Azure Masters Batch 3 - AZ-900 Azure Fundamentals - Day 1

30 July 2022 10:00

About Rahul Joshi:

22 Years exp, 15th year as Microsoft certified trainer & AWS Authorized instructor

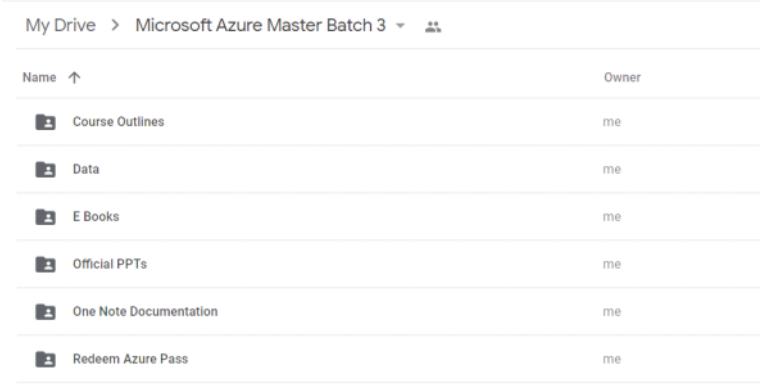
- Helping customers add Application Modernization capabilities by Replatforming ASP.NET sites to Azure App Services, Rearchitecting of monolithic applications to microservices or containers.
- Reengineering of legacy applications to cloud-native apps with improved user experience.
- Designing cloud strategy, solution design, cloud adoption frameworks, app modernization and cloud migration.
- Develop Proof of Concept by working closely with Microsoft and Amazon Web Services and design frameworks for cloud adoption and Enterprise Architecture, Cloud Infrastructure/ Migrations.
- Responsible for Migration to Microsoft Azure (Brownfield and Greenfield Projects). In-Premise To Cloud Migration and Storage Migration.
- Perform Application Readiness Assessment, an investigation at application level in preparation for cloud deployment, to look at issues that will either block or detract from the application's abilities to fully utilize the cloud, then act on this report to ensure cloud readiness.
- Designing applications for scalability
- Migrating to PaaS & Container Architecture, Migrating from Traditional .NET Application Web Apps

"Executed more than 580+ Trainings engagements on Microsoft Azure for more than 220+ clients"

Google Drive Link:
https://drive.google.com/drive/folders/181ebdbVLk5xpLu5ArR__BFWeM9b3N2x3?usp=sharing

Recording:
Please Note, Post Session Completes Zoom Recording Link will be shared on WhatsApp, Download it from Zoom Directly. It will n ot be uploaded on Google Drive

One Note Documentation:
https://1drv.ms/u/s!Aht-oGFG3XwWgagy2dnZHuXQmk0wkg



How To Redeem Azure Pass

1st Step - Prerequisite:
Create a FRESH Outlook ID only for this Azure Training. Remember the Password, DO NOT USE EXISTING OUTLOOK OR GMAIL OR ANY OTHER ID OR even Official ID

2nd Step - Redeem

1. On your computer, open Chrome.
2. **At the top right, click More. New Incognito Window.**
3. https://www.microsoftazurepass.com/
4. Click In the start
5. **Please Login with your NEW Outlook ID** which you created above;

This ID SHOULD NOT BE USED BEFORE FOR ANY AZURE SUBSCRIPTION. DO NOT USE COMPANY ID.

6. In the next screen you will be asked to put the Promo code which is given by Rahul Joshi above in this email you will get ind ividually. Click the button Claim and Wait 2 minutes.
7. Then a form will come to fill in basic details, your email id, your phone, city, pin code and in company name put self or you r full name etc.
8. click submit and then accept the agreement button and submit. Wait for 5 minutes and you will be redirected to the **portal.azure.com** website

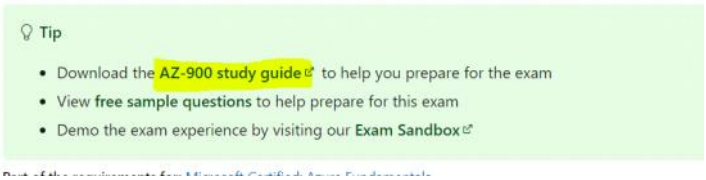
DO NOT REFRESH THE PAGE IN BETWEEN, YOUR PROMO CODE WILL GET INVALID.

AZ-900 Azure Fundamentals

https://docs.microsoft.com/en-us/certifications/exams/az-900

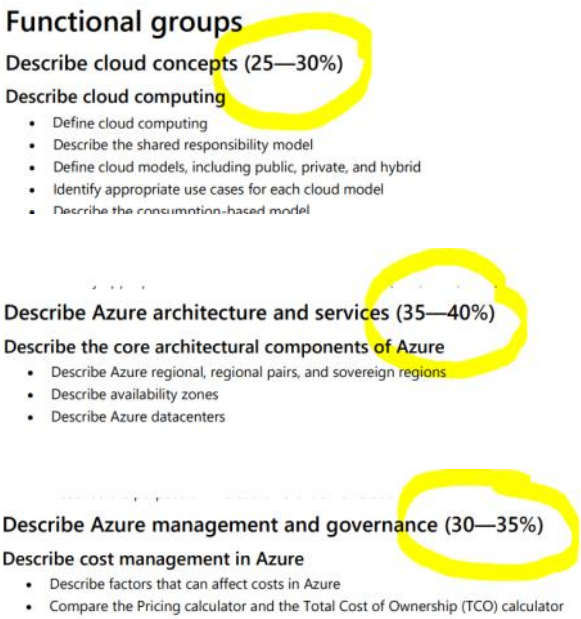
Candidates for this exam should have foundational knowledge of cloud services and how those services are provided with Micros oft Azure. The exam is intended for candidates who are just beginning to work with cloud-based solutions and services or are new to Azure.

Azure Fundamentals exam is an opportunity to prove knowledge of cloud concepts, Azure services, Azure workloads, security and privacy in Azure, as well as Azure pricing and support.



Study Guide
https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE3VwUY

All the points in the above study guide are helpful to pass the exam. Do not study any topic outside the study guide from Exa m Point of view, but for interviews and for real world, many more topics are added based on interest.



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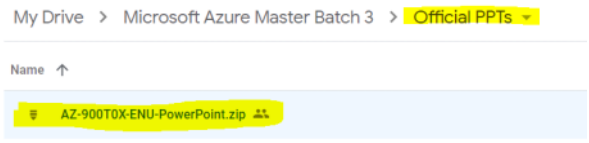
Official PPTs of Microsoft

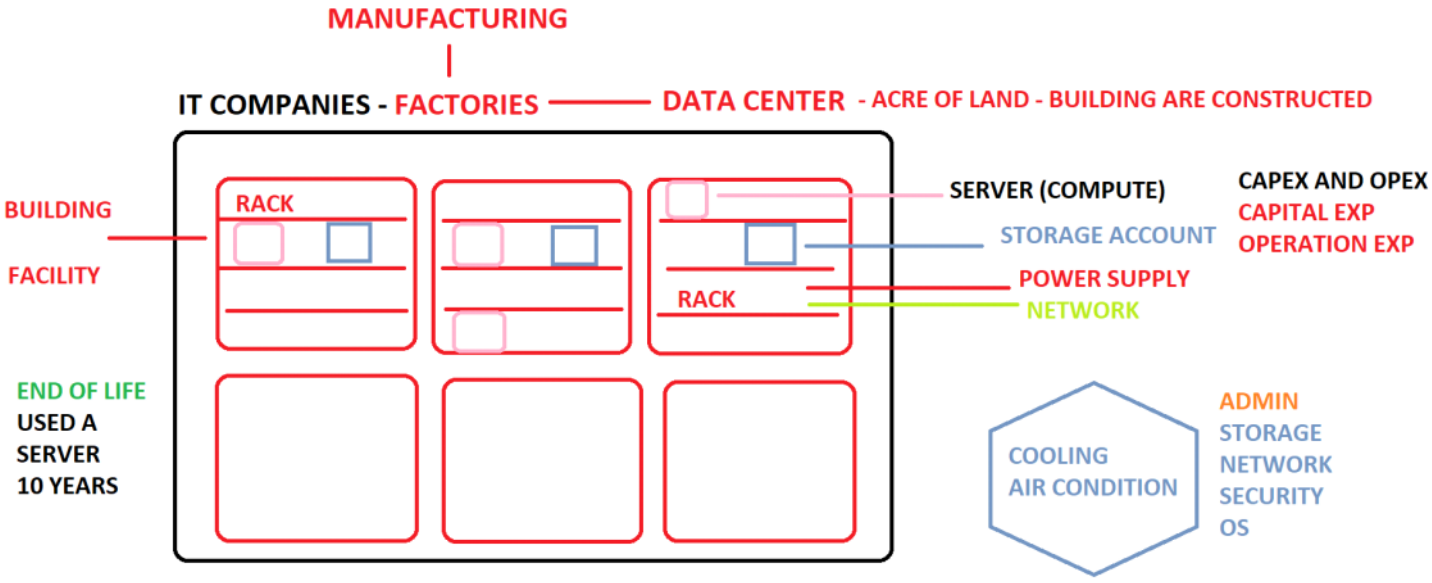


Azure Subscriptions

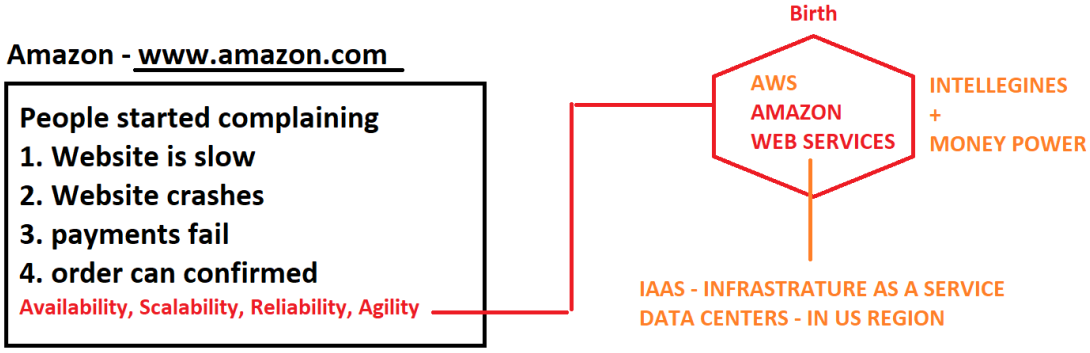
1. Organization Subscription - That Organization adds you to their Subscription - We don't have to Pay
2. Azure FREE Tier Subscription - Microsoft Gives 1 Month of FREE Azure Usage for testing purpose and after 1 Month you are given choice to convert that to PAY-AS-YOU-GO, after 1 month, you will start paying for what you use, but for 1st month it is FREE https://azure.microsoft.com/en-in/free/
3. PAY AS YOU GO: - I have a Debit Card, I have a Credit Card and I have already used FREE Subscription of 1 Month, but still I want to practice, I am ready to pay the charges that are incurred.
4. Student Subscription - If you are part of a College or Student of a school, you can provide ID card and Microsoft gives 12 months of FREE Access to Azure - https://azure.microsoft.com/en-us/free/students/ - 100$ FREE Usage
5. **Azure Passes** - Microsoft GOLD PARTNER OR LEARNING PARTNERS can give Azure Pass, which can give 50$, 100$, 200$ FREE Credit to People

Actual Training of AZ-900 Starts now!!

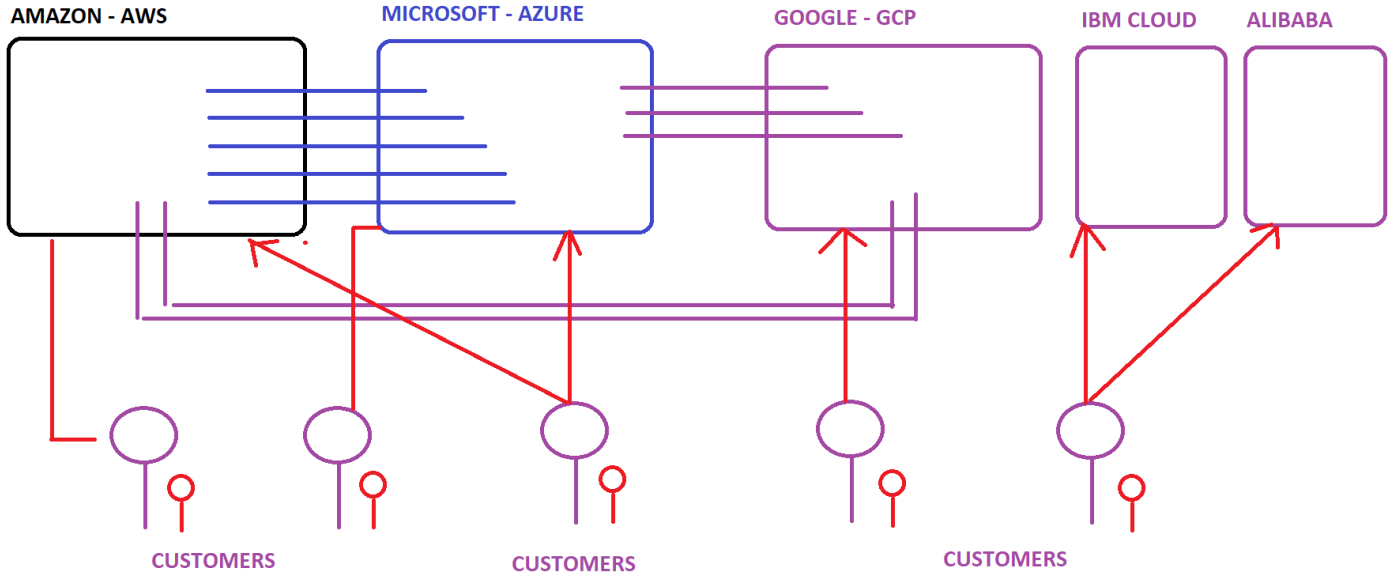
Why Cloud?



High Capex and regular OpEX, with high competition, low profits, project bidding with less margin

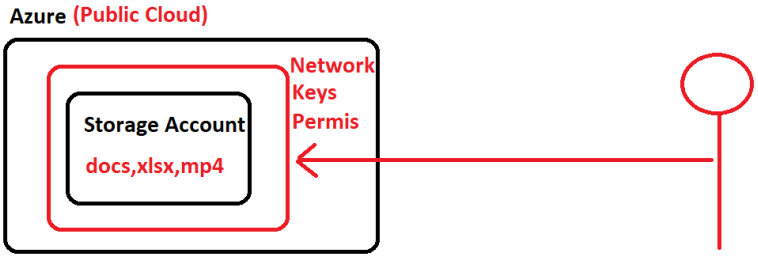


Cloud Computing = SECURITY



Cloud Models (EXAM)

1. Public Cloud
   a. Your Entire Infra is going to be on the Internet, people from anywhere in the world with right credentials can access the data in the Public Cloud (Typically, Microsoft Azure, AWS, GCP, IBM Cloud are used as "Public Cloud Providers".
   b. Public cloud is best for those organization who does not want to host sensitive data in the cloud, data where government rules and regulations, compliance does not matter



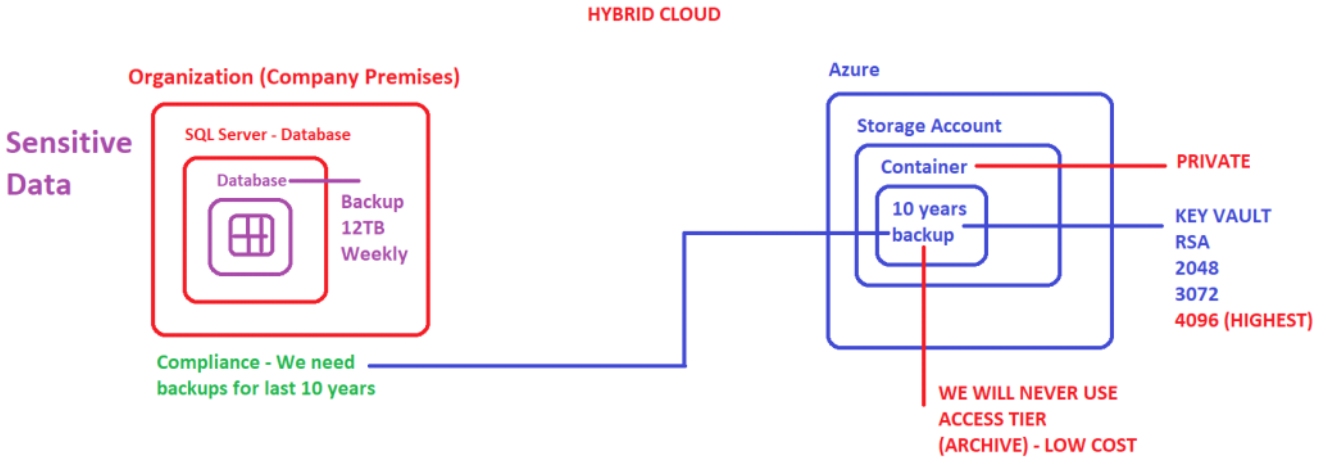
The data in the cloud is also protected, but STILL it is in the Public Domain and any data which is highly sensitive or classified, we should not keep it on the public cloud.

2. Private Cloud (Cloud here means on-premises datacenter)

Private Cloud is a datacenter within the organization, this data center is within the premises of the organization and typically, all the data when it is within the premises or within the org is considered safe as public (people from outside) cannot access this data. This is perfect for data which is highly sensitive and data which is governed by rules and regulations.

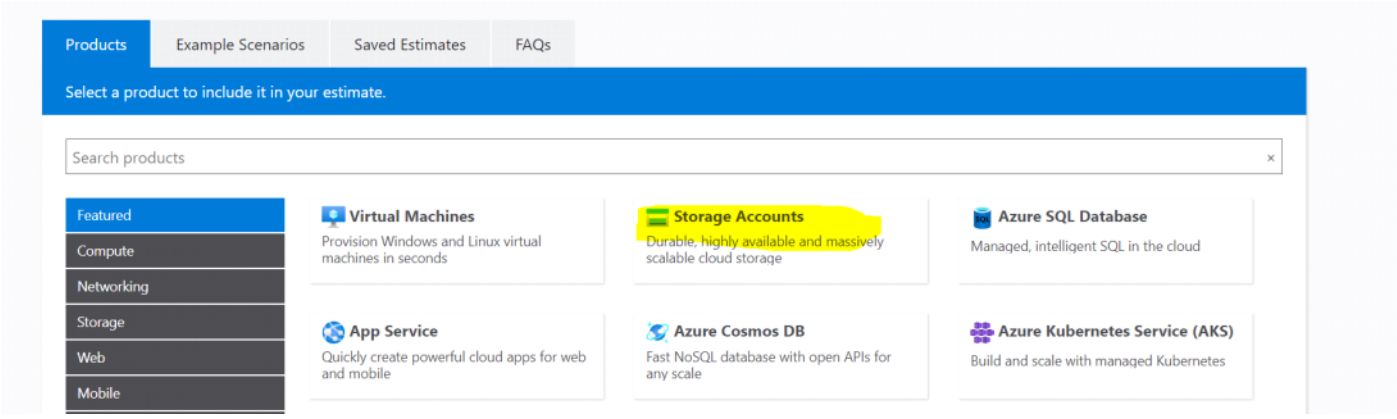
By default when we talk about private cloud, the data is safe within the organization, but sometimes, we need to pull this data in the cloud and that is possible using network related services in azure, for example, vpn connection, site to site vpn, express route all these strategies can be used for connectivity.

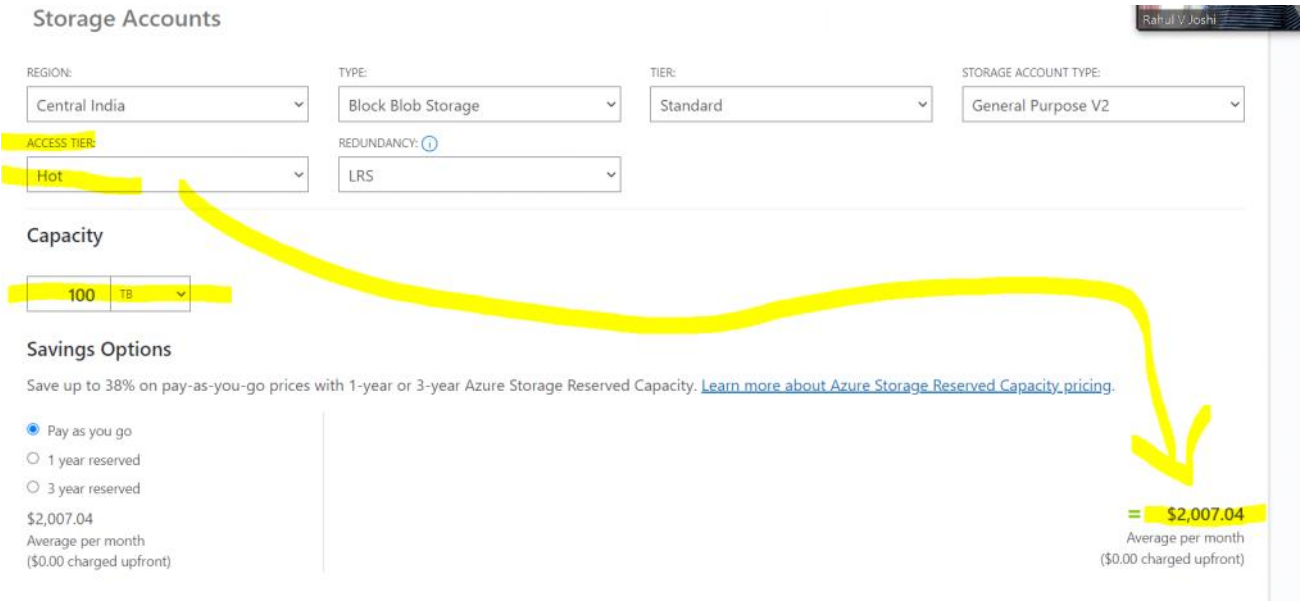
3. Hybrid Cloud - Mix of Both, Data which is sensitive stays in Local Cloud (local datacenter) and data which is not sensitive goes to the Public Cloud (Azure)

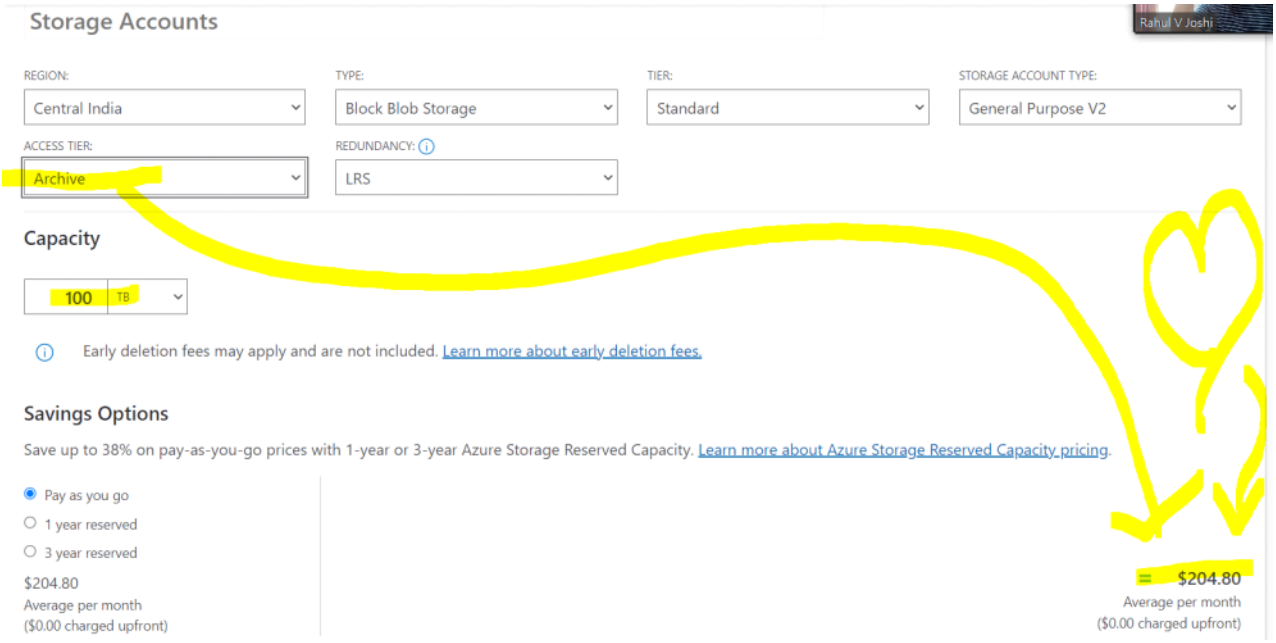


Best of Both the worlds, data which is sensitive is on the cloud and data which can help save cost, and is "redundant" and is taking space and compute locally can be offloaded to cloud.

Azure Pricing Calculator:
https://azure.microsoft.com/en-in/pricing/calculator/





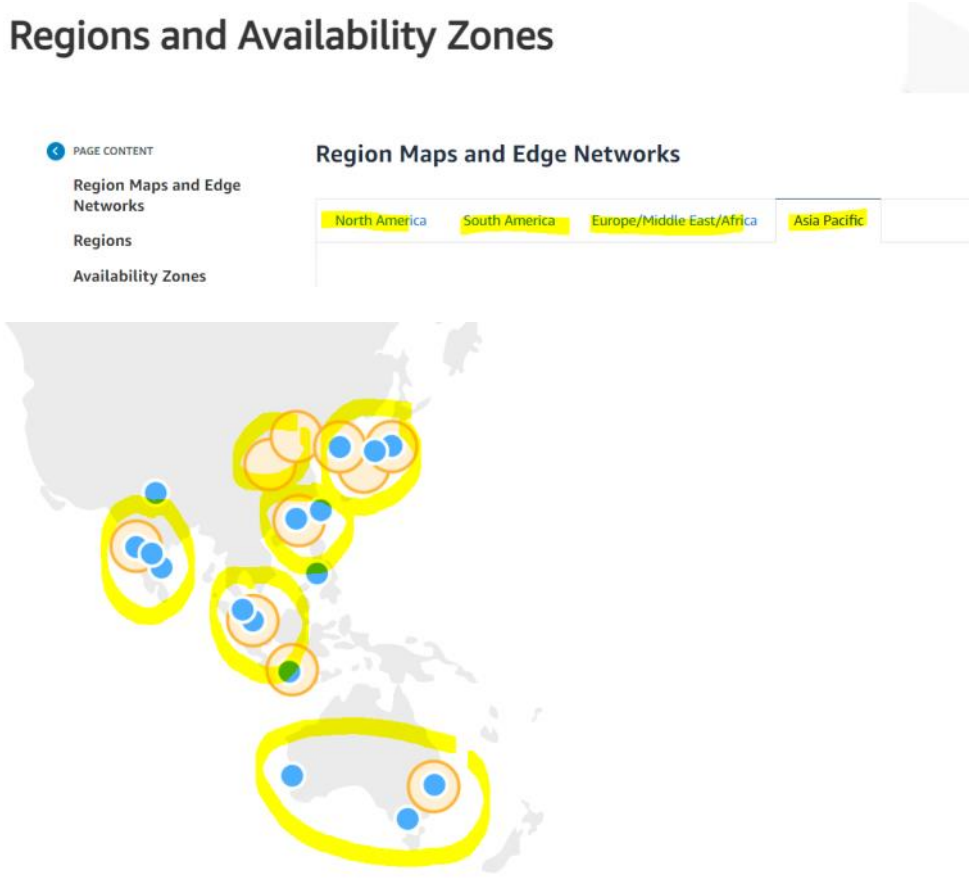


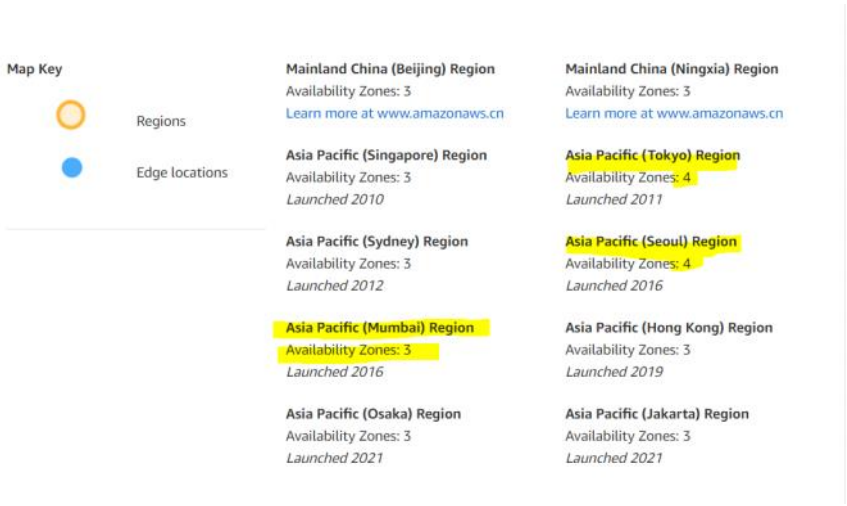
Cloud Benefits: (Interviews)

High Availability:
Availability = Available = Ready To Serve = My Presence is there
High = Always = 365*24*7

Microsoft, Amazon or Google has to maintain High Availability in their infrastructure. As if availability goes down, it will lead to customer satisfaction issues.

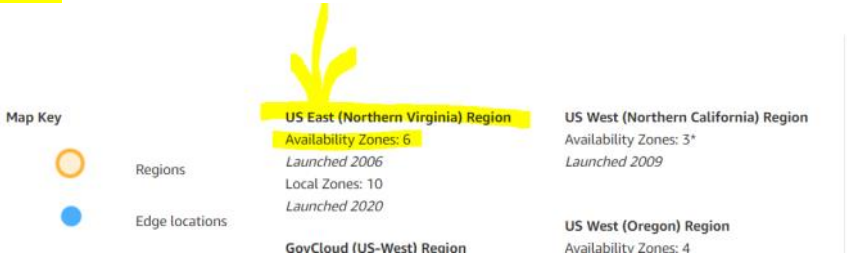
AWS Regions
https://aws.amazon.com/about-aws/global-infrastructure/regions_az/





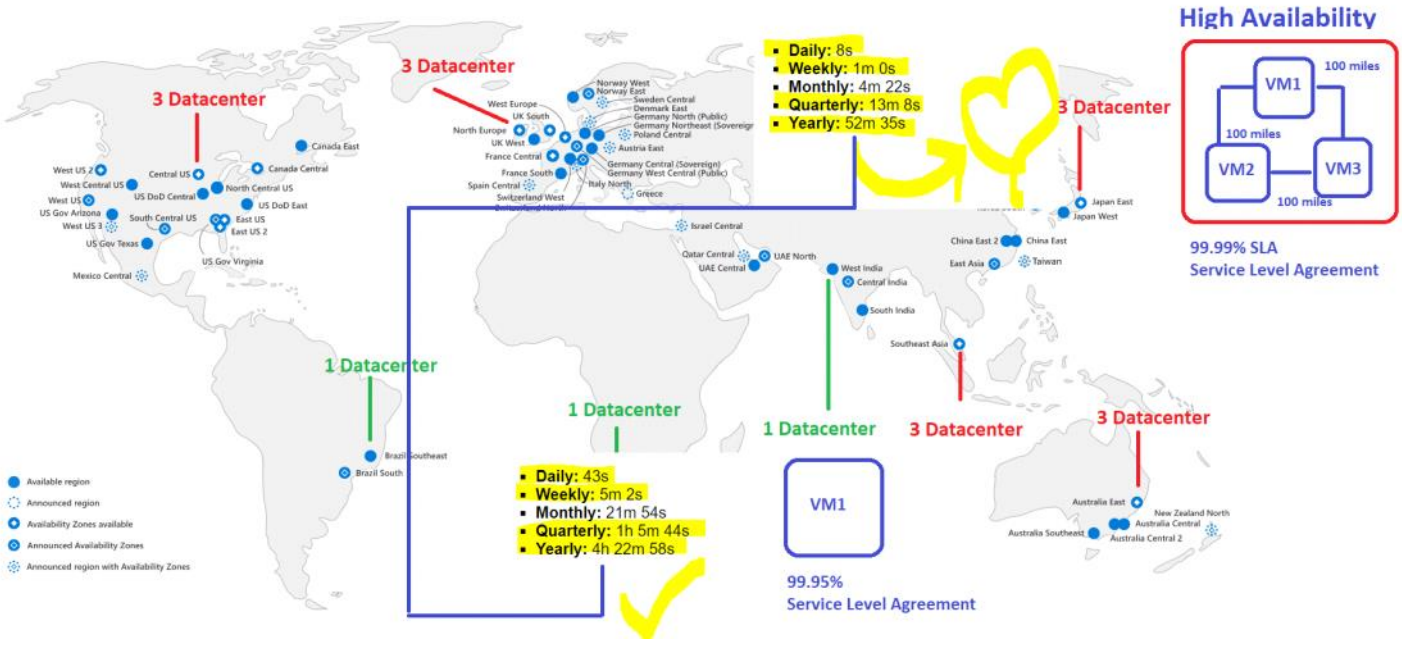
Availability Zone = Data Center

In US

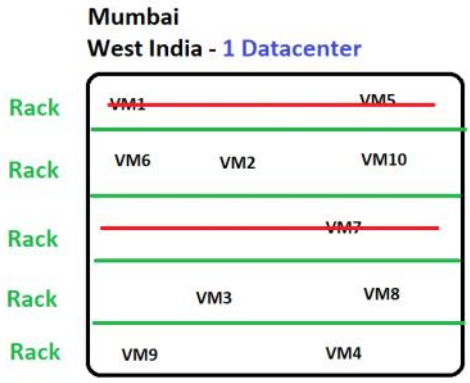


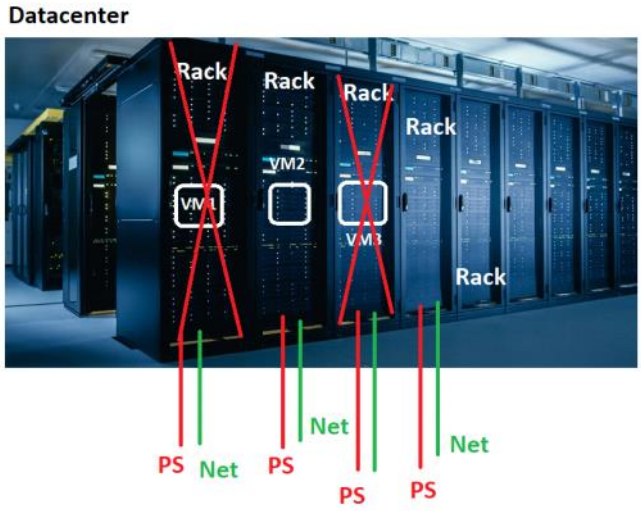
In AWS, Maximum **6 Datacenters** and **minimum 3** Datacenters are there for HIGH AVAILABILITY

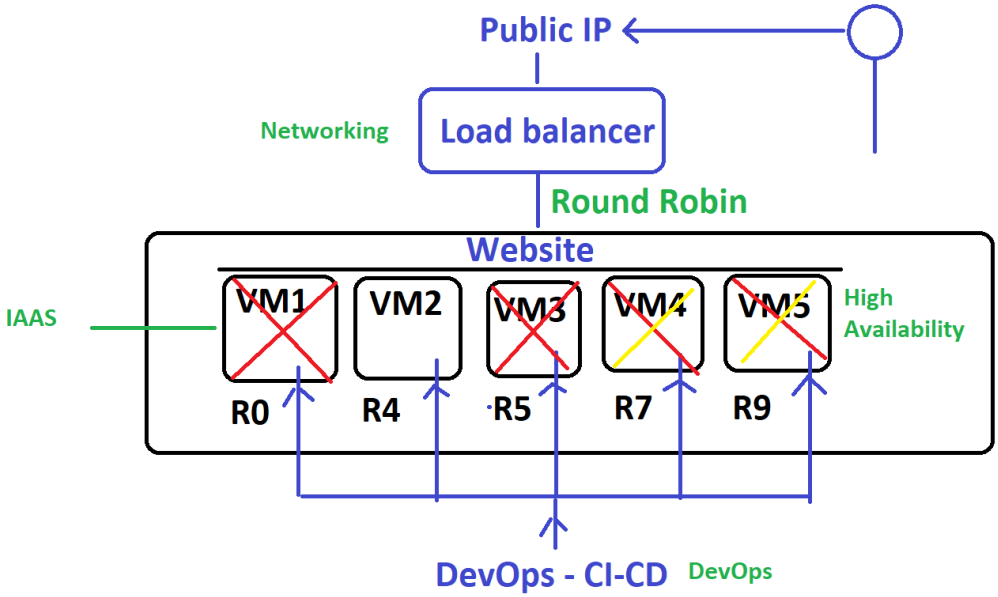
SLA Calculator
https://uptime.is/



Availability Set







Interview Questions?

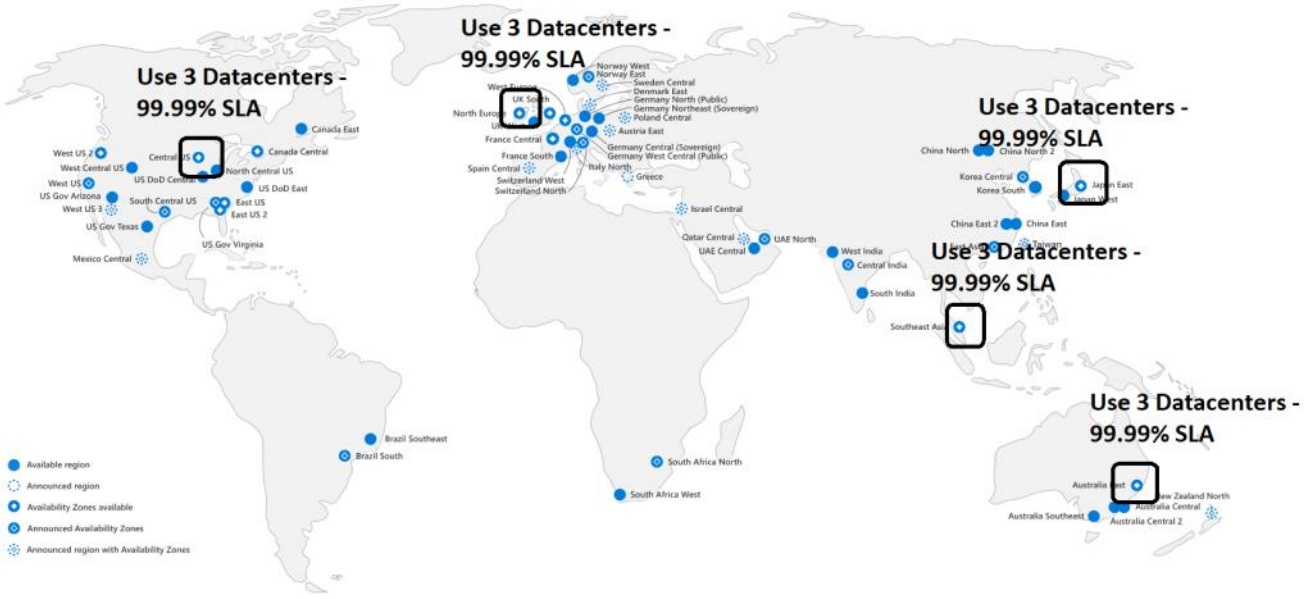
What is the difference between Availability Zone and Availability Set

3 Datacenters = Availability Zone - 99.99% SLA
1 Datacenter = Availability Set - 99.95% SLA

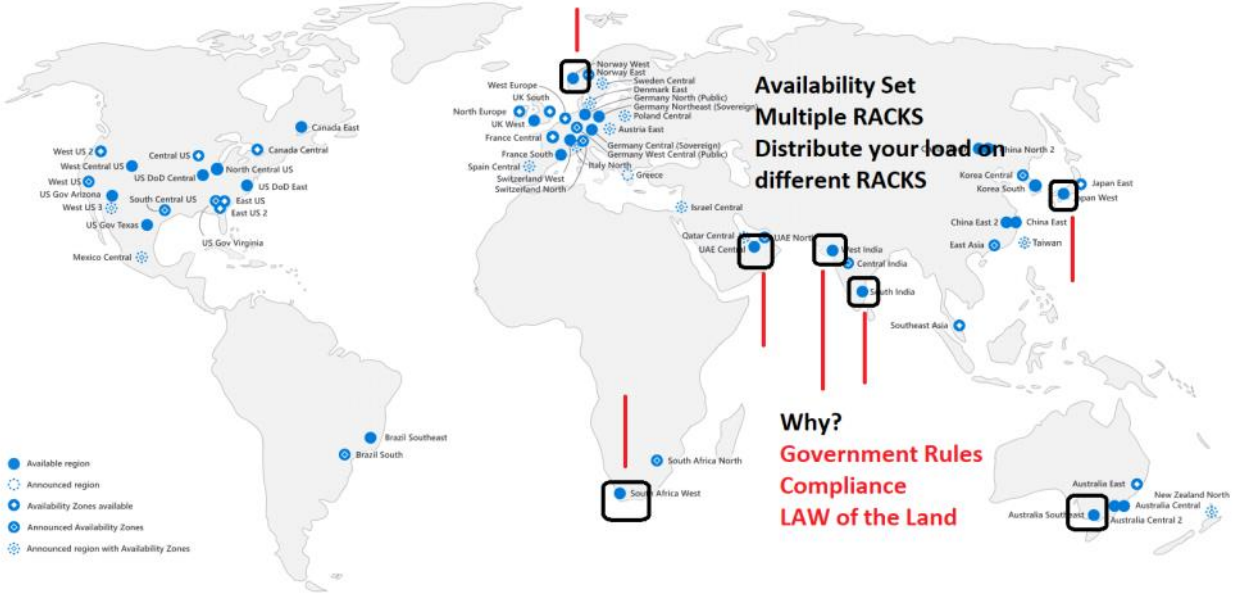
When you configure the Azure Service, that time only you should tell Microsoft Availability Zone of Availability Set, But if you choose Mumbai, Chennai then Availability zone Option does not come, as these regions only have 1 Datacenter

What are the different ways in which we can configure Azure Services for High Availability?

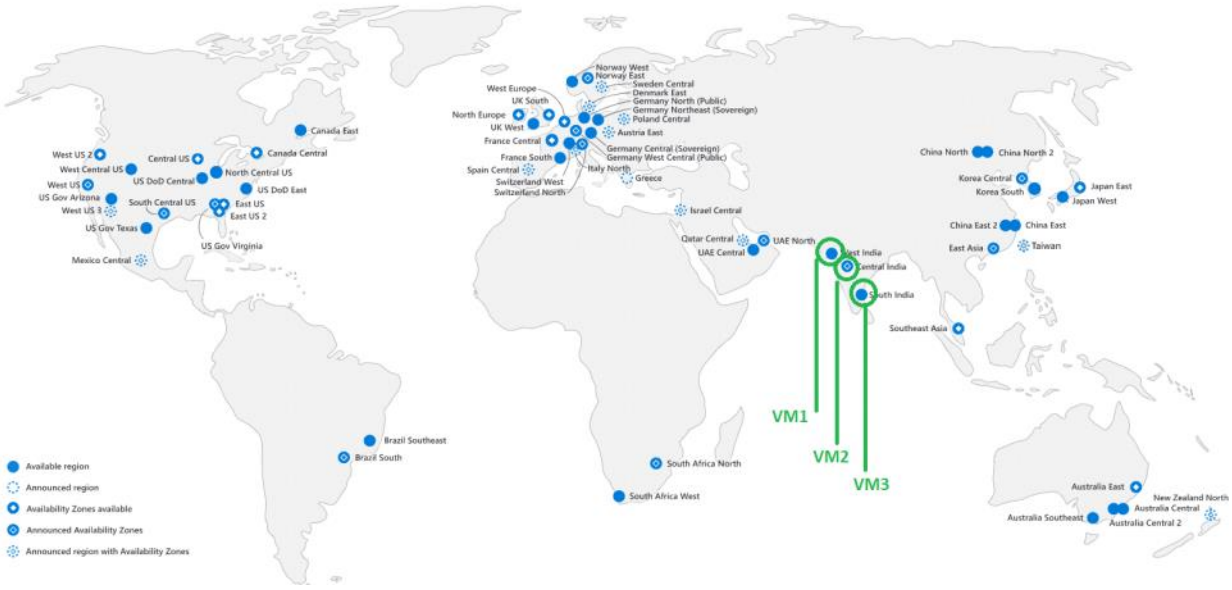
Pattern 1



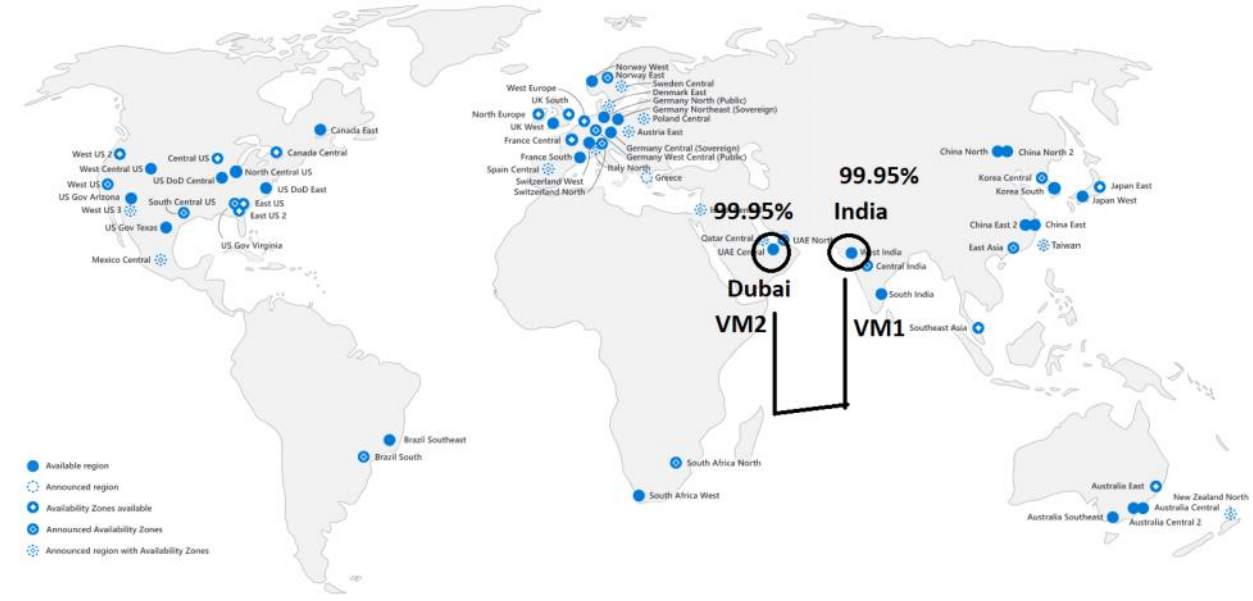
Pattern 2



Pattern 3

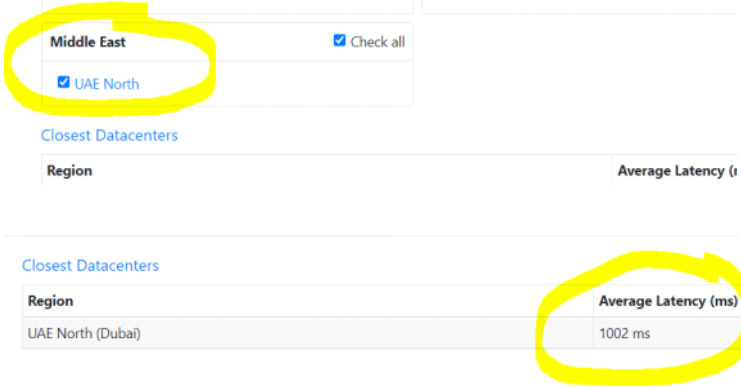


Pattern 4



https://www.azurespeed.com/

Mobile Internet



Closest Datacenters

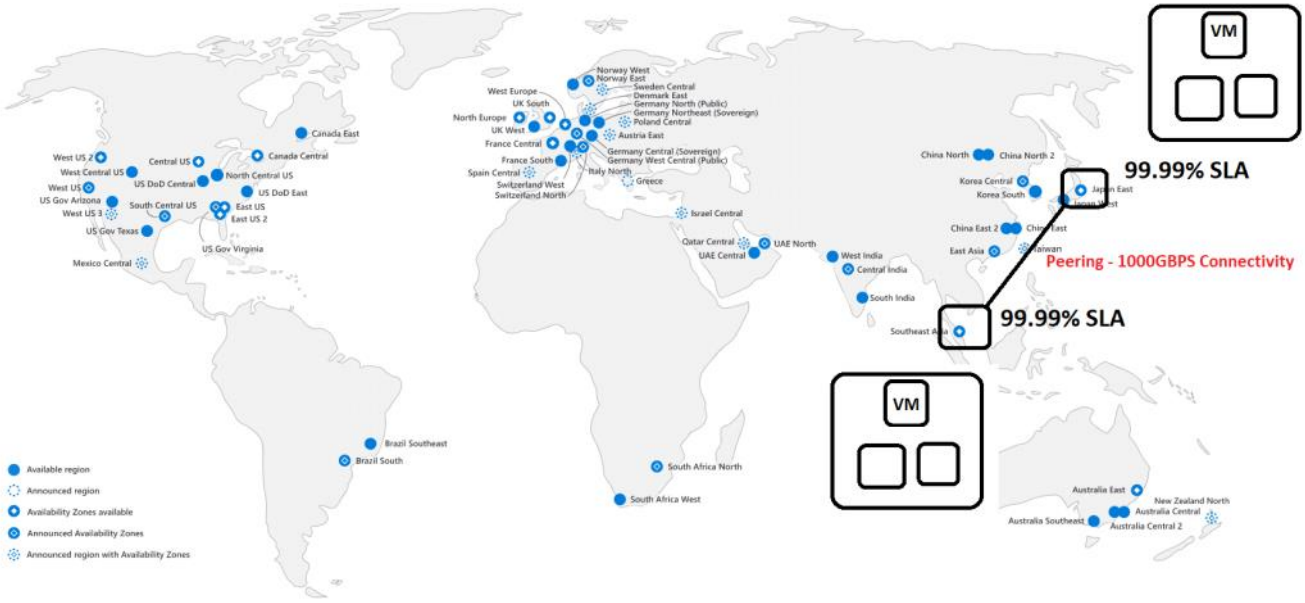
Region	Average Latency (ms)
UAE North (Dubai)	420 ms

Broadband

atency Test

Geography	Region	Physical Location	Average Latency (ms)
Middle East	UAE North	Dubai	54 ms

Pattern



What are the factors in choosing a Region?

1. Law Of the Land, Government Rules and Regulations, Compliance
2. Proximity To the Customer (How Close the customer is to the Datacenter)
3. 3 Datacenters vs 1 Datacenter - 99.99% SLA vs 99.95% SLA
4. Cost - Cost is different per Region, Where demand is more cost is Less, When Demand is less, cost is more
5. Service availability - Not All Services are available in All Regions

Pune, now has 3 Datacenters
https://azure.microsoft.com/en-in/global-infrastructure/geographies/#geographies

Asia Pacific | Australia | China | India | Indonesia | Japan | Korea | Malaysia | New Zealand | Taiwan

Regions	Central India	South India	Southcentral India
	Start free >	Start free >	Start free >
LOCATION	Pune	Chennai	Hyderabad
YEAR OPENED	2015	2015	Coming soon
AVAILABILITY ZONES PRESENCE	Available with 3 zones	Nearest region with zones coming soon: Central India	Coming soon

Scalability

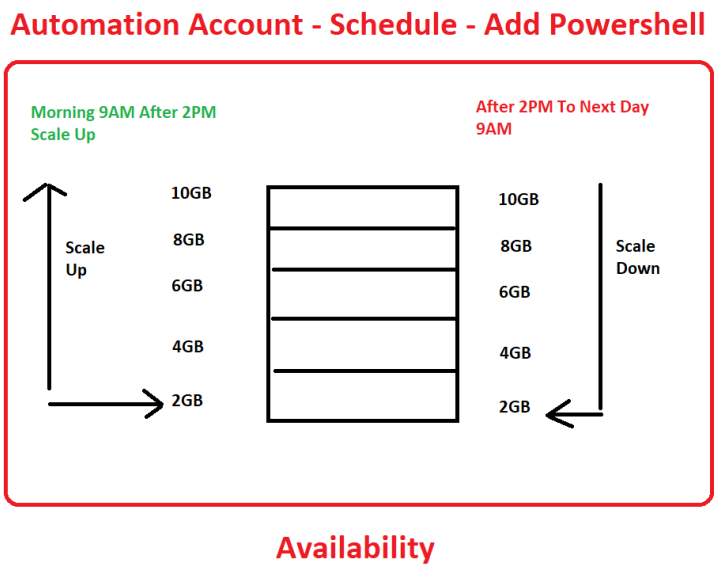
Scalability = Scale = measure = Ability to scale

Scalability

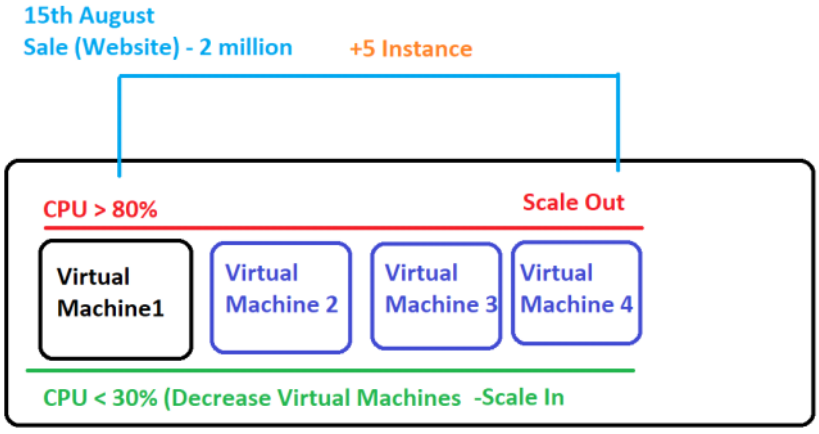
- Scale Up & Scale Down - Vertical Scaling

- Scale Out & Scale In - Horizontal Scaling

Scale Up & Scale Down



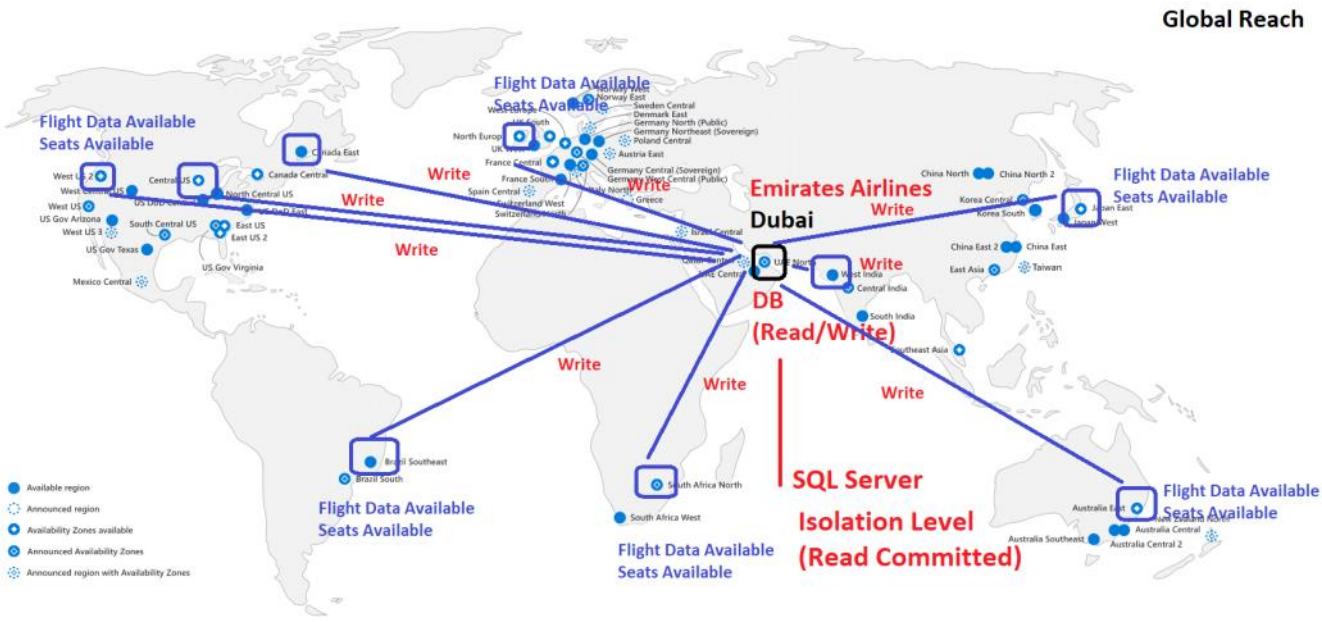
Scale Out & Scale In



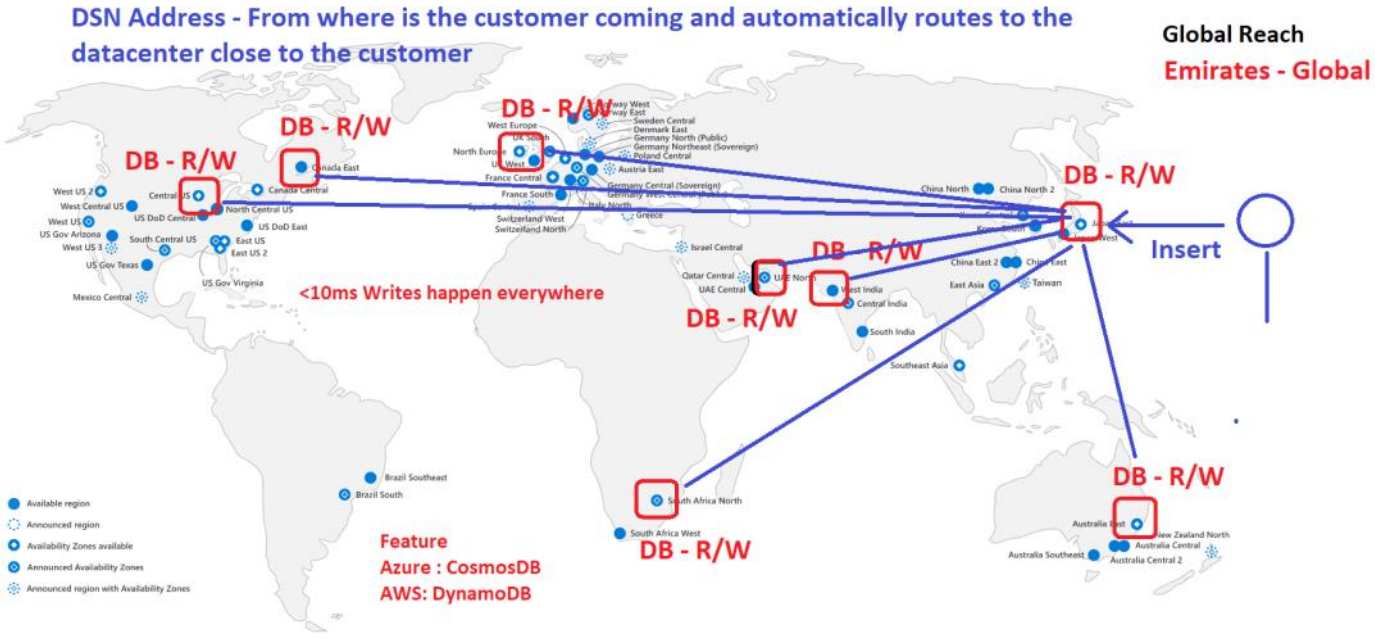
Interview Question
What is the difference between Scalability and Elasticity?

Scalability = Planned - 15th August, Diwali, Eid, Vacation Time (Load) - Planning
Elasticity = Ad-Hoc, Sudden Spike, Today at 11AM, we are seeing CPU going above 80%, Add more Power

Global Reach

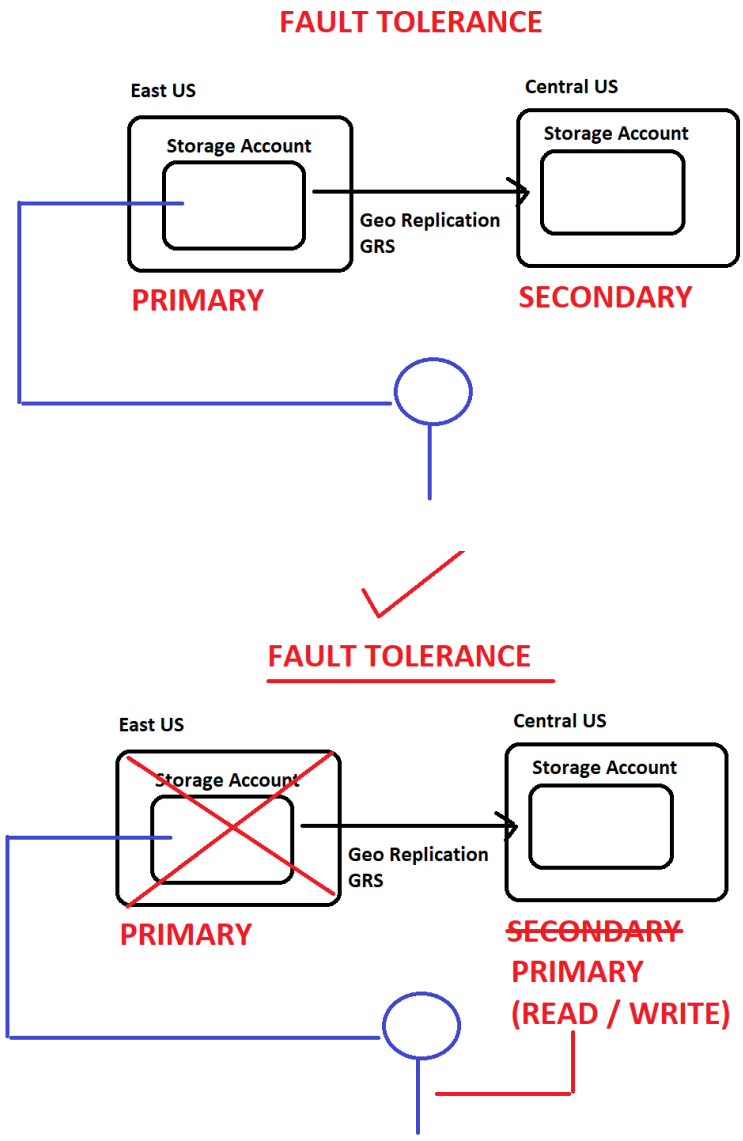


Biggest Problem, Dubai was Single Datacenter to Write and people from across the world, where writing to the data center to dubai, too many writes were causing "Locking issues" and slowness in booking tickets, Emirates thought of using Azure and wanted to know , how this can solve the above problem.



Fault Tolerance

Fault - mistake - something going wrong - un-intended



Fault Tolerance means, tomorrow there could be intentional or un-intentional ways in which your service can go down, example - Patch got installed, server reboot, Someone by mistake Shutdown the server, power outage, disk failure, network downtime.

So, how this fault can be handled

End of Day 1