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**Management of access privileges to databases**

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It is not a good practice to let all users with access to the server have all privileges. To preserve the integrity of the data and the structures, it will be convenient that only some users can perform certain tasks, and that others, which require greater knowledge about the structures of databases and tables, can only be performed by a limited and controlled number of users.

The concepts of users and privileges are closely related. Users cannot be created without assigning them privileges at the same time. In fact, the need to create users is linked to the need to limit the actions that such users can carry out.

MySQL allows you to define different users, and also assign each one certain privileges at different levels or categories of them.

In MySQL there are **five** different levels of privileges:

**Global**: apply to the set of all databases on a server. It is the highest level of privilege, in the sense that its scope is the most general.

**From databases**: they refer to individual databases, and by extension, to all the objects that each database contains.

**From table**: apply to individual tables, and therefore to all columns in those tables.

**From column**: apply to a column in a specific table.

**Routine**: applies to stored procedures. We have not seen anything on this topic yet, but in MySQL you can store procedures consisting of several SQL queries.

**SQL GRANT Command**

SQL GRANT is a command used to provide access or privileges on the database objects to the users.

**The Syntax for the GRANT command is:**

GRANT privilege\_name

ON object\_name

TO {user\_name |PUBLIC |role\_name}

[WITH GRANT OPTION];

**privilege\_name** is the access right or privilege granted to the user. Some of the access rights are ALL, EXECUTE, and SELECT.

**object\_name** is the name of an database object like TABLE, VIEW, STORED PROC and SEQUENCE.

**user\_name** is the name of the user to whom an access right is being granted.

**PUBLIC** is used to grant access rights to all users.

**ROLES** are a set of privileges grouped together.

**WITH GRANT OPTION** - allows a user to grant access rights to other users.

**SQL REVOKE Command:**

The REVOKE command removes user access rights or privileges to the database objects.

**The Syntax for the REVOKE command is:**

REVOKE privilege\_name

ON object\_name

FROM {user\_name |PUBLIC |role\_name}