



Azure Setup

Arif Arman

Agenda

- Sign up for Azure and active \$100 credit for students here:
<https://azure.microsoft.com/en-us/free/free-account-students-faq/>
 - Create Virtual Machine (VM)
 - Remote Desktop Protocol (RDP)
 - Install Visual Studio 2019 Community
-



Create VM

Step 1

The screenshot shows the Microsoft Azure website interface. At the top, the Microsoft Azure logo is on the left, and navigation links for 'Contact Sales', 'Search', 'My account', and 'Portal' are on the right. The 'Portal' link is highlighted with a red rectangular box. Below the navigation bar, there is a main content area with the heading 'Invent with purpose' and a sub-heading 'Empower your inner inventor to turn ideas into outcomes'. A green button labeled 'Start free >' is visible. To the right, there is a promotional banner for the 'Azure Migration Program' with an illustration of server racks and a cloud.

Create VM

portal.azure.com/#home

Microsoft Azure

Search resources, services, and docs (G+)

Step 2

Azure services [See all \(100+\)](#) [Create a resource](#)

- Virtual machines** (highlighted with a red box)
- App Services
- Storage accounts
- SQL databases
- Azure Database for PostgreSQL
- Azure Cosmos DB
- Kubernetes services
- Function App

FAVORITES

- All resources
- Resource groups
- App Services
- Function App
- SQL databases
- Azure Cosmos DB
- Virtual machines
- Load balancers
- Storage accounts
- Virtual networks
- Azure Active Directory
- Monitor
- Advisor
- Security Center
- Cost Management + Billi...
- Help + support

Microsoft Learn
Learn Azure with free online training from Microsoft

Azure Monitor
Monitor your apps and infrastructure

Security Center
Secure your apps and infrastructure

Cost Management
Analyze and optimize your cloud spend for free

Recent resources [See all your recent resources](#) [See all your resources](#)

NAME	TYPE	LAST VIEWED
csce313fall2019	Virtual machine	21 min ago
Azure for Students	Subscription	3 d ago
CSCE313-vnet	Virtual network	4 d ago
csce313fall201955	Network interface	4 d ago

Useful links

- [Technical Documentation](#)
- [Azure Services](#)
- [Recent Azure Updates](#)
- [Azure Migration Tools](#)
- [Find an Azure expert](#)

Azure mobile app

Download on the App Store

GET IT ON Google Play

<https://portal.azure.com/#blade/HubsExtension/BrowseResourceBlade/resourceType/Microsoft.Compute%2FVirtualMachines>



Create VM

portal.azure.com/#blade/HubsExtension/BrowseResourceBlade/resourceType/Microsoft.Compute%2FVirtualMachines

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

Home > Virtual machines

Virtual machines

Default Directory

Step 3 + Add Reservations Edit columns Refresh Assign tags Start Restart Stop Delete Services

Subscriptions: Azure for Students

Filter by name... All resource groups All types All locations All tags No grouping

1 items

<input type="checkbox"/>	NAME ↑↓	TYPE ↑↓	STATUS	RESOURCE GROUP ↑↓	LOCATION ↑↓	SOURCE	MAINTENANCE STATUS	SUBSCRIPTION
<input type="checkbox"/>	csce313fall2019	Virtual machine	Running	CSCE313	South Central US	Marketplace	-	Azure for S

Create VM

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

Home > Virtual machines > Create a virtual machine

Create a virtual machine

[Basics](#) | [Disks](#) | [Networking](#) | [Management](#) | [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. Looking for classic VMs? [Create VM from Azure Marketplace](#)

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: **CSCCE313** (Create new)

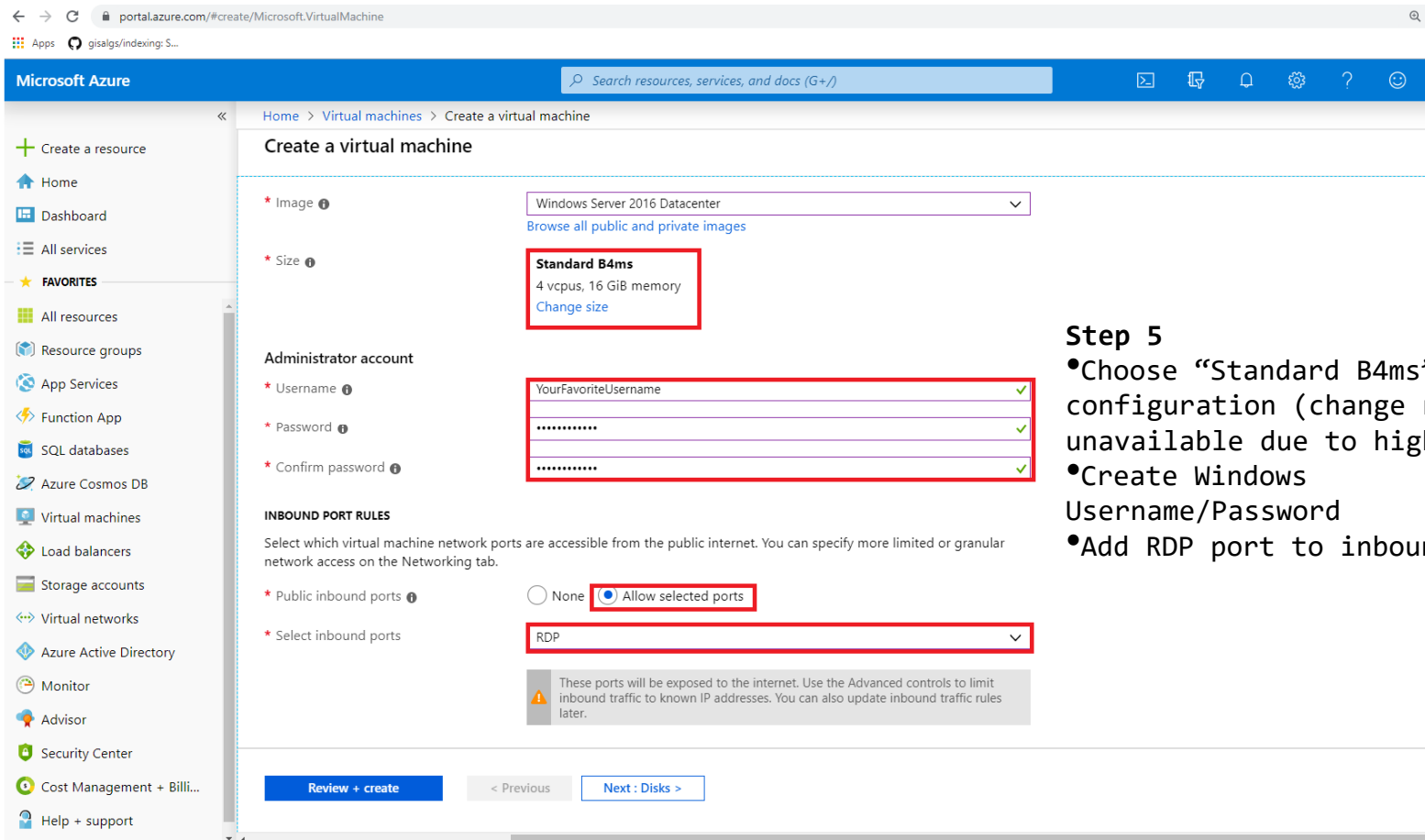
Instance details

- * Virtual machine name: **313fall2020** ✓
- * Region: **(US) South Central US**
- Availability options: No infrastructure redundancy required
- * Image: **Windows Server 2016 Datacenter** (Browse all public and private images)

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

Step 4
 Choose your favorite names
 Pick Server 2016 Datacenter


Create VM




Microsoft Azure


Home > Virtual machines > Create a virtual machine


Create a virtual machine


* Image  Windows Server 2016 Datacenter
[Browse all public and private images](#)

* Size  **Standard B4ms**
 4 vcpus, 16 GiB memory
[Change size](#)

Administrator account


* Username  YourFavoriteUsername ✓


* 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  RDP

These ports will be exposed to the internet. Use the Advanced controls to limit inbound traffic to known IP addresses. You can also update inbound traffic rules later.

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

Step 5

- Choose “Standard B4ms” configuration (change region if unavailable due to high demand)
- Create Windows Username/Password
- Add RDP port to inbound rule



Create VM

[Home](#) > [Virtual machines](#) >

Create a virtual machine

Basics Disks Networking Management 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](#)

Disk options

OS disk type * ⓘ

Standard HDD

The selected VM size supports premium disks. We recommend Premium SSD for high IOPS workloads. Virtual machines with Premium SSD disks qualify for the 99.9% connectivity SLA.

Encryption type *

(Default) Encryption at-rest with a platform-managed key

Enable Ultra Disk compatibility ⓘ

Yes No

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.

LUN	Name	Size (GiB)	Disk type	Host caching
Create and attach a new disk	Attach an existing disk			

Advanced

Step 6

- Pick Standard HDD for OS disk type; SSD will eat up your credits quickly
- You can add additional data disks, but that is not necessary for this class



Create VM

[Home](#) > [Virtual machines](#) >

Create a virtual machine

Disk options

OS disk type * ⓘ

Standard HDD

The selected VM size supports premium disks. We recommend Premium SSD for high IOPS workloads. Virtual machines with Premium SSD disks qualify for the 99.9% connectivity SLA.

Encryption type *

(Default) Encryption at-rest with a platform-managed key

Enable Ultra Disk compatibility ⓘ

Yes No

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.

LUN	Name	Size (GiB)	Disk type	Host caching
-----	------	------------	-----------	--------------

[Create and attach a new disk](#)

[Attach an existing disk](#)

Advanced

Step 7

Review + create

< Previous

Next : Networking >



Create VM

portal.azure.com/#create/Microsoft.VirtualMachine

Microsoft Azure

Search resources, services, and docs (G+)

Home > Virtual machines > Create a virtual machine

Create a virtual machine

✓ Validation passed

Basics Disks Networking Management Advanced Tags Review + create

PRODUCT DETAILS

Standard B4ms
by Microsoft
Subscription credits apply ⓘ
0.2160 USD/hr
[Terms of use](#) | [Privacy policy](#)
[Pricing for other VM sizes](#)

TERMS

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

Basics

Subscription	Azure for Students
Resource group	CSCE313
Virtual machine name	313fall2019
Region	(US) South Central US
Availability options	No infrastructure redundancy required
Username	siruli

Step 8

Create < Previous Next > Download a template for automation

Remote Desktop

- RDP is a protocol developed by Microsoft that allows you to remote access a Windows machine with GUI
 - Port 3389
 - Client side runs on Windows, OS X, Linux, Android, iOS, browser: literally anywhere
 - Now you should be able to see to your VM!
-

Remote Desktop

The screenshot displays the Microsoft Azure portal interface. The browser address bar shows the URL: `portal.azure.com/#@sirulivipqqcom.onmicrosoft.com/resource/subscriptions/465c3678-67f3-499a-8912-e04d3a4e5bde/resourceGroups/CSCE313/providers/Microsoft.Compute/virtualMachines/csce313fall2019/overview`. The page title is "Step 1" and the main heading is "csce313fall2019 Virtual machine".

The "Start" button is highlighted with a red box. Below the button, the virtual machine's status is "Stopped (deallocated)". The "Overview" tab is selected in the left-hand navigation pane.

Key details for the virtual machine include:

- Resource group: CSCE313
- Status: Stopped (deallocated)
- Location: South Central US
- Subscription: Azure for Students
- Subscription ID: 465c3678-67f3-499a-8912-e04d3a4e5bde
- Computer name: (start VM to view)
- Operating system: Windows
- Size: Standard D4s v3 (4 vcpus, 16 GiB memory)
- Ephemeral OS disk: N/A
- Public IP address: 52.171.134.135
- Private IP address: 10.0.0.10
- Virtual network/subnet: CSCE313-vnet/default
- DNS name: Configure

At the bottom, there is a "CPU (average)" graph showing usage over time, with a peak of approximately 50%.

Remote Desktop

The screenshot displays the Azure portal interface for a virtual machine named 'csce313fall2019'. The 'Connect' button is highlighted with a red box. A 'Connect to virtual machine' dialog box is open on the right, showing the 'RDP' tab selected. The 'Download RDP File' button in the dialog is also highlighted with a red box. The dialog includes a warning about just-in-time access, instructions for connecting via RDP, and fields for IP address (Public IP address (52.171.134.135)) and port number (3389). Below the dialog, there is a 'Step 3' section with a 'Download RDP File' button and a list of troubleshooting links: 'Diagnose and solve problems', 'Troubleshoot connection', and 'Serial console'. The main page shows the VM's status as 'Running' and includes a 'CPU (average)' graph showing usage over time.

Remote Desktop

- Now a VM_Name.rdp file will be downloaded
 - Install the Remote Desktop client if you are not on Windows
 - Open the file
 - Connect and enter the username/password you just created for your Windows VM
-



Visual Studio

- Install Visual Studio 2019 Community once logged in to VM
-

Important: Shutdown your VM!

- You are being billed as long as the VM is running, even when you are disconnected from the remote desktop.
 - MAKE SURE YOU SHUTDOWN YOUR VM AFTER USE
 - $\$100 / 0.216 \text{ per hour} = 463 \text{ hrs} = 19 \text{ days}$
 - There is an auto-shutdown option (have not verified)
-

FAQs

Q: I am trying to connect my VM, why do I not see the RDP option?

A: Make sure your Image is Windows 2016 Datacenter, and not a Linux distribution.

Q: Why does it hang when I click the .rdp file and does not prompt me to enter my username/password?

A: Make sure port 3389 is added to your inbound firewall rule.

Q: The B4ms configuration is unavailable due to high demand?

A: Try a different region.

Q: OMG! I can't start my VM, it says my VM is deallocated!

A: This can occur if the demand is high, come back and try in a few minutes, your stuff will still be there, as long as your VM is in your Virtual Machines list.

FAQs

Q: I am a 463/612 student, and my HTTP requests are not going through on the VM!

A: Add firewall inbound/outbound rule to allow all TCP traffic.

Q: DNS requests fail too often when I call `gethostbyname()`!

A: The default DNS server is not very good from Azure. Change it by performing the following:

1. On Azure, on your VM page, click the link after “Virtual network/subnet”.
2. Select “DNS servers” on the left panel.
3. Custom it to 8.8.8.8
4. May have to restart your VM.

Q: I have downloaded the `.rdp` file, how do I open it?

A: For Windows users, the client side already comes with the OS. If you are on OS X or other platforms, you need to download the client separately. (OS X: App Store, Microsoft Remote Desktop 10).



FAQs

Q: I managed to log in and I am trying to download the necessary software, but a window with message “Content from the website listed below is...” pops up with every page I open?

A: Open “Server Manager” -> “Local Server” -> “IE Enhanced Security Configuration”, set it to Off.



That's all for today!
