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Granting permission to individual fields in MySQL

Asked 8 years, 11 months ago Modified 8 years, 11 months ago Viewed 28k times



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I have MySQL Database and have several tables in it. One, of course, is the users table for storing the username and passwords (which also has the rest of their information). For all the tables in the schema, I want to be able to grant users (or groups) permission to individual fields. Maybe an example will help:

There's a table called ACCOUNTS. In this table, the user fills out (and keeps up to date) all the data about their company (name, address, POC, etc). But I also want to have fields attached to this table that are read only for those users, such as LastPaymentDate (can't have them changing that!). Further, among those users, permissions differ. For example, the admin/superuser can change the name and address of the company, but standard users should not.

I'm thinking this might need to be done by making several Views for the table, one for each level of permission (group). I'm relatively new to MySQL, so I don't know if this is the best way. I can also see a lookup table that says which fields is allowed to view/edit.

My initial thought was to include in the comments (or the name of the field) a value from 0-5, and then the user would have a permission level (0-can't see; 1-Read only; 2-Read-write; 3-(not used); 4-(not used); 5-Edit/Delete the field itself.

Any suggestions? Views? Lookup table to determine which fields to display? Again, it'd not for the whole table, for each column within a table.

[mysql](#) [permissions](#)

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asked May 21, 2013 at 16:15



[Tanoshimi](#)

453 1 4 11

1 Answer

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You can GRANT the rights to individual columns to a user, using this code:

```
GRANT SELECT (col1), INSERT (col1,col2) ON mydb.mytbl TO 'someuser'@'somehost';
```

Example taken from here:



<http://dev.mysql.com/doc/refman/5.1/en/grant.html>

Also there is no support for groups of users or SQL ROLES (which are groups of privileges) in MySQL.

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answered May 21, 2013 at 16:24



[user4035](#)

21k 10 54 86

I'll read that link over in a minute, but if I understand the example correctly, that will grant the ability select (or see) col1, and the ability to add values to (col1, col2)? I'm going to be writing PHP to create pages on the fly for users, and I want to do PHP code that will determine if the user a) cannot see the field, b) gets it as a read-only column, or c) gets read/write access. Guess I'm looking for how to keep a list of access levels for each field. – [Tanoshimi](#) May 21, 2013 at 20:10

@Tanoshimi Permissions are stored in `mysql` database: `columns_priv`, `db`, and `host` tables. Using them you will be able to solve your task. Maybe, you'll have more questions. – [user4035](#) May 21, 2013 at 20:46

I suppose the only question I have is can I read the Permissions. Basically, I want to have "Hidden" "Read-Only" and "Write". When PHP builds the page, I want to use those to determine if I a) show nothing, b) show it as text, or c) show it as a textbox with code for updating the table. I know I can use `USAGE` for None, but I guess I'm just wondering if I can read those at page creation time. – [Tanoshimi](#) May 22, 2013 at 11:56

If you have the access to `mysql` database, you can. Try to experiment, granting the access to a column to some user and checking, what data is written to `columns_priv` table. – [user4035](#) May 22, 2013 at 12:06

Are you sure you can grant `INSERT` permissions on individual columns? In MS SQL Server, I get an error (and it makes sense, because when you `INSERT` a record, the new record always contains all the columns). – [Reversed Engineer](#) Apr 5, 2018 at 11:07
