

## CONSTRAINTS ON TABLES

1. Create an item table with the item name, item code and quantity on hand.

MariaDB [glad]> create table item(iname varchar(20),icode int,quqntity int); Query

OK, 0 rows affected (0.19 sec)

MariaDB [glad]> desc item;

Field	Type	Null	Key	Default	Extra
iname	varchar(20)	YES		NULL	
icode	int(11)	YES		NULL	
quqntity	int(11)	YES		NULL	

3 rows in set (0.00 sec)

### UNIQUE CONSTRAINT:

MariaDB [glad]> alter table item add constraint uk unique(icode);

Query OK, 0 rows affected (0.41 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [glad]> desc item;

Field	Type	Null	Key	Default	Extra
iname	varchar(20)	YES		NULL	
icode	int(11)	YES	UNI	NULL	
quqntity	int(11)	YES		NULL	

```
+-----+-----+-----+-----+-----+
```

3 rows in set (0.00 sec)

MariaDB [glad]> insert into item values('mouse',1000,20);

Query OK, 1 row affected (0.02 sec)

MariaDB [glad]> insert into item values('keyboard',1000,20);

ERROR 1062 (23000): Duplicate entry '1000' for key 'uk'

MariaDB [glad]> insert into item values('keyboard',1001,20);

Query OK, 1 row affected (0.03 sec)

MariaDB [glad]> select \* from item;

```
+-----+-----+-----+
```

```
|  iname |  icode | quqntity |
```

```
+-----+-----+-----+
```

```
| mouse  |  1000 |    20 |
```

```
| keyboard | 1001 |    20 |
```

```
+-----+-----+-----+
```

2 rows in set (0.00 sec)

MariaDB [glad]> delete from item;

Query OK, 2 rows affected (0.04 sec)

### PRIMARY KEY CONSTRAINT:

MariaDB [glad]> alter table item add primary key(icode);

Query OK, 0 rows affected (0.41 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [glad]> desc item;

```
+-----+-----+-----+-----+-----+
```

```
| Field | Type | Null | Key | Default | Extra |
```

```

+-----+-----+-----+-----+
| iname  | varchar(20) | YES |   | NULL |   |
| icode  | int(11)     | NO  | PRI | NULL |   |
| quqntity | int(11)    | YES |   | NULL |   |
+-----+-----+-----+-----+

```

3 rows in set (0.00 sec)

MariaDB [glad]> insert into item values('mouse',1000,20);

Query OK, 1 row affected (0.03 sec)

MariaDB [glad]> insert into item values('keyboard',1000,20);

ERROR 1062 (23000): Duplicate entry '1000' for key 'PRIMARY'

MariaDB [glad]> insert into item values('keyboard',null,20); ERROR

1048 (23000): Column 'icode' cannot be null

MariaDB [glad]> insert into item values('keyboard','',20); Query

OK, 1 row affected, 1 warning (0.02 sec)

MariaDB [glad]> select \* from item;

```

+-----+-----+-----+
| iname | icode | quqntity |
+-----+-----+-----+
| keyboard | 0 | 20 |
| mouse | 1000 | 20 |
+-----+-----+-----+

```

2 rows in set (0.00 sec)

# **DEFAULT CONSTRAINT:**

MariaDB [glad]> alter table item alter quqntity set default '0';

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [glad]> desc item;

Field	Type	Null	Key	Default	Extra
iname	varchar(20)	YES		NULL	
icode	int(11)	NO	PRI	NULL	
quqntity	int(11)	YES		0	

3 rows in set (0.00 sec)

MariaDB [glad]> insert into item(iname,icode) values('cd',1002);

Query OK, 1 row affected (0.01 sec)

MariaDB [glad]> insert into item(iname,icode) values('usb',1003);

Query OK, 1 row affected (0.03 sec)

MariaDB [glad]> select \* from item;

iname	icode	quqntity
keyboard	0	20
mouse	1000	20
cd	1002	0
usb	1003	0

4 rows in set (0.00 sec)

**NOT NULL CONSTRAINT:**

MariaDB [glad]> create table item1(iname varchar(20),icode int not null,quqntity int); Query

OK, 0 rows affected (0.26 sec)

MariaDB [glad]> desc item1;

Field	Type	Null	Key	Default	Extra
iname	varchar(20)	YES		NULL	
icode	int(11)	NO		NULL	
quqntity	int(11)	YES		NULL	

3 rows in set (0.00 sec)

MariaDB [glad]> insert into item1 values('cd',null,15);

ERROR 1048 (23000): Column 'icode' cannot be null

#### **FOREIGN KEY CONSTRAINT:**

MariaDB [glad]> create table order2(ordno int,icode int,quanreq int,foreign key(icode) references item(icode));

Query OK, 0 rows affected (0.37 sec)

MariaDB [glad]> desc order2;

Field	Type	Null	Key	Default	Extra
ordno	int(11)	YES		NULL	
icode	int(11)	YES	MUL	NULL	
quanreq	int(11)	YES		NULL	

3 rows in set (0.00 sec)

```
MariaDB [glad]> insert into order2 values(1,1004,21);
```

```
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails (`vimali`.`order2`,  
CONSTRAINT `order2_ibfk_1` FOREIGN KEY (`icode`) REFERENCES `item` (`icode`))
```

```
MariaDB [glad]> insert into order2 values(1,1003,21); Query
```

```
OK, 1 row affected (0.02 sec)
```

```
MariaDB [glad]> insert into order2 values(2,1002,25); Query
```

```
OK, 1 row affected (0.03 sec)
```

```
MariaDB [glad]> insert into order2 values(3,1001,15);
```

```
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails (`vimali`.`order2`,  
CONSTRAINT `order2_ibfk_1` FOREIGN KEY (`icode`) REFERENCES `item` (`icode`))
```

```
MariaDB [glad]> insert into order2 values(3,1000,15); Query
```

```
OK, 1 row affected (0.03 sec)
```

```
MariaDB [glad]> select * from order2;
```

```
+-----+-----+-----+
```

```
| ordno | icode | quanreq |
```

```
+-----+-----+-----+
```

```
| 1 | 1003 | 21 |
```

```
| 2 | 1002 | 25 |
```

```
| 3 | 1000 | 15 |
```

```
+-----+-----+-----+
```

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