

What Are 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

1. 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));

The NOT NULL Constraint

2. CREATE TABLE employees(employee_id NUMBER(6), last_name VARCHAR2(25) NOT NULL, salary NUMBER(8,2), commission_pct NUMBER(2,2), hire_date DATE CONSTRAINT emp_hire_date_nn NOT NULL,

The UNIQUE Constraint

3. 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, CONSTRAINT emp_email_uk UNIQUE(email));

The PRIMARY KEY Constraint

4. CREATE TABLE departments(department_id NUMBER(4),department_name VARCHAR2(30)CONSTRAINT dept_name_nn NOT NULL,manager_id NUMBER(6),location_id NUMBER(4),CONSTRAINT dept_id_pk PRIMARY KEY(department_id))

The FOREIGN KEY Constraint

5.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));

The CHECK Constraint

6. CREATE TABLE employees salary NUMBER(8,2) CONSTRAINT emp_salary_min CHECK (salary > 0),

Adding a Constraint

7. ALTER TABLE employees ADD CONSTRAINT emp_manager_fk FOREIGN KEY(manager_id) REFERENCES employees(employee_id);

Dropping a Constraint

8. ALTER TABLE employees DROP CONSTRAINT emp_manager_fk;

Enabling/disabling Constraints

9. ALTER TABLE employees ENABLE/disable CONSTRAINT emp_emp_id_pk;

Viewing Constraints

10. SELECT constraint_name, constraint_type,search_condition FROM user_constraints WHERE table_name = 'EMPLOYEES';