Publication date : 05/30/2024

Course : Windows 2022, implementing high availability (Cluster)

Practical course - 3d - 21h00 - Ref. WCS
Price : 1800 € E.T.

5 / 5

Understanding the principles of clustering for the main roles in Windows 2022 is the aim of this course. You'll learn how to set up application clusters, Hyper-V clusters and Network Load Balancing, as well as how to maintain and troubleshoot clusters.

Teaching objectives

At the end of the training, the participant will be able to:

- Implementing clustering mechanisms in Windows Server 2022
- Setting up application clusters
- Setting up Hyper-V clusters
- Implementing the NLB

Intended audience

Systems and network technicians, administrators and engineers.

Prerequisites

Good knowledge of Windows server management.

Course schedule

1 Presentation and concept

- Failover Cluster and Network Load Balancing.
- Principles and role of clusters.
- Quorum definitions.
- Introducing multi-site geo-clusters.

PARTICIPANTS

Systems and network technicians, administrators and engineers.

PREREQUISITES

Good knowledge of Windows server management.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

2 Storage and networking in a cluster environment

- Storage: JBOD disk arrays, SAN, NAS, iSCSI.
- Deploy storage pools.
- Deploy ISCSI storage.
- Cluster disk and quorum management.
- Presentation of the shared cluster volume.
- Understand the network in a cluster environment: public, private or storage network.
- Manage DNS addressing and naming.

Hands-on work

Prepare storage and network plans. Deploy storage pools. Install and set up connections to iSCSI volumes.

3 Hardware and software configuration

- Hardware requirements. Initial checks.
- Network validation for clustering.
- Check system requirements.

Hands-on work

Setting up system prerequisites.

4 Setting up application clusters

- Concept of system and application clusters.
- Cluster installation and post-installation testing.
- Configure cluster resources.
- Implement clusters for Windows roles.
- SOFS clusters.

Hands-on work

Deploy Windows Server roles in a highly available environment (file server, etc.). Perform hot failover tests. Implement SOFS

5 Hyper-V cluster implementation

- The benefits of Hyper-V clusters.
- How Hyper-V works in a cluster.
- Prerequisites for Hyper-V clusters.
- Deploy a Hyper-V cluster.
- Implement highly available Hyper-V virtual machines.
- Hot migration.

Hands-on work

Deploy a Hyper-V cluster. Implement VM clusters and hot VM migration.

6 Setting up Network Load Balancing

- Introducing Network Load Balancing.
- NLB uses and applications.
- Installation and configuration of the NLB.

Hands-on work

Installation of a highly available IIS server via NLB.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

7 Cluster maintenance and troubleshooting

- Deploy updates on a cluster, Cluster Aware Updating.
- Windows cluster monitoring tools.
- Troubleshooting procedures. Emergency recovery.
- Backup and restore HA clusters.
- Migrate a cluster to a later version of Windows.

Hands-on work
Integrate CAU. Backing up, destroying and restoring a cluster.

Dates and locations

REMOTE CLASS
2026 : 23 Mar., 15 June, 30 Sep., 18 Nov.

PARIS LA DÉFENSE
2026 : 23 Mar., 15 June, 30 Sep., 18 Nov.