What Is Cloud Computing?

Cloud computing is the on-demand delivery of IT resources over the Internet with pay-as-you-go pricing.

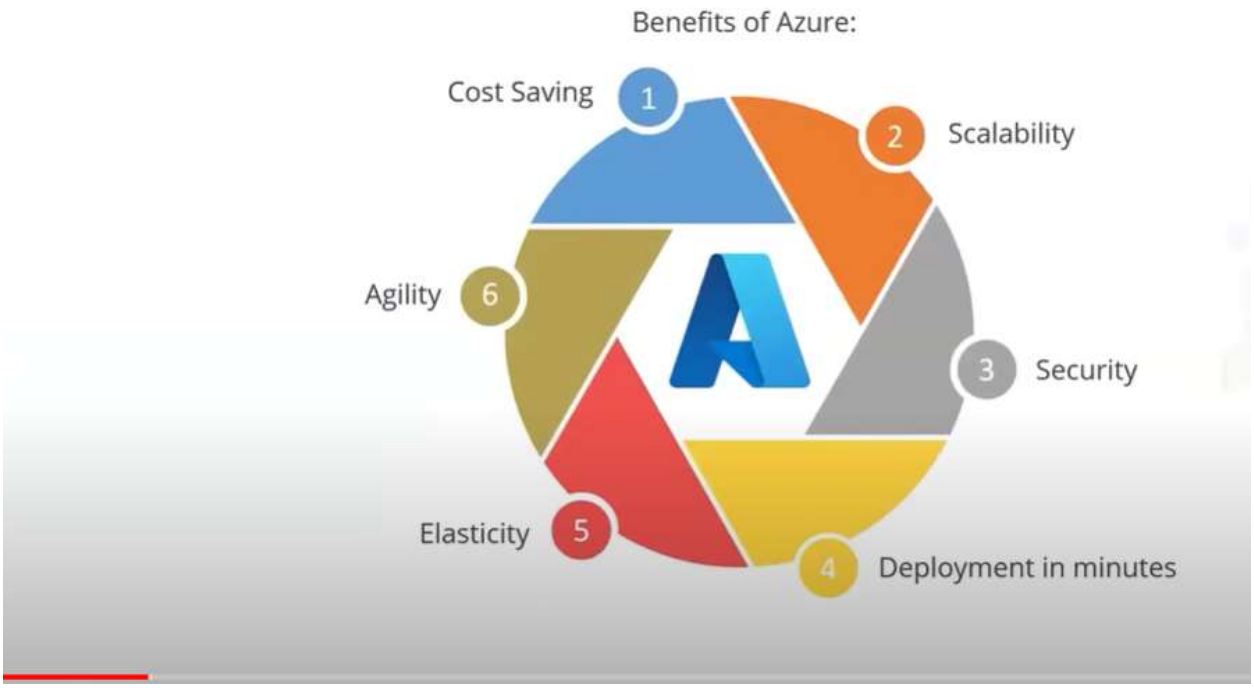
Cloud providers offer some major technologies, such as compute, network, storage, and databases.

What Is Microsoft Azure?

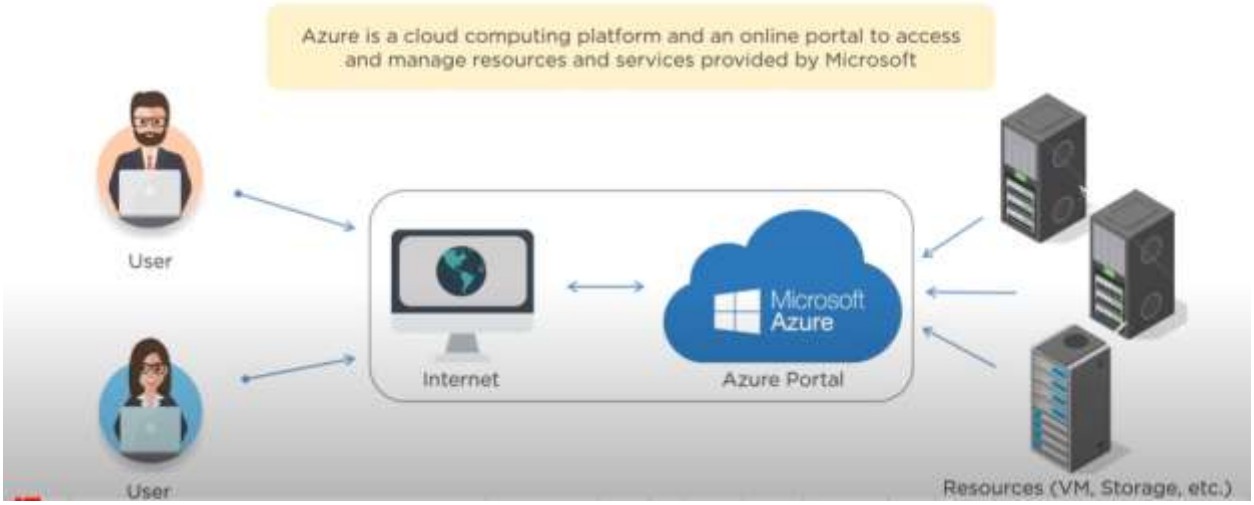
Microsoft Azure is one of the top cloud providers in the market that includes more than 200 products and cloud services that help in bringing innovative ideas to life.

Microsoft Azure

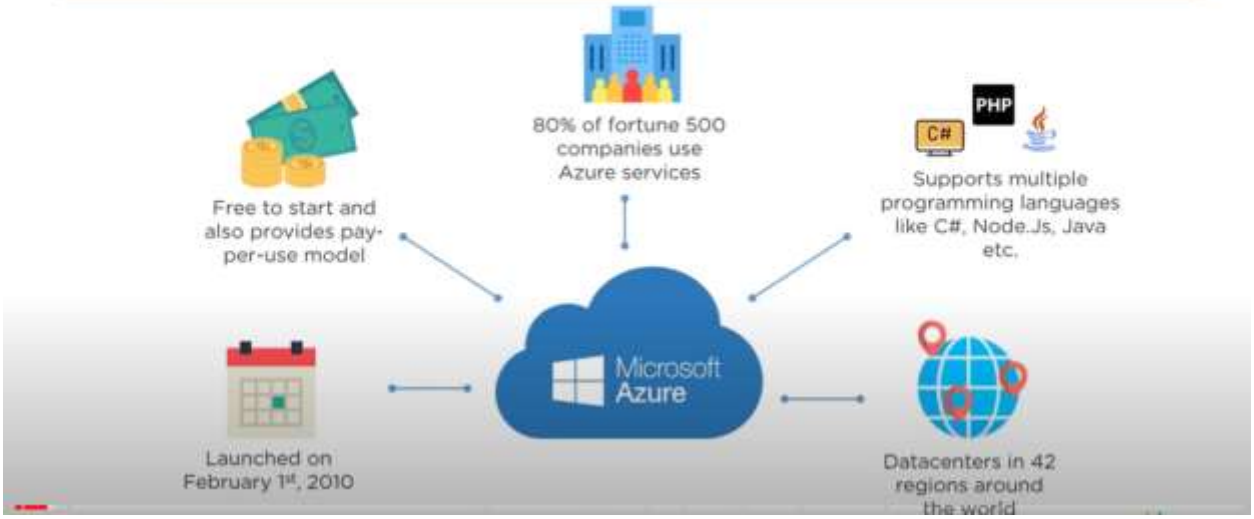
Why Microsoft Azure?



What is Azure?

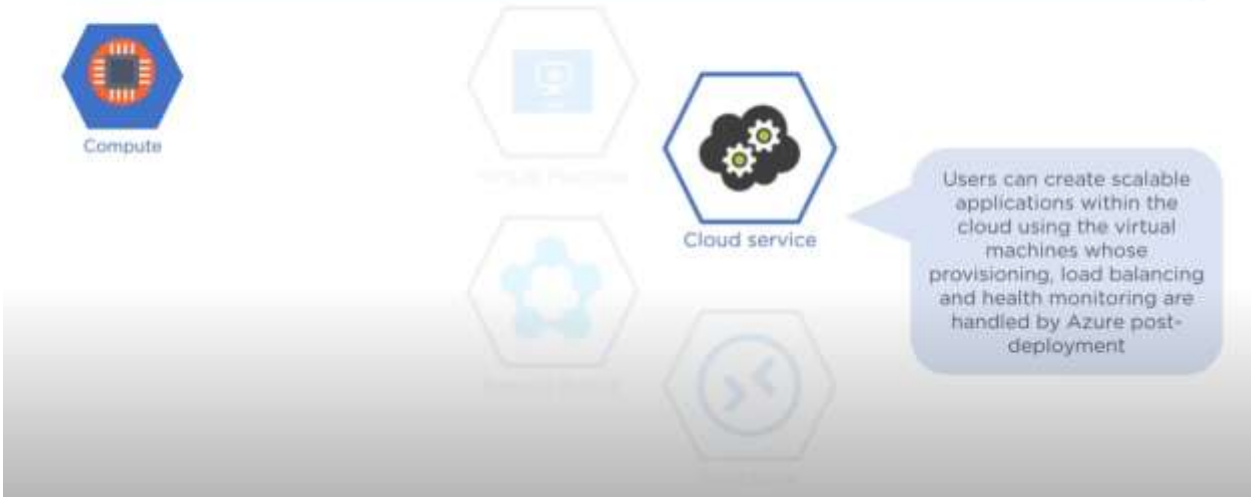


What is Azure?



Azure Services - Compute

Azure Services - Compute



Azure Services - Compute

Azure Services - Compute

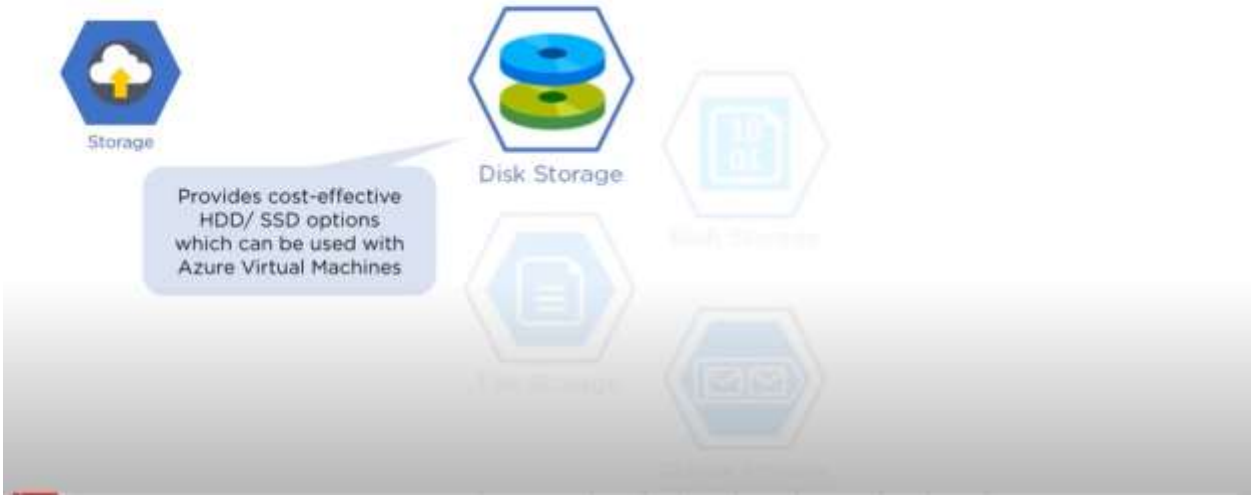
Azure Services - Networking

Azure Services - Networking

Azure Services - Networking

Azure Services - Networking

Azure Services - Storage



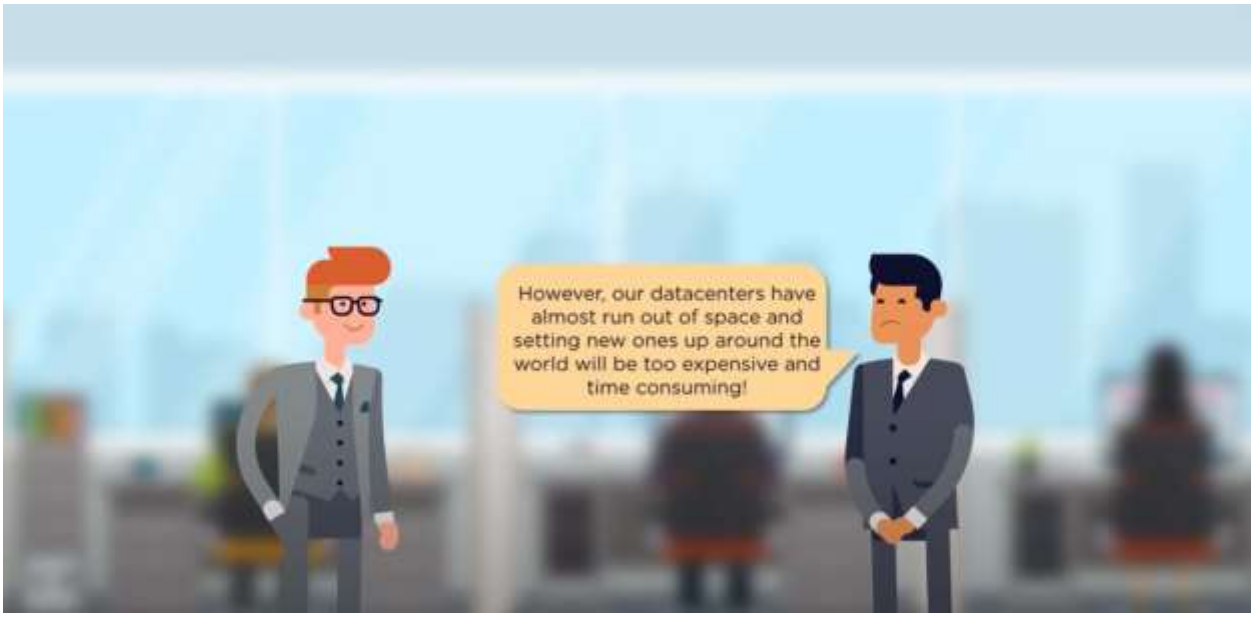
Azure Services - Storage

Azure Services - Storage

Azure Services - Storage

Uses of Azure


A CEO HAD PLANS TO EXPAND HIS SHIPPING COMPANY...
Sir! We're well on our way to become one of the world's largest shipping companies!

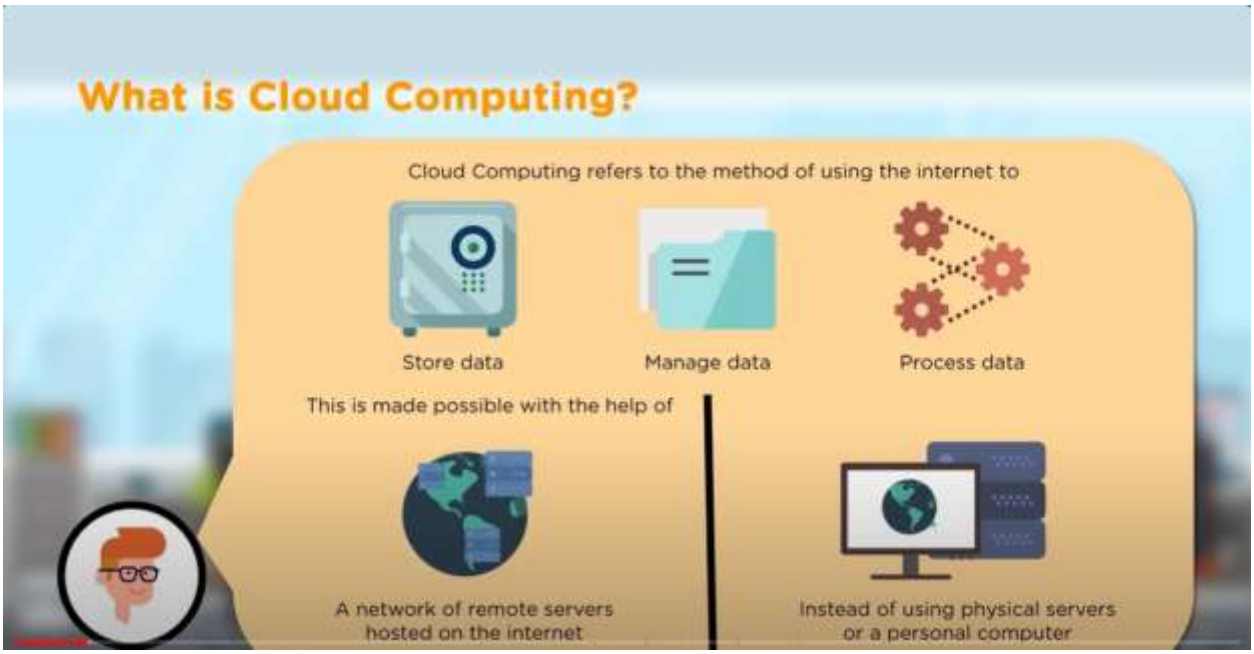

However, our datacenters have almost run out of space and setting new ones up around the world will be too expensive and time consuming!


Don't worry about that! I've thought up a solution for our problem! And it's called Microsoft Azure!


Oh, how does it solve our problem, sir?

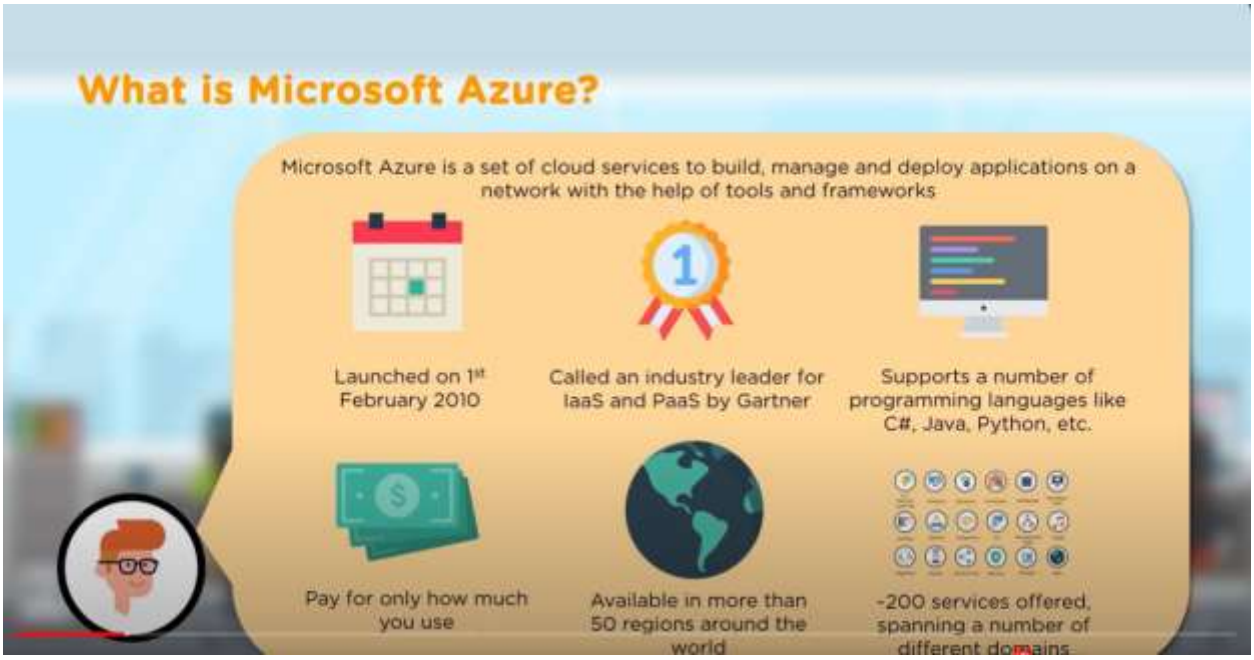

What is Cloud Computing?
What is Microsoft Azure?
What are the services Azure offers?
Why is Azure better?
Which companies use Azure?
Use Case


Microsoft Azure is known as a Cloud Service Provider. It works on the basis of Cloud Computing


What is Cloud Computing?
Cloud Computing refers to the method of using the internet to
Store data
Manage data
Process data
This is made possible with the help of
A network of remote servers hosted on the internet
Instead of using physical servers or a personal computer

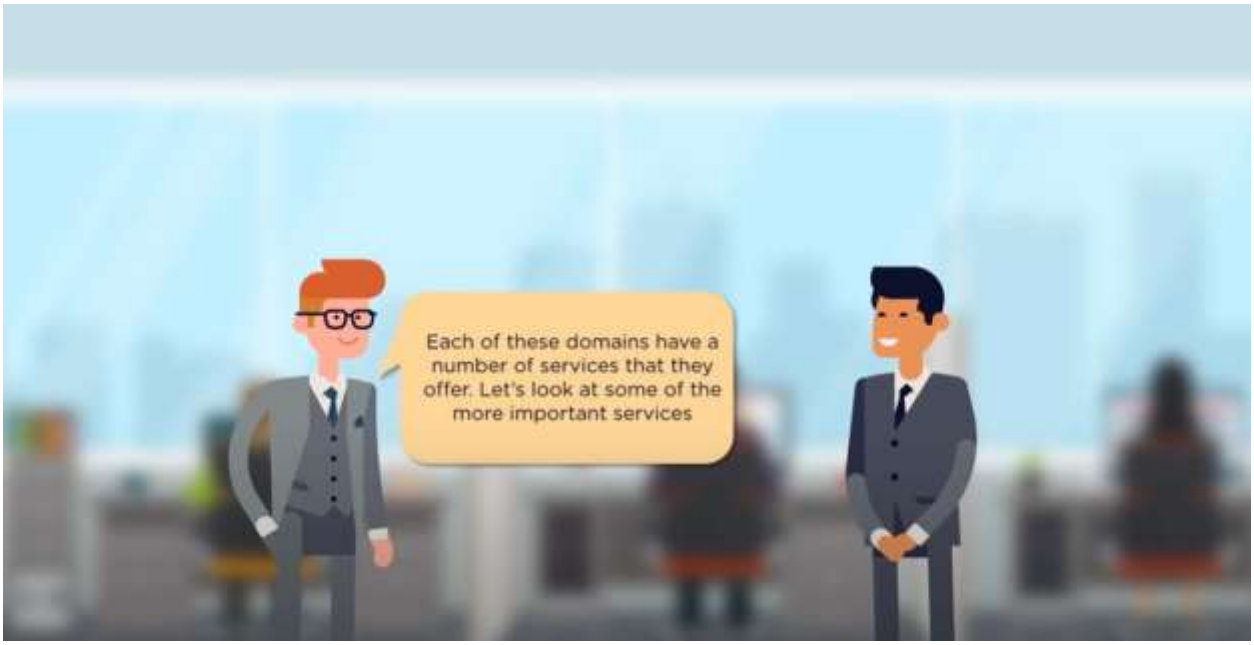

What is Cloud Computing?
Cloud computing can be used for the following:
Creating applications and services
Storing, backing up and recovering data
Hosting websites and blogs
Streaming music and videos
Delivering software on demand
Analyzing data and making predictions

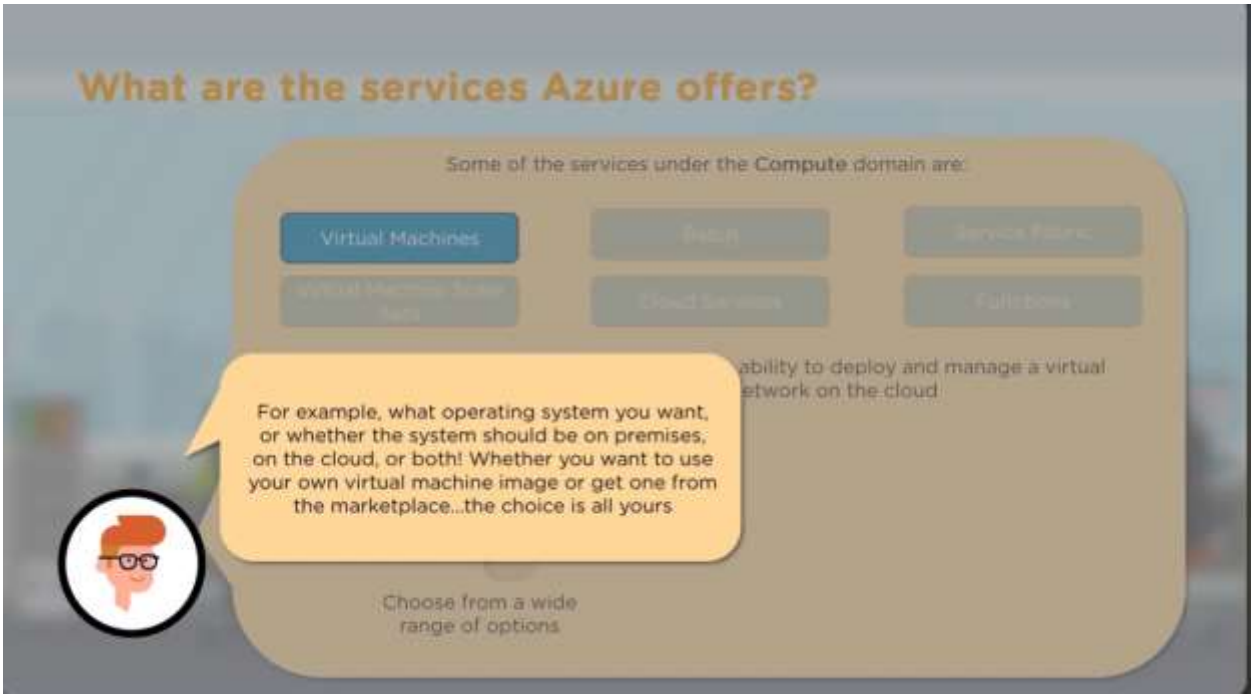

Now let's talk about Microsoft Azure

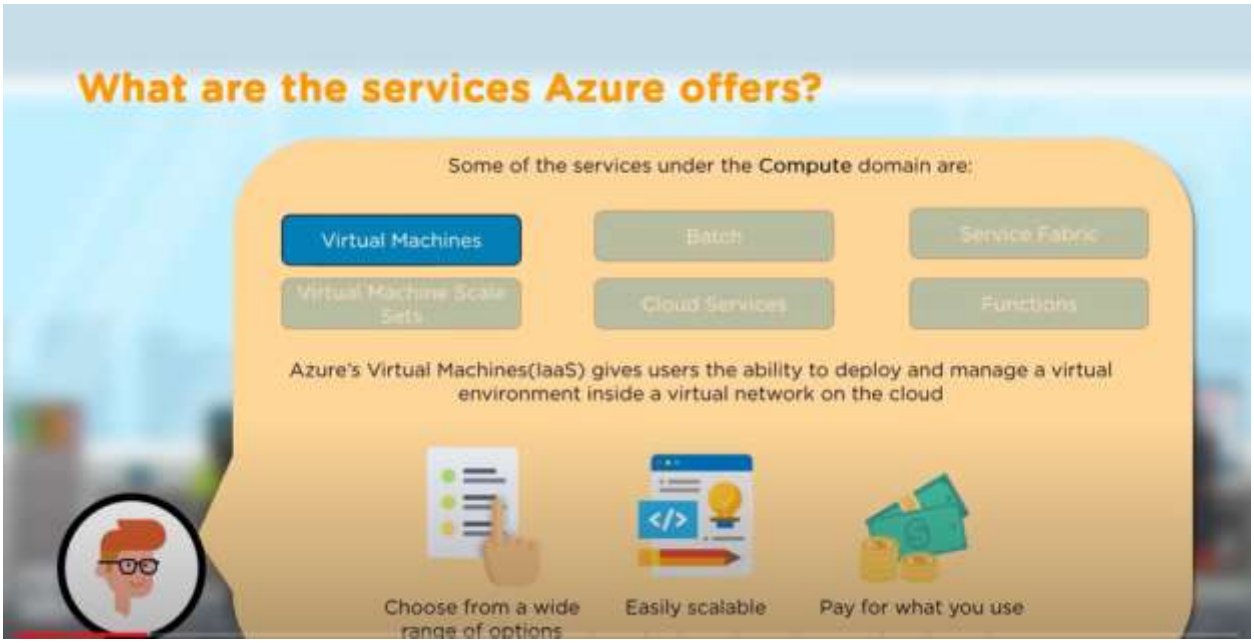

What is Microsoft Azure?
Microsoft Azure is a set of cloud services to build, manage and deploy applications on a network with the help of tools and frameworks
Launched on 1st February 2010
Called an industry leader for IaaS and PaaS by Gartner
Supports a number of programming languages like C#, Java, Python, etc.
Pay for only how much you use
Available in more than 50 regions around the world
~200 services offered, spanning a number of different domains

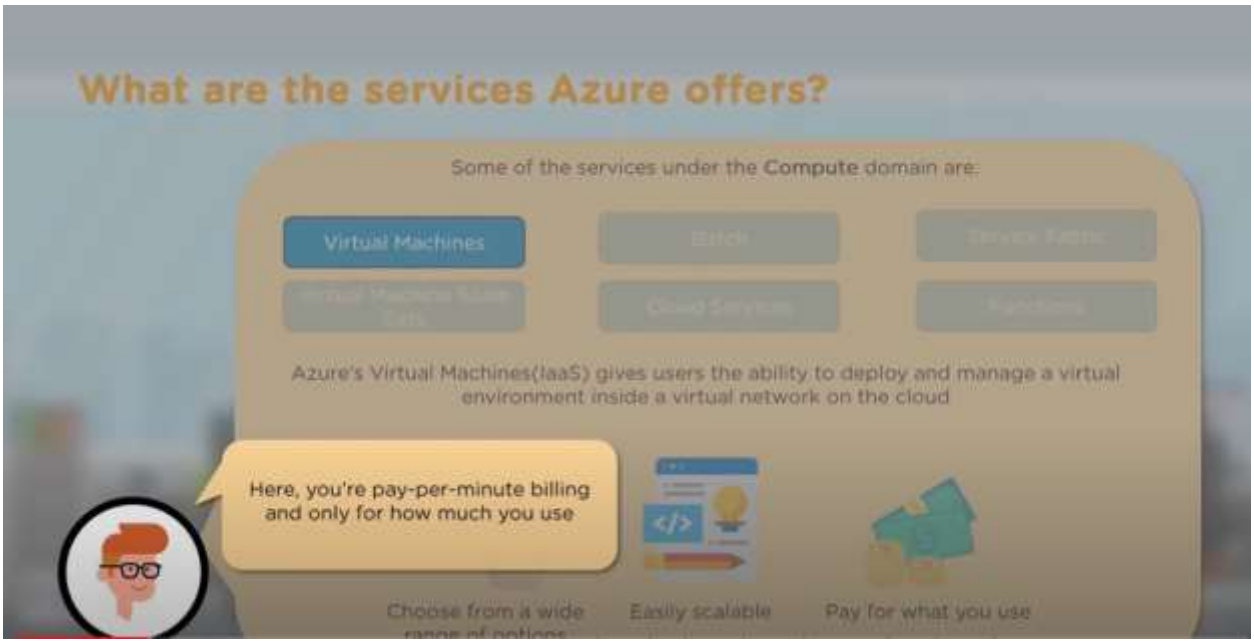

Now let's look at the different services Azure offers..

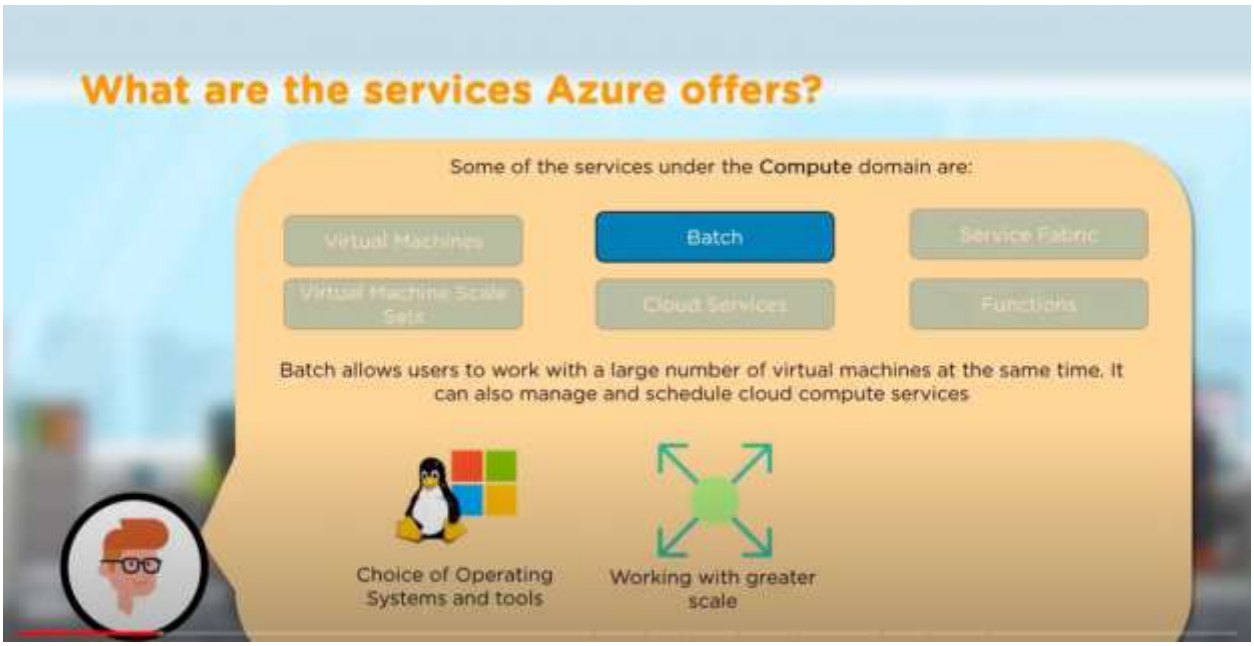

What are the services Azure offers?
AI + Machine Learning
Analytics
Compute
Containers
Databases
Developer Tools
DevOps
Identity
Integration
IoT
Management tools
Media
Migration
Mobile
Networking
Security
Storage
Web


Each of these domains have a number of services that they offer. Let's look at some of the more important services


What are the services Azure offers?
Some of the services under the Compute domain are:
Virtual Machines
ability to deploy and manage a virtual
etwork on the cloud
For example, what operating system you want, or whether the system should be on premises, on the cloud, or both! Whether you want to use your own virtual machine image or get one from the marketplace...the choice is all yours
Choose from a wide range of options


What are the services Azure offers?
Some of the services under the Compute domain are:
Virtual Machines
Batch
Service Fabric
Virtual Machine Scale Sets
Cloud Services
Functions
Azure's Virtual Machines(IaaS) gives users the ability to deploy and manage a virtual environment inside a virtual network on the cloud
Choose from a wide range of options
Easily scalable
Pay for what you use

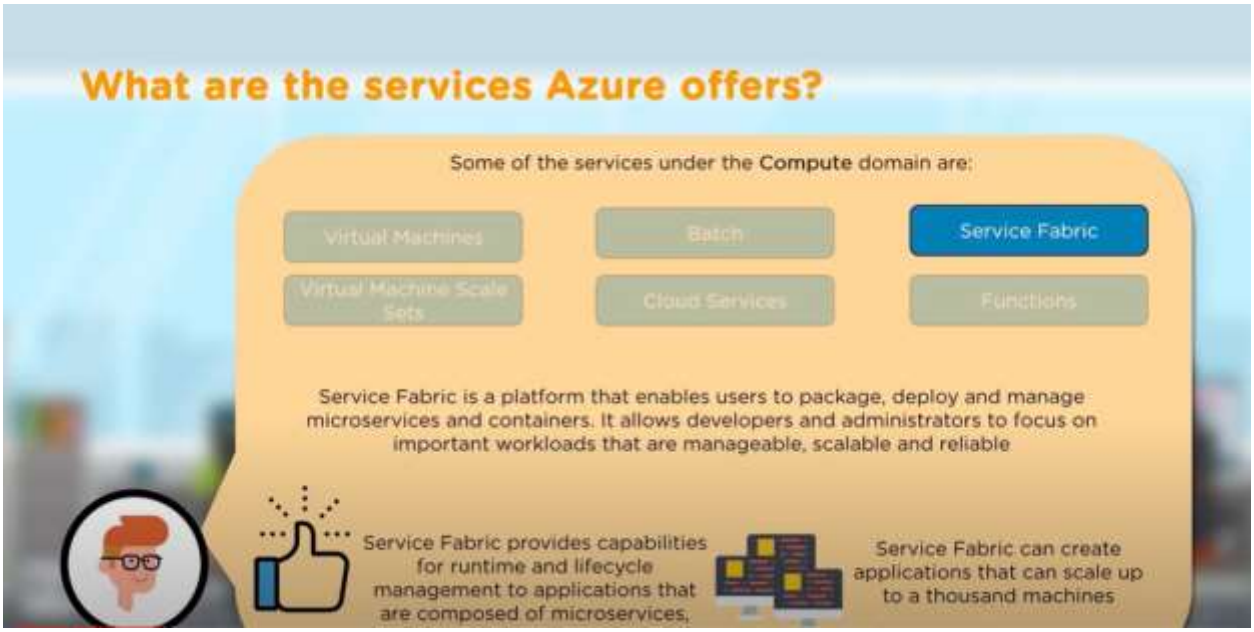

What are the services Azure offers?
Some of the services under the Compute domain are:
Virtual Machines
Azure's Virtual Machines(IaaS) gives users the ability to deploy and manage a virtual environment inside a virtual network on the cloud
Here, you're pay-per-minute billing and only for how much you use
Choose from a wide range of options
Easily scalable
Pay for what you use


What are the services Azure offers?
Some of the services under the Compute domain are:
Virtual Machines
Batch
Service Fabric
Virtual Machine Scale Sets
Cloud Services
Functions
Batch allows users to work with a large number of virtual machines at the same time. It can also manage and schedule cloud compute services
Choice of Operating Systems and tools
Working with greater scale


What are the services Azure offers?
Some of the services under the Compute domain are:
Batch
Batch allows users to work with a large number of virtual machines at the same time. It can also manage and schedule cloud compute services
Most people use queues to run their jobs. However, with Batch, you can access as many resources as you need and only need to pay for how much you use
Choice of Operating Systems and tools
Working with greater scale


What are the services Azure offers?
Some of the services under the Compute domain are:
Batch
Batch allows users to work with a large number of virtual machines at the same time. It can also manage and schedule cloud compute services
Batch uses a queue to get the work that needs to be done, and executes the user's applications. Batch allows data to be shared and manages the execution as a whole
Choice of Operating Systems and tools
Working with greater scale
Being able to manage the execution as a whole


What are the services Azure offers?
Some of the services under the Compute domain are:
Virtual Machines
Batch
Service Fabric
Virtual Machine Scale Sets
Cloud Services
Functions
Service Fabric is a platform that enables users to package, deploy and manage microservices and containers. It allows developers and administrators to focus on important workloads that are manageable, scalable and reliable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Functions
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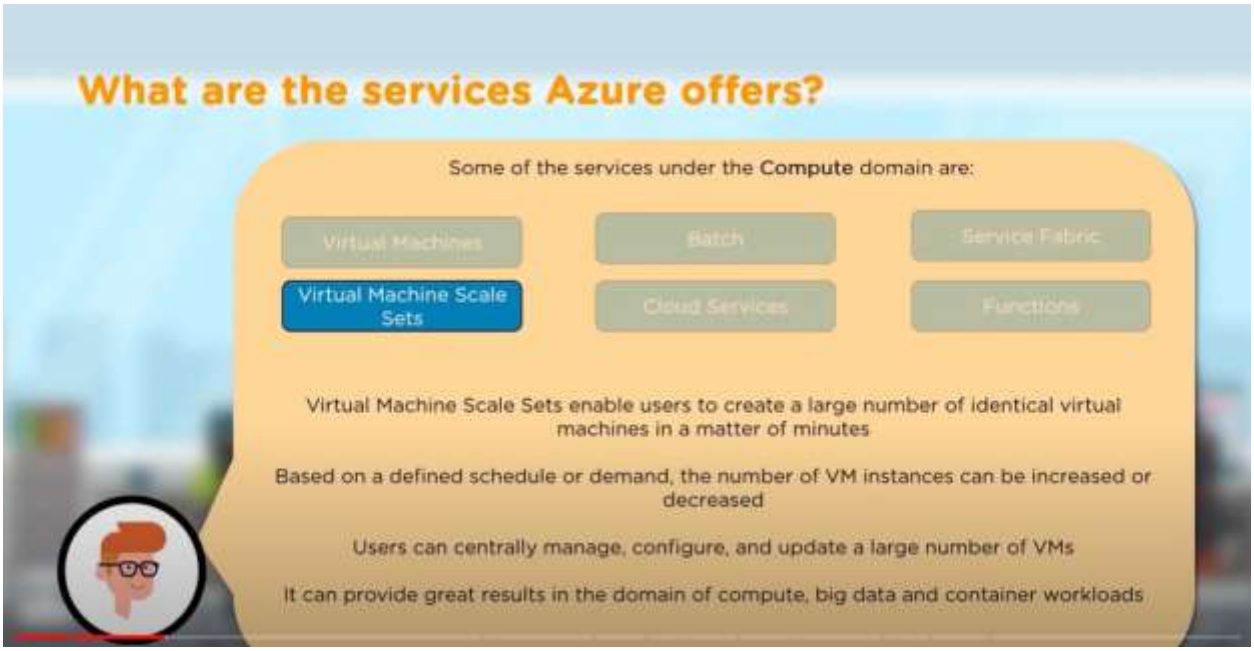
Service Fabric provides capabilities for runtime and lifecycle management to applications that are composed of microservices,
Service Fabric can create applications that can scale up to a thousand machines


What are the services Azure offers?
Some of the services under the Compute domain are:
Virtual Machines
Batch
Service Fabric
Virtual Machine Scale Sets
Cloud Services
Functions
Virtual Machine Scale Sets enable users to create a large number of identical virtual machines in a matter of minutes
Based on a defined schedule or demand, the number of VM instances can be increased or decreased
Users can centrally manage, configure, and update a large number of VMs
It can provide great results in the domain of compute, big data and container workloads

What are the services Azure offers?

Some of the services under the **Compute** domain are:

Virtual Machines	Batch	Service Fabric
Virtual Machine Scale Sets	Cloud Services	Functions

Cloud Services provides a platform to write the user's application code without worrying about the hardware resources

What are the services Azure offers?

Some of the services under the **Compute** domain are:

Virtual Machines	Batch	Service Fabric
Virtual Machine Scale Sets	Cloud Services	Functions

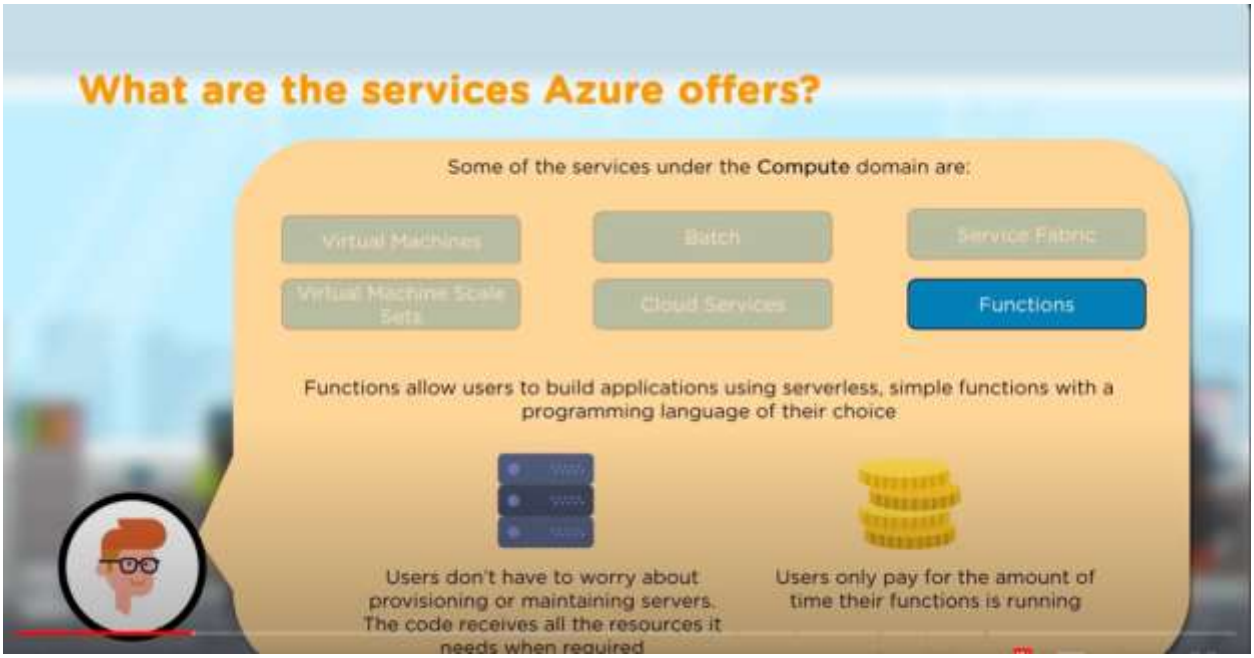
Cloud Services provides a platform to write the user's application code without worrying about the hardware resources

Emphasis on application than

Testing applications

Health monitoring and alerts


What are the services Azure offers?
Some of the services under the Compute domain are:
Cloud Services
Cloud Services provides a platform to write the user's application code without worrying about the hardware resources
Health metrics help users keep track of their key statistics. Real-time alerts ensure that users are kept aware about service availability or other metrics
Testing applications
Health monitoring and


What are the services Azure offers?
Some of the services under the Compute domain are:
Virtual Machines
Batch
Service Fabric
Virtual Machine Scale Sets
Cloud Services
Functions
Functions allow users to build applications using serverless, simple functions with a programming language of their choice
Users don't have to worry about provisioning or maintaining servers. The code receives all the resources it needs when required
Users only pay for the amount of time their functions is running

What are the services Azure offers?

Some of the services under the **Container** domain are:

Container Instances | Azure Container Services | Container Registry

Container Instances enable users to focus on their applications, by not having to manage virtual machines or learn how new tools work. The users' applications run in the cloud in a container

Containers can be deployed into the cloud with a single command

The containers are kept efficient and lightweight, even though they're as secure as virtual machines

What are the services Azure offers?

Some of the services under the **Container** domain are:

Container Instances | Azure Container Services | Container Registry

Azure Container Services or Azure Kubernetes Services (AKS) allows users to manage, deploy and control operations of a Kubernetes container

Migrating an existing application into a container and running it using AKS is very easy

The management and deployment of a microservice based architecture is

The process of training a Machine Learning model is made easier and simple

What are the services Azure offers?

Some of the services under the **Container** domain are:

Container Instances | Azure Container Services | **Container Registry**

A central registry is used to ease container development by easing the storage and management of container images

Enables storage of all kinds of container images like DC /OS, Docker Swarm, Kubernetes, etc.

Simplifies operation and management with the help of Geo-replication

What are the services Azure offers?

Some of the services under the **Database** domain are:

SQL Database | Azure Cosmos DB | Redis Cache

It is an intelligent, relational database service, that's fully managed. It also eases the migration of SQL Server databases without changing the user's applications

Uses built-in intelligence to learn about the user's database patterns and helps improve performance and protection

Users can import and migrate bulk data with ease, so that it can be used for analytics, reporting and intelligent applications

What are the services Azure offers?

Some of the services under the **Database** domain are:

SQL Database | **Azure Cosmos DB** | Redis Cache

Azure Cosmos DB is a database service that natively supports NoSQL created for low latency and scalable applications

Allows users to use key-value graph, column family and document data. It also gives users a number of API options like SQL, JavaScript, MongoDB, etc.

Users only pay for the amount of storage and throughput they require both of which can be scaled elastically based on requirement

What are the services Azure offers?

Some of the services under the **Database** domain are:

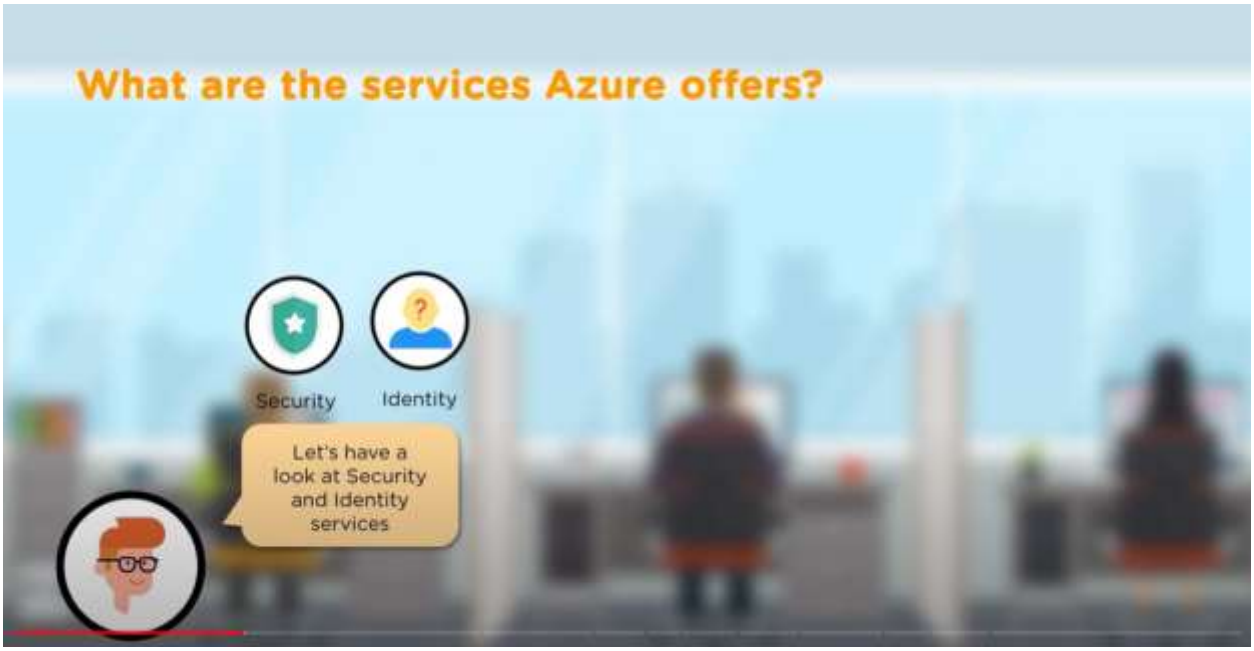
SQL Database | Azure Cosmos DB | **Redis Cache**

Azure's Redis Cache is based on the Redis Cache, and is a distributed cache service that enables data to be shared across a number of applications or instances running Azure

Data is stored in the memory instead of a disk to ensure that there is higher throughput and low latency

Provides three levels of scaling, without any downtime or interference

Backed by the Redis server and supports strings, hashes, linked lists and other data structures


What are the services Azure offers?
Security
Identity
Let's have a look at Security and Identity services


What are the services Azure offers?
Some of the services under the Security and Identity domain are:
Azure Security Center
Key Vault
Azure Active Directory
The Azure Security Center provides security management and provides threat protection across workloads that involve hybrid cloud
Controlling user access and application control to stop malicious activity
Finding and fixing vulnerabilities before they can be exploited
Using advanced analytics methods and threat intelligence to detect attacks
Providing unified view of security policies across all of the user's cloud or on-premises workloads

What are the services Azure offers?

Some of the services under the **Security** and **Identity** domain are:

Azure Security Center | **Key Vault** | Azure Active Directory

Key vault helps safeguard cryptographic keys and other secrets used by cloud applications and services

Provides users with the ability to provision new vaults and keys in a matter of minutes

Allows users to centrally manage keys, secrets and policies

What are the services Azure offers?

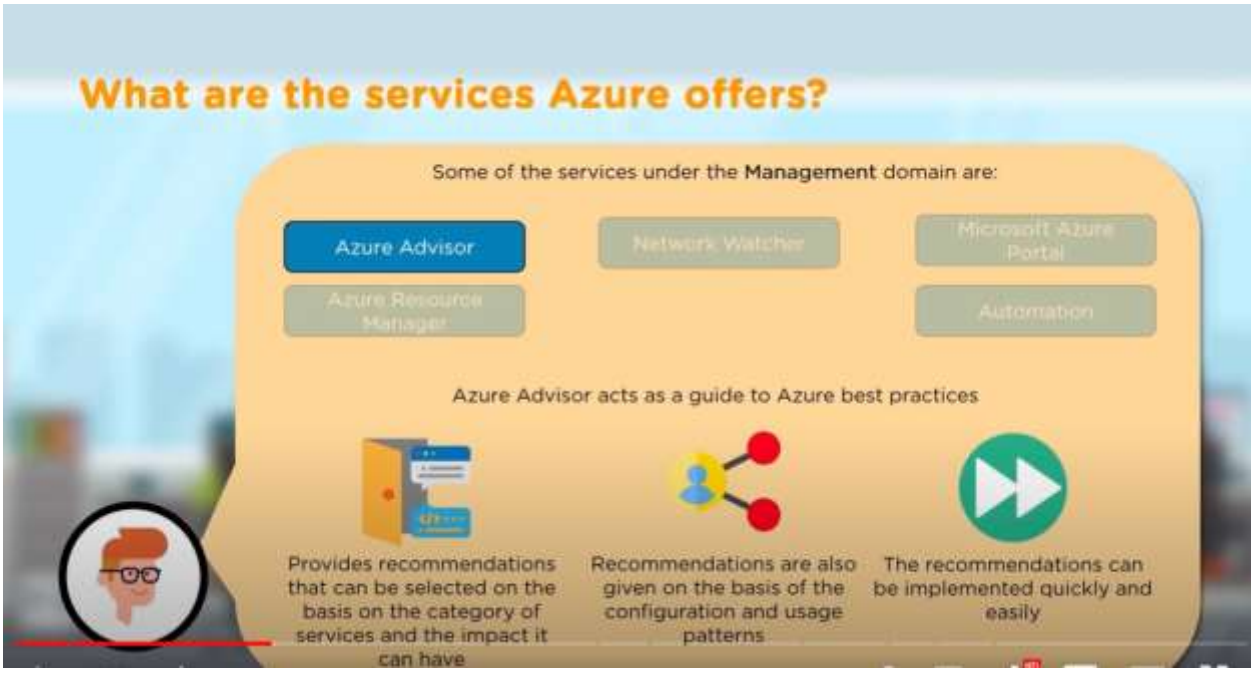
Some of the services under the **Security** and **Identity** domain are:

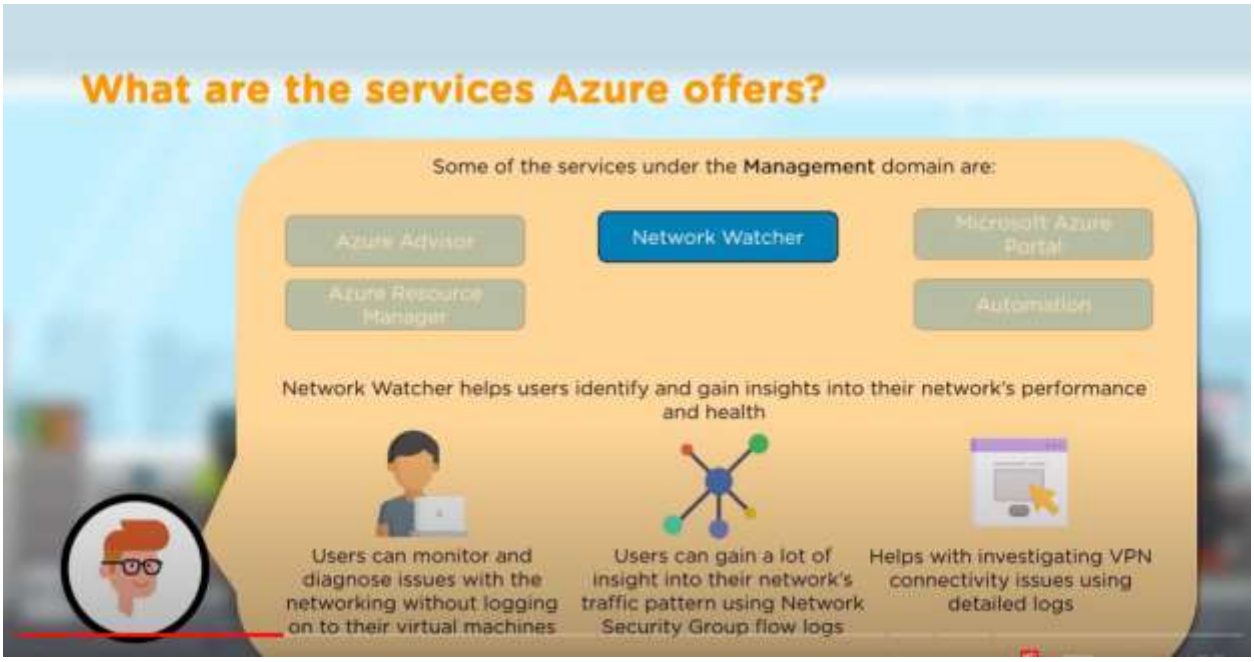
Azure Security Center | Key Vault | **Azure Active Directory**

Azure AD helps users create intelligence driven access policies to limit resource usage and manage user identities

Acts as a central point for identity and access management

It provides enhanced security solutions that protect against unauthorized access to apps and data


What are the services Azure offers?
Some of the services under the Management domain are:
Azure Advisor
Network Watcher
Microsoft Azure Portal
Azure Resource Manager
Automation
Azure Advisor acts as a guide to Azure best practices
Provides recommendations that can be selected on the basis on the category of services and the impact it can have
Recommendations are also given on the basis of the configuration and usage patterns
The recommendations can be implemented quickly and easily


What are the services Azure offers?
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Network Watcher
Microsoft Azure Portal
Azure Resource Manager
Automation
Network Watcher helps users identify and gain insights into their network's performance and health
Users can monitor and diagnose issues with the networking without logging on to their virtual machines
Users can gain a lot of insight into their network's traffic pattern using Network Security Group flow logs
Helps with investigating VPN connectivity issues using detailed logs

What are the services Azure offers?

Some of the services under the **Management** domain are:

Azure Advisor | Network Watcher | **Microsoft Azure Portal**

Azure Resource Manager | Automation

Microsoft Azure Portal provides a single, unified console to perform a number of different activities like building, managing and monitoring web applications

The portal can be organized to fit your work and work-style

Users can control who gets to manage or access resources

The portal can get rid of billing blind spots by forecasting the user's likely monthly charges

What are the services Azure offers?

Some of the services under the **Management** domain are:

Azure Advisor | Network Watcher | Microsoft Azure Portal

Azure Resource Manager | Automation

Azure Resource Manager enables users to manage their usage of application resources

It ensures that resources are deployed in a constant rate along with the applications

It allows users to manage and visualize resources in their applications

It can be used to control who can access the resources within the user's organization

What are the services Azure offers?

Some of the services under the **Management** domain are:

Azure Advisor | Network Watcher | Microsoft Azure Portal

Azure Resource Manager | **Automation**

Automation gives users the ability to automate, configure and install updates across hybrid environments

It can be used to automate frequent, time-consuming and error prone cloud management tasks, reducing time and overhead costs

An inventory of the operating system resources and configuration items can be obtained with ease. Hence helping with tracking changes and investigating issues

What are the services Azure offers?

Some of the services under the **Networking** domain are:

Content Delivery Network | ExpressRoute | Azure DNS

Virtual Network | Load Balancer

The Content Delivery Network or CDN allows users to perform secure and reliable content delivery and acceleration with emphasis on reduced load times, saving bandwidth and increased responsiveness

Azure's global presence eases handling traffic spikes and heavy loads

Helps gain insight into customer workflows and business needs

Works on a simple pay-as-you-go method

What are the services Azure offers?

Some of the services under the **Networking** domain are:

Content Delivery Network | **ExpressRoute** | Azure DNS | Virtual Network | Load Balancer

ExpressRoute provides a direct, private connection to Azure that provides lower latency, increased reliability and speed

It can be used to add compute and storage capacity to the user's existing data center

It can be used to build hybrid applications without compromising privacy or performance

The virtual private cloud can be used for storing, backing up and recovering data

What are the services Azure offers?

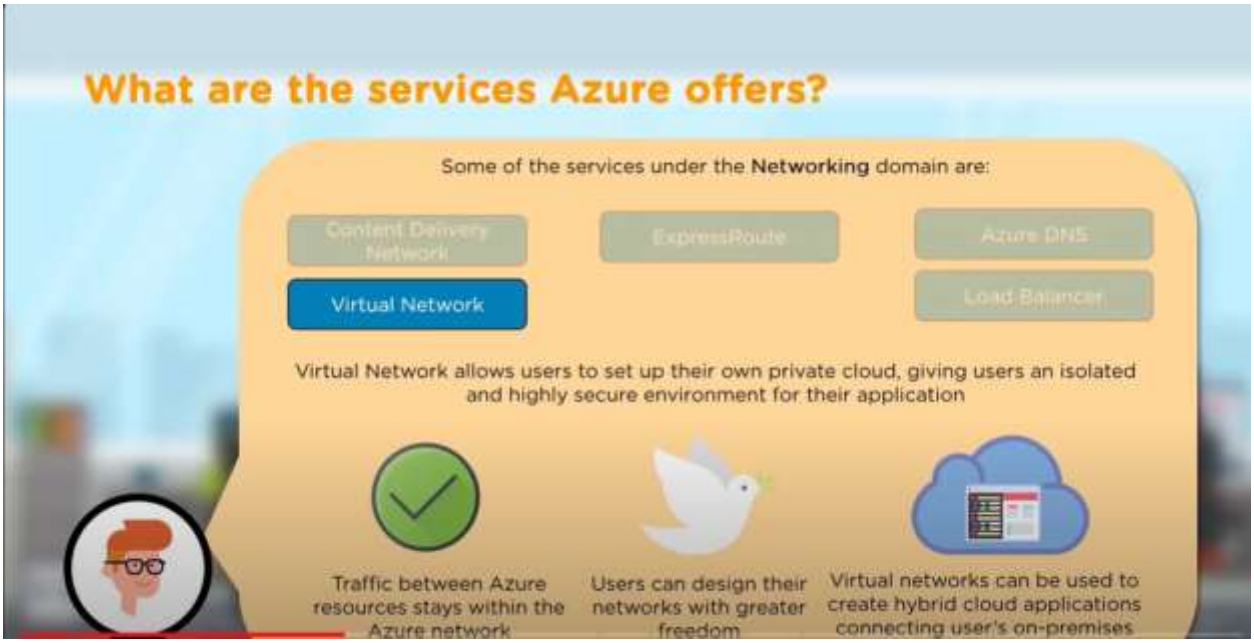
Some of the services under the **Networking** domain are:

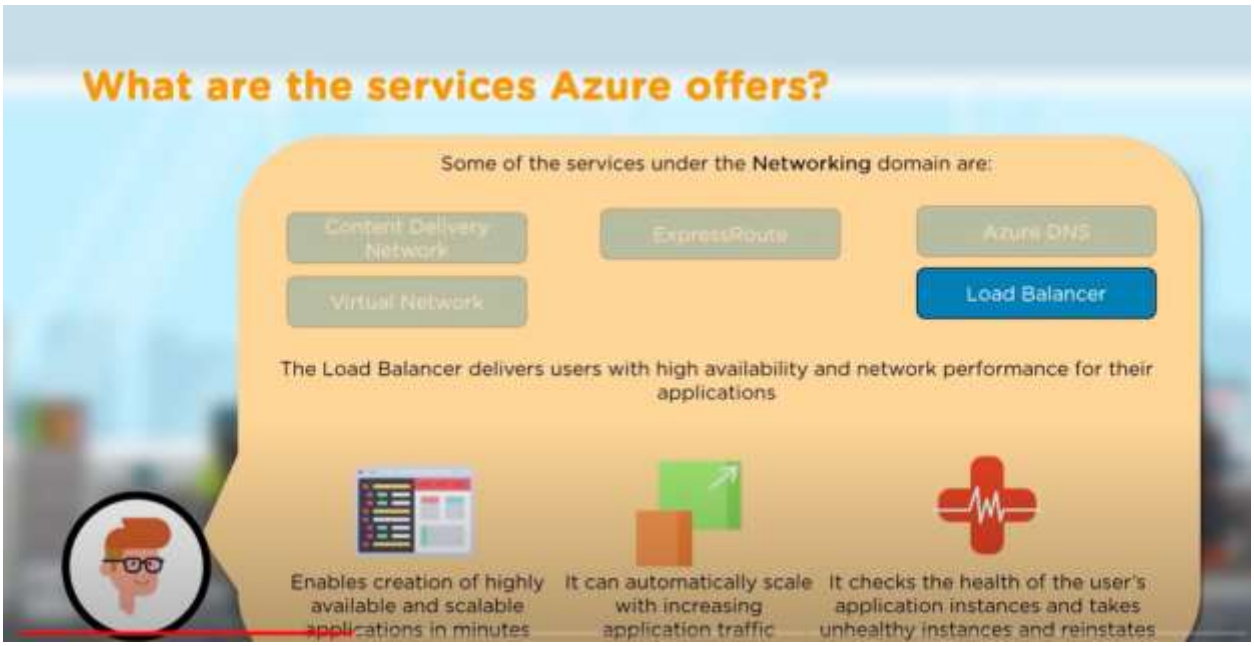
Content Delivery Network | ExpressRoute | **Azure DNS** | Virtual Network | Load Balancer

Azure DNS allows users to host their domain in Azure to have outstanding performance and availability

Uses a global network of name servers to provide fast responses to DNS queries

The domain has ultra-high availability thanks to Microsoft's global network of name servers


What are the services Azure offers?
Some of the services under the Networking domain are:
Content Delivery Network
ExpressRoute
Azure DNS
Virtual Network
Load Balancer
Virtual Network allows users to set up their own private cloud, giving users an isolated and highly secure environment for their application
Traffic between Azure resources stays within the Azure network
Users can design their networks with greater freedom
Virtual networks can be used to create hybrid cloud applications connecting user's on-premises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Content Delivery Network
ExpressRoute
Azure DNS
Virtual Network
Load Balancer
The Load Balancer delivers users with high availability and network performance for their applications
Enables creation of highly available and scalable applications in minutes
It can automatically scale with increasing application traffic
It checks the health of the user's application instances and takes unhealthy instances and reinstates

What are the services Azure offers?

Some of the services under the **Storage** domain are:

StorSimple | Data Lake Store | Blob Storage

Queue Storage | File Storage | Table Storage

StorSimple is a hybrid cloud storage solution that lowers costs by up to 60%

It can be used to automate data management across the enterprise

It improves compliance and accelerates disaster recovery

It increases operational efficiency, and prevents spending on storage purchases and prevents IT costs

What are the services Azure offers?

Some of the services under the **Storage** domain are:

StorSimple | Data Lake Store | Blob Storage

Queue Storage | File Storage | Table Storage

Azure Data Lake Storage provides scalable and cost-effective data lake solution for big data analytics

It meets the strongest enterprise data security requirements

Uses Azure Blob Storage's global scale, durability and performance

What are the services Azure offers?

Some of the services under the **Storage** domain are:

StorSimple | Data Lake Store | **Blob Storage**

Queue Storage | File Storage | Table Storage

Blob Storage provides large amounts of storage and scalability. Blob storage stores objects in a number of tiers, depending on how often data is being accessed

When an object is changed, it is verified to ensure it is of the latest version

It provides maximum flexibility to optimize the user's storage needs

Unstructured data is available to customers through REST based

What are the services Azure offers?

Some of the services under the **Storage** domain are:

StorSimple | Data Lake Store | Blob Storage

Queue Storage | File Storage | Table Storage

Queue Storage provides durable queues for large volume cloud services. It provides a simple, cost-effective and durable message queuing for large workloads

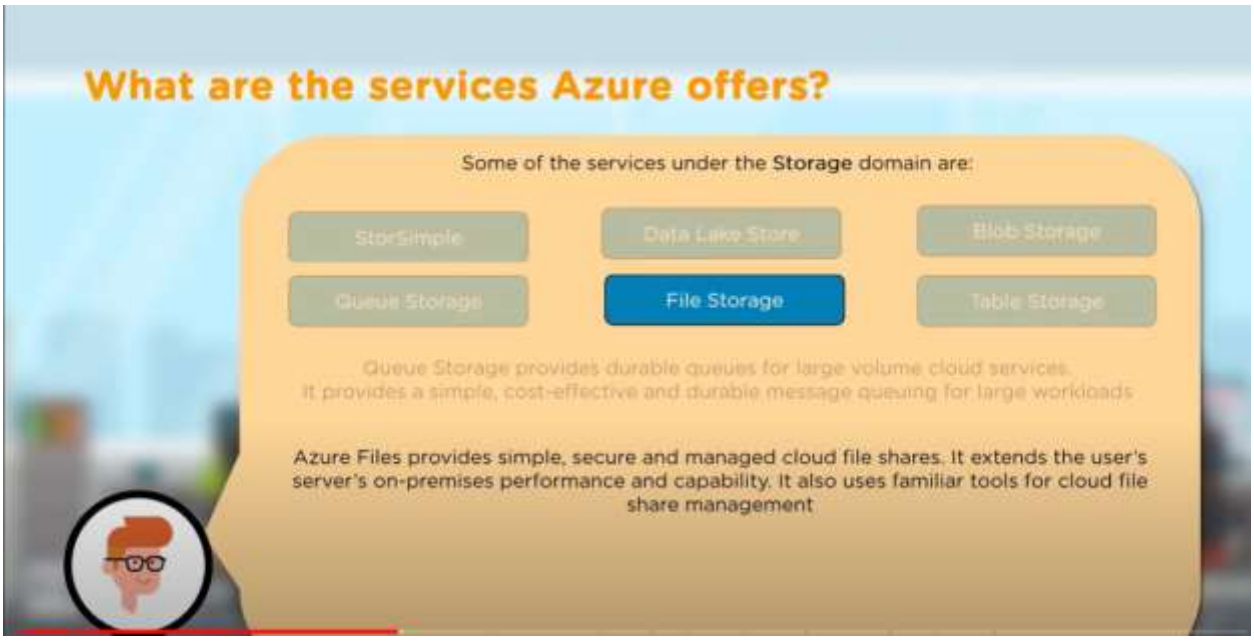
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Table Storage
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Azure Files provides simple, secure and managed cloud file shares. It extends the user's server's on-premises performance and capability. It also uses familiar tools for cloud file share management


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It provides a NoSQL key-value storage for quick development using large semi-structured datasets. It produces apps that have a flexible data schema and are highly available


But what made you choose Azure in the first place?


How is Azure better than other cloud services?
PaaS Capabilities:
With Azure PaaS, infrastructure management is completely taken care by Microsoft, allowing users to focus completely on innovation
.Net Compatibility:
Azure supports the .Net programming language, and has been built and optimized to work with old and new applications developed using .Net programming framework
Security Offerings:
Azure is designed based on Security Development Lifecycle which is an industry leading assurance process


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Companies that use Azure
PIXAR
ANIMATION STUDIOS
3M
BOEING
SAMSUNG
xerox
easyJet
BMW

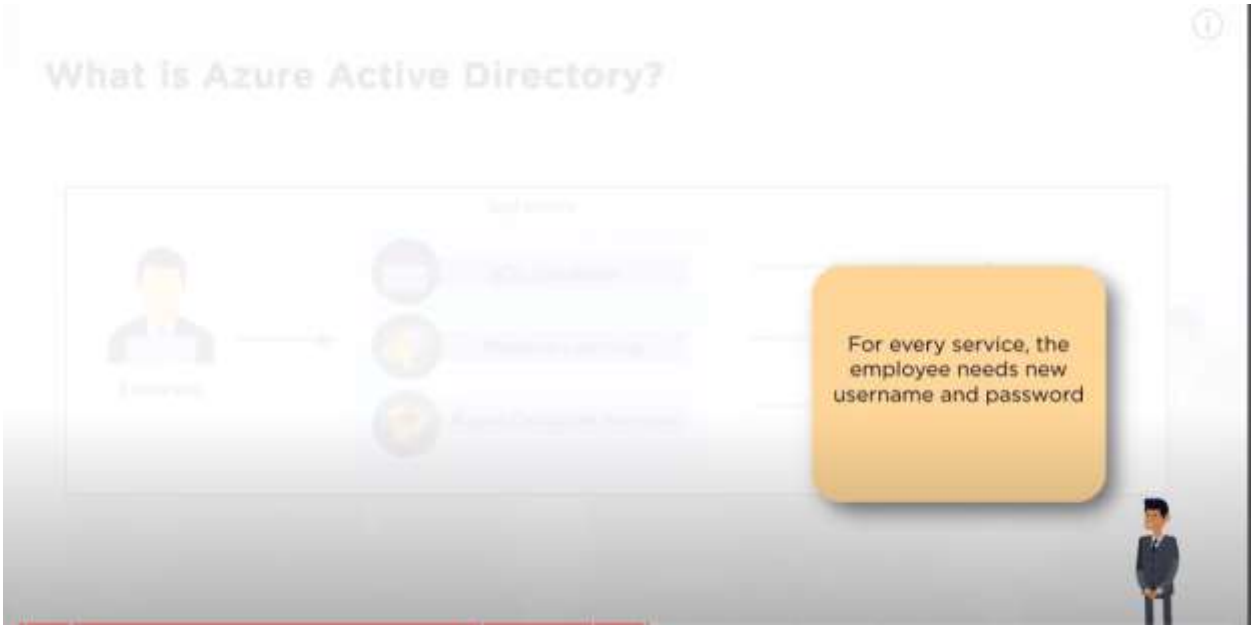

What is Azure Active Directory?
It's getting difficult to manage so many user logins simultaneously

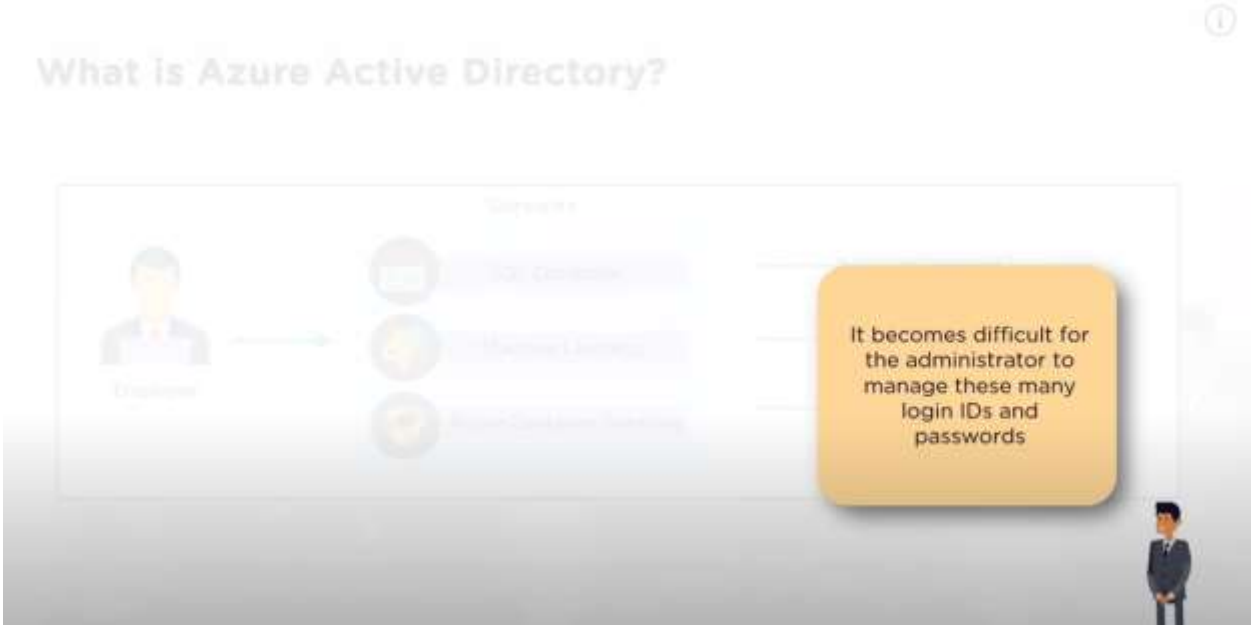

What is Azure Active Directory?
Well, I have a solution for this

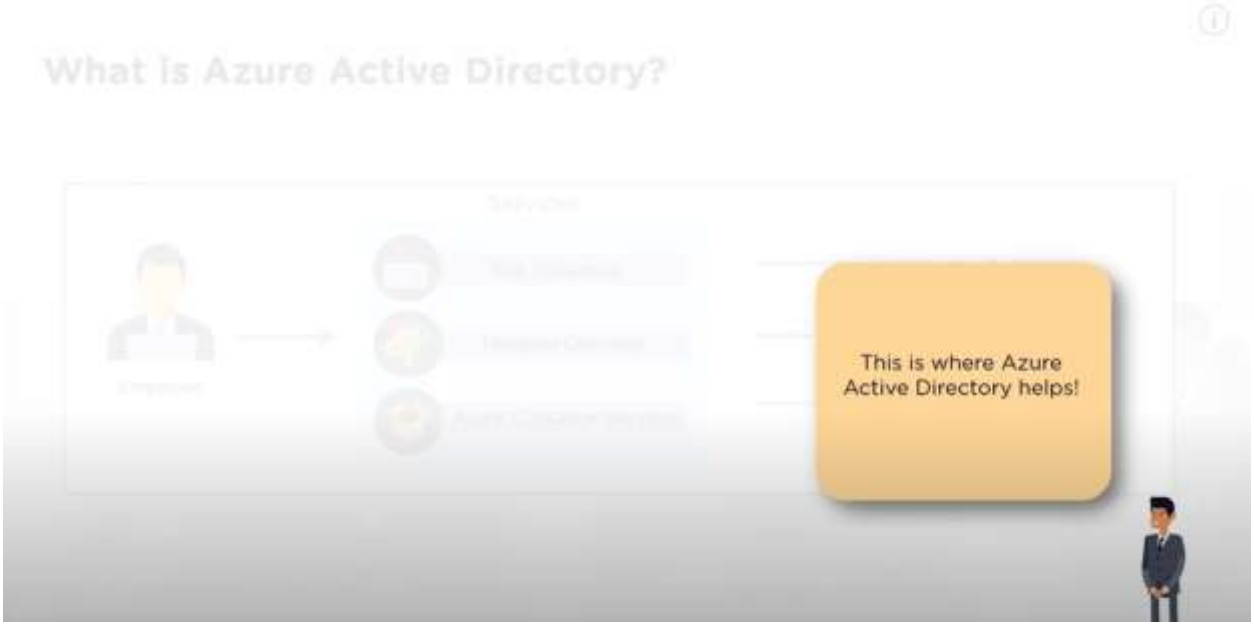

What is Azure Active Directory?
This way we can manage multiple logins without any trouble


What is Azure Active Directory?
How is Azure Active Directory going to help us?

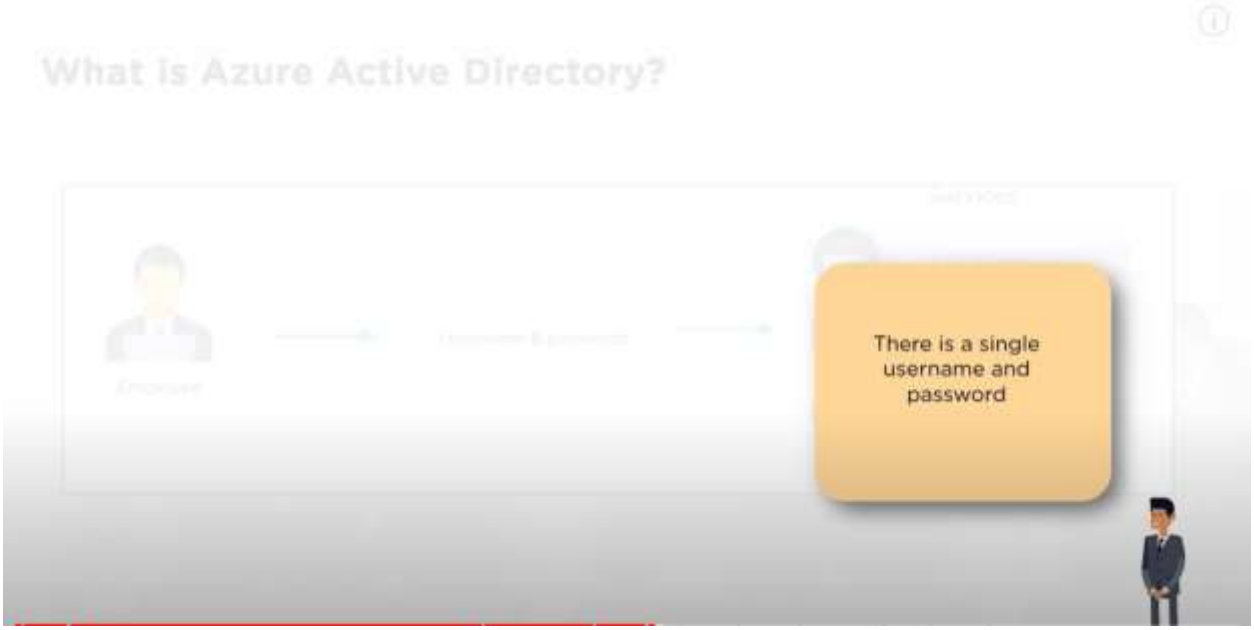

What is Azure Active Directory?
Services
Employee
SQL Database
Machine Learning
Azure Container Services
Username & password
Username & password
Username & password

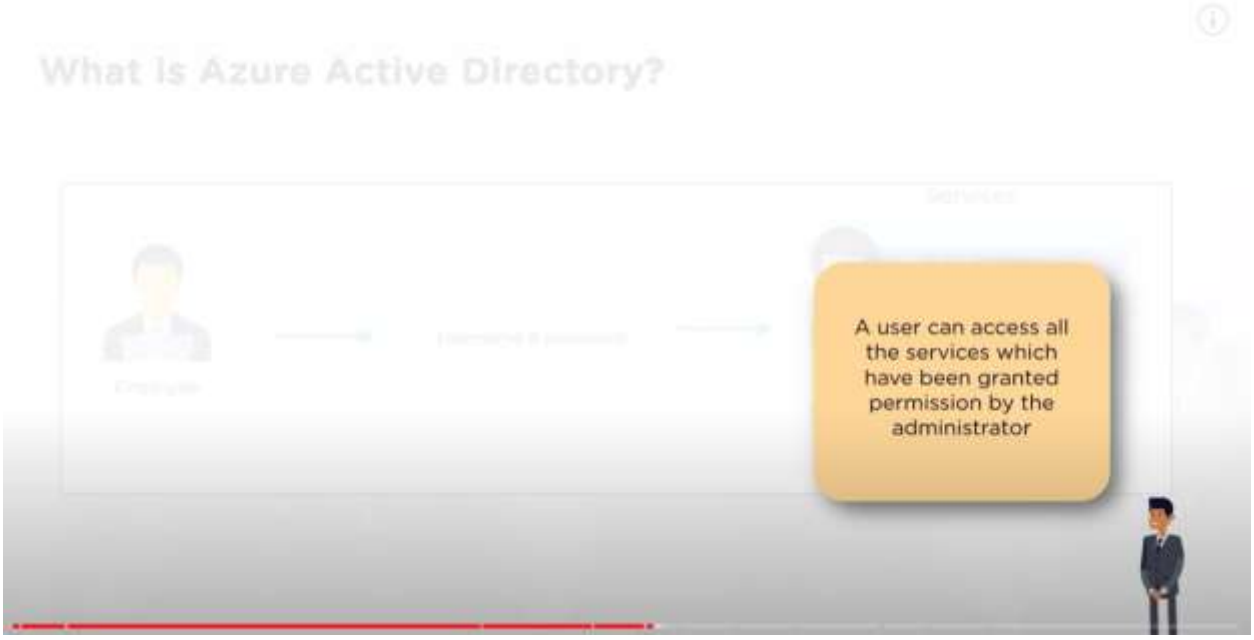

What is Azure Active Directory?
For every service, the employee needs new username and password


What is Azure Active Directory?
It becomes difficult for the administrator to manage these many login IDs and passwords


What is Azure Active Directory?
This is where Azure Active Directory helps!


What is Azure Active Directory?
Services
SQL Database
Machine Learning
Azure Container Services
Username & password
Employee


What is Azure Active Directory?
There is a single username and password


What is Azure Active Directory?
A user can access all the services which have been granted permission by the administrator

What is Azure Active Directory?

Azure Active Directory (Azure AD) is Microsoft's multi-tenant, cloud-based directory and identity management service

Employee enters the premises

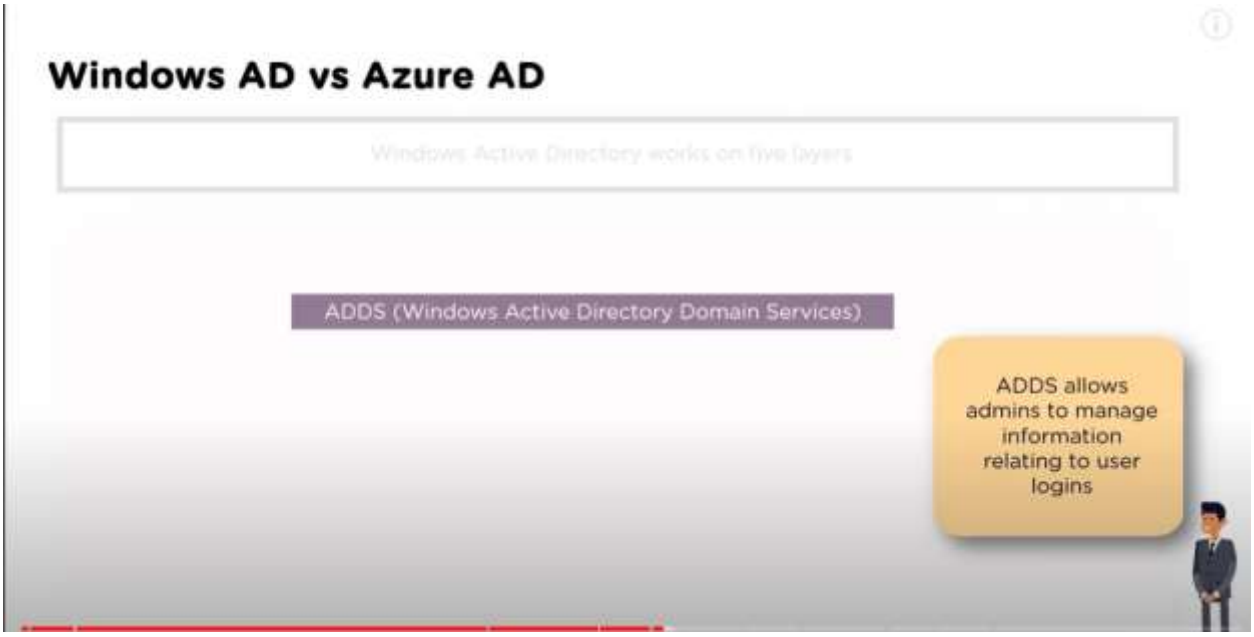
Admin helps in user sign in

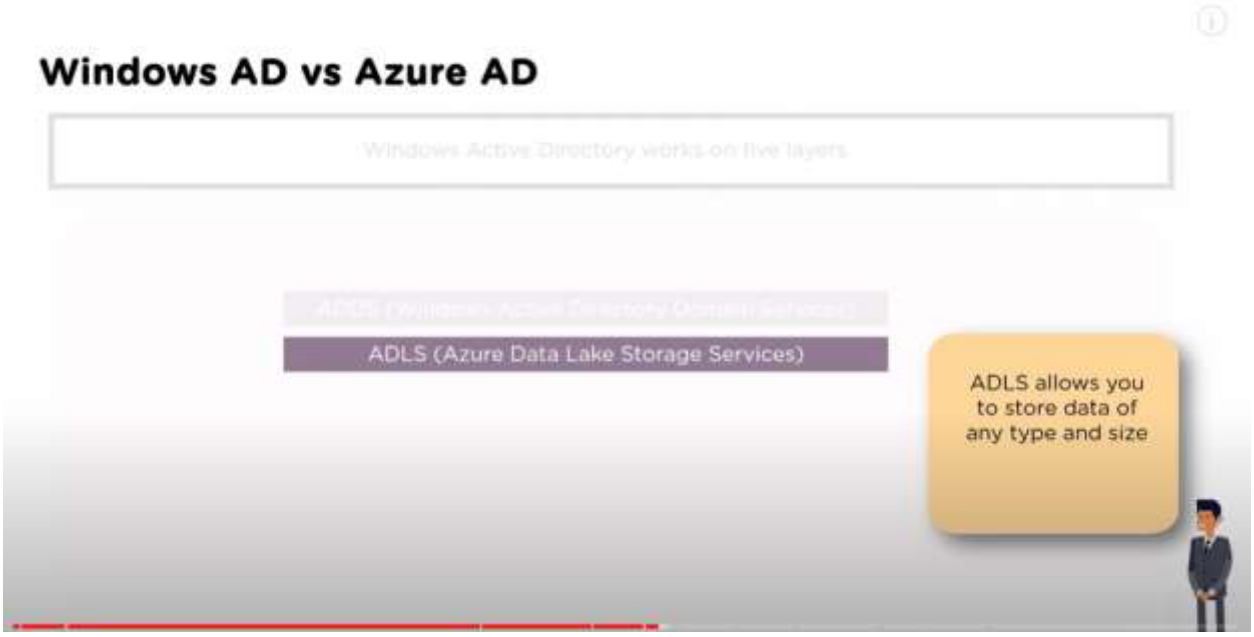
User can access services over the cloud

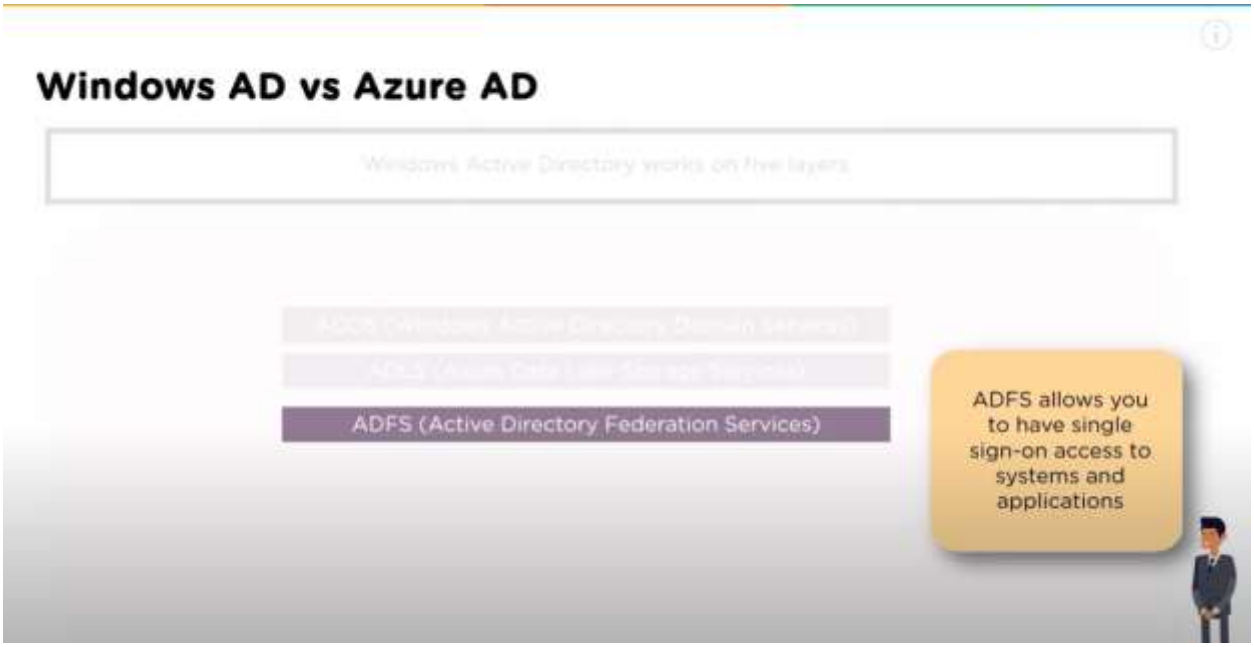
Windows AD vs Azure AD

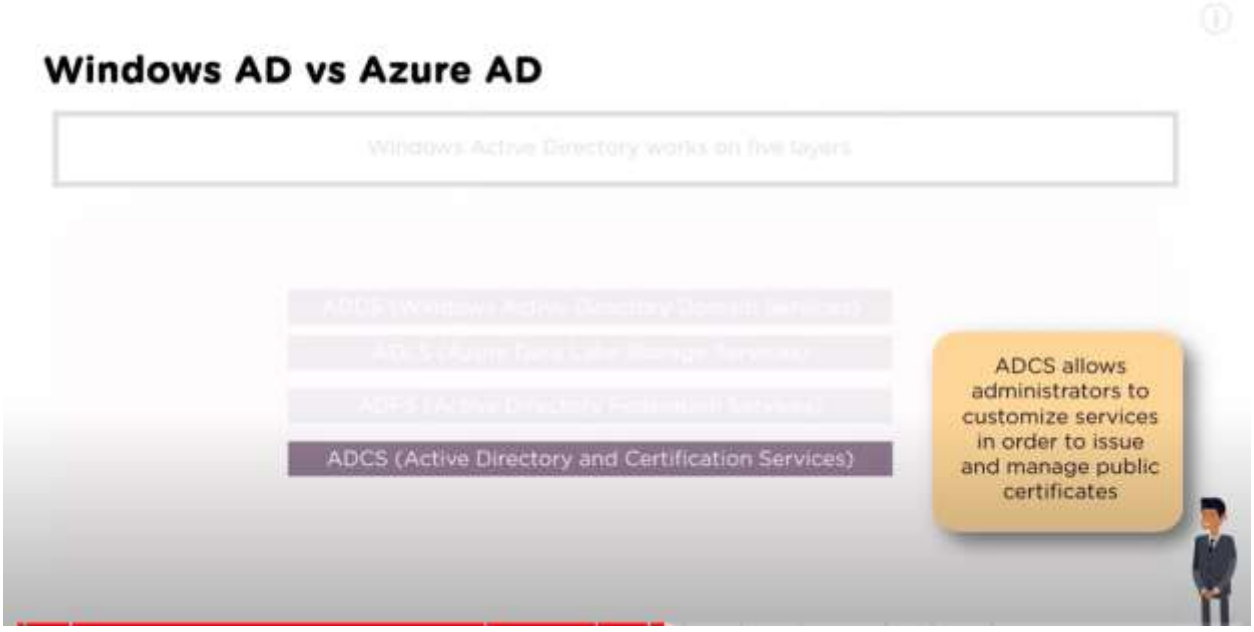
What is Windows Active Directory?

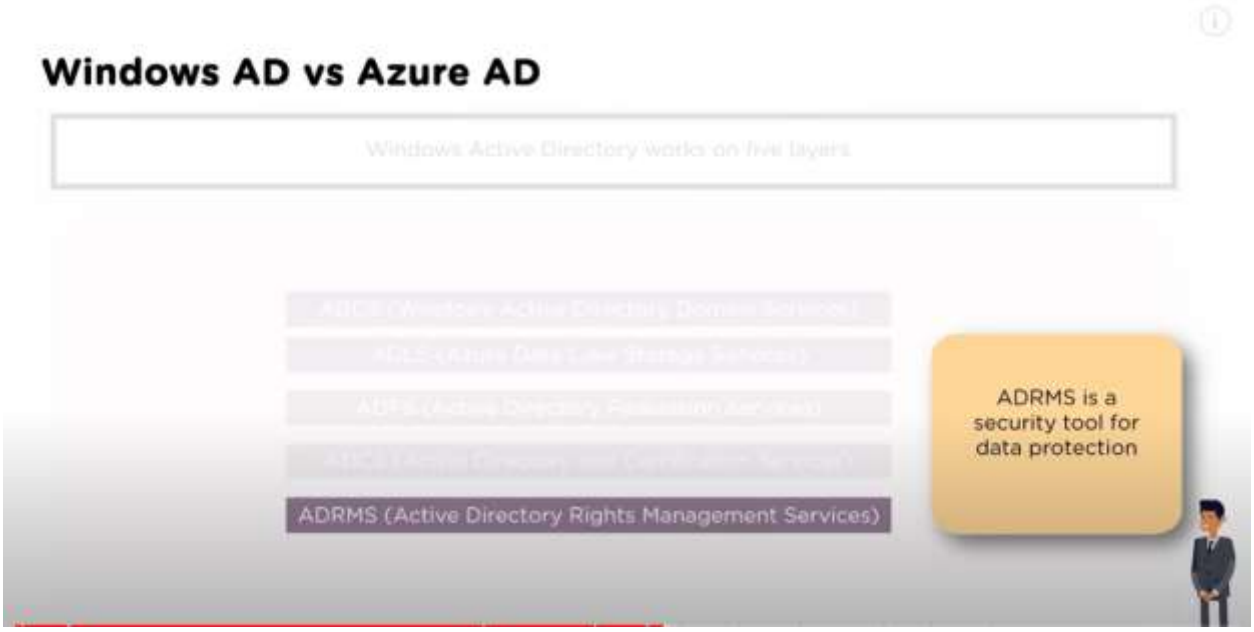
Active Directory (AD) is a Windows OS directory service that facilitates working with interconnected, complex and different network resources in a unified manner


Windows AD vs Azure AD
Windows Active Directory works on five layers
ADDS (Windows Active Directory Domain Services)
ADDS allows admins to manage information relating to user logins


Windows AD vs Azure AD
Windows Active Directory works on five layers
ADLS (Azure Data Lake Storage Services)
ADLS allows you to store data of any type and size

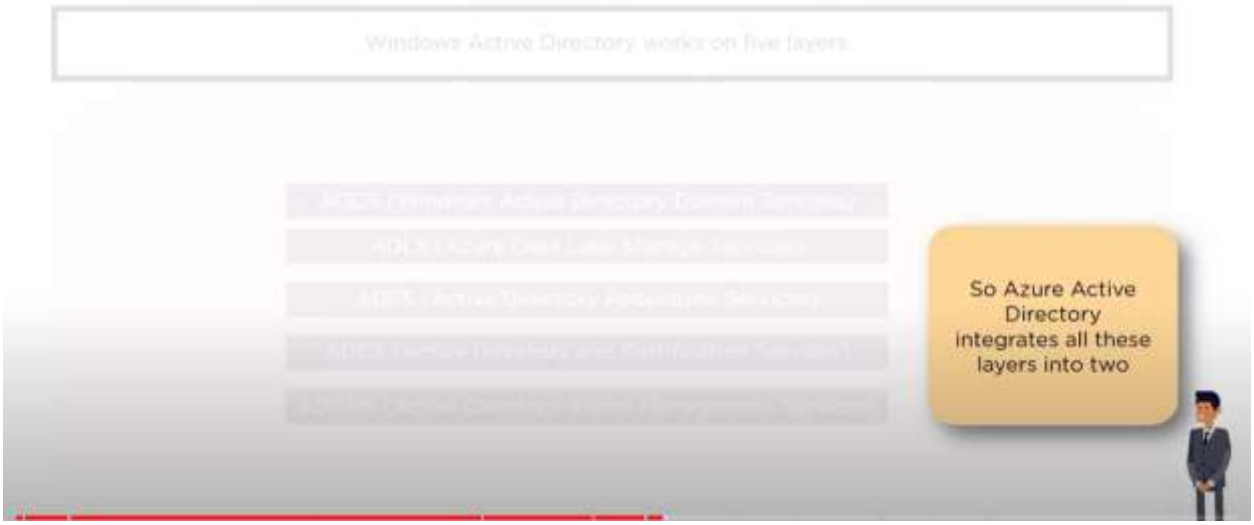

Windows AD vs Azure AD
Windows Active Directory works on five layers
ADFS (Active Directory Federation Services)
ADFS allows you to have single sign-on access to systems and applications


Windows AD vs Azure AD
Windows Active Directory works on five layers
ADCS (Active Directory and Certification Services)
ADCS allows administrators to customize services in order to issue and manage public certificates

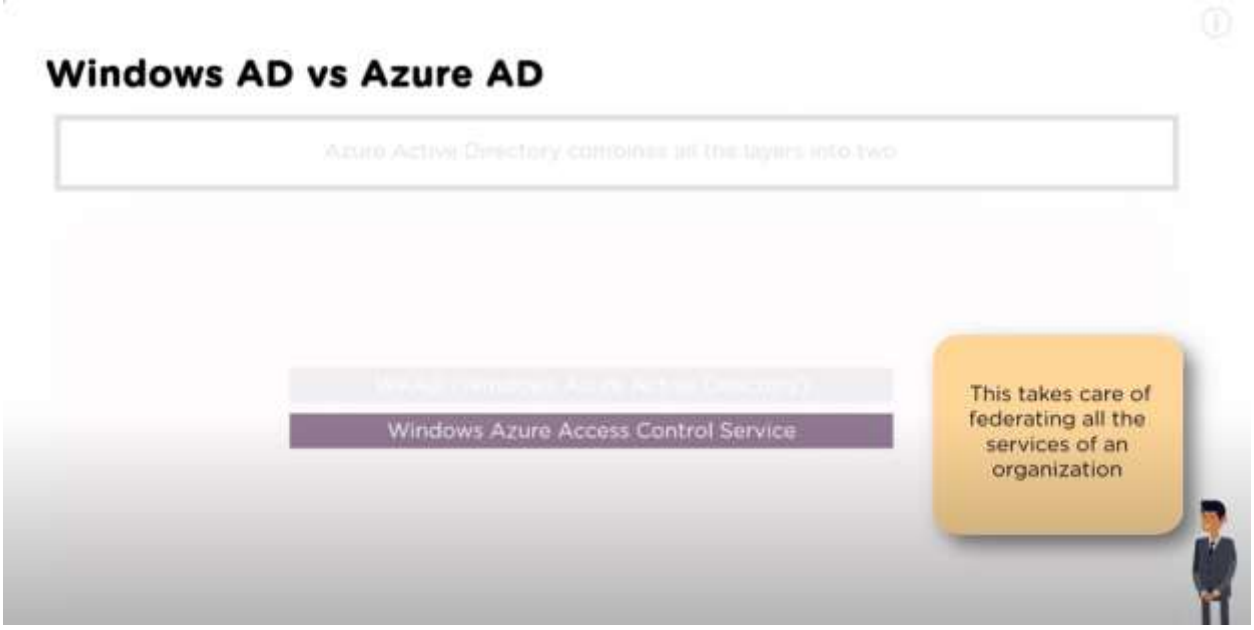

Windows AD vs Azure AD
Windows Active Directory works on five layers
ADRMS (Active Directory Rights Management Services)
ADRMS is a security tool for data protection

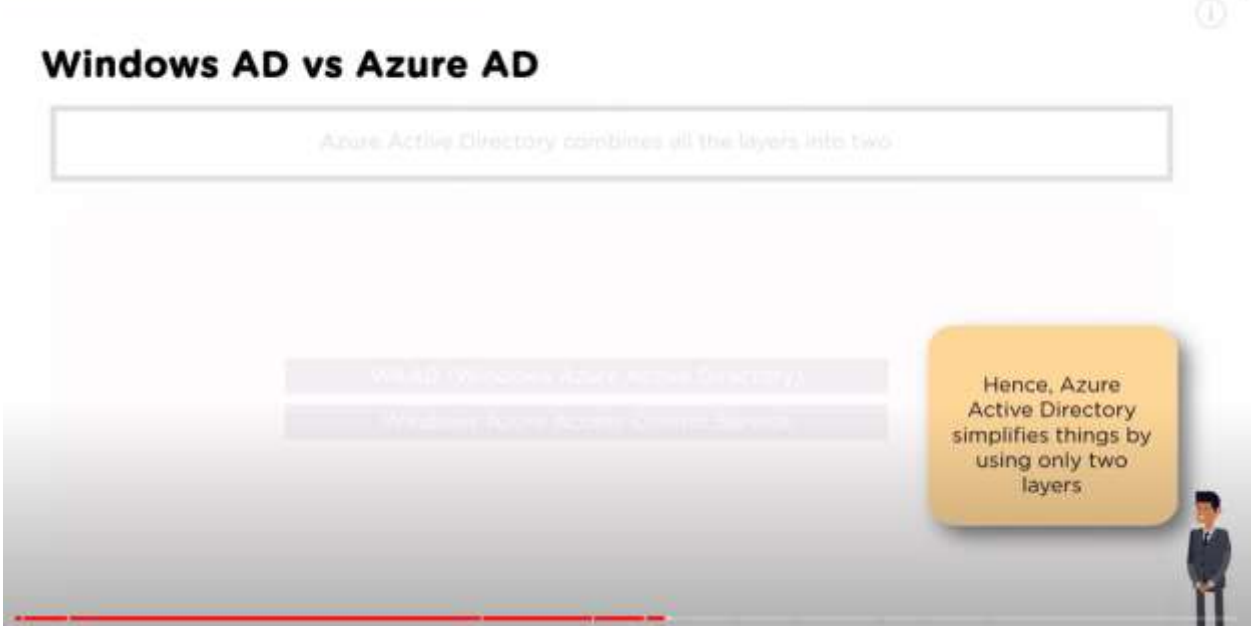

Windows AD vs Azure AD
Windows Active Directory works on five layers
There are many layers to take care of!

Windows AD vs Azure AD



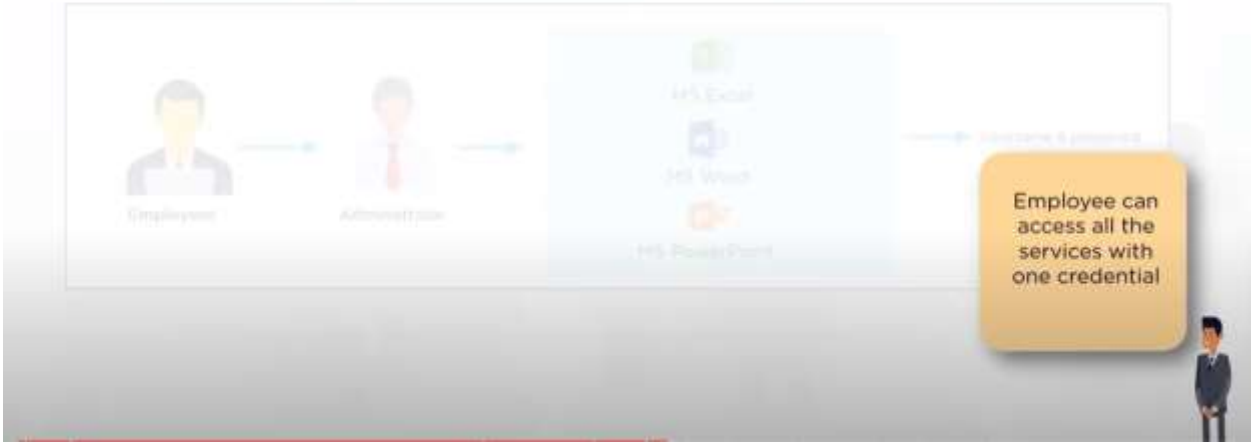
Windows AD vs Azure AD


Windows AD vs Azure AD
Azure Active Directory combines all the layers into two
Windows Azure Access Control Service
This takes care of federating all the services of an organization

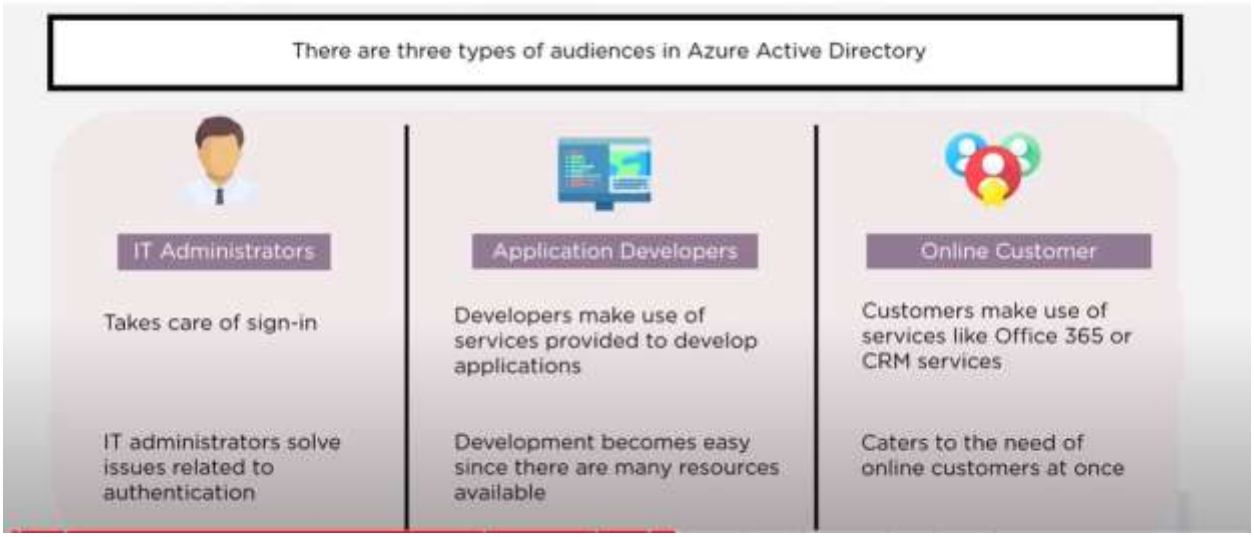

Windows AD vs Azure AD
Azure Active Directory combines all the layers into two
Hence, Azure Active Directory simplifies things by using only two layers

What is Azure Active Directory?

What is Azure Active Directory?



Service Audience




Why Data Factory?
and we have data coming from different streamlines


Why Data Factory?
How are we going to manage this?


Why Data Factory?
Well, we can use Azure Data Factory


Why Data Factory?
Stores data
Analyzes data
Publishes organized data

What is Data Factory?

Azure Data Factory is a cloud-based data integration service that orchestrates and automates the movement and transformation of data

What is Data Factory?


Linked Services

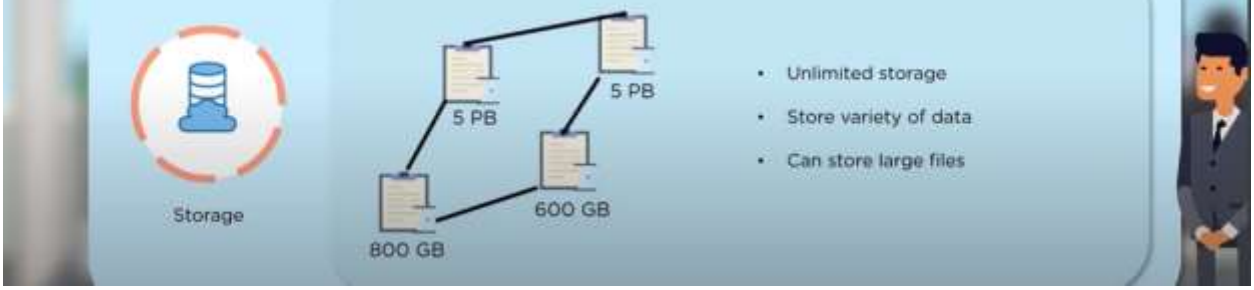
- Contains information needed to connect to external sources
- This is very similar to the concept of a connection string in SQL Server, where you mention the source and destination of your data

What is Data Lake?

A highly scalable, distributed, parallel file system in the cloud specifically designed to work with multiple analytic frameworks

What is Data Lake?

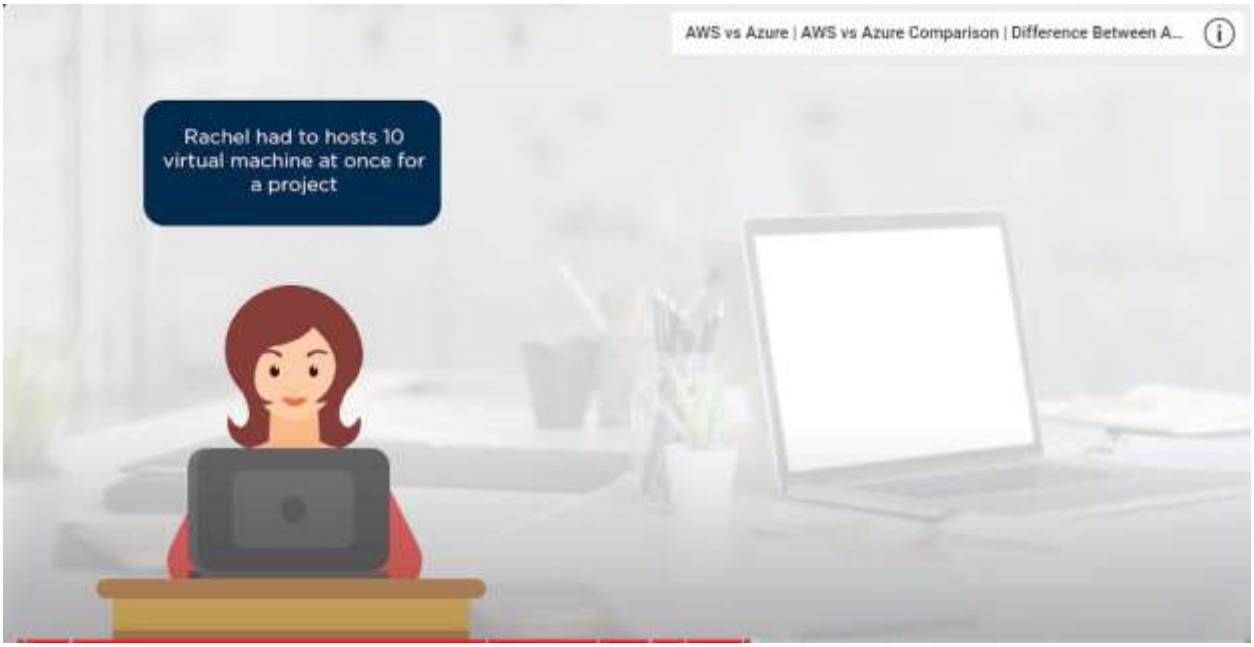
Data Lake works on two main concepts, storage and analytics



- Unlimited storage
- Store variety of data
- Can store large files


What is Data Lake?
Data Lake works on two main concepts, storage and analytics
Analytics
Monitor and diagnose real-time data from connected devices such as vehicles, buildings, or machinery in order to generate alerts, respond to events, or optimize operations
Monitor financial transactions in real-time to detect fraudulent activity. Correlate a credit card's use across geographic locations; monitor the number of transactions on a single credit card


Azure Virtual Machine

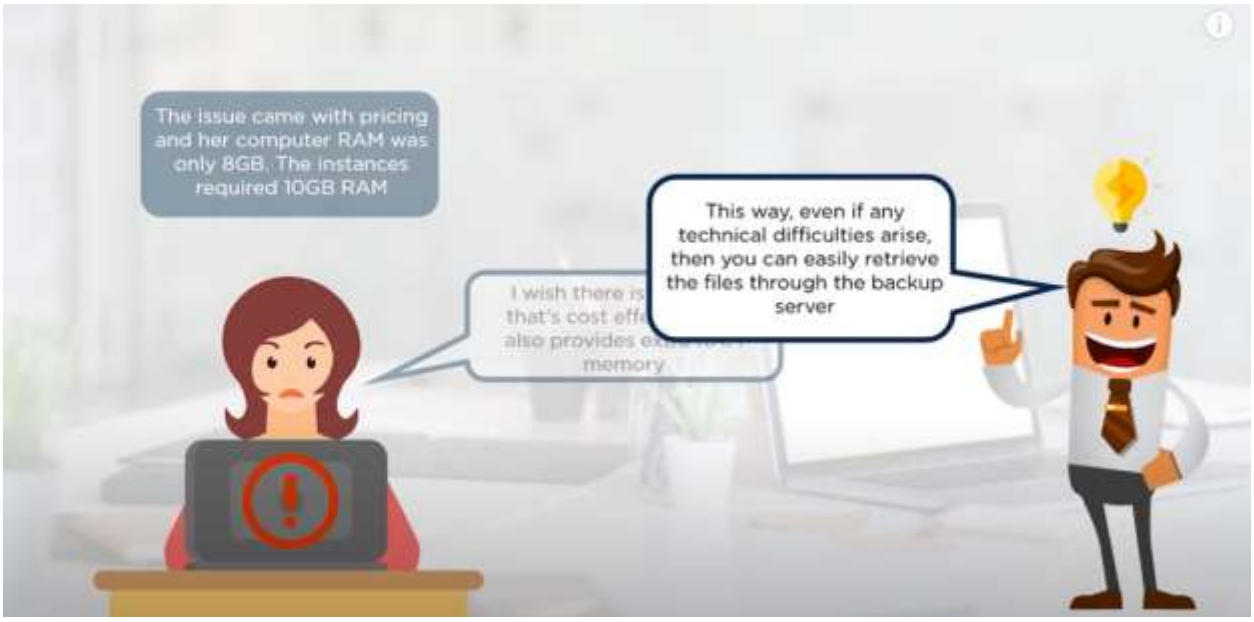

AWS vs Azure | AWS vs Azure Comparison | Difference Between A...
Rachel had to hosts 10 virtual machine at once for a project


The issue came with pricing and her computer RAM was only 8GB. The instances required 10GB RAM

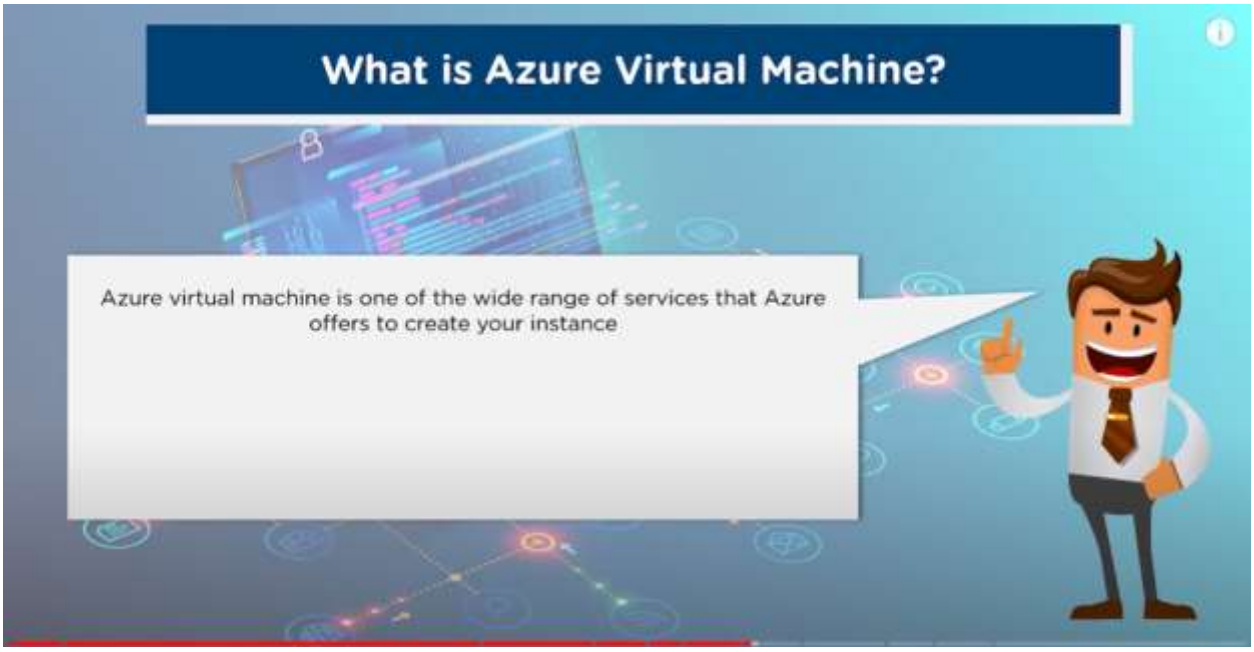

The issue came with pricing and her computer RAM was only 8GB. The instances required 10GB RAM
I wish there is a service that's cost effective and also provides extra RAM memory

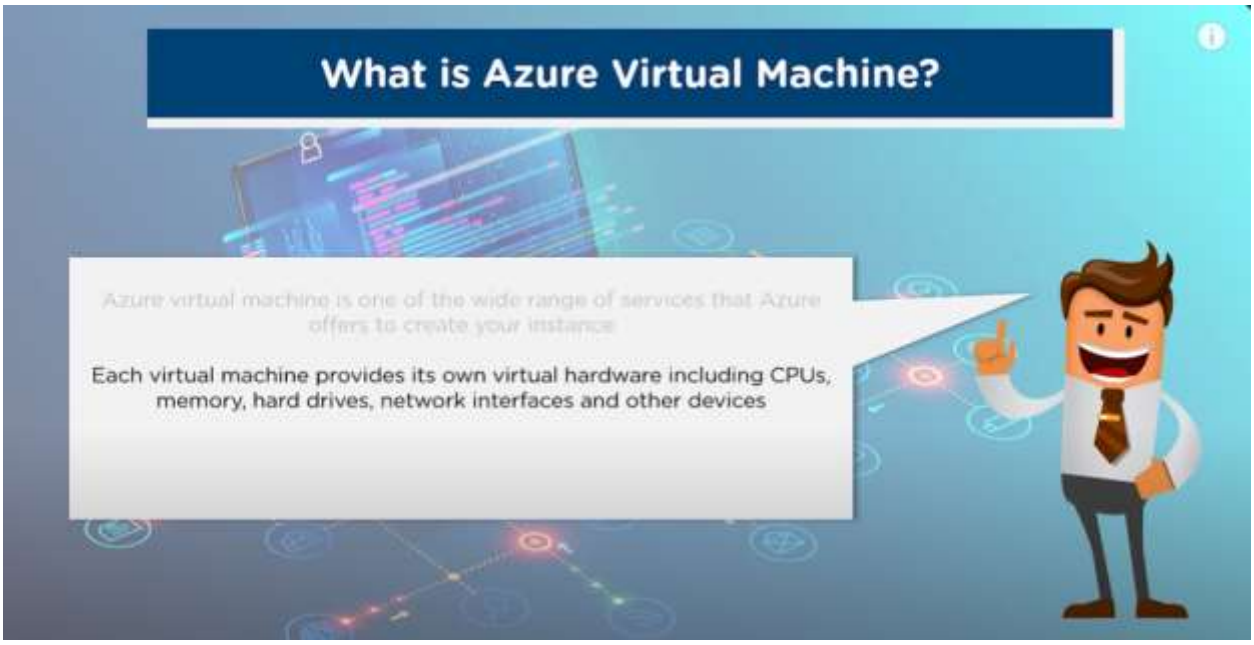

The issue came with pricing and her computer RAM was only 8GB. The instances required 10GB RAM
You can use Azure Virtual Machine
It has a Pay-as-you-go Pricing and has disks for storage


The issue came with pricing and her computer RAM was only 8GB. The instances required 10GB RAM
You only Pay for what you use. You can also create 'n' number of instances at once with a high storage capacity


The issue came with pricing and her computer RAM was only 8GB. The instances required 10GB RAM
This way, even if any technical difficulties arise, then you can easily retrieve the files through the backup server


The issue came with pricing and her computer RAM was only 8GB. The instances required 10GB RAM
Wow! Azure Virtual Machine can help me a lot in business. I want to know more about it


What is Azure Virtual Machine?
Azure virtual machine is one of the wide range of services that Azure offers to create your instance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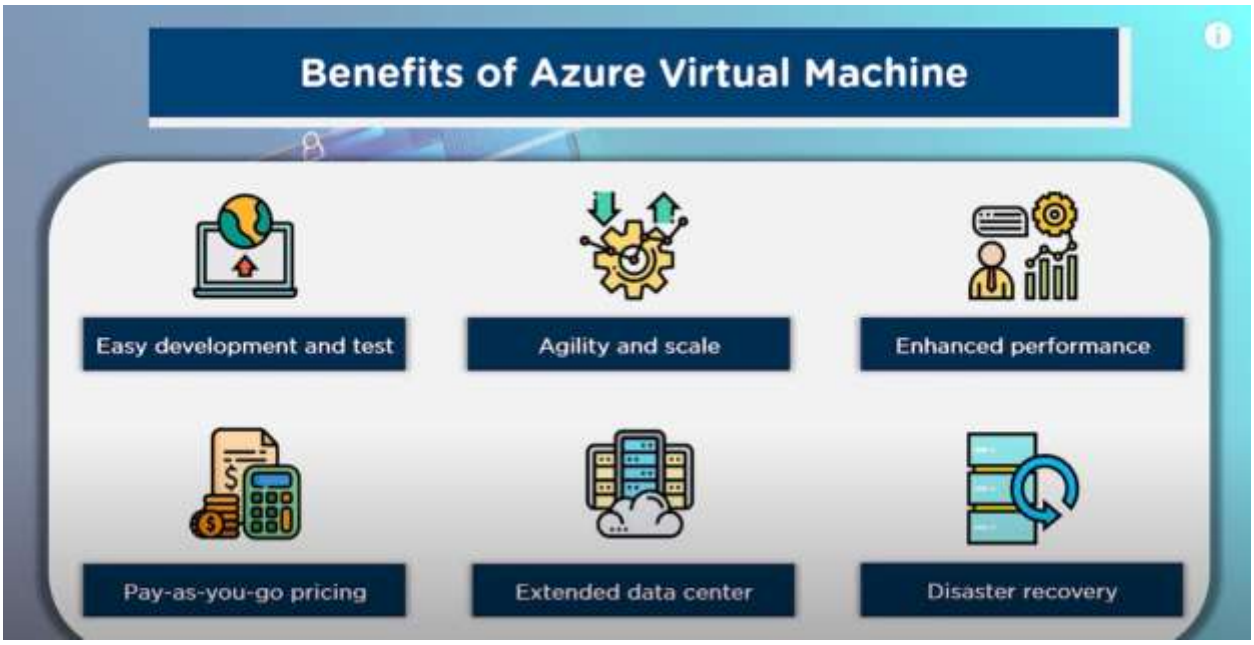
Each virtual machine provides its own virtual hardware including CPUs, memory, hard drives, network interfaces and other devices
Azure Virtual Machine offers the flexibility of virtualization without buying and maintaining the physical hardware that runs it



Why Azure Virtual Network?

Somewhere far away at an office, a company was struggling with few challenges

The company got a bigger project which lead to the following challenges:

- Poor network connectivity
- Time consuming process in building network topologies
- Could not divert network traffic to its destination on time

Why Azure Virtual Network?

Somewhere far away at an office, a company was struggling with few challenges

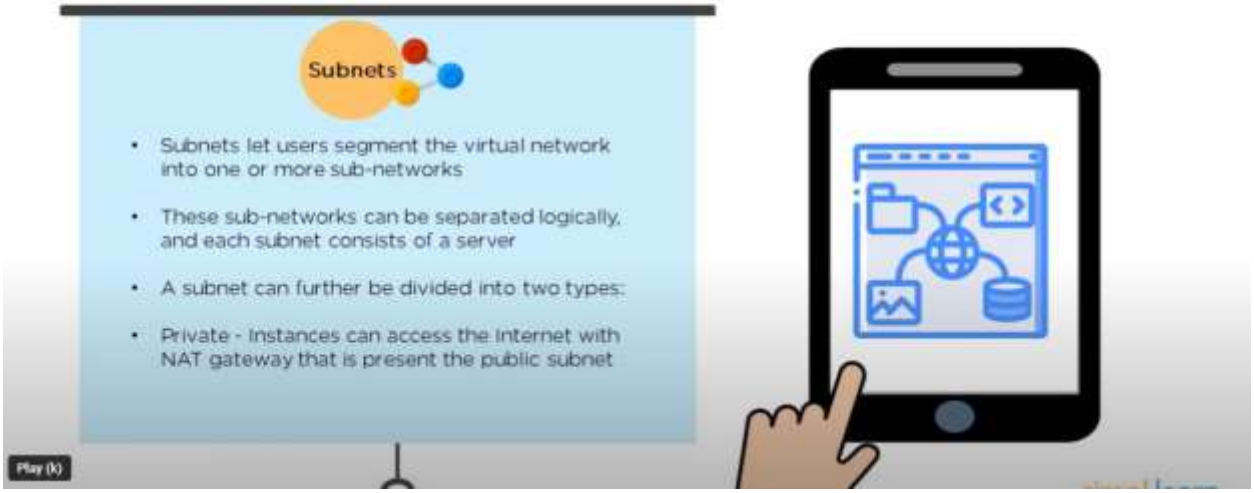
The company got a bigger project which lead to the following challenges:

- Poor network connectivity
- Time consuming process in building network topologies
- Could not divert network traffic to its destination on time

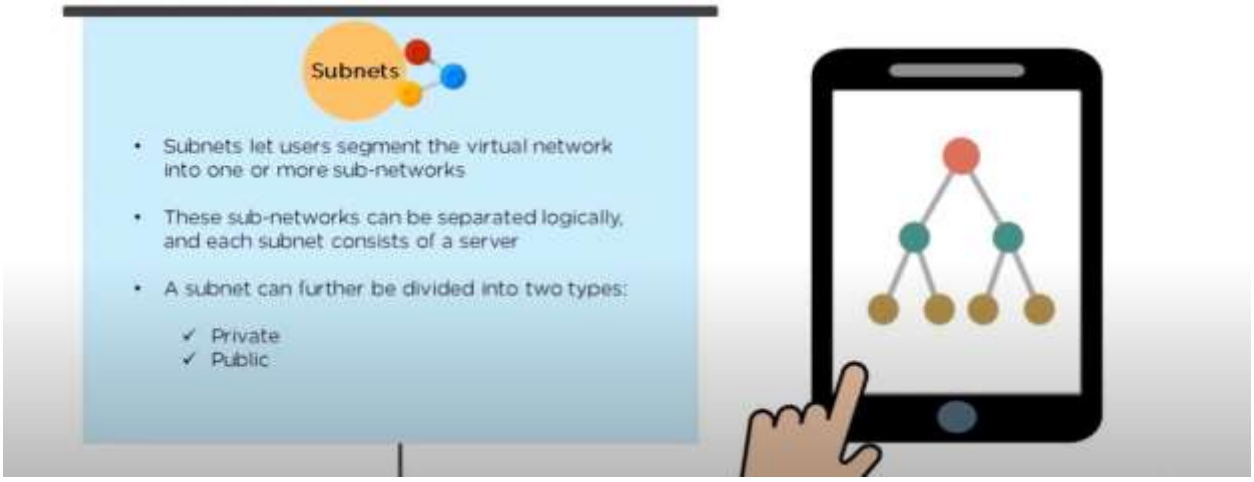
What could be the possible solution to these challenges?

Advantages of Using Azure Virtual Network

Components of Azure Virtual Network



Components of Azure Virtual Network



Components of Azure Virtual Network

Subnets

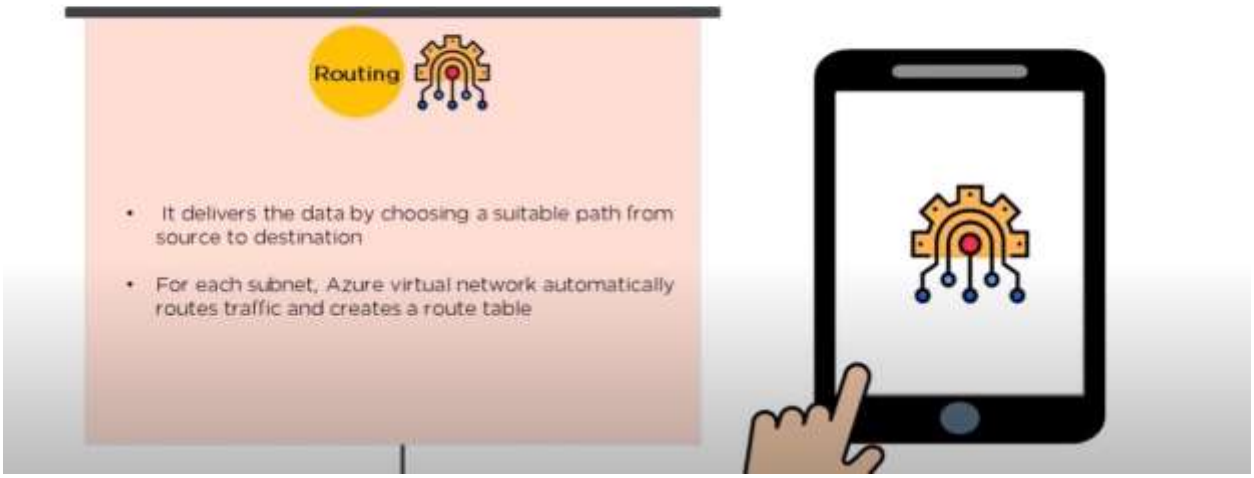
- Subnets let users segment the virtual network into one or more sub-networks
- These sub-networks can be separated logically, and each subnet consists of a server
- A subnet can further be divided into two types:
- Private - Instances can access the internet with NAT gateway that is present the public subnet

Components of Azure Virtual Network

Subnets

- Subnets let users segment the virtual network into one or more sub-networks
- These sub-networks can be separated logically, and each subnet consists of a server
- A subnet can further be divided into two types:
- Private - Instances can access the internet with NAT gateway that is present the public subnet
- Public – Instances can directly access the Internet

Components of Azure Virtual Network



Components of Azure Virtual Network

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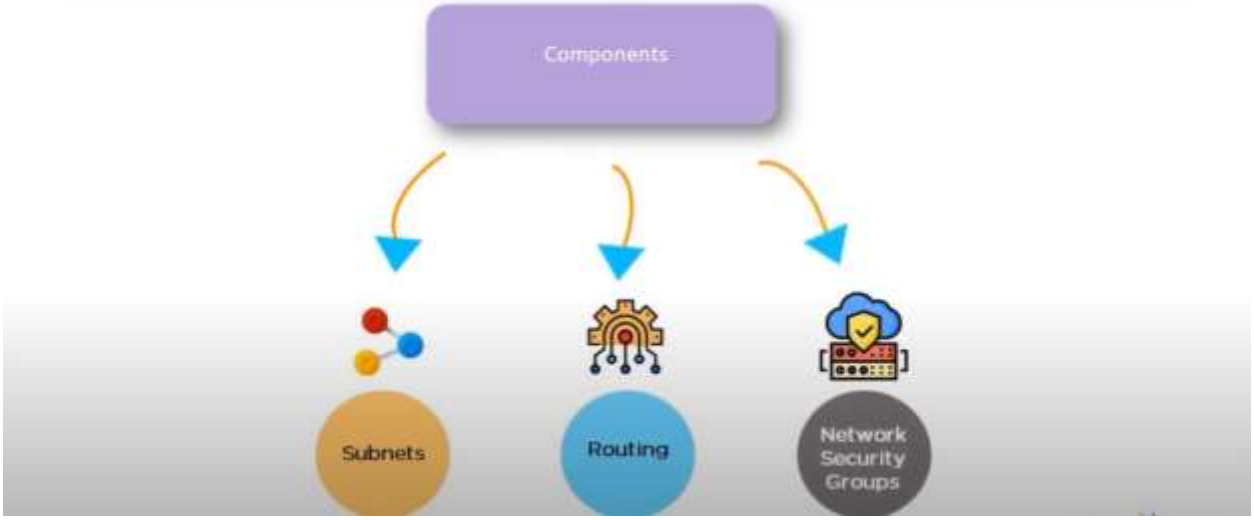
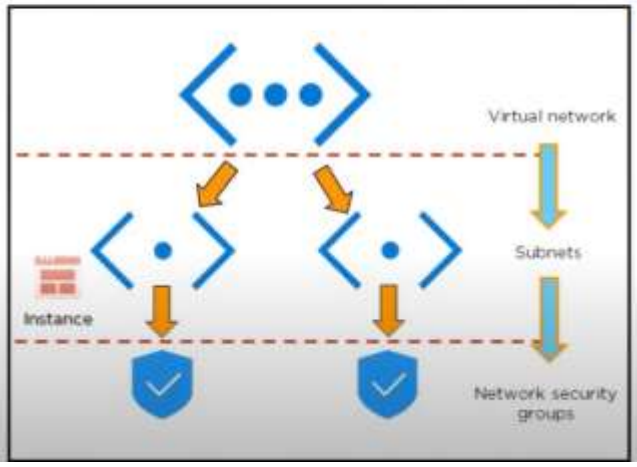
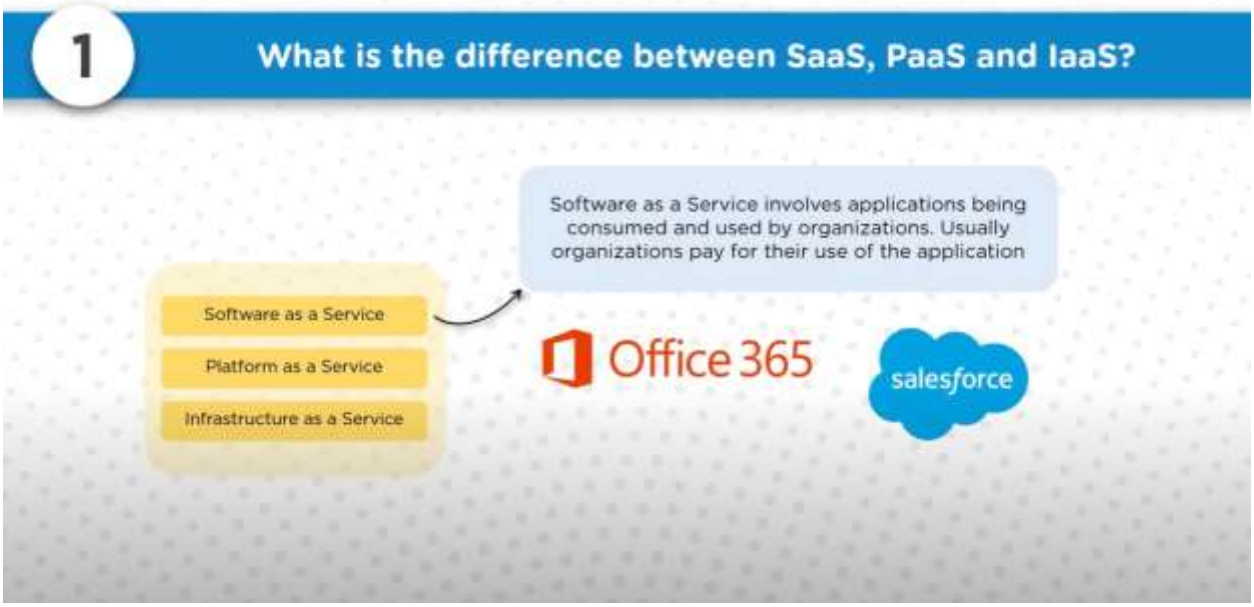
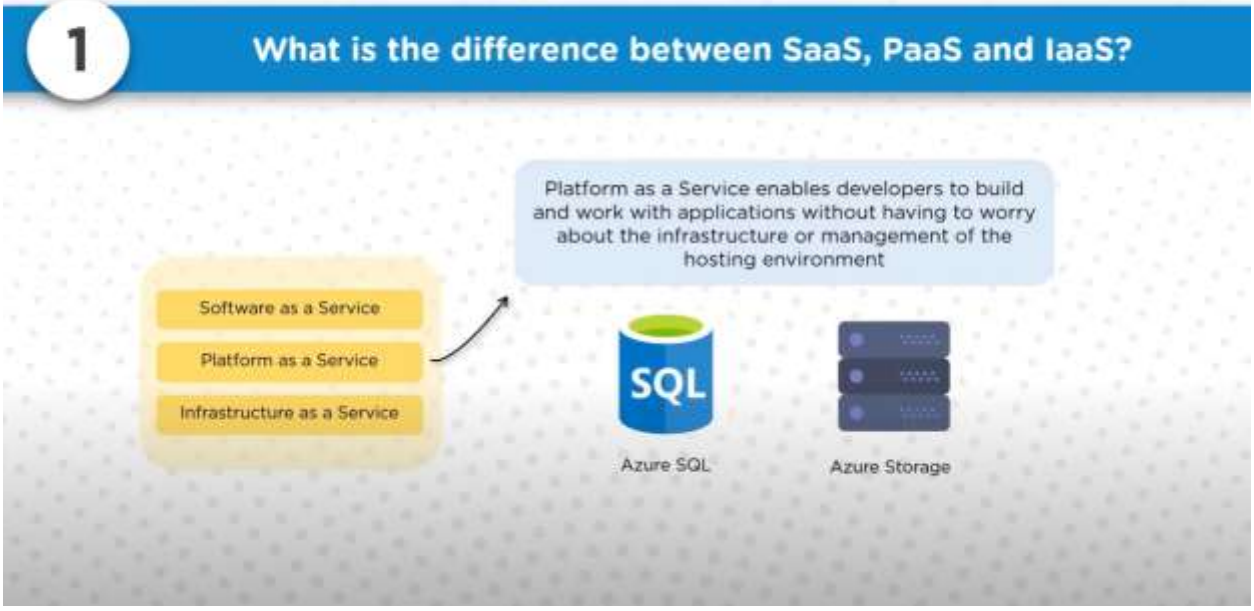


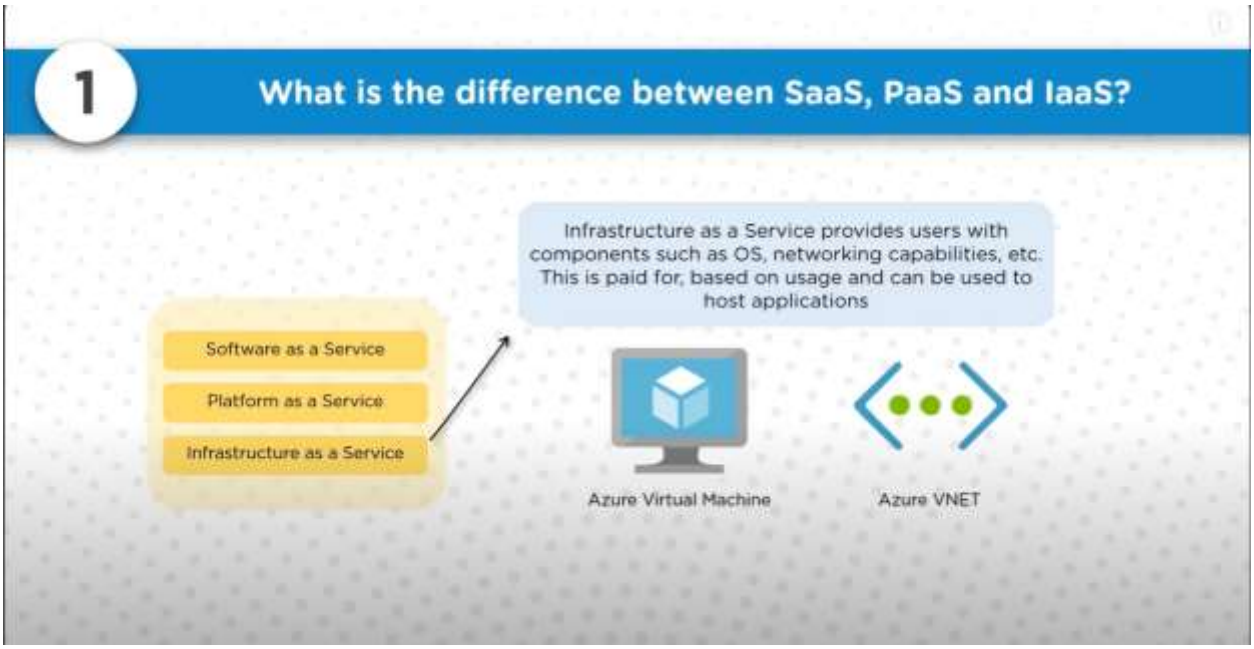
How to Launch an Instance using Azure VNet?

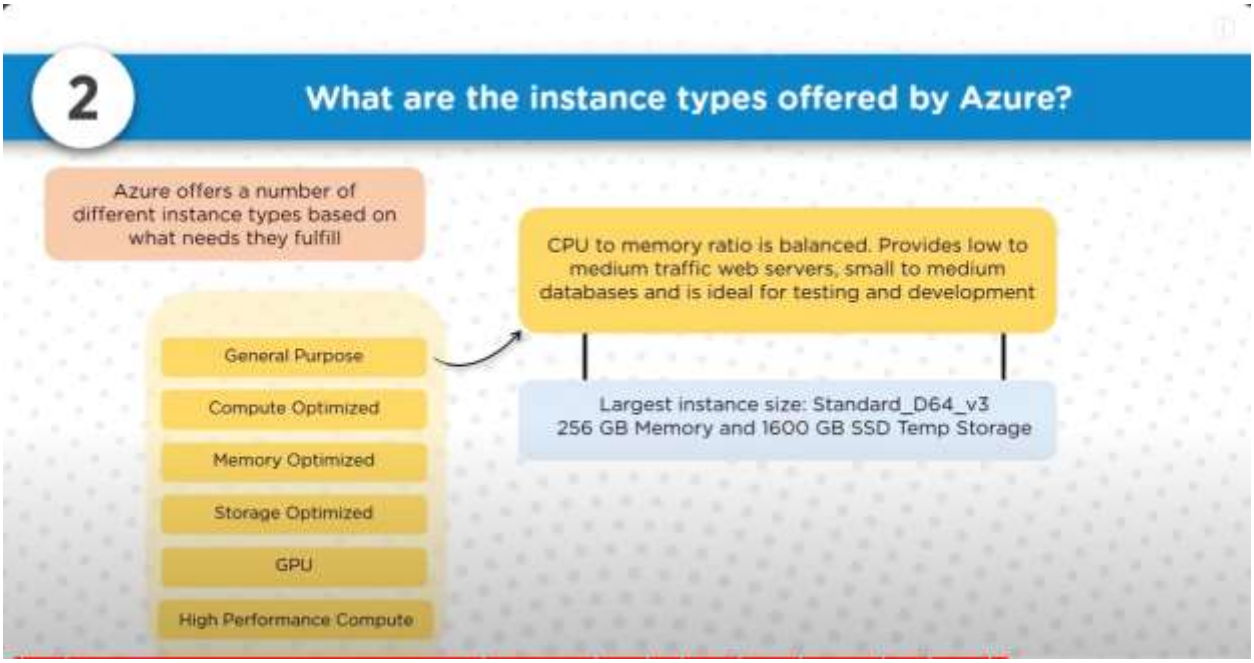


- Create a virtual network in the Azure cloud
- Next, create subnets into each virtual network
- Now, assign each subnet with the respective instance or Virtual Machine
- Connect instance to a relevant Network Security Group


1
What is the difference between SaaS, PaaS and IaaS?
Software as a Service involves applications being consumed and used by organizations. Usually organizations pay for their use of the application
Software as a Service
Platform as a Service
Infrastructure as a Service
Office 365
salesforce


1
What is the difference between SaaS, PaaS and IaaS?
Platform as a Service enables developers to build and work with applications without having to worry about the infrastructure or management of the hosting environment
Software as a Service
Platform as a Service
Infrastructure as a Service
SQL
Azure SQL
Azure Storage


1
What is the difference between SaaS, PaaS and IaaS?
Infrastructure as a Service provides users with components such as OS, networking capabilities, etc. This is paid for, based on usage and can be used to host applications
Software as a Service
Platform as a Service
Infrastructure as a Service
Azure Virtual Machine
Azure VNET


2
What are the instance types offered by Azure?
Azure offers a number of different instance types based on what needs they fulfill
General Purpose
Compute Optimized
Memory Optimized
Storage Optimized
GPU
High Performance Compute
CPU to memory ratio is balanced. Provides low to medium traffic web servers, small to medium databases and is ideal for testing and development
Largest instance size: Standard_D64_v3
256 GB Memory and 1600 GB SSD Temp Storage

3 What are the deployment environments offered by Azure?

Azure offers two deployment environments:

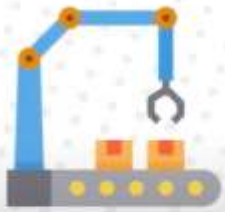
Staging Environment

- It provides a platform to validate changes to your application before it can be made live in the production environment
- In this stage, the app can be identified using the Azure's Globally Unique Identifier (GUID) in URL form (GUID.cloudapp.net)

3 What are the deployment environments offered by Azure?

Azure offers two deployment environments:

- This environment is used to store the live application
- It can be differentiated from the staging environment with an URL that's more DNS friendly (servicename.cloudapp.net)



Production Environment

4 What are the advantages of Scaling in Azure?

Azure performs scaling with the help of a feature known as Autoscaling. Autoscaling helps to deal with changing demands in Cloud Services, Mobile Services, Virtual Machines and Websites

Maximizes application performance

Scale up or down based on demand

Schedule scaling to particular time periods

Highly cost-effective

5 How are Windows Active Directory and Azure Active Directory different?

It is a directory service that facilitates working with interconnected, complex and different network resources in an unified manner

- Uses 5 layers to store data, store user details, issue and manage certifications, etc.
- Works with an emphasis on on-premises units like applications, file services, printers, etc.

Azure Active Directory (Azure AD) is Microsoft's multi-tenant, cloud-based directory and identity management service

- Integrates the 5 layers of Windows AD into 2, to perform the same operations
- Emphasizes on web based services that use RESTful interfaces

6 What are the types of Queues offered by Azure?

Azure offers two types of queues:

Storage Queues

- Part of Azure's Storage infrastructure
- Provides messaging within and between services
- Best suited when users need to store more than 80 GB of messages in queues
- It can provide side logs of all transactions executed against the user's queues

6 What are the types of Queues offered by Azure?

Azure offers two types of queues:

- Part of Azure's messaging infrastructure
- Integrates application or application components that span multiple communication protocols, network environments, etc.
- Provides a FIFO style of delivery
- The user's queue size has to remain under 80 GB

Service Bus Queues

7 What are the advantages of Azure Resource Manager?

Azure Resource Manager enables users to manage their usage of application resources

ARM helps deploy, manage and monitor all the resources for an application, a solution or a group

Users can be granted access to resources they require

Obtain comprehensive billing information for all the resources in the group

Provisioning resources is made much easier with the help of templates

8 How has integrating hybrid cloud been useful for Azure?

The Hybrid Cloud boosts productivity by using Azure and the Azure stack for building and deploying applications for cloud and on-premises applications

Obtain greater efficiency with a combination of Azure services and DevOps processes and tools

Users can take advantage of a constantly updated Azure services and other Azure Marketplace applications

Enables to deploy applications regardless of its location, the cloud or on-premises.

This enables applications to be created at a higher speed

9 What is Federation in Azure SQL?

SQL Azure Federation provides tools that can enable developers to access or share databases among themselves in SQL Azure

It enables users to take advantage of resources within the cloud

Allows users to have their own database or share databases amongst each other

Reduces the possibility of a single point of failure

Provides cost-effectiveness, by using cloud resources only when needed

10 What are the different types of storage offered by Azure?

- Azure Blob Storage
- Azure Table Storage
- Azure File Storage
- Azure Queue Storage

Table Storage enables users to perform deployment with semi-structured datasets and a NoSQL key-value store

Used to create applications requiring flexible data schema

Follows a strong consistency model, focusing on enterprises