Sri Lanka Institute of Information Technology

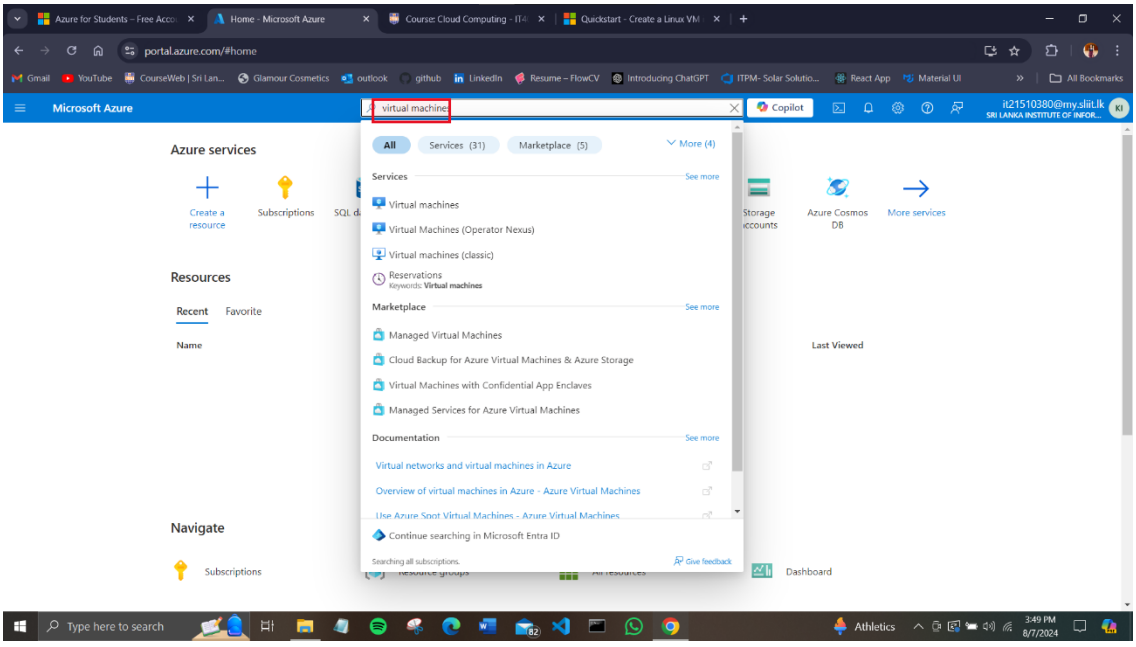
Cloud Computing

Azure Lab 1

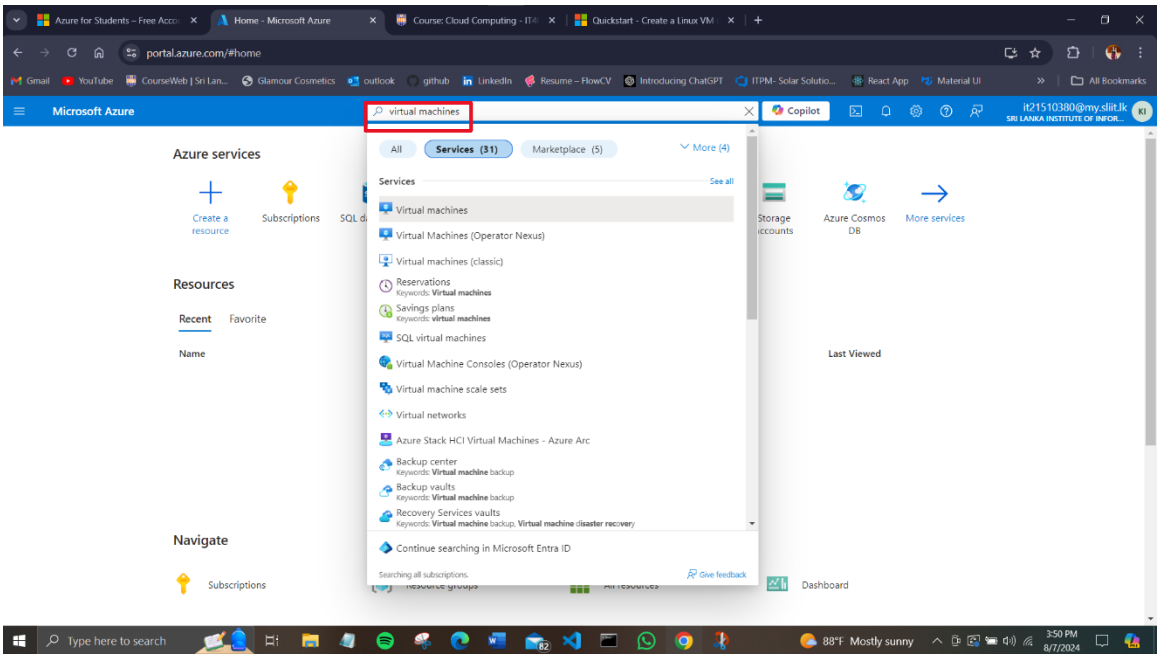
IT21510380 – Kularathna D.G.J.C

Create virtual machine

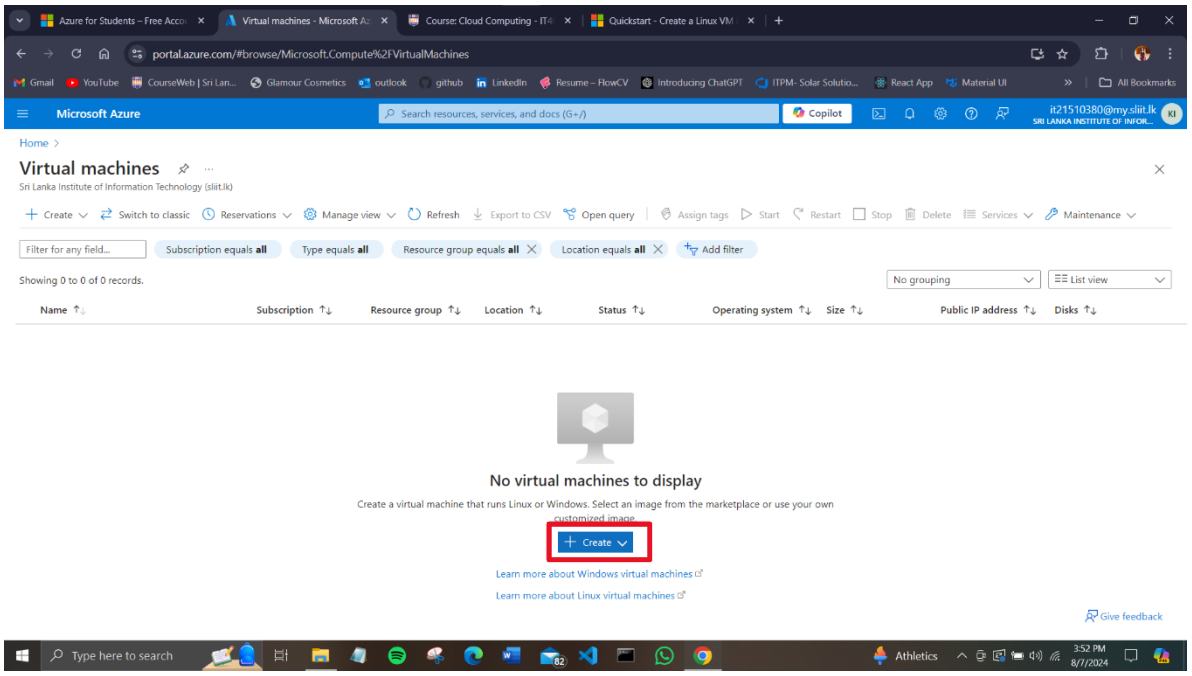
1. **Enter *virtual machines* in the search.**

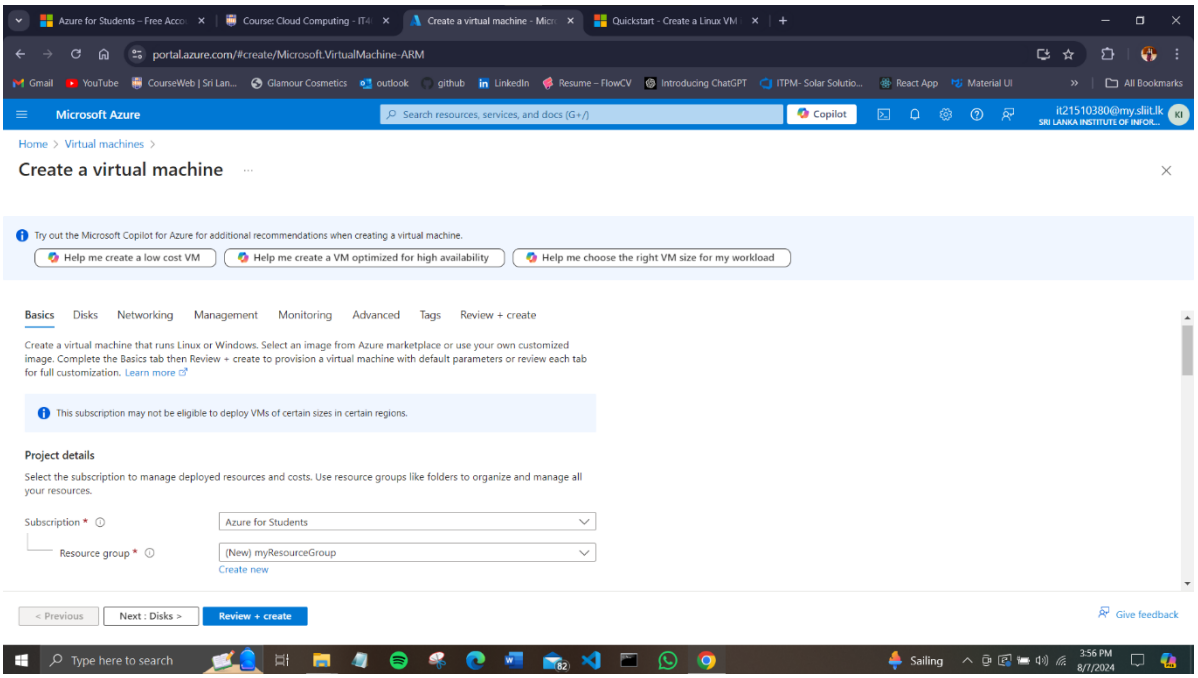


2. Under **Services**, select **Virtual machines**.

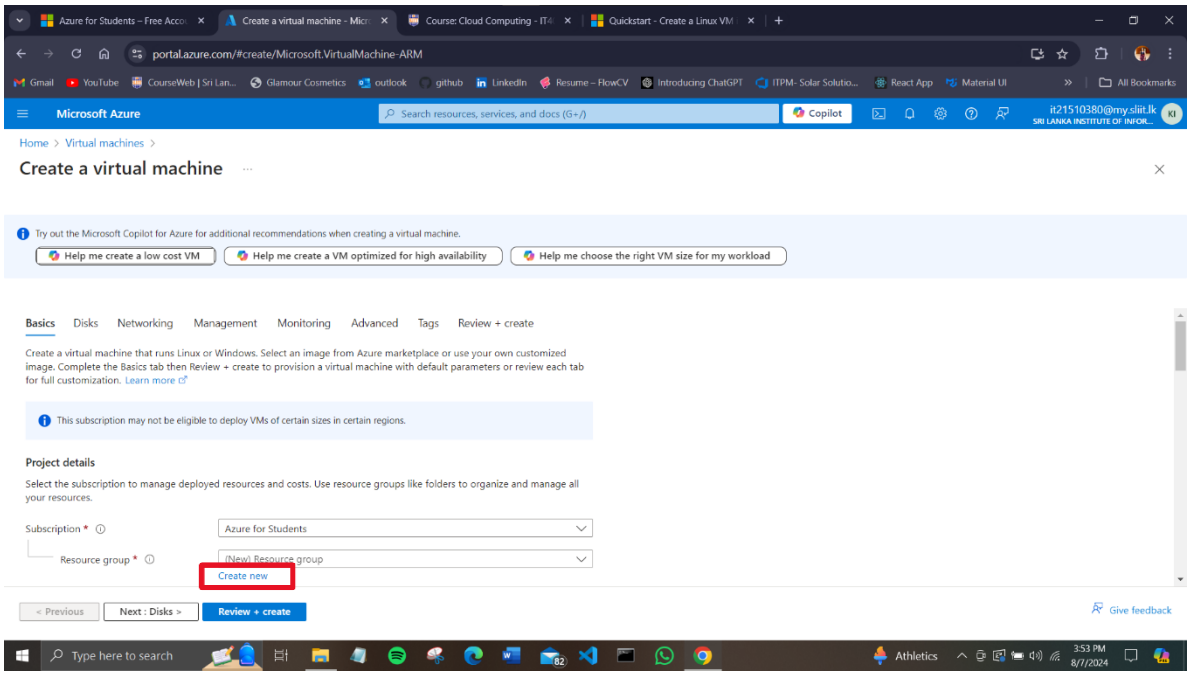


3. In the **Virtual machines** page, select **Create** and then **Virtual machine**. The **Create a virtual machine** page opens.

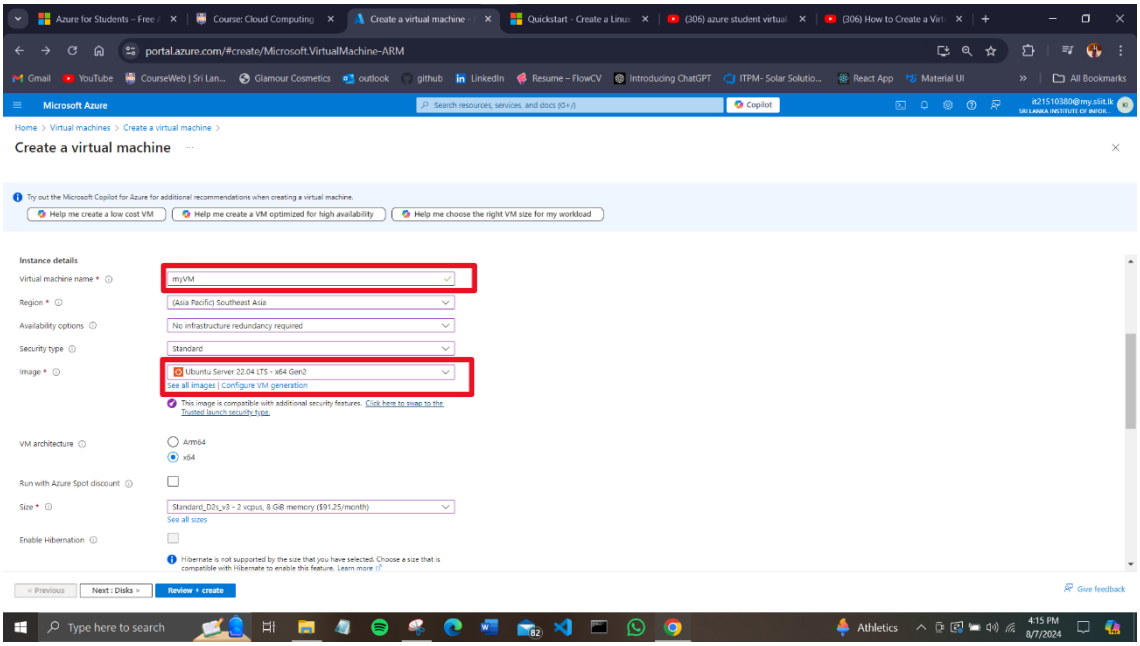




4. In the Basics tab, under Project details, make sure the **correct subscription** is selected, and then choose **Create a new resource group. Enter *myResourceGroup*** for the name.*.

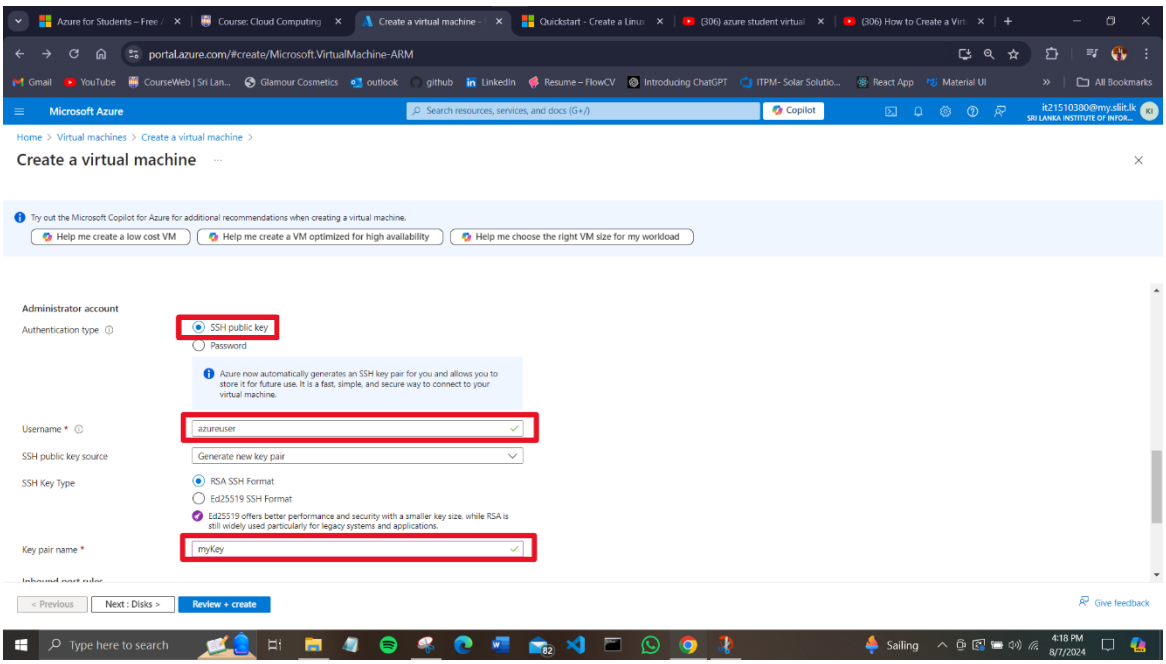


5. Under **Instance details,** enter ***myVM* for the Virtual machine name, and choose *Ubuntu Server 22.04 LTS - Gen2* for your Image.** Leave the other defaults. The default size and pricing is only shown as an example. Size availability and pricing are dependent on your region and subscription.

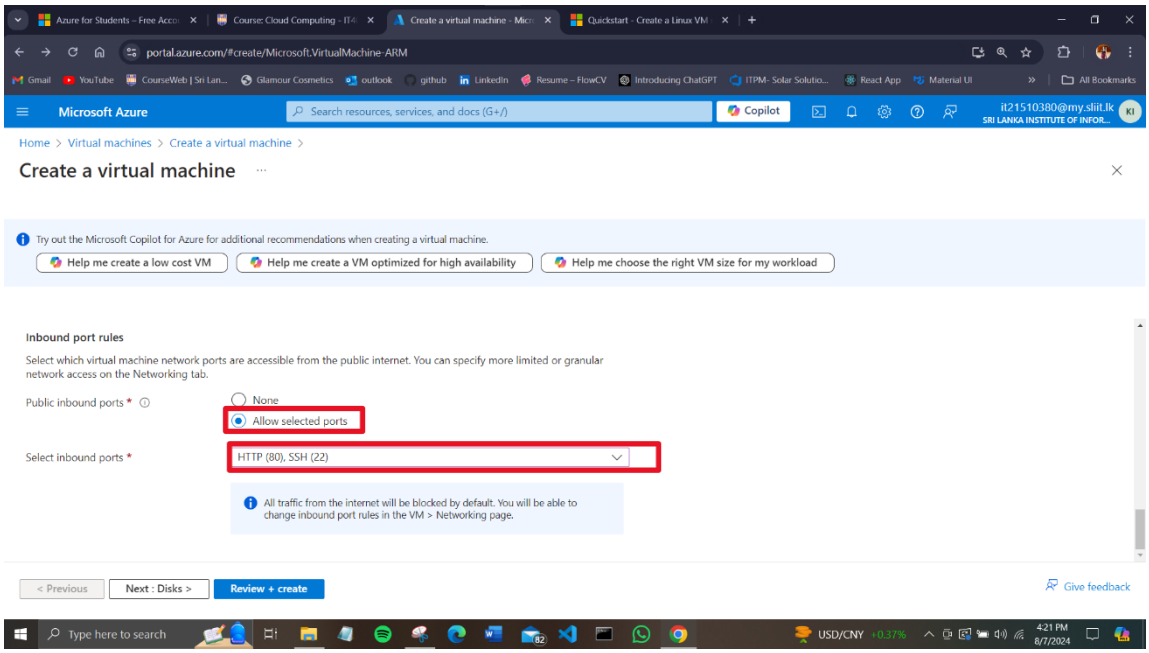


6. Under **Administrator account**, select **SSH public key**.

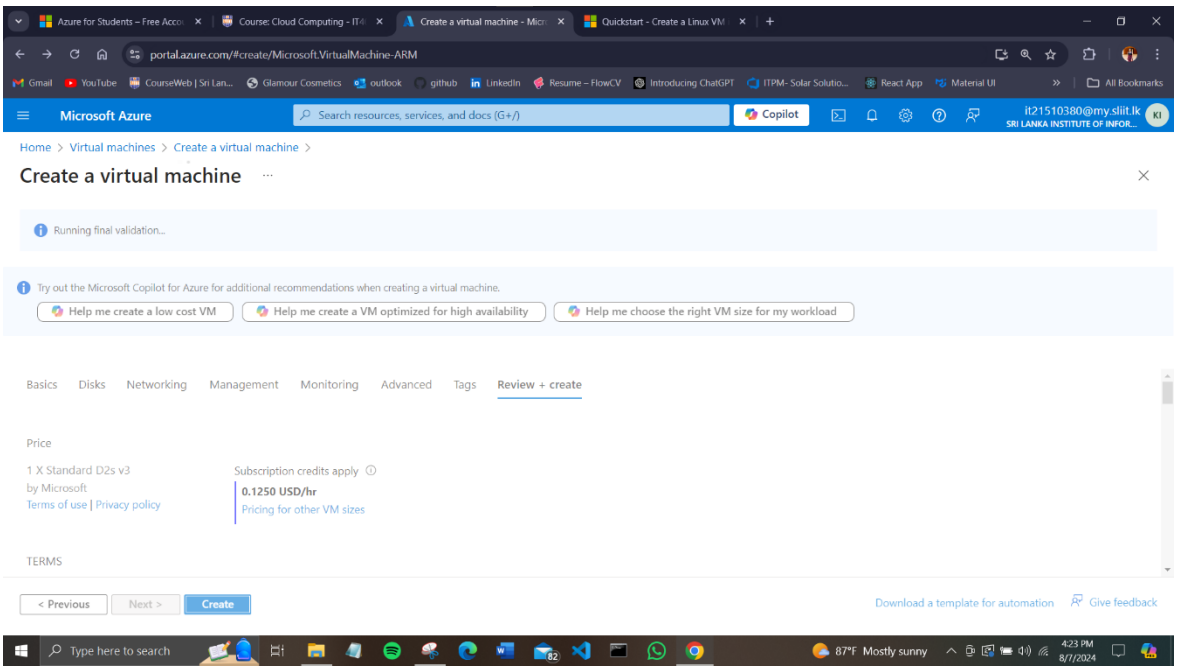
1. In **Username** enter *azureuser*.
2. For **SSH public key source**, leave the default of **Generate new key pair**, and then enter *myKey* for the **Key pair name**.



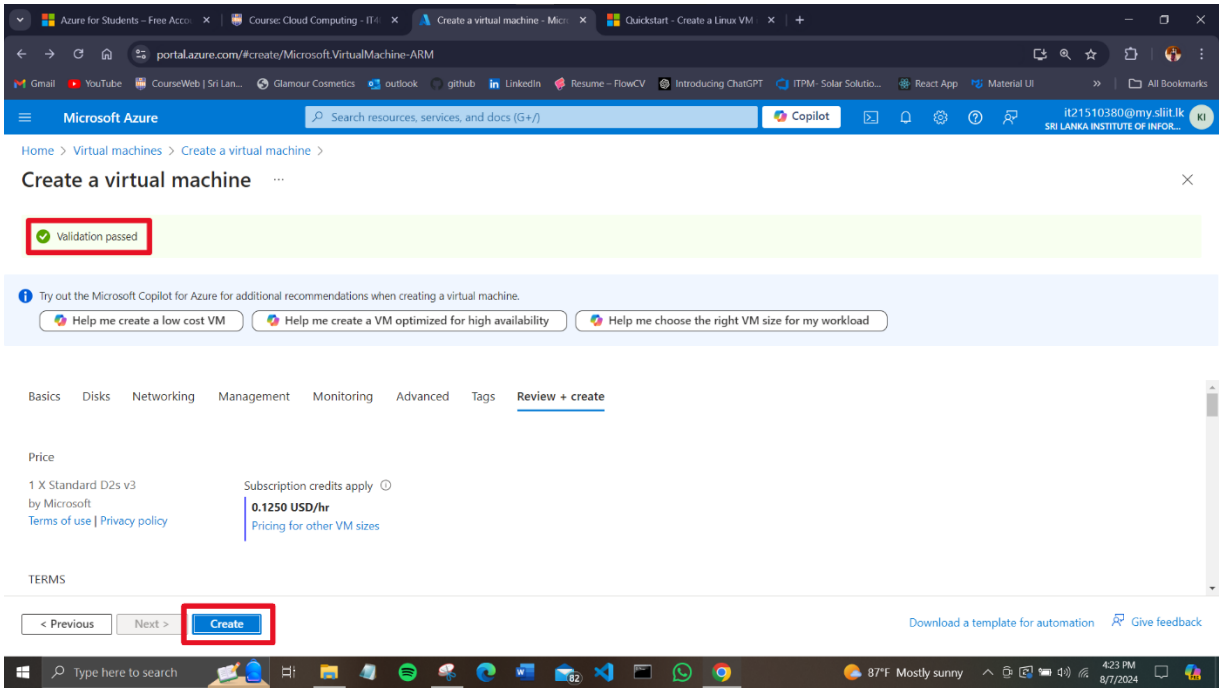
7. Under **Inbound port rules** > **Public inbound ports**, choose **Allow selected ports** and then select **SSH (22)** and **HTTP (80)** from the drop-down.



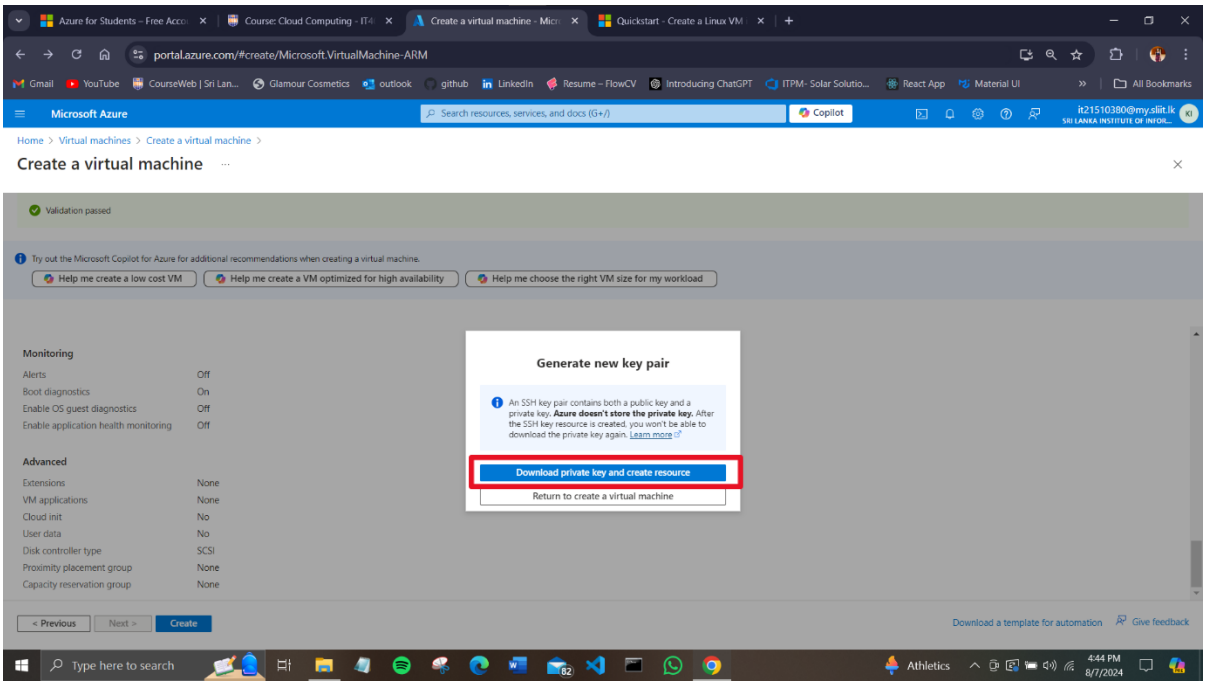
8. Leave the remaining defaults and then select the **Review + create** button at the bottom of the page.

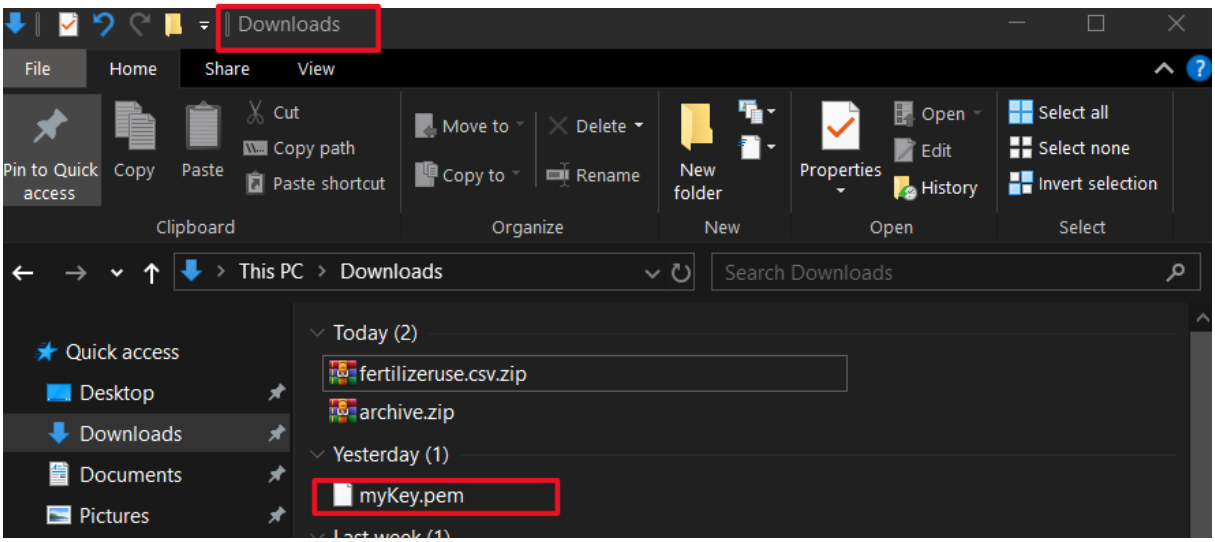


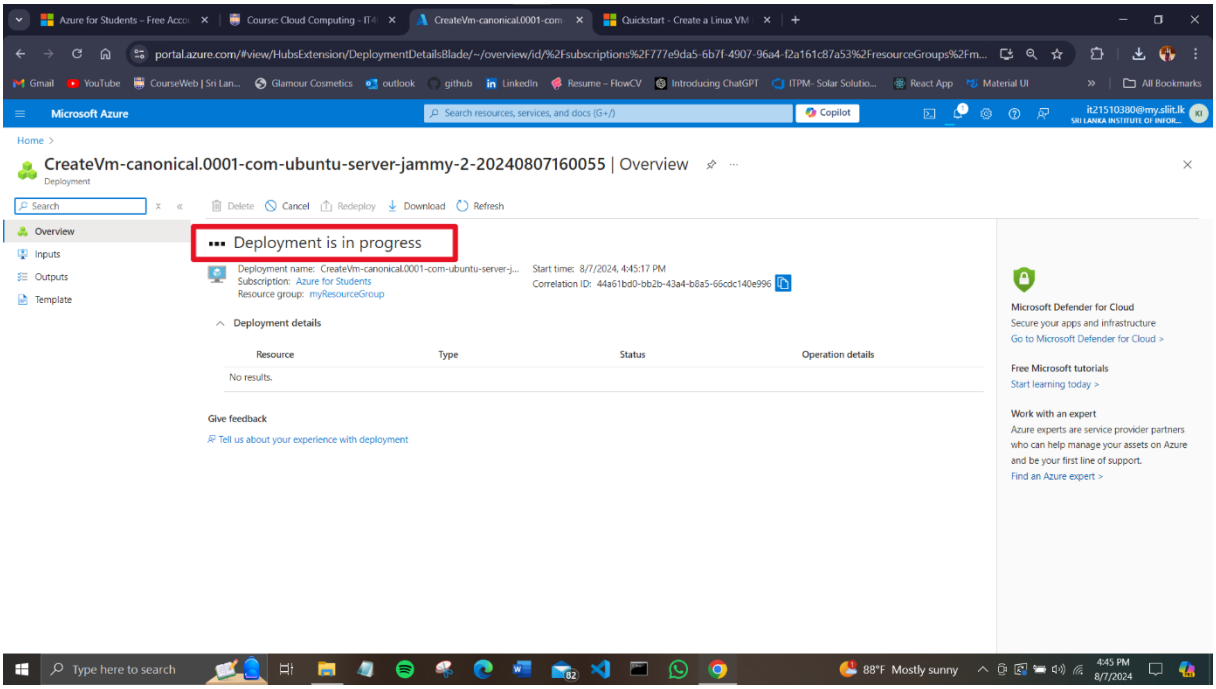
9. On the **Create a virtual machine** page, you can see the details about the VM you are about to create. When you are ready, select **Create**.



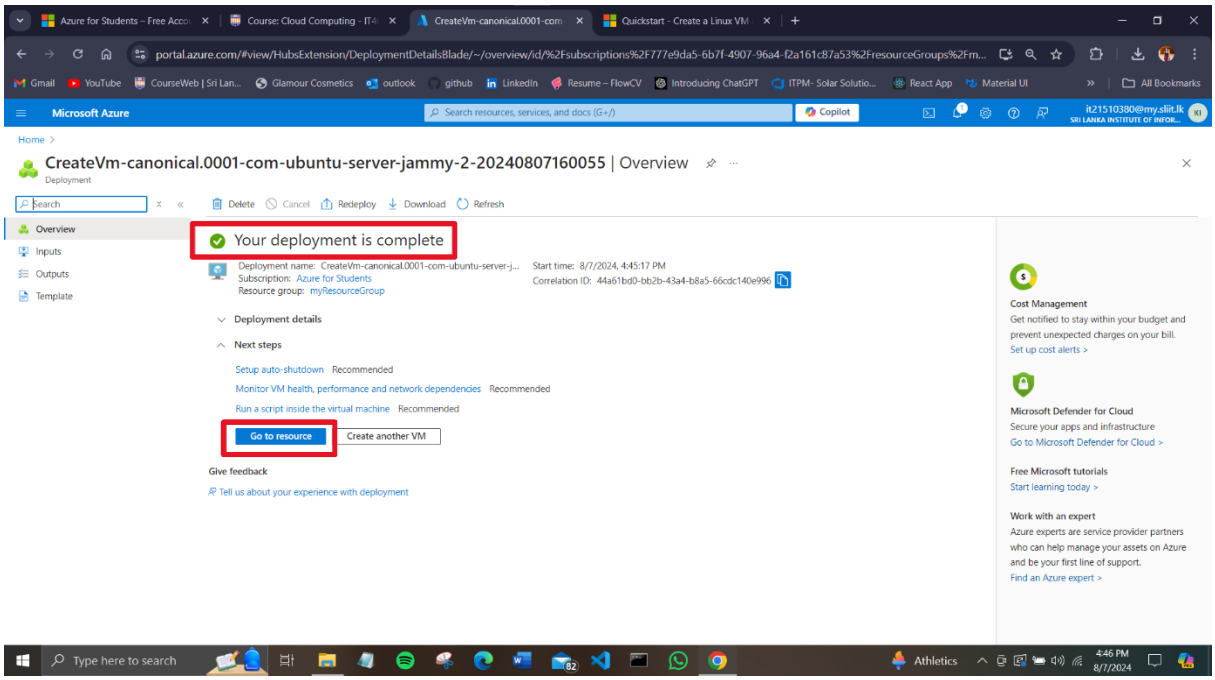
10. When the **Generate new key pair** window opens, select **Download private key and create resource**. Your key file will be download as **myKey.pem**. Make sure you know where the .pem file was downloaded; you will need the path to it in the next step.




Downloads
File
Home
Share
View
Pin to Quick access
Copy
Paste
Cut
Copy path
Paste shortcut
Move to
Copy to
Delete
Rename
New folder
Properties
Open
Edit
History
Select all
Select none
Invert selection
Clipboard
Organize
New
Open
Select
This PC
Downloads
Search Downloads
Quick access
Desktop
Downloads
Documents
Pictures
Today (2)
fertilizeruse.csv.zip
archive.zip
Yesterday (1)
myKey.pem

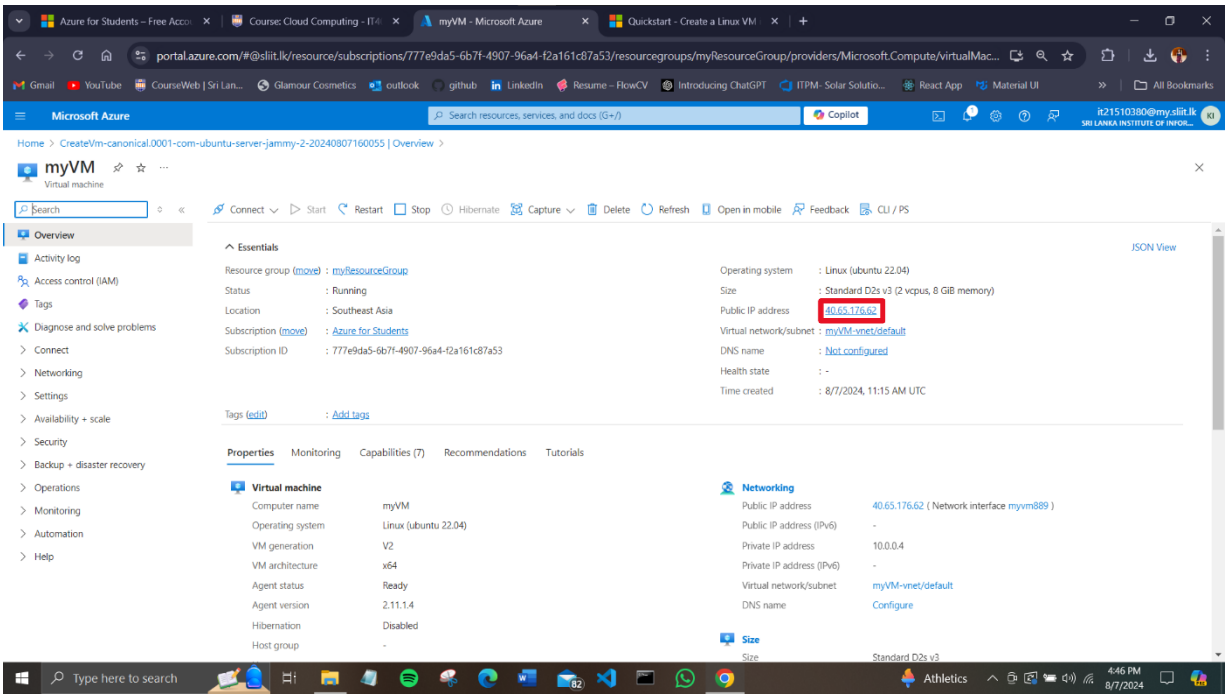

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home
CreateVm-canonical.0001-com-ubuntu-server-jammy-2-20240807160055 | Overview
Deployment
Delete
Cancel
Redeploy
Download
Refresh
Overview
Inputs
Outputs
Template
Deployment is in progress
Deployment name: CreateVm-canonical.0001-com-ubuntu-server-j...
Subscription: Azure for Students
Resource group: myResourceGroup
Start time: 8/7/2024, 4:45:17 PM
Correlation ID: 44a61bd0-bb2b-43a4-b8a5-66cdc140e996
Deployment details
Resource
Type
Status
Operation details
No results.
Give feedback
Tell us about your experience with deployment
Microsoft Defender for Cloud
Secure your apps and infrastructure
Go to Microsoft Defender for Cloud >
Free Microsoft tutorials
Start learning today >
Work with an expert
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.
Find an Azure expert >
Type here to search
88°F Mostly sunny
4:45 PM
8/7/2024

11. When the deployment is finished, select **Go to resource**.



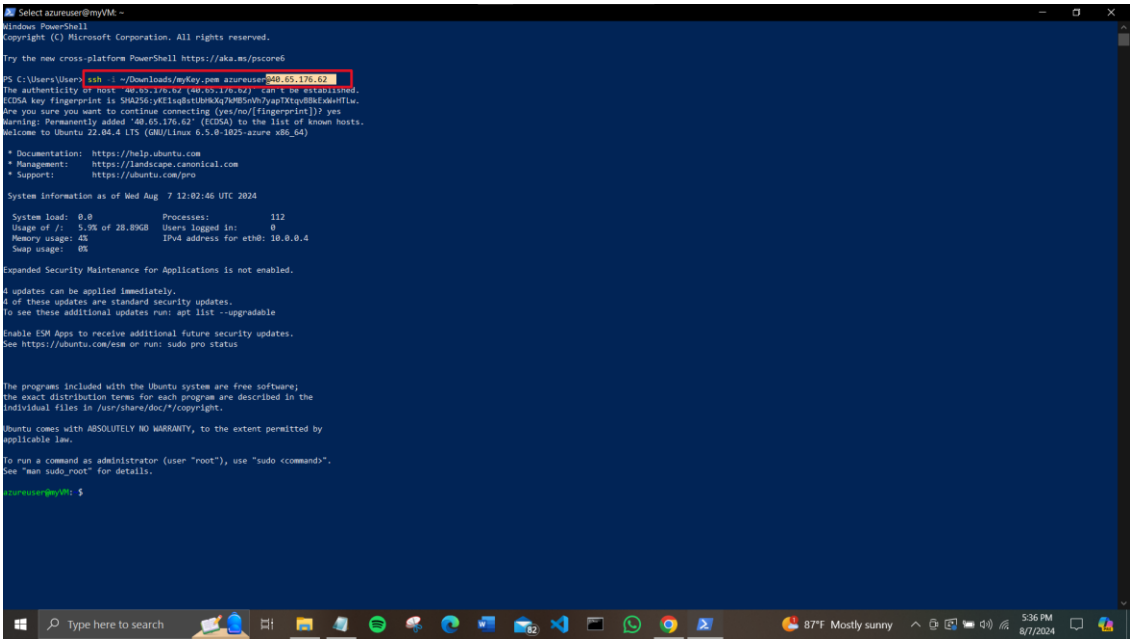
12. On the page for your new VM, select the public IP address and copy it to your clipboard.

Public IP address - 40.65.176.62



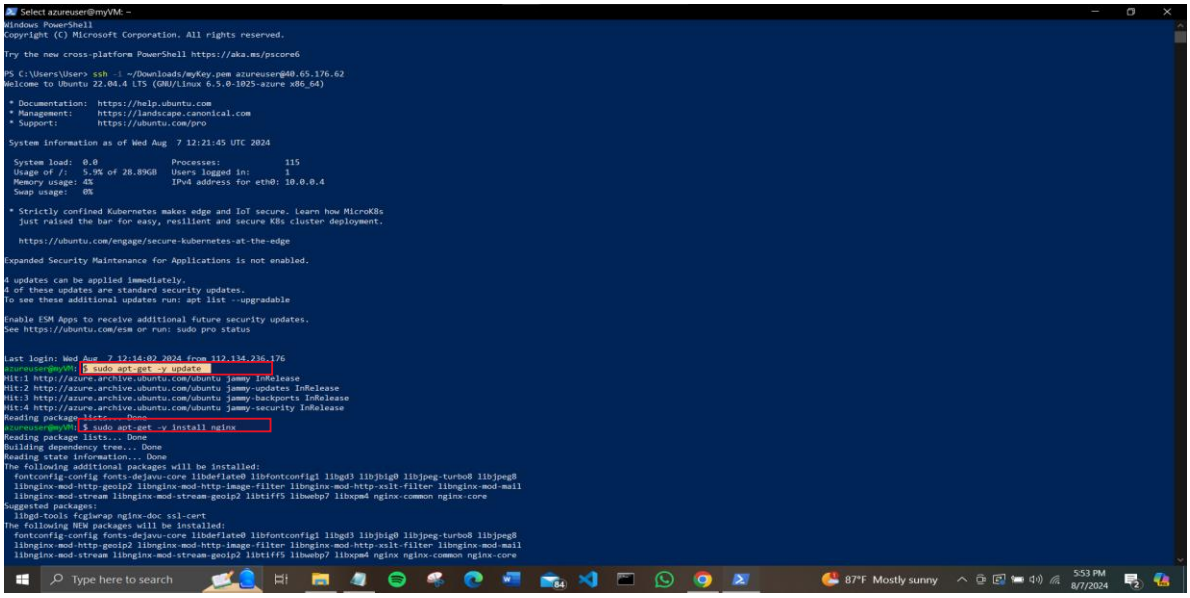
Connect to virtual machine

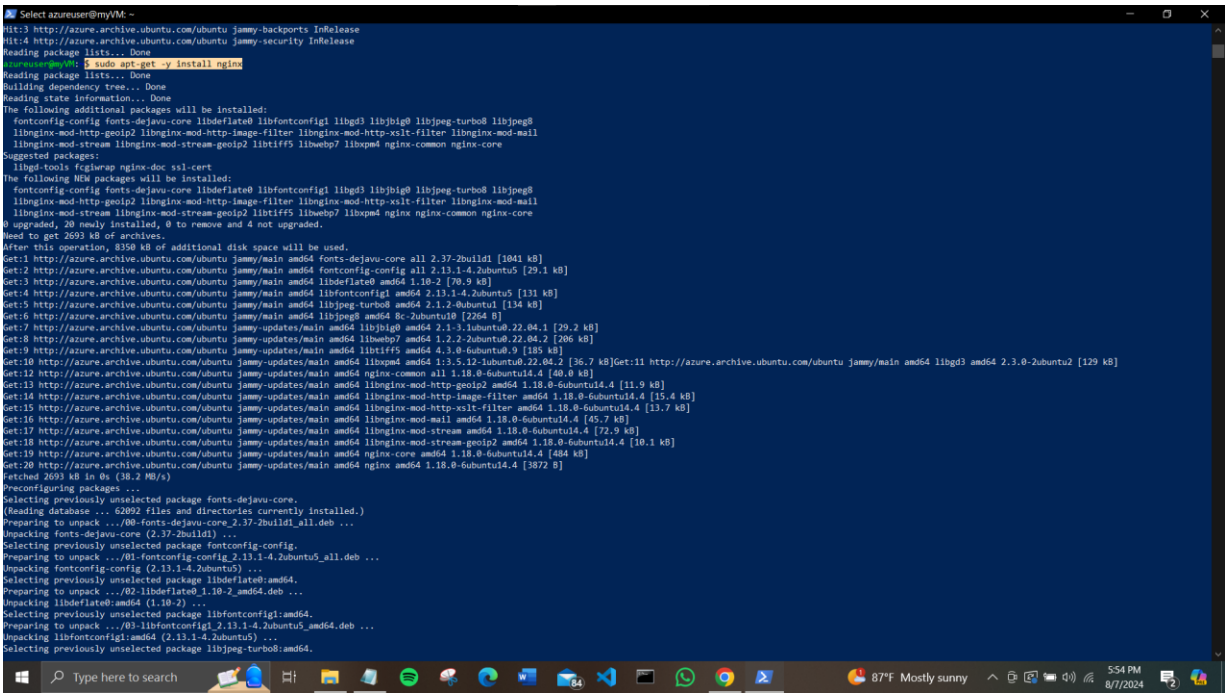
1. Create an SSH Connection with the VM. On a Windows machine, open a **PowerShell prompt**. At your prompt, open an SSH connection to your virtual machine. **Replace the IP address** with the one from your **VM**, and **replace the path to the .pem** with the path to where the key file was downloaded.

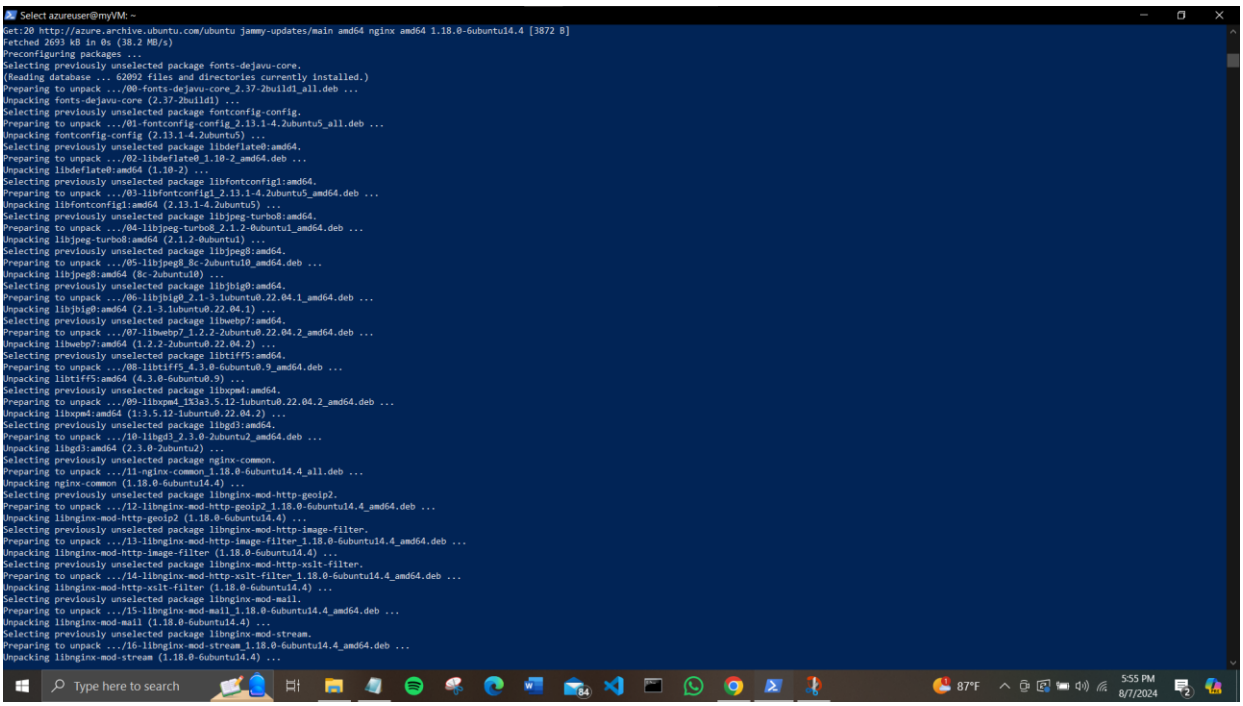


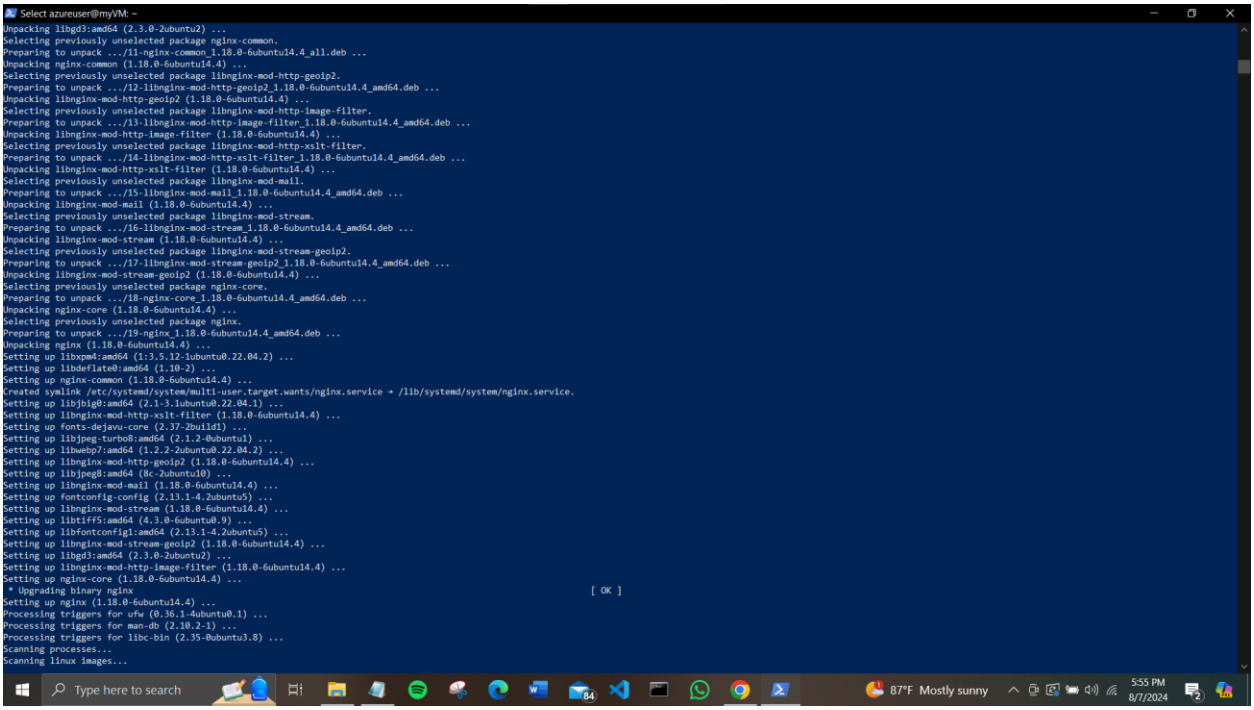
Install web server

To see your VM in action, **install the NGINX web server.** From your **SSH session**, update your package sources and then install the latest NGINX package.
Commands;
sudo apt-get -y update
sudo apt-get -y install nginx

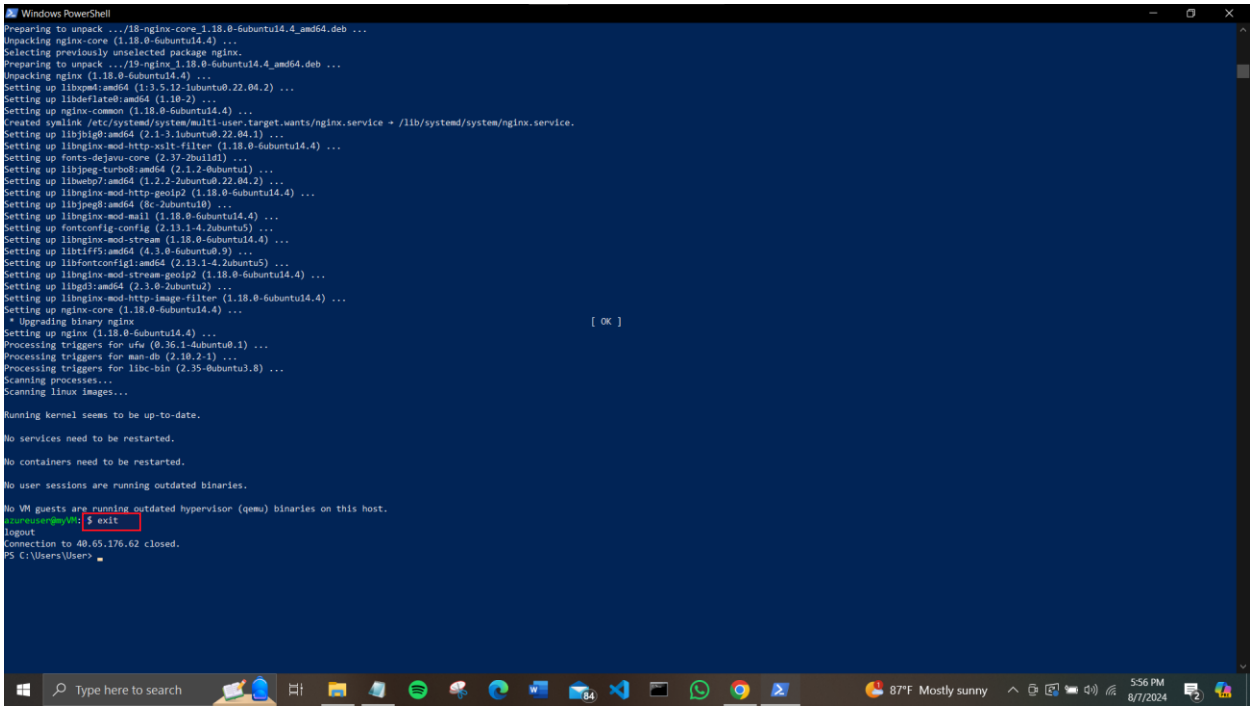



Select azureuser@myVM: ~
Hit:3 http://azure.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://azure.archive.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
azureuser@myVM: $ sudo apt-get -y install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
fontconfig-config fonts-dejavu-core libdeflate0 libfontconfig1 libgd3 libjbig0 libjpeg-turbo8 libjpeg8
libnginx-mod-http-geoip2 libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-mail
libnginx-mod-stream libnginx-mod-stream-geoip2 libtiff5 libwebp7 libxpm4 nginx-common nginx-core
Suggested packages:
libgd-tools fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
fontconfig-config fonts-dejavu-core libdeflate0 libfontconfig1 libgd3 libjbig0 libjpeg-turbo8 libjpeg8
libnginx-mod-http-geoip2 libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-mail
libnginx-mod-stream libnginx-mod-stream-geoip2 libtiff5 libwebp7 libxpm4 nginx nginx-common nginx-core
0 upgraded, 20 newly installed, 0 to remove and 4 not upgraded.
Need to get 2693 kB of archives.
After this operation, 8350 kB of additional disk space will be used.
Get:1 http://azure.archive.ubuntu.com/ubuntu jammy/main amd64 fonts-dejavu-core all 2.37-2build1 [1041 kB]
Get:2 http://azure.archive.ubuntu.com/ubuntu jammy/main amd64 fontconfig-config all 2.13.1-4.2ubuntu5 [29.1 kB]
Get:3 http://azure.archive.ubuntu.com/ubuntu jammy/main amd64 libdeflate0 amd64 1.10-2 [70.9 kB]
Get:4 http://azure.archive.ubuntu.com/ubuntu jammy/main amd64 libfontconfig1 amd64 2.13.1-4.2ubuntu5 [131 kB]
Get:5 http://azure.archive.ubuntu.com/ubuntu jammy/main amd64 libjpeg-turbo8 amd64 2.1.2-0ubuntu1 [134 kB]
Get:6 http://azure.archive.ubuntu.com/ubuntu jammy/main amd64 libjpeg8 amd64 8c-2ubuntu10 [2264 B]
Get:7 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libjbig0 amd64 2.1-3.1ubuntu0.22.04.1 [29.2 kB]
Get:8 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libwebp7 amd64 1.2.2-2ubuntu0.22.04.2 [206 kB]
Get:9 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libtiff5 amd64 4.3.0-6ubuntu0.9 [185 kB]
Get:10 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libxpm4 amd64 1:3.5.12-1ubuntu0.22.04.2 [36.7 kB]Get:11 http://azure.archive.ubuntu.com/ubuntu jammy/main amd64 libgd3 amd64 2.3.0-2ubuntu2 [129 kB]
Get:12 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 nginx-common all 1.18.0-6ubuntu14.4 [40.0 kB]
Get:13 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-http-geoip2 amd64 1.18.0-6ubuntu14.4 [11.9 kB]
Get:14 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-http-image-filter amd64 1.18.0-6ubuntu14.4 [15.4 kB]
Get:15 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-http-xslt-filter amd64 1.18.0-6ubuntu14.4 [13.7 kB]
Get:16 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-mail amd64 1.18.0-6ubuntu14.4 [45.7 kB]
Get:17 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-stream amd64 1.18.0-6ubuntu14.4 [72.9 kB]
Get:18 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-stream-geoip2 amd64 1.18.0-6ubuntu14.4 [10.1 kB]
Get:19 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 nginx-core amd64 1.18.0-6ubuntu14.4 [484 kB]
Get:20 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 nginx amd64 1.18.0-6ubuntu14.4 [3872 B]
Fetched 2693 kB in 0s (38.2 MB/s)
Preconfiguring packages ...
Selecting previously unselected package fonts-dejavu-core.
(Reading database ... 62092 files and directories currently installed.)
Preparing to unpack .../00-fonts-dejavu-core_2.37-2build1_all.deb ...
Unpacking fonts-dejavu-core (2.37-2build1) ...
Selecting previously unselected package fontconfig-config.
Preparing to unpack .../01-fontconfig-config_2.13.1-4.2ubuntu5_all.deb ...
Unpacking fontconfig-config (2.13.1-4.2ubuntu5) ...
Selecting previously unselected package libdeflate0:amd64.
Preparing to unpack .../02-libdeflate0_1.10-2_amd64.deb ...
Unpacking libdeflate0:amd64 (1.10-2) ...
Selecting previously unselected package libfontconfig1:amd64.
Preparing to unpack .../03-libfontconfig1_2.13.1-4.2ubuntu5_amd64.deb ...
Unpacking libfontconfig1:amd64 (2.13.1-4.2ubuntu5) ...
Selecting previously unselected package libjpeg-turbo8:amd64.
Type here to search
87°F Mostly sunny
5:54 PM
8/7/2024


Select azureuser@myVM: ~
Get:20 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 nginx amd64 1.18.0-6ubuntu14.4 [3872 B]
Fetched 2693 kB in 0s (38.2 MB/s)
Preconfiguring packages ...
Selecting previously unselected package fonts-dejavu-core.
(Reading database ... 62092 files and directories currently installed.)
Preparing to unpack .../00-fonts-dejavu-core_2.37-2build1_all.deb ...
Unpacking fonts-dejavu-core (2.37-2build1) ...
Selecting previously unselected package fontconfig-config.
Preparing to unpack .../01-fontconfig-config_2.13.1-4.2ubuntu5_all.deb ...
Unpacking fontconfig-config (2.13.1-4.2ubuntu5) ...
Selecting previously unselected package libdeflate0:amd64.
Preparing to unpack .../02-libdeflate0_1.10-2_amd64.deb ...
Unpacking libdeflate0:amd64 (1.10-2) ...
Selecting previously unselected package libfontconfig1:amd64.
Preparing to unpack .../03-libfontconfig1_2.13.1-4.2ubuntu5_amd64.deb ...
Unpacking libfontconfig1:amd64 (2.13.1-4.2ubuntu5) ...
Selecting previously unselected package libjpeg-turbo8:amd64.
Preparing to unpack .../04-libjpeg-turbo8_2.1.2-0ubuntu1_amd64.deb ...
Unpacking libjpeg-turbo8:amd64 (2.1.2-0ubuntu1) ...
Selecting previously unselected package libjpeg8:amd64.
Preparing to unpack .../05-libjpeg8_8c-2ubuntu10_amd64.deb ...
Unpacking libjpeg8:amd64 (8c-2ubuntu10) ...
Selecting previously unselected package libjbig0:amd64.
Preparing to unpack .../06-libjbig0_2.1-3.1ubuntu0.22.04.1_amd64.deb ...
Unpacking libjbig0:amd64 (2.1-3.1ubuntu0.22.04.1) ...
Selecting previously unselected package libwebp7:amd64.
Preparing to unpack .../07-libwebp7_1.2.2-2ubuntu0.22.04.2_amd64.deb ...
Unpacking libwebp7:amd64 (1.2.2-2ubuntu0.22.04.2) ...
Selecting previously unselected package libtiff5:amd64.
Preparing to unpack .../08-libtiff5_4.3.0-6ubuntu0.9_amd64.deb ...
Unpacking libtiff5:amd64 (4.3.0-6ubuntu0.9) ...
Selecting previously unselected package libxpm4:amd64.
Preparing to unpack .../09-libxpm4_1%3a3.5.12-1ubuntu0.22.04.2_amd64.deb ...
Unpacking libxpm4:amd64 (1:3.5.12-1ubuntu0.22.04.2) ...
Selecting previously unselected package libgd3:amd64.
Preparing to unpack .../10-libgd3_2.3.0-2ubuntu2_amd64.deb ...
Unpacking libgd3:amd64 (2.3.0-2ubuntu2) ...
Selecting previously unselected package nginx-common.
Preparing to unpack .../11-nginx-common_1.18.0-6ubuntu14.4_all.deb ...
Unpacking nginx-common (1.18.0-6ubuntu14.4) ...
Selecting previously unselected package libnginx-mod-http-geoip2.
Preparing to unpack .../12-libnginx-mod-http-geoip2_1.18.0-6ubuntu14.4_amd64.deb ...
Unpacking libnginx-mod-http-geoip2 (1.18.0-6ubuntu14.4) ...
Selecting previously unselected package libnginx-mod-http-image-filter.
Preparing to unpack .../13-libnginx-mod-http-image-filter_1.18.0-6ubuntu14.4_amd64.deb ...
Unpacking libnginx-mod-http-image-filter (1.18.0-6ubuntu14.4) ...
Selecting previously unselected package libnginx-mod-http-xslt-filter.
Preparing to unpack .../14-libnginx-mod-http-xslt-filter_1.18.0-6ubuntu14.4_amd64.deb ...
Unpacking libnginx-mod-http-xslt-filter (1.18.0-6ubuntu14.4) ...
Selecting previously unselected package libnginx-mod-mail.
Preparing to unpack .../15-libnginx-mod-mail_1.18.0-6ubuntu14.4_amd64.deb ...
Unpacking libnginx-mod-mail (1.18.0-6ubuntu14.4) ...
Selecting previously unselected package libnginx-mod-stream.
Preparing to unpack .../16-libnginx-mod-stream_1.18.0-6ubuntu14.4_amd64.deb ...
Unpacking libnginx-mod-stream (1.18.0-6ubuntu14.4) ...
Type here to search
87°F
5:55 PM
8/7/2024

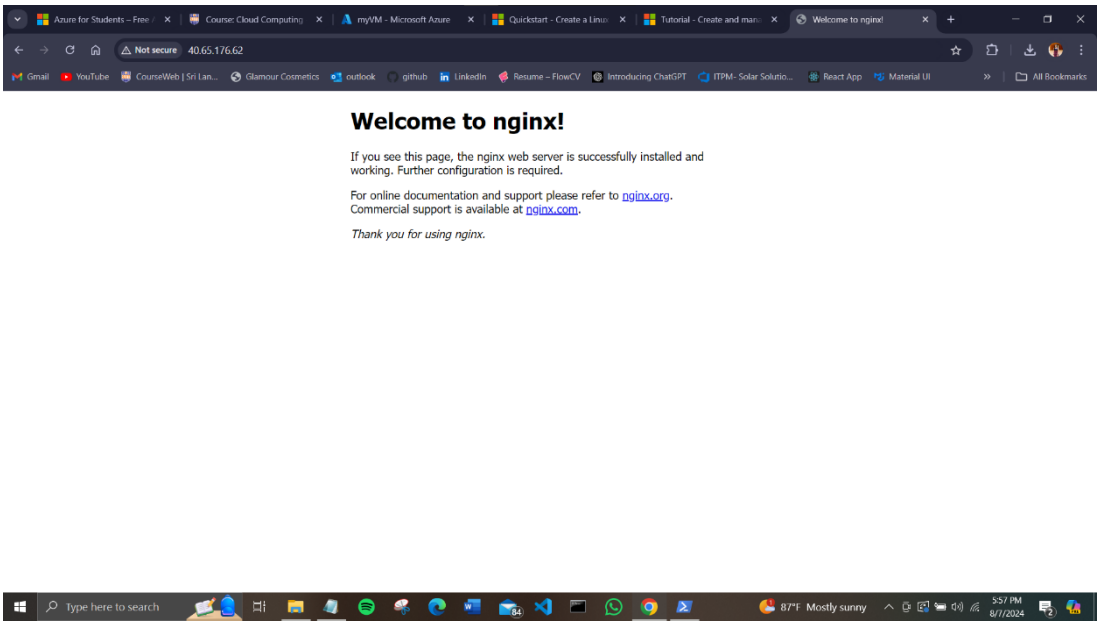


When done, type exit to leave the SSH session.



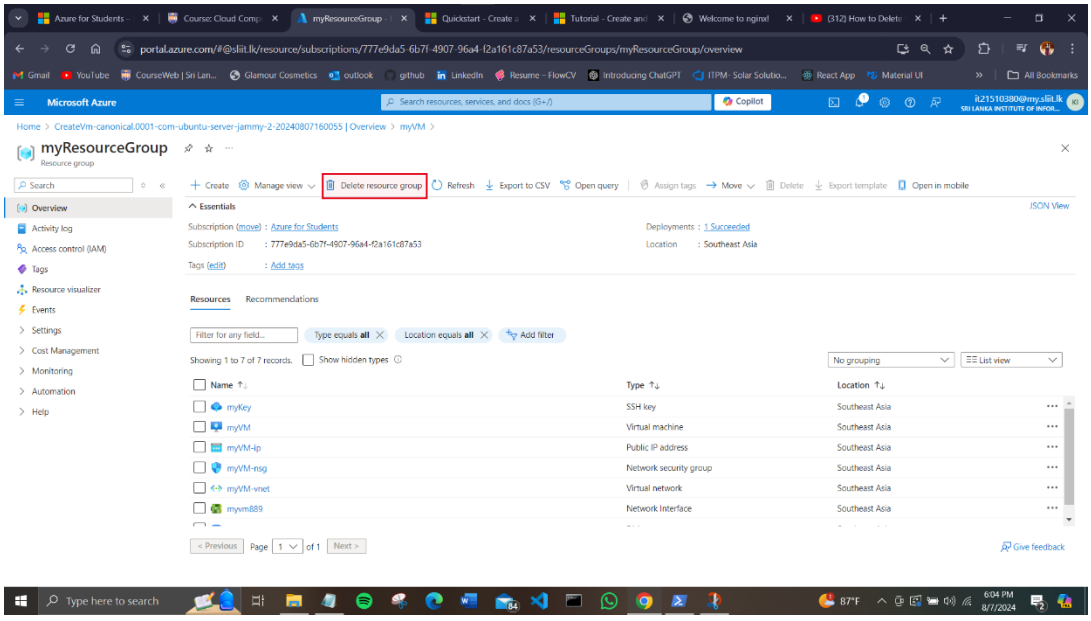
View the web server in action

Use a **web browser** of your choice to view the default **NGINX welcome page**. **Type the public IP address of the VM as the web address.** The public IP address can be found on the VM overview page or as part of the SSH connection string you used earlier.

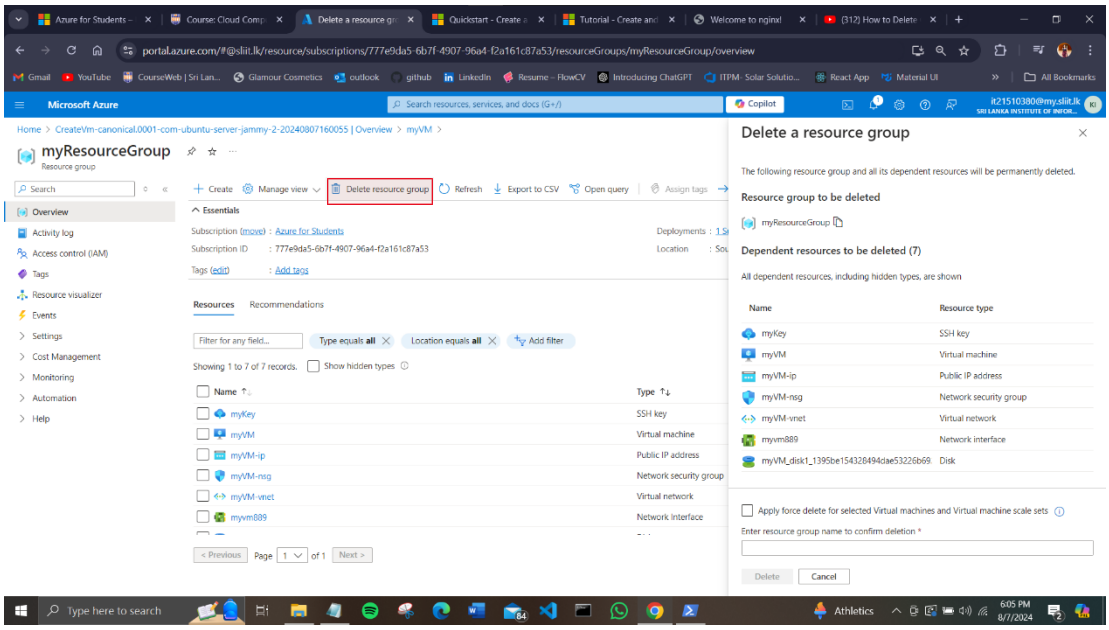


Clean up resources

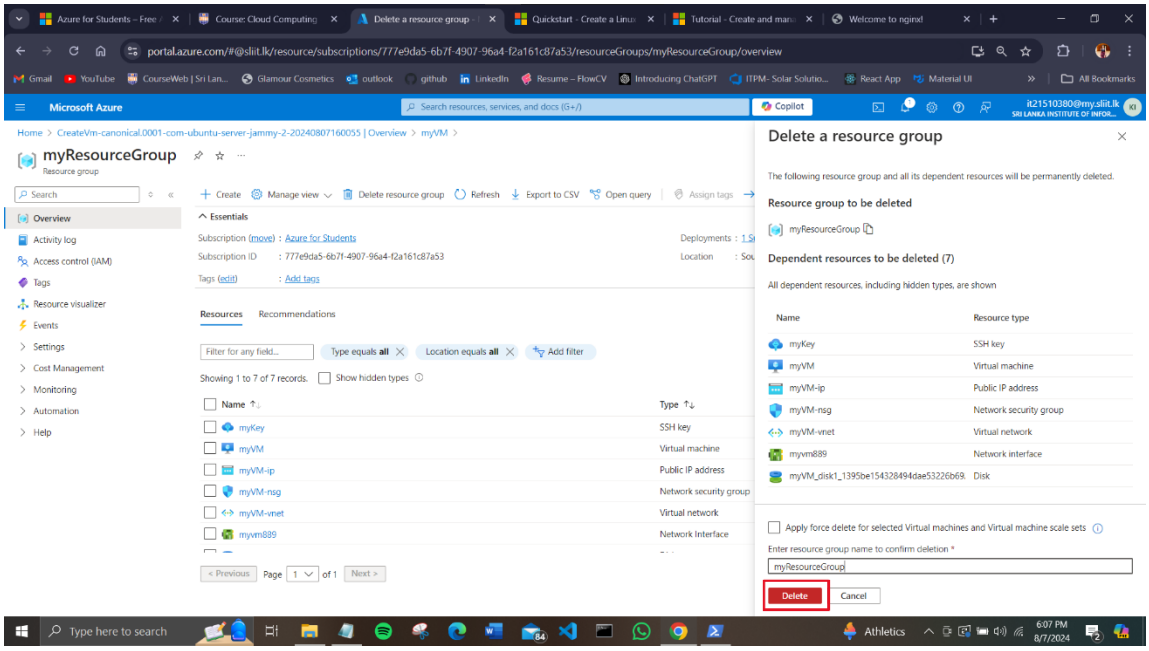
1. On the Overview page for the VM, select the **Resource group** link.

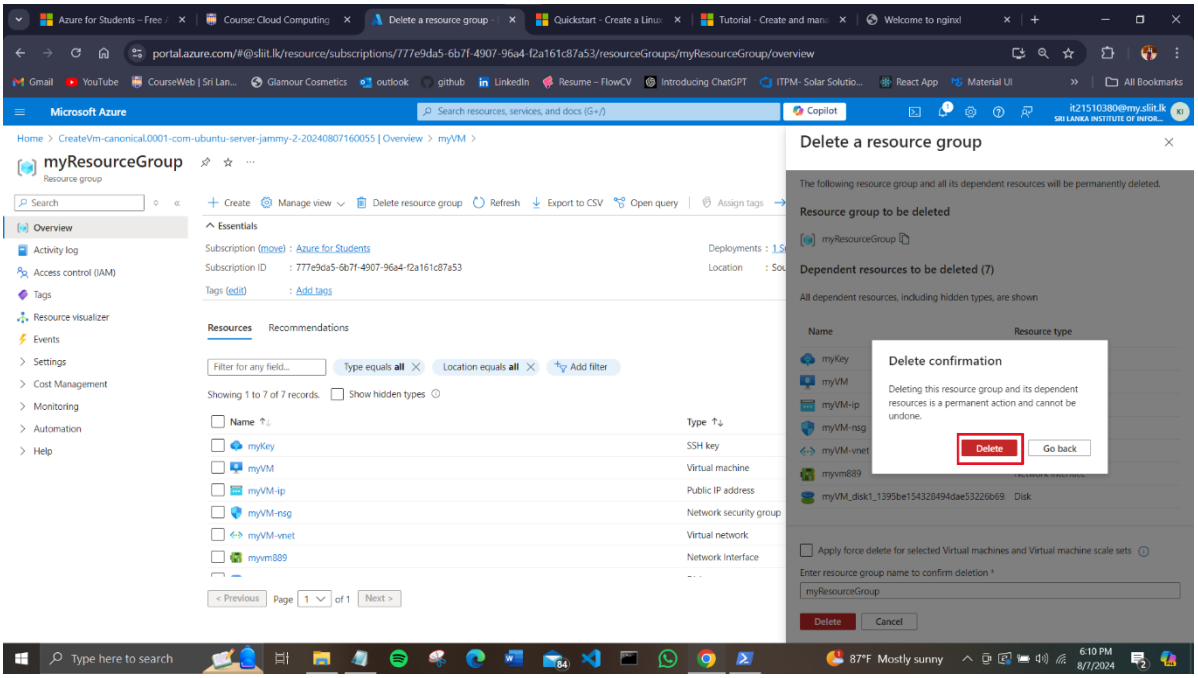


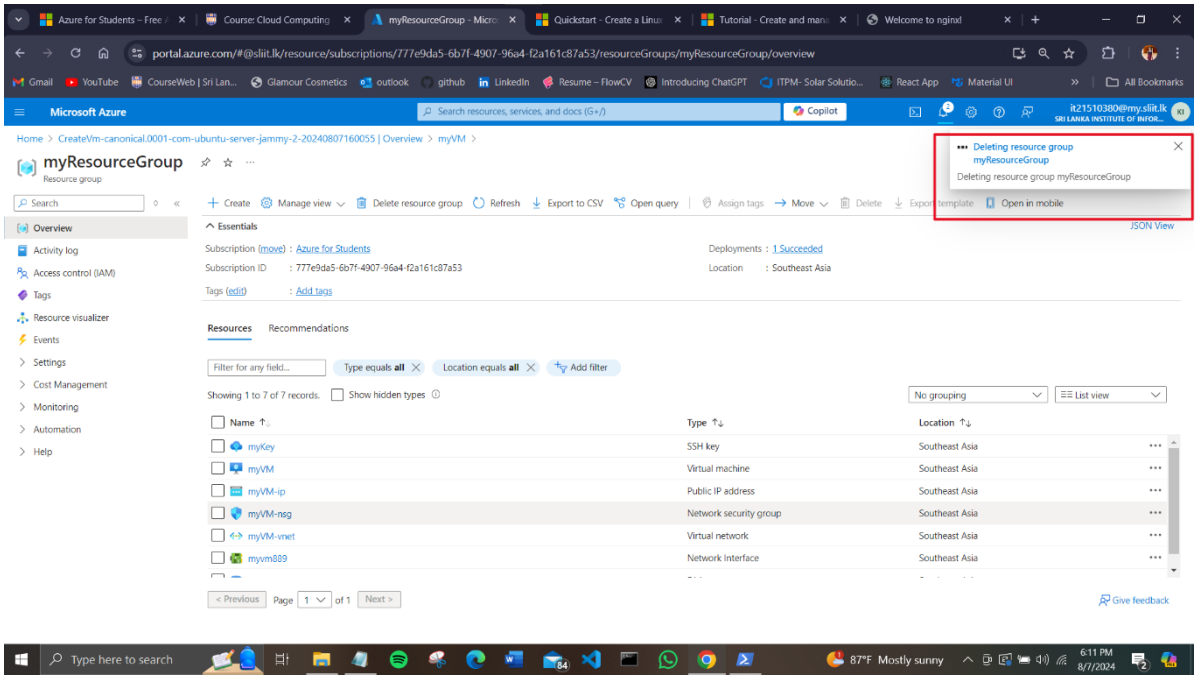
2. At the top of the page for the resource group, select **Delete resource group**.

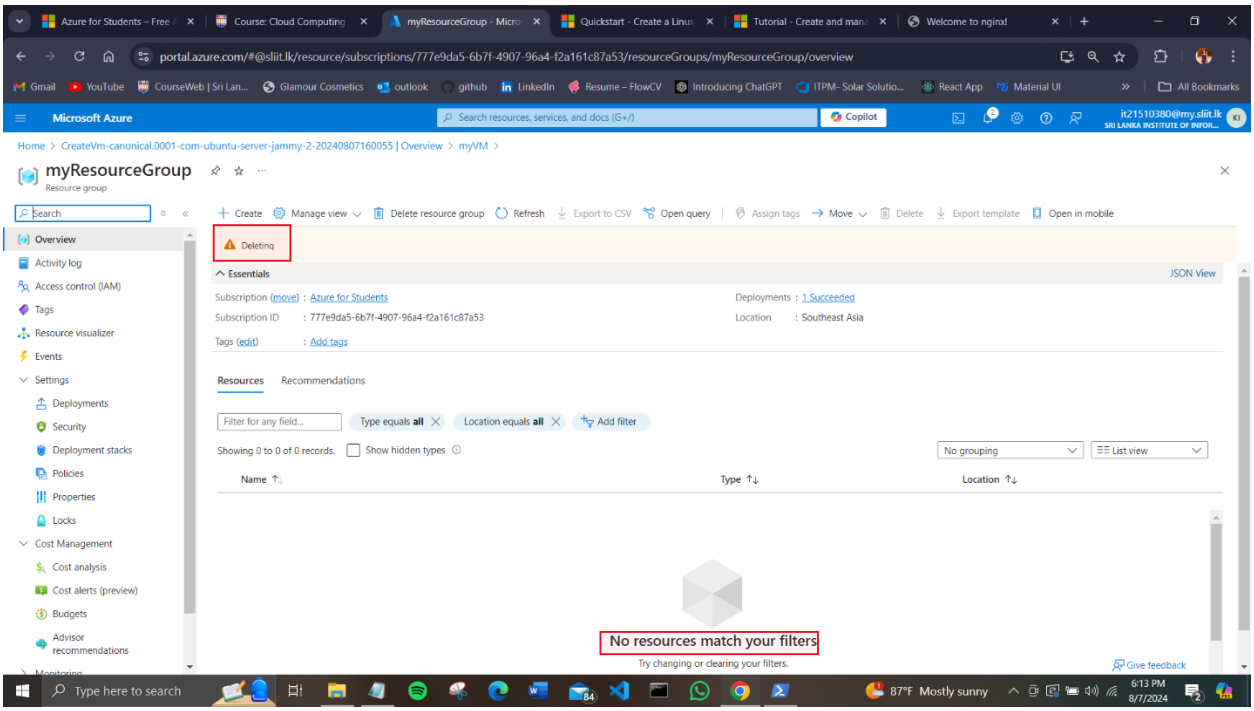


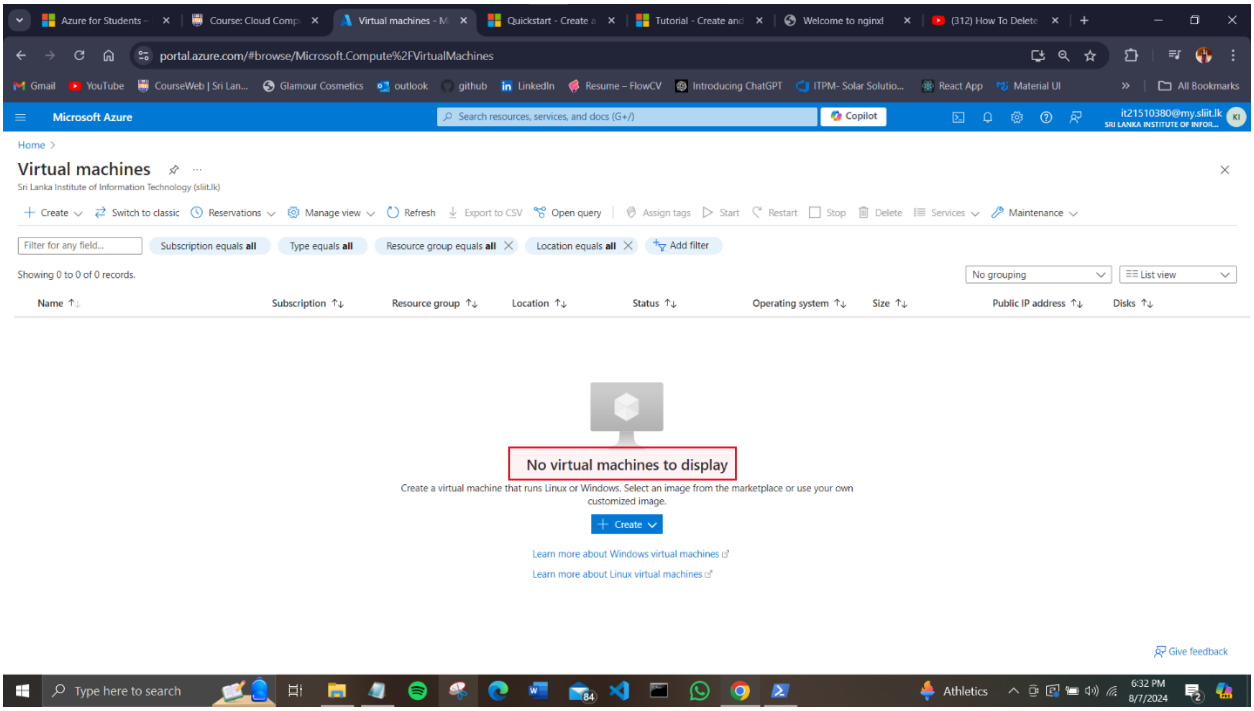
3. A page will open warning you that you are about to delete resources. Type the name of the resource group and select **Delete** to finish deleting the resources and the resource group.




Delete a resource group
The following resource group and all its dependent resources will be permanently deleted.
Resource group to be deleted
myResourceGroup
Dependent resources to be deleted (7)
All dependent resources, including hidden types, are shown
Name
Resource type
myKey
myVM
myVM-ip
myVM-nsg
myVM-vnet
myvm889
myVM_disk1_1395be154328494dae53226b69
Disk
Delete confirmation
Deleting this resource group and its dependent resources is a permanent action and cannot be undone.
Delete
Go back
Apply force delete for selected Virtual machines and Virtual machine scale sets
Enter resource group name to confirm deletion *
myResourceGroup
Delete
Cancel


Deleting resource group myResourceGroup
Deleting resource group myResourceGroup
myResourceGroup
Resource group
Essentials
Subscription (move) : Azure for Students
Subscription ID : 777e9da5-6b7f-4907-96a4-f2a161c87a53
Deployments : 1 Succeeded
Location : Southeast Asia
Resources
Recommendations
Showing 1 to 7 of 7 records.
Name
Type
Location
myKey
SSH key
Southeast Asia
myVM
Virtual machine
Southeast Asia
myVM-ip
Public IP address
Southeast Asia
myVM-nsg
Network security group
Southeast Asia
myVM-vnet
Virtual network
Southeast Asia
myvm889
Network Interface
Southeast Asia


Azure for Students – Free
Course: Cloud Computing
myResourceGroup - Micro
Quickstart - Create a Linux
Tutorial - Create and mana
Welcome to nginx!
portal.azure.com/#@sliit.lk/resource/subscriptions/777e9da5-6b7f-4907-96a4-f2a161c87a53/resourceGroups/myResourceGroup/overview
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
it21510380@my.sliit.lk
SRI LANKA INSTITUTE OF INFOR...
Home > CreateVm-canonical.0001-com-ubuntu-server-jammy-2-20240807160055 | Overview > myVM >
myResourceGroup
Resource group
Search
Overview
Activity log
Access control (IAM)
Tags
Resource visualizer
Events
Settings
Deployments
Security
Deployment stacks
Policies
Properties
Locks
Cost Management
Cost analysis
Cost alerts (preview)
Budgets
Advisor recommendations
Create
Manage view
Delete resource group
Refresh
Export to CSV
Open query
Assign tags
Move
Delete
Export template
Open in mobile
Deleting
Essentials
JSON View
Subscription (move) : Azure for Students
Subscription ID : 777e9da5-6b7f-4907-96a4-f2a161c87a53
Tags (edit) : Add tags
Deployments : 1 Succeeded
Location : Southeast Asia
Resources
Recommendations
Filter for any field...
Type equals all
Location equals all
Add filter
Showing 0 to 0 of 0 records.
Show hidden types
No grouping
List view
Name
Type
Location
No resources match your filters
Try changing or clearing your filters.
Give feedback
Type here to search
87°F Mostly sunny
6:13 PM
8/7/2024


Azure for Students
Course: Cloud Comp
Virtual machines - M
Quickstart - Create a
Tutorial - Create and
Welcome to nginx!
(312) How To Delete
portal.azure.com/#browse/Microsoft.Compute%2FVirtualMachines
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
it21510380@my.sliit.lk
SRI LANKA INSTITUTE OF INFOR...
Home >
Virtual machines
Sri Lanka Institute of Information Technology (sliit.lk)
Create
Switch to classic
Reservations
Manage view
Refresh
Export to CSV
Open query
Assign tags
Start
Restart
Stop
Delete
Services
Maintenance
Filter for any field...
Subscription equals all
Type equals all
Resource group equals all
Location equals all
Add filter
Showing 0 to 0 of 0 records.
No grouping
List view
Name
Subscription
Resource group
Location
Status
Operating system
Size
Public IP address
Disks
No virtual machines to display
Create a virtual machine that runs Linux or Windows. Select an image from the marketplace or use your own customized image.
Create
Learn more about Windows virtual machines
Learn more about Linux virtual machines
Give feedback
Type here to search
Athletics
6:32 PM
8/7/2024