

# CRUD Operations in SQL Server

## Introduction

CRUD stands for Create, Read, Update, and Delete. These are the four basic operations for managing data in a relational database. In Microsoft SQL Server (MSSQL), SQL queries are used to perform these operations. This document provides examples and explanations for each CRUD operation.

## 1. Create Operation

The **CREATE** operation is used to insert new records into a table.

### Example

Create Table:

```
CREATE TABLE Employee(  
  
EmployeeID int PRIMARY KEY,  
  
FirstName varchar(10),  
  
LastName varchar(10),  
  
Emp_Dept varchar(5),  
  
Salary int  
  
);
```

O/P:

Results		Messages			
EmployeeID	FirstName	LastName	Emp_Dept	Salary	

Insert Data:

```
INSERT INTO Employee  
  
(EmployeeID,FirstName,LastName ,Emp_Dept,Salary )
```

```
VALUES (1, 'Deven', 'Gupta', 'IT', 45000);
```

O/P:

Results		Messages			
	EmployeeID	FirstName	LastName	Emp_Dept	Salary
1	1	Deven	Gupta	IT	45000

## 2. Read Operation

The READ operation is used to query and retrieve data from a table.

### Example

**Select All Records:**

```
SELECT * FROM Employee;
```

O/P:

Results		Messages			
	EmployeeID	FirstName	LastName	Emp_Dept	Salary
1	1	Prayag	Bhoir	IT	40000
2	2	Jane	Smith	IT	60000
3	3	Bob	Johnson	Comps	55000
4	4	Alice	Williams	Mech	70000
5	5	Charlie	Brown	Comps	45000
6	6	Deven	Gupta	IT	35000

**Select Specific Records:**

```
SELECT FirstName, LastName FROM Employee WHERE Emp_Dept = 'IT';
```

O/P:

Results		Messages	
	FirstName	LastName	
1	Prayag	Bhoir	
2	Jane	Smith	
3	Deven	Gupta	

### 3. Update Operation

The UPDATE operation is used to modify existing records in a table.

#### Example

Update Salary:

```
UPDATE Employee SET Salary=50000 WHERE EmployeeID=1;
```

O/P:

	EmployeeID	FirstName	LastName	Emp_Dept	Salary
1	1	Prayag	Bhoir	IT	50000
2	2	Jane	Smith	IT	60000
3	3	Bob	Johnson	Comps	55000
4	4	Alice	Williams	Mech	70000
5	5	Charlie	Brown	Comps	45000
6	6	Deven	Gupta	IT	35000

### 4. Delete Operation

The DELETE operation is used to remove records from a table.

#### Example

Delete a Record:

```
DELETE FROM Employee WHERE EmployeeID = 5;
```

O/P:

	EmployeeID	FirstName	LastName	Emp_Dept	Salary
1	1	Prayag	Bhoir	IT	50000
2	2	Jane	Smith	IT	60000
3	3	Bob	Johnson	Comps	55000
4	4	Alice	Williams	Mech	70000
5	6	Deven	Gupta	IT	35000