

# DBMS SQL

## Lesson 2: Basics of SQL



# Lesson Objectives

- To understand the following topics:
  - SQL, rules for SQL Statements, standard SQL Statement groups
  - SQL\*PLUS & iSQLPlus environment





## 2.1: SQL

# What is SQL?

### ➤ SQL:

- SQL stands for Structured Query Language.
- SQL is used to communicate with a database.
- Statements are used to perform tasks such as update data on a database, or retrieve data from a database.
- Benefits of SQL are:
  - It is a Non-Procedural Language.
  - It is a language for all users.
  - It is a unified language.



# What can SQL do?

## ➤ SQL

- allows you to access a database.
- can execute queries against a database.
- can retrieve data from a database.
- can insert new records into a database.
- can delete records from a database.
- can update records in a database.



## 2.1: SQL

# Rules for SQL statements

### ➤ Rules for SQL statements:

- SQL keywords are not case sensitive. However, normally all commands (SELECT, UPDATE, etc) are upper-cased.
- "Variable" and "parameter" names are displayed as lower-case.
- New-line characters are ignored in SQL.
- Many DBMS systems terminate SQL statements with a semi-colon character.
- "Character strings" and "date values" are enclosed in single quotation marks while using them in WHERE clause or otherwise.



## 2.1: SQL

# Standard SQL statement groups

Given below are the standard SQL statement groups:

Groups	Statements	Description
DQL	SELECT	DATA QUERY LANGUAGE – It is used to get data from the database and impose ordering upon it.
DML	DELETE INSERT UPDATE MERGE	DATA MANIPULATION LANGUAGE – It is used to change database data.
DDL	DROP TRUNCATE CREATE ALTER	DATA DEFINITION LANGUAGE – It is used to manipulate database structures and definitions.
TCL	COMMIT ROLLBACK SAVEPOINT	TCL statements are used to manage the transactions.
DCL (Rights)	REVOKE GRANT	They are used to remove and provide access rights to database objects.

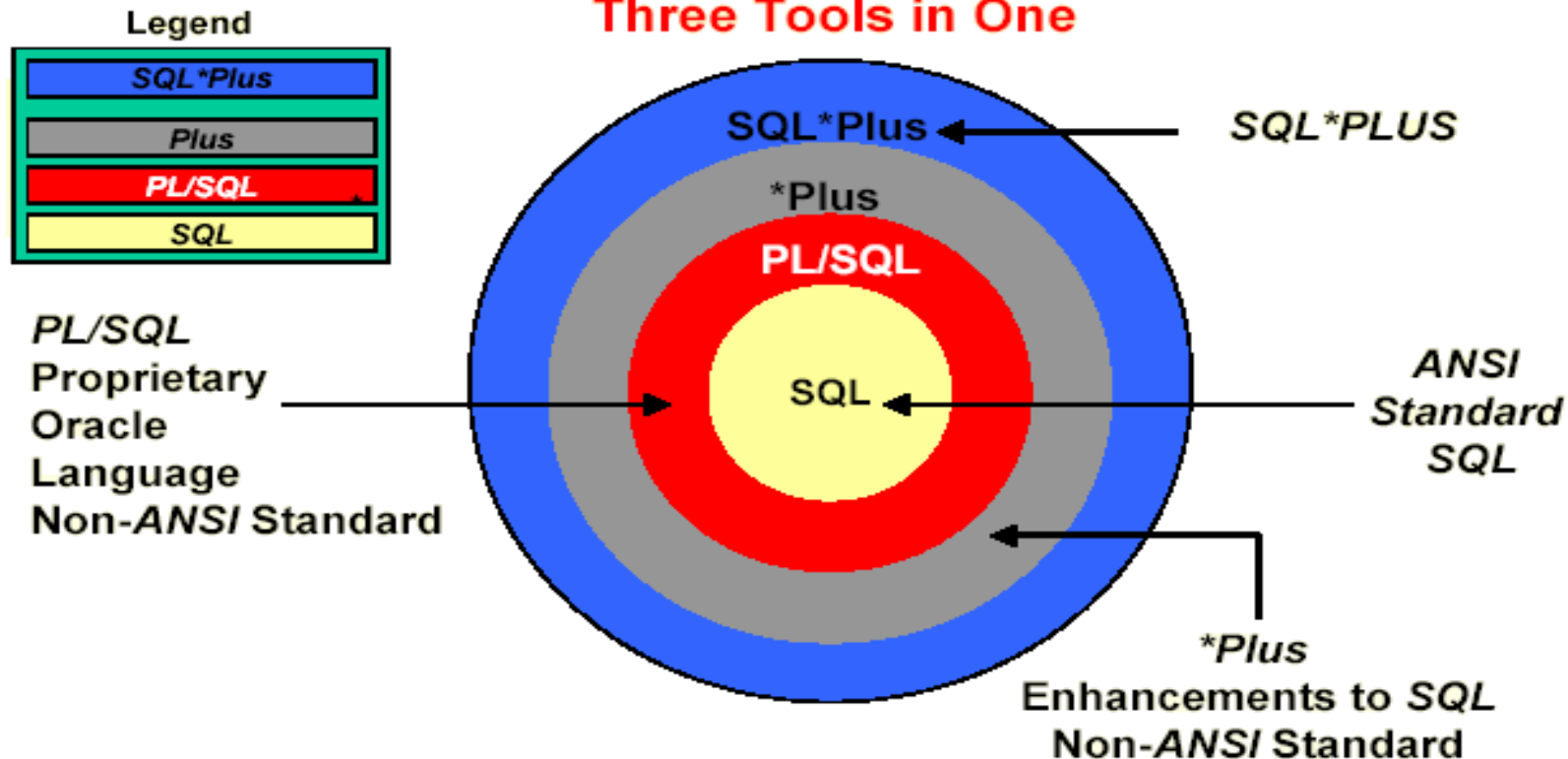


# SQL\* Plus Tool



## **SQL\*Plus** **The Oracle RDBMS Access Tool**

**Three Tools in One**





## 2.2: SQL \* Plus & iSQLPlus Environment

# Logging to Oracle Server using iSQLPlus

➤ To log into the iSQL\*Plus environment:

- In the Windows browser, type the URL in the address field. The user will be directed to iSQL\*Plus environment screen.

The screenshot shows a Netscape browser window with the following elements:

- Browser Interface:** Includes buttons for Back, Forward, Reload, Home, Search, Netscape, Print, Security, Shop, and Stop. The address bar shows the URL `http://ngxxxxx-lap1.xxoracle.com/isqlplus`. The bookmarks bar contains links for Members, WebMail, Connections, BizJournal, SmartUpdate, and Mktplace.
- Page Content:**
  - ORACLE** logo in red.
  - iSQL\*Plus** title in blue.
  - A **Help** link with a question mark icon in the top right.
  - Four input fields for login:
    - Username:
    - Password:
    - Connection Identifier:
    - Privilege:
  - Two buttons at the bottom: **Log In** and **Clear**.

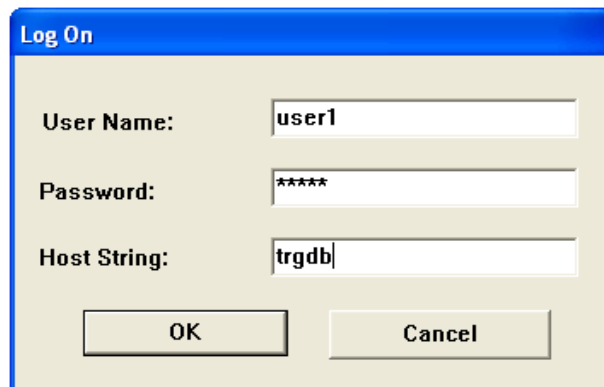




# Logging to Oracle Server using iSQLPlus

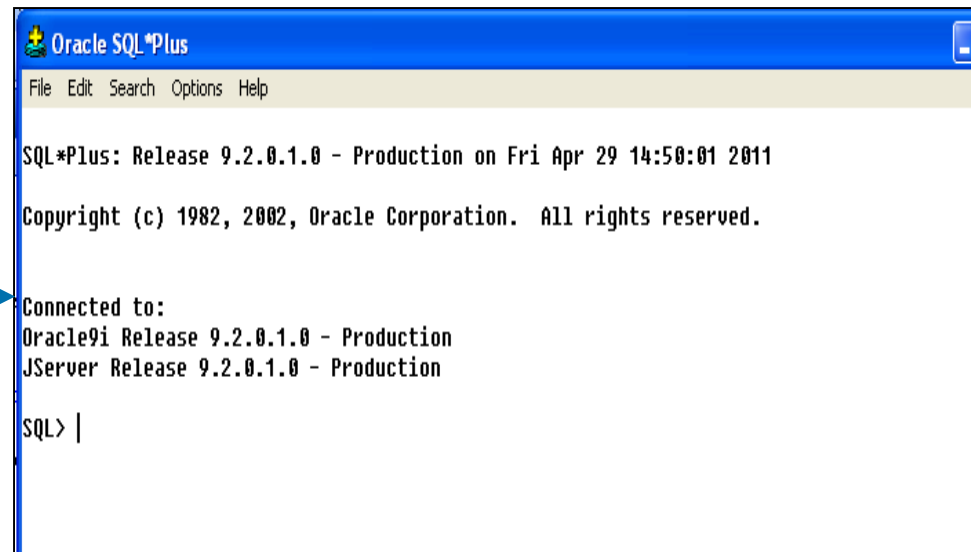
➤ To connect to the Oracle server:

- Select Start, go to Programs, and select Oracle-OraHome8I.
- Go to Application Development, and select SQL Plus. You will get the following logon screen:



A dialog box titled "Log On" with a blue header bar. It contains three input fields: "User Name:" with the text "user1", "Password:" with masked characters "\*\*\*\*\*", and "Host String:" with the text "trgdb". At the bottom are two buttons: "OK" and "Cancel".

Connect to SQL\*Plus



A screenshot of the Oracle SQL\*Plus application window. The title bar says "Oracle SQL\*Plus". The menu bar includes "File", "Edit", "Search", "Options", and "Help". The main text area displays the following information: "SQL\*Plus: Release 9.2.0.1.0 - Production on Fri Apr 29 14:50:01 2011", "Copyright (c) 1982, 2002, Oracle Corporation. All rights reserved.", and "Connected to: Oracle9i Release 9.2.0.1.0 - Production JServer Release 9.2.0.1.0 - Production". The prompt "SQL>|" is visible at the bottom.



# Summary

- In this lesson, you have learnt:
  - What is SQL?
    - Rules for SQL statements
    - Standard SQL statement groups
  - SQL\*PLUS environment





# Review Question

## ➤ Question 1: SQL \_\_\_\_.

- Option 1: cannot execute queries against a database.
- Option 2: can manipulate data from a database.
- Option 3: cannot retrieve data from a database.
- Option 4: can insert new records in a database.
- Option 5: can delete records from a database.





# Review Question

➤ Question 2: SQL categories are \_\_\_\_.

- Option 1: DDL
- Option 2: DML
- Option 3: DSL
- Option 4: DQL
- Option 5: TCL
- Option 6: TDL

