MS-AZ120T00: DESIGNING AND DEPLOYING SAP ON AZURE

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
3 Days	Advanced	Azure	Instructor-led	NA

INTRODUCTION

This course teaches IT Professionals experienced in SAP solutions how to leverage Azure resources that include deployment and configuration of virtual machines, virtual networks, storage accounts, and Azure AD that includes implementing and managing hybrid identities. Students of this course will learn through concepts, scenarios, procedures, and hands-on labs how to best plan and implement migration and operation of an SAP solution on Azure. Your will receive guidance on subscriptions, create and scale virtual machines, implement storage solutions, configure virtual networking, back up and share data, connect Azure and on-premises sites, manage network traffic, implement Azure Active Directory, secure identities, and monitor your solution.

AUDIENCE PROFILE

This course is for Azure Administrators who migrate and manage SAP solutions on Azure. Azure Administrators manage the cloud services that span storage, networking, and compute cloud capabilities, with a deep understanding of each service across the full IT lifecycle. They take end-user requests for new cloud applications and make recommendations on services to use for optimal performance and scale, as well as provision, size, monitor and adjust as appropriate. This role requires communicating and coordinating with vendors. Azure Administrators use the Azure Portal and as they become more proficient they use PowerShell and the Command Line Interface.

PREREQUISITES

Students should possess a solid knowledge around implementing, migrating and administering SAP Applications with prior experience on Linux operating systems, virtualization, cloud infrastructure, storage structures, and networking. Specifically:

Prerequisite Experience:

- Hands-on experience with Azure IaaS and PaaS solutions, including VM, VNet, Load Balancers, Storage (Blob, Files, Disks).
- Understanding of on-premises and cloud virtualization technologies, including: VMs, virtual networking, and virtual hard disks.
- Understanding of network configuration, including TCP/IP, Domain Name System (DNS), virtual private networks (VPNs), firewalls, and encryption technologies.
- Understanding of Active Directory concepts
- Experience with Linux/Unix environments.
- Solid knowledge of SAP Applications, SAP HANA, S/4HANA, SAP NetWeaver, SAP BW, OS Servers for SAP Applications and Databases.
- Understanding of SAP HANA deployment and configuration.
- Hands-on experience with SAP HANA administration

Prerequisite Courses (or equivalent knowledge and hands-on experience):

- AZ-104 Azure Administrator
- Knowledge of SAP products such as SAP HANA or SAP NetWeaver

COURSE OBJECTIVES

After completing this course, students will be able to:

- Migrate SAP Workloads to Azure
- Design an Azure Solution to Support SAP Workloads
- Build and Deploy Azure for SAP Workloads
- Validate Azure Infrastructure for SAP Workloads
- Operationalize Azure SAP Architecture

COURSE CONTENT

Module 1: Explore Azure for SAP workloads

Explore the expanded partnership between Microsoft and SAP. This partnership allows you to run fully supported SAP applications across

Module 2: Discover common terms and meanings for SAP on Azure

You will be introduced to some of the common terms that will be used in working with SAP workloads on Azure.

Learning objectives

After completing this module, you will be able to:

- Discover common terms and meanings for SAP, Azure and SAP deployments on Azure.

Module 3: Identify SAP-certified configurations

Help identify prerequisites, deployment options, and SAP-certified configurations available to you when deploying SAP products in Azure.

Learning objectives

After completing this module, you will be able to:

- Explore general prerequisites for SAP support in public cloud environments.
- Discover SAP certifications and configurations running on Microsoft Azure.

Module 4: Examine SAP NetWeaver with AnyDB on Azure virtual machines

Examine the architecture options available when deploying SAP AnyDB workloads on Azure VMs.

Learning objectives

After completing this module, you will be able to:

- Explore SAP NetWeaver with AnyDB on Azure virtual machines and learn to recognize the architecture's components.
- Examine a sample functional workflow.

Module 5: Examine SAP S/4HANA on Azure virtual machines

Examine the architecture when deploying SAP S/4HANA workloads and in-memory SAP HANA databases, running on Azure VMs.

Learning objectives

After completing this module, you will be able to:

- Explore SAP S/4HANA on Azure virtual machines and learn to recognize the architecture's components.

development, test, and production scenarios in Azure alongside other Microsoft components.

Learning objectives

After completing this module, you will be able to:

- Examine a sample functional workflow.

Module 6: Explore Azure for SAP compute

This module explores the design of scalable, performant, and resilient compute components for SAP deployments in Azure.

Learning objectives

After completing this module, you will be able to:

- Plan for implementing SAP solutions.
- Explore Azure virtual machines.
- Examine Azure virtual machine compute considerations.
- Implement and verify high availability SAP HANA on Azure virtual machines.

Module 7: Explore Azure for SAP networking

This module explores the use of Azure network components to design scalable, performant, and resilient SAP deployments in Azure.

Learning objectives

After completing this module, you will be able to:

- Explore Azure virtual networks.
- Examine Azure virtual machine networking considerations.
- Examine load balancing considerations.
- Explore virtual network connectivity.
- Explore cross-premises connectivity.

Module 8: Explore Azure for SAP storage

This module explores the use of Azure he storage component to design scalable, performant, and resilient SAP deployments in Azure.

Learning objectives

After completing this module, you will be able to:

- Explore Azure Storage types.
- Examine general database sizing.
- Examine SAP HANA Azure virtual machine storage configurations.
- Explore solutions with Premium Storage and Azure Write Accelerator for Azure M-Series virtual machines.
- Discover the SAP and Microsoft partnership.
- Explore your options with SAP on Azure.

- Examine sizing for HANA databases on Azure NetApp Files.

Module 9: Explore Azure for SAP databases

This module explores SAP on Azure database support and best practices for Azure for SAP workloads.

Learning objectives

After completing this module, you will be able to:

- Explore database support of Azure for SAP workloads.
- Explore storing database files directly on Azure Blob Storage.
- Explore Azure virtual machine and blob storage security.
- Examine SQL Server and Oracle recommendations.

Module 10: Explore identity services for SAP on Azure

This module explores using identity services to design multiple authentication and authorization scenarios Azure facilitates, that includes support for a range of identity providers.

Learning objectives

After completing this module, you will be able to:

- Define Active Directory Domain Services (AD DS)
- Define Azure Active Directory (Azure AD)
- Discuss Azure Active Directory Domain Services (Azure AD DS)

Module 11: Explore remote management for SAP on Azure

This module explores ways to apply Azure remote management components to design remote management of virtual machines and set up the Azure connector for SAP Landscape Management.

Learning objectives

After completing this module, you will be able to:

- Consider remote management of Azure virtual machines.
- Set up the Azure connector for SAP Landscape Management.
- Explore access management.

Module 12: Explore governance and manageability for SAP on Azure

This module explores using the Azure Governance collection of

concepts and services that are designed to enable management of Azure resources at scale

Learning objectives

After completing this module, you will be able to:

- Explore Azure Resource Manager and Azure Resource Manager templates.
- Examine role-based access control and Azure Policy.
- Explore security and compliance services.

Module 13: Deploy single-instance implementations of SAP on Azure (2-tier and 3-tier)

SAP professionals need to evaluate deploying SAP solutions on Azure. This module explores the preparation for single-instance SAP HANA deployment on Azure.

Learning objectives

After completing this module, you will be able to:

- Explore deployment methodologies.
- Deploy via Azure Resource Manager templates.
- Prepare Azure virtual machines for a manual installation of SAP HANA.
- Implement SAP HANA scale-out.

Module 14: Implement high availability in SAP NetWeaver with AnyDB on Azure virtual machines

SAP professionals need to evaluate deploying SAP solutions on Azure. This module explores the preparation for SAP NetWeaver high availability AnyDB deployment on Azure.

Learning objectives

After completing this module, you will be able to:

- Examine single SID 3-tier SAP NetWeaver high availability AnyDB deployment.
- Examine multi-SID 3-tier SAP NetWeaver high availability AnyDB deployment.
- Set up a Windows Server failover cluster for an SAP ASCS-SCS instance.
- Examine Installation of SIOS DataKeeper Cluster Edition for the SAP ASCS-SCS cluster shared disk.

Module 15: Implement high availability for SAP workloads in Azure

This module explores high availability and disaster recovery support of Azure for SAP workloads, such as SAP application servers, SAP ASCS-SCS instances, DBMS instances, and SAP HANA.

Learning objectives

After completing this module, you will be able to:

- Explore high availability and disaster recovery support of Azure for SAP workloads.
- Examine principal architectures.
- Determine latency between Azure virtual machines across Availability Zones.

Module 16: Implement disaster recovery for SAP workloads in Azure

This module explores disaster recovery support of Azure for SAP workloads, including deployments within single and multiple Azure regions, multi-tier SAP NetWeaver app deployment in Azure, and Azure services, such as Active Directory and DNS.

Learning objectives

After completing this module, you will be able to:

- Explore disaster recovery of SAP workloads.
- Combine availability within one region and across regions.
- Explore site recovery.
- Implement disaster recovery for SAP deployments across Azure regions with Azure Site Recovery.

Module 17: Perform backups and restores for SAP workloads on Azure

This module explores backup and restore of Azure virtual machines and examines the steps and important considerations involved in backing up and restoring SAP workloads on Azure.

Learning objectives

After completing this module, you will be able to:

- Explore backup and restore of Azure virtual machines.
- Explore application backup.
- Explore SAP HANA backup.
- Explore Oracle backup.
- Explore SQL Server backups.

Module 18: Use the planning and deployment checklist for SAP workloads on Azure

This module uses the SAP workload planning and deployment checklist to guide SAP deployment teams through each phase of the SAP on Azure migration process.

Learning objectives

After completing this module, you will be able to:

- Examine the SAP workload planning and deployment checklist.
- Explore the phases from project preparation and planning, and through the Go Live and post production phases.

Module 19: Explore migration options for SAP on Azure

This module explores strategies for migration of SAP workloads to Azure, including migration of on-premises SAP workloads to Azure in conjunction to performing an upgrade.

Learning objectives

After completing this module, you will be able to:

- Analyze strategies for migrating SAP systems to Microsoft Azure.
- Compare classical migration options.
- Explore downtime-optimized migration.

Module 20: Migrate very large databases (VLDB) to Azure for SAP

This module explores migration of databases over 20 TB, considered very large databases. These databases use extra techniques and procedures to achieve migration from on-premises to Azure within acceptable downtime and with low risk.

Learning objectives

After completing this module, you will be able to:

- Explore very large database migration.
- Learn best practices for optimizing the source system, network upload, and the target system.
- Examine very large database migration best practices.

Module 21: Explore monitoring requirements of Azure for SAP workloads

This module covers monitoring of data from several Azure systems and tools to support SAP on Azure workloads.

Learning objectives

After completing this module, you will be able to:

- Examine monitoring, logging, and alerting services.
- Explore Azure Monitor and Log Analytics.
- Explore operating system and workload updates for Azure virtual machines.

Module 22: Configure the Azure Enhanced Monitoring Extension for SAP

This module covers the configuration of the Azure Enhanced Monitoring Extension for SAP.

Learning objectives

After completing this module, you will be able to:

- Explore the Azure Enhanced Monitoring Extension for SAP.
- Configure the Azure Enhanced Monitoring Extension for SAP.

Module 23: Explore licensing, pricing, and support for SAP on Azure virtual machines

This module explores Azure and SAP licensing requirements and licensing costs, and walks through the support request process for Azure virtual machines.

Learning objectives

After completing this module, you will be able to:

- Learn how to price Azure virtual machine-based solutions.
- Explore licensing, pricing, and support of Azure for SAP workloads.

ASSOCIATED CERTIFICATIONS & EXAM

This course will prepare delegates to write the Microsoft AZ-120: Planning and Administering Microsoft Azure for SAP Workloads exam.