

SQLskills Immersion Event

IE3: High Availability & Disaster Recovery

Module 1: Overview



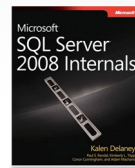
Instructors

- **Why do we need multiple?**
 - Different perspectives
 - Different areas of expertise
 - Different problem solving skillsets
 - No one knows everything...
- **This class is about knowing:**
 - How to plan a strategy
 - How to choose technologies
 - Implementation and how-it-works



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- Author/Instructor for SQL Server Immersion Events
- Instructor for multiple rotations of both the SQL MCM & Sharepoint MCM
- Author/Manager of SQL Server 2005 & 2008 Launch Content
- Author/Speaker at Microsoft TechEd, SQL Connections, SQLPASS, ITForum, TechDays
- Author of several SQL Server Whitepapers on MSDN/TechNet: Partitioning, Snapshot Isolation, Manageability, SQLCLR for DBAs
- Author/Presenter for more than 25 online webcasts on MSDN and TechNet
- Co-author MSPress Title: SQL Server 2008 Internals, the SQL Server MVP Project (1 & 2), and SQL Server 2000 High Availability
- Presenter/Technical Manager for SQL Server HOL DVDs
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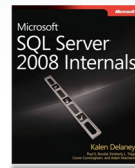


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- Contributing Editor of TechNet Magazine, author of the SQL Q&A column, articles on DBA topics, multiple whitepapers for Microsoft
- 5 years at DEC responsible for the VMS file-system and chkdsk equivalent
- Almost 9 years as developer/manager in the SQL Storage Engine team through August 2007, ultimately responsible for Core Storage Engine
 - Wrote DBCC component, other Storage Engine code, DBCC CHECKDB/repair for SQL 2005
- Regular presenter at worldwide conferences on HA/DR, administration, performance, and internals
- Course author/instructor for Microsoft Certified Master qualifications
- Wrote and presented SQL Server 2008 training for Microsoft
- Owner and Manager of the SQLIntersection conference



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SQL Server 2008

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- 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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- Microsoft Certified Master: SQL Server 2008 & 2005
- 14 years as a SQL professional, included 5+ years with Microsoft as a support engineer & consultant
- SQL MCM program manager from 2009 - 2011
- Author of SQL Server 2008 Transact-SQL Recipes (APress), SQL Server 2005 T-SQL Recipes (APress) and SQL Server 2000 Fast Answers (APress)
- Co-author of the SQL Server white papers, including "High Availability and Disaster Recovery for Microsoft's SAP Data Tier" and "SQL Server 2008 Failover Clustering" and technical reviewer for numerous other publications



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M1: Designing a Strategy

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

M2: Consolidation

- Consolidation methods
- Choosing a consolidation strategy
- Hardware and software considerations
- Post-consolidation tools

M3: Backup Internals and Strategy

- **Planning a backup strategy**
- **Backup types**
 - Full/differential/log
 - VLDB strategy concerns
 - Filegroup/file backups
 - Filegroup/file differential backups
- **Special features for backups**
 - COPY_ONLY
 - Parallel striped backup/multi-file backups
 - Mirrored backups
 - Backup integrity
 - Backup compression
- **Log shipping**

M4: Restore Internals and Strategy

- **Phases of restore**
- **Recovery completion states**
- **Point-in-time recovery**
- **Restore types**
- **Restoring sequence and locations**

M5: Database Snapshots

- Database snapshot usage
- Database snapshot internals

M6: Database Mirroring

- Mirroring configuration
- Failure types and speed
- Failure scenarios
- Client redirection
- Monitoring
- Troubleshooting

M7: Failover Clustering

- Clustering concepts
- Planning for failover clustering
- How failover works
- Installation and patching SQL Server
- Troubleshooting cluster issues

M8: Replication

- Performance considerations
- Combining replication with other technologies
- Monitoring
- Troubleshooting

M9: Availability Groups

- Availability group overview
- Readable secondaries
- Application connection support
- Partial database containment
- Migrating from Database Mirroring
- Quorum model and node votes
- Asymmetric storage considerations
- Security
- Performance

M10: Corruption Detection and Recovery

- I/O errors and what they mean
- Page protection options
- DBCC CHECKDB
 - What it does
 - Best practices and FAQ
 - Interpreting CHECKDB output
 - How repair works
- Recovering from corruption
- Horror stories from the wild

M11: Virtualization

- Why virtualization is popular
- How virtualization works
- Considerations for SQL Server
- HA/DR options
- Monitoring
- Appendix: x86 virtualization types

Introductions

- Name
- Company name
- Where you're based geographically
- The job role that describes you best:
 - Database Administrator
 - Database Developer
 - Database Architect
 - Jack of all trades?
- What version you focus on most
- What versions you support
 - Don't be shy, you're not the only one that has SQL Server 2000 ☺