

MySQL FOREIGN KEY examples

```
CREATE DATABASE fkdemo;
```

```
USE fkdemo;
```

RESTRICT & NO ACTION actions

```
CREATE TABLE categories(  
    categoryId INT AUTO_INCREMENT PRIMARY KEY,  
    categoryName VARCHAR(100) NOT NULL  
) ENGINE=INNODB;
```

```
CREATE TABLE products(  
    productId INT AUTO_INCREMENT PRIMARY KEY,  
    productName varchar(100) not null,  
    categoryId INT,  
    CONSTRAINT fk_category  
    FOREIGN KEY (categoryId)  
        REFERENCES categories(categoryId)  
) ENGINE=INNODB;
```

The following steps illustrate the RESTRICT action.

```
INSERT INTO categories(categoryName)
```

VALUES

('Smartphone'),

('Smartwatch');

SELECT * FROM categories;

INSERT INTO products(productName, categoryId)

VALUES('iPhone',1);

INSERT INTO products(productName, categoryId)

VALUES('iPad',3);

CASCADE action

DROP TABLE products;

CREATE TABLE products(

productId INT AUTO_INCREMENT PRIMARY KEY,

productName varchar(100) not null,

categoryId INT NOT NULL,

CONSTRAINT fk_category

FOREIGN KEY (categoryId)

REFERENCES categories(categoryId)

```
        ON UPDATE CASCADE
        ON DELETE CASCADE
    ) ENGINE=INNODB;

INSERT INTO products(productName, categoryId)
VALUES
    ('iPhone', 1),
    ('Galaxy Note',1),
    ('Apple Watch',2),
    ('Samsung Galary Watch',2);
```

```
SELECT * FROM products;
```

```
UPDATE categories
SET categoryId = 100
WHERE categoryId = 1;
SELECT * FROM categories;
```

```
SELECT * FROM products;
```

```
DELETE FROM categories
WHERE categoryId = 2;
```

```
SELECT * FROM categories;
```

```
SELECT * FROM products;
```

```
SET NULL action
```

```
DROP TABLE IF EXISTS categories;
```

```
DROP TABLE IF EXISTS products;
```

```
CREATE TABLE categories(  
    categoryId INT AUTO_INCREMENT PRIMARY KEY,  
    categoryName VARCHAR(100) NOT NULL  
)ENGINE=INNODB;
```

```
CREATE TABLE products(  
    productId INT AUTO_INCREMENT PRIMARY KEY,  
    productName varchar(100) not null,  
    categoryId INT,  
    CONSTRAINT fk_category  
    FOREIGN KEY (categoryId)  
        REFERENCES categories(categoryId)  
    ON UPDATE SET NULL
```

```
ON DELETE SET NULL  
)ENGINE=INNODB;
```

```
INSERT INTO categories(categoryName)  
VALUES  
('Smartphone'),  
('Smartwatch');
```

```
INSERT INTO products(productName, categoryId)  
VALUES  
('iPhone', 1),  
('Galaxy Note',1),  
('Apple Watch',2),  
('Samsung Galary Watch',2);
```

```
UPDATE categories  
SET categoryId = 100  
WHERE categoryId = 1;
```

```
SELECT * FROM categories;
```

```
SELECT * FROM products;
```

```
DELETE FROM categories  
WHERE categoryId = 2;
```

```
SELECT * FROM products;
```

Drop MySQL foreign key constraints

```
ALTER TABLE table_name  
DROP FOREIGN KEY constraint_name;
```

```
SHOW CREATE TABLE table_name;
```

```
SHOW CREATE TABLE products;
```

```
ALTER TABLE products  
DROP FOREIGN KEY fk_category;
```

```
SHOW CREATE TABLE products;
```

Disabling foreign key checks

```
SET foreign_key_checks = 0;  
SET foreign_key_checks = 1;
```