Oracle is a DataBase software / DB Tool / Backend Tool / RDBMS (O RDBMS) product from “Oracle corporation” in 1979 which is used to store data (or) information permanently unless deleted by user.

Larry Ellison and team started consultancy software development in 1977 , which became RSI in 1983 and later to Oracle Corporation

In 1979 RSI introduced Oracle V2 ( version 2 ) as the first commercially available SQL – based RDBMS

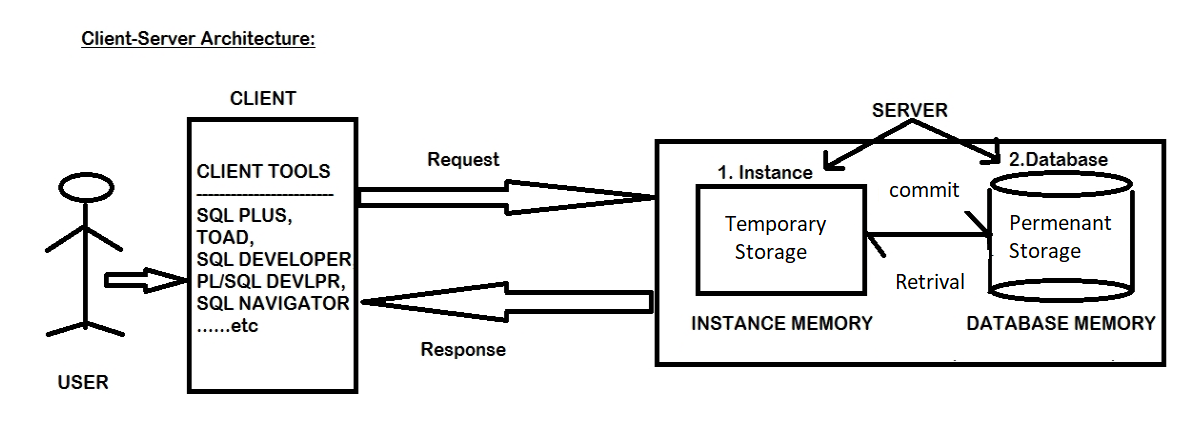
It is one of the most popular ORDBMS in IT market for storing , organizing and retrieving data.

Oracle is a platform-independent RDBMS product. It means it can be deployed (install) in any OS like Windows, Linux, Unix, Mac, etc.

Editions of Oracle :

* **Enterprise Edition:**  It offers all features, including superior performance and security.
* **Standard Edition:** It provides the base functionality for users that do not require Enterprise Edition's all features .
* **Express Edition (XE):** It is the lightweight, free and limited Windows, and Linux edition.
* **Oracle Lite:** It is designed for mobile devices.
* **Personal Edition:** It's comparable to the Enterprise Edition but without the Oracle Real Application Clusters feature.

Oracle Client Server Architecture :



When we install Oracle software internally two components are installed.

1. Oracle Client
2. Oracle Server

**Oracle Client:**

By using the Oracle Client tool user can perform the following three operations.

1. Users can connect to the oracle server
2. Users can send requests to the oracle server
3. Users can receive responses from the oracle server.

Example: SQL Plus, Toad, SQL Developer, SQL Navigator, etc.

**Oracle Server:**

Oracle Server manages two more sub-components internally. Those are as follows.

1. Instance
2. Database

The instance will act as temporary memory which will be allocated from the ram and store data/information temporarily whereas a database is a permanent memory that will be stored in the database .

1. In the first step connect to the server with the login credentials .
2. Write any sample query and execute that . it will be stored temporarily in the instance memory . now if user disconnects , then the data will be lost. Then the user has to login again and do the operations again.
3. To avoid data loss , the data should be moved from instance to database using the command “commit” . once the data is moved to database , it is stored permenantly unless it is removed / deleted by the user.
4. The operations can be performed whenever the user wants.

Is SQL Plus and SQL same ?

SQL Plus is a client tool introduced by Oracle, that is used to connect to the sever ( database ) ,request any data and get response.

While SQL is a language used to communicate with the database .

So for connecting with Oracle database SQL Plus is used and to communicate with that database SQL is used.

Note : in oracle username is not case-sensitive but password is case sensitive

Connecting with the database

1. Open SQL plus and give the username and password . by default the password is not visible to user .
2. If you want to see the password while connecting use “ conn ” command and execute/ press enter

* Syntax : username/password

Problem -1 : During the login sometimes “ORA – 12560 : TNS : protocol adapter error” may arise , to solve this

* Go to services
* Navigate to oracleserviceORCL
* Select the startup and make it “automatic”
* Click on start and ok.

Problem -2 : ORA-28000 : this account is locked.

If this error arises login as system dba administrator

To login as system dba administrator use command

* “\sys as sysdba” in the user name and give the password .
* To lock / unlock a user in the oracle database server

Syntax : ALTER USER <username> ACCOUNT LOCK/UNLOCK;

Note : generally installing oracle DB and creating user is done by DBA Administrators in IT sector . just login credentials are given to the DBdeveloper .

To create a new user and password in oracle DB

Syntax :

CREATE USER <username> IDENTIFIED BY <password> ;

If user tries to login to that account this error may occur

ORA-01045 : user username lacks CREATE SESSION privilege ; login denied

**Note:** User is created but doesn’t permission to connect and create new tables in the database. So, permissions must be given to the user by using the “grant” command by dba(system). Every user in the oracle server is called “schema”.

**Granting Permissions to User in Oracle Database:**

We need to use the Grant command to give permission to the user. The syntax is given below.

**Grant Connect, Resource to username;**

Here,

1. **Connect** => to connect to oracle database
2. **Resource** => to create new tables in the database.

To grant permission login as system user.

Syntax:

GRANT RESOURCE,CONNECT TO username;

While granting permission this error might occur the solution is given below

ORA-65096: invalid common user or role name

SQL> ALTER SESSION SET "\_ORACLE\_SCRIPT" = TRUE;

Even after permission are given tablespace permission is not given to user , so it gives following error.

ORA-01950: no privileges on tablespace 'USERS'

Syntax : GRANT UNLIMITED TABLESPCE TO USERNAME;

To change password for the account

Syntax: PASSWORD

Old password :

New password :

Provide old and new password.

If the password if forgotten to create a new password

Login as admin and use command

Syntax : ALTER USER <username> IDENTIFIED BY <new\_password>

To drop the user login as system user

Syntax : DROP USER username;

If this error occurs

ORA-28014: cannot drop administrative user or role

Syntax : ALTER SESSION SET “\_ORACLE\_SCRIPT” = TRUE;

Then perform drop command

Syntax : DROP USER username;

If again this error occurs

ORA-01922: CASCADE must be specified to drop 'PRACTICE'

Use drop user with cascade at the end of the command

Syntax : DROP USER username CASCADE;

When we want to display the information/data of a particular table proper systematically then we need to set the following two properties are,

##### ****1) PAGESIZE n:****

The number of rows displayed per page. Here “n” is represented by no. of rows.

By default, a single page displays 14 rows.  
**Syntax: set pagesize n;**  
**Example: set pagesize 100;**

##### ****2) LINES n:****

The number of characters in a single line. Here “n” is representing no. of characters.  
**Syntax: set lines n;**  
**Example: set lines 100;**

SELECT \* FROM ALL\_USERS ;

To exit from sql plus use command “EXIT”

Or

“QUIT”