

How to Back Up Master Key and Certificate

Why Back Up Master Key?

- Database master key is used to encrypt other keys and certificates inside a database.
- If it is deleted or corrupted, SQL Server may be unable to decrypt those keys, and the data encrypted using them will be effectively lost.
- Back up the database master key and store the backup in a secure off-site location.

Back Up Master Key

- Database Master key must be decrypted and opened before it is backed up.
- If it is encrypted with the service master key, the database master key does not have to be explicitly opened.
- If the database master key is encrypted with a password, it must be explicitly opened.

Back Up Master Key

```
/* The following example creates a backup of the AdventureWorks2012 master key */  
USE DemoEncrypt;  
OPEN MASTER KEY DECRYPTION BY PASSWORD =  
    'Test_P@sswOrd';  
BACKUP MASTER KEY TO FILE =  
    'c:\backup\MasterkeyBK'  
    ENCRYPTION BY PASSWORD = 'sd092735kjn$&adsg';  
GO
```

Back Up Certificate

```
BACKUP CERTIFICATE TestCertificate TO FILE = 'c:\backup\CertBK';
```

No Way to Back Up Single Symmetric Key

- No T-SQL command to backup a single symmetric key (except service master key and database master key).
- Always back up database.
- How to recover data in case the symmetric key is lost:

<https://social.msdn.microsoft.com/forums/sqlserver/en-US/ad9f9261-b2f3-415e-808e-cc6b7f0d19ee/sql-symmetric-key-backup>

Additional Information

<https://msdn.microsoft.com/en-us/library/ms174387.aspx>

<https://msdn.microsoft.com/en-us/library/Aa337546.aspx>

<https://msdn.microsoft.com/en-us/library/bb964742.aspx>