

SQL Server: AlwaysOn Availability Groups and Failover Cluster Instances - Setup and Configuration



WorkshopPLUS

Target Audience

This workshop is targeted at SQL Server Architects, Database Administrators, IT professionals, and SQL Server support staff.

This is not a beginner's workshop or training targeted at SQL Server developers.

Overview

The **SQL Server: AlwaysOn Availability Groups and Failover Cluster Instances - Setup and Configuration** is a three day WorkshopPLUS course that provides in-depth technical and architecture details of implementing SQL Server AlwaysOn Availability Groups (AG) and Failover Cluster Instances (FCI). This workshop will help you learn how to setup and configure a High Availability (HA) and Disaster Recovery (DR) solution using Availability Groups and Failover Cluster Instances.

Key Features and Benefits

This workshop combines presentations with hands-on labs to build practical end-to-end HA and DR solutions for mission critical applications using SQL Server 2016 AlwaysOn technology and Windows Server 2016 Failover Clustering. Most of the content covered in this workshop can be applied across all supported versions of SQL Server AlwaysOn Availability Groups and Failover Cluster Instances.

Technical Highlights

After attending this workshop, students will be able to:

- Understand HA and DR concepts.
- Gain the practical experience and confidence required to manage SQL Server AlwaysOn HA and DR solutions.
- Learn the tips, tricks and best practices for deploying SQL Server AlwaysOn Availability Groups and Failover Cluster Instances.
- Administer and maintain SQL Server AlwaysOn HA and DR solutions.

Syllabus

Prerequisites

- *Basic knowledge of high availability and disaster recovery*
- *Experience in SQL Server*
- *Some basic knowledge of windows failover cluster*

Suggested Skills

Basic understanding and hands-on experience with Windows Server Failover Cluster.

This workshop runs for **three** full days. Participants should anticipate consistent start and end times for each day. Early departure on any day is not recommended.

Module 1: Understanding High Availability and Disaster Recovery

This module introduces High Availability (HA) and Disaster Recovery (DR) concepts, discusses the differences between HA and DR and why they are important.

Module 2: Implementing Windows Server Failover Cluster

This module covers planning and implementation of Windows Server Failover Cluster. SQL Server administrators can then build AlwaysOn FCIs and AGs on the Windows Server Failover Cluster.

Module 3: Deploying Availability Groups

This module covers planning and implementation of AG deployments. Students get hands-on experience of deploying AGs to provide HA and DR for the application databases. Students also learn about the supported AG topologies and gain an understanding of the data synchronization internals.

Module 4: Post Installation Tasks

In this module, students learn about post installation tasks like configuring flexible failover policy and replicating logins and jobs.

Module 5: Secondary Replicas

This module discusses what active secondary replicas are, how to configure them and maximize the hardware utilization by offloading read-only workloads to the secondary replicas. Students get hands-on experience configuring active secondary replicas and read-only routing.

Module 6: Failover Cluster Instances

This module covers planning and implementation of AlwaysOn Failover Cluster Instance deployments. Students get hands-on experience building a two-node SQL Server AlwaysOn FCI.

Module 7: Multi-Subnet Environments

In this module, students learn about the considerations for a multi-subnet AlwaysOn environment.