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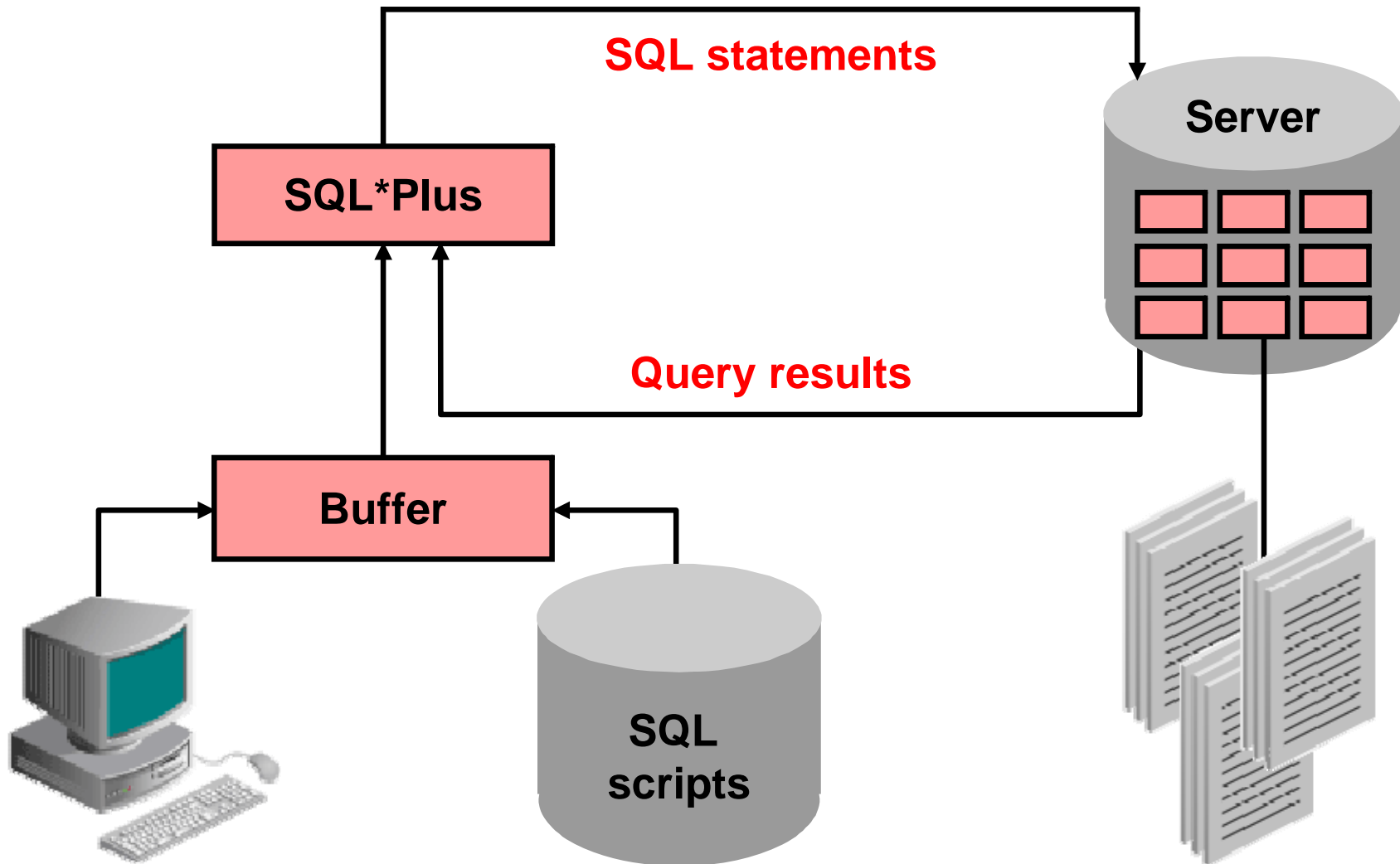
## Using SQL\*Plus

# Objectives

After completing this appendix, you should be able to do the following:

- Log in to SQL\*Plus
- Edit SQL commands
- Format the output using SQL\*Plus commands
- Interact with script files

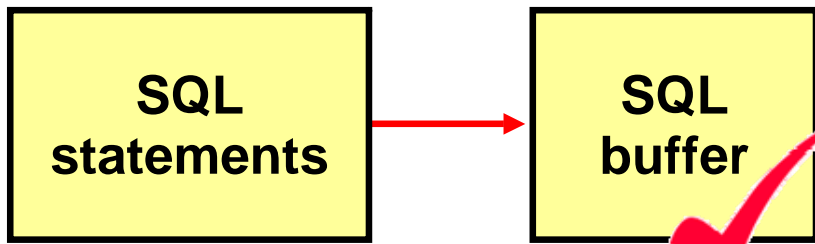
# SQL and SQL\*Plus Interaction



# SQL Statements Versus SQL\*Plus Commands

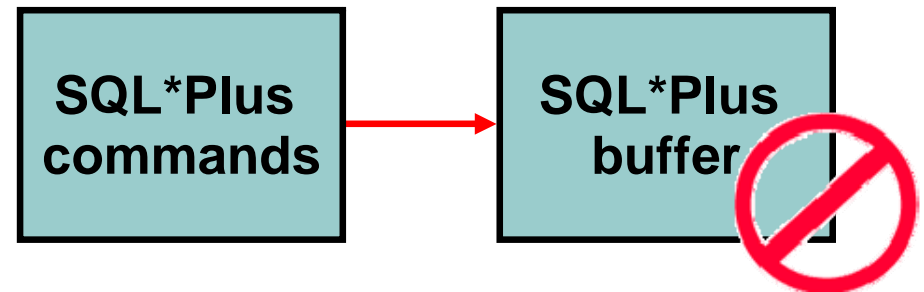
## SQL

- A language
- ANSI-standard
- Keywords cannot be abbreviated.
- Statements manipulate data and table definitions in the database.



## SQL\*Plus

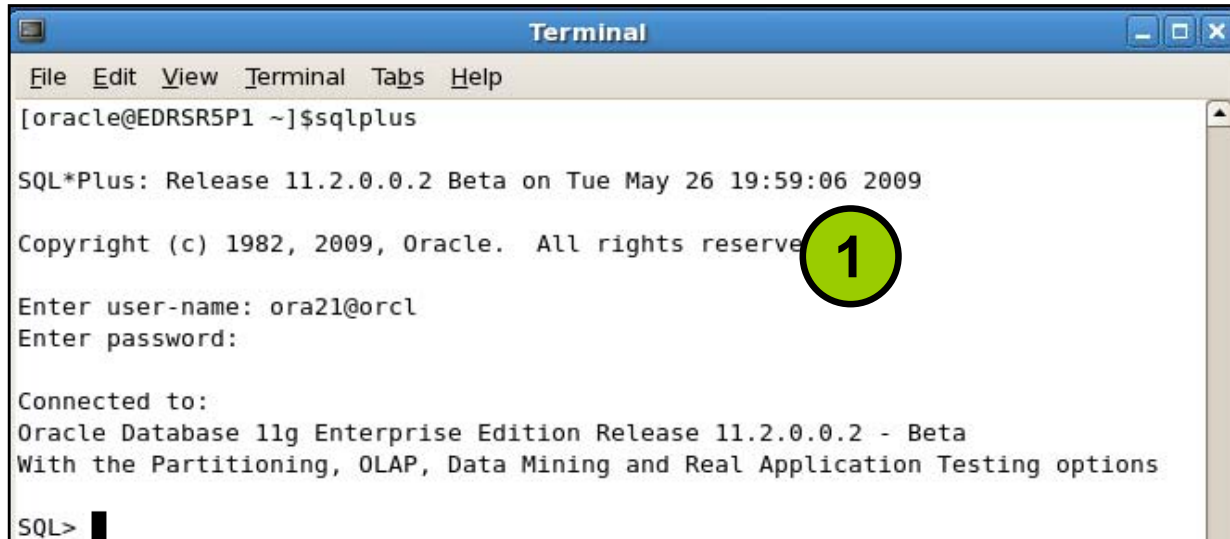
- An environment
- Oracle-proprietary
- Keywords can be abbreviated.
- Commands do not allow manipulation of values in the database.



# Overview of SQL\*Plus

- Log in to SQL\*Plus.
- Describe the table structure.
- Edit your SQL statement.
- Execute SQL from SQL\*Plus.
- Save SQL statements to files and append SQL statements to files.
- Execute saved files.
- Load commands from the file to buffer to edit.

# Logging In to SQL\*Plus

A terminal window titled "Terminal" with a menu bar (File, Edit, View, Terminal, Tabs, Help). The command prompt shows the user 'oracle' at host 'EDRSR5P1' running 'sqlplus'. The output displays the SQL\*Plus version (11.2.0.0.2 Beta), copyright information, and a prompt for the username. The user enters 'ora21@orcl', followed by a password prompt. The terminal then shows the connection details for the Oracle Database 11g Enterprise Edition.

```
Terminal
File Edit View Terminal Tabs Help
[oracle@EDRSR5P1 ~]$sqlplus

SQL*Plus: Release 11.2.0.0.2 Beta on Tue May 26 19:59:06 2009

Copyright (c) 1982, 2009, Oracle. All rights reserved.

Enter user-name: ora21@orcl
Enter password:

Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.0.2 - Beta
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL>
```

```
sqlplus [username[/password[@database]]]
```

A terminal window titled "Terminal" with a menu bar (File, Edit, View, Terminal, Tabs, Help). The command prompt shows the user 'oracle' at host 'EDRSR5P1' running 'sqlplus ora21/ora21@orcl'. The output displays the SQL\*Plus version (11.2.0.0.2 Beta), copyright information, and a prompt for the username. The user enters 'ora21@orcl', followed by a password prompt. The terminal then shows the connection details for the Oracle Database 11g Enterprise Edition.

```
Terminal
File Edit View Terminal Tabs Help
[oracle@EDRSR5P1 ~]$sqlplus ora21/ora21@orcl

SQL*Plus: Release 11.2.0.0.2 Beta on Tue May 26 19:58:06 2009

Copyright (c) 1982, 2009, Oracle. All rights reserved.

Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.0.2 - Beta
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL>
```

# Displaying the Table Structure

Use the SQL\*Plus DESCRIBE command to display the structure of a table:

```
DESC[RIBE]  tablename
```

# Displaying the Table Structure

```
DESCRIBE departments
```

Name	Null?	Type
-----	-----	-----
DEPARTMENT_ID	NOT NULL	NUMBER(4)
DEPARTMENT_NAME	NOT NULL	VARCHAR2(30)
MANAGER_ID		NUMBER(6)
LOCATION_ID		NUMBER(4)



# SQL\*Plus Editing Commands

- `A[PPEND] text`
- `C[HANGE] / old / new`
- `C[HANGE] / text /`
- `CL[EAR] BUFF[ER]`
- `DEL`
- `DEL n`
- `DEL m n`

# SQL\*Plus Editing Commands

- I [NPUT]
- I [NPUT] *text*
- L [IST]
- L [IST] *n*
- L [IST] *m n*
- R [UN]
- *n*
- *n text*
- 0 *text*

# Using LIST, n, and APPEND

```
LIST
  1  SELECT last_name
  2* FROM    employees
```

```
1
  1* SELECT last_name
```

```
A , job_id
  1* SELECT last_name, job_id
```

```
LIST
  1  SELECT last_name, job_id
  2* FROM    employees
```

# Using the CHANGE Command

```
LIST
1* SELECT * from employees
```

```
c/employees/departments
1* SELECT * from departments
```

```
LIST
1* SELECT * from departments
```

# SQL\*Plus File Commands

- `SAVE filename`
- `GET filename`
- `START filename`
- `@ filename`
- `EDIT filename`
- `SPOOL filename`
- `EXIT`

# Using the SAVE, START Commands

```
LIST
```

```
1  SELECT last_name, manager_id, department_id
2*  FROM employees
```

```
SAVE my_query
```

```
Created file my_query
```

```
START my_query
```

LAST_NAME	MANAGER_ID	DEPARTMENT_ID
King		90
Kochhar	100	90
...		

107 rows selected.

# SERVEROUTPUT Command

- Use the `SET SERVEROUT [PUT]` command to control whether to display the output of stored procedures or PL/SQL blocks in SQL\*Plus.
- The `DBMS_OUTPUT` line length limit is increased from 255 bytes to 32767 bytes.
- The default size is now unlimited.
- Resources are not preallocated when `SERVEROUTPUT` is set.
- Because there is no performance penalty, use `UNLIMITED` unless you want to conserve physical memory.

```
SET SERVEROUT [PUT] {ON | OFF} [SIZE {n | UNL[IMITED]}]  
[FOR [MAT] {WRA[PPED] | WOR[D_WAPPED] | TRU[NCATED]}]
```

# Using the SQL\*Plus SPOOL Command

```
SPO[OL] [file_name[.ext] [CRE[ATE] | REP[LACE] |  
APP[END]] | OFF | OUT]
```

Option	Description
file_name[.ext]	Spools output to the specified file name
CRE[ATE]	Creates a new file with the name specified
REP[LACE]	Replaces the contents of an existing file. If the file does not exist, REPLACE creates the file.
APP[END]	Adds the contents of the buffer to the end of the file you specify
OFF	Stops spooling
OUT	Stops spooling and sends the file to your computer's standard (default) printer



# Using the AUTOTRACE Command

- It displays a report after the successful execution of SQL DML statements such as SELECT, INSERT, UPDATE, or DELETE.
- The report can now include execution statistics and the query execution path.

```
SET AUTOT[RACE] {ON | OFF | TRACE[ONLY]} [EXP[LAIN]]  
[STAT[ISTICS]]
```

```
SET AUTOTRACE ON  
-- The AUTOTRACE report includes both the optimizer  
-- execution path and the SQL statement execution  
-- statistics
```

# Summary

In this appendix, you should have learned how to use SQL\*Plus as an environment to do the following:

- Execute SQL statements
- Edit SQL statements
- Format the output
- Interact with script files