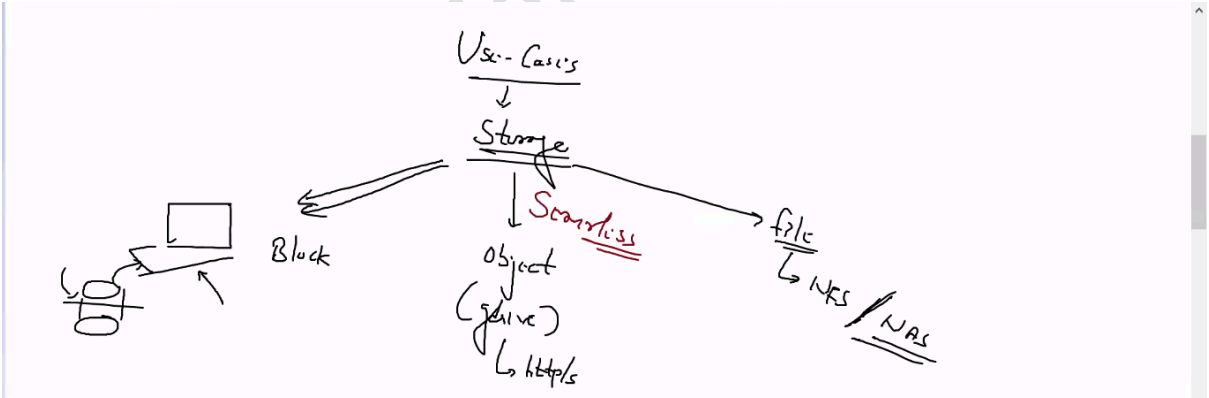
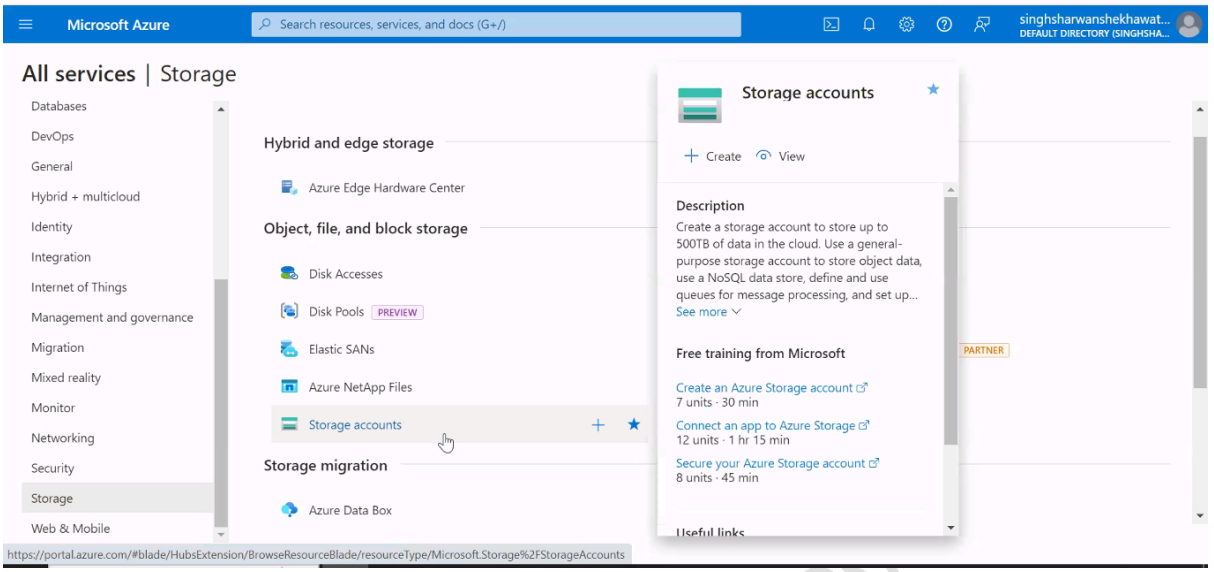
Azure Session 08

Summary 09-05-2024

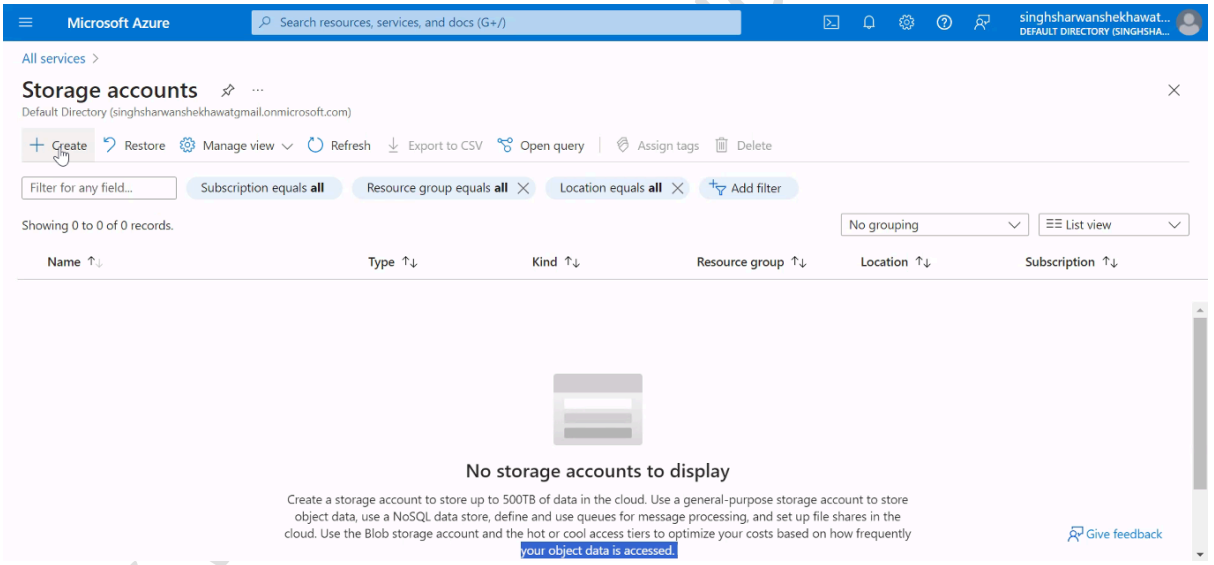
- Today we will learn about Storage as a service.
- To store any data permanently, we have to put it in a file, a file is created in a folder or the directory and to store a directory we need a storage.
- Data can be any text file, media file like audio, video, image etc.
- Storage service has mainly three use cases or types:-
  - ➢ Block storage(For storing or installing the OS,creating partitions etc)
  - ➢ Object storage(For storing objects like image, video, audio etc)
  - ➢ File System storage(NFS and NAS)



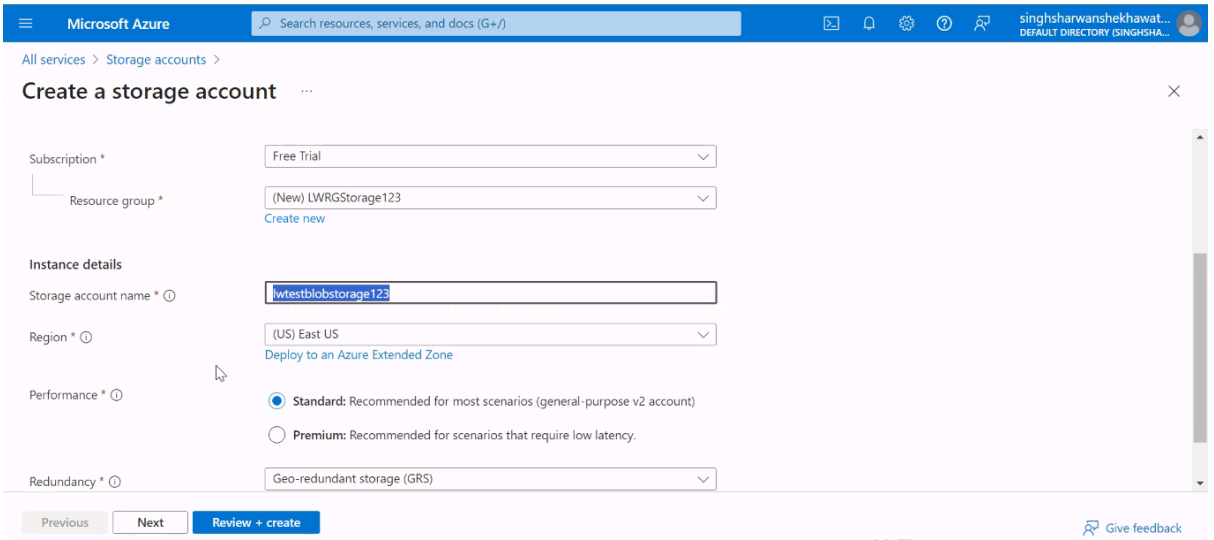
- Block storage is not a cloud managed service, we get a Raw hard disk and we have to manage or configure it. Block storage service is known as **Disks in Azure** and EBS in AWS
- For the Object storage we have the **Blob storage** service in Azure and S3 in the AWS.
  - ➢ The folder is known as container in the Blob service and Bucket in the S3
- If we want to use the storage services in Azure then we have to create a **Storage account** first.



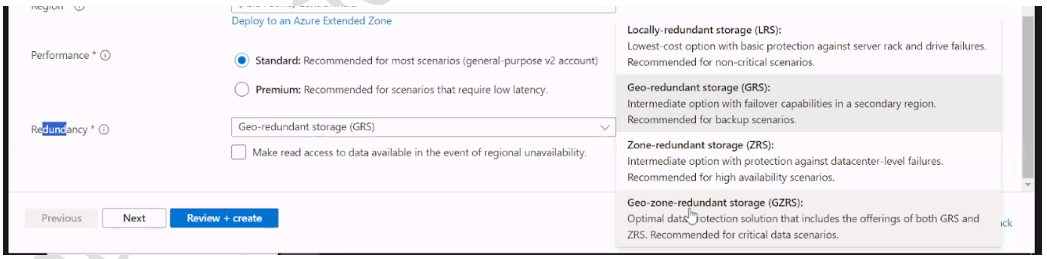
- Creating storage account:-
  - ➢ In the storage account click on the create button.



  - ➢ Like all other services we have to provide the subscription, resource group name, the storage account name and the region name.
  - ➢ Make sure Storage account name is unique globally because Azure will use it to create a unique URL to access the files inside it.
  - ➢ Region name is very important because according to this only we will get the storage in a particular region and all the files will be stored there.
  - ➢ Costing also varies region to region so we have to select accordingly.

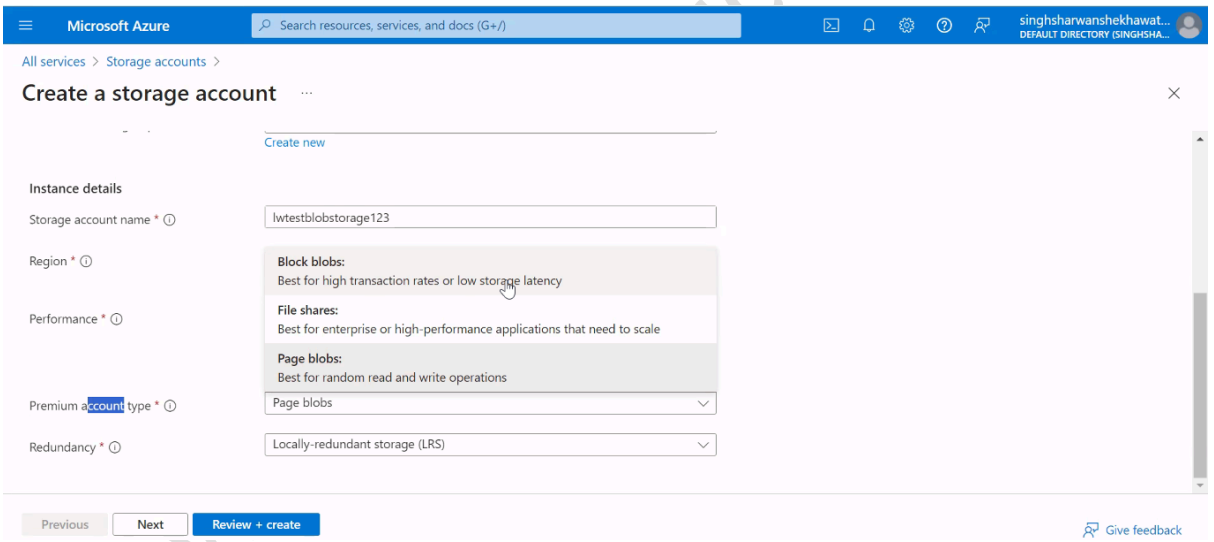


- If we have created the storage in Brazil and we are accessing it from India then we will face the latency issue for sure.
- Suppose in India Azure has 3 regions and whenever we upload any file, Azure creates multiple copies or replicas of it and stores them into different regions for the durability of the data. This is known as the Replication concept.
- Replication is also known as the redundancy and Azure provides different redundancy options like LRS(Locally-Redundant Storage), GRS(Geo-Redundant storage), ZRS(Zone-Redundant Storage),GZRS(Geo-Zone-Redundant storage).

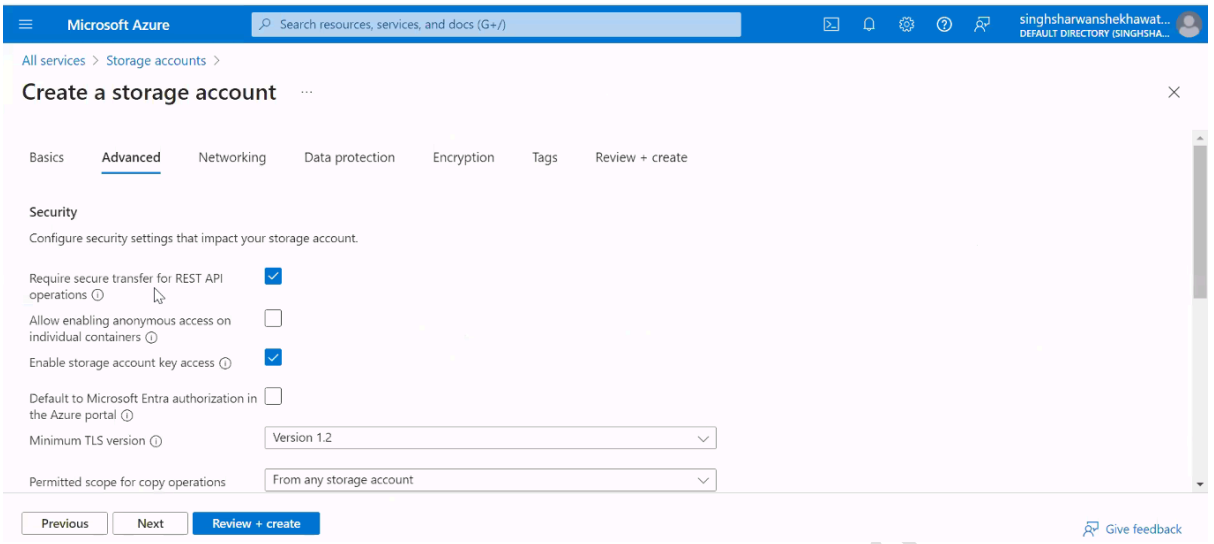


- In the LRS, Azure will create 3 replicas of data and will store it in 3 different hard disks but in the same zone.
- If any situation comes up in which the entire zone becomes down, then the LRS won't help us. Instead we have to go for the **ZRS(Zone-Redundant Storage)**.
- In the ZRS, Azure creates 6 replications of the data in which 3 will be put in one zone and the other three Copies will be put in different zones.

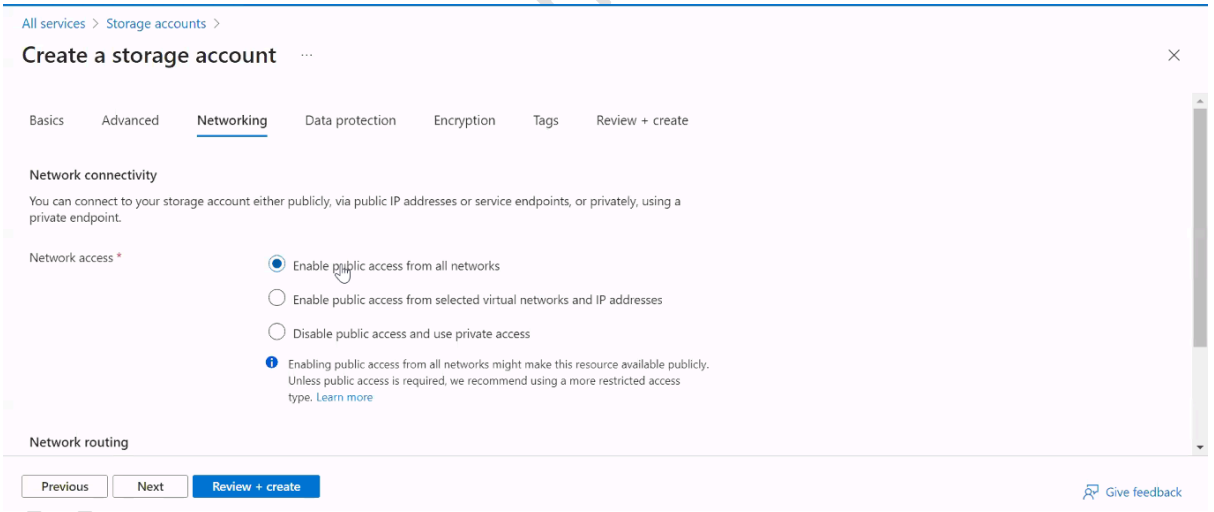
- If the situation is to use multiple Regions for the backup then we can go for the **GRS(Geo-Redundant storage)**, in this Azure will create the backup of the data and will store it in different regions.
- So we have to choose the redundancy according to the use case or the requirement or the strategy.
- In the Free plan we have only two performance options available.
- If we want a great performance for the storage then always try to store the data very close to the client.
- We also have different types of hard disk available according to the use case. For example, Input-Output operation speed,
- If we select the **premium performance** then we get the option for choosing the type of the hard disk also.
- For a great Input-Output or Read-Write operation we can use the **Page Blobs Store** and for low latency type storage we can use the **Block Blobs Store**.



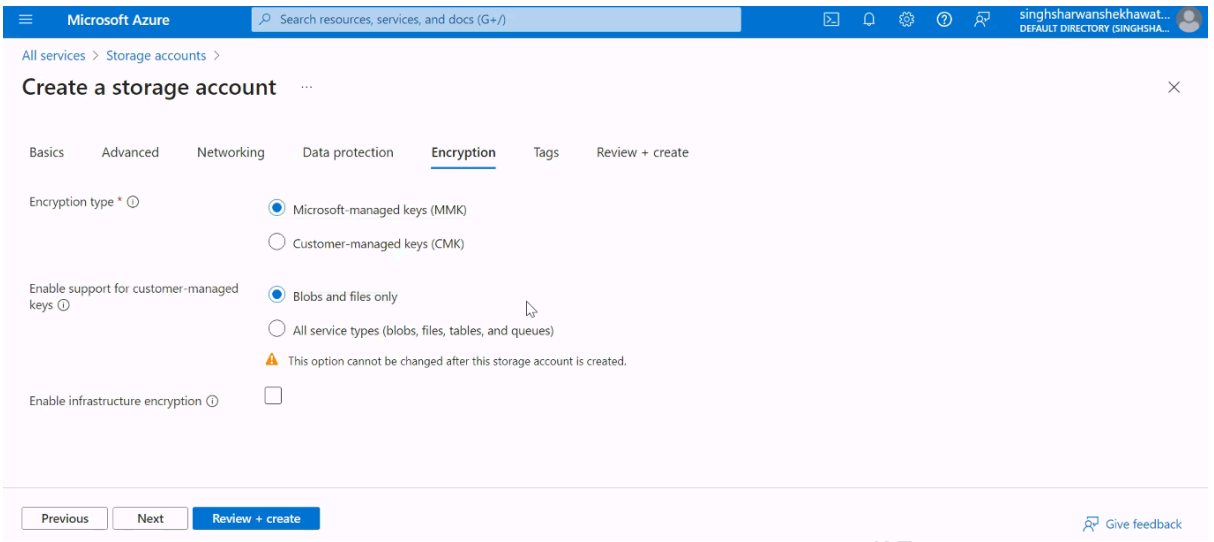
- After all these things click on the next button and in the security tab allow the Rest API option.
- If we want to enable anonymous access(Anybody can access) to the Container or the Folder inside the storage then we can do that also but this is very dangerous because anyone will be able to access the files without any authentication.



- ➢ Access keys can be used to authorize access to data in your storage account via Shared Key authorization, or via SAS tokens that are signed with the shared key.
- ➢ In the networking tab enable the public access from all networks to allow access to the authorized persons.



- ➢ Rest all the things we will keep as it is for now.
- ➢ In the Encryption tab, select the encryption type for the data.



➢ Finally Review and create the storage account and after that we will be able to use the Storage services.