

How to get a list of permissions of mysql users

How to Get a List of Permissions of MySQL Users

MySQL has advanced database access system. A database user can have access to the whole database, separate tables, or to separate columns of tables. Also there is a restriction for actions a user may perform with records. MySQL server uses several tables in a special database to organize such a complicated database access structure. The access policy is based on the values available in these tables.

The database that MySQL server uses to store internal data about users is called `mysql` by default. There are tables for storing information about users' accounts in this database:

- **`user`** contains a list of all users of the MySQL server and their permissions to access the database;
- **`db`** contains a list of databases with a matching list of database users and their privileges for executing operations;
- **`tables_priv`** contains a list of database tables (views) that a user has access to;
- **`columns_priv`** contains a list of columns from the database tables (views) a user has access to;
- **`procs_priv`** contains a list of database procedures (functions) a user has access to.

To get the list of users' privileges concerning data access, the following queries may be executed:

* **the list of global privileges:**

SELECT

```
 mu.host `Host`,  
 mu.user `User`,  
 REPLACE(RTRIM(CONCAT(  
 IF(mu.Select_priv = 'Y', 'Select ', ''),  
 IF(mu.Insert_priv = 'Y', 'Insert ', ''),  
 IF(mu.Update_priv = 'Y', 'Update ', ''),  
 IF(mu.Delete_priv = 'Y', 'Delete ', ''),  
 IF(mu.Create_priv = 'Y', 'Create ', ''),  
 IF(mu.Drop_priv = 'Y', 'Drop ', ''),  
 IF(mu.Reload_priv = 'Y', 'Reload ', ''),  
 IF(mu.Shutdown_priv = 'Y', 'Shutdown ', ''),  
 IF(mu.Process_priv = 'Y', 'Process ', ''),  
 IF(mu.File_priv = 'Y', 'File ', ''),  
 IF(mu.Grant_priv = 'Y', 'Grant ', ''),  
 IF(mu.References_priv = 'Y', 'References ', ''),  
 IF(mu.Index_priv = 'Y', 'Index ', ''),  
 IF(mu.Alter_priv = 'Y', 'Alter ', ''),  
 IF(mu.Show_db_priv = 'Y', 'Show_db ', ''),  
 IF(mu.Super_priv = 'Y', 'Super ', ''),  
 IF(mu.Create_tmp_table_priv = 'Y', 'Create_tmp_table ', ''),  
 IF(mu.Lock_tables_priv = 'Y', 'Lock_tables ', ''),  
 IF(mu.Execute_priv = 'Y', 'Execute ', ''),  
 IF(mu.Repl_slave_priv = 'Y', 'Repl_slave ', ''),  
 IF(mu.Repl_client_priv = 'Y', 'Repl_client ', ''),  
 IF(mu.Create_view_priv = 'Y', 'Create_view ', ''),  
 IF(mu.Show_view_priv = 'Y', 'Show_view ', ''),  
 IF(mu.Create_routine_priv = 'Y', 'Create_routine ', ''),  
 IF(mu.Alter_routine_priv = 'Y', 'Alter_routine ', ''),  
 IF(mu.Create_user_priv = 'Y', 'Create_user ', ''),  
 IF(mu.Event_priv = 'Y', 'Event ', ''),  
 IF(mu.Trigger_priv = 'Y', 'Trigger ', ''  
 )), ' ', ', ') AS `Privileges`
```

FROM

```
 mysql.user mu
```

ORDER BY

```
 mu.Host,  
 mu.User
```

*** the list of privileges for a database:**

SELECT

```
 md.host `Host`,  
 md.user `User`,  
 md.db `Database`,  
 REPLACE(RTRIM(CONCAT(  
 IF(md.Select_priv = 'Y', 'Select ', ''),  
 IF(md.Insert_priv = 'Y', 'Insert ', ''),  
 IF(md.Update_priv = 'Y', 'Update ', ''),  
 IF(md.Delete_priv = 'Y', 'Delete ', ''),  
 IF(md.Create_priv = 'Y', 'Create ', ''),  
 IF(md.Drop_priv = 'Y', 'Drop ', ''),  
 IF(md.Grant_priv = 'Y', 'Grant ', ''),  
 IF(md.References_priv = 'Y', 'References ', ''),  
 IF(md.Index_priv = 'Y', 'Index ', ''),  
 IF(md.Alter_priv = 'Y', 'Alter ', ''),  
 IF(md.Create_tmp_table_priv = 'Y', 'Create_tmp_table ', ''),  
 IF(md.Lock_tables_priv = 'Y', 'Lock_tables ', ''),  
 IF(md.Create_view_priv = 'Y', 'Create_view ', ''),  
 IF(md.Show_view_priv = 'Y', 'Show_view ', ''),  
 IF(md.Create_routine_priv = 'Y', 'Create_routine ', ''),  
 IF(md.Alter_routine_priv = 'Y', 'Alter_routine ', ''),  
 IF(md.Execute_priv = 'Y', 'Execute ', ''),  
 IF(md.Event_priv = 'Y', 'Event ', ''),  
 IF(md.Trigger_priv = 'Y', 'Trigger ', '')  
 )), ' ', ', ') AS `Privileges`
```

FROM

```
 mysql.db md
```

ORDER BY

```
 md.Host,  
 md.User,  
 md.Db
```

* **the list of privileges for tables:**

SELECT

mt.host `Host`,
 mt.user `User`,
 CONCAT(mt.Db, '.', mt.Table_name) `Tables`,
 REPLACE(mt.Table_priv, ',', ',') **AS** `Privileges`

FROM

mysql.tables_priv mt

WHERE

mt.Table_name IN
 (**SELECT**
 DISTINCT
 t.table_name `tables`
 FROM
 information_schema.tables **AS** t
 WHERE
 t.table_type IN
 ('BASE TABLE', 'SYSTEM VIEW', 'TEMPORARY', '') OR
 t.table_type <> 'VIEW' AND
 t.create_options **IS** NOT NULL
)

ORDER BY

mt.Host,
 mt.User,
 mt.Db,
 mt.Table_name;

*** the list of privileges for views:****SELECT**

mv.host `Host`,
 mv.user `User`,
 CONCAT(mv.Db, '.', mv.Table_name) `Views`,
 REPLACE(mv.Table_priv, ',', ',') **AS** `Privileges`

FROM

mysql.tables_priv mv

WHERE

mv.Table_name IN
 (**SELECT**
 DISTINCT
 v.table_name `views`
 FROM
 information_schema.views **AS** v
)

ORDER BY

mv.Host,
 mv.User,
 mv.Db,
 mv.Table_name;

*** the list of privileges for table columns:**

SELECT

mtc.host `Host`,
 mtc.user `User`,
 CONCAT(mtc.Db, ',', mtc.Table_name, ',', mtc.Column_name) `Tables Columns`,
 REPLACE(mtc.Column_priv, ',', ',') **AS `Privileges`**

FROM

mysql.columns_priv mtc

WHERE

mtc.Table_name IN
 (**SELECT**
 DISTINCT
 t.table_name `tables`
 FROM
 information_schema.tables **AS t**
 WHERE
 t.table_type IN
 ('BASE TABLE', 'SYSTEM VIEW', 'TEMPORARY', '') OR
 t.table_type <> 'VIEW' AND
 t.create_options **IS NOT NULL**
)

ORDER BY

mtc.Host,
 mtc.User,
 mtc.Db,
 mtc.Table_name,
 mtc.Column_name;

*** the list of privileges for view columns:****SELECT**

mvc.host `Host`,
 mvc.user `User`,
 CONCAT(mvc.Db, ',', mvc.Table_name, ',', mvc.Column_name) `Views Columns`,
 REPLACE(mvc.Column_priv, ',', ',') **AS `Privileges`**

FROM

mysql.columns_priv mvc

WHERE

mvc.Table_name IN
 (**SELECT**
 DISTINCT
 v.table_name `views`
 FROM
 information_schema.views **AS v**
)

ORDER BY

mvc.Host,
 mvc.User,
 mvc.Db,
 mvc.Table_name,
 mvc.Column_name;

*** the list of privileges for procedures:**

SELECT

mp.host `Host`,
 mp.user `User`,
 CONCAT(mp.Db, '.', mp.Routine_name) `Procedures`,
 REPLACE(mp.Proc_priv, ',', ', ') AS `Privileges`

FROM

mysql.procs_priv mp

WHERE

mp.Routine_type = 'PROCEDURE'

ORDER BY

mp.Host,
 mp.User,
 mp.Db,
 mp.Routine_name;

*** the list of privileges for functions:****SELECT**

mf.host `Host`,
 mf.user `User`,
 CONCAT(mf.Db, '.', mf.Routine_name) `Procedures`,
 REPLACE(mf.Proc_priv, ',', ', ') AS `Privileges`

FROM

mysql.procs_priv mf

WHERE

mf.Routine_type = 'FUNCTION'

ORDER BY

mf.Host,
 mf.User,
 mf.Db,
 mf.Routine_name;

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