

# Database Users, Roles, and Passwords

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## Datical DB Project Requirements

When you configure a project, you provide

- Configure connection information (URL and port). You need the database information.
- Configure credentials (user name and password) and credential options. You need the username and password you created in the database.
- Connection settings (some are unique to a database type)

## Database Users

There are many options in setting up database user management.

### Assigning a Service User

You can create a service user for every database.

### Assigning Roles to Individual Users

If you need to you individual users rather than a service user, you can create roles and then assign them to individual users.

## Database Password Requirements

Available Characters for Database Passwords

- All alphabetic characters: **a-z and A-Z**
- All numeric characters: **0-9**
- The following special characters are supported: `~#$%*()-_+[]{}.`

Using any unsupported characters such as spaces or `@ & / : < > " ' ` | ^ ! = , \` will cause:

- Errors when packaging scripts in the `sql_direct`, `ddl_direct`, and `sqlplus` folders, or from folders that have `packageMethod=direct` and `packageMethod=ddl_direct`. Errors when deploying any scripts that were packaged from the `sql_direct`, `ddl_direct`, and `sqlplus` folders, or from folders that have `packageMethod=direct` and `packageMethod=ddl_direct`.
- Errors when packaging scripts in the `data_dml` folder or from folders that have `packageMethod=data_dml`. Errors when deploying any scripts that were packaged from the `data_dml` folder or from folders that have `packageMethod=data_dml`.
- Errors deploying "Execute with SQLPlus", "Execute with SQLCMD", "Execute with CLPPLus", or "Execute with psql" change set types.

## Suggested Roles for Datical User Accounts

Datical recommends that clients create up to 4 database roles for use by the user accounts that are used to connect to the database using Datical.

See the section for your database type for more information.

**DATICAL\_ROLE** - Used in all databases.

**DATICAL\_SCHEMA\_OWNER\_ROLE** - (Oracle, single-schema only). Used for when connecting as the schema owner.

**DATICAL\_PACKAGER\_ROLE** - Used only in the reference / packaging database. Has additional permissions required to access the trace file and perform backup & restore.

**DATICAL\_PACKAGER\_SCHEMA\_OWNER\_ROLE** - (Oracle, single-schema only). Used only in the reference / packaging database. Used for when connecting as the schema owner.

**DATICAL\_TRACK\_ROLE** - Used in all databases to create and update the Datical tracking tables.

**DATICAL\_AUDIT\_ROLE** - Used in the AuditDB to create and update the Datical audit tables.

## Specifying Database Credentials

Project settings determine whether database credentials are stored in the project or resolved dynamically through environment variables or a user prompt. ***We strongly recommend using runtime credentials because it is more secure than stored credentials.***

See [Database Credential Management](#).