How to configure Transparent Data Encryption (TDE) in SQL Server

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select name,is\_encrypted from sys.databases;

--step1:Take the full database backup of DBA

BACKUP DATABASE [CMS] TO DISK = N'D:\CMS\_13072024.BAK'

WITH NOFORMAT, NOINIT, NAME =N'CMS full backup', SKIP, NOREWIND, NOUNLOAD, STATS =10

GO

--step2:create database master key

USE Master;

GO

CREATE MASTER KEY ENCRYPTION

BY PASSWORD='Gadipudi@007';

GO

--step3:create certificate

USE Master;

GO

CREATE CERTIFICATE TDE\_Cert

WITH SUBJECT='Database\_Encryption';

GO

--step4:create database encryption key

USE CMS

GO

CREATE DATABASE ENCRYPTION KEY

WITH ALGORITHM = AES\_256

ENCRYPTION BY SERVER CERTIFICATE TDE\_Cert;

GO

--step5:Backup the certifcate and the private key assiocate with the certifcate

USE MASTER

GO

BACKUP CERTIFICATE [TDE\_Cert]

TO FILE = 'D:\TDE\_Cert.cer'

WITH PRIVATE KEY (file='D:\TDE\_CertKey.pvk',

ENCRYPTION BY PASSWORD='Gadipudi@007')

--step5:Turn on encryption on database

ALTER DATABASE [CMS]

SET ENCRYPTION ON;

GO

--step6:check the encryption enable

select name, is\_encrypted from sys.databases;

select \* from sys.certificates;

select \* from sys.dm\_database\_encryption\_keys

--Roll backup steps for TDE

--step1:

use CMS

go

Alter database CMS set Encryption off

--step2:

use CMS

go

Drop database encryption key

--step3

use master

go

Drop certificate TDE\_Cert

--step4 --optional

use master

go

drop master key

--Restoring a Certificate

--step5:In order to restore the certificate, you will once again have to create a service master key on the secondary server.

USE Master;

GO

CREATE MASTER KEY ENCRYPTION

BY PASSWORD='Gadipudi@007';

GO

--step6: backed up the certificate and the encryption/decryption password.

USE MASTER

GO

CREATE CERTIFICATE TDECert

FROM FILE = 'D:\TDE\_Cert.cer'

WITH PRIVATE KEY (FILE = 'D:\TDECert\_Key.pvk',

DECRYPTION BY PASSWORD = 'Gadipudi@007' );