

Primary key PRIMARY KEY in SQL Server

Learn how to create, delete, disable or enable primary keys in SQL Server with syntax and examples.

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What is the primary key in SQL Server?

In SQL Server (Transact-SQL), the primary key is a field or a combination of fields and is defined as a single record. No field in the primary key contains a NULL value. A table has only one primary key. The primary key can be defined with the CREATE TABLE command or the ALTER TABLE command.

Create the primary key - with the CREATE TABLE command

The main key generation syntax is with the CREATE TABLE command

```
CREATE TABLE ten_bang
(
cot1 kieu_du_lieu [ NULL | NOT NULL ] [ PRIMARY KEY ],
cot2 kieu_du_lieu [ NULL | NOT NULL ],
);
```

or

```
CREATE TABLE ten_bang
(
cot1 kieu_du_lieu [ NULL | NOT NULL ],
cot2 kieu_du_lieu [ NULL | NOT NULL ],
...
CONSTRAINT ten_rang_buoc PRIMARY KEY (cot1, cot2, ... cot_n)
);
```

The primary key generation example is with the CREATE TABLE command

```
CREATE TABLE nh_anvien
( nhanvien_id INT PRIMARY KEY,
ho VARCHAR(50) NOT NULL,
ten VARCHAR(50), NOT NULL,
luong MONEY
);
```

In this example, the primary key for the nhanvien table is made up of a field called nhanvien_id. In addition, the primary key can be created as follows:

```
CREATE TABLE nhanvien
( nhanvien_id INT,
  ho VARCHAR(50) NOT NULL,
  ten VARCHAR(50), NOT NULL,
  luong MONEY
CONSTRAINT nhanvien_pk PRIMARY KEY (nhanvien_id)
);
```

Now is the example of creating a primary key with more than 1 field in SQL Server.

```
CREATE TABLE nhanvien
( ho VARCHAR(50) NOT NULL,
  ten VARCHAR(50), NOT NULL,
  luong MONEY
CONSTRAINT nhanvien_pk PRIMARY KEY (ho, ten)
);
```

In this example, we created the primary key made up of two columns, ho and ten . These two fields will uniquely identify the record in the table.

Create a primary key - with the ALTER TABLE command

Primary keys can only be created with the ALTER TABLE command in columns defined as NOT NULL. If the column allows NULL values, the primary key cannot be added without deleting or recreating the table.

The syntax for creating a primary key is with the ALTER TABLE command

```
ALTER TABLE ten_bang
ADD CONSTRAINT ten_rang_buoc PRIMARY KEY (cot1, cot2, . cot_n);
```

Example of creating a primary key with the ALTER TABLE command

```
ALTER TABLE nhanvien
ADD CONSTRAINT nhanvien_pk PRIMARY KEY (nhanvien_id);
```

In this example, we create the primary key for the available table, including the *nhanvien_id* field . Note that the *nhanvien_id* field must be defined as NOT NULL before, otherwise it will have to be deleted and re-created the table and define this field as NOT NULL.

You can create a primary key with more than 1 field as in the following example.

```
ALTER TABLE staff
ADD CONSTRAINT nhanvien_pk PRIMARY KEY (cough, ten);
```

The primary key for the table includes 2 fields, namely first and last name. Both must be defined as NOT NULL.

Delete the primary key in SQL Server

The syntax for deleting the primary key is with the ALTER TABLE command

```
ALTER TABLE ten_bang  
DROP CONSTRAINT ten_rang_buoc;
```

Example of deleting the primary key with the ALTER TABLE command

```
ALTER TABLE staff  
DROP CONSTRAINT nhanvien_pk;
```

The above example deletes the primary key in the table.

Disable the primary key in SQL Server

The syntax to disable the primary key with the ALTER INDEX command

```
ALTER INDEX ten_rang_buoc ON ten_bang  
DISABLE;
```

For example, disable the primary key with the ALTER INDEX command

```
ALTER INDEX nhanvien_pk ON nhanvien  
DISABLE ;
```

The example above disables the primary key in the table.

Activate the primary key in SQL Server

The syntax for activating the primary key is with the ALTER INDEX command

```
ALTER INDEX ten_rang_buoc ON ten_bang  
REBUILD;
```

For example, activate the primary key with the ALTER INDEX command

```
ALTER INDEX nhanvien_pk ON nhanvien  
REBUILD;
```

The above example re-activates the primary key of the table.

Previous article: CREATE TABLE command in SQL Server

The following article: Alter Table command in SQL Server

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