St. JOSEPH'S
GROUP OF INSTITUTIONS
OMR, CHENNAI - 119

PLACEMENT EMPOWERMENT PROGRAM

Cloud Computing & DevOps Centre

Creating a “Storage Account” in Azure and uploading files in it. Also configuring access permissions [Access levels, Network access restrictions, Access Keys, and SAS]

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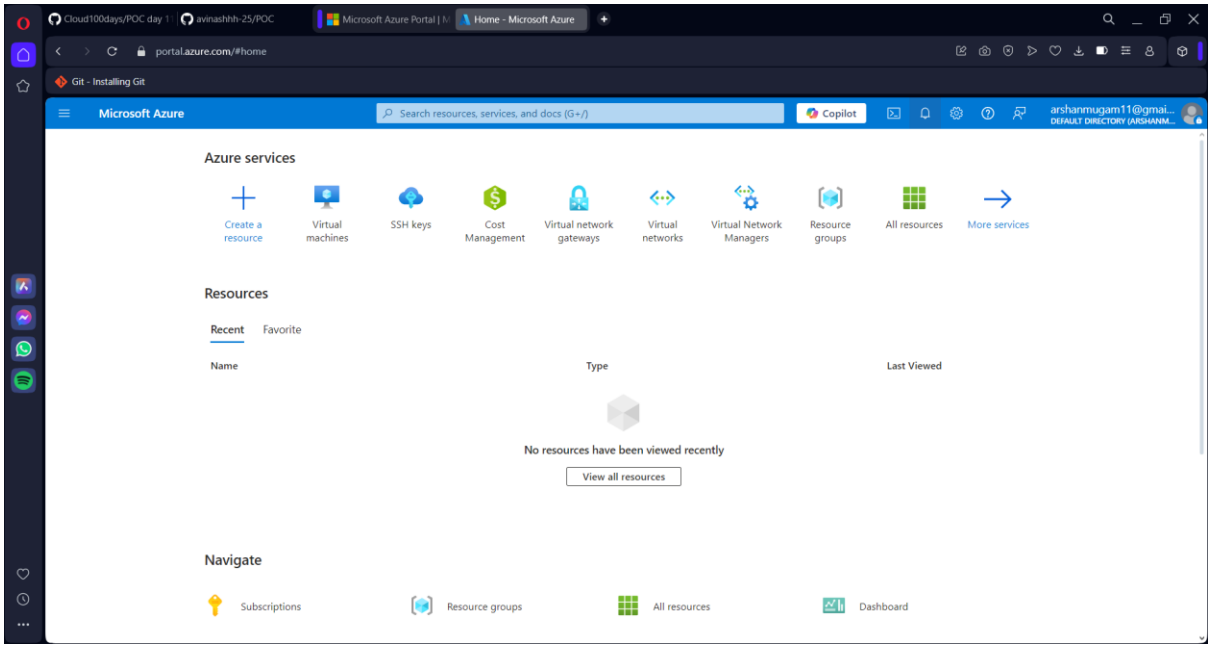
INTRODUCTION

- Creating a Storage Account in Azure involves setting up a secure and scalable storage solution for file management. Begin by navigating to the Azure Portal, selecting Storage Accounts, and clicking Create. Provide details like subscription, resource group, region, and redundancy options, then finalize by clicking Review + Create. Once the storage account is ready, create a Blob Container to organize your files and upload them directly through the portal or programmatically using the Azure SDK.

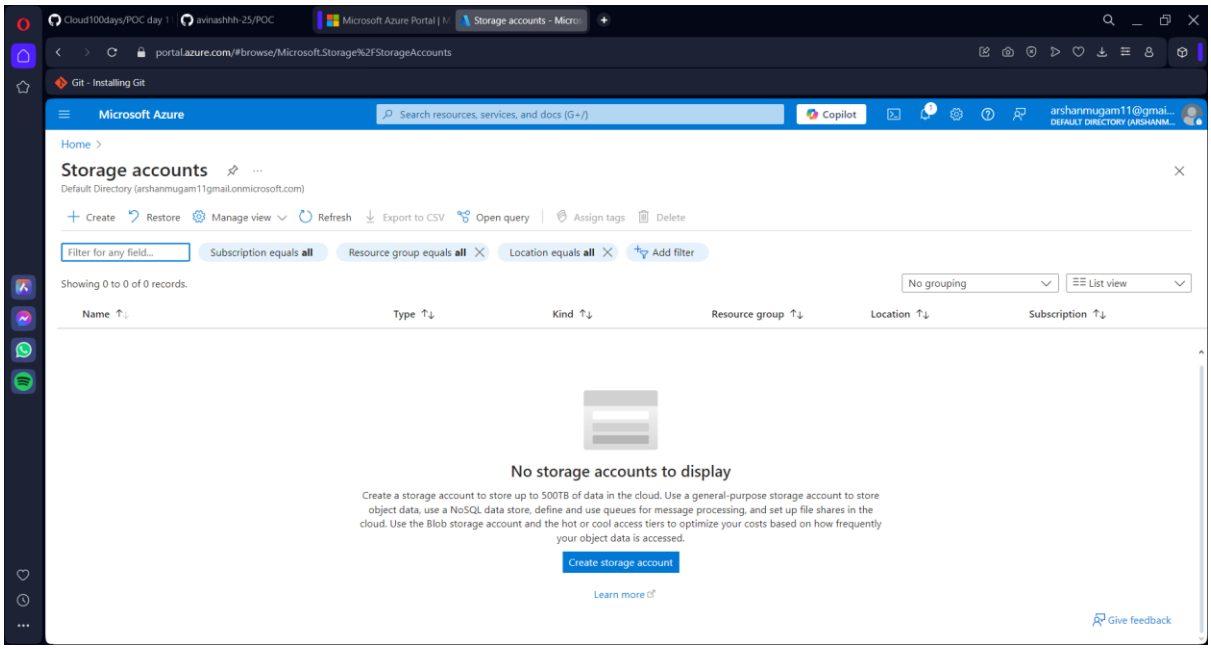
- To configure access permissions, consider multiple layers of security. Set Access Levels through role-based access control (RBAC) by assigning roles such as Storage Blob Data Owner or Data Reader under the Access Control (IAM) section. Manage Network Access Restrictions by enabling firewalls or virtual network rules to limit access. Access Keys provide full control and should be used cautiously with regular key rotation for enhanced security. For more granular and time-bound permissions, generate Shared Access Signatures (SAS) to grant temporary access without sharing sensitive keys. By combining these configurations, you ensure secure and efficient file management within Azure.

Step-by-step process:

Step 1: Go to Azure portal.



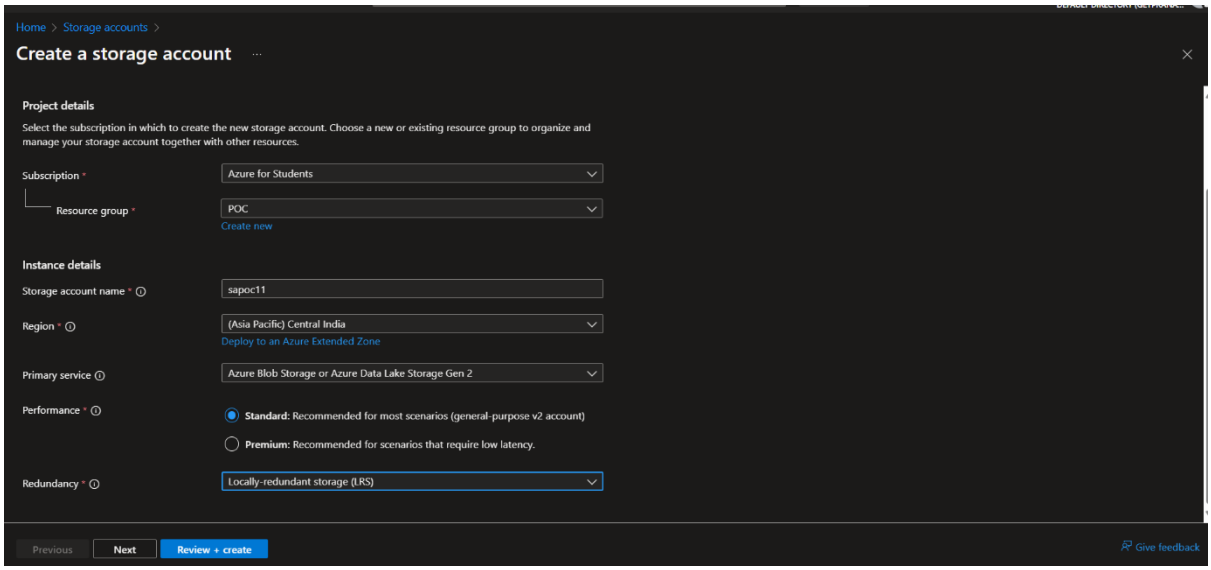
Step 2: Navigate to “Storage Accounts”.



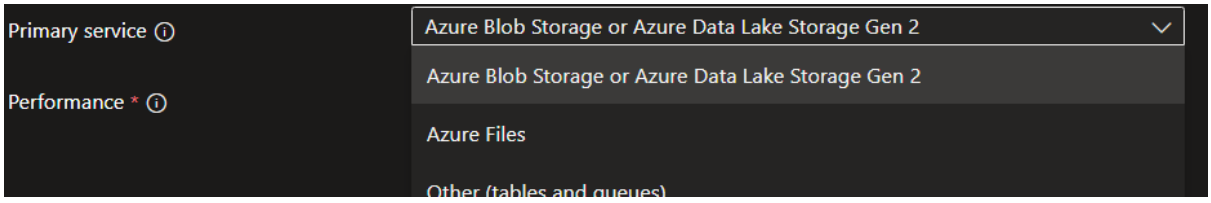
Step 3: Enter the following details:

1. **Subscription**: Choose your subscription.
2. **Resource group**: Create a new one or select an existing resource group.

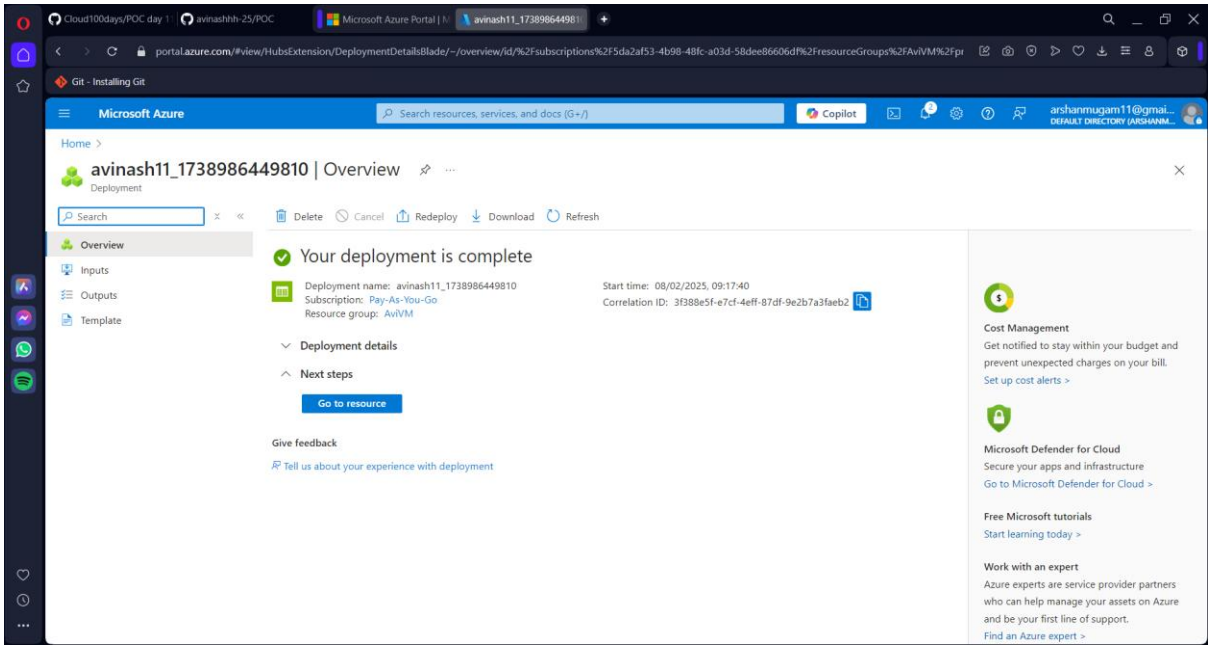
3. **Storage account name**: Enter a unique name.
4. **Region**: Select the nearest region.
5. **Performance**: Standard or Premium (choose based on requirements).
6. **Redundancy**: Select redundancy option (e.g., Locally-redundant storage).

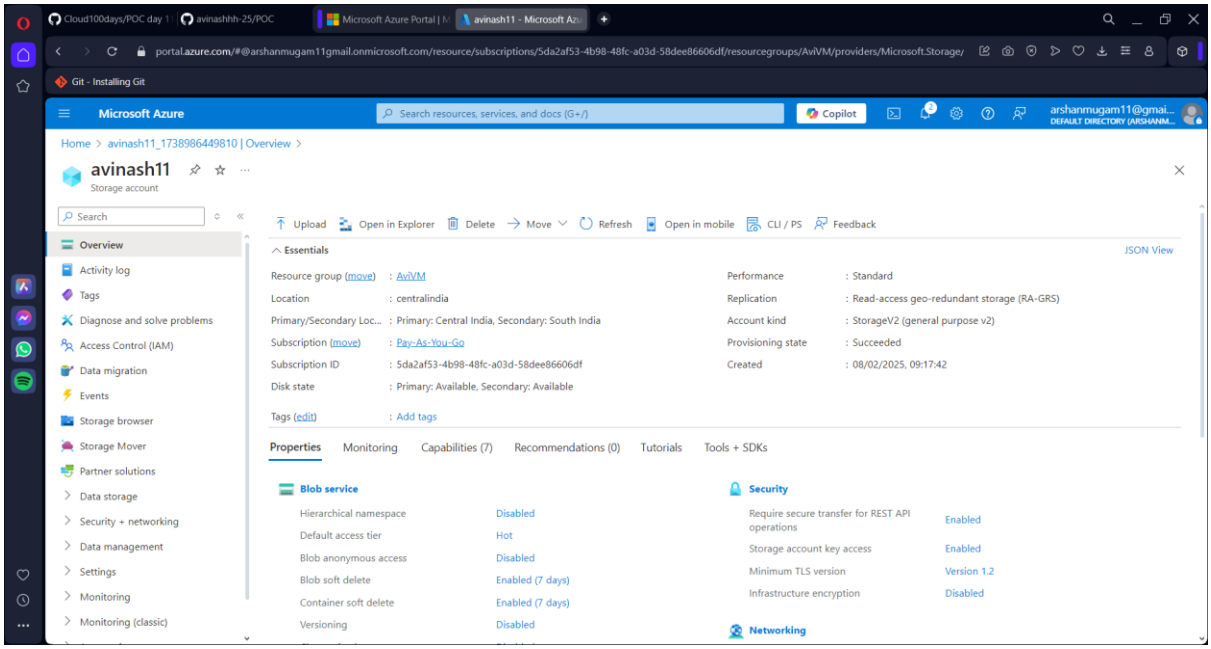


Note: You can choose the service you want while creating the storage account in azure.



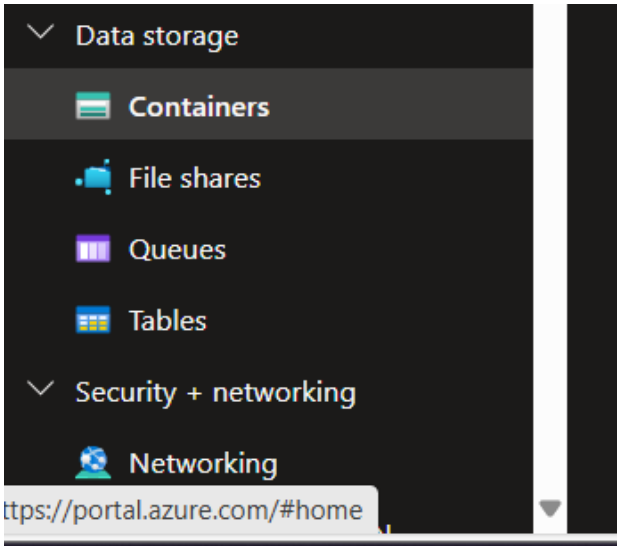
Step 4: Once deployment is done go to the Resource Group to view your Storage account.

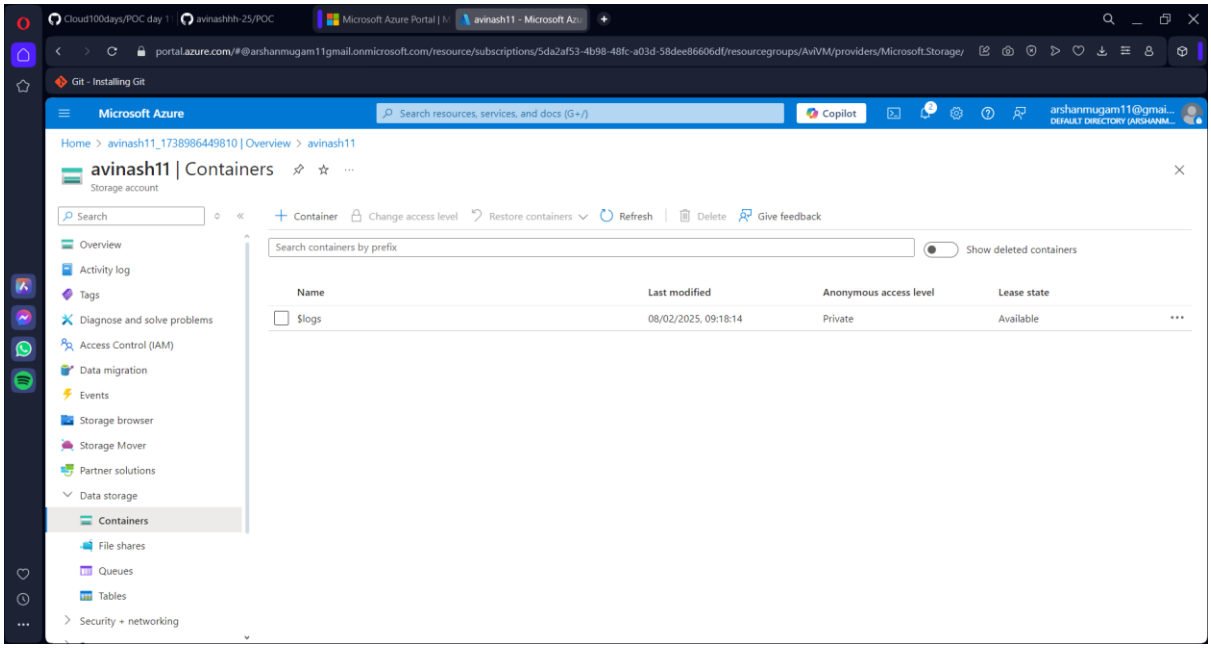




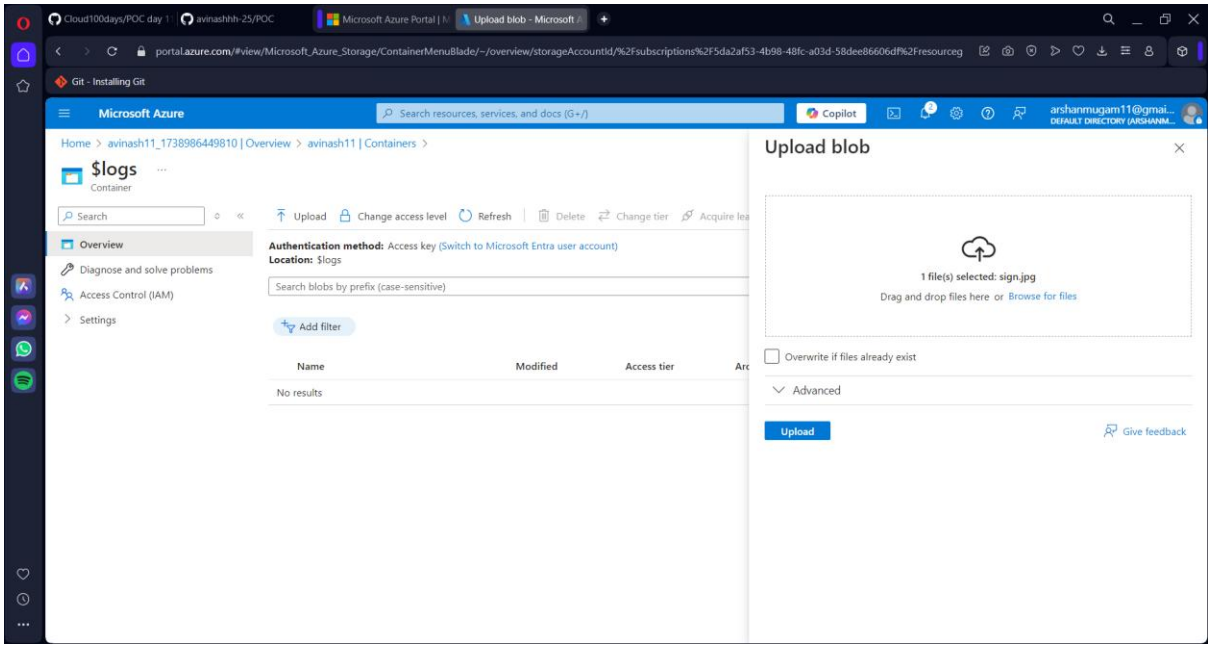
Step 5: Got to “Containers” which is located in data storage in your Storage account.

Then create a Blob Container:

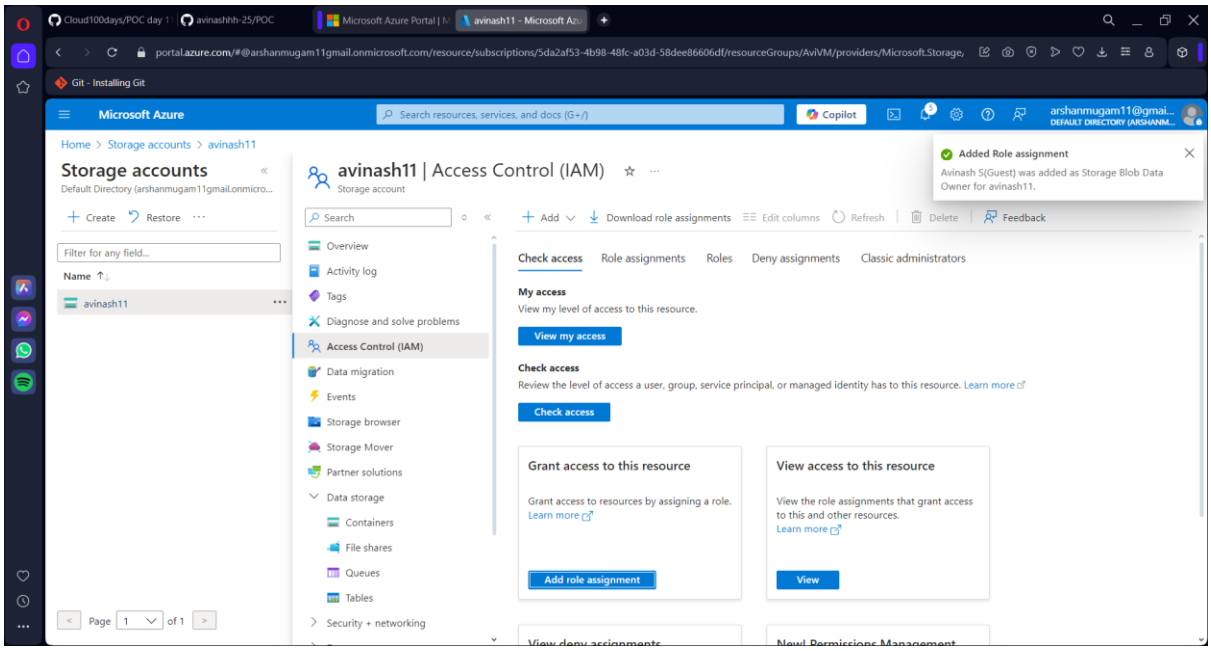




Step 6: Now open the “Container” you created and there will be an option to “+upload”, click on that for uploading files. And then click on upload.

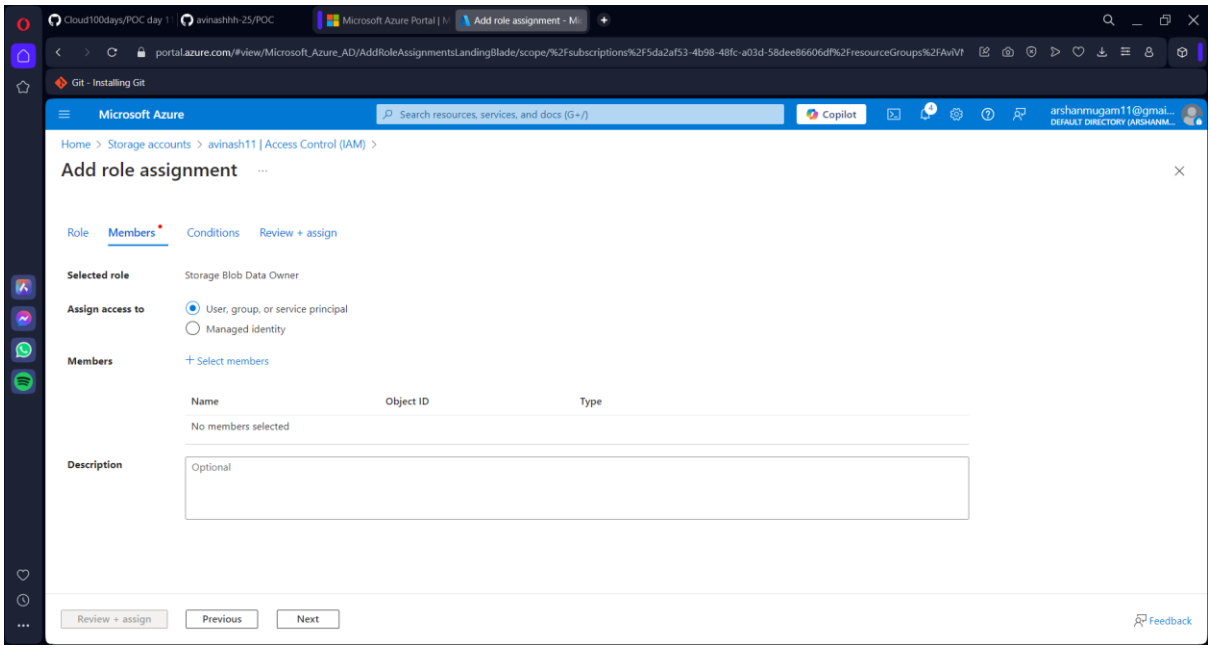


Step 7: Configuring access permissions. For that you need to go to “Storage Account > IAM > Roles

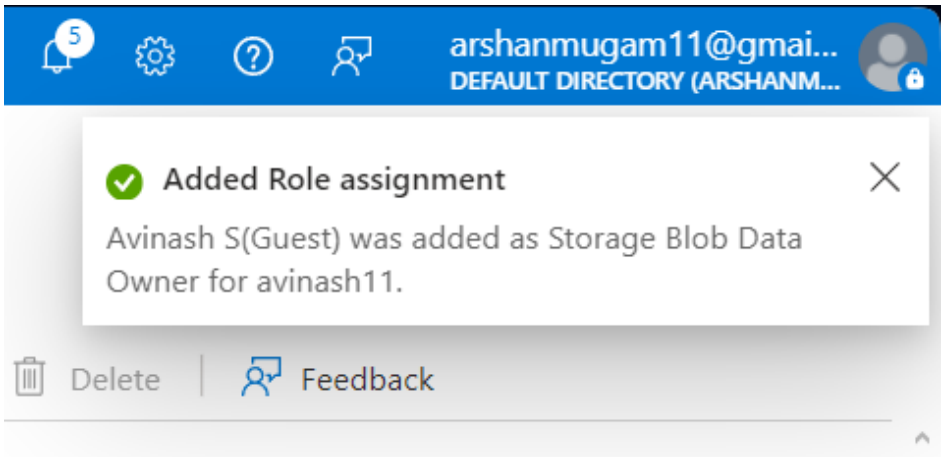


ROLES:

Storage Blob Data Contributor	Allows for read, write and delete access to Azure Storage blob containers and data	BuiltInRole	Storage	View
Storage Blob Data Owner	Allows for full access to Azure Storage blob containers and data, including assigning POSIX access control.	BuiltInRole	Storage	View
Storage Blob Data Reader	Allows for read access to Azure Storage blob containers and data	BuiltInRole	Storage	View
Storage Blob Delegator	Allows for generation of a user delegation key which can be used to sign SAS tokens	BuiltInRole	Storage	View
Storage File Data Privileged Contributor	Customer has read, write, delete and modify NTFS permission access on Azure Storage file shares.	BuiltInRole	None	View
Storage File Data Privileged Reader	Customer has read access on Azure Storage file shares.	BuiltInRole	None	View
Storage File Data SMB Share Contributor	Allows for read, write, and delete access in Azure Storage file shares over SMB	BuiltInRole	Storage	View
Storage File Data SMB Share Elevated Contribut...	Allows for read, write, delete and modify NTFS permission access in Azure Storage file shares over SMB	BuiltInRole	Storage	View
Storage File Data SMB Share Reader	Allows for read access to Azure File Share over SMB	BuiltInRole	Storage	View



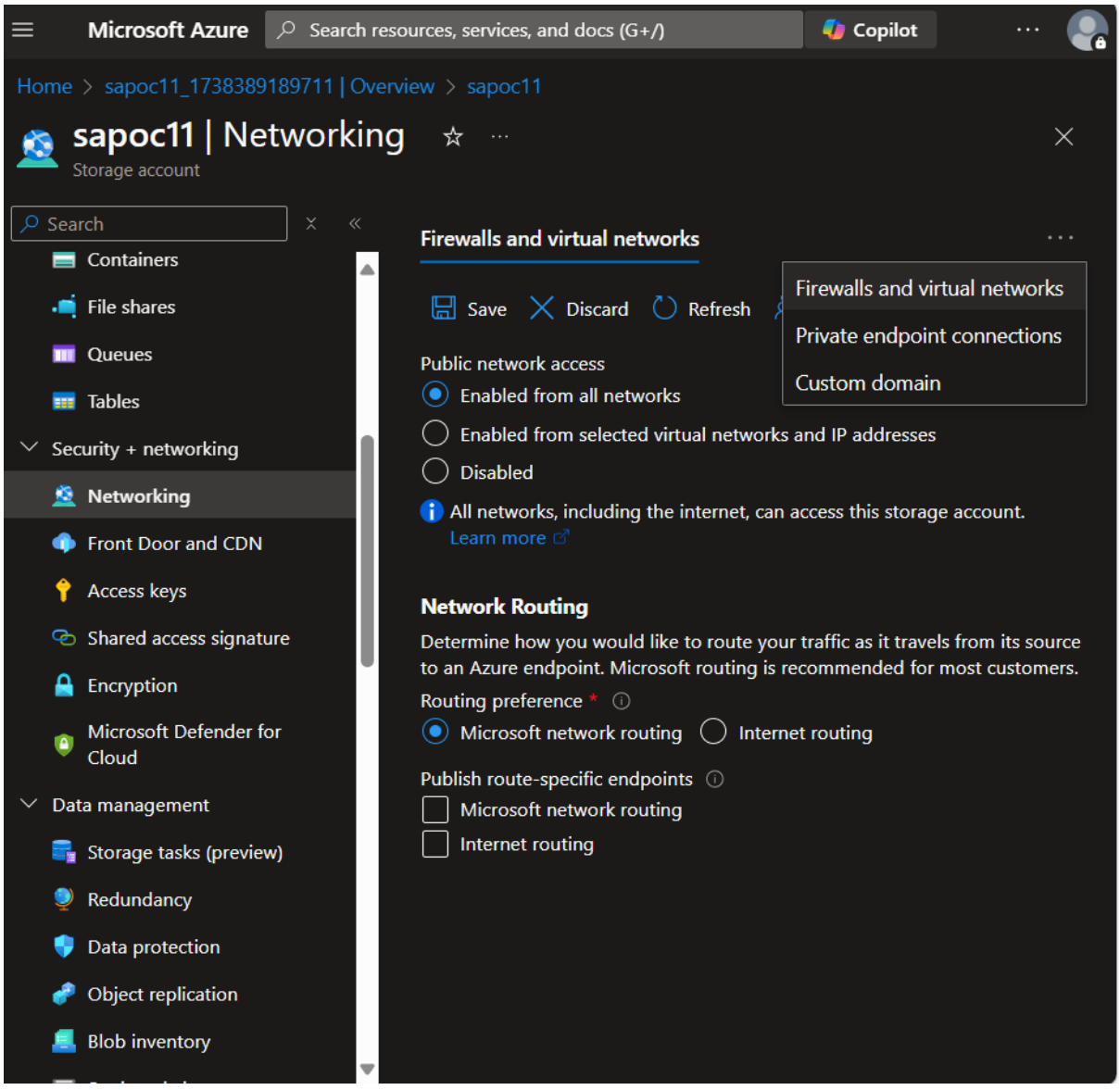
Step 8: Once done click on “Review+Assign”.



Step 9: Configuring Network access restricitions.

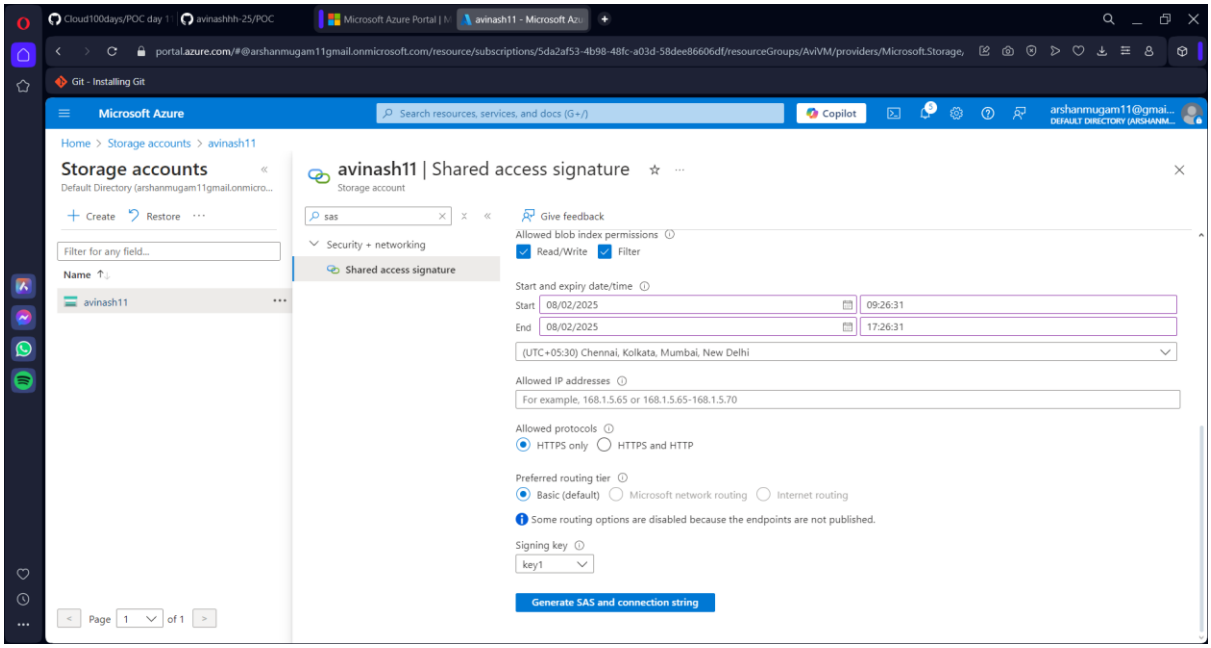
Go to Networking > Allow public (or) private access.

- **Enable public access.**
- **Set firewalls and virtual networks.** And then click on save.



Step 10: SAS: Shared access Signatures.

Storage Account > SAS


Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Storage accounts > avinash11
Storage accounts
Default Directory (arshanmugam11gmail.onmicro...
Create
Restore
Filter for any field...
Name
avinash11
Page 1 of 1
avinash11 | Shared access signature
Storage account
sas
Security + networking
Shared access signature
Give feedback
Allowed blob index permissions
Read/Write
Filter
Start and expiry date/time
Start 08/02/2025 09:26:31
End 08/02/2025 17:26:31
(UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi
Allowed IP addresses
For example, 168.1.5.65 or 168.1.5.65-168.1.5.70
Allowed protocols
HTTPS only
HTTPS and HTTP
Preferred routing tier
Basic (default)
Microsoft network routing
Internet routing
Some routing options are disabled because the endpoints are not published.
Signing key
key1
Generate SAS and connection string

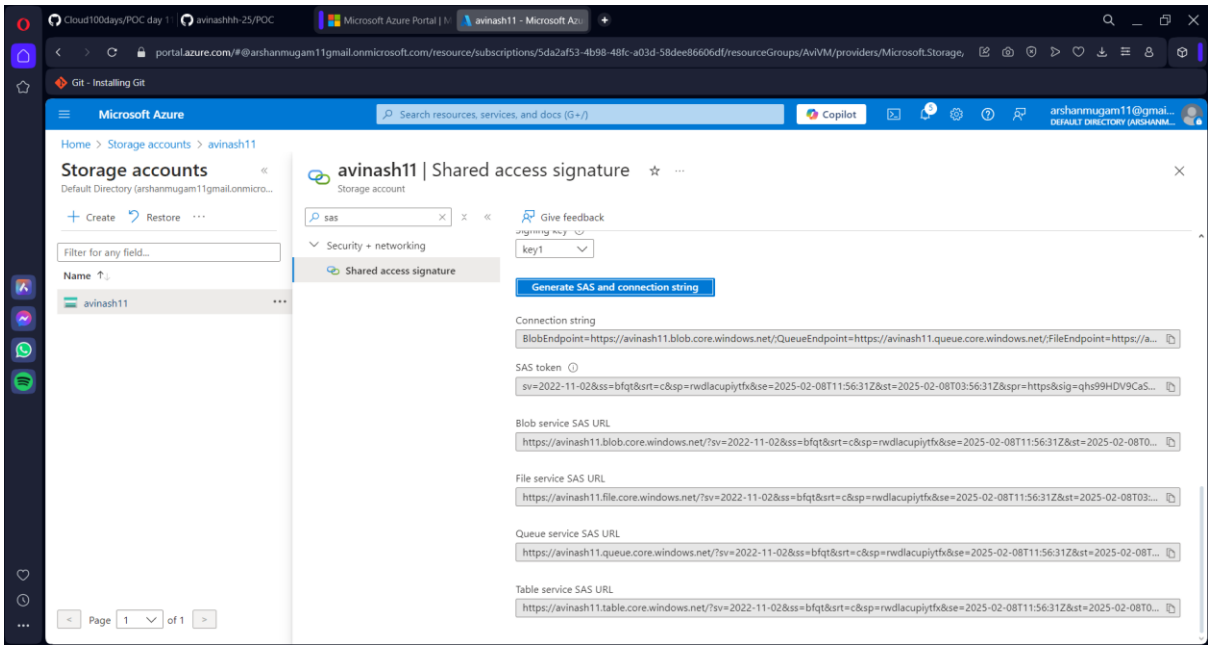

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Storage accounts > avinash11
Storage accounts
Default Directory (arshanmugam11gmail.onmicro...
Create
Restore
Filter for any field...
Name
avinash11
Page 1 of 1
avinash11 | Shared access signature
Storage account
sas
Security + networking
Shared access signature
Give feedback
key1
Generate SAS and connection string
Connection string
BlobEndpoint=https://avinash11.blob.core.windows.net/;QueueEndpoint=https://avinash11.queue.core.windows.net/;FileEndpoint=https://a...
SAS token
sv=2022-11-02&ss=bfqt&srt=c&sp=rwdlacupiytfx&se=2025-02-08T11:56:31Z&st=2025-02-08T03:56:31Z&spr=https&sig=qhs99HDV9CaS...
Blob service SAS URL
https://avinash11.blob.core.windows.net/?sv=2022-11-02&ss=bfqt&srt=c&sp=rwdlacupiytfx&se=2025-02-08T11:56:31Z&st=2025-02-08T0...
File service SAS URL
https://avinash11.file.core.windows.net/?sv=2022-11-02&ss=bfqt&srt=c&sp=rwdlacupiytfx&se=2025-02-08T11:56:31Z&st=2025-02-08T03:...
Queue service SAS URL
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Table service SAS URL
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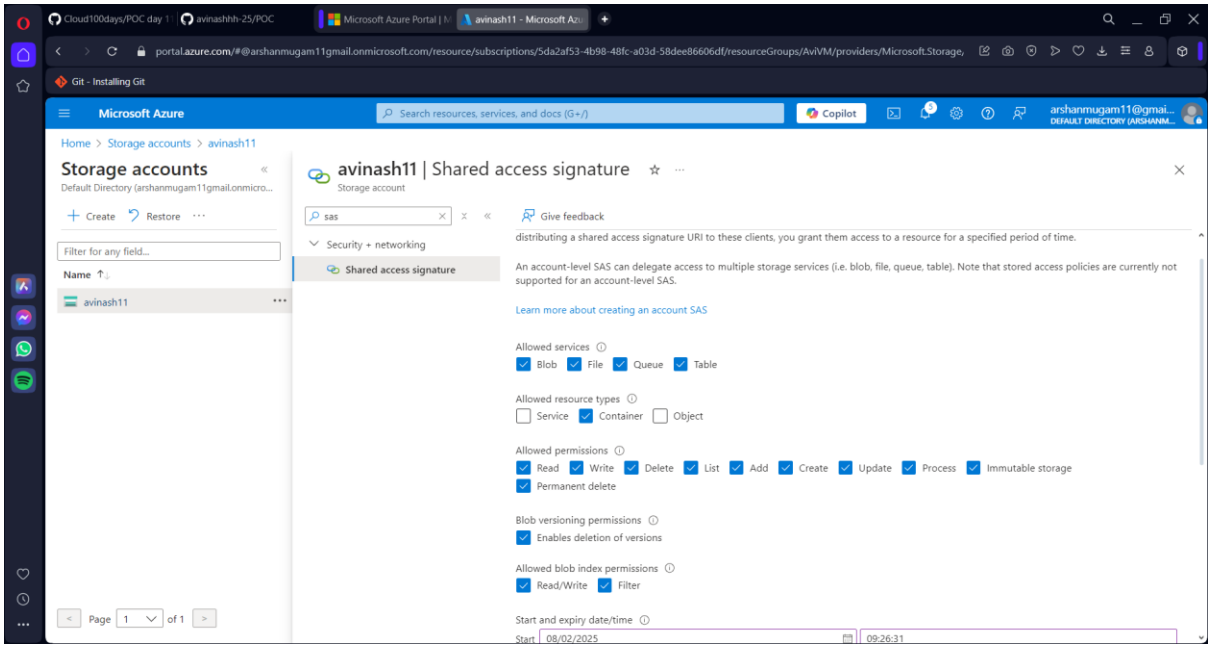

Step 11: Access Keys.

Security > Networking > Access keys