MySQLTUTORIAL

MySQL LIKE

Summary: in this tutorial, you will learn how to use the MySQL `LIKE` operator to query data based on a specified pattern.

Introduction to MySQL LIKE operator

The `LIKE` operator is a logical operator that tests whether a string contains a specified pattern or not.

Here's the syntax of the `LIKE` operator:

```
expression LIKE pattern ESCAPE escape_character
```

In this syntax, if the `expression` matches the `pattern`, the `LIKE` operator returns 1. Otherwise, it returns 0.

MySQL provides two wildcard characters for constructing patterns: percentage `%` and underscore `_`.

- The percentage (`%`) wildcard matches any string of zero or more characters.
- The underscore (`_`) wildcard matches any single character.

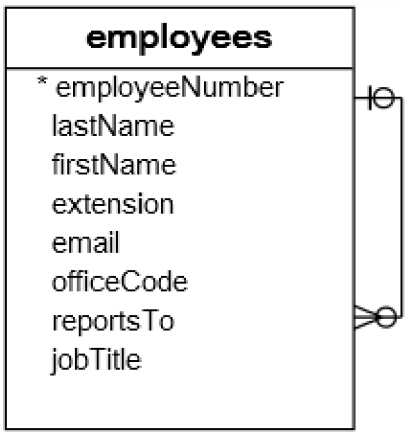
For example, `s%` matches any string starts with the character `s` such as `sun` and `six`. The `se_` matches any string starts with `se` and is followed by any character such as `see` and `sea`.

When the pattern contains the wildcard character and you want to treat it as a regular character, you can use the `ESCAPE` clause.

Typically, you'll use the `LIKE` operator in the `WHERE (https://www.mysqltutorial.org/mysql-where/)` clause of the `SELECT (https://www.mysqltutorial.org/mysql-select-statement-query-data.aspx)`, `DELETE (https://www.mysqltutorial.org/mysql-delete-statement.aspx)`, and `UPDATE (https://www.mysqltutorial.org/mysql-update-data.aspx)` statement.

MySQL LIKE operator examples

Let's practice with some examples of using the `LIKE` operator. We will use the following `employees` table from the sample database (https://www.mysqltutorial.org/mysql-sample-database.aspx) for the demonstration:



A) Using MySQL LIKE operator with the percentage (%) wildcard examples

This example uses the `LIKE` operator to find employees whose first names start with the letter `a`:

```
SELECT
    employeeNumber,
    lastName,
    firstName
FROM
    employees
WHERE
    firstName LIKE 'a%';
```

Try It Out

In this example, MySQL scans the whole `employees` table to find employees whose first names start with the letter `a` and are followed by any number of characters.

This example uses the `LIKE` operator to find employees whose last names end with the literal string `on` e.g., `Patterson`, `Thompson`:

```
SELECT
    employeeNumber,
    lastName,
    firstName
FROM
    employees
WHERE
    lastName LIKE '%on';
```

Try It Out ›

To check if a string contains a substring, you can use the percentage (`%`) wildcard at the beginning and the end of the substring.

For example, the following query uses the `LIKE` operator to find all employees whose last names contain the substring `on` :

```
SELECT
    employeeNumber,
    lastName,
    firstName
FROM
    employees
WHERE
    lastname LIKE '%on%';
```

Try It Out ›

B) Using MySQL LIKE operator with underscore(_) wildcard examples

To find employees whose first names start with the letter `T` , end with the letter `m` , and contain any single character between e.g., `Tom` , `Tim` , you use the underscore (_) wildcard to construct the pattern as follows:

```
SELECT
    employeeNumber,
    lastName,
    firstName
FROM
    employees
WHERE
    firstname LIKE 'T_m';
```

Try It Out ›

C) Using MySQL NOT LIKE operator example

The MySQL allows you to combine the `NOT` operator with the `LIKE` operator to find a string that does not match a specific pattern.

Suppose you want to search for employees whose last names don't start with the letter `B` , you can use the `NOT LIKE` operator as follows:

```
SELECT
    employeeNumber,
```

```
    lastName,
    firstName
FROM
    employees
WHERE
    lastName NOT LIKE 'B%';
```

Try It Out ›

> Note that the pattern is not case-sensitive. Therefore, the `b%` and `B%` patterns return the same result.

MySQL LIKE operator with the ESCAPE clause

Sometimes the pattern may contain the wildcard characters e.g., 10%, _20, etc.

In this case, you can use the `ESCAPE` clause to specify the escape character so that the LIKE operator interprets the wildcard character as a literal character.

If you don't specify the escape character explicitly, the backslash character (`\`) is the default escape character.

For example, if you want to find products whose product codes contain the string `_20` , you can use the pattern `%\_20%` with the default escape character:

```
SELECT
    productCode,
    productName
FROM
    products
WHERE
    productCode LIKE '%\_20%';
```

Try It Out ›

Alternatively, you can specify a different escape character e.g., `$` using the `ESCAPE` clause:

```
SELECT
    productCode,
    productName
FROM
    products
WHERE
    productCode LIKE '%$_20%' ESCAPE '$';
```

Try It Out ›

The pattern `%$_20%` matches any string that contains the `_20` string.

Summary

- Use the `LIKE` operator to test if a value matches a pattern.
- The `%` wildcard matches zero or more characters.
- The `_` wildcard matches a single character.
- Use `ESCAPE` clause specifies an escape character other than the default escape character (`\`).

- Use the `NOT` operator to negate the `LIKE` operator.