

Chapter 16: EXPLAIN and DESCRIBE

Section 16.1: EXPLAIN Select query

An `EXPLAIN` in front of a `select` query shows you how the query will be executed. This way you can see if the query uses an index or if you could optimize your query by adding an index.

Example query:

```
explain select * from user join data on user.test = data.fk_user;
```

Example result:

id	select_type	table	type	possible_keys	key	key_len	ref	rows	Extra
1	SIMPLE	user	index	test	test	5	(null)	1	Using where; Using index
1	SIMPLE	data	ref	fk_user	fk_user	5	user.test	1	(null)

on `type` you see if an index was used. In the column `possible_keys` you see if the execution plan can choose from different indexes or if none exists. `key` tells you the actual used index. `key_len` shows you the size in bytes for one index item. The lower this value is the more index items fit into the same memory size and they can be faster processed. `rows` shows you the expected number of rows the query needs to scan, the lower the better.

Section 16.2: DESCRIBE tablename;

`DESCRIBE` and `EXPLAIN` are synonyms. `DESCRIBE` on a tablename returns the definition of the columns.

```
DESCRIBE tablename;
```

Example Result:

COLUMN_NAME	COLUMN_TYPE	IS_NULLABLE	COLUMN_KEY	COLUMN_DEFAULT	EXTRA
id	int(11)	NO	PRI	0	auto_increment
test	varchar(255)	YES		(null)	

Here you see the column names, followed by the column type. It shows if `null` is allowed in the column and if the column uses an index. The default value is also displayed and if the table contains any special behavior like an `auto_increment`.