



Privileges , Privileges Control and Some important Privileges in MySQL



Privileges in MySQL

- The privileges granted to a MySQL account determine which operations the account can perform. MySQL privileges differ in the contexts in which they apply and at different levels of operation:
- Administrative privileges enable users to manage operation of the MySQL server. These privileges are global because they are not specific to a particular database.
- Database privileges apply to a database and to all objects within it. These privileges can be granted for specific databases, or globally so that they apply to all databases.
- Privileges for database objects such as tables, indexes, views, and stored routines can be granted for specific objects within a database, for all objects of a given type within a database (for example, all tables in a database), or globally for all objects of a given type in all databases.
- Privileges also differ in terms of whether they are static (built in to the server) or dynamic (defined at runtime). Whether a privilege is static or dynamic affects its availability to be granted to user accounts and roles
- Information about account privileges is stored in the grant tables in the mysql system database.

Summary of Available Privileges

| Privilege | Grant Table Column | Context |
|---|------------------------------|---------------------------------------|
| ALL [PRIVILEGES] | Synonym for “all privileges” | Server administration |
| ALTER | Alter_priv | Tables |
| ALTER ROUTINE | Alter_routine_priv | Stored routines |
| CREATE | Create_priv | Databases, tables, or indexes |
| CREATE ROLE | Create_role_priv | Server administration |
| CREATE ROUTINE | Create_routine_priv | Stored routines |
| CREATE TABLESPACE | Create_tablespace_priv | Server administration |
| CREATE TEMPORARY TABLES | Create_tmp_table_priv | Tables |
| CREATE USER | Create_user_priv | Server administration |
| CREATE VIEW | Create_view_priv | Views |
| DELETE | Delete_priv | Tables |
| DROP | Drop_priv | Databases, tables, or views |
| DROP ROLE | Drop_role_priv | Server administration |
| EVENT | Event_priv | Databases |
| EXECUTE | Execute_priv | Stored routines |
| FILE | File_priv | File access on server host |
| GRANT OPTION | Grant_priv | Databases, tables, or stored routines |

| Privilege | Grant Table Column | Context |
|------------------------------------|-----------------------------|-----------------------|
| INDEX | Index_priv | Tables |
| INSERT | Insert_priv | Tables or columns |
| LOCK TABLES | Lock_tables_priv | Databases |
| PROCESS | Process_priv | Server administration |
| PROXY | See proxies_priv table | Server administration |
| REFERENCES | References_priv | Databases or tables |
| RELOAD | Reload_priv | Server administration |
| REPLICATION CLIENT | Repl_client_priv | Server administration |
| REPLICATION SLAVE | Repl_slave_priv | Server administration |
| SELECT | Select_priv | Tables or columns |
| SHOW DATABASES | Show_db_priv | Server administration |
| SHOW VIEW | Show_view_priv | Views |
| SHUTDOWN | Shutdown_priv | Server administration |
| SUPER | Super_priv | Server administration |
| TRIGGER | Trigger_priv | Tables |
| UPDATE | Update_priv | Tables or columns |
| USAGE | Synonym for “no privileges” | Server administration |



Privileges Control

- Global level
 - You can use ON *.* in a GRANT statement to grant a user a particular privilege across all databases on the server.
- Database level
 - You can use, for example, music.* to grant a privilege for one or more databases.
- Table level
 - You can use, for example, music.album to grant a privilege for one or more tables in a database.
- Column level
 - Grants access for one or more columns in a table in a database (but isn't available for ALTER). You grant column-level access using a comma-separated list in parentheses after the privilege, as in, for example:
 - GRANT SELECT (album_name, album_id) ON music.album



Some Important Privileges

- **ALL** : ALL PRIVILEGES These privilege specifiers are shorthand for “all privileges available at a given privilege level” For example, granting ALL at the global or table level grants all global privileges or all table-level privileges, respectively.
- **ALTER** : Enables use of the ALTER TABLE statement to change the structure of tables. ALTER TABLE also requires the CREATE and INSERT privileges. Renaming a table requires ALTER and DROP on the old table, CREATE, and INSERT on the new table.
- **CREATE** : Enables use of statements that create new databases and tables.
- **CREATE TEMPORARY TABLES** : Enables the creation of temporary tables using the CREATE TEMPORARY TABLE statement.
- **CREATE USER** : Enables use of the ALTER USER, CREATE ROLE, CREATE USER, DROP ROLE, DROP USER, RENAME USER, and REVOKE ALL PRIVILEGES statements.
- **DELETE** : Enables rows to be deleted from tables in a database.
- **DROP** : Enables use of statements that drop (remove) existing databases, tables, and views. The DROP privilege is required to use the ALTER TABLE ... The DROP privilege is also required for TRUNCATE TABLE.



Some Important Privileges

- **EXECUTE** : Enables use of statements that execute stored routines (stored procedures and functions).
- **INSERT** : Enables rows to be inserted into tables in a database. INSERT is also required for the ANALYZE TABLE, OPTIMIZE TABLE, and REPAIR TABLE table-maintenance statements.
- **LOCK TABLES** : Enables use of explicit LOCK TABLES statements to lock tables for which you have the SELECT privilege. This includes use of write locks, which prevents other sessions from reading the locked table.
- **PROCESS** : The PROCESS privilege controls access to information about threads executing within the server (that is, information about statements being executed by sessions). Thread information available using the SHOW PROCESSLIST statement
- **SELECT** : Enables rows to be selected from tables in a database. SELECT statements require the SELECT privilege only if they actually access tables.
- **TRIGGER** : Enables trigger operations. You must have this privilege for a table to create, drop, execute, or display triggers for that table.
- **UPDATE** : Enables rows to be updated in tables in a database.