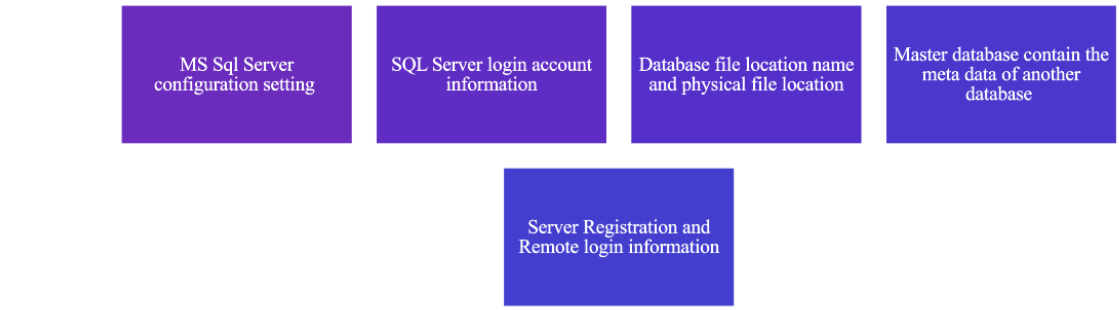
# Master Database




The master database records all the system-level information for a SQL Server system. This includes instance-wide metadata such as logon accounts, endpoints, linked servers, and system configuration settings. In SQL Server, system objects are no longer stored in the master database; instead, they are stored in the Resource database. Also, master is the database that records the existence of all other databases and the location of those database files and records the initialization information for SQL Server. Therefore, SQL Server cannot start if the master database is unavailable.

## Key Points

- Master database is the main system database in MS sql server.
- Master databases contain the information of sql server configuration settling
- Master databases hold all MS sql server login information,
- Master databases contain database file's location, name and physical file location,
- Master databases contain the meta data of all other database including user database information,
- Master databases contain information of server registration and remote login information as well,

## Physical Properties of master

The following table lists the initial configuration values of the **master** data and log files for SQL Server and Azure SQL Managed Instance. The sizes of these files may vary slightly for different editions of SQL Server.

| File | Logical name | Physical name | File growth |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Primary data | master | master.mdf | Autogrow by 10 percent until the disk is full. |
| Log | mastlog | mastlog.ldf | Autogrow by 10 percent to a maximum of 2 terabytes. |

# Restrictions

The following operations cannot be performed on the master database:

- Adding files or filegroups.
- Backups, only a full database backup can be performed on the master database.
- Changing collation. The default collation is the server collation.
- Changing the database owner. master is owned by sa.
- Creating a full-text catalog or full-text index.
- Creating triggers on system tables in the database.
- Dropping the database.
- Dropping the guest user from the database.
- Enabling change data capture.
- Participating in database mirroring.
- Removing the primary filegroup, primary data file, or log file.
- Renaming the database or primary filegroup.
- Setting the database to OFFLINE.
- Setting the database or primary filegroup to READ_ONLY.

# Recommendations

When you work with the master database, consider the following recommendations:

- Always have a current backup of the master database available.
- Back up the master database as soon as possible after the following operations:
    - Creating, modifying, or dropping any database
    - Changing server or database configuration values
    - Modifying or adding logon accounts
- Do not create user objects in master. If you do, master must be backed up more frequently.
- Do not set the TRUSTWORTHY option to ON for the master database.

# What to Do If master Becomes Unusable

If **master** becomes unusable, you can return the database to a usable state in either of the following ways:

- Restore **master** from a current database backup.

If you can start the server instance, you should be able to restore **master** from a full database backup. For more information

- Rebuild **master** completely.

  If severe damage to **master** prevents you from starting SQL Server, you must rebuild **master**.