

POTENTIAL TEST SUITE FOR MULTIPLE TABLE DELETE RETURNING

These test cases are generated before implementation of actual code, if any problem is identified I would be glad to resolve it. Thankyou.

Date : 27th May 2020

DataBase, Table and View Creation

MariaDB [(none)]> create database trying_multiple_delete_ret;
Query OK, 1 row affected (0.013 sec)

MariaDB [(none)]> use trying_multiple_delete_ret;
Database changed

MariaDB [trying_multiple_delete_ret]> CREATE TABLE ANIMALS (name varchar(40) primary key, colour varchar(20) not null, weight int(4) not null);
Query OK, 0 rows affected (0.175 sec)

MariaDB [trying_multiple_delete_ret]> CREATE TABLE HABITAT (habitat_name varchar(40) primary key, animal_name varchar(40) not null);
Query OK, 0 rows affected (0.154 sec)

MariaDB [trying_multiple_delete_ret]> CREATE TABLE FOOD (food_name varchar(20) primary key, animal_name varchar(40) not null);
Query OK, 0 rows affected (0.148 sec)

MariaDB [trying_multiple_delete_ret]> CREATE VIEW COLOR AS SELECT name,colour FROM ANIMALS ;
Query OK, 0 rows affected (0.101 sec)

MariaDB [trying_multiple_delete_ret]> CREATE VIEW WEIGHT AS SELECT name,weight FROM ANIMALS;
Query OK, 0 rows affected (0.032 sec)

MariaDB [trying_multiple_delete_ret]> describe ANIMALS;

Field	Type	Null	Key	Default	Extra
name	varchar(40)	NO	PRI	NULL	
colour	varchar(20)	NO		NULL	
weight	int(4)	NO		NULL	

3 rows in set (0.003 sec)

```
MariaDB [trying_multiple_delete_ret]> describe HABITAT;
```

Field	Type	Null	Key	Default	Extra
habitat_name	varchar(40)	NO	PRI	NULL	
animal_name	varchar(40)	NO		NULL	

```
2 rows in set (0.003 sec)
```

```
MariaDB [trying_multiple_delete_ret]> describe FOOD;
```

Field	Type	Null	Key	Default	Extra
food_name	varchar(20)	NO	PRI	NULL	
animal_name	varchar(40)	NO		NULL	

```
2 rows in set (0.003 sec)
```

```
## Data Insertion
```

```
MariaDB [trying_multiple_delete_ret]> INSERT INTO ANIMALS VALUES ('Penguins','CounterShade',23) ,  
( 'Polar Bear','White',450) , ('Toucan','Dark Blue',1) , ('Camel','Brown',600) , ('Reindeer','Grey',200) RETURNING *;
```

name	colour	weight
Penguins	CounterShade	23
Polar Bear	White	450
Toucan	Dark Blue	1
Camel	Brown	600
Reindeer	Grey	200

```
5 rows in set (0.015 sec)
```

```
MariaDB [trying_multiple_delete_ret]> INSERT INTO HABITAT VALUES ('Antarctica','Penguins') ,  
('Arctic','Polar Bear') , ('Rainforest','Toucan') , ('Desert','Camel') , ('Tundra','Reindeer') RETURNING *;
```

```
+-----+-----+  
| habitat_name | animal_name |  
+-----+-----+  
| Antarctica   | Penguins    |  
| Arctic       | Polar Bear  |  
| Rainforest   | Toucan     |  
| Desert       | Camel      |  
| Tundra       | Reindeer   |  
+-----+-----+
```

```
5 rows in set (0.018 sec)
```

```
MariaDB [trying_multiple_delete_ret]> INSERT INTO FOOD VALUES ('Fish','Penguins') , ('Seals','Polar Bear') ,  
('Fruits','Toucan') , ('Oats','Camel') , ('Herbs','Reindeer') RETURNING *;
```

```
+-----+-----+  
| food_name | animal_name |  
+-----+-----+  
| Fish      | Penguins    |  
| Seals     | Polar Bear  |  
| Fruits    | Toucan     |  
| Oats      | Camel      |  
| Herbs     | Reindeer   |  
+-----+-----+
```

```
5 rows in set (0.027 sec)
```

```
## MULTIPLE TABLE DELETE RETURNING TEST CASES
```

```
MariaDB [trying_multiple_delete_ret]> DELETE FROM ANIMALS USING ANIMALS,FOOD WHERE ANIMALS.name=FOOD.animal_name  
and FOOD.food_name LIKE 'H%' RETURNING ANIMALS.name,ANIMALS.colour,FOOD.food_name,UPPER(FOOD.animal_name);  
EXPECTED OUTPUT:
```

```
+-----+-----+-----+-----+  
| ANIMALS.name | ANIMALS.colour | FOOD.food_name | UPPER(FOOD.animal_name) |  
+-----+-----+-----+-----+  
| Reindeer     | Grey           | Herbs          | REINDEER                |  
+-----+-----+-----+-----+
```

```
1 row in set (0.027 sec)
```

```
MariaDB [trying_multiple_delete_ret]> DELETE FROM ANIMALS USING ANIMALS,FOOD WHERE ANIMALS.name=FOOD.animal_name
and Animals.colour='White' RETURNING ANIMALS.weight,ANIMALS.weight+ANIMALS.weight,FOOD.food_name,UPPER(FOOD.animal_name);
EXPECTED OUTPUT:
```

```
+-----+-----+-----+-----+
| ANIMALS.weight | ANIMALS.weight+ANIMALS.weight | FOOD.food_name | UPPER(FOOD.animal_name) |
+-----+-----+-----+-----+
| 450 | 900 | Seals | POLAR BEAR |
+-----+-----+-----+-----+
```

1 row in set (0.027 sec)

```
MariaDB [trying_multiple_delete_ret]> DELETE FROM ANIMALS USING ANIMALS,HABITAT,FOOD WHERE ANIMALS.name=FOOD.animal_name and FOOD.food_name LIKE '_Z%' RETURNING *;
EXPECTED OUTPUT:
Empty set (0.001 sec)
```

```
MariaDB [trying_multiple_delete_ret]> DELETE FROM HABITAT USING ANIMALS,HABITAT,FOOD WHERE ANIMALS.name=FOOD.animal_name and FOOD.food_name LIKE 'H%' RETURNING *;
EXPECTED OUTPUT:
```

```
+-----+-----+
| habitat_name | animal_name |
+-----+-----+
| Antarctica | Penguins |
| Arctic | Polar Bear |
| Rainforest | Toucan |
| Desert | Camel |
| Tundra | Reindeer |
+-----+-----+
```

5 rows in set (0.018 sec)

```
MariaDB [trying_multiple_delete_ret]> DELETE FROM COLOR USING COLOR,FOOD WHERE COLOR.name=FOOD.animal_name and FOOD.food_name LIKE 'H%' RETURNING COLOR.name;
```

```
+-----+
| COLOR.name |
+-----+
| Reindeer |
+-----+
```

1 row in set (0.001 sec)

```
MariaDB [trying_multiple_delete_ret]> INSERT INTO HABITAT VALUES ('Antarctica','Penguins'), ('Arctic','Polar Bear'), ('Rainforest','Toucan'),
('Desert','Camel'), ('Tundra','Reindeer');
```

```
Query OK, 5 rows affected (0.027 sec)
Records: 5 Duplicates: 0 Warnings: 0
```


I suppose nothing should be explicitly returned in the below test cases even if RETURNING is present in the query;

```
MariaDB [trying_multiple_delete_ret]> ANALYZE DELETE FROM HABITAT USING ANIMALS,HABITAT,FOOD WHERE ANIMALS.name=FOOD.animal_name
and HABITAT.habitat_name = 'Tundra' RETURNING *;
EXPECTED OUTPUT: {When Tundra is deleted}
```

id	select_type	table	type	possible_keys	key	key_len	ref	rows	r_rows	filtered	r_filtered	Extra
1	SIMPLE	HABITAT	const	PRIMARY	PRIMARY	42	const	1	NULL	100.00	NULL	
1	SIMPLE	ANIMALS	index	PRIMARY	PRIMARY	42	NULL	5	5.00	100.00	100.00	Using index
1	SIMPLE	FOOD	ALL	NULL	NULL	NULL	NULL	5	5.00	100.00	20.00	Using where

3 rows in set (0.037 sec)

```
MariaDB [trying_multiple_delete_ret]> ANALYZE DELETE FROM HABITAT USING ANIMALS,HABITAT,FOOD WHERE ANIMALS.name=FOOD.animal_name
and HABITAT.habitat_name = 'Tundra' RETURNING *;
EXPECTED OUTPUT: {When there is nothing to delete}
```

id	select_type	table	type	possible_keys	key	key_len	ref	rows	r_rows	filtered	r_filtered	Extra
1	SIMPLE	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	no matching row in const table

1 row in set (0.002 sec)

```
MariaDB [trying_multiple_delete_ret]> EXPLAIN DELETE FROM HABITAT USING ANIMALS,HABITAT,FOOD WHERE ANIMALS.name=FOOD.animal_name
and HABITAT.habitat_name = 'Rainforest' RETURNING *;
EXPECTED OUTPUT:
```

id	select_type	table	type	possible_keys	key	key_len	ref	rows	Extra
1	SIMPLE	HABITAT	const	PRIMARY	PRIMARY	42	const	1	
1	SIMPLE	ANIMALS	index	PRIMARY	PRIMARY	42	NULL	5	Using index
1	SIMPLE	FOOD	ALL	NULL	NULL	NULL	NULL	5	Using where

3 rows in set (0.002 sec)

```

MariaDB [trying_multiple_delete_ret]> EXPLAIN DELETE FROM HABITAT USING ANIMALS,HABITAT,FOOD WHERE ANIMALS.name=FOOD.animal_name
and HABITAT.habitat_name = 'Rainforest' RETURNING *;
EXPECTED OUTPUT:

```

id	select_type	table	type	possible_keys	key	key_len	ref	rows	Extra
1	SIMPLE	HABITAT	const	PRIMARY	PRIMARY	42	const	1	Impossible WHERE noticed after reading const tables

```
1 row in set (0.002 sec)
```

```

MariaDB [trying_multiple_delete_ret]> EXPLAIN EXTENDED DELETE FROM HABITAT USING ANIMALS,HABITAT,FOOD WHERE ANIMALS.name=FOOD.animal_name
and HABITAT.habitat_name = 'Desert' RETURNING *;
EXPECTED OUTPUT:

```

id	select_type	table	type	possible_keys	key	key_len	ref	rows	filtered	Extra
1	SIMPLE	HABITAT	const	PRIMARY	PRIMARY	42	const	1	100.00	
1	SIMPLE	ANIMALS	index	PRIMARY	PRIMARY	42	NULL	5	100.00	Using index
1	SIMPLE	FOOD	ALL	NULL	NULL	NULL	NULL	5	100.00	Using where

```
3 rows in set (0.002 sec)
```

```

MariaDB [trying_multiple_delete_ret]> EXPLAIN EXTENDED DELETE FROM HABITAT USING ANIMALS,HABITAT,FOOD WHERE ANIMALS.name=FOOD.animal_name
and HABITAT.habitat_name = 'Desert' RETURNING *;
EXPECTED OUTPUT:

```

id	select_type	table	type	possible_keys	key	key_len	ref	rows	filtered	Extra
1	SIMPLE	HABITAT	const	PRIMARY	PRIMARY	42	const	1	100.00	Impossible WHERE noticed after reading const tables

```
1 row in set (0.002 sec)
```

```
MariaDB [trying_multiple_delete_ret]> EXPLAIN FORMAT = "json" DELETE FROM HABITAT USING ANIMALS,HABITAT,FOOD WHERE ANIMALS.name=FOOD.animal_name
and HABITAT.habitat_name = 'Antarctica' RETURNING *;
EXPECTED OUTPUT:
```

```
-----
| EXPLAIN
```

```
-----
| {
"query_block": {
  "select_id": 1,
  "table": {
    "table_name": "HABITAT",
    "access_type": "const",
    "possible_keys": ["PRIMARY"],
    "key": "PRIMARY",
    "key_length": "42",
    "used_key_parts": ["habitat_name"],
    "ref": ["const"],
    "rows": 1,
    "filtered": 100
  },
  "table": {
    "table_name": "ANIMALS",
    "access_type": "index",
    "possible_keys": ["PRIMARY"],
    "key": "PRIMARY",
    "key_length": "42",
    "used_key_parts": ["name"],
    "rows": 5,
    "filtered": 100,
    "using_index": true
  },
  "table": {
    "table_name": "FOOD",
    "access_type": "ALL",
    "rows": 5,
    "filtered": 100,
    "attached_condition": "FOOD.animal_name = ANIMALS.`name`"
  }
}
} |
-----
```

```
MariaDB [trying_multiple_delete_ret]> EXPLAIN FORMAT = "json" DELETE FROM HABITAT USING ANIMALS,HABITAT,FOOD WHERE ANIMALS.name=FOOD.animal_name  
and HABITAT.habitat_name = 'Antarctica' RETURNING *;
```

```
EXPECTED OUTPUT:
```

```
+-----+  
| EXPLAIN |  
+-----+  
| {  
  "query_block": {  
    "select_id": 1,  
    "table": {  
      "message": "Impossible WHERE noticed after reading const tables"  
    }  
  }  
} |  
+-----+
```

```
1 row in set (0.002 sec)
```

```
## Clean Up
```

```
MariaDB [trying_multiple_delete_ret]> drop table ANIMALS;
```

```
MariaDB [trying_multiple_delete_ret]> drop table FOOD;
```

```
MariaDB [trying_multiple_delete_ret]> drop table HABITAT;
```

```
MariaDB [trying_multiple_delete_ret]> drop view COLOR;
```

```
MariaDB [trying_multiple_delete_ret]> drop view WEIGHT;
```

```
## Done
```