

Exam AZ-120: Planning and Administering Microsoft Azure for SAP Workloads – Skills Measured

The English language version of this exam was updated on January 24, 2022.

Following the current exam guide, we have included a version of the exam guide with changes tracked, showing the updates that were made to the exam on that date.

NOTE: Passing score: 700. [Learn more about exam scores.](#)

Audience Profile

Candidates for this exam should be architects or engineers with extensive experience and knowledge of the SAP system landscape and industry standards that are specific to the initial migration or integration and the long-term operation of an SAP solution on Microsoft Azure.

Responsibilities for an architect or an engineer for Azure for SAP Workloads include making recommendations on services and adjusting resources as appropriate for optimal resiliency, performance, scale, provision, size, and monitoring.

Architects or engineers for Azure for SAP Workloads partner with cloud administrators, cloud DBAs, and clients to implement solutions.

A candidate for this exam should have extensive experience and knowledge of SAP applications: SAP HANA, S/4HANA, SAP NetWeaver, SAP BW/4HANA, OS servers for SAP applications and databases, Azure portal, Azure Marketplace, Azure Resource Manager templates (ARM templates), virtualization, cloud infrastructure, storage structures, high availability design, disaster recovery design, data protection concepts, and networking.

For this exam, we strongly recommend that you have an Azure Administrator Associate or Azure Solutions Architect Expert certification, in addition to SAP certifications.

Skills Measured

NOTE: The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. This list is NOT definitive or exhaustive.

NOTE: Most questions cover features that are general availability (GA). The exam may contain questions on Preview features if those features are commonly used.

Migrate SAP workloads to Azure (25–30%)

Identify requirements for target infrastructure

- estimate target database size
- determine supportability of operating systems and databases in Azure
- estimate compute, storage, and network requirements for the target database
- determine target SAPS by using Early Watch Alert (EWA) reports or Quick Sizer
- assess constraints imposed by subscription models and quota limits
- evaluate licensing and pricing across SAP tiers
- evaluate components, such as Azure Data Factory, Data Lake, Microsoft Power BI, and SAP Cloud
- specify a Microsoft support option for SAP on Azure

Design and implement identity and access for SAP workloads

- design and implement access control and authorization for SAP workloads
- design and implement authentication for SAP workloads
- manage access permissions to SAP systems

Design and implement an SAP migration strategy

- choose a migration scenario (lift-and-shift, lift-shift-migrate, lift-shift-migrate to HANA) or greenfield
- choose migration methods
- configure storage to support migration
- implement an SAP migration

Design and implement an infrastructure to support SAP workloads (25–30%)

Design and implement a compute solution for SAP workloads

- specify a compute platform (Azure Virtual Machines versus HANA Large Instances [HLIs])
- configure Azure VM Extension for SAP
- configure Accelerated Networking
- configure VMs for Availability Sets
- configure VMs for Availability Zones

- deploy an OS by using an Azure Marketplace image
- create and deploy a custom image
- automate deployment by using ARM templates
- connect to an Azure HLI
- configure license registration for an Azure HLI
- configure and apply operating system updates to an Azure HLI
- configure a snapshot

Design and implement a network topology for SAP on Azure Virtual Machines or Azure HLI

- design and configure proximity placement groups
- define zones and subnets
- design for latency considerations
- design for network security
- design and implement networking for Azure HLI
- plan for the use of Azure ExpressRoute (FastPath versus Direct)
- optimize networking to minimize latency between/within SAP tiers
- configure routing for Azure HLI
- design and configure load balancing for a reverse proxy

Design and implement a storage solution for SAP on Azure Virtual Machine or Azure HLI

- specify an appropriate storage option (Managed, Premium, Ultra disk, SOFS with Storage Spaces Direct [SSD], Azure NetApp Files, Azure shared Disks)
- specify when to use disk striping and simple volumes
- design for security considerations for storage
- design for data protection considerations
- design and implement caching for disks
- configure Write Accelerator
- configure encryption

Design and implement high availability and disaster recovery (HA/DR) (20–25%)

Design a high availability and disaster recovery solution for SAP on Azure Virtual Machine or Azure HLI

- design an Azure Site Recovery strategy for SAP workloads
- design HANA System Replication/SQL Server Always On/Oracle Data Guard

- design an availability set and availability zone strategy for SAP workloads
- design load balancing for SAP HA or database HA
- design for regional considerations
- design for service-level agreement (SLA) considerations

Implement high availability and disaster recovery

- configure STONITH
- configure database-level replication, including HANA System Replication, SQL Server AlwaysOn, and Oracle Data Guard
- configure fencing/Stonith Block Device (SBD)
- configure Azure Site Recovery
- configure storage-level replication for SAP Central Services
- configure load balancing for SAP HA or database HA
- configure clustering
- configure and validate backups
- perform backup and restore
- test disaster recovery

Maintain SAP workloads on Azure (15–20%)

Optimize performance and costs

- optimize performance and cost of SAP HANA virtual hardware and Azure HLI
- optimize performance and cost by using SAP HANA Hardware and Cloud Measurement Tools (HCMT)
- measure/reduce network latency between SAP servers and clients
- optimize network performance and bandwidth costs
- optimize performance and cost of SAP application servers
- measure performance by using the SAPS benchmark tool
- configure snoozing
- resize VMs
- optimize storage costs
- optimize an SAP workload on Azure by using Azure Advisor

Monitor SAP on Azure

- monitor SAP workloads by using Azure Monitor for SAP Solutions
- monitor SAP workloads by using Log Analytics
- monitor networking

The following exam guide shows the changes that were implemented on January 24, 2022 to the English language version of the exam.

Audience Profile

Candidates for this exam should be architects or engineers with extensive experience and knowledge of the SAP system landscape and industry standards that are specific to the initial migration or integration and the long-term operation of an SAP solution on Microsoft Azure.

Responsibilities for an architect or an engineer for Azure for SAP Workloads include making recommendations on services and adjusting resources as appropriate for optimal resiliency, performance, scale, provision, size, and monitoring.

Architects or engineers for Azure for SAP Workloads partner with cloud administrators, cloud DBAs, and clients to implement solutions.

A candidate for this exam should have extensive experience and knowledge of SAP applications: SAP HANA, S/4HANA, SAP NetWeaver, SAP BW/4HANA, OS servers for SAP applications and databases, Azure portal, Azure Marketplace, Azure Resource Manager templates (ARM templates), virtualization, cloud infrastructure, storage structures, high availability design, disaster recovery design, data protection concepts, and networking.

For this exam, we strongly recommend that you have an Azure Administrator Associate or Azure Solutions Architect Expert certification, in addition to SAP certifications.

Skills Measured

NOTE: The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. This list is NOT definitive or exhaustive.

NOTE: Most questions cover features that are General Availability (GA). The exam may contain questions on Preview features if those features are commonly used.

Migrate SAP workloads to Azure (25–30%)

Identify requirements for target infrastructure

- estimate target database size
- determine supportability of operating systems and databases in Azure
- estimate compute, storage, and network requirements for the target database
- determine target SAPS by using Early Watch Alert (EWA) reports or Quick Sizer

- assess constraints imposed by subscription models and quota limits
- evaluate licensing and pricing across SAP tiers
- evaluate components, such as Azure Data Factory, Data Lake, Microsoft Power BI, and SAP Cloud
- specify a Microsoft support option for SAP on Azure

Design and implement identity and access for SAP workloads

- design and implement access control and authorization for SAP workloads
- design and implement authentication for SAP workloads
- manage access permissions to SAP systems

Design and implement an SAP migration strategy

- choose a migration scenario (lift-and-shift, lift-shift-migrate, lift-shift-migrate to HANA) or greenfield
- choose migration methods
- configure storage to support migration
- implement an SAP migration

Design and implement an infrastructure to support SAP workloads (25–30%)

Design and implement a compute solution for SAP workloads

- specify a compute platform (Azure Virtual Machines versus HANA Large Instances [HLIs])
- configure Azure VM Extension for SAP
- configure Accelerated Networking
- configure VMs for Availability Sets
- configure VMs for Availability Zones
- deploy an OS by using an Azure Marketplace image
- create and deploy a custom image
- automate deployment by using ARM templates
- connect to an Azure HLI
- configure license registration for an Azure HLI
- configure and apply operating system updates to an Azure HLI
- configure a snapshot

Design and implement a network topology for SAP on Azure Virtual Machines or Azure HLI

- design and configure proximity placement groups
- define [SAP](#)-zones and subnets
- design for latency considerations
- design for network security
- design and implement networking for Azure HLI
- plan for the use of Azure ExpressRoute (FastPath versus Direct)
- optimize networking to minimize latency between/within SAP tiers
- configure routing for Azure HLI
- design and configure load balancing for a reverse proxy

Design and implement a storage solution for SAP on Azure Virtual Machine or Azure HLI

- specify an appropriate storage option (Managed, Premium, Ultra disk, SOFS with Storage Spaces Direct [SSD], Azure NetApp Files, Azure shared Disks)
- specify when to use disk striping [and simple volumes](#)
- design for security considerations for storage
- design for data protection considerations
- design and implement caching for disks
- configure Write Accelerator
- configure encryption

Design and implement high availability and disaster recovery (HA/DR) (20–25%)

Design a high availability and disaster recovery solution for SAP on Azure Virtual Machine or Azure HLI

- design an Azure Site Recovery strategy for SAP workloads
- design HANA System Replication/SQL Server Always On/Oracle Data Guard
- design an availability set and availability zone strategy for SAP workloads
- design load balancing for SAP HA or database HA
- design for regional considerations
- design for service-level agreement (SLA) considerations

Implement high availability and disaster recovery

- configure STONITH
- configure database-level replication, including HANA System Replication, SQL Server AlwaysOn, and Oracle Data Guard
- configure fencing/Stonith Block Device (SBD)

- configure Azure Site Recovery
- configure storage-level replication for SAP Central Services
- configure load balancing for SAP HA or database HA
- configure clustering
- configure and validate backups
- perform backup and restore
- test disaster recovery

Maintain SAP workloads on Azure (15–20%)

Optimize performance and costs

- optimize performance and cost of SAP HANA virtual hardware and Azure HLI
- optimize performance and cost by using SAP HANA Hardware and Cloud Measurement Tools (HCMT)
- measure/reduce network latency between SAP servers and clients
- optimize network performance and bandwidth costs
- optimize performance and cost of SAP application servers
- measure performance by using the SAPS benchmark tool
- configure snoozing
- resize VMs
- optimize storage costs
- optimize an SAP workload on Azure by using Azure Advisor

Monitor SAP on Azure

- monitor SAP workloads by using Azure Monitor for SAP Solutions
- monitor SAP workloads by using Log Analytics
- monitor networking