



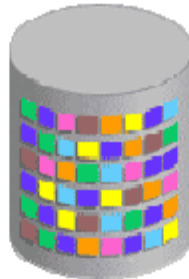
Using DDL Statements to Create and Manage Tables

CREATE TABLE Statement

- You must have:
 - CREATE TABLE privilege
 - A storage area

```
CREATE TABLE [schema.] table  
            (column datatype [DEFAULT expr] [, ...]);
```

- You specify:
 - Table name
 - Column name, column data type, and column size



Creating Tables

- Create the table.

```
CREATE TABLE dept
  (deptno      NUMBER(2),
   dname       VARCHAR2(14),
   loc         VARCHAR2(13),
   create_date DATE DEFAULT SYSDATE);
```

Table created.

- Confirm table creation.

```
DESCRIBE dept
```

Name	Null?	Type
DEPTNO		NUMBER(2)
DNAME		VARCHAR2(14)
LOC		VARCHAR2(13)
CREATE_DATE		DATE

Data Types

Data Type	Description
<code>VARCHAR2 (size)</code>	Variable-length character data
<code>CHAR (size)</code>	Fixed-length character data
<code>NUMBER (p, s)</code>	Variable-length numeric data
<code>DATE</code>	Date and time values
<code>LONG</code>	Variable-length character data (up to 2 GB)
<code>CLOB</code>	Character data (up to 4 GB)
<code>RAW</code> and <code>LONG RAW</code>	Raw binary data
<code>BLOB</code>	Binary data (up to 4 GB)
<code>BFILE</code>	Binary data stored in an external file (up to 4 GB)
<code>ROWID</code>	A base-64 number system representing the unique address of a row in its table

Including Constraints

- Constraints enforce rules at the table level.
- Constraints prevent the deletion of a table if there are dependencies.
- The following constraint types are valid:
 - NOT NULL
 - UNIQUE
 - PRIMARY KEY
 - FOREIGN KEY
 - CHECK



Defining Constraints

- Column-level constraint:

```
CREATE TABLE employees(  
  employee_id NUMBER(6)  
    CONSTRAINT emp_emp_id_pk PRIMARY KEY,  
  first_name VARCHAR2(20),  
  ...);
```

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- Table-level constraint:

```
CREATE TABLE employees(  
  employee_id NUMBER(6),  
  first_name VARCHAR2(20),  
  ...  
  job_id VARCHAR2(10) NOT NULL,  
  CONSTRAINT emp_emp_id_pk  
    PRIMARY KEY (EMPLOYEE_ID));
```

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FOREIGN KEY Constraint

Defined at either the table level or the column level:

```
CREATE TABLE employees(  
    employee_id      NUMBER(6),  
    last_name        VARCHAR2(25) NOT NULL,  
    email            VARCHAR2(25),  
    salary           NUMBER(8,2),  
    commission_pct   NUMBER(2,2),  
    hire_date        DATE NOT NULL,  
    ...  
    department_id    NUMBER(4),  
    CONSTRAINT emp_dept_fk FOREIGN KEY (department_id)  
        REFERENCES departments(department_id),  
    CONSTRAINT emp_email_uk UNIQUE(email));
```

Summary

In this lesson, you should have learned how to use the `CREATE TABLE` statement to create a table and include constraints.

- Categorize the main database objects
- Review the table structure
- List the data types that are available for columns
- Create a simple table
- Understand how constraints are created at the time of table creation
- Describe how schema objects work