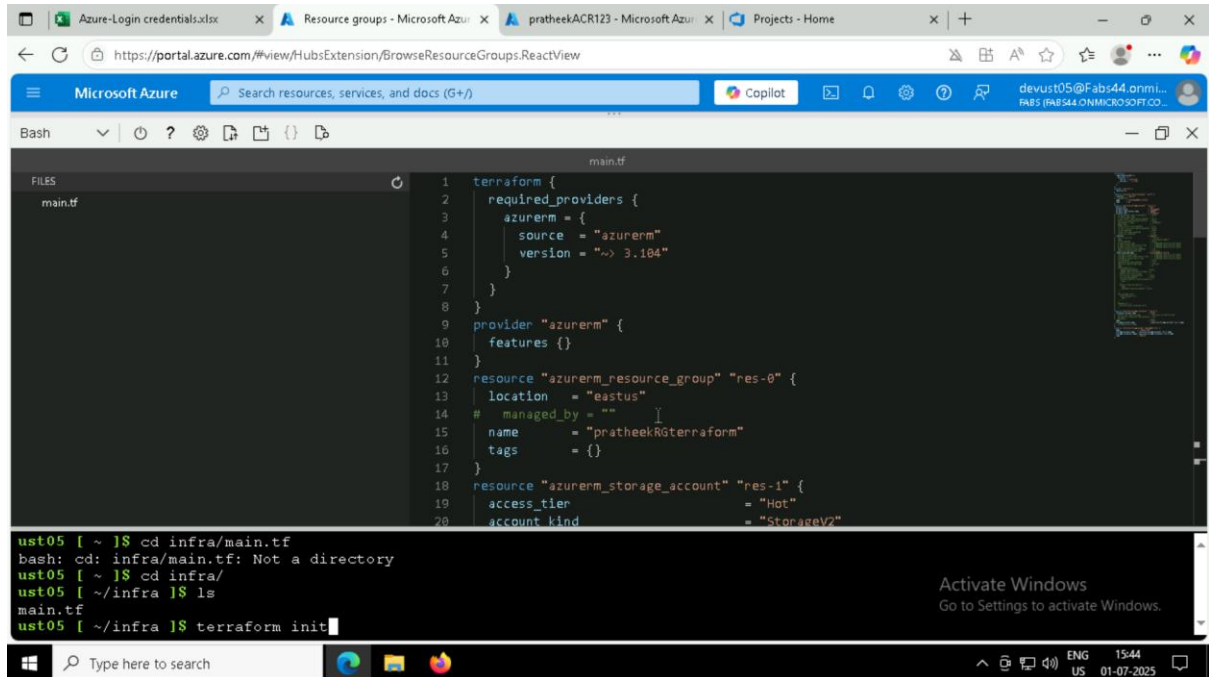


# CLOUD TRAINING - AZURE FINAL EXAMINATION

## PART 02

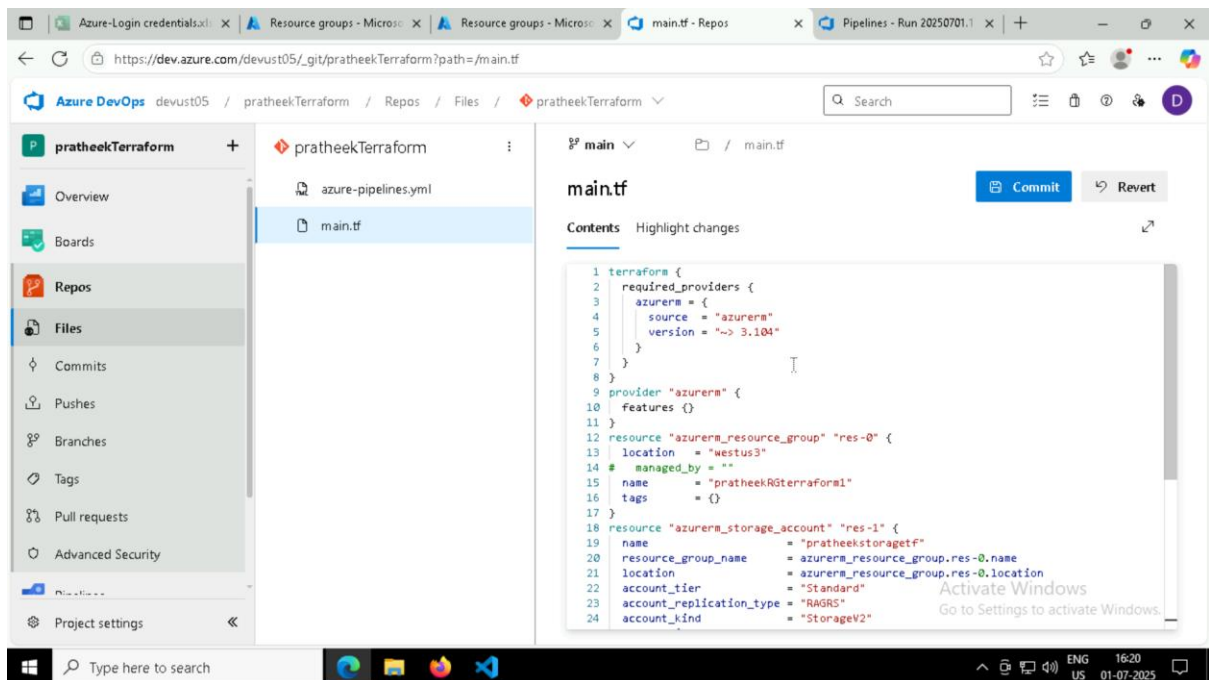
### Initializing terraform and provider



```
main.tf
1 terraform {
2   required_providers {
3     azurerm = {
4       source = "azurerm"
5       version = "~> 3.104"
6     }
7   }
8 }
9 provider "azurerm" {
10   features {}
11 }
12 resource "azurerm_resource_group" "res-0" {
13   location = "eastus"
14   # managed_by = ""
15   name = "pratheekRGterraform"
16   tags = {}
17 }
18 resource "azurerm_storage_account" "res-1" {
19   access_tier = "Hot"
20   account_kind = "StorageV2"
21 }

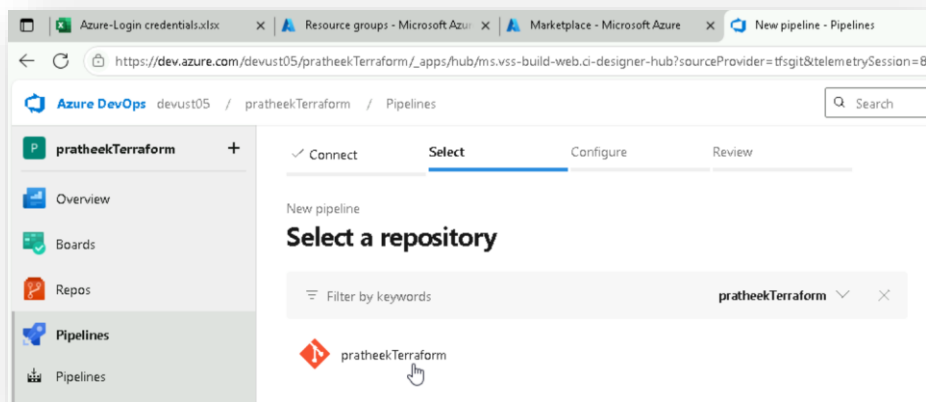
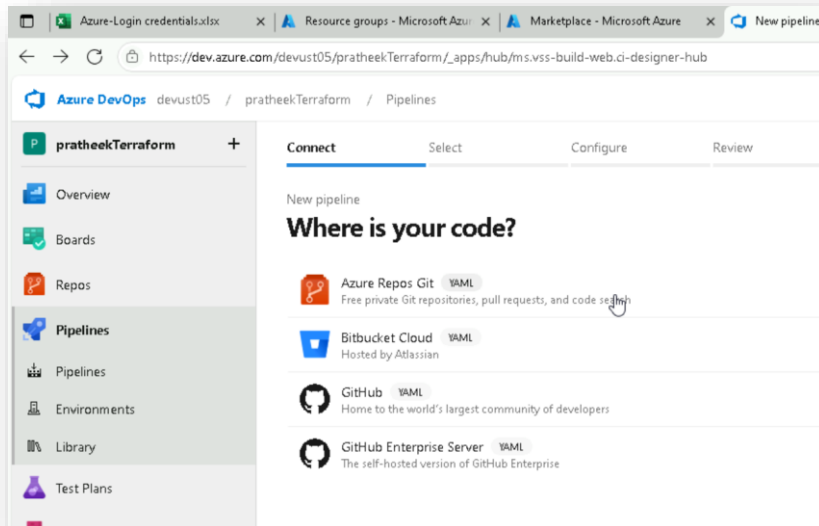
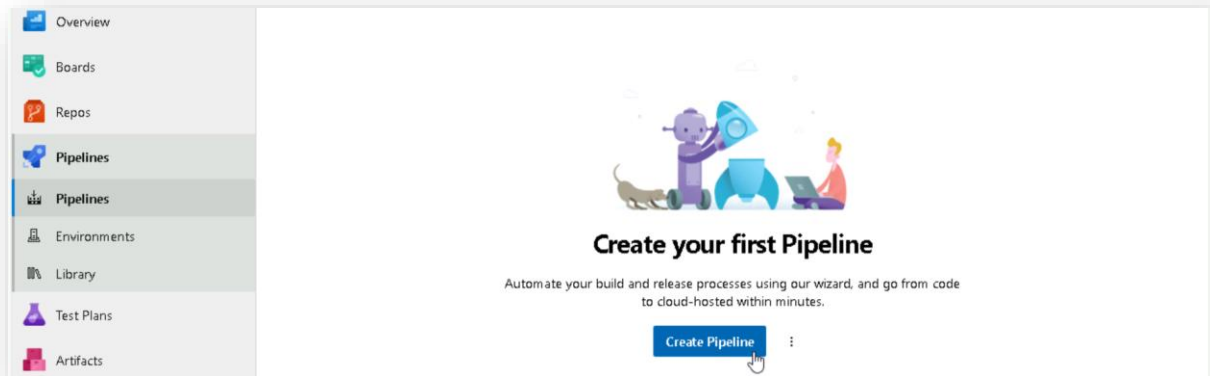
ust05 [ ~ ] $ cd infra/main.tf
bash: cd: infra/main.tf: Not a directory
ust05 [ ~ ] $ cd infra/
ust05 [ ~/infra ] $ ls
main.tf
ust05 [ ~/infra ] $ terraform init
```

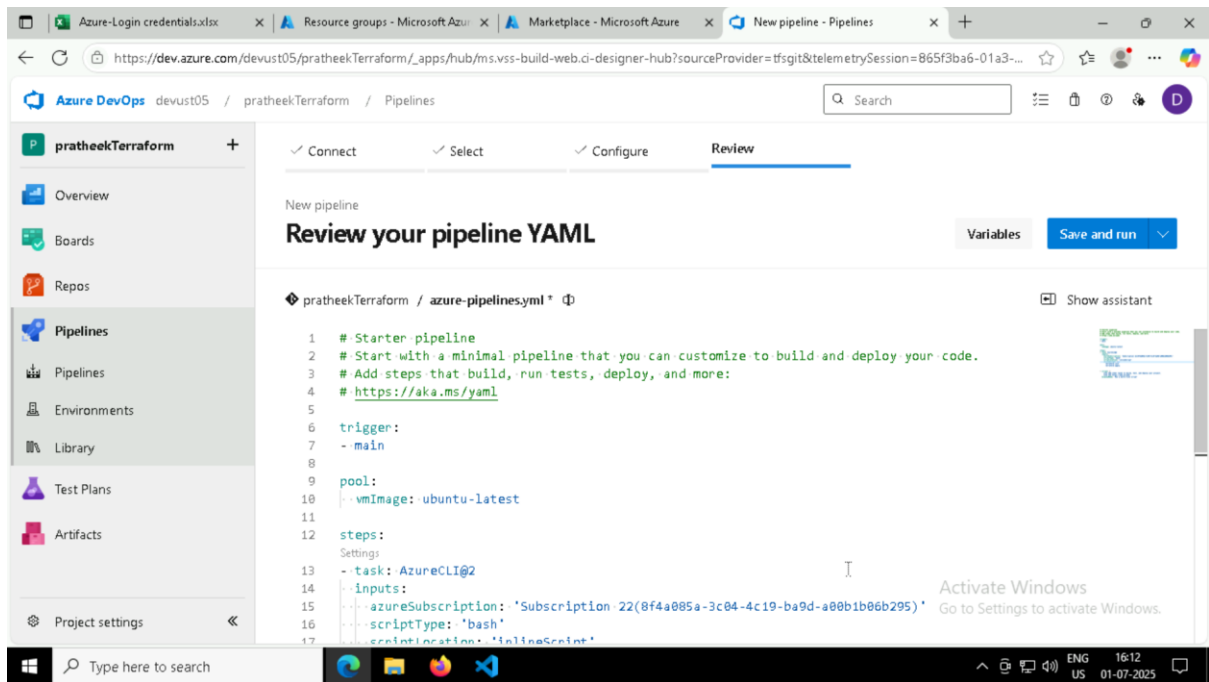
### AZURE REPO:



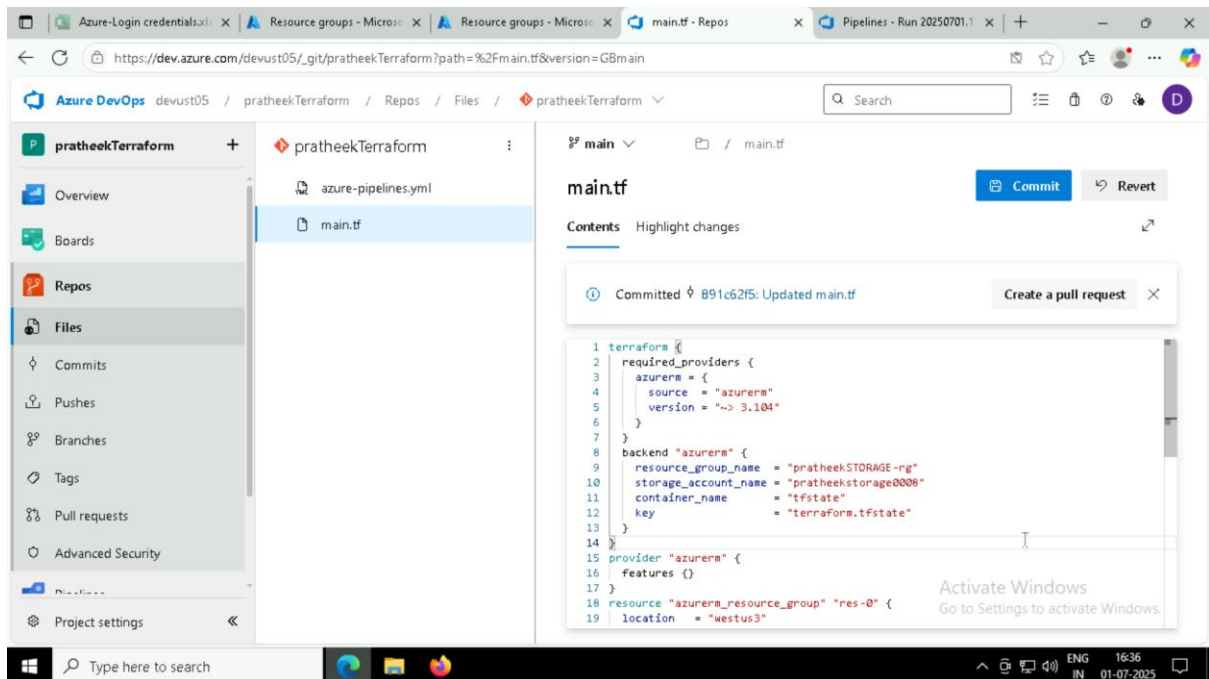
```
main.tf
1 terraform {
2   required_providers {
3     azurerm = {
4       source = "azurerm"
5       version = "~> 3.104"
6     }
7   }
8 }
9 provider "azurerm" {
10   features {}
11 }
12 resource "azurerm_resource_group" "res-0" {
13   location = "westus3"
14   # managed_by = ""
15   name = "pratheekRGterraform1"
16   tags = {}
17 }
18 resource "azurerm_storage_account" "res-1" {
19   name = "pratheekstorage1"
20   resource_group_name = azurerm_resource_group.res-0.name
21   location = azurerm_resource_group.res-0.location
22   access_tier = "Standard"
23   account_replication_type = "RAGRS"
24   account_kind = "StorageV2"
25 }
```

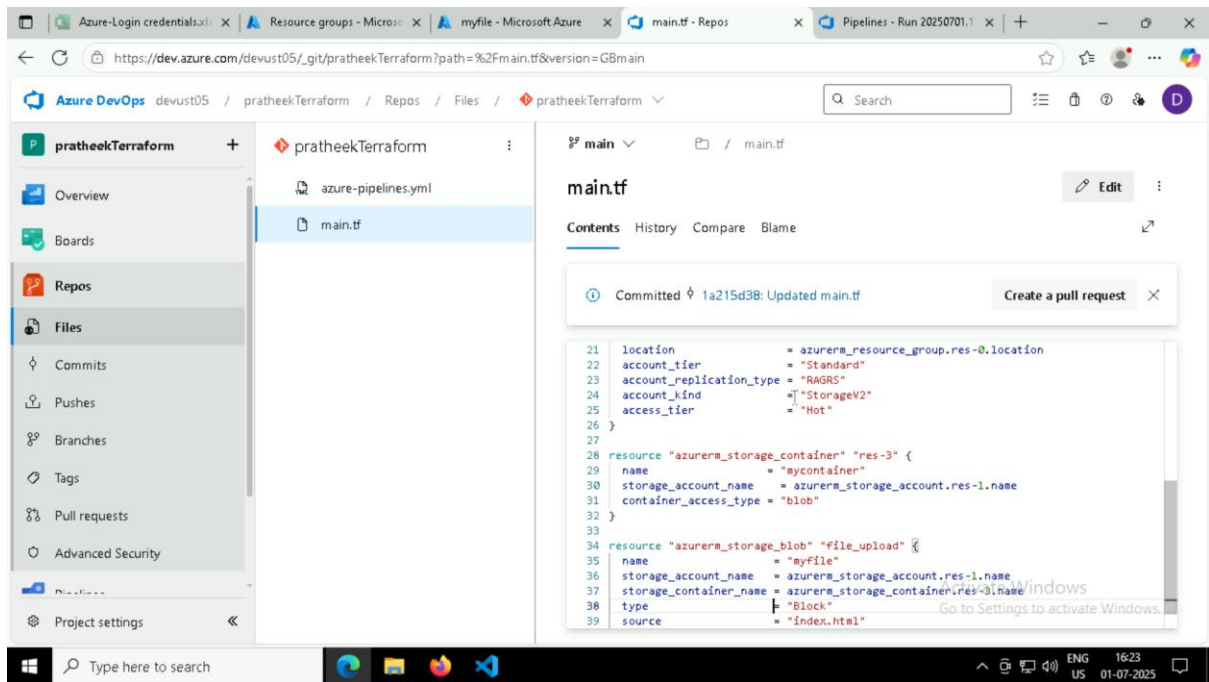
## CREATING AZURE PIPELINE TO RUN TERRAFORM SCRIPT:



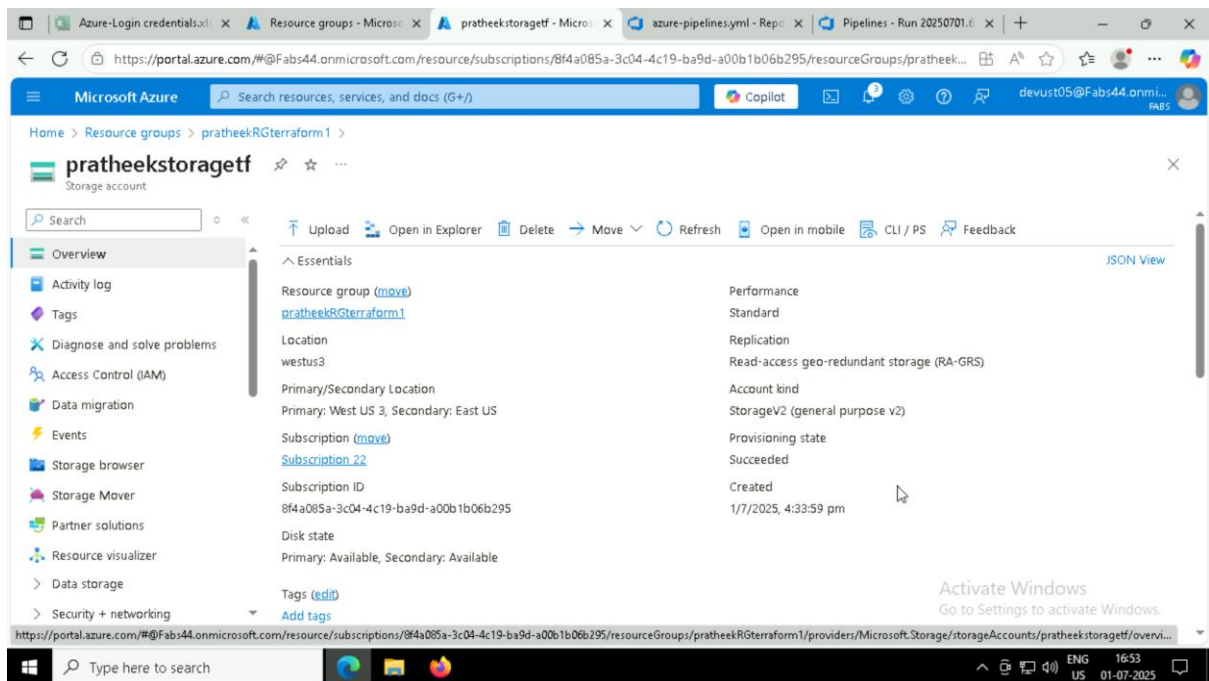


## My pipeline.yml script:

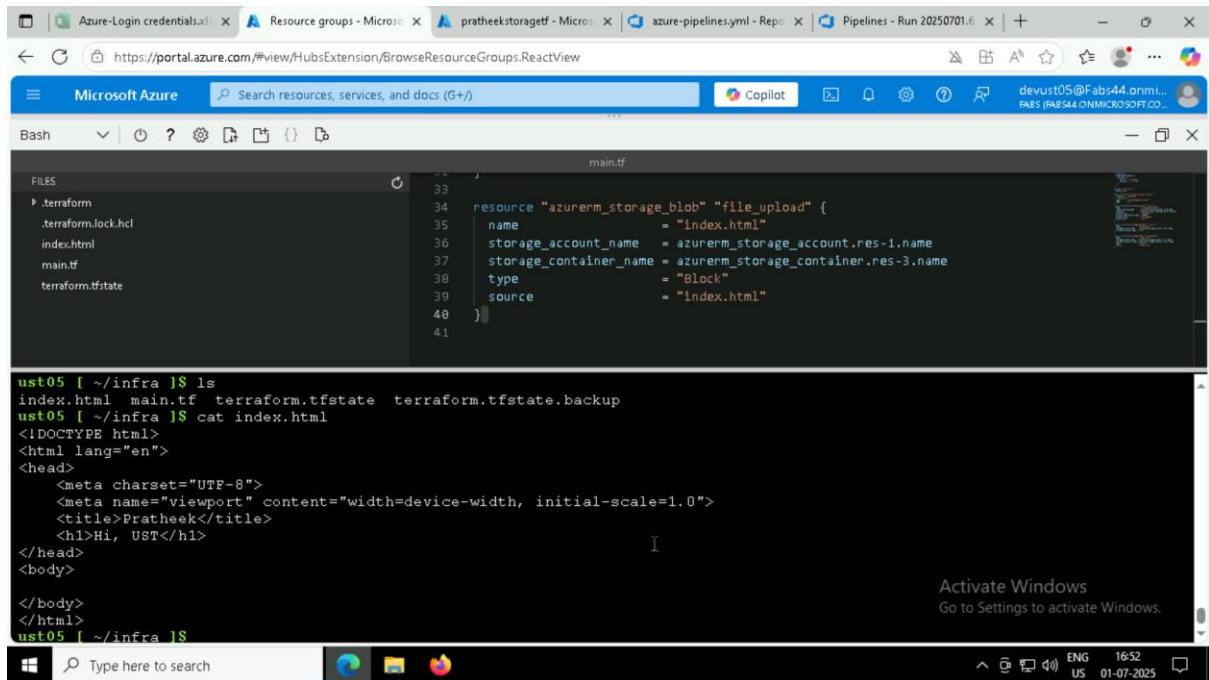




## My storage account



## 🚀 Uploading a sample blob

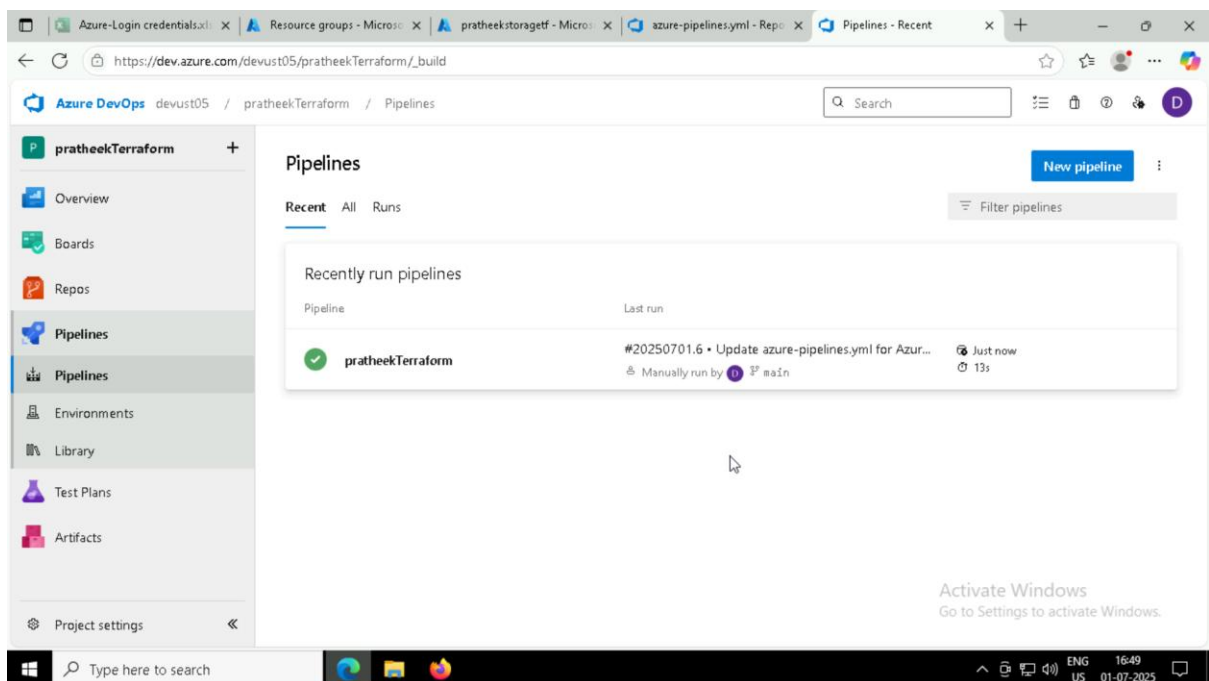


The screenshot shows a terminal window in Azure DevOps with the following content:

```
main.tf
33
34 resource "azurerm_storage_blob" "file_upload" {
35   name                = "index.html"
36   storage_account_name = azurerm_storage_account.res-1.name
37   storage_container_name = azurerm_storage_container.res-3.name
38   type                = "Block"
39   source              = "index.html"
40 }
41
```

```
ust05 [ ~/infra ]$ ls
index.html  main.tf  terraform.tfstate  terraform.tfstate.backup
ust05 [ ~/infra ]$ cat index.html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Pratheek</title>
  <h1>Hi, UST</h1>
</head>
<body>
</body>
</html>
ust05 [ ~/infra ]$
```

## 🚀 Run pipeline:



The screenshot shows the Azure DevOps Pipelines page for the project 'pratheekeTerraform'. The 'Recent' tab is selected, and the 'Recently run pipelines' section displays a single pipeline run:

Pipeline	Last run
pratheekeTerraform	#20250701.6 • Update azure-pipelines.yml for Azur... Manually run by  #a1n Just now 13s

This screenshot shows the 'Runs' tab for the 'pratheekeTerraform' pipeline. The table lists several runs, with the most recent ones failing. The left sidebar shows the project structure, and the top navigation bar includes 'Edit' and 'Run pipeline' buttons.

Description	Stages	Time
#20250701.6 • Update azure-pipelines.yml for Azure Pipelines	✓	2m ago
#20250701.5 • Update azure-pipelines.yml for Azure Pipelines	✓	2m ago
#20250701.4 • Updated main.tf	✗	14m ago
#20250701.3 • Updated main.tf	✗	24m ago
#20250701.2 • Updated main.tf	✗	29m ago
#20250701.1 • Set up CI with Azure Pipelines	✗	33s

This screenshot shows the 'Jobs in run #20250701.6' for the 'pratheekeTerraform' pipeline. The job list on the left shows all steps completed successfully. The right pane displays the job details, including the pool, image, agent, and start time.

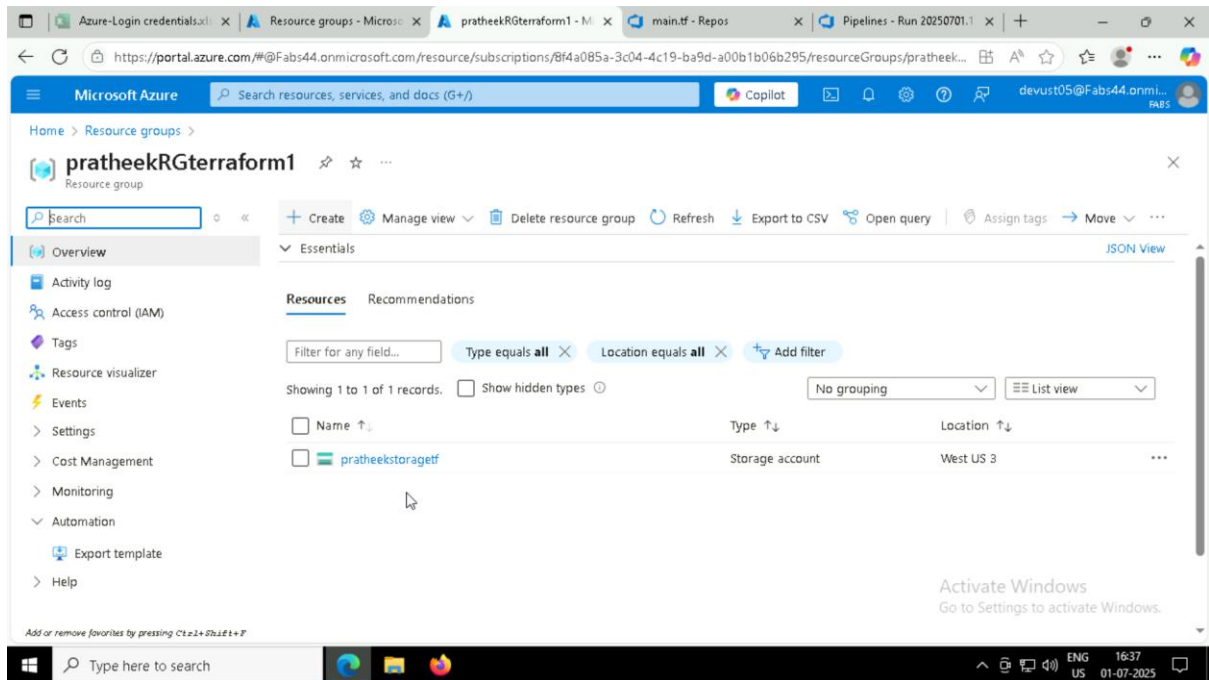
Job	Time
Job	5s
Initialize job	1s
Checkout pratee...	1s
Terraform init	<1s
Terraform plan	<1s
Terraform apply...	<1s
Post-job: Check...	<1s
Finalize Job	<1s
Report build sta...	<1s

**Job Details:**

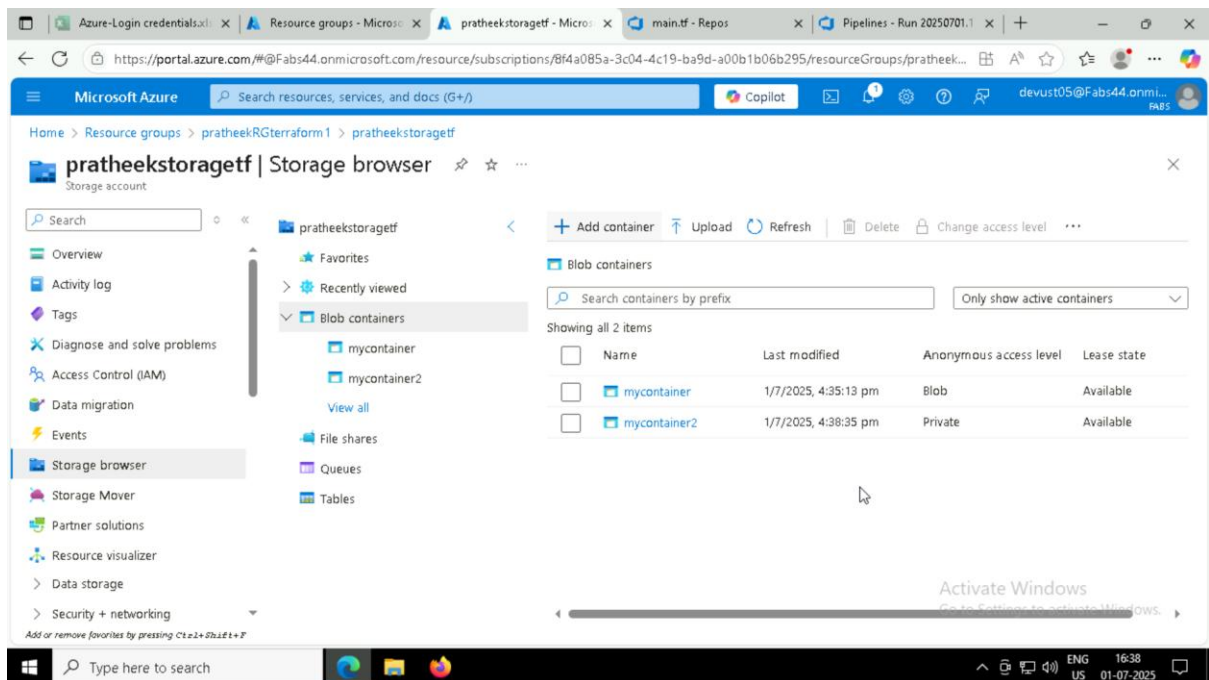
- Pool: Azure Pipelines
- Image: ubuntu-latest
- Agent: Azure Pipelines 2
- Started: Today at 4:48 pm
- Duration: 5s



## Output:



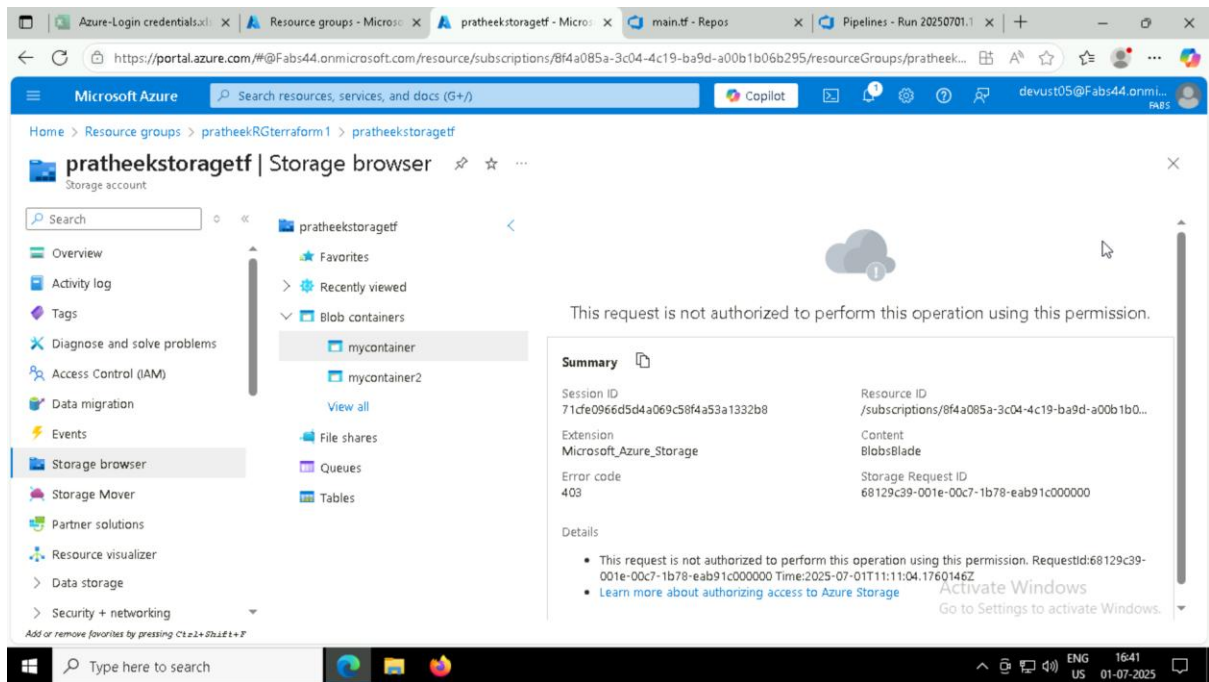
The screenshot shows the Microsoft Azure portal interface. The breadcrumb navigation indicates the path: Home > Resource groups > pratheekRGterraform1. The left sidebar contains various navigation options like Overview, Activity log, Access control (IAM), Tags, Resource visualizer, Events, Settings, Cost Management, Monitoring, Automation, Export template, and Help. The main content area is titled 'pratheekRGterraform1' and includes a search bar and several action buttons (Create, Manage view, Delete resource group, Refresh, Export to CSV, Open query, Assign tags, Move). Under the 'Essentials' section, the 'Resources' tab is selected, showing a table with one resource: 'pratheekstoragef' (Storage account) located in 'West US 3'. The table has columns for Name, Type, and Location. A filter bar at the top of the table allows filtering by field, type, and location. The bottom of the screen shows the Windows taskbar with the search bar and system tray.



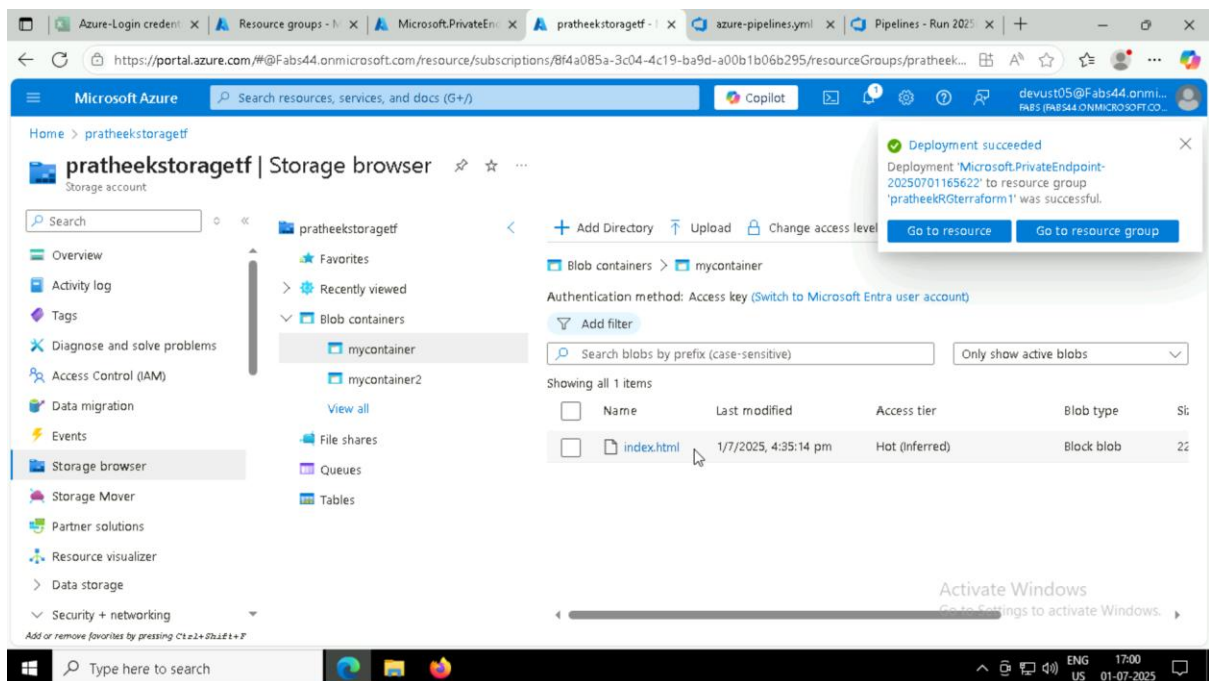
The screenshot shows the Microsoft Azure portal interface for the 'pratheekstoragef' storage account. The breadcrumb navigation indicates the path: Home > Resource groups > pratheekRGterraform1 > pratheekstoragef. The left sidebar contains various navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Data migration, Events, Storage browser, Storage Mover, Partner solutions, Resource visualizer, Data storage, and Security + networking. The main content area is titled 'pratheekstoragef | Storage browser' and includes a search bar and several action buttons (Add container, Upload, Refresh, Delete, Change access level). Under the 'Blob containers' section, the 'Blob containers' tab is selected, showing a table with two containers: 'mycontainer' and 'mycontainer2'. Both containers are listed with their last modified dates and access levels. The table has columns for Name, Last modified, Anonymous access level, and Lease state. The bottom of the screen shows the Windows taskbar with the search bar and system tray.

We can check, the following are created through pipeline script:

- Resource group “pratheekRGterraform”
- Storage account “pratheekstoragef”
- 2 containers “mycontainer” & “mycontainer2” are created
  - Which contains blob file which was uploaded



We can access the file after enabling network rules of my storage account and adding vm's public ip address:



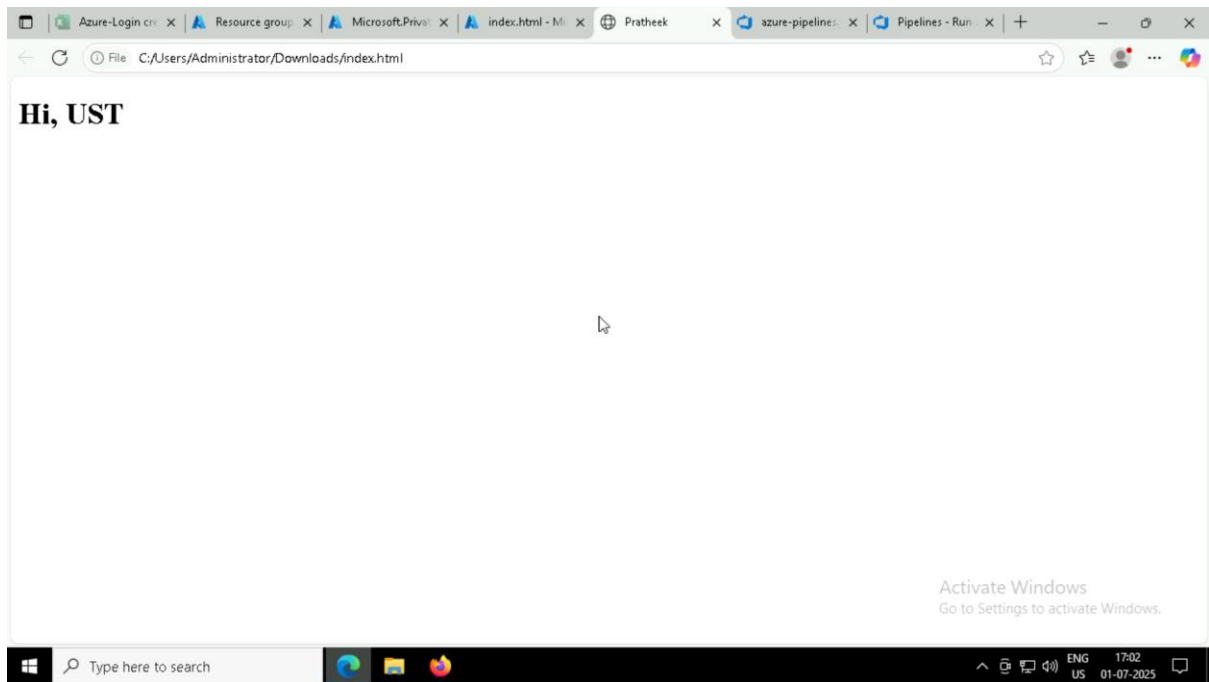


The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Azure logo, a search bar, and the user profile 'devust05@Fabs44.onmi...'. The left sidebar contains a navigation menu with options like Overview, Activity log, Tags, Diagnose and solve, Access Control (IAM), Data migration, Events, Storage browser, Storage Mover, Partner solutions, Resource visualization, Data storage, and Security + network. The main content area displays the 'index.html' blob properties. The 'Overview' tab is selected, showing a table of properties: URL (https://pratheekstorage...), LAST MODIFIED (7/1/2025, 4:35:14 PM), CREATION TIME (7/1/2025, 4:35:14 PM), VERSION ID (-), TYPE (Block blob), SIZE (227 B), ACCESS TIER (Hot (Inferred)), ACCESS TIER LAST MODIFIED (N/A), ARCHIVE STATUS (-), REHYDRATE PRIORITY (-), SERVER ENCRYPTED (true), ETAG (0x8DD88F27D98376), VERSION-LEVEL IMMUTABILITY POLICY (Disabled), and CACHE-CONTROL (-). The bottom status bar shows the Windows taskbar with the search bar and system tray icons.

Property	Value
URL	https://pratheekstorage...
LAST MODIFIED	7/1/2025, 4:35:14 PM
CREATION TIME	7/1/2025, 4:35:14 PM
VERSION ID	-
TYPE	Block blob
SIZE	227 B
ACCESS TIER	Hot (Inferred)
ACCESS TIER LAST MODIFIED	N/A
ARCHIVE STATUS	-
REHYDRATE PRIORITY	-
SERVER ENCRYPTED	true
ETAG	0x8DD88F27D98376
VERSION-LEVEL IMMUTABILITY POLICY	Disabled
CACHE-CONTROL	-

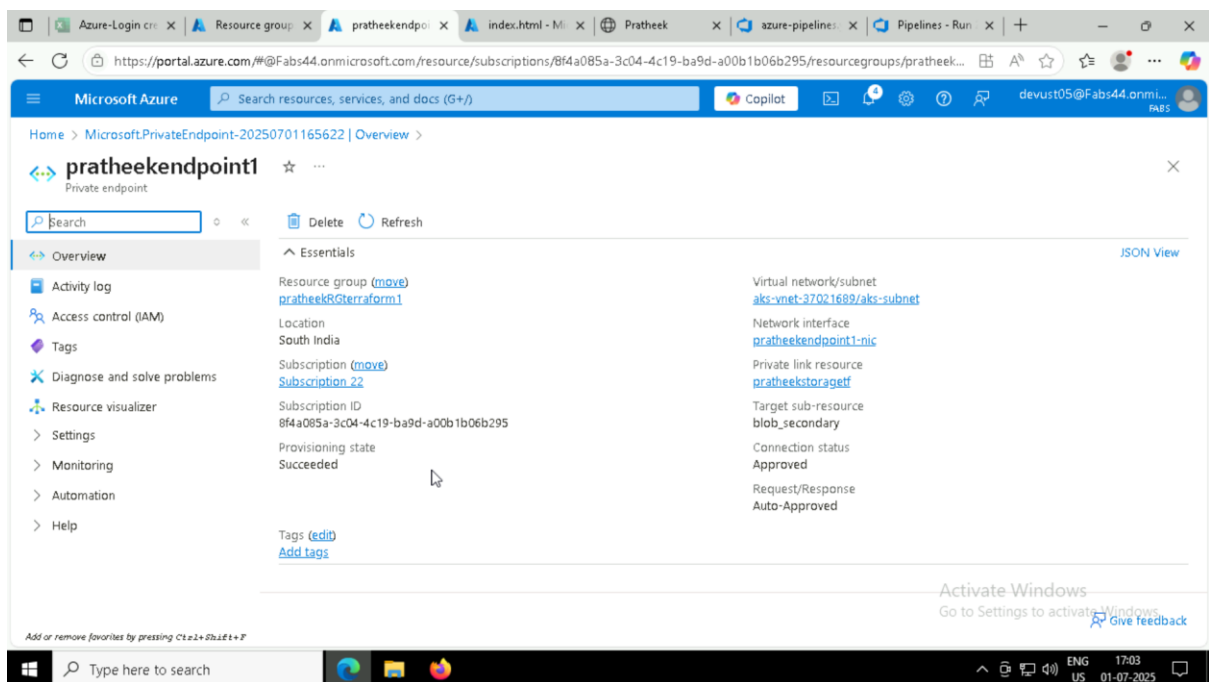
This screenshot is similar to the first one, but it shows the 'Download' button in the top action bar being clicked. A 'Downloads' window is open in the foreground, displaying a list of files: 'index.html' (Open file), 'myfile (1)' (Removed), and 'myfile' (Removed). The 'index.html' file is highlighted. The background shows the same Azure portal interface with the 'index.html' blob properties.

Property	Value
URL	https://pratheekstorage...
LAST MODIFIED	7/1/2025, 4:35:14 PM
CREATION TIME	7/1/2025, 4:35:14 PM
VERSION ID	-
TYPE	Block blob
SIZE	227 B
ACCESS TIER	Hot (Inferred)
ACCESS TIER LAST MODIFIED	N/A
ARCHIVE STATUS	-
REHYDRATE PRIORITY	-
SERVER ENCRYPTED	true
ETAG	0x8DD88F27D98376
VERSION-LEVEL IMMUTABILITY POLICY	Disabled
CACHE-CONTROL	-



(I haven't added service endpoints in my html file then, just executed a trial run)

Later created endpoints:



Microsoft Azure | Search resources, services, and docs (G+/)

Home > pratheekstoragef | Networking

Storage account

Partner solutions, Resource visualizer, Data storage, Security + networking, Networking, Front Door and CDN, Access keys, Shared access signature, Encryption, Microsoft Defender for Cloud, Data management, Settings, Configuration

Firewalls and virtual networks, Private endpoint connections, Custom domain

+ Private endpoint, ✓ Approve, ✗ Reject, 🗑 Remove, 🔄 Refresh

Filter by name..., All connection states

Connection name	Connection state	Private endpoint	Description
pratheekstoragef.3edf2634-5fda-4d50-be...	Approved	pratheekendpoint1	Auto-Approved

Activate Windows  
Go to Settings to activate Windows.

### Storage account endpoints:

Microsoft Azure | Search resources, services, and docs (G+/)

Home > Resource groups > pratheekRGterraform1 > pratheekstoragef

Storage account

Refresh, Give feedback

Provisioning state: Succeeded

Created: 7/1/2025, 4:33:59 PM

Last Failover: Never

Storage account resource ID: /subscriptions/8f4a085a-3c04-4c19-ba9d-a00b1b06b295/resourceGroups/pratheekRGterraform1/providers/Micr...

**Blob service**

Resource ID: /subscriptions/8f4a085a-3c04-4c19-ba9d-a00b1b06b295/resourceGroups/pratheekRGterraform1/providers/Micr...

**Primary endpoint**

Blob service: https://pratheekstoragef.blob.core.windows.net/

**Secondary endpoint**

Blob service: https://pratheekstoragef-secondary.blob.core.windows.net/

**File service**

Resource ID: /subscriptions/8f4a085a-3c04-4c19-ba9d-a00b1b06b295/resourceGroups/pratheekRGterraform1/providers/Micr...

Activate Windows  
Go to Settings to activate Windows.