Building and Managing High Availability Solutions With SQL Server

Amsterdam (Netherlands)

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UK Traininig
PARTNER

Building and Managing High Availability Solutions With SQL Server

Code: IT28 From: 28 April - 2 May 2025 City: Amsterdam (Netherlands) Fees: 4900 Pound

Introduction

In this course, you will learn basic aspects of High Availability as a Recovery Point Objective, Recovery Time Objective, measuring HA in percentage of time, etc. Then you will get a brief overview of HA features introduced in Windows Server 2012 R2/2016, which are relevant for SQL Server solutions - domain/domainless WFCS, cluster shared volumes, scale-out file services, storage spaces, storage replica, Hyper-V, etc. From the SQL Server perspective, the course will focus on the most popular HA/DR features - Failover Clustering and Availability Groups. Details on how to design highly available SQL Server solutions from the perspective of storage; Quorum and Failover Cluster Instance. From a practical point of view, you will learn how to maintain and troubleshoot an FCI solution

In the Availability Group part, you will learn details on how to design AG solutions with custom requirements; quorum configurations, and AG configuration sync/async, read-only routing, read-only load balancing, direct seeding, hybrid AG, etc.. Similar to Failover Cluster Instances, in the practical part you will learn how to monitor an AG solution. In addition, along the course, you will also learn about the interoperability of other SQL Server technologies with SQL Server HA - Integration Services, Analysis Services, and Reporting Services.

Course Objectives

- Build a reliable High Availability solution with Windows Server 2012 R2/2016 and SQL Server 2014/2016.
- Manage a High Availability solution with Windows Server 2012 R2/2016 and SQL Server 2014/2016.
- Build Disaster Recovery Solutions.
- Troubleshoot problems with High Availability in SQL Server 2016 and 2014.

Course Outlines

Day 1: Introduction to High Availability

- Basic aspects of High Availability.
- Windows Server 2016 High Availability Features Overview.
- Overview of HA features in Windows Server 2016.
- SQL Server 2016 High Availability Features Overview.
- Failover Cluster Instances.
- Availability Group.
- Log Shipping.

Day 2: Windows Server 2016 Failover Clustering

- Installation.
- Storage configuration.

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- The configuration of which.
- Maintenance.
- Patching/Upgrading.
- Adding/Removing nodes to/from cluster.
- Monitoring.
- Troubleshooting.

Day 3: SQL Server 2016 Failover Clustering Instance

- SQL Server FCI configuration.
- Active/Active.
- Active/Passive.
- MS DTC.
- Maintenance.
- Patching/Upgrading.
- o Adding/Removing SQL Server to/from cluster.
- Monitoring.
- Troubleshooting.

Day 4: SQL Server 2016 Availability Groups

- SQL Server AG configuration.
- Sync/Async.
- Read Only Routing and Load Balancing.
- Direct seeding.
- Distributed AG.
- Maintenance.
- Patching/Upgrading.
- Adding/Removing files to/from the database in AG.
- Adding/Removing database to/from AG.
- Monitoring.
- Troubleshooting.

Day 5: SQL Server Interoperability

- Interoperability.
- with Integration Services.
- with Analysis Services.
- with Reporting Services.

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