

SQLskills Onsite Training

Quicken Loans

Module 0: Overview



SQLskills Training Agenda

- Tuesday: Modules 1-2-3
- Wednesday: Modules 4-5
- Thursday: Modules 6-7-8
- Friday: Modules 9-10
 - 5:30pm – Class ends!



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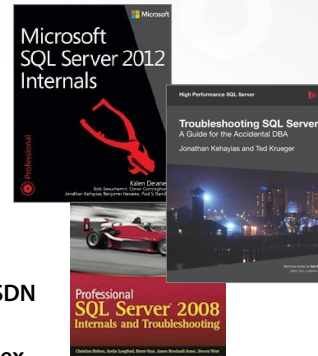
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- Microsoft Certified Master: SQL Server 2008
- SQL Server MVP since October 2008
- Author of Using Extended Events whitepaper on MSDN
- Developed Extended Events Manager SSMS Addin for SQL Server 2008 Open Source project on Codeplex
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M1: Designing a HA/DR Strategy

- HA vs. DR
- Requirements
- Limitations
- DR planning and testing



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M2: Hardware Considerations

- The importance of processor selection
- Intel or AMD processors?
- How to evaluate and compare processors
- Determining how much physical memory to buy
- Planning SQL Server I/O subsystems
- SAN considerations
- Virtualization considerations

M3: Wait Statistics

- Introduction
- Thread lifecycle
- Waits, latches, spinlocks
- DMVs
- Common wait types
- Demos

M4: Data Collection and Baselineing

- **Benchmark vs. baseline**
- **Data collection methods and tools**
 - Performance Monitor and Collector Sets
 - PAL tool (Performance Analysis of Logs)
 - DMOs and catalog views
 - SQL Trace
 - Analyzing trace data
 - SQLDiag
 - SQL Nexus
 - Distributed Replay Utility (DRU)

M5: SQLOS Memory Management and Memory Performance Tuning

- **SQLOS Memory Manager**
 - SQL Server 2008 R2 and earlier
 - SQL Server 2012 and higher
- **SQLOS memory components**
- **Configuration options for SQL Server**
- **How to identify memory issues**
- **Internal memory pressure**
- **External memory pressure**
- **Virtual address space issues**
- **Resource semaphores**
- **DBCC commands**

M6: Deadlock Analysis

- Review of locking in SQL Server
- What is a deadlock (reminder)
- Collecting deadlock graphs
- Anatomy of a deadlock
- Reading deadlock graphs
- Resolving deadlocks

M7: Virtualization

- Why virtualization is popular
- How virtualization works
- Considerations for SQL Server
- HA/DR options
- Monitoring

M8: Backup and Restore

- The transaction log and database recovery models
- Backup fundamentals
- Restore fundamentals

M9: Database Snapshots

- Database snapshot usage
- Database snapshot internals

M10: Corruption Detection and Recovery

- How corruption occurs, I/O errors, and page protection
- Consistency checking options
- DBCC CHECKDB
 - What it does
 - Best practices and FAQ
 - Interpreting CHECKDB output
 - How repair works
- Recovering from corruption
- Horror stories from the wild

Introductions

- Name
- The job role that describes you best:
 - Database Administrator
 - Database Developer
 - Database Architect
 - Jack of all trades?
- What version you focus on most