Create a backup script that will automatically do a full backup of the AdventureWorks database each Friday night at 11:59pm.

Each full backup will have a unique name consisting of “full” + the current date + “.bak”.   All backups should be written to disk to the directory c:\SQLBackups\ AdventureWorks \Full

<https://solutioncenter.apexsql.com/create-daily-database-backups-with-unique-names-in-sql-server/>

<https://docs.microsoft.com/>

--Declaring variables

DECLARE @dateandtime VARCHAR(200)

DECLARE @currentdate VARCHAR(10)

DECLARE @path VARCHAR(200)

DECLARE @name VARCHAR(200)

DECLARE @pathwithname VARCHAR(300)

--Gettng date values

SELECT @dateandtime = GETDATE()

SELECT @currentdate = CONVERT(VARCHAR(10), @dateandtime, 101)

--https://www.google.ca/search?q=date+convertion+in+tsql&rlz=1C1CHBF\_enCA765CA765&oq=date+convertion+in+tsql&aqs=chrome..69i57j0l5.14367j0j7&sourceid=chrome&ie=UTF-8

SET @path='C:\SQLBackups\AdventureWorks\Full\'

SET @name='full' + @currentdate + '.bak'

-- Defining file name

SET @pathwithname = @path + @name + '.bak'

--https://solutioncenter.apexsql.com/create-daily-database-backups-with-unique-names-in-sql-server/

--Back up command

BACKUP DATABASE [AdventureWorks2012]

TO DISK = N'@pathwithname'

WITH NOFORMAT, NOINIT,

SKIP, NOREWIND, NOUNLOAD, STATS = 10

GO

**Job -----**

USE [msdb]

GO

DECLARE @jobId BINARY(16)

EXEC msdb.dbo.sp\_add\_job @job\_name=N'Full back up job',

@enabled=1,

@notify\_level\_eventlog=0,

@notify\_level\_email=2,

@notify\_level\_netsend=2,

@notify\_level\_page=2,

@delete\_level=0,

@category\_name=N'[Uncategorized (Local)]',

@owner\_login\_name=N'DESKTOP-U8T8PQ6\Anaswara', @job\_id = @jobId OUTPUT

select @jobId

GO

EXEC msdb.dbo.sp\_add\_jobserver @job\_name=N'Full back up job', @server\_name = N'DESKTOP-U8T8PQ6'

GO

USE [msdb]

GO

EXEC msdb.dbo.sp\_add\_jobstep @job\_name=N'Full back up job', @step\_name=N'Back up Step',

@step\_id=1,

@cmdexec\_success\_code=0,

@on\_success\_action=1,

@on\_fail\_action=2,

@retry\_attempts=0,

@retry\_interval=0,

@os\_run\_priority=0, @subsystem=N'TSQL',

@command=N'--Declaring variables

DECLARE @dateandtime DATETIME

DECLARE @currentdate VARCHAR(20)

DECLARE @path VARCHAR(200)

DECLARE @name VARCHAR(200)

DECLARE @pathwithname VARCHAR(300)

--Gettng date values

SELECT @dateandtime = GETDATE()

SELECT @currentdate = CONVERT(VARCHAR(20), @dateandtime, 101)

--https://www.google.ca/search?q=date+convertion+in+tsql&rlz=1C1CHBF\_enCA765CA765&oq=date+convertion+in+tsql&aqs=chrome..69i57j0l5.14367j0j7&sourceid=chrome&ie=UTF-8

SET @path=''C:\SQLBackups\AdventureWorks\Full\''

SET @name=''full''+ @currentdate+''.bak''

-- Defining file name

SET @pathwithname = @path+@name

--https://solutioncenter.apexsql.com/create-daily-database-backups-with-unique-names-in-sql-server/

--Back up command

BACKUP DATABASE [AdventureWorks2012]

TO DISK = @pathwithname

WITH NOFORMAT, NOINIT,

SKIP, NOREWIND, NOUNLOAD, STATS = 10

GO

',

@database\_name=N'master',

@flags=0

GO

USE [msdb]

GO

EXEC msdb.dbo.sp\_update\_job @job\_name=N'Full back up job',

@enabled=1,

@start\_step\_id=1,

@notify\_level\_eventlog=0,

@notify\_level\_email=2,

@notify\_level\_netsend=2,

@notify\_level\_page=2,

@delete\_level=0,

@description=N'',

@category\_name=N'[Uncategorized (Local)]',

@owner\_login\_name=N'DESKTOP-U8T8PQ6\Anaswara',

@notify\_email\_operator\_name=N'',

@notify\_netsend\_operator\_name=N'',

@notify\_page\_operator\_name=N''

GO

USE [msdb]

GO

DECLARE @schedule\_id int

EXEC msdb.dbo.sp\_add\_jobschedule @job\_name=N'Full back up job', @name=N'Weekly Schedule',

@enabled=1,

@freq\_type=8,

@freq\_interval=32,

@freq\_subday\_type=1,

@freq\_subday\_interval=0,

@freq\_relative\_interval=0,

@freq\_recurrence\_factor=1,

@active\_start\_date=20171018,

@active\_end\_date=99991231,

@active\_start\_time=235900,

@active\_end\_time=235959, @schedule\_id = @schedule\_id OUTPUT

select @schedule\_id

GO

DECLARE @error\_flag int

DECLARE @output\_flag int

EXEC msdb.dbo.sp\_start\_job @job\_name=N'Full back up job',

@error\_flag=1,

@server\_name=N'DESKTOP-U8T8PQ6',

@step\_name=N'Back up Step',

@output\_flag=1

GO

Create a backup script that will automatically do a differential backup of the AdventureWorks database each night Monday to Thursday inclusive at 11:59pm.

Each differential backup will have a unique name consisting of “diff” + the current date + “.bak”.   All backups should be written to disk to the directory c:\SQLBackups\ AdventureWorks \Diff

USE [msdb]

GO

DECLARE @jobId BINARY(16)

EXEC msdb.dbo.sp\_add\_job @job\_name=N'Differential Back up job',

@enabled=1,

@notify\_level\_eventlog=0,

@notify\_level\_email=2,

@notify\_level\_netsend=2,

@notify\_level\_page=2,

@delete\_level=0,

@category\_name=N'[Uncategorized (Local)]',

@owner\_login\_name=N'DESKTOP-U8T8PQ6\Anaswara', @job\_id = @jobId OUTPUT

select @jobId

GO

EXEC msdb.dbo.sp\_add\_jobserver @job\_name=N'Differential Back up job', @server\_name = N'DESKTOP-U8T8PQ6'

GO

USE [msdb]

GO

EXEC msdb.dbo.sp\_add\_jobstep @job\_name=N'Differential Back up job', @step\_name=N'Back up step',

@step\_id=1,

@cmdexec\_success\_code=0,

@on\_success\_action=1,

@on\_fail\_action=2,

@retry\_attempts=0,

@retry\_interval=0,

@os\_run\_priority=0, @subsystem=N'TSQL',

@command=N'--Declaring variables

DECLARE @dateandtime VARCHAR(200)

DECLARE @currentdate VARCHAR(11)

DECLARE @path VARCHAR(200)

DECLARE @name VARCHAR(200)

DECLARE @pathwithname VARCHAR(300)

--Gettng date values

SELECT @dateandtime = GETDATE()

SELECT @currentdate = CONVERT(VARCHAR(11), @dateandtime, 101)

--https://www.google.ca/search?q=date+convertion+in+tsql&rlz=1C1CHBF\_enCA765CA765&oq=date+convertion+in+tsql&aqs=chrome..69i57j0l5.14367j0j7&sourceid=chrome&ie=UTF-8

SET @path=''C:\SQLBackups\AdventureWorks\Diff\''

SET @name=''diff''+ @currentdate+''.bak''

-- Defining file name

SET @pathwithname = @path+@name

--https://solutioncenter.apexsql.com/create-daily-database-backups-with-unique-names-in-sql-server/

--Back up command

BACKUP DATABASE [AdventureWorks2012]

TO DISK = @pathwithname

WITH DIFFERENTIAL,

NOFORMAT, NOINIT,

SKIP, NOREWIND, NOUNLOAD, STATS = 10

GO

',

@database\_name=N'master',

@flags=0

GO

USE [msdb]

GO

EXEC msdb.dbo.sp\_update\_job @job\_name=N'Differential Back up job',

@enabled=1,

@start\_step\_id=1,

@notify\_level\_eventlog=0,

@notify\_level\_email=2,

@notify\_level\_netsend=2,

@notify\_level\_page=2,

@delete\_level=0,

@description=N'',

@category\_name=N'[Uncategorized (Local)]',

@owner\_login\_name=N'DESKTOP-U8T8PQ6\Anaswara',

@notify\_email\_operator\_name=N'',

@notify\_netsend\_operator\_name=N'',

@notify\_page\_operator\_name=N''

GO

USE [msdb]

GO

DECLARE @schedule\_id int

EXEC msdb.dbo.sp\_add\_jobschedule @job\_name=N'Differential Back up job', @name=N'Daily Schedule',

@enabled=1,

@freq\_type=8,

@freq\_interval=30,

@freq\_subday\_type=1,

@freq\_subday\_interval=0,

@freq\_relative\_interval=0,

@freq\_recurrence\_factor=1,

@active\_start\_date=20171017,

@active\_end\_date=99991231,

@active\_start\_time=235900,

@active\_end\_time=235959, @schedule\_id = @schedule\_id OUTPUT

select @schedule\_id

GO

USE [msdb]

GO

DECLARE @error\_flag int

DECLARE @output\_flag int

EXEC msdb.dbo.sp\_start\_job @job\_name=N'Differential Back up job',

@error\_flag=1,

@server\_name=N'DESKTOP-U8T8PQ6',

@step\_name=N'Back up step',

@output\_flag=1

GO

Create a backup script that will automatically do a transaction log backup of the AdventureWorks database every 15 minutes Monday to Friday inclusive starting at 8:00am and run until 6:00pm.

Each transaction log backup will have a unique name consisting of “trans” + the current date + the time + “.bak”.  All backups should be written to disk to the directory c:\SQLBackups\ AdventureWorks \Log

USE [msdb]

GO

DECLARE @jobId BINARY(16)

EXEC msdb.dbo.sp\_add\_job @job\_name=N'Transaction Backup Job',

@enabled=1,

@notify\_level\_eventlog=0,

@notify\_level\_email=2,

@notify\_level\_netsend=2,

@notify\_level\_page=2,

@delete\_level=0,

@category\_name=N'[Uncategorized (Local)]',

@owner\_login\_name=N'DESKTOP-U8T8PQ6\Anaswara', @job\_id = @jobId OUTPUT

select @jobId

GO

EXEC msdb.dbo.sp\_add\_jobserver @job\_name=N'Transaction Backup Job', @server\_name = N'DESKTOP-U8T8PQ6'

GO

USE [msdb]

GO

EXEC msdb.dbo.sp\_add\_jobstep @job\_name=N'Transaction Backup Job', @step\_name=N'Log back up Step',

@step\_id=1,

@cmdexec\_success\_code=0,

@on\_success\_action=1,

@on\_fail\_action=2,

@retry\_attempts=0,

@retry\_interval=0,

@os\_run\_priority=0, @subsystem=N'TSQL',

@command=N'--Declaring variables

DECLARE @dateandtime DATETIME

DECLARE @datewithtime VARCHAR(50)

DECLARE @path VARCHAR(200)

DECLARE @name VARCHAR(200)

DECLARE @pathwithname VARCHAR(300)

DECLARE @year VARCHAR(4)

DECLARE @month VARCHAR(2)

DECLARE @day VARCHAR(2)

DECLARE @hour VARCHAR(2)

DECLARE @minute VARCHAR(2)

DECLARE @second VARCHAR(2)

--Gettng date values

SELECT @dateandtime = GETDATE()

SELECT @year = (SELECT CONVERT(VARCHAR(4), DATEPART(yy, @dateandtime )))

SELECT @month = (SELECT CONVERT(VARCHAR(2), FORMAT(DATEPART(mm,@dateandtime ),''00'')))

SELECT @day = (SELECT CONVERT(VARCHAR(2), FORMAT(DATEPART(dd,@dateandtime ),''00'')))

SELECT @hour = (SELECT CONVERT(VARCHAR(2), FORMAT(DATEPART(hh,@dateandtime ),''00'')))

SELECT @minute = (SELECT CONVERT(VARCHAR(2), FORMAT(DATEPART(mi,@dateandtime ),''00'')))

SELECT @second = (SELECT CONVERT(VARCHAR(2), FORMAT(DATEPART(ss,@dateandtime ),''00'')))

--https://www.google.ca/search?q=date+convertion+in+tsql&rlz=1C1CHBF\_enCA765CA765&oq=date+convertion+in+tsql&aqs=chrome..69i57j0l5.14367j0j7&sourceid=chrome&ie=UTF-8

-- 4. Defining the filename format

SELECT @name =''trans'' + ''\_'' + @year + @month + @day + @hour + @minute + @second

SET @path=''C:\SQLBackups\AdventureWorks\Log\''

SET @pathwithname = @path + @name + ''.bak''

--https://solutioncenter.apexsql.com/create-daily-database-backups-with-unique-names-in-sql-server/

--Back up command

BACKUP LOG [AdventureWorks2012]

TO DISK = @pathwithname

WITH NOFORMAT, NOINIT, NAME = N''AdventureWorks2012-Transaction Log Backup'', SKIP, NOREWIND, NOUNLOAD, STATS = 10

GO

',

@database\_name=N'master',

@flags=0

GO

USE [msdb]

GO

EXEC msdb.dbo.sp\_update\_job @job\_name=N'Transaction Backup Job',

@enabled=1,

@start\_step\_id=1,

@notify\_level\_eventlog=0,

@notify\_level\_email=2,

@notify\_level\_netsend=2,

@notify\_level\_page=2,

@delete\_level=0,

@description=N'',

@category\_name=N'[Uncategorized (Local)]',

@owner\_login\_name=N'DESKTOP-U8T8PQ6\Anaswara',

@notify\_email\_operator\_name=N'',

@notify\_netsend\_operator\_name=N'',

@notify\_page\_operator\_name=N''

GO

USE [msdb]

GO

DECLARE @schedule\_id int

EXEC msdb.dbo.sp\_add\_jobschedule @job\_name=N'Transaction Backup Job', @name=N'Daily log backup Schedule',

@enabled=1,

@freq\_type=8,

@freq\_interval=62,

@freq\_subday\_type=4,

@freq\_subday\_interval=15,

@freq\_relative\_interval=0,

@freq\_recurrence\_factor=1,

@active\_start\_date=20171017,

@active\_end\_date=99991231,

@active\_start\_time=80000,

@active\_end\_time=180000, @schedule\_id = @schedule\_id OUTPUT

select @schedule\_id

GO

DECLARE @error\_flag int

DECLARE @output\_flag int

EXEC msdb.dbo.sp\_start\_job @job\_name=N'Transaction Backup Job',

@error\_flag=1,

@server\_name=N'DESKTOP-U8T8PQ6',

@step\_name=N'Log back up Step',

@output\_flag=1

GO

Create a backup script that will automatically do a full backup of the MSDB, Master, and Model system database on a daily basis Monday to Friday inclusive.

Each backup will have a unique name consisting of either “msdb” or “master” or “model”  + the current date + “.bak”.   All backups should be written to disk to the directory c:\SQLBackups\ System\Full

USE [msdb]

GO

DECLARE @jobId BINARY(16)

EXEC msdb.dbo.sp\_add\_job @job\_name=N'Sysdb Back up Job',

@enabled=1,

@notify\_level\_eventlog=0,

@notify\_level\_email=2,

@notify\_level\_netsend=2,

@notify\_level\_page=2,

@delete\_level=0,

@category\_name=N'[Uncategorized (Local)]',

@owner\_login\_name=N'DESKTOP-U8T8PQ6\Anaswara', @job\_id = @jobId OUTPUT

select @jobId

GO

EXEC msdb.dbo.sp\_add\_jobserver @job\_name=N'Sysdb Back up Job', @server\_name = N'DESKTOP-U8T8PQ6'

GO

USE [msdb]

GO

EXEC msdb.dbo.sp\_add\_jobstep @job\_name=N'Sysdb Back up Job', @step\_name=N'Back up Step',

@step\_id=1,

@cmdexec\_success\_code=0,

@on\_success\_action=1,

@on\_fail\_action=2,

@retry\_attempts=0,

@retry\_interval=0,

@os\_run\_priority=0, @subsystem=N'TSQL',

@command=N'--Declaring variables

DECLARE @dateandtime VARCHAR(200)

DECLARE @currentdate VARCHAR(11)

DECLARE @path VARCHAR(200)

DECLARE @fname VARCHAR(200)

DECLARE @name VARCHAR(200)

DECLARE @pathwithname VARCHAR(300)

DECLARE @dbname VARCHAR(200)

--Gettng date values

SELECT @dateandtime = GETDATE()

SELECT @currentdate = CONVERT(VARCHAR(11), @dateandtime, 101)

--https://www.google.ca/search?q=date+convertion+in+tsql&rlz=1C1CHBF\_enCA765CA765&oq=date+convertion+in+tsql&aqs=chrome..69i57j0l5.14367j0j7&sourceid=chrome&ie=UTF-8

-- Defining file name

SET @path=''C:\SQLBackups\AdventureWorks\Full\''

---https://www.mssqltips.com/sqlservertip/1070/simple-script-to-backup-all-sql-server-databases/

--https://solutioncenter.apexsql.com/create-daily-database-backups-with-unique-names-in-sql-server/

--Declaring a cursor to assign dbname from the system database one by one and repeat the loop

DECLARE db\_cursor CURSOR READ\_ONLY FOR

SELECT name

FROM master.dbo.sysdatabases

WHERE name IN (''master'',''model'',''msdb'')

OPEN db\_cursor

FETCH NEXT FROM db\_cursor INTO @name

WHILE @@FETCH\_STATUS = 0

BEGIN

SET @path=''C:\SQLBackups\AdventureWorks\Full\''

SET @fname=@name+ @currentdate+''.bak''

SET @pathwithname = @path+@fname

--Back up command

BACKUP DATABASE @name

TO DISK = @pathwithname

WITH NOFORMAT, NOINIT,

SKIP, NOREWIND, NOUNLOAD, STATS = 10

FETCH NEXT FROM db\_cursor INTO @name

END

CLOSE db\_cursor

DEALLOCATE db\_cursor

',

@database\_name=N'master',

@flags=0

GO

USE [msdb]

GO

EXEC msdb.dbo.sp\_update\_job @job\_name=N'Sysdb Back up Job',

@enabled=1,

@start\_step\_id=1,

@notify\_level\_eventlog=0,

@notify\_level\_email=2,

@notify\_level\_netsend=2,

@notify\_level\_page=2,

@delete\_level=0,

@description=N'',

@category\_name=N'[Uncategorized (Local)]',

@owner\_login\_name=N'DESKTOP-U8T8PQ6\Anaswara',

@notify\_email\_operator\_name=N'',

@notify\_netsend\_operator\_name=N'',

@notify\_page\_operator\_name=N''

GO

USE [msdb]

GO

DECLARE @schedule\_id int

EXEC msdb.dbo.sp\_add\_jobschedule @job\_name=N'Sysdb Back up Job', @name=N'Daily sys db schedule',

@enabled=1,

@freq\_type=8,

@freq\_interval=62,

@freq\_subday\_type=1,

@freq\_subday\_interval=0,

@freq\_relative\_interval=0,

@freq\_recurrence\_factor=1,

@active\_start\_date=20171018,

@active\_end\_date=99991231,

@active\_start\_time=0,

@active\_end\_time=235959, @schedule\_id = @schedule\_id OUTPUT

select @schedule\_id

GO

DECLARE @error\_flag int

DECLARE @output\_flag int

EXEC msdb.dbo.sp\_start\_job @job\_name=N'Sysdb Back up Job',

@error\_flag=1,

@server\_name=N'DESKTOP-U8T8PQ6',

@step\_name=N'Back up Step',

@output\_flag=1

GO

The backup script created in Question 1 above will create a unique backup file each week continuously.  At some point the drive where the backups are stored will run out of space.  Older backup files could be deleted by hand but it would be more convenient to automatically delete older full backup files.

Create the script as you did in Question 1 but now add the functionality to automatically delete any full backup files that are older than 31 days based on the current system date.

Xp\_delete\_file takes a five parameters:

File Type = 0 for backup files or 1 for report files.

Folder Path = The folder to delete files.  The path must end with a backslash "\".

File Extension = This could be 'BAK' or 'TRN' or whatever you normally use.

Date = The cutoff date for what files need to be deleted.

Subfolder = 0 to ignore subfolders, 1 to delete files in subfolders.

USE [msdb]

GO

DECLARE @jobId BINARY(16)

EXEC msdb.dbo.sp\_add\_job @job\_name=N'FullBackup\_with purge',

@enabled=1,

@notify\_level\_eventlog=0,

@notify\_level\_email=2,

@notify\_level\_netsend=2,

@notify\_level\_page=2,

@delete\_level=0,

@category\_name=N'[Uncategorized (Local)]',

@owner\_login\_name=N'DESKTOP-U8T8PQ6\Anaswara', @job\_id = @jobId OUTPUT

select @jobId

GO

EXEC msdb.dbo.sp\_add\_jobserver @job\_name=N'FullBackup\_with purge', @server\_name = N'DESKTOP-U8T8PQ6'

GO

USE [msdb]

GO

EXEC msdb.dbo.sp\_add\_jobstep @job\_name=N'FullBackup\_with purge', @step\_name=N'Backup\_step',

@step\_id=1,

@cmdexec\_success\_code=0,

@on\_success\_action=1,

@on\_fail\_action=2,

@retry\_attempts=0,

@retry\_interval=0,

@os\_run\_priority=0, @subsystem=N'TSQL',

@command=N'--Declaring variables

DECLARE @currentdate VARCHAR(20)

DECLARE @path VARCHAR(200)

DECLARE @name VARCHAR(200)

DECLARE @pathwithname VARCHAR(300)

DECLARE @DeleteDate DATETIME = DATEADD(DD,-31,GETDATE()) -- Cutoff date

--Gettng date values

SELECT @currentdate = CONVERT(VARCHAR(20),GETDATE(),112)

--https://www.google.ca/search?q=date+convertion+in+tsql&rlz=1C1CHBF\_enCA765CA765&oq=date+convertion+in+tsql&aqs=chrome..69i57j0l5.14367j0j7&sourceid=chrome&ie=UTF-8

SET @path=''C:\SQLBackups\AdventureWorks\Full\''

SET @name=''full''+ @currentdate+''.bak''

-- Defining file name

SET @pathwithname = @path+@name

--https://solutioncenter.apexsql.com/create-daily-database-backups-with-unique-names-in-sql-server/

-- Purge old backup files from disk.

EXEC master.sys.xp\_delete\_file 0,@path,''BAK'',@DeleteDate,0;

--Back up command

BACKUP DATABASE [AdventureWorks2012]

TO DISK = @pathwithname

WITH NOFORMAT, NOINIT,

SKIP, NOREWIND, NOUNLOAD, STATS = 10

GO

',

@database\_name=N'master',

@flags=0

GO

USE [msdb]

GO

EXEC msdb.dbo.sp\_update\_job @job\_name=N'FullBackup\_with purge',

@enabled=1,

@start\_step\_id=1,

@notify\_level\_eventlog=0,

@notify\_level\_email=2,

@notify\_level\_netsend=2,

@notify\_level\_page=2,

@delete\_level=0,

@description=N'',

@category\_name=N'[Uncategorized (Local)]',

@owner\_login\_name=N'DESKTOP-U8T8PQ6\Anaswara',

@notify\_email\_operator\_name=N'',

@notify\_netsend\_operator\_name=N'',

@notify\_page\_operator\_name=N''

GO

USE [msdb]

GO

DECLARE @schedule\_id int

EXEC msdb.dbo.sp\_add\_jobschedule @job\_name=N'FullBackup\_with purge', @name=N'DailySchedule',

@enabled=1,

@freq\_type=8,

@freq\_interval=32,

@freq\_subday\_type=1,

@freq\_subday\_interval=0,

@freq\_relative\_interval=0,

@freq\_recurrence\_factor=1,

@active\_start\_date=20171018,

@active\_end\_date=99991231,

@active\_start\_time=235900,

@active\_end\_time=235959, @schedule\_id = @schedule\_id OUTPUT

select @schedule\_id

GO

DECLARE @error\_flag int

DECLARE @output\_flag int

EXEC msdb.dbo.sp\_start\_job @job\_name=N'FullBackup\_with purge',

@error\_flag=1,

@server\_name=N'DESKTOP-U8T8PQ6',

@step\_name=N'Backup\_step',

@output\_flag=1

GO