Oracle (PL/SQL)

Lesson 12: Oracle Tools

Lesson Objectives

- To understand the following topics:
  - Various tools provided by Oracle standard installation
  - Use of Oracle tools:
    - to maintain your database
    - to create or repair existing database
    - to install or uninstall oracle software, etc

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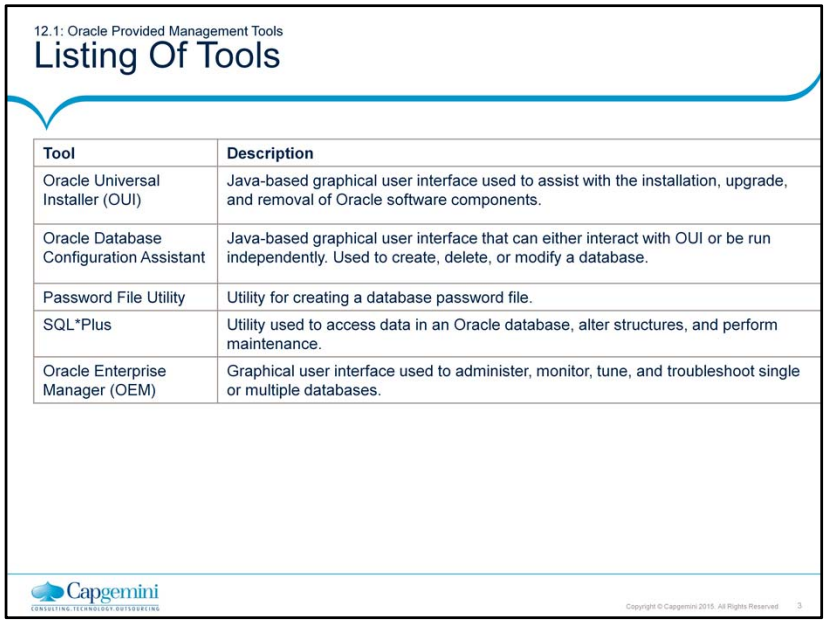


Oracle Provided Management Tools:

Oracle provides many tools to assist both DBAs and developers in accomplishing their jobs in a more effective and efficient manner.

Several tools can be used to help you maintain your databases.

The tools covered by the Oracle exam will be covered in this courseware.

The table shown in the slide provides a list of tools that will be covered, along with a brief description of each.

Key Features of OUI:

Key features of OUI are discussed below:

Unified cross-platform solution:

Java-based Universal Installer offers an installation solution for all Java-enabled platforms allowing for a common “installation flow” and “user experience” independent of the platform.

This provides the ability:

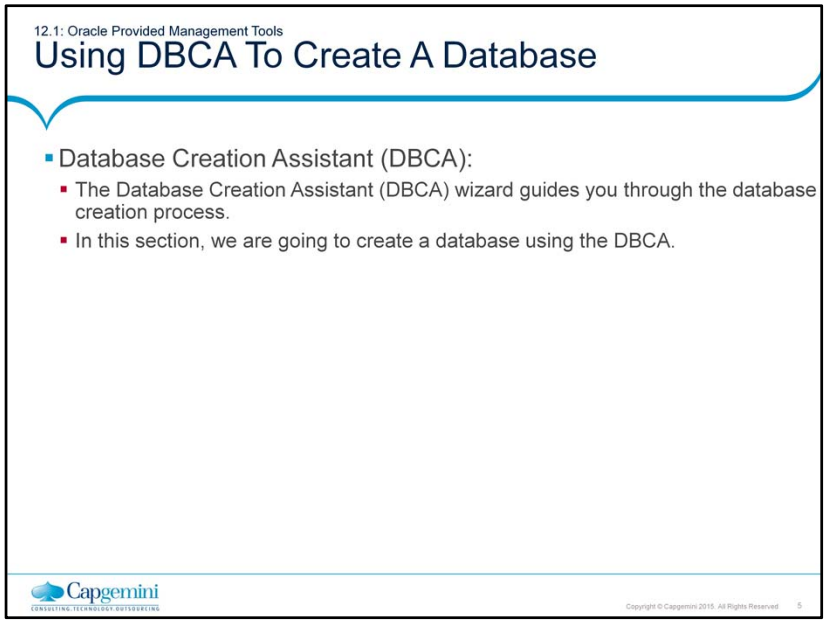
To have the installation of the same Oracle products on different platforms

To look identical

To follow the same path

Key Features of OUI (contd.):

- **Complex component and dependency definition:**
  - The new installation engine automatically detects dependencies among components and accordingly performs an installation, depending on the products and the types of the installation the user has selected.
  - It allows more complex installation flow logic to be defined as consistency checks are performed throughout the installation.
- **Web based installation:**
  - The Universal Installer can be used for the following:
    - To point to a URL where a release / staging area was defined
    - To install software remotely, over HTTP
  - A release media, CDROM, or network stage, can be simply placed on a Web server, and the installer can resolve its products installation definition.
  - The Universal Installer allows an installation session that is identical to a session performed locally.
  - The installer's ability to recognize dependent products already existent on the local target becomes more important in this case of remote installation.
  - If product dependencies with correct version numbers are detected on the local target, then the Installer will not re-install them. This potentially reduces the network traffic during installation.
- **Unattended, "silent" installations using Response Files:**
  - Response Files are collections of variable settings that provide values that would have been otherwise asked to the user.
  - For a particular component installation, the Oracle Universal Installer can read these values from a pre-defined Response File.
- **Implicit de-installation:**
  - The de-installation products, installed by using the Universal Installer, are built into the engine itself. The de-install actions are the "undo" of installation actions.
    - At install time, the Installer logs all the actions it performs to special log files.
    - At de-install time, OUI performs the reverse of all these actions.
- **Multiple Oracle homes support:**
  - Oracle Universal Installer maintains an inventory of all the Oracle Homes on target machines, their names, products, and versions of products installed on them.



Using DBCA to Create a Database:

Database Configuration Assistant (DBCA) provided by Oracle is a graphical configuration tool that simplifies the manipulation of the Oracle database structures. Its “wizard driven interface” hides the complexities involved in creating, altering, or removing existing databases.

DBCA is automatically launched at the end of an Oracle software installation to complete an Oracle working environment. Alternately, it can be launched standalone to create additional databases or alter existing ones.

DBCA simplifies the creation of a database by providing pre-defined database types. It also allows full custom database definition.

Oracle Corporation recommends that you use the DBCA to create your database. This is because the DBCA preconfigured databases optimize your environment to take advantage of Oracle9i features, such as the “server parameter file” and “automatic undo management”.

The DBCA enables you to define arbitrary tablespaces as well as a part of the “database creation process” itself.

Even if you have datafile requirements that differ from those offered in one of the DBCA templates, use the DBCA and modify the datafiles afterwards.

You can also execute user-specified scripts as part of the “database creation process”.

Starting The DBCA

- Starting the DBCA:
  - Choose Start □ Programs □ Oracle OraHome92 (or the user-defined Oracle Home location) □ Configuration and Migration Tools □ Database Configuration Assistant.
    - If you are using Linux or UNIX, you can open DBCA from the command prompt with the simple command 'dbca'.
    - However, prior to doing this step, you may have to set up the following environment variables:
      - $ export ORACLE_HOME= your_installation_directory
      - $ export PATH=$PATH:$ORACLE_HOME/bin
      - $ dbca

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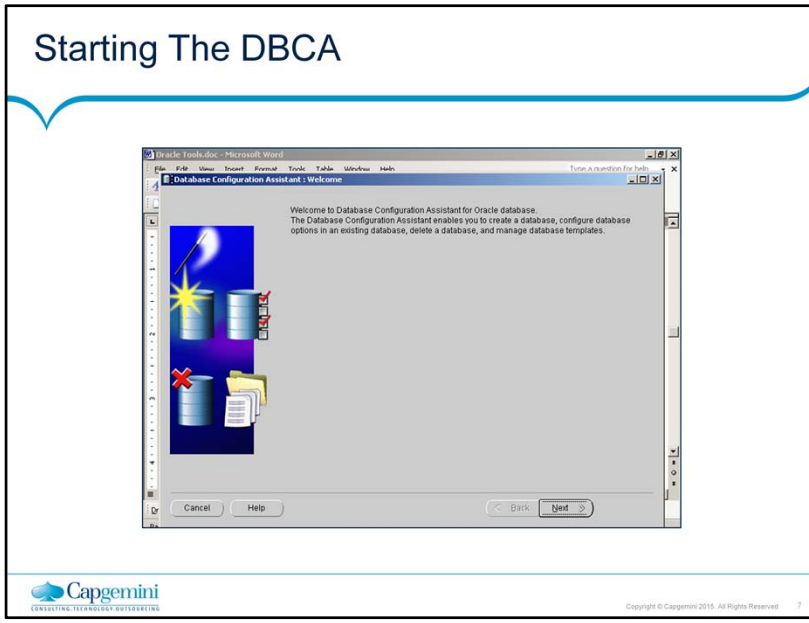


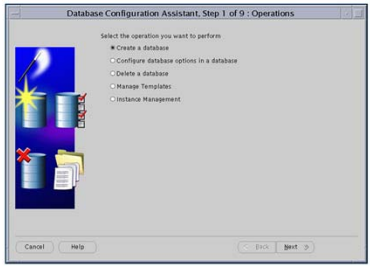
Starting the DBCA:

Once you have selected this option, the Oracle Database Configuration Assistant (DBCA) will start. You can view the DBCA welcome screen.

Simply press the NEXT button, and you will see the first of several screens that will guide you through the database creation. The first screen is shown in the above slide.

Deciding The Kind Of Database

- Deciding the kind of Database to be created:
  - Notice that the DBCA can perform several functions:
    - Creation of a database
    - Configuration of database options
    - Removal of a database
    - Management of database templates



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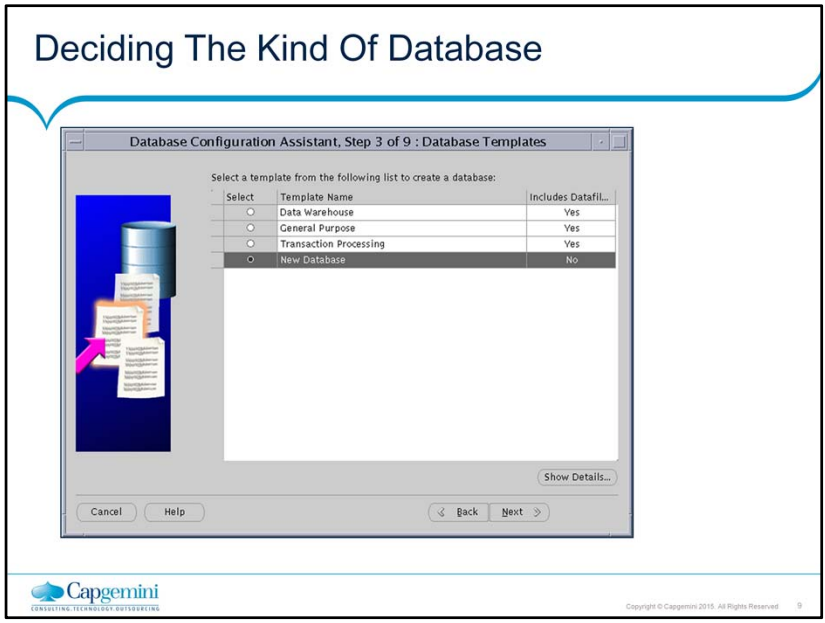


Deciding the Kind of Database to be created (contd.):

Once you select the option, you will see the next screen that asks about the kind of database that is required to be created.

Again, Oracle gives us a number of options as follows:

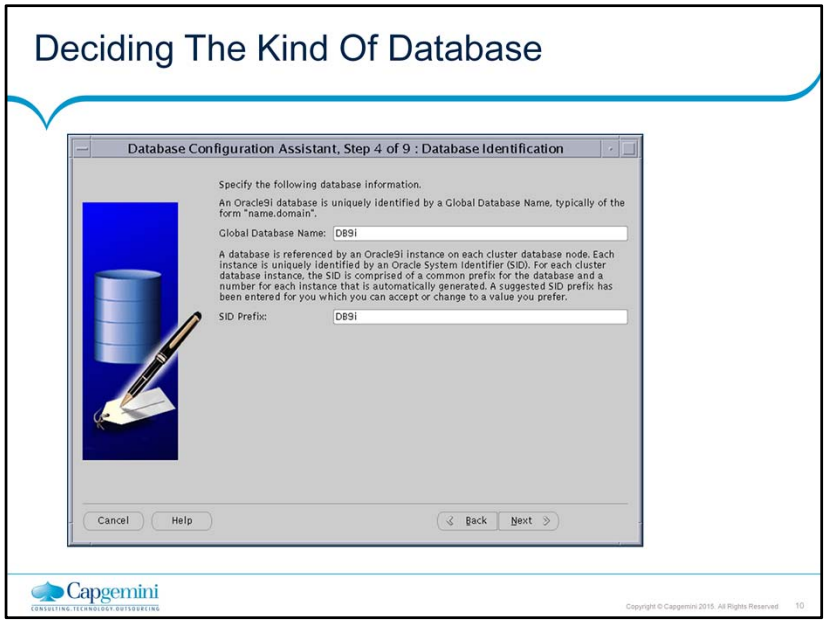
- Creation of a custom database without a template
- Creation of a data warehouse, such as, database from a template
- Creation of a general purpose, such as, database from a template
- Creation of a transaction processing database from a template

In our case, we will choose to create a general purpose database.

- If we select a “data warehouse” or “transaction processing database”, we will find that the database creation process is much the same as the one we are about to go through.

The next screen asks for our “global database name” and the “database SID (System Identifier)”.

- In our example, we call our database DB9i.



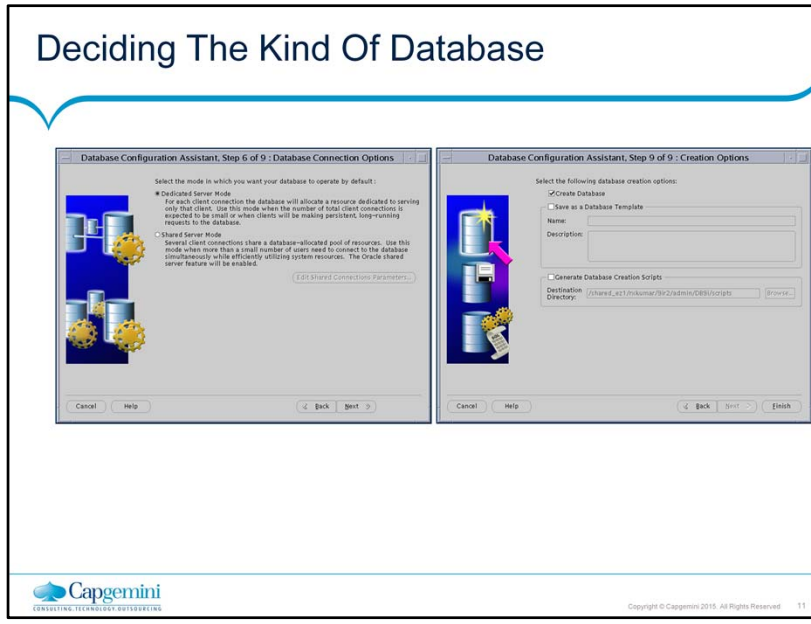
Deciding the Kind of Database to be created (contd.):

Note:

After you click Next:

If you have selected the New Database template, then the DBCA displays the Database Features page.

If you have selected one of the other preconfigured database options, then after you click Next the DBCA displays the Initialization Parameters page.



Deciding the Kind of Database to be created (contd.):

Note:

After you click Next, the DBCA displays the Creation Options page shown on the slide.

Review the information on the “Summary dialog”, and click OK.

To discontinue database creation, click Cancel.

If you click OK, then the DBCA displays database creation progress indicators.

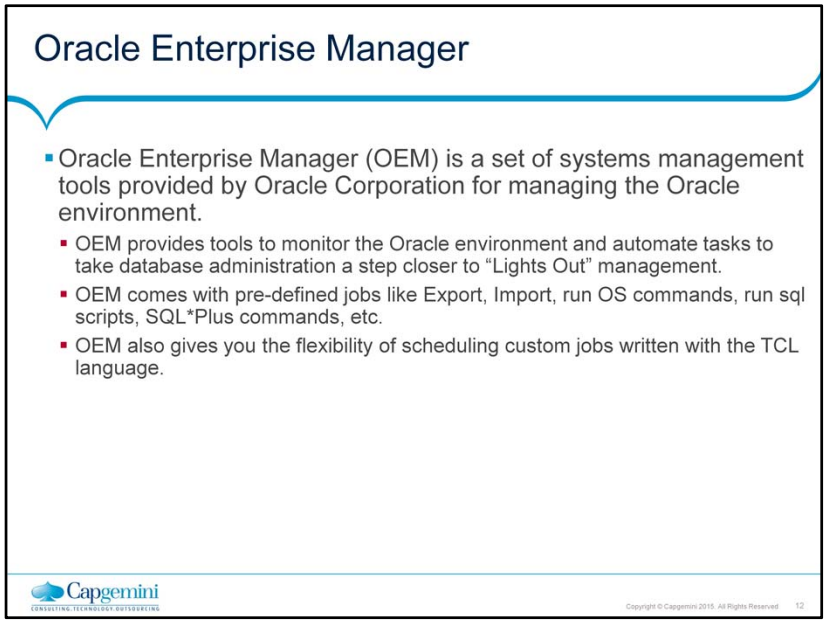
At this point in the database creation process, you have:

Created an operative database.

Configured the network for the cluster database.

Started the services if you are on a Windows NT or Windows 2000 platform.

Started the listeners and database instances.


Oracle Enterprise Manager
Oracle Enterprise Manager (OEM) is a set of systems management tools provided by Oracle Corporation for managing the Oracle environment.
OEM provides tools to monitor the Oracle environment and automate tasks to take database administration a step closer to “Lights Out” management.
OEM comes with pre-defined jobs like Export, Import, run OS commands, run sql scripts, SQL*Plus commands, etc.
OEM also gives you the flexibility of scheduling custom jobs written with the TCL language.
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12.2: Oracle Enterprise Manager

Components Of OEM

- Oracle Enterprise Manager (OEM) has the following components:
  - Management Server (OMS):
    - OMS handles communication with the intelligent agents.
    - The OEM Console connects to the management server to monitor, and configure the Oracle Enterprise.
  - Console:
    - Console is a graphical interface from where one can schedule jobs, events, and monitor the database.
    - Console can be opened from a Windows workstation, Unix XTerm (oemapp command), or Web browser session (oem_webstage).

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Components Of OEM

- Intelligent Agent (OIA):
  - OIA runs on the target database, and takes care of the execution of jobs and events scheduled through the Console.

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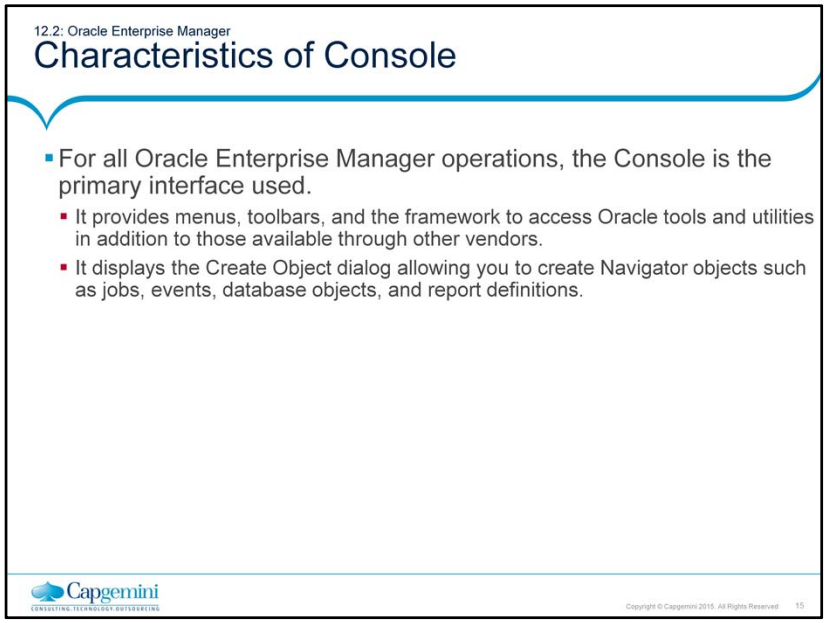


Note:

Launching the Console standalone allows a single administrator to perform simple database schema, instance, storage, security, and other database tasks by connecting directly to the target database(s).

Launching standalone does not require a middle tier “Management Server” or “Intelligent Agents” on target machines.

Consequently, when you launch the Console standalone, you do not have access to functionality typically available through the Management Server and Intelligent Agent, such as:

Management of several different target types (e.g. database, web server, application server, applications, etc.)

Sharing of administrative data among multiple administrators.

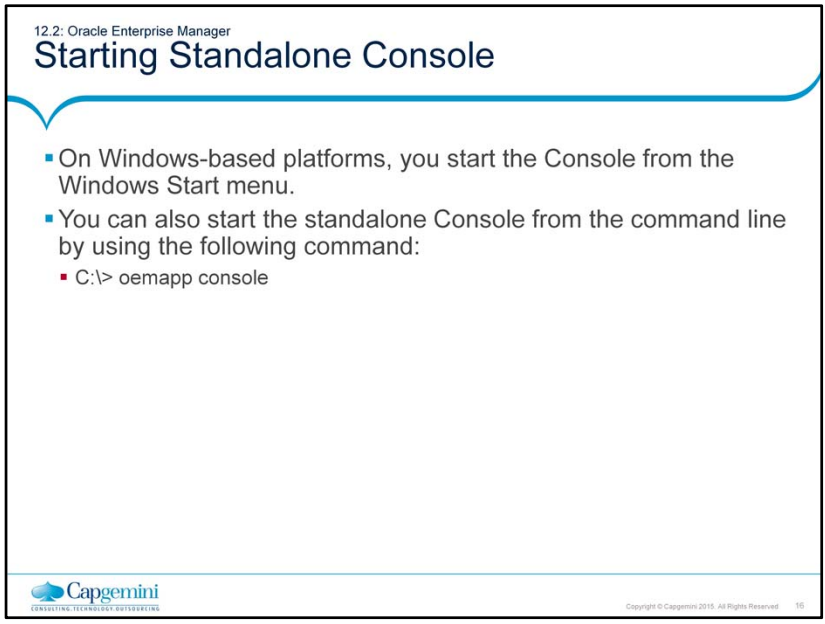
Proactive notification of potential problems

Automation of repetitive administrative tasks

Backup and data management tools

Customization, scheduling, and publishing of reports

Running the client from within a web browser


12.2: Oracle Enterprise Manager
Starting Standalone Console
On Windows-based platforms, you start the Console from the Windows Start menu.
You can also start the standalone Console from the command line by using the following command:
C:\> oemapp console
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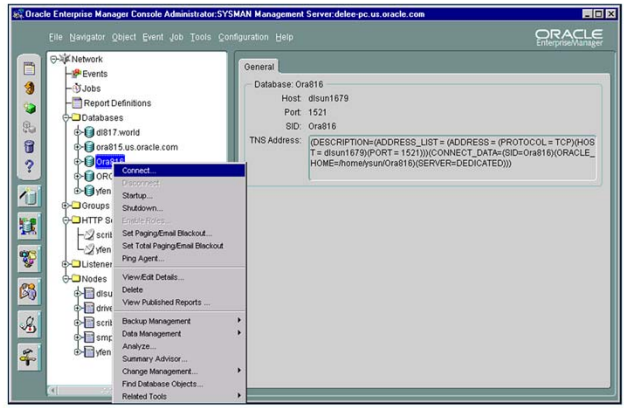
12.2: Oracle Enterprise Manager

OEM Console Login - Process

OEM Console Login - Process



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Summary

- In this lesson, you have learnt about:
  - Various Management tools provided in Oracle, namely:
    - Oracle Enterprise Manager (OEM): It is a set of systems management tools provided by Oracle Corporation for managing the Oracle environment.

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Review Question

- Question 1: OEM is a set of systems management tools for managing the Oracle environment
  - True / False
- Question 2: Launching OEM standalone does require a middle tier Management Server or Intelligent Agents on target machines.
  - True/False

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