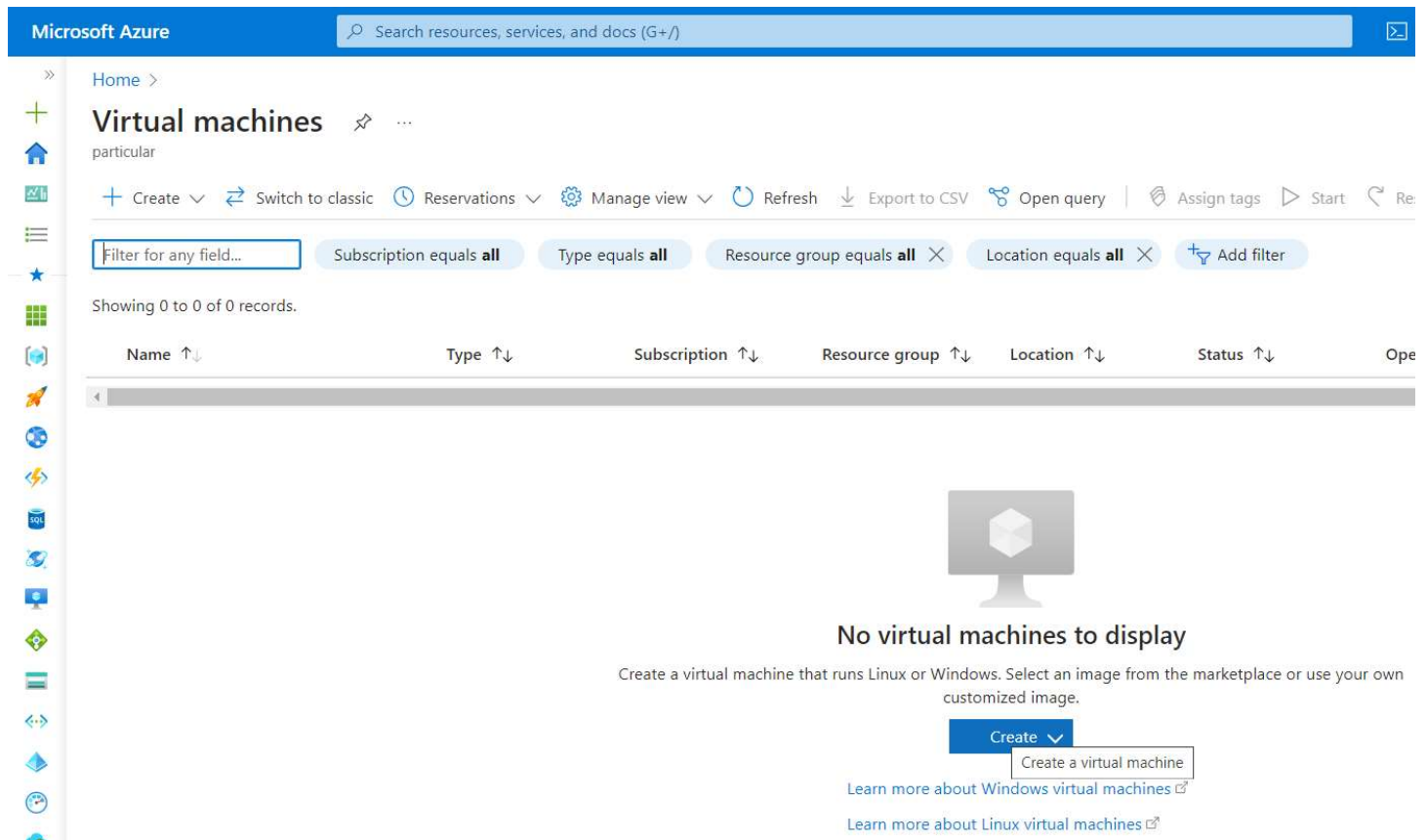


# How to create an Azure Virtual Machine with Ubuntu Server and with a GUI Desktop

## 1. INSTALL AND CONFIGURE xrdp TO USE REMOTE DESKTOP WITH UBUNTU

<https://learn.microsoft.com/en-us/azure/virtual-machines/linux/use-remote-desktop?tabs=azure-cli>

### 1.1. Create an Azure Virtual Machine with Ubuntu Server installed



The screenshot shows the Microsoft Azure portal interface. At the top, there's a search bar and navigation links. The main heading is 'Virtual machines'. Below it, there are filters for 'Subscription equals all', 'Type equals all', 'Resource group equals all', and 'Location equals all'. A message states 'Showing 0 to 0 of 0 records.' Below this is a table with columns: Name, Type, Subscription, Resource group, Location, Status, and Operations. The table is empty. A large graphic of a monitor with a cube on it is displayed, with the text 'No virtual machines to display'. Below this, it says 'Create a virtual machine that runs Linux or Windows. Select an image from the marketplace or use your own customized image.' There is a blue 'Create' button with a dropdown arrow. A tooltip for the 'Create' button says 'Create a virtual machine'. Below the button, there are two links: 'Learn more about Windows virtual machines' and 'Learn more about Linux virtual machines'.

Microsoft Azure

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

>>

Home > Virtual machines >

+

Home

Dashboard

Subscriptions

Resource groups

Virtual machines

Virtual machine images

Virtual machine disks

Virtual machine networks

Virtual machine storage

Virtual machine security

Virtual machine monitoring

Virtual machine support

Virtual machine documentation

Create a virtual machine

...

Basics

Disks

Networking

Management

Monitoring

Advanced

Tags

Review + create

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

### Project details

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

Subscription \* ⓘ

Azure subscription 1

Resource group \* ⓘ

(New) mylinuxvm1999\_group

[Create new](#)

### Instance details

Virtual machine name \* ⓘ

mylinuxvm1999

Region \* ⓘ

(Europe) West Europe

Availability options ⓘ

Availability zone

Availability zone \* ⓘ

Zones 1

Review + create

< Previous

Next : Disks >

Microsoft Azure

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

>>

Home > Virtual machines >

Create a virtual machine

...

+

Home

Monitor

Alerts

Subscriptions

Resource groups

Virtual machines

SQL

Network

Storage

Security

Automation

CloudShell

Help

Review + create

< Previous

Next : Disks >

Security type ⓘ

Image \* ⓘ

VM architecture ⓘ

Run with Azure Spot discount ⓘ

Eviction type ⓘ

Eviction policy ⓘ

Size \* ⓘ

Standard

Ubuntu Server 22.04 LTS - x64 Gen2

See all images | Configure VM generation

This image is compatible with additional security features. [Click here to swap to the Trusted launch security type.](#)

☐ Arm64

☒ x64

☒

☐ Capacity only: Your virtual machine will be evicted when Azure's excess capacity disappears.

☒ Price or capacity: Your virtual machine will be evicted when Azure's excess capacity disappears, or costs exceed your specified max price.

☒ Stop / Deallocate

☐ Delete

Standard\_E2s\_v3 - 2 vcpus, 16 GiB memory (\$0.01600/hour)

See all sizes

Maximum price you want to pay per hour (USD) \* ⓘ

0.05



Enter a price greater than or equal to the hardware costs (\$0.01600)

Enable Hibernation (preview) ⓘ

☐

 To enable Hibernation, you must register your subscription. [Learn more](#) 

## Authentication type ⓘ

SSH public key

☐ Password

**i** 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



SSH public key source

Generate new key pair



Key pair name \*

```
mylinuxvm1999_key
```



Review + create

[< Previous](#)

Next : Disks >

Microsoft Azure

Search resources, services, and docs (G+)

>>

Home > Virtual machines >

Create a virtual machine

...

+

Home

Monitoring

Alerts

Automation

Star

Grid

Cloud

Launch

SQL

Network

Storage

Security

Compliance

Cost

Support

Help

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

✓

SSH public key source

Generate new key pair

▼

Key pair name \*

mylinuxvm1999\_key

✓

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 \*

SSH (22)

▼

All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.

Review + create

< Previous

Next : Disks >

https://md2pdf.netlify.app

5/14

## Create a virtual machine ...

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

Price

Subscription credits apply ⓘ

0.0160 USD/hr

### Pricing for other VM sizes

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

[< Previous](#)

Next >

[Download a template for automation](#)



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

Home > Virtual machines >

## Create a virtual machine

Validation passed

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

Cost given below is an estimate and not the final price. Please use [Pricing calculator](#) for all your pricing needs.

Price

1 X Standard E2s v3  
by Microsoft  
[Terms of use](#) | [Privacy policy](#)

Subscription credits apply ⓘ  
**0.0160 USD/hr**  
[Pricing for other VM sizes](#)

TERMS

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

**Create** < Previous Next > [Download a template for automation](#)

### Generate new key pair

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](#)

**Download private key and create resource**

Return to create a virtual machine

portal.azure.com/#view/HubsExtension/BrowseResource/resourceType/Microsoft.Compute%2FVirtualMachines

Gmail YouTube Maps Noticias Traducir RxJS v6.6.7 Angular: ¿Qué es A... Angular

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

Home >

## Virtual machines

particular

+ Create Switch to classic Reservations Manage view Refresh Export to CSV Open query Assign tags

Filter for any field... Subscription equals all Type equals all Resource group equals all Location equals all Add filter

Showing 0 to 0 of 0 records.

Name ↑↓	Type ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓
---------	---------	-----------------	-------------------	-------------	-----------

No virtual machines to display

Create a virtual machine that runs Linux or Windows. Select an image from the marketplace or use your own customized image.

**Create**

[Learn more about Windows virtual machines](#)

[Learn more about Linux virtual machines](#)

- mylinuxvm1999\_key.pem  
2,498 B • Hecho
- mylinuxvm1974\_key (2).pem  
2,494 B • Hace 3 horas
- tigervnc-1.13.1.zip  
2,7 MB • Hace 3 horas
- mylinuxvm1974\_key (1).pem  
2,498 B • Hace 3 horas
- mylinuxvm1974\_key.pem  
2,498 B • Hace 6 horas
- mylinuxvm1974\_key.pem  
2,498 B • Hace 6 horas
- template.zip  
2,336 B • Hace 7 horas

Microsoft Azure

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

Home >

CreateVm-canonical.0001-com-ubuntu-server-jammy-2-20231201132408 | Overview

Deployment

Search

DeleteCancelRedeployDownloadRefresh

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name: CreateVm-canonical.0001-com-ubuntu-server-j... Start time: 12/1/2023, 1:27:58 PM  
Subscription: Azure subscription 1 Correlation ID: d092f9f9-0120-45a4-8f48-53d083ceac17  
Resource group: mylinuxvm1999\_group

Deployment details

Next steps

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

Go to resourceCreate another VM

Microsoft Azure

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

Home > CreateVm-canonical.0001-com-ubuntu-server-jammy-2-20231201132408 | Overview >

mylinuxvm1999

Virtual machine

Search

ConnectStartRestartStopHibernate (preview)CaptureDeleteRefreshOpen in mobileFeedbackCLI / PS

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Connect

ConnectBastion

Networking

Network settingsLoad balancingApplication security groupsNetwork manager

Settings

DisksExtensions + applications

Essentials

Resource group (move) : mylinuxvm1999\_group  
Status : Running  
Location : West Europe (Zone 1)  
Subscription (move) : Azure subscription 1  
Subscription ID : 846901e6-da09-45c8-98ca-7cca2353ff0e  
Availability zone : 1  
Tags (edit) : Add tags

Operating system : Linux (ubuntu 22.04)  
Size : Standard E2s v3 (2 vcpus, 16 GiB memory)  
Public IP address : 20.61.2.228  
Virtual network/subnet : mylinuxvm1999-vnet/default  
DNS name : Not configured  
Health state : -

JSON View

PropertiesMonitoringCapabilities (7)RecommendationsTutorials

Virtual machine

Computer name : mylinuxvm1999  
Operating system : Linux (ubuntu 22.04)  
Image publisher : canonical  
Image offer : 0001-com-ubuntu-server-jammy  
Image plan : 22\_04-lts-gen2  
VM generation : V2  
VM architecture : v64

Networking

Public IP address : 20.61.2.228 ( Network interface mylinuxvm1999462\_z1 )  
Public IP address (IPv6) : -  
Private IP address : 10.0.0.4  
Private IP address (IPv6) : -  
Virtual network/subnet : mylinuxvm1999-vnet/default  
DNS name : Configure

Microsoft Azure

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

Home > CreateVm-canonical.0001-com-ubuntu-server-jammy-2-20231201132408 | Overview >

mylinuxvm1999

Virtual machine

Search

ConnectStartRestartStopHibernate (preview)CaptureDeleteRefreshOpen in mobileFeedbackCLI / PS

Overview

Activity log

Connect

Connect via RDPConnect via SSH

https://md2pdf.netlify.app

8/14



Microsoft Azure

Home > CreateVm-canonical.0001-com-ubuntu-server-jammy-2-20231201132408 | Overview > mylinuxvm1999

mylinuxvm1999 | Connect

Virtual machine

Search

Refresh Troubleshooting More Options Feedback

Connecting using Public IP address | 20.61.2.228

Admin username : azureuser

Port (change) : 22 Check access

Just-in-time policy : Not configured for port 22 Configure for this port

Recommended

SSH using Azure CLI

Quickly connect in browser. Supports Azure AD authentication. Private key not required.

Public IP address (20.61.2.228)

Select

Most common

Native SSH

No additional software needed. Private connection. Best for those with existing SSH client.

Public IP address (20.61.2.228)

Select

SSH using Azure CLI

Connect from your local machine (Windows)

1 Configure prerequisites for SSH using Azure CLI

Azure needs to configure some features in order to connect to the VM.

Configuring prerequisites

System assigned managed identity

Configuring system-assigned managed identity. Learn more

Azure AD SSH Login Extension

Installing Azure Active Directory based SSH Login extension. Learn more

Virtual machine user or administrator login

A virtual machine administrator login role on the resource group will allow login to the virtual machine via CloudShell. Learn more

Port 22 access

Configuring Just In Time on the virtual machine. Learn more

Change the port for connecting to this virtual machine on the Connect page of the virtual machine.

Public IP address: 20.61.2.228

A public IP address is required to connect via this connection method.

I understand just-in-time policy on the virtual machine may be re-configured to allow local machine IP (81.33.224.176) to request just-in-time access to port 22.

Configuring...

2 Download Azure Command Line Interface (on Windows)

Close Troubleshooting Give feedback

Open a **command prompt** window and type the commands to access into the Linux VM:

```
az ssh vm --ip 20.61.2.228
```

Microsoft Azure

Home > CreateVm-canonical.0001-com-ubuntu-server-jammy-2-20231201132408 | Overview > mylinuxvm1999

mylinuxvm1999 | Connect

Virtual machine

Search

Refresh Troubleshooting More Options Feedback

Connecting using Public IP address | 20.61.2.228

Admin username : azureuser

Port (change) : 22 Check access

Just-in-time policy : Not configured for port 22 Configure for this port

Recommended

SSH using Azure CLI

Quickly connect in browser. Supports Azure AD authentication. Private key not required.

Public IP address (20.61.2.228)

Select

Most common

Native SSH

No additional software needed. Private connection. Best for those with existing SSH client.

Public IP address (20.61.2.228)

Select

SSH using Azure CLI

Connect from your local machine (Windows)

1 Configure prerequisites for SSH using Azure CLI

Azure needs to configure some features in order to connect to the VM.

Configuring prerequisites

System assigned managed identity

Configuring system-assigned managed identity. Learn more

Azure AD SSH Login Extension

Installing Azure Active Directory based SSH Login extension. Learn more

Virtual machine user or administrator login

A virtual machine administrator login role on the resource group will allow login to the virtual machine via CloudShell. Learn more

Port 22 access

Configuring Just In Time on the virtual machine. Learn more

Change the port for connecting to this virtual machine on the Connect page of the virtual machine.

Public IP address: 20.61.2.228

A public IP address is required to connect via this connection method.

I understand just-in-time policy on the virtual machine may be re-configured to allow local machine IP (81.33.224.176) to request just-in-time access to port 22.

Configuring...

2 Download Azure Command Line Interface (on Windows)

The Azure command-line interface (Azure CLI) is a set of commands used to create and manage Azure resources. Download it prior to connecting to your VM. Learn more

Download Azure CLI for Windows

3 Open a local shell and login (on Windows)

Open Terminal (Windows 11), PowerShell (Windows 10 or less), or a shell of your choice. Or switch the local machine OS above to view more instructions. Copy and paste the command to sign in with Azure CLI.

az login

4 Copy and execute AZ SSH command

Copy and execute the command in your local shell.

az ssh vm --ip 20.61.2.228

Copied

Close Troubleshooting Give feedback

```
luiscoenriquez@hotmail.co x + v
C:\Users\luisc>az ssh vm --ip 20.61.2.228
OpenSSH_for_Windows_8.6p1, LibreSSL 3.4.3
The authenticity of host '20.61.2.228 (20.61.2.228)' can't be established.
ED25519 key fingerprint is SHA256:xrDs/huqyK1Hg3bXKsN2npINavFzuWgcmeKc+6TgEVI.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '20.61.2.228' (ED25519) to the list of known hosts.
Learned new hostkey: RSA SHA256:5PqBNYY5DebX0Kr0/S5i0rsdmx28jZ1Mx/rR++MhfR0
Learned new hostkey: ECDSA SHA256:V9nGMrbizJblSDWf81AYIpEYishzuqerEVLjx3kcg3M
Adding new key for 20.61.2.228 to C:\\Users\\luisc/.ssh/known_hosts: ssh-rsa SHA256:5PqBNYY5DebX0Kr0/S5i0rsdmx28jZ1Mx/rR++MhfR0
Adding new key for 20.61.2.228 to C:\\Users\\luisc/.ssh/known_hosts: ecdsa-sha2-nistp256 SHA256:V9nGMrbizJblSDWf81AYIpEYishzuqerEVLjx3kcg3M
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1016-azure x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Fri Dec  1 12:40:06 UTC 2023

System load:  0.15576171875      Processes:            125
Usage of /:   5.8% of 28.89GB    Users logged in:     0
Memory usage: 2%                IPv4 address for eth0: 10.0.0.4
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

45 updates can be applied immediately.
```

```
luiscocoenriquez@hotmail.co x + v

System information as of Fri Dec 1 12:40:06 UTC 2023

System load: 0.15576171875      Processes: 125
Usage of /: 5.8% of 28.89GB      Users logged in: 0
Memory usage: 2%                IPv4 address for eth0: 10.0.0.4
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

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

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

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

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

luiscocoenriquez@hotmail.com@mylinuxvm1999:~$ |
```

```
luiscocoenriquez@hotmail.co x + v - □ ×

luiscocoenriquez@hotmail.com@mylinuxvm1999:~$ sudo apt-get update
Hit:1 http://azure.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://azure.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://azure.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://azure.archive.ubuntu.com/ubuntu jammy-security InRelease
Hit:5 https://packages.microsoft.com/repos/microsoft-ubuntu-jammy-prod jammy InRelease
Reading package lists... Done
luiscocoenriquez@hotmail.com@mylinuxvm1999:~$ |
```

1.2. Run these commands to stall "xfce" using "apt":

```
sudo apt-get update
sudo DEBIAN_FRONTEND=noninteractive apt-get -y install xfce4
sudo apt install xfce4-session
```

### 1.3. Install and configure a remote desktop server:

```
sudo apt-get -y install xrdp
sudo systemctl enable xrdp
sudo adduser xrdp ssl-cert
echo xfce4-session > ~/.xsession
sudo service xrdp restart
```

### 1.4. Set a local user account password

```
sudo passwd azureuser
```

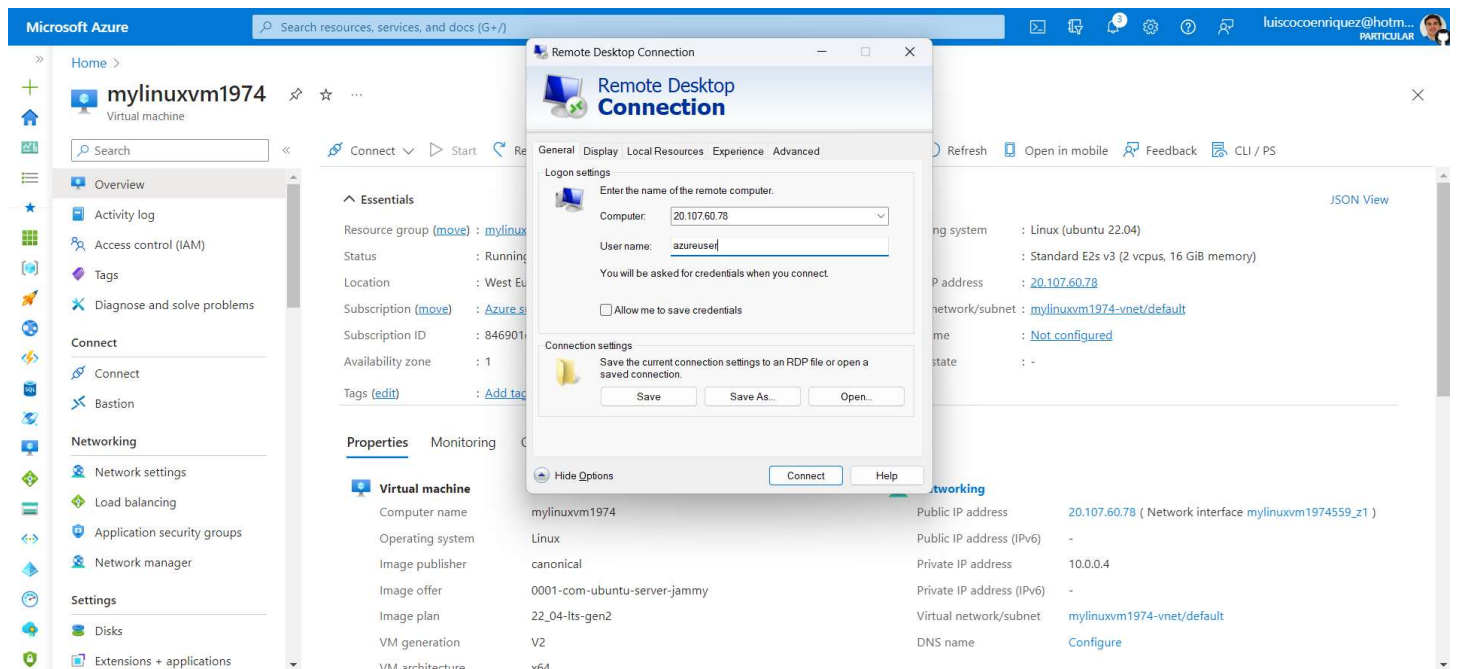
## 2. HOW TO CREATE A NEW INBOUND RULE FOR THE REMOTE DESKTOP CONNECTION

Now exit from the Linux VM and type the following command in your **command prompt**

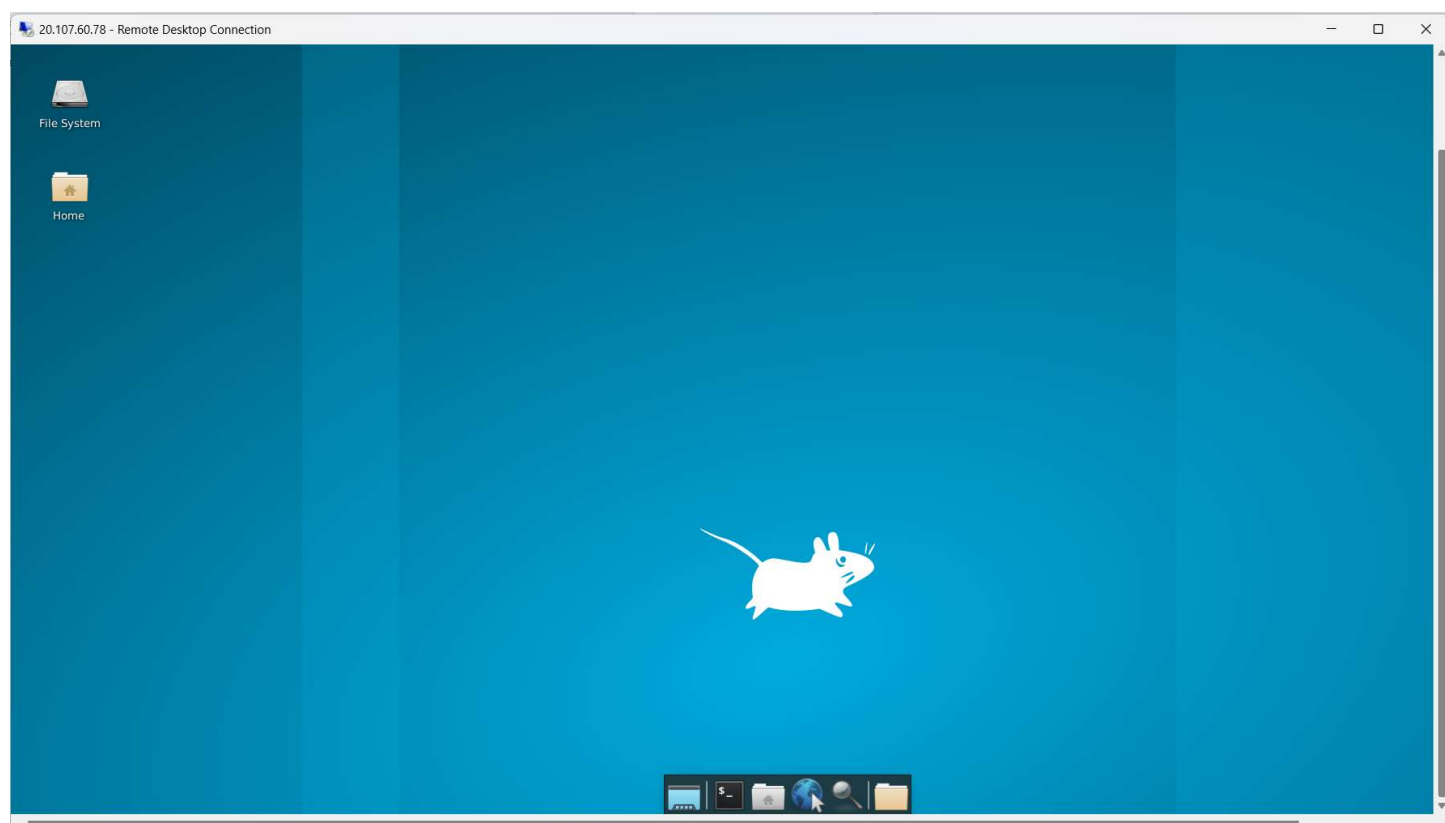
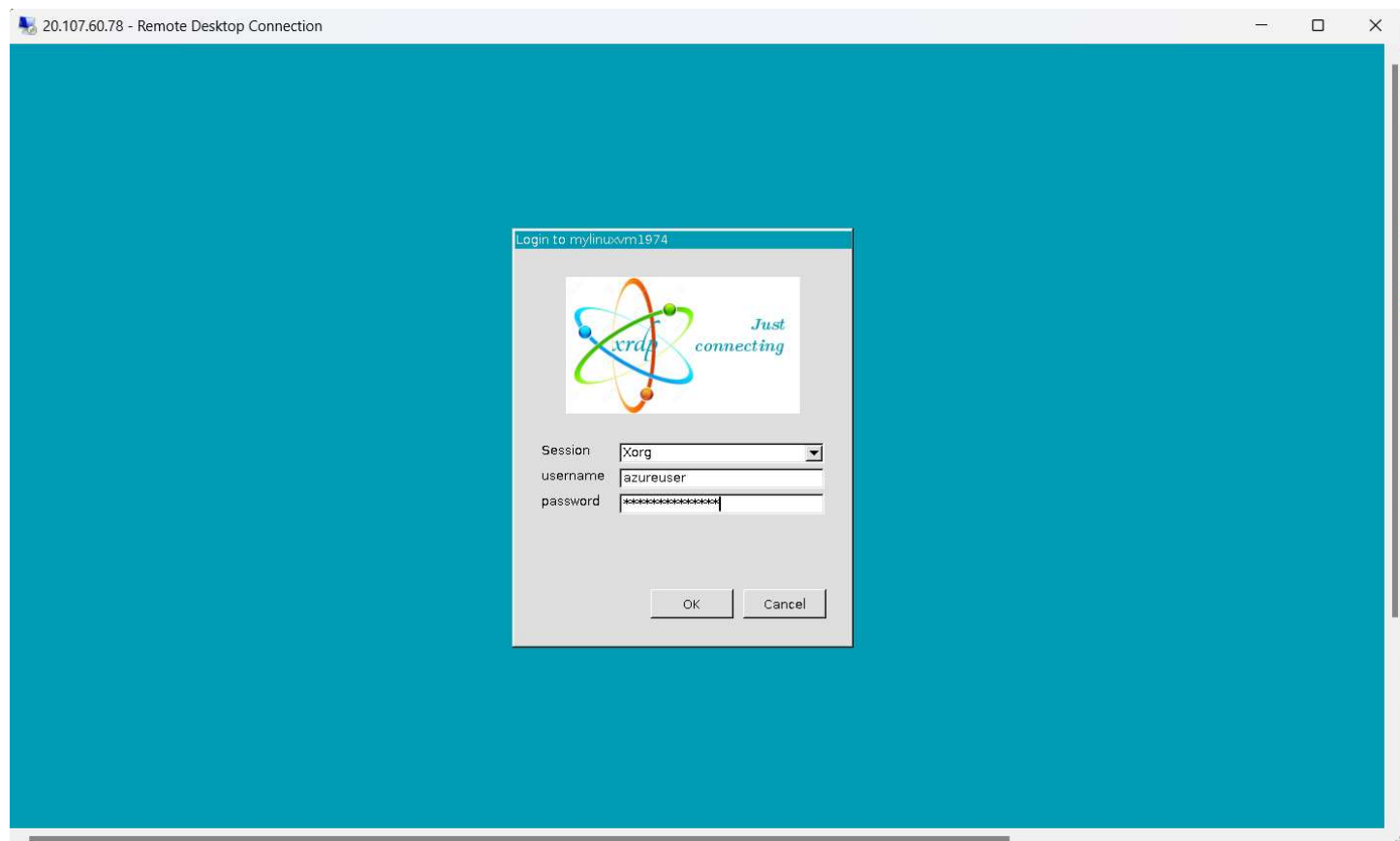
```
az vm open-port --resource-group mylinuxvm1974_group --name mylinuxvm1974 --port 3389
```

## 3. OPEN REMOTE DESKTOP CONNECTION

Now Open "**Remote Desktop Connection**" application and type the Azure VM Public IP address and the username "azureuser" and then press connect:



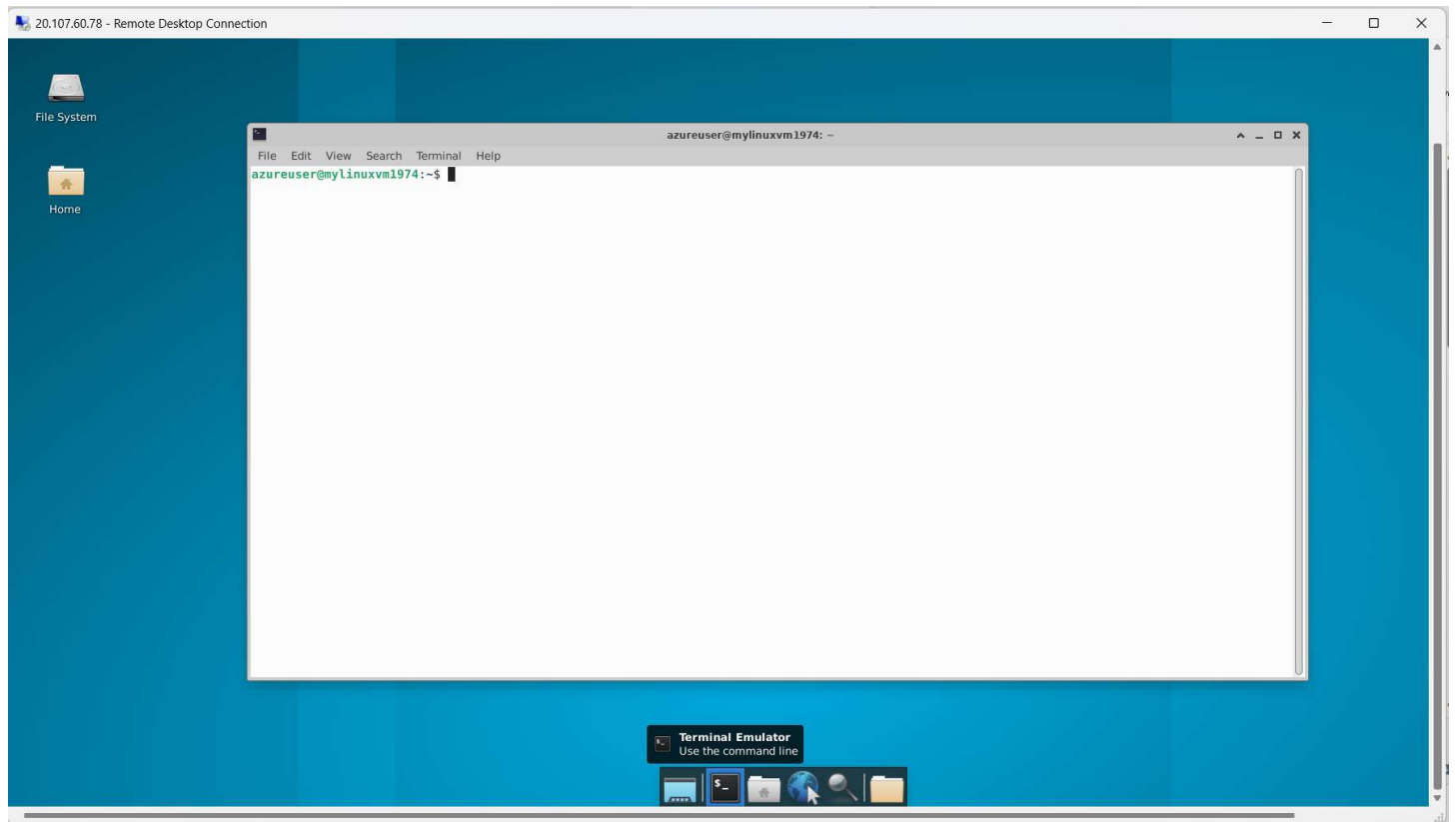
Then enter the password to access the Linux GUI Desktop



### 3.1. HOW TO INSTALL VSCODE

Open a Terminal Emulator window and run the following commands to install the VSCode application





```
sudo apt install software-properties-common apt-transport-https wget  
wget -q https://packages.microsoft.com/keys/microsoft.asc -O- | sudo apt-key add -  
sudo add-apt-repository "deb [arch=amd64] https://packages.microsoft.com/repos/vscode stable m  
sudo apt update  
sudo apt install code
```

## 3.2. HOW TO INSTALL GOOGLE CHROME

```
wget https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb  
sudo dpkg -i google-chrome-stable_current_amd64.deb
```

## 3.3. HOW TO INSTALL .NET 8 SDK

```
wget https://packages.microsoft.com/config/ubuntu/20.04/packages-microsoft-prod.deb -O package  
sudo dpkg -i packages-microsoft-prod.deb
```

```
sudo apt update  
sudo apt install -y apt-transport-https  
sudo apt update  
sudo apt install -y dotnet-sdk-8.0
```

```
dotnet --version
```