What is Master Database

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.
- **master** is the database that records the existence of all other databases and the location of those database files
- Records the initialization information for SQL Server. Therefore, SQL Server cannot start if the **master** database is unavailable.

Physical Properties of master database

- The following table lists the initial configuration values of the **master** data and log files for SQL Server 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 of master database

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.

Restrictions of master database (contd)

- 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 for master database

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

- 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**.