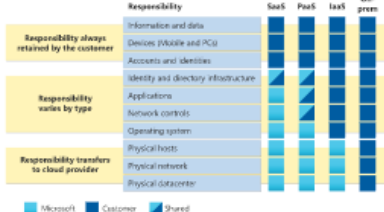


AZ-900: Microsoft Azure Fundamentals Ultimate Study Guide	
Domain 1: Describe Cloud Concepts (20 - 25%)	
https://docs.microsoft.com/en-us/learn/paths/az-900-describe-cloud-concepts	
Identify benefits and considerations of using cloud services	
What are the benefits of cloud computing?	<ol style="list-style-type: none"> 1) Low operating costs 2) Scalable 3) Large amounts of resources 4) Security 5) Flexibility
What is capital expenditure (CapEx)?	<ul style="list-style-type: none"> - Business Expenditures for fixed assets - i.e. Buildings or Equipment
What is operational expenditure (OpEx)?	<ul style="list-style-type: none"> - Operating costs, expenses to run day-to-day businesses - i.e., Domain Registrations, website hosting
What are the differences between CapEx and OpEx?	<ul style="list-style-type: none"> - CapEx is considered an investment, but they also have OpEx costs to maintain. - OpEx gives slightly more flexibility, tax deductible, cause of business debt.
What is the consumption-based model?	<ul style="list-style-type: none"> - A customer pays according to what is used. - The opposite would be a subscription-based model, where the costs stay the same regardless of use. - i.e., The amount of network traffic, compute, storage
Describe differences between categories of cloud services	
<p>What is the shared responsibility model?</p> 	<ul style="list-style-type: none"> - The division of security responsibility between the cloud user and cloud host. - The cloud user is always responsible for Data, Account, Access management - The responsibilities of the cloud host are dependent on the type of infrastructure.
<p>What is IaaS (Infrastructure as a service)?</p> <p>Example?</p>	<ul style="list-style-type: none"> - A type of cloud computing that offers storage, servers, firewalls/security for cloud user use. - IaaS is an OpEx.

Commented [TC1]: <https://www.10thmagnitude.com/opex-vs-capex-the-real-cloud-computing-cost-advantage/>

Commented [TC2]: <https://www.techtarget.com/searchcloudcomputing/definition/consumption-based-pricing-model>

Commented [TC3]: <https://docs.microsoft.com/en-us/azure/security/fundamentals/shared-responsibility>

Commented [TC4]: <https://azure.microsoft.com/en-us/overview/what-is-iaas/#overview>

	<ul style="list-style-type: none"> - i.e., Azure or AWS compute services, storage services.
What is PaaS (Platform as a service)? Example?	<ul style="list-style-type: none"> - A type of cloud computing that includes IaaS and development tools, such as operating systems, virtual desktops, etc. - PaaS is used for: <ul style="list-style-type: none"> o Developing cloud-based applications o Analytics or business intelligence - Advantages of PaaS: <ul style="list-style-type: none"> o Reduces coding time o Develop for multiple platforms o Support teams that are separated geographically
What is serverless computing?	<ul style="list-style-type: none"> - Development without worrying about infrastructure. - Advantages of SC: <ul style="list-style-type: none"> o No infrastructure management needed o Dynamically scales to workload requirements o Efficient use of resources
What is SaaS (Software as a service)?	<ul style="list-style-type: none"> - Is when a user connects to a cloud-based application over the internet. - i.e., Microsoft Office 365, Google Drive
Describe differences between types of cloud computing	
What is cloud computing?	<ul style="list-style-type: none"> - The delivery of computing services over the internet (cloud) - i.e., servers, storage, databases, networking, software, analytics, and intelligence.
What is the public cloud?	<ul style="list-style-type: none"> - Services are offered over the internet to those who purchase them - Owned by a third-party cloud service provider
What is the private cloud?	<ul style="list-style-type: none"> - Compute, storage, or other types of resources only in use by one organization
What is the hybrid cloud?	<ul style="list-style-type: none"> - Is when both public and private cloud services are used.

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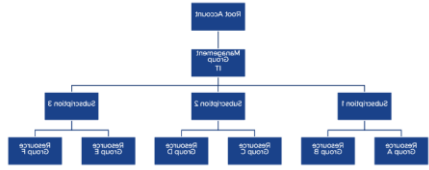
Commented [TC8]: <https://docs.microsoft.com/en-us/learn/modules/intro-to-azure-fundamentals/what-is-cloud-computing>

Commented [TC9]: <https://docs.microsoft.com/en-us/learn/modules/fundamental-azure-concepts/types-of-cloud-computing>

What is the difference and similarities between these three?	<p>Public Advantages:</p> <ul style="list-style-type: none"> - No CapEx to scale up - Only pay for what is used - Self-service <p>Private Advantages:</p> <ul style="list-style-type: none"> - Complete control over resources and security <p>Private Disadvantages:</p> <ul style="list-style-type: none"> - Hardware must be purchased and maintained <p>Hybrid Cloud:</p> <ul style="list-style-type: none"> - The most amount of flexibility
Domain 2: Describe Core Azure Services (15 - 20%) https://docs.microsoft.com/en-us/learn/paths/az-900-describe-core-azure-services/	
Describe core Azure architectural components	
What are regions?	<ul style="list-style-type: none"> - A set of datacenters deployed within an interval-defined perimeter - They are geographically separated - Each region is connected by high capacity networking
What are regions used for?	<ul style="list-style-type: none"> - "To offer protection against localized disasters with availability zones and protection from regional or large geography disasters with disaster recovery"
What are the benefits of using regions?	<ul style="list-style-type: none"> - Help with cross-region resiliency - Increase fault tolerance -> more reliable application
What are region pairs?	<ul style="list-style-type: none"> - Two regions with the same geography
What are region pairs used for?	<ul style="list-style-type: none"> - They assist with disaster recovery since: <ul style="list-style-type: none"> o There is physical separation between datacenters (at least 300 miles) o Helps with region recovery in the event of an outage o Automatic platform redundancy between the pair o Data residency: helps to meet compliance laws and legal requirements
What are the benefits of using region pairs?	<ul style="list-style-type: none"> - They help provided redundancy for cloud users

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Commented [TC11]: <https://www.pragimtech.com/blog/azure/azure-regions-and-paired-regions>

What availability zones (AZ)?	<ul style="list-style-type: none"> - They are unique physical locations within a region - Each zone contains datacenters which are physically separate and have different sources of power, cooling and networking
What are AZ used for?	<ul style="list-style-type: none"> - Provide redundancy within a region - Protect against facility level issues
What are the benefits of using AZ?	<ul style="list-style-type: none"> - Availability zones allow automatic transition between zones without interruption - Zones are highly available, fault tolerant, and scalable
What are availability sets?	<ul style="list-style-type: none"> - A logical grouping of VMs - Distributes VMs between different racks or "fault domains", so work will not be lost when a fault domain is under maintenance or has lost power - Update domains allow the user to determine how many machines to be shut down, the order for the machines to be shutdown, and the priority of the machines - 2 or more VMs in an availability set provide a 99.95% uptime
What are availability sets used for?	<ul style="list-style-type: none"> - Availability sets are used to create a highly available application with little to no downtime.
What are the benefits of using availability sets?	<ul style="list-style-type: none"> - They help prevent VMs from being unusable when a fault domain is non-functional.
What are resource groups? 	<ul style="list-style-type: none"> - A container that holds related resources for an Azure solution - Logical groups of resources such as VMs, IP addresses, network interfaces, etc. - Stores metadata about the resources - Each subscription can have more than 1 resource groups
What are resource groups used for? Purpose	<ul style="list-style-type: none"> - Makes it easier to apply access controls, monitor activity, and track costs for workloads - Collects metadata from each individual resource

Commented [TC12]: <https://cswsolutions.com/blog/posts/2021/september/azure-regions-what-they-are-why-they-matter/>.

Commented [TC13]: <https://docs.microsoft.com/en-us/azure/availability-zones/az-overview>.

Commented [TC14]: https://www.softnias.com/docs/softnias/v3/html/azure_availability_sets.html
<https://docs.microsoft.com/en-us/azure/virtual-machines/availability-set-overview>

Commented [TC15]: <https://blogs.vmware.com/cloudhealth/resource-group-azure>.

<p>What are the benefits of using resource groups?</p> <p>Features</p>	<ul style="list-style-type: none">- Allows users to deploy resources using templates- Cost management: Assigns a cost allocation tag to a resource group for separate accounting- Role-based access: manages who has access to Azure resources and what they can do with resources<ul style="list-style-type: none">o There are different types of roles:o Contributor: Full access to manage resources, but cannot assign roleso Owner: Grants full access to manage all resources and roleso Reader: Views all resources but cannot make any changeso User Access Administrator: Lets you manage user access to Azure resources
<p>What are subscriptions?</p>	<ul style="list-style-type: none">- A base container that comprises of a group of related business or technical resources- Used and billed together- Acts as an administrative boundary
<p>What are subscriptions used for?</p>	<ul style="list-style-type: none">- An agreement between an organization and Microsoft to use resources- An account can have multiple subscriptions with different management policies and billing procedures<ul style="list-style-type: none">o Defined by the billing boundary or access control boundaryo There are separate billing resources for each subscription- Ways to organize subscriptions<ul style="list-style-type: none">o Workload separationo Applicationso Functional (It support finance)o Business unit

	<ul style="list-style-type: none"> o Geographic region
What are management groups?	<ul style="list-style-type: none"> - Containers that manage access, policy, and compliance across multiple subscriptions - There is a single top-level management group call the root management group <ul style="list-style-type: none"> o Global policies and role assignments can be applied to the AD (directory) level o Cannot be deleted - There can be 10000 management groups in a single Azure AD - A management group tree can have up to 6 levels of depth - Each management group and subscription can only support one parent - Each management group can have many children - All subscriptions and management groups are within a single hierarchy in each directory - Auditing <ul style="list-style-type: none"> o Events that happen to a management group will be in the Azure Activity log
What are management groups used for?	<ul style="list-style-type: none"> - They help organize, manage access, policies and compliance for many subscriptions - A management group can have many/multiple subscriptions - All subscriptions within a single management group must trust the same azure active directory tenant
What is the Azure Resource Manager?	<ul style="list-style-type: none"> - Deployment and management service - You use ARM to modify management groups, subscriptions, resource groups and resources
What is the Azure Resource Manager used for?	<ul style="list-style-type: none"> - Enables the users to create, update, and delete resources in an Azure account

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Commented [TC17]: <https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/overview>

What are the benefits of using Azure Resource Manager?	<ul style="list-style-type: none"> - Manage infrastructure through declarative templates and not scripts - Deploy, manage and monitor resources as a group - Redeploy a solution with consistency - Define dependencies - Apply access control to all services with Azure role-based access control - Apply tags to resources - Look at billing by using tags
Describe core resources available in Azure	
What are Virtual Machines?	<ul style="list-style-type: none"> - Software emulations of physical computers - Uses: <ul style="list-style-type: none"> o For testing and deployment o To create applications in the cloud o Can connect to local datacenter resources with a VM o Can be used during Disaster Recovery: Runs applications until the primary datacenter is operational - Gives the flexibility of virtualization without needing to deal with the hardware - VMs provide IaaS - Availability: <ul style="list-style-type: none"> o To get 99.95% VM SLA, there must be two VMs inside of an availability set - Charging <ul style="list-style-type: none"> o Hourly price for the VMs used o Based on the OS and the VM size o Storage is separate - VM Limits: <ul style="list-style-type: none"> o There can only be 20 VMs per region per subscription
What are Virtual Machine Scale Sets	<ul style="list-style-type: none"> - A group of identical load-balanced VMs - Allows for automatic scaling of applications from 1 VM to multiple VMs - Allows you to centrally manage, configure and update many VMs
What is Azure Batch	<ul style="list-style-type: none"> - Large-scale parallel and high-performance computing batch jobs

Commented [TC18]: <https://cloudacademy.com/course/getting-started-with-azure-virtual-machines-988/what-is-a-virtual-machine>

Commented [TC19]: <https://docs.microsoft.com/en-us/learn/modules/azure-compute-fundamentals/azure-virtual-machines>

	<ul style="list-style-type: none"> - What it does: <ul style="list-style-type: none"> o Creates a pool of compute VMs o Installs applications and staging data o Runs jobs with as many tasks are required o Identifies failures o Requeues work o Automatically scales down as the jobs are completed
What are Azure App Services used for?	<ul style="list-style-type: none"> - Quickly building, deploying, and scaling enterprise grade web, mobile, and API apps running on any platform - App Services is a PaaS - Used for: <ul style="list-style-type: none"> o Web apps o API jobs o Webjobs o Mobile apps - Charging <ul style="list-style-type: none"> o Pay for the compute resources the app uses o App service plan determines how much hardware is devoted a host o Pay as you go
What are the benefits of using Azure App Services?	<ul style="list-style-type: none"> - Supports ASP.NET, Java, Ruby, Node.js, PHP, or Python - Manages the production environment automatically - Containerizes the deployment environment with Docker - Allows for continuous deployment - Automatic scaling
What are Azure Container Instances (ACI)?	<ul style="list-style-type: none"> - Containers are a virtualization environment that contains the application and its dependencies - Offers a fast and simple way to run a container in Azure without managing any VMs or other services - ACI is PaaS
What are Azure Container Instances used for?	<ul style="list-style-type: none"> - Used for <ul style="list-style-type: none"> o Launching new containers that are automatically configure and scaled o Ability to provide access to containers over the internet

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Commented [TC21]: <https://docs.microsoft.com/en-us/learn/modules/azure-compute-fundamentals/azure-container-services>

	<ul style="list-style-type: none"> Specify the number of CPU cores and memory required for container instances Defined groups that organize multiple containers that share the same host
What is Azure Kubernetes Service (AKS)?	<ul style="list-style-type: none"> An orchestration service for containers with distributed architectures and a large volume of containers Charging <ul style="list-style-type: none"> Kubernetes is free to use Only pay for the nodes used
What is Azure Virtual Desktop?	<ul style="list-style-type: none"> Desktop and application virtualization services that runs on the cloud Allows users to use a cloud-hosted version of Windows from any location
What is Azure Virtual Desktop used for?	<ul style="list-style-type: none"> Set up a multi-session Windows 11 or Windows 10 deployment that delivers a full Windows experience with scalability Present Microsoft 365 Apps for enterprise and optimize it to run in multi-user virtual scenarios Provide Windows 7 virtual desktops with free Extended Security Updates Bring your existing Remote Desktop Services (RDS) and Windows Server desktops and apps to any computer Virtualize both desktops and apps Manage desktops and apps from different Windows and Windows Server operating systems with a unified management experience
What is Azure Service Fabric?	<ul style="list-style-type: none"> A distributed systems platform for packaging, deploying, and managing microservices and containers Can be used for stateful and stateless microservices
What are Virtual Networks?	<ul style="list-style-type: none"> Enables Azure resources to communicate with each other, local on-premises devices, and with users over the internet Provides: <ul style="list-style-type: none"> Isolation and segmentation <ul style="list-style-type: none"> Create multiple isolate virtual networks Internet communications Communicate between Azure resources

Commented [TC22]: <https://docs.microsoft.com/en-us/azure/aks/intro-kubernetes>

Commented [TC23]: <https://docs.microsoft.com/en-us/learn/modules/azure-compute-fundamentals/windows-virtual-desktop>

Commented [TC24]: <https://docs.microsoft.com/en-us/azure/virtual-desktop/overview>

	<ul style="list-style-type: none"> ○ Communicate with on-premises resources <ul style="list-style-type: none"> ▪ Point-to-site virtual private networks ▪ Site-to-site ▪ Azure Express Route: dedicated private connectivity to Azure, does not travel over the internet ○ Route network traffic <ul style="list-style-type: none"> ▪ Route tables: define rules about how traffic should be directed ▪ Border gateway protocol: propagate on-premises BGP routes to Azure virtual networks ○ Filter network traffic <ul style="list-style-type: none"> ▪ Network Security Groups: Inbound and outbound security rules to allow or block network traffic ▪ Network virtual appliances: used to carry out a network function like a firewall or WAN optimization ○ Connect virtual networks <ul style="list-style-type: none"> ▪ Peering: Linking virtual networks together ▪ UDR (user defined routes): control over network traffic flow
What is Azure DNS?	<ul style="list-style-type: none"> - A hosting services for DNS domains - Provides DNS services with Azure infrastructure - It can be used with private domains within a network
What is Azure Load Balancer?	<ul style="list-style-type: none"> - Evenly distributing load (incoming network traffic) across a group of backend resources or servers - Layer 4 of the OSI model - Public Load Balancer: provides outbound connections for VMs inside a virtual network

Commented [TC25]: A little bit of networking 101: BGP is a method of routing. Essentially this allows for the offsite Azure programs to create a routing table with information on the on-site devices.

Commented [TC26]: This is similar to an ACL: Access control list.

Commented [TC27]: <https://docs.microsoft.com/en-us/azure/dns/dns-overview>

Commented [TC28]: <https://docs.microsoft.com/en-us/azure/load-balancer/load-balancer-overview>

	<ul style="list-style-type: none"> - Private Load Balancer: Private IPs are needed at the frontend only, load balance traffic inside a virtual network
What is Azure Application Gateway?	<ul style="list-style-type: none"> - Web traffic load balancer to manage traffic to web applications - Layer 4 of the OSI model (transport) - Routing decision based on the attributes of an HTTP request such as URI path or host headers - SLA: <ul style="list-style-type: none"> o 99.95% auto-scale and zone redundancy ON
What is Azure Front Door?	<ul style="list-style-type: none"> - A Content Delivery Network (CDN) - Delivers content using a global edge network of POPs
What is Virtual WAN?	<ul style="list-style-type: none"> - Azure Virtual WAN is a networking service that brings many networking, security, and routing functionalities together to provide a single operational interface.
What is Azure Traffic Manager?	<ul style="list-style-type: none"> - DNS based traffic load balancer - Distribute traffic optimally to services across global Azure regions
What is a VPN Gateway?	<ul style="list-style-type: none"> - A type of virtual network gateway - They are deployed in a dedicated subnet - There are multiple types of VPN gateways: <ul style="list-style-type: none"> o Policy based gateways: Evaluates every data packet against sets of IP addresses to choose the tunnel where that packet is going to be sent through o Route-based gateways: IPsec tunnels are modeled as a network interface or virtual tunnel interface - Required Azure Resources for Deploying a VPN gateway: <ul style="list-style-type: none"> o Virtual network o Gateway subnet o Public IP o Local network gateway o Virtual network gateway o Connection resource - Require on-premises resource: <ul style="list-style-type: none"> o A VPN device o A public facing Ipv4 Address
What is a VPN Gateway used for?	<ul style="list-style-type: none"> - Used to:

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Commented [TC31]: <https://docs.microsoft.com/en-us/azure/virtual-wan/virtual-wan-about>

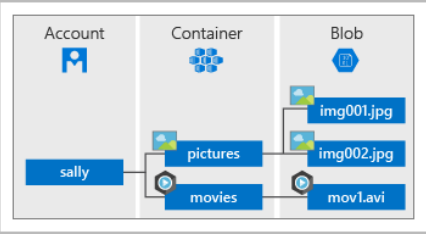
Commented [TC32]: <https://docs.microsoft.com/en-us/azure/networking/fundamentals/networking-overview#traffic-manager>

Commented [TC33]: <https://docs.microsoft.com/en-us/learn/modules/azure-networking-fundamentals/azure-vpn-gateway-fundamentals>

	<ul style="list-style-type: none"> ○ Connect on-premises datacenters to virtual networks through site-to-site ○ Connect individual devices to virtual networks through point-to-site ○ Connect virtual networks to virtual networks with network-to-network
What is Virtual Network peering?	<ul style="list-style-type: none"> - Seamlessly connect two or more virtual networks in Azure - Traffic between VMs is routed through MS's private network only - Types of peering: <ul style="list-style-type: none"> ○ Virtual network peering: connect virtual networks within the same Azure region ○ Global network peering: connect virtual networks across Azure regions
What are the benefits of using Virtual Network peering?	<ul style="list-style-type: none"> - Low-latency, high-bandwidth connection between resources in different virtual networks - Resources in one virtual network to communicate with resources in a different virtual network - Ability to transfer data between virtual networks across Azure subscriptions, Active Directory tenants, deployment models and regions. - Peer virtual networks create through the resource manager - No downtime to resources in either virtual networks when creating the peering or after the peering is created
What is ExpressRoute?	<ul style="list-style-type: none"> - Extends on-premises networks into Microsoft cloud
What are the benefits of using ExpressRoute?	<ul style="list-style-type: none"> - Layer 3 Connectivity <ul style="list-style-type: none"> ○ Allows for Layer 3 (network) connectivity between on-site to Azure - Built in Redundancy <ul style="list-style-type: none"> ○ There are redundant devices so all connects are high available - There is direct access to MSOffice, MSDynamics, compute services, VMs, and cloud services
What is Container (Blob) Storage?	<ul style="list-style-type: none"> - Object storage solution - Store massive amounts of data

Commented [TC34]: <https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-peering-overview>

Commented [TC35]: <https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blobs-introduction>

	<ul style="list-style-type: none"> - Unstructured data - Stored in containers for organization
<p>What are the benefits of using Container (Blob) Storage?</p> 	<ul style="list-style-type: none"> - Can be used for: <ul style="list-style-type: none"> o Serving images or documents to a browser o Storing files for distributed access o Streaming video and audio o Storing data for backup and restore, disaster recover, and archiving o Storing data for analysis by an on-premises or Azure-hosted service o Storing up to 8tb of data for virtual machines
What is Disk Storage?	<ul style="list-style-type: none"> - Provides disks for Azure virtual machines - Allows data to be persistently stored and access from an attached virtual hard disk - IaaS disks and 0% fail rate
What are the benefits of using Disk Storage?	<ul style="list-style-type: none"> - There are different tiering offerings with different types of storage mediums
What is File Storage?	<ul style="list-style-type: none"> - Managed file shares in the cloud that is accessed via SMB and NFS
What is File Storage used for?	<ul style="list-style-type: none"> - Used as a file sharing service - Easy migration of applications - Store configuration files on a file share and access them from multiple VMs - Write data to a file share and process/analyze the data later
What are the benefits of using File Storage?	<ul style="list-style-type: none"> - Can be accessed from ANYWHERE in the world without the need for a VPN - A customizable URL to the file can be used - Shared Access Signature Tokens allow access to a file for a specified amount of time
What is Azure Queue Storage?	<ul style="list-style-type: none"> - Service for storing large numbers of messages - Can be up to 64 kb in size
What is Azure Table Storage?	<ul style="list-style-type: none"> - Stores non-relational structured data, structured no-SQL data - A key-attribute store - Used to store flexible datasets

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What is Azure Data Box/ Azure Databox Heavy?	<ul style="list-style-type: none"> - Databox: Lets the user send terabytes of data into and out of Azure <ul style="list-style-type: none"> o Best used for sizes larger and 40TBs o Used for: initial migration of data, periodic uploads, and initial bulk transfer - Data Box Heavy: Send 100+ TBs of data
What is Azure Archive Storage?	<ul style="list-style-type: none"> - Offline tier for storing rarely used data (Cold storage) - Used for long term storage, secondary backup, archives, raw data, and compliance data
What is Azure Data Lake Storage?	<ul style="list-style-type: none"> - A type of blob - Used for Big Data Analytics
What are storage tiers?	<ul style="list-style-type: none"> - Sets the type of tier to store the data
What are storage tiers used for?	<ul style="list-style-type: none"> - There are three tiers: <ul style="list-style-type: none"> o Hot tier: Optimized for storing data that is accessed/modified frequently o Cool tier: Storing data that is infrequently access/modified, stored for a minimum of 30 days o Archive tier: Rarely accessed, minimum 180 days
What are the benefits of using storage tiers?	<ul style="list-style-type: none"> - Allows the user to save money on data storage depending on the use case
What is the Cosmos DB?	<ul style="list-style-type: none"> - Globally distributed, multimodel database service - Fast data access - No-SQL database for modern app development
What is the Cosmos DB used for?	<ul style="list-style-type: none"> - Automatic management, updates, and patching of databases - Automatic scaling
What are the benefits of using Cosmos DB?	<ul style="list-style-type: none"> - 99.99% SLA - Guaranteed speed regardless of database size - Simplified application development - 99.999% Available - Fully managed and cost effective
What is the Azure SQL Database?	<ul style="list-style-type: none"> - Relational database on MS SQL Server - PaaS database engine - Handles upgrading, pathcing, backups, and monitoring - 99.99% availability

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<https://docs.microsoft.com/en-us/azure/databox/data-box-heavy-overview>

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Commented [TC42]: <https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-introduction>

Commented [TC43]: <https://docs.microsoft.com/en-us/azure/storage/blobs/access-tiers-overview>

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What is the Azure SQL Database used for?	<ul style="list-style-type: none"> - Used to build data-driven applications and websites without needing to manage infrastructure
What are the benefits of using Azure SQL Database?	<ul style="list-style-type: none"> - Scalable performance and pools - Serverless compute <ul style="list-style-type: none"> o Scales automatically to workload demand o Bills for the amount of compute used per second - Elastic pools, compute is for a pool of databases and not for a single database
What is the Azure Database for MySQL?	<ul style="list-style-type: none"> - Relational database for MySQL - 99.99% Available
What is the Azure Database for MySQL used for?	<ul style="list-style-type: none"> - Used for deploying MySQL databases
What are the benefits of using Azure Database for MySQL?	<ul style="list-style-type: none"> - Built-in high availability with no additional cost. - Predictable performance and inclusive, pay-as-you-go pricing. - Scale as needed, within seconds. - Ability to protect sensitive data at-rest and in-motion. - Automatic backups. - Enterprise-grade security and compliance.
What is the Azure Database for PostgreSQL?	<ul style="list-style-type: none"> - Relational database in the cloud for PostgreSQL
What is the Azure Database for PostgreSQL used for?	<ul style="list-style-type: none"> - Single Server or Hyperscale options <ul style="list-style-type: none"> o Built-in high availability with no additional cost (99.99 percent SLA). o Predictable performance and inclusive, pay-as-you-go pricing. o Vertical scale as needed, within seconds. o Monitoring and alerting to assess your server. o Enterprise-grade security and compliance. o Ability to protect sensitive data at-rest and in-motion. o Automatic backups and point-in-time-restore for up to 35 days. - Hyperscale: <ul style="list-style-type: none"> o Horizontally scales queries across multiple machines using sharding

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What is SQL Server on VMs?	<ul style="list-style-type: none"> - Use SQL server on the cloud running on virtual machines - Simplifies licensing costs with pay as you go
What is Azure Database Migration Service?	<ul style="list-style-type: none"> - Fully managed service for seamless migrations from multiple database source to Azure data platforms
What is Azure Cache for Redis?	<ul style="list-style-type: none"> - In-memory data store based on Redis software
What is the Azure SQL Managed Instance?	<ul style="list-style-type: none"> - Scalable cloud data service - PaaS database engine - 99.99% Uptime
What is the Azure SQL Managed Instance used for?	<ul style="list-style-type: none"> - Migrating on-site server to the cloud using database migration service
What is the Azure Marketplace?	<ul style="list-style-type: none"> - An online store that contains software applications from 3rd party companies
Domain 3: Describe Core Solutions and Management Tools of Azure (10 - 15%) https://docs.microsoft.com/en-us/learn/paths/az-900-describe-core-solutions-management-tools-azure/	
Describe core solutions available in Azure	
What is the Internet of Things (IoT) Hub?	<ul style="list-style-type: none"> - A managed service that acts as a central message hub for communication between IoT application and remote devices - Messaging patterns: <ul style="list-style-type: none"> o Device-to-cloud o Uploading files from devices o Request-reply methods (to control devices) - Scales to millions of connected devices
What is the IoT Central?	<ul style="list-style-type: none"> - An addition of IoT hub that contains a dashboard for connecting, monitoring, and managing IoT devices <ul style="list-style-type: none"> o UI can be used to control devices remotely o Device templates: control devices without needing to code - Used to quickly connect devices, monitor device conditions, create rules, and manage devices - aPaaS; Application platform as a service
What is IoT Edge?	<ul style="list-style-type: none"> - Processes cloud analytics and logic to the end-devices - Used for: <ul style="list-style-type: none"> o Quick responses o Reduce bandwidth costs

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What is Windows 10 IoT Core Services?	<ul style="list-style-type: none"> - Version of Windows 10 that is optimized for small devices without a display and on ARM chips/x86/x64 devices
What is the Azure Sphere?	<ul style="list-style-type: none"> - Creates an end-to-end secure IoT solution - Uses a proprietary micro-controller for processing the signals and OS for the attached sensors - Uses a proprietary Linux OS for communications - Uses a security service to ensure the device is not compromised
What is Azure Synapse Analytics?	<ul style="list-style-type: none"> - Analytics service for big data systems - Brings together SQL technologies and Spark technologies, Data explorer and pipelines for data integration - Is a consumption based model, slowly overcoming HDInsight
What is HDInsight?	<ul style="list-style-type: none"> - Managed, full spectrum, open-source analytics service in the cloud - Makes it easy, fast, and cost effective to process massive amounts of data in a customizable environment - Benefits: <ul style="list-style-type: none"> o Cloud native: enables you to create optimized clusters for Hadoop o Low-cost and scalable o Secure and compliant o Monitoring o Global availability o Productivity o Extensibility - Use cases: <ul style="list-style-type: none"> o Batch processing: data is extracted from heterogeneous data sources o Data warehousing: Interactive queries at petabyte scales over structured or unstructured data o IoT: Process streaming data in real time from different devices o Data Science: build applications that extract critical insights from data o Hybrid: extend existing on-premises to Azure
What is Azure Databricks?	<ul style="list-style-type: none"> - Data analytics platform

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	<ul style="list-style-type: none"> - Databricks SQL: Platform for analysts who want to run SQL queries and create visualization - Databricks Data Science & Engineering: Read data from multiple data sources and turn it into breakthrough insights using Spark - Databricks Machine Learning: Environment for experiment tracking, model training, feature development and management and feature and model serving
What is Data Lake Analytics?	<ul style="list-style-type: none"> - On demand analytics job services that simplifies big data - Can handle jobs of any scale through dynamic scaling
What is Azure Machine Learning?	<ul style="list-style-type: none"> - Platform for making predictions - Tools/Services for training and testing models - Use cases: <ul style="list-style-type: none"> o Create a process that defines how to obtain data, handle data, and splitting the data o Train/evaluate models o Create pipelines that define where and when to run compute-intensive experiments o Deploy best-performing algorithm as an API to an endpoint
What is Cognitive Services?	<ul style="list-style-type: none"> - Prebuilt machine learning models that applications can use - Used for general problems: <ul style="list-style-type: none"> o Text for emotional sentiment o Analyzing images - Available as SDKs, REST APIs, and UIs
What is Azure Bot Service?	<ul style="list-style-type: none"> - Create virtual agents that understand and reply to questions - Can be simple or sophisticated
What is serverless computing?	<ul style="list-style-type: none"> - Cloud provider allocates machine resources on demand; the users do not configure or manage the hardware, and only use the hardware.
What are Azure Functions?	<ul style="list-style-type: none"> - Only used for running code without worrying about the hardware behind it - Scales automatically based on demand - Uses:

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	<ul style="list-style-type: none">○ When demand is variable○ Building a web API○ Process file uploads○ Build a serverless workflow○ Respond to database changes○ Run scheduled tasks○ Create reliable message queue systems○ Process data in real time <ul style="list-style-type: none">- Only charged for the CPU time used when the function runs.
What are Logic Apps?	<ul style="list-style-type: none">- Execute workflows that are designed to automate business scenarios from logic blocks- For each trigger, a new instance of the logic app is created- Created as a JSON file
What does DevOps mean?	<ul style="list-style-type: none">- A set of practices that combines software development and IT operations- Goal is to shorten the development life cycle to provide continuous delivery with high software quality
What is Azure DevOps?	<ul style="list-style-type: none">- A suite of services that address every stage of the software development lifecycle<ul style="list-style-type: none">○ Azure Repos: Centralized source-code repository where code is published for review and collaboration○ Azure Boards: Project management suite○ Azure Pipelines: CI/CD pipeline automation tool○ Azure Artifacts: Repository for hosting artifacts○ Azure Test Plans: Automated test tool used in the CI/CD pipeline- Use cases:<ul style="list-style-type: none">○ Implementing CI/CD pipelines to ensure consistent and quality code that is readily available to users- SaaS tool
What is GitHub?	<ul style="list-style-type: none">- A code hosting platform for version control and collaboration- It is the primary remote of Git
What are GitHub Actions?	<ul style="list-style-type: none">- Automates software development workflows from GitHub

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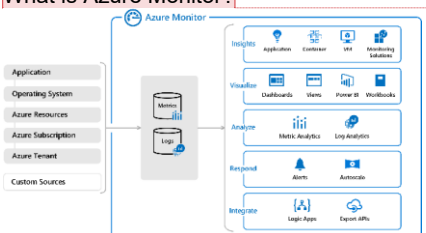
	<ul style="list-style-type: none"> - Create workflows so that you can build, test, package, release, or deploy any project on GitHub
What are Azure DevTest Labs?	<ul style="list-style-type: none"> - Easy creation, utilization, and management of IaaS VMs and PaaS environments in labs - Provides an automated method of managing the process of building, setting up and tearing down of VMs that contain builds of software projects
Describe Azure management tools	
What is Azure Portal?	<ul style="list-style-type: none"> - A web-based user interface - Can access every feature of Azure
What is Azure Powershell?	<ul style="list-style-type: none"> - A shell that can execute commands called cmdlets - Call the Azure REST API to perform every possible management test in Azure - On Windows, Linux, Mac, and on the browser through Azure Cloud Shell
What is Azure CLI?	<ul style="list-style-type: none"> - Executable program which can execute commands in Bash - Call the REST API to perform every possible management task in Azure - It is the same as Powershell, just a different type of syntax
What is Cloud Shell?	<ul style="list-style-type: none"> - An interactive, authenticated, browser accessible shell for managing Azure resources - Can also edit configuration files
What is Azure Mobile App?	<ul style="list-style-type: none"> - Used to: <ul style="list-style-type: none"> o Monitor the health and status of Azure Resources o Check for alerts, diagnose and fix issues, restart a web app or VM o Run the Azure CLI or Powershell commands to manage Azure resources
What is Azure Advisor?	<ul style="list-style-type: none"> - Evaluates Azure Resources - Used to: <ul style="list-style-type: none"> o Make recommendations to improve reliability, security, performance, achieve operational excellence, and reduce costs o Reliability: Used to ensure and improve the continuity of your business-critical applications.

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	<ul style="list-style-type: none"> Security: Used to detect threats and vulnerabilities that might lead to security breaches. Performance: Used to improve the speed of your applications. Cost: Used to optimize and reduce your overall Azure spending. Operational Excellence: Used to help you achieve process and workflow efficiency, resource manageability, and deployment best practices. <ul style="list-style-type: none"> Available in the Azure portal and the API
<p>What is Azure Monitor?</p> 	<ul style="list-style-type: none"> Platform for collecting, analyzing, visualizing, and taking action based on the metric and logging data from the entire Azure and on-site environment Uses sources of logging and metric data to trigger events
<p>What is Azure Service Health?</p>	<ul style="list-style-type: none"> A personalized view of the health of the Azure services, regions, and resources you rely on Used to monitor: <ul style="list-style-type: none"> Service issues: such as outages Planned maintenance Health advisories: such as breaking changes and service retirements
<p>Domain 4: Describe General Security and Network Security Features (10 - 15%) https://docs.microsoft.com/en-us/learn/paths/az-900-describe-general-security-network-security-features/</p>	
<p>Describe Azure security features</p>	
<p>What are the basic features of the Azure Security Center? AZURE SECURITY CENTER HAS BEEN RENAMED TO MICROSOFT DEFENDER FOR CLOUD</p>	<ul style="list-style-type: none"> A monitoring service that provides visibility of security posture across all services <ul style="list-style-type: none"> Monitor security settings across on-premises and cloud workloads Automatically apply required security settings to new resources

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	<ul style="list-style-type: none"> ○ Provide security recommendations ○ Continuously monitor resources and perform automatic security assessments to find vulnerabilities ○ Use ML to detect and clock malware from being install on VMs/other resources ○ Detect and analyze potential inbound attacks ○ Provide just-in-time access control for network ports
What is policy compliance?	- The policy that cloud systems must be compliant with the standards of the cloud user's company
What is security?	- Hardening tasks to improve posture
What are alerts?	- Notifications that appear when defender detects threats to resources and workloads
What is a secure score?	<ul style="list-style-type: none"> - A measurement of the security posture - Based on security controls (groups of related security recommendations) - A higher score fulfills more recommendations
What is resource hygiene?	- Health of resources from a security perspective
What is the difference between Azure Security Center and Azure Advisor?	<ul style="list-style-type: none"> - Defender protects resources while Advisor recommends different measures for hardening as well as configuration controls - Defender is specific to security; security is a feature of Advisor
What is the Azure Key Vault?	<ul style="list-style-type: none"> - A centralized cloud service for storing an application's secrets in a single, central location - Capabilities: <ul style="list-style-type: none"> ○ Manage secrets (passwords, certificates, API keys, etc) ○ Manage encryption keys ○ Manage SSL/TLS certificates - Benefits: <ul style="list-style-type: none"> ○ Centralized application secrets ○ Securely stored secrets and keys ○ Access monitoring and access control

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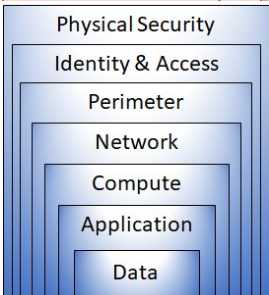
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	<ul style="list-style-type: none"> ○ Simplified administration of application secrets ○ Integration with other Azure services
What is the Azure Sentinel?	<ul style="list-style-type: none"> - Security information and event management (SIEM) system - Capabilities: <ul style="list-style-type: none"> ○ Collect cloud data ○ Detect previously undetected threats ○ Investigate threats with AI ○ Respond to incidents rapidly
Defender for the Cloud Vs. Sentinel	<ul style="list-style-type: none"> - Sentinel is the overall health/security across all Azure services, Defender is the specific response to different security issues
What are Azure Dedicated Hosts?	<ul style="list-style-type: none"> - Dedicated physical servers to host Azure VMs - Benefits: <ul style="list-style-type: none"> ○ Visibility info and control over server infrastructure running Azure VMs ○ Helps address compliance requirements ○ Choose the number of processors, server capabilities, VM series, and VM sizes
<u>Describe Azure network security</u>	
What is defense in depth? 	<ul style="list-style-type: none"> - Object of defense in depth: to protect information and prevent it from being stolen - Uses a series of mechanisms to slow the advance of an attack - Layers of defense in depth: <ul style="list-style-type: none"> ○ Physical security: first line of defense to protect hardware in the datacenter ○ Identity and access layer: controls access to infrastructure; SSO, and MFA; Audit events and changes ○ Perimeter: DDoS protection; perimeter firewalls ○ Network: Limits communication between resources through segmentation and access controls; Restrict inbound internet access; Secure

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	<p>connectivity to on-premises networks</p> <ul style="list-style-type: none"> ○ Compute: Secures access to VMs; Implement endpoint protection on devices and keep systems patched and current ○ Application: Ensure that applications are secure and free of security vulnerabilities ○ Data: Controls access to business and customer data
What are Network Security Groups (NSGs)?	<ul style="list-style-type: none"> - Filters network traffic to and from Azure resources within an Azure virtual network - NSG rules: <ul style="list-style-type: none"> ○ Name ○ Priority ○ Source/Destination ○ Protocol: TCP; UDP; any ○ Direction ○ Port Range ○ Action: Allow or Deny
What is the Azure Firewall?	<ul style="list-style-type: none"> - Managed, cloud based network security service that helps protect resources in Azure virtual networks - It is a stateful firewall; analyzes the complete context of a network connection - A central location to create, enforce, and log application and network connectivity policies
What is the Azure DDoS protection?	<ul style="list-style-type: none"> - Helps protect Azure resources from DDoS attacks - Identifies attacker's attempt to overwhelm the network and blocks further traffic from them - Helps ensure that network load is not from attackers but from actual user load - Service Tiers: <ul style="list-style-type: none"> ○ Basic: Automatically enable for free ○ Standard: Protection policies are tuned through dedicated traffic monitoring and ML algorithms; can protect against: volumetric attacks, protocol attacks; application layer attacks

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What is Azure Information Protection?	<ul style="list-style-type: none"> - Is a cloud based solution that enables organizations to discover, classify and protect documents and emails by applying labels to content
What is an Application Gateway?	<ul style="list-style-type: none"> - A Web traffic load balancer that manages traffic to a web application - Makes decision based on HTTP requests
What is Advanced Threat Protection (ATP)? ATP has been renamed to Microsoft Defender for Identity	<ul style="list-style-type: none"> - Uses Active Directory Signals to identify, detect, and investigate threats, compromised identities, and malicious insider actions
What is Microsoft Security Development Lifecycle (SDL)?	<ul style="list-style-type: none"> - A security assurance process that is focus on software development - Use "to reduce the number and severity of vulnerabilities in software
Domain 5: Describe Identity, Governance, Privacy, and Compliance Features (15 - 20%) https://docs.microsoft.com/en-us/learn/paths/az-900-describe-identity-governance-privacy-compliance-features/	
Describe core Azure identity services	
What is authentication?	<ul style="list-style-type: none"> - The process of establishing the identity of a person or service that wants to access a resource - Makes sure the user is who they say they are
What is authorization?	<ul style="list-style-type: none"> - The process of establishing the level of access an authenticated person or service has
What is the difference between authentication and authorization?	<ul style="list-style-type: none"> - Authentication proves the identity - Authorization defines what kinds of applications, resources, and data that a user can access
What is the Azure Active Directory?	<ul style="list-style-type: none"> - Identify services that enable users to sign in and access Microsoft cloud applications and 3rd party cloud applications - Who uses Azure AD: <ul style="list-style-type: none"> o IT Admins, App Devs, Users to manage identities, etc - Capabilities: <ul style="list-style-type: none"> o Authentication: verifying identity to access resources o Single sign-on: A single identity for multiple logins o Application management: Manage cloud and on-premises apps by using Azure AD o Device management: Supports the registration of

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	devices, device based conditional access policies
What is Conditional Access?	<ul style="list-style-type: none"> - A tool that allows or denies access to resources based on identity signals - Based on: who the user is, where the user is, and what device the user is requesting access from - Uses: <ul style="list-style-type: none"> o Require multifactor authentication to access and application o Require access to services only through approved client applications o Require users to access the application only from managed devices o Block access from untrusted sources (unexpected locations)
What is Multifactor Authentication (MFA)?	<ul style="list-style-type: none"> - A process where a user is prompted during sign-in for additional form of identification - i.e. Finger prints, texts, etc.
What is Single Sign-On (SSO)?	<ul style="list-style-type: none"> - Allows a user to sign in one time and use that credential to access multiple resources and applications from different providers
Describe Azure governance features	
What is Role-Based Access Control (RBAC)?	<ul style="list-style-type: none"> - Only granting users the rights they need to perform their job, and only to the relevant resources - When to use RBAC: <ul style="list-style-type: none"> o To grant specific privileges to certain users o Allow some users to manage resources o Allow an application access to resources - RBACs can be applied to a management group, a single subscription, a resource group, or a single resource - Azure RBAC follows an "allow" model
What are resource locks?	<ul style="list-style-type: none"> - Prevents resources from being accidentally deleted or changed - A warning system that reminds you that a resource should not be deleted or changed - Types of Locks:

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Commented [TC98]: <https://docs.microsoft.com/en-us/learn/modules/build-cloud-governance-strategy-azure/3-prevent-changes-resource-locks>

	<ul style="list-style-type: none">○ CanNotDelete: authorized users can read and modify a source, but they can't delete the resource without first removing the lock○ ReadOnly: authorized people can read a resource, but they can't delete or change the resource- Can be used with Azure Blueprints, so that if a lock is removed by accident, it will automatically be replaced by Blueprints
What are tags?	<ul style="list-style-type: none">- Provide extra information (metadata) about the resource- Metadata is useful for:<ul style="list-style-type: none">○ Resource management: locate/act on resource for a specific purpose○ Cost management and optimization: Group resources so that costs can be forecasted and properly divided○ Operations management: Allow you to group resources according to how critical their availability is to the business. Used to formulate SLA○ Security: Classify data by security level○ Governance and regulatory compliance: identify resources that align with governance or regulatory compliance requirements○ Workload optimization and automation: visualize all of the resource that participate in complex deployments
What is Azure Policy?	<ul style="list-style-type: none">- Creates, assigns, and manages policies that control/audit resources- Policies will enforce different rules across of the resource configurations, so it is compliant with the required standards- Uses:<ul style="list-style-type: none">○ Define individual policies and groups of policies (initiatives)

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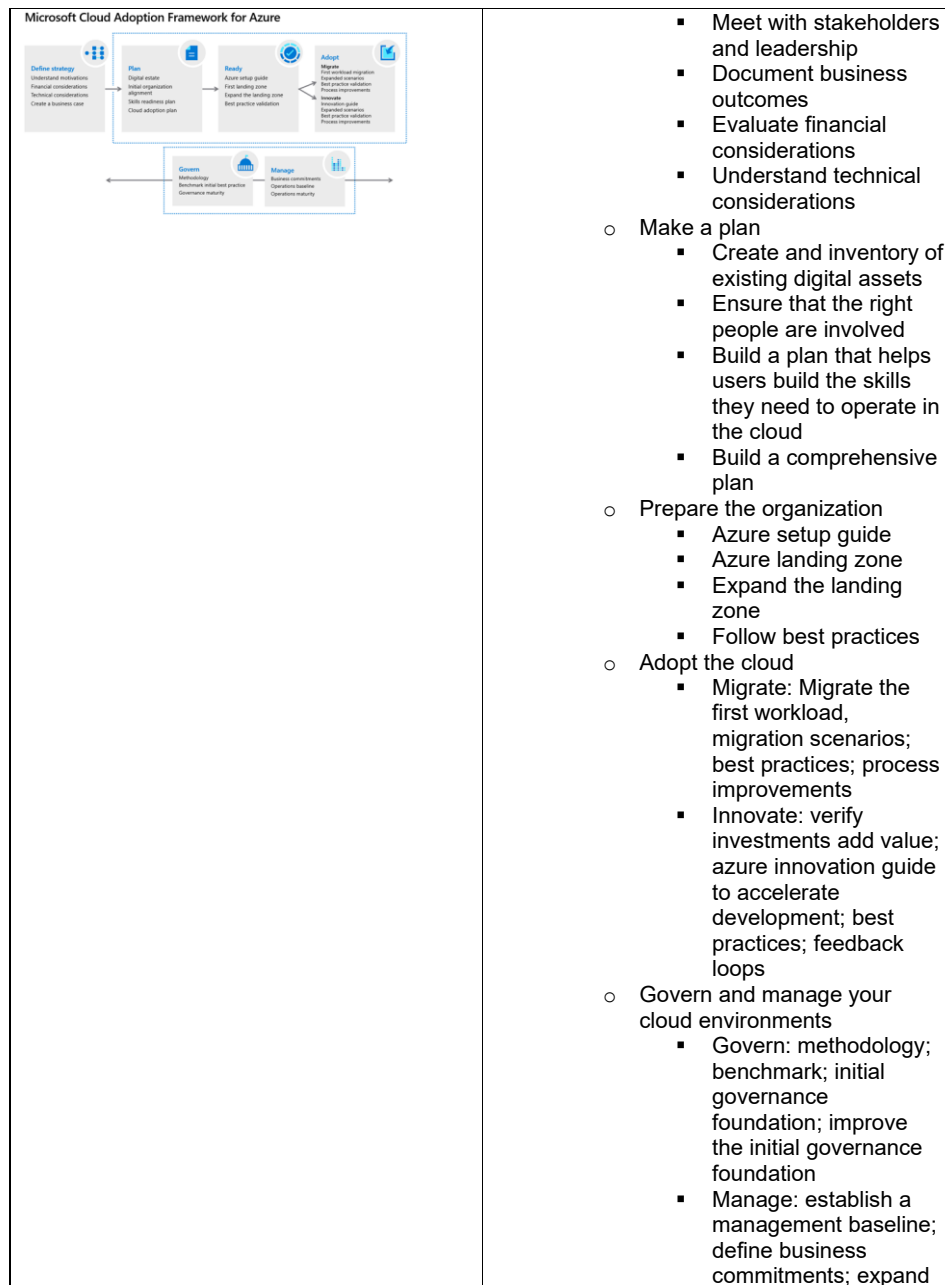
Commented [TC100]: <https://docs.microsoft.com/en-us/learn/modules/build-cloud-governance-strategy-azure/6-control-audit-resources-azure-policy/>

	<ul style="list-style-type: none"> ○ Then evaluates resources and highlights resources that aren't compliant ○ Can also prevent non-compliant resources from being created - Creating a policy: <ul style="list-style-type: none"> ○ Create a policy definition: <ul style="list-style-type: none"> ▪ What to evaluate and what action to take ○ Assign the definitions to resources <ul style="list-style-type: none"> ▪ Implements the policy definitions ▪ A policy assignment is a policy definition that takes place within a specific scope ○ Review the evaluation results <ul style="list-style-type: none"> ▪ Each condition is matched against resources ▪ Each resource is marked as compliant or noncompliant
What are Azure Blueprints?	<ul style="list-style-type: none"> - Instead of configuring a policy for each subscription a blueprint can be used to define a repeatable set of governance tools - Capabilities: <ul style="list-style-type: none"> ○ Role assignments ○ Policy assignments ○ Azure Resource Manager templates ○ Resource groups - To implement: <ul style="list-style-type: none"> ○ Create the blueprint <ul style="list-style-type: none"> ▪ Each component in a blueprint is an artifact ○ Assign the blueprint ○ Track the blueprint assignments
What is the Cloud Adoption Framework for Azure?	<ul style="list-style-type: none"> - Helps create and implement the business and technology strategies needed to succeed in the cloud - Stages: <ul style="list-style-type: none"> ○ Define the strategy <ul style="list-style-type: none"> ▪ Define and document motivations

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	the management baseline; advanced operations and design principles
<u>Describe privacy and compliance resources</u>	
What is Security?	<ul style="list-style-type: none"> - A set of policies, controls, procedures, and technologies that work together to protect cloud based systems, data, and infrastructure
What is the Microsoft Privacy Statement?	<ul style="list-style-type: none"> - Explains what personal data Microsoft collects, how it is used, and for what purposes - Covers all of Microsoft's services, websites, apps, software, servers, and devices
What are the Online Services Terms (OST)?	<ul style="list-style-type: none"> - A legal agreement between Microsoft and the customer - Details obligations by both parties with respect to the processing and security of customer data and personal data - Applies specifically to online services
What is the Data Protection Addendum (DPA)?	<ul style="list-style-type: none"> - Further defines the data processing and security terms for online services <ul style="list-style-type: none"> o Compliance with laws o Disclosure of processed data o Data security o Data transfer, retention, and deletion
What is the Trust Center?	<ul style="list-style-type: none"> - Showcases the principles for maintaining data integrity in the cloud and how MS implements and supports security, privacy, compliance and transparency in all MS cloud products and services
What is the Azure compliance documentation? Examples?	<ul style="list-style-type: none"> - Provides you with detailed documentation about legal and regulatory standards and compliance on Azure
Domain 6: Describe Azure Cost Management and Service Level Agreements (10 - 15%) https://docs.microsoft.com/en-us/learn/paths/az-900-describe-azure-cost-management-service-level-agreements/	
<u>Describe methods for planning and managing costs</u>	
What can impact costs?	<ul style="list-style-type: none"> - Resource type: i.e. amount of storage, compute etc - Usage meters: The usage of the resource - Resource usage: The usage of storage

Commented [TC103]: <https://www.forcepoint.com/cyber-edu/cloud-security>

Commented [TC104]: <https://docs.microsoft.com/en-us/learn/modules/examine-privacy-compliance-data-protection-standards/3-access-microsoft-privacy-statement>

Commented [TC105]: <https://docs.microsoft.com/en-us/learn/modules/examine-privacy-compliance-data-protection-standards/4-explore-trust-center>

Commented [TC106]: <https://docs.microsoft.com/en-us/learn/modules/examine-privacy-compliance-data-protection-standards/5-access-azure-compliance-documentation>

Commented [TC107]: <https://docs.microsoft.com/en-us/learn/modules/plan-manage-azure-costs/4-purchase-azure-services/>

	<ul style="list-style-type: none"> - Azure subscription type: different types of subscriptions have different usage allowances - Azure marketplace: different 3rd party applications purchased from vendors - Location: Different regions have different associate prices - Network traffic: some inbound transfers are free, all outbound transfers are priced based on the zone
What can help reduce costs?	<ul style="list-style-type: none"> - Use Azure Advisor to monitor usage: identifies unused and underutilized resources - Use spending limits - Use Azure Reservations to prepare; reserving services and resources by paying in advance - Choose low-cost regions/locations - Keep up to date with different offers - Apply tags to identify cost owners - Resize underutilized virtual machines - Deallocate virtual machines during off hours - Delete unused resources - Migrate from IaaS to PaaS
What is the pricing calculator?	<ul style="list-style-type: none"> - Total Cost of Ownership (TCO) Calculator: helps to estimate the cost savings of operation a solution on Azure over time compared to an on-premises data center
What is Azure cost management?	<ul style="list-style-type: none"> - A free service that helps understand the Azure bill, manage the account and subscriptions, monitor and control azure spending, and optimize resource use - Includes Reporting, data enrichment, budgets, alerting, and recommendations
Support plans	https://azure.microsoft.com/en-us/support/plans/
What is Azure Hybrid Benefit?	<ul style="list-style-type: none"> - Repurposes software licenses on Azure to save money on licensing costs
Describe Azure Service Level Agreements (SLAs) and service life cycles	
What is a service level agreement?	<ul style="list-style-type: none"> - A formal agreement between a service company and the customer - Defines the performance standards that Microsoft commits to the customer

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Commented [TC110]: <https://docs.microsoft.com/en-us/learn/modules/plan-manage-azure-costs/6-manage-minimize-total-cost>

Commented [TC111]: <https://docs.microsoft.com/en-us/learn/modules/plan-manage-azure-costs/6-manage-minimize-total-cost>

Commented [TC112]: <https://docs.microsoft.com/en-us/learn/modules/choose-azure-services-sla-lifecycle/2-what-are-service-level-agreements>

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	<ul style="list-style-type: none">- Free services:<ul style="list-style-type: none">o Do not have an SLA- Azure status provides a global view to see if there is an Azure outage
What are Service credits?	<ul style="list-style-type: none">- Service Credits are the amount of fees that are credited back when the SLA is "breached"
What is a service lifecycle?	<ul style="list-style-type: none">- Defines how every Azure service is released for public use