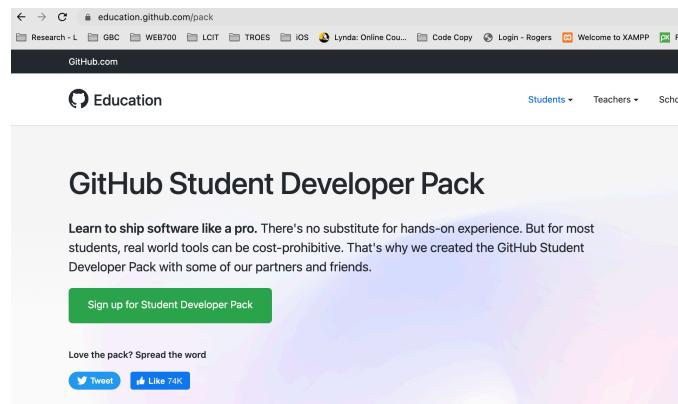


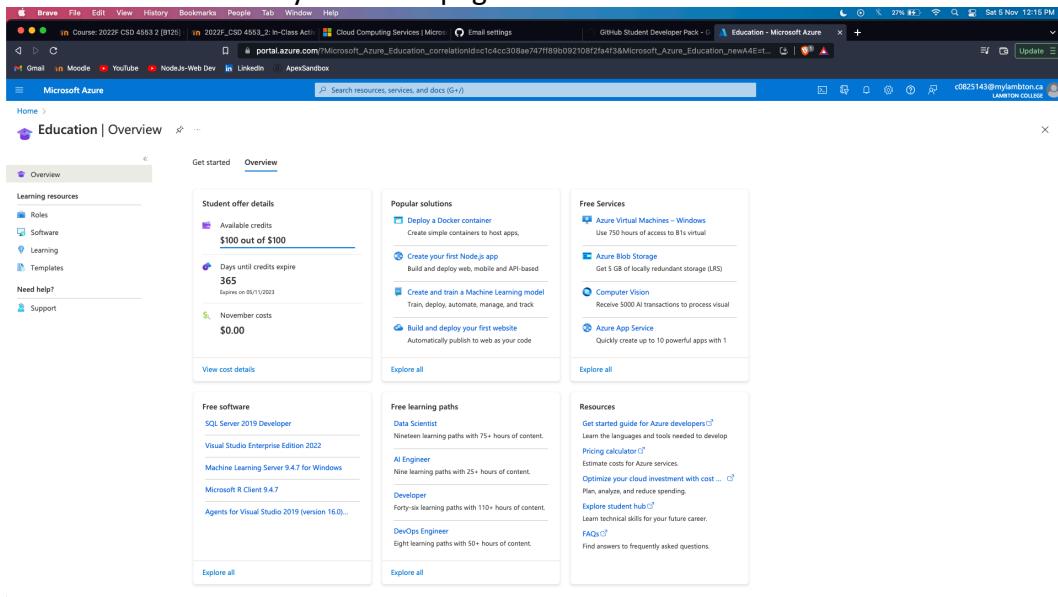
# Azure VM Instance

MS Azure Virtual Machine Ubuntu Server 20.04 LTS

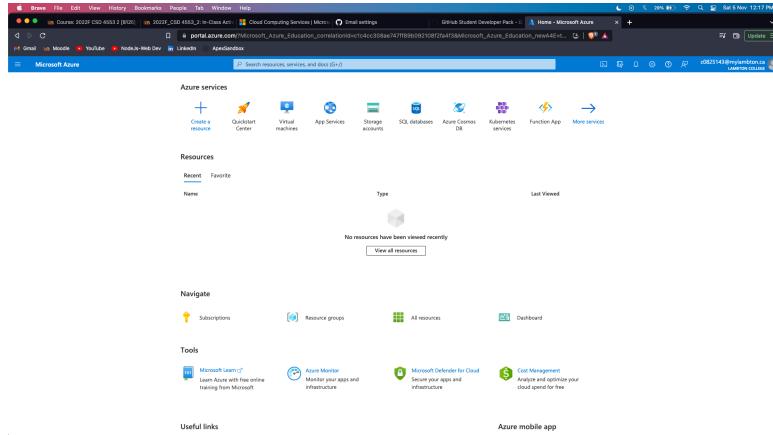
- 1) Login into GitHub, go to user Setting and add the student email id in emails section and verify it.
- 2) Register for GitHub student developer pack and fill required details.  
<https://education.github.com/pack>
- 3) Go to the following URL to see the Azure services page. Go to page and click start free. If URL not working search for Azure student free services in chrome
- 4) [https://azure.microsoft.com/en-gb/free/students/?WT.mc\\_id=academic-9938-cxa](https://azure.microsoft.com/en-gb/free/students/?WT.mc_id=academic-9938-cxa)
- 5) Once you navigate to Azure login page, use the student email address to sign up and create your account.



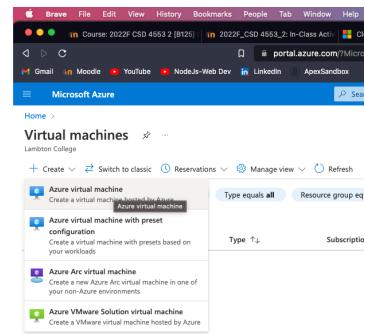
- 6) Once everything is fine, you will be successfully logged into the Azure account and the below is how your home page looks like.



- 7) Click on the Microsoft Azure name located at the top right corner. And click on Virtual Machine service.



- 8) Next, click on the below option -> Create -> Azure Virtual Machine



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

All services > Virtual machines >

## Create a virtual machine ...

**⚠** Changing Basic options may reset selections you have made. Review all options prior to creating the 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 ↗](#)

**!** This subscription may not be eligible to deploy VMs of certain sizes in certain regions.

**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 for Students

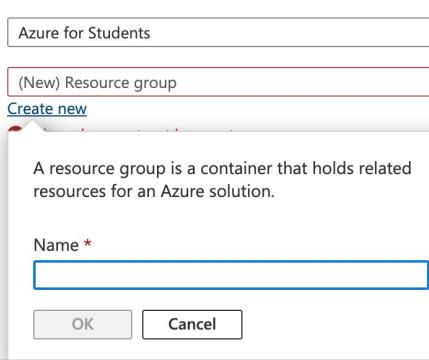
Resource group \*  (New) Resource group   
[Create new](#)

**Instance details**

Virtual machine name \*

Region \*

**Review + create** [< Previous](#) [Next : Disks >](#)



<https://portal.azure.com/#>

All services &gt; Virtual machines &gt;

## Create a virtual machine ...

**!** Changing Basic options may reset selections you have made. Review all options prior to creating the virtual machine.

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 ↗](#)

**i** This subscription may not be eligible to deploy VMs of certain sizes in certain regions.

### 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 for Students

Resource group \* ⓘ

(New) myassignmentvm

[Create new](#)

### Instance details

Virtual machine name \* ⓘ

Jenkins

Region \* ⓘ

(Europe) West Europe

Availability options ⓘ

Availability zone

Availability zone \* ⓘ

Zones 1

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

[Review + create](#)

[< Previous](#)

[Next : Disks >](#)

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

All services > Virtual machines >

## Create a virtual machine

Region \* ⓘ (Europe) West Europe

Availability options ⓘ Availability zone

Availability zone \* ⓘ Zones 1

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

Security type ⓘ Standard

Image \* ⓘ Ubuntu Server 20.04 LTS - Gen2

VM architecture ⓘ

Run with Azure Spot discount ⓘ

Size \* ⓘ

Administrator account

Authentication type ⓘ

Recently used

- Windows 10 Pro, version 21H2 - Gen2
- Marketplace images to get started
- Ubuntu Server 20.04 LTS - Gen2
- Ubuntu Server 18.04 LTS - Gen2
- SUSE Enterprise Linux 15 SP3 +Patching - Gen2
- Red Hat Enterprise Linux 8.2 (LVM) - Gen2
- Oracle Linux 8.5 (LVM) - Gen2
- Debian 11 "Bullseye" - Gen2
- CentOS-based 7.9 - Gen2
- Windows Server 2022 Datacenter: Azure Edition - Gen2

[Review + create](#) [< Previous](#) [Next >](#)

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

All services > Virtual machines >

## Create a virtual machine

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 \*  ✓

SSH public key source  ✓

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  None

Select inbound ports \*  ✓

HTTP (80)  
 HTTPS (443)  
 SSH (22)

---

Review + create < Previous Next : Disks >

[All services >](#) [Virtual machines >](#)

## Create a virtual machine

[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 about enabling this feature ↗](#)

### OS disk

OS disk size \*

Default size (30 GiB)

OS disk type \*

Premium SSD (locally-redundant storage)

Delete with VM



Key management

Platform-managed key

Enable Ultra Disk compatibility



### Data disks

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

[Review + create](#)[< Previous](#)[Next : Networking >](#)[Next : Networking >](#)

All services &gt; Virtual machines &gt;

## Create a virtual machine

...

[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) myassignmentvm-vnet

[Create new](#)

Subnet \*

(new) default (10.1.0.0/24)

Public IP

(new) Jenkins-ip

[Create new](#)

NIC network security group

 None Basic Advanced

Public inbound ports \*

 None Allow selected ports

Select inbound ports \*

HTTP (80), 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.

[Next : Management >](#)[Review + create](#)[< Previous](#)[Next : Management >](#)

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

All services > Virtual machines >

## Create a virtual machine

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 \* ⓘ  ⌄  
[Create new](#)

Public IP ⓘ  ⌄  
[None](#) [Create new](#)

NIC network security group ⓘ  None  Basic  Advanced

Public inbound ports \* ⓘ  None  Allow selected ports

Select inbound ports \*  ⌄  
HTTP (80), 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.

---

[Review + create](#) [< Previous](#) [Next : Management >](#)



All services > Virtual machines >

## Create a virtual machine

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 Microsoft Defender for Cloud basic plan.

### Identity

Enable system assigned managed identity

### Azure AD

Login with Azure AD

RBAC role assignment of Virtual Machine Administrator Login or Virtual Machine User Login is required when using Azure AD login. [Learn more](#)

Azure AD 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

### Backup

[Review + create](#)

[< Previous](#)

[Next : Monitoring >](#)

All services &gt; Virtual machines &gt;

## Create a virtual machine ...

[Basics](#)   [Disks](#)   [Networking](#)   [Management](#)   [Monitoring](#)   [Advanced](#)   [Tags](#)   [Review + create](#)

Configure monitoring options for your VM.

**Alerts**Enable recommended alert rules [\(i\)](#) **Diagnostics**

Boot diagnostics [\(i\)](#)  Enable with managed storage account (recommended)  
 Enable with custom storage account  
 Disable

Enable OS guest diagnostics [\(i\)](#) [Review + create](#)[< Previous](#)[Next : Advanced >](#)

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

All services > Virtual machines >

## Create a virtual machine ...

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 and cloud init**

Pass a cloud-init 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

Next : Tags >

[Review + create](#) [< Previous](#) [Next : Tags >](#)



All services > Virtual machines >

## Create a virtual machine ...

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
Name	: Instance - 1 Jenkins	12 selected <input type="button" value="▼"/>
	:	12 selected <input type="button" value="▼"/>

[Review + create](#)

[< Previous](#)

[Next : Review + create >](#)

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

All services > Virtual machines >

## Create a virtual machine ...

 Validation passed

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

### Basics

Subscription	Azure for Students
Resource group	(new) myassignmentvmm
Virtual machine name	Jenkins
Region	West Europe
Availability options	Availability zone
Availability zone	1
Security type	Standard
Image	Ubuntu Server 20.04 LTS - Gen2
VM architecture	x64
Size	Standard B1s (1 vcpu, 1 GiB memory)
Authentication type	SSH public key
Username	azureuser
Key pair name	devops_assingment2
Public inbound ports	SSH, HTTP
Azure Spot	No

### Disk

OS disk size  Default size (30 GiB)

[Create](#)

< Previous

Next >

[Download a template for automation](#)

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

All services >

## CreateVm-canonical.0001-com-ubuntu-server-focal-2-20221112091417 | Overview

Deployment

Search

<<

[Delete](#) [Cancel](#) [Redeploy](#) [Download](#) [Refresh](#)

 Overview

 Inputs

 Outputs

 Template

### ... Deployment is in progress

 Deployment name: CreateVm-canonical.0001-com-ubuntu-server-f... Start time: 11/12/2022, 9:24:05 AM  
Subscription: Azure for Students Correlation ID: 057c9d50-b352-410d-ad00-78900c2ef4bf [Details](#)

Resource group: myassignmentvmm

#### Deployment details

Resource	Type	Status	Operation details
 Jenkins	Microsoft.Compute/virtualMa...	Created	<a href="#">Operation details</a>
 jenkins487_z1	Microsoft.Network/networkIn... Microsoft.Network/publicIpA...	Created	<a href="#">Operation details</a>
 Jenkins-ip	Microsoft.Network/publicIpA...	OK	<a href="#">Operation details</a>
 Jenkins-nsg	Microsoft.Network/networkSe...	OK	<a href="#">Operation details</a>
 myassignmentvmm-vnet	Microsoft.Network/virtualNet...	OK	<a href="#">Operation details</a>

[Give feedback](#)

[Tell us about your experience with deployment](#)



Microsoft De  
Secure your a  
Go to Micros

Free Micros  
Start learning

Work with ar  
Azure expert:  
who can help  
and be your I  
Find an Azure

Microsoft Azure  ...

All services > CreateVm-canonical.0001-com-ubuntu-server-focal-2-20221112091417 | Overview > Jenkins

## Jenkins | Connect

Virtual machine

Search « » ✖

To improve security, enable just-in-time access on this VM. →

Overview Activity log Access control (IAM) Tags Diagnose and solve problems

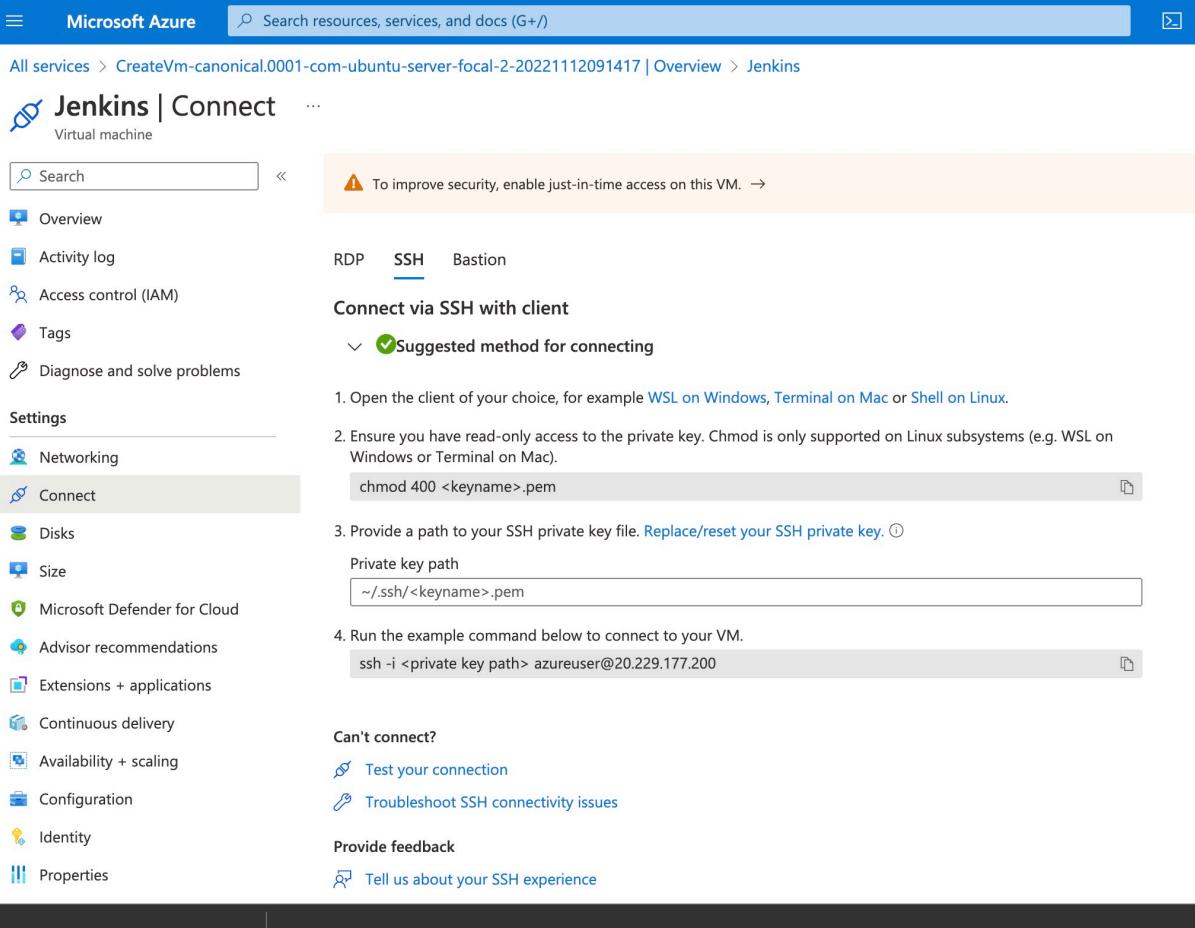
RDP SSH Bastion

Connect via SSH with client ✓ Suggested method for connecting

1. Open the client of your choice, for example [WSL on Windows](#), [Terminal on Mac](#) or [Shell on Linux](#).
2. Ensure you have read-only access to the private key. Chmod is only supported on Linux subsystems (e.g. WSL on Windows or Terminal on Mac).  
chmod 400 <keyname>.pem
3. Provide a path to your SSH private key file. [Replace/reset your SSH private key.](#) ⓘ  
Private key path  
~/ssh/<keyname>.pem
4. Run the example command below to connect to your VM.  
ssh -i <private key path> azureuser@20.229.177.200

Can't connect? Test your connection Troubleshoot SSH connectivity issues

Provide feedback Tell us about your SSH experience



Microsoft Azure  ×

All services > Virtual machines >

## Create a virtual machine

Validation passed

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

**Basics**

Subscription	Azure for Students
Resource group	(new) myassignmentvm
Virtual machine name	Jenkins
Region	West Europe
Availability options	Availability zone
Availability zone	1
Security type	Standard
Image	Ubuntu Server 20.04 LTS - Gen2
VM architecture	x64
Size	Standard B1s (1 vcpu, 1 GiB memory)
Authentication type	SSH public key
Username	azureuser
Key pair name	devops_assgningt2
Public inbound ports	SSH, HTTP
Azure Spot	No

**Disks**

OS disk size

**Create** < Previous Next > Download a template for automation

**Generate new key pair**

**Info** 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**