SQLskills Immersion Event

IECAG: Clustering and Availability Groups

Module 0: Overview

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Daily Course Format: Tue, Wed, Th, and Fri

- **Class runs for FOUR half days**
  - Tuesday, October 6 through Friday, October 9, 2020
- **Each day**
  - Lecture: 90 minutes from 12noon until 1:30pm ET
    - Please use "CHAT" for questions ***during*** the lecture
  - Open Q&A: 30 minutes from 1:30pm until 2:00pm ET
    - Will address unanswered questions from chat
  - Mandatory break: 30 minutes from 2:00pm until 2:30pm ET
    - Everyone needs a bit of a break!
  - Lecture: 90 minutes from 2:30pm until 4:00pm ET
    - Please use "CHAT" for questions ***during*** the lecture
  - Open Q&A: up to 60 minutes from 4:00pm until 5:00pm ET
    - Will address unanswered questions from chat
    - Can open up for "open mic" questions

Time Conversions
9:00am PT
= Noon ET
= 5:00pm UTC
Use this to see the exact time in YOUR time zone:
IECAG

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Class Format: No LABS???

- **Class time – lecture / demo / questions! And, please ASK questions!**
  - There are no stupid questions… everyone started with ZERO knowledge about SQL Server!
  - If you're thinking it – you're probably not alone… speak up!
- **Why not lab time?**
  - Historically folks defer on labs to respond to email, etc.
    ⇒ losing valuable class time
  - We can spend more time on content
    ⇒ covering both MORE content and in more depth!
  - You receive all of the demo code and samples; you can reproduce everything we show you and pick where to really focus your attention!
    - You can take time to really study the content that's most appropriate to you
    - You can skip content that's not appropriate
    - You can take the RIGHT time for each/every exercise (rather than some being done quickly and others needing more time… potentially getting frustrated without enough time)

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Course Resources, Pluralsight Access, and Alumni

- **Paul (paul@sqlskills.com) will send you an email for a FREE 30-day access to ALL SQLskills online training classes on Pluralsight**
  - No strings attached, no credit-card required
  - If you don't receive it, send mail to Paul

PLURALSIGHT

- **Course resources will be sent upon course completion**
- **We may want to update a slide or two, add some notes/resources based on questions and discussions, and process the recordings**
  - Please do not distribute; this is for course attendees only
  - Full details / access information will be sent upon course completion
- **Email us: Training@SQLskills.com if you have any problems finding or accessing any of your course materials**
- **And, now that you've attended one of our courses; you can ALWAYS register using the 'alumnus' discount (without quotes); we hope to see you again!**

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Course Resources

- **Course content (this slide deck)**
  - One "two-slides per side" PDF for optimal printing (save some trees!)
  - One "full slide" PDF for optimal viewing and/or online note-taking
- **Demos**
  - All instructor-led demo scripts
  - All reference scripts
- **Reference links and additional resources**
- **Online recordings for these sessions**
- **Upon completion look for a "BadgeMe" email**

Please do not redistribute: These resources are for attendees only. Please respect our IP and time in creating these resources and do not share/forward.

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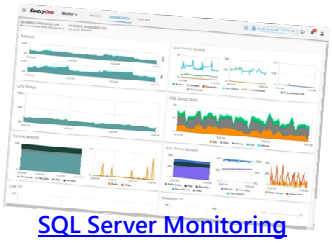
Recommendation: Leverage Great Products!

SentryOne™

- **Even with as much training as we will provide, you can't know everything**
- **SQL Server is powerful, complex, and has lots of different potential issues let third party software help!**
- **SQLskills partners with SentryOne because we really feel they've made the best suite of SQL Server products available**
- **LEARN MORE: Join Andy Yun, Principal Solutions Engineer from SentryOne on Friday, October 9, at 2:00pm ET**
  - **Going Beyond Just Monitoring With SentryOne**
  - https://global.gotomeeting.com/join/371032357
  - Attendees of the GoToMeeting will EACH receive:
    - SQL Sentry Premium subscription license (6 months)
    - Raffle for additional SentryOne gift pack
  - Plus, get *your* questions answered!
    - Email Andy your specific monitoring questions (*no later than October 8 at 2pm ET*)
    - **MailTo: ayun@sentryone.com**



SQL Server Monitoring

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- Contributing Author: *SQL Server 2008 Internals and Troubleshooting*, *Microsoft SQL Server 2012 Internals*
- 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
- Member of the Tampa SQL Server User Group and PASS

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M1: Clustering Essentials

- Planning for failover clustering
- Differences in Windows Server versions
- Planning storage requirements
- Active Directory disconnected clusters
- Quorum configuration
- Cluster Validation Tests
- How failover works
- Troubleshooting cluster issues

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M2: Failover Clustered Instances

- Failover Clustered Instance overview
- Storage planning for SQL Server
- Choosing the proper service account
- Installation of Failover Clustered Instance
- Configuration options to consider
- Multiple instance considerations
- Patching and rolling updates
- Clustered instance upgrades

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M3: AlwaysOn 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

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M4: Implementation Case Studies

- Mixing FCIs with AGs for HA and DR
- Forcing service in a real disaster
- Workload issues with readable secondaries

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