

# AZURE STACK HCI ADVANCED OPERATIONS

CDC-102

**Duration: 3 days; Instructor-led | Virtual Instructor-led**

## WHAT WILL YOU LEARN

This course provides the underlying knowledge and learning of Azure Stack HCI. It is designed for all individuals who want to run their virtual workloads on software-defined datacenters and hyper-converged infrastructure with Azure Stack HCI and Windows Server 2022

## OBJECTIVES

- Understand the core technologies and management tools used in Azure Stack HCI solutions
- Learn how to create, migrate, and manage virtual machines using Azure Stack HCI
- Explore the features and benefits of Storage Spaces Direct in Azure Stack HCI, including fault tolerance and nested resiliency
- Gain an understanding of how to implement high availability for Windows Server workloads using failover clustering and Cluster Aware Updating in Azure Stack HCI
- Learn about the business continuity and disaster recovery solution of Hyper-V Replica and Storage Replica
- Explore the use cases and prerequisites for implementing Hyper-V Replica and Storage Replica
- Understand how to use Azure Backup as a service to protect files and folders, and implement Recovery Vaults and Backup Policies
- Gain an understanding of how to use Azure Site Recovery in on-premises scenarios to recover from disasters
- Learn how to onboard and manage Azure Stack HCI clusters using Azure Arc
- Explore the use of Microsoft Defender for Cloud to monitor and audit Azure Stack HCI
- Understand how to use Azure Monitor and Log Analytic Workspaces to provide resources insight and log analysis
- Gain an understanding of how to use Azure Automation for update management, change tracking, and inventory on Azure Stack HCI
- Bonus track: Learn how to onboard Linux servers to Azure with Azure Arc
- Bonus track: Explore the use of Windows Admin Center in Azure.

## PREREQUISITES

- Intermediate experience with managing Windows Server operating systems and Windows Server virtualized workloads in on-premises scenarios
- Intermediate experience with common Windows Server management tools
- Intermediate knowledge of core Microsoft compute, storage, networking, and virtualization technologies

- Intermediate knowledge of Windows Server-based compute and storage high-availability technologies
- Basic experience with implementing and managing Infrastructure as a service (IaaS) services in Microsoft Azure
- Basic knowledge of Azure Active Directory (Azure AD)
- Intermediate knowledge of Microsoft virtualization security-related technologies
- Intermediate knowledge of PowerShell cmdlets and scripting

## AUDIENCE

This course is for IT professionals who want to use Azure Stack HCI to manage server workloads and run their virtual workloads on Azure Stack HCI environment. The participants are also able take away the learning in terms of Azure Stack HCI core technologies includes storage space, high availability, troubleshooting, and disaster recovery. The course highlights administrative tools and technologies including Windows Admin Center, PowerShell, Azure Arc, Azure Automation Update Management, Microsoft Defender for Cloud, and Azure Monitor.

## COURSE CONTENTS

### Module 1: Managing and operating Azure Stack HCI solution

The module presents Azure Stack HCI core technologies, management tools such as Windows Admin Center and common operation tasks like extension update, Storage Spaces Direct, High availability in your production environment

- Identify and implement Azure Stack HCI management tools used to deploy and manage a hyperconverged infrastructure include creating, migrating virtual machine
- Implement Azure HCI Storage Spaces Direct-based virtualized storage highlights fault tolerance to "virtual disks" using mirroring and nested resiliency capability in Azure Stack HCI
- Windows Server failover clustering highlights failover clustering, Cluster Aware Updating, and cluster sets for implementing high availability of Windows Server workloads in Azure Stack HCI

### Lab 1: Operating and maintaining Azure Stack HCI

- Install Windows Admin Center and update extensions
- Setup Windows Admin Center to manage Servers and Azure Stack HCI cluster
- Managing Azure Stack HCI cluster using Windows Admin Center
- Create Two-way mirror volume using Windows Admin Center
- Expand Volume using Windows Admin Center
- Enable Data Deduplication and monitor the scheduled jobs using PowerShell

- Nested resiliency for Azure Stack HCI – Create Nested Two-way volume
- Nested resiliency for Azure Stack HCI – Create Nested Mirror-accelerated Parity volume
- Simulate Disk failure
- Add new disk to current Azure Stack HCI storage pool
- Convert capacity drives to cache
- Create virtual machine using Windows Admin Center
- Managing virtual machine using Windows Admin Center
- Migrating VM to another node
- Configuring and managing Azure Stack HCI update using Cluster Aware Updating
- Shutting down Azure Stack HCI cluster using Failover Cluster Manager
- Managing Arc-enabled server using Change Tracking and Inventory
- Exploring Windows Admin Center in Azure (Bonus track)
- Onboarding Linux to Azure with Azure Arc (Bonus track)

## Module 2: Supporting disaster situations

This module introduces Hyper-V Replica as a business continuity and disaster recovery solution for a virtual environment. The module discusses Hyper-V Replica, Storage Replica scenarios and use cases, and prerequisites to use it. It also begins with Azure Backup as a service to protect files and folders before highlighting how to implement Recovery Vaults and Azure Backup Policies. The module also discusses how to implement Azure Site Recovery in on-premises scenarios to recover from disasters.

- Implement Hyper-V Replica
- Implement Storage Replica
- Implement Azure Backup as a service include Azure Backup Server and Azure Backup Agent Service
- Protect your on-premises infrastructure from disasters with Azure Site Recovery

### Lab 2: Disaster readiness

- Implement Hyper-V Replica
- Implement Storage Replica
- Implement Azure Backup Server
- Onboarding Node1 (WAC Gateway) to Azure
- Hybrid ready: Azure Backup Agent Service
- Hybrid ready: Azure Site Recovery

## Module 3: Supporting built-in Hybrid scenarios

This module covers using Azure Hybrid solution to introduce Azure Arc includes onboarding, monitoring and insight, troubleshooting, security assessment, update management on hybrid instance

- Onboarding Azure Stack HCI and monitoring by using Azure Arc
- Implement Microsoft Defender for Cloud to monitor and audit Azure Stack HCI
- Implement Azure Monitor include Log Analytic Workspace to provide resources insight and log analysis
- Deploy Azure Automation to implement Update management, Change tracking and Inventory on Azure Stack HCI

### Lab 3: Managing Azure Stack HCI using hybrid scenarios

- Onboarding Azure Stack HCI cluster to Azure with Azure Arc
- Managing Azure Stack HCI security posture using Microsoft Defender for Cloud
- Managing Azure Stack HCI security posture using Azure Policy
- Creating Log Analytic Workspace
- Monitoring Arc-enabled server using Azure Monitor
- Create and configure Azure Automation Account
- Managing Arc-enabled server using Update Management