

Foreign key

data type of foreign and primary key must same

ON delete cascade and on update cascade:::

we can delete parent row directly without deleting child row

without it it is mandatory to delete child row first and then we can delete parent row.

```
-----  
-----  
create table dept(deptno char primary key,  
dname varchar(15),  
loc varchar(10));
```

```
mysql> insert into dept values(1, 'TRN', 'BDY'),  
-> (2, 'EXP', 'DLH'),  
-> (3, 'MKTG', 'CAL');  
//parent
```

deptno	dname	loc
1	TRN	BDY
2	EXP	DLH
3	MKTG	CAL

```
mysql> create table emp(empno char(4) primary key, ename varchar(15), sal  
float, deptno char(4), mgr char(4),  
-> foreign key(deptno)  
-> references dept(deptno) on delete cascade on update cascade,  
-> foreign key(mgr) references emp(empno));
```

```
mysql> insert into emp values(1, 'A', 5000, 1, 1),  
-> (2, 'B', 6000, 1, 1),  
-> (3, 'C', 7000, 2, 1),  
-> (4, 'D', 9000, 1, 2),  
-> (5, 'E', 8000, 1, 2);
```

Query OK, 5 rows affected (0.23 sec)
//child

empno	ename	sal	deptno	mgr
1	A	5000	1	1
2	B	6000	1	1
3	C	7000	2	1
4	D	9000	1	2
5	E	8000	1	2

On update cascade:::

```
mysql> update dept set deptno=4 where deptno=2;  
Query OK, 1 row affected (0.27 sec)  
mysql> select * from dept;
```

deptno	dname	loc
1	TRN	BDY
3	MKTG	CAL
4	EXP	DLH

+-----+-----+-----+

```
mysql> create table dept(deptno int primary key,dname varchar(15),location
varchar(15));
Query OK, 0 rows affected (0.48 sec)
```

```
mysql> insert into dept values(1,'TRN','BDY'),
-> (2,'EXP','DLH'),
-> (3,'MKTG','CAL');
Query OK, 3 rows affected (0.08 sec)
Records: 3 Duplicates: 0 Warnings: 0
```

```
mysql> select * from dept;
+-----+-----+-----+
| deptno | dname | location |
+-----+-----+-----+
| 1 | TRN | BDY |
| 2 | EXP | DLH |
| 3 | MKTG | CAL |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> desc emp;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| empno | int | NO | PRI | NULL | |
| ename | varchar(20) | YES | | NULL | |
| sal | float | YES | | NULL | |
| depno | int | YES | | NULL | |
| job | varchar(20) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> alter table emp add foreign key(depno) references dept(deptno)
on delete cascade on update cascade;
Query OK, 5 rows affected (1.71 sec)
Records: 5 Duplicates: 0 Warnings: 0
```

```
mysql> select * from emp;
+-----+-----+-----+-----+-----+
| empno | ename | sal | depno | job |
+-----+-----+-----+-----+-----+
| 1 | Arun | 8000 | 1 | M |
| 2 | Ali | 7000 | 1 | C |
| 3 | Kirun | 3000 | 1 | C |
| 4 | Thomas | 8000 | 2 | C |
| 5 | Jack | 5000 | 2 | M |
+-----+-----+-----+-----+-----+
5 rows in set (0.02 sec)
```

```
mysql> delete from dept where deptno=1;
Query OK, 1 row affected (0.08 sec)
```

```
mysql> delete from emp where empno=3;
Query OK, 0 rows affected (0.00 sec)
```

```
mysql> update emp set depno=2 where empno=2;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 0 Changed: 0 Warnings: 0
```

```
mysql> select * from emp;
+-----+-----+-----+-----+-----+
| empno | ename | sal | depno | job |
+-----+-----+-----+-----+-----+
| 1 | Arun | 8000 | 1 | M |
| 2 | Ali | 7000 | 1 | C |
| 3 | Kirun | 3000 | 1 | C |
| 4 | Thomas | 8000 | 2 | C |
| 5 | Jack | 5000 | 2 | M |
+-----+-----+-----+-----+-----+
```

empno	ename	sal	depno	job
4	Thomas	8000	2	C
5	Jack	5000	2	M

2 rows in set (0.00 sec)

add primary key in existing table :

mysql> alter table emp add primary key(empno);