SQLintersection

SQL Server Filestream

Wednesday, 2:15pm-3:15pm

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About Me!

- Data Platform MVP (6 years and running)
- Certified Master SQL Server
- Author
- SQL Server Chapter Leader in Utah County, Utah
- Independent Consultant
- PowerShell enthusiast
- @DBAduck
- SQL PowerShell Stairway on SQL Server Central
- Avid speaker at SQL Saturdays

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Reminder: Intersect with Speakers and Attendees

- **Tweet tips and tricks that you learn and follow tweets posted by your peers!**
  - Follow: #SQLintersection and/or #DEVintersection
- **Join us – Thursday Evening – for SQLafterDark**
  - Doors open at 7:00 pm
  - Trivia game starts at 7:30 pm

    Winning team receives something fun!
  - Raffle at the end of the night

    Lots of great items to win including a seat in a SQLskills Immersion Event!
  - The first round of drinks is sponsored by SQL Sentry and SQLskills

SQLafter Dark

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SQLskills immerse yourself in sql server & SQL SENTRY®

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Overview

- What is Filestream
- Setup and Configuration
- Verifying Configuration
- Database Requirements
- Table Requirements
- Size Considerations for Storage/Performance
- Backup Considerations
- Adding and Retrieving the data with Streaming

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What is Filestream

- New Datatype in SQL 2008 and later
- Attribute of varbinary(max)
- Stored in the Filesystem and managed by SQL Server
- Special folder with special names
- Should not be touched outside of SQL Server
- Enables Streaming of the files outside of SQL Server

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Setup and Configuration

- **SQL Setup is required**
  - During Setup time with FILESTREAM tab
  - After setup in SQL Server Configuration Manager
- **Engine setup**
  - sp_configure ‘filestream access level’
  - Server Properties – Advanced FILESTREAM access level
- **Levels**
  - TSQL Access
  - Streaming locally
  - Remote Client Streaming

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Verifying Configuration

```
SELECT
      SERVERPROPERTY ('FilestreamShareName') ShareName
     ,SERVERPROPERTY ('FilestreamConfiguredLevel') ConfiguredLevel
     ,SERVERPROPERTY ('FilestreamEffectiveLevel') EffectiveLevel


USE master
GO
/* This will get the setting, show advanced options not required */
EXEC sp_configure 'filestream access level'
```

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Database Requirements

- **FILEGROUP that CONTAINS FILESTREAM data**
- **Add a file that has a filename of a directory**
  - Example: C:\SQLFILES\Files
  - The C:\SQLFILES must exist but the Files folder must NOT exist
- **That file must be added to the FILEGROUP above with FILESTREAM_ON**

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Table Requirements

- **Must contain a UNIQUEIDENTIFIER as a UNIQUE ROWGUIDCOL**
  - Must be NOT NULL
  - Can have a default
- **Must contain a varbinary(max) column**
- **Must add the FILESTREAM attribute to varbinary(max) column**

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Demo

Demo Title

Subtitle

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Adding and Retrieving Filestream Data

- **SqlClrType**
- **PathName() to get the path name (internal path)**
- **GET_FILESTREAM_TRANSACTION_CONTEXT()**
  - Must be in a Transaction for FILESTREAM
- **SELECT column from table it pulls file through the buffer pool**
  - SQL pulls the file from the filestream store and sends it to the client
- **Win32 File Streaming uses Windows to send the file**
  - Much more efficient streams outside of SQL Server

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Size Configurations

- **256 KB and less**
  - Usually is better to put it in a plain varbinary(max) - BLOB
- **256 KB to 1 MB**
  - This one depends on the type but still may be better if closer to 256KB to be a BLOB
  - Performance varies with size and scenario (write once read many, etc)
- **1 MB and greater**
  - Most often it is better to be FILESTREAM and stream

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Backup Considerations

- When you back up the database you get the FILESTREAM too
- Back up Partial and omit FILESTREAM filegroup
- Restore will create the Filestream as it is in the backup file

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Review

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References

- **Slides at http://dbaduck.com under Presentations**

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Questions?

Don’t forget to complete an online evaluation!

SQL Server Filestream

Your evaluation helps organizers build better conferences and helps speakers improve their sessions.

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Thank you!

Save the Date!

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2017

May 21-24

We're back in Orlando!

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Leave the every day behind and enter a world of wonder and enchantment at the Walt Disney World® Resort. Located in the heart of the most magical place on earth, the Walt Disney World Swan and Dolphin Resort provides a truly extraordinary backdrop for our event! Beautiful tropical landscaping, tranquil waterways and classic art and architecture work together to create a stunning landmark!