

How to use MySQL Database

Created by Thep

Download MySQL Workbench

<https://dev.mysql.com/downloads/workbench/>

Setup Server Connection

VPN connection is required.

Manage Server Connections

MySQL Connections

- Local
- Server

Connection Name: Server

Connection: Remote Management System Profile

Connection Method: Standard TCP/IP over SSH Method to use to connect to the RDBMS

Parameters SSL Advanced

SSH Hostname: 10.173.72.20:22 SSH server hostname, with optional port number.

SSH Username: n4user Name of the SSH user to connect with.

SSH Password: Store in Vault ... Clear SSH user password to connect to the SSH tunnel.

SSH Key File: ... Path to SSH private key file.

MySQL Hostname: 127.0.0.1 MySQL server host relative to the SSH server.

MySQL Server Port: 3306 TCP/IP port of the MySQL server.

Username: root Name of the user to connect with.

Password: Store in Vault ... Clear The MySQL user's password. Will be requested later if not set.

Default Schema: The schema to use as default schema. Leave blank to select it later.

New Delete Duplicate Move Up Move Down Test Connection Close

Connection Method: Standard TCP/IP over SSH

SSH Hostname:

SSH Username: n4user

SSH Password:

MySQL Hostname: 127.0.0.1

MySQL Server Port: 3306

Username: root

Password: root

Schema Information

Schema name is webc.

Tables tag010 - tag949 represent information in MARC tag 10 - 949 respectively.

Column names in tables contain id and \$subfield codes. For example, tag 10 contains subfield codes a, b, and z so table tag010 will contain id, \$a, \$b, and \$z.

> Column name cannot be a single character in MySQL so \$ is added.

SQL Tutorial

<https://www.w3schools.com/sql/default.asp>

SQL Examples

Create a new SQL query with the first button in picture below.



SELECT Statement

```
SELECT [Columns]
FROM [Tables]
WHERE [Conditions]
;
```

This statement will fetch information in column [Columns] from table [Tables] that satisfy condition [Conditions].

> * can be used as [Columns] to represent all columns.

> WHERE [Conditions] can be omitted if there is no condition.

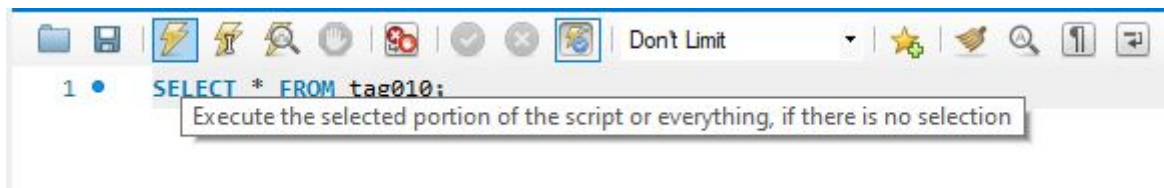
> [Columns] LIKE '%[Word]%' can be used as [Conditions] to find records that their [Columns] contain [Word].

Example 1

Get all columns in table tag 010.

```
SELECT * FROM tag010;
```

Push execute button (lighting symbol) to run command.



Result.

The screenshot shows the "Result Grid" of the SQL editor. It displays the results of the query `SELECT * FROM tag010;`. The grid has four columns: `id`, `$a`, `$b`, and `$z`. The first column, `id`, contains 20 numeric values. The second column, `$a`, contains 20 alphanumeric values. The third and fourth columns, `$b` and `$z`, are empty. The results are displayed in a table format with a header row and 20 data rows. A tooltip is visible over the first row of data.

id	\$a	\$b	\$z
1016241482	16024772		
1016330582	04005524		
1016416613	10025769		
1016426414	12017865		
10223678	00526117		
10241047	05008604		
1026560087	70213080		
1026715616	05028692		
1026744579	03002282		
1026748638	21001985		
1012037568	03009087		
1013231057	26019639		
1026996886	01001395		
1027226797	15001158		
1029908372	61056646		
1029910423	nur8783...		

Example 2

Get columns id and \$a (title name) from table tag245 if the title name contains Right or right.

```
1 • SELECT tag245.id, tag245.$a
2 FROM tag245
3 WHERE tag245.$a LIKE '%Right%' OR tag245.$a LIKE '%right%';
```

Result.

id	\$a
1015495132	A supplement to the Commentary on the Book of common-prayer, &c. Containing, I.A Commentary on all the Occasional Offices, viz. the Form of Prayer
1016035210	The copie of a letter to the Right Honourable the Earle of Leycester, Lieutenant generall of all her Maiesties forces in the vniited Prouinces of the lowe C
1016228612	The right of the House of Stewart to the crown of Scotland consider'd.
1013359515	Fruitfull sermons preached by the right reuerend father and constant martyr of Iesus Christ, M[aster] Hvg[h] Latimer;
1015456324	A perswasive to peace and vnity. A sermon preached before the Right Honourable the Lord-Mayor and the aldermen of the city of London ; at the Chu
1015470580	The rights of the Church of England asserted and prov'd: in an answer to a late pamphlet, intit'd, The rights of the Protestant dissenters, in a review o
1026996886	A vindication of the rights of woman :
1001532601	A sermon preach'd before the Right Honourable the Ld Mayor, the aldermen, sheriffs, and governours of the several hospitals of the city of London :
1011990994	To the Right Honorable, the Commons of England in Parliament assembled :
1049090864	Christ set forth in his death, resurrection, ascension, sitting at Gods right hand, intercession. As the cause of justification. Object of justifying faith :
1049149346	The citizens vindication against the down right countrey-man. (alias Boobee) ...
1049273519	A parallel (in the manner of Plutarch) between the case of the late Honourable Admiral John Byng and that of the Right Honourable Lord George Sackvi
1058803172	The presentment of a schismaticke. By the right reverend father in God, Thomas, Lord Bishop of Durham. In his sermon preached at the cathedrall chur
1058934528	To the right worshipfull the high sheriff and justices of the peace, for the county of Cornwall, met and assembled at Truro in the said county, the 27th.
1063023767	Droit le Roy, or, a Digest of the rights and prerogatives of the Imperial Crown of Great Britain. By a Member of the Society of Lincoln's-Inn [i.e. T. Bred

MySQL Setup Problems

1. Can't use database migration wizard (Clone database).
Reason: Version compatibility problem.
Status: Unsolved.
2. MySQL can't load or save files.
Reason: Secure file priv setting.
Status: Solved.
Edit my.cnf by adding
secure-file-priv = ""
my.cnf is a read-only file. To write the file uses
:w !sudo tee %
3. MySQL can't see any directory.
Reason: AppArmor blocks MySQL access to directories.
Status: Solved.
Edit AppArmor setting for MySQL using
sudo vim /etc/apparmor.d/usr.sbin.mysqld
Then reload AppArmor with
sudo /etc/init.d/apparmor reload
4. MySQL authorization problem.
Reason: auth_socket is used by default.
Status: Solved.
Update setting with following commands
\$ sudo mysql -u root -p
mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH
mysql_native_password BY 'root';
mysql> FLUSH PRIVILEGES;
mysql> exit;
\$ service mysql restart
5. Can't fetch a result from joining tables.
Reason: Performance issues. Stable version of MySQL on Ubuntu is 5.7. It has a fetching performance issue which has been fixed after version 6. The newest version is 8.
Status: Unsolved.