

## **Chapter 1: Oracle Architecture Overview**

---

### **TRUE/FALSE**

1. The Oracle Universal Installer keeps log records on your computer of previous installation activity.

ANS: T                      PTS: 1                      REF: 15

2. Oracle has standardized its software so that it looks and acts identically at the user interface level on all platforms.

ANS: T                      PTS: 1                      REF: 2

3. Oracle customized its software release on each platform at the lowest levels to optimize performance based on each platform's characteristics.

ANS: T                      PTS: 1                      REF: 2

4. If you are upgrading from an earlier version to Oracle10g, you need to install the Oracle10g database with the pre-configured settings.

ANS: F                      PTS: 1                      REF: 3

5. Only one database can be managed within OEM.

ANS: F                      PTS: 1                      REF: 4

6. SQL\*Plus accepts standard SQL, with all the Oracle enhancements to SQL, such as the TO\_DATE function.

ANS: T                      PTS: 1                      REF: 4-5

7. The combination of database software, a database (the files), and a database instance (the SGA and the background processes) is called a database agent.

ANS: F                      PTS: 1                      REF: 6

8. Clustered servers are complex to manage, but supply increased computing power for applications that require speed for processing massive amounts of data, or complex calculations, such as astronomy or physics applications.

ANS: T                      PTS: 1                      REF: 7

9. A COM component is typically a Microsoft Windows acronym for a self-contained, executable, compiled binary chunk of code.

ANS: T                      PTS: 1                      REF: 9

10. In a typical Oracle10g application system, the middle tier contains the Oracle10g database server.

ANS: F                      PTS: 1                      REF: 11

11. In a typical Oracle10g application system, the data tier contains the application server.  
ANS: F                      PTS: 1                      REF: 11
12. In a typical Oracle10g application system, the user tier includes a browser.  
ANS: T                      PTS: 1                      REF: 11
13. The client configuration is a combination of the user interface tier and the application server tier.  
ANS: T                      PTS: 1                      REF: 12
14. The Oracle 10g Standard Edition for servers can be upgraded with database features, such as partitioning and clustering.  
ANS: F                      PTS: 1                      REF: 13
15. A single machine cannot contain more than one value for ORACLE\_HOME.  
ANS: F                      PTS: 1                      REF: 16
16. ORACLE\_HOME contains a bin directory that holds most of the executables.  
ANS: T                      PTS: 1                      REF: 20
17. The OFA standards call for naming files according to their type and sequence of creation.  
ANS: T                      PTS: 1                      REF: 20
18. You cannot rename the files that Oracle creates (for example, the files created when you allow the installation to create a predefined database for you).  
ANS: F                      PTS: 1                      REF: 20
19. The primary purpose of the OFA naming standards is to speed up the process of identifying files.  
ANS: T                      PTS: 1                      REF: 21
20. A tablespace may use only one datafile.  
ANS: F                      PTS: 1                      REF: 21
21. The OFA naming standards are only recommendations, not requirements.  
ANS: T                      PTS: 1                      REF: 20
22. OFA provides standards intended to improve performance of the database by, among other things, spreading I/O functions across separate devices by separating data from software.  
ANS: T                      PTS: 1                      REF: 18
23. A unique feature of the Oracle Universal Installer is its ability to install several versions of Oracle software on a single machine by setting up a separate directory structure for each version and its software components.

ANS: T                      PTS: 1                      REF: 16

24. If you install upgrades or enhancements, the Oracle Universal Installer re-installs any previously existing subcomponents.

ANS: F                      PTS: 1                      REF: 15

25. When installing Oracle10g on Windows 2000, you should not install Service Pack 3 before installing the Oracle software because it has some incompatibility issues with Oracle.

ANS: F                      PTS: 1                      REF: 13

## MULTIPLE CHOICE

1. The SQL\*Plus executable file in a Windows installation is \_\_\_\_.
- a. sql.exe
  - b. sqlplus.exe
  - c. sqlp.exe
  - d. plus.exe

ANS: B                      PTS: 1                      REF: 17

2. The Oracle Universal Installer defines the ORACLE\_HOME directory in the Unix environment variables, or in \_\_\_\_.
- a. Windows Registry entries
  - b. Windows environment variables
  - c. Windows hidden files
  - d. Windows .inf files

ANS: A                      PTS: 1                      REF: 16

3. The Runtime client-side installation option installs basic tools and connectivity features such as Oracle \_\_\_\_.
- a. Application Server
  - b. Financials
  - c. JDeveloper
  - d. Net Services

ANS: D                      PTS: 1                      REF: 14

4. The company called \_\_\_\_ offers a complete graphic information system software solution for computer-generated maps that stores all its data in your Oracle10g database.
- a. GIS
  - b. ESRI
  - c. Sybase
  - d. Symantec

ANS: B                      PTS: 1                      REF: 2

5. The \_\_\_\_ engine included with the Oracle software provides a specialized programming language you can use for creating triggers, packages, and procedures.
- a. ODBC
  - b. SQL
  - c. PgSQL
  - d. PL/SQL

ANS: D                      PTS: 1                      REF: 3

6. The \_\_\_\_ engine allows you to store, parse, and execute Java applets, servlets, and stored procedures within the database.
- a. JVM
  - b. JDeveloper
  - c. JBoss
  - d. SQLJ

ANS: A                      PTS: 1                      REF: 3

7. The Oracle \_\_\_\_ tool provides the network link between the Oracle10g database and most applications that communicate with the database.
- a. Application Server
  - b. Financials
  - c. JDeveloper
  - d. Net Services

ANS: D                      PTS: 1                      REF: 3

8. If you are running Enterprise Manager, SQL\*Plus, Forms, or non-Oracle products, Oracle \_\_\_\_ is the gateway into the database.
- a. Application Server
  - b. Financials
  - c. JDeveloper
  - d. Net Services

ANS: D                      PTS: 1                      REF: 3

9. The \_\_\_\_ tool allows you to create and run queries, add rows, modify data, and write reports using SQL.
- a. PL/SQL
  - b. SQL\*Plus
  - c. Forms
  - d. SQLJ

ANS: B                      PTS: 1                      REF: 4

10. \_\_\_\_ is the typical configuration for an Oracle10g database.
- a. Single-instance server
  - b. Multiple-instance server
  - c. Clustered servers
  - d. Application server

ANS: A                      PTS: 1                      REF: 8

11. If you install Oracle10g Enterprise Edition, Standard Edition, or Personal Edition and choose to have a predefined database created on installation, the database is configured in \_\_\_\_ mode.
- a. single-instance server
  - b. multiple-instance server
  - c. shared server
  - d. dedicated server

ANS: D                      PTS: 1                      REF: 8

12. The Oracle \_\_\_\_ package encrypts outgoing data before it goes onto the network or across the Internet.
- a. Online Analytical Processing
  - b. Label Security
  - c. Advanced Security
  - d. Database Extensions for .NET

ANS: C                      PTS: 1                      REF: 9 | 10

13. The term multi-tier, also referred to as \_\_\_\_, means that the data, processing, and user interfaces are divided into separate areas that are fairly independent of one another.
- a. n-tier
  - b. grid computing
  - c. client/server
  - d. peer-to-peer

ANS: A                      PTS: 1                      REF: 11

14. \_\_\_\_ is a valid client installation configuration.
- a. Personal
  - b. Runtime
  - c. Standard
  - d. Enterprise

ANS: B                      PTS: 1                      REF: 12

15. \_\_\_\_ is a valid client installation configuration.
- a. Personal
  - c. Standard

b. Administrator d. Universal

ANS: B PTS: 1 REF: 12

16. Oracle executable files are stored in a directory tree referred to as \_\_\_\_.
- a. BASE c. HOME
  - b. ORACLE\_BASE d. ORACLE\_HOME

ANS: D PTS: 1 REF: 16

17. All Oracle software files and database storage files reside on subdirectories under \_\_\_\_.
- a. BASE c. HOME
  - b. ORACLE\_BASE d. ORACLE\_HOME

ANS: B PTS: 1 REF: 18

18. A \_\_\_\_ file is an administrative file containing up-to-date information on the database structure, log files, checkpoints; critical file for opening the database.
- a. redo log c. control
  - b. datafile d. tablespace

ANS: C PTS: 1 REF: 21

19. A \_\_\_\_ file records changes to database data.
- a. redo log c. control
  - b. datafile d. tablespace

ANS: A PTS: 1 REF: 21

20. A \_\_\_\_ is a physical file on the computer disk containing data, such as tables and indexes.
- a. redo log c. control
  - b. datafile d. tablespace

ANS: B PTS: 1 REF: 21

21. On Windows, the default ORACLE\_HOME for an Oracle10g, Release 2, database server installation is \_\_\_\_.
- a. C:\oracle\product\10.2.0\db 1 c. C:\oracle10\product\release2.0\db 1
  - b. C:\oracle\home\10.2.0\db 1 d. C:\oracle10g\home\release2.0\db 1

ANS: A PTS: 1 REF: 19

22. The <database name> is usually stored as the \_\_\_\_ environment variable.
- a. ORACLE\_DB c. ORACLE\_DNAME
  - b. ORACLE\_NAME d. ORACLE\_SID

ANS: D PTS: 1 REF: 19

23. Current database files are stored in \_\_\_\_/<database name>.
- a. DB c. Oradata
  - b. Datafiles d. Data

ANS: C PTS: 1 REF: 19

24. In Windows, the default ORACLE\_BASE directory is \_\_\_\_.
- a. C:\oracle\product\10.2.0 c. C:\oracle10\product\release2.0
  - b. C:\oracle\base\10.2.0 d. C:\oracle10g\home\release2.0

ANS: A                      PTS: 1                      REF: 18

25. On Windows, to run the Universal Installer in SILENT MODE, you can enter the following command in the directory in which Universal Installer resides:

\_\_\_\_\_ -responseFile <filename> -silent

- |                  |                     |
|------------------|---------------------|
| a. installer.exe | c. setup.exe        |
| b. install.exe   | d. runInstaller.exe |

ANS: C                      PTS: 1                      REF: 17

## COMPLETION

1. RDBMS stands for \_\_\_\_\_.

ANS: Relational Database Management System

PTS: 1                      REF: 1

2. JVM stands for \_\_\_\_\_.

ANS: Java Virtual Machine

PTS: 1                      REF: 3

3. Oracle \_\_\_\_\_ must be configured to define ports and the protocols allowed to send and receive data for each database in your network.

ANS: Net Services

PTS: 1                      REF: 3

4. OEM stands for \_\_\_\_\_.

ANS: Oracle Enterprise Manager

PTS: 1                      REF: 4

5. \_\_\_\_\_ is a Web-based form of SQL\*Plus.

ANS: iSQL\*Plus

PTS: 1                      REF: 5

6. \_\_\_\_\_ (such as Pro\*COBOL and Pro\*C) support embedded SQL commands within programs in C, C++, or COBOL.

ANS: Pre-compilers

PTS: 1                      REF: 5

7. The Oracle database has three types of files: control files, database files, and \_\_\_\_\_ log files.

ANS: redo

PTS: 1 REF: 5

8. To use the Oracle database, you start up a database instance, which allocates \_\_\_\_\_ for the database (called the System Global Area, or SGA) and starts up a set of background processes.

ANS: memory

PTS: 1 REF: 5

9. RAC stands for \_\_\_\_\_.

ANS: Real Application Clusters

PTS: 1 REF: 7

10. OLTP stands for \_\_\_\_\_.

ANS: Online Transaction Processing

PTS: 1 REF: 9

11. JDM stands for \_\_\_\_\_.

ANS: Java Data Mining

PTS: 1 REF: 9

12. OLAP stands for \_\_\_\_\_.

ANS: Online Analytical Processing

PTS: 1 REF: 10

13. The Enterprise \_\_\_\_\_ provides an option for the database administrator to reach the database from a remote computer.

ANS: Manager

PTS: 1 REF: 12

14. Regardless of which installation option you select, the Oracle \_\_\_\_\_ Installer handles the job.

ANS: Universal

PTS: 1 REF: 15

15. The Oracle Universal Installer provides a(n) \_\_\_\_\_ MODE of installation that enables you to run an installation without any human intervention.

ANS: SILENT

PTS: 1 REF: 17

16. The \_\_\_\_\_ (OFA) brings standard conventions to the directory structure and filenames for your Oracle software.

ANS: Optimal Flexible Architecture

PTS: 1 REF: 18

17. \_\_\_\_\_ redo logs record changes immediately.

ANS: Online

PTS: 1 REF: 21

18. \_\_\_\_\_ redo logs contain copies of current and past redo logs for recovery if needed.

ANS: Archive

PTS: 1 REF: 21

19. Each datafile belongs to one \_\_\_\_\_ in a database.

ANS: tablespace

PTS: 1 REF: 21

20. A(n) \_\_\_\_\_ allows grouping of datafiles within an Oracle database.

ANS: tablespace

PTS: 1 REF: 18

21. The Oracle Universal Installer can be used to install applications that you write by preparing an installation script with the optional Oracle package called the \_\_\_\_\_.

ANS: Software Packager

PTS: 1 REF: 17

22. On Windows platforms, you assign a name to each Oracle Home directory and use a feature called Home \_\_\_\_\_ to change the current target.

ANS: Selector

PTS: 1 REF: 16

23. The client-side \_\_\_\_\_ installation option is intended primarily for programmers who are developing applications on their own client machines while using a remote database as the connection to the database.

ANS: Runtime

PTS: 1 REF: 14



24. The client-side \_\_\_\_\_ installation option provides the user management tools, including the Enterprise Manager, to provide remote management of multiple databases.

ANS: Administrator

PTS: 1 REF: 14

25. The server-side \_\_\_\_\_ Edition installation option provides basic support for multi-user database applications on a smaller scale than that of the Enterprise Edition.

ANS: Standard

PTS: 1 REF: 13

## ESSAY

1. What does the Oracle10g RDBMS software suite include?

ANS:

The Oracle10g RDBMS software suite (referred to as *Oracle10g* throughout the book) includes everything you need to build and maintain a relational database. The basic software runs the database engine, manages the data storage for all information in the database, and provides tools to manage users, tables, data integrity, backups, and basic data entry. The basic software includes additional tools and utilities that help you monitor the performance and security of the database.

PTS: 1 REF: 2

2. Describe the Java/Web features of the Oracle10g suite.

ANS:

There are a number of different programs and tools installed with your Oracle10g database to support Web and database integration. These tools include a fully functioning Apache Web server containing the following: modules that hook into the database; database packages to support XML input and output; a pre-compiler for SQLJ (Java code with embedded SQL commands); and a gateway for PL/SQL to allow HTML documents to be delivered directly from the database to the user.

PTS: 1 REF: 3-4

3. Describe the OEM wizards feature of the Oracle10g suite.

ANS:

These are sets of related tools, wizards, and assistants that are added as a group to the Enterprise Manager console. The Standard Pack that comes with your Oracle10g installation includes management tools for creating users, creating tables and objects, and administering storage space. The Database Control and Grid Control provide more sophisticated Enterprise Manager Web-based access in Oracle10g.

PTS: 1 REF: 4

4. What is the Oracle10g Personal Edition? What is it usually used for?

ANS:

The Personal Edition, which is an Oracle10g server-side installation option, allows access by a single user to the database instance. Two primary uses for the Personal Edition are:

- Programming: The programmer develops applications that run on the Personal Edition database and then are moved to an Enterprise Edition instance.
- Deployment: A company develops and distributes an application/database package for use by single users.

For programming, the Personal Edition is fully compatible with the Enterprise Edition, so software developed using Personal Edition can be ported to the Enterprise Edition without modification. The Personal Edition can be installed on all platforms available to the Enterprise and Standard Editions.

PTS: 1

REF: 14