# TDE Column Level encryption in SQL Server

use sample

go

--Modify the employee table by adding username and Password columns

alter table employee add username varchar(50), [Password] varbinary(400)

go

--Create a master key for the database.

create MASTER KEY

ENCRYPTION BY PASSWORD = 'info6210';

-- very that master key exists

SELECT name KeyName,

symmetric\_key\_id KeyID,

key\_length KeyLength,

algorithm\_desc KeyAlgorithm

FROM sys.symmetric\_keys;

go

--Create a self signed certificate and name it EmpPass

CREATE CERTIFICATE EmpPass

WITH SUBJECT = 'Employee Sample Password';

GO

--Createa a symmetric key with AES 256 algorithm using the certificate

-- as encryption/decryption method

CREATE SYMMETRIC KEY EmpPass\_SM

WITH ALGORITHM = AES\_256

ENCRYPTION BY CERTIFICATE EmpPass;

GO

--Now we are ready to encrypt the password and also decrypt

-- Open the symmetric key with which to encrypt the data.

OPEN SYMMETRIC KEY EmpPass\_SM

DECRYPTION BY CERTIFICATE EmpPass;

-- Encrypt the value in column Password with symmetric key, and default everyone with

-- a paswword of Pass1234

UPDATE dbo.employee set [username] = emp\_lname

, [Password] = EncryptByKey(Key\_GUID('EmpPass\_SM'), convert(varbinary,'Pass123') )

GO

-- First, open the symmetric key with which to decrypt the data.

OPEN SYMMETRIC KEY EmpPass\_SM

DECRYPTION BY CERTIFICATE EmpPass;

SELECT \*,

CONVERT(varchar, DecryptByKey([Password]))

AS 'Decrypted password'

FROM dbo.Employee;

GO