

```
#01
MariaDB [(none)]> show databases;
+-----+
| Database           |
+-----+
| dbibi             |
| dbspr              |
| information_schema |
| mysql               |
| performance_schema |
| sys                |
+-----+
6 rows in set (0.064 sec)

#02#
MariaDB [(none)]> select database();
+-----+
| database()         |
+-----+
| NULL               |
+-----+
1 row in set (0.003 sec)

#03
MariaDB [(none)]> use dbspr;
Database changed

#04
MariaDB [dbspr]> select database();
+-----+
| database()         |
+-----+
| dbspr              |
+-----+
1 row in set (0.001 sec)

#05
MariaDB [dbspr]> show tables;
Empty set (0.003 sec)

#06
MariaDB [dbspr]> drop table if exists tblesa;
Query OK, 0 rows affected, 1 warning (0.093 sec)

#07
MariaDB [dbspr]> create table if not exists tblesa (eid int primary key auto_increment)
auto_increment = 1001;
Query OK, 0 rows affected (0.018 sec)

#08
MariaDB [dbspr]> drop table if exists tblesa;
Query OK, 0 rows affected (0.009 sec)

#09
MariaDB [dbspr]> create table if not exists tblesa
-> (
-> eid int primary key auto_increment
-> ) auto_increment = 1001;
Query OK, 0 rows affected (0.010 sec)

#10
MariaDB [dbspr]> show tables;
+-----+
| Tables_in_dbspr   |
+-----+
| tblesa            |
+-----+
1 row in set (0.001 sec)
```

```
#11
MariaDB [dbspr]> select * from tblesa;
Empty set (0.007 sec)

#12
MariaDB [dbspr]> select count(*) from tblesa;
+-----+
| count(*) |
+-----+
|      0   |
+-----+
1 row in set (0.006 sec)

#13
MariaDB [dbspr]> desc tblesa;
+-----+-----+-----+-----+-----+
| Field | Type    | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+
| eid   | int(11) | NO   | PRI  | NULL    | auto_increment |
+-----+-----+-----+-----+-----+
1 row in set (0.042 sec)

#14
MariaDB [dbspr]> alter table tblesa
  -> add column ename varchar(5) not null check(length(trim(ename)) > 0);
Query OK, 0 rows affected (0.037 sec)
Records: 0  Duplicates: 0  Warnings: 0

#15
MariaDB [dbspr]> desc tblesa;
+-----+-----+-----+-----+-----+
| Field | Type    | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+
| eid   | int(11) | NO   | PRI  | NULL    | auto_increment |
| ename | varchar(5)| NO   |      | NULL    |               |
+-----+-----+-----+-----+-----+
2 rows in set (0.041 sec)

#16
MariaDB [dbspr]> alter table tblesa
  -> add column npay decimal(10, 2);
Query OK, 0 rows affected (0.025 sec)
Records: 0  Duplicates: 0  Warnings: 0

#17
MariaDB [dbspr]> desc tblesa;
+-----+-----+-----+-----+-----+
| Field | Type    | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+
| eid   | int(11) | NO   | PRI  | NULL    | auto_increment |
| ename | varchar(5)| NO   |      | NULL    |               |
| npay  | decimal(10,2)| YES  |      | NULL    |               |
+-----+-----+-----+-----+-----+
3 rows in set (0.034 sec)

#18
MariaDB [dbspr]> alter table tblesa
  -> add column sal decimal(10,2) unsigned not null after ename;
Query OK, 0 rows affected (0.023 sec)
Records: 0  Duplicates: 0  Warnings: 0

#19
MariaDB [dbspr]> desc tblesa;
+-----+-----+-----+-----+-----+
| Field | Type    | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+
| eid   | int(11) | NO   | PRI  | NULL    | auto_increment |
| ename | varchar(5)| NO   |      | NULL    |               |
+-----+-----+-----+-----+-----+
```

```

| sal | decimal(10,2) unsigned | NO |      | NULL |      |
| npay | decimal(10,2)          | YES |      | NULL |      |
+-----+-----+-----+-----+-----+
4 rows in set (0.025 sec)

```

```
#20
MariaDB [dbspr]> alter table tblesa add column hra decimal(8, 2) as (sal * 20.0 /100 ) after sal;
Query OK, 0 rows affected (0.028 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
#21
MariaDB [dbspr]> desc tblesa;
```

```

+-----+-----+-----+-----+-----+
| Field | Type            | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+
| eid   | int(11)          | NO  | PRI | NULL    | auto_increment |
| ename | varchar(5)       | NO  |     | NULL    |               |
| sal   | decimal(10,2) unsigned | NO  |     | NULL    |               |
| hra   | decimal(8,2)        | YES |     | NULL    | VIRTUAL GENERATED |
| npay  | decimal(10,2)       | YES |     | NULL    |               |
+-----+-----+-----+-----+-----+
5 rows in set (0.033 sec)
```

```
#22
MariaDB [dbspr]> alter table tblesa add column da decimal(8, 2) as (sal * 15.0 / 100) after hra,
-> add column pf decimal (8, 2) as (sal * 35.0 / 100) after da, add column gpay
-> decimal (11, 2) as (sal + hra + da) after pf;
Query OK, 0 rows affected (0.023 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
#23
MariaDB [dbspr]> desc tblesa;
```

```

+-----+-----+-----+-----+-----+
| Field | Type            | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+
| eid   | int(11)          | NO  | PRI | NULL    | auto_increment |
| ename | varchar(5)       | NO  |     | NULL    |               |
| sal   | decimal(10,2) unsigned | NO  |     | NULL    |               |
| hra   | decimal(8,2)        | YES |     | NULL    | VIRTUAL GENERATED |
| da    | decimal(8,2)        | YES |     | NULL    | VIRTUAL GENERATED |
| pf    | decimal(8,2)        | YES |     | NULL    | VIRTUAL GENERATED |
| gpay  | decimal(11,2)       | YES |     | NULL    | VIRTUAL GENERATED |
| npay  | decimal(10,2)       | YES |     | NULL    |               |
+-----+-----+-----+-----+-----+
8 rows in set (0.036 sec)
```

```
#24
MariaDB [dbspr]> alter table tblesa drop column npay;
Query OK, 0 rows affected (0.023 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
#25
MariaDB [dbspr]> desc tblesa;
```

```

+-----+-----+-----+-----+-----+
| Field | Type            | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+
| eid   | int(11)          | NO  | PRI | NULL    | auto_increment |
| ename | varchar(5)       | NO  |     | NULL    |               |
| sal   | decimal(10,2) unsigned | NO  |     | NULL    |               |
| hra   | decimal(8,2)        | YES |     | NULL    | VIRTUAL GENERATED |
| da    | decimal(8,2)        | YES |     | NULL    | VIRTUAL GENERATED |
| pf    | decimal(8,2)        | YES |     | NULL    | VIRTUAL GENERATED |
| gpay  | decimal(11,2)       | YES |     | NULL    | VIRTUAL GENERATED |
+-----+-----+-----+-----+-----+
7 rows in set (0.028 sec)
```

```
#26
MariaDB [dbspr]> alter table tblesa add column npay decimal(11, 2) as (gpay - pf);
Query OK, 0 rows affected (0.023 sec)
```

Records: 0 Duplicates: 0 Warnings: 0

#27

MariaDB [dbspr]> desc tblesa;

Field	Type	Null	Key	Default	Extra
eid	int(11)	NO	PRI	NULL	auto_increment
ename	varchar(5)	NO		NULL	
sal	decimal(10,2) unsigned	NO		NULL	
hra	decimal(8,2)	YES		NULL	VIRTUAL GENERATED
da	decimal(8,2)	YES		NULL	VIRTUAL GENERATED
pf	decimal(8,2)	YES		NULL	VIRTUAL GENERATED
gpay	decimal(11,2)	YES		NULL	VIRTUAL GENERATED
npay	decimal(11,2)	YES		NULL	VIRTUAL GENERATED

8 rows in set (0.030 sec)

#28

MariaDB [dbspr]> select * from tblesa;

Empty set (0.001 sec)

#29

MariaDB [dbspr]> select count(*) from tblesa;

count(*)
0

1 row in set (0.001 sec)

#30

MariaDB [dbspr]> insert into tblesa (ename, sal) values ('x5', 500000);

Query OK, 1 row affected (0.012 sec)

#31

MariaDB [dbspr]> select * from tblesa;

eid	ename	sal	hra	da	pf	gpay	npay
1001	x5	500000.00	100000.00	75000.00	175000.00	675000.00	500000.00

1 row in set (0.003 sec)

#32

MariaDB [dbspr]> select count(*) from tblesa;

count(*)
1

1 row in set (0.000 sec)

#33

MariaDB [dbspr]> insert into tblesa (ename, sal) values ('x3', 300000), ('x1', 100000), ('x2', -> 200000), ('x4', 400000);

Query OK, 4 rows affected (0.003 sec)

Records: 4 Duplicates: 0 Warnings: 0

#34

MariaDB [dbspr]> select * from tblesa;

eid	ename	sal	hra	da	pf	gpay	npay
1001	x5	500000.00	100000.00	75000.00	175000.00	675000.00	500000.00
1002	x3	300000.00	60000.00	45000.00	105000.00	405000.00	300000.00
1003	x1	100000.00	20000.00	15000.00	35000.00	135000.00	100000.00
1004	x2	200000.00	40000.00	30000.00	70000.00	270000.00	200000.00
1005	x4	400000.00	80000.00	60000.00	140000.00	540000.00	400000.00

```
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)
```

#35

```
MariaDB [dbspr]> select count(*) from tblesa;
+-----+
| count(*) |
+-----+
|      5 |
+-----+
1 row in set (0.001 sec)
```

#36

```
MariaDB [dbspr]> update tblesa set sal=sal- 100000;
Query OK, 5 rows affected (0.004 sec)
Rows matched: 5  Changed: 5  Warnings: 0
```

#37

```
MariaDB [dbspr]> select * from tblesa;
+-----+-----+-----+-----+-----+-----+-----+-----+
| eid | ename | sal      | hra     | da      | pf      | gpay    | npay   |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1001 | x5    | 400000.00 | 80000.00 | 60000.00 | 140000.00 | 540000.00 | 400000.00 |
| 1002 | x3    | 200000.00 | 40000.00 | 30000.00 | 70000.00  | 270000.00 | 200000.00 |
| 1003 | x1    | 0.00       | 0.00     | 0.00     | 0.00     | 0.00     | 0.00    |
| 1004 | x2    | 100000.00 | 20000.00 | 15000.00 | 35000.00  | 135000.00 | 100000.00 |
| 1005 | x4    | 300000.00 | 60000.00 | 45000.00 | 105000.00 | 405000.00 | 300000.00 |
+-----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)
```

#38

```
MariaDB [dbspr]> update tblesa set sal=sal + 100000;
Query OK, 5 rows affected (0.001 sec)
Rows matched: 5  Changed: 5  Warnings: 0
```

#39

```
MariaDB [dbspr]> select * from tblesa;
+-----+-----+-----+-----+-----+-----+-----+-----+
| eid | ename | sal      | hra     | da      | pf      | gpay    | npay   |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1001 | x5    | 500000.00 | 100000.00 | 75000.00 | 175000.00 | 675000.00 | 500000.00 |
| 1002 | x3    | 300000.00 | 60000.00  | 45000.00 | 105000.00 | 405000.00 | 300000.00 |
| 1003 | x1    | 100000.00 | 20000.00  | 15000.00 | 35000.00  | 135000.00 | 100000.00 |
| 1004 | x2    | 200000.00 | 40000.00  | 30000.00 | 70000.00  | 270000.00 | 200000.00 |
| 1005 | x4    | 400000.00 | 80000.00  | 60000.00 | 140000.00 | 540000.00 | 400000.00 |
+-----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)
```

#40

```
MariaDB [dbspr]> desc tblesa;
+-----+-----+-----+-----+-----+
| Field | Type           | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+
| eid   | int(11)        | NO   | PRI | NULL    | auto_increment |
| ename | varchar(5)     | NO   |     | NULL    |                |
| sal   | decimal(10,2) unsigned | NO   |     | NULL    |                |
| hra   | decimal(8,2)      | YES  |     | NULL    | VIRTUAL GENERATED |
| da    | decimal(8,2)      | YES  |     | NULL    | VIRTUAL GENERATED |
| pf    | decimal(8,2)      | YES  |     | NULL    | VIRTUAL GENERATED |
| gpay  | decimal(11,2)     | YES  |     | NULL    | VIRTUAL GENERATED |
| npay  | decimal(11,2)     | YES  |     | NULL    | VIRTUAL GENERATED |
+-----+-----+-----+-----+-----+
8 rows in set (0.030 sec)
```

#41

```
MariaDB [dbspr]> alter table tblesa modify column ename varchar(10);
Query OK, 5 rows affected (0.029 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

```
#42
MariaDB [dbspr]> desc tblesa;
+-----+-----+-----+-----+-----+-----+
| Field | Type            | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| eid   | int(11)          | NO   | PRI | NULL    | auto_increment |
| ename | varchar(10)      | YES  |     | NULL    |                |
| sal   | decimal(10,2) unsigned | NO   |     | NULL    |                |
| hra   | decimal(8,2)        | YES  |     | NULL    | VIRTUAL GENERATED |
| da    | decimal(8,2)        | YES  |     | NULL    | VIRTUAL GENERATED |
| pf    | decimal(8,2)        | YES  |     | NULL    | VIRTUAL GENERATED |
| gpay  | decimal(11,2)       | YES  |     | NULL    | VIRTUAL GENERATED |
| npay  | decimal(11,2)       | YES  |     | NULL    | VIRTUAL GENERATED |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.035 sec)

#43
MariaDB [dbspr]> select * from tblesa;
+-----+-----+-----+-----+-----+-----+-----+-----+
| eid | ename | sal      | hra      | da      | pf      | gpay      | npay      |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1001 | x5    | 500000.00 | 1000000.00 | 75000.00 | 175000.00 | 675000.00 | 500000.00 |
| 1002 | x3    | 300000.00 | 60000.00   | 45000.00 | 105000.00 | 405000.00 | 300000.00 |
| 1003 | x1    | 100000.00 | 20000.00   | 15000.00 | 35000.00   | 135000.00 | 100000.00 |
| 1004 | x2    | 200000.00 | 40000.00   | 30000.00 | 70000.00   | 270000.00 | 200000.00 |
| 1005 | x4    | 400000.00 | 80000.00   | 60000.00 | 140000.00 | 540000.00 | 400000.00 |
+-----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)

#44
MariaDB [dbspr]> alter table tblesa modify column ename text collate latin1_swedish_ci;
Query OK, 5 rows affected (0.024 sec)
Records: 5  Duplicates: 0  Warnings: 0

#45
MariaDB [dbspr]> select * from tblesa;
+-----+-----+-----+-----+-----+-----+-----+-----+
| eid | ename | sal      | hra      | da      | pf      | gpay      | npay      |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1001 | x5    | 500000.00 | 1000000.00 | 75000.00 | 175000.00 | 675000.00 | 500000.00 |
| 1002 | x3    | 300000.00 | 60000.00   | 45000.00 | 105000.00 | 405000.00 | 300000.00 |
| 1003 | x1    | 100000.00 | 20000.00   | 15000.00 | 35000.00   | 135000.00 | 100000.00 |
| 1004 | x2    | 200000.00 | 40000.00   | 30000.00 | 70000.00   | 270000.00 | 200000.00 |
| 1005 | x4    | 400000.00 | 80000.00   | 60000.00 | 140000.00 | 540000.00 | 400000.00 |
+-----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.004 sec)

#46
MariaDB [dbspr]> set @day='Sunday is a first day of week';
Query OK, 0 rows affected (0.005 sec)

#47
MariaDB [dbspr]> select @day;
+-----+
| @day           |
+-----+
| Sunday is a first day of week |
+-----+
1 row in set (0.003 sec)

#48
MariaDB [dbspr]> set @pwd='0.to.9.A2Z.a2z';
Query OK, 0 rows affected (0.001 sec)

#49
MariaDB [dbspr]> set @ae=aes_encrypt(@day, @pwd);
Query OK, 0 rows affected (0.008 sec)

#50
```

```
MariaDB [dbspr]> select @day;
+-----+
| @day |
+-----+
| Sunday is a first day of week |
+-----+
1 row in set (0.001 sec)

#51
MariaDB [dbspr]> select @ae;
+-----+
| @ae |
+-----+
| qWW?a c |
+-----+
1 row in set (0.001 sec)

#52
MariaDB [dbspr]> set @ad=aes_decrypt(@ae, @pwd);
Query OK, 0 rows affected (0.002 sec)

#53
MariaDB [dbspr]> select @day;
+-----+
| @day |
+-----+
| Sunday is a first day of week |
+-----+
1 row in set (0.001 sec)

#54
MariaDB [dbspr]> select @ae;
+-----+
| @ae |
+-----+
| qWW?a c |
+-----+
1 row in set (0.001 sec)

#55
MariaDB [dbspr]> select @ad;
+-----+
| @ad |
+-----+
| Sunday is a first day of week |
+-----+
1 row in set (0.000 sec)

#56
MariaDB [dbspr]> set @pd='fox is one of the category of animal';
Query OK, 0 rows affected (0.000 sec)

#57
MariaDB [dbspr]> set @pwd1='0to9', @pwd2='A2Z', @pwd3='a2z';
Query OK, 0 rows affected (0.000 sec)

#58
MariaDB [dbspr]> set @ae=aes_encrypt(@pd, @pwd1);
Query OK, 0 rows affected (0.001 sec)

#59
MariaDB [dbspr]> set @de=des_encrypt(@ae, @pwd2);
Query OK, 0 rows affected, 1 warning (0.006 sec)

#60
MariaDB [dbspr]> set @ed=encode(@de, @pwd3);
Query OK, 0 rows affected (0.002 sec)

#61
```

```
MariaDB [dbspr]> set @cd=compress(@ed);
Query OK, 0 rows affected (0.004 sec)

#62
MariaDB [dbspr]> select @cd;
+-----+
| @cd |
+-----+
| 9 x 9 i bEa 9r ? 9 9i y T Wk Y q9h g y9H 9F" Uu; 9 |
+-----+
1 row in set (0.001 sec)

#63
MariaDB [dbspr]> set @ud=uncompress(@cd);
Query OK, 0 rows affected (0.003 sec)

#64
MariaDB [dbspr]> set @dd=decode(@ud, @pwd3);
Query OK, 0 rows affected (0.000 sec)

#65
MariaDB [dbspr]> set @dd2=des_decrypt(@dd, @pwd2);
Query OK, 0 rows affected, 1 warning (0.001 sec)

#66
MariaDB [dbspr]> set @ad=aes_decrypt(@dd2, @pwd1);
Query OK, 0 rows affected (0.001 sec)

#67
MariaDB [dbspr]> select @pd, @ad, @pd = @ad;
+-----+-----+-----+
| @pd | @ad | @pd = @ad |
+-----+-----+-----+
| fox is one of the category of animal | fox is one of the category of animal | 1 |
+-----+-----+-----+
1 row in set (0.004 sec)
```