<https://learn.microsoft.com/en-us/sql/t-sql/statements/create-master-key-transact-sql?view=sql-server-ver16>

**CREATE MASTER KEY (Transact-SQL)**

Creates a database master key in the database.

CREATE MASTER KEY [ ENCRYPTION BY PASSWORD ='password' ]

[ ; ]

Examples:

CREATE MASTER KEY ENCRYPTION BY PASSWORD = '<strong password>';

GO

Verify the presence of the new key, ##MS\_DatabaseMasterKey##:

SELECT \* FROM sys.symmetric\_keys;

GO

The database master key is a symmetric key used to protect the private keys of certificates and asymmetric keys that are present in the database and secrets in database scoped credentials. When it is created, the master key is encrypted by using the AES\_256 algorithm and a user-supplied password.

To enable the automatic decryption of the master key, a copy of the key is encrypted by using the *service* master key and stored in both the database and in master. Typically, the copy stored in master is silently updated whenever the master key is changed. This default can be changed by using the DROP ENCRYPTION BY SERVICE MASTER KEY option of [ALTER MASTER KEY](https://learn.microsoft.com/en-us/sql/t-sql/statements/alter-master-key-transact-sql?view=sql-server-ver16). A master key that isn't encrypted by the service master key must be opened by using the [OPEN MASTER KEY](https://learn.microsoft.com/en-us/sql/t-sql/statements/open-master-key-transact-sql?view=sql-server-ver16) statement and a password.

Important

* You should back up the master key by using [BACKUP MASTER KEY](https://learn.microsoft.com/en-us/sql/t-sql/statements/backup-master-key-transact-sql?view=sql-server-ver16), and store the backup in a secure, off-site location.
* In SQL Server, you should also back up the service master key using [BACKUP SERVICE MASTER KEY](https://learn.microsoft.com/en-us/sql/relational-databases/security/encryption/back-up-the-service-master-key?view=sql-server-ver16), and store the backup in a secure, off-site location.

Information about the database master key is visible in the sys.symmetric\_keys catalog view.

The is\_master\_key\_encrypted\_by\_server column of the sys.databases catalog view in master indicates whether the database master key is encrypted by the service master key.