

SQL INSERT INTO – Understanding Notes

1. Introduction

INSERT INTO is a Data Manipulation Language (DML) command used to add new records into a database table.

2. Creating a Table

```
CREATE TABLE Employees ( employee_id SERIAL PRIMARY KEY, first_name VARCHAR(50), last_name VARCHAR(50), department_id INT, hire_date DATE );
```

3. Inserting a Single Row

```
INSERT INTO Employees (employee_id, first_name, last_name, department_id, hire_date)
VALUES (1, 'Ashish', 'Jangra', 1, '2021-07-16');
```

4. Inserting Multiple Rows

```
INSERT INTO Employees (employee_id, first_name, last_name, department_id, hire_date)
VALUES (2, 'Manish', 'Kumar', 2, '2021-10-16'), (3, 'Sakshi', 'Awasthi', 2, '2021-10-16'), (4, 'Avneet', 'Kaur', 3, '2021-10-16');
```

5. Inserting Partial Data

```
INSERT INTO Employees (first_name, last_name) VALUES ('Ashish', 'Jangra');
Unspecified columns take NULL or default values.
```

6. Inserting Data in Different Column Order

```
INSERT INTO Employees (department_id, hire_date, last_name, first_name) VALUES (1, '2022-10-10', 'Sakari', 'Prakash');
```

7. Inserting Data Without Column Names

```
INSERT INTO Employees VALUES (11, 'Ashish', 'Jangra', 5, '2024-10-10');
(All column values must be provided in table order.)
```

8. Using DEFAULT and CURRENT_TIMESTAMP

```
CREATE TABLE ExampleTable ( employee_id SERIAL PRIMARY KEY, name VARCHAR(50) NOT NULL, hire_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP, status VARCHAR(20) DEFAULT 'Active' );
```

```
INSERT INTO ExampleTable (name) VALUES ('Ashish');
INSERT INTO ExampleTable (name) VALUES ('Ashish'), ('Manish'), ('Parag');
INSERT INTO ExampleTable (name, status) VALUES ('Ashish','Inactive'), ('Manish','Inactive'), ('Parag','Inactive');
```

Key Points

- INSERT INTO adds new records to tables.
- Multiple rows can be inserted in one query.
- Default values are applied automatically if columns are omitted.
- Column order matters only if column names are not specified.

Conclusion

INSERT INTO is a fundamental SQL command for populating tables with data. Understanding different insertion methods ensures flexibility and accuracy when managing databases.