

LAB - Not Null Constraint

In this lab, you will learn how to use the SQL Server `NOT NULL` constraint to ensure data contained in a column is not `NULL`.

The following example creates a table with `NOT NULL` constraints for the columns: `first_name`, `last_name`, and `email`:

```
CREATE SCHEMA hr;
GO

CREATE TABLE hr.persons(
    person_id INT IDENTITY PRIMARY KEY,
    first_name VARCHAR(255) NOT NULL,
    last_name VARCHAR(255) NOT NULL,
    email VARCHAR(255) NOT NULL,
    phone VARCHAR(20)
);
```

Note that the `NOT NULL` constraints are always written as column constraints.

By default, if you don't specify the `NOT NULL` constraint, SQL Server will allow the column to accept `NULL`. In this example, the phone column can accept `NULL`.

Add `NOT NULL` constraint to an existing column

To add the `NOT NULL` constraint to an existing column, you follow these steps:

First, update the table so there is no `NULL` in any record for that column:

```
UPDATE table_name
SET column_name = <value>
WHERE column_name IS NULL;
```

Second, alter the table to change the property of the column:

```
ALTER TABLE table_name
ALTER COLUMN column_name data_type NOT NULL;
```

For example, to add the `NOT NULL` constraint to the phone column of the `hr.persons` table, you use the following statements:

First, if a person does not have a phone number, then update the phone number to the company phone number e.g., (123) 456 7890:

```
UPDATE hr.persons
SET phone = "(123) 456 7890"
WHERE phone IS NULL;
```

Then, modify the property of the phone column:

```
ALTER TABLE hr.persons
ALTER COLUMN phone VARCHAR(20) NOT NULL;
```

Removing NOT NULL constraint

To remove the NOT NULL constraint from a column, you use the ALTER TABLE ALTER COLUMN statement as follows:

```
ALTER TABLE table_name
ALTER COLUMN column_name data_type NULL;
```

For example, to remove the NOT NULL constraint from the phone column, you use the following statement:

```
ALTER TABLE hr.pesons
ALTER COLUMN phone VARCHAR(20) NULL;
```

In this lab, you have learned how to use the SQL Server NOT NULL constraint to enforce a column to not accept NULL values.