

# LIKE to Search Data

by Sophia Tutorial



## WHAT'S COVERED

This tutorial explores using the LIKE operator within the WHERE clause of a SELECT statement to search specific patterns of text in three parts:

1. Getting Started
2. The % Operator
3. The \_ Operator

## 1. Getting Started

There are special operators that allow us to check if a value is in a range. The LIKE operator in a WHERE clause allows you use wildcards to check if an attribute's value matches a specific string pattern. There are two different wildcards that can be used with the LIKE operator:

- The percent sign (%) represents zero, one, or multiple characters or numbers.
- The underscore (\_) represents a single character or number.

These symbols can be used in combination with specific characters or numbers. If neither one of these signs is used with a LIKE clause, the LIKE clause would simply work in the same way as an equal (=) operator. If just a (%) is used in the LIKE clause, it would return all rows of data.

It is important to note that the string text is case sensitive with the content that is not in the wildcards, so the matches will only display if the query entry is the same as what is in the table data.

If we have a string 'abc' in a table, the following search terms will return the associated results when compared against 'abc':

- 'abc' would return true, as the string matches exactly.
- 'a%' would return true, as it looks for the letter 'a' and 0 or more characters displayed afterward.
- '\_b\_' would return true, as it looks for one character, then the letter b and the one more character.
- 'c' would return false, as it is only looking at the letter c.
- '\_b' would return false, as it looks for one character and then the letter b.
- '%c' would return true, as it looks for any number of characters and then the letter c at the end.

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## 2. The % Operator

As shown above, the % searches for zero, one, or more characters as a replacement. It is the most common operator used in the LIKE clause. If we wanted to query our customer table and list all of the customers whose name starts with the letter L, we would use the % wildcard after the letter L:

```
SELECT *
FROM customer
WHERE first_name like 'L%';
```

Query Results							
Row count: 5							
customer_id	first_name	last_name	company	address	city	state	country
1	Luís	Gonçalves	Embraer - Empresa Brasileira de Aeronáutica S.A.	Av. Brigadeiro Faria Lima, 2170	São José dos Campos	SP	Brazil
2	Leonie	Köhler		Theodor-Heuss-Straße 34	Stuttgart		Germany
45	Ladislav	Kovács		Erzsébet krt. 58.	Budapest		Hungary
47	Lucas	Mancini		Via Degli Scipioni, 43	Rome	RM	Italy
57	Luis	Rojas		Calle Lira, 198	Santiago		Chile

If we wanted to list all of the customers who have their email in the domain gmail.com, we would have the % wildcard operator before @gmail.com:

```
SELECT *
FROM customer
WHERE email like '%@gmail.com';
```

Query Results											
Row count: 8											
customer_id	first_name	last_name	company	address	city	state	country	postal_code	phone	fax	email
3	François	Tremblay		1498 rue Bélanger	Montréal	QC	Canada	H2G 1A7	+1 (514) 721-4711		ftremblay@gmail.com
6	Helen	Holý		Hliská 31/46	Prague		Czech Republic	14300	+420 2 41 77 0449		hholy@gmail.com
22	Heather	Lescock		120 S Orange Ave	Orlando	FL	USA	32801	+1 (407) 999-7700		hlescock@gmail.com
24	Frank	Ralston		162 E Superior Street	Chicago	IL	USA	60611	+1 (312) 332-3232		fralston@gmail.com
28	Julia	Barnett		302 S 700 E	Salt Lake City	UT	USA	84102	+1 (801) 531-7272		jubarnett@gmail.com
31	Martha	Silk		194A Chain Lake Drive	Halifax	NS	Canada	B3S 1C5	+1 (902) 450-0450		marthasilk@gmail.com
40	Dominique	Lefebvre		8, Rue Hanovre	Paris		France	75002	+33 01 47 42 71 71		dominiquedefebvre@gmail.com
53	Phil	Hughes		113 Lupus St	London		United Kingdom	SW1V 3EN	+44 020 7976 5722		phil.hughes@gmail.com

This is the most common way to use the % operator to search for content. In the following tutorial, we'll dive into more complex ways to work with wildcards.

## 3. The \_ Operator

The underscore (\_) operator matches a single wildcard character, unlike the % operator that has 0 or more. This allows us to query data to look for a specific length of data. For example, if we wanted to look for customers that have the state starting with C and having two characters, we can do the following:

```
SELECT *
FROM customer
WHERE state LIKE 'C_';
```

## Query Results

Row count: 3

customer_id	first_name	last_name	company	address	city	state	country
16	Frank	Harris	Google Inc.	1600 Amphitheatre Parkway	Mountain View	CA	USA
19	Tim	Goyer	Apple Inc.	1 Infinite Loop	Cupertino	CA	USA
20	Dan	Miller		541 Del Medio Avenue	Mountain View	CA	USA

Another example is looking customers that live in a country that has three characters and starts with the letter U. If we used the % operator, it would search for 0 or more characters after U:

```
SELECT *
```

```
FROM customer
```

```
WHERE country LIKE 'U%';
```

This would return some extra rows of countries, like the United Kingdom:

52	Emma	Jones		202 Hoxton Street	London		United Kingdom
53	Phil	Hughes		113 Lupus St	London		United Kingdom
54	Steve	Murray		110 Raeburn Pl	Edinburgh		United Kingdom

If we changed the LIKE clause to use the two extra underscores to get 3 characters, it should look like:

```
SELECT *
```

```
FROM customer
```

```
WHERE country LIKE 'U___';
```

## Query Results

Row count: 13

customer_id	first_name	last_name	company	address	city	state	country
16	Frank	Harris	Google Inc.	1600 Amphitheatre Parkway	Mountain View	CA	USA
17	Jack	Smith	Microsoft Corporation	1 Microsoft Way	Redmond	WA	USA
18	Michelle	Brooks		627 Broadway	New York	NY	USA
19	Tim	Goyer	Apple Inc.	1 Infinite Loop	Cupertino	CA	USA
20	Dan	Miller		541 Del Medio Avenue	Mountain View	CA	USA
21	Kathy	Chase		801 W 4th Street	Reno	NV	USA
22	Heather	Leacock		120 S Orange Ave	Orlando	FL	USA
23	John	Gordon		69 Salem Street	Boston	MA	USA
24	Frank	Ralston		162 E Superior Street	Chicago	IL	USA
25	Victor	Stevens		319 N. Frances Street	Madison	WI	USA
26	Richard	Cunningham		2211 W Berry Street	Fort Worth	TX	USA
27	Patrick	Gray		1033 N Park Ave	Tucson	AZ	USA
28	Julia	Barnett		302 S 700 E	Salt Lake City	UT	USA

## Video Transcription

[MUSIC PLAYING] Within columns of text, there's not always a situation where you might know the entire text. You might be looking for a specific pattern, this is where the LIKE clause within the WHERE clause will be very helpful as you can actually control a little bit more of what's actually being returned. For example, if we were looking for all the different customers to have the first name.

Starts with the letter L, we can enter in the letter and then we utilize the percent sign. The percent sign indicates any number of characters from zero to whatever number that's available. And if we enter that, will have it returned with five customers that have the letter L starting with the name.

You can also include multiple character. So for example if we're filling for Lu for the first two characters it'll only return three that have Lu starting in this case. Know you can also set it such that it's the last character that's going to be defined with any kind of wild card values beforehand by having said that the letter S at the very end. If we run that, we'll now see that all these first names have the letter S at the very end.

[MUSIC PLAYING]



Your turn! Open the SQL tool by clicking on the LAUNCH DATABASE button below. Then enter in one of the examples above and see how it works. Next, try your own choices for the LIKE clause.

### SUMMARY

The LIKE clause allows us to match text strings using the wildcards % and \_ . You can use them in combination with one another to improve searches for specific content.

Source: Authored by Vincent Tran