# 6423 – Implementing and Managing Windows Server 2008 Clustering

**Vendor Course Code:** 6423

**Course Length:** 3 days

**Overview:**

This three-day instructor-led course introduces Windows Server 2008 clustering and provides students with the knowledge and skills to implement, maintain, and troubleshoot clusters.

**Skills Gained:**

After completing this course, students will be able to implement, maintain, and troubleshoot clusters in their enterprise environment.

**Key Topics:**

**Module 1: Introduction to Clusters**
This module provides an overview of cluster concepts and functionality.

Lessons
Overview of Clusters
Benefits of Using Clusters
Overview of the Windows Server 2008 High Availability Solutions

Lab : Identifying Windows Server 2008 High Availability Solutions
Exercise 1: Identifying solutions for Web servers
Exercise 2: Identifying solutions for database servers
Exercise 3: Identifying complex solutions

After completing this module, students will be able to:

- Describe clusters.
- Describe the benefits of deploying a clustered solution.
- Describe the Windows Server 2008 clustering options.

**Module 2: Introduction to Microsoft Windows Server 2008 Failover Clusters**
This module describes key features and functionality of the Windows Server 2008 failover clusters.

Lessons
Overview of Windows Server 2008 Failover Clusters
Key Windows Server 2008 Failover Cluster Features
Overview of the Windows Server 2008 Quorum Models

Lab : Identifying Windows Server 2008 Clustering Solutions
Exercise 1: Identifying clustered scenarios

After completing this module, students will be able to:

- Describe the Windows Server 2008 failover cluster terminology and concepts.
- Briefly describe key features in Windows Server 2008 failover clusters.
- Describe the Windows Server 2008 failover cluster scenarios.
- Understand failover cluster components.

**Module 3: Preparing to Install a Failover Cluster**
This module explains the prerequisite requirements and planning required to install a Windows failover cluster.

Lessons
Overview of Requirements for Installing a Failover Cluster
Planning the Failover Cluster Implementation
Installing the Failover Cluster Feature and Validating the Cluster Configuration
Installing the Failover Cluster on Windows Server 2008 Server Core

Lab: Preparing for a Cluster Installation

Exercise 1: Installing the failover cluster feature
Exercise 2: Validating the failover cluster

After completing this module, students will be able to:

- Describe failover cluster requirements.
- Describe the planning required to deploy a Windows failover cluster.
- Install the failover cluster feature and verify requirements.
- Install the failover cluster feature on Windows Server 2008 server core.

**Module 4: Overview of Failover Cluster Storage Requirements**
This module explains storage fundamentals and how to plan and implement storage solutions for failover clusters.

Lessons
Overview of Storage Technologies
Introduction to Storage Area Networks
Planning a Storage Solution for Failover Clusters
Configuring an iSCSI Storage Connection

Lab: Identifying SAN Components
Exercise 1: Identifying fibre channel SAN components
Exercise 2: Identifying iSCSI SAN components
Exercise 3: Configuring iSCSI storage connections

After completing this module, students will be able to:

- Describe storage technologies.
- Explain storage area networks.
- Plan a storage solution for failover clusters.
- Describe the process to configure an iSCSI storage connection.

**Module 5: Configuring a Failover Cluster**
This module explains how to install and manage a failover cluster.

Lessons
Creating a New Failover Cluster
Managing a Failover Cluster
Verifying Failover Functionality

Lab: Creating and Administering a Cluster
Exercise 1: Creating a cluster
Exercise 2: Managing a failover cluster

After completing this module, students will be able to:

- Create a new failover cluster.
- Manage a failover cluster.
- Test failover functionality.

**Module 6: Configuring Cluster Resources and Server Roles**
This module explains how to configure cluster resources and how to cluster common Window Server roles and applications.

Lessons
Configuring Cluster Resources
Implementing Failover Clusters for Server Roles Using Failover Cluster Management
Clustering Server Roles Using Windows Server Core

Lab: Clustering Server Roles and Features
Exercise 1: Configuring cluster resources
Exercise 2: Clustering the print server role using failover cluster management
Exercise 3: Clustering the file server role on Windows Server core
Exercise 4: Testing cluster availability

After completing this module, students will be able to:

- Configure cluster resources.
- Describe how to cluster common server roles using the Graphical User Interface.
- Describe how to cluster common server roles using the command line interface.

**Module 7: Maintaining Microsoft Failover Clusters**
This module explains how to maintain and troubleshoot failover clusters.

Lessons
Monitoring Failover Clusters
Backing Up and Restoring Failover Clusters
Troubleshooting Failover Clusters

Lab: Maintaining Failover Clusters
Exercise 1: Monitoring failover clusters
Exercise 2: Backing up a failover cluster
Exercise 3: Restoring a failover cluster

After completing this module, students will be able to:

- Monitor failover clusters.
- Backup and restore failover clusters.
- Troubleshoot failover clusters.

**Module 8: Implementing Geographically Dispersed Clusters**
This module explains geographically dispersed clusters and the challenges that they present. In addition, this module describes how to implement a multi-subnet cluster using Windows Server 2008.

Lessons
Overview of Geographically Dispersed Clusters
Implementing Geographically Dispersed Clusters Using Windows Server 2008

After completing this module, students will be able to:

- Define the use and challenges of geographically dispersed clusters.
- Describe how to implement geographically dispersed clusters using Windows Server 2008.

**Module 9: Implementing Network Load Balanced Clusters**
This module explains how to install and maintain network load balanced (NLB) clusters.

Lessons
Overview of Network Load Balancing
Configuring a Network Load Balanced Cluster
Maintaining a Network Load Balanced Cluster

Lab: Implementing an NLB cluster
Exercise 1: Preparing the NLB cluster nodes
Exercise 2: Configuring an NLB cluster

After completing this module, students will be able to:

- Describe how NLB clustering works.
- Install an NLB cluster.
- Maintain an NLB cluster.

## Target Audience:

This course is intended for IT professional technical specialists responsible for implementing and maintaining high availability solutions utilising clustering technologies.

## Prerequisites:

Before attending this course, students must have:

- Experience with network load balancing
- Basic knowledge of clustering theory
- Experience in an enterprise environment managing applications and network topologies
- Basic troubleshooting skills