MICROSOFT AZURE

NAME: ARUNIKA G

DEPARTMENT: B.TECH ARTIFICIAL INTELLIGENCE AND DATA

SCIENCE

GITHUB: https://github.com/Arunikagirimurugan/ARUNIKA-MICROSOFT-

AZURE.git

REQUESTING A CLOUD SHELL SUCCEEDED. CONNECTING TERMINAL...

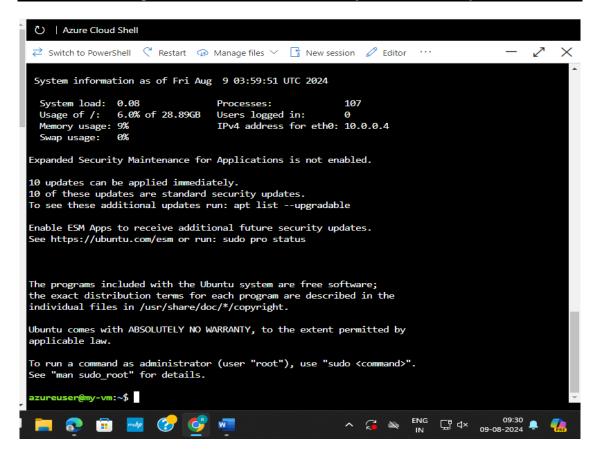
Welcome to Azure Cloud Shell

- az vm create --resource-group "learn-1dd151f8-37c6-44cc-a975-8f08e65c30c2" --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 '{"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@ 13.93.201.132
- echo "sudo apt-get update -y

- sudo apt-get install nginx -y
- sudo systemetl start nginx
- sudo systemetl 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 systemetl status nginx
- az vm open-port --resource-group " learn-c57c0342-aa82-452d-a811-caac87ae21f2" --name my-vm --port 80
- az vm list-ip-addresses --resource-group " learn-c57c0342-aa82-452d-a811-caac87ae21f2" --name my-vm --output table
- ssh azureuser@ 13.93.201.132
- sudo apt-get update
- git clone https://github.com/Arunikagirimurugan/eventmanagement.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 systemetl restart nginx

WORKING:

sudo: 2 incorrect password attempts arunikagirimurugan [~]\$ ssh azureuser@40.78.121.169 The authenticity of host '40.78.121.169 (40.78.121.169)' can't be es



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ひ │ Azure Cloud Shell
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    Z
    Switch to PowerShell
    C
    Restart
    ♠ Manage files
    ✓
    In New session
    Ø
    Editor
    ...

    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.
   azureuser@my-vm:~$ 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
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
   nginx is already the newest version (1.18.0-6ubuntu14.4).
   0 upgraded, 0 newly installed, 0 to remove and 10 not upgraded.
   Synchronizing state of nginx.service with SysV service script with /lib/systemd/systemd-sysv-inst
   all.
   Executing: /lib/systemd/systemd-sysv-install enable nginx
   azureuser@my-vm:~$
    🚬 🔊 🗊 🚾 🕜 💞 🚾
                                                          <mark>azureuser@my-vm:~$</mark> echo "<html><body><h2>Welcome to Azure! My name is $(hostname).</h2></body></
tml>" | sudo tee -a /var/www/html/index.html
<html><body><h2>Welcome to Azure! My name is my-vm.</h2></body></html>
azureuser@my-vm:~$
<html><body><h2>Welcome to Azure! My name is my-vm.</h2></body></html>
azureuser@my-vm:~$ sudo systemctl status nginx
nginx.service - A high performance web server and a reverse proxy server
     Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enabled)
     Active: active (running) since Fri 2024-08-09 03:52:54 UTC; 15min ago
       Docs: man:nginx(8)
   Main PID: 2390 (nginx)
      Tasks: 2 (limit: 4011)
     Memory: 4.6M
        CPU: 30ms
     CGroup: /system.slice/nginx.service
              Aug 09 03:52:54 my-vm systemd[1]: Starting A high performance web server and a reverse proxy ser
Aug 09 03:52:54 my-vm systemd[1]: Started A high performance web server and a reverse proxy serv
lines 1-14/14 (END)
Aug 09 03:52:54 my-vm systemd[1]: Started A high performance web server an
azureuser@my-vm:~$ exit
logout
Connection to 40.78.121.169 closed.
arunikagirimurugan [ ~ ]$
```

```
arunikagirimurugan [ ~ ]$ az vm list-ip-addresses --resource-group "learn-c57c0342-aa82-452d-a811
 -caac87ae21f2" --name my-vm --output table
VirtualMachine PublicIPAddresses PrivateIPAddresses
                         40.78.121.169
                                                        10.0.0.4
my-vm
 arunikagirimurugan [ ~ ]$
my-vm 40./8.121.169 10.0.0.4

arunikagirimurugan [ ~ ]$ ssh azureuser@40.78.121.169

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 04:31:49 UTC 2024
   System load: 0.04
Usage of /: 7.8% of 28.89GB
Memory usage: 16%
Swap usage: 0%
                                                         Processes: 117
Users logged in: 0
IPv4 address for eth0: 10.0.0.4
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 03:59:54 2024 from 4.188.105.206 azureuser@my-vm:~$
▼ M Your single-use code - aruni X | ③ WhatsApp X | ▲ Learning Path - Microsoft A: X | ∰ Exercise - Create an Azure vi X | ⑤ raw.githubusercontent.com// X ② 40.78.121.169
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☆ 3 :

Welcome to Azure! My name is my-vm.

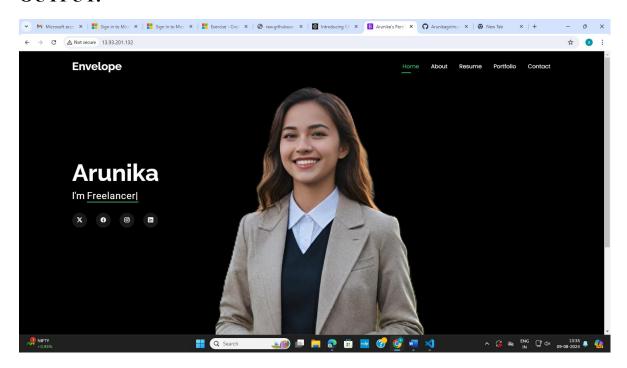
← → ♂ △ Not secure 40.78.121.169

Welcome to Azure! My name is my-vm.





```
my-vm
                       13.93.201.132
                                                10.0.0.4
 arunikagirimurugan [ ~ ]$ ssh azureuser@13.93.201.132
 Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 6.5.0-1025-azure x86 64)
  * Documentation: https://help.ubuntu.com
                        https://landscape.canonical.com
  * Management:
  * Support:
                        https://ubuntu.com/pro
  System information as of Fri Aug 9 07:50:58 UTC 2024
Last login: Fri Aug 9 07:46:18 2024 from 4.186.11.194
 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 <a href="http://azure.archive.ubuntu.com/ubuntu">http://azure.archive.ubuntu.com/ubuntu</a> 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/Arunikagirimurugan/eventmanagement.git
Cloning into 'eventmanagement'...
remote: Enumerating objects: 138, done.
remote: Counting objects: 100% (138/138), done.
remote: Compressing objects: 100% (98/98), done.
remote: Total 138 (delta 36), reused 138 (delta 36), pack-reused 0
Receiving objects: 100% (138/138), 2.50 MiB | 14.16 MiB/s, done.
Resolving deltas: 100% (36/36), done.
azureuser@my-vm:~$ sudo cp -r eventmanagement/* /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:~$
```



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.

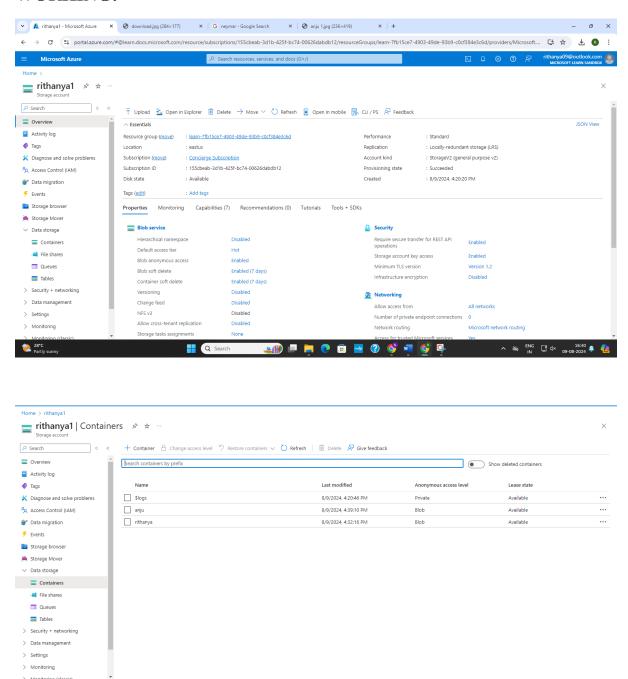
- 6. Select the Blob (file) you just uploaded. You should be on the properties tab.
- 7. Copy the URL from the URL field and paste it into a new tab.

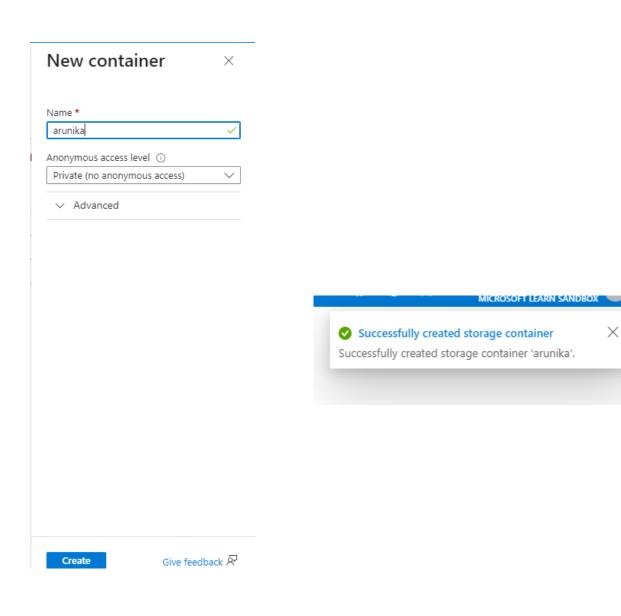
• Change the access level of your blob

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

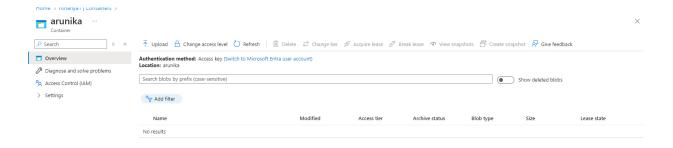
- 3. Set the Anonymous access level to Blob (anonymous read access for blobs only).
- 4. Select OK.
- 5. Refresh the tab where you attempted to access the file earlier.

WORKING:





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Upload blob





1 file(s) selected: arun.jpg

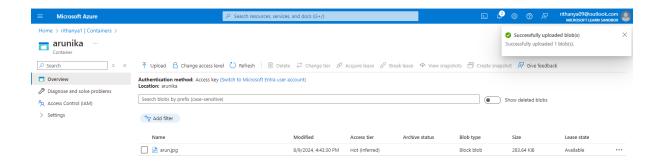
Drag and drop files here or Browse for files

Overwrite if files already exist

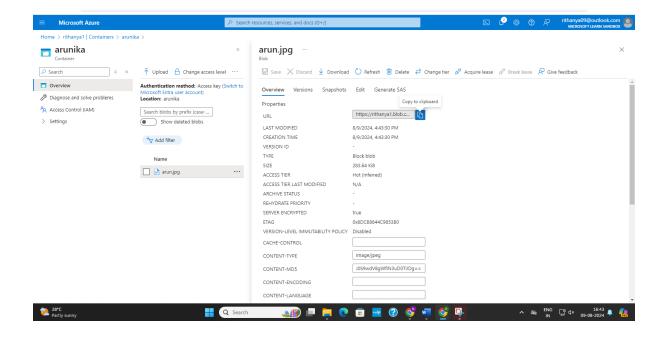
Advanced

Upload



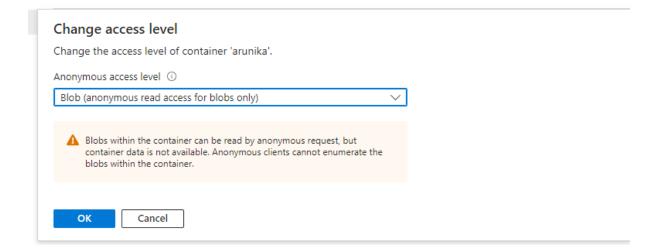


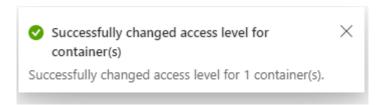


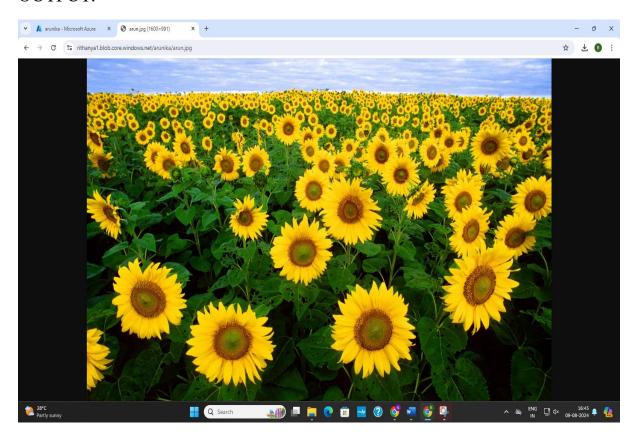




This XML file does not appear to have any style information associated with it. The document tree is shown below.





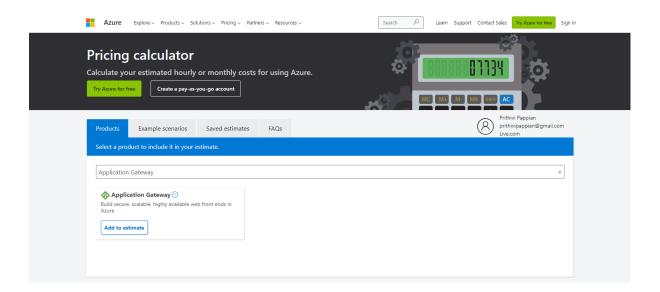


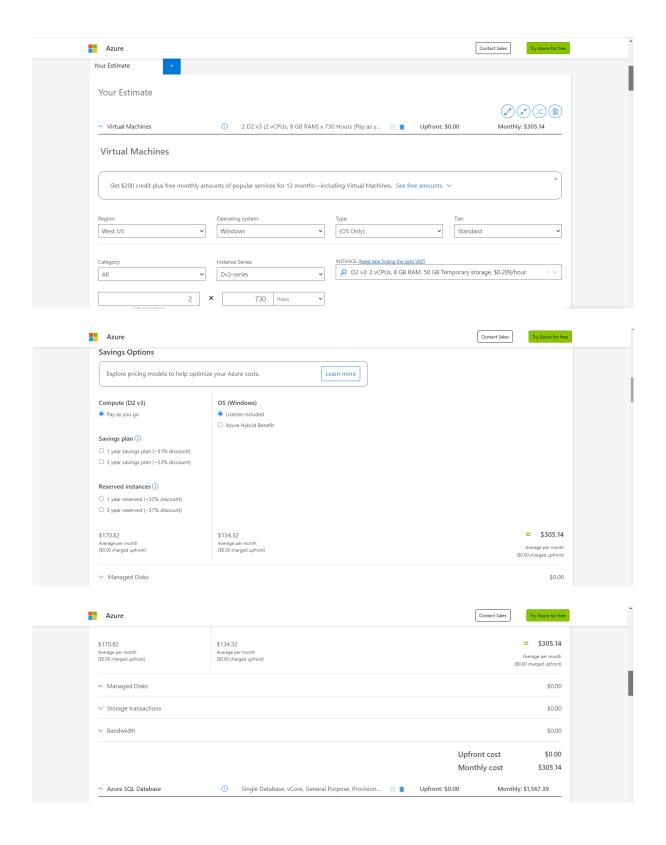
3. ESTIMATE WORKLOAD COSTS BY USING THE PRICING CALCULATOR

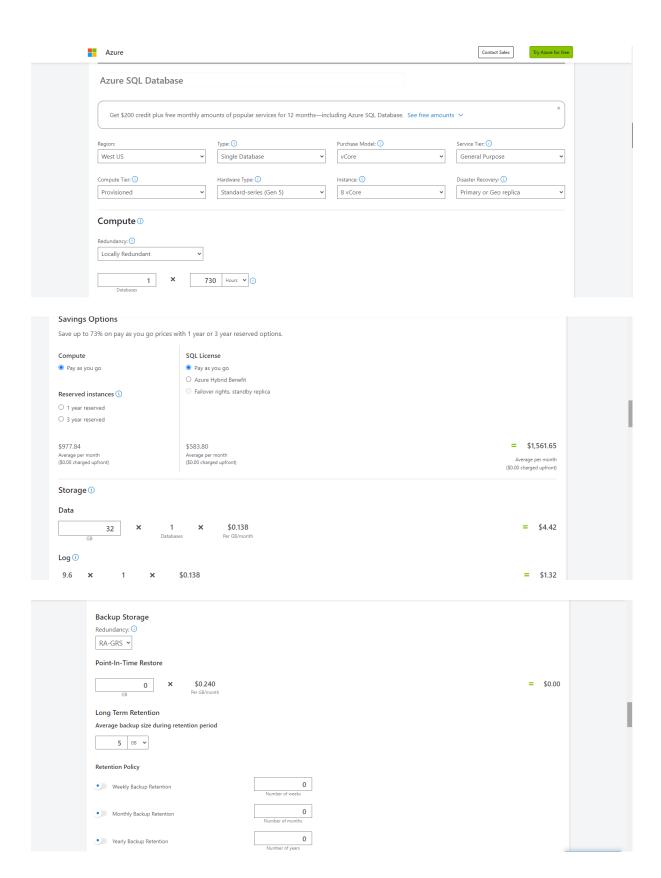
- Explore the Pricing calculator
 - 1. Go to the <u>Pricing calculator</u>.
 - 2. Notice the following tabs:
 - Products This is where you choose the Azure services that you want to include in your estimate. You'll likely spend most of your time here.
 - Example scenarios Here you'll find several *reference 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.

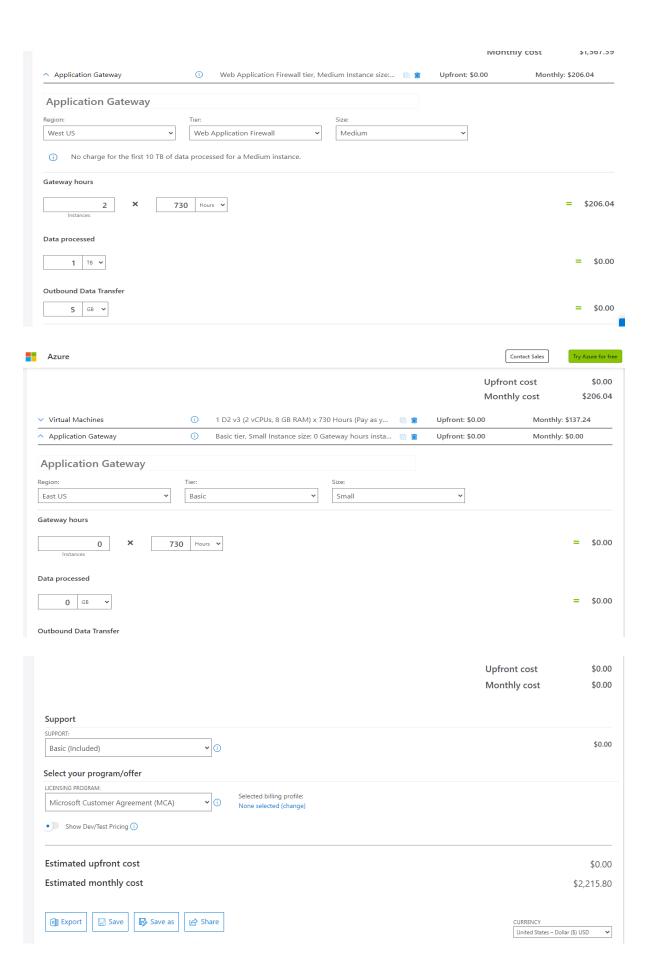
- 2. Under Azure SQL Database, set values.
- 3. Under Application Gateway, set values.
- Review, share, and save your estimate
- At the bottom of the page, you see the total estimated cost of running the solution. You can change the currency type if you want.
- At this point, you have a few options:
 - 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.

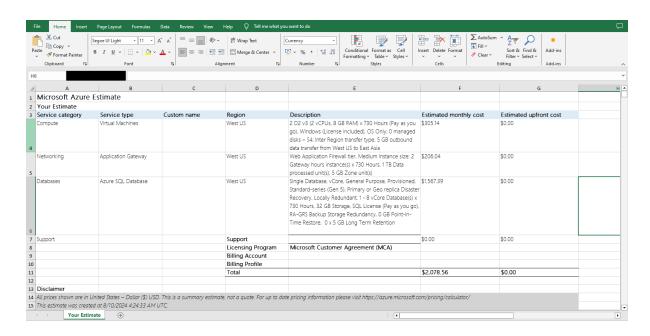
WORKING:

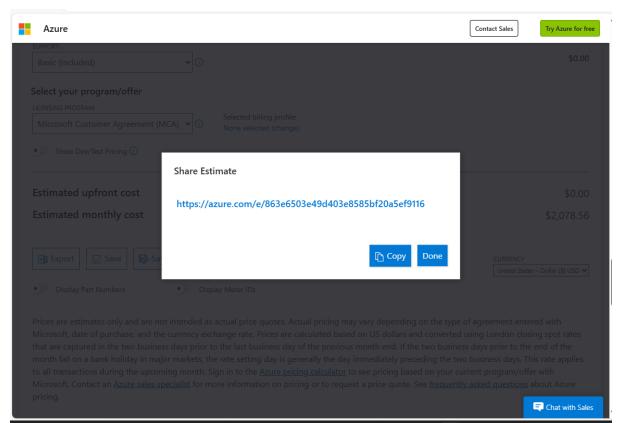












4. COMPARE WORKLOAD COSTS USING THE TCO CALCULATOR

• Define your workloads

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

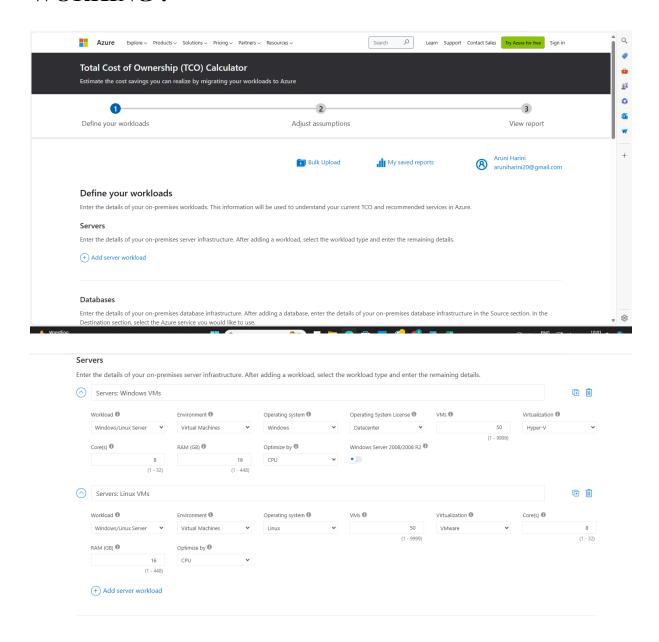
- 1. Go to the TCO Calculator.
- 2. Under **Define your workloads**, select **Add server workload** to create a row for your bank of Windows Server VMs.
- 3. Under **Servers**, set the value for each of these settings.
- 4. Select **Add server workload** to create a second row for your bank of Linux 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.

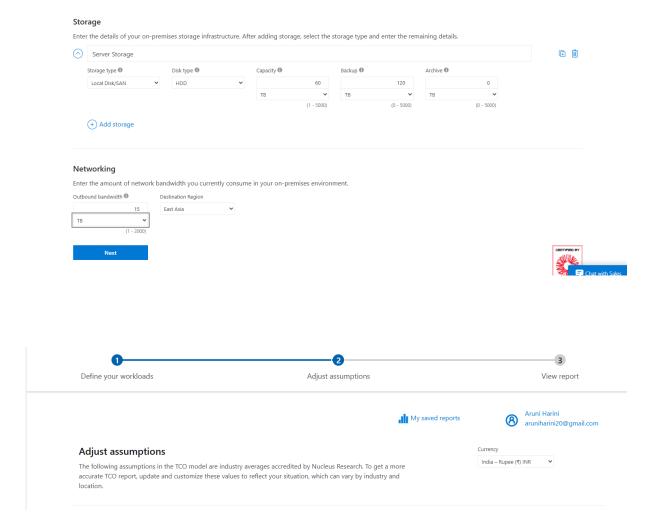
To make these adjustments:

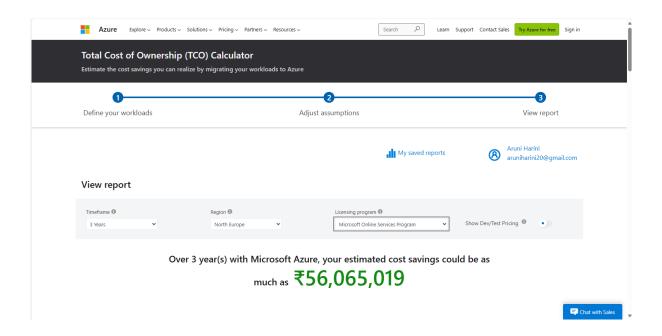
- 1. Set Timeframe to 3 Years.
- 2. Set **Region** to **North Europe**.

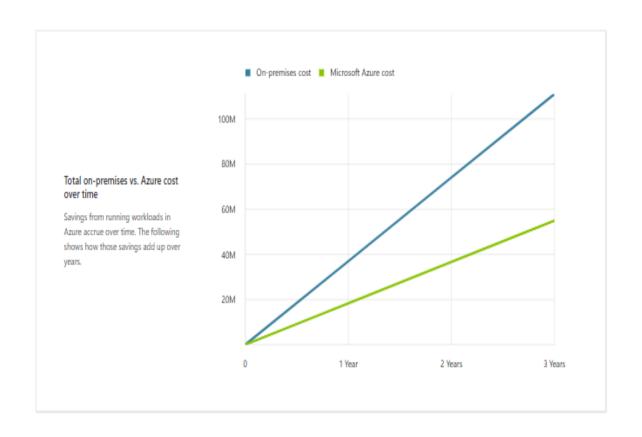
Scroll to the summary at the bottom. You see a comparison of running your workloads in the datacenter versus on Azure.

WORKING:









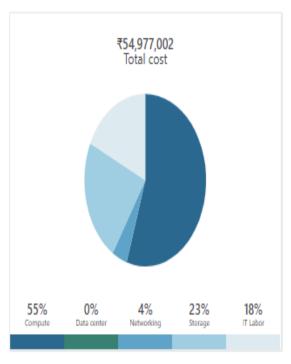
Total on-premises over 3 year(s)

TCO of on-premises environments tends to be driven by compute and data center costs.

₹111,042,021 Total cost 68% 5% 16% 1% 9% Compute Data center Networking Storage IT Labor

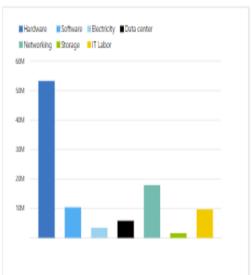
Total Azure cost over 3 year(s)

In Azure, certain cost categories decrease or go away completely.



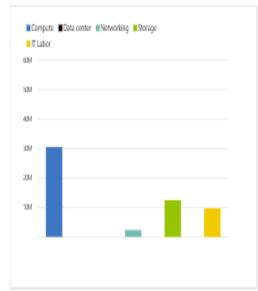
Total on-premises cost breakdown

In Azure, several of the cost categories from the on-premises environment are consolidated and decrease with the efficiency that comes with the cloud.



Total Azure cost breakdown

In Azure, several of the cost categories from the on-premises environment are consolidated and decrease with the efficiency that comes with the cloud.



₹111,042,021

Cost over 3 year(s)

₹54,977,002 Cost over 3 year(s)

On-premises cost breakdown summary Azure cost breakdown summary Category Cost Cost Category ₹76,005,384.60 ₹30,504,686.92 Compute Compute Hardware ₹53,287,872.24 ₹0.00 Data Center ₹10,375,700.10 ₹3,440,858.75 Software Electricity ₹2,314,455.32 Networking Virtualization ₹8,900,953.52 ₹12,465,084.92 Storage ₹5,808,873.37 Data Center ₹9.692.779.7334 IT Labor ₹17.927.593.05 Networking ₹1,607,398.80 Storage IT Labor ₹9,692,779.61 Total ₹111,042,021.06 ₹54,977,001.74

On-premises cost breakdown summary		Azure cost breakdown summary	
Category	Cost	Category	Cost
Compute	₹76,005,384.60	Compute	₹30,504,686.92
Hardware Software	₹53,287,872.24 ₹10,375,700.10	Data Center	₹0.00
Electricity Virtualization	₹3,440,858.75 ₹8,900,953,52	Networking	₹2,314,455.32
Data Center	₹5,808,873.37	Storage	₹12,465,084.92
Networking	₹17,927,593.05	IT Labor	₹9,692,779.7334
Storage	₹1,607,398.80		
IT Labor	₹9,692,779.61		
Total	₹111,042,021.06	Total	₹54,977,001.74
Estimated on-premises cost (3 year(s))		Estimated Azure cost (3 year(s))	
○ Compute cost ○		Azure compute cost	
O Data center cost		Azure data center cost	
Networking cost		Azure networking cost	
		-	
Storage cost ■		Azure storage cost	
		Azure IT labor cost	
Total on-premises cost over three year(s)	₹111,042,021.06	Total Azure cost over three year(s)	₹54,977,001.74
		A total savings of ₹56,065,019.32	with Microsoft Azure

Create a free account

Create your Asure free account and start exploring as you plan

Back