mode following the instructions available in the `initagile9.ora` file. It is recommended that an Oracle DBA or Oracle support be available.

- **Data loss tolerance**

How much data can you afford to lose due to a database malfunction?

Can you afford to lose one day or one week's worth of data if a database malfunctions?
Can you reenter user data if there is a database failure?

If your database cannot tolerate data loss due to failure, then a good data protection backup method must be adopted, such as hot or cold backup using ARCHIVELOG mode.

- **Recovery time**

How much time can you afford to spend recovering from a database malfunction?

Different backup methods have different recovery times. Physical methods for backup and recovery are much faster than logical backups, and backups to disk are much faster than to tape. Recovery is also much faster from disk than from tape.

■ Technical skills

What are the technical skills of your database or systems administrator?

Some backup methods require more database knowledge than others. Standby databases require more technical skill than cold or hot backup.

■ Hardware or software investment

How much hardware or software investment do you want to put into the system?

Some advanced features, such as high availability, require more of an investment in hardware and software.

You can determine the safest backup method for your environment based on database requirements, database running mode, and your recovery scenario (described in the following table). However, the final decisions about the backup and recovery strategy you use are beyond the scope of this chapter. For detailed information to help you make these decisions, see the books listed on the previous page.

Scenario	Backup methods
The database requires 7X24 uptime and cannot be shut down	Hot backup Export Database must be running in ARCHIVELOG mode
The database is available during regular business hours and can be shutdown	Hot backup Cold backup Export Database can running in NOARCHIVELOG or ARCHIVELOG mode
To recover up to the point of failure	Hot backup Cold backup with ARCHIVELOG mode
To recover an individual user or table	Export
For fast recovery	Hot backup Cold backup

Implementing Backup Procedures

For best backup results, follow these guidelines:

- Schedule online backups when there is minimal database access.
- Test your backup strategy to see if it is effective; make changes if any area is weak.
- Plan to save at least one version back; choose to retain enough versions for your business needs.
- Perform database consistency checks just before export or after import.
- Back up the master database before and after it is altered; if you save the original database creation scripts, you can use the same scripts to recreate it.
- For a distributed system, plan on coordinating backup procedures so each site can be backed up individually without destroying the integrity of the data at other sites.

Types of Backups

This section describes the following types of backups:

- Registry file backups
- System backups

- Standby database backups
- Standard database backups

System administrators often perform the first two types of backups, and database administrators (DBAs) perform the last two types of backups.

Performing System Backups

You typically perform a system backup on a small system. You bring down the entire system, including all the programs, data files, and log files. Typically, a system backup is run each night.

To perform a system backup, shut down the system, start it up again in single-user or maintenance mode, then copy system files to tape, as follows:

1. Shut down active applications.
2. Shut down the relational database.
3. Stop the Agile Application Server process.
4. Back up all file systems to an alternate storage device.
5. Start the Agile Application Server process.
6. Start the system in multiuser mode.
7. Restart the database.
8. Restart applications as needed.

Using Standby Databases

The standby database feature maintains a duplicate database of your primary online database at the same location or at a remote site. (Both the standby database and the primary database must be running on the same hardware platform, operating system, and Oracle patch release.) A standby database acts as a backup when it resides locally, and is implemented as part of a database disaster recovery strategy when it resides at a remote site. The standby database has the following features:

- It is copied from the primary or current production database onto a system residing locally or remotely.
- It is mounted, but not open, and is in constant recovery mode.
- Redo log files generated from the primary database can be transported to the standby database, and the standby database can apply these logs to recover the database.
- In the event of a disaster, a standby database can be activated and fully functional as a new production database.

A standby database takes time to set up and configure. For more information on standby databases, see Oracle Data Guard Overview

<http://www.oracle.com/technetwork/deploy/availability/htdocs/DataGuardOverview.html>.

Performing Cold Backups

Cold backups should be done on all the database-related files, including data files, control files, redo log files, the initial parameter file (initagile9.ora), the password file (pwdagile9.ora), and the server parameter file (spfileagile9.ora).

To perform a cold backup on all database-related files:

1. Shut down the database.
2. Use the operating system copy command to copy all of the database data files, the control file, the initial parameter file, the password file, and the archived redo log file (if the database is running in ARCHIVELOG mode) to the backup destination.
3. Restart the database.

Performing Database Backups

Typically, you run a standard database backup daily. Databases backups can be:

- Cold or offline, where the database is shut down before copying database-related files: control files, data files, redo log files, initial parameter file (initagile9.ora), spfileagile9.ora, and password file (pwdagile9.ora). A database running in ARCHIVELOG or NOARCHIVELOG mode can be backed up by a cold backup (NOARCHIVELOG mode permits only cold backups).
- Hot or online, where a backup is performed while the database is open and users are accessing it. To perform a hot backup, a database must be running in ARCHIVELOG mode. When performing a hot backup, the database tablespace must first be put in backup mode, then the data file can be copied by the operating system. Once the data file has been copied, the database tablespace can be placed online again. This allows the database to be backed up tablespace by tablespace. The archived log files must be backed up regularly as these are needed for database recovery.
- A logical backup creates logical copies of database objects in a binary export file. Logical backups use the agile9 database utilities, agile9exp and agile9imp. When performing logical backups, a database must be open and running.

Note: Oracle EXP and IMP utilities do not export the ctxsys account. So, FTS objects will be recreated during an agile9 import.

For best results, you should timestamp backups and generate scripts to perform them automatically using the operating system task schedule command.

Performing Hot Backups

The archived log files must be backed up regularly as these are needed for database recovery.

Database Import and Export

You can import and export a database using either of the following means, based upon your requirement:

- **Oracle Data Pump** - Ideal for very large Agile PLM databases. Enables very fast bulk data and metadata movement between Oracle databases. Uses high-speed, parallel 'expdp' and 'impdp' utilities to move data. The following utilities are included in the Agile PLM installation folder for import/export using Oracle Data Pump:
 - agile9impdp

- agile9expdp
- **Import / Export Utilities-** Ideal for relatively small initial 'schema dumps' and for small databases. Uses the Oracle Database Server 'imp' and 'exp' utilities to move data. The following utilities are included in the installation folder for traditional import/export:
 - agile9imp
 - agile9exp

The import or export procedure for the Agile database remains the same in both cases. Only the utilities called are different, as listed above. These procedures are outlined in the following sections.

The import process broadly includes the following actions:

1. Creating the Agile schema.
2. Organizing the schema.
3. Defining import parameters.
4. Running the import utility.

Creating the Agile Schema and Importing the Database

Before you import, ensure that you have taken a full backup of your Oracle database or of the Agile schema, described in ["Exporting the Database"](#) on page 7-12.

Note: If you are prompted for the service name or host string, you must provide the fully qualified computer name.

To create the Agile schema and import the database on Windows:

1. Confirm that the schema is valid. If you do not already have the maintenance scripts generated, run the database installer with the **Generate database scripts only** option selected, described in ["Creating the Agile Database on Windows"](#). Follow on-screen prompts to complete script generation.
2. Next, to ensure that the schema is organized correctly, type the following in a Command Prompt window:

```
cd oracle\admin\<Oracle_SID>\create\<agile schema user>
recreateagile.bat
```

Note: Running this command will drop the existing Agile schema (if any) and any data that it contains.

3. Check import parameters in the .par file:
 - For traditional import: **agile9imp.par**
 - For Oracle Data Pump import: **agile9impdp.par** and **agile9impdp_seq_trig.par**
 - For more information on these parameters, see ["Import Parameters"](#) on page 7-9.
4. To import the database and recreate indexes and statistics, run the following batch file:
 - For traditional import: **agile9imp.bat**

For Oracle Data Pump import: **agile9impdp.bat**

5. After the batch file finishes running, type **Exit** to close the Command Prompt window.

Note: For file content index synchronization, call Oracle Support Services.

To create the Agile schema and import the database on UNIX:

1. Log in as the user used to install the Oracle database software..
2. Confirm that the database schema is valid.
3. Confirm that the user account name is new.
4. Make a backup of the existing database schema.
5. Change to the oracle user directory:

```
$ cd
```

6. Copy agile9database from the agile9330db directory:

```
$ cp ./agile9330db/agile9database.sh
```

7. Edit the agile9database shell script, and find AGILE=agile.
8. Change agile to the new, unused account name.
9. Save and close the file.

10. Run agile9database:

```
$ chmod u+x agile9database.sh
```

```
$ ./agile9database.sh
```

You are prompted to choose a database size. Enter **D** for demo, **S** for small, **M** for medium, **L** for large, or **X** for extra large, based on how you created the database initially.

The script creates several SQL scripts and Bourne shell scripts in the following directory:

```
$ORACLE_BASE/admin/$ORACLE_SID/create/<agile schema user>.
```

11. When the script finishes running, type the following:

```
$ cd $ORACLE_BASE/admin/$ORACLE_SID/create/<agile schema user>
```

12. Run recreateagile:

```
$ chmod u+x recreateagile.sh
```

```
$ ./recreateagile.sh
```

Note: Running this command will drop the existing Agile schema (if any) and any data that it contains.

13. Check import parameters in the *.par* file:

For traditional import: **agile9imp.par**

For Oracle Data Pump import: **agile9impdp.par**

For more information on these parameters, see "[Import Parameters](#)" on page 7-9.

14. To import the database and recreate indexes and statistics, run the following batch file:

For traditional import: **agile9imp.sh**

For Oracle Data Pump import: **agile9impdp.sh**

15. To import the schema and recreate indexes and statistics, run the following commands:

For traditional import:

```
$ chmod u+x agile9imp.sh
```

```
$ ./agile9imp.sh
```

For Oracle Data Pump import:

```
$ chmod u+x agile9impdp.sh
```

```
$ ./agile9impdp.sh
```

For file content index synchronization, call Oracle Support Services.

Import Parameters

Import parameters are specified within the files listed in the table below. These files are located in the database instance folder along with the import utilities.

agile9imp.par

Parameter

Description

file

The file to import. The dump file schema version must match the latest agile schema version.

log

The import log file.

fromuser

The user account in the file that contains the data that will be imported. **fromuser** must exist in the dump file specified by the file.

touser

The user account where the data is being imported. **touser** must match the current value of %AGILE%; otherwise, importing the data may cause data corruption.

Note: Other parameters such as **indexes**, **rows**, **ignore**, **grants**, **constraints**, and **statistics** specify other import settings. Do not modify these parameters, and these settings should only be used when using the **agile9imp** utility. If a standalone **imp** is used, do not use these settings.

agile9impdp.par

Parameter**Description****directory**

The directory object that identifies the location of the import files.

dumpfile

The dump file to import. The dump file schema version must match the latest agile schema version.

logfile

The import log file.

content

The data to import. The default value is `data_only`. To import to a new schema, first generate maintenance scripts for that schema, run **recreateagile** to create the schema objects, and then add the parameter `remap_schema=<fromuser>:<touser>`.

parallel

The number of import processes that should be run in parallel.

Note This parameter is supported only for Oracle Enterprise Edition. For other versions, this parameter must be removed from the *.par* file.

agile9impdp_seq_trig.par

Parameter

Description

directory

The directory object that identifies the location of the import files.

dumpfile

The dump file to import. The dump file schema version must match the latest agile schema version.

logfile

The import log file.

include

Specifies that sequences and triggers are to be imported.

Deleting an Instance and the Database Files

Before creating a new instance, you must delete the existing instance (such as agile9).

1. Make sure the Oracle Listener and Agile9 services are running. (Agile9 is the Oracle service if your SID is Agile9.)
2. Start the **Database Configuration Assistant**.
3. Select **Delete a Database**, and click **Next**.
The instance you want to delete (Agile9) should appear in the **Available Instances** field.
4. Select the instance.
5. Type the username (**sys**) and password (**oracle**), if necessary.
6. Click **Finish**.

7. You are prompted to confirm the deletion, and then a message appears confirming that the instance has been removed.
8. Confirm that the agile9-related password file, spfile, and init files in the \$ORACLE_HOME/dbs folder on UNIX have been deleted.
9. Confirm that the agile9-related password file, spfile, and init files in the %ORACLE_HOME\database folder on Windows have been deleted.

Note: After dropping a database instance using the Database Configuration Assistant, the TEMP tablespace must be removed manually.

Running SQL Scripts Against the Agile PLM Schema

Important: Before running a script, make sure you have a current backup (export) of your Agile database. For instructions on exporting (creating a DMP backup of your Agile database), refer to your Oracle documentation or Help system.

To run an SQL script against an Oracle database on Windows:

1. Create a new directory called **scripts** under the **oracle\admin\agile9\create\<agile schema user>** directory. Where **agile9** is your Oracle SID.
2. Copy the SQL script to the **scripts** folder.
3. On the computer where Oracle is installed, start SQL Plus in a command prompt window.
4. Type the login ID and password (the defaults are **agile** and **tartan**).
5. Before running the script, create a spool file to record and contain the results from issuing the SQL script. At the SQL prompt type:

spool d:\oracle\admin\agile9\create\<agile schema user>\scripts\<file name>.lst For example: **spool d:\oracle\admin\agile9\create\<agile schema user>\scripts\averifyresults.lst**

Note: The file with the LST extension is any file name that you want to use to identify the file that will contain these results. It is best and easiest to give the LST file the same name as the file name that is attached to the SQL file.

For example, if the SQL file to be run is **oracle_averify90.sql**, then name the spool file **oracle_averify90.lst**. You can also specify a drive or location other than what is shown in the previous example.

The drive and location specified are where the spool file will be saved.

6. Issue the command to run the SQL script by typing the following at the SQL prompt:

@d:\oracle\admin\agile9\create\<agile schema user>\scripts\<file name>.sql For example: @d:\oracle\admin\agile9\create\<agile schema user>\scripts\oracle_averify90.sql

Note: The @ symbol must be typed directly in front of this command line.

The file with the SQL extension is the name of the specific SQL file to be issued against the database. Depending on where the SQL file is located on the server, you will also specify the drive and location, which could be something other than the **d:\oracle\admin\agile9\create\scripts** shown in the example.

Notice the process of the script being executed. When it is complete, there will be an indication of “commit, complete.”

7. At the SQL prompt, type the following: **spool off**
8. Close the SQL Plus window and exit SQL Plus.

Note: In some cases where a change is being made to the database, you may need to stop and restart both Agile services for the change to take effect. If this is necessary, you will be advised at the time the script is provided. In the case of issuing scripts that do not make changes to the database scripts (for example, oracle_averify.sql scripts), restarting the Agile services is not necessary.

9. Locate and open the spool file created in step 5, if necessary.

The file can be opened within an application such as Notepad so that results can be viewed and printed, if necessary.

Exporting the Database

For maximum data security, you should use a cold backup. You can import the Agile schema DMP file whenever you need to restore a database or replicate it on another computer except for file content index synchronization because of its dependence on the file system.

If you are copying or moving the Agile schema to another computer, you need to set up the computer before importing the Agile schema.

You can perform either of the following types of export:

- **Export the Agile schema alone** - This is much faster than exporting the whole database.
- **Full export** - Export all the schemas in the Oracle database.

Important: If you are prompted for the service name or host string during the export, you must provide the fully qualified computer name.

Exporting the Agile Schema from Oracle

To export only the Agile schema on Windows:

1. Ensure that all users are logged off before shutting down the application server.

Note: The following commands use the D drive. If you have installed agile9330db or Oracle on another drive, specify that drive letter.

2. Open a Command Prompt window, and type the following:

d:

cd \oracle\admin\<Oracle SID>\create\<agile schema user>

3. Check export parameters in the *.par* file.

For traditional export: **agile9exp.par**

For Oracle Data Pump export: **agile9expdp.par**

For more information on these parameters, see "[Export Parameters](#)" on page 7-14.

4. To export the database, run the following batch file:

For traditional export: **agile9exp.bat**

For Oracle Data Pump export: **agile9expdp.bat**

To export only the Agile schema on UNIX:

1. Ensure that all users are logged off. The easiest way to do this is to disconnect the server from the network.

2. Change to the directory where the Agile scripts are located:

\$ cd \$ORACLE_BASE/admin/\$ORACLE_SID/create/<agile schema user>

3. Check export parameters in the *.par* file.

For traditional export: **agile9exp.par**

For Oracle Data Pump export: **agile9expdp.par**

For more information on these parameters, see "[Export Parameters](#)" on page 7-14.

4. To export the database, run the following commands:

For traditional import:

\$ chmod u+x agile9exp.sh

\$./agile9exp.sh

For Oracle Data Pump import:

\$ chmod u+x agile9expdp.sh

\$./agile9expdp.sh

The database export takes awhile. When it is complete, open the log file and see if the export was successful. If there were problems, call Oracle Support Services.

You can copy the successful export of expdat.dmp to another secure computer as a backup.

Note: If you cannot export empty tables on version 11.2.0.1.0 of the Oracle database, there are three options to help resolve this problem

:1. Apply a patch to upgrade the database to version 11.2.0.3.0 or later
OR

2. Run ALTER TABLE ALLOCATE EXTENT on each empty table that is not exporting OR

3. Set the deferred_segment_creation parameter to FALSE in the database instance and recreate the schema.

Exporting the Full Oracle Database

To export the full Oracle database on Windows:

1. Ensure that all system users are logged off. The easiest way to do this is to disconnect the server from the network.
2. Open a Command Prompt window.
3. Set the character set:
`NLS_LANG=AMERICAN_AMERICA.AL32UTF8`
4. Type the following text with spaces and a triple set of quotes as indicated (do not press Enter until you have typed the whole text string):

```
exp system/manager full=y file=""<drive>:\Agile9Tmp\<exp_
filename>.dmp"" log=""drive:\Agile9Tmp\<exp_filename>.log""
```

Agile recommends naming the export file expfull.dmp. For example:

```
exp system/manager full=y file=""d:\Agile9Tmp\expfull.dmp""
log=""d:\Agile9Tmp\expfull.log""
```

To export the full Oracle database on UNIX:

1. Ensure that all system users are logged off. The easiest way to do this is to disconnect the server from the network.
2. Enter the following command:

```
$ exp system/manager full=y file=/home/oracle/agile9330db/ <exp_filename>.dmp
log=/home/oracle/agile9330db/<exp_filename>.log
```

Agile recommends naming the export file expfull.dmp. For example:

```
exp system/manager full=y file=/home/oracle/agile9330db/expfull.dmp
log=/home/oracle/agile9330db/expfull.log
```

The database export takes a while. When it completes, open the log file and see if the export was successful. If there were problems, call Agile Technical Support.

You can copy the successful export of expfull.dmp to another secure computer as a backup.

Export Parameters

agile9exp.par

file

The file to export.

log

The export log file.

owner

The user account that contains the data to export.

agile9expdp.par**directory**

The directory object that identifies the location of the import files.

dumpfile

The dump file to export.

logfile

The export log file.

schemas

The names of the schemas to export.

Database Recovery

In the case of failure, database recovery uses a previous database backup to recreate a database that is as complete, accurate, and up-to-date as possible. Database recovery depends on the database backup method. Two backup methods are standard backup and logical backup.

- For standard backup, including cold and hot backup, database recovery requires the use of the operating system copy command to restore backed up data files.

If the database is running in NOARCHIVELOG mode, there are no backed up archive log files. Recovery is to restore a previously backed up data file, control file, initial parameter file, and password file. No redo log files are applied and no database roll forward is needed. In this scenario, a database can be recovered up to the last backup.

If the database is running ARCHIVELOG mode, database recovery is to restore previous backed up database files up to the last archived log files. When recovering a database, these archived log files are applied and the database is rolled forward. In this scenario, a database can be recovered up to the point of database failure.

- For a logical backup, a database recovery involves importing the database or schema from a previous export DMP file. For a logical backup, there is no roll forward involved.

Database recovery can be performed by using Oracle Recovery Manager.

Using Oracle Recovery Manager

You can use the Oracle Recovery Manager to perform an automatic recovery, restore the full database, restore a data file, or restore a control file.

The major advantage for Oracle Recovery Manager (RMAN) is that it can perform incremental database backup and recovery. Incremental backup and recovery is much

faster than a full database backup and recovery, especially for large database systems. RMAN is more complicated to setup compared with a standard backup.