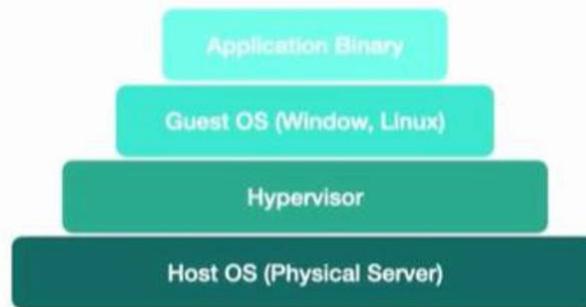


### SECTION 3: AZURE VIRTUAL MACHINE

In this section, we are going to look into one of the most used compute services from Azure called Virtual Machine. When talking about virtual machine in Azure, it is important for us to understand the architecture of Azure virtual machine.



On the above diagram, you can see that we have a four layers virtual machine. These four layers are the basic building blocks for running a virtual machine on our Azure cloud. This is how the Microsoft Azure is going to manage our virtual machines.

The first layer in this architecture is the **Host OS or layer**. The host layer is like a physical server which is sitting in the Azure cloud Data center managed by Microsoft Azure. This server has a really high configuration in terms of CPU, memory and disk storage because the virtual machine is provisioned here.

Now, how the virtual machine is provisioned? This is where the **Hypervisor** comes in. So, on top of our physical host machine which is managed by Azure, then comes the **Hypervisor** which manages our virtual machine.

Then comes the **Guest OS**, that is our virtual machine. This is where our virtual machine comes into play. And here we can provision different types of virtual machines such as Windows or Linux. In the Linux, we also have different flavors of virtual machines such as Ubuntu. You can choose what kind of virtual machine you want to provision.

So, the **Hypervisor** that is sitting between the Host OS and the Guest OS acts like a bridge between the Guest OS and the Host OS, so that our virtual machine can run on the Data center premises.

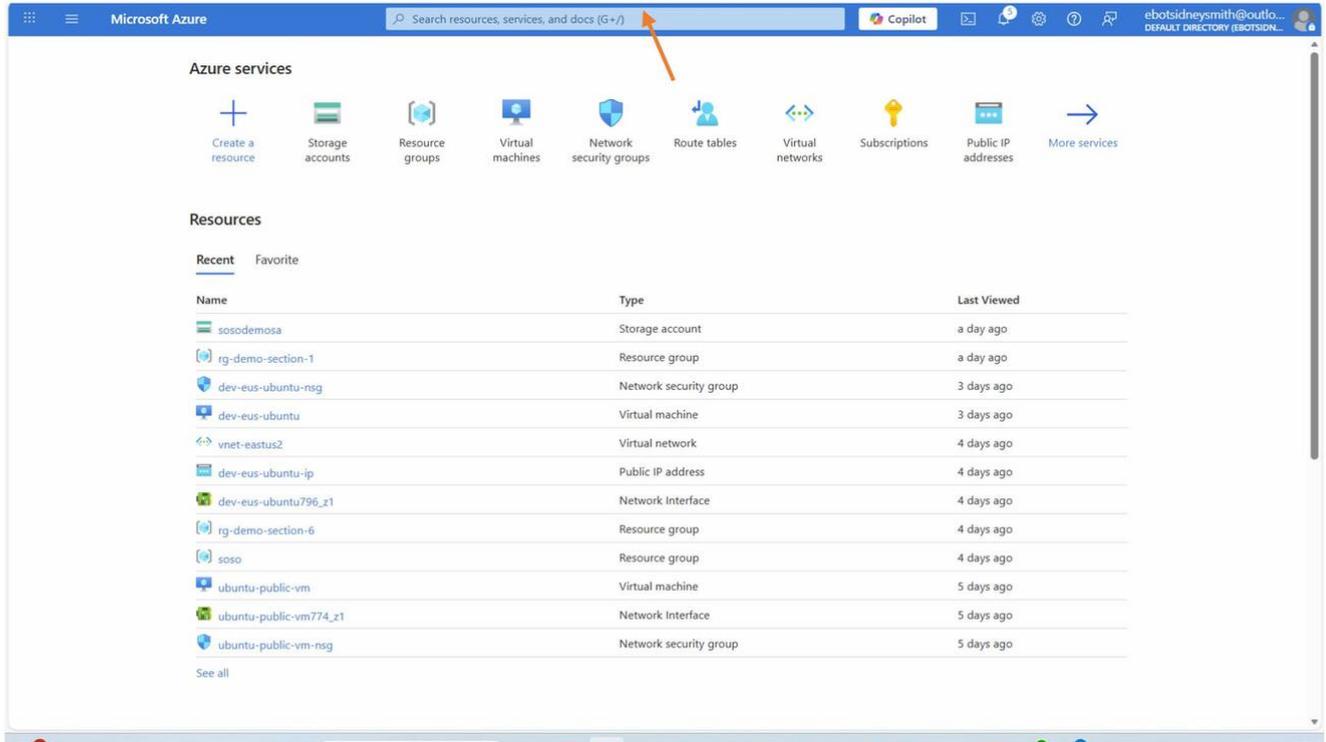
And at last, there comes the **Application Binary**, which is sitting on the Guest OS. This Application Binary is the binary we want to deploy or run inside our Guest OS.

The **Guest OS** and the Application Binary are managed by us and Azure cloud does not interfere with them. The only responsibility of Azure cloud is to manage the Hypervisor and the Host OS.

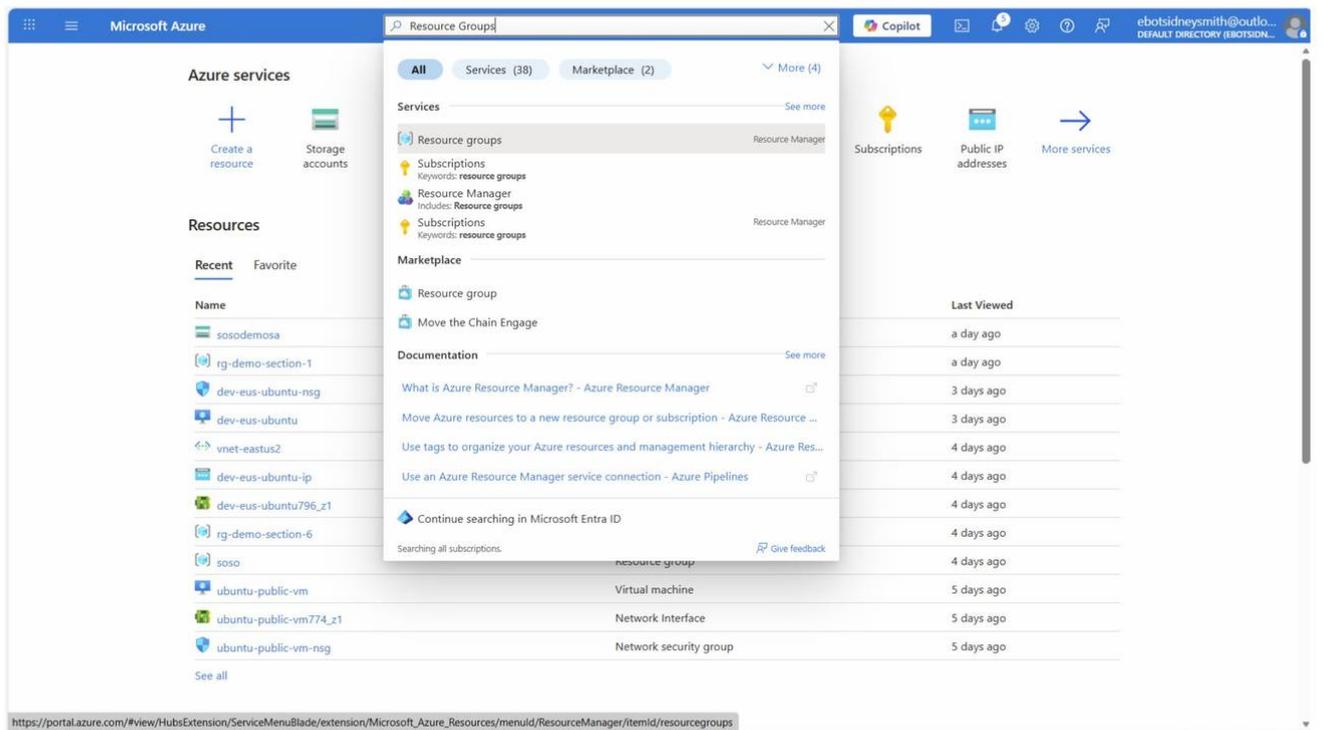
So, if something goes wrong in our Application Binary or Guest OS, then it is our responsibility to go and fix it. When we will do the demo, we will play around with these two layers. First, we are going to provision our Guest OS. After provisioning our Guest OS, we will try to access our virtual machine. And then in that virtual machine, we are going to install some of the binaries so that we can see how we can play around with the virtual machine.

## Part 1: Set up Linux Virtual Machine

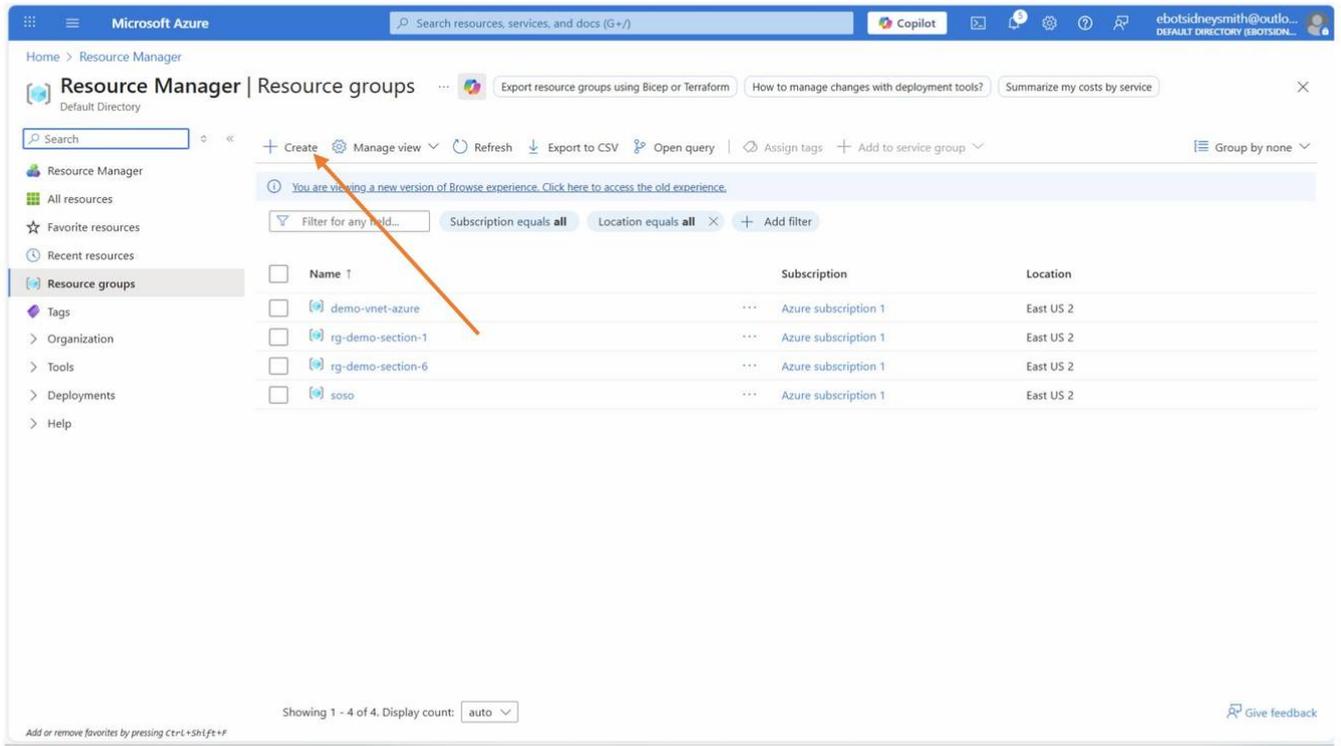
In this part we will do a demo on how to set up a Linux virtual machine. To start with the demo, go to Azure portal.



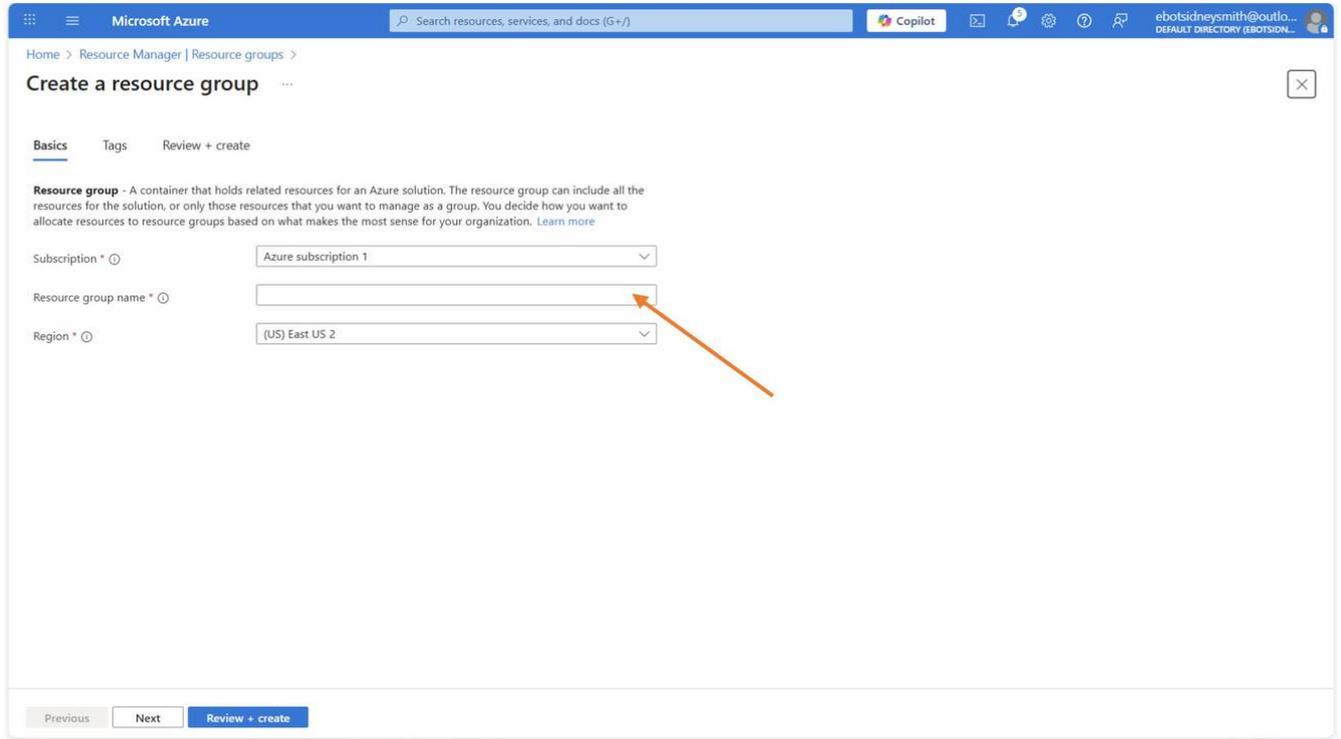
We will start by creating a new “Resource Group” for this virtual machine demo. Search for “Resource Groups”



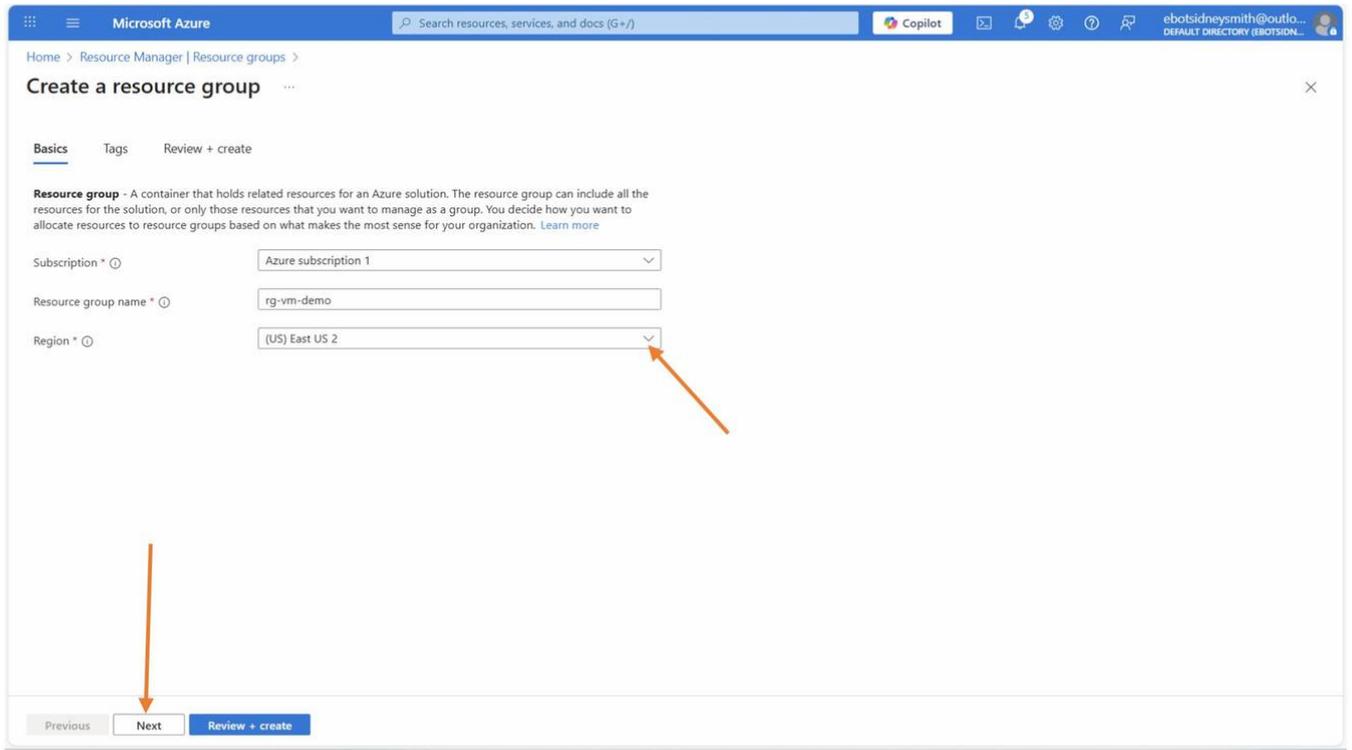
## Select “Resource Groups” under “Services”



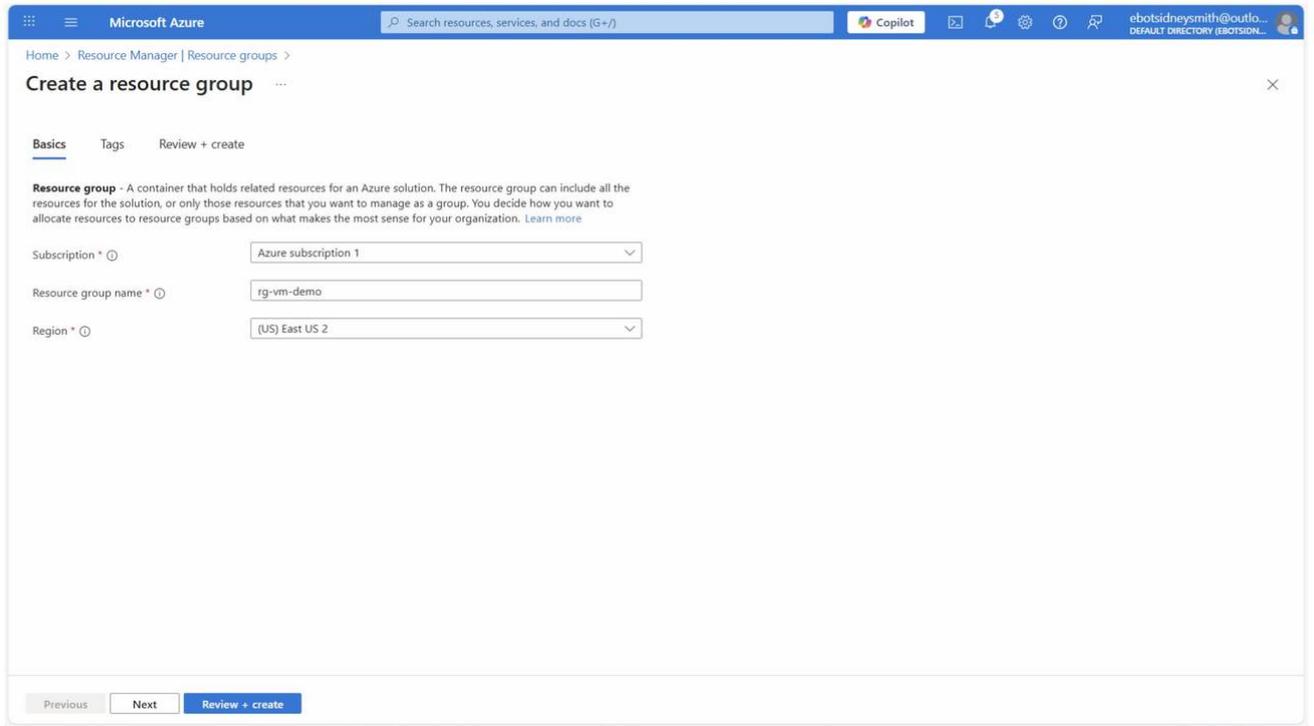
## Click on “Create”



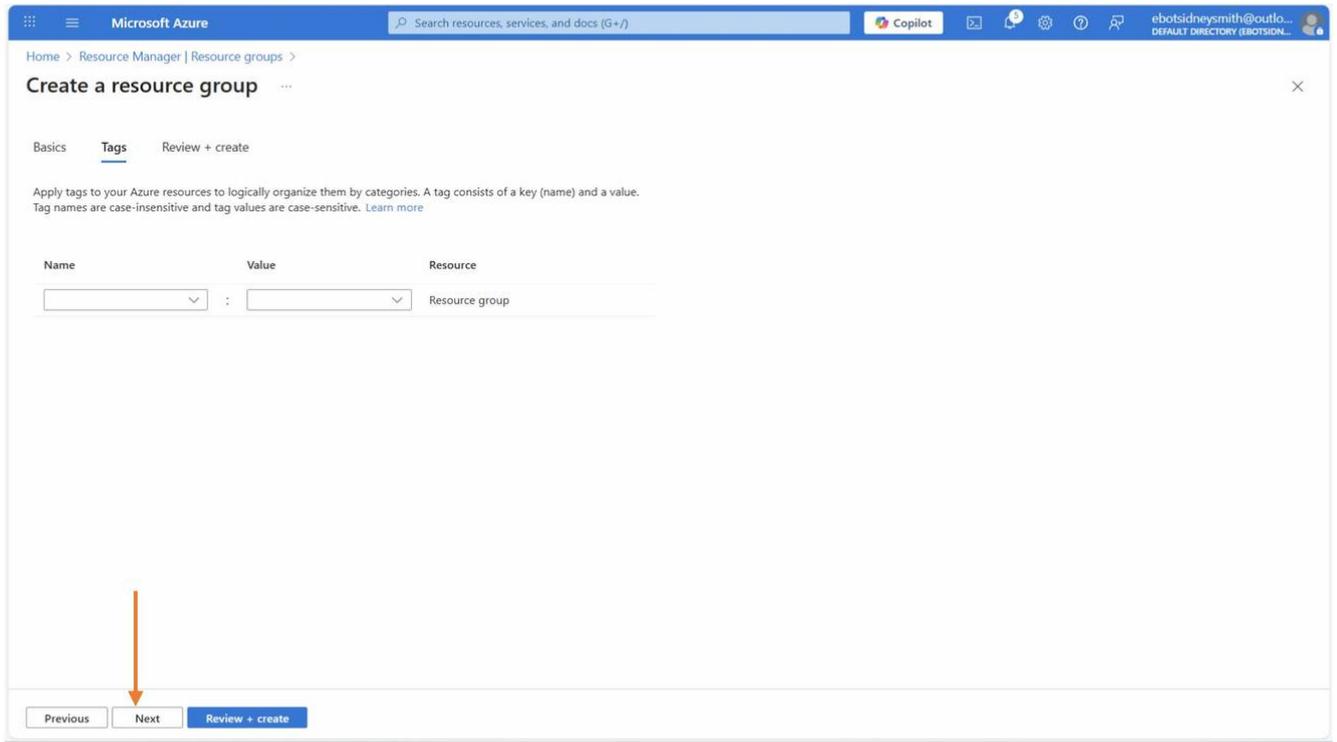
The “Subscription” has already been selected. Let us give the “Resource Group” a name. So, on “Resource Group”, give it the name “rg-vm-demo”



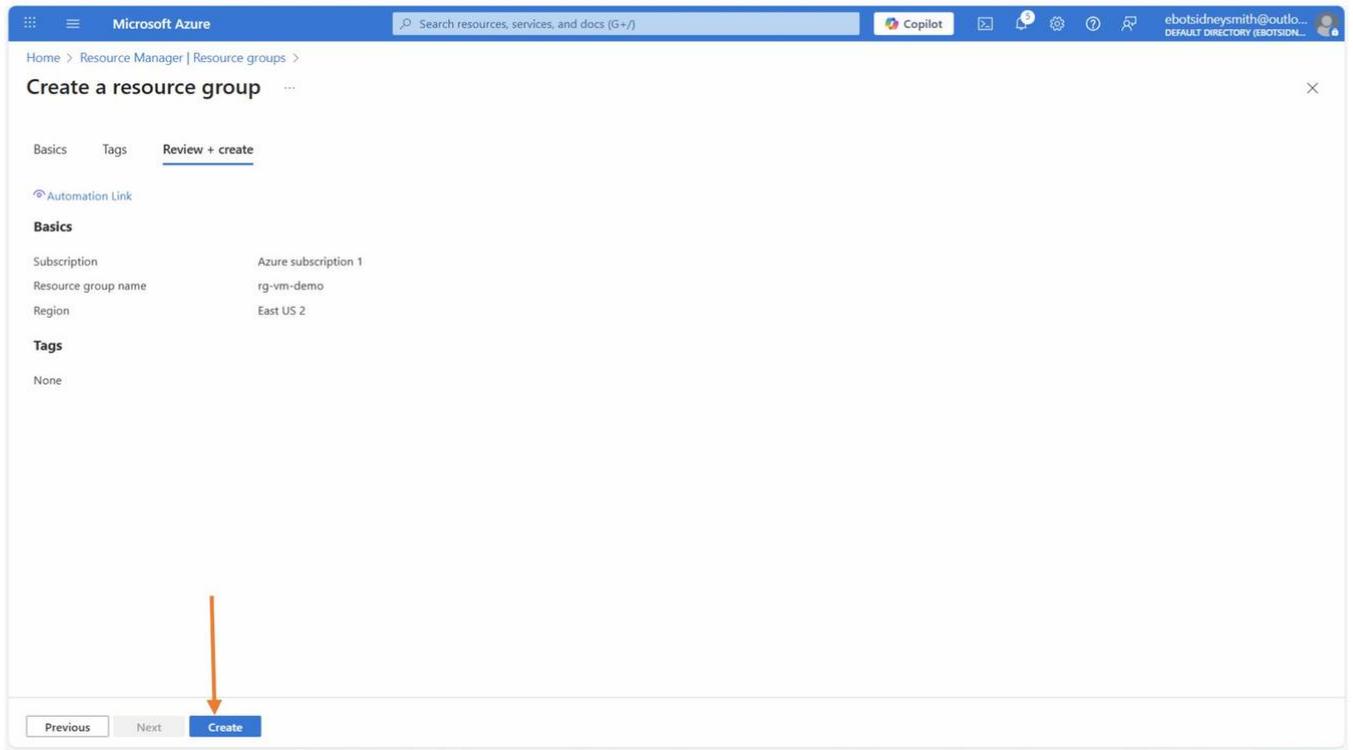
Then for “Region”, we will leave it as “East US 2”



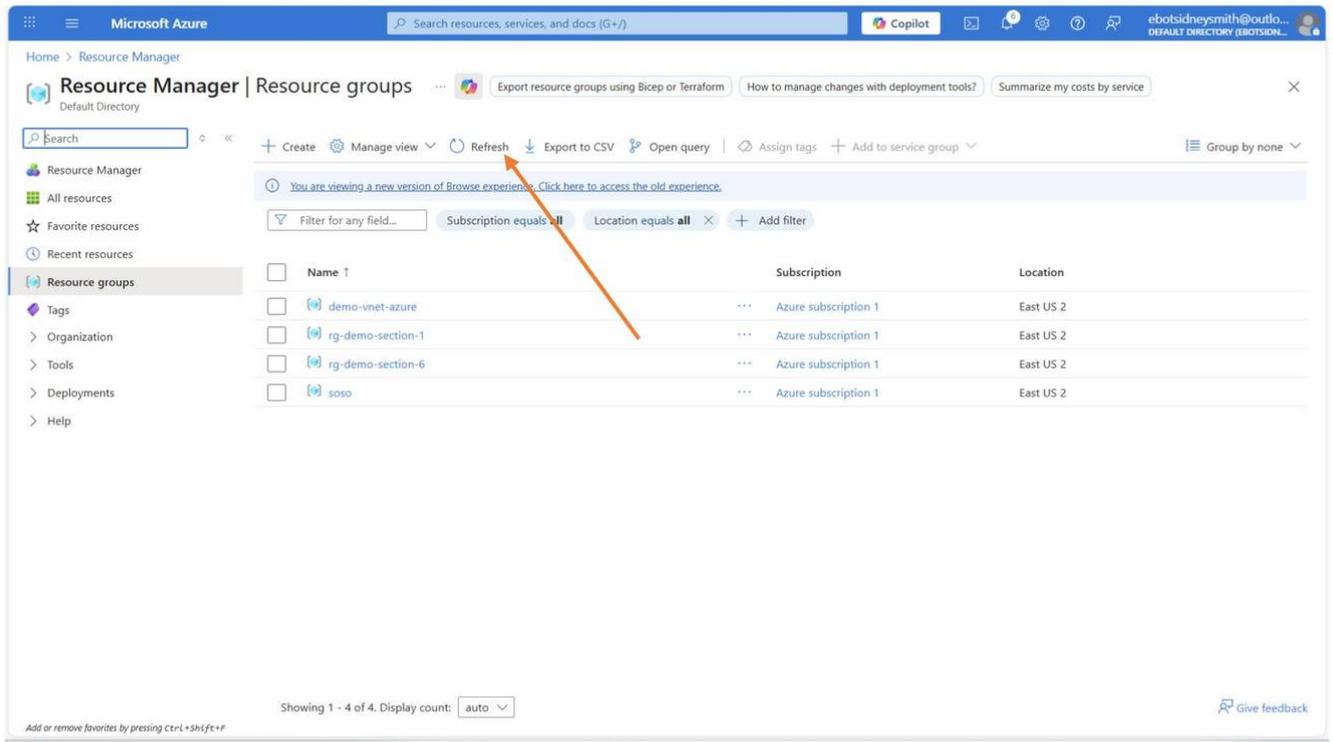
Click on “Next”



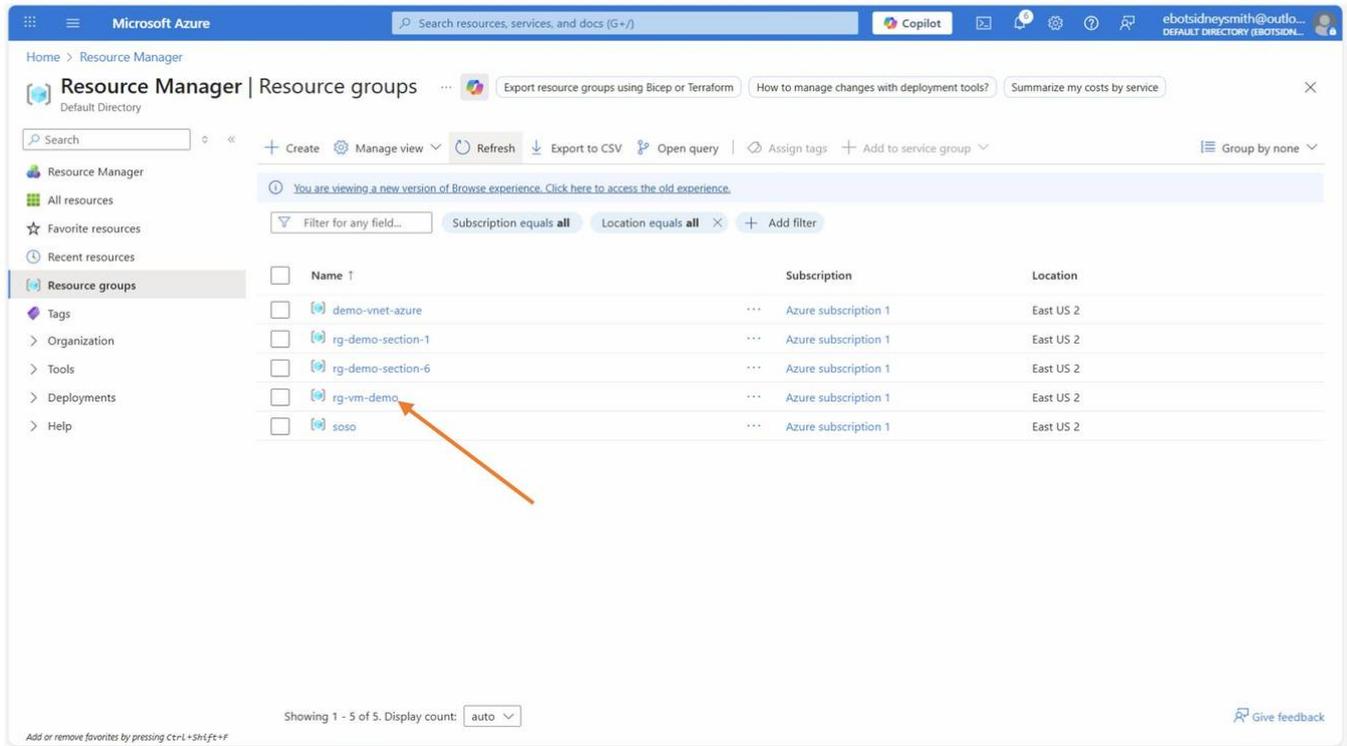
Here is “Tags”, we will just leave it blank for this demo. Click on “Next”



Click on “Create” and this is going to create our resource group.

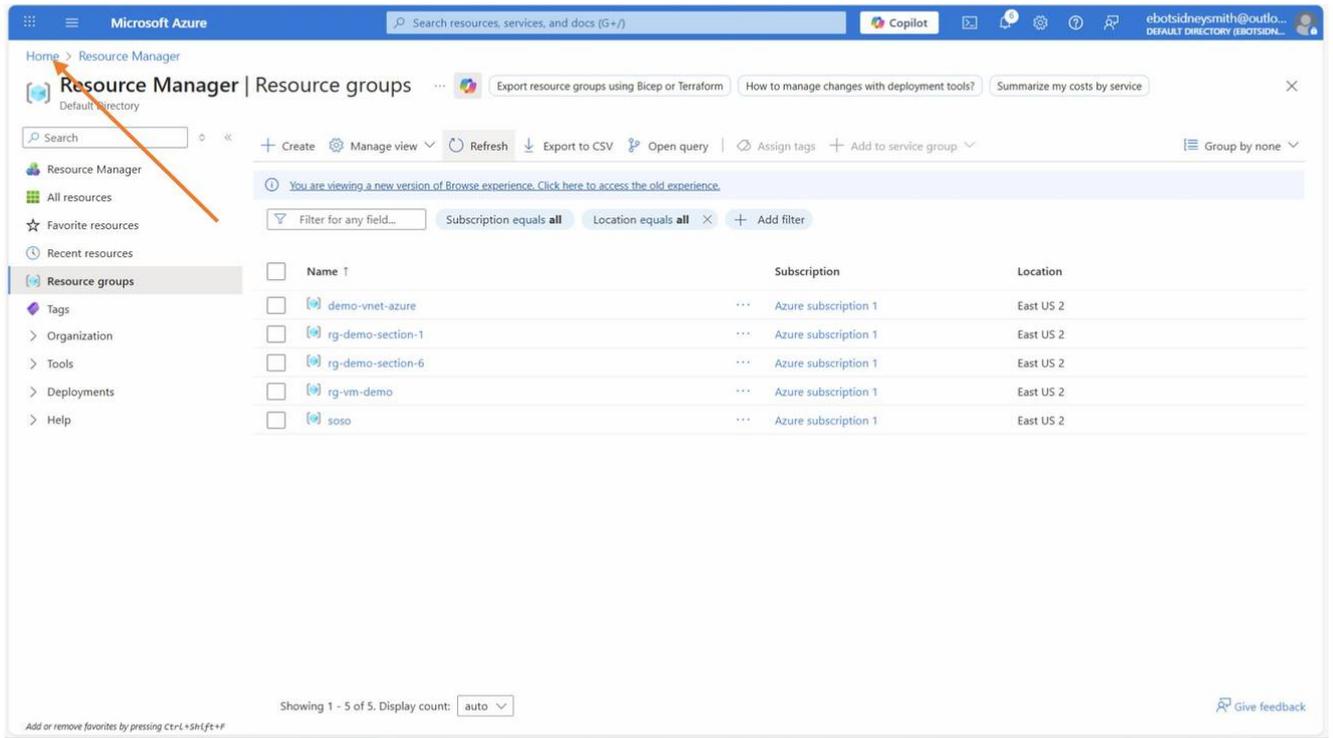


The resource group has been created. Refresh the page by clicking on “Refresh”

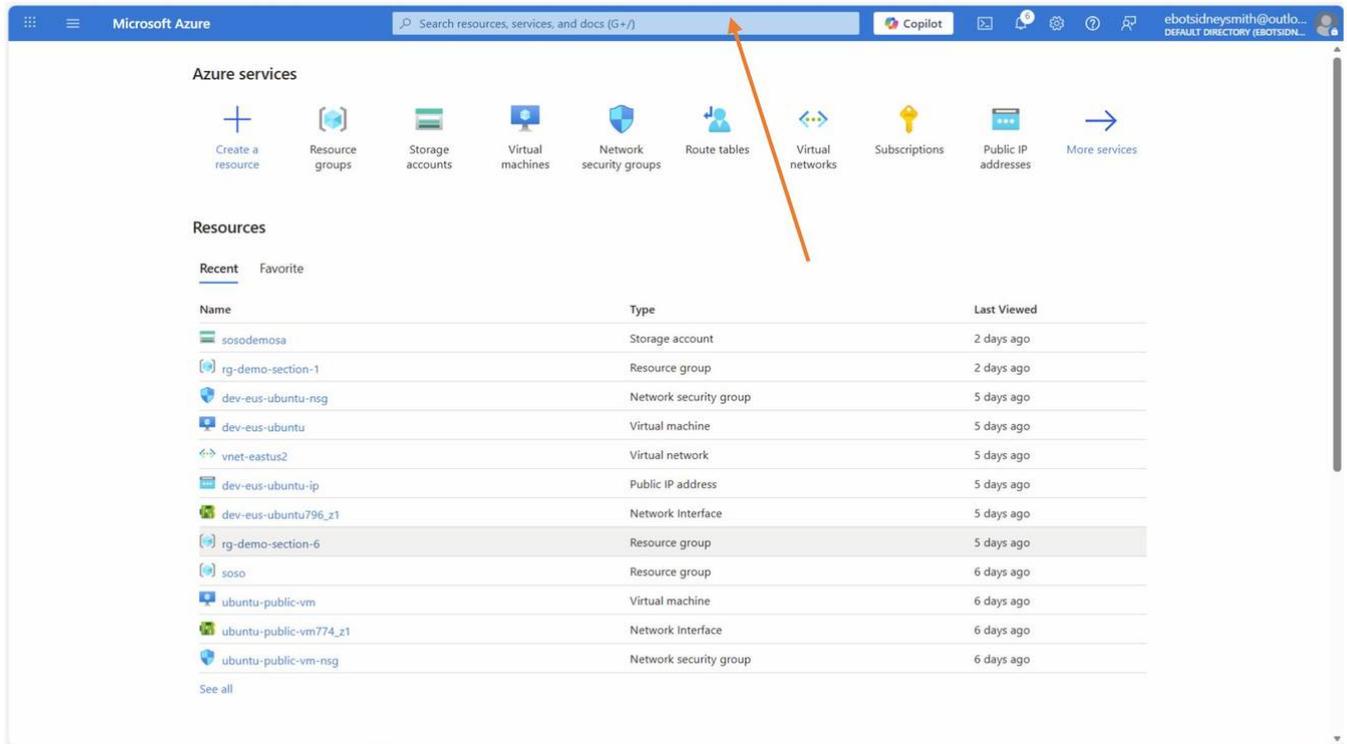


You can see the resource group we just created.

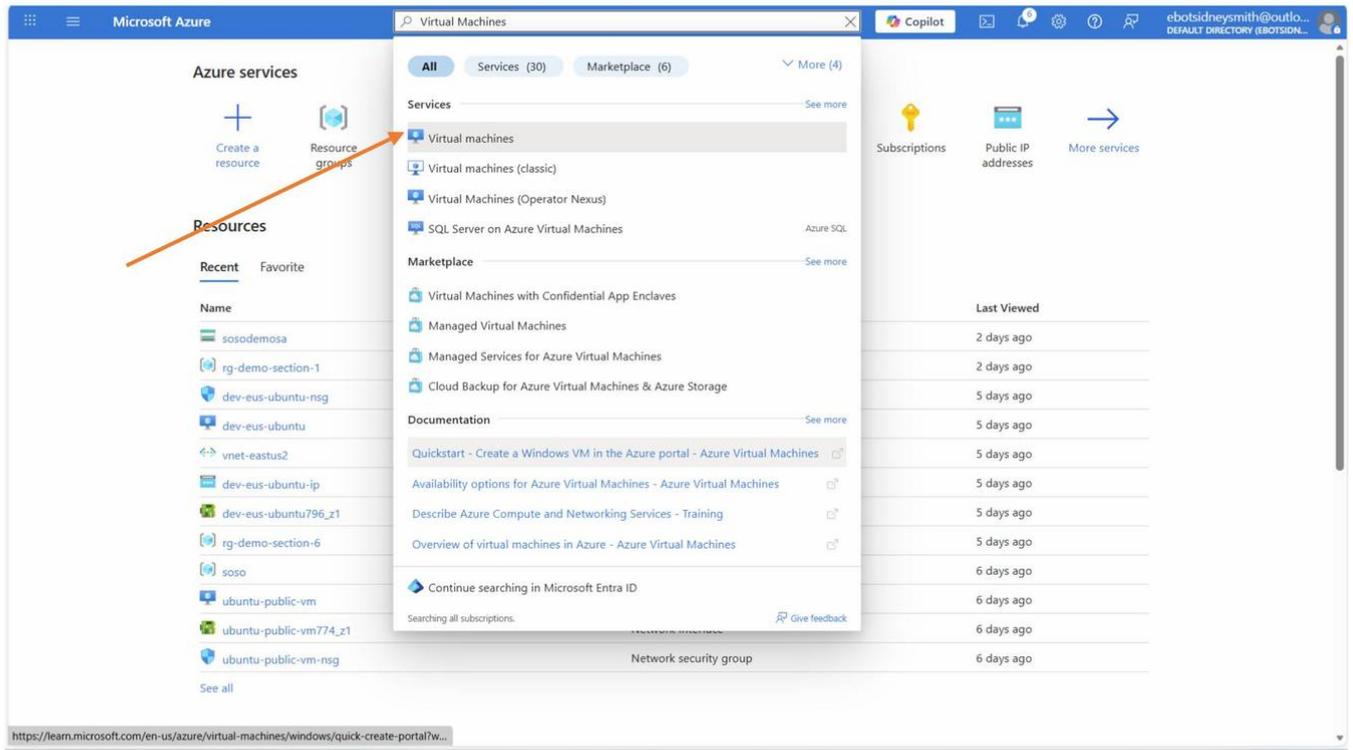
Now, let us continue to create our Virtual machine.



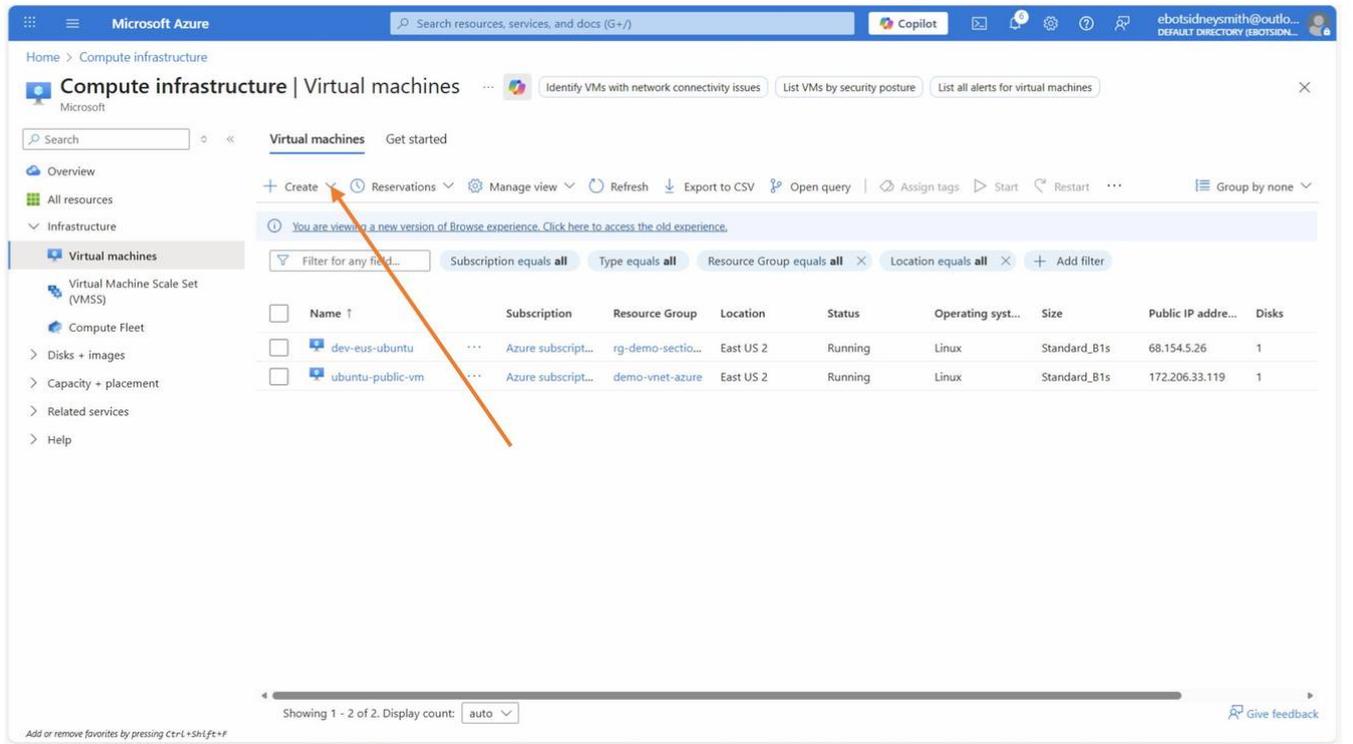
Click on "Home"



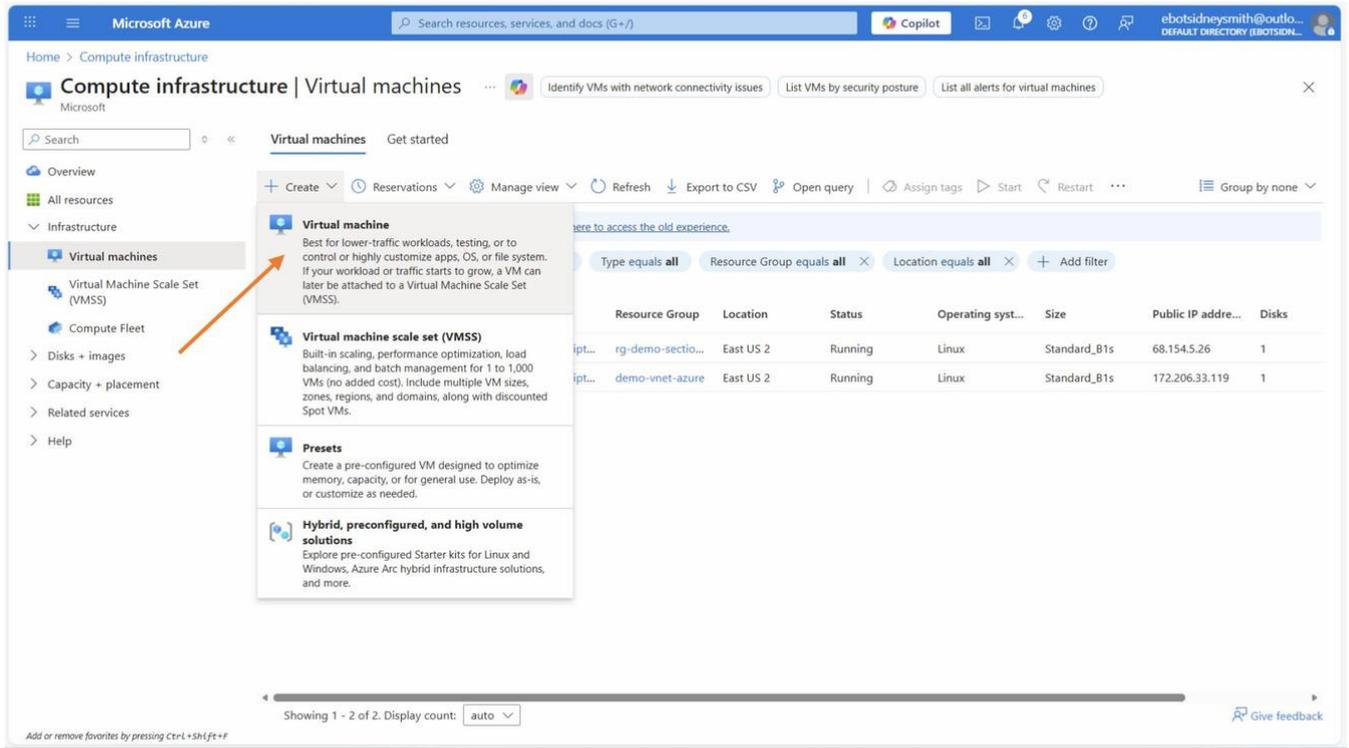
Search for "Virtual Machines"



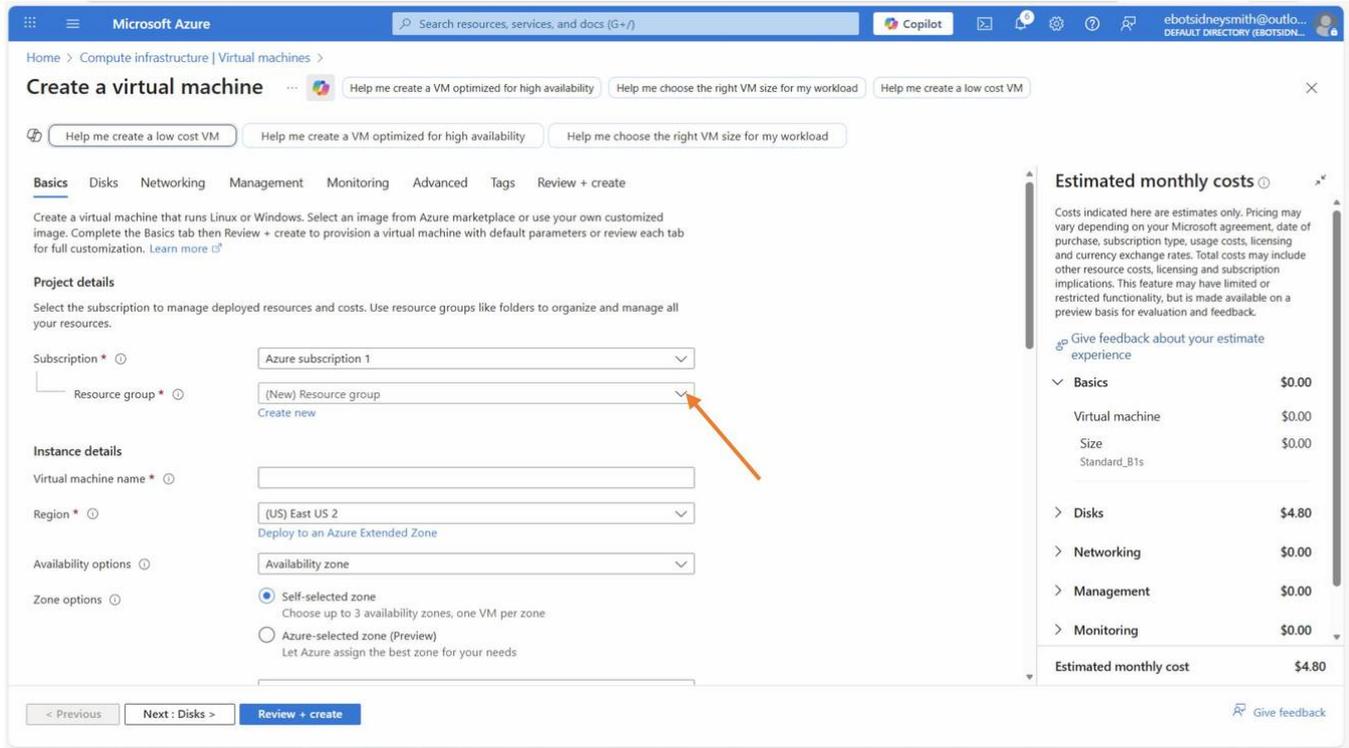
Click on **“Virtual Machines”**



Click on the drop down on **“Create”**



### Select “Virtual Machine”



You can see that our “Subscription” has been selected. Let us select the “Resource Group”. Click on the drop down on “Resource Group”

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The 'Basics' tab is active. Under 'Project details', the 'Resource group' dropdown is open, and 'rg-vm-demo' is selected, indicated by an orange arrow. The 'Instance details' section shows 'Virtual machine name' as 'demo-vm-azure', 'Region' as 'rg-vm-demo', and 'Availability options' as 'soso'. The 'Estimated monthly costs' sidebar on the right lists various components: Basics (\$0.00), Virtual machine (\$0.00), Size (\$0.00), Disks (\$4.80), Networking (\$0.00), Management (\$0.00), and Monitoring (\$0.00), with a total estimated monthly cost of \$4.80.

Select the “Resource Group” we created, that is “rg-vm-demo”

This screenshot shows the same 'Create a virtual machine' wizard. The 'Resource group' dropdown is now set to 'rg-vm-demo'. The 'Virtual machine name' field is empty, and an orange arrow points to it. The 'Region' dropdown is set to '(US) East US 2'. The 'Estimated monthly costs' sidebar remains the same, showing a total of \$4.80.

Here, we will give the “Virtual Machine” a name. In this demo, we are creating a Linux machine. I will call it “linux-vm-demo”.

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The 'Region' dropdown is set to '(US) East US 2' and is highlighted with an orange arrow. The 'Availability options' dropdown is set to 'Availability zone'. The 'Estimated monthly costs' sidebar on the right shows a total of \$4.80.

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Here, on “Region”, we will use “East US 2”. So, we will leave it as it is.

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The 'Availability options' dropdown is set to 'Availability zone' and is highlighted with an orange arrow. The 'Estimated monthly costs' sidebar on the right shows a total of \$4.80.

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Then, on “Availability Option”, we will select “Availability zone”

The screenshot shows the 'Create a virtual machine' wizard in the Azure portal. The 'Instance details' section is filled out with the following values:

- Virtual machine name: linux-vm-demo
- Region: (US) East US 2
- Availability options: Availability zone
- Zone options:  Self-selected zone (Choose up to 3 availability zones, one VM per zone) and  Azure-selected zone (Preview) (Let Azure assign the best zone for your needs)
- Availability zone: Zone 1
- Security type: Trusted launch virtual machines
- Image: Ubuntu Server 24.04 LTS - x64 Gen2
- VM architecture: x64
- Run with Azure Spot discount:

The 'Estimated monthly costs' sidebar on the right shows the following breakdown:

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size (Standard_B1s)	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Then, on the “Zone Options”, select “Self-selected Zone”

This screenshot is similar to the one above, but with an orange arrow pointing to the 'Availability zone' dropdown menu, which is currently set to 'Zone 1'.

For Zone, select “Zone 1”. But if you want to have maximum availability for your machine, you can select more zones.

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

**Instance details**

Virtual machine name \*

Region \*

Availability options

Zone options  Self-selected zone  
Choose up to 3 availability zones, one VM per zone  
 Azure-selected zone (Preview)  
Let Azure assign the best zone for your needs

Availability zone \*

You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

Security type

Image \*

VM architecture  Arm64  x64

Run with Azure Spot discount

< Previous | Next : Disks > | Review + create

**Estimated monthly costs**

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Give feedback

For “Security Type”, select “Trusted Launch virtual Machines”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Security type

Image \*

VM architecture  Arm64  x64

Run with Azure Spot discount

Size \*

Enable Hibernation

SSH public key  
 Password

Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

Username \*

< Previous | Next : Disks > | Review + create

**Estimated monthly costs**

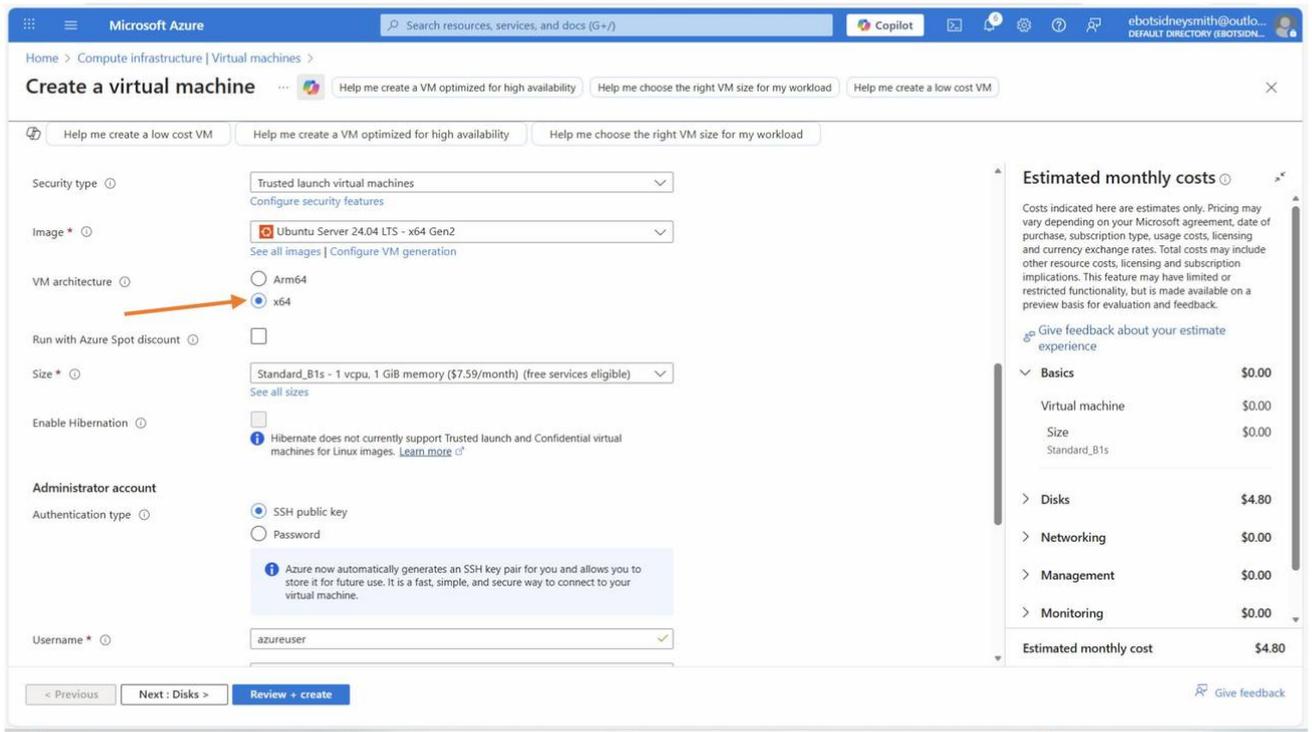
Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

Give feedback about your estimate experience

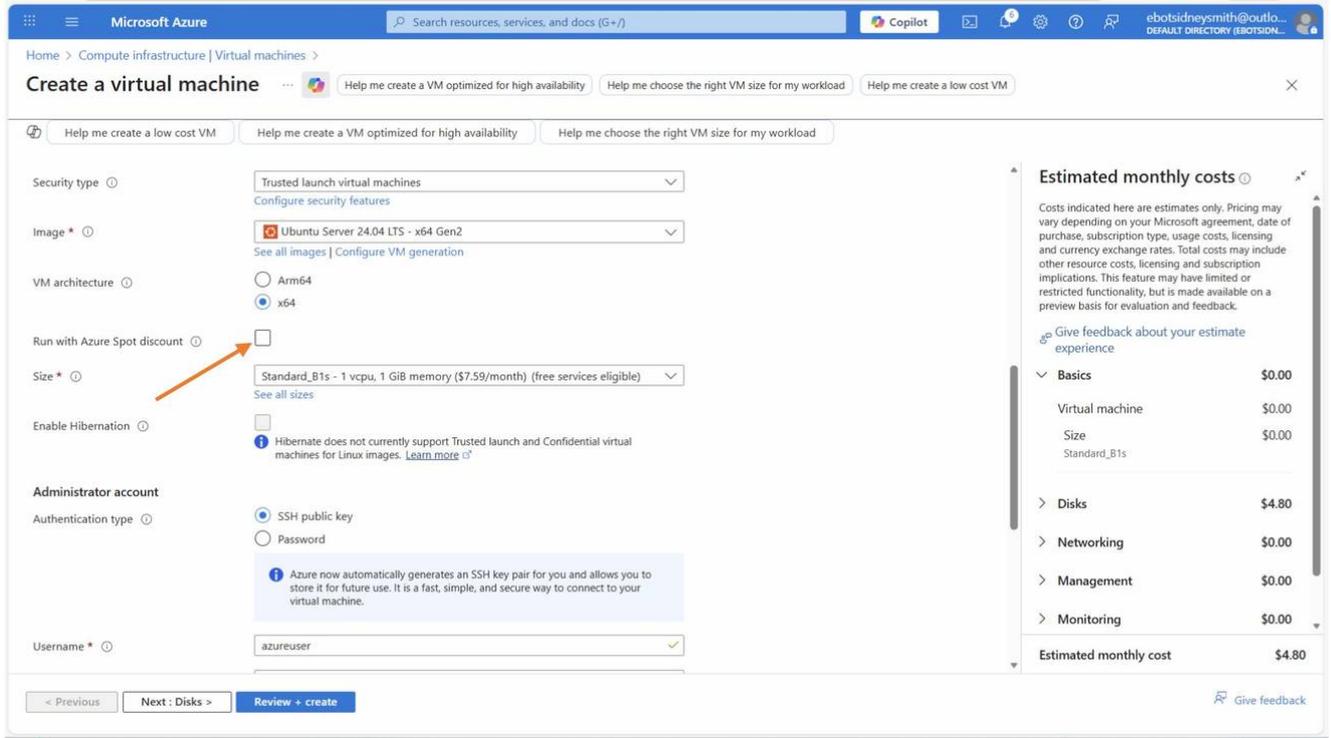
Basics	\$0.00
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Give feedback

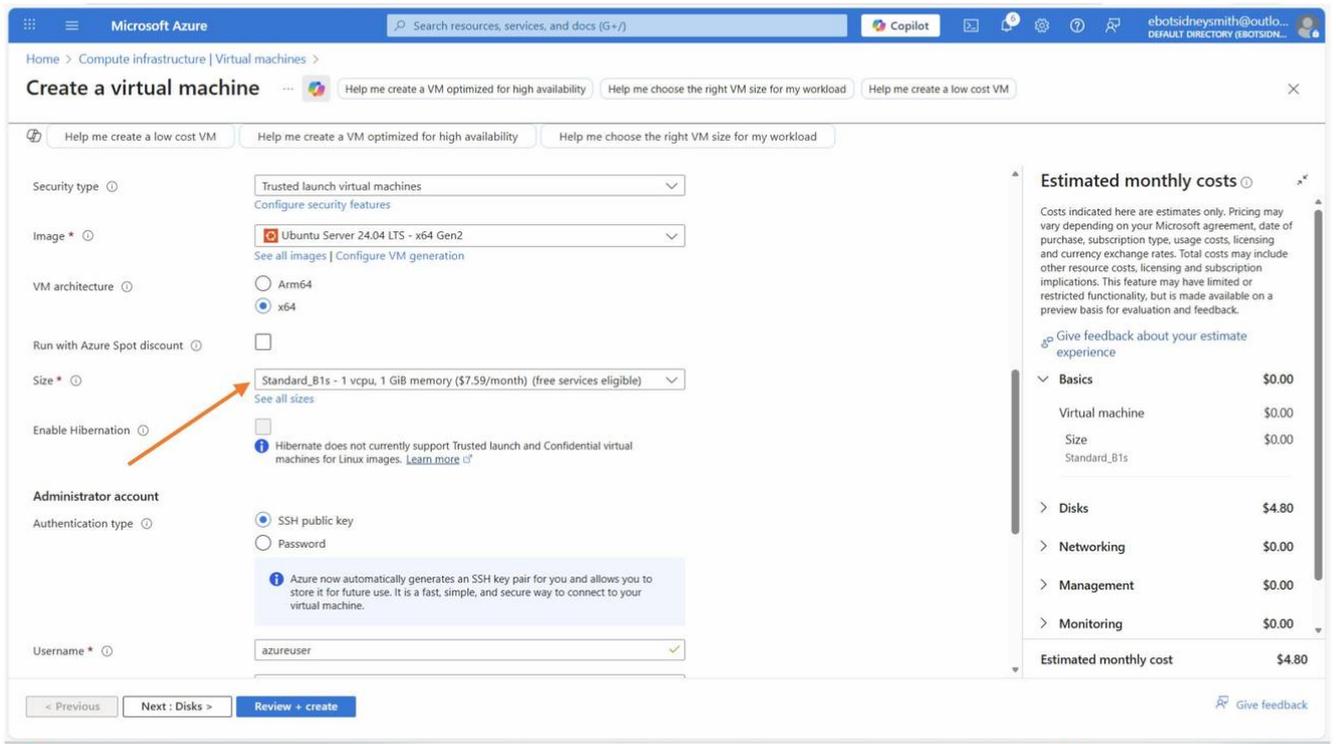
For the “Image”, you can select any of the Linux flavour. We will select “Ubuntu Server”.



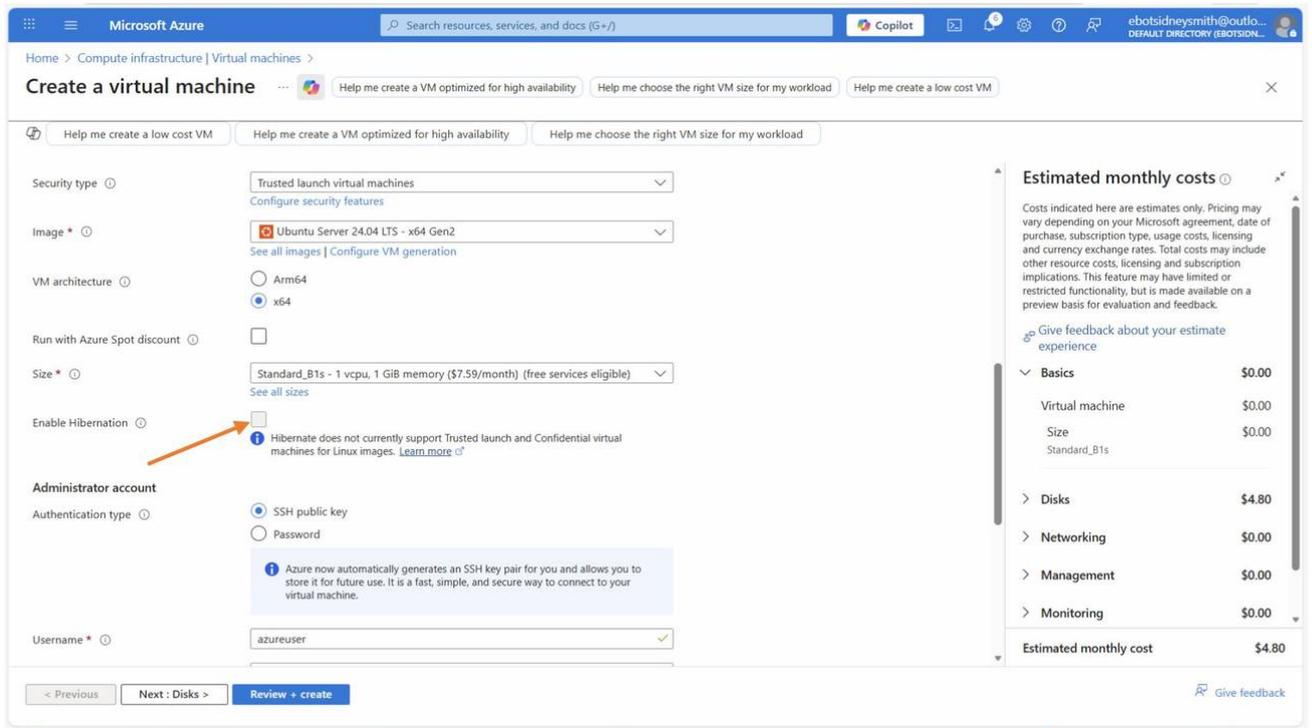
On "VM Architecture", select "x64"



Here on "Run with Azure Spot Discount", leave the box "Unchecked"



For "Size", select "Standard\_B1s-1 vcpu ....." to keep the cost low.



On "Enable Hibernation", leave the box "Unchecked"

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The configuration is as follows:

- Security type: Trusted launch virtual machines
- Image: Ubuntu Server 24.04 LTS - x64 Gen2
- VM architecture: x64
- Run with Azure Spot discount:
- Size: Standard\_B1s - 1 vcpu, 1 GiB memory (\$7.59/month) (free services eligible)
- Enable Hibernation:
- Administrator account authentication type:  SSH public key,  Password
- Username: azureuser

The 'Estimated monthly costs' sidebar on the right lists the following items:

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

The next thing is how we are going to access our application or virtual machine. There two ways you can access the virtual machine. There is a username and password. And the other one is “SSH Public Key”. Username and password is quite simple, but it is recommended to always use “SSH Public Key” which is assumed to be the most secured ways of securing the login to your virtual machine. Select the “SSH Public Key”.

This screenshot is identical to the one above, showing the same configuration for creating a virtual machine. The 'Authentication type' is 'SSH public key' and the 'Username' is 'azureuser'. The 'Estimated monthly costs' sidebar shows a total of \$4.80.

## Then on “Username”, leave it as “azureuser”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

Username \*

SSH public key source

SSH Key Type  RSA SSH Format  Ed25519 SSH Format

Ed25519 provides a fixed security level of no more than 128 bits for 256-bit key, while RSA could offer better security with keys longer than 3072 bits.

Key pair name \*

#### Inbound port rules

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

Public inbound ports \*  None  Allow selected ports

Select inbound ports \*

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

< Previous | Next: Disks > | Review + create

#### Estimated monthly costs

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Give feedback

## Then, on “SSH Public Key Source”, select “Generate new key pair”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

Username \*

SSH public key source

SSH Key Type  RSA SSH Format  Ed25519 SSH Format

Ed25519 provides a fixed security level of no more than 128 bits for 256-bit key, while RSA could offer better security with keys longer than 3072 bits.

Key pair name \*

#### Inbound port rules

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

Public inbound ports \*  None  Allow selected ports

Select inbound ports \*

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

< Previous | Next: Disks > | Review + create

#### Estimated monthly costs

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Give feedback

## Then on “SSH Key Type”, select “RSA SSH Format”

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The 'Key pair name' field is highlighted with an orange arrow pointing to the value 'linux-vm-demo\_key'. The 'Public inbound ports' section is set to 'Allow selected ports' with 'SSH (22)' selected. The 'Estimated monthly costs' sidebar on the right shows a total cost of \$4.80.

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

For the “**Key Pair Name**”, we will just leave it as “**linux-vm-demo-key**”. This key will be downloaded once the virtual machine is provisioned. The key will contain the public and private key.

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The 'Public inbound ports' section is highlighted with an orange arrow pointing to the 'Allow selected ports' radio button. The 'Key pair name' field is set to 'linux-vm-demo\_key'. The 'Estimated monthly costs' sidebar on the right shows a total cost of \$4.80.

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

On “**Public Inbound ports**”, we will select “**Allow selected ports**”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

Username \*

SSH public key source

SSH Key Type

RSA SSH Format

Ed25519 SSH Format

Ed25519 provides a fixed security level of no more than 128 bits for 256-bit key, while RSA could offer better security with keys longer than 3072 bits.

Key pair name \*

#### Inbound port rules

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

Public inbound ports \*  None  Allow selected ports

Select inbound ports \*

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

< Previous | Next : Disks > | Review + create

#### Estimated monthly costs

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
> Disks	\$4.80
> Networking	\$0.00
> Management	\$0.00
> Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Give feedback

Then, the next thing is **“Select Inbound ports”**. You need to understand some concepts here.



Here is a basic flow of how you can access a virtual machine. If a user wants to access the Linux virtual machine, then there should be a port which needs to be opened, and that port for Linux machines is 22. So, port 22 needed to be enabled and open for that virtual machine otherwise that user will not be able to access or login into the virtual machine using the public IP. We are going to learn about Public IP later.

So, **“Select Inbound ports”**, we will select **“SSH (22)”**

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

Username \*

SSH public key source

SSH Key Type  RSA SSH Format  Ed25519 SSH Format

Ed25519 provides a fixed security level of no more than 128 bits for 256-bit key, while RSA could offer better security with keys longer than 3072 bits.

Key pair name \*

**Inbound port rules**

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

Public inbound ports \*  None  Allow selected ports

Select inbound ports \*

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

< Previous | **Next: Disks >** | Review + create

Give feedback

#### Estimated monthly costs

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Then click on “Next: Disks”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Basics | **Disks** | Networking | Management | Monitoring | Advanced | Tags | Review + create

Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks. The size of the VM determines the type of storage you can use and the number of data disks allowed. [Learn more](#)

**VM disk encryption**

Azure disk storage encryption automatically encrypts your data stored on Azure managed disks (OS and data disks) at rest by default when persisting it to the cloud.

Encryption at host

Encryption at host is not registered for the selected subscription. [Learn more](#)

**OS disk**

OS disk size

OS disk type \*

Delete with VM

Key management

Enable Ultra Disk compatibility

**Data disks for linux-vm-demo**

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

Linux	Name	Size (GiB)	Disk type	Host caching	Delete with VM
-------	------	------------	-----------	--------------	----------------

< Previous | **Next: Networking >** | Review + create

Give feedback

#### Estimated monthly costs

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Here we are going to use the default values. We will leave every thing as default and click on “Next: Networking”.

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, specifically the 'Networking' tab. The page is titled 'Create a virtual machine' and has a search bar at the top. Below the title, there are three help buttons: 'Help me create a VM optimized for high availability', 'Help me choose the right VM size for my workload', and 'Help me create a low cost VM'. The 'Networking' tab is selected, and the page content includes a description of network connectivity, a 'Network interface' section, and a 'Management' section. The 'Network interface' section has several dropdown menus for 'Virtual network', 'Subnet', and 'Public IP', and radio buttons for 'NIC network security group' and 'Public inbound ports'. The 'Management' section has a checkbox for 'Enable auto-shutdown'. An orange arrow points to the 'Next: Management >' button. On the right side, there is a 'Estimated monthly costs' panel with a table of costs.

Category	Cost
Basics	\$0.00
Disks	\$4.80
Networking	\$3.65
Public IP	\$3.65
VM outbound data transfer	\$0.00
Estimated data transferred (GB)	\$0.00
100	
<b>Estimated monthly cost</b>	<b>\$8.45</b>

Here we will keep all the default selections and click on “Next: Management”

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, specifically the 'Management' tab. The page is titled 'Create a virtual machine' and has a search bar at the top. Below the title, there are three help buttons: 'Help me create a VM optimized for high availability', 'Help me choose the right VM size for my workload', and 'Help me create a low cost VM'. The 'Management' tab is selected, and the page content includes a description of management options, a 'Microsoft Defender for Cloud' section, an 'Identity' section, a 'Microsoft Entra ID' section, and an 'Auto-shutdown' section. The 'Auto-shutdown' section has a checkbox for 'Enable auto-shutdown'. An orange arrow points to the 'Next: Monitoring >' button. On the right side, there is a 'Estimated monthly costs' panel with a table of costs.

Category	Cost
Basics	\$0.00
Disks	\$4.80
Networking	\$3.65
Management	\$0.00
No items added	
Monitoring	\$0.00
Advanced	\$0.00
<b>Estimated monthly cost</b>	<b>\$8.45</b>

Here we will leave everything as default and click on “Next: Monitoring”

The screenshot shows the 'Monitoring' step of the 'Create a virtual machine' wizard. The 'Monitoring' tab is selected in the top navigation bar. The main content area contains sections for Alerts, Diagnostics, and Health, each with a checkbox to enable or disable features. An orange arrow points to the 'Next: Advanced >' button at the bottom left. On the right side, there is a sidebar titled 'Estimated monthly costs' which lists various categories and their associated costs, totaling \$8.45.

Category	Cost
Basics	\$0.00
Disks	\$4.80
Networking	\$3.65
Management	\$0.00
Monitoring	\$0.00
Managed storage account for boot diagnostics	See pricing
<b>Estimated monthly cost</b>	<b>\$8.45</b>

Here, we are also going to leave everything as default. Click on “Next: Advanced”

The screenshot shows the 'Advanced' step of the 'Create a virtual machine' wizard. The 'Advanced' tab is selected in the top navigation bar. The main content area contains sections for Extensions, VM applications, and Custom data and cloud init. An orange arrow points to the 'Next: Tags >' button at the bottom left. On the right side, there is a sidebar titled 'Estimated monthly costs' which lists various categories and their associated costs, totaling \$8.45.

Category	Cost
Basics	\$0.00
Disks	\$4.80
Networking	\$3.65
Management	\$0.00
Monitoring	\$0.00
Advanced	\$0.00
<b>Estimated monthly cost</b>	<b>\$8.45</b>

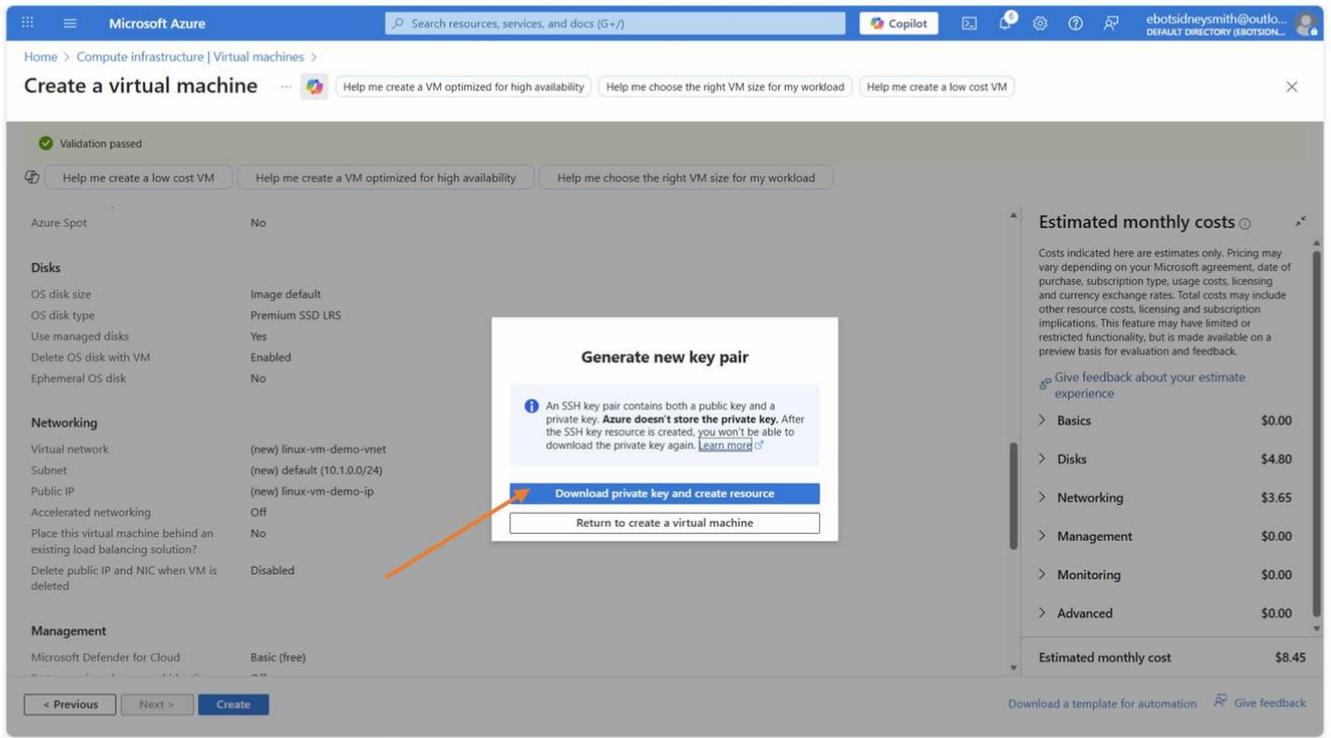
Here, we will leave everything as default and click on “Next: Tags”

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, specifically the 'Tags' tab. The page title is 'Create a virtual machine' and the breadcrumb is 'Home > Compute infrastructure | Virtual machines >'. There are three help prompts at the top: 'Help me create a VM optimized for high availability', 'Help me choose the right VM size for my workload', and 'Help me create a low cost VM'. Below these are three tabs: 'Help me create a low cost VM', 'Help me create a VM optimized for high availability', and 'Help me choose the right VM size for my workload'. The 'Tags' tab is active, showing a table with columns 'Name', 'Value', and 'Resource'. The 'Resource' column shows '13 selected'. Below the table are navigation buttons: '< Previous', 'Next: Review + create >', and 'Review + create'. An orange arrow points to the 'Next: Review + create >' button. On the right side, there is a section titled 'Estimated monthly costs' with a list of categories and their costs: Basics (\$0.00), Disks (\$4.80), Networking (\$3.65), Management (\$0.00), Monitoring (\$0.00), and Advanced (\$0.00). The total estimated monthly cost is \$8.45. At the bottom, there is a URL: 'https://go.microsoft.com/fwlink/?linkid=873112'.

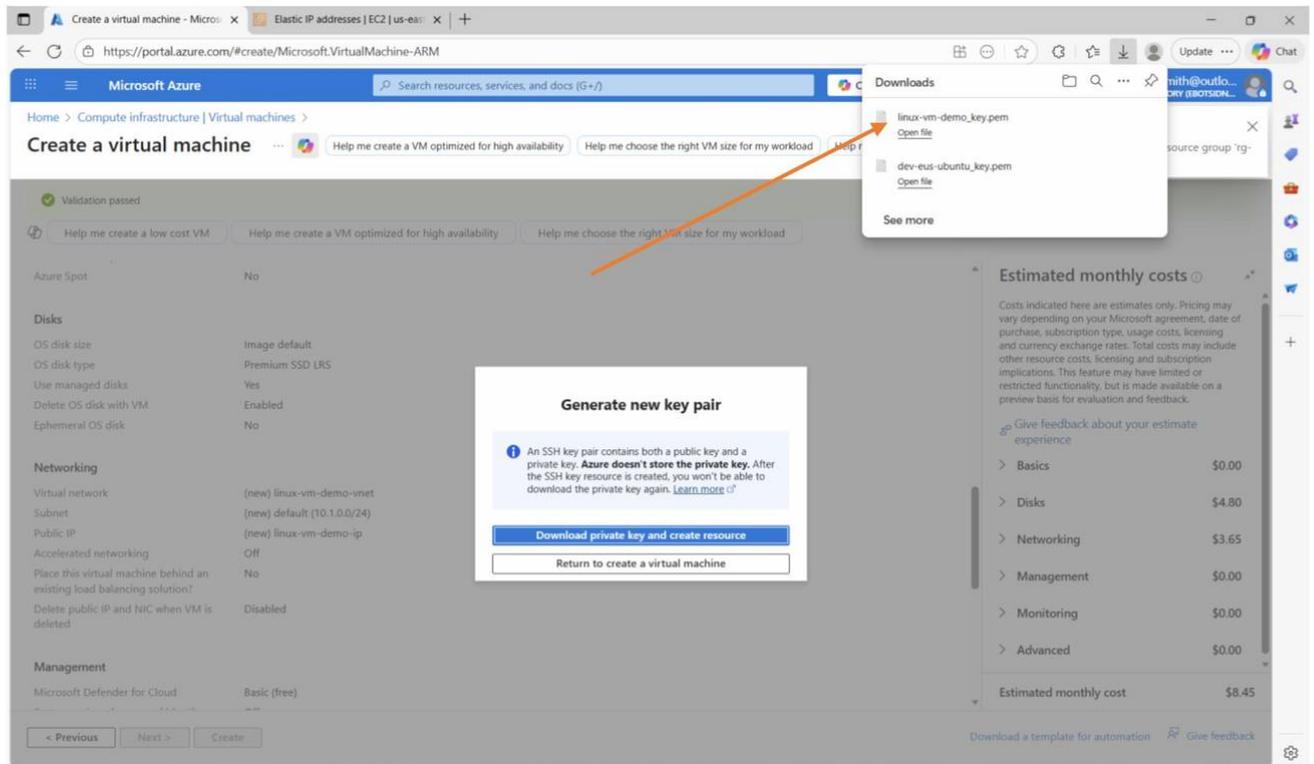
We are not going to add any “Tags”, we will leave it as default. Click on “Next: Review + Create”

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, specifically the 'Review + create' tab. The page title is 'Create a virtual machine' and the breadcrumb is 'Home > Compute infrastructure | Virtual machines >'. There is a green banner at the top that says 'Validation passed'. Below this are three help prompts: 'Help me create a low cost VM', 'Help me create a VM optimized for high availability', and 'Help me choose the right VM size for my workload'. The 'Review + create' tab is active. The 'Price' section shows '1 X Standard B1s by Microsoft' with a price of '0.0104 USD/hr'. The 'TERMS' section contains a paragraph of legal text and three input fields: 'Name' (Sidney Ebot), 'Preferred e-mail address' (ebotsidneysmith@outlook.com), and 'Preferred phone number'. Below the terms is a warning: 'You have set SSH port(s) open to the internet. This is only recommended for testing. If you want to change this setting, go'. At the bottom, there are navigation buttons: '< Previous', 'Next >', and 'Create'. On the right side, there is a section titled 'Estimated monthly costs' with a list of categories and their costs: Basics (\$0.00), Disks (\$4.80), Networking (\$3.65), Management (\$0.00), Monitoring (\$0.00), and Advanced (\$0.00). The total estimated monthly cost is \$8.45. At the bottom right, there is a link 'Download a template for automation' and a 'Give feedback' button.

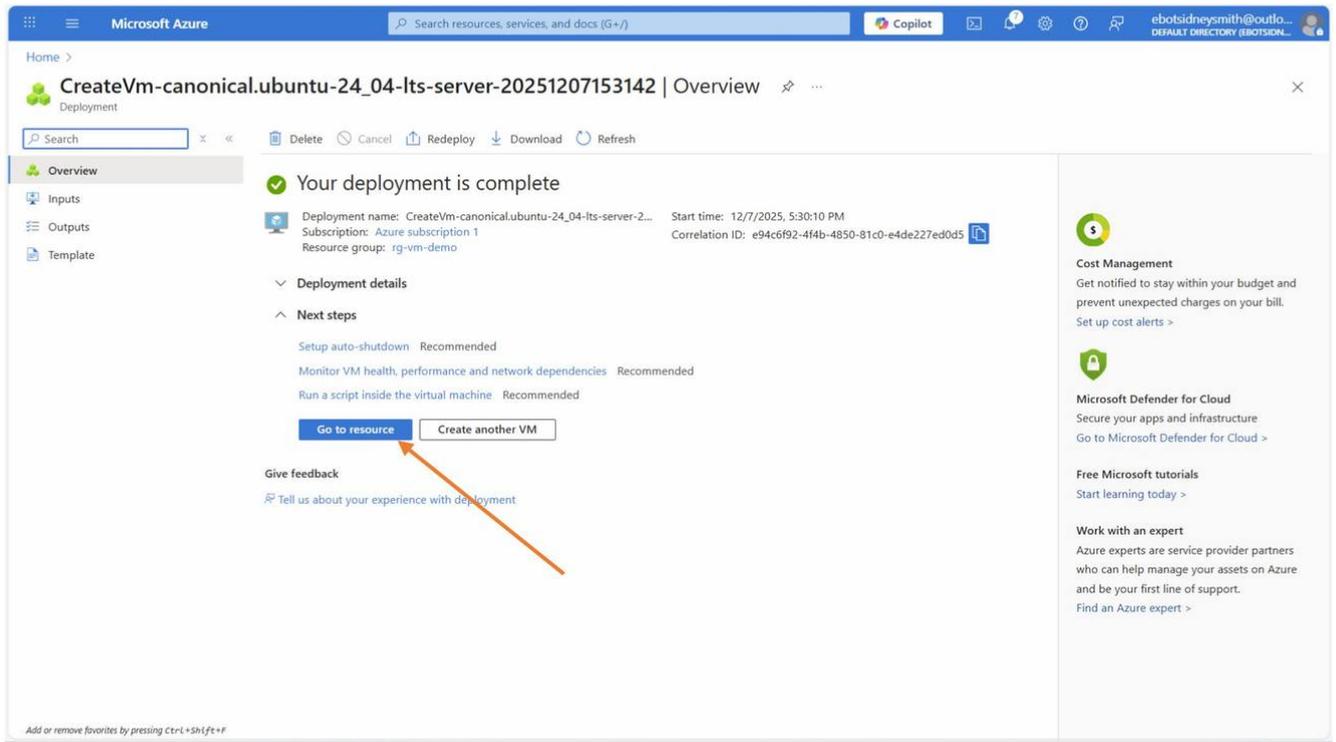
Review and click on “Create”



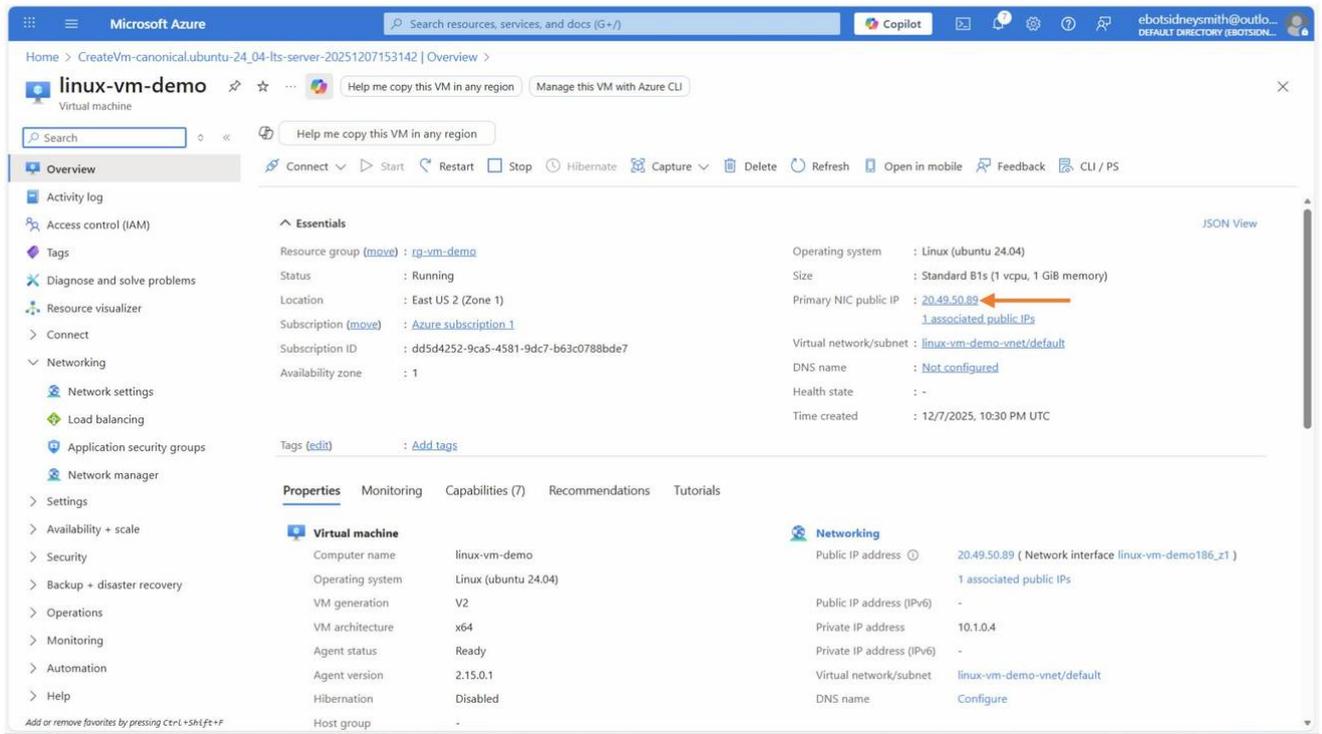
Then, click on "Download private key and create resource"



You can see that the key pair has been downloaded.

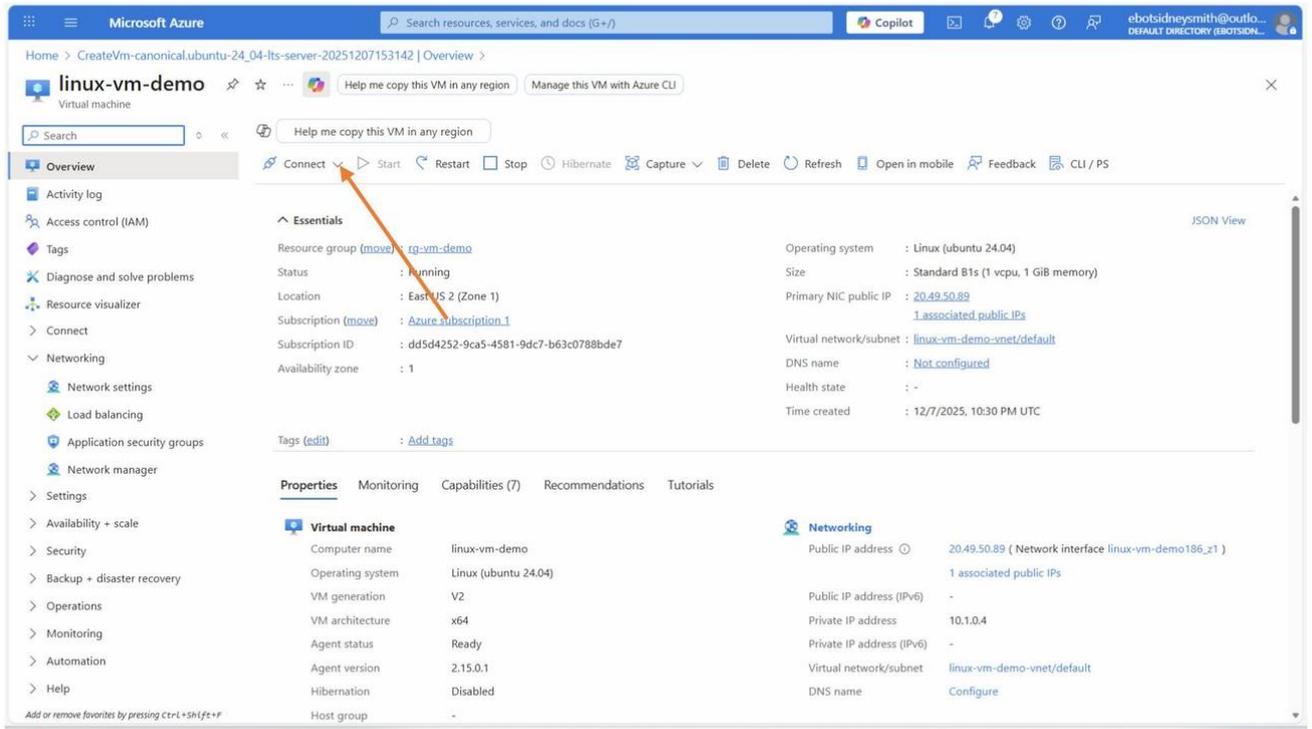


The deployment is complete. Click on “Go to resource”

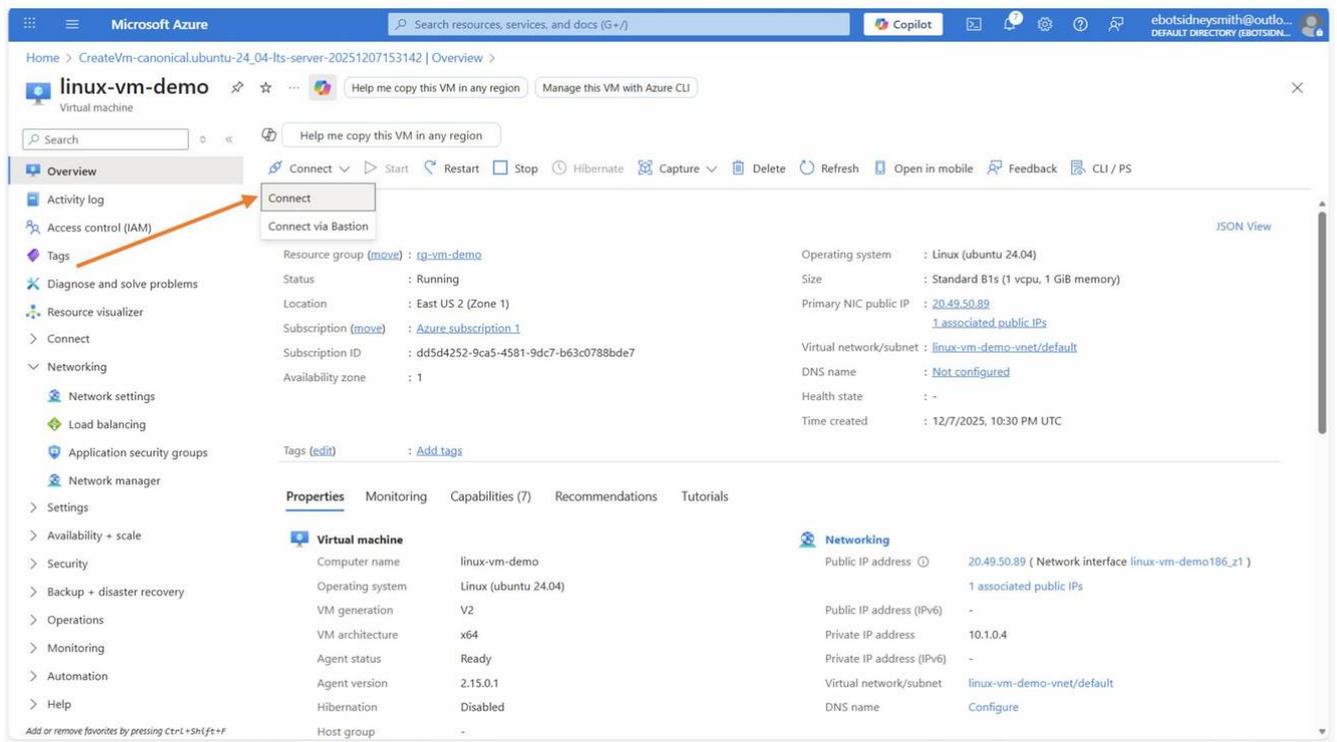


This is our virtual machine. You can see the Public IP. We will use this public IP to access our virtual machine.

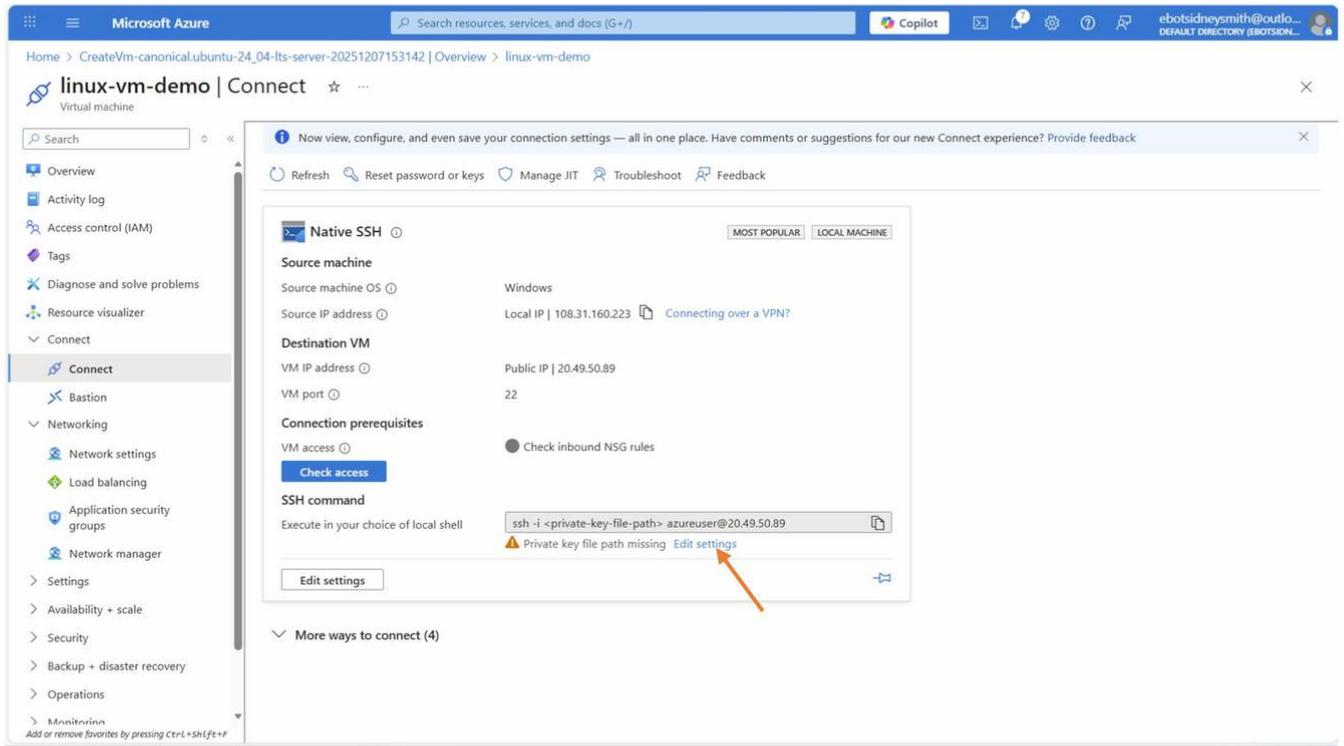
## SSH into the Virtual Machine



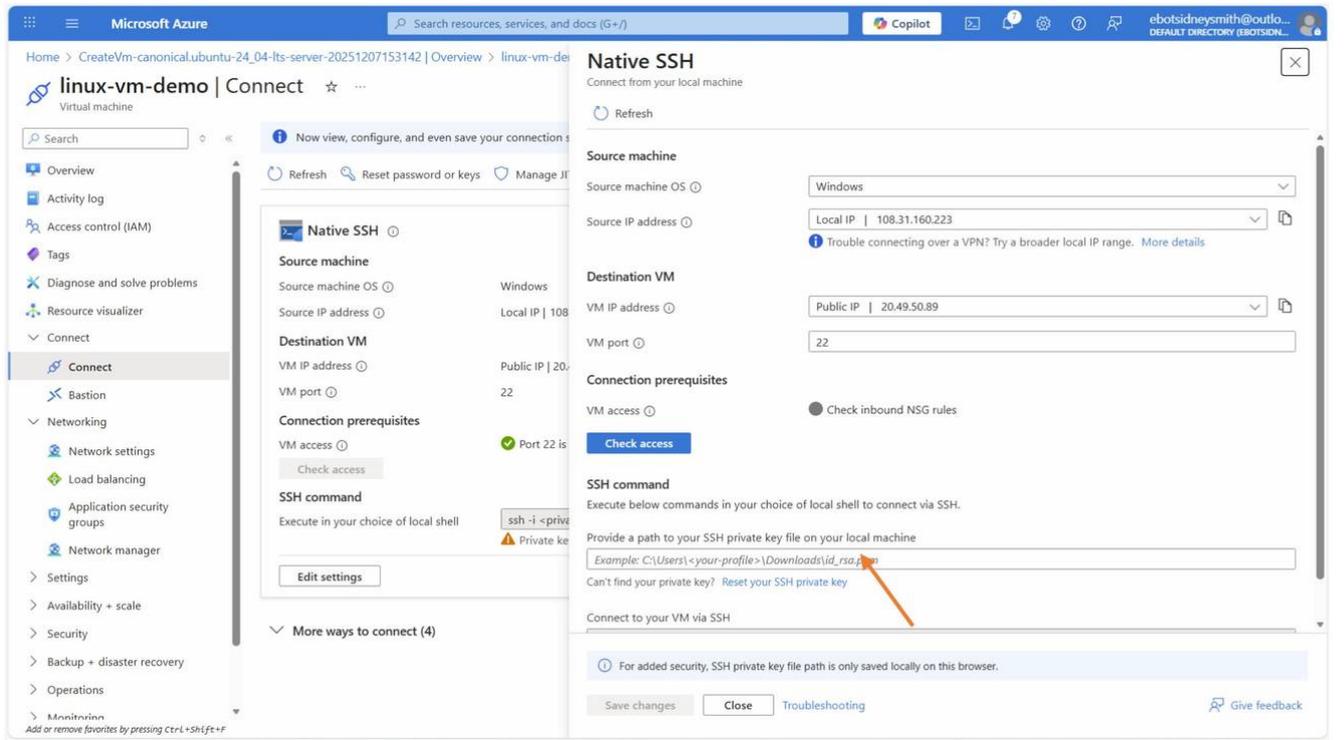
To connect to this virtual machine, click on the drop down on “Connect”



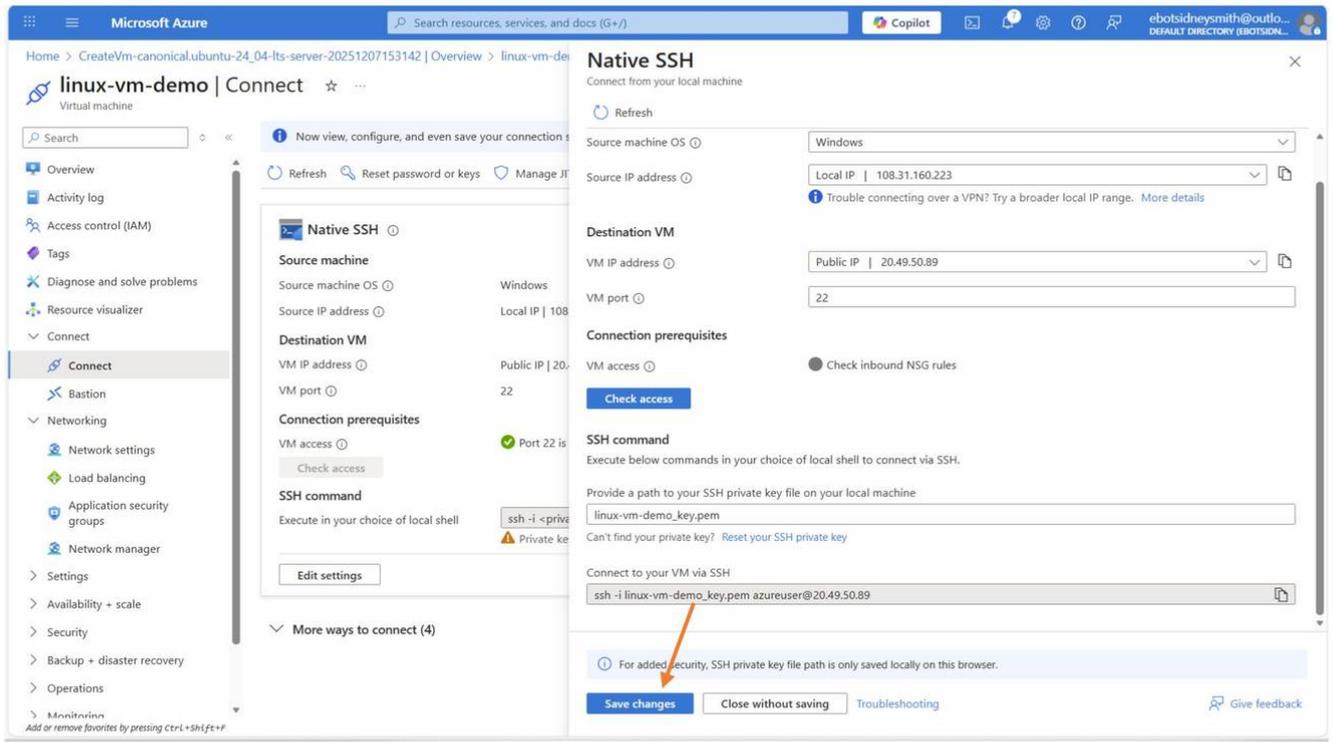
Select “Connect”



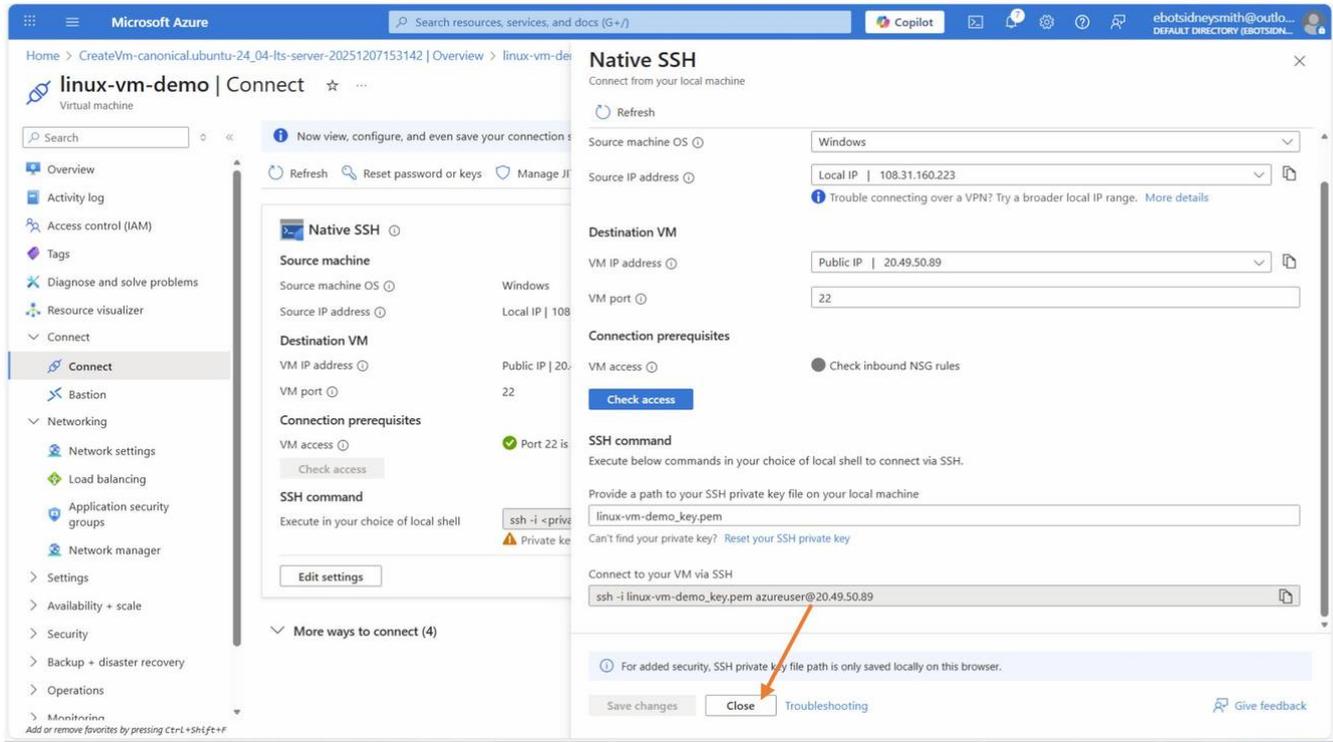
There are different methods to connect, but we will use the “Native SSH”. Click on “Edit Settings”



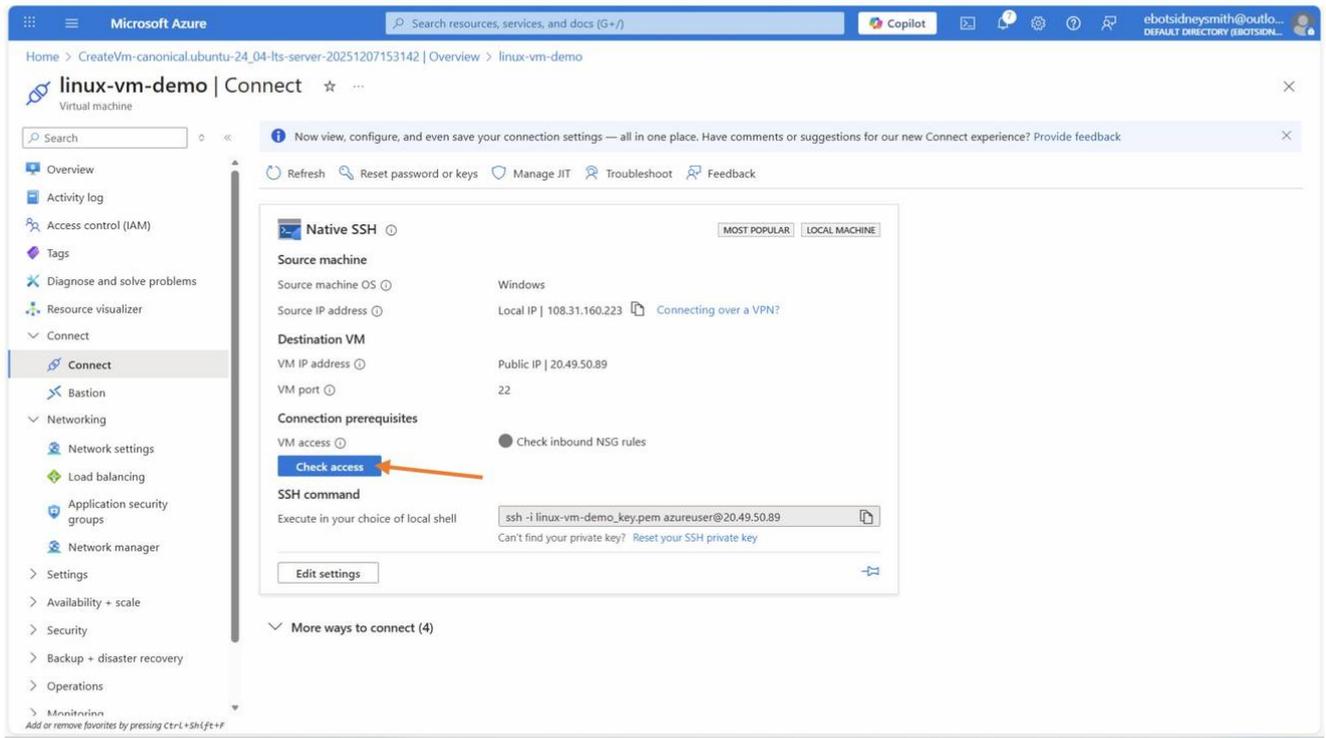
Enter the name of the key pair, that is “linux-vm-demo\_key.pem”



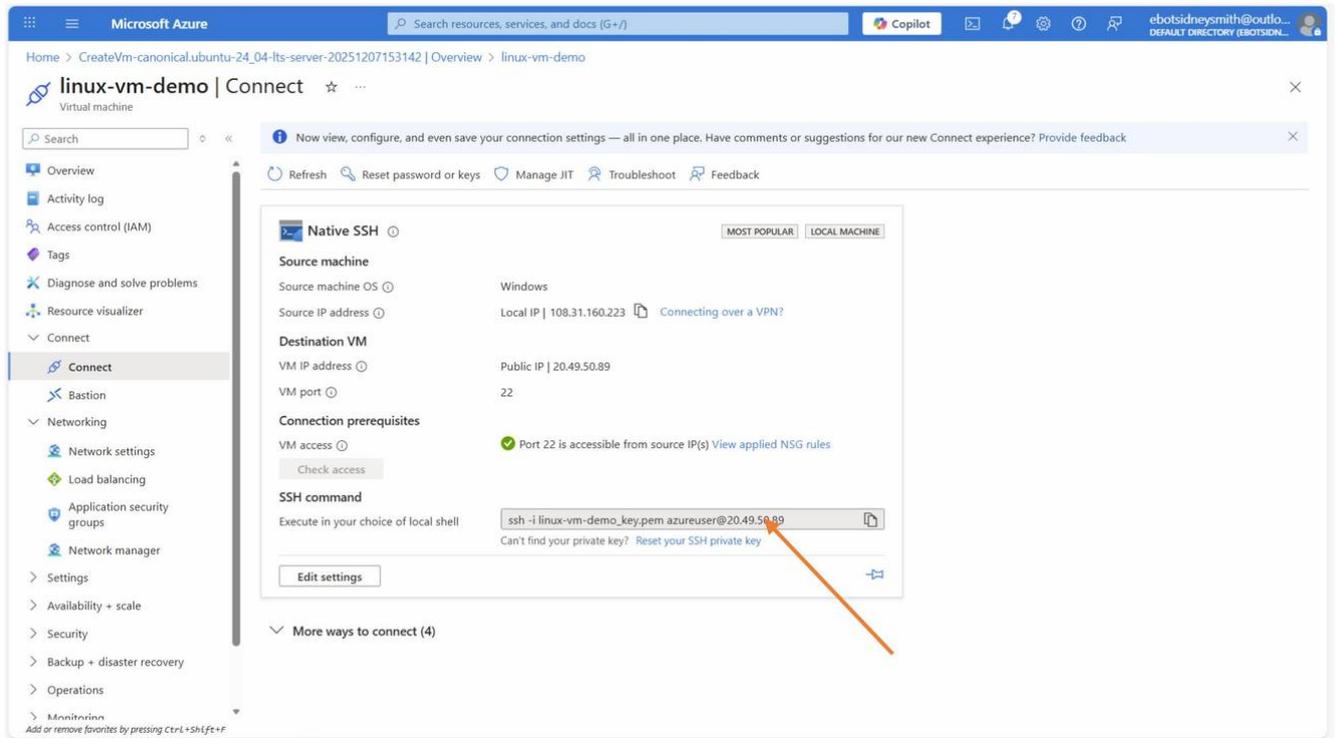
Click on "Save Changes"



Click on "Close"



Click on "Check Access"



Copy this command:

```
ssh -i linux-vm-demo_key.pem azureuser@20.49.50.89
```

Open Command prompt terminal

```
Command Prompt
Microsoft Windows [Version 10.0.26200.7309]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ebots>
```

Navigate to where the key pair file is saved. It is saved in this path "C:\Users\ebots\Downloads\demo". So, run the command:

```
cd Downloads\demo
```

```
Command Prompt
Microsoft Windows [Version 10.0.26200.7309]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ebots>cd Downloads\demo

C:\Users\ebots\Downloads\demo>
```

Let us check the content of the folder by using the command:

```
ls
```

```
Command Prompt
Microsoft Windows [Version 10.0.26200.7309]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ebots>cd Downloads\demo

C:\Users\ebots\Downloads\demo>ls
linux-vm-demo_key.pem

C:\Users\ebots\Downloads\demo>
```

You can see that the key pair file is present, this is the private key. The next thing is to check the permission of our key pair. We will do this using the command"

```
ls -lart
```

```
Command Prompt
Microsoft Windows [Version 10.0.26200.7309]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ebots>cd Downloads\demo

C:\Users\ebots\Downloads\demo>ls
linux-vm-demo_key.pem

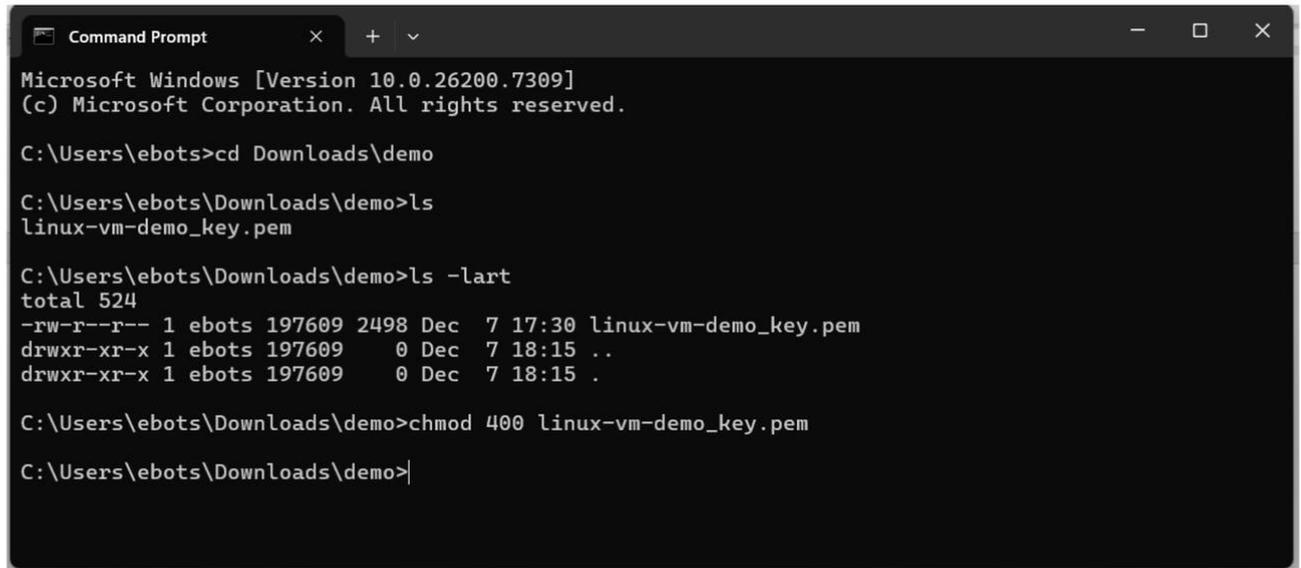
C:\Users\ebots\Downloads\demo>ls -lart
total 524
-rw-r--r-- 1 ebots 197609 2498 Dec 7 17:30 linux-vm-demo_key.pem
drwxr-xr-x 1 ebots 197609 0 Dec 7 18:15 ..
drwxr-xr-x 1 ebots 197609 0 Dec 7 18:15 .

C:\Users\ebots\Downloads\demo>
```

Prepared by Sidney Smith Ebot

You can see that the private key has both read and write permission. But the private key needs to have just the read permission. So, we change the permission by running the command:

```
chmod 400 linux-vm-demo_key.pem
```



```
Command Prompt
Microsoft Windows [Version 10.0.26200.7309]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ebots>cd Downloads\demo

C:\Users\ebots\Downloads\demo>ls
linux-vm-demo_key.pem

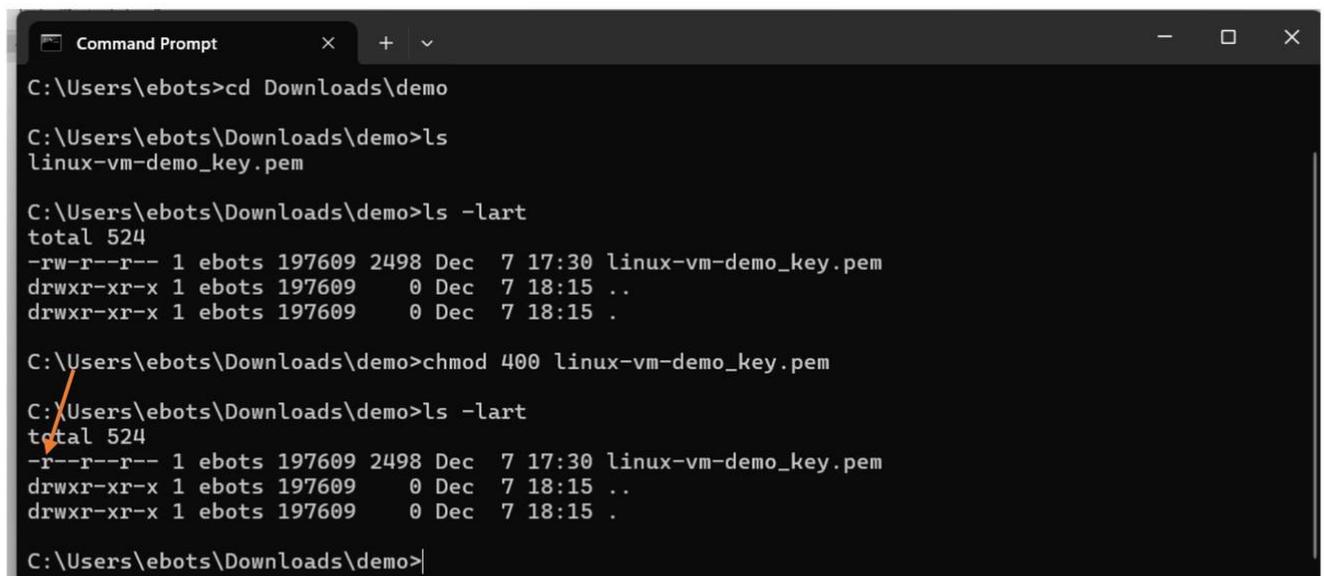
C:\Users\ebots\Downloads\demo>ls -lart
total 524
-rw-r--r-- 1 ebots 197609 2498 Dec  7 17:30 linux-vm-demo_key.pem
drwxr-xr-x 1 ebots 197609    0 Dec  7 18:15 ..
drwxr-xr-x 1 ebots 197609    0 Dec  7 18:15 .

C:\Users\ebots\Downloads\demo>chmod 400 linux-vm-demo_key.pem

C:\Users\ebots\Downloads\demo>
```

Let us check the permission again by running the command:

```
ls -lart
```



```
Command Prompt
C:\Users\ebots>cd Downloads\demo

C:\Users\ebots\Downloads\demo>ls
linux-vm-demo_key.pem

C:\Users\ebots\Downloads\demo>ls -lart
total 524
-rw-r--r-- 1 ebots 197609 2498 Dec  7 17:30 linux-vm-demo_key.pem
drwxr-xr-x 1 ebots 197609    0 Dec  7 18:15 ..
drwxr-xr-x 1 ebots 197609    0 Dec  7 18:15 .

C:\Users\ebots\Downloads\demo>chmod 400 linux-vm-demo_key.pem

C:\Users\ebots\Downloads\demo>ls -lart
total 524
-r--r--r-- 1 ebots 197609 2498 Dec  7 17:30 linux-vm-demo_key.pem
drwxr-xr-x 1 ebots 197609    0 Dec  7 18:15 ..
drwxr-xr-x 1 ebots 197609    0 Dec  7 18:15 .

C:\Users\ebots\Downloads\demo>
```

You can see that we have just read only permission.

Now, Run the copied command here

```
ssh -i linux-vm-demo_key.pem azureuser@20.49.50.89
```

```
Command Prompt - ssh -i lin x + v
Microsoft Windows [Version 10.0.26200.7309]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ebots>cd Downloads

C:\Users\ebots\Downloads>ssh -i linux-vm-demo_key.pem azureuser@20.49.50.89
The authenticity of host '20.49.50.89 (20.49.50.89)' can't be established.
ED25519 key fingerprint is SHA256:Q57LTrNFyc0E//b3+o9FTIGFoLbsFdgkXQXoQ3pXaBI.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? |
```

Type “yes” and press “Enter”

```
azureuser@linux-vm-demo: ~ x + v
System information as of Sun Dec 7 23:12:23 UTC 2025

System load: 0.0          Processes:              113
Usage of /:  5.6% of 28.02GB Users logged in:        0
Memory usage: 28%        IPv4 address for eth0: 10.1.0.4
Swap usage:  0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

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

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

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.

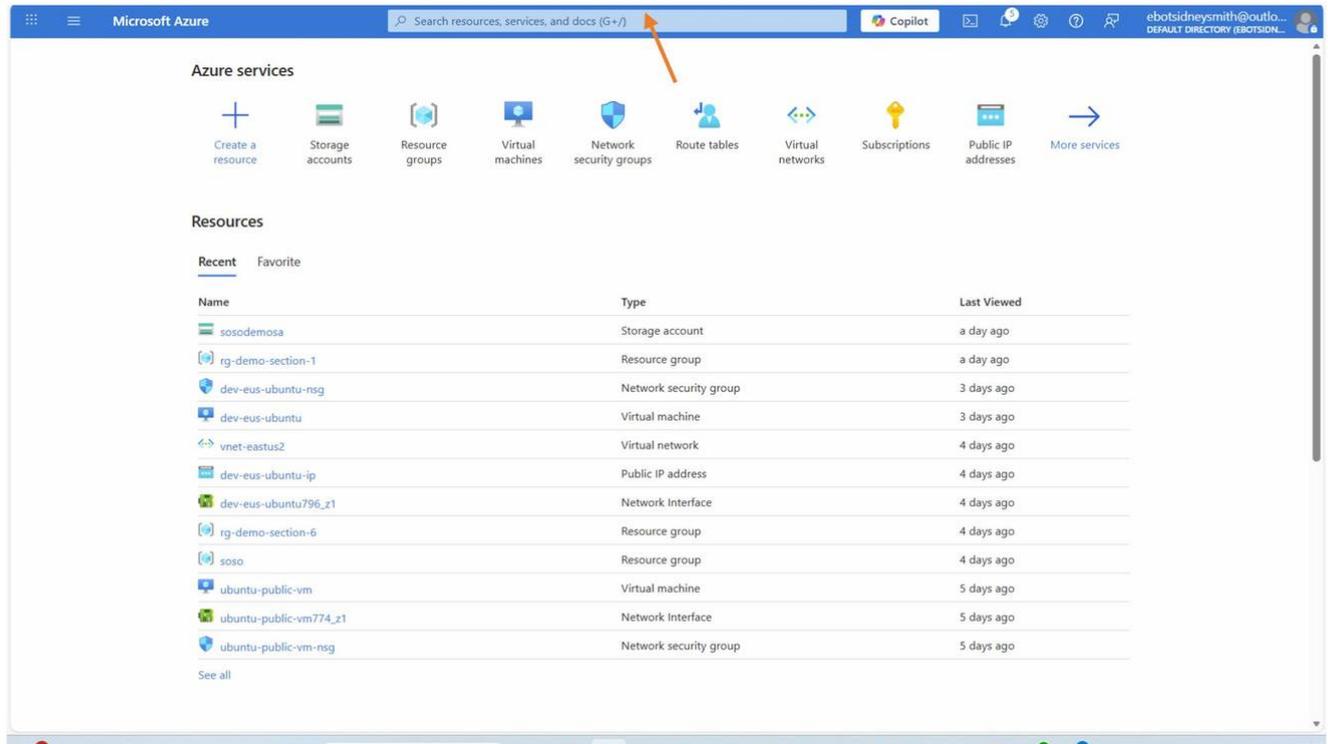
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

azureuser@linux-vm-demo:~$ |
```

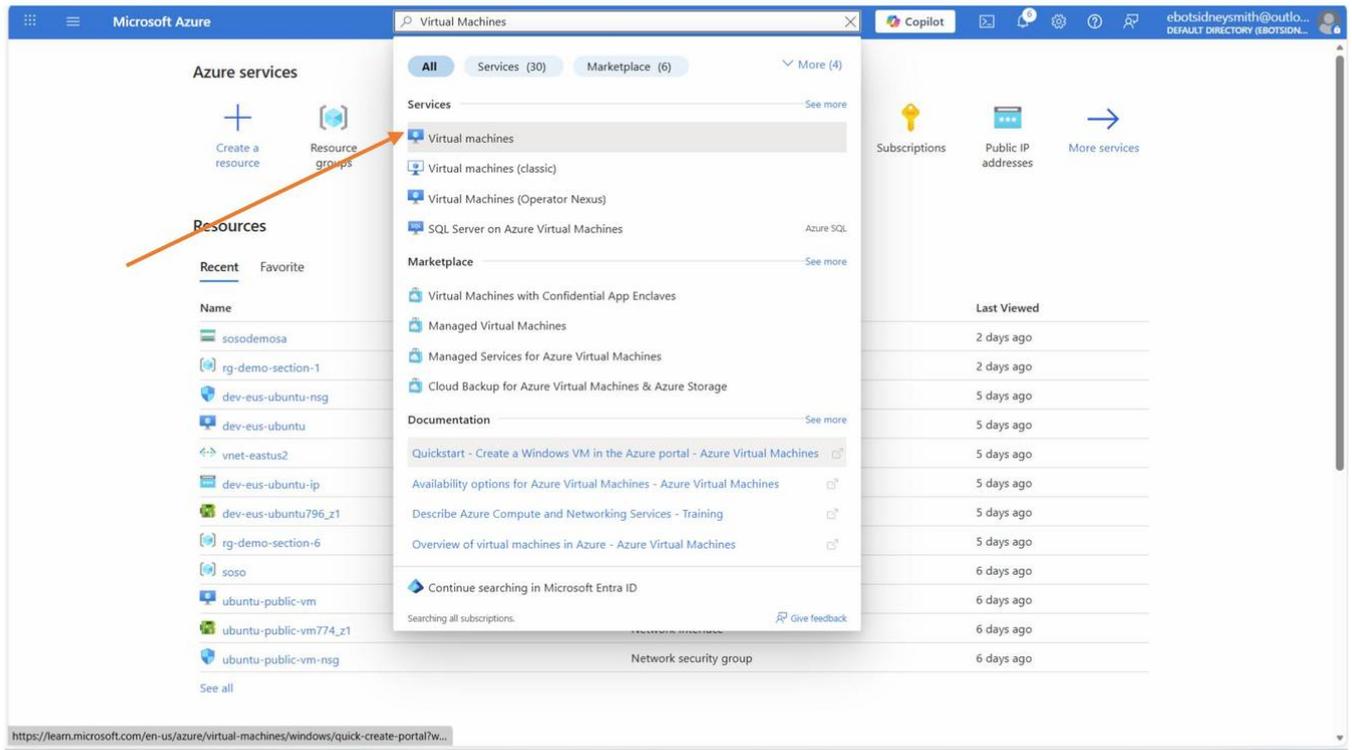
We are now connected to the virtual machine. So, we have successfully provisioned the virtual machine on our Azure Cloud.

## Part 2: Set up Windows Virtual Machine

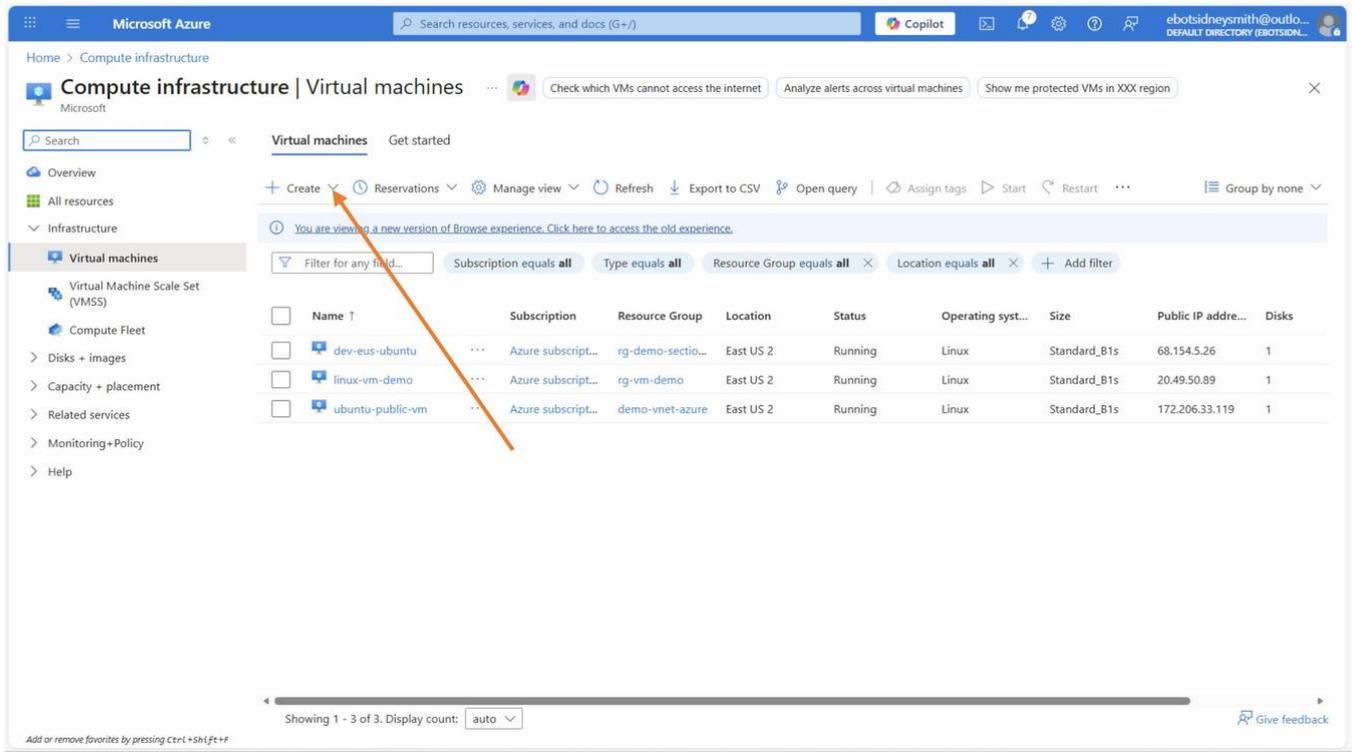
In this part we will do a demo on how to set up a Windows virtual machine. To start with the demo, go to Azure portal.



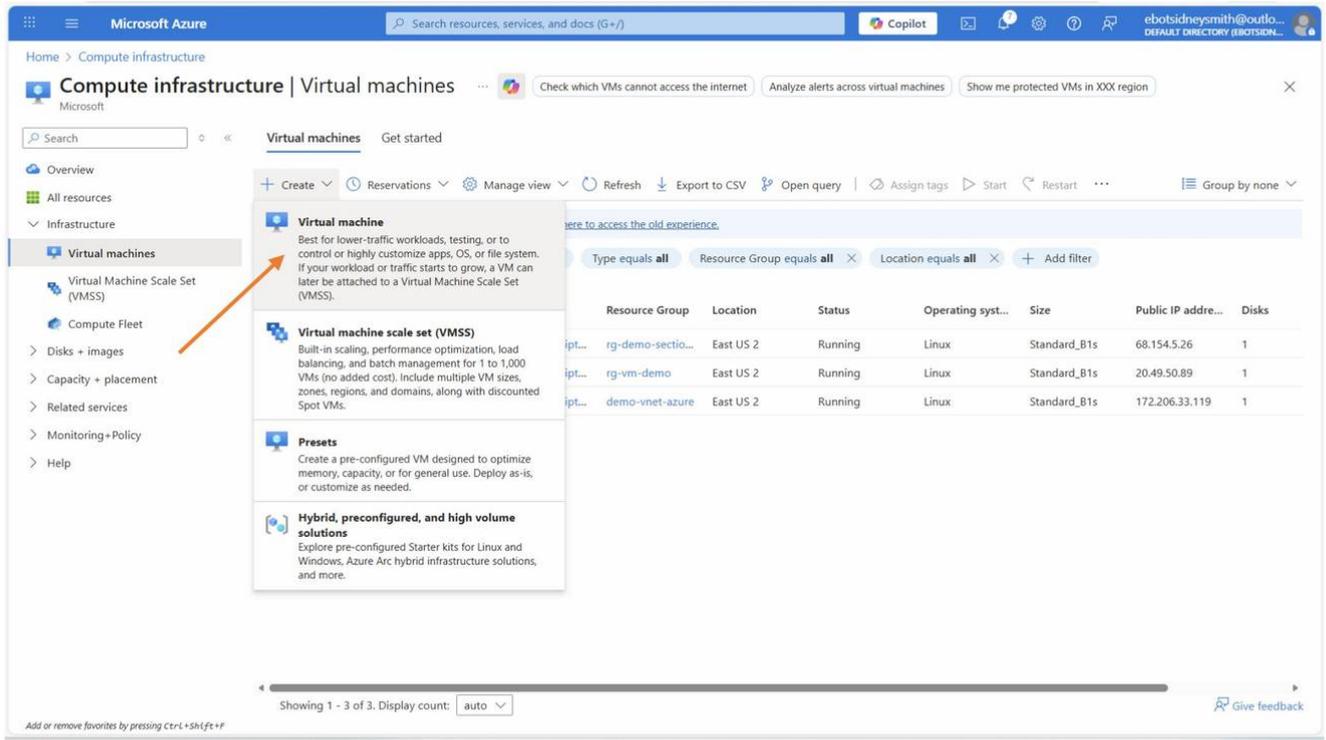
We will use the "Resource Group" we created for the Linux machine demo. Now, let us continue to create our Virtual machine. Search for "Virtual Machines"



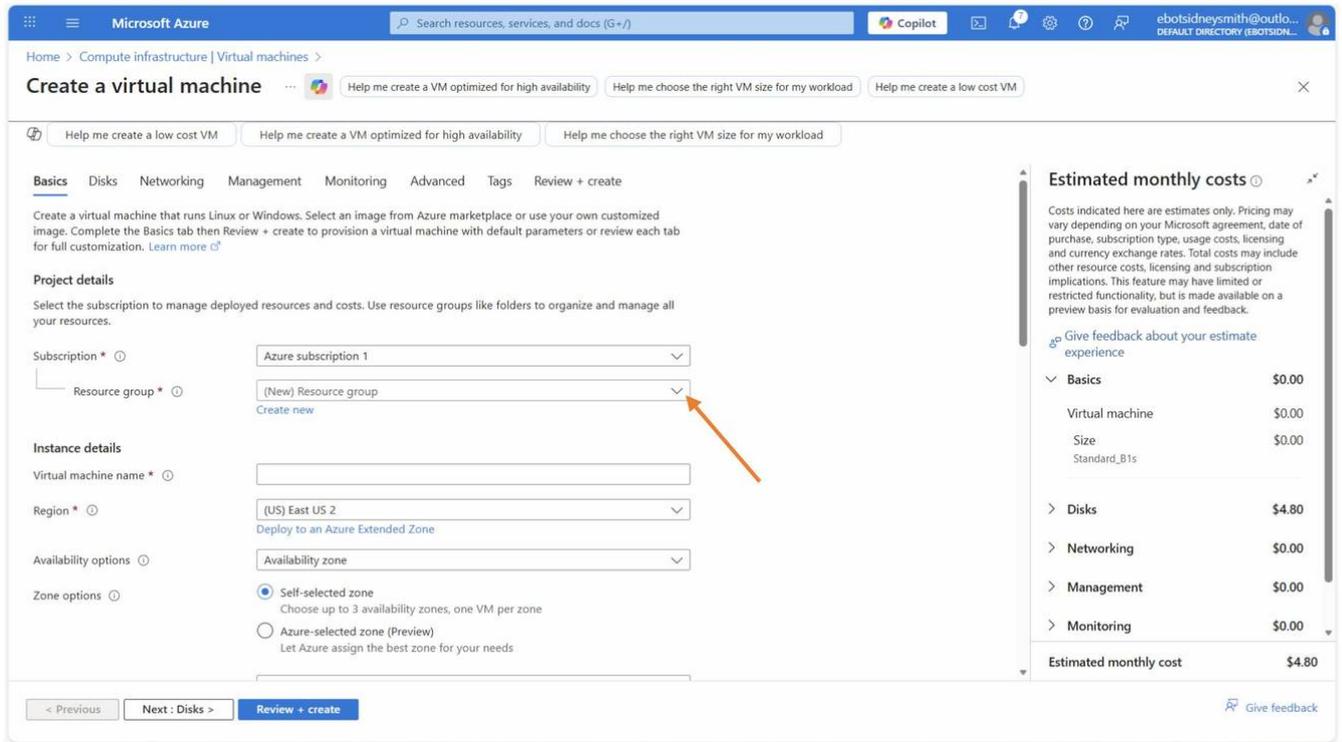
Click on “Virtual Machines”



Click on the drop down on “Create”



## Select "Virtual Machine"



You can see that our "Subscription" has been selected. Let us select the "Resource Group". Click on the drop down on "Resource Group"

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Basics | Disks | Networking | Management | Monitoring | Advanced | Tags | Review + create

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. [Learn more](#)

**Project details**

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \*

Resource group \*

**Instance details**

Virtual machine name \*

Region \*

Availability options

Zone options

Self-selected zone  
Choose up to 3 availability zones, one VM per zone

Azure-selected zone (Preview)  
Let Azure assign the best zone for your needs

< Previous | Next: Disks > | Review + create

**Estimated monthly costs**

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Give feedback

Select the “Resource Group” we created, that is “rg-vm-demo”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Basics | Disks | Networking | Management | Monitoring | Advanced | Tags | Review + create

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. [Learn more](#)

**Project details**

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \*

Resource group \*   
Create new

**Instance details**

Virtual machine name \*

Region \*   
Deploy to an Azure Extended Zone

Availability options

Zone options

Self-selected zone  
Choose up to 3 availability zones, one VM per zone

Azure-selected zone (Preview)  
Let Azure assign the best zone for your needs

< Previous | Next: Disks > | Review + create

**Estimated monthly costs**

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Give feedback

Here, we will give the “Virtual Machine” a name. In this demo, we are creating a Linux machine. I will call it “windows-vm-demo”.

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

**Basics** | Disks | Networking | Management | Monitoring | Advanced | Tags | Review + create

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. [Learn more](#)

**Project details**

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \*

Resource group \*  [Create new](#)

**Instance details**

Virtual machine name \*

Region \*  [Deploy to an Azure Extended Zone](#)

Availability options

Zone options

- Self-selected zone  
Choose up to 3 availability zones, one VM per zone
- Azure-selected zone (Preview)  
Let Azure assign the best zone for your needs

< Previous | Next : Disks > | **Review + create**

**Estimated monthly costs**

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

[Give feedback about your estimate experience](#)

<b>Basics</b>	<b>\$0.00</b>
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
<b>&gt; Disks</b>	<b>\$4.80</b>
<b>&gt; Networking</b>	<b>\$0.00</b>
<b>&gt; Management</b>	<b>\$0.00</b>
<b>&gt; Monitoring</b>	<b>\$0.00</b>
<b>Estimated monthly cost</b>	<b>\$4.80</b>

[Give feedback](#)

Here, on “Region”, we will use “East US 2”. So, we will leave it as it is.

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

**Instance details**

Virtual machine name \*

Region \*  [Deploy to an Azure Extended Zone](#)

Availability options

Zone options

- Self-selected zone  
Choose up to 3 availability zones, one VM per zone
- Azure-selected zone (Preview)  
Let Azure assign the best zone for your needs

Availability zone \*    
[You can now select multiple zones. Selecting multiple zones will create one VM per zone. Learn more](#)

Security type    
[Configure security features](#)

Image \*    
[See all images](#) | [Configure VM generation](#)

VM architecture

- Arm64
- x64

Run with Azure Spot discount

< Previous | Next : Disks > | **Review + create**

**Estimated monthly costs**

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

[Give feedback about your estimate experience](#)

<b>Basics</b>	<b>\$0.00</b>
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
<b>&gt; Disks</b>	<b>\$4.80</b>
<b>&gt; Networking</b>	<b>\$0.00</b>
<b>&gt; Management</b>	<b>\$0.00</b>
<b>&gt; Monitoring</b>	<b>\$0.00</b>
<b>Estimated monthly cost</b>	<b>\$4.80</b>

[Give feedback](#)

Then, on “Availability Option”, we will select “Availability zone”

The screenshot shows the 'Create a virtual machine' wizard in the Azure portal. The 'Instance details' section is filled out with the following values:

- Virtual machine name: linux-vm-demo
- Region: (US) East US 2
- Availability options: Availability zone
- Zone options:  Self-selected zone (indicated by an orange arrow),  Azure-selected zone (Preview)
- Availability zone: Zone 1
- Security type: Trusted launch virtual machines
- Image: Ubuntu Server 24.04 LTS - x64 Gen2
- VM architecture: x64

The 'Estimated monthly costs' sidebar on the right shows the following breakdown:

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size (Standard_B1s)	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Then, on the “Zone Options”, select “Self-selected Zone”

This screenshot is similar to the one above, but with an orange arrow pointing to the 'Availability zone' dropdown menu, which is currently set to 'Zone 1'.

For Zone, select “Zone 1”. But if you want to have maximum availability for your machine, you can select more zones.

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

**Instance details**

Virtual machine name \*

Region \*

Availability options

Zone options  Self-selected zone  
Choose up to 3 availability zones, one VM per zone  
 Azure-selected zone (Preview)  
Let Azure assign the best zone for your needs

Availability zone \*

You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

Security type

Image \*

VM architecture  Arm64  x64

Run with Azure Spot discount

< Previous | Next : Disks > | Review + create

**Estimated monthly costs**

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
> Disks	\$4.80
> Networking	\$0.00
> Management	\$0.00
> Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Give feedback

For “Security Type”, select “Trusted Launch virtual Machines”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Security type

Image \*

VM architecture  Arm64  x64

Run with Azure Spot discount

Size \*

Enable Hibernation

SSH public key  
 Password

Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

Username \*

< Previous | Next : Disks > | Review + create

**Estimated monthly costs**

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Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
> Disks	\$4.80
> Networking	\$0.00
> Management	\$0.00
> Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

Give feedback

For the “Image”, click on the drop down on “Image”. On the search type “Windows”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

Security type   
Configure security features

Image \*

VM architecture

Run with Azure Spot discount

Size \*

Enable Hibernation

Administrator account

Authentication type  SSH public key  
 Password

**Estimated monthly costs**

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Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$4.80</b>

< Previous | Next : Disks > | Review + create

Give feedback

## Select "Windows 11 Pro, version 25H2 – x64 Gen2"

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

Security type   
Configure security features

Image \*   
See all images | Configure VM generation

VM architecture  Arm64  
 x64  
Arm64 is not supported with the selected image.

Run with Azure Spot discount

Size \*   
See all sizes

Enable Hibernation   
Hibernate is not supported by the size that you have selected. Choose a size that is compatible with Hibernation to enable this feature. [Learn more](#)

Administrator account

Username \*   
The value must not be empty.  
The value must be between 1 and 20 characters long.

**Estimated monthly costs**

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
Disks	\$17.92
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$17.92</b>

< Previous | Next : Disks > | Review + create

Give feedback

## On "VM Architecture", select "x64"

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

Security type: Trusted launch virtual machines

Image: Windows 11 Pro, version 25H2 - x64 Gen2

VM architecture: x64

Run with Azure Spot discount:

Size: Standard\_B1s - 1 vcpu, 1 GiB memory (\$7.59/month) (free services eligible)

Enable Hibernation:

Administrator account Username:

Estimated monthly costs

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$17.92
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$17.92</b>

Here on “Run with Azure Spot Discount”, leave the box “Unchecked”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

Security type: Trusted launch virtual machines

Image: Windows 11 Pro, version 25H2 - x64 Gen2

VM architecture: x64

Run with Azure Spot discount:

Size: Standard\_B1s - 1 vcpu, 1 GiB memory (\$7.59/month) (free services eligible)

Enable Hibernation:

Administrator account Username:

Estimated monthly costs

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$17.92
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$17.92</b>

For “Size”, select “Standard\_B1s-1 vcpu .....” to keep the cost low.

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

Security type   
[Configure security features](#)

Image   
[See all images](#) | [Configure VM generation](#)

VM architecture  Arm64  x64  
Arm64 is not supported with the selected image.

Run with Azure Spot discount

Size   
[See all sizes](#)

Enable Hibernation   
Hibernate is not supported by the size that you have selected. Choose a size that is compatible with Hibernation to enable this feature. [Learn more](#)

Administrator account

Username   
The value must not be empty.  
The value must be between 1 and 20 characters long.

< Previous | Next : Disks > | Review + create

#### Estimated monthly costs

Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.

[Give feedback about your estimate experience](#)

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
> Disks	\$17.92
> Networking	\$0.00
> Management	\$0.00
> Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$17.92</b>

[Give feedback](#)

On “Enable Hibernation”, leave the box “Unchecked”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Enable Hibernation   
Hibernation is not supported by the size that you have selected. Choose a size that is compatible with Hibernation to enable this feature. [Learn more](#)

Administrator account

Username   
The value must not be empty.  
The value must be between 1 and 20 characters long.

Password   
The value must not be empty.  
The value must be between 12 and 123 characters long.

Confirm password

Inbound port rules

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

Public inbound ports  None  Allow selected ports

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

< Previous | Next : Disks > | Review + create

#### Estimated monthly costs

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[Give feedback about your estimate experience](#)

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
> Disks	\$17.92
> Networking	\$0.00
> Management	\$0.00
> Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$17.92</b>

[Give feedback](#)

The next thing is to enter the “Username”, I will use “azureuser”.

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Enable Hibernation

**Administrator account**

Username \*

Password \*

Confirm password \*

**Inbound port rules**

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

Public inbound ports \*  None  Allow selected ports

Select inbound ports \*

**Licensing**

< Previous | Next: Disks > | Review + create

**Estimated monthly costs**

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Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$17.92
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$17.92</b>

Give feedback

Then on “password”, enter the password. We will use “WindowsAdmin77” and then confirm it.

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

**Administrator account**

Username \*

Password \*

Confirm password \*

**Inbound port rules**

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

Public inbound ports \*  None  Allow selected ports

Select inbound ports \*

**Licensing**

I confirm I have an eligible Windows 10/11 license with multi-tenant hosting rights.

Review multi-tenant hosting rights for Windows 10/11 compliance

< Previous | Next: Disks > | Review + create

**Estimated monthly costs**

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Give feedback about your estimate experience

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$17.92
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$17.92</b>

Give feedback

On “Public Inbound ports”, we will select “Allow selected ports”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

**Administrator account**

Username \*

Password \*

Confirm password \*

**Inbound port rules**

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

Public inbound ports \*  None  Allow selected ports

Select inbound ports \*

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

**Licensing**

I confirm I have an eligible Windows 10/11 license with multi-tenant hosting rights.

[Review multi-tenant hosting rights for Windows 10/11 compliance](#)

< Previous | Next : Disks > | Review + create

**Estimated monthly costs**

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[Give feedback about your estimate experience](#)

Basics	\$0.00
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
Disks	\$17.92
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$17.92</b>

[Give feedback](#)

Then, the next thing is **“Select Inbound ports”**. You need to understand some concepts here.



Here is a basic flow of how you can access a virtual machine. If a user wants to access the Windows virtual machine, then there should be a port which needs to be opened, and that port for Windows machines is 3389. So, port 3389 needed to be enabled and open for that virtual machine otherwise that user will not be able to access or login into the virtual machine using the public IP. We are going to learn about Public IP later.

So, **“Select Inbound ports”**, we will select **“RDP (3389)”**

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

**Administrator account**

Username \*  ✓

Password \*  ✓

Confirm password \*  ✓

**Inbound port rules**

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

Public inbound ports \*  None  Allow selected ports

Select inbound ports \*  ✓

**Licensing**

I confirm I have an eligible Windows 10/11 license with multi-tenant hosting rights. \*

[Review multi-tenant hosting rights for Windows 10/11 compliance](#)

< Previous | **Next: Disks >** | Review + create

**Estimated monthly costs**

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[Give feedback about your estimate experience](#)

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
> Disks	\$17.92
> Networking	\$0.00
> Management	\$0.00
> Monitoring	\$0.00
<b>Estimated monthly cost</b>	<b>\$17.92</b>

[Give feedback](#)

Then check the box **“I confirm I have an eligible Windows 10/11 license with multi-tenant”**

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

**Administrator account**

Username \*  ✓

Password \*  ✓

Confirm password \*  ✓

**Inbound port rules**

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

Public inbound ports \*  None  Allow selected ports

Select inbound ports \*  ✓

**Licensing**

I confirm I have an eligible Windows 10/11 license with multi-tenant hosting rights. \*

[Review multi-tenant hosting rights for Windows 10/11 compliance](#)

< Previous | **Next: Disks >** | Review + create

**Estimated monthly costs**

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[Give feedback about your estimate experience](#)

Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
> Disks	\$17.92
> Networking	\$0.00
> Management	\$0.00
> Monitoring	\$0.00
> Advanced	\$0.00
<b>Estimated monthly cost</b>	<b>\$17.92</b>

[Give feedback](#)

Then click on **“Next: Disks”**

The screenshot shows the 'Disks' configuration step in the Azure portal. The 'OS disk' section is expanded, showing default settings: 'Image default (127 GiB)', 'Premium SSD (locally-redundant storage)', 'Delete with VM' checked, and 'Platform-managed key'. An orange arrow points to the 'Next: Networking >' button. On the right, the 'Estimated monthly costs' sidebar shows a total of \$17.92, with 'Disks' contributing \$17.92. A warning message at the top states: 'The configuration of this virtual machine and its attached disk(s) may not allow for the disk(s) to utilize their full throughput performance. The current virtual machine size supports 23 MBps. The total for disk(s) attached to virtual machine 'windows-vm-demo' is 100 MBps. You can change the virtual machine size to support additional disk(s) throughput. Learn more >'.

Here we are going to use the default values. We will leave everything as default and click on **“Next: Networking”**.

The screenshot shows the 'Networking' configuration step. The 'Network interface' section is expanded, showing default settings: 'Virtual network \*' set to 'linux-vm-demo-vnet', 'Subnet \*' set to 'default (10.1.0.0/24)', 'Public IP' set to '(new) windows-vm-demo-ip', 'NIC network security group' set to 'Basic', and 'Public inbound ports \*' set to 'Allow selected ports'. The 'Select inbound ports \*' field contains 'RDP (3389)'. An orange arrow points to the 'Next: Management >' button. On the right, the 'Estimated monthly costs' sidebar shows a total of \$21.57, with 'Networking' contributing \$3.65. A warning message at the bottom states: 'This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab.'

Here we will keep all the default selections and click on **“Next: Management”**

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal, specifically the 'Management' tab. The page title is 'Create a virtual machine' and the breadcrumb is 'Home > Compute infrastructure | Virtual machines >'. There are three help prompts at the top: 'Help me create a VM optimized for high availability', 'Help me choose the right VM size for my workload', and 'Help me create a low cost VM'. The 'Management' tab is selected, and the sub-tab is 'Management'. The main content area is titled 'Configure management options for your VM.' and includes sections for 'Microsoft Defender for Cloud', 'Identity', 'Microsoft Entra ID', 'Auto-shutdown', and 'Backup'. Each section has a checkbox and a help icon. An orange arrow points to the 'Next: Monitoring >' button at the bottom. On the right side, there is a 'Estimated monthly costs' panel with a table of costs for various categories.

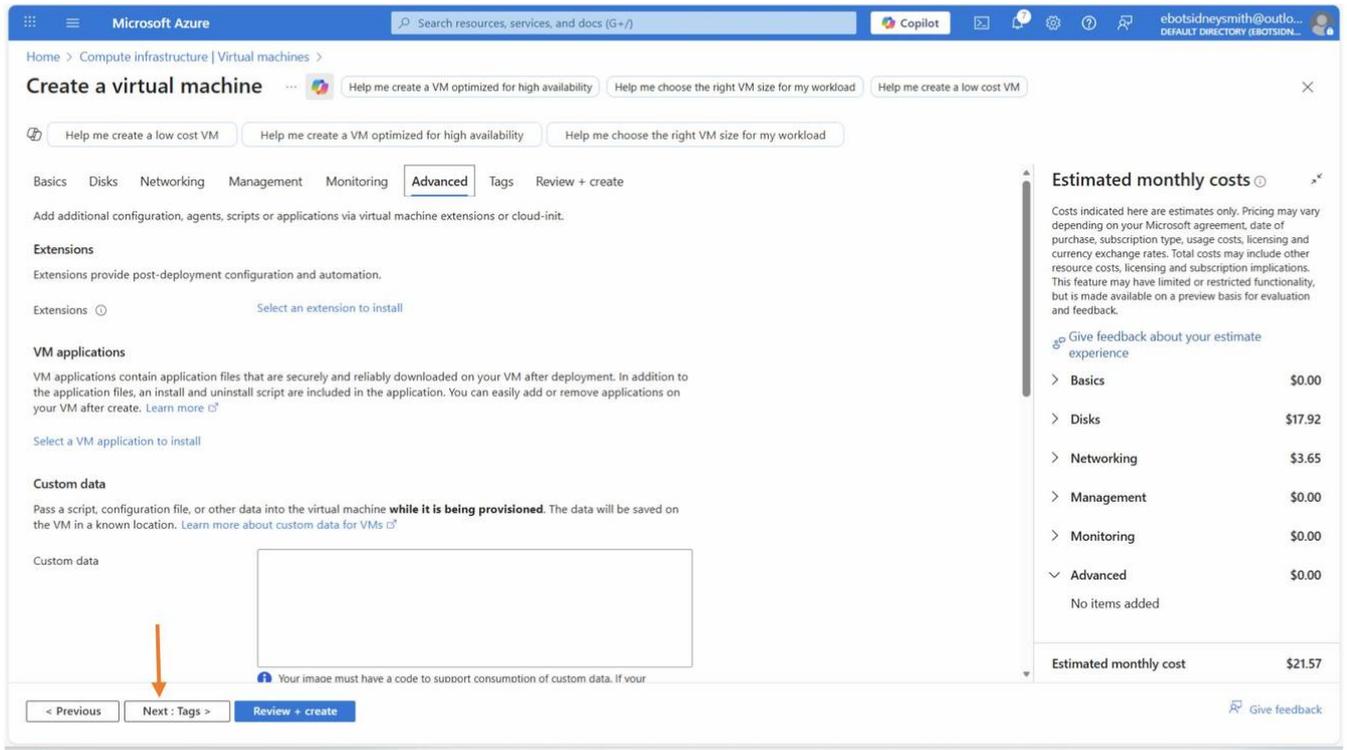
Category	Estimated monthly cost
Basics	\$0.00
Disks	\$17.92
Networking	\$3.65
Management	\$0.00
Monitoring	\$0.00
Advanced	\$0.00
<b>Estimated monthly cost</b>	<b>\$21.57</b>

Here we will leave everything as default and click on “Next: Monitoring”

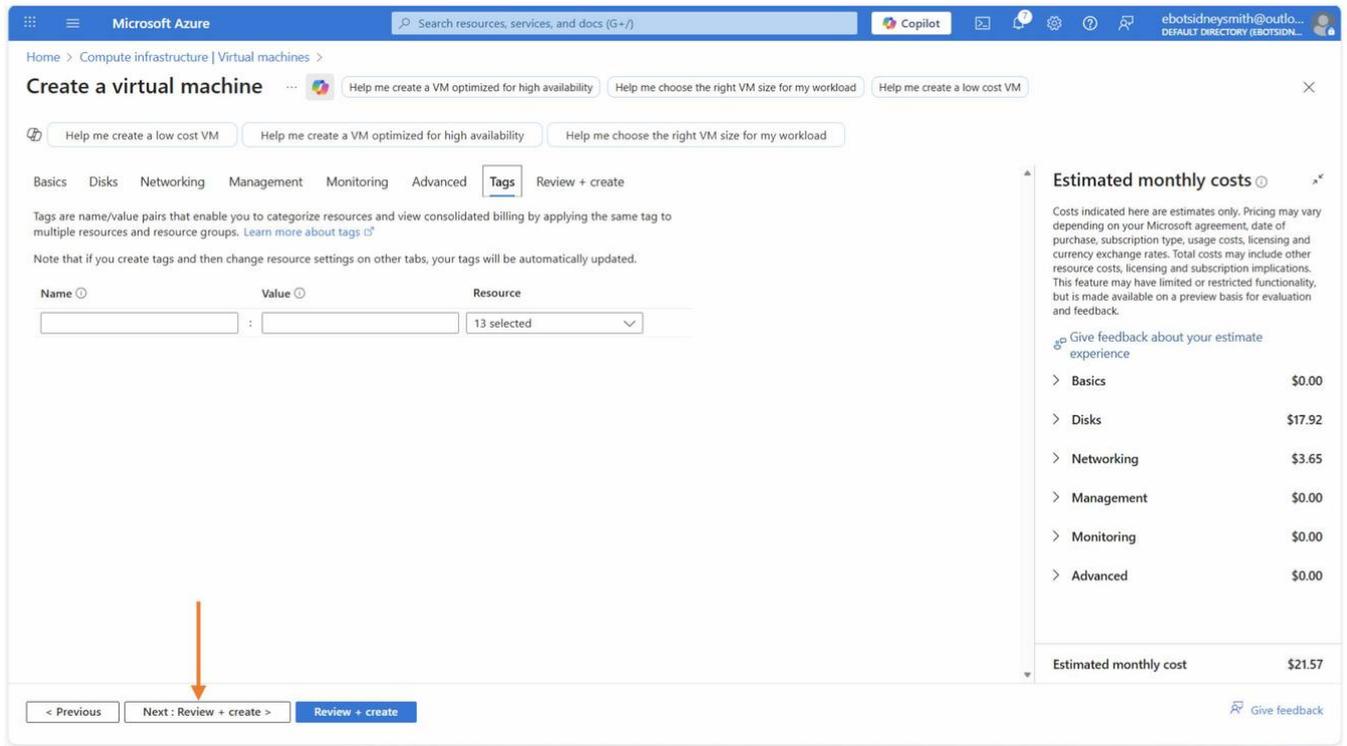
The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal, specifically the 'Monitoring' tab. The page title is 'Create a virtual machine' and the breadcrumb is 'Home > Compute infrastructure | Virtual machines >'. There are three help prompts at the top: 'Help me create a VM optimized for high availability', 'Help me choose the right VM size for my workload', and 'Help me create a low cost VM'. The 'Monitoring' tab is selected, and the sub-tab is 'Monitoring'. The main content area is titled 'Configure monitoring options for your VM.' and includes sections for 'Alerts', 'Diagnostics', and 'Health'. Each section has a checkbox and a help icon. An orange arrow points to the 'Next: Advanced >' button at the bottom. On the right side, there is a 'Estimated monthly costs' panel with a table of costs for various categories.

Category	Estimated monthly cost
Basics	\$0.00
Disks	\$17.92
Networking	\$3.65
Management	\$0.00
Monitoring	\$0.00
Advanced	\$0.00
<b>Estimated monthly cost</b>	<b>\$21.57</b>

Here, we are also going to leave everything as default. Click on “Next: Advanced”



Here, we will leave everything as default and click on “Next: Tags”



We are not going to add any “Tags”, we will leave it as default. Click on “Next: Review + Create”

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Validation passed

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Basics | Disks | Networking | Management | Monitoring | Advanced | Tags | **Review + create**

**Price**

1 X Standard B1s  
by Microsoft  
Terms of use | Privacy policy

Subscription credits apply  
**0.0104 USD/hr**  
Pricing for other VM sizes

**TERMS**

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

**You have set RDP port(s) open to the internet.** This is only recommended for testing. If you want to change this setting, go back to Basics tab.

**Basics**

Subscription: Azure subscription 1

< Previous | Next > | **Create**

Download a template for automation | Give feedback

**Estimated monthly costs**

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Give feedback about your estimate experience

Basics	\$0.00
Disks	\$17.92
Networking	\$3.65
Management	\$0.00
Monitoring	\$0.00
Advanced	\$0.00
<b>Estimated monthly cost</b>	<b>\$21.57</b>

Review and click on "Create"

Microsoft Azure

Home > Compute infrastructure | Virtual machines >

### Create a virtual machine

Validation passed

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Basics | Disks | Networking | Management | Monitoring | Advanced | Tags | **Review + create**

**Price**

1 X Standard B1s  
by Microsoft  
Terms of use | Privacy policy

Subscription credits apply  
**0.0104 USD/hr**  
Pricing for other VM sizes

**TERMS**

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

**You have set RDP port(s) open to the internet.** This is only recommended for testing. If you want to change this setting, go back to Basics tab.

**Basics**

Subscription: Azure subscription 1

< Previous | Next > | **Create**

Download a template for automation | Give feedback

**\*\*\* Initializing deployment...\*\*\***  
Initializing template deployment to resource group 'rg-vm-demo'.

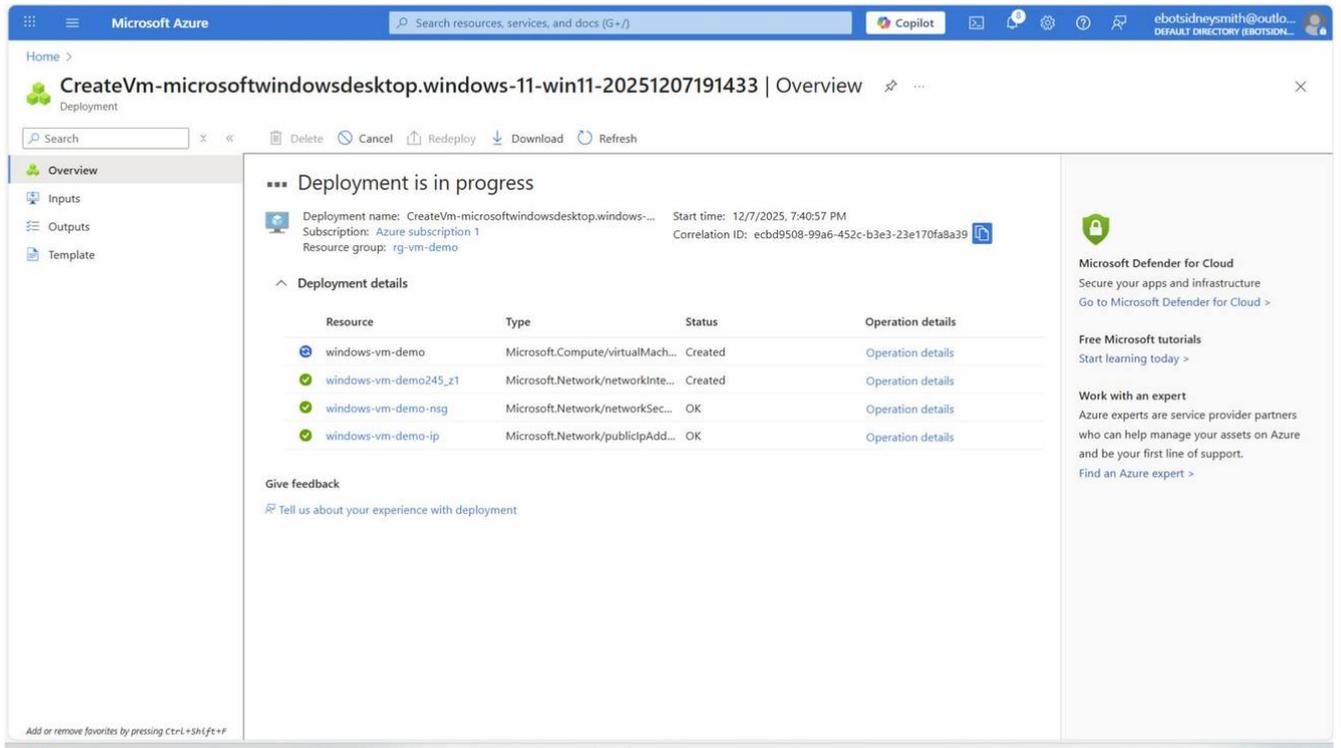
**Estimated monthly costs**

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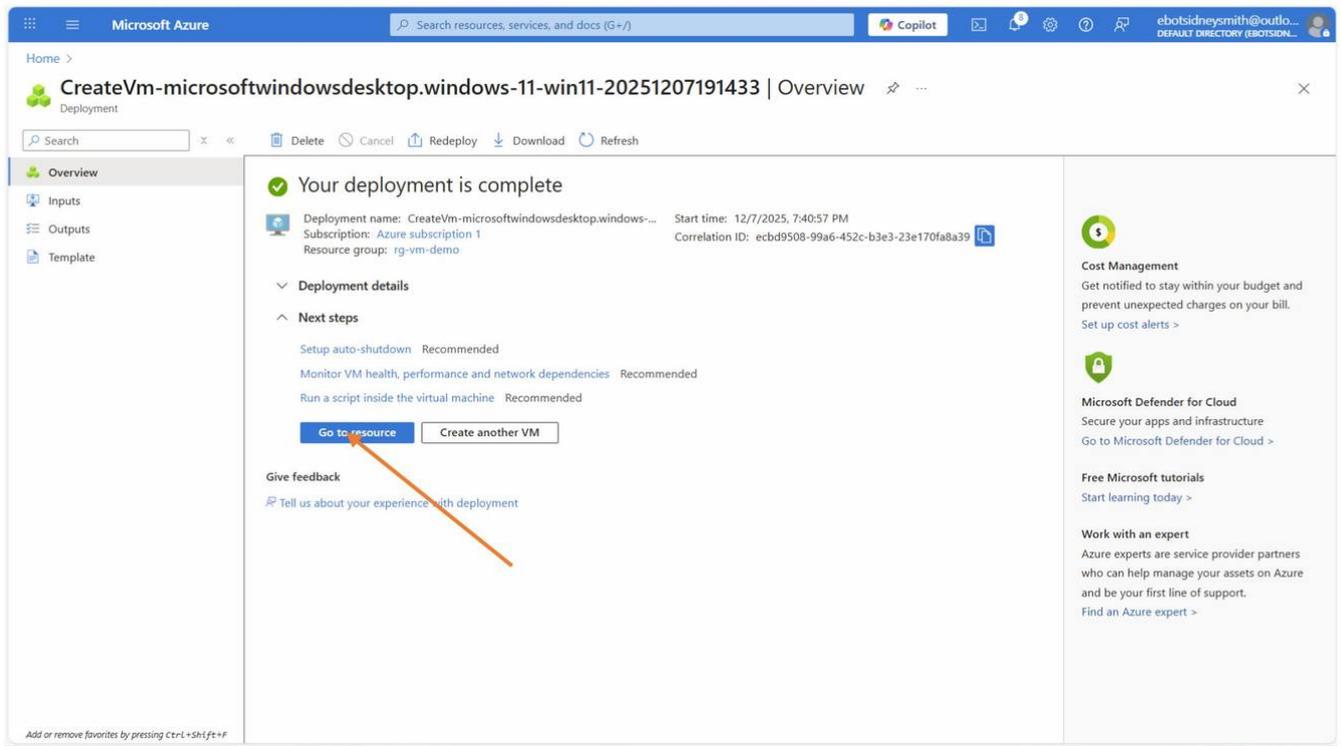
Give feedback about your estimate experience

Basics	\$0.00
Disks	\$17.92
Networking	\$3.65
Management	\$0.00
Monitoring	\$0.00
Advanced	\$0.00
<b>Estimated monthly cost</b>	<b>\$21.57</b>

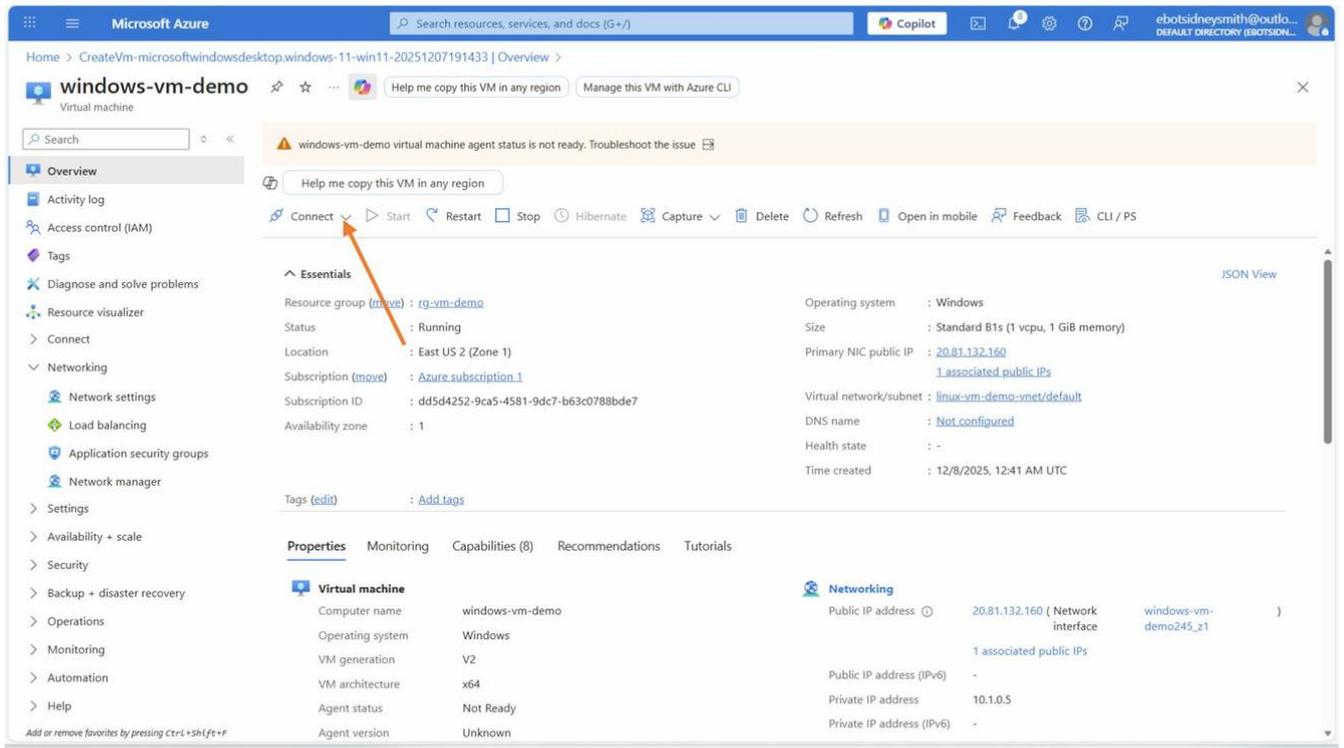
The deployment is initializing



The deployment is in progress

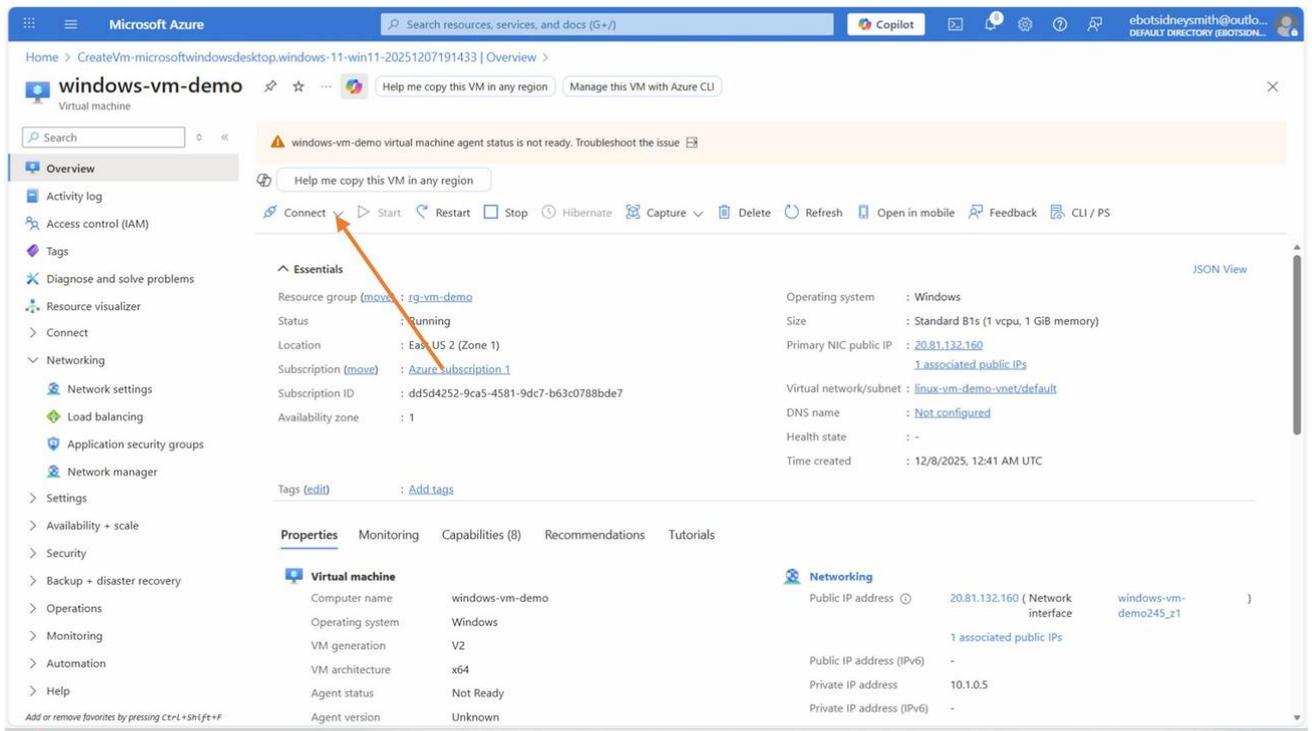


The deployment is complete. Click on "Go to resource"

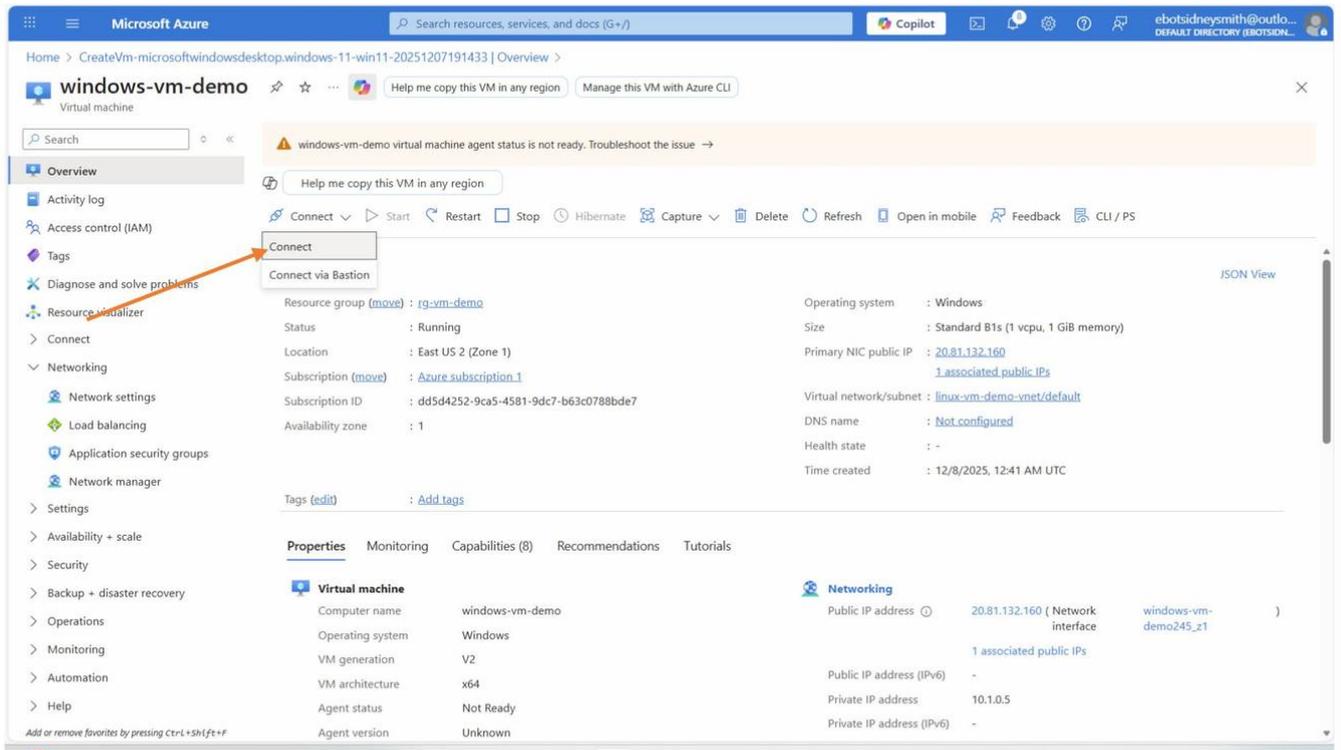


This is our virtual machine.

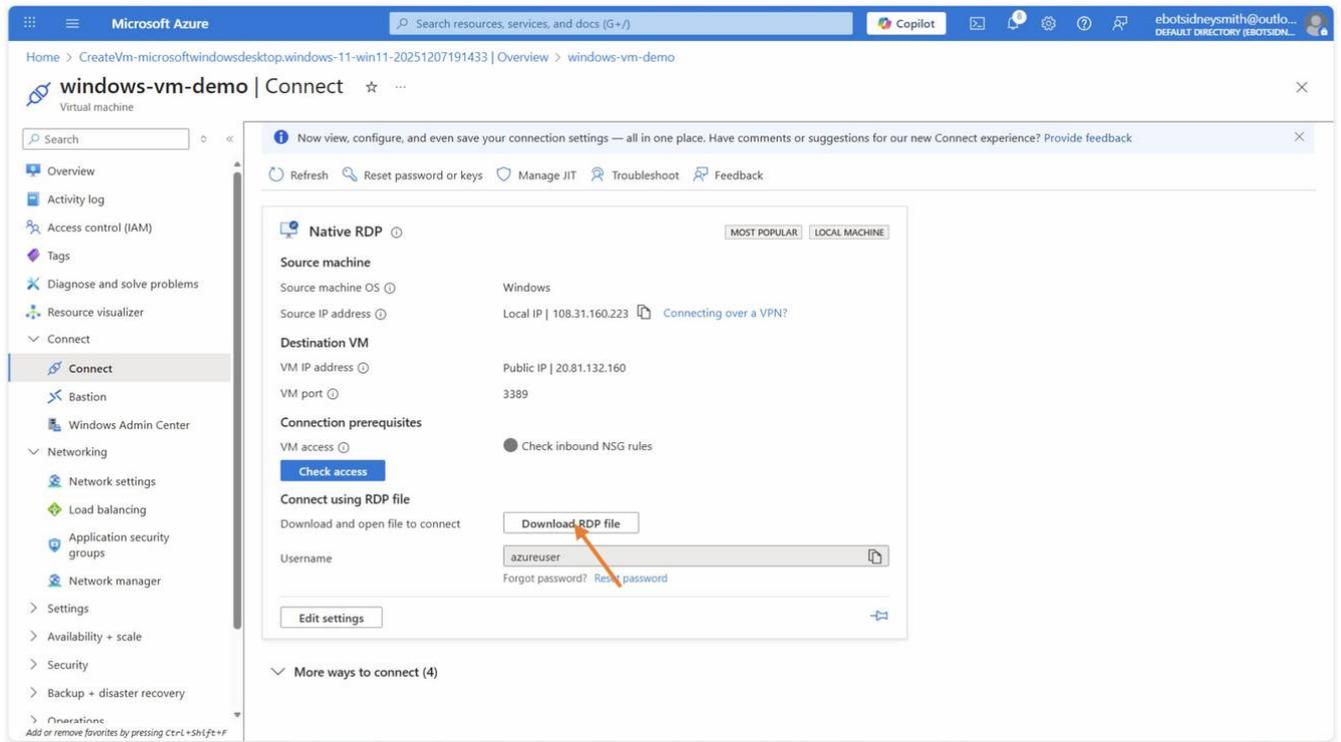
## Connect to the Virtual Machine



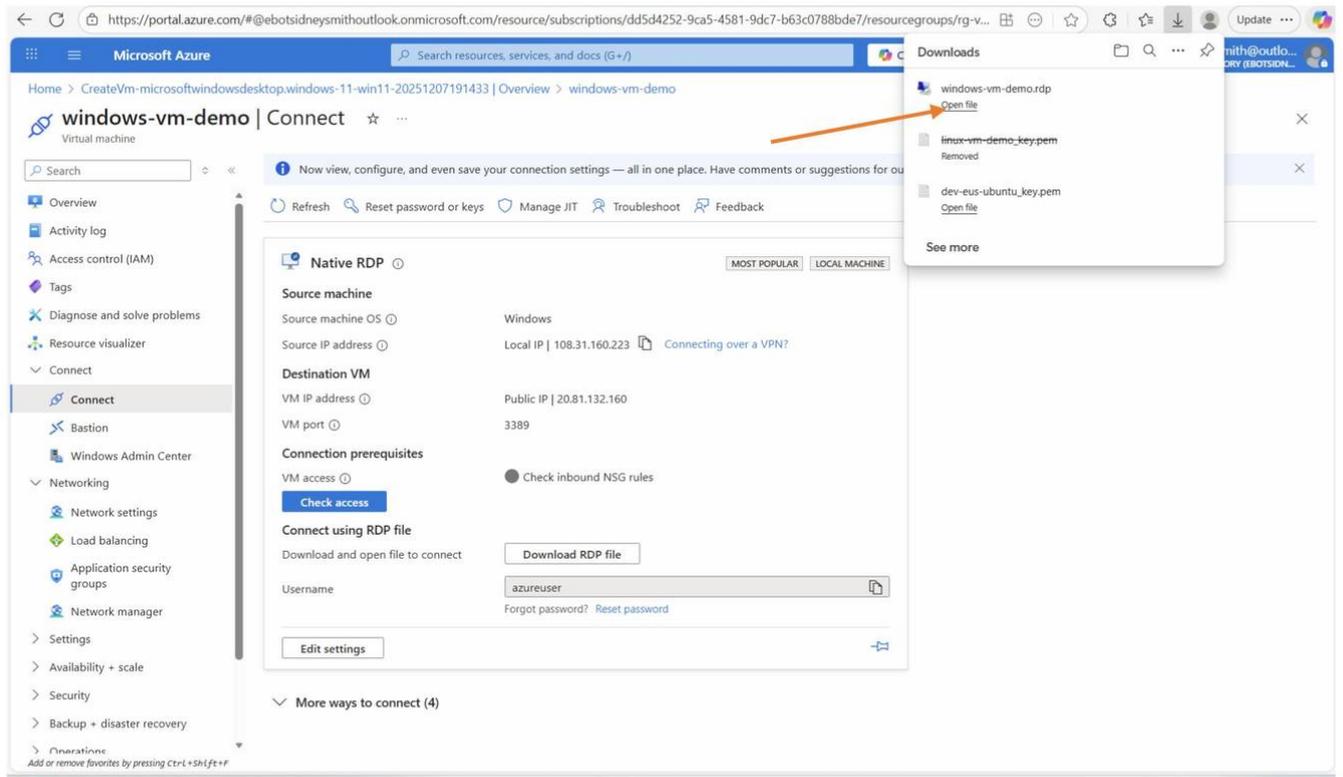
To connect to this virtual machine, click on the drop down on "Connect"



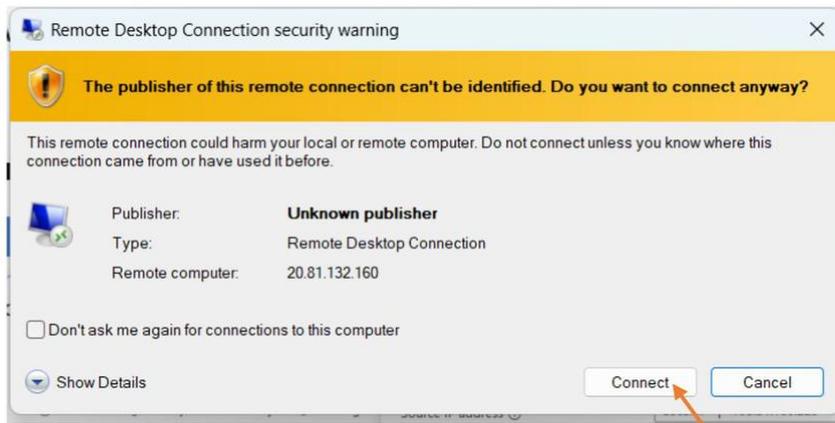
## Select "Connect"



## Click on "Download RDP File"



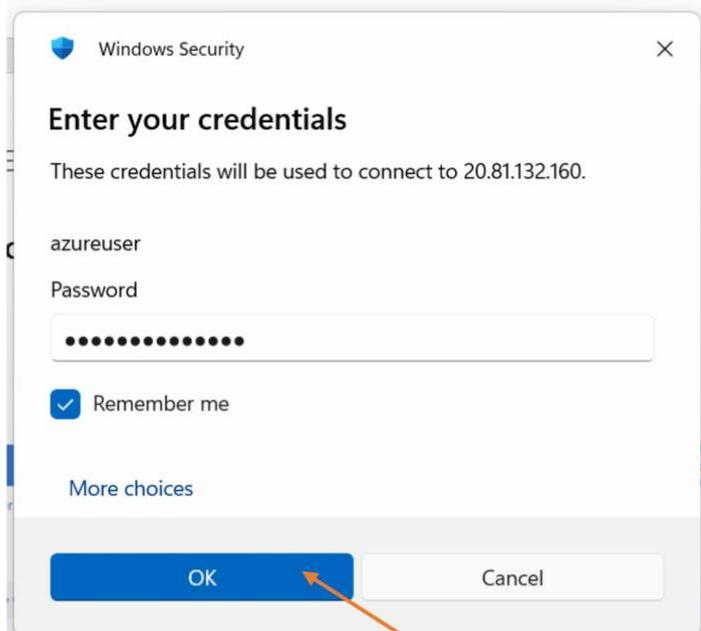
The file has been downloaded. Open the file by clicking on it.



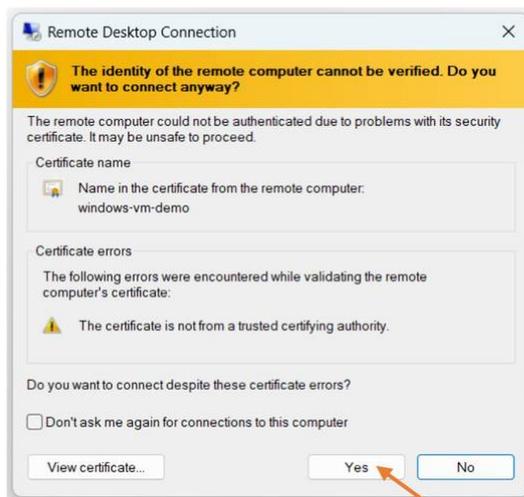
Click on "Connect"



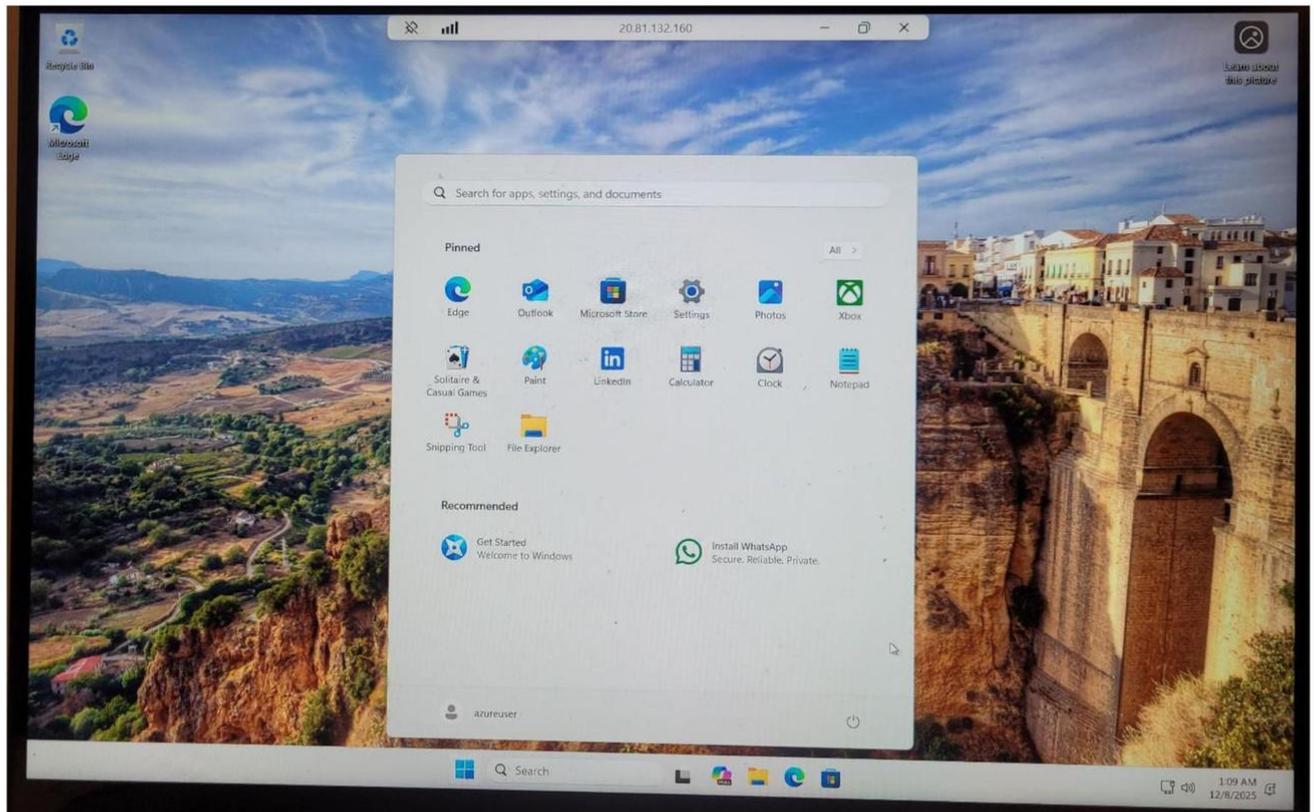
Enter the password



Click on "OK"



Click on "Yes" and wait for some time for it to connect to Windows



We are connected to the Windows virtual machine