

# Database System

Lecture 5

SQL Sub Languages

**DDL - Data Definition Language**

**CREATE TABLE statement**

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# SQL Components Or SQL Sub Languages

**DCL:** Data Control Language

Example: Grant, Revoke.

**DDL:** Data Definition Language.

Example: Create, Alter, Drop, Rename and Truncate.

**DML:** Data Manipulation Language

Example: Insert, Update, Delete

**DRL:** Data Retrieval Language

Example: Select

**TCL:** Transaction Control Language

Example : Rollback, Commit, Savepoint

# DDL - Data Definition Language

## *DDL Commands:*

- CREATE
- ALTER
- DROP
- RENAME
- TRUNCATE.

# DDL - Data Definition Language

## *Creation of Tables:*

### **Prerequisites**

For a user to be able to create a table, he needs the create table system privilege, otherwise he'll receive the ORA-01031: insufficient privileges error message. Additionally, the user needs to have enough quota on the tablespace where he wants to create the table.

### **How To Create a New Table?**

If you want to create a new table in your own schema, you can log into the server with your account, and use the **CREATE TABLE** statement.

# DDL - Data Definition Language

## *Table:*

A table is an entity which contains information in the form of rows and columns. The rows are called tuples and the columns are called attributes.

EMPNO	ENAME	JOB	HIREDATE	MGR	SAL	COMM	DEPTNO
7369	SMITH	CLERK	17-DEC-80	7902	800		20
7499	ALLEN	SALESMAN	20-FEB-81	7698	1600	300	30
7521	WARD	SALESMAN	22-FEB-81	7698	1250	500	30
7566	JONES	MANAGER	02-APR-81	7839	2975		20
7654	MARTIN	SALESMAN	28-SEP-81	7698	1250	1400	30
7698	BLAKE	MANAGER	01-MAY-81	7839	2850		30

To create any object you must follow naming rules.

## *Naming rules of objects:*

1. First letter must be alphabet
2. No special symbol except underscore.
3. Name of objects must be unique.

# DDL - Data Definition Language

The following shows you how to create a table:

*The SYNTAX:*

```
CREATE TABLE [schema_name]. table name  
(  
  
    [column definitions],  
  
    [table_constraint]  
  
)  
[table parameters];
```

# DDL - Data Definition Language

## *schema\_name:*

Name of user account

## *Column Definitions :*

[column name] [data type] {NULL | NOT NULL}  
{column options}

## *Table\_constraint:*

CONSTRAINT [Constraint definition]

## *Table parameters :*

for this option we will study that in next stage.

# DDL - Data Definition Language

## *Simple Syntax:*

```
CREATE TABLE user_name.table_name  
(  
    column_1 data_type column_constraint,  
    column_2 data_type column_constraint,  
    ...  
    Table_constraint  
);
```



# DDL - Data Definition Language

For example, the command to create a table named employees with a few sample columns would be:

```
CREATE TABLE Employees
```

```
(
```

```
E_id number(4) PRIMARY KEY,
```

```
E_first_name varchar2 (50) null,
```

```
E_last_name varchar2 (75) not null,
```

```
E_date_of_birth DATE null,
```

```
job varchar2(10),
```

```
salary number(7,2)
```

```
);
```

# DDL - Data Definition Language

***To Display the table names of current user:***

The syntax:

```
select * from tab;
```

***To Display the table description :***

The syntax:

```
desc <table_name>
```

***Example :*** desc employees;

Structure of the table will be displayed.

***To clear the screen in SQL-Plus:***

The syntax:

```
clear screen
```

# DDL - Data Definition Language

## *Heap tables:*

When we refer to tables we refer to heap tables. They are simple tables without constraints. We will learn about constraints later. A heap table is created as follows:

```
CREATE TABLE emp
(
    Eno          NUMBER(4) ,
    Ename        VARCHAR2(10) ,
    Ejob         VARCHAR2(9),
    Emgr         NUMBER(4),
    Ehiredate    DATE ,
    Esal         NUMBER(7,2),
    Ecomm        NUMBER(7,2),
    Edeptno      NUMBER(2)
);
```

# DDL - Data Definition Language

```
CREATE TABLE DEPT  
(  
  DEPTNO NUMBER(2),  
  DNAME VARCHAR2(14)  
);
```

## Assignment : Create table

### 1. customer table

<u>Column Name</u>	<u>Column Type</u>
C_ID	NUMBER(4)
C_NAME	VARCHAR2(30)
C_CATEGORY	NUMBER(1)
C_CITY	VARCHAR2(20)
C_PHONE	NUMBER(15)

# DDL - Data Definition Language

```
select * from tab;
```

```
select * from user_tables;
```

```
select * from user_tab_columns;
```



A close-up photograph of a right hand holding a silver pen, writing the words "Thank you" in a fluid, cursive script on a white surface. The pen is positioned at the end of the word "you".

Thank you

*Dhafar Sabah Yaseen*