



Earn up to \$300 when you open a new TD  
Checking account with qualifying direct deposits.

Open now

Member

# SQL FOREIGN KEY Constraint

[< Previous](#)[Next >](#)

## SQL FOREIGN KEY Constraint

The **FOREIGN KEY** constraint is used to prevent actions that would destroy links between tables.

A **FOREIGN KEY** is a field (or collection of fields) in one table, that refers to the **PRIMARY KEY** in another table.

The table with the foreign key is called the child table, and the table with the primary key is called the referenced or parent table.

Look at the following two tables:

### Persons Table

| PersonID | LastName  | FirstName | Age |
|----------|-----------|-----------|-----|
| 1        | Hansen    | Ola       | 30  |
| 2        | Svendson  | Tove      | 23  |
| 3        | Pettersen | Kari      | 20  |

## Orders Table

| OrderID | OrderNumber | PersonID |
|---------|-------------|----------|
| 1       | 77895       | 3        |
| 2       | 44678       | 3        |
| 3       | 22456       | 2        |
| 4       | 24562       | 1        |

Notice that the "PersonID" column in the "Orders" table points to the "PersonID" column in the "Persons" table.

The "PersonID" column in the "Persons" table is the **PRIMARY KEY** in the "Persons" table.

The "PersonID" column in the "Orders" table is a **FOREIGN KEY** in the "Orders" table.

The **FOREIGN KEY** constraint prevents invalid data from being inserted into the foreign key column, because it has to be one of the values contained in the parent table.

ADVERTISEMENT

ADVERTISEMENT



Ad by Spr

## SQL FOREIGN KEY on CREATE TABLE

The following SQL creates a **FOREIGN KEY** on the "PersonID" column when the "Orders" table is created:

**MySQL:**

```
CREATE TABLE Orders (  
    OrderID int NOT NULL,  
    OrderNumber int NOT NULL,  
    PersonID int,  
    PRIMARY KEY (OrderID),  
    FOREIGN KEY (PersonID) REFERENCES Persons(PersonID)  
);
```

**SQL Server / Oracle / MS Access:**

```
CREATE TABLE Orders (  
    OrderID int NOT NULL PRIMARY KEY,  
    OrderNumber int NOT NULL,  
    PersonID int FOREIGN KEY REFERENCES Persons(PersonID)  
);
```

To allow naming of a **FOREIGN KEY** constraint, and for defining a **FOREIGN KEY** constraint on multiple columns, use the following SQL syntax:

**MySQL / SQL Server / Oracle / MS Access:**

```
CREATE TABLE Orders (  
    OrderID int NOT NULL,  
    OrderNumber int NOT NULL,  
    PersonID int,  
    PRIMARY KEY (OrderID),  
    CONSTRAINT FK_PersonOrder FOREIGN KEY (PersonID)  
    REFERENCES Persons(PersonID)  
);
```

# SQL FOREIGN KEY on ALTER TABLE

To create a **FOREIGN KEY** constraint on the "PersonID" column when the "Orders" table is already created, use the following SQL:

**MySQL / SQL Server / Oracle / MS Access:**

```
ALTER TABLE Orders  
ADD FOREIGN KEY (PersonID) REFERENCES Persons(PersonID);
```

To allow naming of a **FOREIGN KEY** constraint, and for defining a **FOREIGN KEY** constraint on multiple columns, use the following SQL syntax:

**MySQL / SQL Server / Oracle / MS Access:**

```
ALTER TABLE Orders  
ADD CONSTRAINT FK_PersonOrder  
FOREIGN KEY (PersonID) REFERENCES Persons(PersonID);
```

---

## DROP a FOREIGN KEY Constraint

To drop a **FOREIGN KEY** constraint, use the following SQL:

**MySQL:**

```
ALTER TABLE Orders  
DROP FOREIGN KEY FK_PersonOrder;
```

**SQL Server / Oracle / MS Access:**

```
ALTER TABLE Orders  
DROP CONSTRAINT FK_PersonOrder;
```

[< Previous](#)[Next >](#)

## ADVERTISEMENT

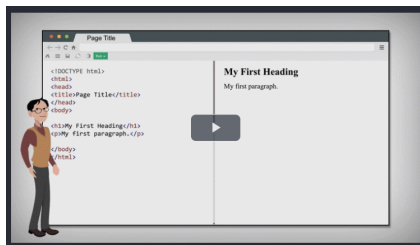
**Earn \$200  
when you  
open a new TD  
Convenience  
Checking<sup>SM</sup>  
account with  
qualifying  
activities.**

**Open now**

Member I

**NEW**

We just launched  
W3Schools videos



Explore now

COLOR PICKER



Get certified  
by completing  
a SQL  
course today!



Get started

CODE GAME



Play Game

ADVERTISEMENT

Earn up to  
**\$300** when you  
open a new  
TD Checking  
account with  
qualifying  
direct deposits.

**Open now**

Member |

ADVERTISEMENT



ADVERTISEMENT

[Report Error](#)[Spaces](#)[Pro](#)[Get Certified](#)

## Top Tutorials

- [HTML Tutorial](#)
- [CSS Tutorial](#)
- [JavaScript Tutorial](#)
- [How To Tutorial](#)
- [SQL Tutorial](#)
- [Python Tutorial](#)
- [W3.CSS Tutorial](#)
- [Bootstrap Tutorial](#)
- [PHP Tutorial](#)
- [Java Tutorial](#)
- [C++ Tutorial](#)
- [jQuery Tutorial](#)

## Top References

- [HTML Reference](#)
- [CSS Reference](#)
- [JavaScript Reference](#)
- [SQL Reference](#)
- [Python Reference](#)



[W3.CSS Reference](#)  
[Bootstrap Reference](#)  
[PHP Reference](#)  
[HTML Colors](#)  
[Java Reference](#)  
[Angular Reference](#)  
[jQuery Reference](#)

## Top Examples

[HTML Examples](#)  
[CSS Examples](#)  
[JavaScript Examples](#)  
[How To Examples](#)  
[SQL Examples](#)  
[Python Examples](#)  
[W3.CSS Examples](#)  
[Bootstrap Examples](#)  
[PHP Examples](#)  
[Java Examples](#)  
[XML Examples](#)  
[jQuery Examples](#)

## Get Certified

[HTML Certificate](#)  
[CSS Certificate](#)  
[JavaScript Certificate](#)  
[Front End Certificate](#)  
[SQL Certificate](#)  
[Python Certificate](#)  
[PHP Certificate](#)  
[jQuery Certificate](#)  
[Java Certificate](#)  
[C++ Certificate](#)  
[C# Certificate](#)  
[XML Certificate](#)

---

[FORUM](#) | [ABOUT](#)

W3Schools is optimized for learning and training. Examples might be simplified to improve reading and learning. Tutorials, references, and examples are constantly reviewed to avoid errors, but we cannot warrant full correctness of all content. While using W3Schools, you agree to have read and accepted our terms of use, cookie and privacy policy.

Copyright 1999-2022 by Refsnes Data. All Rights Reserved.  
W3Schools is Powered by W3.CSS.



