

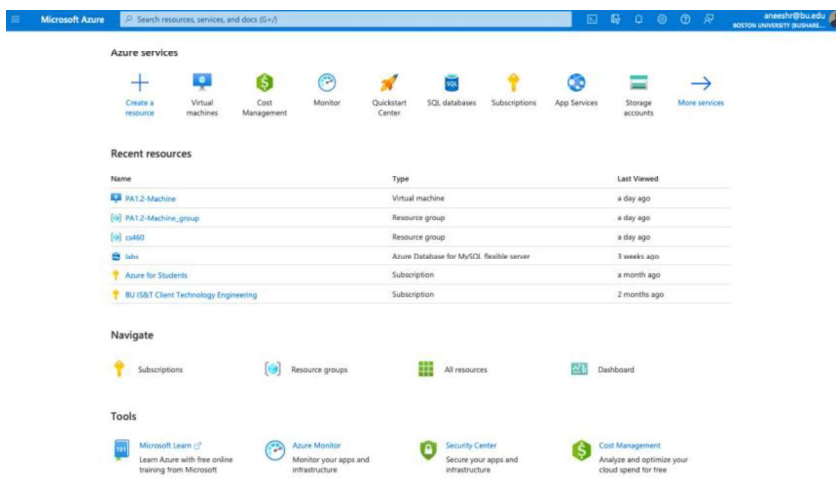
## Setting up Azure

1. Go to the following URL in your browser: <https://azure.microsoft.com/en-us/free/students/>
2. Click on the green **Start free** button and follow on-screen instructions to setup your azure account. **Remember** to use your **BU** email id to register.

## Login to Azure

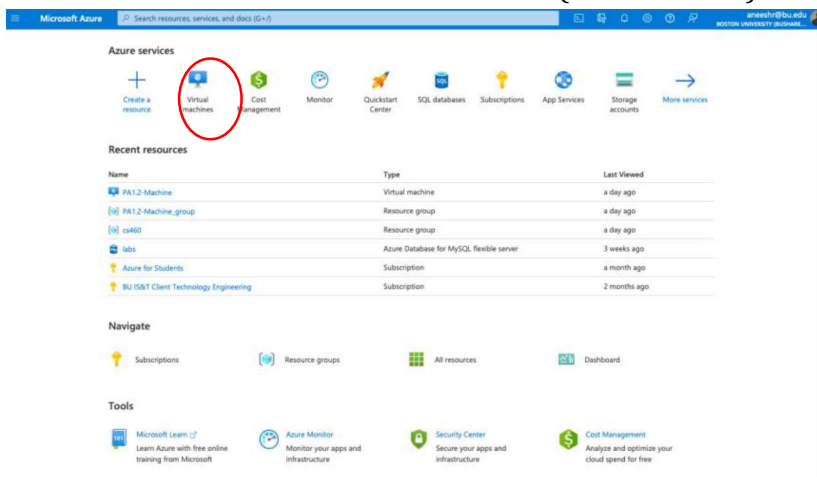
In a web browser of your choice, enter the following URL: <portal.azure.com>

You will see the dashboard as follows:

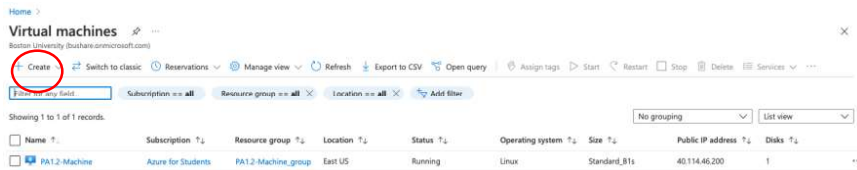


## Creating a Virtual Machine

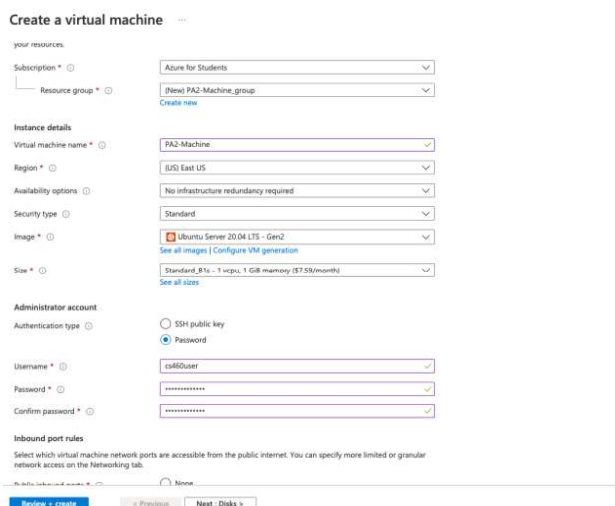
1. Click on the Virtual Machines icon (shown below)



2. Click on the Create button. Select the **Virtual machine** option

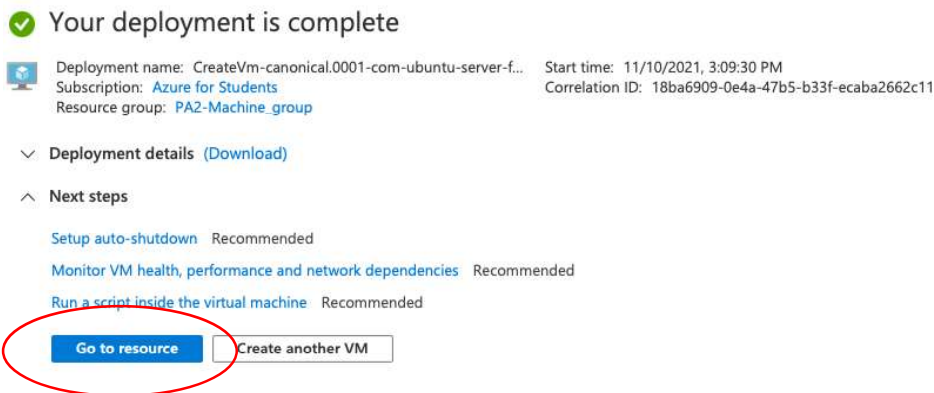


3. You will be taken to a **Create a Virtual Machine Window**. Make sure that you choose **Azure for Students** under the Subscription.
4. Select the **cs561** resource group (you will need to create a new resource, following *these* instructions).
5. Name your virtual machine as **Project1-Machine**.
6. You may keep the defaults for Region, Availability options and Security type.
7. Under **Image**, select **Ubuntu Server 20.04 LTS – Gen2**.
8. Under size, make sure you select **Standard\_B1s – 1vcpu, 1GiB memory (\$7.59/month)**. Note, you will not be charged anything even though Azure will show you a monthly rate for the instance. This is because they maintain the same user interface for students and general users.
9. Under authentication type, select the **Password** option/radio button. You will be prompted for the username and password. For both username and password, enter **exactly** as follows:
  - a. Username: **cs561user**
  - b. Password: **Cs561project1**
10. Keep all other settings set to their defaults.
11. The create window should look as follows:



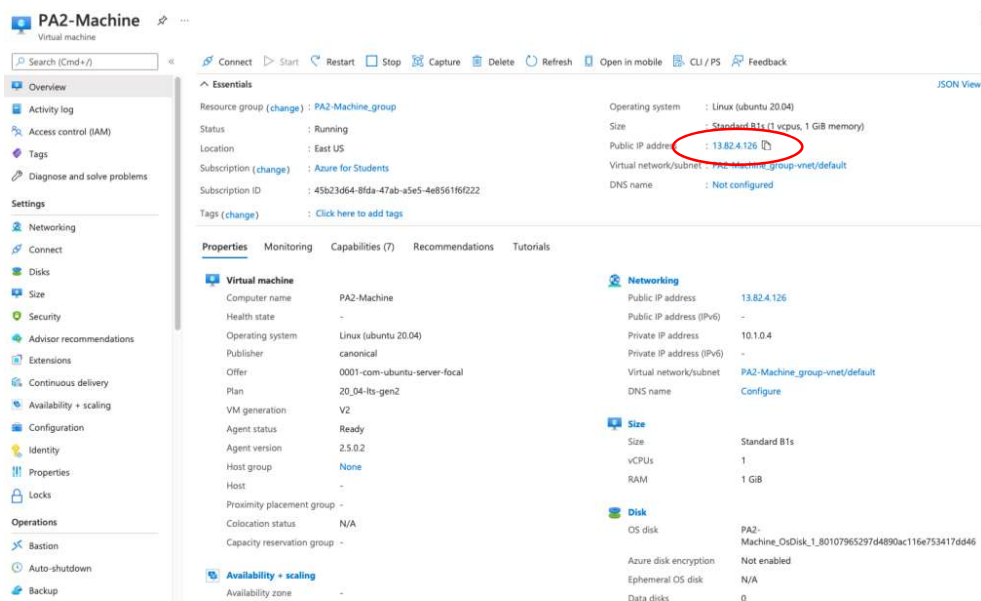
12. Click on **Review+Create**.
13. In the review window, click on **Create**. Your instance will be deployed in a few minutes.

14. Once the instance is deployed, you will be given an option for **Go to Resource**. Click on it to view your Virtual Machine instance details.



## Logging into the Virtual Machine

The resource window for our created instance will look as follows:



Here, we note the public ip address that has been allocated for our resource. Note, this address might change after you stop/start the resource again. We will use the IP address listed in the resource details to login to the machine using **ssh** (like we did for login to **csa1** machines). If the IP address changes, we will use the latest one.

1. Open a new terminal on a mac/linux system. If you are in a windows machine, please use PuTTY.
2. Login to the remote VM (Virtual machine) using **ssh**. Here, our username will be **cs561user** (that we listed while creating the instance) and password will be **Cs561project1**. Use this command to login from the terminal:

ssh cs561user@<ip\_address>

**Remember to replace <ip\_address> with the public IP address listed for your resource.** For example, in my case, I would type the above command as follows:

ssh [cs561user@13.82.4.126](https://cs561user@13.82.4.126)

3. Type the password **Cs561project1** when prompted.
4. You will now be logged into the resource and will see the following window in your terminal:

```
(base) aneeshr@dhcp-acadmin-128-197-10-176 ~ % ssh cs460user@13.82.4.126
cs460user@13.82.4.126's password:
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.11.0-1021-azure x86_64)

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

System information as of Wed Nov 10 20:29:15 UTC 2021

System load: 0.0          Processes:           104
Usage of /:   5.2% of 28.9GB Users logged in:      0
Memory usage: 32%        IPv4 address for eth0: 10.1.0.4
Swap usage:  0%

1 update can be applied immediately.
To see these additional updates run: apt list --upgradable

Last login: Wed Nov 10 20:13:01 2021 from 128.197.10.176
cs460user@PA2-Machine:~$
```

## Installing make

Run the following command:

```
sudo apt install make
```

## Installing gcc

Run the following command:

```
sudo apt-get install gcc
```