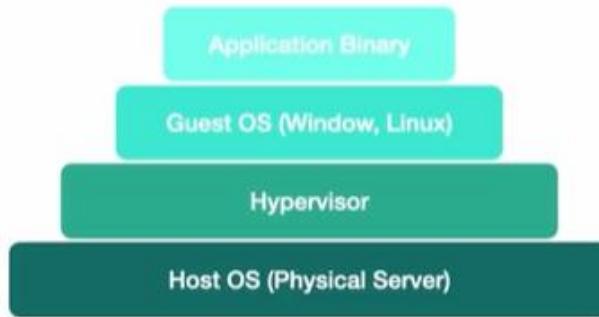


SECTION 3: AZURE VIRTUAL MACHINE

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.

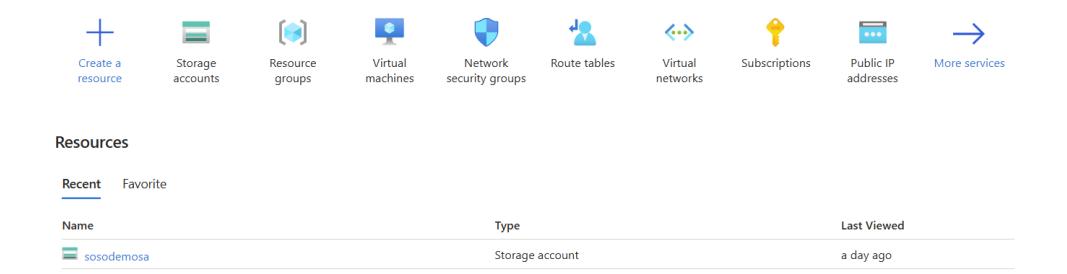
And at last, there comes the **Application Binary**, which is sitting on the Guest OS. This Application Binary is the binary we want to deploy or run inside our Guest OS.

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.



The screenshot shows the Microsoft Azure portal interface. At the top, there's a blue header bar with the Microsoft Azure logo, a search bar containing "Search resources, services, and docs (G+)", and several navigation icons. Below the header is a section titled "Azure services" with icons for creating a resource, storage accounts, resource groups, virtual machines, network security groups, route tables, virtual networks, subscriptions, public IP addresses, and more services. The main content area is titled "Resources" and includes tabs for "Recent" and "Favorite". A table lists recent resources with columns for Name, Type, and Last Viewed. The "Recent" tab is selected, showing items like "sosodemos" (Storage account), "rg-demo-section-1" (Resource group), "dev-eus-ubuntu-nsg" (Network security group), and "dev-eus-ubuntu" (Virtual machine). The "Last Viewed" column indicates the time since the resource was last accessed.

Name	Type	Last Viewed
sosodemos	Storage account	a day ago
rg-demo-section-1	Resource group	a day ago
dev-eus-ubuntu-nsg	Network security group	3 days ago
dev-eus-ubuntu	Virtual machine	3 days ago
vnet-eastus2	Virtual network	4 days ago
dev-eus-ubuntu-ip	Public IP address	4 days ago
dev-eus-ubuntu796_z1	Network Interface	4 days ago
rg-demo-section-6	Resource group	4 days ago
soso	Resource group	4 days ago
ubuntu-public-vm	Virtual machine	5 days ago
ubuntu-public-vm774_z1	Network Interface	5 days ago
ubuntu-public-vm-nsq	Network security group	5 days ago

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

The screenshot shows the Microsoft Azure portal interface. At the top, there's a search bar with the placeholder "Resource Groups". Below the search bar, there are tabs for "All", "Services (38)", and "Marketplace (2)". A "More (4)" button is also present. The main content area is titled "Services" and contains a "See more" link. Under "Services", there are two items: "Resource groups" (with a yellow key icon) and "Subscriptions" (with a blue key icon). Both items have "Keywords: resource groups" listed. To the right of these, there are links for "Resource Manager" and "Resource Manager". Below this section is a "Marketplace" heading with a "See more" link. Under "Marketplace", there are three items: "Resource group", "Move the Chain Engage", and "Documentation". The "Documentation" section lists several articles: "What is Azure Resource Manager? - Azure Resource Manager", "Move Azure resources to a new resource group or subscription - Azure Resource ...", "Use tags to organize your Azure resources and management hierarchy - Azure Res...", and "Use an Azure Resource Manager service connection - Azure Pipelines". At the bottom of the search results, there's a "Give feedback" link. On the left side of the screen, there's a sidebar titled "Azure services" with a "Create a resource" button and a "Storage accounts" button. Below that is a "Resources" section with "Recent" and "Favorite" tabs. The "Recent" tab is selected and shows a list of recent resources, including "sosodemos", "rg-demo-section-1", "dev-eus-ubuntu-nsg", "dev-eus-ubuntu", "vnet-eastus2", "dev-eus-ubuntu-ip", "dev-eus-ubuntu796_z1", "rg-demo-section-6", "soso", "ubuntu-public-vm", "ubuntu-public-vm774_z1", and "ubuntu-public-vm-nsg". There's also a "See all" link. On the right side, there are links for "Subscriptions" (with a yellow key icon), "Public IP addresses" (with a blue server icon), and "More services" (with a blue arrow icon). Below these is a "Last Viewed" section with a list of items viewed recently, each with a timestamp: "a day ago", "a day ago", "3 days ago", "3 days ago", "4 days ago", "5 days ago", "5 days ago", and "5 days ago".

Select “Resource Groups” under “Services”

The screenshot shows the Microsoft Azure Resource Manager - Resource groups page. The top navigation bar includes a search bar, Copilot, and user information. The left sidebar has a 'Resource groups' section selected. The main area displays a table of existing resource groups with columns for Name, Subscription, and Location. A red arrow points from the 'Create' button in the top navigation bar to the 'Resource group name' input field on the 'Create a resource group' page.

Click on “Create”

The screenshot shows the 'Create a resource group' page. It has tabs for Basics, Tags, and Review + create. The Basics tab is selected. It includes fields for Subscription (Azure subscription 1), Resource group name (with a red arrow pointing to it), and Region ((US) East US 2). At the bottom are 'Previous', 'Next', and 'Review + create' buttons.

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”

Prepared by Sidney Smith Ebot

Subscription * (Azure subscription 1)

Resource group name * (rg-vm-demo)

Region * (US) East US 2

Basics Tags Review + create

Previous Next Review + create

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

Subscription * (Azure subscription 1)

Resource group name * (rg-vm-demo)

Region * (US) East US 2

Basics Tags Review + create

Previous Next Review + create

Click on “Next”

Prepared by Sidney Smith Ebott

Microsoft Azure

Search resources, services, and docs (G+/)

Copilot

ebotsidneysmith@outlook.com

DEFAULT DIRECTORY (EBOTSIDN...)

Home > Resource Manager | Resource groups >

Create a resource group ...

Basics Tags Review + create

Apply tags to your Azure resources to logically organize them by categories. A tag consists of a key (name) and a value. Tag names are case-insensitive and tag values are case-sensitive. [Learn more](#)

Name	Value	Resource
<input type="text"/>	:	<input type="text"/> Resource group

Previous Next Review + create

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

Microsoft Azure

Search resources, services, and docs (G+/)

Copilot

ebotsidneysmith@outlook.com

DEFAULT DIRECTORY (EBOTSIDN...)

Home > Resource Manager | Resource groups >

Create a resource group ...

Basics Tags Review + create

Automation Link

Basics

Subscription: Azure subscription 1

Resource group name: rg-vm-demo

Region: East US 2

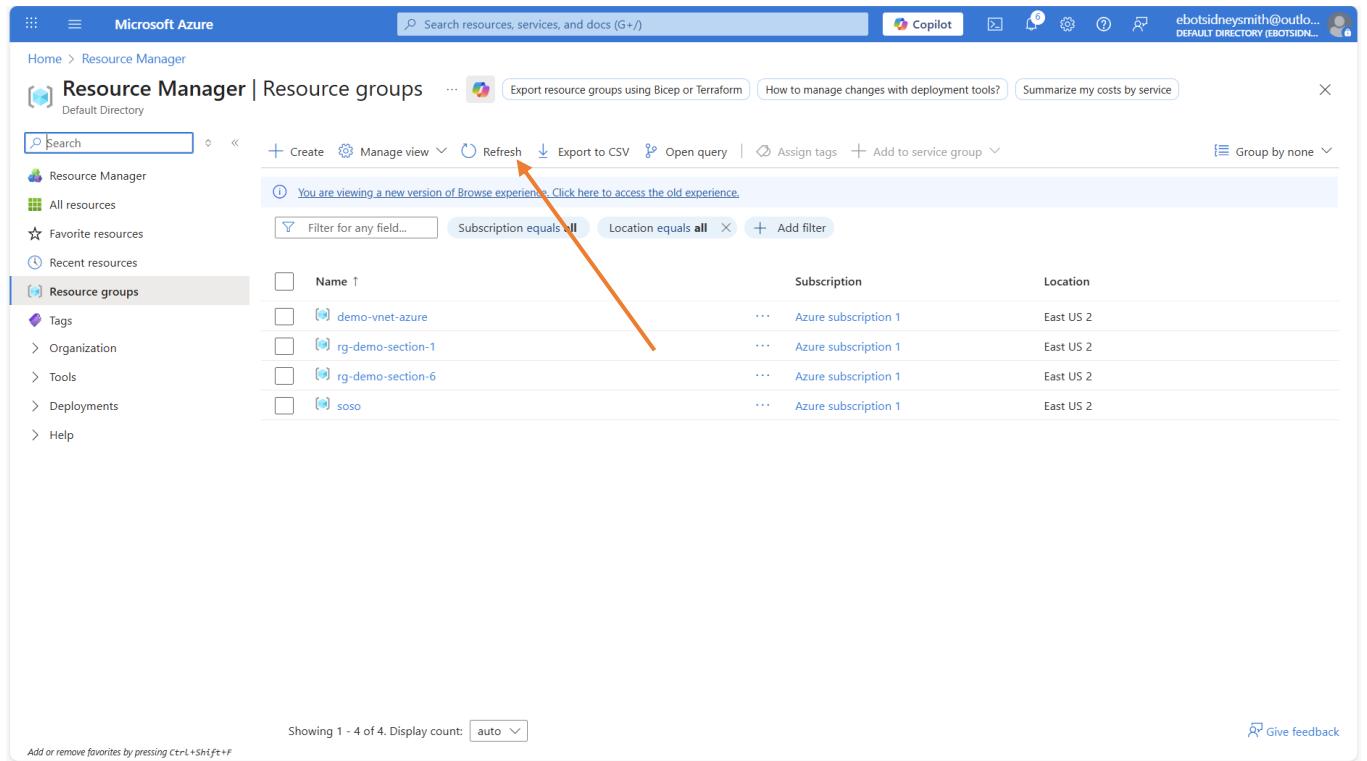
Tags

None

Previous Next Create

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

Prepared by Sidney Smith Ebot



Microsoft Azure

Search resources, services, and docs (G+)

Copilot

ebotsidneysmith@outlook.com

Default Directory

Resource Manager | Resource groups

Export resource groups using Bicep or Terraform | How to manage changes with deployment tools? | Summarize my costs by service

Search

+ Create | Manage view | Refresh | Export to CSV | Open query | Assign tags | Add to service group

You are viewing a new version of Browse experience. Click here to access the old experience.

Filter for any field... Subscription equals all Location equals all Add filter

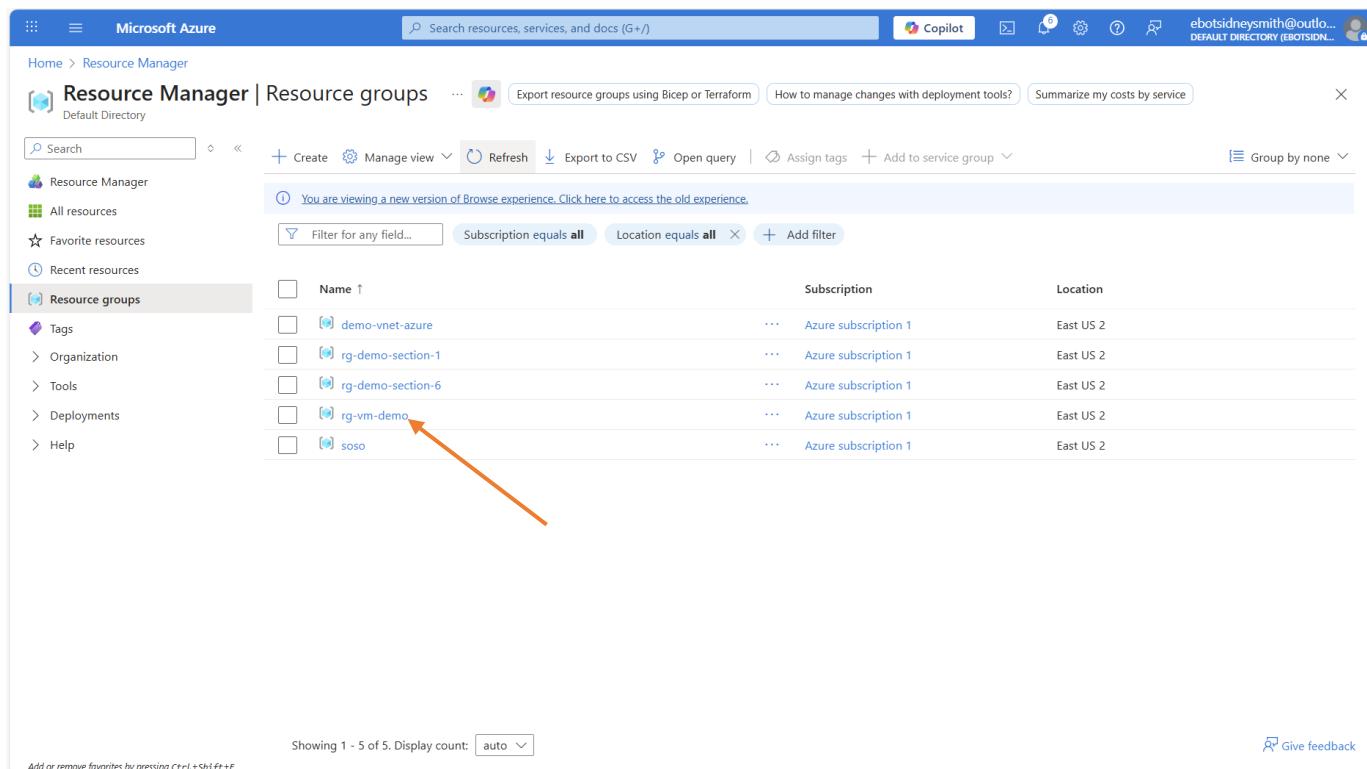
Name	Subscription	Location
demo-vnet-azure	Azure subscription 1	East US 2
rg-demo-section-1	Azure subscription 1	East US 2
rg-demo-section-6	Azure subscription 1	East US 2
soso	Azure subscription 1	East US 2

Show 1 - 4 of 4. Display count: auto

Add or remove favorites by pressing Ctrl+Shift+F

Give feedback

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



Microsoft Azure

Search resources, services, and docs (G+)

Copilot

ebotsidneysmith@outlook.com

Default Directory

Resource Manager | Resource groups

Export resource groups using Bicep or Terraform | How to manage changes with deployment tools? | Summarize my costs by service

Search

+ Create | Manage view | Refresh | Export to CSV | Open query | Assign tags | Add to service group

You are viewing a new version of Browse experience. Click here to access the old experience.

Filter for any field... Subscription equals all Location equals all Add filter

Name	Subscription	Location
demo-vnet-azure	Azure subscription 1	East US 2
rg-demo-section-1	Azure subscription 1	East US 2
rg-demo-section-6	Azure subscription 1	East US 2
rg-vm-demo	Azure subscription 1	East US 2
soso	Azure subscription 1	East US 2

Show 1 - 5 of 5. Display count: auto

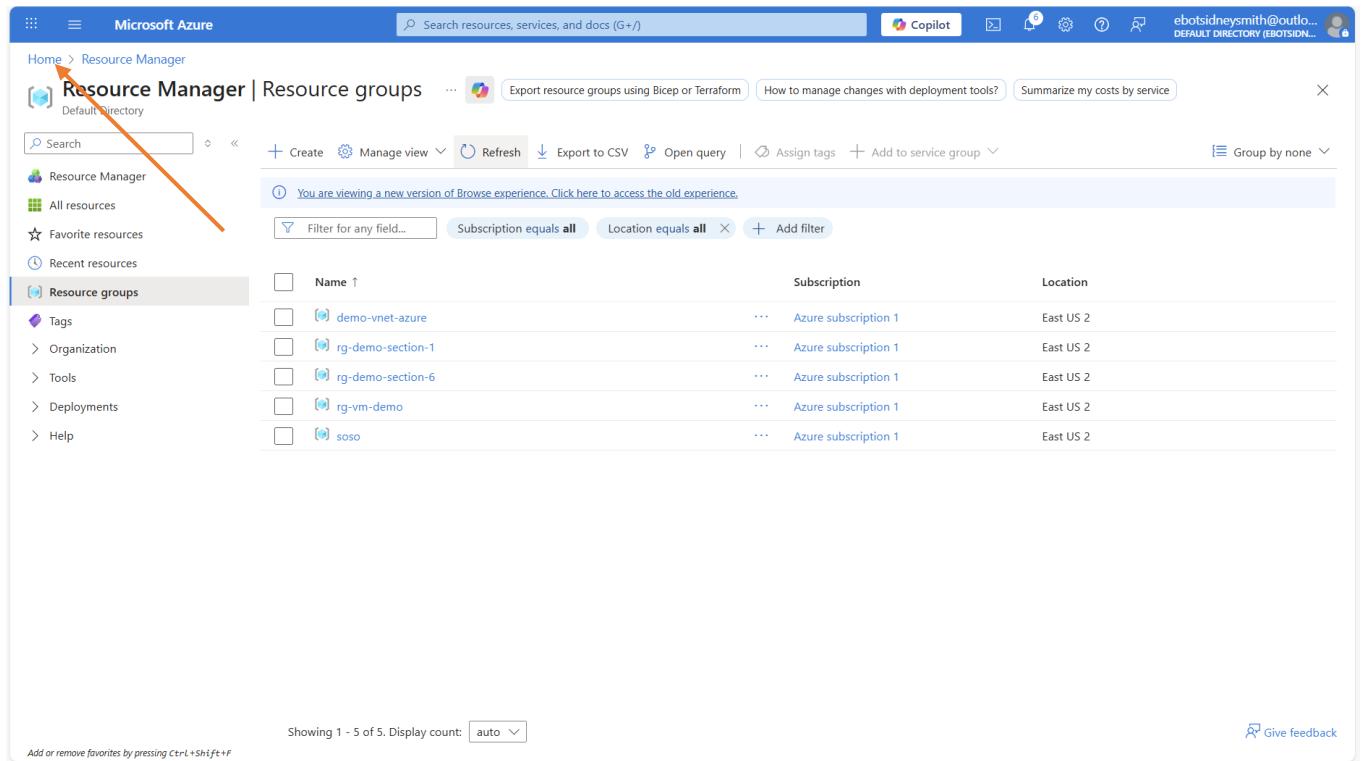
Add or remove favorites by pressing Ctrl+Shift+F

Give feedback

You can see the resource group we just created.

Now, let us continue to create our Virtual machine.

Prepared by Sidney Smith Ebot



Microsoft Azure

Search resources, services, and docs (G+/)

Copilot

ebotsidneysmith@outlook.com
DEFAULT DIRECTORY (EBOTSID...)

Home > Resource Manager

Resource Manager | Resource groups

Default Directory

Search

Create Manage view Refresh Export to CSV Open query Assign tags Add to service group Group by none

You are viewing a new version of Browse experience. Click here to access the old experience.

Filter for any field... Subscription equals all Location equals all Add filter

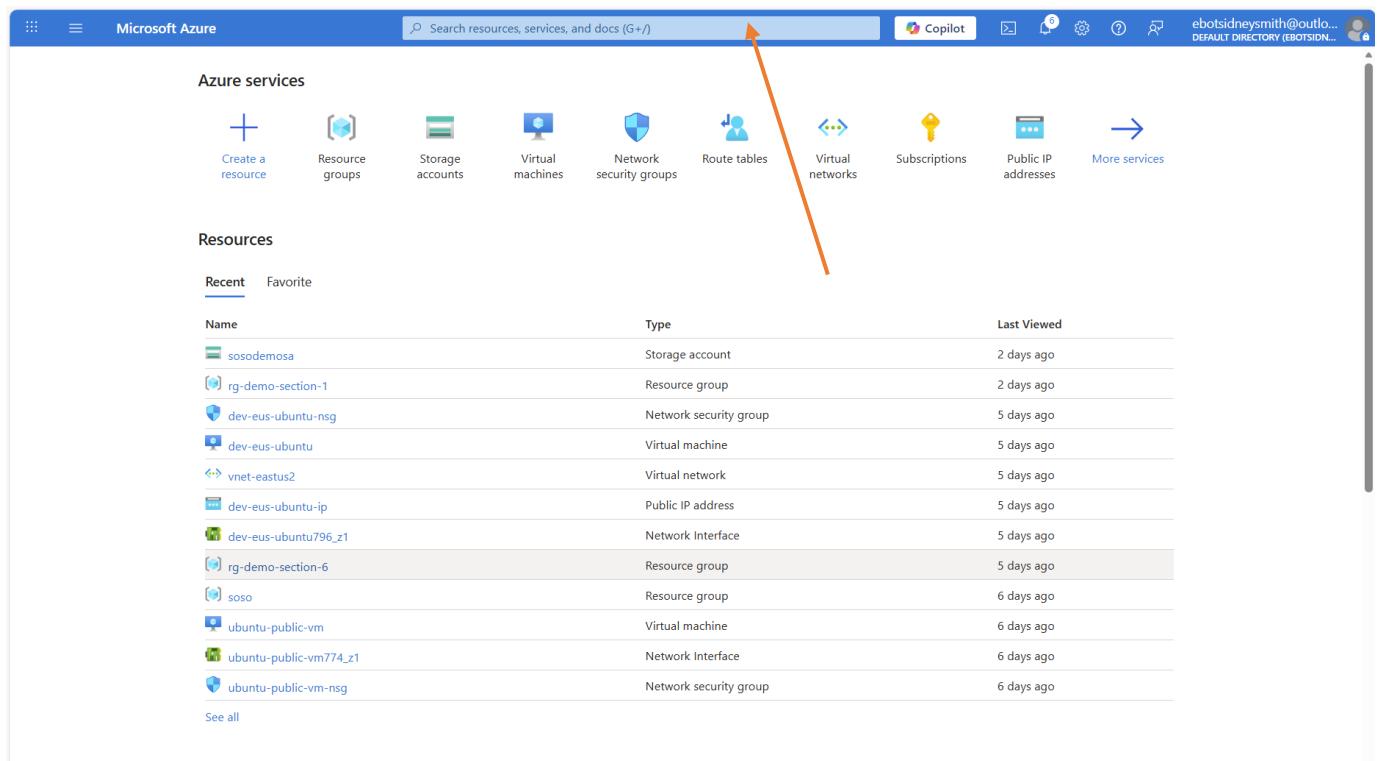
Name	Subscription	Location
demo-vnet-azure	Azure subscription 1	East US 2
rg-demo-section-1	Azure subscription 1	East US 2
rg-demo-section-6	Azure subscription 1	East US 2
rg-vm-demo	Azure subscription 1	East US 2
soso	Azure subscription 1	East US 2

Showing 1 - 5 of 5. Display count: auto

Add or remove favorites by pressing Ctrl+Shift+F

Give feedback

Click on “Home”



Microsoft Azure

Search resources, services, and docs (G+/)

Copilot

ebotsidneysmith@outlook.com
DEFAULT DIRECTORY (EBOTSID...)

Azure services

Create a resource

Resource groups

Storage accounts

Virtual machines

Network security groups

Route tables

Virtual networks

Subscriptions

Public IP addresses

More services

Resources

Recent Favorite

Name	Type	Last Viewed
sosodemos	Storage account	2 days ago
rg-demo-section-1	Resource group	2 days ago
dev-eus-ubuntu-nsg	Network security group	5 days ago
dev-eus-ubuntu	Virtual machine	5 days ago
vnet-eastus2	Virtual network	5 days ago
dev-eus-ubuntu-ip	Public IP address	5 days ago
dev-eus-ubuntu796_z1	Network Interface	5 days ago
rg-demo-section-6	Resource group	5 days ago
soso	Resource group	6 days ago
ubuntu-public-vm	Virtual machine	6 days ago
ubuntu-public-vm774_z1	Network Interface	6 days ago
ubuntu-public-vm-nsg	Network security group	6 days ago

See all

Search for “Virtual Machines”

Prepared by Sidney Smith Ebot

The screenshot shows the Microsoft Azure portal interface. At the top, there's a search bar with the placeholder "Virtual Machines". Below the search bar, the "Azure services" section is visible, featuring a "Create a resource" button and a "Resource groups" button. An orange arrow points from the "Resource groups" button towards the search results. The search results list includes "Virtual machines", "Virtual machines (classic)", "Virtual Machines (Operator Nexus)", and "SQL Server on Azure Virtual Machines". To the right of the search results, there are links for "Subscriptions", "Public IP addresses", and "More services". A sidebar on the left shows a list of recent resources, including "sosodemosa", "rg-demo-section-1", "dev-eus-ubuntu-nsg", and "ubuntu-public-vm". The main content area displays a list of "Last Viewed" items, such as "Quickstart - Create a Windows VM in the Azure portal - Azure Virtual Machines" and "Availability options for Azure Virtual Machines - Azure Virtual Machines".

Click on “Virtual Machines”

The screenshot shows the "Compute infrastructure | Virtual machines" page in the Microsoft Azure portal. The URL in the address bar is <https://learn.microsoft.com/en-us/azure/virtual-machines/windows/quick-create-portal?w...>. The page title is "Compute infrastructure | Virtual machines". On the left, there's a navigation menu with "Virtual machines" selected. In the center, there's a table listing virtual machines. The first two rows are:

Name	Subscription	Resource Group	Location	Status	Operating syst...	Size	Public IP addre...	Disks
dev-eus-ubuntu	Azure subscript...	rg-demo-sectio...	East US 2	Running	Linux	Standard_B1s	68.154.5.26	1
ubuntu-public-vm	Azure subscript...	demo-vnet-azure	East US 2	Running	Linux	Standard_B1s	172.206.33.119	1

An orange arrow points from the "Create" button in the top navigation bar towards the dropdown menu next to it.

Click on the drop down on “Create”

The screenshot shows the Microsoft Azure Compute Infrastructure Virtual Machines page. On the left, a sidebar lists options like Overview, All resources, Infrastructure, Virtual machines (which is selected and highlighted in grey), Virtual Machine Scale Set (VMSS), Compute Fleet, Disks + images, Capacity + placement, Related services, and Help. An orange arrow points from the Infrastructure section towards the Virtual machines option. The main content area displays a list of virtual machines with columns for Resource Group, Location, Status, Operating system, Size, Public IP address, and Disks. There are two entries: one for rg-demo-section and another for demo-vnet-azure.

Select “Virtual Machine”

The screenshot shows the 'Create a virtual machine' wizard in the 'Basics' step. It includes tabs for Basics, Disks, Networking, Management, Monitoring, Advanced, Tags, and Review + create. The Basics tab is selected. A callout box highlights the 'Resource group' dropdown menu, which shows '(New) Resource group' and a 'Create new' link. To the right, there's an 'Estimated monthly costs' summary table and a 'Give feedback about your estimate experience' link. At the bottom, there are navigation buttons for < Previous, Next : Disks >, and 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
Estimated monthly cost	\$4.80

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

Create a virtual machine

Basics

Subscription * Resource group *

Instance details

Virtual machine name * Region * Availability options Choose up to 3 availability zones, one VM per zone Let Azure assign the best zone for your needs

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.

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$4.80

< Previous Next : Disks > Review + create Give feedback

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

Create a virtual machine

Basics

Subscription * Resource group *

Instance details

Virtual machine name * Region * Availability options Deploy to an Azure Extended Zone Choose up to 3 availability zones, one VM per zone Let Azure assign the best zone for your needs

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.

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$4.80

< Previous Next : Disks > Review + create Give feedback

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”.

Prepared by Sidney Smith Ebot

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The 'Basics' tab is selected. On the left, under 'Instance details', the 'Virtual machine name' is set to 'linux-vm-demo'. The 'Region' dropdown is set to '(US) East US 2'. Below it, the 'Availability options' section has 'Self-selected zone' selected. On the right, an 'Estimated monthly costs' summary table shows a total cost of \$4.80. At the bottom, there are navigation buttons: '< Previous', 'Next : Disks >', and 'Review + create'.

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 'Basics' tab is selected. Under 'Instance details', the 'Virtual machine name' is 'linux-vm-demo' and the 'Region' is '(US) East US 2'. In the 'Availability options' section, 'Self-selected zone' is selected. The 'Availability zone' dropdown is set to 'Zone 1'. On the right, the 'Estimated monthly costs' table shows a total cost of \$4.80. Navigation buttons at the bottom include '< Previous', 'Next : Disks >', and 'Review + create'.

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

Create a virtual machine

Instance details

- Virtual machine name * linux-vm-demo
- Region * (US) East US 2
- Availability options Availability zone
- Zone options:
 - Self-selected zone
 - 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
- Run with Azure Spot discount

Estimated monthly costs

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

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

Create a virtual machine

Instance details

- Virtual machine name * linux-vm-demo
- Region * (US) East US 2
- Availability options Availability zone
- Zone options:
 - Self-selected zone
 - 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
- Run with Azure Spot discount

Estimated monthly costs

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

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

Instance details

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)

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

[< 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.

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
Estimated monthly cost	\$4.80

[Give feedback](#)

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

Microsoft Azure

Home > Compute infrastructure | Virtual machines > Create a virtual machine

Instance details

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

Username * azureuser

[< 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.

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
Estimated monthly cost	\$4.80

[Give feedback](#)

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

The screenshot shows the 'Create a virtual machine' wizard in Microsoft Azure. The 'VM architecture' section is highlighted, showing options for 'Arm64' and 'x64'. An orange arrow points to the 'x64' option, which is selected. The right panel displays 'Estimated monthly costs' for a Standard_B1s VM, showing a total of \$4.80.

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

On “VM Architecture”, select “x64”

The screenshot shows the 'Create a virtual machine' wizard in Microsoft Azure. The 'Run with Azure Spot discount' checkbox is highlighted with an orange arrow, indicating it should remain unchecked. The right panel displays 'Estimated monthly costs' for a Standard_B1s VM, showing a total of \$4.80.

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

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

Create a virtual machine

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 | 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

Security type: Trusted launch virtual machines | Configure security features

Image: Ubuntu Server 24.04 LTS - x64 Gen2 | See all images | Configure VM generation

VM architecture: x64

Run with Azure Spot discount:

Size: Standard_B1s - 1 vcpu, 1 GiB memory (\$7.59/month) (free services eligible) | See all sizes

Enable Hibernation: (disabled)

Administrator account

Authentication type: 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: azureuser

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

Category	Cost
Virtual machine	\$0.00
Size	Standard_B1s
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$4.80

< Previous | Next : Disks > | Review + create | Give feedback

For “Size”, select “**Standard_B1s-1 vcpu**” to keep the cost low.

Create a virtual machine

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 | 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

Security type: Trusted launch virtual machines | Configure security features

Image: Ubuntu Server 24.04 LTS - x64 Gen2 | See all images | Configure VM generation

VM architecture: x64

Run with Azure Spot discount:

Size: Standard_B1s - 1 vcpu, 1 GiB memory (\$7.59/month) (free services eligible) | See all sizes

Enable Hibernation: (disabled)

Administrator account

Authentication type: 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: azureuser

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

Category	Cost
Virtual machine	\$0.00
Size	Standard_B1s
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$4.80

< Previous | Next : Disks > | Review + create | Give feedback

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

Create a virtual machine

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 | Help me create a low cost VM

Security type: Trusted launch virtual machines | Configure security features

Image *: Ubuntu Server 24.04 LTS - x64 Gen2 | See all images | Configure VM generation

VM architecture: x64

Run with Azure Spot discount:

Size *: Standard_B1s - 1 vcpu, 1 GiB memory (\$7.59/month) (free services eligible) | See all sizes

Enable Hibernation: (Hibernation does not currently support Trusted launch and Confidential virtual machines for Linux images. [Learn more](#))

Administrator account

Authentication type: 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 *: azureuser

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.

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
Estimated monthly cost	\$4.80

< Previous | Next : Disks > | Review + create | Give feedback

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**”.

Create a virtual machine

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 | Help me create a low cost VM

Security type: Trusted launch virtual machines | Configure security features

Image *: Ubuntu Server 24.04 LTS - x64 Gen2 | See all images | Configure VM generation

VM architecture: x64

Run with Azure Spot discount:

Size *: Standard_B1s - 1 vcpu, 1 GiB memory (\$7.59/month) (free services eligible) | See all sizes

Enable Hibernation: (Hibernation does not currently support Trusted launch and Confidential virtual machines for Linux images. [Learn more](#))

Administrator account

Authentication type: 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 *: azureuser

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.

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
Estimated monthly cost	\$4.80

< Previous | Next : Disks > | Review + create | Give feedback

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

The screenshot shows the 'Create a virtual machine' wizard in Microsoft Azure. The 'SSH public key source' dropdown is highlighted with an orange arrow, pointing to the 'Generate new key pair' option. The 'SSH Key Type' section below it shows 'RSA SSH Format' selected. The 'Estimated monthly costs' sidebar on the right indicates a total cost of \$4.80.

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

The screenshot shows the 'Create a virtual machine' wizard in Microsoft Azure. The 'SSH Key Type' dropdown is highlighted with an orange arrow, pointing to the 'RSA SSH Format' option. The 'Estimated monthly costs' sidebar on the right indicates a total cost of \$4.80.

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

The screenshot shows the 'Create a virtual machine' wizard in Microsoft Azure. The 'Key pair name' field is highlighted with a red arrow. The estimated monthly costs table on the right shows a total cost of \$4.80.

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
Estimated monthly cost	\$4.80

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.

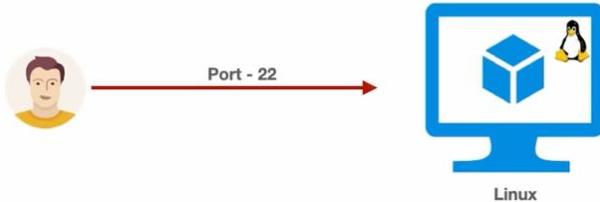
The screenshot shows the 'Create a virtual machine' wizard in Microsoft Azure. The 'Public inbound ports' section is highlighted with an orange arrow pointing to the 'Allow selected ports' radio button. The estimated monthly costs table on the right shows a total cost of \$4.80.

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
Estimated monthly cost	\$4.80

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

The screenshot shows the Microsoft Azure 'Create a virtual machine' wizard. In the 'Inbound port rules' section, there is a dropdown menu labeled 'Select inbound ports *' containing 'SSH (22)'. An orange arrow points to this dropdown. To the right, a sidebar displays 'Estimated monthly costs' for a 'Standard_B1s' VM, which includes costs for Virtual machine (\$0.00), Disks (\$4.80), Networking (\$0.00), Management (\$0.00), and Monitoring (\$0.00). The total estimated monthly cost is \$4.80.

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)**”

Create a virtual machine

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 | Help me create a high performance VM

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 * 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

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
Estimated monthly cost	\$4.80

Then click on “Next: Disks”

Create a virtual machine

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 | Help me create a high performance VM

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.

Name	Size (GB)	Disk type	Host caching	Delete with VM
				<input type="checkbox"/>

< 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

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
Estimated monthly cost	\$4.80

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

Prepared by Sidney Smith Ebot

Microsoft Azure

Create a virtual machine

Networking

Basics Disks Networking Management Monitoring Advanced Tags Review + create

Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution.

[Learn more ↗](#)

Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network * (new) linux-vm-demo-vnet Create new

Subnet * (new) default (10.1.0.0/24)

Public IP (new) linux-vm-demo-ip Create new

NIC network security group None Basic Advanced

Public inbound ports * None Allow selected ports

Select inbound ports * SSH (22)

⚠️ 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: Management > 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.

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	
Estimated monthly cost	\$8.45

Give feedback

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

Microsoft Azure

Create a virtual machine

Management

Basics Disks Networking Management Monitoring Advanced Tags Review + create

Configure management options for your VM.

Microsoft Defender for Cloud

Microsoft Defender for Cloud provides unified security management and advanced threat protection across hybrid cloud workloads. [Learn more ↗](#)

Your subscription is protected by Foundational Cloud Security Posture Management Free Plan.

Identity

Enable system assigned managed identity

Microsoft Entra ID

Login with Microsoft Entra ID

RBAC role assignment of Virtual Machine Administrator Login or Virtual Machine User Login is required when using Microsoft Entra ID login. [Learn more ↗](#)

Microsoft Entra ID login now uses SSH certificate-based authentication. You will need to use an SSH client that supports OpenSSH certificates. You can use Azure CLI or Cloud Shell from the Azure Portal. [Learn more ↗](#)

Auto-shutdown

Enable auto-shutdown

Review

< Previous Next: Monitoring > 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.

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

Give feedback

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

Prepared by Sidney Smith Ebot

The screenshot shows the 'Create a virtual machine' wizard in Microsoft Azure, specifically the 'Monitoring' step. The 'Monitoring' tab is selected. On the left, there are sections for 'Alerts', 'Diagnostics' (with options for Boot diagnostics, OS guest diagnostics, and Application health monitoring), and 'Health'. On the right, the 'Estimated monthly costs' table is displayed, showing the cost for each service: Basics (\$0.00), Disks (\$4.80), Networking (\$3.65), Management (\$0.00), and Monitoring (\$0.00). A note indicates that managed storage accounts are recommended. At the bottom, there are navigation buttons: '< Previous', 'Next : Advanced >', and 'Review + create'. An orange arrow points from the text 'Here, we are also going to leave everything as default. Click on "Next: Advanced"' to the 'Next : Advanced >' button.

Category	Cost
Basics	\$0.00
Disks	\$4.80
Networking	\$3.65
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$8.45

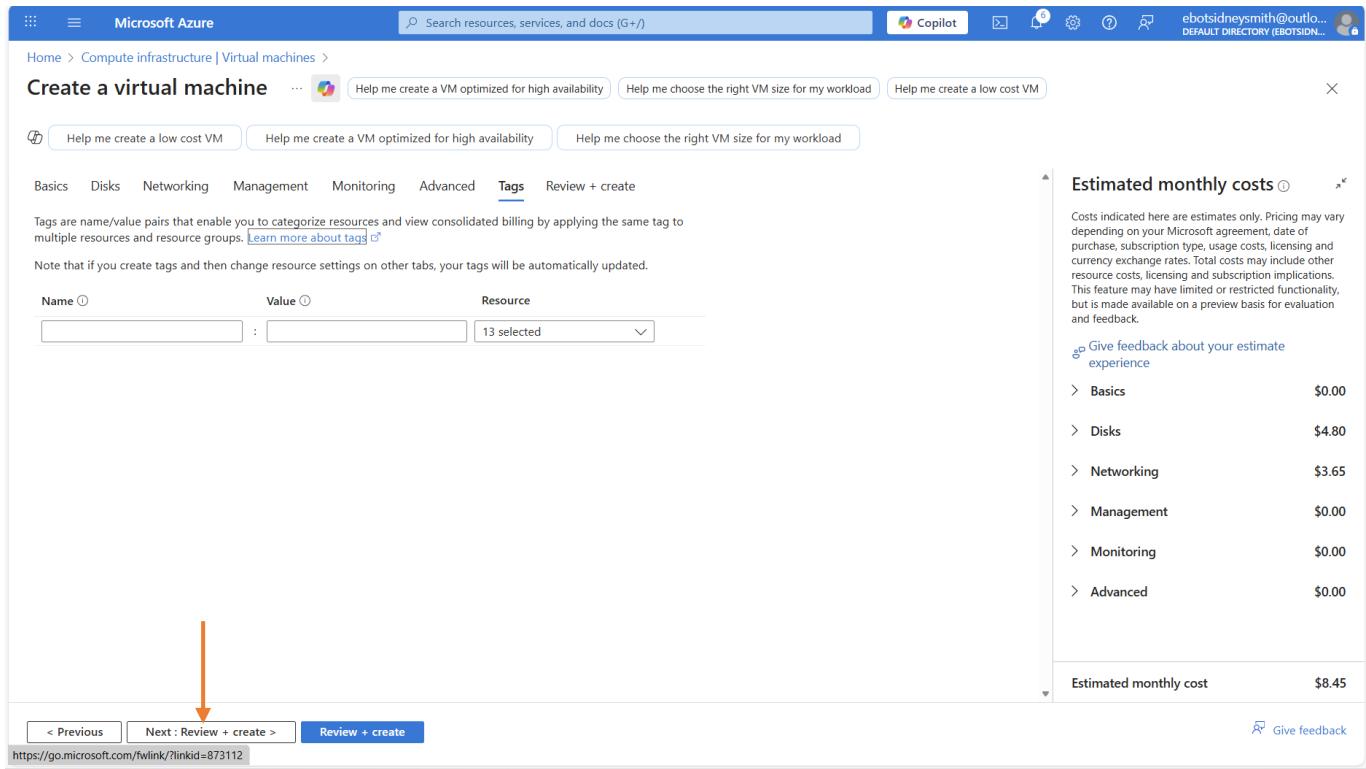
Here, we are also going to leave everything as default. Click on “Next: Advanced”

The screenshot shows the 'Create a virtual machine' wizard in Microsoft Azure, specifically the 'Advanced' step. The 'Advanced' tab is selected. On the left, there are sections for 'Extensions' (with a note that extensions provide post-deployment configuration and automation), 'VM applications' (with a note about application files being securely downloaded), and 'Custom data and cloud init' (with a note about passing a cloud-init script or data). On the right, the 'Estimated monthly costs' table is displayed, showing the cost for each service: Basics (\$0.00), Disks (\$4.80), Networking (\$3.65), Management (\$0.00), and Monitoring (\$0.00). A note indicates that no items have been added to the custom data section. At the bottom, there are navigation buttons: '< Previous', 'Next : Tags >', and 'Review + create'. An orange arrow points from the text 'Here, we will leave everything as default and click on "Next: Tags"' to the 'Next : Tags >' button.

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

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

Prepared by Sidney Smith Ebot

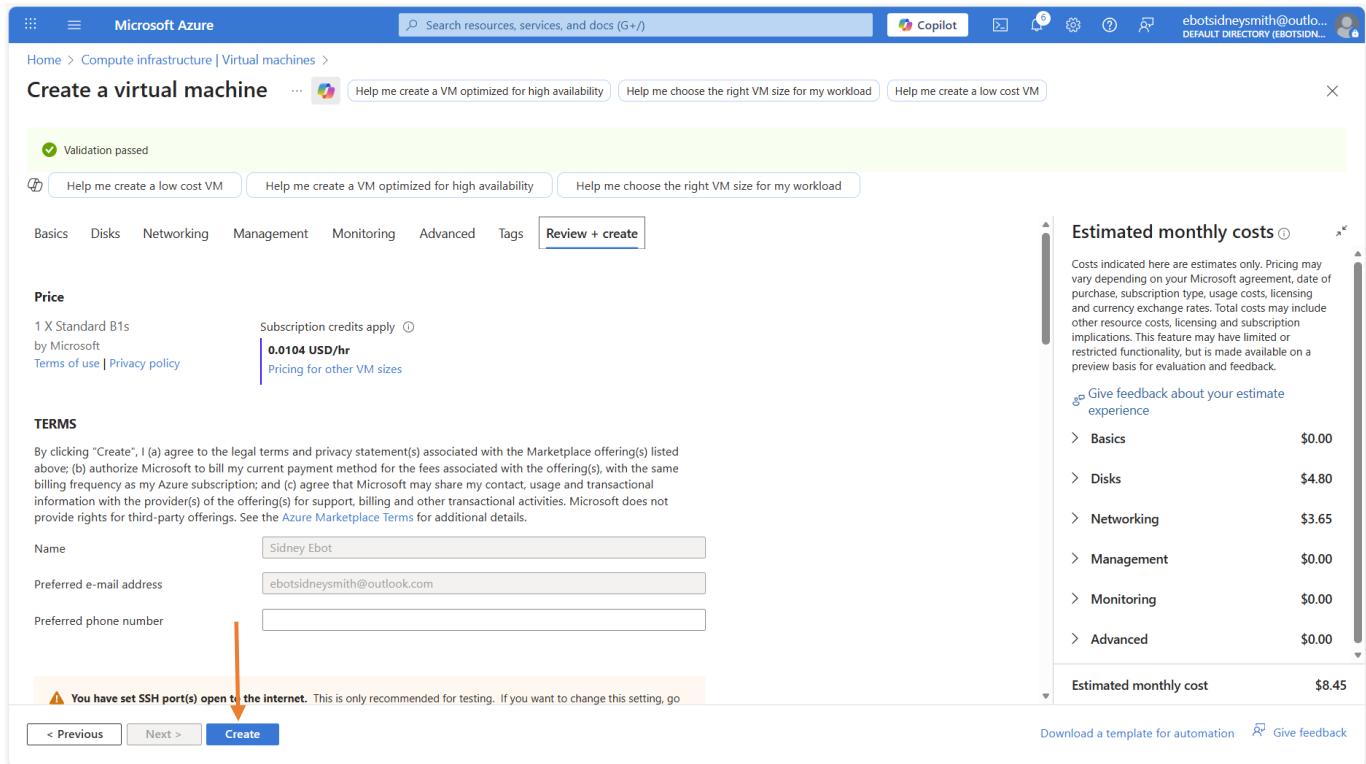


The screenshot shows the 'Create a virtual machine' wizard on the 'Tags' tab. It displays a table for adding tags, with one row selected: 'Name' is empty, 'Value' is also empty, and 'Resource' dropdown shows '13 selected'. To the right is a 'Estimated monthly costs' table:

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.	
> Basics	\$0.00
> Disks	\$4.80
> Networking	\$3.65
> Management	\$0.00
> Monitoring	\$0.00
> Advanced	\$0.00
Estimated monthly cost	\$8.45

At the bottom, there are navigation buttons: '< Previous', 'Next: Review + create >', and 'Review + create'. A red arrow points from the 'Tags' table down to the 'Review + create' button.

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' wizard on the 'Review + create' tab. It includes validation messages, price details, terms, and contact information. A warning message at the bottom states: '⚠ You have set SSH port(s) open to the internet. This is only recommended for testing. If you want to change this setting, go'. A red arrow points from this message down to the 'Create' button.

Review and click on “Create”

The screenshot shows the Microsoft Azure 'Create a virtual machine' wizard. The current step is 'Generate new key pair'. A callout box contains the following text:

An SSH key pair contains both a public key and a private key. **Azure doesn't store the private key.** After the SSH key resource is created, you won't be able to download the private key again. [Learn more](#)

Below the text are two buttons: 'Download private key and create resource' (highlighted with an orange arrow) and 'Return to create a virtual machine'.

On the right side of the screen, there is a sidebar titled 'Estimated monthly costs' which lists various Azure services and their estimated monthly costs.

Then, click on “Download private key and create resource”

The screenshot shows the Microsoft Azure 'Create a virtual machine' wizard. The current step is 'Generate new key pair'. A callout box contains the same text as the previous screenshot.

After clicking 'Download private key and create resource', a file download dialog appears in the browser's Downloads folder. It shows two files: 'linux-vm-demo_key.pem' and 'dev-eus-ubuntu_key.pem'. The 'linux-vm-demo_key.pem' file is highlighted with an orange arrow.

On the right side of the screen, there is a sidebar titled 'Estimated monthly costs' which lists various Azure services and their estimated monthly costs.

You can see that the key pair has been downloaded.

The screenshot shows the Microsoft Azure Deployment Overview page for a completed deployment named "CreateVm-canonical.ubuntu-24_04-lts-server-20251207153142". The main message is "Your deployment is complete". Deployment details include a start time of 12/7/2025, 5:30:10 PM. A large orange arrow points from the "Go to resource" button to the "Create another VM" button.

Deployment name: CreateVm-canonical.ubuntu-24_04-lts-server-20251207153142 | **Subscription:** Azure subscription 1 | **Start time:** 12/7/2025, 5:30:10 PM | **Correlation ID:** e94c6f92-4f4b-4850-81c0-e4de227ed0d5

Deployment details:

- Setup auto-shutdown Recommended
- Monitor VM health, performance and network dependencies Recommended
- Run a script inside the virtual machine Recommended

Next steps:

- Go to resource** (highlighted with an orange arrow)
- Create another VM

Give feedback

Cost Management
Get notified to stay within your budget and prevent unexpected charges on your bill.
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Microsoft Defender for Cloud
Secure your apps and infrastructure
[Go to Microsoft Defender for Cloud >](#)

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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 >](#)

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

The screenshot shows the Microsoft Azure Virtual Machine Overview page for a VM named "linux-vm-demo". The "Networking" section displays the Public IP address as 20.49.50.89, which is highlighted with an orange arrow.

Essentials

Resource group (move) : rg-vm-demo	Operating system : Linux (ubuntu 24.04)
Status : Running	Size : Standard B1s (1 vcpu, 1 GiB memory)
Location : East US 2 (Zone 1)	Primary NIC public IP : 20.49.50.89
Subscription (move) : Azure subscription 1	1 associated public IPs
Subscription ID : dd5d4252-9ca5-4581-9dc7-b63c0788bde7	Virtual network/subnet : linux-vm-demo-vnet/default
Availability zone : 1	DNS name : Not configured
Tags (edit) : Add tags	Health state : -
	Time created : 12/7/2025, 10:30 PM UTC

Properties **Virtual machine** **Networking**

Computer name : linux-vm-demo	Public IP address : 20.49.50.89 (Network interface linux-vm-demo186_z1)
Operating system : Linux (ubuntu 24.04)	1 associated public IPs
VM generation : V2	Public IP address (IPv6) : -
VM architecture : x64	Private IP address : 10.1.0.4
Agent status : Ready	Private IP address (IPv6) : -
Agent version : 2.15.0.1	Virtual network/subnet : linux-vm-demo-vnet/default
Hibernation : Disabled	DNS name : Configure
Host group : -	

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

Microsoft Azure

Home > CreateVm-canonical.ubuntu-24_04-lts-server-20251207153142 | Overview >

linux-vm-demo Virtual machine

Search Help me copy this VM in any region Manage this VM with Azure CLI

Connect Start Restart Stop Hibernate Capture Delete Refresh Open in mobile Feedback CLI / PS

Overview

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Resource visualizer
- Connect
- Networking
 - Network settings
 - Load balancing
 - Application security groups
 - Network manager
- Settings
- Availability + scale
- Security
- Backup + disaster recovery
- Operations
- Monitoring
- Automation
- Help

Add or remove favorites by pressing **Ctrl+Shift+F**

Essentials

Resource group (move): rg-vm-demo	Operating system : Linux (ubuntu 24.04)
Status : running	Size : Standard B1s (1 vcpu, 1 GiB memory)
Location : East US 2 (Zone 1)	Primary NIC public IP : 20.49.50.89
Subscription (move) : Azure subscription 1	1 associated public IPs
Subscription ID : dd5d4252-9ca5-4581-9dc7-b63c0788bde7	Virtual network/subnet : linux-vm-demo-vnet/default
Availability zone : 1	DNS name : Not configured
	Health state : -
	Time created : 12/7/2025, 10:30 PM UTC

Tags (edit) : Add tags

Properties Monitoring Capabilities (7) Recommendations Tutorials

Virtual machine

Computer name : linux-vm-demo	Operating system : Linux (ubuntu 24.04)
VM generation : V2	VM architecture : x64
Agent status : Ready	Agent version : 2.15.0.1
Hibernation : Disabled	Host group : -

Networking

Public IP address : 20.49.50.89 (Network interface linux-vm-demo186_z1)	1 associated public IPs
Public IP address (IPv6) : -	Private IP address : 10.1.0.4
Private IP address (IPv6) : -	Virtual network/subnet : linux-vm-demo-vnet/default
DNS name : Configure	

JSON View

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

Microsoft Azure

Home > CreateVm-canonical.ubuntu-24_04-lts-server-20251207153142 | Overview >

linux-vm-demo Virtual machine

Search Help me copy this VM in any region Manage this VM with Azure CLI

Connect Start Restart Stop Hibernate Capture Delete Refresh Open in mobile Feedback CLI / PS

Overview

- Activity log
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 - Network manager
- Settings
- Availability + scale
- Security
- Backup + disaster recovery
- Operations
- Monitoring
- Automation
- Help

Add or remove favorites by pressing **Ctrl+Shift+F**

Connect

Connect via Bastion

Essentials

Resource group (move) : rg-vm-demo	Operating system : Linux (ubuntu 24.04)
Status : Running	Size : Standard B1s (1 vcpu, 1 GiB memory)
Location : East US 2 (Zone 1)	Primary NIC public IP : 20.49.50.89
Subscription (move) : Azure subscription 1	1 associated public IPs
Subscription ID : dd5d4252-9ca5-4581-9dc7-b63c0788bde7	Virtual network/subnet : linux-vm-demo-vnet/default
Availability zone : 1	DNS name : Not configured
	Health state : -
	Time created : 12/7/2025, 10:30 PM UTC

Tags (edit) : Add tags

Properties Monitoring Capabilities (7) Recommendations Tutorials

Virtual machine

Computer name : linux-vm-demo	Operating system : Linux (ubuntu 24.04)
VM generation : V2	VM architecture : x64
Agent status : Ready	Agent version : 2.15.0.1
Hibernation : Disabled	Host group : -

Networking

Public IP address : 20.49.50.89 (Network interface linux-vm-demo186_z1)	1 associated public IPs
Public IP address (IPv6) : -	Private IP address : 10.1.0.4
Private IP address (IPv6) : -	Virtual network/subnet : linux-vm-demo-vnet/default
DNS name : Configure	

JSON View

Select “Connect”

Now view, configure, and even save your connection settings — all in one place. Have comments or suggestions for our new Connect experience? Provide feedback

Native SSH

Source machine

- Source machine OS: Windows
- Source IP address: Local IP | 108.31.160.223 Connecting over a VPN?

Destination VM

- VM IP address: Public IP | 20.49.50.89
- VM port: 22

Connection prerequisites

- VM access: Check inbound NSG rules

SSH command

```
ssh -i <private-key-file-path> azureuser@20.49.50.89
```

⚠️ Private key file path missing [Edit settings](#)

[Edit settings](#)

More ways to connect (4)

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

Now view, configure, and even save your connection settings — all in one place. Have comments or suggestions for our new Connect experience? Provide feedback

Native SSH

Connect from your local machine

Source machine

- Source machine OS: Windows
- Source IP address: Local IP | 108.31.160.223 Trouble connecting over a VPN? Try a broader local IP range. [More details](#)

Destination VM

- VM IP address: Public IP | 20.49.50.89
- VM port: 22

Connection prerequisites

- VM access: Port 22 is open

Check access

SSH command

Execute below commands in your choice of local shell to connect via SSH.

Provide a path to your SSH private key file on your local machine

Example: C:\Users\<your-profile>\Downloads\id_rsa.pem

Can't find your private key? [Reset your SSH private key](#)

Connect to your VM via SSH

For added security, SSH private key file path is only saved locally on this browser.

[Save changes](#) [Close](#) [Troubleshooting](#) [Give feedback](#)

Enter the name of the key pair, that is “**linux-vm-demo_key.pem**”

Prepared by Sidney Smith Ebot

The screenshot shows the Microsoft Azure portal interface for connecting to a virtual machine named "linux-vm-demo". The left sidebar is open, showing various navigation options under the "Connect" section. The main panel is titled "Native SSH" and contains fields for "Source machine" (Windows, Local IP 108) and "Destination VM" (Public IP 20.49.50.89, VM port 22). Under "Connection prerequisites", "Port 22 is" is checked. The "SSH command" section shows the command "ssh -i <private key>". A note at the bottom states: "For added security, SSH private key file path is only saved locally on this browser." At the bottom right, there are "Save changes", "Close without saving", and "Troubleshooting" buttons. An orange arrow points to the "Save changes" button.

Click on “Save Changes”

This screenshot is identical to the previous one, showing the "Native SSH" configuration page. The "Save changes" button has been replaced by a "Close" button, indicating that the changes have been saved. The rest of the interface, including the connection details and the note about the private key, remains the same. An orange arrow points to the "Close" button.

Click on “Close”

The screenshot shows the Microsoft Azure portal interface for connecting to a virtual machine named 'linux-vm-demo'. The left sidebar has a 'Connect' section expanded, with 'Native SSH' selected. The main pane displays the 'Native SSH' configuration. Under 'Connection prerequisites', there is a 'VM access' section with a 'Check access' button. A red arrow points to this button. The 'SSH command' section contains the command: `ssh -i linux-vm-demo_key.pem azureuser@20.49.50.89`.

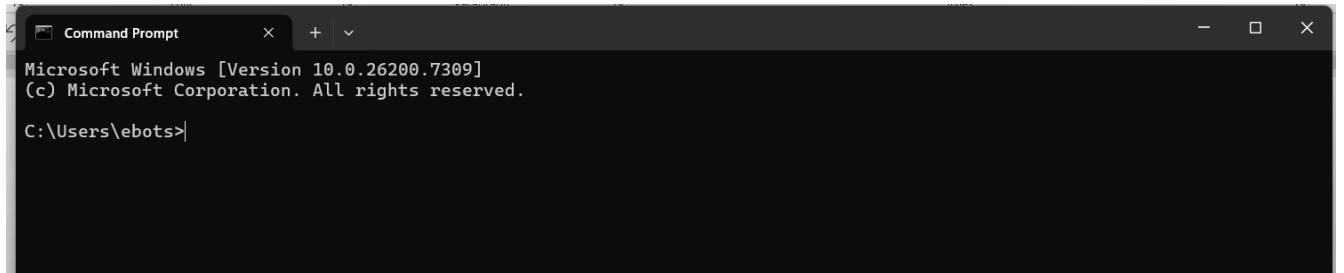
Click on “Check Access”

This screenshot shows the same Azure portal interface after the 'Check access' button was clicked. The 'VM access' section now shows a green checkmark next to the message 'Port 22 is accessible from source IP(s) View applied NSG rules'. The 'SSH command' field remains the same: `ssh -i linux-vm-demo_key.pem azureuser@20.49.50.89`. A red arrow points to this command field.

Copy this command:

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

Open Command prompt terminal

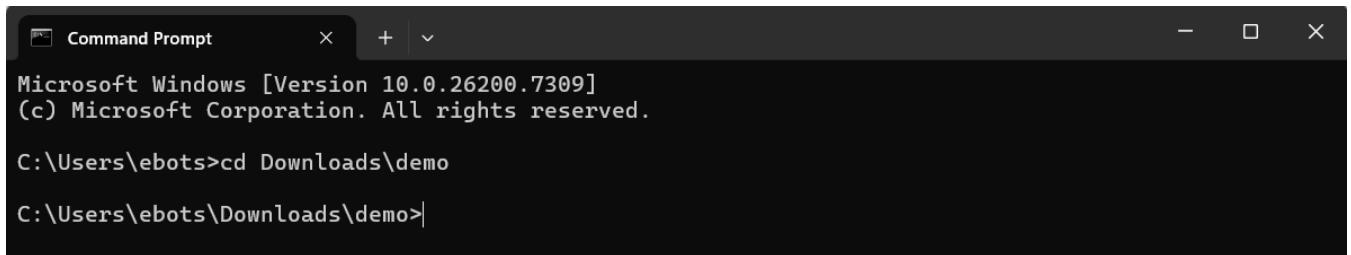


```
Microsoft Windows [Version 10.0.26200.7309]
(c) Microsoft Corporation. All rights reserved.

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
```



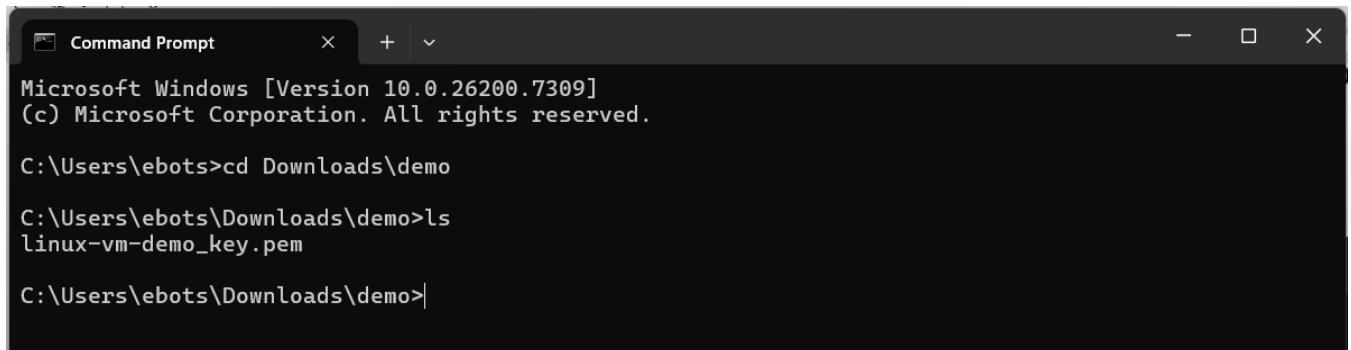
```
Microsoft Windows [Version 10.0.26200.7309]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ebots>cd Downloads\demo

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

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

```
ls
```



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

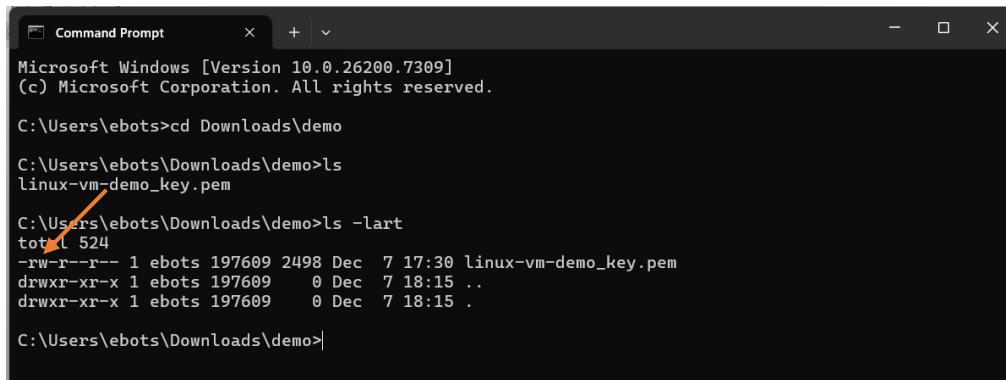
C:\Users\ebots>cd Downloads\demo

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
```



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

C:\Users\ebots>cd Downloads\demo

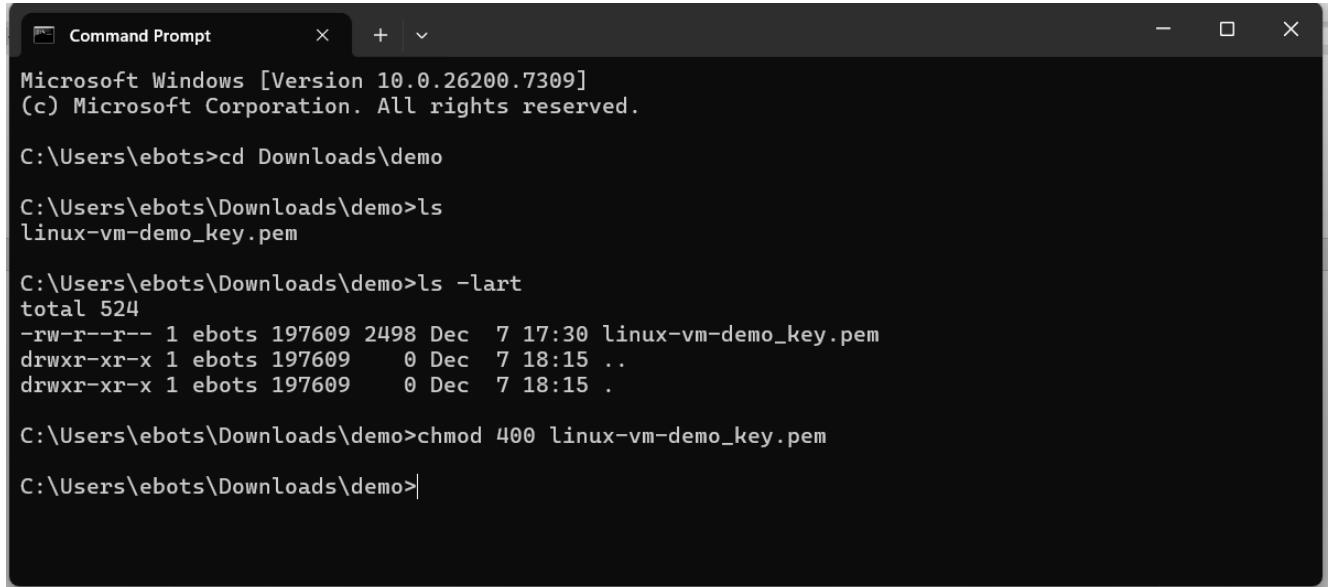
C:\Users\ebots\Downloads\demo>ls
linux-vm-demo_key.pem

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>
```

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
```



A screenshot of a Windows Command Prompt window titled "Command Prompt". The window shows the following command sequence:

```
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

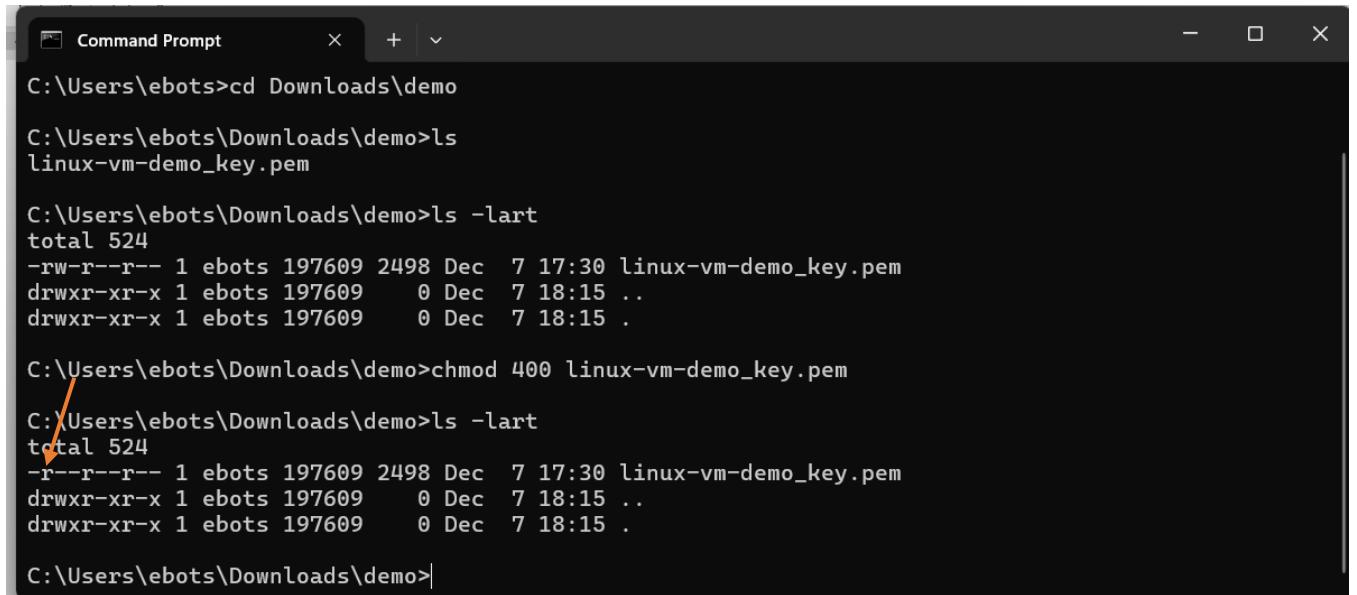
C:\Users\ebots\Downloads\demo>ls -lart
total 524
-rw-r--r-- 1 ebots 197609 2498 Dec  7 17:30 linux-vm-demo_key.pem
drwxr-xr-x 1 ebots 197609     0 Dec  7 18:15 ..
drwxr-xr-x 1 ebots 197609     0 Dec  7 18:15 .

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
```



A screenshot of a Windows Command Prompt window titled "Command Prompt". The window shows the following command sequence:

```
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 .

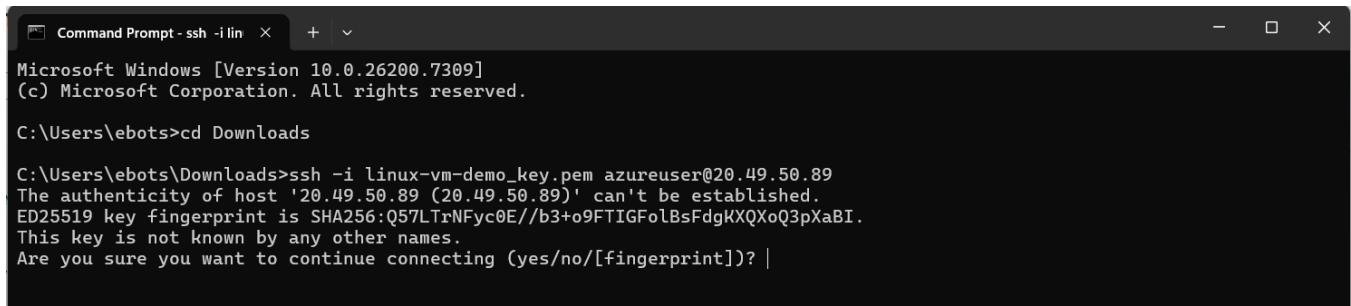
C:\Users\ebots\Downloads\demo>
```

An orange arrow points to the first line of the ls -lart output, highlighting the permission change.

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
```

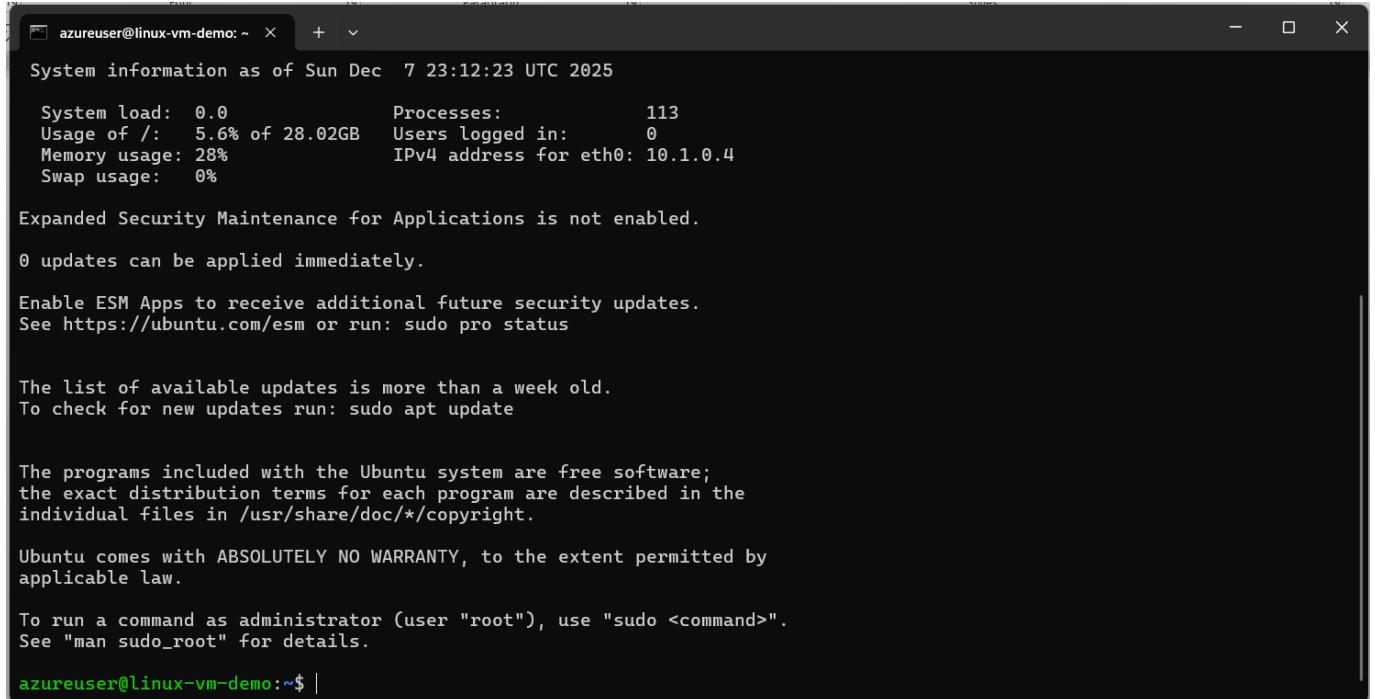


```
Command Prompt - ssh -i lin + v
Microsoft Windows [Version 10.0.26200.7309]
(c) Microsoft Corporation. All rights reserved.

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: ~ + 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.

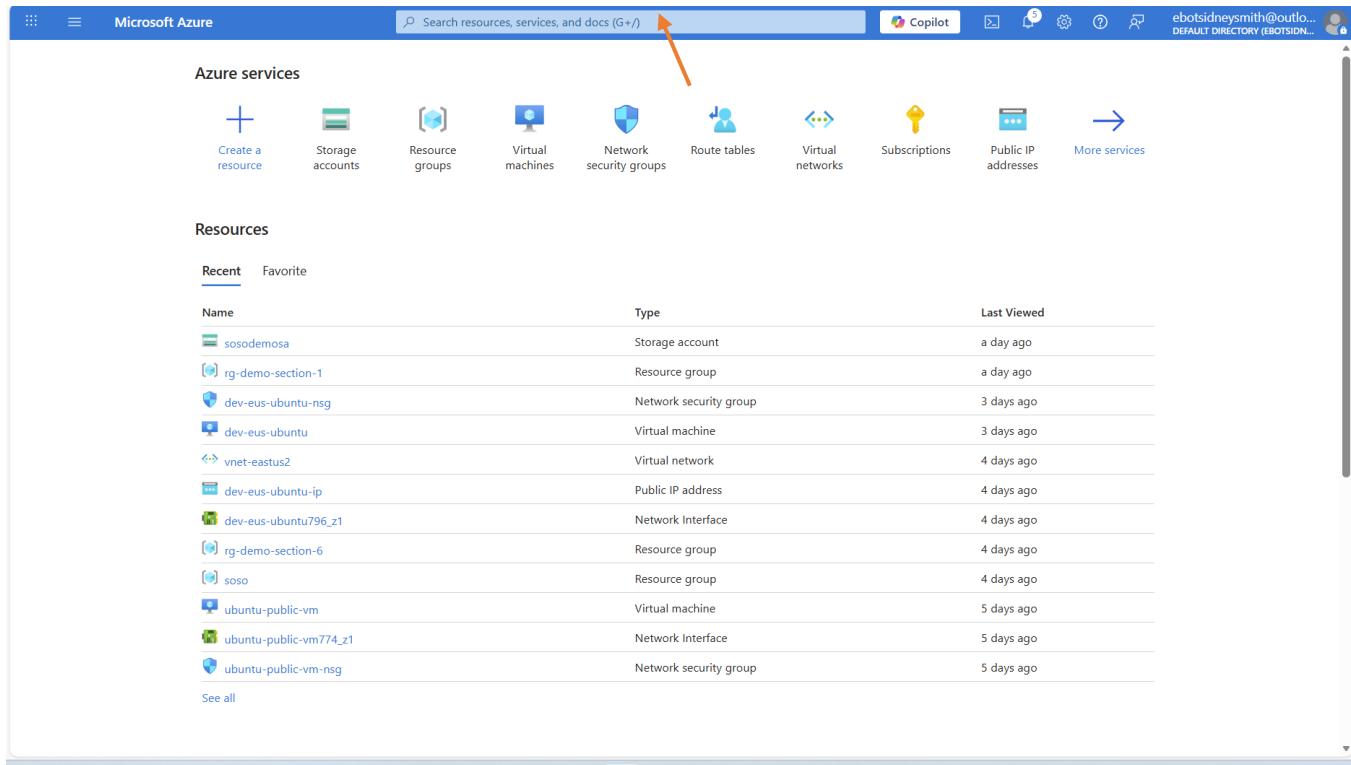
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

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.



The screenshot shows the Microsoft Azure portal interface. At the top, there is a search bar labeled "Search resources, services, and docs (G+/" with a magnifying glass icon. An orange arrow points from the text above to this search bar. Below the search bar is the Microsoft logo and the user's email address, "ebotsidneysmith@outlook.com". To the right of the user info is a "DEFAULT DIRECTORY (EBOTSID...)" button with a dropdown arrow. The main content area is divided into two sections: "Azure services" and "Resources".

Azure services

- Create a resource
- Storage accounts
- Resource groups
- Virtual machines
- Network security groups
- Route tables
- Virtual networks
- Subscriptions
- Public IP addresses
- More services

Resources

Recent Favorite

Name	Type	Last Viewed
sosodemosa	Storage account	a day ago
rg-demo-section-1	Resource group	a day ago
dev-eus-ubuntu-nsg	Network security group	3 days ago
dev-eus-ubuntu	Virtual machine	3 days ago
vnet-eastus2	Virtual network	4 days ago
dev-eus-ubuntu-ip	Public IP address	4 days ago
dev-eus-ubuntu796_z1	Network Interface	4 days ago
rg-demo-section-6	Resource group	4 days ago
soso	Resource group	4 days ago
ubuntu-public-vm	Virtual machine	5 days ago
ubuntu-public-vm774_z1	Network Interface	5 days ago
ubuntu-public-vm-nsg	Network security group	5 days ago

See all

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**”

The screenshot shows the Microsoft Azure portal interface. At the top, there's a search bar with the placeholder "Virtual Machines". Below the search bar, the "Azure services" section is visible, featuring a "Create a resource" button and a "Resource groups" button. An orange arrow points from the "Resource groups" button towards the search results. The search results list includes "Virtual machines" (selected), "Virtual machines (classic)", "Virtual Machines (Operator Nexus)", and "SQL Server on Azure Virtual Machines". To the right of the search results, there are links for "Subscriptions", "Public IP addresses", and "More services". A sidebar on the left shows "Recent" resources like "sosodemosa", "rg-demo-section-1", and "dev-eus-ubuntu-nsg". On the right, there's a "Last Viewed" section listing items viewed between 2 days ago and 6 days ago.

Click on “Virtual Machines”

The screenshot shows the "Compute infrastructure | Virtual machines" page in the Microsoft Azure portal. The top navigation bar includes "Microsoft Azure", a search bar, and user information. Below the navigation, there are buttons for "Check which VMs cannot access the internet", "Analyze alerts across virtual machines", and "Show me protected VMs in XXX region". The main area shows a "Virtual machines" list with three entries: "dev-eus-ubuntu", "linux-vm-demo", and "ubuntu-public-vm". Each entry includes columns for Name, Subscription, Resource Group, Location, Status, Operating system, Size, Public IP address, and Disks. A red arrow points from the "Create" button in the top navigation bar down towards the "Virtual machines" list. The bottom of the screen shows a message about the new browse experience and a "Give feedback" link.

Click on the drop down on “Create”

The screenshot shows the Microsoft Azure Compute Infrastructure Virtual machines page. The sidebar on the left has 'Virtual machines' selected. A red arrow points from the sidebar to the 'Virtual machine scale set (VMSS)' section in the main content area. The main content area displays a table of VMSS instances with columns: Resource Group, Location, Status, Operating syst..., Size, Public IP addre..., and Disks. There are three entries listed.

Resource Group	Location	Status	Operating syst...	Size	Public IP addre...	Disks	
ipt...	rg-demo-sectio...	East US 2	Running	Linux	Standard_B1s	68.154.5.26	1
ipt...	rg-vm-demo	East US 2	Running	Linux	Standard_B1s	20.49.50.89	1
ipt...	demo-vnet-azure	East US 2	Running	Linux	Standard_B1s	172.206.33.119	1

Select “Virtual Machine”

The screenshot shows the Microsoft Azure Create a virtual machine page. The 'Basics' tab is selected. A red arrow points from the 'Resource group' dropdown menu, which shows '(New) Resource group' and 'Create new' options. To the right, there is a sidebar titled 'Estimated monthly costs' showing cost breakdowns for Basics, Disks, Networking, Management, and Monitoring.

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
Estimated monthly cost	\$4.80

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

Create a virtual machine

Basics

Subscription * Resource group *

Instance details

Virtual machine name * Region * Availability options Choose up to 3 availability zones, one VM per zone Let Azure assign the best zone for your needs

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.

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$4.80

< Previous Next : Disks > Review + create Give feedback

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

Create a virtual machine

Basics

Subscription * Resource group *

Instance details

Virtual machine name * Region * Availability options Deploy to an Azure Extended Zone Choose up to 3 availability zones, one VM per zone Let Azure assign the best zone for your needs

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.

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$4.80

< Previous Next : Disks > Review + create 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”.

Prepared by Sidney Smith Ebot

The screenshot shows the 'Create a virtual machine' wizard in Microsoft Azure. On the left, under 'Instance details', the 'Region' dropdown is set to '(US) East US 2'. An orange arrow points from the text 'Here, on "Region", we will use "East US 2". So, we will leave it as it is.' to this dropdown. On the right, there is an 'Estimated monthly costs' summary table.

Estimated monthly costs	
Basics	\$0.00
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$4.80

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 Microsoft Azure. On the left, under 'Instance details', the 'Availability options' dropdown is set to 'Availability zone'. An orange arrow points from the text 'Then, on "Availability Option", we will select "Availability zone"' to this dropdown. On the right, there is an 'Estimated monthly costs' summary table.

Estimated monthly costs	
Basics	\$0.00
Virtual machine	\$0.00
Size Standard_B1s	\$0.00
Disks	\$4.80
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$4.80

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

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 * Ubuntu Server 24.04 LTS - x64 Gen2 [See all images](#) | Configure VM generation

VM architecture Arm64 x64

Run with Azure Spot discount

[< 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.

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
Estimated monthly cost	\$4.80

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

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 * Ubuntu Server 24.04 LTS - x64 Gen2 [See all images](#) | Configure VM generation

VM architecture Arm64 x64

Run with Azure Spot discount

[< 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.

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
Estimated monthly cost	\$4.80

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

Instance details

Virtual machine name * ✓

Region * Deploy to an Azure Extended Zone

Availability options Availability zone

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](#) [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.

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
Estimated monthly cost	\$4.80

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

Instance details

Security type Configure security features

Image * See all images | Configure VM generation

VM architecture Arm64 x64

Run with Azure Spot discount

Size * See all sizes

Enable Hibernation Hibernate does not currently support Trusted launch and Confidential virtual machines for Linux images. [Learn more](#)

Administrator account

Authentication type 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](#) [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.

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
Estimated monthly cost	\$4.80

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

Create a virtual machine

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

Security type: Trusted launch virtual machines

Image *: Ubuntu Server 24.04 LTS - x64 Gen2

VM architecture: windows

Run with Azure Spot discount:

Size *: Standard_B1s

Enable Hibernation:

Administrator account: SSH public key

Authentication type: SSH public key

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.

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

[< 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.

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
Estimated monthly cost	\$4.80

[Give feedback](#)

Select “Windows 11 Pro, version 25H2 – x64 Gen2”

Create a virtual machine

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:

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

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

[< 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.

Category	Cost
Basics	\$0.00
Virtual machine	\$0.00
Size	\$0.00
Standard_B1s	
Disks	\$17.92
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$17.92

[Give feedback](#)

On “VM Architecture”, select “x64”

The screenshot shows the 'Create a virtual machine' wizard in Microsoft Azure. On the left, there are configuration options: Security type (Trusted launch virtual machines), Image (Windows 11 Pro, version 25H2 - x64 Gen2), VM architecture (x64 selected), Run with Azure Spot discount (checkbox checked), Size (Standard_B1s - 1 vcpu, 1 GiB memory (\$7.59/month) selected), Enable Hibernation (checkbox unchecked), and Administrator account (Username field empty). On the right, the 'Estimated monthly costs' panel shows the breakdown of costs: Basics (\$0.00), Disks (\$17.92), Networking (\$0.00), Management (\$0.00), Monitoring (\$0.00), and an Estimated monthly cost of \$17.92. A red arrow points to the 'Run with Azure Spot discount' checkbox.

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

This screenshot is identical to the one above, but the 'Run with Azure Spot discount' checkbox is now unchecked. The rest of the configuration and the estimated monthly costs remain the same.

For “Size”, select “**Standard_B1s-1 vcpu**” to keep the cost low.

Create a virtual machine

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 (\$7.99/month) (free services eligible)

Enable Hibernation: (disabled)

Administrator account:

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

Estimated monthly costs:

Category	Cost
Virtual machine	\$0.00
Size	\$0.00
Disks	\$17.92
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$17.92

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

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

Enable Hibernation: (disabled)

Administrator account:

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

Estimated monthly costs:

Category	Cost
Virtual machine	\$0.00
Size	\$0.00
Disks	\$17.92
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$17.92

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

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

Enable Hibernation (checkbox) [disabled]

Administrator account

Username * (dropdown): azureuser (green checkmark)

Password * (dropdown): (red box with error message)

Confirm password * (dropdown):

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 * (radio buttons): None (unchecked), Allow selected ports (checked)

Select inbound ports * (dropdown): RDP (3389)

Licensing

< 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.

Category	Cost
Virtual machine	\$0.00
Size	\$0.00
Disks	\$17.92
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$17.92

Give feedback

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

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 | Help me create a low cost VM

Administrator account

Username * (dropdown): azureuser (green checkmark)

Password * (dropdown): (red box with green checkmark)

Confirm password * (dropdown): (red box with green checkmark)

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 * (radio buttons): None (unchecked), Allow selected ports (checked)

Select inbound ports * (dropdown): RDP (3389)

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

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.

Category	Cost
Virtual machine	\$0.00
Size	\$0.00
Disks	\$17.92
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Estimated monthly cost	\$17.92

Give feedback

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

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 * 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](#)

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
Estimated monthly cost	\$17.92

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)**”

Prepared by Sidney Smith Ebot

Microsoft Azure

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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. *

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.

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

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

Estimated monthly cost \$17.92

< Previous Next : Disks > Review + create Give feedback

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

Microsoft Azure

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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. *

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.

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

Estimated monthly costs

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

Advanced \$0.00

Estimated monthly cost \$17.92

< Previous Next : Disks > Review + create Give feedback

Then click on “Next: Disks”

Prepared by Sidney Smith Ebot

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The current step is 'Disks'. On the right, there's an 'Estimated monthly costs' summary table:

Estimated monthly costs	
Basics	\$0.00
Disks	\$17.92
OS disk	\$17.92 Premium SSD, 128 GiB
Networking	\$0.00
Management	\$0.00
Monitoring	\$0.00
Advanced	\$0.00
Estimated monthly cost	\$17.92

Below the table, there's a link to 'Give feedback about your estimate experience'.

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

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The current step is 'Networking'. On the right, there's an 'Estimated monthly costs' summary table:

Estimated monthly costs	
Basics	\$0.00
Disks	\$17.92
Networking	\$3.65
Public IP	\$3.65
VM outbound data transfer	\$0.00
Estimated data transferred (GB)	\$0.00
100	
Estimated monthly cost	\$21.57

Below the table, there's a link to 'Give feedback about your estimate experience'.

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

Prepared by Sidney Smith Ebot

The screenshot shows the Microsoft Azure 'Create a virtual machine' wizard on the 'Management' step. The left pane lists configuration options: Identity (Enable system assigned managed identity), Microsoft Entra ID (Login with Microsoft Entra ID), Auto-shutdown (Enable auto-shutdown), and Backup (Enable backup). The 'Management' tab is selected. The right pane displays 'Estimated monthly costs' with a breakdown for Basics (\$0.00), Disks (\$17.92), Networking (\$3.65), and Management (\$0.00). The total estimated monthly cost is \$21.57. A red arrow points from the bottom of the 'Management' section towards the 'Next: Monitoring >' button.

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

The screenshot shows the Microsoft Azure 'Create a virtual machine' wizard on the 'Monitoring' step. The left pane lists monitoring options: Alerts (Enable recommended alert rules), Diagnostics (Boot diagnostics settings: Enable with managed storage account (recommended), Enable with custom storage account, or Disable), and Health (Enable application health monitoring). The 'Monitoring' tab is selected. The right pane displays 'Estimated monthly costs' with a breakdown for Basics (\$0.00), Disks (\$17.92), Networking (\$3.65), Management (\$0.00), and Monitoring (\$0.00). The total estimated monthly cost is \$21.57. A red arrow points from the bottom of the 'Monitoring' section towards the 'Next: Advanced >' button.

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

Prepared by Sidney Smith Ebot

Microsoft Azure

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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

Add additional configuration, agents, scripts or applications via virtual machine extensions or cloud-init.

Extensions

Extensions provide post-deployment configuration and automation.

Extensions Select an extension to install

VM applications

VM applications contain application files that are securely and reliably downloaded on your VM after deployment. In addition to the application files, an install and uninstall script are included in the application. You can easily add or remove applications on your VM after create. [Learn more](#)

Select a VM application to install

Custom data

Pass a script, configuration file, or other data into the virtual machine **while it is being provisioned**. The data will be saved on the VM in a known location. [Learn more about custom data for VMs](#)

Custom data

Your image must have a code to support consumption of custom data. If you

< Previous Next : Tags > 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

Category	Cost
Basics	\$0.00
Disks	\$17.92
Networking	\$3.65
Management	\$0.00
Monitoring	\$0.00
Advanced	\$0.00
No items added	
Estimated monthly cost	\$21.57

Give feedback

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

Microsoft Azure

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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

Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups. [Learn more about tags](#)

Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.

Name	Value	Resource
	:	13 selected

< Previous Next : Review + create > 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

Category	Cost
Basics	\$0.00
Disks	\$17.92
Networking	\$3.65
Management	\$0.00
Monitoring	\$0.00
Advanced	\$0.00
Estimated monthly cost	\$21.57

Give feedback

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

Prepared by Sidney Smith Ebot

This screenshot shows the Microsoft Azure 'Create a virtual machine' wizard at the 'Review + create' step. The page includes sections for 'Price' (1 X Standard B1s by Microsoft, 0.0104 USD/hr), 'TERMS' (acceptance of legal terms and privacy statement), and a warning about RDP ports being open to the internet. On the right, an 'Estimated monthly costs' table shows charges for Basics (\$0.00), Disks (\$17.92), Networking (\$3.65), Management (\$0.00), Monitoring (\$0.00), and Advanced (\$0.00). A large orange arrow points from the 'Create' button at the bottom left to the 'Create' button at the bottom right.

Review and click on “Create”

This screenshot shows the Microsoft Azure 'Create a virtual machine' wizard during deployment. A status message 'Initializing deployment...' is visible in the top right. The 'Estimated monthly costs' table shows the total estimated monthly cost as \$21.57. A red arrow points from the 'Create' button at the bottom left towards the deployment status message.

The deployment is initializing

The screenshot shows the Microsoft Azure Deployment Overview page for a deployment named "CreateVm-microsoftwindowsdesktop.windows-11-win11-20251207191433". The status is "Deployment is in progress". The deployment details table lists four resources: "windows-vm-demo" (Microsoft.Compute/virtualMachine), "windows-vm-demo245_z1" (Microsoft.Network/networkInterface), "windows-vm-demo-nsg" (Microsoft.Network/networkSecurityGroup), and "windows-vm-demo-ip" (Microsoft.Network/publicIPAddress). All resources are in a "Created" or "OK" state. The right sidebar features links for Microsoft Defender for Cloud, Free Microsoft tutorials, and Work with an expert.

The deployment is in progress

The screenshot shows the Microsoft Azure Deployment Overview page for the same deployment, now showing "Your deployment is complete". The deployment details table remains the same. The right sidebar includes links for Cost Management, Microsoft Defender for Cloud, and Work with an expert. A red arrow points from the text below to the "Go to resource" button.

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

windows-vm-demo Virtual machine

Help me copy this VM in any region | Manage this VM with Azure CLI

Connect ▾ Start Restart Stop Hibernate Capture Delete Refresh Open in mobile Feedback CLI / PS

Essentials

Resource group (move) : rg-vm-demo	Operating system : Windows
Status : Running	Size : Standard B1s (1 vcpu, 1 GiB memory)
Location : East US 2 (Zone 1)	Primary NIC public IP : 20.81.132.160
Subscription (move) : Azure subscription 1	1 associated public IPs
Subscription ID : dd5d4252-9ca5-4581-9dc7-b63c0788bde7	Virtual network/subnet : linux-vm-demo-vnet/default
Availability zone : 1	DNS name : Not configured
Tags (edit) : Add tags	Health state : -
	Time created : 12/8/2025, 12:41 AM UTC

Properties Monitoring Capabilities (8) Recommendations Tutorials

Virtual machine

Computer name : windows-vm-demo
Operating system : Windows
VM generation : V2
VM architecture : x64
Agent status : Not Ready
Agent version : Unknown

Networking

Public IP address : 20.81.132.160 (Network interface)
1 associated public IPs
Public IP address (IPv6) : -
Private IP address : 10.1.0.5
Private IP address (IPv6) : -

This is our virtual machine.

Connect to the Virtual Machine

windows-vm-demo Virtual machine

Help me copy this VM in any region | Manage this VM with Azure CLI

Connect ▾ Start Restart Stop Hibernate Capture Delete Refresh Open in mobile Feedback CLI / PS

Essentials

Resource group (move) : rg-vm-demo	Operating system : Windows
Status : Running	Size : Standard B1s (1 vcpu, 1 GiB memory)
Location : East US 2 (Zone 1)	Primary NIC public IP : 20.81.132.160
Subscription (move) : Azure subscription 1	1 associated public IPs
Subscription ID : dd5d4252-9ca5-4581-9dc7-b63c0788bde7	Virtual network/subnet : linux-vm-demo-vnet/default
Availability zone : 1	DNS name : Not configured
Tags (edit) : Add tags	Health state : -
	Time created : 12/8/2025, 12:41 AM UTC

Properties Monitoring Capabilities (8) Recommendations Tutorials

Virtual machine

Computer name : windows-vm-demo
Operating system : Windows
VM generation : V2
VM architecture : x64
Agent status : Not Ready
Agent version : Unknown

Networking

Public IP address : 20.81.132.160 (Network interface)
1 associated public IPs
Public IP address (IPv6) : -
Private IP address : 10.1.0.5
Private IP address (IPv6) : -

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

Prepared by Sidney Smith Ebot

This screenshot shows the Microsoft Azure portal interface for a virtual machine named "windows-vm-demo". The left sidebar has a "Connect" section expanded, with the "Native RDP" option selected. A red arrow points from the text "Select ‘Connect’" to the "Native RDP" button. The main content area displays the VM's properties, including its status as "Running" and its location in "East US 2 (Zone 1)". The "Networking" tab is selected, showing details like a public IP address of 20.81.132.160 and a private IP address of 10.1.0.5.

Select “Connect”

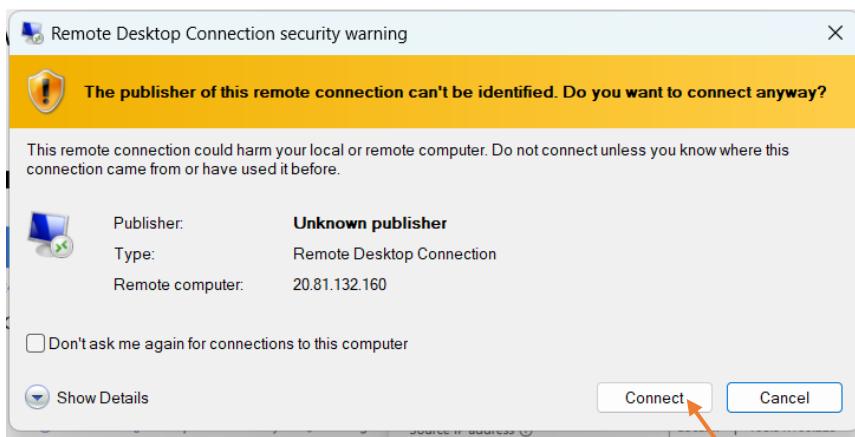
This screenshot shows the "Connect" page for the same virtual machine. The "Native RDP" connection type is selected. A red arrow points from the text "Click on ‘Download RDP File’" to the "Download RDP file" button, which is highlighted in blue. The "Source machine" section shows the source OS as Windows and the source IP address as 108.31.160.223. The "Destination VM" section shows the public IP address as 20.81.132.160 and the port as 3389. The "Connection prerequisites" section includes a radio button for "Check inbound NSG rules".

Click on “Download RDP File”

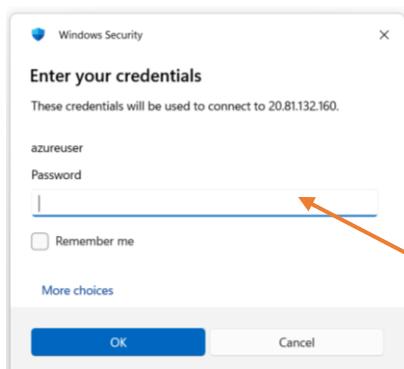
Prepared by Sidney Smith Ebot

The screenshot shows the Microsoft Azure portal interface. On the left, there's a navigation sidebar with various options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Resource visualizer, Connect, Networking, Settings, Availability + scale, Security, Backup + disaster recovery, and Operations. Under the Connect section, 'Native RDP' is selected. The main area displays connection details: Source machine (Windows, IP 108.31.160.223), Destination VM (Public IP 20.81.132.160, port 3389), and Connection prerequisites (Check inbound NSG rules). Below this, there's a 'Check access' button, a 'Download RDP file' button, and a 'Username' field set to 'azureuser'. A download dialog is overlaid on the page, showing files: 'windows-vm-demo.rdp' (highlighted with an orange arrow), 'linux-vm-demo_key.pem' (Removed), and 'dev-eus-ubuntu_key.pem'. There's also a 'See more' link.

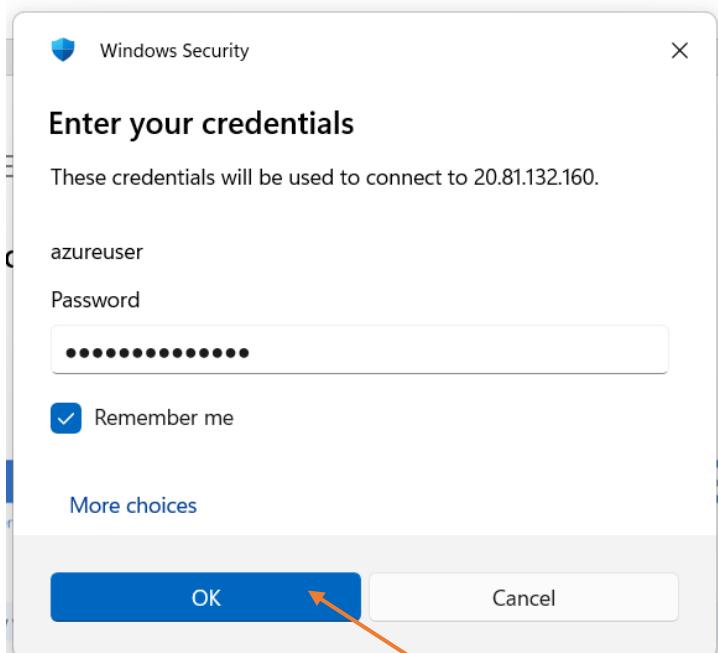
The file has been downloaded. Open the file by clicking on it.



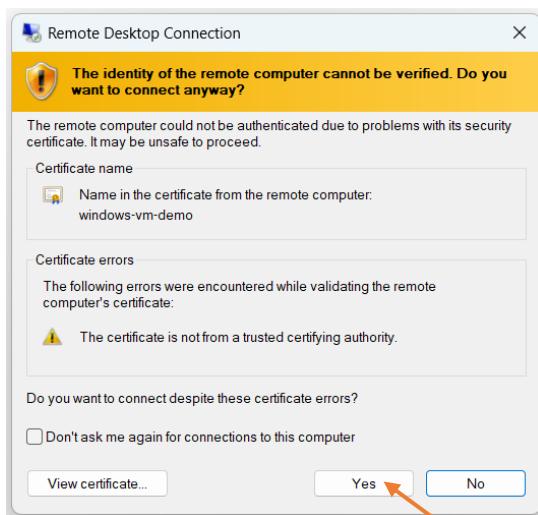
Click on “Connect”



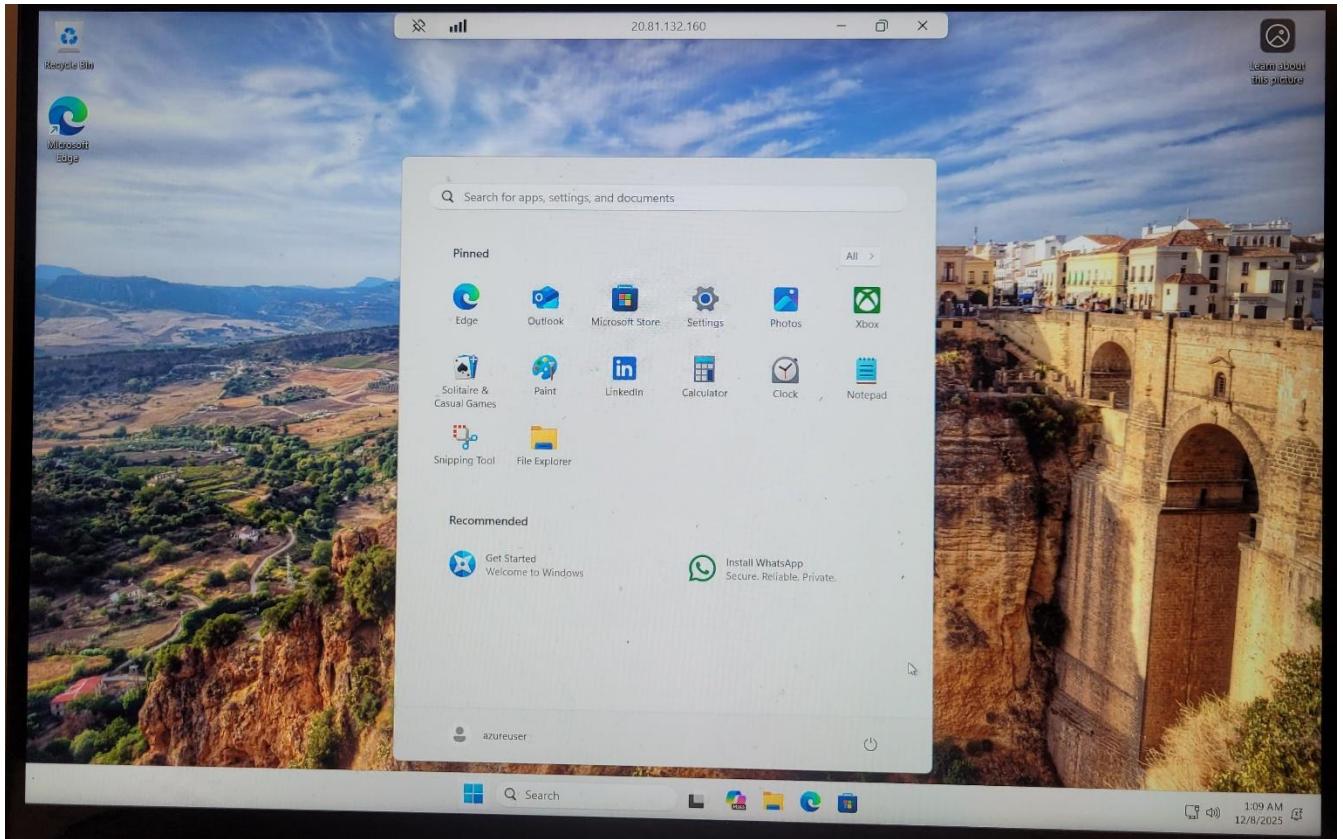
Enter the password



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