

# MICROSOFT AZURE

**NAME : PRIYADHARSHINI S**

**DEPARTMENT: B.Tech    COMPUTER SCIENCE AND BUSINESS SYSTEMS**

**GITHUB LINK: <https://github.com/Priya22CB043>**

**REQUESTING A CLOUD SHELL SUCCEEDED.  
CONNECTING TERMINAL...**

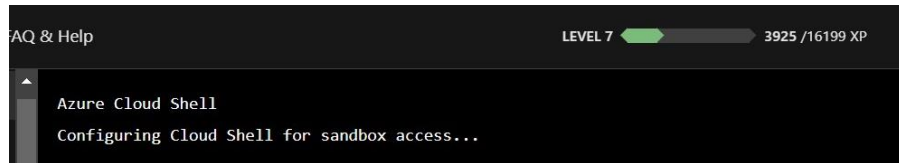
Welcome to Azure Cloud Shell

## **SANDBOX:**

- az vm create --resource-group "learn-1dd151f8-37c6-44cc-a975-8fD8e65c30c2" --name my-vm --public-ip-sku Standard --image Ubuntu2204 --admin-username azureuser --generate-ssh-keys
- az vm extension set --resource-group "learn-1dd151f8-37c6-44cc-a975-8f08e65c30c2" --vm-name my-vm --name customscript --publisher Microsoft.Azure.Extensions --version 2.1 --settings '{"fileUri":["https://raw.githubusercontent.com/MicrosoftDocs/mslearn-welcome-to-azure/master/configure-nginx.sh"]}' --protected-settings '{"commandToExecute": "./configure-nginx.sh"}'
- sudo apt-get update
- ssh azureuser@13.91.104.210
- echo "sudo apt-get update -y
- sudo apt-get install nginx -y
- sudo systemctl start nginx
- sudo systemctl enable nginx" > setup nginx.sh
- chmod +x setup nginx.sh
- ./setup nginx.sh

- `echo "+html>+body>+h2>Welcome to Azure! My name is $(hostname).+/h2>+/body>+/html>" | sudo tee -a /var/www/html/index.html`
- `sudo systemctl status nginx`
- `az vm open-port --resource-group "learn-1dd151f8-37c6-44cc-a975-8fD8e65c30c2" --name my-vm --port 80`
- `az vm list-ip-addresses --resource-group "learn-1dd151f8-37c6-44cc-a975-8fD8e65c30c2" --name my-vm --output table`
- `ssh azureuser@13.91.104.210`
- `sudo apt-get update`
- `git clone https://github.com/Priya22CB043/Azure.git`
- `sudo cp -r html/* /var/www/html/`
- `sudo chown -R www-data:www-data /var/www/html`
- `sudo chmod -R 755 /var/www/html`
- `sudo systemctl restart nginx\`

## EXECUTING COMMANDS IN SAND BOX



```
vennilla321 [ ~ ]$ az vm create --resource-group "learn-ca3251d5-740b-4b75-94c4-945081da71ac" --name my-vm --public-ip-sku Standard --image Ubuntu2204 --admin-username azureuser --generate-ssh-keys
{
  "fqdns": "",
  "id": "/subscriptions/179dd20b-e2ea-45a0-8003-473940f3d4f1/resourceGroups/learn-ca3251d5-740b-4b75-94c4-945081da71ac/providers/Microsoft.Compute/virtualMachines/my-vm",
  "location": "westus",
  "macAddress": "60-45-BD-03-B2-86",
  "powerState": "VM running",
  "privateIpAddress": "10.0.0.4",
  "publicIpAddress": "13.91.104.210",
  "resourceGroup": "learn-ca3251d5-740b-4b75-94c4-945081da71ac",
  "zones": ""
}
vennilla321 [ ~ ]$ az vm extension set --resource-group "learn-ca3251d5-740b-4b75-94c4-945081da71ac" --vm-name my-vm --name customScript --pub
```

Switch to PowerShell Restart Manage files

```
"resourceGroup": "learn-ca3251d5-740b-4b75-94c4-945081da71ac",
"settings": {
  "fileUri": [
    "https://raw.githubusercontent.com/MicrosoftDocs/mslearn-welcome-to-azure/master/configure-nginx.sh"
  ]
},
"suppressFailures": null,
"tags": null,
"type": "Microsoft.Compute/virtualMachines/extensions",
"typeHandlerVersion": "2.1",
"typePropertiesType": "customScript"
}
vennilla321 [ ~ ]$ sudo apt-get update

We trust you have received the usual lecture from the local System
Administrator. It usually boils down to these three things:

#1) Respect the privacy of others.
#2) Think before you type.
#3) With great power comes great responsibility.
```

## RUNNING HTML IN BROWSER WITH PUBLIC IP ADDRESS

```
azureuser@my-vm:~$ echo "<html><body><h2>Welcome to Azure! My name is  
$(hostname).</h2></body></html>" | sudo tee -a /var/www/html/index.html  
<html><body><h2>Welcome to Azure! My name is  
my-vm.</h2></body></html>
```



**Welcome to Azure! My name is my-vm.**

**Welcome to Azure! My name is my-vm.**

## DISPLAYING VIRTUAL MACHINE, PUBLIC IP AND PRIVATE IP

```
Switch to PowerShell Restart Manage files ...  
],  
"tags": {},  
"type": "Microsoft.Network/networkSecurityGroups"  
}  
vennilla321 [ ~ ]$ az vm list-ip-addresses --resource-group "learn-7a10  
38a4-cd8d-4536-bd4d-c13caa1c5217" --name my-vm --output table  
VirtualMachine    PublicIPAddresses    PrivateIPAddresses  
-----  
my-vm             40.118.128.117       10.0.0.4  
vennilla321 [ ~ ]$ ssh azureuser@40.118.128.117  
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 6.5.0-1025-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 05:30:32 UTC 2024  
  
System load: 0.2          Processes:            121  
Usage of /: 7.8% of 28.89GB Users logged in:       0  
Memory usage: 16%        IPv4 address for eth0: 10.0.0.4
```

## RUNNING PORTFOLIO FROM GIT HUB IN THE BROWSER

Switch to PowerShell Restart Manage files

```
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.34.1-1ubuntu1.11).
git set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 10 not upgraded.
azureuser@my-vm:~$ git clone https://github.com/GNiruthian/Login-Page-using-html-css.git
Cloning into 'Login-Page-using-html-css'...
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 5 (delta 0), reused 1 (delta 0), pack-reused 0
Receiving objects: 100% (5/5), done.
azureuser@my-vm:~$ sudo cp -r Login-Page-using-html-css/* /var/www/html/
azureuser@my-vm:~$ sudo chown -R www-data:www-data /var/www/html
azureuser@my-vm:~$ sudo chown -R www-data:www-data /var/www/html
sudo chmod -R 755 /var/www/html
azureuser@my-vm:~$
```

Not secure 40.118.128.117

### Login Form

[Forgot password?](#)

Login

Not yet member? [Signup now](#)

# VIRTUAL MACHINE

## CREATING A VIRTUAL MACHINE

portal.azure.com/#create/Microsoft.VirtualMachine-ARM

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

vennilla321@gmail.com MICROSOFT LEARN SANDBOX (L...

Home >

### Create a virtual machine

Authentication type ⓘ

☐ SSH public key

☒ Password

Username \* ⓘ

Password \*

Confirm password \*

**Inbound port rules**

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports \* ⓘ

☒ HTTP (80)

☒ HTTPS (443)

☒ SSH (22)

Select inbound ports \*

< Previous Next : Disks > Review + create

Give feedback

portal.azure.com/#create/Microsoft.VirtualMachine-ARM

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

vennilla321@gmail.com MICROSOFT LEARN SANDBOX (L...

Home >

### Create a virtual machine

**NIC network security group** ⓘ

☐ None

☒ Basic

☐ Advanced

**Public inbound ports** \* ⓘ

☐ None

☒ Allow selected ports

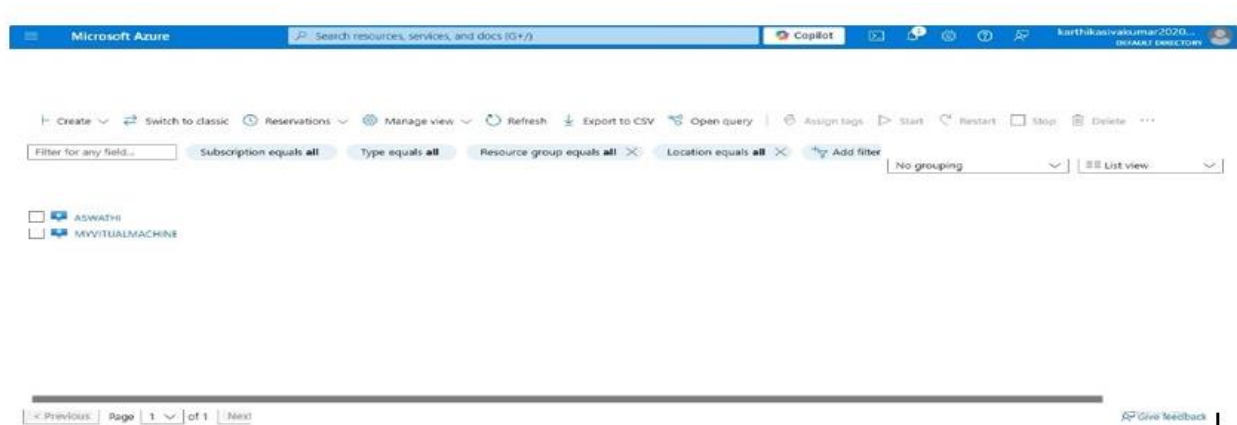
Select inbound ports \*

**⚠ This will allow all IP addresses to access your virtual machine.** This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

Delete NIC when VM is deleted ⓘ ☐

< Previous Next : Management > Review + create

Give feedback

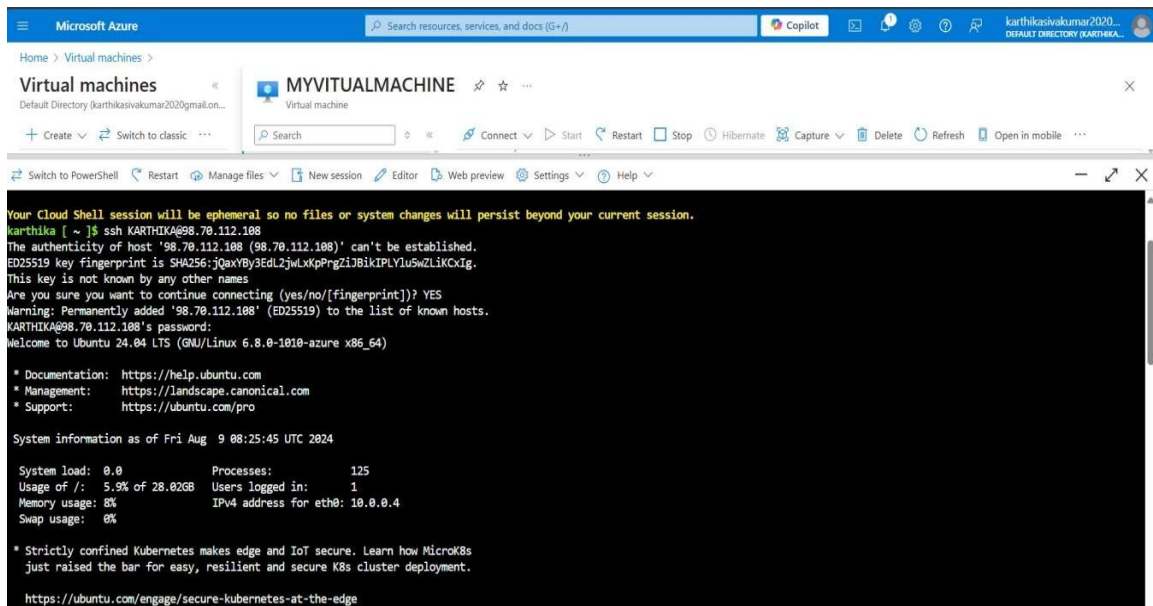


## COMMANDS FOR VIRTUAL MACHINE

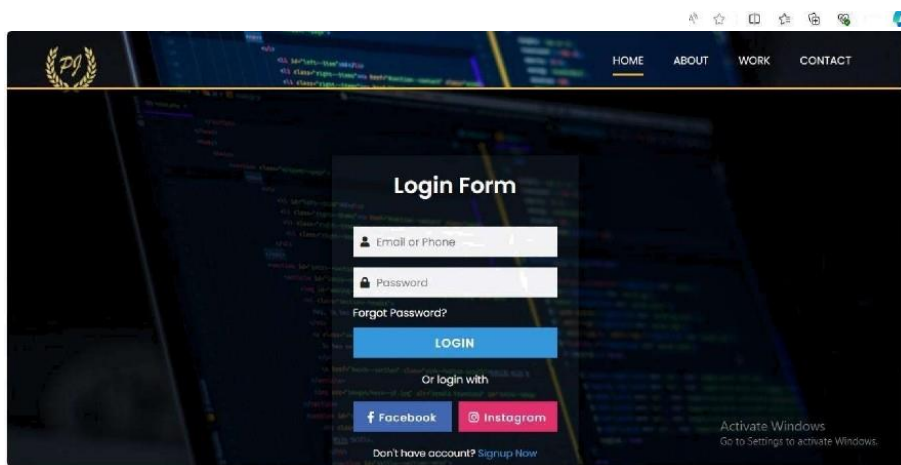
- ✓ `ssh username@13.91.104.210`
- ✓ `sudo apt update`
- ✓ `sudo apt install git`
- ✓ `sudo apt install nginx`
- ✓ `sudo systemctl start nginx`
- ✓ `sudo systemctl enable nginx`
- ✓ `cd /var/www/html`
- ✓ `sudo rm -rf *`
- ✓ `sudo git clone https://github.com/Priya22CB043/Azure.git.`
- ✓ `sudo chown -R www-data:www-data /var/www/html`



## EXECUTING THE VIRTUAL MACHINE COMMANDS



```
Cloning into 'loginpage'...
remote: Enumerating objects: 27, done. remote:
Counting objects: 1BB% (27/27), done.
remote: Compressing objects: 1BB% (25/25), done.
remote: Total 27 (delta 7), reused B (delta B), pack-reused B
Rece1v1ng objeW1s: 18BX (27/27}, 522.3B KGB 6.B7 MTB/s, done.
Reso1v1ng deltas: 1BB (7/7) done.
azuneuse -vm: •$ sudo cp -r 'Loan-Page-us1ng-htm1-css'" /var/ /V1/ cp:
cannot stat Login-Page- usi ng-ht m- css'" : No such f11e or d1r'eWory azuruuse my-
vm:=$ sudo rp -r loginpage/* /var/www/html/
azureuse•@-y-vm: $ sudo rhown -R www-data:Www-data /var/wwq/AIsudo
chmod -R 755 /var/www/html
azureuser my-vm: $
```





# STORAGE SERVICE

Microsoft Azure

Search resources, services, and docs (G+ /)

vennilla321@gmail.com  
MICROSOFT LEARN SANDBOX

Home >

**dhharsh**  
Storage account

Search

Upload Open in Explorer Delete Move Refresh Open in mobile CLI / PS Feedback

Overview

- Activity log
- Tags
- Diagnose and solve problems
- Access Control (IAM)
- Data migration
- Events
- Storage browser
- Storage Mover
- Partner solutions
- Data storage
  - Containers
  - File shares

Essentials

Resource group (move)  
[learn-20e687e5-03a8-43e5-bc9f-ecbb4b901259](#)

Location  
southindia

Subscription (move)  
[Concierge Subscription](#)

Subscription ID  
1a938190-e8b8-4d96-8f61-f2606002a079

Disk state  
Available

Tags (edit)  
[Add tags](#)

Performance  
Standard  
Replication  
Locally-redundant storage (LRS)  
Account kind  
StorageV2 (general purpose v2)  
Provisioning state  
Succeeded  
Created  
8/9/2024, 4:05:14 PM

Properties Monitoring Capabilities (7) Recommendations (0) Tutorials Tools + SDKs

Microsoft Azure

Search resources, services, and docs (G+ /)

vennilla321@gmail.com  
MICROSOFT LEARN SANDBOX

Home >

**portfolio**  
Container

Search

Upload Change access level Refresh Delete Change tier Acquire lease Break lease View snapshots

Overview

- Diagnose and solve problems
- Access Control (IAM)
- Settings


Authentication method: Access key (Switch to Microsoft Entra user account)

Location: portfolio

Search blobs by prefix (case-sensitive)

Show deleted blobs

Add filter

Name	Modified	Access tier	Archive status	Blob type	Size
 images.jpeg	8/9/2024, 4:32:20 PM	Hot (Inferred)		Block blob	8.61

dhharsh.blob.core.windows.net/portfolio/images.jpeg

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<Error>
  <Code>ResourceNotFound</Code>
  <Message>The specified resource does not exist. RequestId:e03ece84-501e-0067-064c-ea5e54000000 Time:2024-08-09T11:05:57.5134690Z</Message>
</Error>
```

Microsoft Azure

Search resources, services, and docs (G+ /)

vennilla321@gmail.com  
MICROSOFT LEARN SANDBOX

Home >

**portfolio**  
Container

Search

Upload Change access level Refresh Delete Change tier Acquire lease Break lease View snapshots

Overview

- Diagnose and solve problems
- Access Control (IAM)
- Settings

Change access level

Change the access level of container 'portfolio'.

Anonymous access level

Blob (anonymous read access for blobs only)

Private (no anonymous access)

Blob (anonymous read access for blobs only)

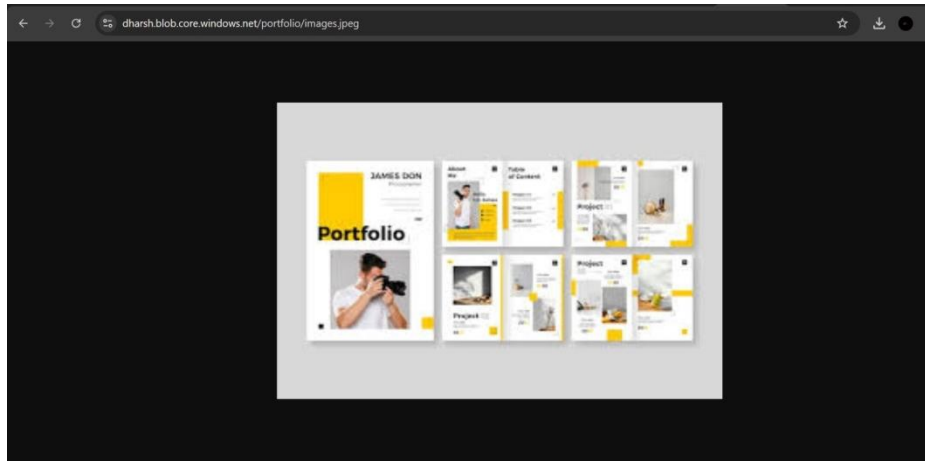
Container (anonymous read access for containers and blobs)

32:20 PM

Hot (Inferred)

Block blob

8.61



## PRICING CALCULATOR

Popular

Compute

Networking

Storage

Web

Mobile

Containers

**Databases**

Analytics

AI + machine learning

Internet of Things

Integration

Identity

Security

Developer tools

**Azure Cosmos DB**

Build or modernize scalable, high-performance apps

Add to estimate

**Azure SQL Database**

Build apps that scale with managed and intelligent SQL database in the cloud

Add to estimate

**Azure Database for MySQL**

Fully managed, scalable MySQL Database

Add to estimate

**Azure Database for MariaDB**

Deploy applications to the cloud with enterprise-ready, fully managed community MariaDB

Add to estimate

**Azure Database for PostgreSQL**

Fully managed, intelligent, and scalable PostgreSQL

Add to estimate

**Azure Synapse Analytics**

Limitless analytics with unmatched time to insight

Add to estimate

**Azure Database Migration Service (classic)**

Accelerate your data migration to Azure

Add to estimate

**Azure Cache for Redis**

Accelerate apps with high-throughput, low-latency data caching

Add to estimate

**Azure SQL Database added.** [View](#)

cloud

Add to estimate

Chat with Sales

[Log in](#) to save cost estimates and use your Azure agreement pricing.

Products

Example scenarios

Saved estimates

FAQs

Select a product to include it in your estimate.

APPL

**App Service**

Quickly create powerful cloud apps for web and mobile

Add to estimate

**Cloud Services**

Create highly-available, infinitely-scalable cloud applications and APIs

Add to estimate

**Azure Spring Apps**

Build and deploy Spring Boot applications with a fully managed service from Microsoft and VMware

Add to estimate

**Application Gateway**

Build secure, scalable, highly available web front ends in Azure

Add to estimate

**Azure Route Server**

Enable network appliances to exchange routes dynamically with virtual networks in Azure

Add to estimate

**Azure Application Gateway added.** [View](#)

Appliances for edge compute

Add to estimate

**Azure Container Storage**

**Azure Web PubSub**

**Azure Maps**

Chat with Sales





My saved reports      Sign In

View report

Timeframe ⓘ  
3 Years

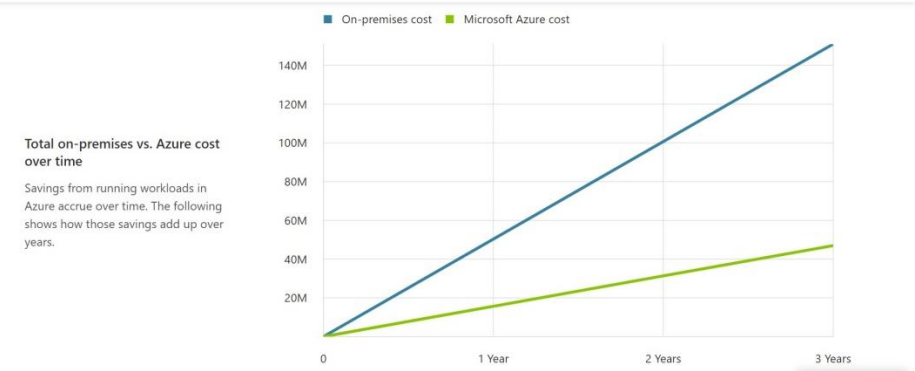
Region ⓘ  
East US

Licensing program ⓘ  
Microsoft Online Services Program

Show Dev/Test Pricing ⓘ  
☐

Over 3 year(s) with Microsoft Azure, your estimated cost savings could be  
as much as **₹103,994,065**

Chat with Sales



Azure      Contact Sales      Try Azure for free

On-premises cost breakdown summary		Azure cost breakdown summary	
Category	Cost	Category	Cost
Compute	₹84,445,426.64	Compute	₹27,306,201.61
Hardware	₹53,287,872.24	Data Center	₹0.00
Software	₹10,375,700.10	Networking	₹2,314,455.32
Electricity	₹2,646,814.42	Storage	₹12,465,084.92
Virtualization	₹18,135,039.89	IT Labor	₹4,900,703.511
Data Center	₹12,245,124.16		
Networking	₹28,359,907.24		
Storage	₹21,029,422.90		
IT Labor	₹4,900,704.01		
Total	₹150,980,548.11	Total	₹46,986,482.71

Estimated on-premises cost (3 year(s))      Estimated Azure cost (3 year(s))

<input type="checkbox"/> Compute cost	Azure compute cost
<input type="checkbox"/> Data center cost	Azure data center cost
<input type="checkbox"/> Networking cost	Azure networking cost
<input type="checkbox"/> Storage cost	Azure storage cost
<input type="checkbox"/> IT labor cost	Azure IT labor cost

Total on-premises cost over three year(s)	₹150,980,548.11	Total Azure cost over three year(s)	₹46,986,482.71
---	-----------------	-------------------------------------	----------------

A total savings of **₹103,994,065.40** with Microsoft Azure