A foreign key is a key used to link two tables together. This is sometimes also called as a referencing key.

A Foreign Key is a column or a combination of columns whose values match a Primary Key in a different table.

The relationship between 2 tables matches the Primary Key in one of the tables with a Foreign Key in the second table.

If a table has a primary key defined on any field(s), then you cannot have two records having the same value of that field(s).

Example

Consider the structure of the following two tables.

CUSTOMERS table

```
CREATE TABLE CUSTOMERS(
   ID   INT              NOT NULL,
   NAME VARCHAR (20)     NOT NULL,
   AGE  INT              NOT NULL,
   ADDRESS  CHAR (25) ,
   SALARY   DECIMAL (18, 2),
   PRIMARY KEY (ID)
);
```

ORDERS table

```
CREATE TABLE ORDERS (
   ID          INT        NOT NULL,
   DATE        DATETIME,
   CUSTOMER_ID INT references CUSTOMERS(ID),
   AMOUNT     double,
   PRIMARY KEY (ID)
);
```

If the ORDERS table has already been created and the foreign key has not yet been set, the use the syntax for specifying a foreign key by altering a table.

```
ALTER TABLE ORDERS
   ADD FOREIGN KEY (Customer_ID) REFERENCES CUSTOMERS (ID);
```

DROP a FOREIGN KEY Constraint

To drop a FOREIGN KEY constraint, use the following SQL syntax.

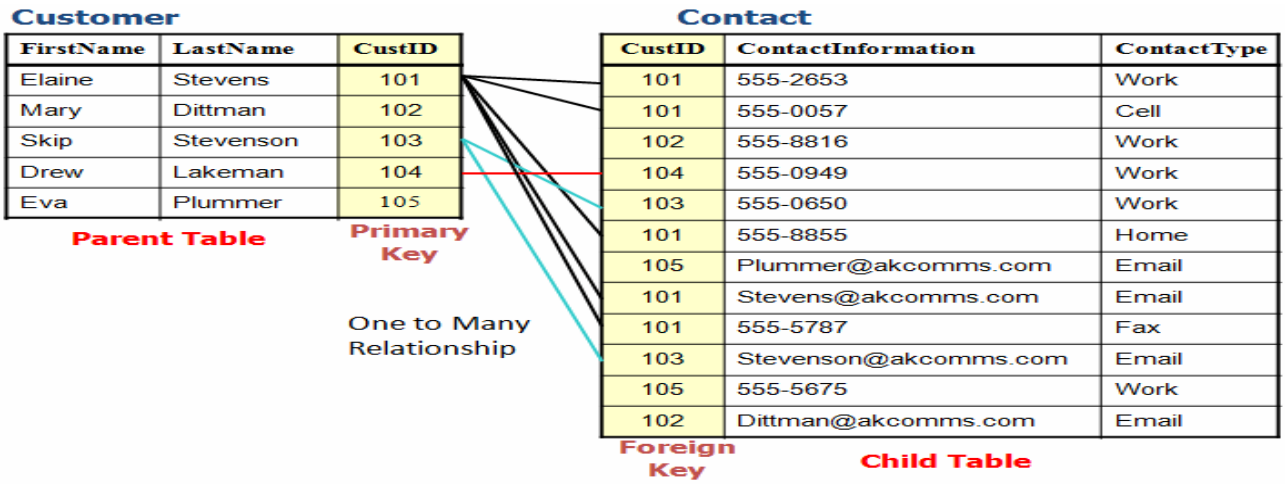
```
ALTER TABLE ORDERS
   DROP FOREIGN KEY;
```

Difference between primary key and foreign key:

Primary key	Foreign key
1. 1. Primary key can’t contain null values. 2. 2. Primary key can’t be duplicate.	1. 1. Foreign key can contain null values.

3. 3. A table can have only one primary key.
4. 4. Primary key automatically adds a clustered index.

2. 2. Foreign key can be duplicate.
3. 3. A table can have more than one foreign key.
4. 4. Foreign key not add any index automatically.



STUDENT

STUD_NO	STUD_NAME	STUD_PHONE	STUD_STATE	STUD_COUNTRY	STUD_AGE
1	RAM	9716271721	Haryana	India	20
2	RAM	9898291281	Punjab	India	19
3	SUJIT	7898291981	Rajsthan	India	18
4	SURESH		Punjab	India	21

Table 1

STUDENT_COURSE

STUD_NO	COURSE_NO	COURSE_NAME
1	C1	DBMS
2	C2	Computer Networks
1	C2	Computer Networks

Table 2

tblPerson

ID	Name	Email	GenderID
1	Jade	j@j.com	2
2	Mary	m@m.com	3
3	Martin	ma@ma.com	1
4	Rob	r@r.com	NULL
5	May	may@may.com	2
6	Kristy	k@k.com	NULL

tblGender

ID	Gender
1	Male
2	Female
3	Unknown