



# Lab Manual- Agile Planning and Portfolio Management with Azure Boards

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## 1. Introduction

In 1970's the product called 'SEQUEL', structured English query language, developed by IBM and later SEQUEL was renamed to 'SQL' which stands for Structured Query Language.

In 1986, SQL was approved by ANSI (American national Standards Institute) and in 1987, it was approved by ISO (International Standards Organization).

SQL is a structure query language which is a common database language for all RDBMS products. Different RDBMS product vendors have developed their own database language by extending SQL for their own RDBMS products.

T-SQL stands for Transact Structure Query Language which is a Microsoft product and is an extension of SQL Language

## 2. DDL, DQL, DML, DCL and TCL Commands

Structured Query Language(SQL) as we all know is the database language by the use of which we can perform certain operations on the existing database and also we can use this language to create a database. SQL uses certain commands like Create, Drop, Insert, etc. to carry out the required tasks.

These SQL commands are mainly categorized into four categories as:

- **DDL** – Data Definition Language
- **DQL** – Data Query Language
- **DML** – Data Manipulation Language
- **DCL** – Data Control Language

Types of SQL Commands			
DDL	DML	DCL	TCL
CREATE ALTER DROP TRUNCATE RENAME	SELECT INSERT UPDATE DELETE MERGE	GRANT REVOKE	COMMIT ROLLBACK SAVEPOINT

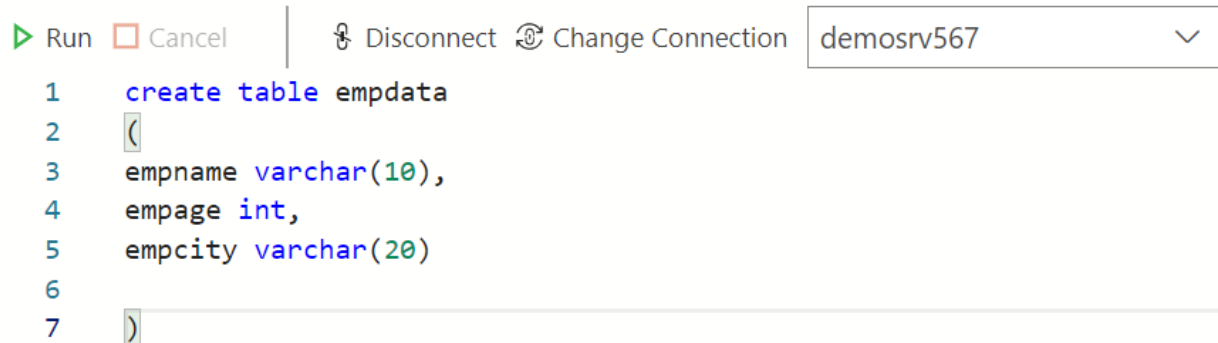
### 3. Exercise 1 – Create Table, Insert Data and View Data

#### 1. CREATE TABLE

The CREATE TABLE statement is used to create a table in SQL.

This query will create a table named **empdata** with three columns **empname**, **empage** and **empcity**

```
create table empdata
(
empname varchar(10),
empage int,
empcity varchar(20)
)
```

A screenshot of a SQL IDE interface. At the top, there are buttons for 'Run' (a green play icon), 'Cancel' (a red square icon), 'Disconnect' (a plug icon), and 'Change Connection' (a circular arrow icon). To the right of these buttons is a dropdown menu showing 'demosrv567' with a downward arrow. Below the buttons is a text area containing a SQL query. The query is: 1 create table empdata, 2 (, 3 empname varchar(10), 4 empage int, 5 empcity varchar(20), 6 , 7 ). The text area has line numbers 1 through 7 on the left. The background of the text area is light gray with horizontal lines.

```
Run Cancel | Disconnect Change Connection demosrv567
1 create table empdata
2 (
3 empname varchar(10),
4 empage int,
5 empcity varchar(20)
6
7 )
```

#### Messages

```
10:58:38 AM Started executing query at Line 1
Commands completed successfully.
Total execution time: 00:00:00.241
```

#### 2. INSERT STATEMENT

```
insert into empdata (empname,empage,empcity) values ('Robert',28,'TX')
insert into empdata (empname,empage,empcity) values ('John',30,'LA')
insert into empdata (empname,empage,empcity) values ('Savio',22,'FL')
insert into empdata (empname,empage,empcity) values ('Juliya',42,'WA')
```

```

9  insert into empdata (empname,empage,empcity) values ('Robert',28,'TX')
10 insert into empdata (empname,empage,empcity) values ('John',30,'LA')
11 insert into empdata (empname,empage,empcity) values ('Savio',22,'FL')
12 insert into empdata (empname,empage,empcity) values ('Juliya',42,'WA')
13

```

## Messages

Total execution time: 00:00:00

### 3. *SELECT STATEMENT*

```
SELECT * FROM EMPDATA
```

```
14  SELECT * FROM EMPDATA
```

## Results

## Messages

	empname	empage	empcity
	Robert	28	TX
	John	30	LA
	Savio	22	FL
	Juliya	42	WA

### 4. Exercise 2 – Various Insert Statement

#### 1. *Without Columns Name*

```

insert into empdata values (' Brian ',28,'TX')
insert into empdata values (' Derek ',30,'LA')
insert into empdata values ('Alan',22,'FL')

```

```
insert into empdata values ('Philip',28,'TX')
insert into empdata values ('Borris',30,'LA')
insert into empdata values ('Alan',22,'FL')
```

es

Total execution time: 00:00:00

## 2. Multiple Data in same Statement

```
Insert into empdata values ('Philip',28,'TX'), ('Borris',30,'LA'),('Eric
k ',22,'FL')
SELECT * FROM EMPDATA
```

```
9 insert into empdata values ('Philip',28,'TX'), ('Borris',30,'LA'),('Erick ',22,'FL')
10
11
12 SELECT * FROM EMPDATA
13
```

Results Messages

	empname	empage	empcity
1	Robert	28	TX
2	John	30	LA
3	Savio	22	FL
4	Juliya	42	WA
5	Philip	28	TX
6	Borris	30	LA
7	Erick	22	FL

## 3. Multiple Data in selected Columns

```
insert into empdata (empname,empage) values ('Benjamin',28), ('Lucas',30)
SELECT * FROM EMPDATA
```

```

9  insert into empdata (empname,empage) values ('Benjamin',28), ('Lucas',30)
10
11
12  SELECT * FROM EMPDATA
13

```

Results Messages

	empname	empage	empcity
1	Robert	28	TX
2	John	30	LA
3	Savio	22	FL
4	Juliya	42	WA
5	Philip	28	TX
6	Borris	30	LA
7	Erick	22	FL
8	Benjamin	28	NULL
9	Lucas	30	NULL

## 5. Exercise 3 – Various Select Statement

### 1. Where Clouse (Integer)

SELECT \* FROM EMPDATA where empage > 28

```

12  SELECT * FROM EMPDATA where empage > 28
13
14

```

Results Messages

	empname	empage	empcity
1	John	30	LA
2	Juliya	42	WA
3	Borris	30	LA
4	Lucas	30	NULL

### 2. Where Clouse (Character)

```
SELECT * FROM EMPDATA where empcity = 'LA'
```

12      `SELECT * FROM EMPDATA where empcity = 'LA'`

13

14

Results      Messages

	empname	empage	empcity
1	John	30	LA
2	Borris	30	LA

### 3. Where Clouse (And)

```
SELECT * FROM EMPDATA where empcity = 'TX' and empage >=28
```

12      `SELECT * FROM EMPDATA where empcity = 'TX' and empage >=28`

13

Results

Messages

	empname	empage	empcity
1	Robert	28	TX
2	Philip	28	TX

### 4. Where Clouse (OR)

```
SELECT * FROM EMPDATA where empcity = 'TX' or empage >=28
```



```
12 SELECT * FROM EMPDATA where empcity = 'TX' or empage >=28
13
```

**Results**      **Messages**

	empname	empage	empcity
1	Robert	28	TX
2	John	30	LA
3	Juliya	42	WA
4	Philip	28	TX
5	Borris	30	LA
6	Benjamin	28	NULL
7	Lucas	30	NULL

#### 5. Where Clouse (Like %)

```
SELECT * FROM EMPDATA where empname like 'b%'
```

```
12 SELECT * FROM EMPDATA where empname like 'b%'
13
14
```

**Results**      **Messages**

	empname	empage	empcity
1	Borris	30	LA
2	Benjamin	28	NULL

#### 6. Where Clouse (IN)

```
SELECT * FROM EMPDATA where empcity in ('TX','FL')
```

```

12  SELECT * FROM EMPDATA where empcity in ('TX','FL')
13
14

```

### Results

### Messages

	empname	empage	empcity
1	Robert	28	TX
2	Savio	22	FL
3	Philip	28	TX
4	Erick	22	FL

## 7. Where Clouse (Between)

```
SELECT * FROM EMPDATA where empage between 22 and 28
```

```

12  SELECT * FROM EMPDATA where empage between 22 and 28
13
14

```

### Results

### Messages

	empname	empage	empcity
1	Robert	28	TX
2	Savio	22	FL
3	Philip	28	TX
4	Erick	22	FL
5	Benjamin	28	NULL

## 6. Exercise 4 – Nested Select Statement

```
select empname from EMPdata where exists (select Empna
me from empdata where empname='Philip' )
```

```
14 select empname from EMPdata where exists (select Empname from empdata where empname='Philip')
15
```

**Results**    Messages

	empname
1	Robert
2	John
3	Savio
4	Juliya
5	Philip
6	Borris
7	Erick
8	Benjamin
9	Lucas