# Exam AZ-104: Microsoft Azure Administrator – Skills Measured

This exam will be updated on January 27, 2021. Following the current exam guide, we have included a version of the exam guide with Track Changes set to "On," showing the changes that will be made to the exam on that date.

# **Audience Profile**

The Azure Administrator implements, manages, and monitors identity, governance, storage, compute, and virtual networks in a cloud environment. The Azure Administrator will provision, size, monitor, and adjust resources as appropriate.

Candidates should have a minimum of six months of hands-on experience administering Azure. Candidates should have a strong understanding of core Azure services, Azure workloads, security, and governance. Candidates for this exam should have experience in using PowerShell, the Command Line Interface, Azure Portal, and ARM templates.

## **Skills Measured**

NOTE: The bullets that appear below 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.

# Manage Azure identities and governance (15-20%)

# **Manage Azure AD objects**

- create users and groups
- manage user and group properties
- manage device settings
- perform bulk user updates
- manage guest accounts
- configure Azure AD Join
- configure self-service password reset

#### Manage role-based access control (RBAC)

- create a custom role
- provide access to Azure resources by assigning roles
- interpret access assignments
- manage multiple directories

# Manage subscriptions and governance

- configure Azure policies
- configure resource locks
- apply tags
- create and manage resource groups
- manage subscriptions
- configure Cost Management
- configure management groups

# Implement and manage storage (10-15%)

## Manage storage accounts

- configure network access to storage accounts
- create and configure storage accounts
- generate shared access signature
- manage access keys
- implement Azure storage replication
- configure Azure AD Authentication for a storage account

# Manage data in Azure Storage

- export from Azure job
- import into Azure job
- install and use Azure Storage Explorer
- copy data by using AZCopy

## **Configure Azure files and Azure blob storage**

- create an Azure file share
- create and configure Azure File Sync service
- configure Azure blob storage
- configure storage tiers for Azure blobs

# **Deploy and manage Azure compute resources (25-30%)**

#### **Configure VMs for high availability and scalability**

- configure high availability
- deploy and configure scale sets

#### **Automate deployment and configuration of VMs**

- modify Azure Resource Manager (ARM) template
- configure VHD template
- deploy from template
- save a deployment as an ARM template
- automate configuration management by using custom script extensions

## **Create and configure VMs**

- configure Azure Disk Encryption
- move VMs from one resource group to another
- manage VM sizes
- add data discs
- configure networking
- redeploy VMs

#### **Create and configure containers**

- create and configure Azure Kubernetes Service (AKS)
- create and configure Azure Container Instances (ACI)

# **Create and configure Web Apps**

- create and configure App Service
- create and configure App Service Plans

# **Configure and manage virtual networking (30-35%)**

#### Implement and manage virtual networking

- create and configure VNET peering
- configure private and public IP addresses, network routes, network interface, subnets, and virtual network

#### **Configure name resolution**

- configure Azure DNS
- configure custom DNS settings
- configure a private or public DNS zone

#### Secure access to virtual networks

- create security rules
- associate an NSG to a subnet or network interface
- evaluate effective security rules

- deploy and configure Azure Firewall
- deploy and configure Azure Bastion Service

### **Configure load balancing**

- configure Application Gateway
- configure an internal load balancer
- configure load balancing rules
- configure a public load balancer
- troubleshoot load balancing

#### Monitor and troubleshoot virtual networking

- monitor on-premises connectivity
- use Network Performance Monitor
- use Network Watcher
- troubleshoot external networking
- troubleshoot virtual network connectivity

#### Integrate an on-premises network with an Azure virtual network

- create and configure Azure VPN Gateway
- create and configure VPNs
- configure ExpressRoute
- configure Azure Virtual WAN

# Monitor and back up Azure resources (10-15%)

# **Monitor resources by using Azure Monitor**

- configure and interpret metrics
- configure Log Analytics
- query and analyze logs
- set up alerts and actions
- configure Application Insights

# Implement backup and recovery

- configure and review backup reports
- perform backup and restore operations by using Azure Backup
- create a Recovery Services Vault
- create and configure backup policy
- perform site-to-site recovery by using Azure Site Recovery

## The exam guide below shows the changes that will be implemented on January 27, 2021.

## **Audience Profile**

The Azure Administrator implements, manages, and monitors identity, governance, storage, compute, and virtual networks in a cloud environment. The Azure Administrator will provision, size, monitor, and adjust resources as appropriate.

Candidates should have a minimum of six months of hands-on experience administering Azure. Candidates should have a strong understanding of core Azure services, Azure workloads, security, and governance. Candidates for this exam should have experience in using PowerShell, the Command Line Interface, Azure Portal, and ARM templates.

#### Skills Measured

NOTE: The bullets that appear below 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.

# Manage Azure identities and governance (15-20%)

# **Manage Azure AD objects**

- create users and groups
- manage user and group properties
- manage device settings
- perform bulk user updates
- manage guest accounts
- configure Azure AD Join
- configure self-service password reset

## Manage role-based access control (RBAC)

- create a custom role
- provide access to Azure resources by assigning roles
- interpret access assignments
- manage multiple directories

#### Manage subscriptions and governance

- configure Azure policies
- configure resource locks
- apply tags
- create and manage resource groups

- manage subscriptions
- configure Cost Management
- configure management groups

# Implement and manage storage (10-15%)

# Manage storage accounts

- configure network access to storage accounts
- create and configure storage accounts
- generate shared access signature
- manage access keys
- implement Azure storage replication
- configure Azure AD Authentication for a storage account

# Manage data in Azure Storage

- export from Azure job
- import into Azure job
- install and use Azure Storage Explorer
- copy data by using AZCopy

# **Configure Azure files and Azure blob storage**

- create an Azure file share
- create and configure Azure File Sync service
- configure Azure blob storage
- configure storage tiers for Azure blobs
- configure blob lifecycle management
- configure blob object replication

# **Deploy and manage Azure compute resources (25-30%)**

# **Configure VMs for high availability and scalability**

- configure high availability
- deploy and configure scale sets

# **Automate deployment and configuration of VMs**

- modify Azure Resource Manager (ARM) template
- configure VHD template
- deploy from template
- save a deployment as an ARM template

• automate configuration management by using custom script extensions

#### **Create and configure VMs**

- configure Azure Disk Encryption
- move VMs from one resource group to another
- manage VM sizes
- add data discs
- configure networking
- redeploy VMs

# **Create and configure containers**

- create and configure Azure Kubernetes Service (AKS)
- create and configure Azure Container Instances (ACI)

#### **Create and configure Web Apps**

- create and configure App Service
- create and configure App Service Plans

# **Configure and manage virtual networking (30-35%)**

#### Implement and manage virtual networking

- create and configure VNET peering
- configure private and public IP addresses, network routes, network interface, subnets, and virtual network

#### **Configure name resolution**

- configure Azure DNS
- configure custom DNS settings
- configure a private or public DNS zone

#### Secure access to virtual networks

- create security rules
- associate an NSG to a subnet or network interface
- evaluate effective security rules
- deploy and configure Azure Firewall
- deploy and configure Azure Bastion Service

## **Configure load balancing**

- configure Application Gateway
- configure an internal load balancer
- configure load balancing rules
- configure a public load balancer
- troubleshoot load balancing

## Monitor and troubleshoot virtual networking

- monitor on-premises connectivity
- use Network Performance Monitor
- use Network Watcher
- troubleshoot external networking
- troubleshoot virtual network connectivity

# Integrate an on-premises network with an Azure virtual network

- create and configure Azure VPN Gateway
- create and configure VPNs
- configure ExpressRoute
- configure Azure Virtual WAN

# **Monitor and back up Azure resources (10-15%)**

## **Monitor resources by using Azure Monitor**

- configure and interpret metrics
- configure Log Analytics
- query and analyze logs
- set up alerts and actions
- configure Application Insights

## Implement backup and recovery

- configure and review backup reports
- perform backup and restore operations by using Azure Backup
- create a Recovery Services Vault
- create and configure backup policy
- perform site-to-site recovery by using Azure Site Recovery