

MICROSOFT AZURE

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GitHub : <https://github.com/RITHANYA-12/RITHANYA.V-MICROSOFT-AZURE.git>

1.REQUESTING A CLOUD SHELL SUCCEEDED.

Sandbox:

Welcome to Azure Cloud Shell

- `az vm create --resource-group "learn-d7d25c2a-e2v0-417b-b17b-1dda70ce547f" --name my-vm --public-ip-sku Standard --image Ubuntu2204 --admin-username azureuser --generate-ssh-keys`
- `az vm extension set --resource-group "learn-d7d25c2a-e2v0-417b-b17b-1dda70ce547f" --vm-name my-vm --name customScript --publisher Microsoft.Azure.Extensions --version 2.1 --settings '{"fileUris":["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@ 13.73.53.142
- 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-d7d25c2a-e2v0-417b-b17b-1dda70ce547f"--name my-vm --port 80
- az vm list-ip-addresses --resource-group "learn-d7d25c2a-e2v0-417b-b17b-1dda70ce547f" --name my-vm --output table
- ssh azureuser@ 13.73.53.142
- sudo apt-get update
- git clone <https://github.com/RITHANYA-12/webpage.git>
- sudo cp -r webpage/* /var/www/html/
- sudo chown -R www-data:www-data /var/www/html
- sudo chmod -R 755 /var/www/html
- sudo systemctl restart nginx

WORKING:

Cloud Computing Services | Microsoft | Learning Path - Microsoft Azure | Exercise - Create an Azure virtual machine

learn.microsoft.com/en-us/training/modules/describe-azure-compute-networking-services/3-exercise-create-azure-virtual-machine

Learn | Discover | Product documentation | Development languages | Topics

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LEVEL 2 2225 /2499 XP

Learn / Training / Browse / Describe Azure compute and networking services /

< Previous Unit 3 of 14 Next >

Exercise - Create an Azure virtual machine

10 minutes

Microsoft Learn needs your permission to create Azure resources.

For more information, please check the [troubleshooting guidance page](#).

[Review permissions](#)

In this exercise, you create an Azure virtual machine (VM) and install Nginx, a popular web server.

You could use the Azure portal, the Azure CLI, Azure PowerShell, or an Azure Resource Manager (ARM) template.

In this instance, you're going to use the Azure CLI.

Task 1: Create a Linux virtual machine and

Azure Cloud Shell

This module requires a sandbox to complete. A [sandbox](#) gives you access to Azure resources. Your Azure subscription will not be charged. The sandbox may only be used to complete training on Microsoft Learn. Use for any other reason is prohibited, and may result in permanent loss of access to the sandbox.

Microsoft provides this lab experience and related content for educational purposes. All presented information is owned by Microsoft and intended solely for learning about the covered products and services in this Microsoft Learn module.

```
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

rithanya09 [ ~ ]$
```

```
rithanya09 [ ~ ]$ az vm create --resource-group "learn-d7d25c2a-e2b0-417b-b17b-1dda70ce547f" --name my-vm --public-ip-sku Standard --image Ubuntu2204 --admin-username azureuser --generate-ssh-keys
SSH key files '/home/rithanya09/.ssh/id_rsa' and '/home/rithanya09/.ssh/id_rsa.pub' have been generated under ~/.ssh to allow SSH access to the VM. If using machines without permanent storage, back up your keys to a safe location.
{
  "fqdns": "",
  "id": "/subscriptions/16982123-2d3c-44ce-ab2d-0c419f4ce699/resourceGroups/learn-d7d25c2a-e2b0-417b-b17b-1dda70ce547f/providers/Microsoft.Compute/virtualMachines/my-vm",
  "location": "westus",
  "macAddress": "00-22-48-03-DF-07",
  "powerState": "VM running",
  "privateIpAddress": "10.0.0.4",
  "publicIpAddress": "13.73.53.142",
  "resourceGroup": "learn-d7d25c2a-e2b0-417b-b17b-1dda70ce547f",
  "zones": ""
}
```

```
rithanya09 [ ~ ]$ az vm extension set --resource-group "learn-d7d25c2a-e2b0-417b-b17b-1dda70ce547f" --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"}'
{
  "autoUpgradeMinorVersion": true,
  "enableAutomaticUpgrade": null,
  "forceUpdateTag": null,
  "id": "/subscriptions/16982123-2d3c-44ce-ab2d-0c419f4ce699/resourceGroups/learn-d7d25c2a-e2b0-417b-b17b-1dda70ce547f/providers/Microsoft.Compute/virtualMachines/my-vm/extensions/customScript",
  "instanceView": null,
  "location": "westus",
  "name": "customScript",
  "protectedSettings": null,
  "protectedSettingsFromKeyVault": null,
  "provisionAfterExtensions": null,
  "provisioningState": "Succeeded",
  "publisher": "Microsoft.Azure.Extensions",
  "resourceGroup": "learn-d7d25c2a-e2b0-417b-b17b-1dda70ce547f",
  "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"
}
```

```
rithanya09 [ ~ ]$ 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.

For security reasons, the password you type will not be visible.

```
[sudo] password for rithanya09:  
sudo: a password is required
```

```
rithanya09 [ ~ ]$ ssh azureuser@13.73.53.142
```

The authenticity of host '13.73.53.142 (13.73.53.142)' can't be established.
ED25519 key fingerprint is SHA256:Ywg3c7bfW1AR02bNU3M4eClmoG899rmIX+GywXQMt2s.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '13.73.53.142' (ED25519) to the list of known hosts.
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 04:00:34 UTC 2024

System load:	0.0	Processes:	105
Usage of /:	6.0% of 28.89GB	Users logged in:	0
Memory usage:	9%	IPv4 address for eth0:	10.0.0.4

System information as of Fri Aug 9 04:00:34 UTC 2024

System load:	0.0	Processes:	105
Usage of /:	6.0% of 28.89GB	Users logged in:	0
Memory usage:	9%	IPv4 address for eth0:	10.0.0.4
Swap usage:	0%		

Expanded Security Maintenance for Applications is not enabled.

10 updates can be applied immediately.
10 of these updates are standard security updates.
To see these additional updates run: `apt list --upgradable`

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.


```

rithanya09 [ ~ ]$ az vm open-port --resource-group "learn-d7d25c2a-e2b0-417b-b17b-1dda70ce547f" -
-name my-vm --port 80
{
  "defaultSecurityRules": [
    {
      "access": "Allow",
      "description": "Allow inbound traffic from all VMs in VNET",
      "destinationAddressPrefix": "VirtualNetwork",
      "destinationAddressPrefixes": [],
      "destinationPortRange": "*",
      "destinationPortRanges": [],
      "direction": "Inbound",
      "etag": "W/\"1b639a93-edef-4214-829b-80e207fe2937\"",
      "id": "/subscriptions/16982123-2d3c-44ce-ab2d-0c419f4ce699/resourceGroups/learn-d7d25c2a-e2
b0-417b-b17b-1dda70ce547f/providers/Microsoft.Network/networkSecurityGroups/my-vmNSG/defaultSecur
ityRules/AllowVnetInBound",
      "name": "AllowVnetInBound",
      "priority": 65000,
      "protocol": "*",
      "provisioningState": "Succeeded",
      "resourceGroup": "learn-d7d25c2a-e2b0-417b-b17b-1dda70ce547f",
      "sourceAddressPrefix": "VirtualNetwork",
      "sourceAddressPrefixes": [],
      "sourcePortRange": "*",
      "sourcePortRanges": [],
      "type": "Microsoft.Network/networkSecurityGroups/defaultSecurityRules"
    },
    {
      "access": "Allow",
      "description": "Allow inbound traffic from azure load balancer",
      "sourcePortRanges": [],
      "type": "Microsoft.Network/networkSecurityGroups/securityRules"
    },
    {
      "access": "Allow",
      "destinationAddressPrefix": "*",
      "destinationAddressPrefixes": [],
      "destinationPortRange": "80",
      "destinationPortRanges": [],
      "direction": "Inbound",
      "etag": "W/\"1b639a93-edef-4214-829b-80e207fe2937\"",
      "id": "/subscriptions/16982123-2d3c-44ce-ab2d-0c419f4ce699/resourceGroups/learn-d7d25c2a-e2
b0-417b-b17b-1dda70ce547f/providers/Microsoft.Network/networkSecurityGroups/my-vmNSG/securityRule
s/open-port-80",
      "name": "open-port-80",
      "priority": 900,
      "protocol": "*",
      "provisioningState": "Succeeded",
      "resourceGroup": "learn-d7d25c2a-e2b0-417b-b17b-1dda70ce547f",
      "sourceAddressPrefix": "*",
      "sourceAddressPrefixes": [],
      "sourcePortRange": "*",
      "sourcePortRanges": [],
      "type": "Microsoft.Network/networkSecurityGroups/securityRules"
    }
  ],
  "tags": {},
  "type": "Microsoft.Network/networkSecurityGroups"
}
rithanya09 [ ~ ]$

```

```
rithanya09 [ ~ ]$ az vm list-ip-addresses --resource-group "learn-d7d25c2a-e2b0-417b-b17b-1dda70c
e547f" --name my-vm --output table
VirtualMachine      PublicIPAddresses    PrivateIPAddresses
-----
my-vm               13.73.53.142         10.0.0.4
rithanya09 [ ~ ]$
```

Cloud Computing Services | X Sign in to Microsoft Azure X Exercise - Create an Azure VM X raw.githubusercontent.com X Cloud Computing Services | X 13.73.53.142 X + - 🔍 X

← → 🔍 Not secure 13.73.53.142 ☆ 👤 ⋮

Welcome to Azure! My name is my-vm.

Welcome to Azure! My name is my-vm.

```
rithanya09 [ ~ ]$ ssh azureuser@13.73.53.142
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 04:30:39 UTC 2024

System load: 0.0          Processes:              106
Usage of /:   6.0% of 28.89GB Users logged in:         0
Memory usage: 9%          IPv4 address for eth0: 10.0.0.4
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

10 updates can be applied immediately.
10 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

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

Last login: Fri Aug 9 04:00:37 2024 from 20.198.187.51
```



```

azureuser@my-vm:~$ sudo apt-get update
sudo apt-get install git -y
Hit:1 http://azure.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://azure.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://azure.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://azure.archive.ubuntu.com/ubuntu jammy-security InRelease
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 13 not upgraded.

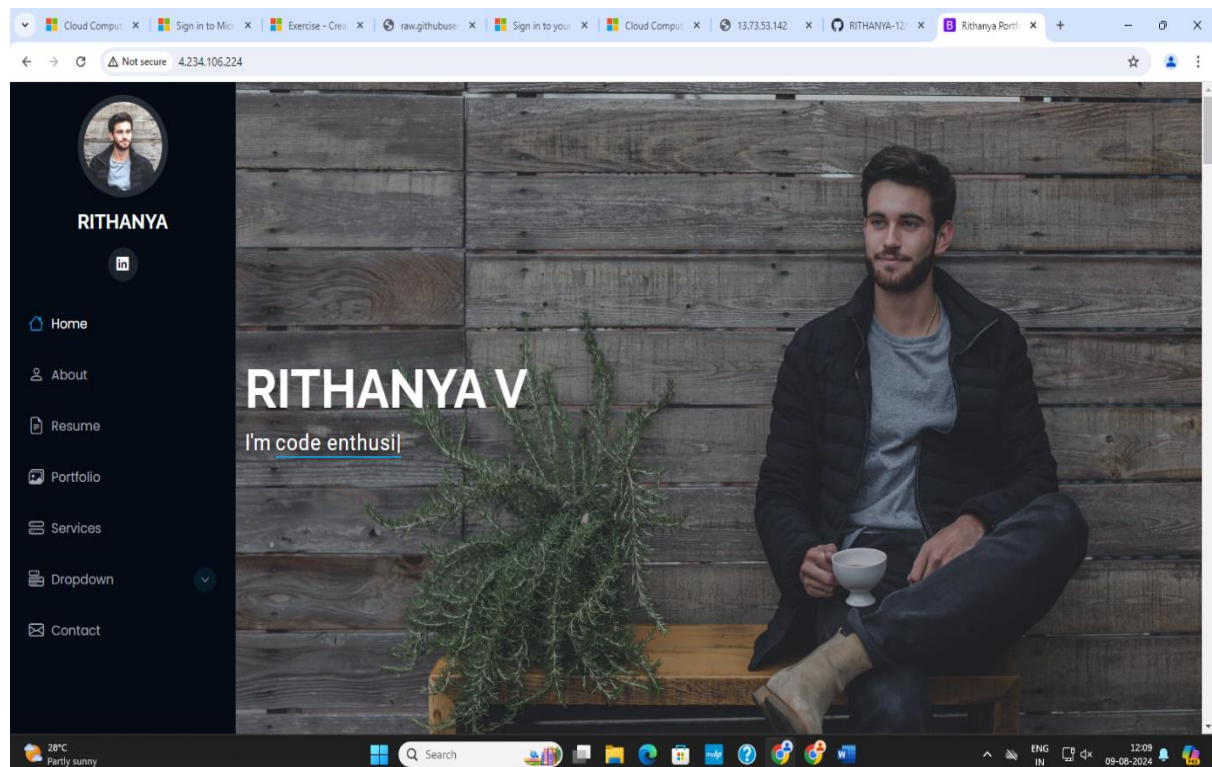
```

```

azureuser@my-vm:~$ git clone https://github.com/RITHANYA-12/webpage.git
Cloning into 'webpage'...
remote: Enumerating objects: 135, done.
remote: Counting objects: 100% (135/135), done.
remote: Compressing objects: 100% (98/98), done.
remote: Total 135 (delta 33), reused 135 (delta 33), pack-reused 0
Receiving objects: 100% (135/135), 2.63 MiB | 23.39 MiB/s, done.
Resolving deltas: 100% (33/33), done.
azureuser@my-vm:~$ sudo cp -r webpage/* /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:~$ sudo systemctl restart nginx
azureuser@my-vm:~$

```

OUTPUT:



2. DESCRIBE AZURE STORAGE SERVICES

WORK WITH BLOB STORAGE

In this section, you'll create a Blob container and upload a picture.

1. Under **Data storage**, select **Containers**.
2. Select + **Container** and complete the information.
3. Select Create.

Note

Step 4 will need an image. If you want to upload an image you already have on your computer, continue to Step 4. Otherwise, open a new browser window and search Bing for an image of a flower. Save the image to your computer.

4. Back in the Azure portal, select the container you created, then select Upload.
5. Browse for the image file you want to upload. Select it and then select upload.

Note

You can upload as many blobs as you like in this way. New blobs will be listed within the container.

6. Select the Blob (file) you just uploaded. You should be on the properties tab.
7. Copy the URL from the URL field and paste it into a new tab.

- **Change the access level of your blob**

1. Go back to the Azure portal.
2. Select Change access level.

3. Set the Anonymous access level to Blob (anonymous read access for blobs only).
4. Select OK.
5. Refresh the tab where you attempted to access the file earlier.

WORKING:

The screenshot shows the Microsoft Learn interface for the 'Create a storage account' module. The page title is 'Create a storage account'. Below the title, it says 'In this task, you'll create a new storage account.' followed by a list of five steps:

1. Sign in to the Azure portal at <https://portal.azure.com>
2. Select **Create a resource**.
3. Under Categories, select **Storage**.
4. Under Storage account, select **Create**.
5. On the **Basics** tab of the Create a storage account blade, fill in the following information. Leave the defaults for everything else.

Below the steps is a table with two columns: 'Setting' and 'Value'.

Setting	Value
Subscription	Concierge Subscription
Resource group	Select the resource group that starts with learn

To the right of the table is an 'Expand table' link. On the far right, there is a sidebar with 'Azure Cloud Shell' information and a progress bar showing 'LEVEL 2' and '2325 / 2499 XP'.

The screenshot shows the Microsoft Azure 'Create a resource' page. The page title is 'Create a resource'. Below the title, there is a search bar and a 'Getting started? Try our Quickstart Center' link. The page is divided into two main sections: 'Popular Azure services' and 'Popular Marketplace products'.

Popular Azure services:

- Azure Cosmos DB (Create | Docs | MS Learn)
- Storage account (Create)
- Azure File Sync (Create | Docs | MS Learn)
- Azure NetApp Files (Create | Docs | MS Learn)
- Azure Data Box (Create | Docs | MS Learn)
- Azure Cosmos DB for MongoDB (Create | Docs)
- Azure Stack Edge (Create | Docs | MS Learn)
- Azure Edge Hardware Center (Create | Docs)

Popular Marketplace products:

- Azure Blob Storage on IoT Edge (Create | Learn more)
- Azure Cost Management plan (Create | Learn more)
- Cloud Manager (by Cap PYGO by Hour, WORM and data services) (Set up + subscribe | Learn more)
- Dionar Managed Azure - CSP (Create | Learn more)
- SFTPGo Standard (Create | Learn more)
- FTP Server Solution for Azure File Share (Create | Learn more)
- SFTP Secure Server SSH on Windows Server 2016 (Create | Learn more)
- Azure Backup as a service (Create | Learn more)

The page also includes a sidebar with various categories like Analytics, Blockchain, Compute, Containers, Databases, Developer Tools, DevOps, Identity, Integration, Internet of Things, IT & Management Tools, Media, Migration, Mixed Reality, Monitoring & Diagnostics, Networking, Security, and Storage. The 'Storage' category is currently selected.

Microsoft Azure portal interface showing the 'Containers' section for the storage account 'rithanya1'. The left sidebar lists navigation options: Overview, Activity log, Tags, Diagnose and solve problems, Access Control (IAM), Data migration, Events, Storage browser, Storage Mover, Data storage, Containers (selected), File shares, Queues, Tables, Security + networking, Data management, Settings, and Monitoring (classic). The main content area displays a table of containers:

Name	Last modified	Anonymous access level	Lease state
<input type="checkbox"/> \$logs	8/9/2024, 4:20:46 PM	Private	Available
<input type="checkbox"/> rithanya	8/9/2024, 4:22:50 PM	Private	Available

The Windows taskbar at the bottom shows the date as 09-08-2024 and the time as 16:30.

Microsoft Azure portal interface showing the 'Overview' section for the container 'rithanya'. The left sidebar lists navigation options: Overview (selected), Diagnose and solve problems, Access Control (IAM), and Settings. The main content area displays the 'Authentication method' as 'Access key' and the 'Location' as 'rithanya'. Below this is a search bar for blobs and a table of blobs:

Name	Modified	Access tier	Archive status	Blob type	Size	Lease state
<input type="checkbox"/> download.jpg	8/9/2024, 4:26:12 PM	Hot (Inferred)		Block blob	12.99 KiB	Available

The Windows taskbar at the bottom shows the date as 09-08-2024 and the time as 16:31.

Microsoft Azure

Search resources, services, and docs (G+)

Home > rithanya1 | Containers > rithanya >

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

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

Location: rithanya

Search blobs by prefix (case-...)

Show deleted blobs

Add filter

Name

download.jpg

download.jpg

Blob

Save Discard Download Refresh Delete Change tier Acquire lease Break lease Give feedback

Overview

Versions

Snapshots

Edit

Generate SAS

Properties

URL

https://rithanya1.blob.c...

LAST MODIFIED

8/9/2024, 4:52:10 PM

CREATION TIME

8/9/2024, 4:52:10 PM

VERSION ID

-

TYPE

Block blob

SIZE

12.99 KiB

ACCESS TIER

Hot (Inferred)

ACCESS TIER LAST MODIFIED

N/A

ARCHIVE STATUS

-

REHYDRATE PRIORITY

-

SERVER ENCRYPTED

true

ETAG

0x8DCB86582E94E86

VERSION-LEVEL IMMUTABILITY POLICY

Disabled

CACHE-CONTROL

CONTENT-TYPE

image/jpeg

CONTENT-MD5

OggAPhPRy018EIDNBmBg...

CONTENT-ENCODING

CONTENT-LANGUAGE

download.jpg - Microsoft Azure

Inbox (113) - rithanyaamm12

rithanya1.blob.core.windows.net

← → ↺ ↻

rithanya1.blob.core.windows.net/rithanya/download.jpg

☆ ⬇️ 🌐

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

<Error>

<Code>ResourceNotFound</Code>

<Message>The specified resource does not exist. RequestId:034bfdfc-e01e-0000-704e-ea1bdb000000 Time:2024-08-09T11:23:00.1642355Z</Message>

</Error>

Microsoft Azure

Search resources, services, and docs (G+)

Home > rithanya1 | Containers >

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Change access level

Change the access level of container 'rithanya'.

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)

OK Cancel

Upload Change access level Refresh Delete Change tier Acquire lease Break lease View snapshots Create snapshot Give feedback

Search

Show deleted blobs

status

Blob type

Size

Lease state

Block blob

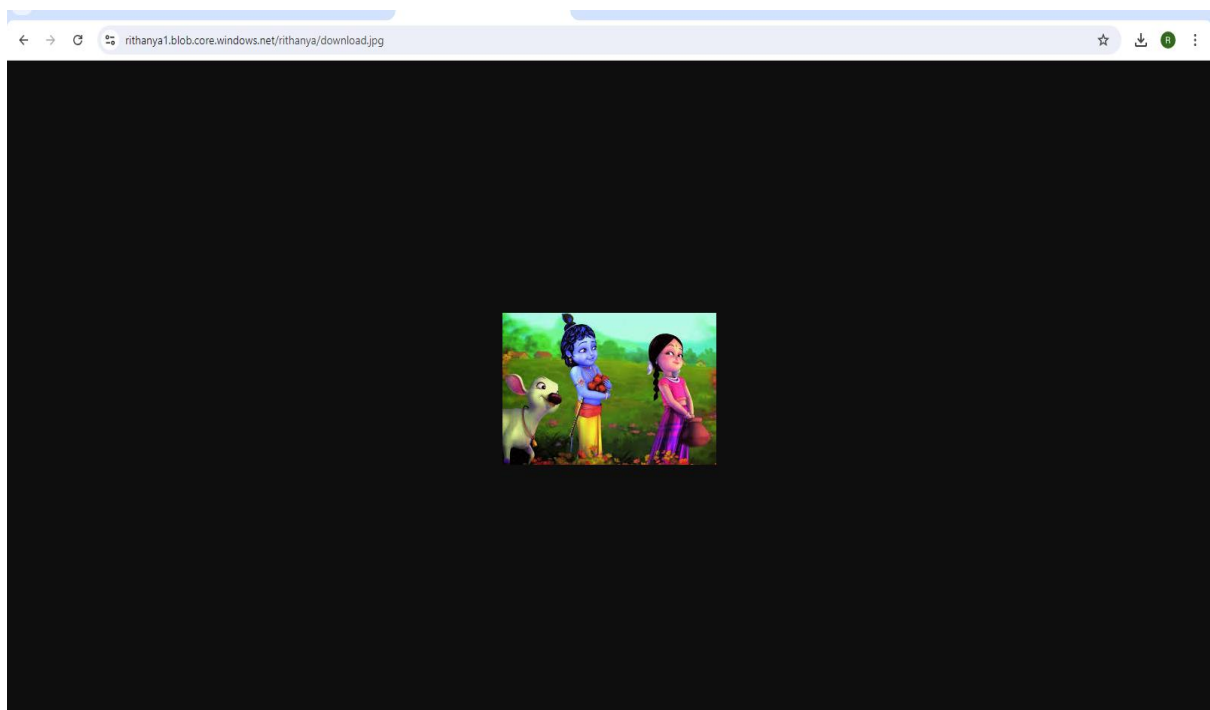
12.99 KiB

Available

...

Microsoft Azure portal interface showing the 'rithanya' container. The container is located at 'rithanya' and contains a single blob named 'download.jpg' (8/9/2024, 4:26:12 PM, Hot (Inferred), Block blob). The authentication method is 'Access key (Switch to Microsoft Entra user account)'. The interface includes a sidebar with 'Overview', 'Diagnose and solve problems', 'Access Control (IAM)', and 'Settings'. A 'Notifications' panel on the right shows several successful events: 'Successfully changed access level for container(s)', 'Successfully uploaded blob(s)', 'Successfully created storage container', and 'Deployment succeeded'.

OUTPUT :



3. ESTIMATE WORKLOAD COSTS BY USING THE PRICING CALCULATOR

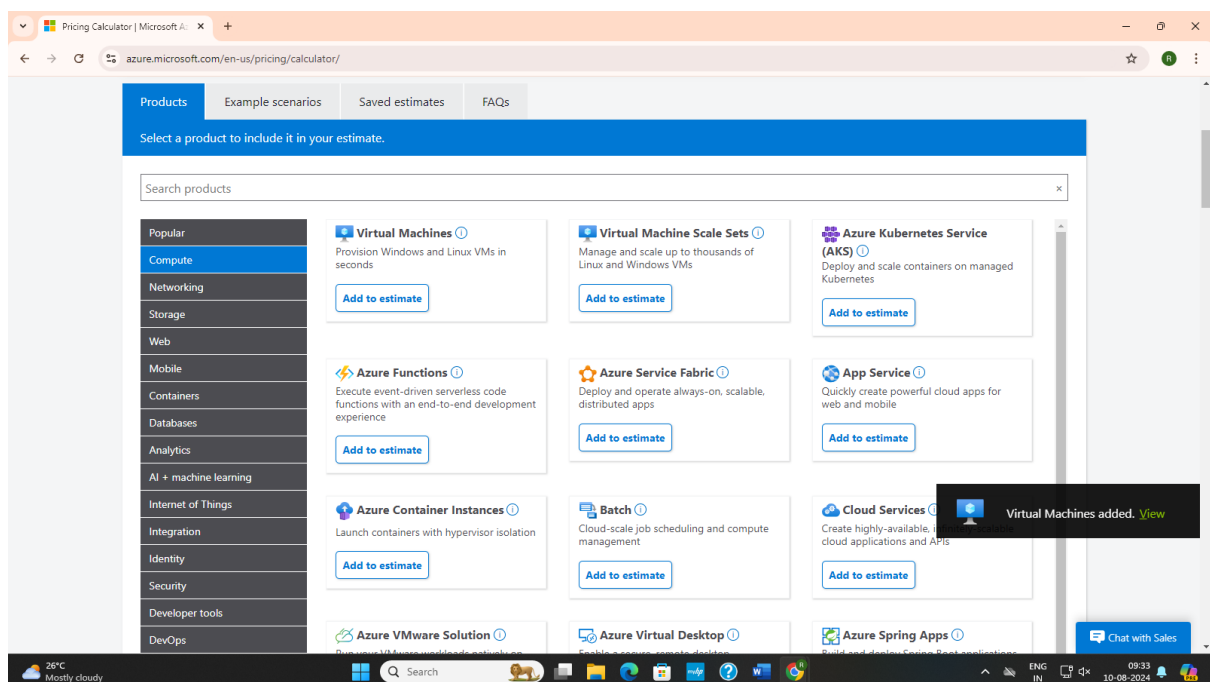
- Explore the Pricing calculator
 1. Go to the [Pricing calculator](#).
 2. Notice the following tabs:
 - Products This is where you choose the Azure services that you want to include in your estimate. You'll likely spend most of your time here.
 - Example scenarios Here you'll find several *reference architectures*, or common cloud-based solutions that you can use as a starting point.
 - Saved estimates Here you'll find your previously saved estimates.
 3. Estimate your solution
- Here you add each Azure service that you need to the calculator. Then you configure each service to fit your needs.
- Tip
- Make sure you have a clean calculator with nothing listed in the estimate. You can reset the estimate by selecting the trash can icon next to each item.
- Add services to the estimate
 1. On the Products tab, select the service from each of these categories:
 2. Scroll to the bottom of the page. Each service is listed with its default configuration.
- Configure services to match your requirements:
 1. Under Virtual Machines, set values.

2. Under Azure SQL Database, set values.

3. Under Application Gateway, set values.

- Review, share, and save your estimate
- At the bottom of the page, you see the total estimated cost of running the solution. You can change the currency type if you want.
- At this point, you have a few options:
 - Select Export to save your estimate as an Excel document.
 - Select Save or Save as to save your estimate to the Saved Estimates tab for later.
 - Select Share to generate a URL so you can share the estimate with your team.

WORKING :



Pricing Calculator | Microsoft A: x +

azure.microsoft.com/en-us/pricing/calculator/

Products Example scenarios Saved estimates FAQs

Select a product to include it in your estimate.

Search products

Popular

Compute

Networking

Storage

Web

Mobile

Containers

Databases

Analytics

AI + machine learning

Internet of Things

Integration

Identity

Security

Developer tools

DevOps

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 Health Data ⓘ
Unity and manage health protected health information in the cloud
[Add to estimate](#)

Azure SQL Managed Instance ⓘ
Fully managed, scalable SQL database in the cloud
[Add to estimate](#)

Azure Managed Instance for Apache Cassandra ⓘ
Fully managed, scalable Apache Cassandra in the cloud
[Add to estimate](#)

Azure Managed Confidential Compute ⓘ
Secure your data with confidential computing
[Add to estimate](#)

[Chat with Sales](#)

26°C Mostly cloudy

Q Search

ENG IN 09:33 10-08-2024

Azure SQL Database added. [View](#)

Pricing Calculator | Microsoft A: x +

azure.microsoft.com/en-us/pricing/calculator/

Products Example scenarios Saved estimates FAQs

Select a product to include it in your estimate.

Search products

Popular

Compute

Networking

Storage

Web

Mobile

Containers

Databases

Analytics

AI + machine learning

Internet of Things

Integration

Identity

Security

Developer tools

DevOps

Virtual Network ⓘ
Create your own private network infrastructure in the cloud
[Add to estimate](#)

Azure Virtual Network Manager ⓘ
Centrally manage virtual networks in Azure from a single pane of glass
[Add to estimate](#)

Load Balancer ⓘ
Deliver high availability and network performance to your apps
[Add to estimate](#)

Application Gateway ⓘ
Build secure, scalable, highly available web front ends in Azure
[Add to estimate](#)

VPN Gateway ⓘ
Establish secure, cross-premises connectivity
[Add to estimate](#)

Azure DNS ⓘ
Host your Domain Name System (DNS) domain in Azure
[Add to estimate](#)

Content Delivery Network ⓘ
Fast, reliable content delivery network with global reach
[Add to estimate](#)

Azure DDoS Protection ⓘ
Protect your Azure resources from distributed denial-of-service (DDoS) attacks
[Add to estimate](#)

Traffic Manager ⓘ
Route incoming traffic for performance and availability
[Add to estimate](#)

Azure ExpressRoute ⓘ
Fast, reliable network connection to on-premises and other clouds
[Add to estimate](#)

Azure Private 5G Core ⓘ
Private 5G network for edge computing and IoT
[Add to estimate](#)

Network Watcher ⓘ
Monitor network health and troubleshoot network issues
[Add to estimate](#)

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26°C Mostly cloudy

Q Search

ENG IN 09:33 10-08-2024

Application Gateway added. [View](#)

Virtual Machines

Get \$200 credit plus free monthly amounts of popular services for 12 months—including Virtual Machines. [See free amounts](#)

Region:
West US

Operating system:
Windows

Type:
(OS Only)

Tier:
Standard

Category:
All

Instance Series:
All

INSTANCE: [\(Need help finding the right VM?\)](#)
D2 v3: 2 vCPUs, 8 GB RAM, 50 GB Temporary storage, \$0.209/hour

Virtual machines
2

730
Hours

Savings Options

Explore pricing models to help optimize your Azure costs. [Learn more](#)

Compute (D2 v3)
Pay as you go

OS (Windows)
License included

Chat with Sales

Azure

Contact Sales
Try Azure for free

Azure SQL Database

Get \$200 credit plus free monthly amounts of popular services for 12 months—including Azure SQL Database. [See free amounts](#)

Region:
West US

Type:
Single Database

Purchase Model:
vCore

Service Tier:
General Purpose

Compute Tier:
Provisioned

Hardware Type:
Standard-series (Gen 5)

Instance:
8 vCore

Disaster Recovery:
Primary or Geo replica

Compute

Redundancy:
Locally Redundant

1
Databases

730
Hours

Savings Options

Save up to 73% on pay as you go prices with 1 year or 3 year reserved options.

Chat with Sales

Monthly cost
\$1,567.39

Application Gateway
Web Application Firewall tier, Medium Instance size...
Upfront: \$0.00
Monthly: \$206.04

Application Gateway

Region:
West US

Tier:
Web Application Firewall

Size:
Medium

No charge for the first 10 TB of data processed for a Medium instance.

Gateway hours

Instances
2

730
Hours

= \$206.04

Data processed

1
TB

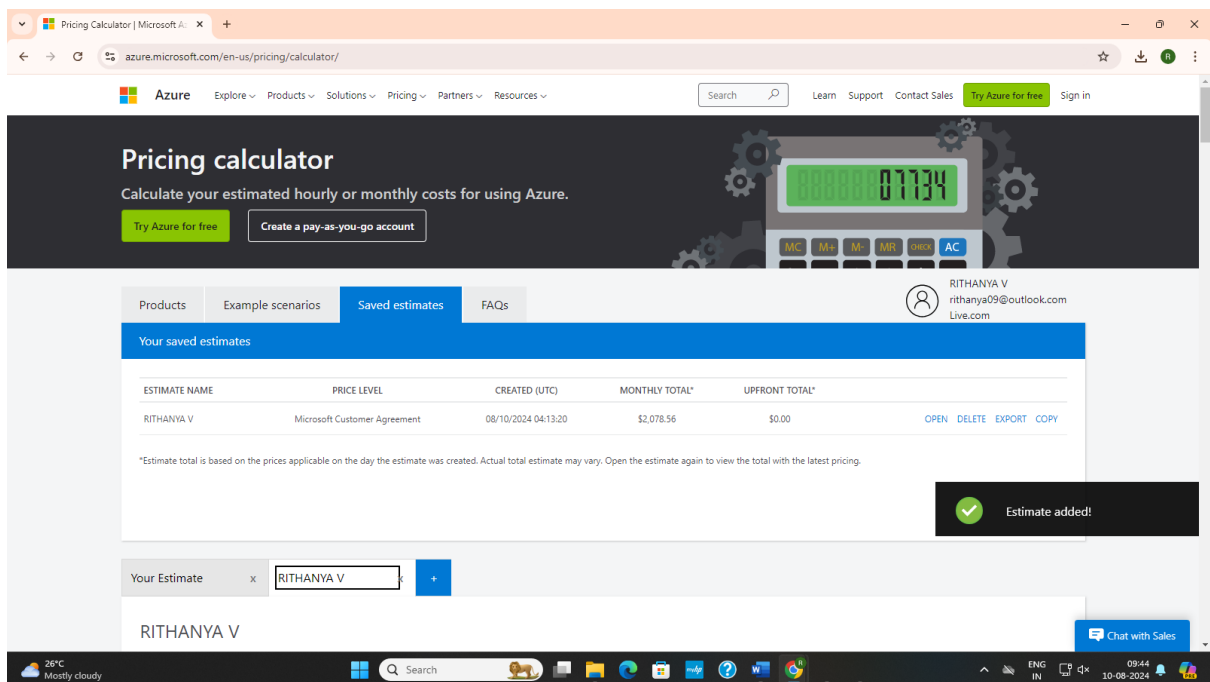
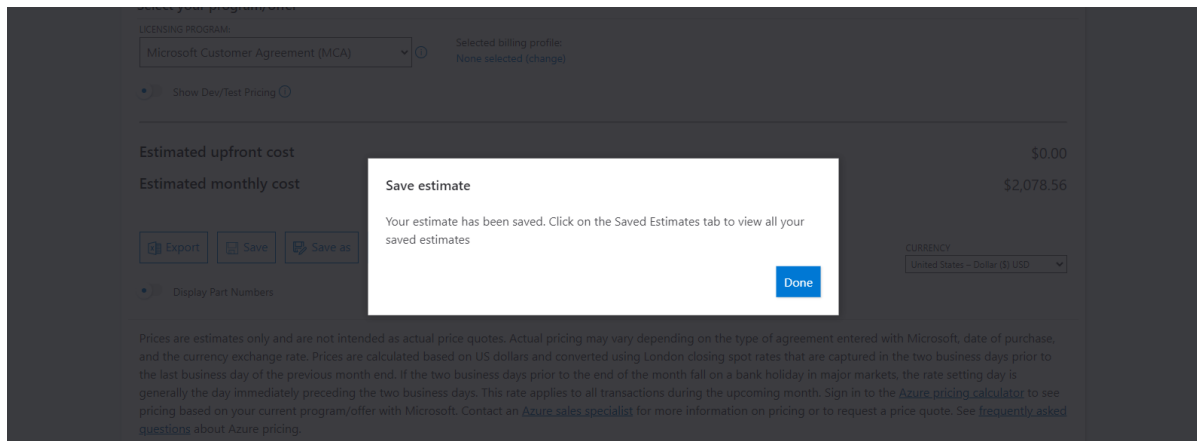
= \$0.00

Outbound Data Transfer

5
GB

= \$0.00

Chat with Sales



OUTPUT :

FileHomeInsertPage LayoutFormulasDataReviewViewHelpTell me what you want to do

PROTECTED VIEWBe careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View. Enable Editing

A1Microsoft Azure Estimate

	A	B	C	D	E	F	G	H
1	Microsoft Azure Estimate							
2	Your Estimate							
3	Service category	Service type	Custom name	Region	Description	Estimated monthly cost	Estimated upfront cost	
4	Compute	Virtual Machines		West US	2 D2 v3 (2 vCPUs, 8 GB RAM) x 730 Hours (Pay as you go). Windows (License included). OS Only; 0 managed disks – \$4; Inter Region transfer type. 5 GB outbound data transfer from West US to East Asia	\$305.14	\$0.00	
5	Databases	Azure SQL Database		West US	Single Database, vCore, General Purpose, Provisioned, Standard-series (Gen 5). Primary or Geo replica Disaster Recovery, Locally Redundant. 1 - 8 vCore Database(s) x 730 Hours. 32 GB Storage. SQL License (Pay as you go). RA-GRS Backup Storage Redundancy. 0 GB Point-In-Time Restore. 0 x 5 GB Long Term Retention	\$1,567.39	\$0.00	
6	Networking	Application Gateway		West US	Web Application Firewall tier, Medium Instance size: 2 Gateway hours instance(s) x 730 Hours. 1 TB Data processed unit(s). 5 GB Zone unit(s)	\$206.04	\$0.00	
7	Support			Support		\$0.00	\$0.00	
8				Licensing Program	Microsoft Customer Agreement (MCA)			
9				Billing Account				
10				Billing Profile				
11				Total		\$2,078.56	\$0.00	
12	Disclaimer							
13	All prices shown are in United States – Dollar (\$) USD. This is a summary estimate, not a quote. For up to date pricing information please visit https://azure.microsoft.com/pricing/calculator/							
14	This estimate was created at 8/10/2024 4:12:04 AM UTC.							
15								
16								
17								
18								

Your Estimate

Ready

Link : <https://azure.com/e/49fd67f226c84d59a4fc8ae9e7b5e706>

4. COMPARE WORKLOAD COSTS USING THE TCO CALCULATOR

- Define your workloads

Enter the specifications of your on-premises infrastructure into the TCO Calculator.


1. Go to the [TCO Calculator](#).
 2. Under **Define your workloads**, select **Add server workload** to create a row for your bank of Windows Server VMs.
 3. Under **Servers**, set the value for each of these settings.
 4. Select **Add server workload** to create a second row for your bank of Linux VMs. Then specify these settings.
 5. Under **Storage**, select **Add storage**. Then specify these settings.
 6. Under **Networking**, set **Outbound bandwidth** to **15 TB**.
 7. Select **Next**.
- In practice, you would adjust any cost assumptions and make any adjustments to match your current on-premises environment.
 - At the top of the page, select your currency. This example uses **US Dollar (\$)**.
 - Select **Next**.
 - **View the report**
 - Take a moment to review the generated report.
 - Remember, you've been tasked to investigate cost savings for your European datacenter over the next three years.

To make these adjustments:

1. Set **Timeframe** to **3 Years**.
2. Set **Region** to **North Europe**.

Scroll to the summary at the bottom. You see a comparison of running your workloads in the datacenter versus on Azure.

WORKING :

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rithanya09@outlook.com


Define your workloads


Enter the details of your on-premises workloads. This information will be used to understand your current TCO and recommended services in Azure.


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 

Environment 

Operating system 

Operating System License 

VMs 

Virtualization 

Windows/Linux Server


Virtual Machines


Windows


Datacenter


50

Hyper-V

Core(s) 

RAM (GB) 

Optimize by 

Windows Server 2008/2008 R2 

8

16


CPU


(1 - 32)


(1 - 448)


(1 - 9999)


Servers: Linux VMs


Workload 

Environment 

Operating system 

Operating System License 

VMs 

Virtualization 

Windows/Linux Server


Virtual Machines


Windows


Datacenter


50

Hyper-V

Core(s) 

RAM (GB) 

Optimize by 

Windows Server 2008/2008 R2 

8

16


CPU

(1 - 32)

(1 - 448)

(1 - 9999)


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
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 

Backup 

Archive 

Local Disk/SAN

HDD

60

120

0

TB

TB

TB

(1 - 5000)


(0 - 5000)

(0 - 5000)

[Add storage](#)

Networking

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

Outbound bandwidth 

Destination Region

15


East Asia

GB

(1 - 2000000)

[Next](#)

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Total Cost of Ownership (TCO) Calculator

Estimate the cost savings you can realize by migrating your workloads to Azure

1

2

3

Define your workloadsAdjust assumptionsView report

My saved reports

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rithanya09@outlook.com

Adjust assumptions

The following assumptions in the TCO model are industry averages accredited by Nucleus Research. To get a more accurate TCO report, update and customize these values to reflect your situation, which can vary by industry and location.

Currency
United States - Dollar (\$) U

Software Assurance coverage (provides Azure Hybrid Benefit)
Enable this if you have purchased this benefit for your on-premises Windows or SQL Servers. If enabled, Azure Hybrid Benefit (AHB) will be applied to Azure estimates. AHB helps you get more value from your on-premises licenses — save up to 40 percent on virtual machines and up to 82 percent with Azure Reserved Virtual Machines (VM) instances.
Windows Server Software Assurance coverage

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Total Cost of Ownership (TCO) Calculator

Estimate the cost savings you can realize by migrating your workloads to Azure

1

2

3

Define your workloadsAdjust assumptionsView report

My saved reports

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rithanya09@outlook.com

View report

Timeframe ⓘ
3 Years

Region ⓘ
North Europe

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 **\$742,604**

Chat with Sales

Link: <https://azure.com/tco/c4dcbac271b541b3a190cd33df67dbda/>