

MICROSOFT AZURE

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SYSTEMS

GITHUB LINK: <https://github.com/K-Aswathi/Microsoft-Azure>

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

Welcome to Azure Cloud Shell

- `az vm create --resource-group "learn-3ae47ec3-0cc8-46f5-ae5c-dbb634c473d3" --name my-vm --public-ip-sku Standard --image Ubuntu2204 --admin-username azureuser --generate-ssh-keys`
- `az vm extension set --resource-group "learn-3ae47ec3-0cc8-46f5-ae5c-dbb634c473d3" --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@98.70.112.166`
- `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-3ae47ec3-0cc8-46f5-ae5c-dbb634c473d3 " --name my-vm --port 80`
- `az vm list-ip-addresses --resource-group " learn-3ae47ec3-0cc8-46f5-ae5c-dbb634c473d3 " --name my-vm --output table`
- `ssh azureuser@98.70.112.166`
- `sudo apt-get update`
- `git clone https://github.com/K-Aswathi/Microsoft-Azure`
- `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`

INTRODUCTION TO MICROSOFT AZURE

The screenshot shows a web browser window with multiple tabs. The active tab is 'Microsoft Azure Fundamentals: Describe cloud concepts'. The URL is 'learn.microsoft.com/en-gb/training/paths/microsoft-azure-fundamentals-describe-cloud-concepts/'. The page header includes the Microsoft Learn logo and navigation links: Discover, Product documentation, Development languages, and Topics. A user profile 'AK' is visible in the top right. Below the header, there's a 'Training' section with a progress bar showing 'LEVEL 3' and '3300 / 3699 XP'. The main content area features a blue hexagonal icon with a cloud and server. The title is 'Microsoft Azure Fundamentals: Describe cloud concepts' with a '2400 XP' badge. Below the title, it says '21 min remaining • Learning Path • 1 of 3 modules completed'. There are tags for 'Beginner', 'Administrator', 'Developer', 'DevOps Engineer', 'Solution Architect', and 'Azure'. The text describes the learning path as a three-part series for basic cloud concepts, leading to Exam AZ-900. It lists prerequisites: 'Basic familiarity with IT terms and concepts'. At the bottom, there are 'Continue >' and '+ Add' buttons. The Windows taskbar at the bottom shows the search bar, task view, and several application icons, along with system tray information: 27°C, Mostly cloudy, 09:51, 10-08-2024.

Microsoft Azure Fundamentals: Describe cloud concepts

21 min remaining • Learning Path • 1 of 3 modules completed

Beginner Administrator Developer DevOps Engineer Solution Architect Azure

New to the cloud? Microsoft Azure fundamentals is a three-part series that teaches you basic cloud concepts, provides a streamlined overview of many Azure services, and guides you with hands-on exercises to deploy your very first services for free. Complete all of the learning paths in the series if you are preparing for Exam AZ-900: Microsoft Azure Fundamentals. This is the first learning path in the series, **Microsoft Azure Fundamentals: Describe cloud concepts**. The other learning paths in the series are [Part 2: Describe Azure architecture and services](#) and [Part 3: Describe Azure management and governance](#).

Prerequisites

- Basic familiarity with IT terms and concepts

[Continue >](#) [+ Add](#)

The screenshot shows the 'Achievements' section of the Microsoft Learn page. The title is 'Keep up the great work!'. Below it is a blue circular icon with a cloud and server. The text reads 'Describe the benefits of using cloud services'. Below that, it says 'You have earned an achievement! Congratulations, but what should you do next?'. At the bottom, there's a button that says 'First, let's share your achievement'. The page header is similar to the previous screenshot, but the progress bar shows 'LEVEL 4' and '200 / 5299 XP'. The URL is 'learn.microsoft.com/en-gb/training/modules/describe-benefits-use-cloud-services/7-summary#completion'. The Windows taskbar at the bottom shows the search bar, task view, and several application icons, along with system tray information: Medal updates, 09:52, 10-08-2024.

Keep up the great work!

Describe the benefits of using cloud services

You have earned an achievement!
Congratulations, but what should you do next?

First, let's share your achievement

Microsoft Azure portal interface showing the ASWATHI virtual machine details. The overview tab is selected, displaying essential information:

- Resource group: [Aswathi](#)
- Status: Running
- Location: Central India (Zone 1)
- Subscription: [Azure for Students](#)
- Operating system: Linux (ubuntu 24.04)
- Size: Standard D51 v2 (1 vcpu, 3.5 GiB memory)
- Public IP address: -
- Virtual network/subnet: -

The terminal window shows the following output:

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

Welcome to Azure Cloud Shell

Type "az" to use Azure CLI
Type "help" to learn about Cloud Shell

Your Cloud Shell session will be ephemeral so no files or system changes will persist beyond your current session.
az2c019 [ ~ ] ssh ASWATHI@98.70.112.166
The authenticity of host '98.70.112.166 (98.70.112.166)' can't be established.
ED25519 key fingerprint is SHA256:SHAR00fzAFJx66yKs/b0VL0Yw0njde9AF/BM4i9k3J2M.
This key is not known by any other names
```

Microsoft Azure portal interface showing the ASWATHI virtual machine details. The overview tab is selected, displaying essential information:

- Resource group: [Aswathi](#)
- Status: Running
- Location: Central India (Zone 1)
- Subscription: [Azure for Students](#)
- Operating system: Linux (ubuntu 24.04)
- Size: Standard D51 v2 (1 vcpu, 3.5 GiB memory)
- Public IP address: -
- Virtual network/subnet: -

The terminal window shows the following output:

```
Reading state information... Done
16 packages can be upgraded. Run 'apt list --upgradable' to see them.
ASWATHI@ASWATHI:~$ 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 16 not upgraded.
ASWATHI@ASWATHI:~$ sudo apt install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
```

Microsoft Azure portal showing the ASWATHI virtual machine details. The VM is running Linux (ubuntu 24.04) and is in the Central India (Zone 1) region. The status is Running. The VM is connected to the ASwathi/Portfolio resource group.

ASWATHI Virtual machine

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Essentials

Resource group (move): ASwathi

Status: Running

Location: Central India (Zone 1)

Subscription (move): Azure for Students

Operating system: Linux (ubuntu 24.04)

Size: Standard D51 v2 (1 vcpu, 3.5 GiB memory)

Public IP address: -

Virtual network/subnet: -

Switch to PowerShell

Restart

Manage files

New session

Editor

Web preview

Settings

Help

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.

```
ASWATHI@ASWATHI:~$ sudo systemctl start nginx
ASWATHI@ASWATHI:~$ 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
ASWATHI@ASWATHI:~$ cd /var/www/html
ASWATHI@ASWATHI:~$ sudo git clone https://github.com/K-Aswathi/Portfolio.git
```

Activate Windows
Go to Settings to activate Windows.

Web browser showing the ASwathi's portfolio website. The website displays the name ASwathi, the title Undergraduate Student, and a button to Visit My Works.

ASwathi's portfolio

HI!

I am ASwathi

Undergraduate Student

Visit My Works

Activate Windows
Go to Settings to activate Windows.

AZURE STORAGE SERVICES:

The screenshot shows the Microsoft Learn interface for the 'Describe Azure storage services' module. The page is titled 'Describe Azure storage services' with a sub-header '46 min • Module • 9 Units'. A green badge indicates '1000 XP'. The page includes a 'Feedback' link and a list of tags: Beginner, Administrator, Developer, DevOps Engineer, Solution Architect, and Azure. The main content area describes the module's purpose: 'This module introduces you to storage in Azure, including things such as different types of storage and how a distributed infrastructure can make your data more resilient.' Below this, the 'Learning objectives' are listed: 'Upon completion of this module, you will be able to:' followed by a bulleted list: 'Compare Azure storage services', 'Describe storage tiers', 'Describe redundancy options', 'Describe storage account options and storage types', and 'Identify options for moving files, including AzCopy, Azure Storage Explorer, and Azure File Sync'.

Describe Azure storage services

46 min • Module • 9 Units

Feedback

Beginner Administrator Developer DevOps Engineer Solution Architect Azure

This module introduces you to storage in Azure, including things such as different types of storage and how a distributed infrastructure can make your data more resilient.

Learning objectives

Upon completion of this module, you will be able to:

- Compare Azure storage services
- Describe storage tiers
- Describe redundancy options
- Describe storage account options and storage types
- Identify options for moving files, including AzCopy, Azure Storage Explorer, and Azure File Sync

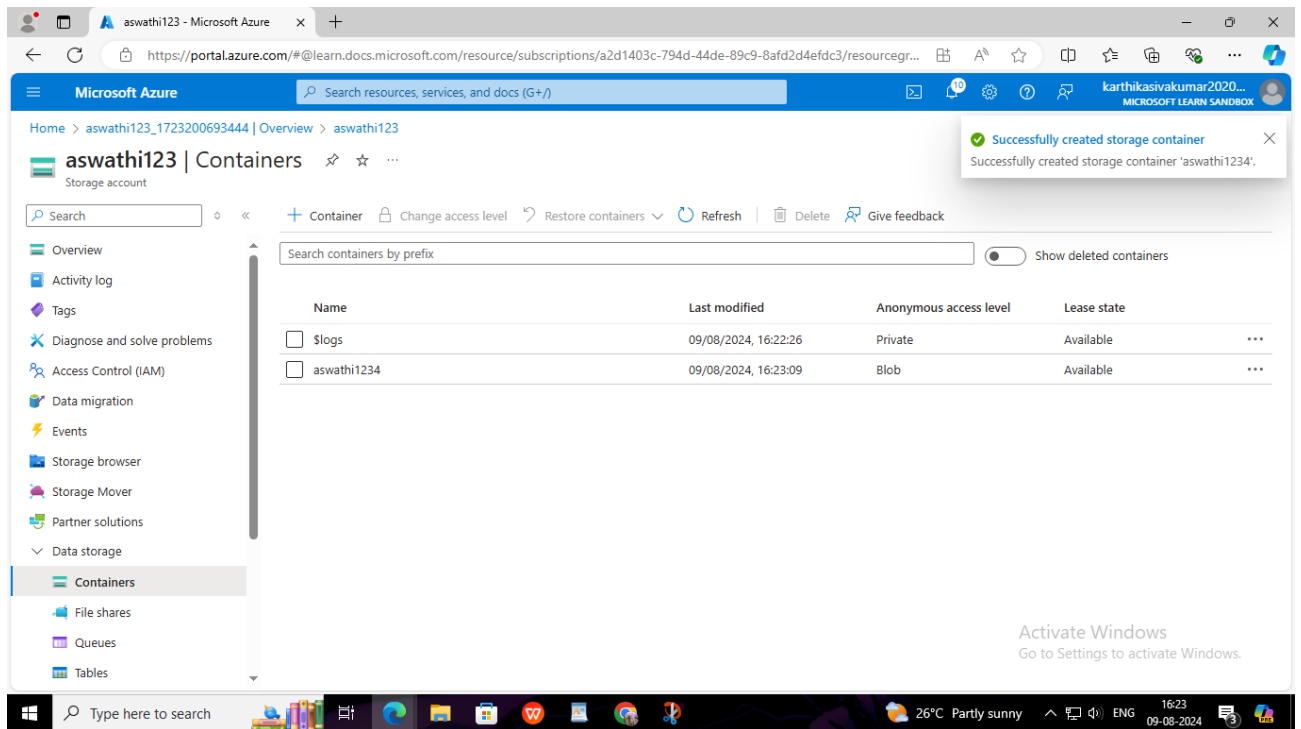
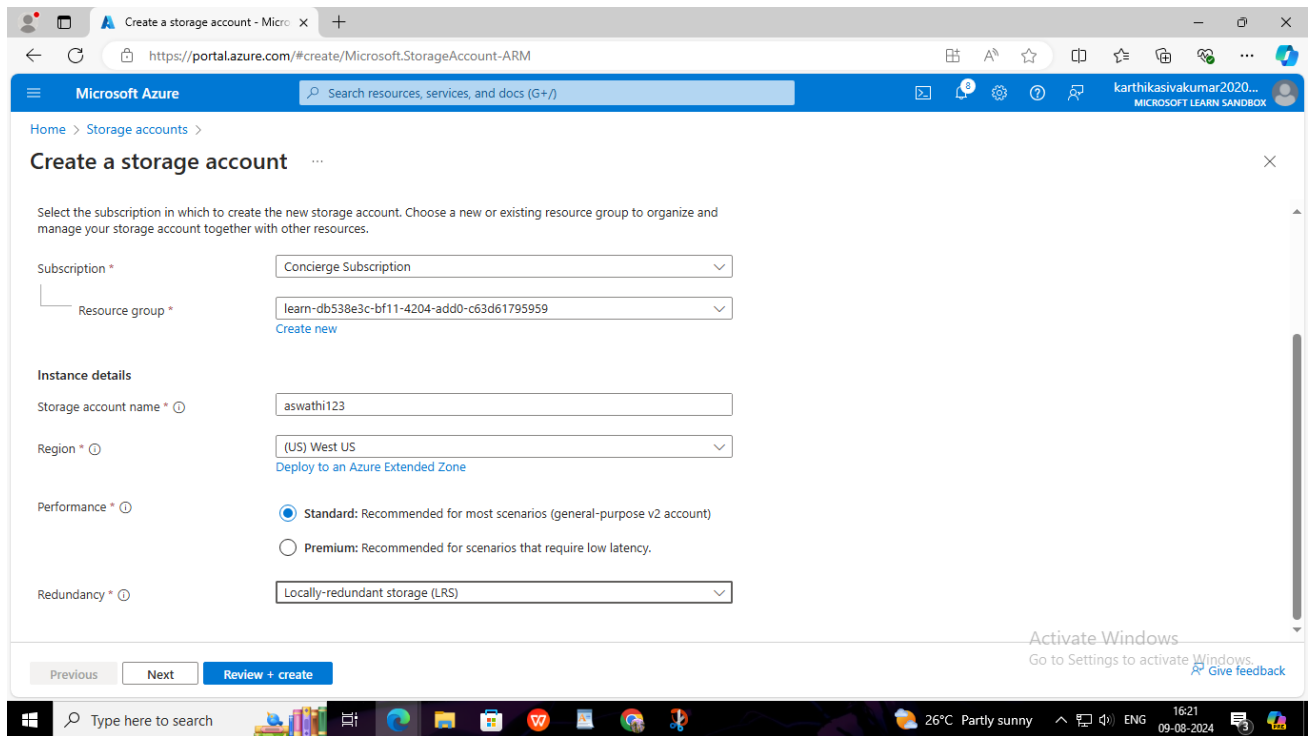
The screenshot shows the Microsoft Learn achievement page for the 'Describe Azure storage services' module. The page is titled 'Keep up the great work!' with a sub-header 'Describe Azure storage services'. A green badge indicates '1000 XP'. The page includes a 'Previous' link and a 'Next Module' link. The main content area displays the achievement: 'You have earned an achievement! Congratulations, but what should you do next?'. Below this, the text 'First, let's share your achievement' is visible.

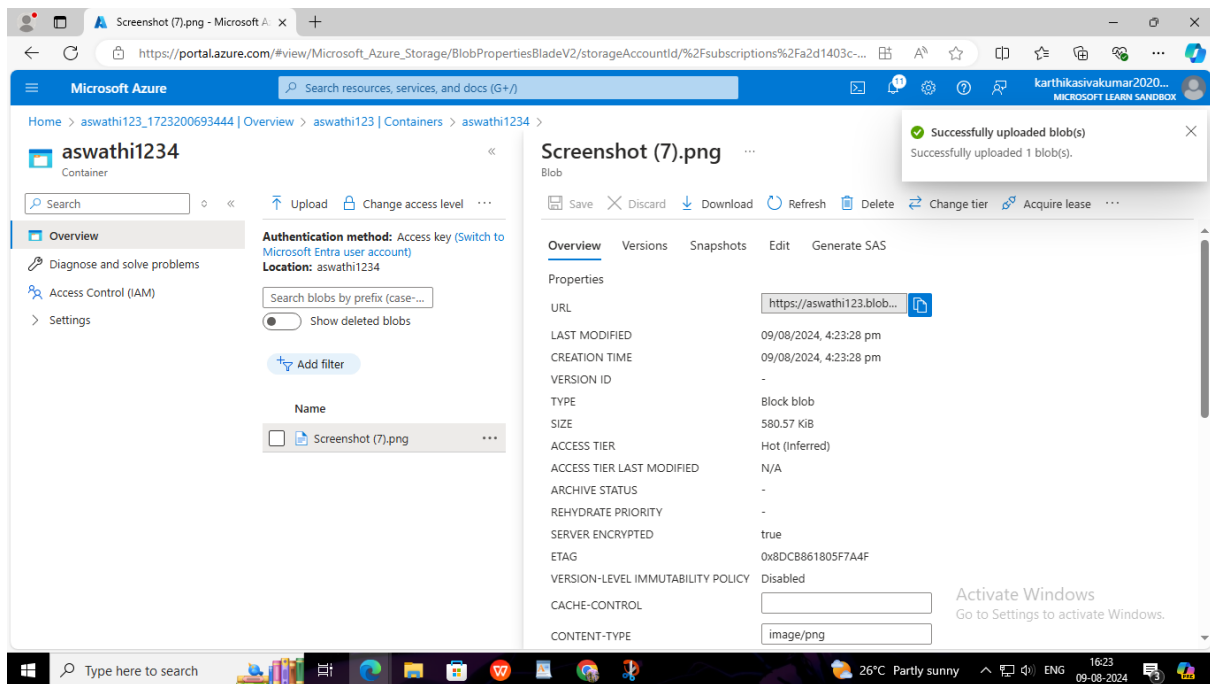
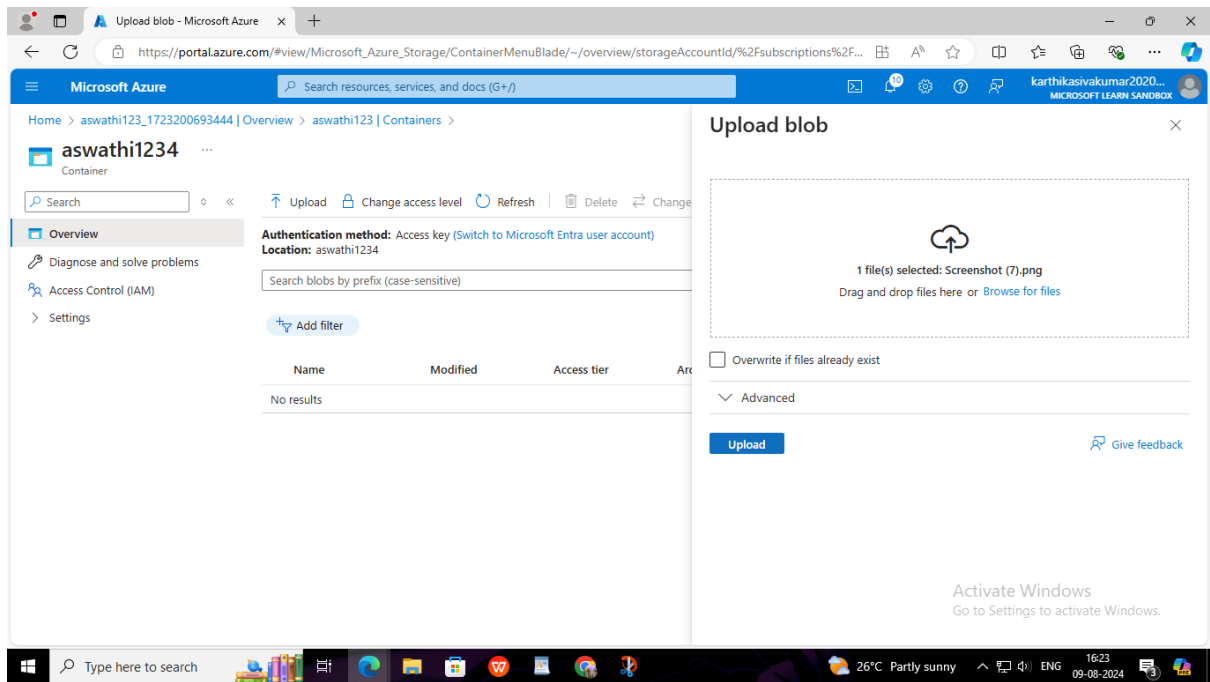
Keep up the great work!

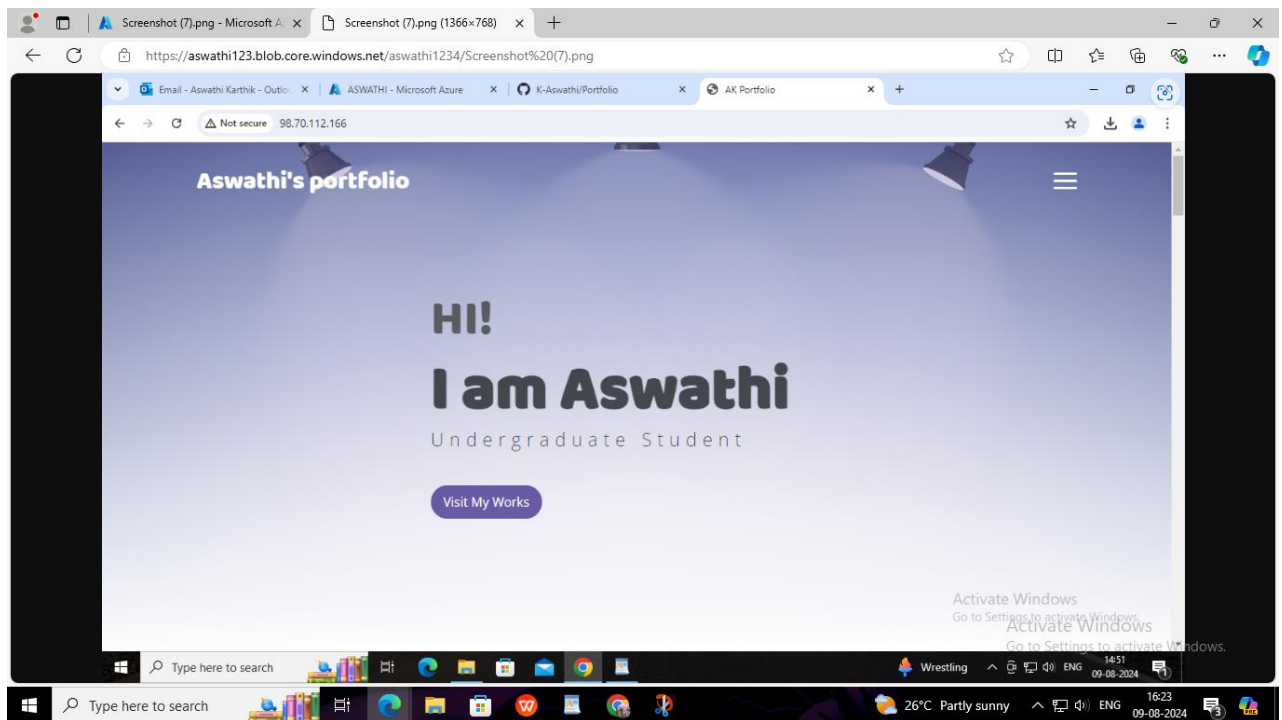
Describe Azure storage services

You have earned an achievement!
Congratulations, but what should you do next?

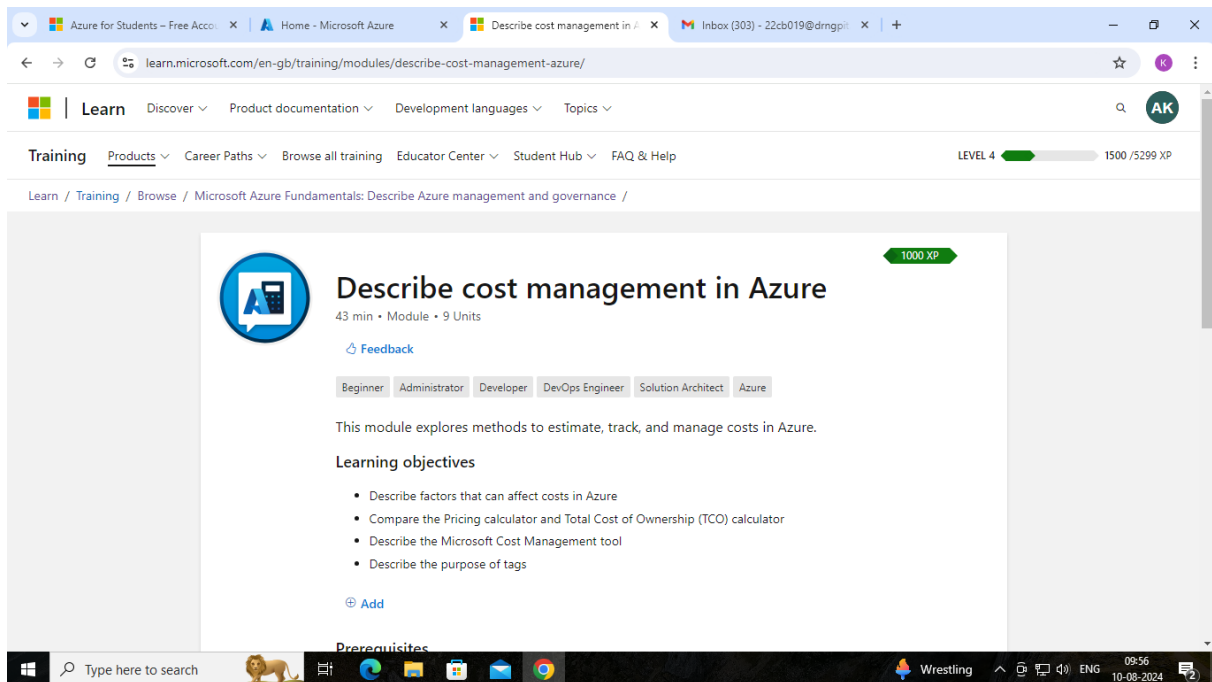
First, let's share your achievement







COST MANAGEMENT IN AZURE:



Azure for Students – Free Account | Home - Microsoft Azure | Summary - Training | Microsoft | Inbox (303) - 22cb019@dmrgp...

learn.microsoft.com/en-gb/training/modules/describe-cost-management-azure/9-summary#completion

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LEVEL 4 1500 / 5299 XP

Learn / Training / Browse / Microsoft Azure Fundamentals: Describe Azure management and governance / Describe cost management in Azure

< Previous Achievements Next Module >

Keep up the great work!

Describe cost management in Azure

You have earned an achievement!

Congratulations, but what should you do next?

First, let's share your achievement

Type here to search | Wrestling | ENG | 09:56 | 10-08-2024

Total Cost of Ownership (TCO) Calculator | https://azure.microsoft.com/en-gb/pricing/tco/calculator/

Azure | Contact Sales | Try Azure for free

Storage

Enter the details of your on-premises storage infrastructure. After adding storage, select the storage type and enter the remaining details.

Server Storage

Storage type	Disk type	Capacity	Back up	Archive
Local Disk/SAN	HDD	60	120	0
		TB (1 - 5000)	TB (0 - 5000)	TB (0 - 5000)

+ Add storage

Networking

Enter the amount of network bandwidth you currently consume in your on-premises environment.

Outbound bandwidth: 15 TB

Destination Region: East Asia

Activate Windows | Go to Settings to activate Windows | Chat with Sales

Type here to search | 26°C Partly sunny | 16:37 | 09-08-2024

Windows

Total Cost of Ownership (TCO) Calculator

https://azure.microsoft.com/en-gb/pricing/tco/calculator/

Servers

Enter the details of your on-premises server infrastructure. After adding a workload, select the workload type and enter the remaining details.

Servers: Windows VMs

Workload: Windows/Linux Server | Environment: Virtual Machines | Operating system: Windows | Operating System Licence: Datacentre | VMs: 50 (1 - 9999) | Virtualisation: Hyper-V

Core(s): 8 (1 - 32) | RAM (GB): 15 (1 - 448) | Optimise by: CPU | Windows Server 2008/2008 R2

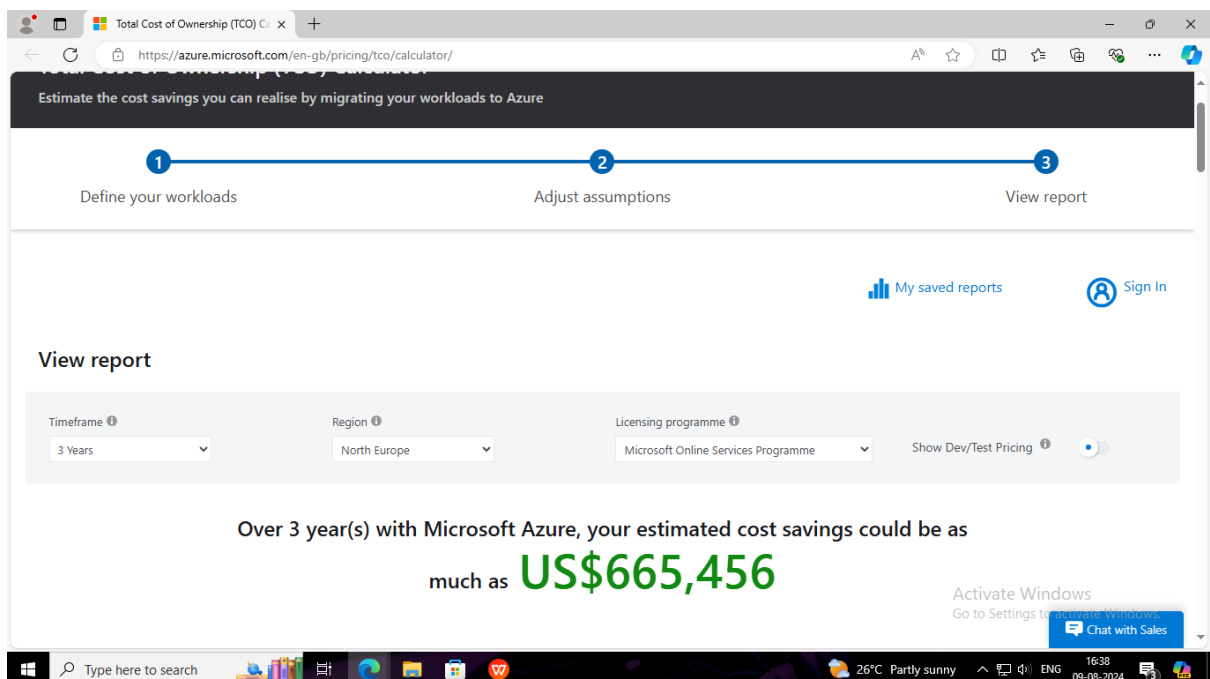
Servers: Linux VMs

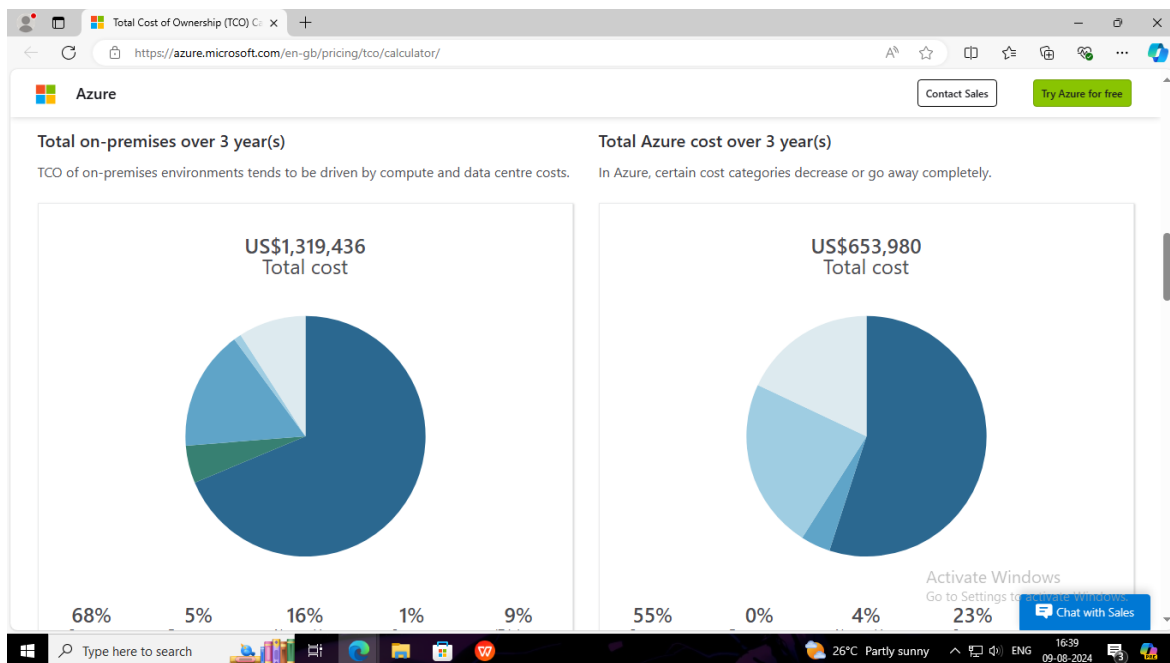
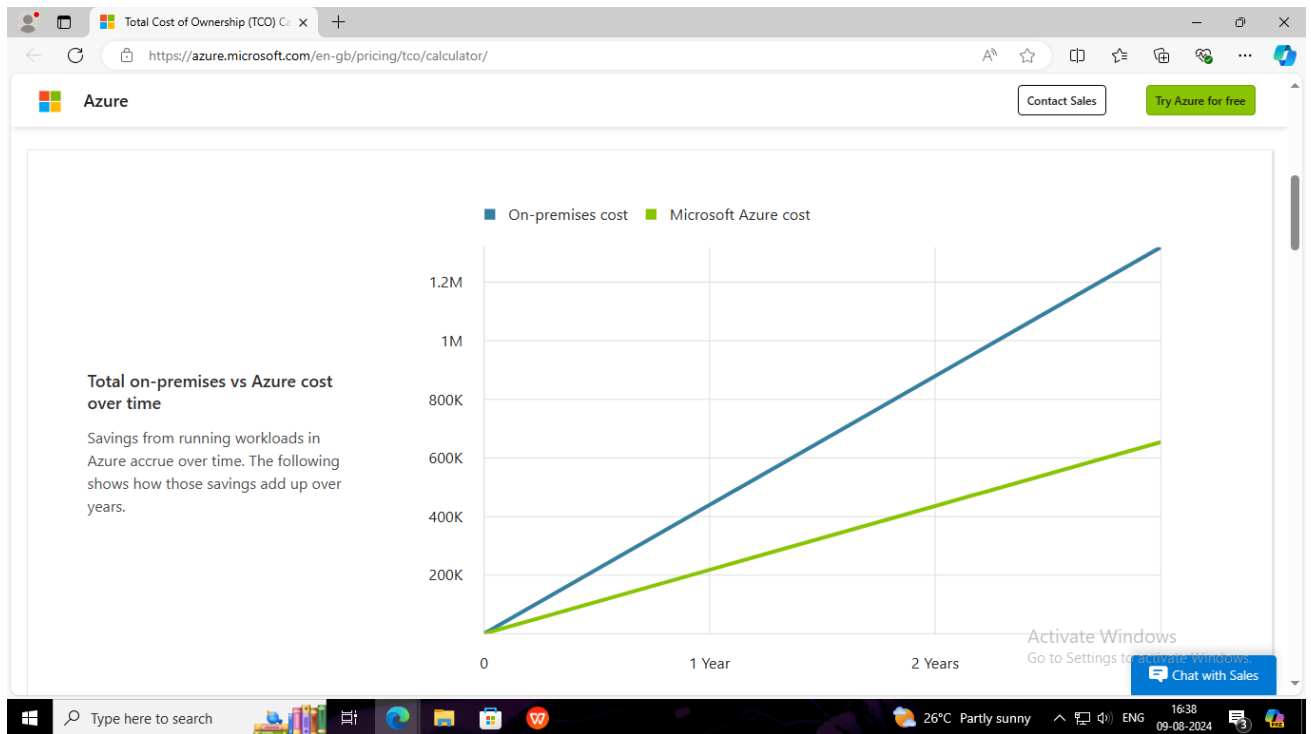
Workload: Windows/Linux Server | Environment: Virtual Machines | Operating system: Linux | VMs: 50 (1 - 9999) | Virtualisation: VMware | Core(s): 8 (1 - 32)

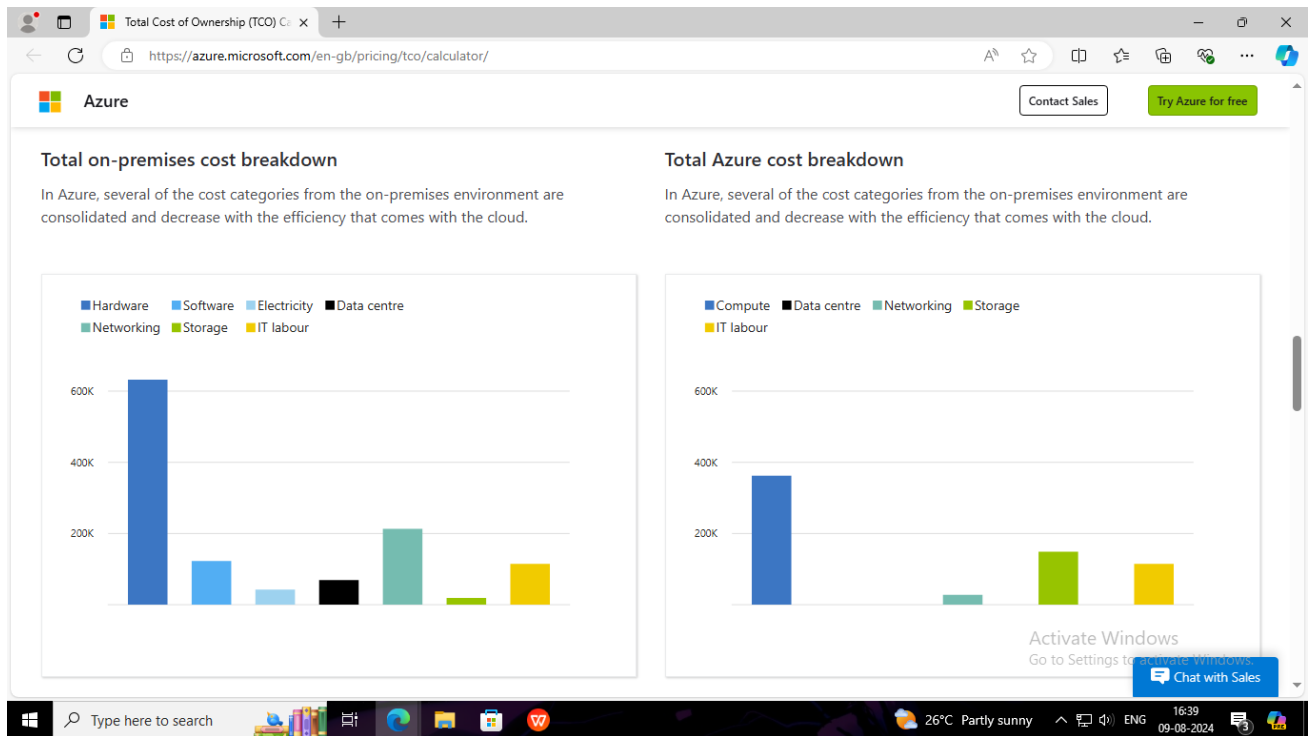
RAM (GB): 16 (1 - 448) | Optimise by: CPU

[+ Add server workload](#)

Activate Windows
Go to Settings to activate Windows.
[Chat with Sales](#)







Browser: Total Cost of Ownership (TCO) | URL: https://azure.microsoft.com/en-gb/pricing/tco/calculator/

US\$1,319,436

Cost over 3 year(s)

US\$653,980

Cost over 3 year(s)

On-premises cost breakdown summary		Azure cost breakdown summary	
Category	Cost	Category	Cost
Compute	US\$903,106.08	Compute	US\$362,484.00
Hardware	US\$632,224.00	Data centre	US\$0.00
Software	US\$123,100.00	Networking	US\$27,639.00
Electricity	US\$42,166.08	Storage	US\$148,856.83
Virtualisation	US\$105,616.00	IT labour	US\$115,000.23
Data centre	US\$68,917.56		
Networking	US\$213,237.39		
Storage	US\$19,174.40		
IT labour	US\$115,000.23		
Total	US\$1,319,436.00	Total	US\$653,980.00

Windows taskbar: 26°C Partly sunny, 16:39, 09-08-2024