

using the [INFORMATION_SCHEMA REFERENTIAL_CONSTRAINTS](#) and [KEY_COLUMN_USAGE](#) tables; these tables are now implemented as views on the [foreign_keys](#), [foreign_key_column_usage](#), and other data dictionary tables.

Some system tables from before MySQL 8.0 have been replaced by data dictionary tables and are no longer present in the [mysql](#) system schema:

- The [events](#) data dictionary table supersedes the [event](#) table from before MySQL 8.0.
- The [parameters](#) and [routines](#) data dictionary tables together supersede the [proc](#) table from before MySQL 8.0.

Grant System Tables

These system tables contain grant information about user accounts and the privileges held by them. For additional information about the structure, contents, and purpose of these tables, see [Section 6.2.3, “Grant Tables”](#).

As of MySQL 8.0, the grant tables are [InnoDB](#) (transactional) tables. Previously, these were [MyISAM](#) (nontransactional) tables. The change of grant-table storage engine underlies an accompanying change in MySQL 8.0 to the behavior of account-management statements such as [CREATE USER](#) and [GRANT](#). Previously, an account-management statement that named multiple users could succeed for some users and fail for others. The statements are now transactional and either succeed for all named users or roll back and have no effect if any error occurs.



Note

If MySQL is upgraded from an older version but the grant tables have not been upgraded from [MyISAM](#) to [InnoDB](#), the server considers them read only and account-management statements produce an error. For upgrade instructions, see [Section 2.11, “Upgrading MySQL”](#).

- [user](#): User accounts, global privileges, and other nonprivilege columns.
- [global_grants](#): Assignments of dynamic global privileges to users; see [Static Versus Dynamic Privileges](#).
- [db](#): Database-level privileges.
- [tables_priv](#): Table-level privileges.
- [columns_priv](#): Column-level privileges.
- [procs_priv](#): Stored procedure and function privileges.
- [proxies_priv](#): Proxy-user privileges.
- [default_roles](#): This table lists default roles to be activated after a user connects and authenticates, or executes [SET ROLE DEFAULT](#).
- [role_edges](#): This table lists edges for role subgraphs.

A given [user](#) table row might refer to a user account or a role. The server can distinguish whether a row represents a user account, a role, or both by consulting the [role_edges](#) table for information about relations between authentication IDs.

- [password_history](#): Information about password changes.