# Q) List down the SQL Server privileges and their descriptions

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| **Privilege Statements** | **Privilege**  **Description** |
| DELETE | Allows a user to delete rows from tables within the schema |
| INSERT | Allows a user to insert rows of data into tables within the schema |
| REFERENCES | Allows a user to set up references to primary keys within the schema |
| SELECT | Allows a user to select rows from tables within the schema |
| TRIGGER | Allows a user to create triggers on tables within the schema |
| UPDATE | Allows a user to update rows in tables within the schema |
| EXECUTE | Allows users to execute functions or stored procedures within the schema |

# Q) List down the user roles in SQL server and their descriptions

# Fixed Server-Level Roles

* The following table shows the fixed server-level roles and their capabilities.

|  | | |
| --- | --- | --- |
| Fixed server-level role | Description |  |
| **sysadmin** | Members of the **sysadmin** fixed server role can perform any activity in the server. |  |
| **serveradmin** | Members of the **serveradmin** fixed server role can change server-wide configuration options and shut down the server. |  |
| **securityadmin** | Members of the **securityadmin** fixed server role manage logins and their properties. They can GRANT, DENY, and REVOKE server-level permissions. They can also GRANT, DENY, and REVOKE database-level permissions if they have access to a database. Additionally, they can reset passwords for SQL Server logins.  **IMPORTANT:** The ability to grant access to the Database Engine and to configure user permissions allows the security admin to assign most server permissions. The **securityadmin** role should be treated as equivalent to the **sysadmin** role. |  |
| **processadmin** | Members of the **processadmin** fixed server role can end processes that are running in an instance of SQL Server. |  |
| **setupadmin** | Members of the **setupadmin** fixed server role can add and remove linked servers by using Transact-SQL statements. (**sysadmin** membership is needed when using Management Studio.) |  |
| **bulkadmin** | Members of the **bulkadmin** fixed server role can run the BULK INSERT statement.  The **bulkadmin** role or ADMINISTER BULK OPERATIONS permissions is not supported for SQL Server on Linux. Only the **sysadmin** can perform bulk inserts for SQL Server on Linux. |  |
| **diskadmin** | The **diskadmin** fixed server role is used for managing disk files. |  |
| **Dbcreator** | Members of the **dbcreator** fixed server role can create, alter, drop, and restore any database. |  |
| **Public** | Every SQL Server login belongs to the **public** server role. When a server principal has not been granted or denied specific permissions on a securable object, the user inherits the permissions granted to public on that object. Only assign public permissions on any object when you want the object to be available to all users. You cannot change membership in public.  **Note:** **public** is implemented differently than other roles, and permissions can be granted, denied, or revoked from the public fixed server roles. |  |

# Fixed-Database Roles

The following table shows the fixed-database roles and their capabilities. These roles exist in all databases. Except for the **public** database role, the permissions assigned to the fixed-database roles cannot be changed.

| FIXED-DATABASE ROLES | |
| --- | --- |
| Fixed-Database role name | Description |
| **db\_owner** | Members of the **db\_owner** fixed database role can perform all configuration and maintenance activities on the database, and can also drop the database in SQL Server. (In SQL Database and Azure Synapse, some maintenance activities require server-level permissions and cannot be performed by **db\_owners**.) |
| **db\_securityadmin** | Members of the **db\_securityadmin** fixed database role can modify role membership for custom roles only and manage permissions. Members of this role can potentially elevate their privileges and their actions should be monitored. |
| **db\_accessadmin** | Members of the **db\_accessadmin** fixed database role can add or remove access to the database for Windows logins, Windows groups, and SQL Server logins. |
| **db\_backupoperator** | Members of the **db\_backupoperator** fixed database role can back up the database. |
| **db\_ddladmin** | Members of the **db\_ddladmin** fixed database role can run any Data Definition Language (DDL) command in a database. |
| **db\_datawriter** | Members of the **db\_datawriter** fixed database role can add, delete, or change data in all user tables. |
| **db\_datareader** | Members of the **db\_datareader** fixed database role can read all data from all user tables and views. User objects can exist in any schema except *sys* and *INFORMATION\_SCHEMA*. |
| **db\_denydatawriter** | Members of the **db\_denydatawriter** fixed database role cannot add, modify, or delete any data in the user tables within a database. |
| **db\_denydatareader** | Members of the **db\_denydatareader** fixed database role cannot read any data from the user tables and views within a database. |

# *Q) Write the query to add user in db\_owner group ?*

# ALTER ROLES db\_owner ADD MEMBER Taimoor