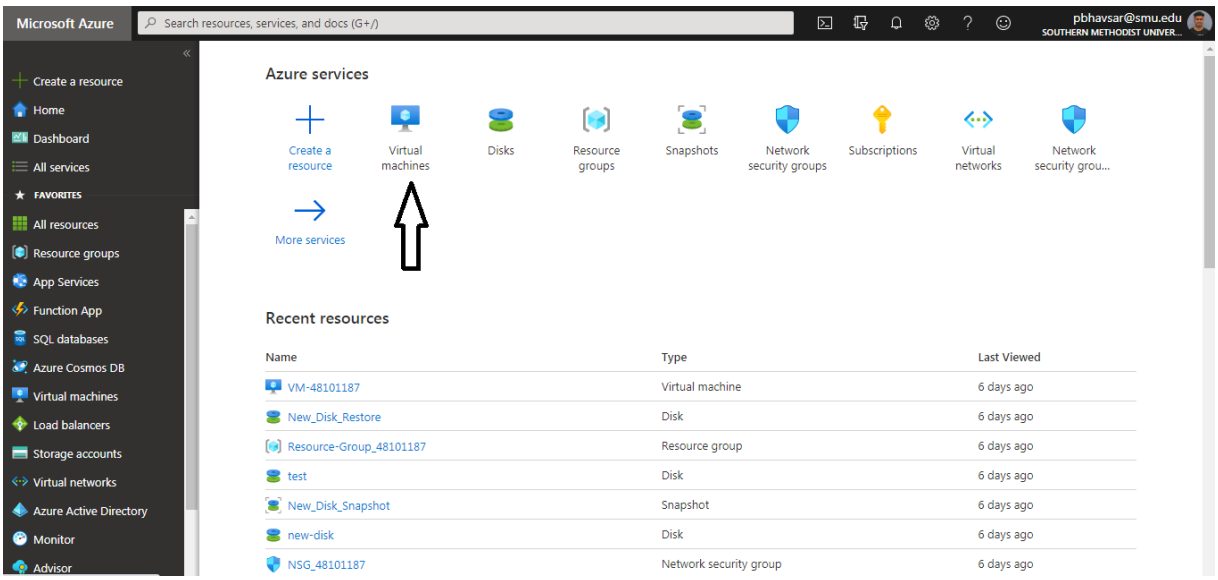
LAB: Introduction to Azure Virtual Machines Service

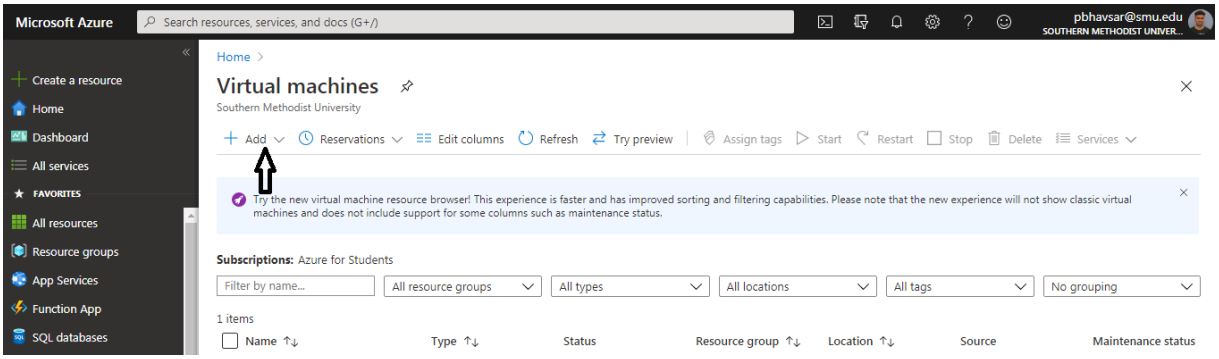
In this Lab, we are going to look at the Azure Virtual Machine (VM) Service. This Service is identical to the "Elastic Compute Cloud (EC2) Service in Amazon Web Services (AWS).

Task 1: Launch Your Amazon EC2 Instance

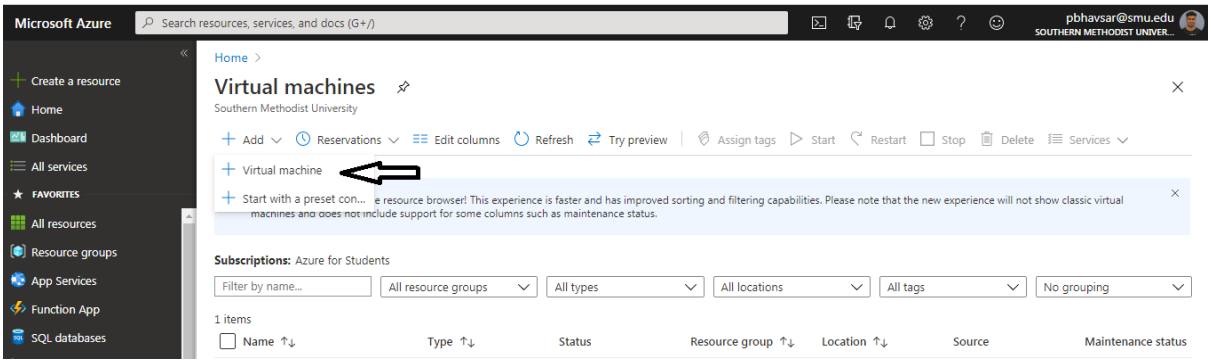
Navigate to Microsoft Azure Portal and under the Search bar, search for the "Virtual Machines" Service.



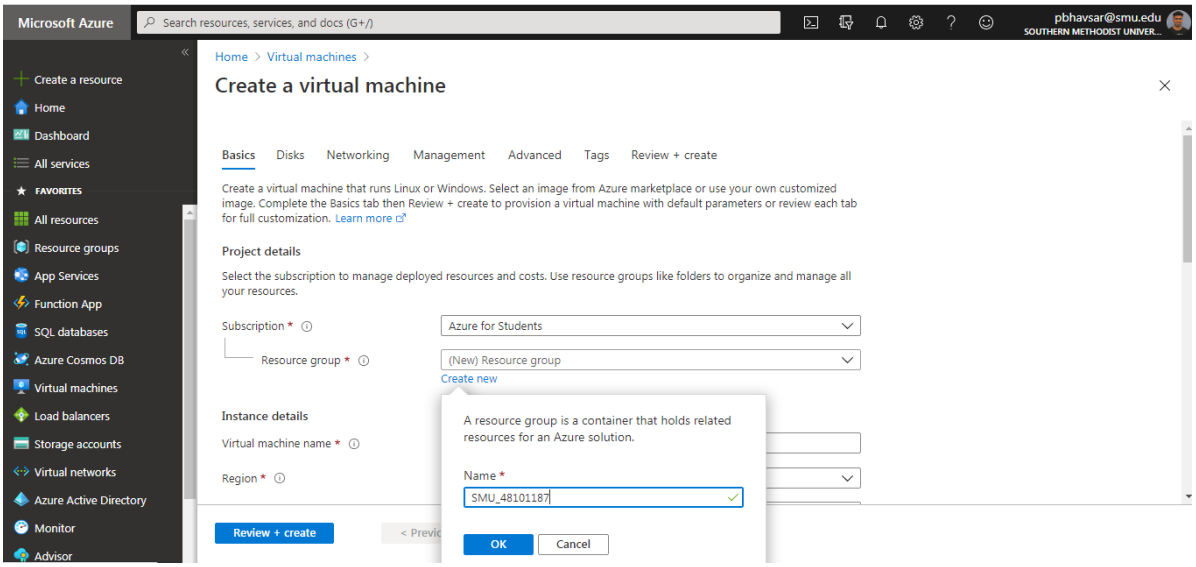
Click on "+ Add" to create a new Azure Virtual Machine (VM).



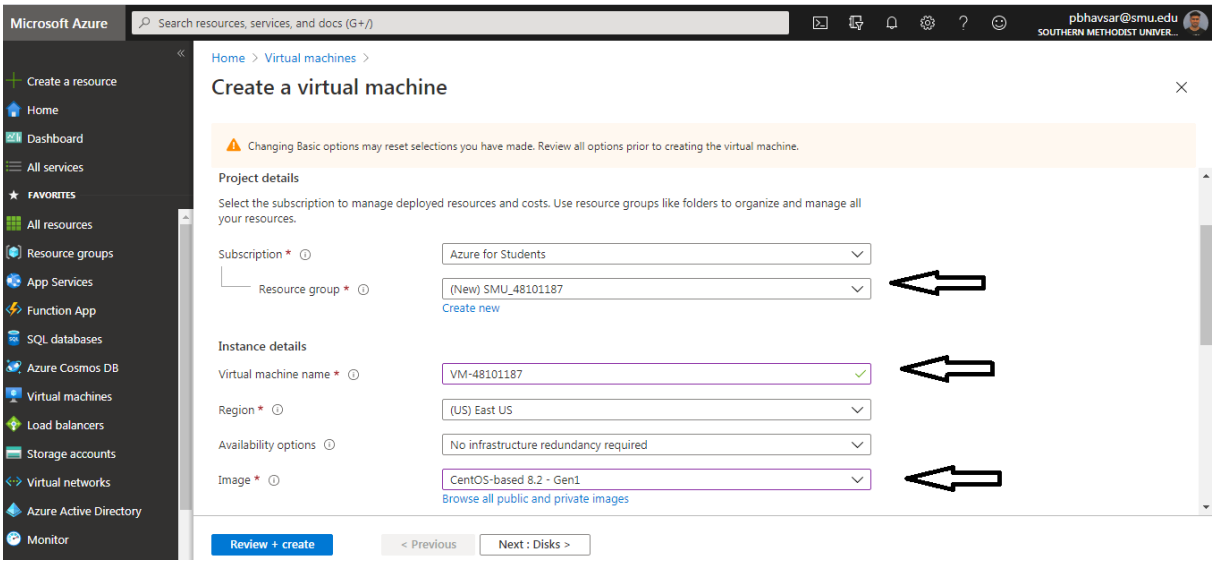
Click on "+ Virtual Machine".



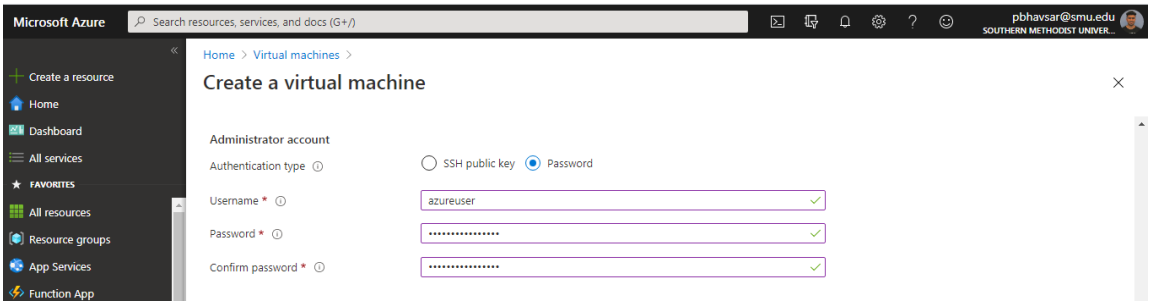
Under Resource Group, click on "Create New" and give Resource Group name as "SMU_SMUID". We'll discuss more about designing a Resource Group in the upcoming Labs.



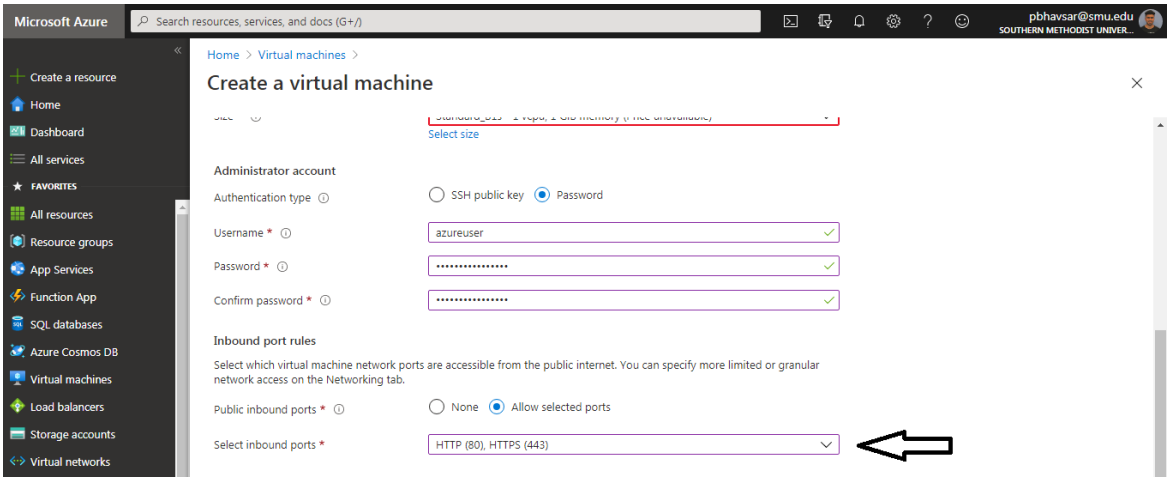
Specify the Virtual Machine Name, Region and Image as follow. We are deploying a CentOS-8 VM on Microsoft Azure.



Specify the Username as “azureuser” and Password of your choice.

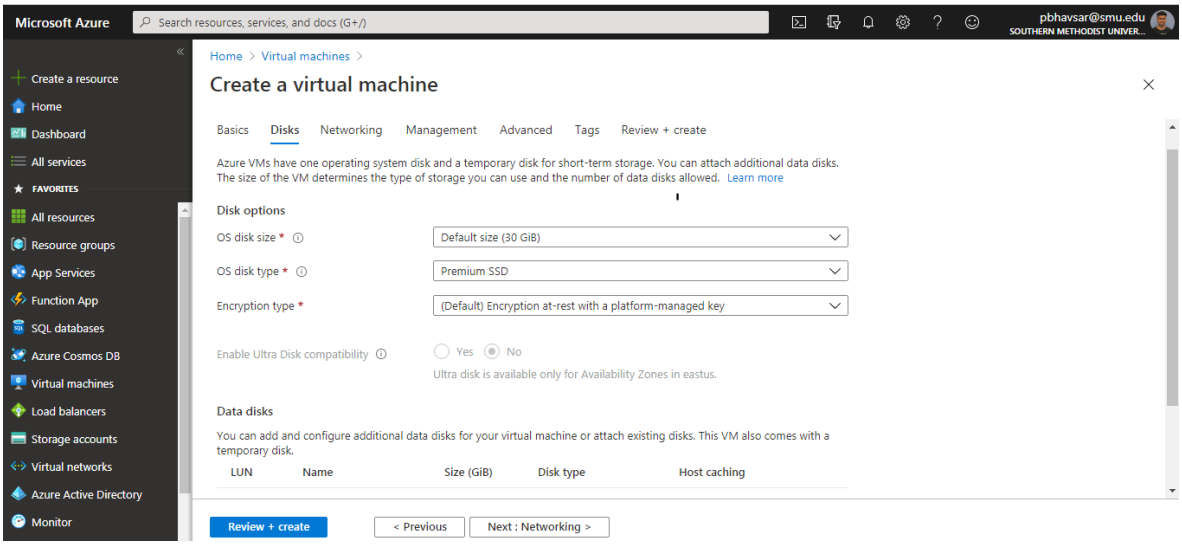


Since we’ll be hosting a smaple Web Application on this CentOS VM, allow the Inbound Ports 80 and 443. This will create a Network Security Group (NSG) for this VM but it can be used for Azure VMnet-Subnets level as well.

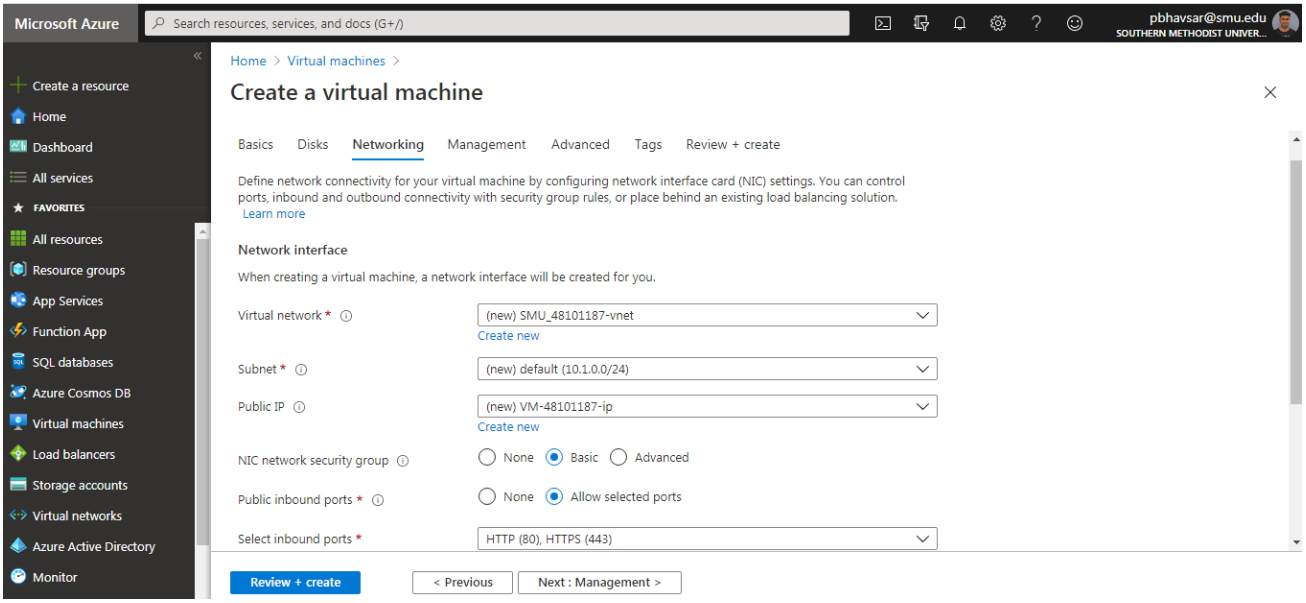


Select the default settings for the Virtual Machine’s Disk.

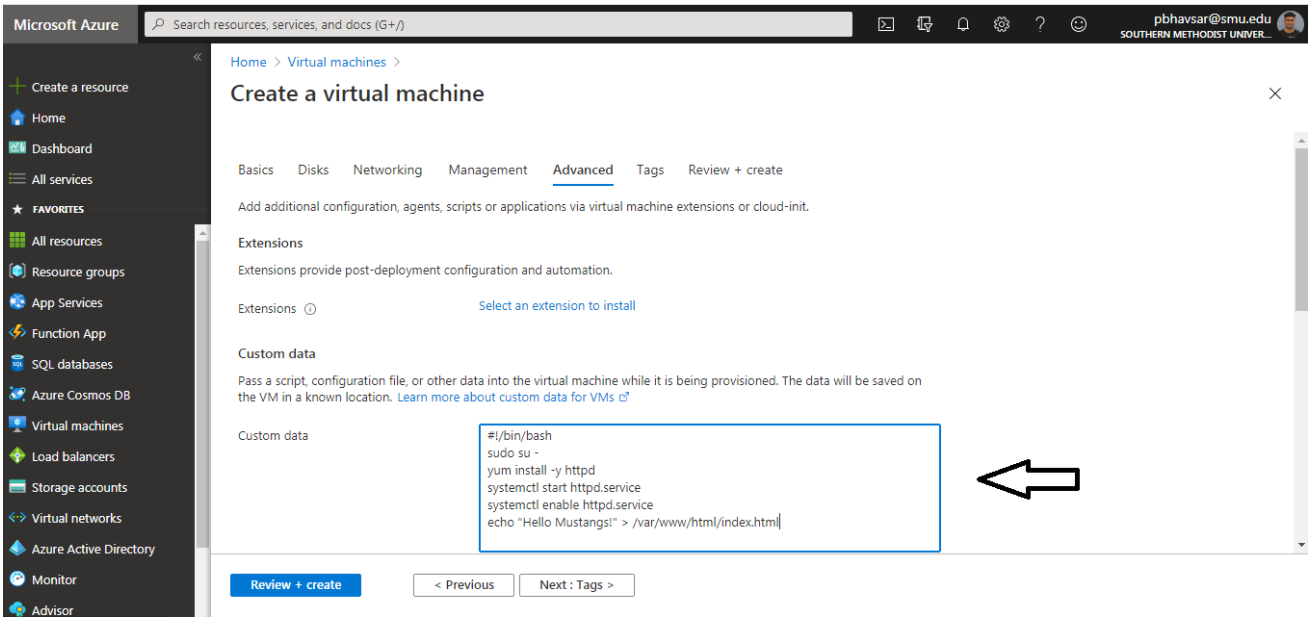
If you notice, the default settings include SSD Disk for the OS Disk.



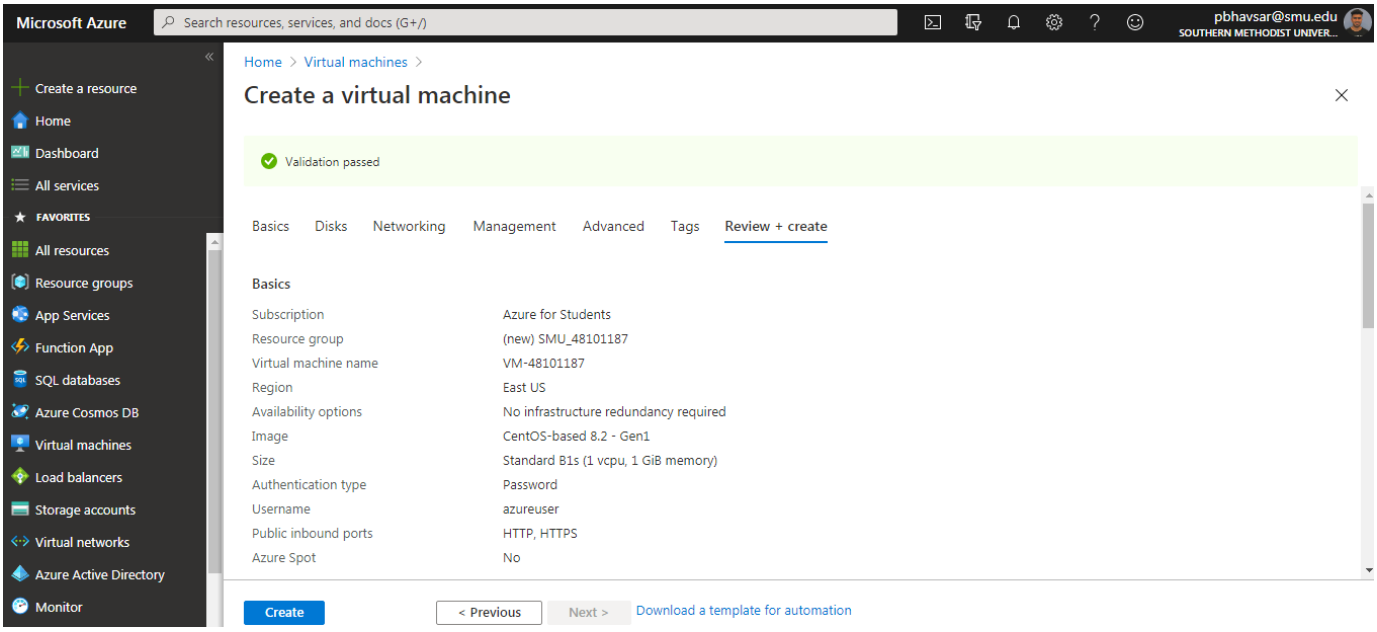
Keep the default settings for the Networking. We will configure a custom Virtual Network, custom Subnets in the upcoming Labs.



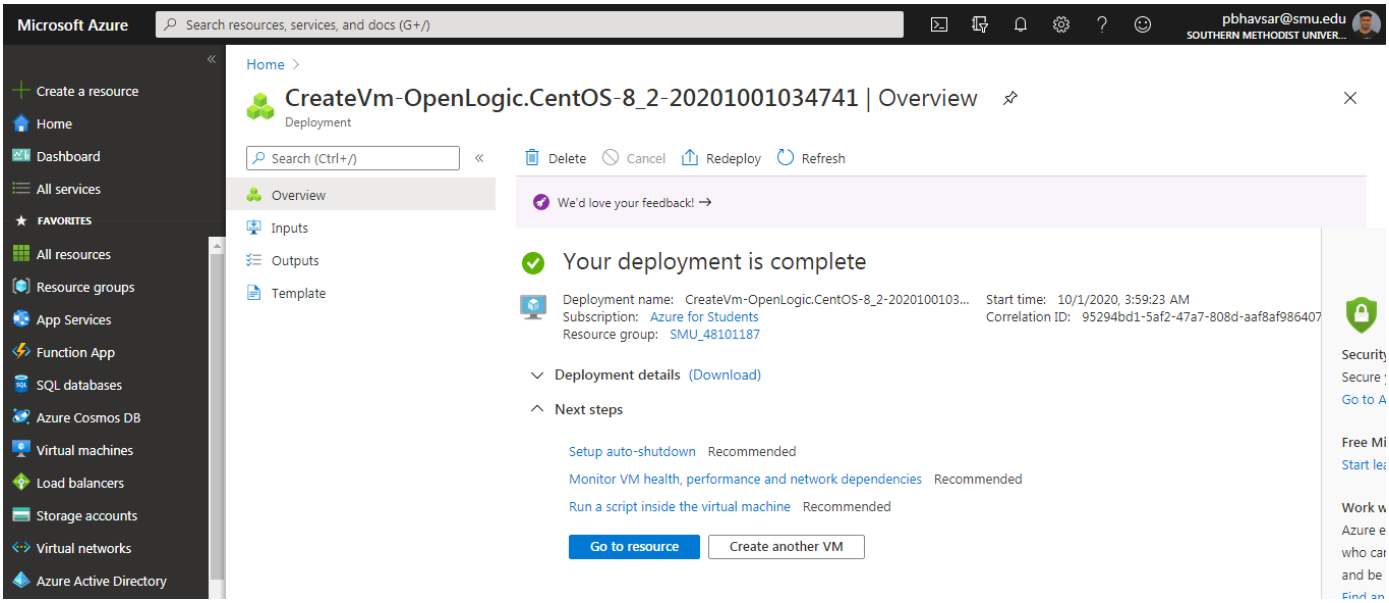
Now in the Advanced Tab, under “Custom Data”, write a bash script which would configure the Web Server for you during the Virtual Machine Boot Up process. This is exactly same as the “User Data” field in the AWS-EC2 Service.



Review the configurations which you've specified and click on "Create".

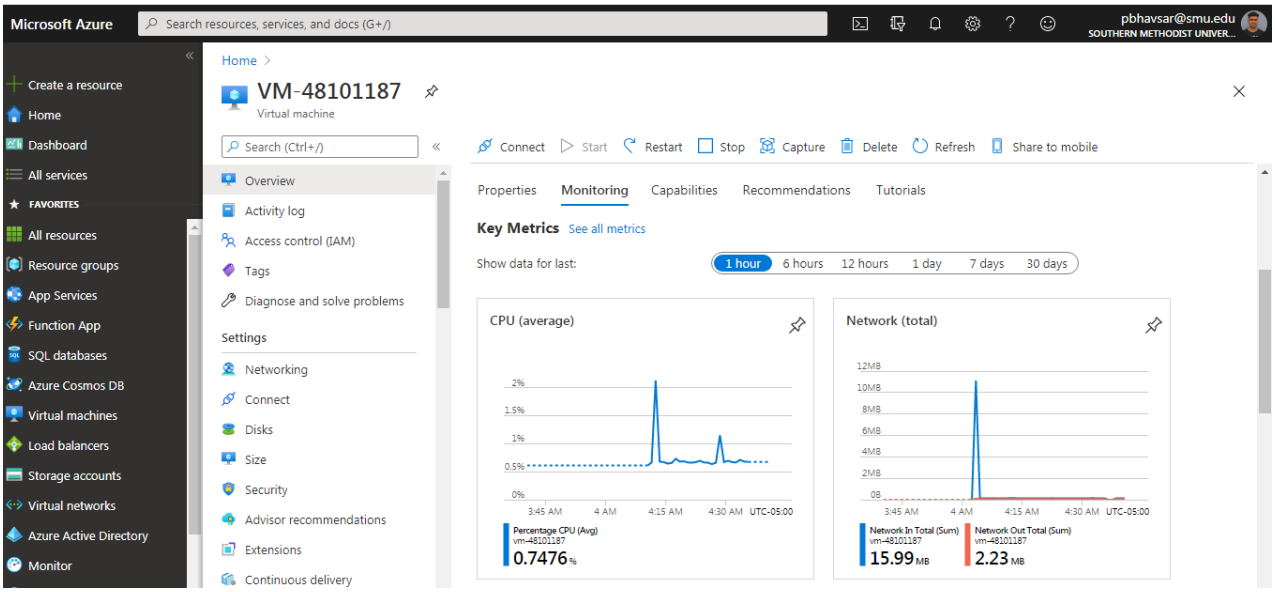


Your Azure Virtual Machine (VM) deployment is finally completed.



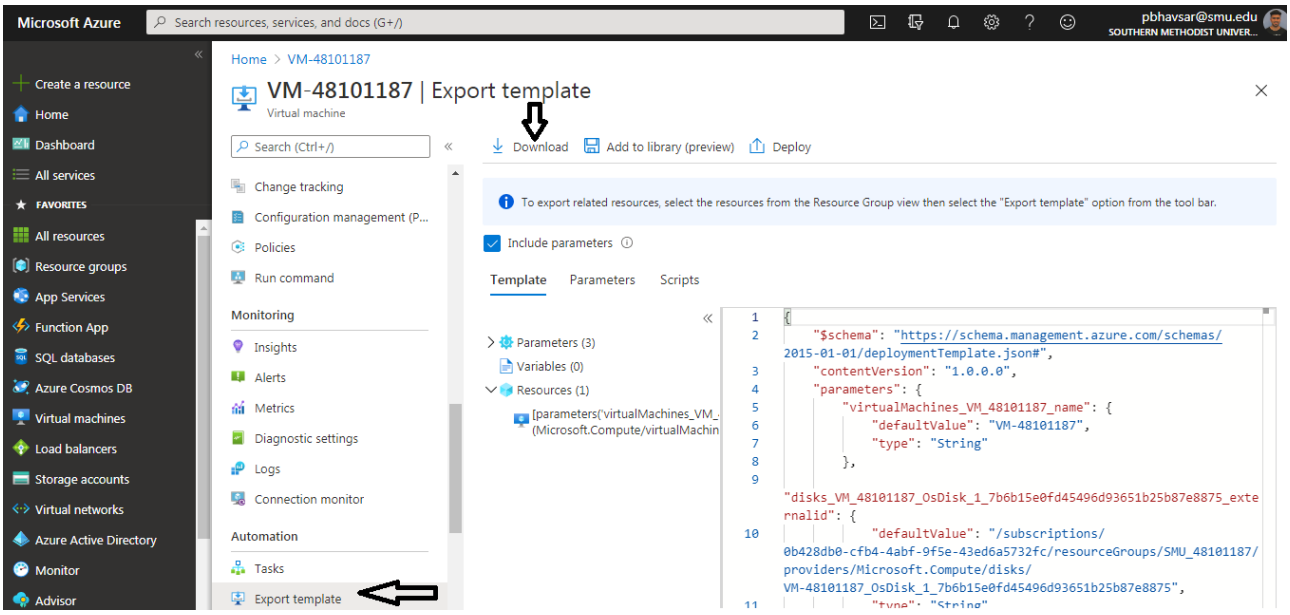
Task 2: Monitor Your Instance

Click on your Virtual Machine and on the left-hand side, click on “Overview”. Click on Monitoring, it will display the current resource utilizations of the Virtual Machine (VM). You can also integrate these metrics with the Azure Monitor service for implementing Monitoring and Alerting system in your environment.

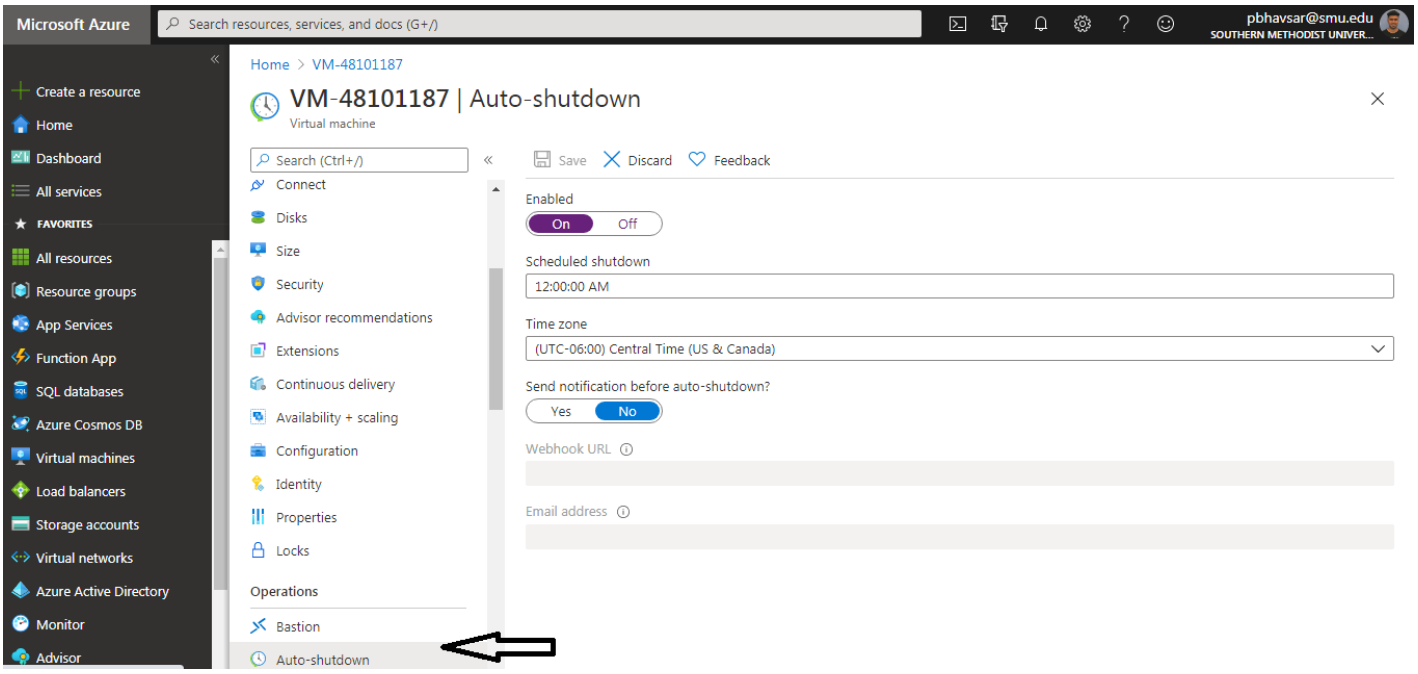


Below the “Overview”, click on “Export Template”.

Template in JSON format is already populated for you. You can use this template to deploy an identical Virtual Machine on Azure platform using Azure ARM Service.

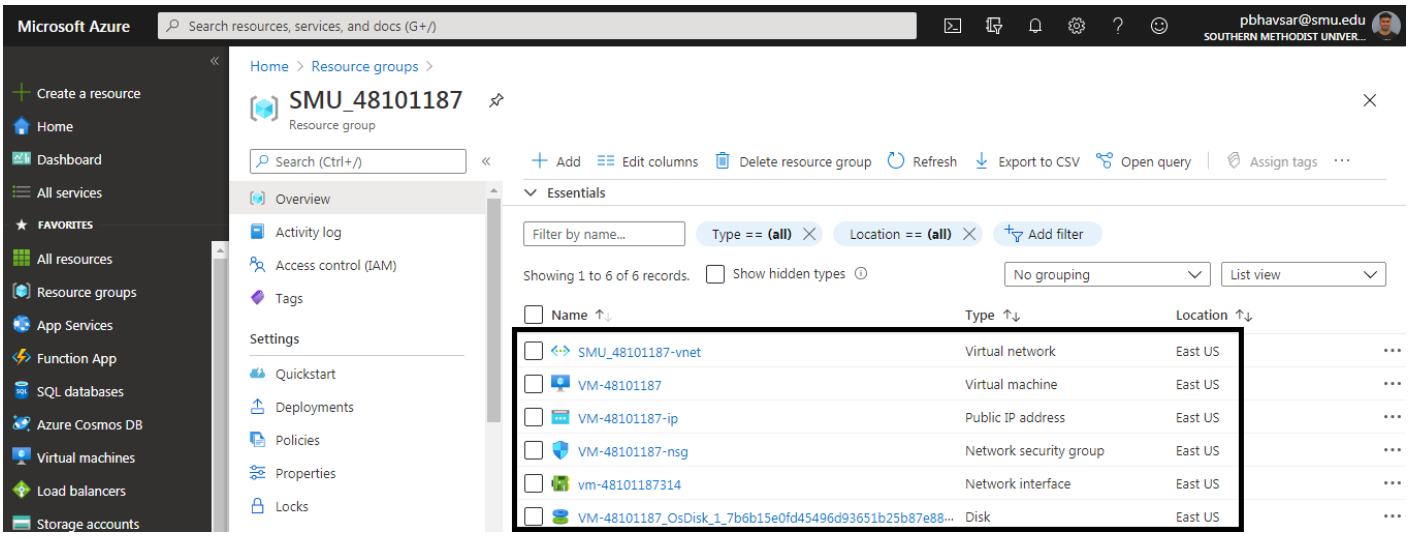


Click on “Auto-Shutdown”. You can enable the Auto-Shutdown feature to shutdown your Azure VM for a particular time and configure to send notifications to the Webhooks or Email IDs before auto-shutdown.



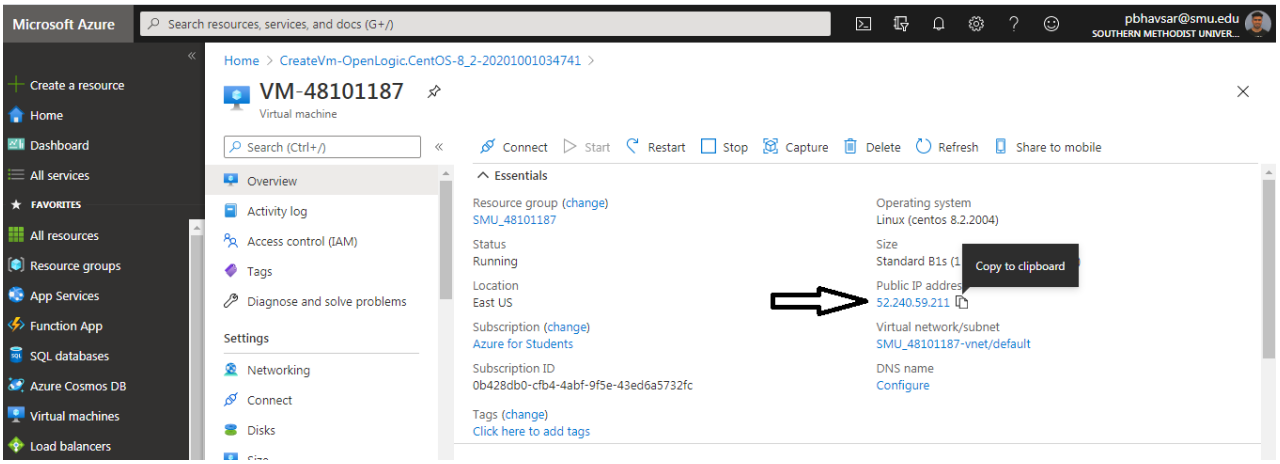
Finally, under “Search Resources” option, search for the “Resource Group” which you created during VM configurations.

Under Resource Group, you’ll see all the specified VM Configurations are available such as Virtual Machine, Public IP Address, Network Security Group, Network Interface, Virtual Machine Disk etc.

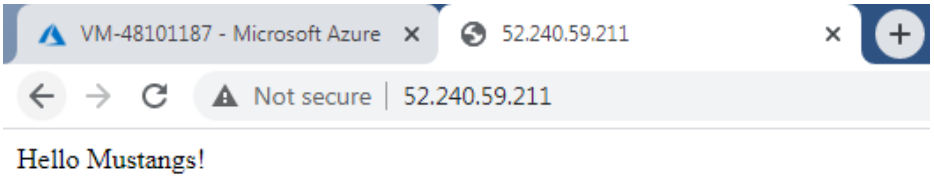


Task 3: Access the Web Server and Update Your Security Group.

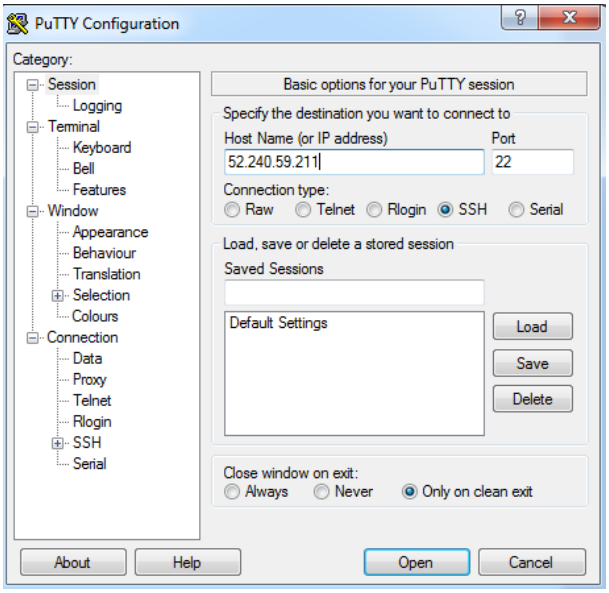
Under the Virtual Machine (VM), click on Overview and copy the Public IP Address.

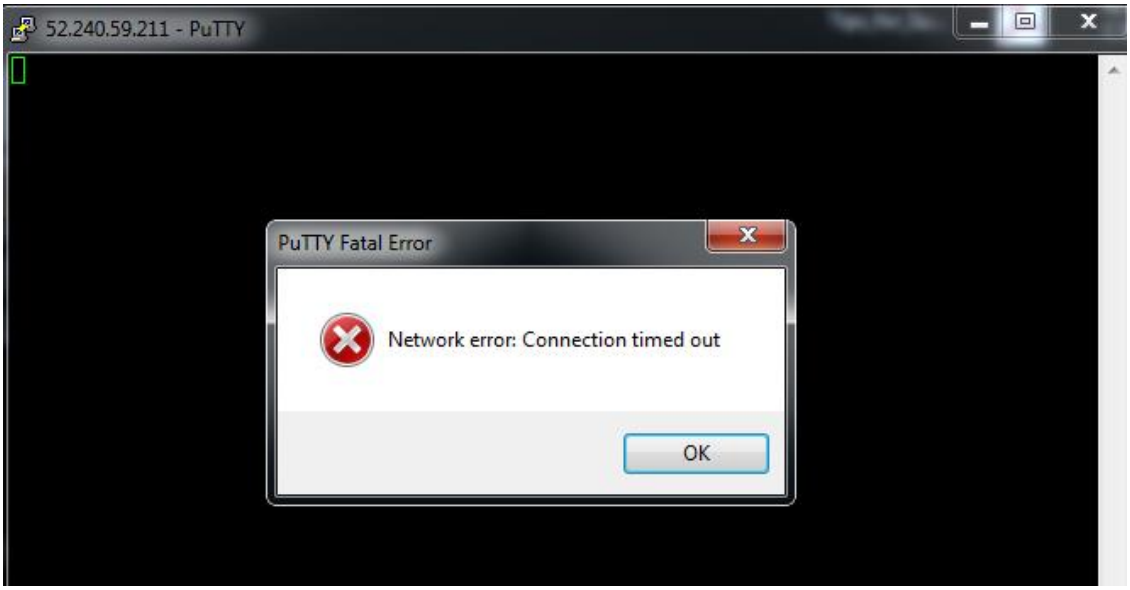


Put the Public IP in Browser, it would open the sample webpage which we configured earler.



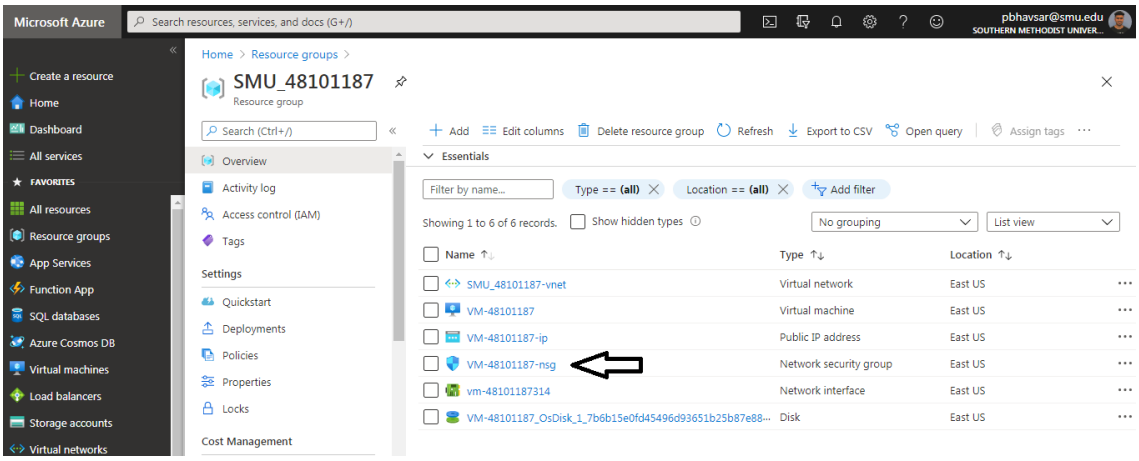
But if you try to take PuTTY session of this Virtual Machine, it would be failed as we've only specified the Inbound traffic for HTTP (Port 80) and HTTPS (Port 443).



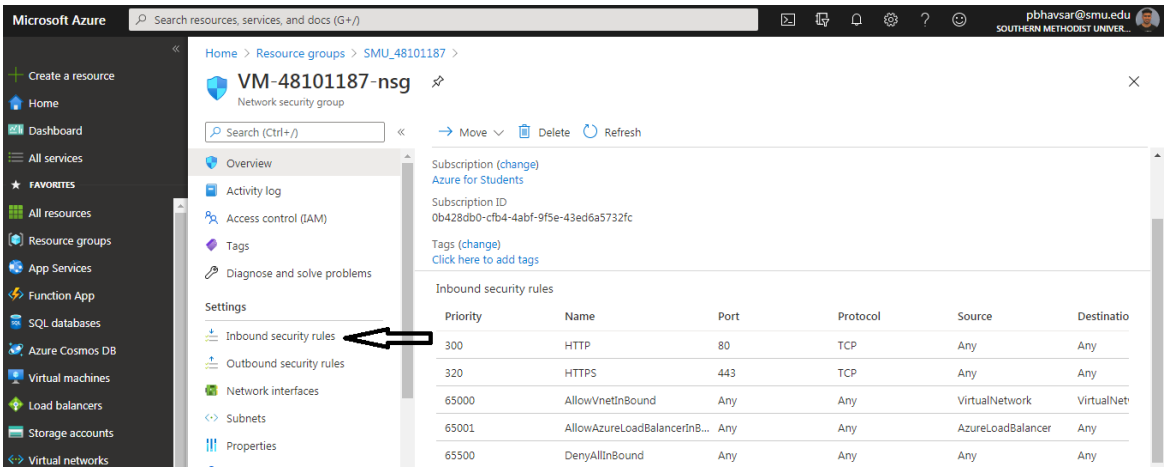


Let's now add the new Inbound Rule for the SSH (Port: 22).

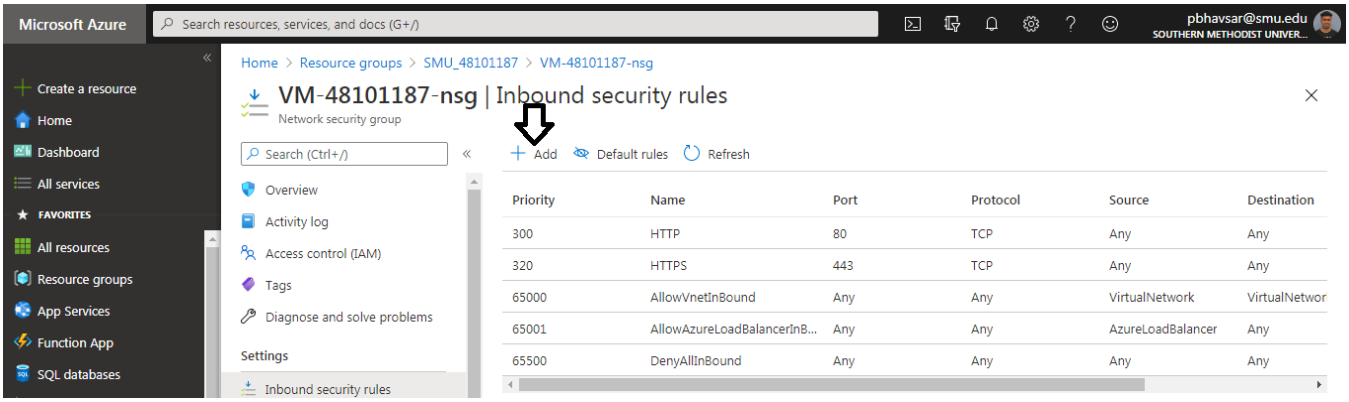
Navigate to "Resource Group" again and click on the "Network Security Group".



Under Network Security Group (NSG), click on "Inbound Rules".

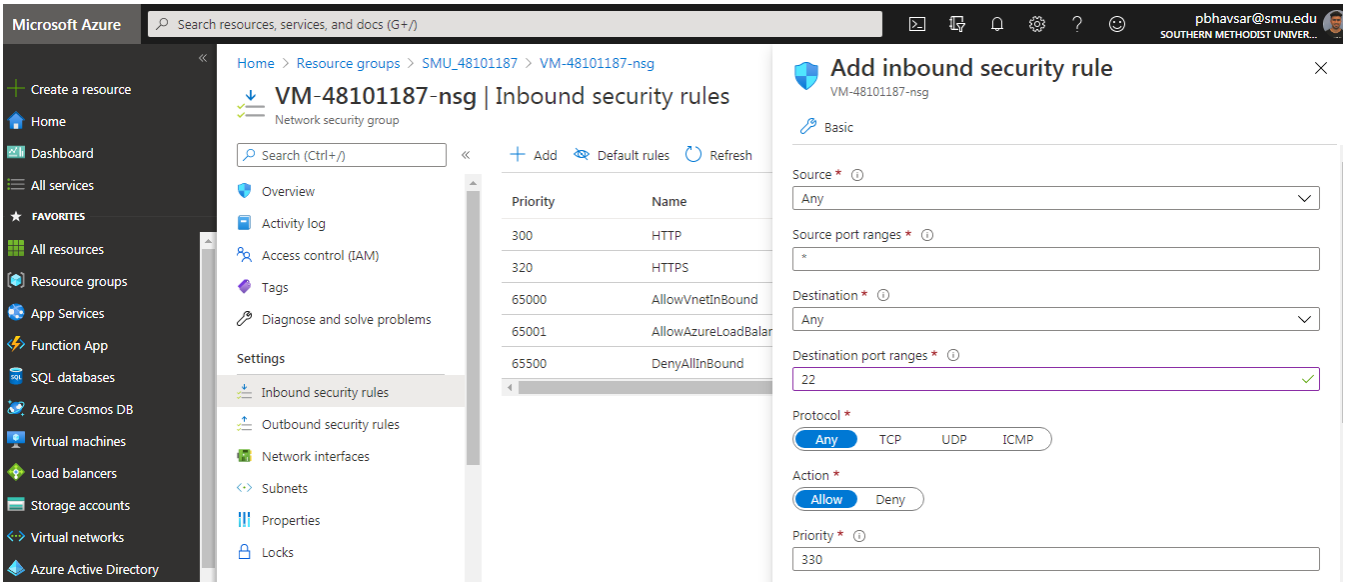


Click on + Add to add a new Inbound Rule.

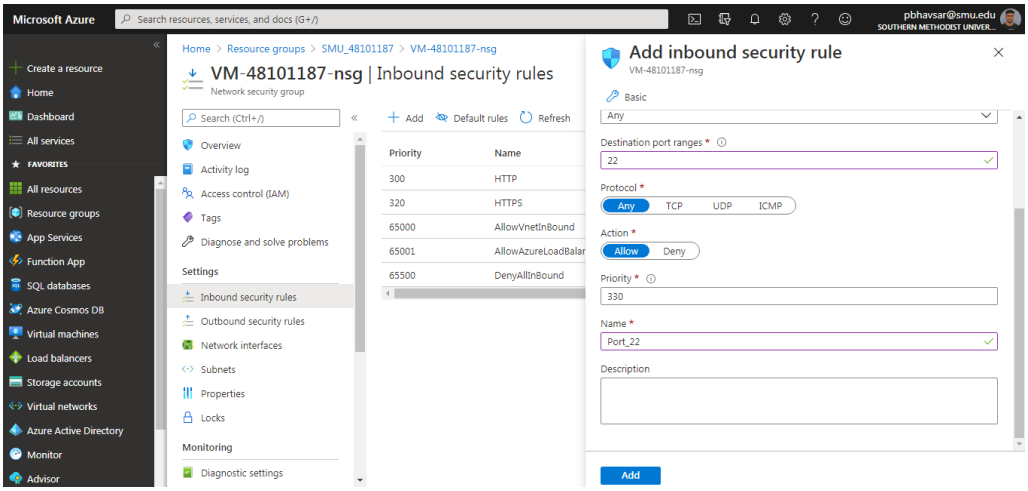


Add an Inbound Rule as follow.

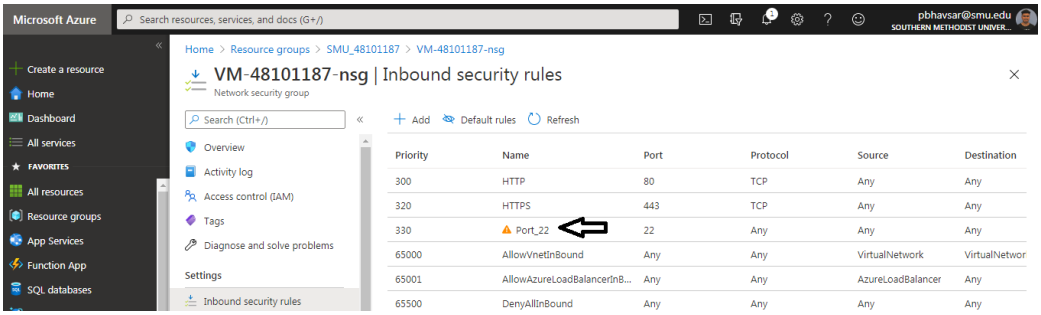
- Source: Any
- Source Port Ranges: *
- Destination: Any
- Destination Port Ranges: 22



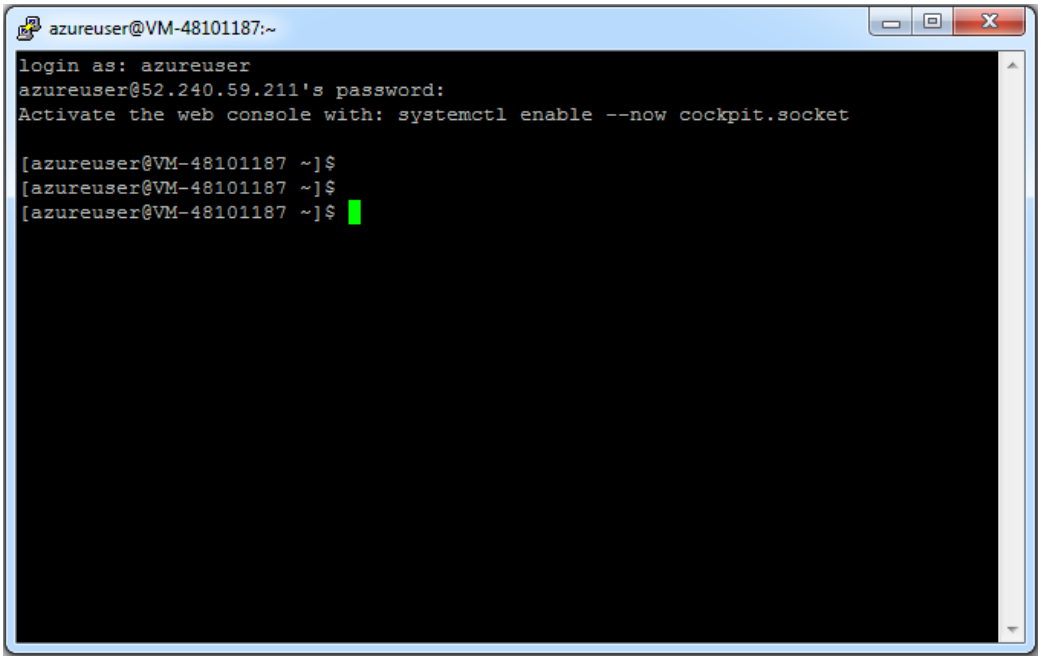
Specify the Inbound Rule Name as “Port_22” and click on Add.



You’ve now added a new Inbound Rule for SSH (Port: 22).

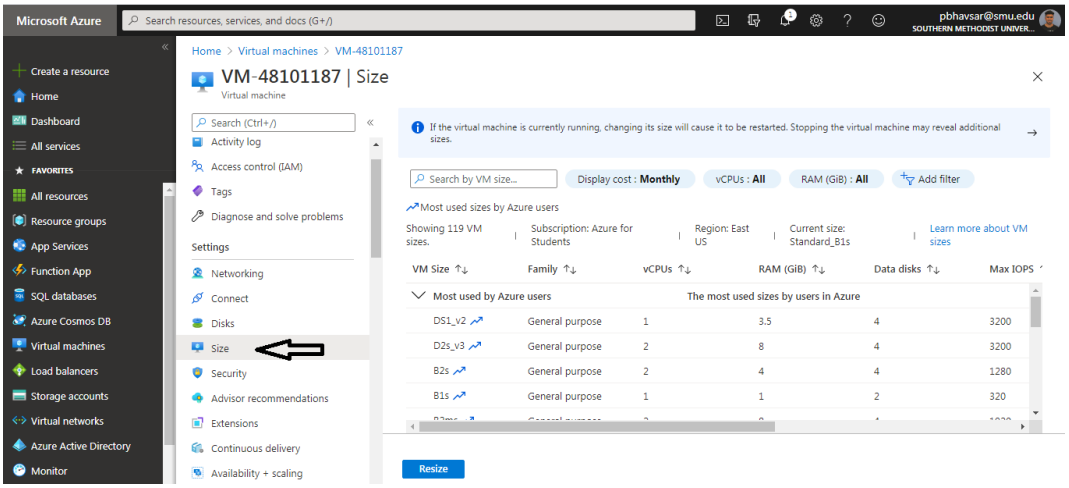


Now try to access your Virtual Machine using PuTTY, it should work now.

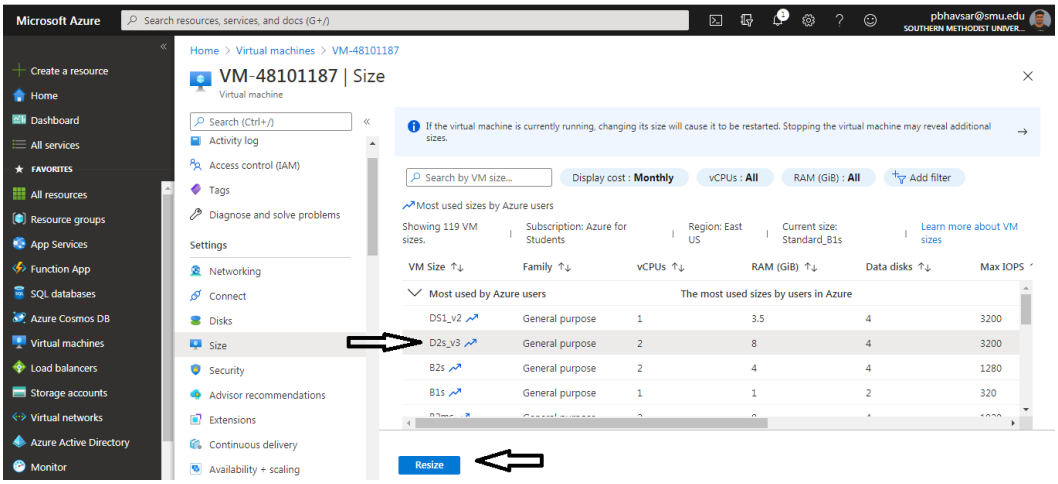


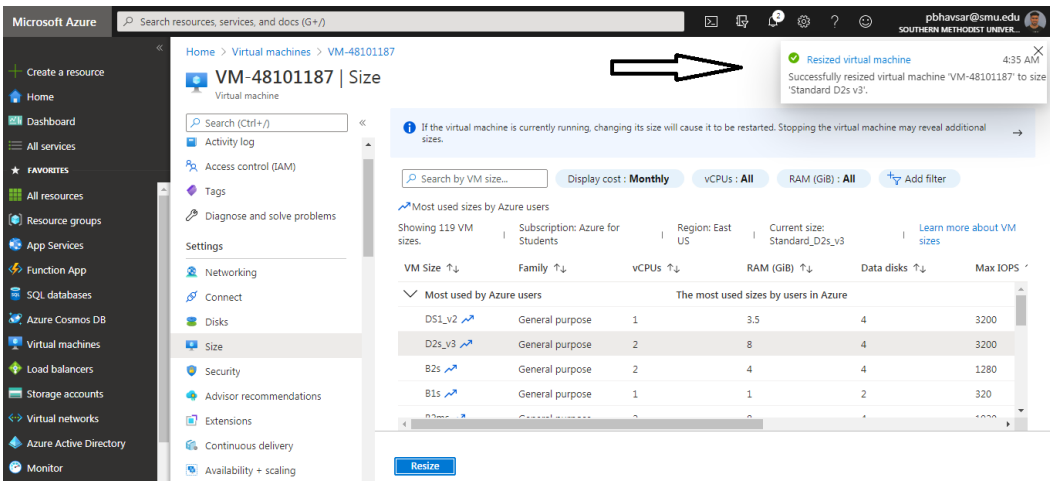
Task 4: Resize Your Instance: Instance Type and Disk Volume

Navigate to Virtual Machine Service and click on your Virtual Machine. Click on Size.

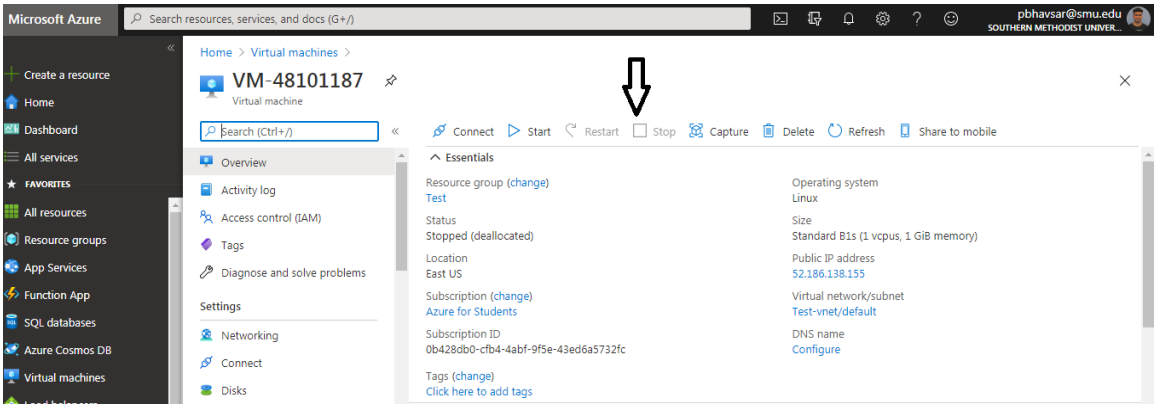


You can select the Instance Type as per your requirement and click on “Resize”.

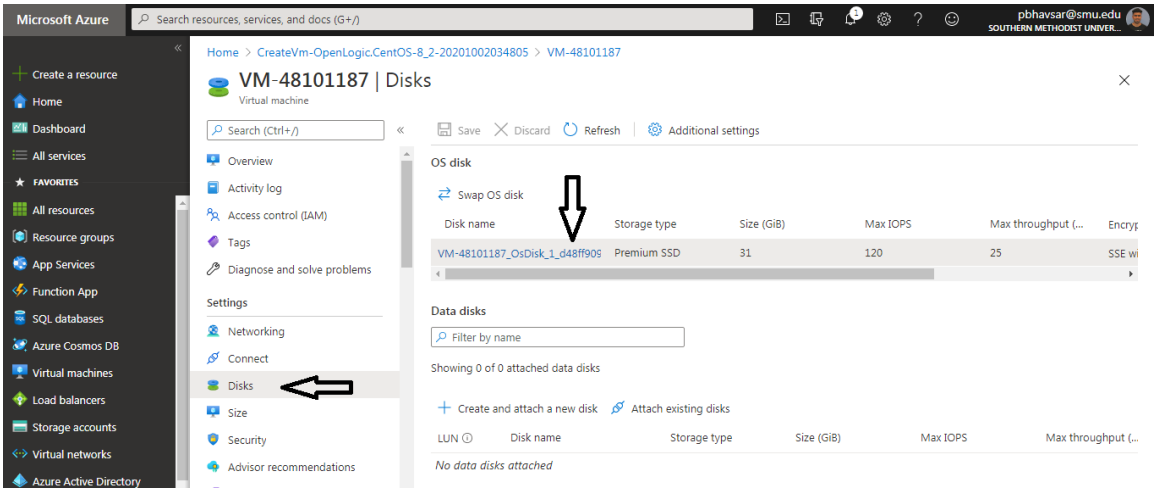




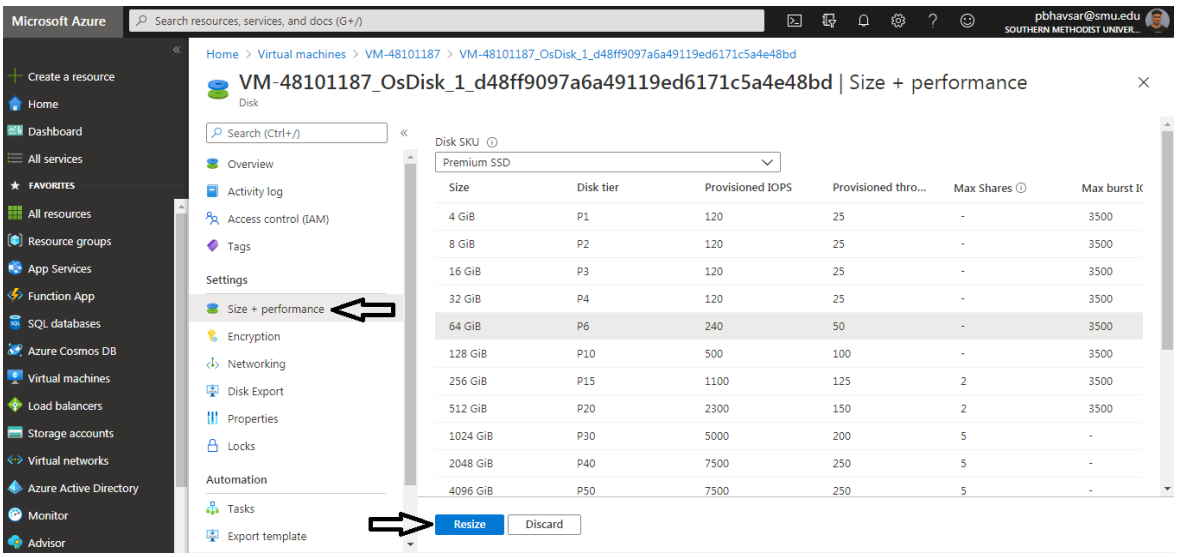
Now in order to Resize the Disk Volume, first STOP the Virtual Machine.

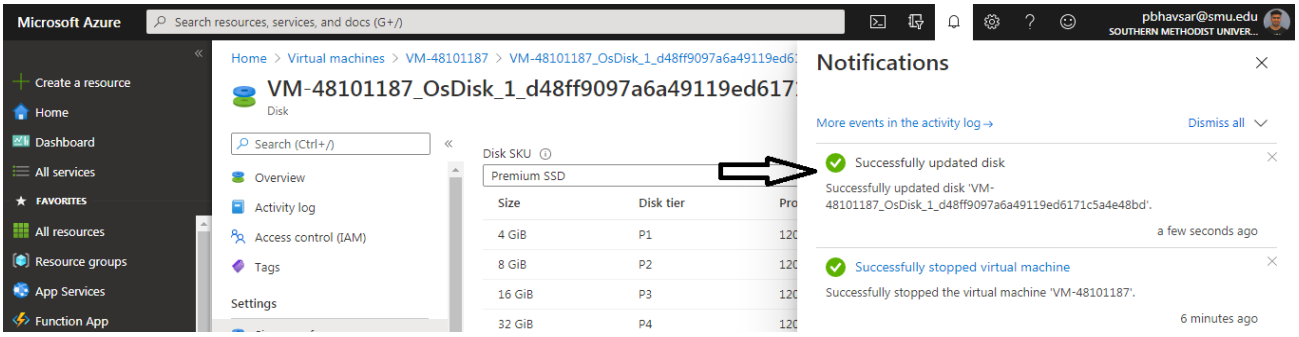


Now click on “Disks” and click on the OS Disk.

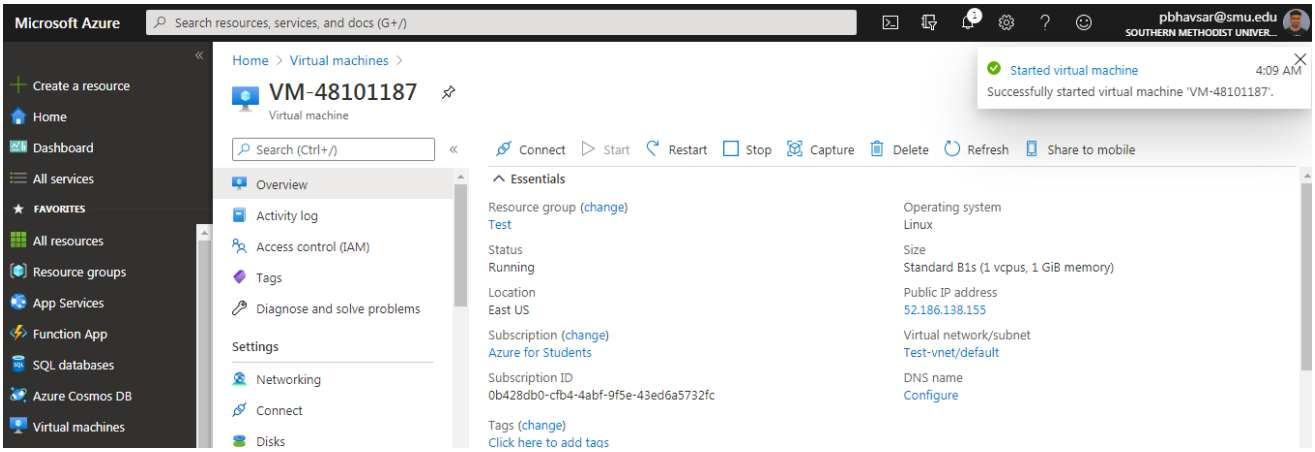


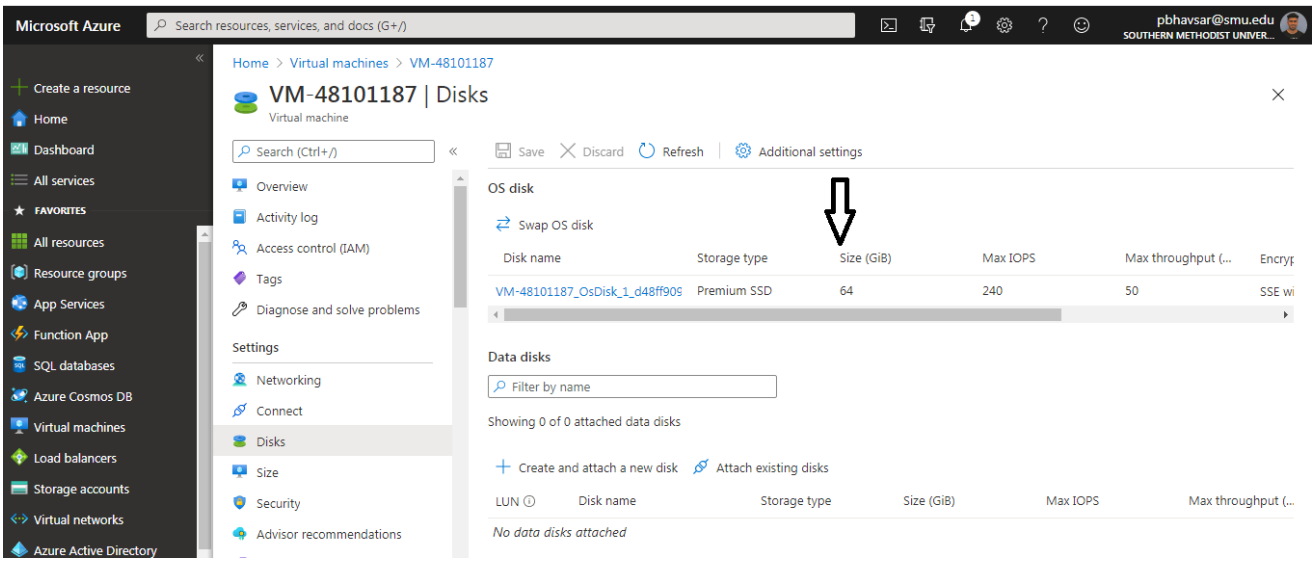
Under the OS Disk, click on “Disk+Performance”. Select the Disk Size as per your requirements and click on “Resize”.





Start your Virtual Machine. Under Disk, you'll notice that the Disk Size has been changed to 64 GB.



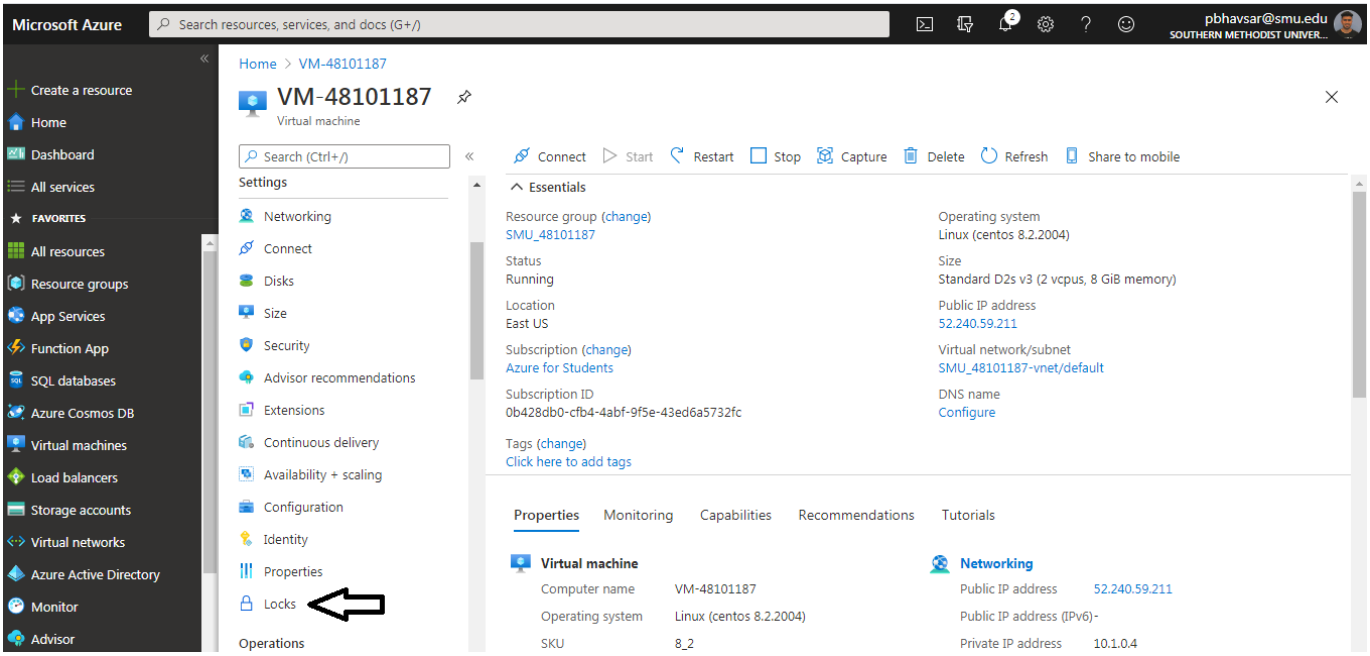


Task 6: Test Azure Locks

In Microsoft Azure, we make use of LOCKS to avoid accidently deletion of the Azure Resources.

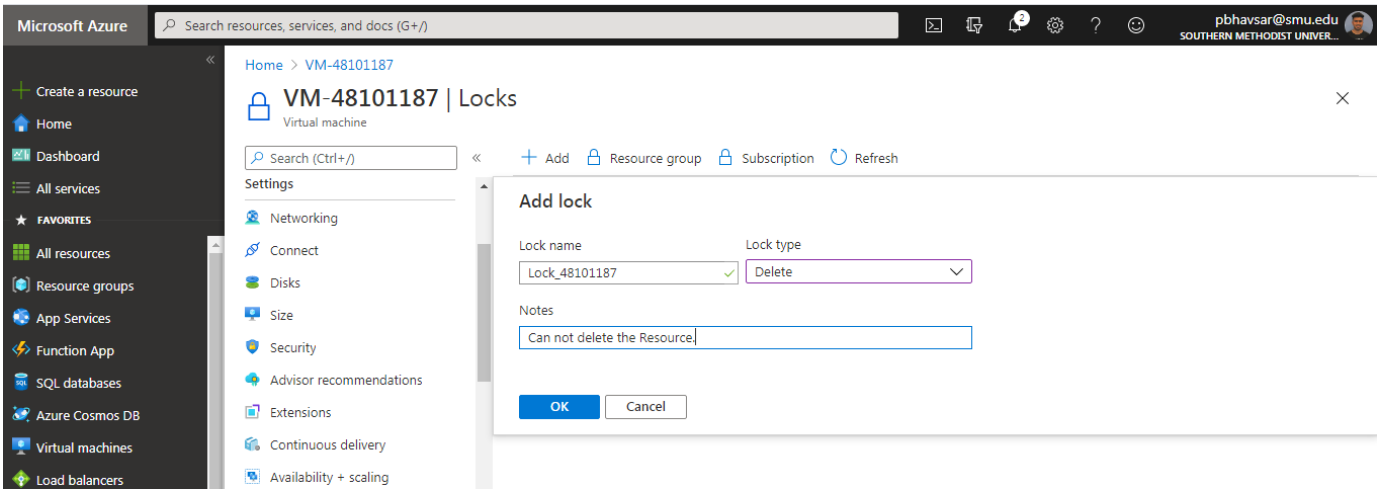
Navigate to Virtual Machine Service and click on your CentOS Virtual Machine.

On the left-hand side click on Locks.

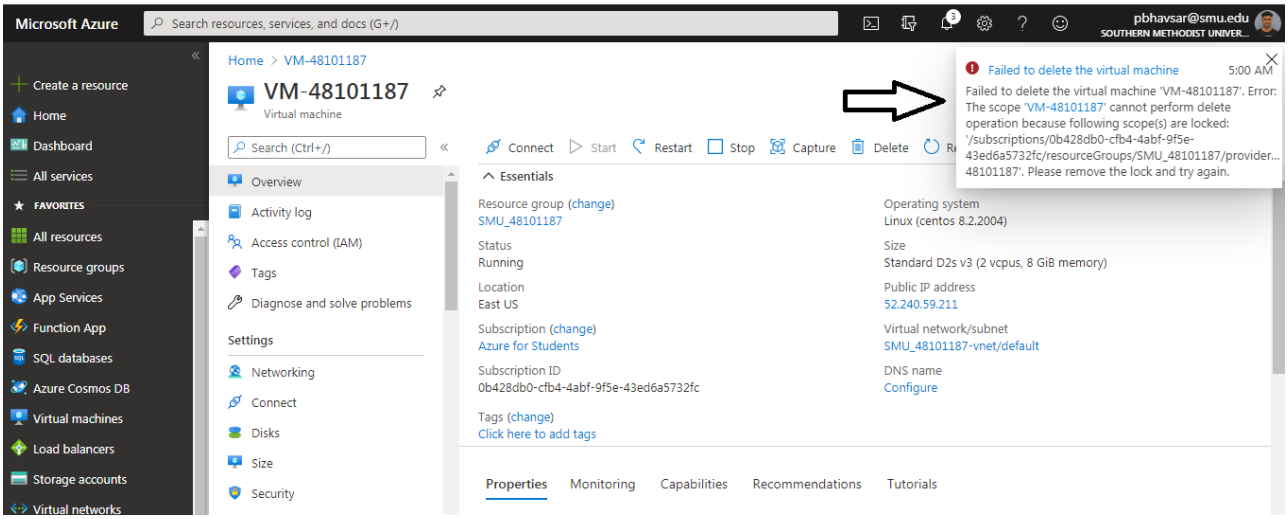


Click on "+Add" and specify the Lock Name and Lock Type as Delete.

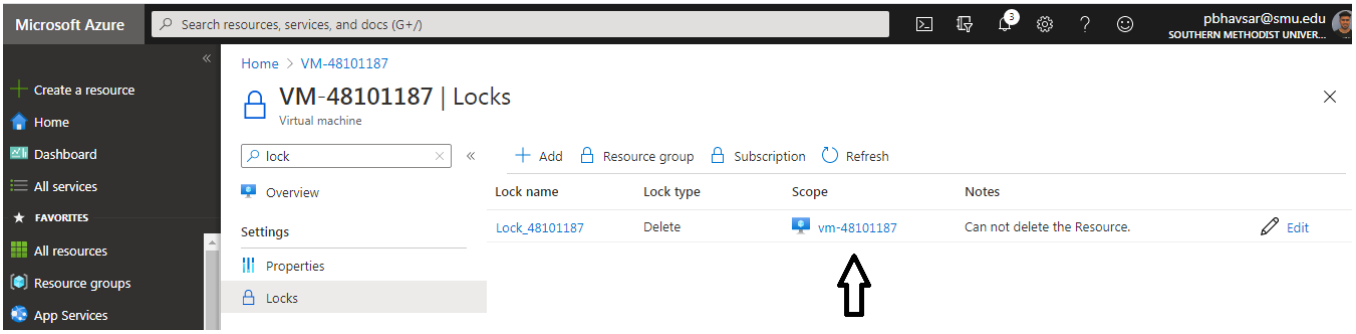
Specify the Notes as per your requirements.



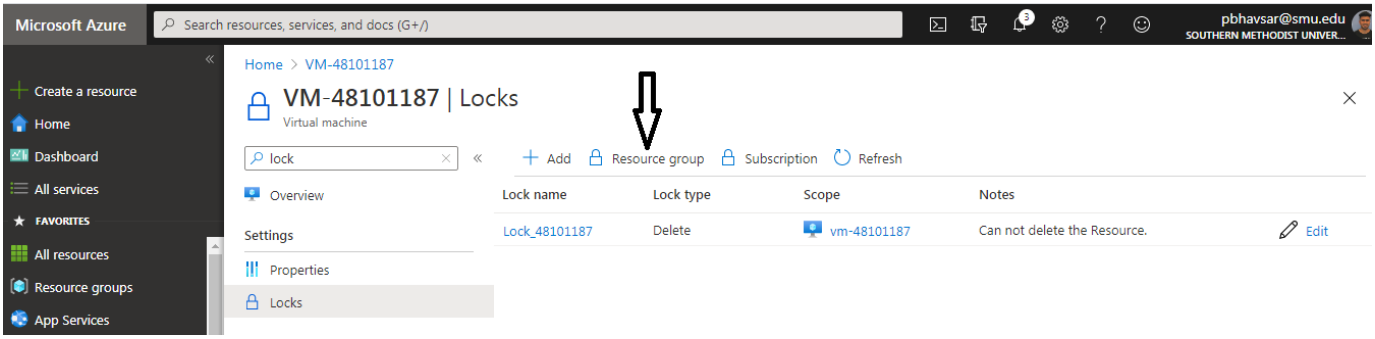
Now try to delete the Virtual Machine, it would FAIL as we've LOCK enabled on the Azure Virtual Machine.



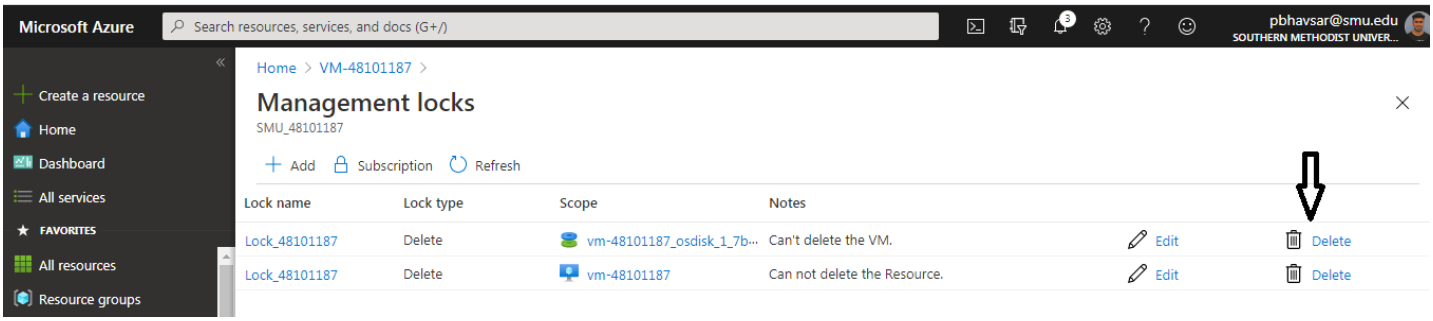
Now click on your Virtual Machine again.



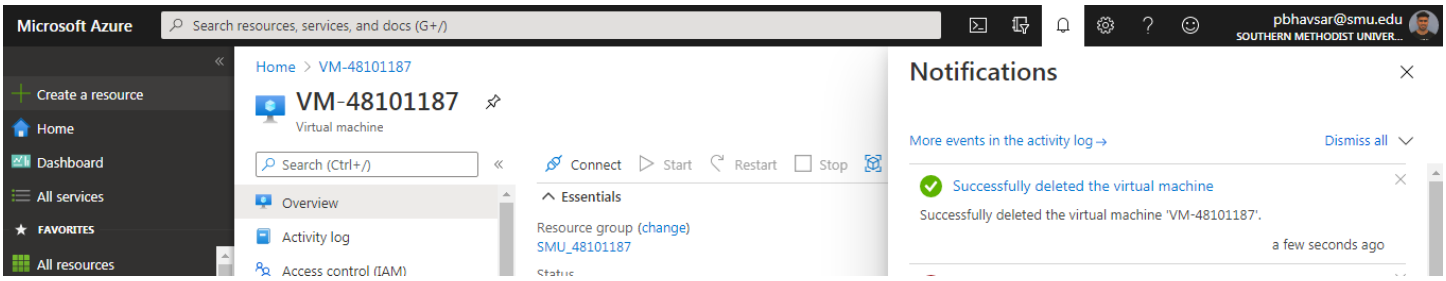
Click on LOCKS and click on Resource Group.



Select the LOCK which you've configured for the Virtual Machine and click on Delete.



Now try to delete the CentOS Virtual Machine again. It would get deleted without any errors.



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For questions, contact on below information.
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