Dr. N.G.P INSTITUTE OF TECHNOLOGY, COIMBATORE - 641048

AN AUTONOMOUS INSTITUTION

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Class	**:**	II Year CSE A
Git URL	**:**	https://github.com/IndhujaVelusamy/indhu.git
Course Name	**:**	Microsoft azure Fundamentals
Company	**:**	Pinesphere Solution, Coimbatore.
Start Date	**:**	06.08.2024
End Date	**:**	10.08.2024

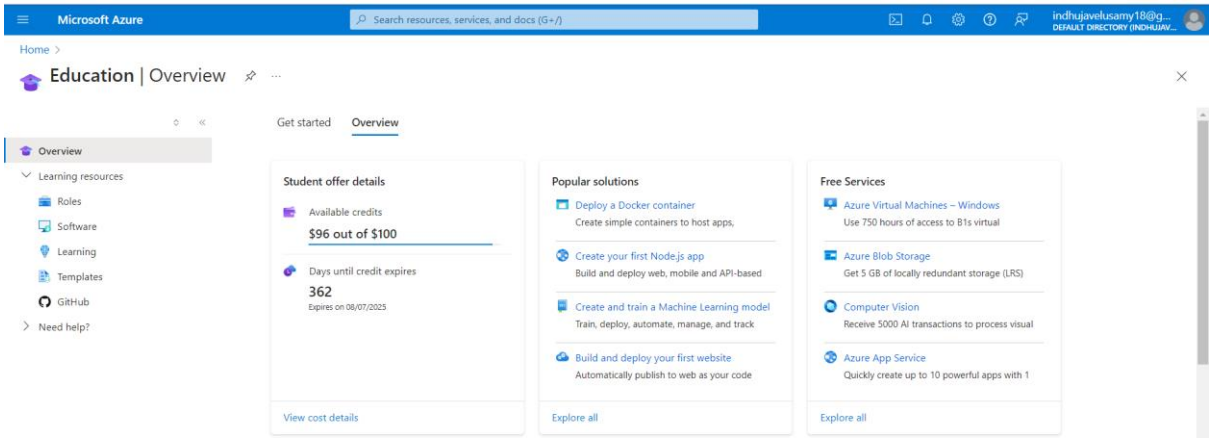
INDEX

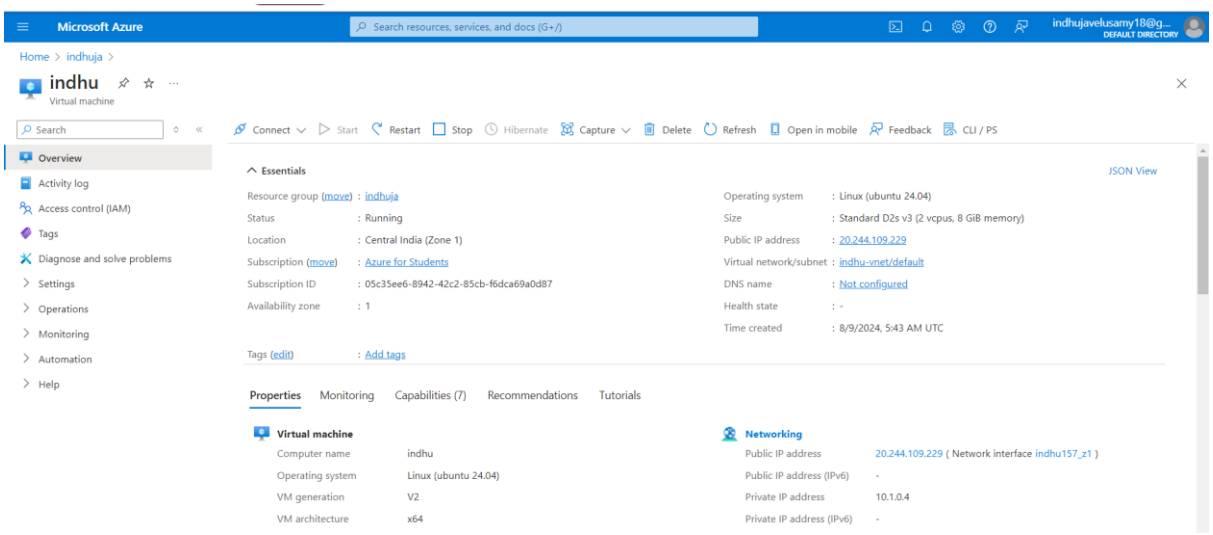
CREATING A VIRTUAL MACHINE (VM) IN MICROSOFT AZURE:

Creating A Virtual Machine (Vm) In Microsoft Azure Involves The Following Steps:

1. Sign in to the Azure portal.
2. Navigate to "Create a resource" and select "Virtual Machine."
3. Choose a subscription, resource group, and region.
4. Configure VM settings, including size, OS, and storage.
5. Set up networking, security, and management options.
6. Review and create the VM, then monitor its deployment.

The VM will be ready to use after deployment.





HOST A WEBSITE FROM GITHUB ON A VIRTUAL MACHINE (VM) IN MICROSOFT AZURE

1. Set Up the VM: Ensure your Azure VM is running and accessible via SSH or RDP. Install a web server like Apache or Nginx on the VM.

2. Clone the GitHub Repository: SSH into the VM and clone your website's repository from GitHub using git clone <repository-url>.

3. Deploy the Website: Move the cloned repository to the web server's root directory, typically /var/www/html for Apache or the appropriate directory for Nginx.

4. Configure the Web Server: Update the web server configuration files to serve your website. Restart the server to apply changes.

5. Open Ports: Ensure that the necessary ports (e.g., port 80 for HTTP) are open in the Azure network security group settings to allow web traffic.

6. Access the Website: Access your website by entering the VM's public IP address or domain name in a web browser.

COMMANDS:

Requesting a Cloud Shell.Succeeded.
Connecting terminal...

Your Cloud Shell session will be ephemeral so no files or system changes will persist beyond your current session.
indhuja [~]$ ssh indhu@20.244.109.229
The authenticity of host '20.244.109.229 (20.244.109.229)' can't be established.
ED25519 key fingerprint is
SHA256:hBg6qNuGmTRgHSU/cvGFdkumQ7pMiJjjckU1k+NkgWE.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '20.244.109.229' (ED25519) to the list of known hosts.
indhu@20.244.109.229's password:

Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1010-azure x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/pro

 System information as of Fri Aug 9 05:44:24 UTC 2024

  System load: 0.58   Processes: 134
  Usage of /:   5.0% of 28.02GB   Users logged in: 0
  Memory usage: 3%   IPv4 address for eth0: 10.1.0.4
  Swap usage: 0%

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
   just raised the bar for easy, resilient and secure K8s cluster deployment.

   https://ubuntu.com/engage/secure-kubernetes-at-the-edge

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

indhu@indhu:~$ sudo apt update
Hit:1 http://azure.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://azure.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://azure.archive.ubuntu.com/ubuntu noble-backports InRelease [126

kB]
Get:4 http://azure.archive.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:5 http://azure.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:6 http://azure.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://azure.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:8 http://azure.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:9 http://azure.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:10 http://azure.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:11 http://azure.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:12 http://azure.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:13 http://azure.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [340 kB]
Get:14 http://azure.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [86.2 kB]
Get:15 http://azure.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [5704 B]
Get:16 http://azure.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [321 kB]
Get:17 http://azure.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [135 kB]
Get:18 http://azure.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [45.0 kB]
Get:19 http://azure.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [12.7 kB]
Get:20 http://azure.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [237 kB]
Get:21 http://azure.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [46.4 kB]
Get:22 http://azure.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Packages [14.1 kB]
Get:23 http://azure.archive.ubuntu.com/ubuntu noble-updates/multiverse Translation-en [3608 B]
Get:24 http://azure.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [212 B]

Get:25 http://azure.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata [532 B]
Get:26 http://azure.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:27 http://azure.archive.ubuntu.com/ubuntu noble-backports/main amd64 c-n-f Metadata [112 B]
Get:28 http://azure.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [10.3 kB]
Get:29 http://azure.archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [10.5 kB]
Get:30 http://azure.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.6 kB]
Get:31 http://azure.archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1016 B]
Get:32 http://azure.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:33 http://azure.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 c-n-f Metadata [116 B]
Get:34 http://azure.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:35 http://azure.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:36 http://azure.archive.ubuntu.com/ubuntu noble-security/main amd64 Packages [288 kB]
Get:37 http://azure.archive.ubuntu.com/ubuntu noble-security/main Translation-en [66.6 kB]
Get:38 http://azure.archive.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [3696 B]
Get:39 http://azure.archive.ubuntu.com/ubuntu noble-security/universe amd64 Packages [249 kB]
Get:40 http://azure.archive.ubuntu.com/ubuntu noble-security/universe Translation-en [108 kB]
Get:41 http://azure.archive.ubuntu.com/ubuntu noble-security/universe amd64 Components [8632 B]
Get:42 http://azure.archive.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [9376 B]
Get:43 http://azure.archive.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [237 kB]
Get:44 http://azure.archive.ubuntu.com/ubuntu noble-security/restricted Translation-en [46.4 kB]
Get:45 http://azure.archive.ubuntu.com/ubuntu noble-security/multiverse amd64 Packages [10.6 kB]
Get:46 http://azure.archive.ubuntu.com/ubuntu noble-security/multiverse

```
Translation-en [2808 B]
Get:47 http://azure.archive.ubuntu.com/ubuntu noble-security/multiverse amd64
Components [208 B]
Get:48 http://azure.archive.ubuntu.com/ubuntu noble-security/multiverse amd64
c-n-f Metadata [344 B]
Fetched 28.3 MB in 5s (6006 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
7 packages can be upgraded. Run 'apt list --upgradable' to see them.
indhu@indhu:~$ sudo apt git install
E: Invalid operation git
indhu@indhu:~$ sudo apt install git
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.43.0-1ubuntu7.1).
git set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.
indhu@indhu:~$ sudo apt install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  nginx-common
Suggested packages:
  fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  nginx nginx-common
0 upgraded, 2 newly installed, 0 to remove and 7 not upgraded.
Need to get 552 kB of archives.
After this operation, 1596 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://azure.archive.ubuntu.com/ubuntu noble/main amd64 nginx-
common all 1.24.0-2ubuntu7 [31.2 kB]
Get:2 http://azure.archive.ubuntu.com/ubuntu noble/main amd64 nginx amd64
1.24.0-2ubuntu7 [521 kB]
Fetched 552 kB in 0s (11.4 MB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 64517 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2ubuntu7_all.deb ...
Unpacking nginx-common (1.24.0-2ubuntu7) ...
```

Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.24.0-2ubuntu7_amd64.deb ...
Unpacking nginx (1.24.0-2ubuntu7) ...
Setting up nginx (1.24.0-2ubuntu7) ...
Setting up nginx-common (1.24.0-2ubuntu7) ...
debconf: unable to initialize frontend: Dialog
debconf: (Dialog frontend requires a screen at least 13 lines tall and 31 columns wide.)
debconf: falling back to frontend: Readline
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /usr/lib/systemd/system/nginx.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning
processes...

Scanning linux
images...

Running kernel seems to be up-to-date.

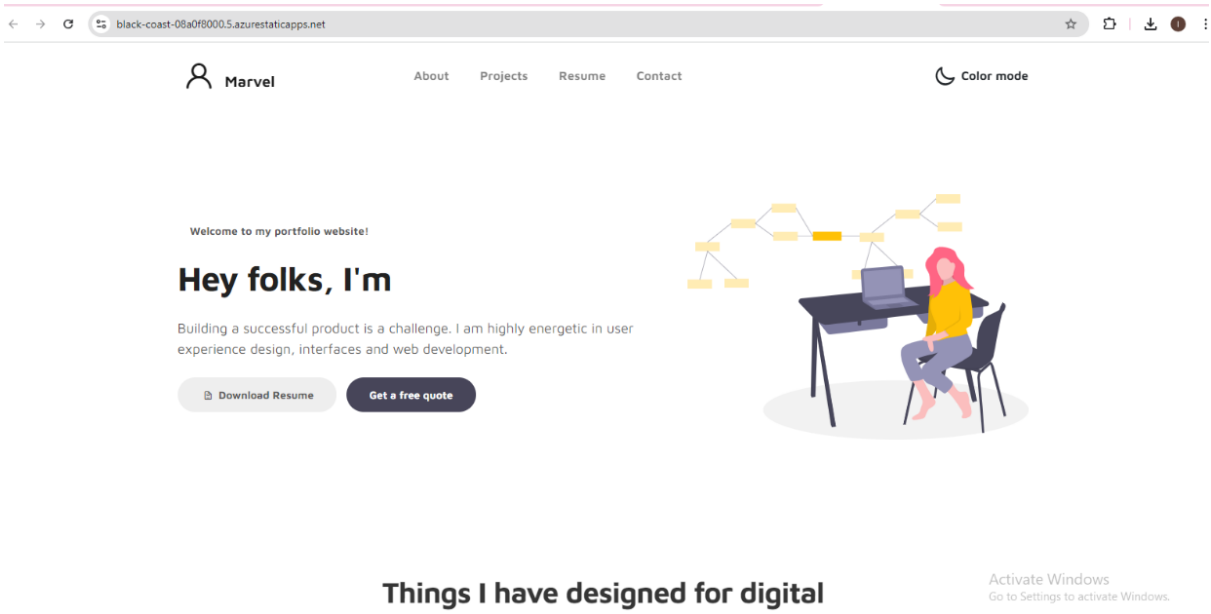
No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
indhu@indhu:~$ sudo systemctl start nginx
indhu@indhu:~$ sudo systemctl enable nginx
Synchronizing state of nginx.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable nginx
indhu@indhu:~$ cd /var/www/html
indhu@indhu:/var/www/html$ sudo rm -rf *
indhu@indhu:/var/www/html$ sudo git
clone https://github.com/IndhujaVelusamy/indhu.git .
Cloning into '.'...
remote: Enumerating objects: 39, done.
remote: Counting objects: 100% (39/39), done.
remote: Compressing objects: 100% (36/36), done.
remote: Total 39 (delta 0), reused 0 (delta 0), pack-reused 0

Receiving objects: 100% (39/39), 1.41 MiB | 6.08 MiB/s, done.
indhu@indhu:/var/www/html$ sudo chown -R www-data:www-data /var/www/html
indhu@indhu:/var/www/html$



CREATION OF STORAGE ACCOUNT IN MICROSOFT:

To Create A Storage Account In Microsoft Azure, Follow These Steps:

1. Sign in to Azure Portal: Log in to the Azure portal at https://portal.azure.com.

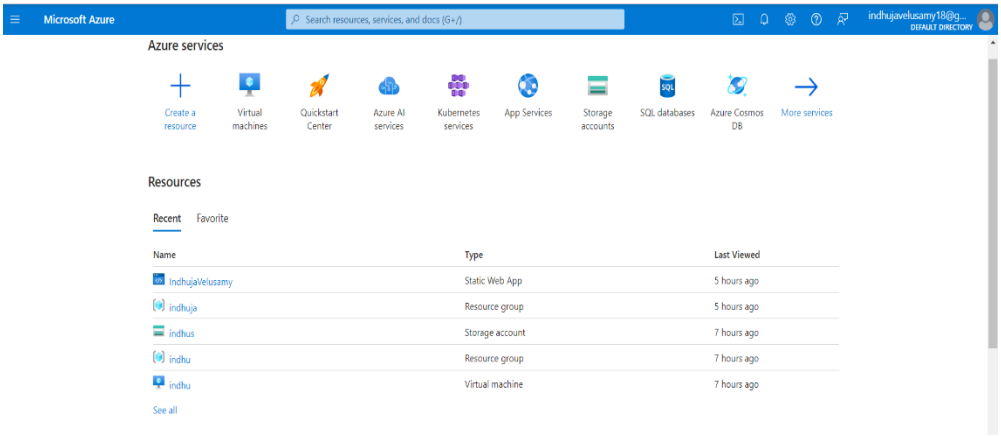
2. Create a Resource: Click on "Create a resource" and select "Storage account" under the "Storage" category.

3. Configure the Basics: Choose a subscription, resource group, and storage account name. Select the region, performance tier (Standard or Premium), and replication option (e.g., LRS, GRS).

4. Set Advanced Options: Configure additional settings like access tier (Hot or Cool), security options, and networking.

5. Review and Create: Review the configuration and click "Create" to deploy the storage account.

6. Access the Storage Account: After deployment, access the storage account to manage containers, blobs, files, tables, or queues.



MANAGING OF STORAGE ACCOUNT

To Upload An Image Into A Container In An Azure Storage Account, Follow These Steps:

a. Access the Storage Account: Sign in to the Azure portal and navigate to your Storage Account.

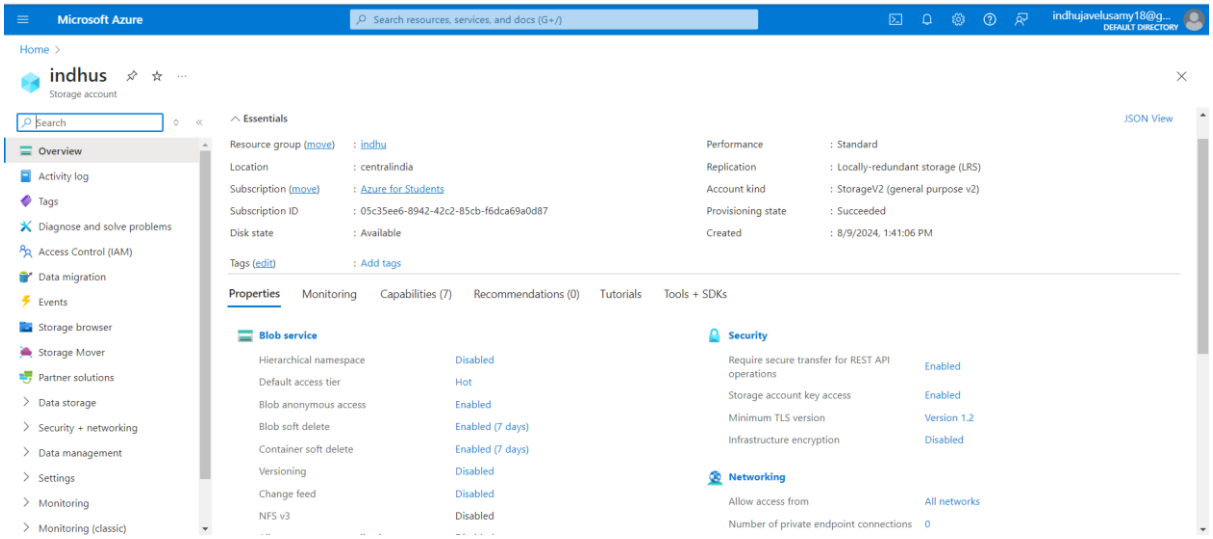
b. Create a Container: In the Storage Account, select "Containers" and click "Add Container." Name the container and set the access level (private, blob, or container).

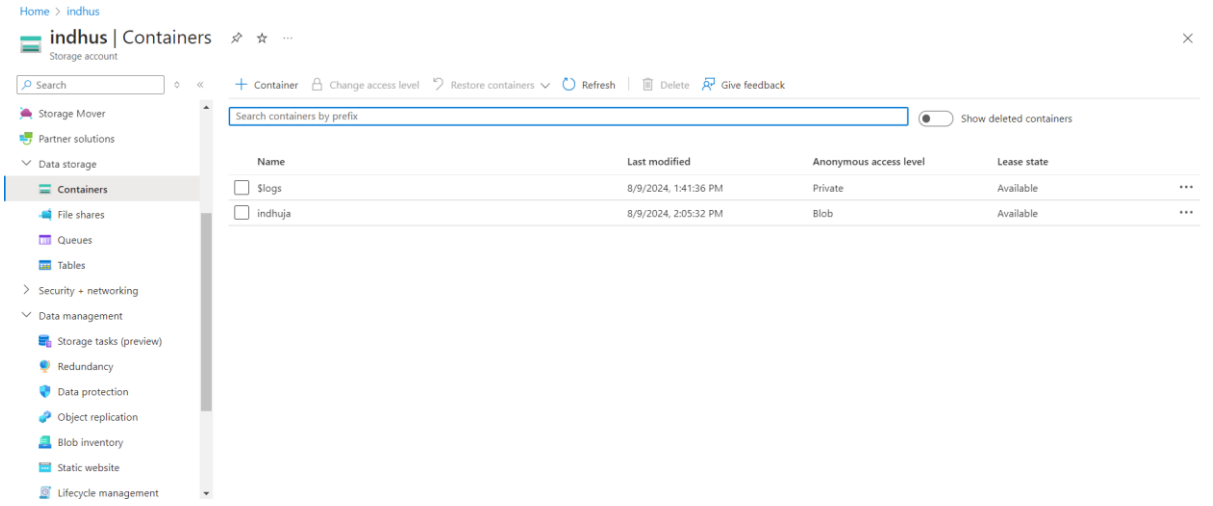
c. Open the Container: Once created, click on the container to open it.

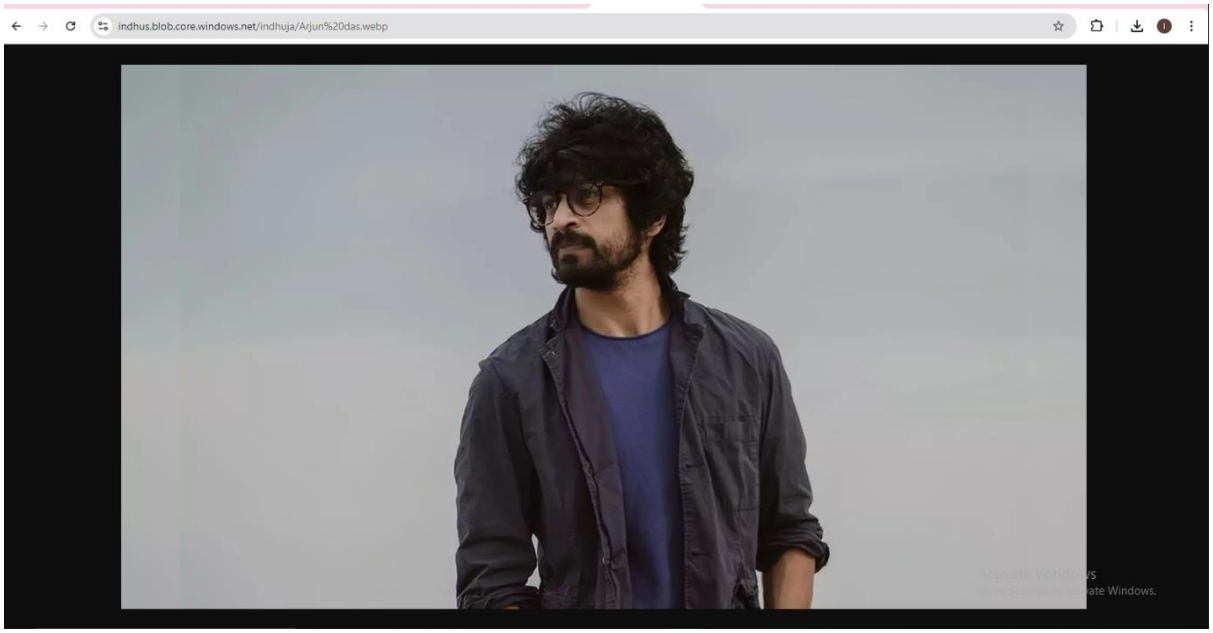
d. Upload the Image: Click the "Upload" button within the container. In the upload window, browse your local machine to select the image file.

e. Configure Upload Settings: Optional - You can set advanced upload options like overwriting existing files, setting metadata, or assigning blob tier.

f. Start the Upload: Click "Upload" to start the process. Once the upload is complete, your image will be stored in the container and accessible based on the access level you set.


Microsoft Azure
Search resources, services, and docs (G+/)
indhujavelusamy18@g...
DEFAULT DIRECTORY
Home
indhus
Storage account
Search
Overview
Activity log
Tags
Diagnose and solve problems
Access Control (IAM)
Data migration
Events
Storage browser
Storage Mover
Partner solutions
Data storage
Security + networking
Data management
Settings
Monitoring
Monitoring (classic)
Essentials
JSON View
Resource group (move) : indhu
Location : centralindia
Subscription (move) : Azure for Students
Subscription ID : 05c35ee6-8942-42c2-85cb-f6dca69a0d87
Disk state : Available
Performance : Standard
Replication : Locally-redundant storage (LRS)
Account kind : StorageV2 (general purpose v2)
Provisioning state : Succeeded
Created : 8/9/2024, 1:41:06 PM
Tags (edit) : Add tags
Properties
Monitoring
Capabilities (7)
Recommendations (0)
Tutorials
Tools + SDKs
Blob service
Hierarchical namespace Disabled
Default access tier Hot
Blob anonymous access Enabled
Blob soft delete Enabled (7 days)
Container soft delete Enabled (7 days)
Versioning Disabled
Change feed Disabled
NFS v3 Disabled
Security
Require secure transfer for REST API operations Enabled
Storage account key access Enabled
Minimum TLS version Version 1.2
Infrastructure encryption Disabled
Networking
Allow access from All networks
Number of private endpoint connections 0


Home > indhus
indhus | Containers
Storage account
Search
Storage Mover
Partner solutions
Data storage
Containers
File shares
Queues
Tables
Security + networking
Data management
Storage tasks (preview)
Redundancy
Data protection
Object replication
Blob inventory
Static website
Lifecycle management
Container
Change access level
Restore containers
Refresh
Delete
Give feedback
Search containers by prefix
Show deleted containers
Name
Last modified
Anonymous access level
Lease state
$logs 8/9/2024, 1:41:36 PM Private Available
indhuja 8/9/2024, 2:05:32 PM Blob Available



URL : https://indhus.blob.core.windows.net/indhuja/Arjun das.webp

STATIC WEB PAGE:

Deploying a Static Web Page on Azure

Using Azure Static Web App:

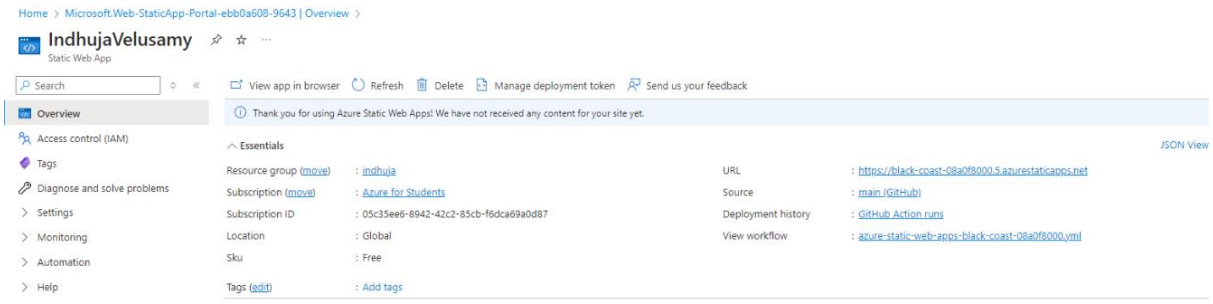
Prepare Your Site: Develop your static site and push it to a GitHub repository.

Set Up Azure Static Web Apps:

1. Sign in to Azure Portal.
2. Click **Create a resource** > **Static Web Apps**.
3. Connect to your GitHub repo and branch.

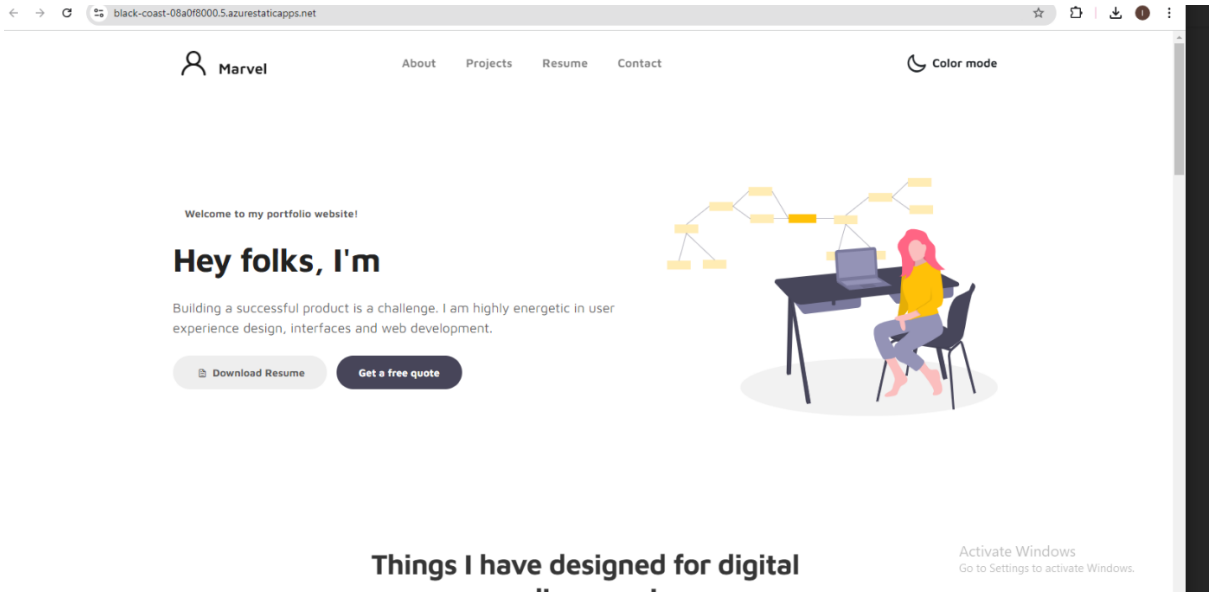
Deploy and Access:

1. Azure deploys your site automatically.
2. Access it via the provided URL.



URL: https://black-coast-08a0f8000.5.azurestaticapps.net/

OUTPUT:



CREATION OF LOCK

You can create a lock on a resource by navigating to the resource, selecting Locks under Settings, and then adding a lock with either a Read-only or Delete option to prevent accidental modifications or deletions.