

# DBMS LAB ASSIGNMENT – 3

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## 1. Add, Modify and Delete Column using Alter Command

*/\*Alter Table\*/*

```
ALTER TABLE dbo.T3_CustomerDetails  
ADD Email VARCHAR(50);
```

```
ALTER TABLE dbo.T3_CustomerDetails  
ALTER COLUMN Email VARCHAR(100);
```

```
ALTER TABLE dbo.T3_CustomerDetails  
DROP COLUMN Email;
```

Output:

The image displays three screenshots of SQL Server Enterprise Manager, illustrating the execution of ALTER TABLE commands to modify a table structure.

**Top Left Screenshot:** Shows the execution of the following commands:

```
USE T3_Travel;  
SELECT * FROM T3_CustomerDetails;  
/*Alter Table*/  
ALTER TABLE dbo.T3_CustomerDetails  
ADD Email VARCHAR(50);
```

The Results pane shows the columns: customer\_id, first\_name, last\_name, age, gender, phone, and Email. The Messages pane indicates "Query executed successfully."

**Top Right Screenshot:** Shows the execution of the following commands:

```
ALTER TABLE dbo.T3_CustomerDetails  
ALTER COLUMN Email VARCHAR(100);
```

The Messages pane indicates "Commands completed successfully." and "Completion time: 2021-02-18T18:44:06.3634278+05:30".

**Bottom Screenshot:** Shows the execution of the following command:

```
ALTER TABLE dbo.T3_CustomerDetails  
DROP COLUMN Email;
```

The Results pane shows the columns: customer\_id, first\_name, last\_name, age, gender, and phone. The Messages pane indicates "Query executed successfully."

## 2. Insert 20 Employees Data into all the tables. Use all the 3 methods that I have showcased.

```

/*INSERTING 1.insert into parameters and values 2.insert into all the values directly 3.insert into using select*/
INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1001,'Mark','Stone', 23, 'M', '7666051848');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1101,'Janhvi','Rathod', 31, 'F', '9822459012');

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
(SELECT customer_id, first_name, last_name, age, gender, phone FROM TRAVEL.dbo.CustomerDetails where customer_id = 1000);

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1004,'Rosy','Paul', 40, 'F', '9876543210');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1105,'George','Barnes', 24, 'M', '5628745676');

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1006,'Susan','Noble', 21, 'F', '8887051648');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1007,'Erwin','Star', 30, 'M', '5629753388');

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1008,'Alice','Buck', 41, 'F', '9922334466');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1109,'Frank','Borders', 22, 'M', '7149688201');

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1010,'Gill','Sen', 33, 'F', '7477448981');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1012,'Hanna','Khan', 24, 'F', '6666115848');

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1011,'Mona','Azuma', 21, 'F', '8899881234');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1013,'Tia','Kapoor', 28, 'F', '5544051867');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1014,'Svetlana','Rai', 29, 'F', '9999888867');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1015,'Romi','Kapoor', 26, 'F', '5544251867');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1016,'Pinky','Patel', 54, 'F', '5544051888');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1017,'Vijay','Raut', 36, 'M', '8866443311');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1018,'Tej','Sengupta', 46, 'M', '9933456876');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1019,'Bear','Bench', 24, 'M', '9999999900');

```

Output:

Results		Messages				
	customer_id	first_name	last_name	age	gender	phone
1	1000	Manya	Mehta	19	F	7623444591
2	1001	Mark	Stone	23	M	7666051848
3	1002	James	Cook	30	M	6666051848
4	1004	Rosy	Paul	40	F	9876543210
5	1006	Susan	Noble	21	F	8887051648
6	1007	Erwin	Star	30	M	5629753388
7	1008	Alice	Buck	41	F	9922334466
8	1010	Gill	Sen	33	F	7477448981
9	1011	Mona	Azuma	21	F	8899881234
10	1012	Hanna	Khan	24	F	6666115848
11	1013	Tia	Kapoor	28	F	5544051867
12	1014	Svetlana	Rai	29	F	9999888867
13	1015	Romi	Kapoor	26	F	5544251867
14	1016	Pinky	Patel	54	F	5544051888
15	1017	Vijay	Raut	36	M	8866443311
16	1018	Tej	Sengupta	46	M	9933456876
17	1019	Bear	Bench	24	M	9999999900
18	1101	Janhvi	Rathod	31	F	9822459012
19	1105	George	Bames	24	M	5628745676
20	1109	Frank	Borders	22	M	7149688201

Query executed successfully.

### 3. Show Violation of Primary Key, Unique, Not Null and default key constraints through insertion.

```

/*Violation of Primary key constraint*/
INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1001, 'Robin', 'Stone', 23, 'M', '7666051848');

```

100 %

Messages

Msg 2627, Level 14, State 1, Line 76  
Violation of PRIMARY KEY constraint 'PK\_T3\_CustomerDetails'. Cannot insert duplicate key in object 'dbo.T3\_CustomerDetails'. The duplicate key value is (1001). The statement has been terminated.

Completion time: 2021-02-18T19:46:09.9116347+05:30

```
/*Violation of Unique constraint*/
INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1030,'Robin','Steel', 23, 'M', '7666054443');
```

100 %

Messages

Msg 2627, Level 14, State 1, Line 94  
Violation of UNIQUE KEY constraint 'UQ\_\_T3\_Custo\_\_0F587AE6EAA08238'. Cannot insert duplicate key in object 'dbo.T3\_CustomerDetails'. The duplicate key value is (Robin).  
The statement has been terminated.

Completion time: 2021-02-18T19:59:16.3996926+05:30

```
/*Violation of Not Null constraint*/
INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1211,'Robin','Stone', 23, 'M', NULL);
```

100 %

Messages

Msg 515, Level 16, State 2, Line 86  
Cannot insert the value NULL into column 'phone', table 'T3\_Travel.dbo.T3\_CustomerDetails'; column does not allow nulls. INSERT fails.  
The statement has been terminated.

Completion time: 2021-02-18T19:50:20.7705802+05:30

```
ALTER TABLE dbo.T3_CustomerDetails
ADD CONSTRAINT df_age
DEFAULT '20' FOR age;

/*Violation of default constraint*/
INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1040,'Raghav','Steel', 23, 'M', '7666054483');
```

100 %

Messages

(1 row affected)

Completion time: 2021-02-18T20:12:23.3955953+05:30

4. Insert tuples into the table and see how foreign key constraint works if you try to insert into dependent table first.

```
INSERT INTO dbo.T3_BookingDetails
VALUES(1050,123456,1500,'2021-02-18',0,NULL,NULL);
```

100 %

Messages

Msg 547, Level 16, State 0, Line 109  
The INSERT statement conflicted with the FOREIGN KEY constraint "FK\_T3\_BookingDetails\_T3\_CustomerDetails". The conflict occurred in database "T3\_Travel", table "dbo.T3\_CustomerDetails". The statement has been terminated.

Completion time: 2021-02-18T20:17:13.1141473+05:30

5. Show Violation of Foreign Key Constraint when you try to delete from a base table. If you get an error explain why deletion gives an error

```
DELETE FROM T3_CustomerDetails WHERE
customer_id = 1050;
```

100 %

Messages

Msg 547, Level 16, State 0, Line 117  
The DELETE statement conflicted with the REFERENCE constraint "FK\_T3\_BookingDetails\_T3\_CustomerDetails". The conflict occurred in database "T3\_Travel", table "dbo.T3\_BookingDetails". The statement has been terminated.

Completion time: 2021-02-18T20:23:12.8435276+05:30

The deletion is giving an error as it violates referential integrity constraint. First, we need to delete the corresponding tuple from the dependent table and then the base table.

6. Try to update a non-existing entity data and check for error.

```
UPDATE dbo.T3_CustomerDetails
SET last_name = 'Mickey'
WHERE customer_id = 1060
```

100 %

Messages

(0 rows affected)

Completion time: 2021-02-18T20:27:21.7988264+05:30

## 7. Add a column which has default value.

```
ALTER TABLE dbo.T3_CustomerDetails
ADD middle_name VARCHAR(50) DEFAULT 'Middle';

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1440, 'Rani', 'Stones', 33, 'F', '7626054483');
```

100 %

Results Messages

	customer_id	first_name	last_name	age	gender	phone	middle_name
24	1440	Rani	Stones	33	F	7626054483	Middle

Query executed successfully. localh

## 8. 5 Simple Select queries to retrieve data from your database.

/\*Simple Select Query\*/

Select first\_name from T3\_CustomerDetails where gender = 'M';

Select top 10 \* from T3\_CustomerDetails;

Select last\_name from T3\_CustomerDetails where age = 23;

Select \* from T3\_BookingDetails;

Select \* from T3\_CustomerDetails  
where customer\_id in (Select customer\_id from T3\_BookingDetails where  
customer\_id = 1050);

Output:

```
/*Simple Select Query*/
Select first_name from T3_CustomerDetails
where gender = 'M';
```

100 %

Results Messages

	first_name
1	Mark
2	James
3	Erwin
4	Vijay
5	Tej
6	Bear
7	Raghav
8	George
9	Frank
10	Robin

Query executed successfully.



Select top 10 \* from T3\_CustomerDetails;

	customer_id	first_name	last_name	age	gender	phone	middle_name
1	1000	Manya	Mehta	19	F	7623444591	NULL
2	1001	Mark	Stone	23	M	7666051848	NULL
3	1002	James	Cook	30	M	6666051848	NULL
4	1004	Rosy	Paul	40	F	9876543210	NULL
5	1006	Susan	Noble	21	F	8887051648	NULL
6	1007	Erwin	Star	30	M	5629753388	NULL
7	1008	Alice	Buck	41	F	9922334466	NULL
8	1010	Gill	Sen	33	F	7477448981	NULL
9	1011	Mona	Azuma	21	F	8899881234	NULL
10	1012	Hanna	Khan	24	F	6666115848	NULL

Query executed successfully.

Select last\_name from T3\_CustomerDetails  
where age = 23;

	last_name
1	Stone
2	Steel
3	Iyer
4	Stone

Query executed successfully.

Select \* from T3\_BookingDetails;

	customer_id	booking_id	payment_amount	payment_dateTime	refunded	refund_amount	refund_dateTime
1	1050	123456	1500.00	2021-02-18 00:00:00.000	0	NULL	NULL

Query executed successfully.

Select \* from T3\_CustomerDetails  
where customer\_id in (Select customer\_id from T3\_BookingDetails  
where customer\_id = 1050);

	customer_id	first_name	last_name	age	gender	phone	middle_name
1	1050	Rubina	Iyer	23	F	7666054409	NULL

Query executed successfully.

9. Show how Foreign key constraint effects Updating a dependent table when value is not existing and in Base table where the value is referred and you want to update it.

```

UPDATE dbo.T3_BookingDetails
SET customer_id = 1131
WHERE booking_id = 123456;

```

Msg 547, Level 16, State 0, Line 163  
The UPDATE statement conflicted with the FOREIGN KEY constraint "FK\_T3\_BookingDetails\_T3\_CustomerDetails". The conflict occurred in database "T3\_Travel", table "dbo.T3\_CustomerDetails". The statement has been terminated.

Completion time: 2021-02-18T20:54:40.6301193+05:30