Introduction to Microsoft Azure Fundamentals course - (Az 900)

Complete notes -

Module 01 = unit 1 (Microsoft Azure → Describe cloud concepts)

Introduction to Microsoft Azure Fundamentals -

Microsoft Azure is a cloud computing platform with an ever-expanding set of services to help you build solutions to meet your business goals.

Azure services support everything from simple to complex. Azure has simple web services for hosting your business presence in the cloud.

Azure also supports running fully virtualized computers managing your custom software solutions. Azure provides a wealth of cloud based services like the remote storage, database hosting & centralized account management.

Azure also offers new capability like artificial intelligence (AI) & Internet of things (IOT) focused services.

Q: what is Azure fundamentals?

Ans. Azure fundamentals is a series of three learning paths that familiarize you with Azure, it's many services & features.

whether you are interested in computer networking or storage services; learning about cloud security best practises or exploring governace & management options; think of azure fundamentals as your curated guide to azure.

Azure fundamentals includes interactive exercises that gives you hands on experience with Azure. Many exercises provide a temporary azure ported Environment called sandbox which allows you to practise creating cloud resources for free. Technical IT experience is not required however having a general IT knowledge will help you most from your learning experience.

Q. Why should I take Azure fundamentals?

Ans. If you are just begining to work with cloud, or if you already have cloud experience azure fundamentals provide you with everything you need to get started.

Q. What is cloud computing??

Ans. Cloud computing is a way to deliver computer services over internet. Computer services include common it infrastructure such as virtual machines, storage, databases & networking.

Cloud services also expand the traditional IT offerings to include things like internet of things (IOT), machine learning (ML), & Artificial Intelegence (AI).

Because cloud computing uses internet to deliver these services, it doesn't have to be constrained by physical infrastructure

the same way that a traditional (data's centre)/datacentre is. That means if you need to increase your IT infrastructure rapidly, you don't have to wait to build a new datacentre. You can use cloud to rapidly expand your IT footprints.

Q. Describe shared responsibility model.

Ans.

Examples case study-

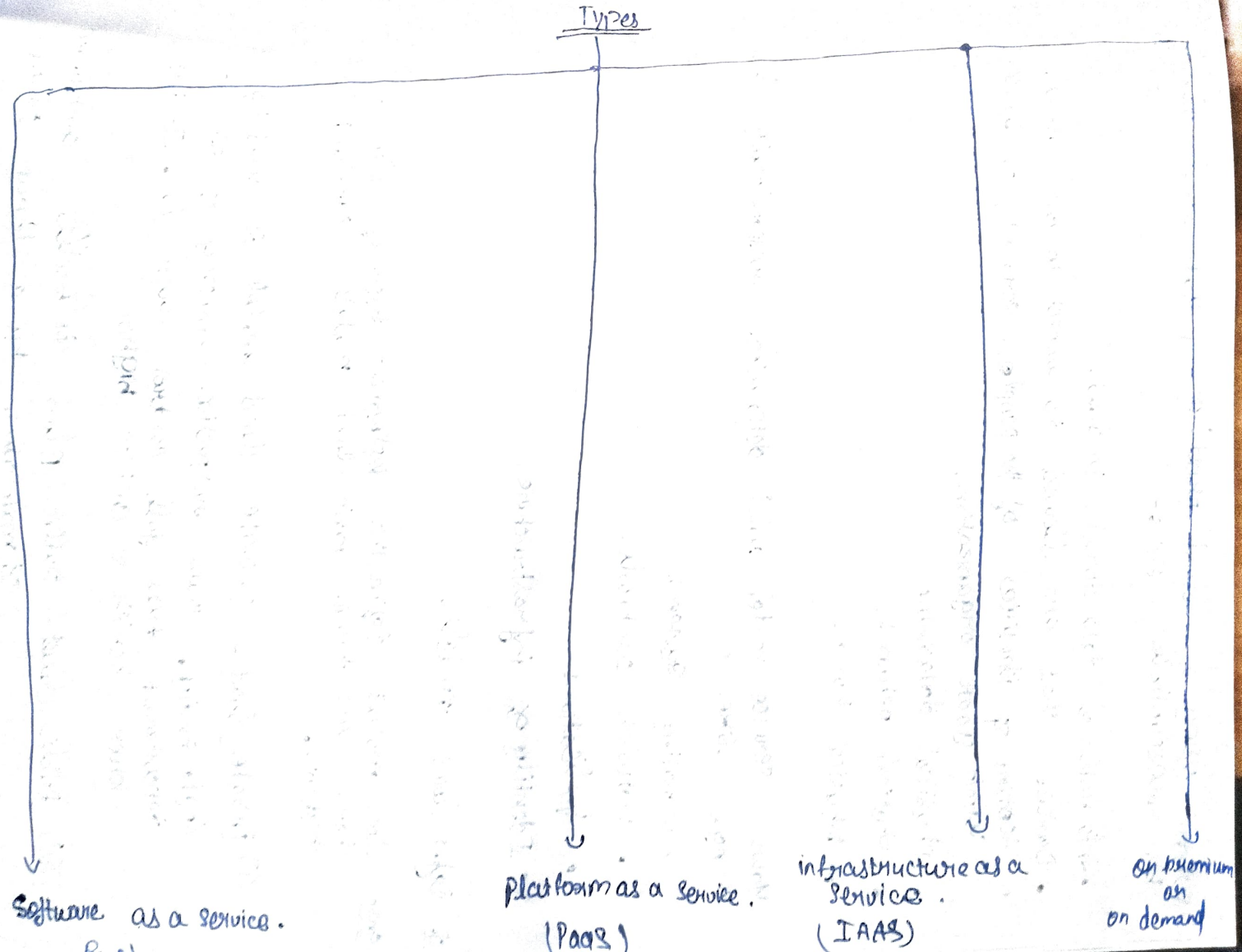
For a co-orporate datacentre, a company is responsible for maintaining physical space, ensuring security, maintaining or replacing servers if anything happens. The IT department is responsible for maintaining all the infrastructure & software needed to keep the datacentre up & running. They are also likely to responsible for keeping all systems patched & on the correct version.

With shared data responsibility model these responsibilities get shared b/w cloud provider & consumer.
Physical security, power, cooling & network connectivety are responsibilities of cloud provider.

The consumer is not associated with datacentre, so it would have no sense to gave any of those responsibility to a consumer.

Consumer is responsible for data & information stored in cloud & accessing the security, meaning you can give access to those who need it.

Then for some things responsibility depends upon it's types.


Types
Software as a service.
Platform as a service.
(PaaS)
infrastructure as a service.
(IAAS)
on premium
on demand

When using a cloud provider, you will always be responsible for :-

- Information & data stored in cloud.
- Devices that are allowed to connect to your cloud.
- Account & identities of the people, services, & devices within your organization.
- physical datacentre.
- physical network.
- physical hosts.

Your service model will determine responsibility for things like :-

- operating systems.
- Network controls.
- Applications.
- Identity & infrastructure.

Q Define cloud models.

Ans. Cloud models define the deployment type of cloud resources. There are three main cloud models; public; private; hybrid.

(1) Private cloud - Private cloud model is used by a single entity, thus respective company & its IT department has full control over it. It has fewer benifits & cost is higher.

(2) Public cloud - Public cloud is built, controlled & maintained by a third-party-cloud-provider. With a public cloud anyone who wants to purchase cloud services can access & use resources.

③ Hybrid cloud – Hybrid cloud is a computing environment that uses both public & private clouds, in an inter-connected environment. A hybrid cloud environment can be used to allow a private cloud to increase it's services, temporarily as per demand by deploying public cloud resources.

Hybrid cloud can be used to provide an extra-layer of security.

For example, users can flexibly choose which services to keep in public cloud & which to deploy to their private cloud infrastructure.

Difference –

public cloud	private cloud	Hybrid cloud
• No capital expenditures to scale-up.	• organizations have complete control over resources & security.	• Provides most flexibility.
• Applications can be quickly provisioned & de-provisioned.	• Data is not collocated with other organizations data.	• organizations determine where to run their applications.
• organizations pay only for what they use.	• Hardware must be purchased for startup & maintainance.	• organizations control security compliance, or; legal requirements.
• organizations do not have complete control over resources & security.	• organizations are responsible for hardware maintainance; & updates.	

Multi-cloud -

A fourth, & increasingly likely scenario is a multi-cloud scenario.

In a multi-cloud scenario you use multiple cloud providers. Maybe you use different features from different cloud providers; or; you start your cloud journey with one provider & are in the process of migrating to a different provider.

Regardless in a multi-cloud environment you deal with two or more public cloud providers & manage resources and security in both environments.

Azure Arc -

Azure Arc is a set of technologies that helps manage your cloud environment. Azure Arc can help manage your cloud environment, whether it's a public cloud solely on Azure, a private cloud in your datacentre, a hybrid configuration, or even a multi-cloud environment running on multiple cloud providers at once.

Azure VMware Solution -

What if you are established with VMware in private cloud environment but want to migrate to a public or hybrid cloud??

Azure VMware Solution lets your VMware workloads run in Azure with seamless integration & scalability.