

## BEFORE CREATING TABLE

```
mysql> use auto;
Database changed
mysql> show tables;
Empty set (0.00 sec)

mysql>
```

## AFTER CREATING TABLE

```
mysql> use auto;
Database changed
mysql> show tables;
Empty set (0.00 sec)

mysql> show tables;
+-----+
| Tables_in_auto |
+-----+
| automobiles    |
| models         |
| options        |
| optionsets     |
+-----+
4 rows in set (0.00 sec)

mysql>
```

## AFTER ADDING “Prius”

```
mysql> select * from automobiles;
+-----+
| id | make  | model | price |
+-----+
| 1  | Toyota | Prius | 18000 |
+-----+
1 row in set (0.00 sec)

mysql> select * from optionsets;
+-----+
| id | name      |
+-----+
| 1  | Transmission |
| 2  | Brakes      |
+-----+
2 rows in set (0.00 sec)

mysql> select * from options;
+-----+
| id | name      | price |
+-----+
| 1  | Automatic | 0      |
| 2  | Manual   | -815   |
| 3  | Regular  | 0      |
| 4  | ABS      | 400    |
+-----+
4 rows in set (0.00 sec)

mysql> select * from models;
+-----+
| autoid | optsetid | optid |
+-----+
| 1      | 1        | 1      |
| 1      | 1        | 2      |
| 1      | 2        | 3      |
| 1      | 2        | 4      |
+-----+
4 rows in set (0.00 sec)

mysql>
```

## AFTER ADDING “Lexus”

```
+-----+
| id | make | model | price |
+-----+
| 1 | Toyota | Prius | 18000 |
| 2 | Lexus | IS250 | 16985 |
+-----+
2 rows in set (0.00 sec)
```

```
mysql> select * from optionsets;
```

```
+-----+
| id | name |
+-----+
| 1 | Transmission |
| 2 | Brakes |
| 3 | Color |
| 4 | GPS |
| 5 | Power Moonroof |
+-----+
5 rows in set (0.00 sec)
```

```
mysql> select * from options;
```

```
+-----+
| id | name | price |
+-----+
| 1 | Automatic | 0 |
| 2 | Manual | -815 |
| 3 | Regular | 0 |
| 4 | ABS | 400 |
| 5 | Black | 0 |
| 6 | Silver | 0 |
| 7 | White | 0 |
| 8 | Present | 700 |
| 9 | Not Present | 0 |
| 10 | Present | 595 |
+-----+
10 rows in set (0.00 sec)
```

```
mysql> select * from models;
```

```
+-----+
| autoid | optsetid | optid |
+-----+
| 1 | 1 | 1 |
| 1 | 1 | 2 |
| 1 | 2 | 3 |
| 1 | 2 | 4 |
| 2 | 3 | 5 |
| 2 | 3 | 6 |
| 2 | 3 | 7 |
| 2 | 4 | 8 |
| 2 | 4 | 9 |
| 2 | 5 | 10 |
| 2 | 5 | 9 |
+-----+
11 rows in set (0.00 sec)
```

```
mysql>
```

## AFTER ADDING “Focus”

```
11 rows in set (0.00 sec)
```

```
mysql> select * from automobiles;
```

```
+-----+
| id | make | model | price |
+-----+
| 1 | Toyota | Prius | 18000 |
| 2 | Lexus | IS250 | 16985 |
| 3 | Ford | Focus Wagon ZTW | 18445 |
+-----+
3 rows in set (0.00 sec)
```

```
mysql> select * from optionsets;
```

```
+-----+
| id | name |
+-----+
| 1 | Transmission |
| 2 | Brakes |
| 3 | Color |
| 4 | GPS |
| 5 | Power Moonroof |
| 6 | Side Impact Air Bags |
+-----+
6 rows in set (0.00 sec)
```

```
mysql> select * from options;
```

```
+-----+
| id | name | price |
+-----+
| 1 | Automatic | 0 |
| 2 | Manual | -815 |
| 3 | Regular | 0 |
| 4 | ABS | 400 |
| 5 | Black | 0 |
| 6 | Silver | 0 |
| 7 | White | 0 |
| 8 | Present | 700 |
| 9 | Not Present | 0 |
| 10 | Present | 595 |
| 11 | Fort Knox Gold Clearcoat Metallic | 0 |
| 12 | Liquid Grey Clearcoat Metallic | 0 |
| 13 | Infra-Red Clearcoat | 0 |
| 14 | Grabber Green Clearcoat Metallic | 0 |
| 15 | Sangria Red Clearcoat Metallic | 0 |
| 16 | French Blue Clearcoat Metallic | 0 |
| 17 | Twilight Blue Clearcoat Metallic | 0 |
| 18 | CD Silver Clearcoat Metallic | 0 |
| 19 | Pitch Black Clearcoat | 0 |
| 20 | Cloud 9 White Clearcoat | 0 |
| 21 | Standard | 0 |
| 22 | ABS with Advance Trac | 1625 |
| 23 | Present | 350 |
+-----+
23 rows in set (0.00 sec)
```

```
mysql>
```

## BEFORE UPDATE OPTION “Lexus” “GPS” to “NEW NAME”

```
mysql> select * from automobiles where model='IS250';
+-----+-----+-----+-----+
| id | make | model | price |
+-----+-----+-----+-----+
| 2 | Lexus | IS250 | 16985 |
+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> select * from models where autoid=2;
+-----+-----+-----+
| autoid | optsetid | optid |
+-----+-----+-----+
| 2 | 3 | 5 |
| 2 | 3 | 6 |
| 2 | 3 | 7 |
| 2 | 4 | 8 |
| 2 | 4 | 9 |
| 2 | 5 | 10 |
| 2 | 5 | 9 |
+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> select * from optionsets where id=3 or id=4 or id=5;
+-----+-----+
| id | name |
+-----+-----+
| 3 | Color |
| 4 | GPS |
| 5 | Power Moonroof |
+-----+-----+
3 rows in set (0.00 sec)

mysql>
```

You can see that the original Option “GPS” has optid=4, which is (2, 4, 8/9) from models.

## AFTER UPDATE OPTION “Lexus” “GPS” to “NEW NAME”

```
mysql> select * from models where autoid=2;
+-----+-----+-----+
| autoid | optsetid | optid |
+-----+-----+-----+
| 2 | 3 | 5 |
| 2 | 3 | 6 |
| 2 | 3 | 7 |
| 2 | 4 | 8 |
| 2 | 4 | 9 |
| 2 | 5 | 10 |
| 2 | 5 | 9 |
+-----+-----+-----+
7 rows in set (0.00 sec)

ERROR:
No query specified

mysql> select * from optionsets;
+-----+-----+
| id | name |
+-----+-----+
| 1 | Transmission |
| 2 | Brakes |
| 3 | Color |
| 4 | NEW NAME |
| 5 | Power Moonroof |
| 6 | Side Impact Air Bags |
+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

Since there was only one using the Option “GPS”, it can directly update the Option name without worry. Notice that the original (2, 4, 8/9) from models is still the same (2, 4, 8/9)

## BEFORE UPDATING OPTION “Prius” “Transmission” to “optionset”

1 row in set (0.00 sec)

```
mysql> select * from automobiles where model='Prius';
```

id	make	model	price
1	Toyota	Prius	18000

1 row in set (0.00 sec)

```
mysql> select * from optionsets where name='Transmission';
```

id	name
1	Transmission

1 row in set (0.00 sec)

```
mysql> select * from models;
```

autoid	optsetid	optid
1	1	1
1	1	2
1	2	3
1	2	4
2	3	5
2	3	6
2	3	7
2	4	8
2	4	9
2	5	10
2	5	9
3	3	11
3	3	12
3	3	13
3	3	14
3	3	15
3	3	16
3	3	17
3	3	18
3	3	19
3	3	20
3	1	1
3	1	2
3	2	21
3	2	4
3	2	22
3	6	23
3	6	9
3	5	10
3	5	9

30 rows in set (0.00 sec)

```
mysql>
```

The original is (1, 1, 1/2) from models, notice there are other using “Transmission” (optset=1) such as (3, 1, 1) from models. Thus, it’ll have to create a new Option and change that name to “optionset” so it won’t update the other one that’s using “Transmission”.

## AFTER UPDATING “Prius” “Transmission” TO “optionset”

```
mysql> select * from models;
+-----+-----+-----+
| autoid | optsetid | optid |
+-----+-----+-----+
| 1 | 7 | 1 |
| 1 | 7 | 2 |
| 1 | 2 | 3 |
| 1 | 2 | 4 |
| 2 | 3 | 5 |
| 2 | 3 | 6 |
| 2 | 3 | 7 |
| 2 | 4 | 8 |
| 2 | 4 | 9 |
| 2 | 5 | 10 |
| 2 | 5 | 9 |
| 3 | 3 | 11 |
| 3 | 3 | 12 |
| 3 | 3 | 13 |
| 3 | 3 | 14 |
| 3 | 3 | 15 |
| 3 | 3 | 16 |
| 3 | 3 | 17 |
| 3 | 3 | 18 |
| 3 | 3 | 19 |
| 3 | 3 | 20 |
| 3 | 1 | 1 |
| 3 | 1 | 2 |
| 3 | 2 | 21 |
| 3 | 2 | 4 |
| 3 | 2 | 22 |
| 3 | 6 | 23 |
| 3 | 6 | 9 |
| 3 | 5 | 10 |
| 3 | 5 | 9 |
+-----+-----+-----+
30 rows in set (0.00 sec)

mysql> select * from optionsets;
+----+-----+
| id | name |
+----+-----+
| 1 | Transmission |
| 2 | Brakes |
| 3 | Color |
| 4 | NEW NAME |
| 5 | Power Moonroof |
| 6 | Side Impact Air Bags |
| 7 | optionset |
+----+-----+
7 rows in set (0.00 sec)

mysql>
```

The original was (1, 1, 1/2) models, but it has now changed to (1, 7, 1/2) since there was another using the OptionSet “Transmission”, needed to add the new OptionSet “optionset” for Pirus (notice that there’s the extra new Optionset) to avoid changing OptionSet name for the other model too

## BEFORE UPDATING PRICE “Lexus” “NEW NAME” “Present” from \$700 to \$1050

```
mysql> select * from options;
+----+-----+-----+
| id | name | price |
+----+-----+-----+
| 1 | Automatic | 0 |
| 2 | Manual | -815 |
| 3 | Regular | 0 |
| 4 | ABS | 400 |
| 5 | Black | 0 |
| 6 | Silver | 0 |
| 7 | White | 0 |
| 8 | Present | 700 |
| 9 | Not Present | 0 |
| 10 | Present | 595 |
| 11 | Fort Knox Gold Clearcoat Metallic | 0 |
| 12 | Liquid Grey Clearcoat Metallic | 0 |
| 13 | Infra-Red Clearcoat | 0 |
| 14 | Grabber Green Clearcoat Metallic | 0 |
| 15 | Sangria Red Clearcoat Metallic | 0 |
| 16 | French Blue Clearcoat Metallic | 0 |
| 17 | Twilight Blue Clearcoat Metallic | 0 |
| 18 | CD Silver Clearcoat Metallic | 0 |
| 19 | Pitch Black Clearcoat | 0 |
| 20 | Cloud 9 White Clearcoat | 0 |
| 21 | Standard | 0 |
| 22 | ABS with Advance Trac | 1625 |
| 23 | Present | 350 |
+----+-----+-----+
23 rows in set (0.00 sec)

mysql> select * from models where optid=8;
+-----+-----+-----+
| autoid | optsetid | optid |
+-----+-----+-----+
| 2 | 4 | 8 |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

Only one using the option (Present, \$700)

## AFTER UPDATING PRICE “Lexus” “NEW NAME” “Present” from \$700 to \$1050

```
mysql> select * from options;
```

id	name	price
1	Automatic	0
2	Manual	-815
3	Regular	0
4	ABS	400
5	Black	0
6	Silver	0
7	White	0
8	Present	1050
9	Not Present	0
10	Present	595
11	Fort Knox Gold Clearcoat Metallic	0
12	Liquid Grey Clearcoat Metallic	0
13	Infra-Red Clearcoat	0
14	Grabber Green Clearcoat Metallic	0
15	Sangria Red Clearcoat Metallic	0
16	French Blue Clearcoat Metallic	0
17	Twilight Blue Clearcoat Metallic	0
18	CD Silver Clearcoat Metallic	0
19	Pitch Black Clearcoat	0
20	Cloud 9 White Clearcoat	0
21	Standard	0
22	ABS with Advance Trac	1625
23	Present	350

23 rows in set (0.00 sec)

```
mysql> select * from models where optid=8;
```

autoid	optsetid	optid
2	4	8

1 row in set (0.00 sec)

```
mysql>
```

Again, only one model was using the same option, so just updating the price directly will do.

## BEFORE UPDATING “Focus” "Power Moonroof" "Present" from \$595 to \$777

```
mysql> select * from models where optid=10;
```

autoid	optsetid	optid
2	5	10
3	5	10

2 rows in set (0.00 sec)

```
mysql> select * from options;
```

id	name	price
1	Automatic	0
2	Manual	-815
3	Regular	0
4	ABS	400
5	Black	0
6	Silver	0
7	White	0
8	Present	1050
9	Not Present	0
10	Present	595
11	Fort Knox Gold Clearcoat Metallic	0
12	Liquid Grey Clearcoat Metallic	0
13	Infra-Red Clearcoat	0
14	Grabber Green Clearcoat Metallic	0
15	Sangria Red Clearcoat Metallic	0
16	French Blue Clearcoat Metallic	0
17	Twilight Blue Clearcoat Metallic	0
18	CD Silver Clearcoat Metallic	0
19	Pitch Black Clearcoat	0
20	Cloud 9 White Clearcoat	0
21	Standard	0
22	ABS with Advance Trac	1625
23	Present	350

23 rows in set (0.00 sec)

```
mysql>
```

There are multiple using option (Present, \$595), so it'll have to create a new Option.

## AFTER UPDATING “Focus” “Power Moonroof” “Present” from \$595 to \$777

```
mysql> select * from models where optid=10;
```

autoid	optsetid	optid
2	5	10

1 row in set (0.00 sec)

```
mysql> select * from options;
```

id	name	price
1	Automatic	0
2	Manual	-815
3	Regular	0
4	ABS	400
5	Black	0
6	Silver	0
7	White	0
8	Present	1050
9	Not Present	0
10	Present	595
11	Fort Knox Gold Clearcoat Metallic	0
12	Liquid Grey Clearcoat Metallic	0
13	Infra-Red Clearcoat	0
14	Grabber Green Clearcoat Metallic	0
15	Sangria Red Clearcoat Metallic	0
16	French Blue Clearcoat Metallic	0
17	Twilight Blue Clearcoat Metallic	0
18	CD Silver Clearcoat Metallic	0
19	Pitch Black Clearcoat	0
20	Cloud 9 White Clearcoat	0
21	Standard	0
22	ABS with Advance Trac	1625
23	Present	350
24	Present	777

24 rows in set (0.00 sec)

```
mysql> select * from models where optid=24;
```

autoid	optsetid	optid
3	5	24

1 row in set (0.00 sec)

```
mysql> █
```

The original other one that was using (Present, 595) remains the same while it created a new Option for “Focus” “Power Moonroof” to have (Present, 777)

## BEFORE DELETING “Focus”

```
mysql> select * from automobiles;
```

id	make	model	price
1	Toyota	Prius	18000
2	Lexus	LS250	16985

2 rows in set (0.00 sec)

```
mysql> select * from optionsets;
```

id	name
2	Brakes
3	Color
4	NEW NAME
5	Power Moonroof
7	optionset

5 rows in set (0.00 sec)

```
mysql> select * from options;
```

id	name	price
1	Automatic	0
2	Manual	-815
3	Regular	0
4	ABS	400
5	Black	0
6	Silver	0
7	White	0
8	Present	1050
9	Not Present	0
10	Present	595

10 rows in set (0.00 sec)

```
mysql> █
```

## AFTER DELETING “Focus”

```
[mysql> select * from automobiles;
+-----+-----+-----+-----+
| id | make | model | price |
+-----+-----+-----+-----+
| 1 | Toyota | Prius | 18000 |
| 2 | Lexus | IS250 | 16985 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

[mysql> select * from optionsets;
+-----+-----+
| id | name |
+-----+-----+
| 2 | Brakes |
| 3 | Color |
| 4 | NEW NAME |
| 5 | Power Moonroof |
| 7 | optionset |
+-----+-----+
5 rows in set (0.00 sec)

[mysql> select * from options;
+-----+-----+-----+
| id | name | price |
+-----+-----+-----+
| 1 | Automatic | 0 |
| 2 | Manual | -815 |
| 3 | Regular | 0 |
| 4 | ABS | 400 |
| 5 | Black | 0 |
| 6 | Silver | 0 |
| 7 | White | 0 |
| 8 | Present | 1050 |
| 9 | Not Present | 0 |
| 10 | Present | 595 |
+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> ]
```

## AFTER DELETING “Prius”

```
[mysql> select * from automobiles;
+-----+-----+-----+-----+
| id | make | model | price |
+-----+-----+-----+-----+
| 2 | Lexus | IS250 | 16985 |
+-----+-----+-----+-----+
1 row in set (0.00 sec)

[mysql> select * from optionsets;
+-----+-----+
| id | name |
+-----+-----+
| 3 | Color |
| 4 | NEW NAME |
| 5 | Power Moonroof |
+-----+-----+
3 rows in set (0.00 sec)

[mysql> select * from options;
+-----+-----+-----+
| id | name | price |
+-----+-----+-----+
| 5 | Black | 0 |
| 6 | Silver | 0 |
| 7 | White | 0 |
| 8 | Present | 1050 |
| 9 | Not Present | 0 |
| 10 | Present | 595 |
+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> ]
```

## AFTER DELETING “Lexus” (the last one)

```
[mysql> select * from automobiles;
Empty set (0.00 sec)

[mysql> select * from optionsets;
Empty set (0.00 sec)

[mysql> select * from options;
Empty set (0.00 sec)

mysql> ]
```

## AFTER DELETING ALL THE TABLES

```
[mysql> select * from automobiles;
Empty set (0.00 sec)

[mysql> select * from optionsets;
Empty set (0.00 sec)

[mysql> select * from options;
Empty set (0.00 sec)

[mysql> show tables;
Empty set (0.00 sec)

mysql> ]
```