

AZ-900 Cheat-Chat

- ❖ Scalability is the flexibility of being able to easily Increase or decrease resources , such as an Increase in Virtual Servers in a Servers farm.
- ❖ Agility is the ability to quickly provision or de -provision services.
- ❖ Elasticity is the ability to increase or decrease resources dynamically .
- ❖ Physical infra such as a Physical Server are bought Up front and deprecated over time - Capex.
- ❖ Money spend on the products and Services such as Azure Falls Under operational expenditure , These expense are billed for as they are used.- OpEx
- ❖ Iaas---> Includes Cloud Services such as Server , Virtual Machine , Storage & Networking .
- ❖ Paas---> Includes development tools.
- ❖ Saas---> Includes Application (Apps)
- ❖ Skype and Microsoft dynamics CRM online are both example of Saas.
- ❖ Hyper V- Qualifies more as Iaas.
- ❖ Azure Devops qualifies more as Paas.
- ❖ Public cloud do not require a lot of technique knowledge as they are set Up by a hosting provider.
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- ❖ Public cloud can have Guest users depending upon the nature of the Network directory set up .
- ❖ Hybrid Cloud can be combination of Public and Private.
Public Cloud-----Website
Private Cloud ----- Highly Secure Data base.

- ❖ Planned updates occurs within a single region at a time inside of a region pair.
- ❖ Regions can be specified for Government Purpose.
- ❖ While some regions contains multiple Datacenter , not as regions contains multiple Datacenter.

- ❖ Regions pairs , pair regions in the same geographical areas but at least 300 miles apart.
- ❖ Resources groups allows for components of Apps to be managed **collectively**
- ❖ When a resources group is deleted all of the resources within the resources groups are **Deleted** as well
- ❖ Resources group allows for logically grouping of resources even through resources are assigned to physical locations.
- ❖ Azure resources manager, helps one to Create , Configure , Manage and Delete resources.
- ❖ A resources must be in a resources group .
- ❖ A resources can belongs to a single resource group.
- ❖ Azure Virtual machine allows Azure Virtual Machine to communicate with each other Securely .
- ❖ Express route connections go through secure channels that do not involves the Public Internet .
- ❖ A VPN Gateway is used to send encrypted traffic between as On-premises site and an Azure Virtual Network.
- ❖ Virtual Network peering enables resource in one Virtual Network to connect to resources in other Virtual network.
- ❖ Azure Virtual Network allows Azure Virtual machine to communicate with each other Securely .
- ❖ Azure Cosmos DB is a Services that supports Shema -less data and allow for highly responsive and always ON applications.
- ❖ Azure -SQL database is a relational database services used for data driven applications and website.
- ❖ Azure Database for MYSQL supports the Linux , Apache , MYSQL ,PHP(LAMP) stack.
- ❖ Azure Database for postgre SQL support both single service and hyper scale (**Citus**) deployments.
- ❖ IOT central is a Saas solutions used to help manage IOT assets.
- ❖ IOT Hub is a Central message point of communications between an IOT applications and the device it manage.
- ❖ Azure Sphere is an End- to End highly secure IOT solutions with its own customized Version of Linux.

- ❖ Azure Distributed Denial of Service(DDOS) protection help , prevents a network from being flooded with illegitimate traffic.
- ❖ Azure Firewalls controls the traffic allowed into a network.
- ❖ Network security groups control traffic within a network.
- ❖ Azure Advisor makes recommendations to help Improve Performance , reliability and security.
- ❖ Azure monitors collects and analysis logs and allow one to set up alerts based on events.
- ❖ Azure services helps display system issues and planned a maintenance .
- ❖ Azure DevTest Labs allow one to test env using virtual machine and other resources that can be deployed using ARM templates.
- ❖ Azure Deops services includes Azure Repos and Azure Pipeline.
- ❖ Github is not just a code repository , Github also provides for issues and documentation services.
- ❖ The Azure Portal is a graphical user interface that can be used to manage almost every Azure features.
- ❖ Azure mobile app .can monitore Azure features and run commands on both Ios and Android devices.
- ❖ Azure kubernetes service allow one to distributes apps through Clusters of Isolated containers .
- ❖ Azure Containers Instance contains app ,but not in Clusters.
- ❖ Virtual Machine can be used to distributed apps but not in isolations.
- ❖ Azure Apps service also do not provide isolated Containers .
- ❖ Azure Active directory provides many identity and access services , including application management , Authentication business -to business , identity services , business to customer identity services device management and Single sign-On .

- ❖ Azure Active directory does not provides directory for Authorizations or On-premises server management .
- ❖ Cognitive services contains Pre-build APIS that helps solve problem within Apps.
- ❖ Computer vision is used to identify and classify parts of images.

- ❖ Custom Vision is used for image Classification.
- ❖ Azure ML studio help one to build models.
- ❖ Azure logic Apps are workflows that are in Category of Serverless computing services .
- ❖ Power Automates builds workflows but it is not considered a serverless computing Services.
- ❖ Functions can be serverless but do not build workflows .
- ❖ The Microsoft privacy statement explains the personal data Microsoft collects and how that data is used.
- ❖ The online Service Terms is a legal agreement between a Client and Microsoft , the agreement defines obligations for processing personal and Customer data for both a Client and Microsoft.
- ❖ The Data protection Addendum (DPA) defines data processing & security terms for online services.
- ❖ The Azure Total Cost of ownership (TCO) calculator shows a comparison of Costs between an instance of Azure and O-Premises Computing .
- ❖ The Price calculator shows estimated monthly costs for an Azure Infrastructure.
- ❖ Azure Locks --- CanNotDelete - A resource cannot be deleted
 - ReadOnly -- A resources can be read but cannot deleted or updated.
@@@ -- Above setting apply to all once a locks level has been established until the lock level is removed.
- ❖ Computing , provising and scaling are managed by a Cloud Service provider.
- ❖ Serverless computing overlaps with Paas.
- ❖ The Secure Score is a Score that represents an Organizations overall Security Posture.
- ❖ The Cloud Adoption framework helps an organization create and Implement the best Strategy for Migration to the cloud.
- ❖ Azure Advisor is used to suggest Improvement to a Current Subscriptions .
- ❖ Azure Insights are applications management Features within Azure Monitors.

- ❖ Azure Analysis services is used to build data workources for data analysis.
 - ❖ Azure Active Directory is a identity service that has groups and users and the ability to control access to cloud applications and resources.
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- ❖ Active Directory is an On-Premises Identity Services.
 - ❖ In the Defence in depth models , the perimeters layer is responsible for filtering large scale attacks from network .
 - ❖ Billing boundaries allow for Creations of subscriptions based on billing requirements .
 - ❖ Access control boundaries allow for creations of subscriptions based on departments requirements or an Organizations Structure.
 - ❖ A features in public preview will sometimes have customer supports but not always .
 - ❖ A features in public preview can be an enhancement to an existing features.
 - ❖ A reserved instance of an Azure resources can save an entity up to 72 % off the usual Pay-As -You go price for the resources.
 - ❖ Reserved capacity is similar but deals specifically with storage resources.
 - ❖ Azure hybrid benefits reduce cost of licensing through allowing the use of On-premises licensing.
 - ❖ Spot Instance are not charged for Unused capacity but a spot instance can be decommissioned when Azure needs that extra capacity .
 - ❖ Azure cost management has a set of tools for monitoring , allocating and optimizing Azure Cost.
 - ❖ Total Cost of Ownership(TCO) allows one to Compare Azure costs to the Current Setup one has.
 - ❖ Multiple Virtual machine may be deployed to one dedicated host.
 - ❖ A Dedicates host is a physical Sever in Azure.
 - ❖ A host group is a grouping of dedicated hosts.
 - ❖ 21Vianet owns Azure China services .
 - ❖ Microsoft does not own the Azure China services directory.

- ❖ Azure blueprints are sets of roles policies and templates that are used to help an organizations comply with industry requirements, these blueprints can be deployed across multiple subscriptions.
- ❖ Once resources are in resource groups it might be very difficult to move those resources to other groups , A better approach would be tag resource as those can be used to category resources for billing purpose.
- ❖ An Azure Network Security groups(NSG) is the best tools for filtering Virtual network traffic by IP address , ports or Protocol.
- ❖ Azure firewall do not typically filter traffic by IP address and their responsibility is to control traffic attempting to enter a network .
- ❖ Azure Blob service is best suited for Storing Video and Binary files.
- ❖ Azure file storage is best Utilized for File Sharing.
- ❖ Azure Table Storage is best utilized for NoSQL Data.
- ❖ Azure Queue storage stores message sent between applications .
- ❖ Azure Key vaults stores and manages SSL and TSL Certificate.
- ❖ Azure Resource manager templates can contains parameters.
- ❖ An ARM template can be based off an existing resources but must saved as separate but must be saved as separate template before it can be edited.
- ❖ Azure Synapse Analysis formally knows as Azure SQL Data warehouse allows for building large data warehouse and user big data Analysis.
- ❖ Azure HD Insights provides open source analysis for enterprise.
- ❖ Azure Databricks helps to build AI solutions.
- ❖ Resource types , Services , Locations and amount of Ingress and Egress traffic are all cost factor for resources.
- ❖ A Resources group assignment is not a cost factor .

- ❖ In Azure Monitored , Activity Logs record when resources are created or modified.
- ❖ Metrix show how a resources is performing as well as the resources it is using and consuming .

- ❖ Diagnostics can be used as an extension of data collection on resource operation.
- ❖ Vertical scaling takes place when additional RAM and CPU are added to an existing Virtual Machine.
- ❖ Horizontal Scaling take place , when additional instance of a resources , like a VM are added to increase capacity for an App.
- ❖ Azure Sentinel is an SIEM system that collects data from source to detect , investigate and respond to threats.
- ❖ Azure resource Manager(ARM) templates are JSON files that are used to deploy Azure resources.
- ❖ Office 365 is the SaaS , Azure VM is Iaas , Azure SQL Data Bse is Paas
- ❖ Azure Active Directory users are billed monthly per user , Groups are not .
- ❖ Azure Location can affect Pricing .
- ❖ On- Premise Active Directory users do not affect Azure Cost directly (Unless they are also Azure Active Directory Users).
- ❖ Azure DDOS Protections wards off DDOS(Distributed Denial of Service)attack Such as Protocol attacks.
- ❖ Azure Firewall helps to control traffic based on Ports and Protocols
- ❖ Azure Network Security Groups control traffic within a Virtual Network.
- ❖ Azure functions can be run in almost any modern language , not just C#.
- ❖ Logic Apps are workflows to automate business process.
- ❖ Both Functions and Logic apps are billed on the Pay-as -you -go model.
- ❖ Azure resources can be bought for a reduced rate through spot pricing , which allows resources not to be charged for unused capacity but can be decommissioned if Azure needs to use the Space.
- ❖ Reserved Instance and reserved capacity purchase are up-front costs in exchange for a reduced overall rates.
- ❖ Azure Hybrid use , Benefits allow one to repurpose on-premise licence for Azure Resources.

- ❖ An Azure SLA(Service Level Agreement) is the percentage of guaranteed uptime per time period for an Azure service . Uptimes for Services vary but have a minimum of 99.9 Uptime.
- ❖ In Cloud computing , business typically Pay for what they use without having to purchase instance of equipment .
- ❖ if warranted an entire infrastructure can be moved to the cloud.
- ❖ Cloud resources can be Scaled Up or Down as needed.
- ❖ Azure Compliance Documentation contains three main areas.
 - 1- Information of Audits for Legal and Regulatory standard(Such as NIST0.
 - 2- Blueprints for Compliance with those Standard .
 - 3- Overview documents on those Standard.
- ❖ Verifying whether a password is correct is part of authentication
- ❖ Verifying whether someone has permissions to a resource is part of authorization.
- ❖ Entering login information and entering a number from an SMS is a form of multi-factor authentication.
- ❖ A Username and a One time password come from the what you know and what you have form of Authentication .A username and a fingerprint come from the what you know and who you are form of authentication . Both qualify as Multifactor Authentication(MFA).
- ❖ A Username and password and a fingerprint and retina scan do not qualify as MFA as both examples use the same form of authentication for each .
- ❖ For Microsoft core tenets , Security is approached using the defence -in depth model .
- ❖ With Privacy , a customer owns and control its data.
- ❖ For Compliance , Azure Conforms to Global Standard.
- ❖ A VPN gateway is used to send encrypted traffic between an ON-premise network and an Azure Virtual Network .
- ❖ A Key vaults stores encryption keys.
- ❖ An application gateway is a load balancer.
- ❖ An ExpressRoute provide a secure , dedicated connection from a client to Azure.

- ❖ While a management group can have many children , a management group can have only one parent.
- ❖ A Management group can support multiple subscriptions .
- ❖ A Management group can support RBAC.
- ❖ Azure policies are used to determine types of Storage account , resource , locations and allowed Virtual Machine .
- ❖ Initiatives are used to track compliance states working toward goals.
- ❖ Role-Based-Access Control (RBAC) is used to grant users the rights they need in order to perform their Jobs and no more.
- ❖ Azure Government is a Separate Instance of Azure and is available for Agencies in the United States.
- ❖ Azure Infrastructure built under US region may need to be refactored to work in china.
- ❖ In a private cloud, Organization has total control of resources and security . Private Cloud have high up-front Capital expenditure (CapEx).Compare to hybrid and public cloud , as hardware for the private cloud must be purchased Up front
- ❖ Regulatory compliance is not automatic in Private Cloud.
- ❖ Private cloud are the most common clouds used for legacy applications as many hybrid cloud do not support legacy applications.
- ❖ Benefits of a consumption -based models includes no up-front costs , less of a need to purchase infrastructure , and the ability to only pay for resources when needed.
- ❖ A consumption -based models does not result in a higher CapEx.
- ❖ Storage is considered in use even when virtual machine using storage are not in use.
- ❖ The Azure Pricing calculator provides estimates , not an actual price quote.
- ❖ The region chosen is a factor in the pricing calculator.
- ❖ The First step in using the TCO calculator is to determine a workload for an infrastructure.

- ❖ Availability Zones , of which there are a minimum of three in each region , are made up of one or more datacenters with each datacenter having its own, networking , power and cooling.
- ❖ Geographies are market that preserve data residency and Compliance boundaries.
- ❖ Feature availability is the concepts of certain services and virtual machine features only being available in certain regions .
- ❖ Blob storage is unstructured and can stream gigabytes of data at once.
- ❖ Disk storage is the same structurally for Virtual machine as it is for On-premises hard drives in that Solid- State - drives(SSDs) and hard disk drives(HDD) are available.
- ❖ File Storage consists of file shares accessible through Server Message Block(SMB).
- ❖ Archive access tier is a Storage tier used when data is likely to be accessed every 180 days on average .
- ❖ Shared responsibility described the responsibilities of a cloud provider and a cloud tenant within a cloud subscription.
- ❖ Iaas , Paas , Saas all represents aspects of shared responsibility.
- ❖ Data Centres , firewall and storage are part of Infrastructure as a Service.
- ❖ Firewalls and storage are includes in both Iaas and Paas.
- ❖ Platform as a service (Paas) includes operating system , development tools , and everything that Iaas includes.
- ❖ Azure SQL database is a relational database engine.
- ❖ Azure SQL Managed instance is fully scalable.
- ❖ Azure Cosmos DB is used for schema -less data and always On application.
- ❖ The Azure Marketplace contains thousands of Microsoft -based and non -Microsoft -based solutions for virtual machines , apps and other services Many of these services have preconfigured settings .
- ❖ A Reserved instance of a Virtual machine is one reserved for a block of time.
- ❖ Azure Synapse Analysis allows for running queries across petabytes of data.

- ❖ HD Insight allows for running open -source analytics for cluster types , such as those on Apache.
- ❖ Data Lake Analytics is used for extracting insights , jobs are only charged while they are running.
- ❖ Azure Databricks helps to build artificial intelligence (AI) solutions .
- ❖ Azure Machine Learning allows one to train , test , and deploy predictive models.
- ❖ Azure Cognitive Services offer pre-built machine learning in the areas of language , speech , vision and decision - making .
- ❖ Azure Bot service create virtual agents for human interaction.
- ❖ Role-Based-Access Control(RBAC) to define a role for managing VMs and subnets in a resource group.
- ❖ Azure Policies define , what is allowed , not who can manage resources .
- ❖ Locks prevents resources from being deleted accidentally.
- ❖ The Online Service Terms (OST) document details the Obligations both a Customer and Microsoft have in regard to processing and security of customer data for all licence using subscription model.
- ❖ The Data protection Addendum (DPA) further defines processing and security terms for online services for areas such as data security and data transfer.
- ❖ The Microsoft Privacy Statement defines data Microsoft collects and how it is used.
- ❖ The DPA further defines security terms for online services areas such as data security and data transfer.
- ❖ Azure Monitor provides applications insights.
- ❖ Application insights provides the availability , use and performance of web apps.
- ❖ Azure Active Directory and other Azure Services have status updates posted on Azure Service Health.
- ❖ Azure Virtual Machines are used when one needs control over running a virtualized operating system with virtualized software.
- ❖ Azure Container instance (ACI) offer a simple way to run apps without the need for virtual machines .

- ❖ Azure Kubernetes Service(AKS) is a container service used to distribute large number of containers.
- ❖ Azure App Service hosts web and mobile apps on multiple operating system , including windows and Linux for web apps.
- ❖ Windows Virtual Desktops allow for those using non-windows operating system to run a fully functional windows environment virtually .
- ❖ The Trust Center Provides information on How Microsoft implements and supports compliance , privacy , security and transparency for their cloud service.
- ❖ The Azure Security Center provides security posture management .
- ❖ The Cloud Shell can run both PowerShell and Bash statement .
- ❖ The Azure Command -line interface (CLI) can run on window , macOS and Linux.
- ❖ Bash statement can be run in the Azure Mobile App.
- ❖ Availability Zones are most likely to affect the Uptime percentage in an SLA as the more availability Zones a resource uses the higher the uptime percentage that should be available
- ❖ Region difference are most as likely to affect uptime and geo-location is used for replicating data , not resources.
- ❖ The Azure Sphere Security Service (AS3) is there to make sure the device has not been compromised.
- ❖ The Operating system is a Custom Linux Operating system.
- ❖ The Azure Sphere uses a micro -controller unit (MCU) to process the operating system within and signals from sensor attached to the unit .
- ❖ GitHub Actions enable workflow automation for project lifecycle events .
- ❖ projects are often managed through Kanban boards .
- ❖ Collaborative documentation usually takes place using wikis.

