AZ-100 Microsoft Azure Infrastructure and Deployment

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- Additional Resources:
- Manage Azure subscriptions and resources (15-20%)
- Implement and manage storage (20-25%)
- Deploy and manage virtual machines (VMs) (20-25%)
- Configure and manage virtual networks (20-25%)
- Manage identities (15-20%)

Additional Resources:

https://labondemand.com/Event/MSHandsOnLabs/Home

https://www.microsoft.com/handsonlabs/selfpacedlabs

https://msandbu.org/study-guide-for-azure-certifications-az-100-az-101/

https://www.getazureready.com/courses

Manage Azure subscriptions and resources (15-20%)

Objectives	Resources

Objectives	Resources
Manage Azure subscriptions	Azure enterprise scaffold: Prescriptive subscription governance Examples of implementing Azure enterprise scaffold
	Assign administrator permissions;
	• Add or change Azure subscription administrators
	Configure cost center quotas and tagging
	• Azure Subscription Resource Limits and Quotas • Prevent unexpected charges with Azure billing and cost management • Manage your Azure spend by cost center
	Configure subscription policies
	• What is Azure Policy?
	Manage Azure Subscriptions
	• Organizing subscriptions and resource groups within the Enterprise • Manage multiple Azure subscriptions • Windows Azure tutorial Part 1: Set up and manage subscriptions • Blog - Subscription Management
	Video:
	• https://www.pluralsight.com/courses/microsoft-azure-subscriptions-managing

Objectives	Resources
Analyze resource utilization and consumption	Azure Monitor Documentation Configure diagnostic settings on resources; - Automatically enable Diagnostic Settings at resource creation using a Resource Manager template - MANAGING MULTIPLE AZURE DIAGNOSTIC SETTINGS USING AZURE CLI INSTEAD OF POWERSHELL - Collect and consume log data from your Azure resources - What is Azure Diagnostics extension - Monitoring data collected by Azure Monitor Analyze alerts across subscription - Prevent unexpected charges with Azure billing and cost management Monitor for unused resources; monitor spend; report on spend; create baseline for resources; - Manage Azure resources with these top tips of 2017 - Use Cloudyn reports - Prevent unexpected charges with Azure billing and cost management Analyze metrics across subscription; - Azure Monitor Metrics Explorer Create action groups; - Create and manage action groups in the Azure portal Utilize Log Search query functions; - **Log Analytics Examples** Create and test alerts;View alerts in Log Analytics - Unified alerts in Azure Monitor - Respond to events with Azure Monitor Alerts - Create, view, and manage metric alerts using Azure Monitor - Azure logging and auditing

Objectives	Resources
Manage resource groups	Azure Policy; Allocate resource policies; configure resource policies; • Create and manage policies to enforce compliance Resource Locks: • Lock resources to prevent unexpected changes Azure Resource Group Tags: • Use tags to organize your Azure resources • https://www.pluralsight.com/courses/microsoft-azure-subscriptions-managing Move Resources across resource groups; remove resource groups • Move resources to new resource group or subscription • Azure: How to move resources between subscriptions under different tenants? • Remove-AzureRmResourceGroup • Understand limitations https://docs.microsoft.com/en-us/azure/architecture/best-practices/naming-conventions

Implement and manage storage (20-25%)

Objectives	Resources

Objectives	Resources
Create and configure storage accounts	Create and configure storage account - Create a storage account - Introduction to Azure Storage Configure network access to the storage account;Virtual Endpoint for Azure Storage: - Configure Azure Storage Firewalls and Virtual Networks - Virtual Network Service Endpoints and Firewalls for Azure Storage now generally available - Announcing Virtual Network integration for Azure Storage and Azure SQL Implement Azure storage replication - https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy - Locally-redundant storage (LRS): Low-cost data redundancy for Azure Storage - Zone-redundant storage (ZRS): Highly available Azure Storage applications - Geo-redundant storage (GRS): Cross-regional replication for Azure Storage - Azure Storage scalability and performance targets - Designing highly available applications using RA-GRS Storage - Microsoft Azure Storage redundancy options and read access geo redundant storage Manage access keys; generate shared access signature; - Using shared access signatures (SAS) - Shared Access Signatures, Part 2: Create and use a SAS with Blob storage Install and use Azure Storage Explorer; - Get started with Storage Explorer Monitor activity log by using Log Analytics; - Storage Analytics Video: - PLURALSIGHT.DESIGN.A.STORAGE.STRATEGY.FOR.MICROSOFT.AZURE - PLURALSIGHT.IMPLEMENTING.STORAGE.AZURE.INFRASTRUCTURE.70.533 - Lynda.Microsoft.Azure.Design.an.Application.Storage.and.Data.Access.Strategy - LYNDA_MICROSOFT_AZURE_DESIGN_AND_IMPLEMENT_A_STORAGE_STRATEGY

Objectives	Resources
Import and export data to Azure	Create export from Azure job; create import into Azure job; • What is Azure Import/Export service? • Azure Import/Export system requirements • Use Azure Import/Export service to import data to Azure Files Configure and use Azure blob storage; • Use the Azure Import/Export service to import data to Azure Blob Storage • Use the Azure Import/Export service to export data from Azure Blob storage Configure Azure content delivery network (CDN) endpoints • What is a content delivery network on Azure? • Quickstart: Create an Azure CDN profile and endpoint • Create an Azure CDN endpoint • Using the Azure CDN to access blobs with custom domains over HTTPS • https://docs.microsoft.com/en-us/azure/storage/blobs/storage-custom-domain-name
Configure Azure files	Create Azure file share; • Introduction to Azure Files • Create a file share in Azure Files • Use an Azure file share with Windows Create Azure File Sync service; troubleshoot Azure File Sync; create Azure sync group; • Deploy Azure File Sync • Troubleshoot Azure File Sync • STEP-BY-STEP GUIDE: GETTING STARTED WITH AZURE FILE SYNC SERVICE • Create a sync group and a cloud endpoint

Objectives	Resources
Implement Azure backup	Configure and review backup reports; • Configure Azure Backup reports Create Recovery Services Vault; • Recovery Services vaults overview • Monitor and manage Recovery Services vaults • Set up disaster recovery for Azure VMs to a secondary Azure region. • Delete a Recovery Services vault Perform backup operation; • Back up a Windows Server or client to Azure using the Resource Manager deployment model Perform a restore operation • Restore files to a Windows server or Windows client machine using Resource Manager deployment model • Use the Azure portal to restore virtual machines • Restore An Azure VM to an Availability Set From Azure Backup in the Azure Portal • Restore Azure Virtual Machines to an Availability Set Using PowerShell • Using templates to customize restored VMs from Azure Backup Create and configure backup policy; • Defining a backup policy

Deploy and manage virtual machines (VMs) (20-25%)

PLURALSIGHT.IMPLEMENTING.VIRTUAL.MACHINES.AZURE.INFRASTRUCTURE.70-533-JGTISO

Microsoft Azure and Security Best Pratices – Part 1 Identity

Objectives	Resources

Objectives	Resources
Create and configure a VM for Windows and Linux	Configure high availability - Understanding Azure Availability Sets - Tutorial: Create and deploy highly available virtual machines with Azure PowerShell - Manage the availability of Windows virtual machines in Azure - Regions and availability for virtual machines in Azure - Design for Virtual Machines with High Availability Using Azure - High availability in Azure Deploy and configure scale sets - Understanding Azure Virtual Machine Scale Sets (Part 1) - Understanding Azure Virtual Machine Scale Sets (Part 2) - Virtual Machine Scale Sets - What are virtual machine scale sets? - Quickstart: Create a virtual machine scale set in the Azure portal Configure monitoring, - How to monitor virtual machines in Azure - Rich insights for virtual machines from Azure Monitor - Microsoft Azure Virtual Machine Monitoring with Azure Diagnostics Extension - https://docs.microsoft.com/en-us/azure/virtual-machines/windows/tutorial-monitoring Resize Virtual Machines Azure: - Resize virtual machines - Resize a Windows VM (Powershell) - Notes on changing Azure VM size - https://blogs.msdn.microsoft.com/madan/2016/09/28/resize-azure-resource-manager-arm-vm-os-data-disk-using-azure-portal/ - How to expand the OS drive of a virtual machine - Expand virtual hard disks on a Linux VM with the Azure CLI Configure networking, storage, and virtual machine size; - Overview of Windows virtual machines in Azure - Quickstart: Create a Windows virtual machine in the Azure portal - Tutorial: Create and Manage Windows VMs with Azure PowerShell

Objectives	Resources
Automate deployment of VMs configure location of new VMs;	Modify Azure Resource Manager (ARM) template; - Create a Windows virtual machine from a Resource Manager template - Azure Quickstart Templates see 101-vm-* Configure VHD template (links appear outdated) - Creating Virtual Machine Templates in VMM - How to Create a Template from a Virtual Hard Disk - How to Create a Virtual Machine Template Deploy Windows and Linux VMs - Quickstart: Create a Linux virtual machine in the Azure portal - Quickstart: Create a Windows virtual machine in the Azure portal - New-AzureQuickVM cmdlet Deploy from template; save a deployment as an ARM template; - Understand the structure and syntax of Azure Resource Manager Templates - Deploy resources with Resource Manager templates and Azure PowerShell - Export an Azure Resource Manager template from existing resources

Objectives	Resources

Objectives	Resources
Manage Azure VM	Add data discs; - Attach a managed data disk to a Windows VM by using the Azure portal - Use the portal to attach a data disk to a Linux VM - Disks FAQs - Add a disk - Detach a disk - Resize a disk - Snapshot a disk - Back up unmanaged disks - Convert to Managed Disks - Convert disk between Standard and Premium - Copy files to a VM - Migrate to Premium storage with Azure Site Recovery - Find unattached disks - Use File storage - Deploy disks with template Add network interfaces; - Add network interfaces to or remove network interfaces from virtual machines Move VMs from one resource group to another; - Move a Windows VM to another Azure subscription or resource group - Migrate Azure VMs to another region - Move resources to new resource group or subscription Automate configuration management by using PowerShell Desired State Configuration (DSC) and VM Agent by using custom script extensions; - Azure Automation State Configuration Overview (and sub-pages) - Custom Script Extension for Windows - 201-vm-custom-script-windows Redeploy VMs - Redeploy Windows virtual machine to new Azure node - Redeploy Linux virtual machine to new Azure node Manage VM sizes; - Virtual machine sizes supported in Azure Stack

Objectives	Resources
Manage VM backups	Perform VM restore • Use the Azure portal to restore virtual machines Define backup policies;implement backup policies; • Defining a backup policy Configure VM backup; • Plan your VM backup infrastructure in Azure • Deploy a Windows VM and enable backup using Azure Backup Review documentation regarding Azure Recovery Services Vault.

Configure and manage virtual networks (20-25%)

PLURALSIGHT.IMPLEMENTING.VIRTUALNETWORKS.FOR.AZURE.INFRASTRUCTURE.70.533-JGTiSO

Objectives	Resources
Create connectivity between virtual networks	Create and configure VNET peering; • Virtual network peering • Tutorial: Connect virtual networks with virtual network peering using the Azure portal • Create, change, or delete a virtual network peering • https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-peering-gateway-transit?toc=%2fazure%2fvirtual-network%2ftoc.json Create and configure VNET to VNET; • Configure a VNet-to-VNet VPN gateway connection using the Azure portal • What is VPN Gateway? Verify virtual network connectivity; • Verify a VPN Gateway connection Site to Site VNET: • Create a Site-to-Site connection in the Azure portal • Step-By-Step: Configuring a site-to-site VPN Gateway between Azure and On-Premise

Objectives	Resources
Implement and manage virtual networking Configure private and public IP addresses, network routes, network interface, subnets, and virtual network	Configure Private IP address: - Configure private IP addresses for a virtual machine using the Azure portal Configure Public IP address: - Create a virtual machine with a static public IP address using the Azure portal Network interface, subnets, - Create, change, or delete a network interface - Add, change, or delete a virtual network subnet Configure Routing: - Virtual network traffic routing IP Addressing VNET: - IP address types and allocation methods in Azure
Configure name resolution	Configure Azure DNS;Manage Azure DNS: - Azure DNS Documentation - What is Azure DNS? - Overview of DNS zones and records - Azure DNS FAQ Configure custom DNS settings; - Name resolution for resources in Azure virtual networks - Create, change, or delete a network interface Configure DNS zones - How to manage DNS Zones in the Azure portal - Manage DNS records and recordsets in Azure DNS using Azure PowerShell

Objectives	Resources
Create and configure a Network Security Group (NSG) identify required ports;	Create security rules; • Create, change, or delete a network security group • Security groups • Azure Network Security Groups (NSG) – Best Practices and Lessons Learned • Filter network traffic with a network security group using PowerShell Associate NSG to a subnet or network interface; • Step by Step Azure network security groups NSG – Security Center • Associate network interfaces to an ASG • Associate network security group to subnet Evaluate effective security rules • Diagnose a virtual machine network traffic filter problem • Automate NSG auditing with Azure Network Watcher Security group view Microsoft cloud services and network security

Manage identities (15-20%)

PLURALSIGHT.IMPLEMENTING.ACTIVE.DIRECTORY.FOR.AZURE.INFRASTRUCTURE.70.533-JGTiSO

Objectives	Resources
Manage Azure Active Directory (AD)	Add custom domains; • How to: Add your custom domain name using the Azure Active Directory portal • Managing custom domain names in your Azure Active Directory Configure self-service password reset; • How it works: Azure AD self-service password reset • How to successfully roll out self-service password reset • Quickstart: Self-service password reset • Password management frequently asked questions

Objectives	Resources
	implement conditional access policies;
	- What is conditional access in Azure Active Directory?
	- Azure Active Directory conditional access settings reference
	- Azure AD Conditional Access Documentation
	Manage multiple directories;
	- Creating and Managing Multiple Windows Azure Active Directories
	- Manage your Azure Active Directory tenant
	Configure Azure AD Identity Protection, Azure AD Join, and Enterprise State Roaming
	- What is Azure Active Directory Identity Protection?
	- Enabling Azure Active Directory Identity Protection
	- Azure Active Directory Identity Protection
	- Azure AD Join
	- HOW TO JOIN A WINDOWS 10 COMPUTER TO YOUR AZURE ACTIVE DIRECTORY
	- What is enterprise state roaming?
	- Enable Enterprise State Roaming in Azure Active Directory
	Perform an access review
	- Azure AD access reviews
	- Review access with Azure AD access reviews
	- Manage user access with Azure AD access reviews
	Azure Identity Security:
	- Microsoft Azure and Security Best Pratices – Part 1 Identity

Objectives	Resources
Manage Azure AD objects (users, groups, and devices)	Create users and groups; manage user and group properties; • How to: Add or delete users using Azure Active Directory • How to: Create a basic group and add members using Azure Active Directory • Dynamic membership rules for groups in Azure Active Directory Manage device settings; • How to manage devices using the Azure portal Perform bulk user updates • AZURE ACTIVE DIRECTORY - BULK UPDATING USER PROFILE ATTRIBUTES USING POWERSHELL Create Groups Azure AD: • How to: Create a basic group and add members using Azure Active Directory
Implement and manage hybrid identities	configure federation and single sign-on; • Azure Active Directory Seamless Single Sign-On • How to configure federated single sign-on for an Azure AD Gallery application • What is application access and single sign-on with Azure Active Directory? Install and configure Azure AD Connect; • Getting started with Azure AD Connect using express settings • Custom installation of Azure AD Connect Manage Azure AD Connect; • Implement password hash synchronization with Azure AD Connect sync • Enable password synchronization to Azure Active Directory Domain Services • How-to: Configure password writeback

https://blogs.msdn.microsoft.com/mvpawardprogram/2018/05/01/azure-resource-manager/

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