AZ-120T00: Planning and Administering Microsoft Azure for SAP Workloads

Course ID #: 7000-387-ZZ-Z

Hours: 21

Course Content

Course Description:

In this course, you will cover 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.

Prerequisites:

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

Target Audience:

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.

Topics:

Lesson 1: Explore Azure for SAP Workloads
- Introduction
- Discover the SAP and Microsoft partnership
- Explore your options with SAP on Azure
- Evaluate Microsoft components
- Knowledge check
- Summary

Lesson 2: Discover Common Terms and Meanings for SAP on Azure
- Introduction
- Discover common terms and meanings: SAP
- Discover common terms and meanings: SAP deployment on Azure
- Discover common terms and meanings: Azure
- Knowledge check
- Summary

Lesson 3: Identify SAP-Certified Configurations
- Introduction
- Explore general prerequisites for SAP support in public cloud environments
- Identify deployment options for SAP solutions on Azure
- Discover supported Azure virtual machines for SAP products on Windows and Linux
- Discover supported Azure virtual machines for SAP NetWeaver instances
- Discover SAP-certified operating systems for Azure virtual machines
- Discover SAP certifications and configurations running on Microsoft Azure
- Knowledge check
- Summary

Lesson 4: Examine SAP NetWeaver with AnyDB on Azure Virtual Machines
- Introduction
- Explore SAP NetWeaver with AnyDB on Azure virtual machines
- Recognize architectural components
- Examine sample functional workflow
- Knowledge check
- Summary

Lesson 5: Examine SAP S/4HANA on Azure Virtual Machines
- Introduction
- Explore SAP S/4HANA on Azure virtual machines
- Recognize architectural components
- Examine a sample functional workflow
- Knowledge check
- Summary

Lesson 6: Explore Azure for SAP Compute
- Introduction
- Plan for implementing SAP solutions
- Explore Azure virtual machines (VMs)
- Examine constrained vCPU capable virtual machine sizes
- Scale Azure virtual machines
- Examine Azure virtual machine scaling considerations
- Explore network bandwidth allocation
- Explore data flows
- Examine Azure virtual machine compute considerations
- Implement and verify high availability SAP HANA on Azure virtual machines
- Knowledge check
- Summary

Lesson 7: Explore Azure for SAP Networking
- Introduction
- Explore Azure virtual networks
- Consider IP addressing
- Explore name resolution
- Explore accelerated networking
- Explore Azure load balancer
- Examine Azure virtual machine networking considerations
- Examine load balancing considerations
- Explore Azure Traffic Manager
- Explore Azure Front Door
- Explore Azure Firewall
- Consider networking changes for Azure virtual machines
- Examine Azure routing configurations
- Explore virtual network connectivity
- Explore Distributed Denial-of-Service (DDoS) protection options
- Examine the virtual datacenter
- Explore cross-premises connectivity
- Explore SAProuter

- Examine networking support of Azure for SAP workloads
- Knowledge check
- Summary

Lesson 8: Explore Azure for SAP Storage
- Introduction
- Explore Azure Storage types
- Explore Azure Files
- Examine Azure virtual machine disks
- Recognize virtual machine images and disks
- Explore managed and unmanaged disks
- Explore caching for virtual machines and data disks
- Explore Write Accelerator
- Examine general database sizing
- Examine Azure virtual machine storage considerations
- Examine SAP HANA Dynamic Tiering 2.0
- Explore Azure virtual machine disks best practices
- Explore Azure virtual machine NFS storage
- Explore Azure virtual machine SMB storage
- Explore SAP HANA Azure virtual machine storage configurations
- Explore solutions with Premium Storage and Azure Write Accelerator for Azure M-Series virtual machines
- Explore Azure Ultra disk storage configuration for SAP HANA
- Explore NFS v4.1 volumes on Azure NetApp Files
- Examine sizing for HANA databases on Azure NetApp Files
- Knowledge check
- Summary

Lesson 9: Explore Azure for SAP Databases
- Introduction
- Explore database support of Azure for SAP workloads
- Explore SQL Server
- Consider database compression
- Store database files directly on Azure Blob Storage
- Explore Azure Virtual Machine security
- Consider security recommendations for Blob storage
- Apply SQL Server Transparent Data Encryption
- Explore the SQL Server 2014 Buffer Pool Extension
- Examine Oracle recommendations
- Knowledge check
- Summary

Lesson 10: Explore Identity Services for SAP on Azure
- Introduction
- Explore Azure virtual machine authentication, authorization, and access control
- Explore Azure Active Directory (Azure AD)
- Explore SAP Cloud Platform Identity authentication
- Integrate Azure Active Directory with SAP Cloud Platform Identity Authentication
- Integrate Azure Active Directory with SAP Fiori
- Integrate Azure Active Directory with SAP HANA
- Integrate Azure Active Directory with SAP NetWeaver
- Integrate Active Directory with SAP single sign-on (Kerberos-SPNEGO)
- Discover Active Directory Domain Services (AD DS)
- Explore primary scenarios using Active Directory Domain Services and Azure virtual machines

- Discover Azure Active Directory Domain Services (Azure AD DS)
- Integrate Linux with Active Directory Domain Services
- Knowledge check
- Summary

Lesson 11: Explore Remote Management for SAP on Azure
- Introduction
- Consider remote management of Azure virtual machines
- Set up the Azure connector for SAP Landscape Management
- Explore access management
- Explore Azure Bastion
- Examine just-in-time (JIT) virtual machine access
- Knowledge check
- Summary

Lesson 12: Explore Governance and Manageability for SAP on Azure
- Introduction
- Explore Azure Resource Manager
- Examine Azure Resource Manager templates
- Explore the Azure Resource Manager template structure and schema
- Examine role-based access control (RBAC)
- Organize Azure resources with tags
- Explore Azure Policy
- Explore management groups
- Explore Azure Automation
- Explore security and compliance services
- Knowledge check
- Summary

Lesson 13: Deploy single-instance implementations of SAP on Azure (2-tier and 3-tier)
- Introduction
- Explore deployment methodologies
- Deploy via Azure Resource Manager templates
- Manually install single-instance SAP HANA on Azure virtual machines
- Prepare Azure virtual machines for a manual installation of SAP HANA
- Discover key steps for SAP HANA installation using SAP SWPM
- Discover key steps for SAP HANA installation using HDBLCM
- Implement SAP HANA scale-out
- Knowledge check
- Summary

Lesson 14: Implement high availability in SAP NetWeaver with AnyDB on Azure virtual machines
- Introduction
- Implement high availability in SAP NetWeaver with AnyDB on Azure virtual machines
- Examine single SID 3-tier SAP NetWeaver high availability AnyDB deployment
- Examine multi SID 3-tier SAP NetWeaver high availability AnyDB deployment
- Set the required DNS IP addresses
- Add registry entries on both cluster nodes of the SAP ASCS-SCS instance
- Set up a Windows Server failover cluster for an SAP ASCS-SCS instance
- Install SIOS DataKeeper Cluster Edition for the SAP ASCS-SCS cluster shared disk
- Implement a highly available NFS share
- Knowledge check
- Summary

Lesson 15: Implement high availability for SAP workloads in Azure
- Introduction
- Explore high availability and disaster recovery support of Azure for SAP workloads
- Explore high availability of SAP workloads
- Examine failover clustering
- Examine deployment scenarios
- Explore high availability of SAP application servers
- Explore high availability of SAP ASCS-SCS instances
- Examine high availability of DBMS instances
- Explore SAP HANA availability
- Explore SQL Server high availability for SAP in Azure
- Explore Oracle high availability for SAP in Azure
- Examine high availability capabilities of Azure infrastructure
- Understand service-level agreements
- Explore Availability Zones
- Examine principal architectures
- Determine latency between Azure virtual machines across Availability Zones
- Explore the Active/Active deployment scenario
- Explore the Active/Passive deployment scenario
- Configure combined high availability and disaster recovery
- Knowledge check
- Summary

Lesson 16: Implement disaster recovery for SAP workloads in Azure
- Introduction
- Explore disaster recovery of SAP workloads
- Explore simple availability between two Azure regions
- Combine availability within one region and across regions

- Explore site recovery
- Implement disaster recovery for SAP deployments across Azure regions with Azure Site Recovery
- Set up disaster recovery for a multi-tier SAP NetWeaver app deployment (in Azure)
- Replicate Azure virtual machines running in Proximity Placement Groups to another region
- Set up disaster recovery for Active Directory and DNS
- Knowledge check
- Summary

Lesson 17: Perform backups and restores for SAP workloads on Azure
- Introduction
- Explore backup and restore of Azure virtual machines
- Examine application-consistent backup of Azure Linux virtual machines
- Explore application backup
- Explore database backup
- Explore SAP HANA backup
- Implement SAP HANA backup scheduling strategy
- Explore SAP HANA file-level backups
- Create SAP HANA snapshot-based backups
- Explore SQL Server Backup to URL (Azure Storage)
- Explore SQL Server file-snapshot backups
- Explore Oracle backup
- Explore SQL Server backups
- Set up disaster recovery for SQL Server
- Knowledge check
- Summary
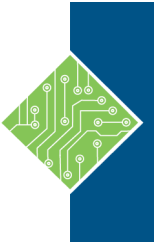
Lesson 18: Use the planning and deployment checklist for SAP workloads on Azure
- Introduction
- Examine the SAP workload planning and deployment checklist
- Explore the project preparation and planning phase
- Explore the pilot phase
- Explore the non-production phase
- Explore the production preparation phase
- Explore the Go Live phase
- Explore the post-production phase
- Knowledge check
- Summary

Lesson 19: Explore migration options for SAP on Azure
- Introduction
- Analyze strategies for migrating SAP systems to Microsoft Azure
- Migrate to SAP S/4HANA from SAP Business Suite
- Compare classical migration with the SAP database migration option (DMO)
- Analyze the SAP database migration option methodology
- Explore one-step migration – DMO with system move option
- Explore two-step migration – lift and shift followed by DMO
- Explore downtime-optimized DMO
- Knowledge check
- Summary

Lesson 20: Migrate very large databases (VLDB) to Azure for SAP
- Introduction
- Explore very large database migration
- Optimize the source system
- Optimize the source system – advanced
- Optimize network upload
- Optimize the target system
- Create recommended migration project documents
- Monitor the migration
- Examine very large database migration best practices
- Knowledge check
- Summary

Lesson 21: Explore monitoring requirements of Azure for SAP workloads
- Introduction
- Explore the monitoring requirements for Azure for SAP workloads
- Examine monitoring, logging, and alerting services
- Explore Azure virtual machine monitoring considerations
- Troubleshoot Azure Enhanced Monitoring for SAP
- Explore Azure Monitor and Log Analytics
- Explore SAP HANA alerts
- Examine diagnostic tools
- Explore operating system and workload updates for Azure virtual machines
- Knowledge check
- Summary

Lesson 22: Configure the Azure Enhanced Monitoring Extension for SAP
- Introduction
- Explore the Azure Enhanced Monitoring Extension for SAP
- Configure the Azure Enhanced Monitoring Extension for SAP
- Knowledge check
- Summary

Lesson 23: Explore licensing, pricing, and support for SAP on Azure virtual machines
- Introduction
- Price Azure virtual machine-based solutions
- Explore licensing, pricing, and support of Azure for SAP workloads
- Knowledge check
- Summary

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