


SQL Saturday 859 Tampa Florida
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Understanding SQL Backups and Restores

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- Team of world-renowned SQL Server experts:
 - Paul S. Randal (@PaulRandal)
 - Glenn Berry (@GlennAlanBerry)
 - Jonathan Kehayias (@SQLPoolBoy)
 - Kimberly L. Tripp (@KimberlyLTripp)
 - Erin Stellato (@ErinStellato)
 - Tim Radney (@TRadney)
- Instructor-led training: Immersion Events
- Online training:  PLURALSIGHT <http://pluralsight.com/>
- Consulting: health checks, hardware, performance, upgrades
- Remote DBA: system monitoring and troubleshooting
- Conferences: PASS Summit, SQLintersection
- Become a SQLskills Insider
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2019 Classes and Services

- 2019 classes in Chicago (April/May)
 - IEPTO1/2: Immersion Events on Performance Tuning – Parts 1 and 2
 - IE0: Accidental/Junior DBA
 - IEAzure: Azure SQL Database, Azure VMs, And Azure MI
 - IEPowerBI: PowerBI, PowerBI Report Server, SSRS
 - IEUpgrade: Upgrading/Migrating to SQL Server 2017
 - IECAG: Clustering and Availability Groups
 - IEPML: Practical Machine Learning
- Online, live Immersion Events through the year
 - Query Store, Columnstore, Transactions/locking/blocking, Query performance, Upgrade, Very-large tables and partitioning
- In-depth, instructor-led, technical training for SQL Server
- For more information: <https://www.sqlskills.com/schedule/>
- New client discount: US\$2,995 flat rate on first single-instance health check
- For more information: <https://www.sqlskills.com/services/>



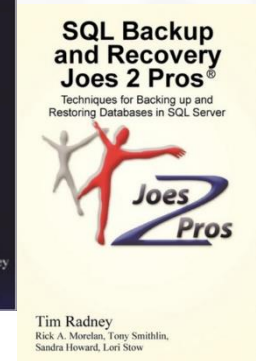
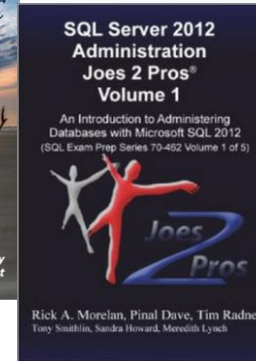
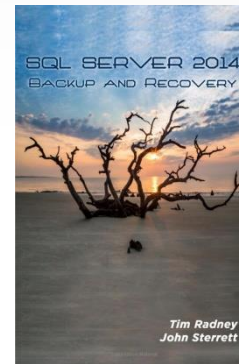
PLURALSIGHT

- Email paul@SQLskills.com with the subject line:
Pluralsight code
Get a FREE (no catches / no credit card) 30-day trial of our **175+ hours** of SQLskills content on Pluralsight including 10+ hours on Optimizing Procedural Code!
- Check out courses like these:
 - [SQL Server: Why Physical Database Design Matters](#)
 - 4 hours on row structures, index structures, and why these things matter
 - [SQL Server: Optimizing Stored Procedure Performance](#) (Parts 1 and 2)
 - 11 hours on stored procedure performance tuning
 - [SQL Server: Understanding and Using Azure SQL Database](#)
 - 2 hours on Azure SQL Database
- See our full online library:
<https://www.sqlskills.com/sql-server-training/online-training/>

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- Regular presenter at worldwide conferences on administration, disaster recovery, performance tuning, and Azure
- Friend of Red Gate
- (I also like electronics, aquaponics, farming chickens, crops, and tilapia)



SQL
intersection

Overview

- Know your backup types
 - SLAs matter
 - Which is correct for you
 - Know your backups are valid
 - An approach for backing up large databases
- Know how to restore your backups
 - Have a restore strategy
 - Performing point in time restores
 - Performing piecemeal restores
- Have a plan
 - Have a solid restore strategy
 - Have a proven disaster recovery plan

Service Level Agreements - SLA

- Recovery Point Objective
 - RPO
 - How much data can you afford to lose?
- Recovery Time Objective
 - RTO
 - How long can you be down?
- These values are from the time the incident occurred, not how long you as a data professional have to restore SQL Server
- Depending on RTO, you may need better HA solutions!

Backup Types

- Which is the correct choice for you?
 - Full
 - Differential
 - Filegroup
 - File
 - Log
 - COPY_ONLY
- A combination of the above is usually warranted to meet your SLAs
 - Service Level Agreements

VLDBs

- A good approach for Very Large Databases (100s of GBs or more)
 - Split data into multiple filegroups
 - Partitioned views
 - Sliding window using partitioning
- Allows for partial restores
 - Restore active partitions/filegroups more quickly

Recovering Transactions

- You have to restore, now what do you do?
 - Do you need to perform a tail-log backup?
 - <http://www.timradney.com/taillogrestore>
 - Restore last known good full backup
 - Restore most recent differential backup, if you have them
 - Restore transaction log backups
 - (Restore tail-of-the-log backup?)

Have a Plan

- Know how to recover
 - Test that your backups restore
 - Have a disaster recovery plan
 - Test your disaster recovery plans frequently
 - Have user objects scripted out
 - <http://support.microsoft.com/kb/918992>
- Know your facts
 - Know how long restores take

DEMO

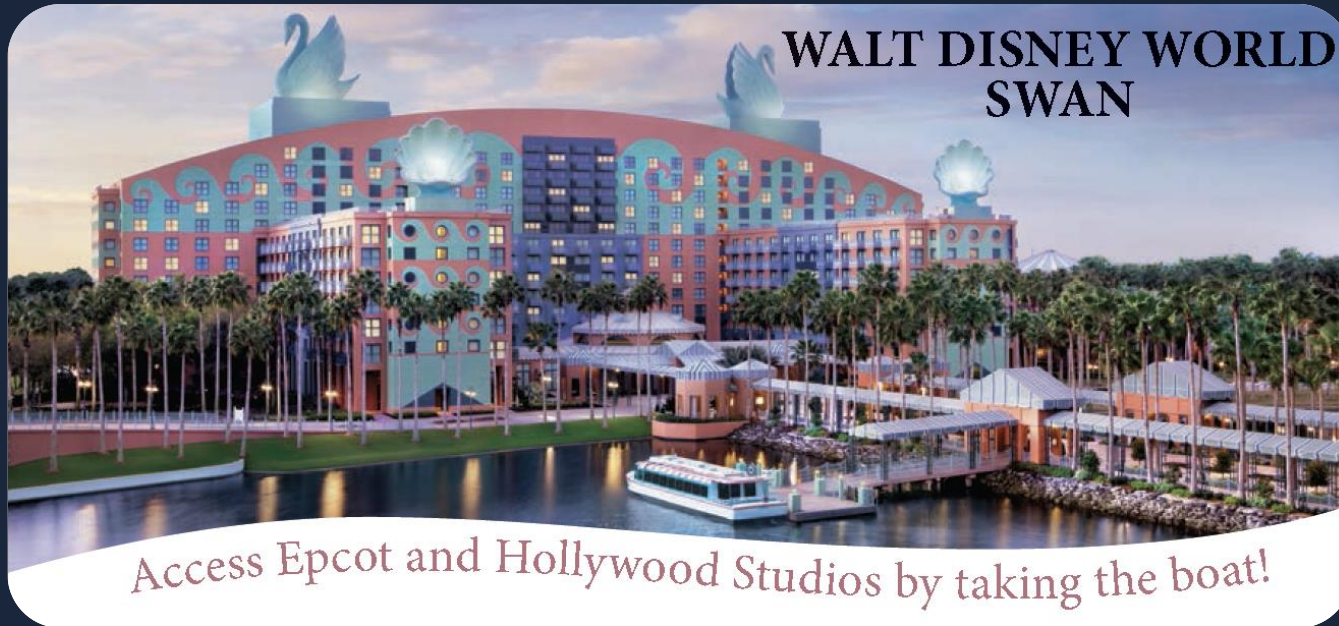


Summary

- Know your backup types
 - Have the proper backups to meet your customers' SLAs
- Know how to recover
 - Have a restore strategy
 - Know how long restores will take
 - Know how to perform point in time restores
- Have a plan
 - The first time you perform a restore should not be in production
 - Know you have a solid backup strategy that meets requirements
 - Have a proven disaster recovery plan in place
- Demo Scripts
 - <http://www.timradney.com/presentations>

Save the Date!

www.SQLintersection.com



2019

June 9-14

We're back in Orlando!
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Thank you!

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Resources = www.timradney.com/presentations

