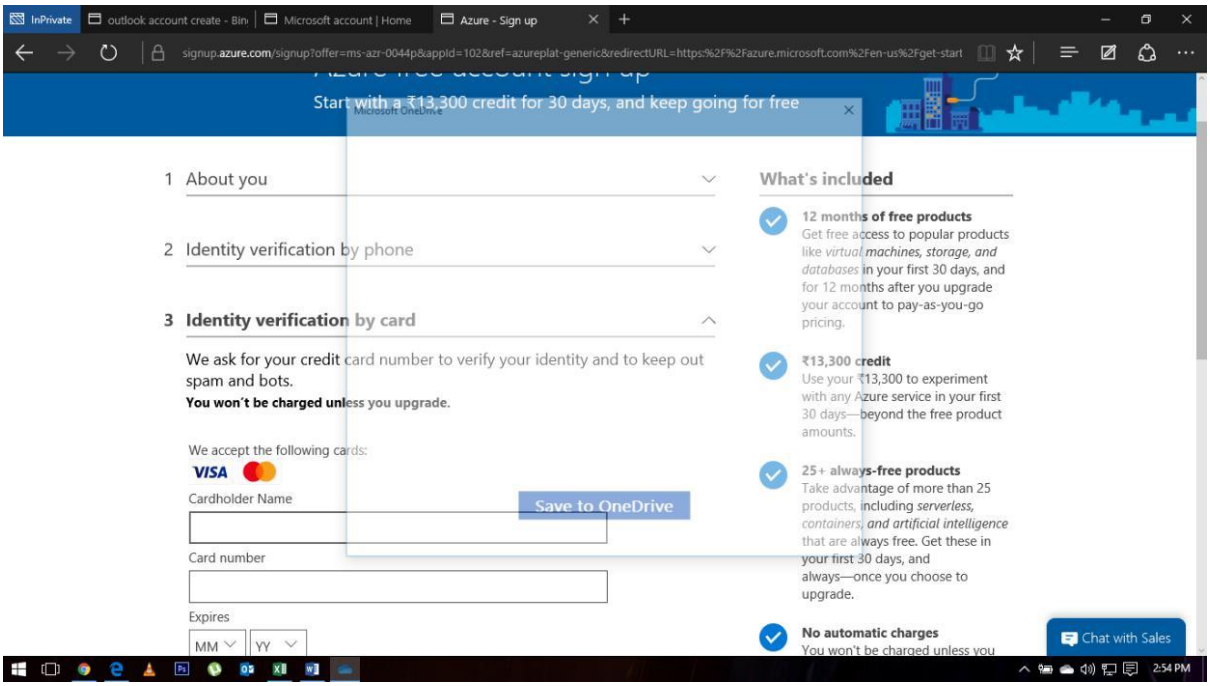
Practice Work No - 1:

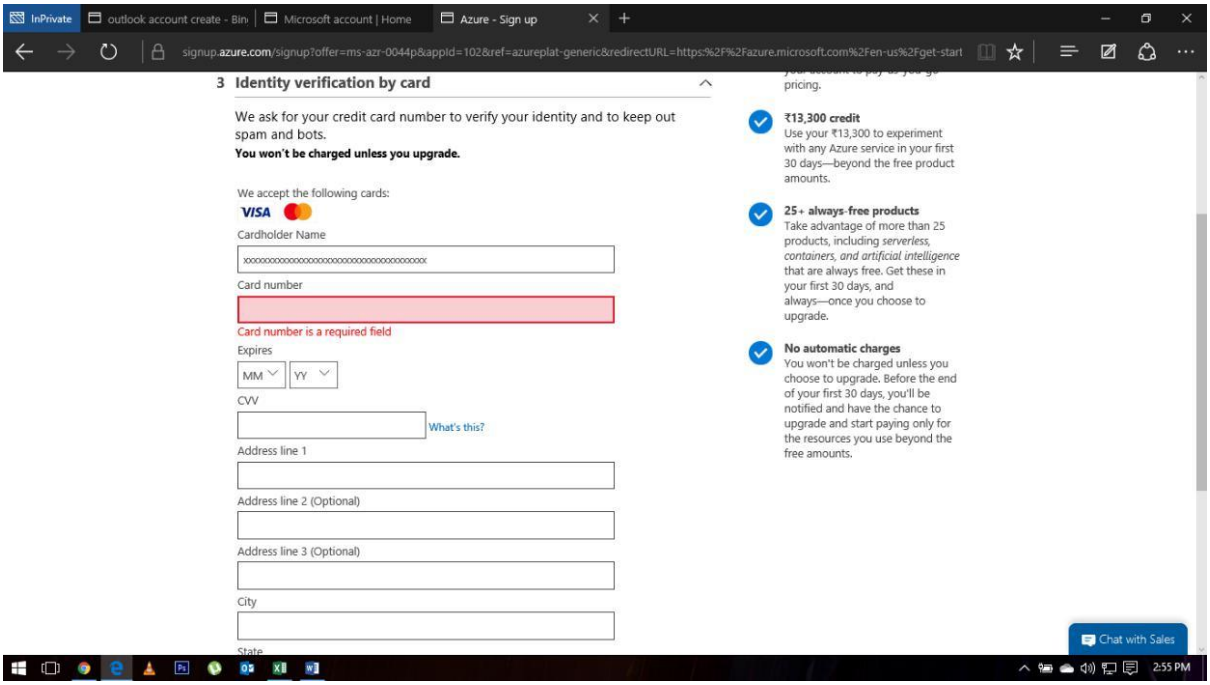
Statement	Create an Azure account using any outlook/Gmail/Hotmail id.
Objective	The main objective of the task is to create an Azure account using a mail id and Credit card.
Outcomes	After executing this, one should be able to create a personal/corporate azure account.
Prerequisites	Email id, PAN Card (not mandatory), Credit Card (mandatory), Internet.

Follow below steps to create an azure account using credit card.

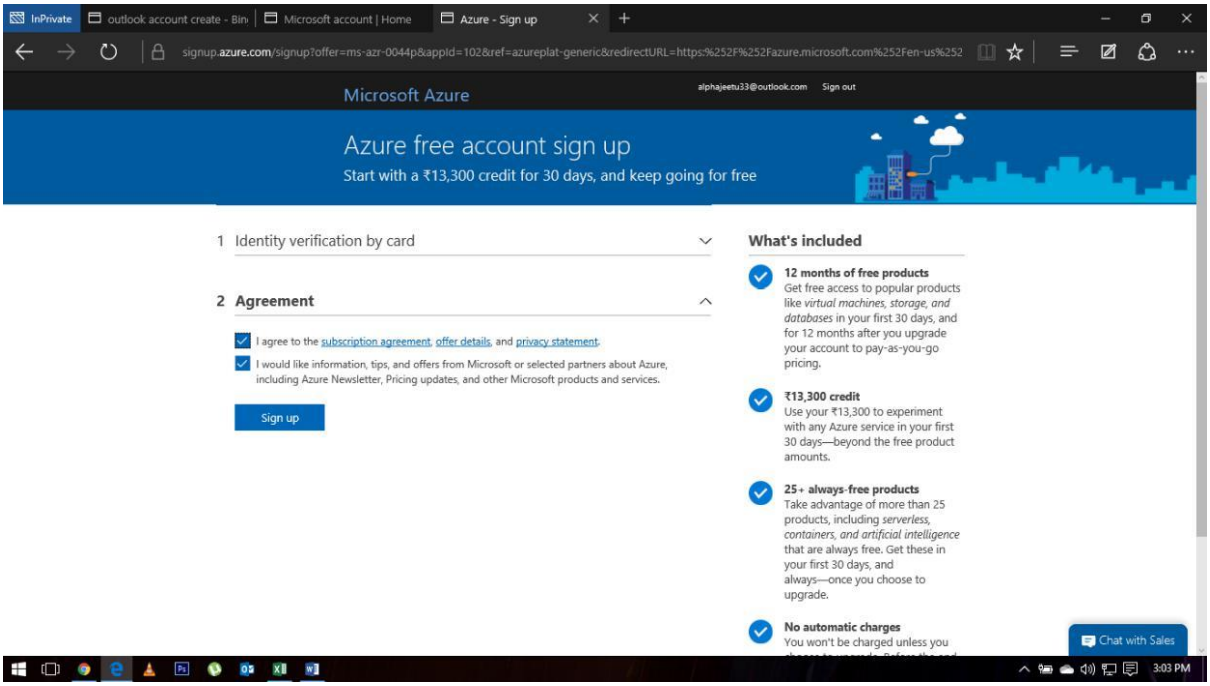
1. Create a new account using “outlook.com” or any other ID.
2. Login to: https://azure.microsoft.com/en-us/
3. Click Start Free.
4. Fill your mail ID.
5. Fill PAN details.



6. Fill card details

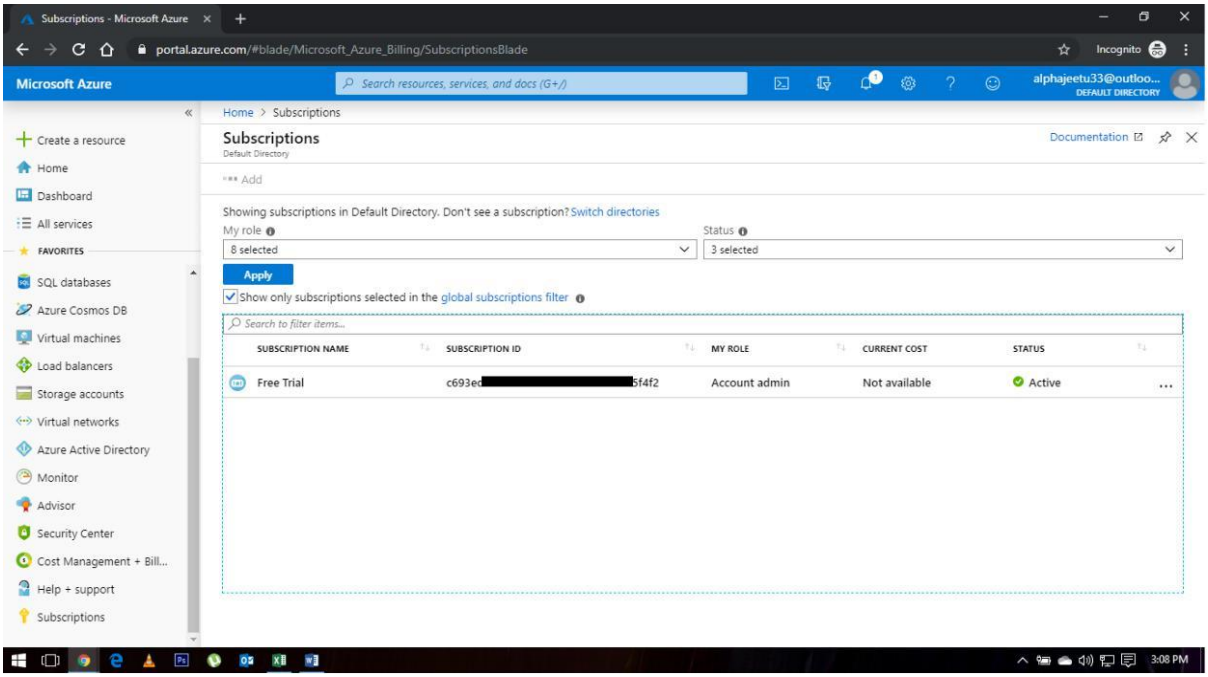


7. Fill details & give OTP.
8. Click “I agree...” & then signup



9. Login to: https://portal.azure.com/#home

10. Something like this will be visible.

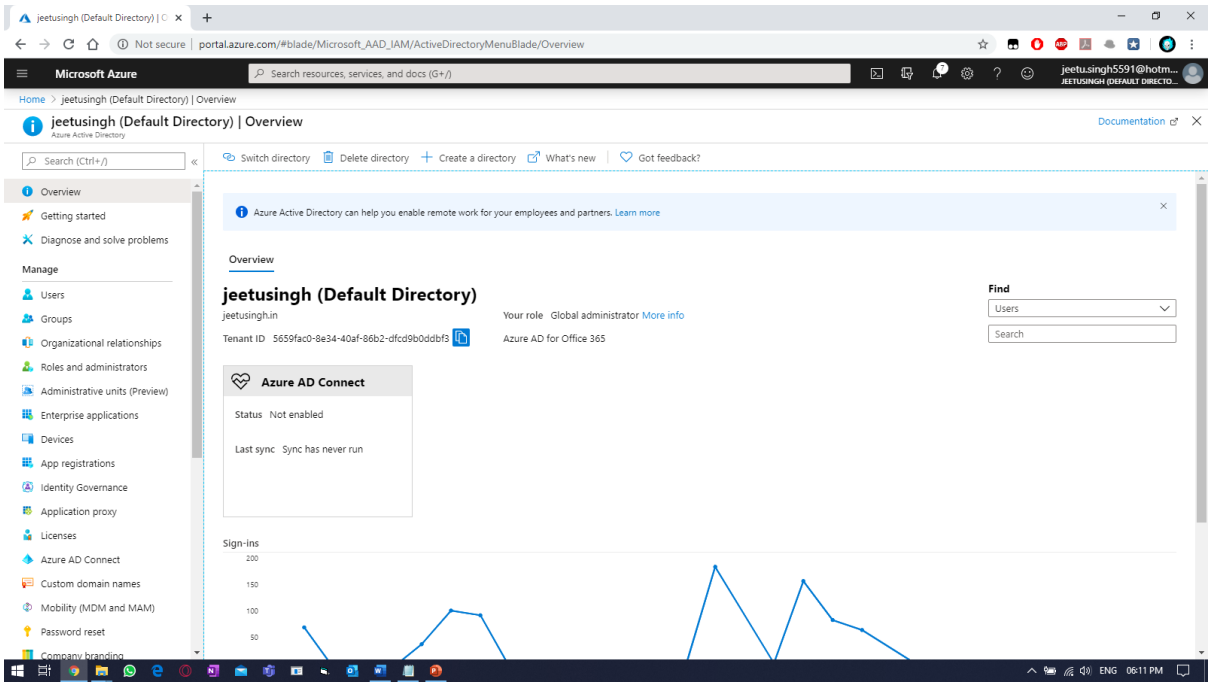


Practice Work No - 2:

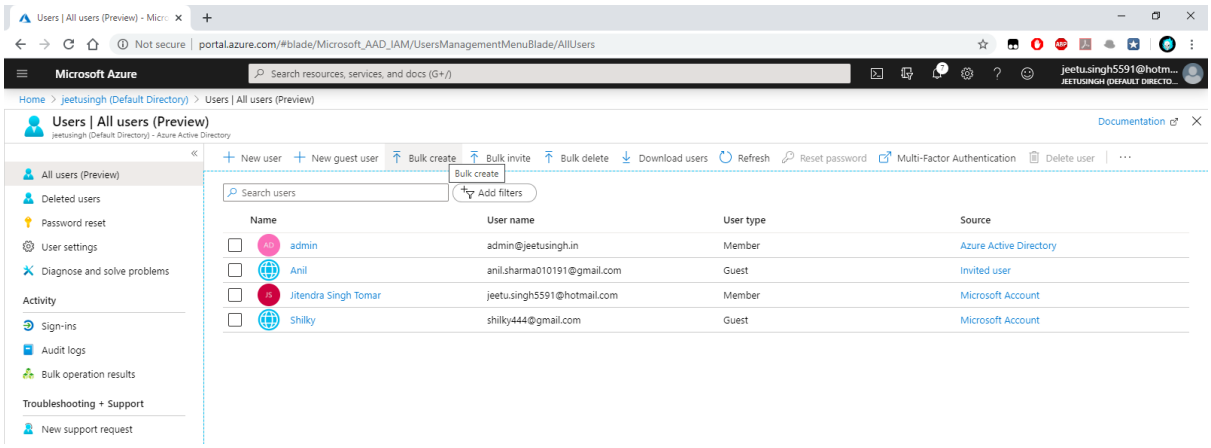
Statement	Implementing Azure Active Directory.
Objective	The main objective of the task is to create and manage Azure Active Directory using Azure portal.
Outcomes	After executing this, one should be able to create and manage the azure Active Directory.
Prerequisites	Working Azure account, Internet

[Task]: Create users in bulk using Active Directory on portal.

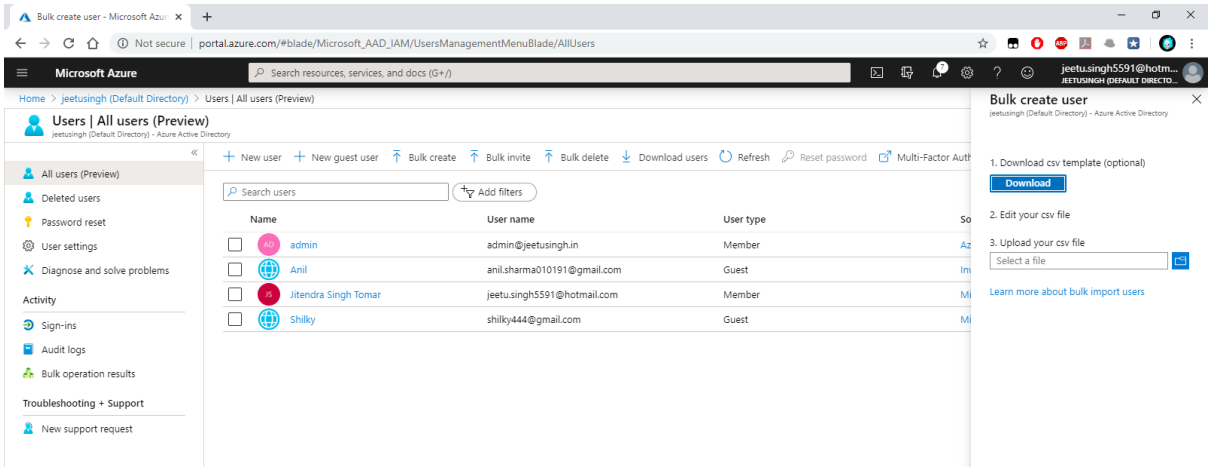
Switch to azure active directory blade & select Users blade.



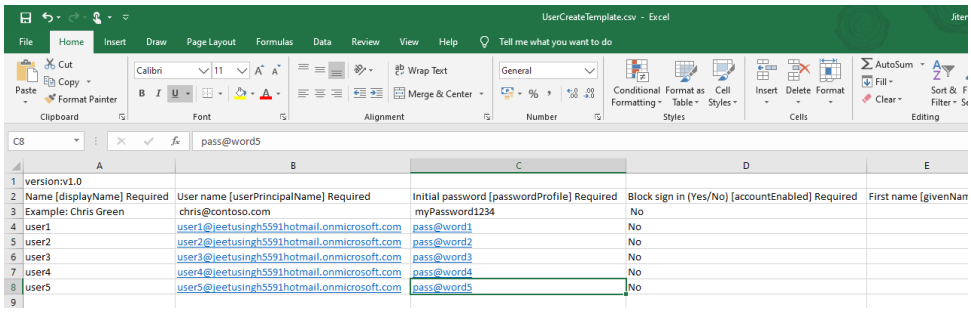
Under USERS, select “Bulk Create” tab.



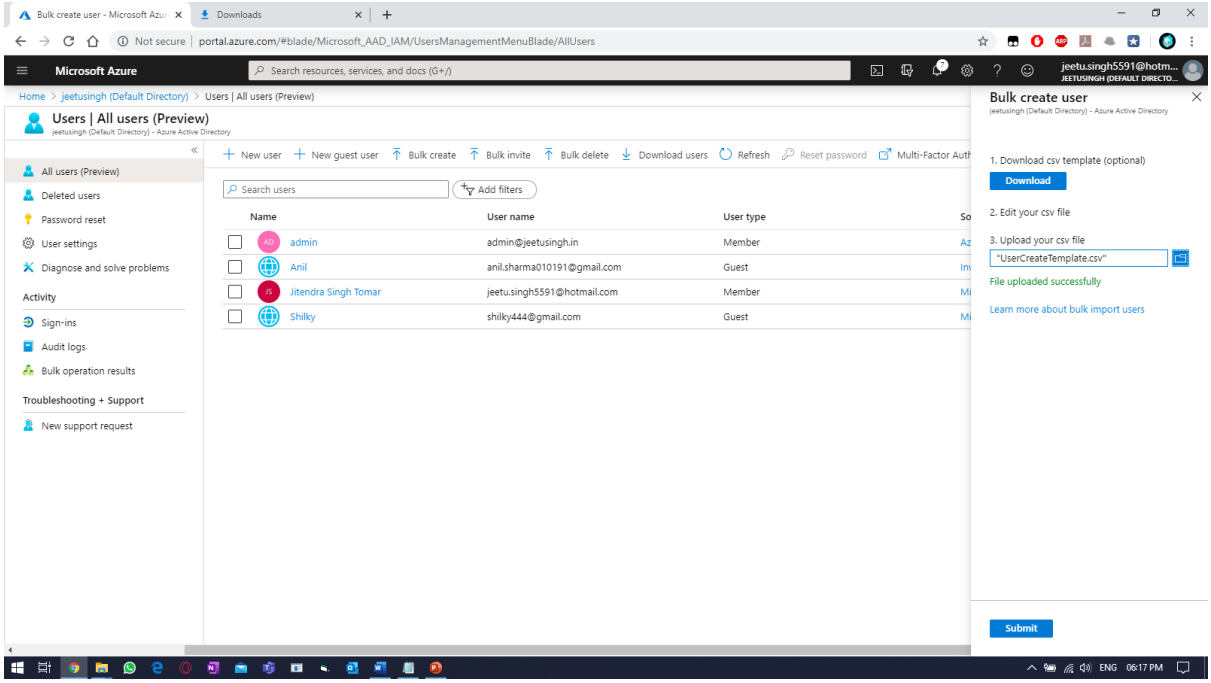
Download the default CSV and edit the content & upload it from the same portal.



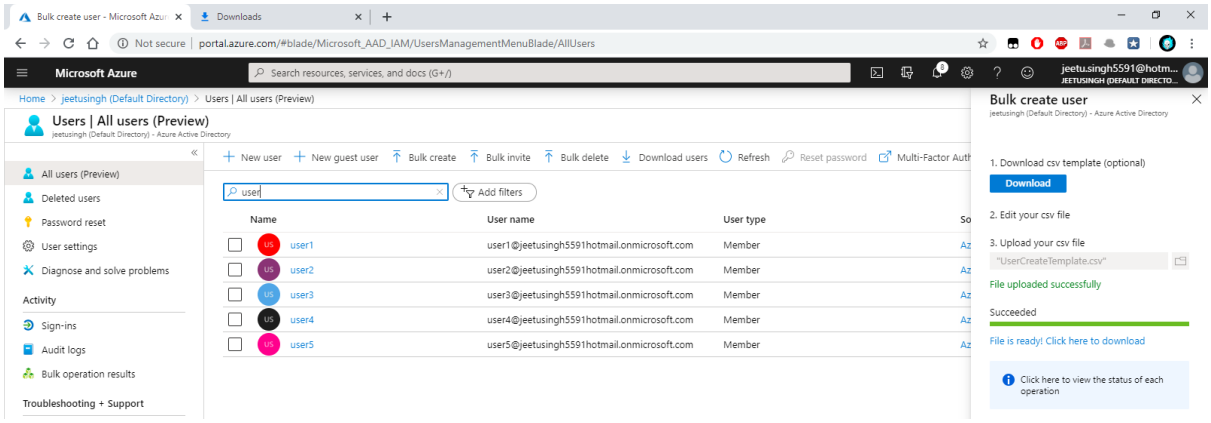
Editing the CSV.



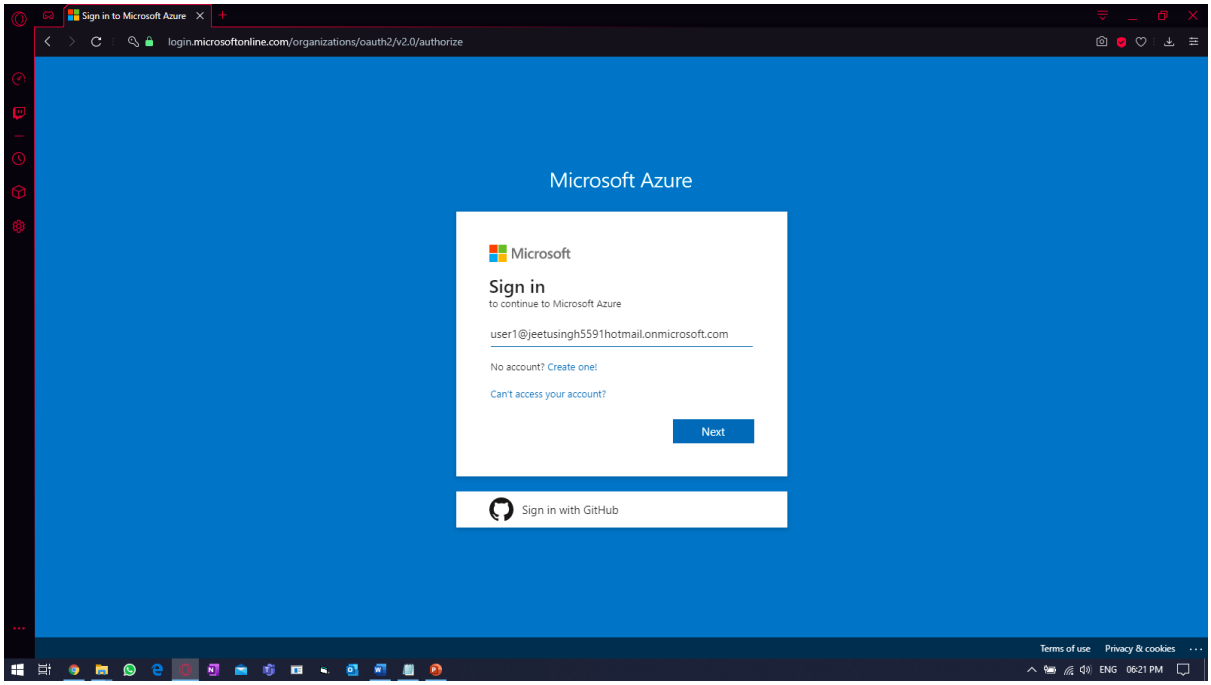
Uploading the CSV.



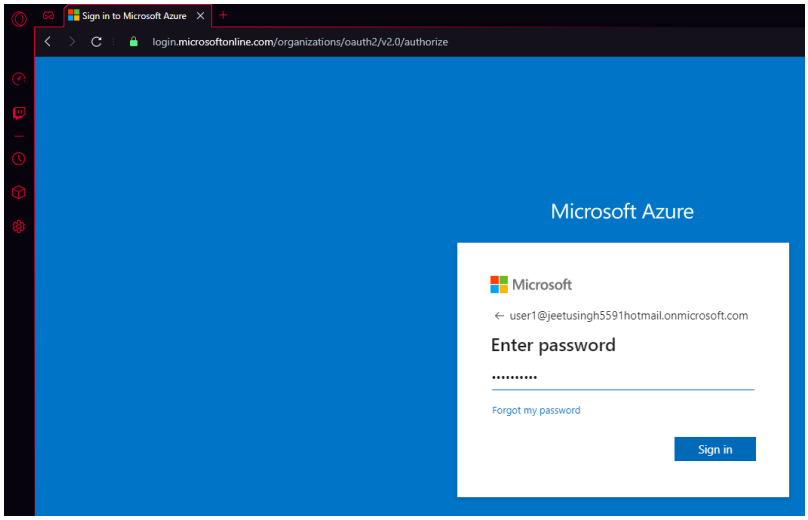
Refresh the azure portal.



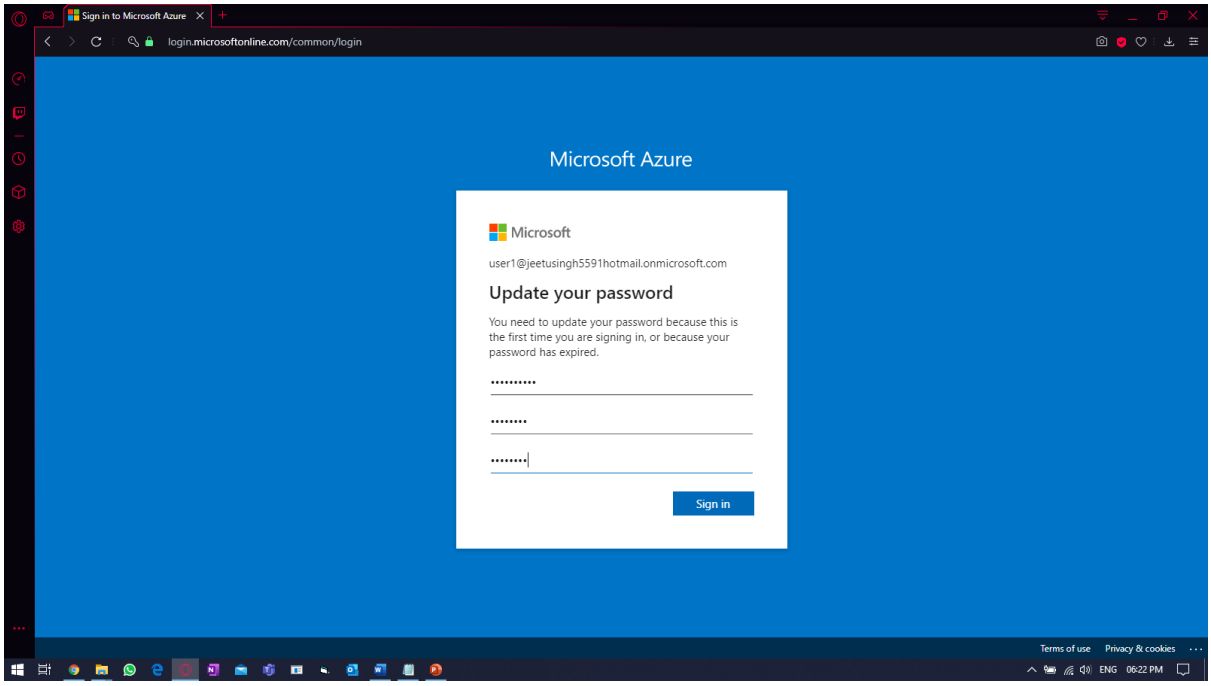
Login-in using the newly created user.



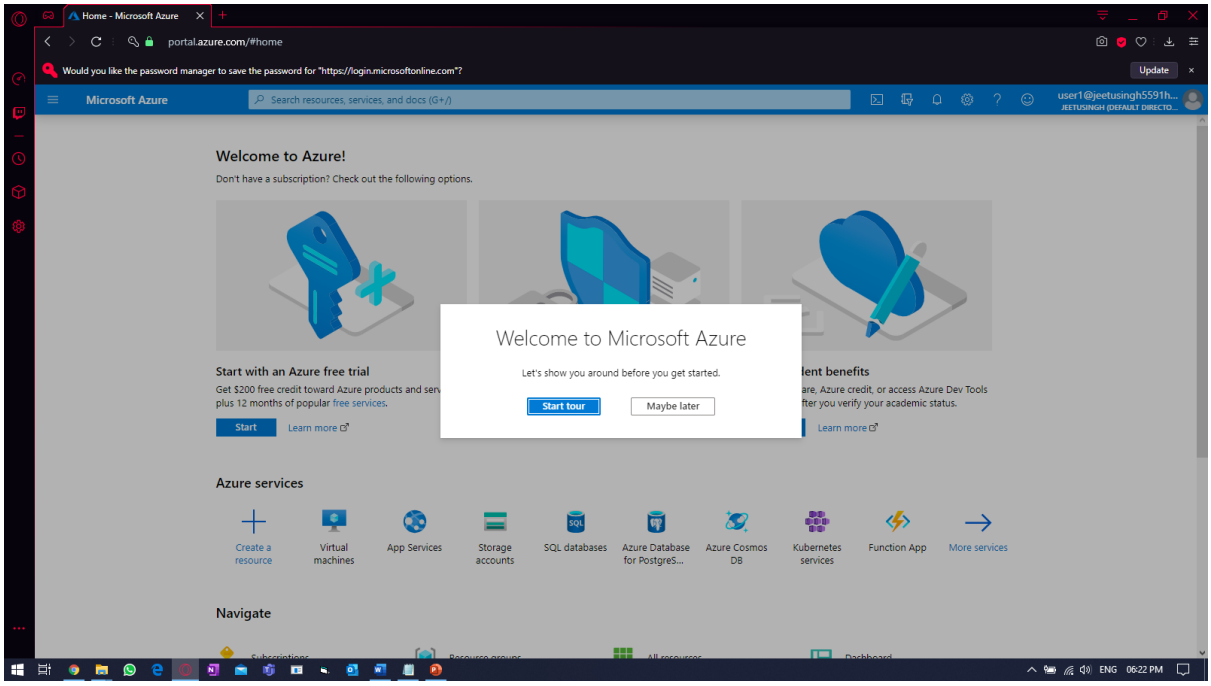
Providing password.



Providing new password



Login-in to portal.

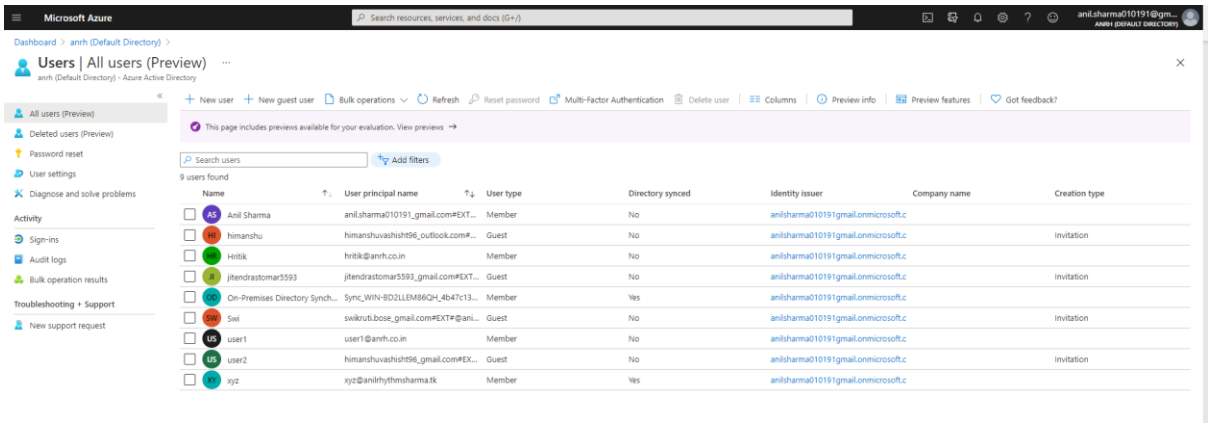


Practice Work No - 3:

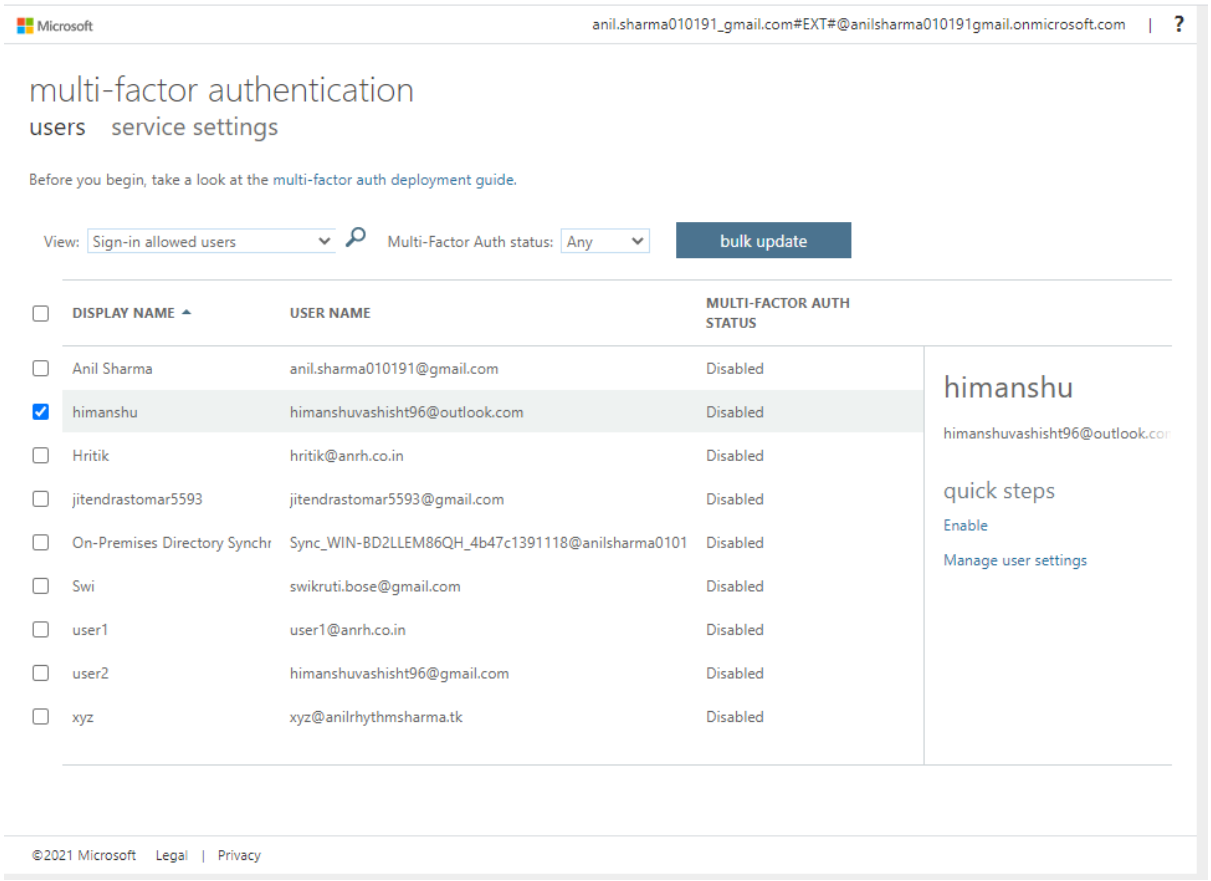
Statement	Implementing Multi-factor Authentication.
Objective	The main objective of the task is to enable extra step of security for users
Outcomes	After executing this, one should be able to implement MFA
Prerequisites	Working Azure account, Internet

[Task]: Enabling MFA for users

In active directory dashboard, click on users and click on Multi-factor authentication



Select user and click on Enable on right pannel.



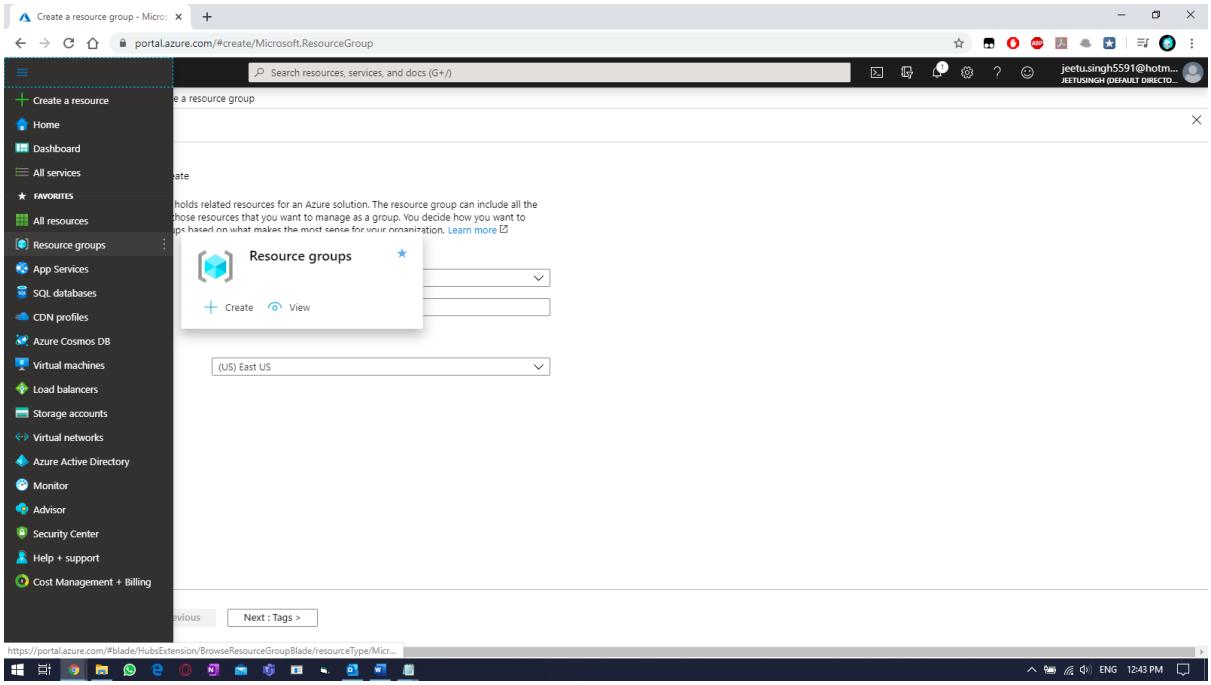
Practice Work No - 4:

Statement	Implementing and managing Azure networking.
Objective	The main objective of the task is to create and manage Azure network using Azure portal.
Outcomes	After executing this, one should be able to create and manage the azure virtual network (vnet).
Prerequisites	Working Azure account, Internet

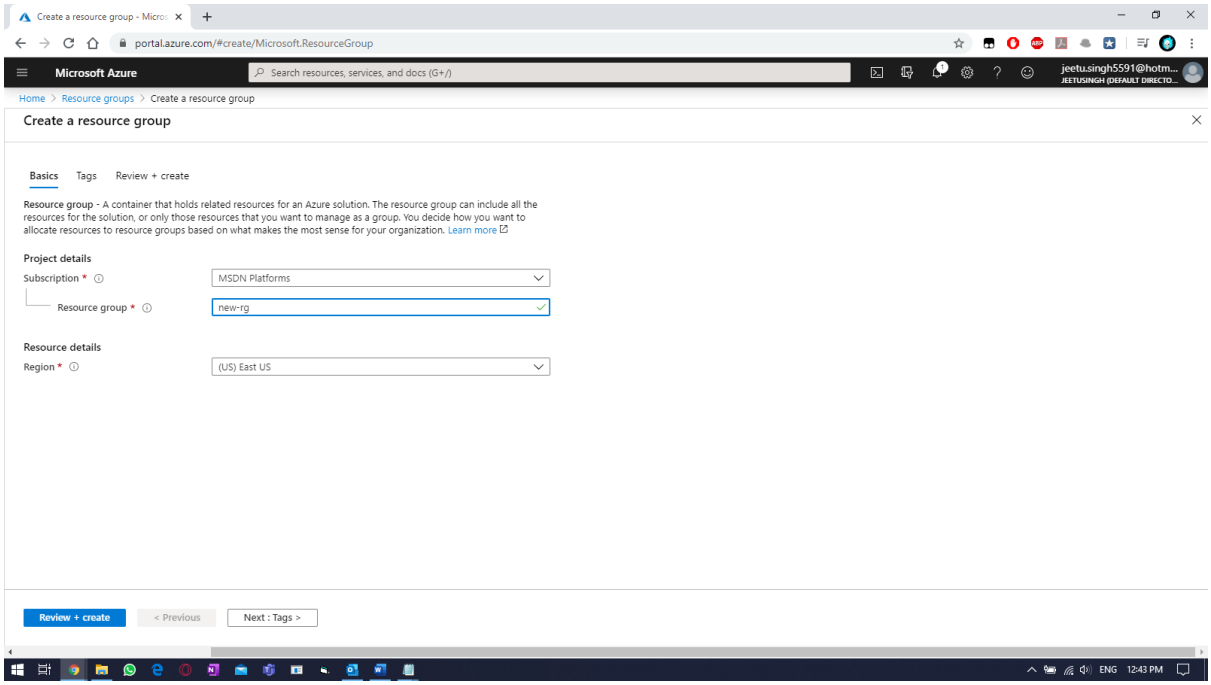
[Task]: Create a virtual network using IP address range as (172.16.0.0/16) and with 3 subnets.

Step1: Create a new resource group in any region of your choice.

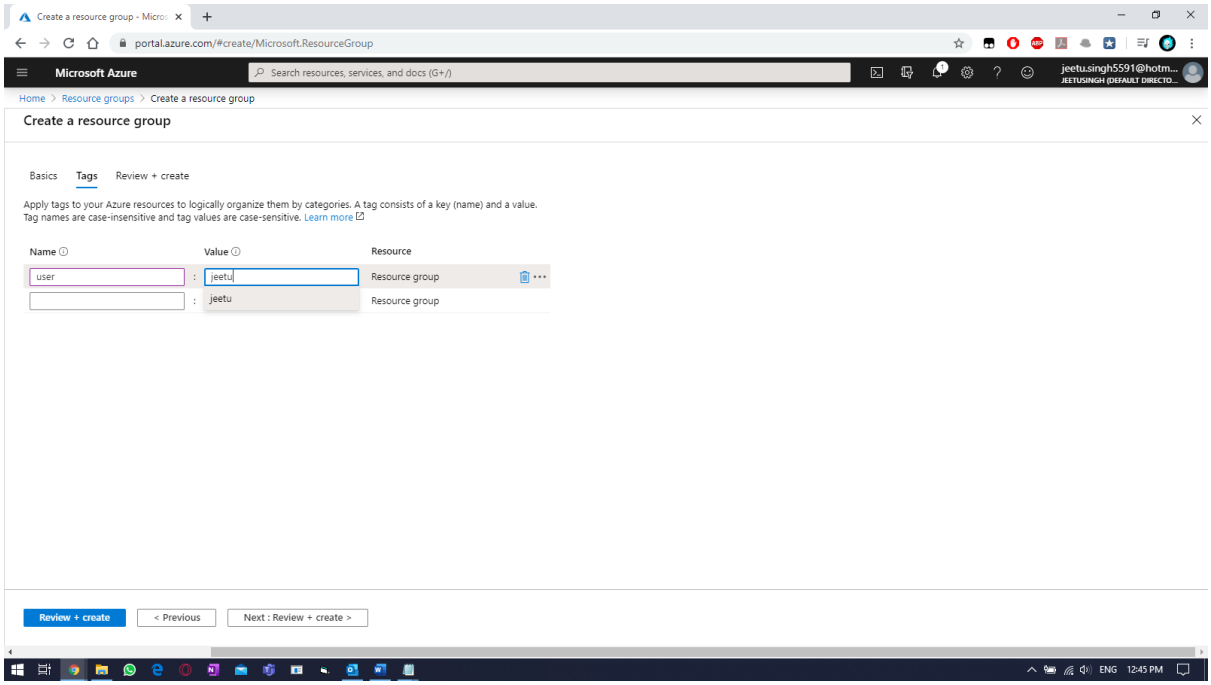
Select “Resource Group” on left hand side.


Create a resource group - Micros
portal.azure.com/#create/Microsoft.ResourceGroup
Search resources, services, and docs (G+/)
jeetu.singh5591@hotm...
JEETUSINGH (DEFAULT DIRECTO...
Create a resource
Home
Dashboard
All services
FAVORITES
All resources
Resource groups
App Services
SQL databases
CDN profiles
Azure Cosmos DB
Virtual machines
Load balancers
Storage accounts
Virtual networks
Azure Active Directory
Monitor
Advisor
Security Center
Help + support
Cost Management + Billing
e a resource group
holds related resources for an Azure solution. The resource group can include all the
those resources that you want to manage as a group. You decide how you want to
Learn more
Resource groups
Create
View
(US) East US
Next : Tags >
https://portal.azure.com/#blade/HubsExtension/BrowseResourceGroupBlade/resourceType/Micr...
ENG
12:43 PM

Click on Resource Group and fill the details like RG name & location.

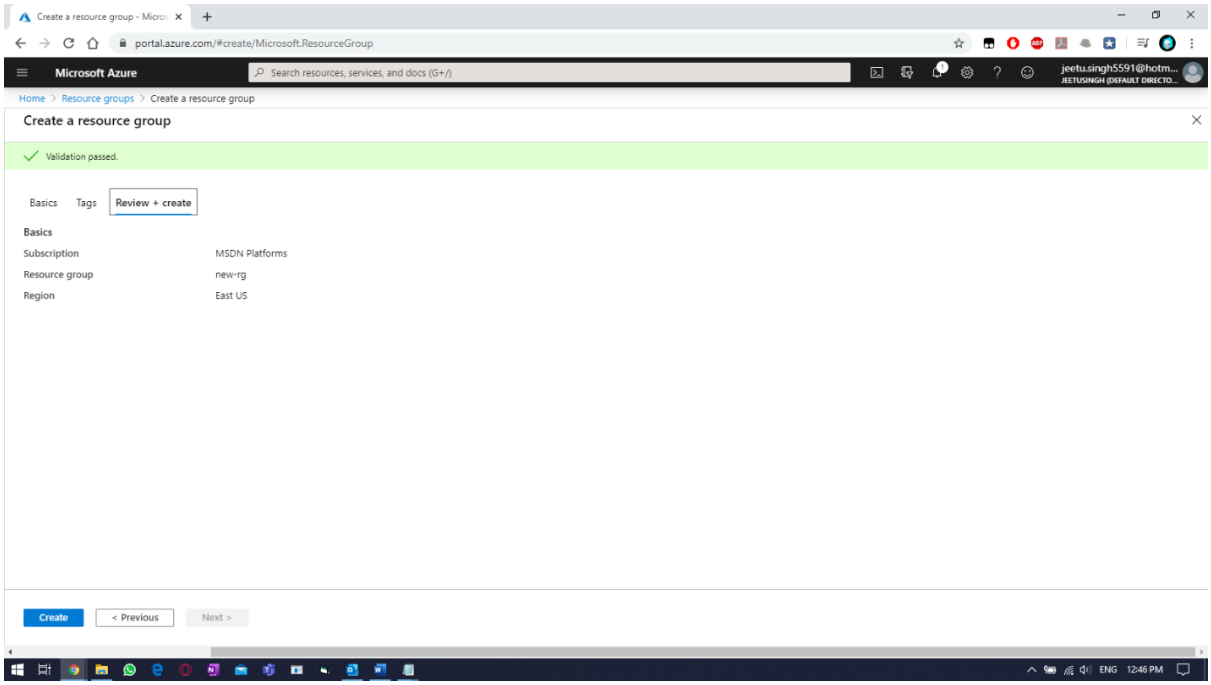


Then click on “TAGS” and fill the tags value (for billing)

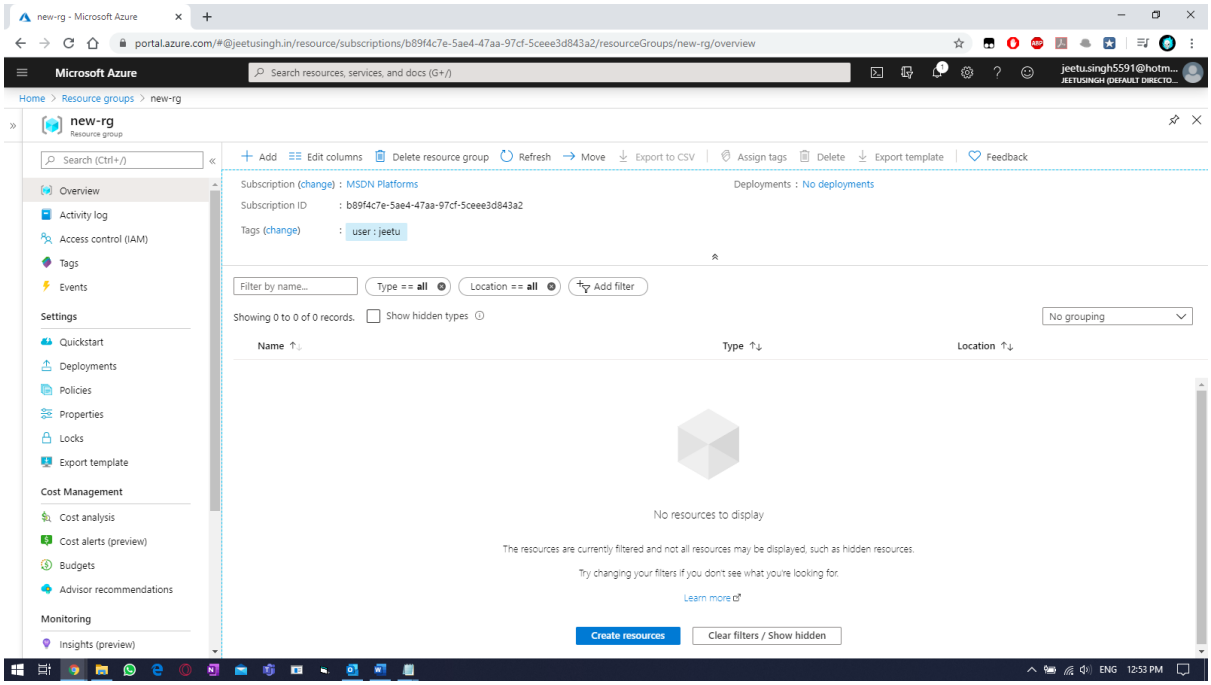


And click on “Next: Review + Create >”

Click on “Create” once validation is passed.

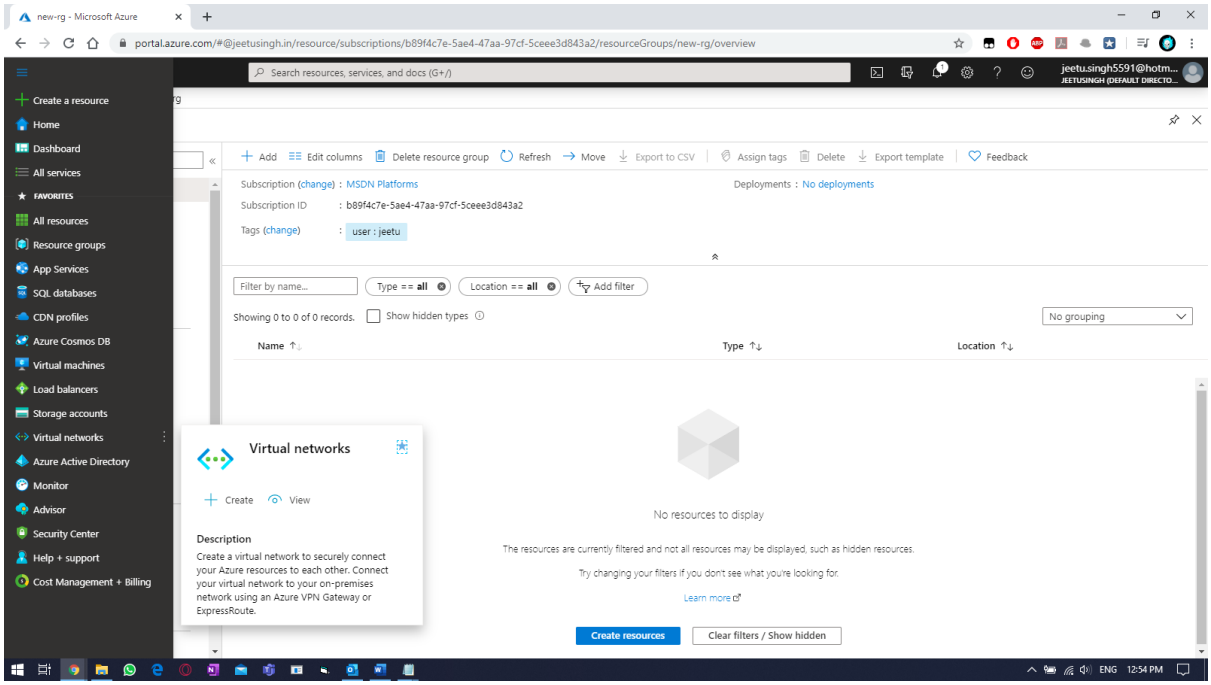


Verify.



Step2: Create a virtual network (vnet) in the above RG using same region/location as RG.

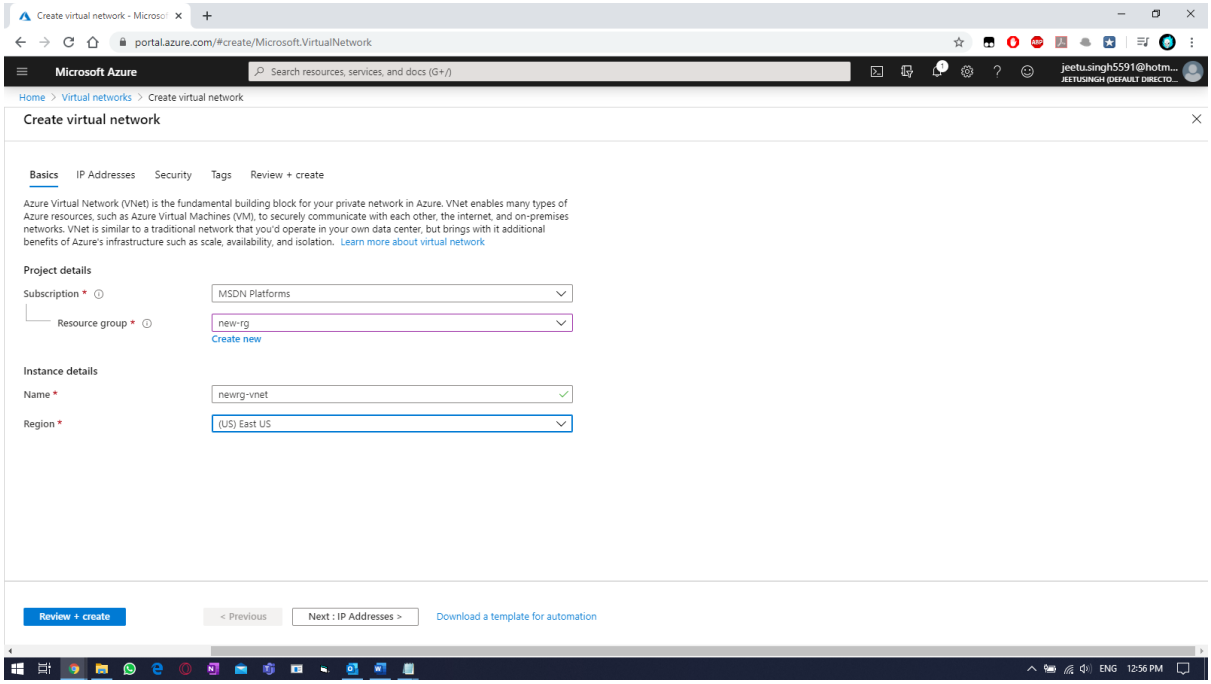
On left side, click on ellipses (3 small lines) & select virtual network.

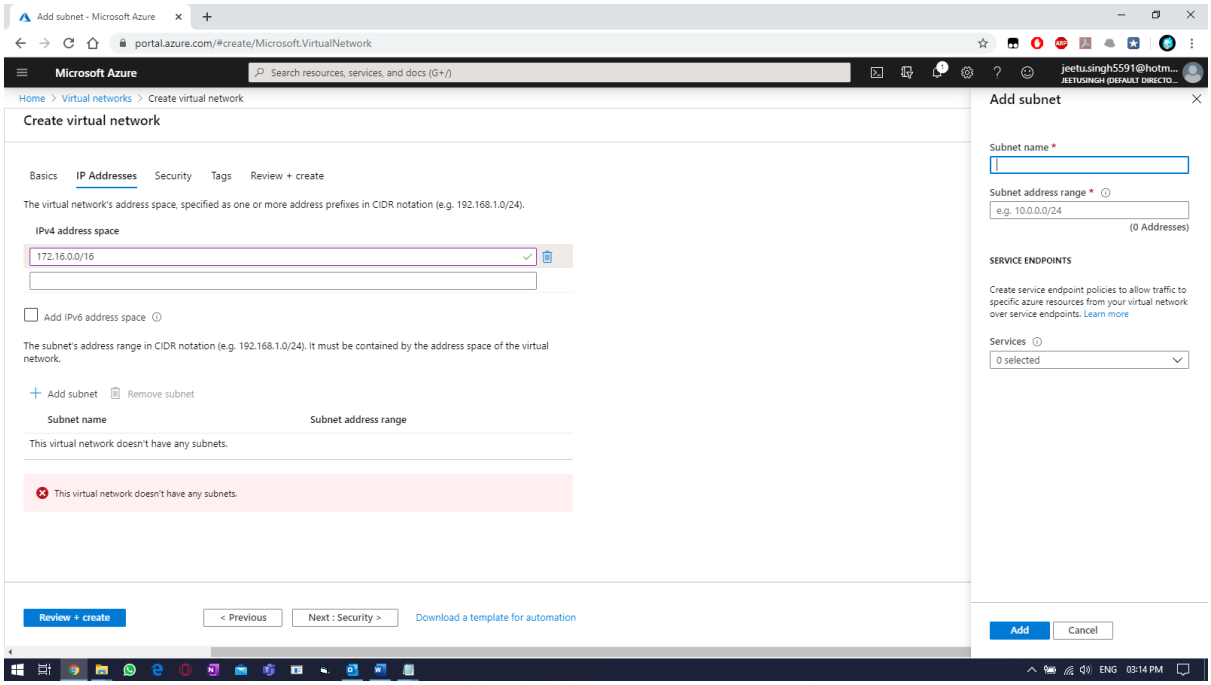


To create a new vnet, click on “+ADD” or “Create Virtual Network” button. Fill the required details.

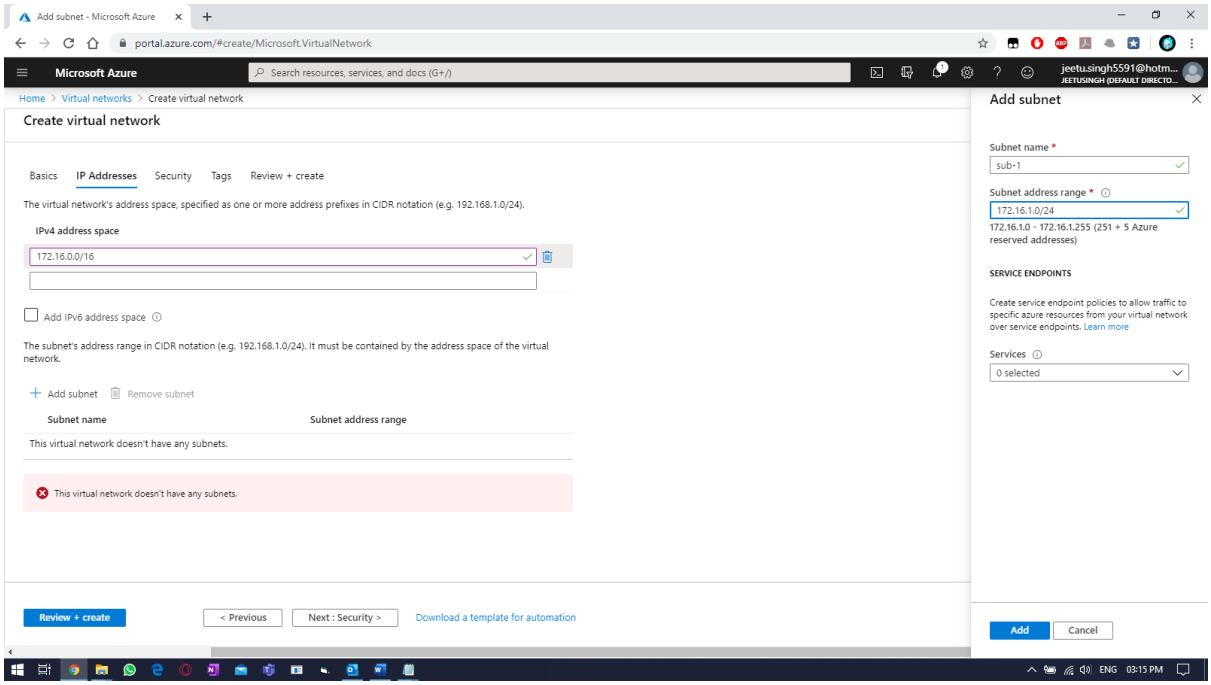
- Resource Group (RG) → new-rg
- Name → newrg-vnet
- Region → ‘East US’

And then click on “Next: IP Addresses >”

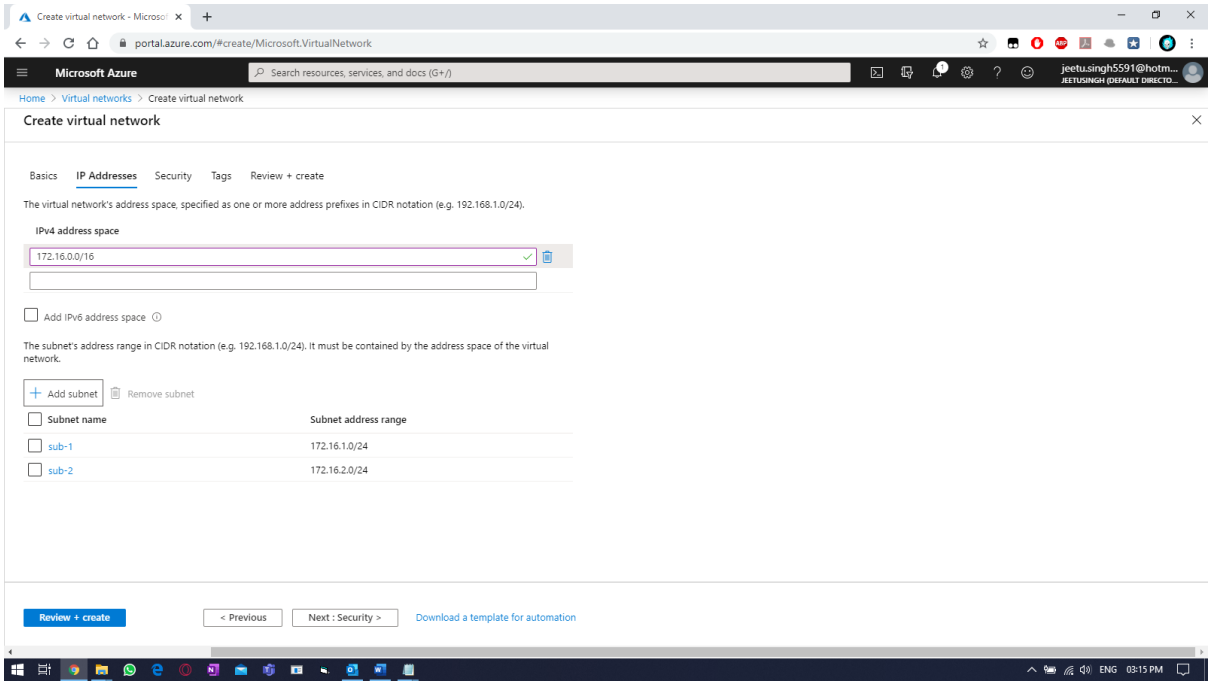




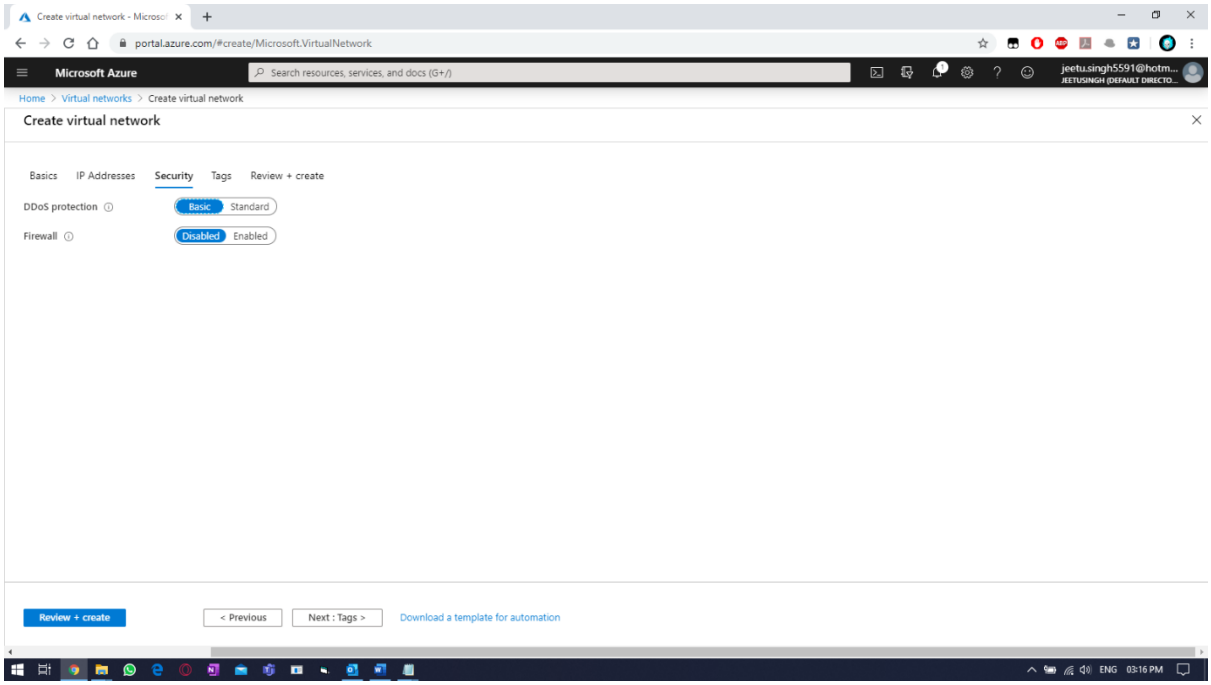
Creating subnets:



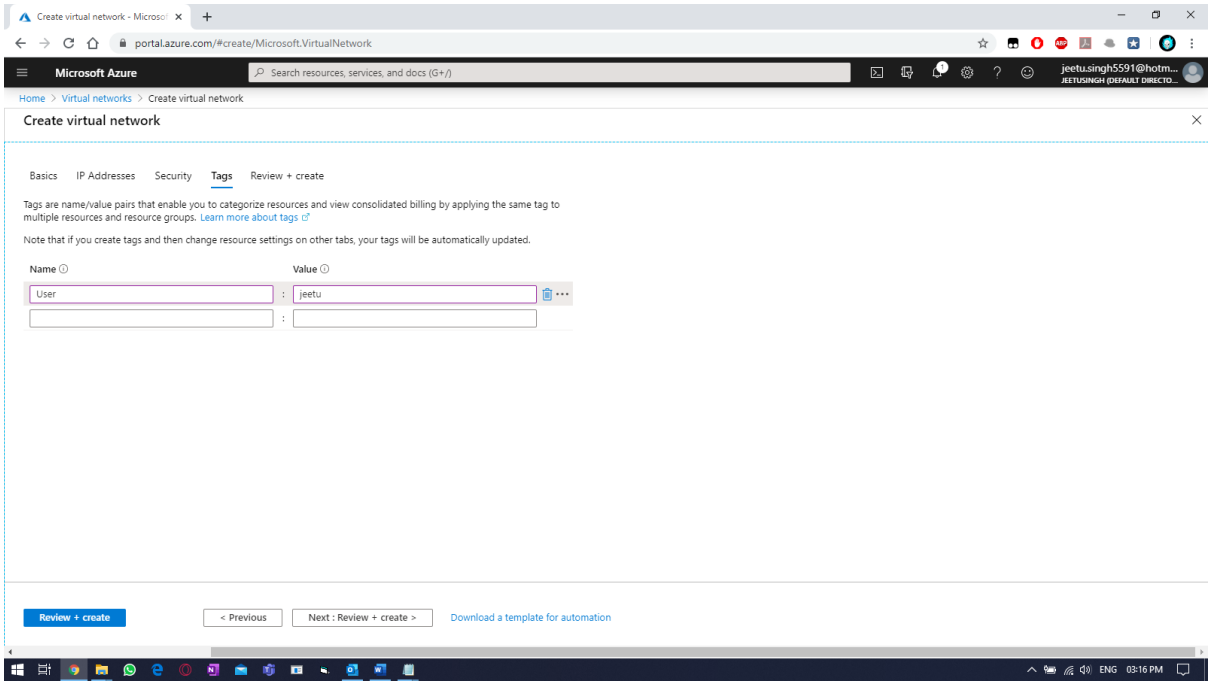
Creating 2nd subnets.



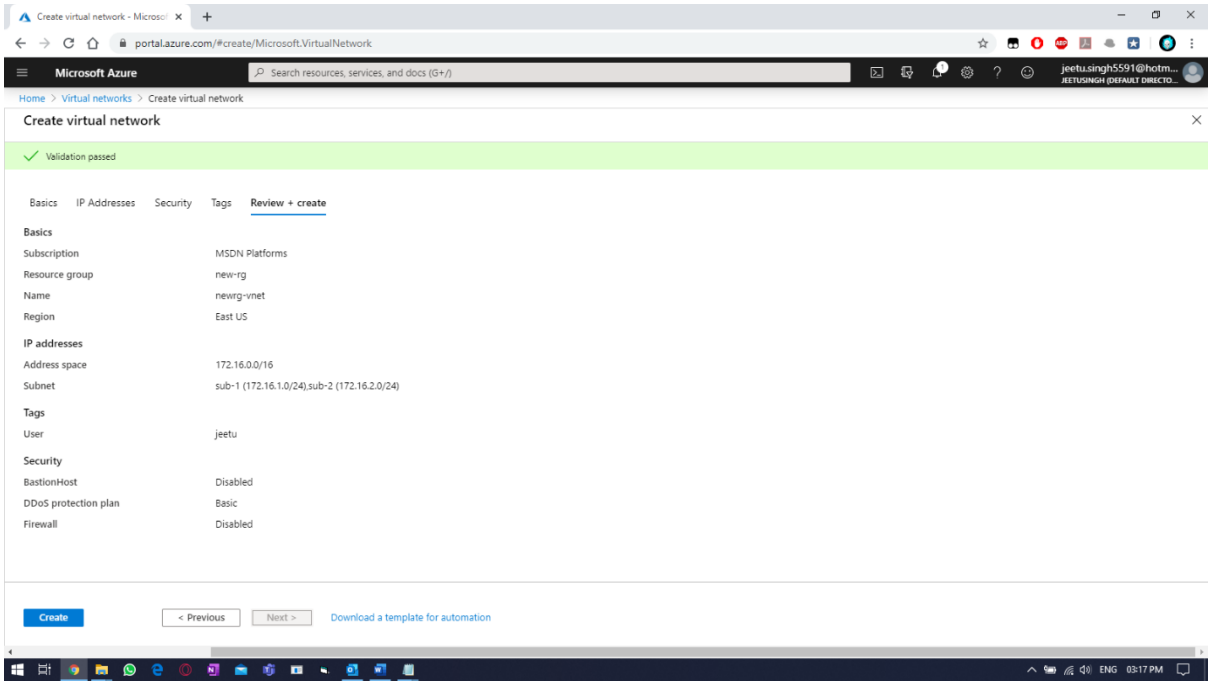
Select defaults for “Security”



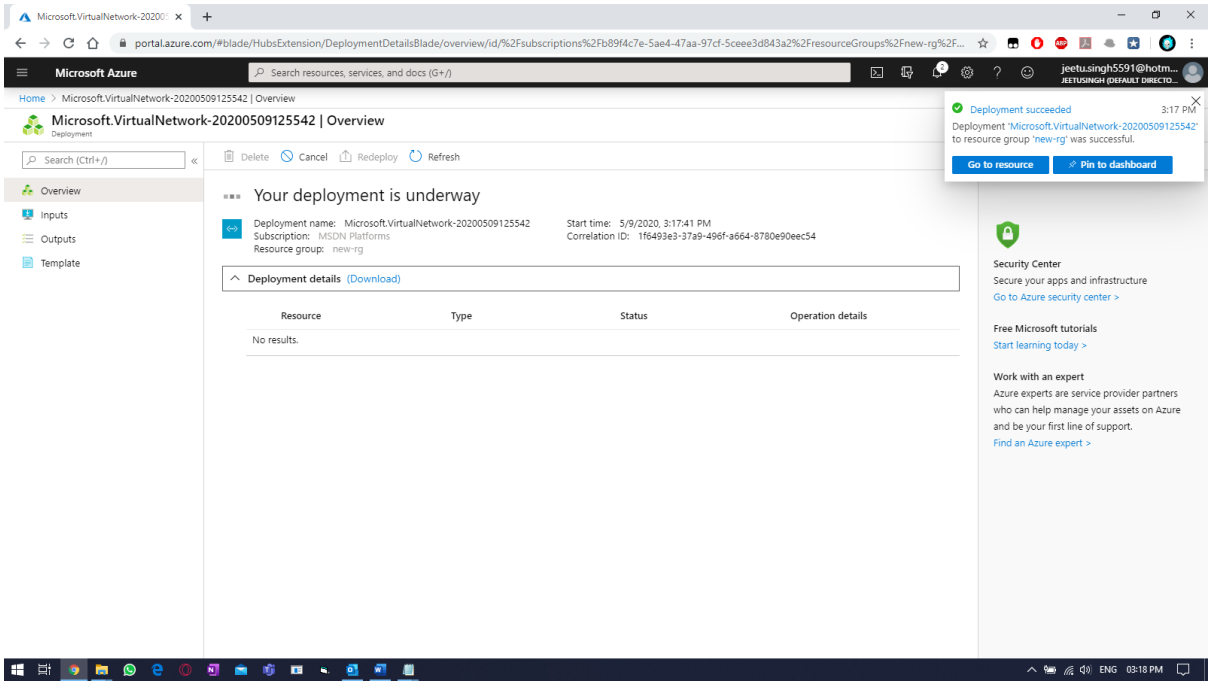
Select the tags:



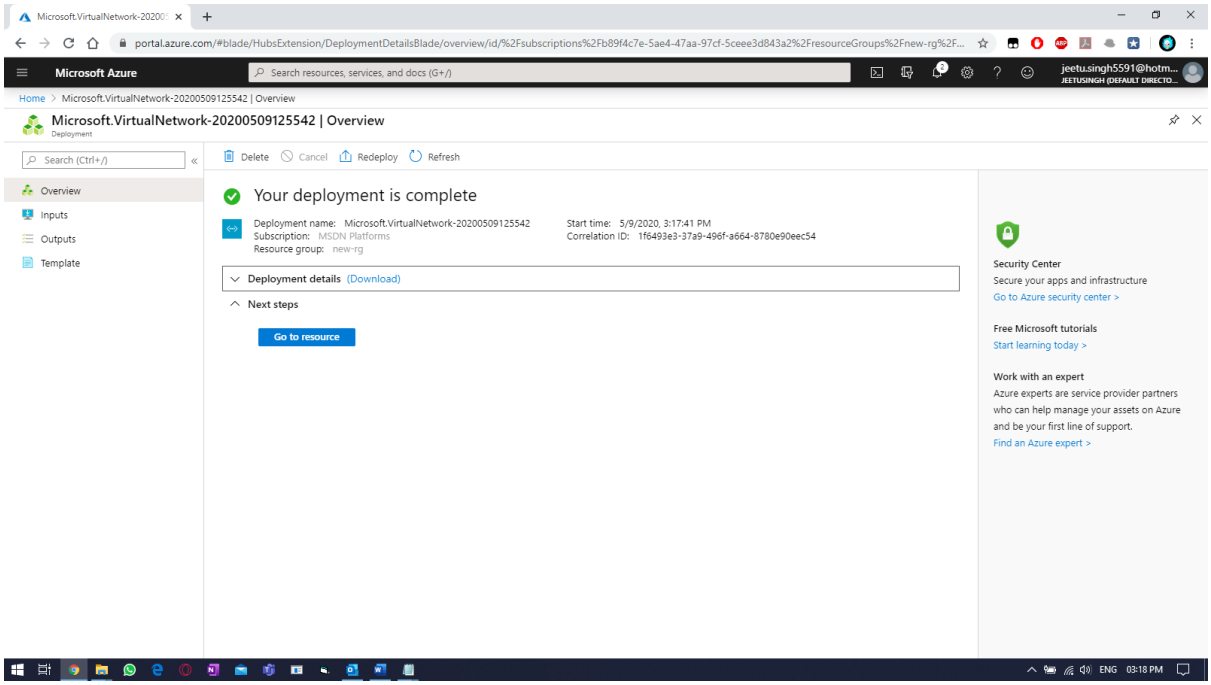
Once validation passed, click on “create”.



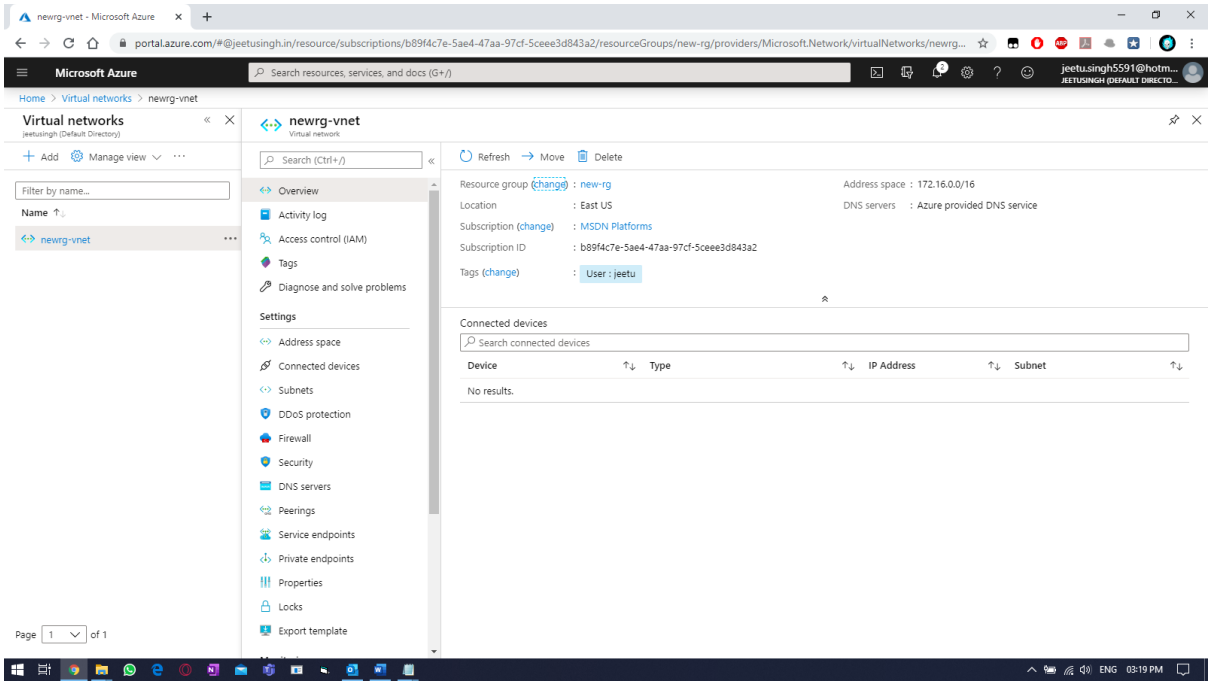
Wait for the deployment to get finished.



Click on “Go to resource”

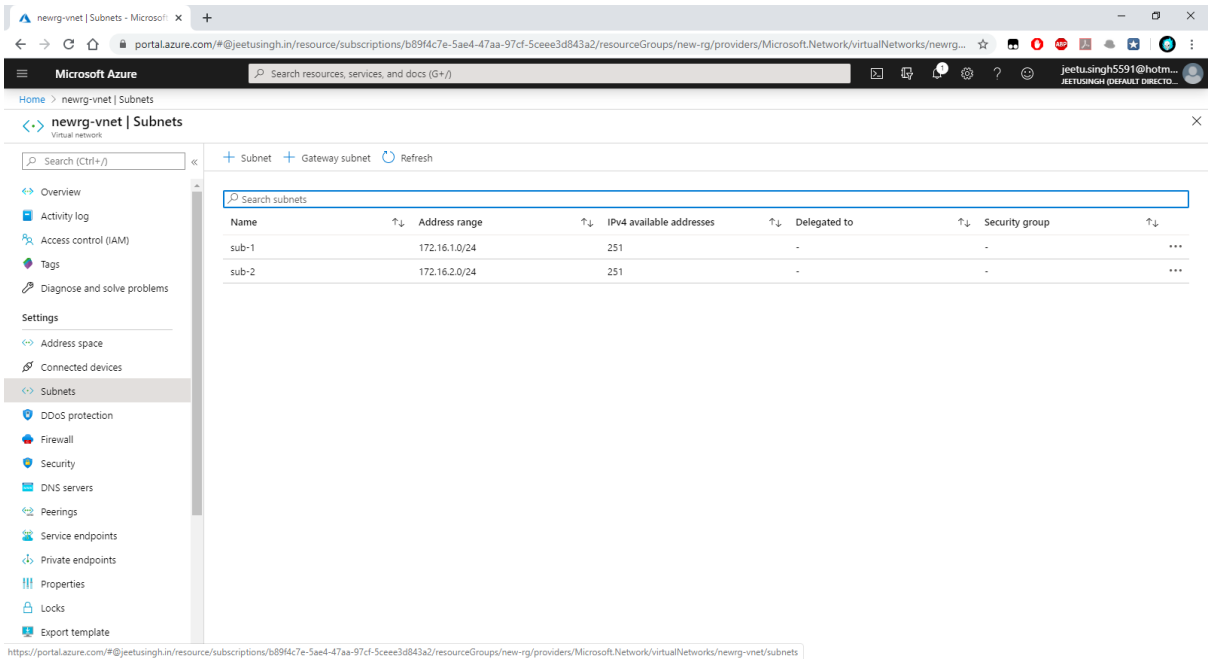


On left side, select Virtual network and select your vnet.

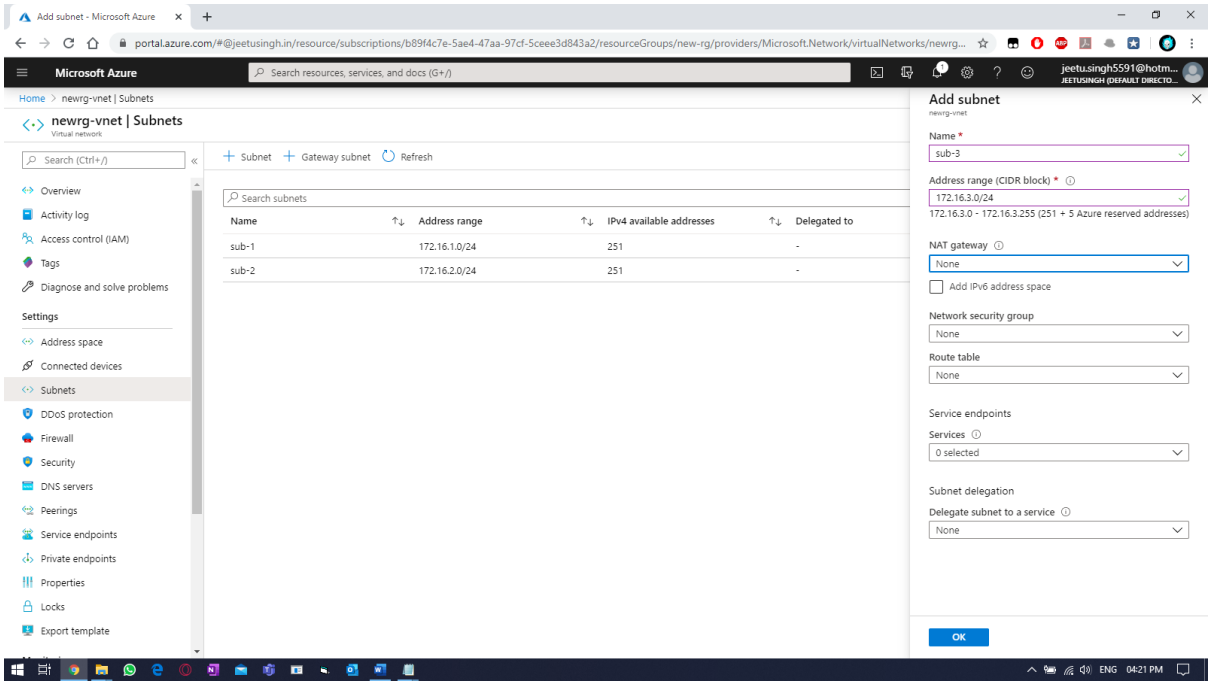


Adding 3rd subnet and adding a DNS server.

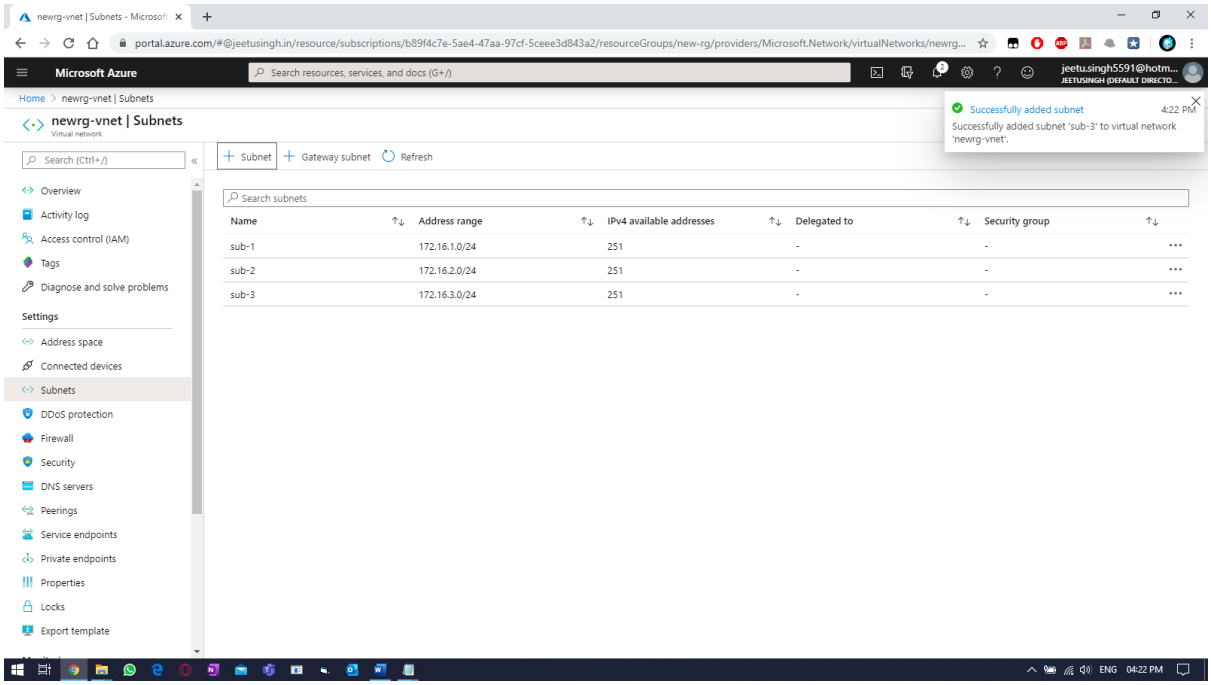
Select “subnets” within the vnet you created earlier, select “+Subnet” to add another one.



Fill required details. Then select “OK”

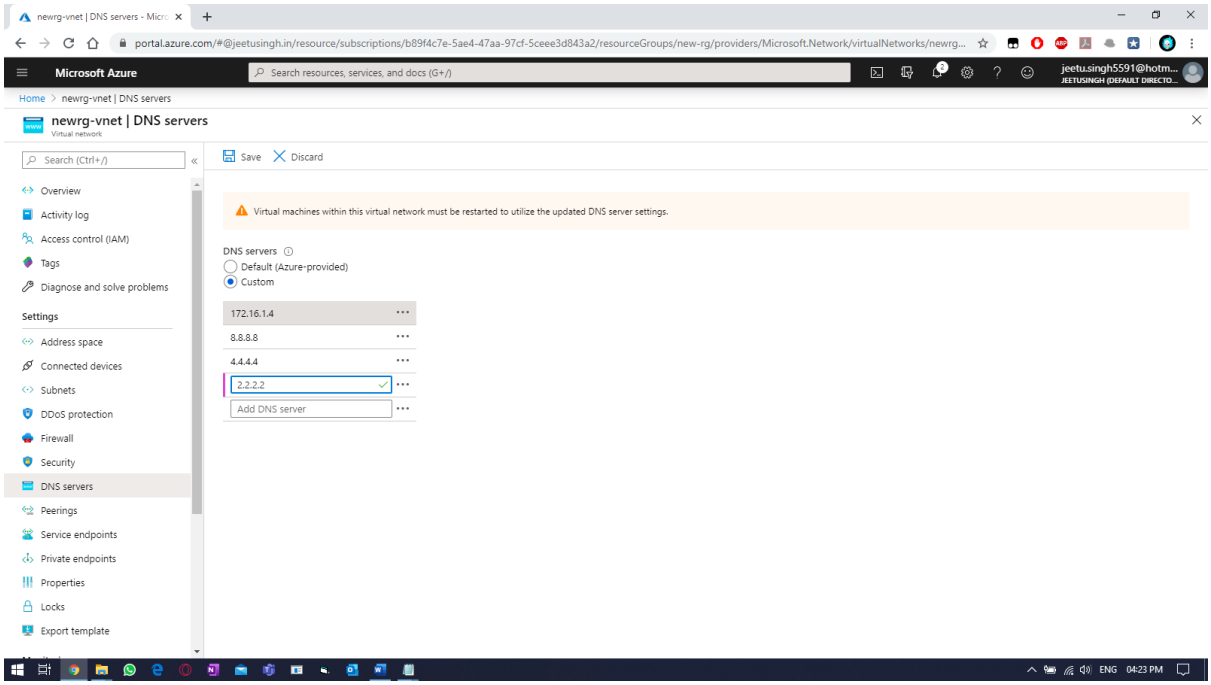


& verify.



Adding DNS for the VNET.

Select “DNS servers” within your vnet & select “custom”, then fill your required valid DNS servers.

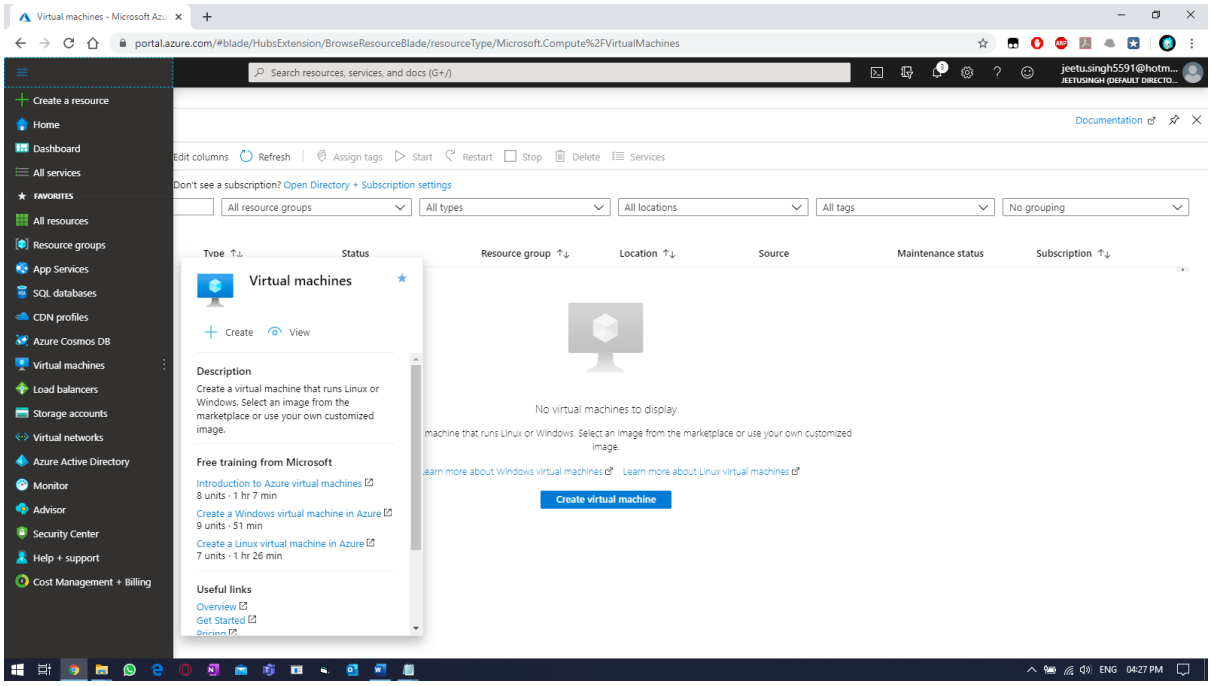


Practice Work No – 5 & 6:

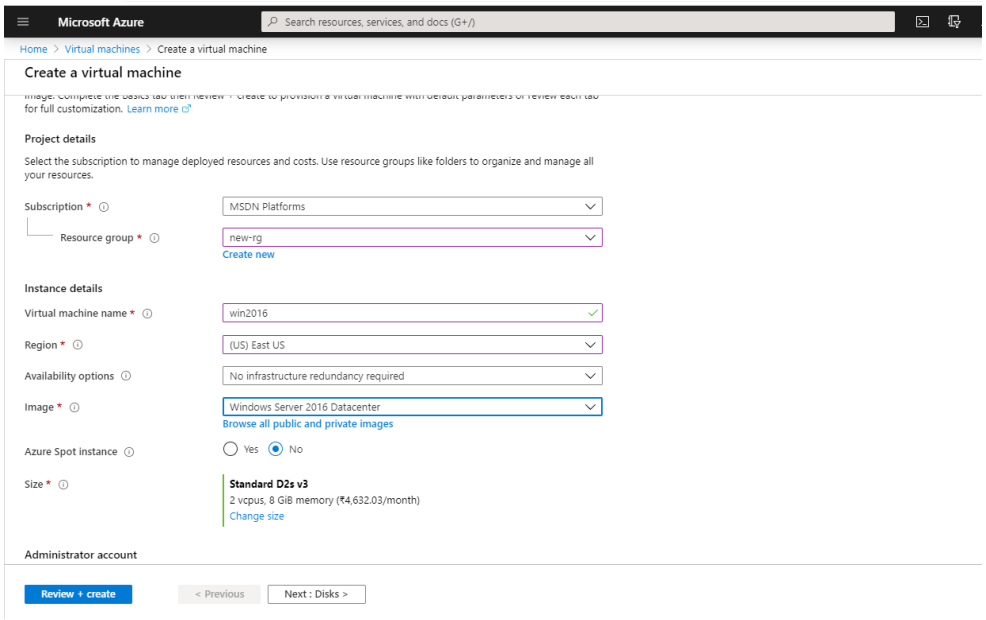
Statement	Implementing virtual machines.
Objective	The main objective of the task is to create and manage Azure virtual machine (VM) using Azure portal.
Outcomes	After executing this, one should be able to create and manage the azure virtual machine (VM). Access virtual machine using RDP and Putty.
Prerequisites	Working Azure account, Internet

[Task]: Create a new VM using the vnet you created earlier (newrg-vnet) and use first subnet (sub-1) for the VM. Also use the storage created earlier. Connect to the VM using credentials provided earlier at the time of VM creation. And perform backup of the current VM.

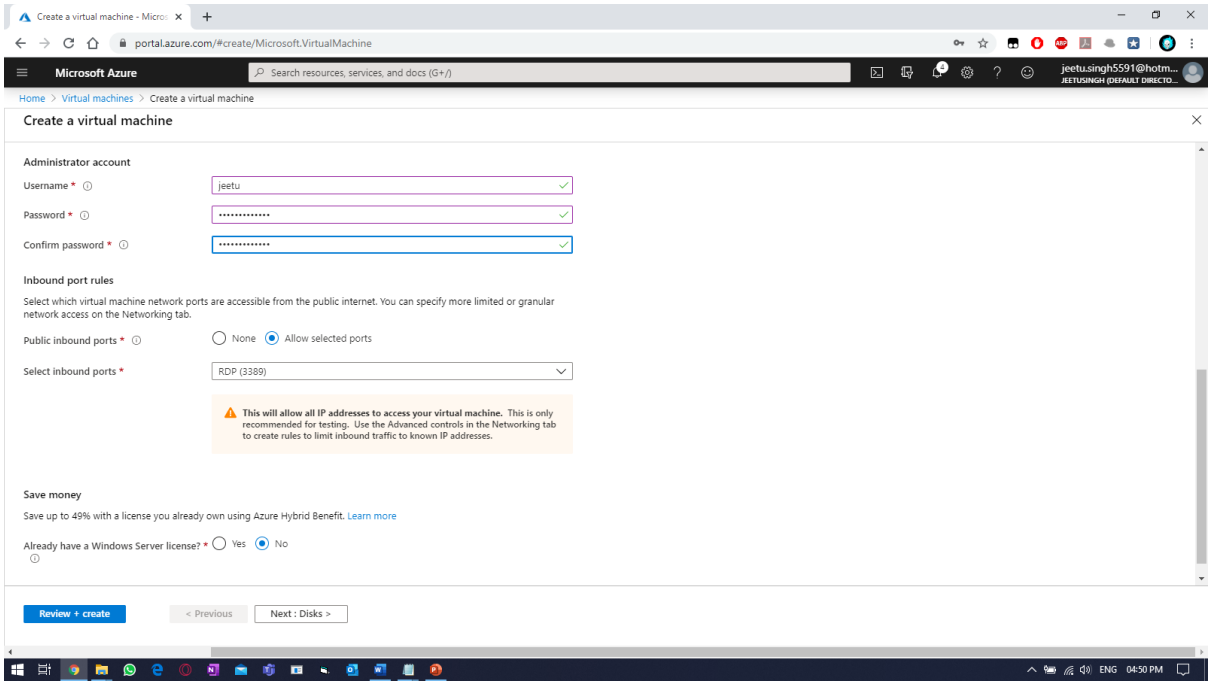
Select the virtual machine (VM) tab from left side.



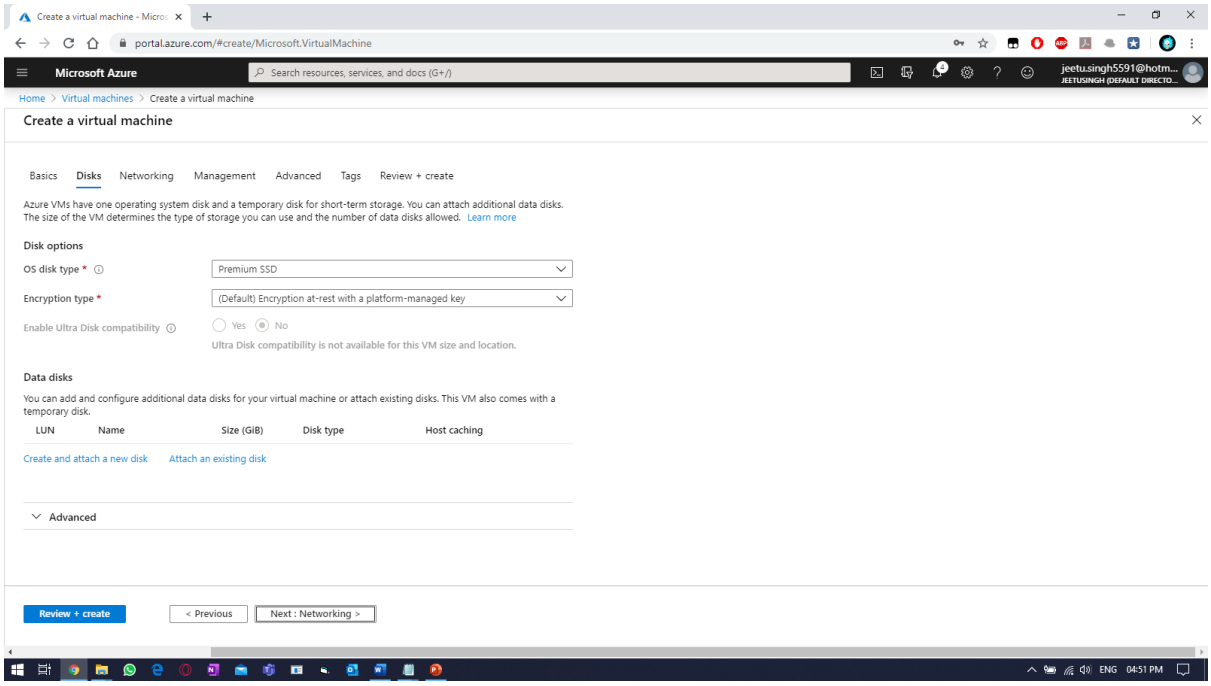
Click on “add” & fill the required details to create the VM.



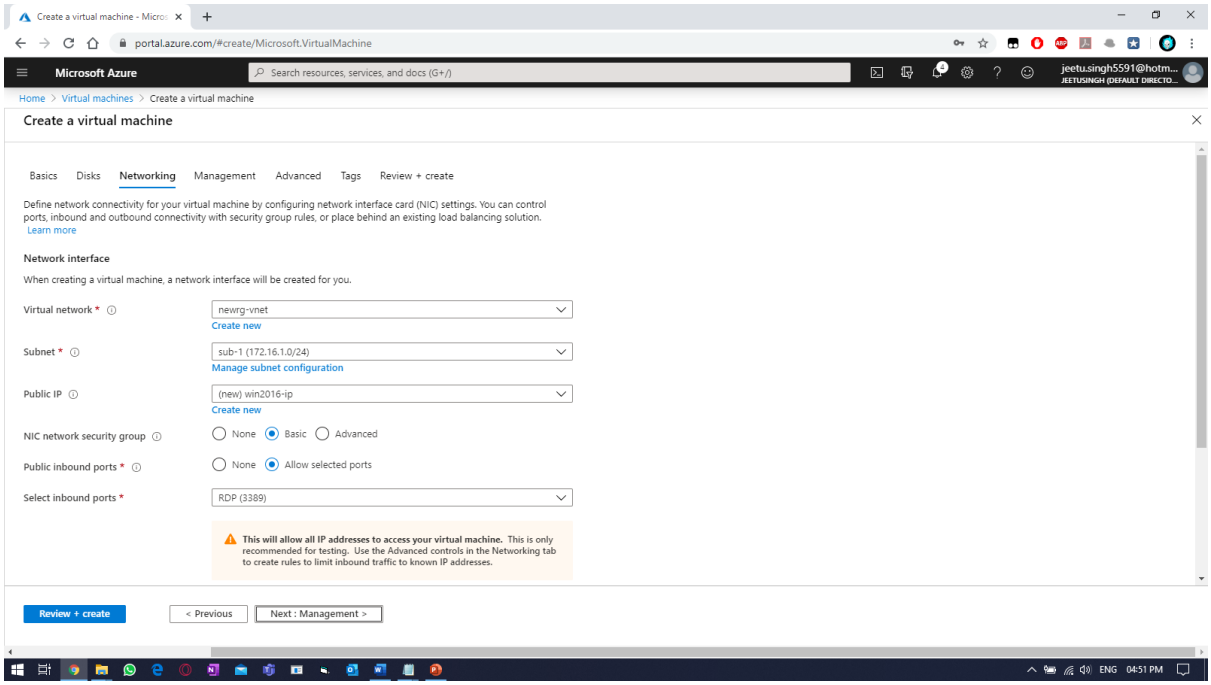
Provide username & password for the VM:



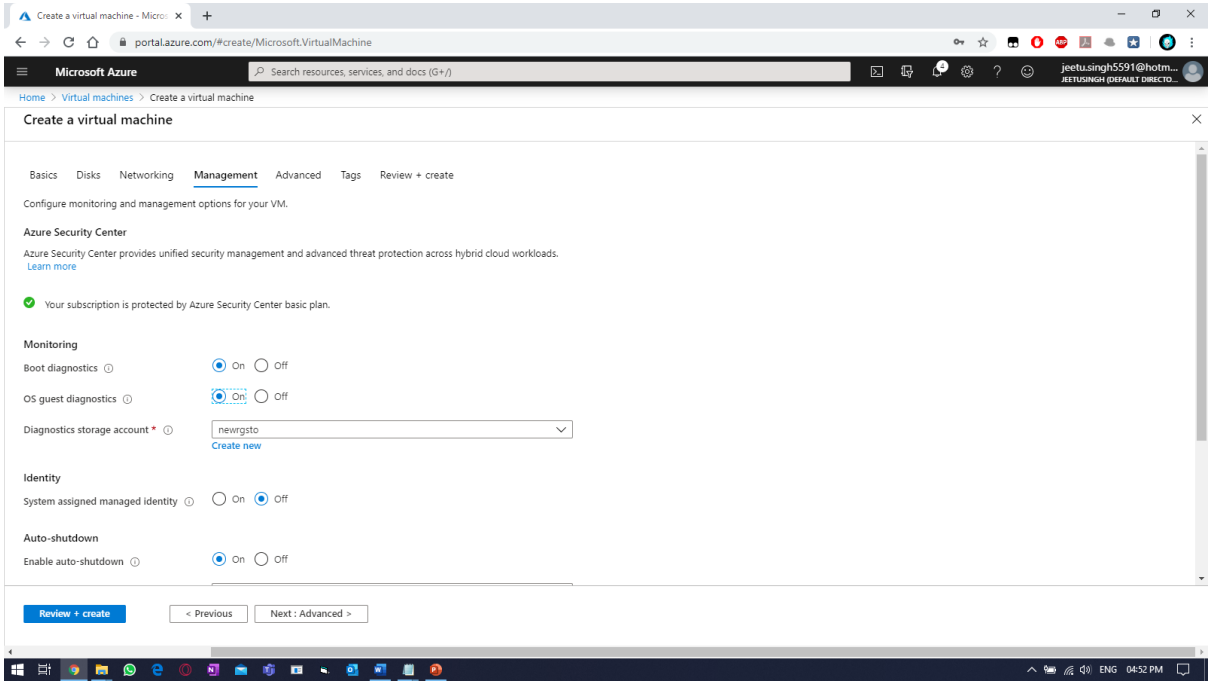
Click “Next: Disk >”



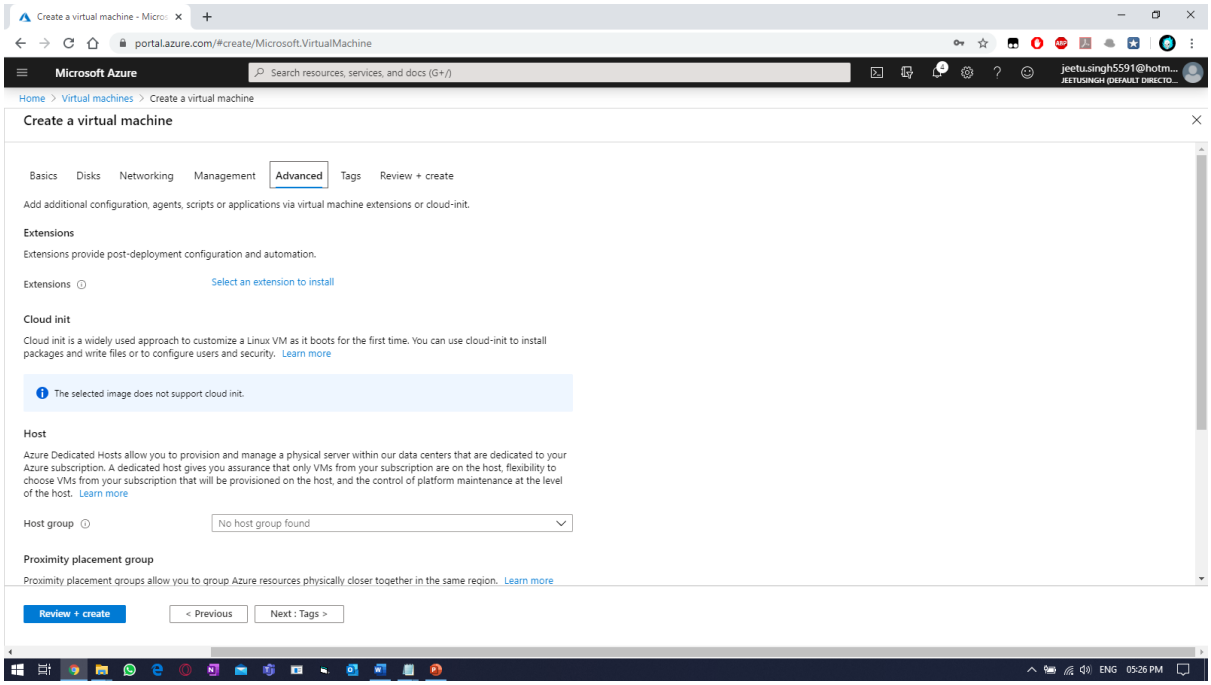
No changes required. Click “Next: Networking >” & select the virtual network created earlier and enable RDP port.



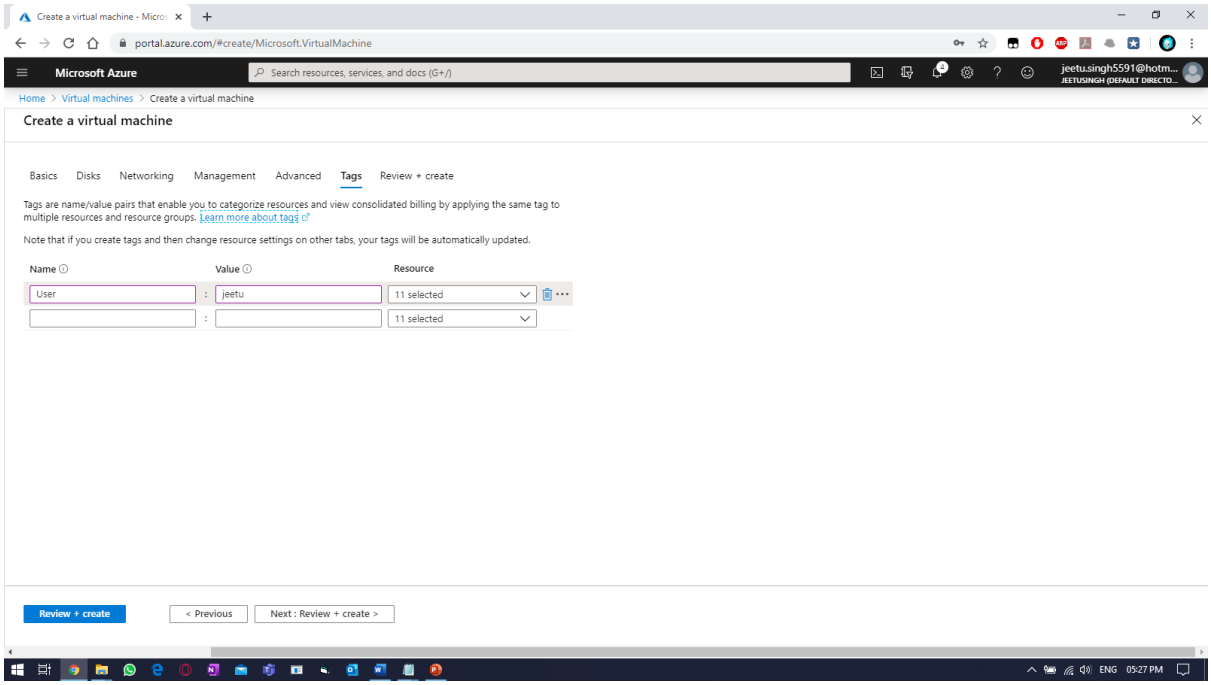
Select the storage account you created earlier and click “Next: Advanced >”



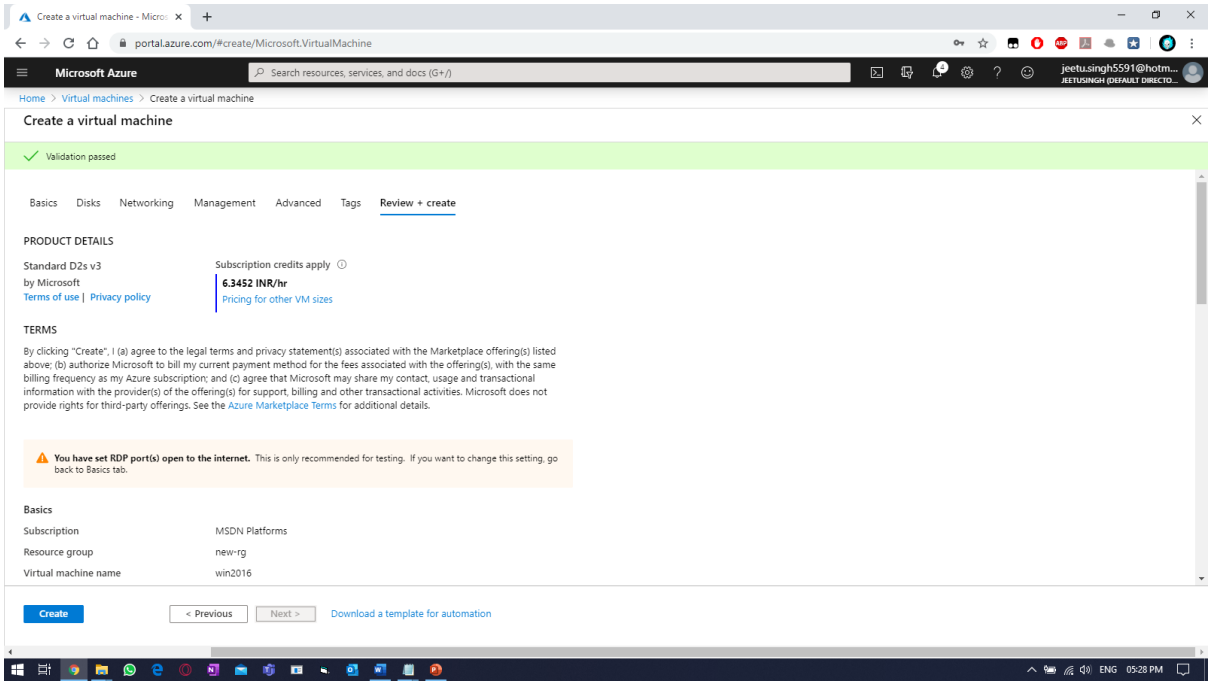
Nothing to change to in advanced, as no extension are to be installed.



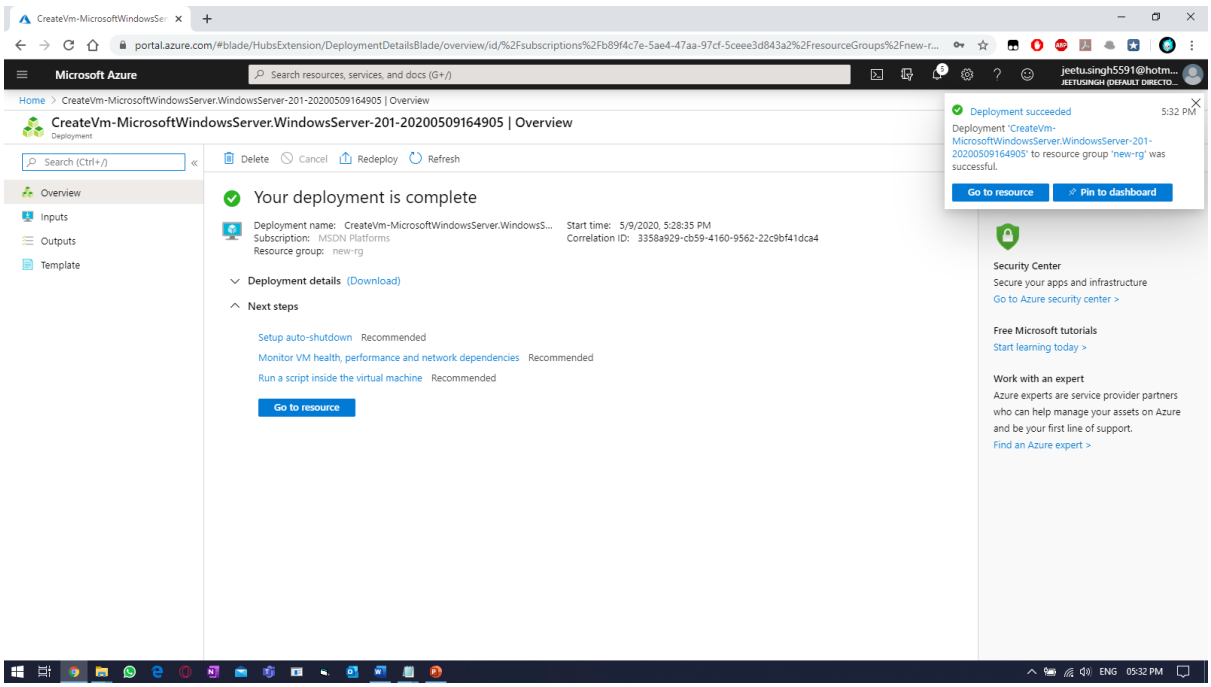
Attach the tags and create “Next: Review + Create”



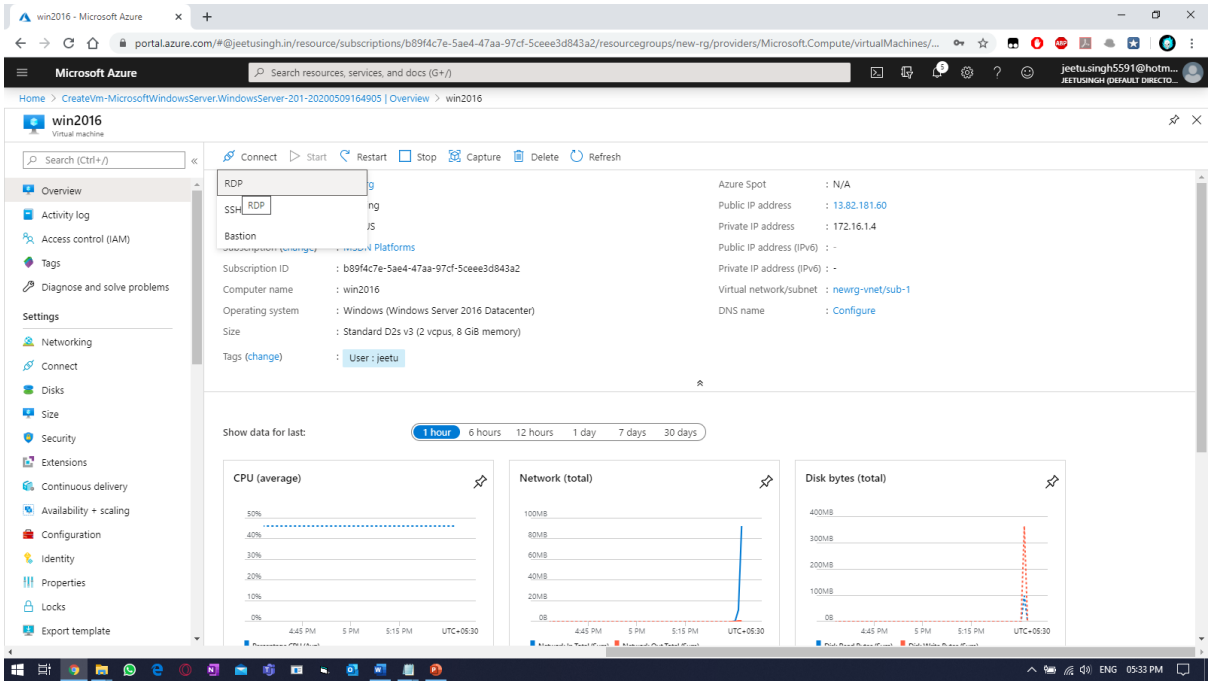
If validation is passed, then click “Create”.



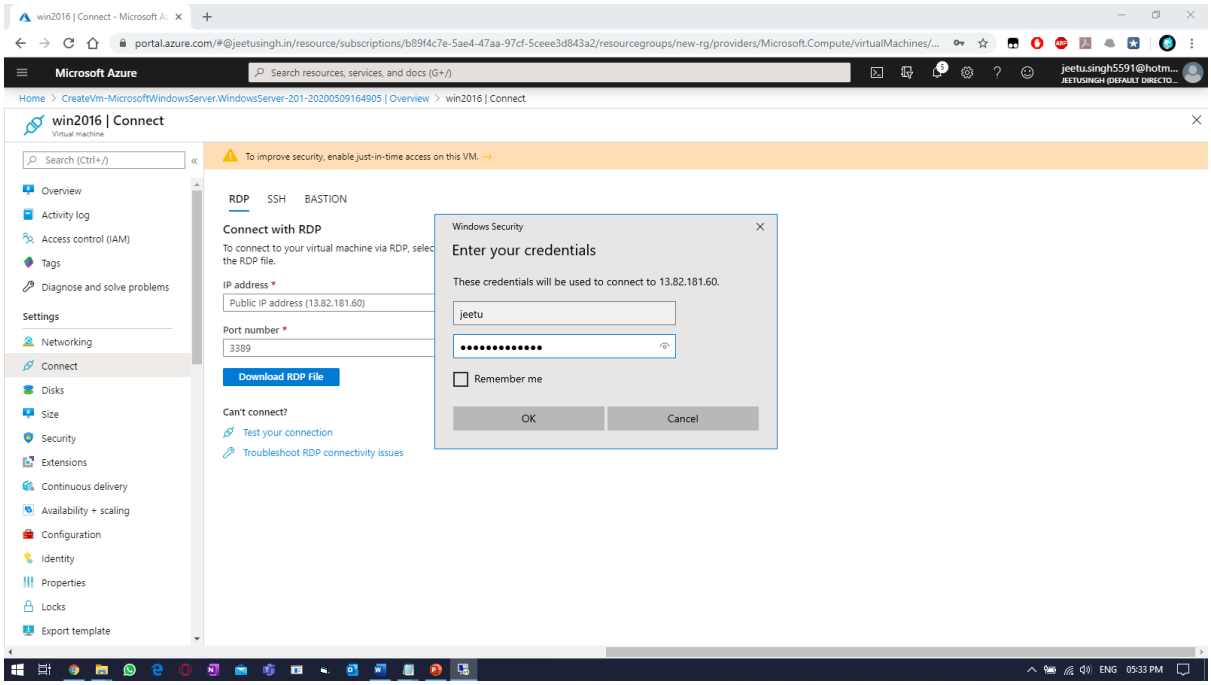
Click to “Go to resource”, once finished.



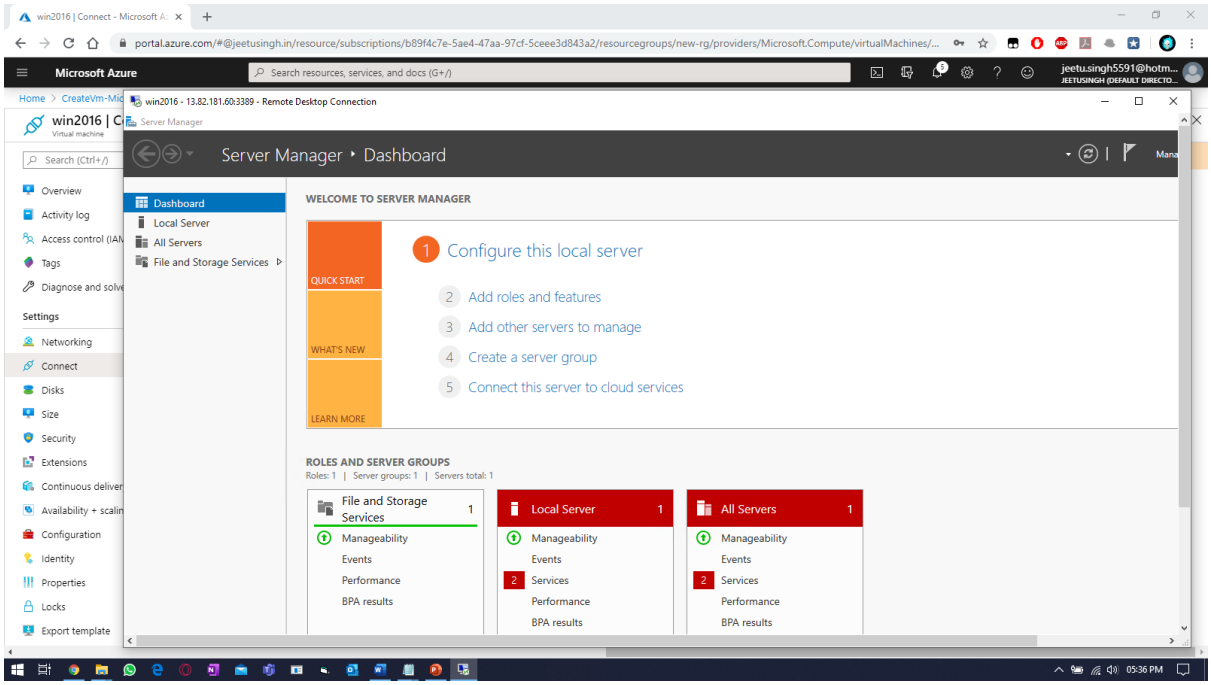
To connect to the VM, click on “CONNECT” and select RDP.



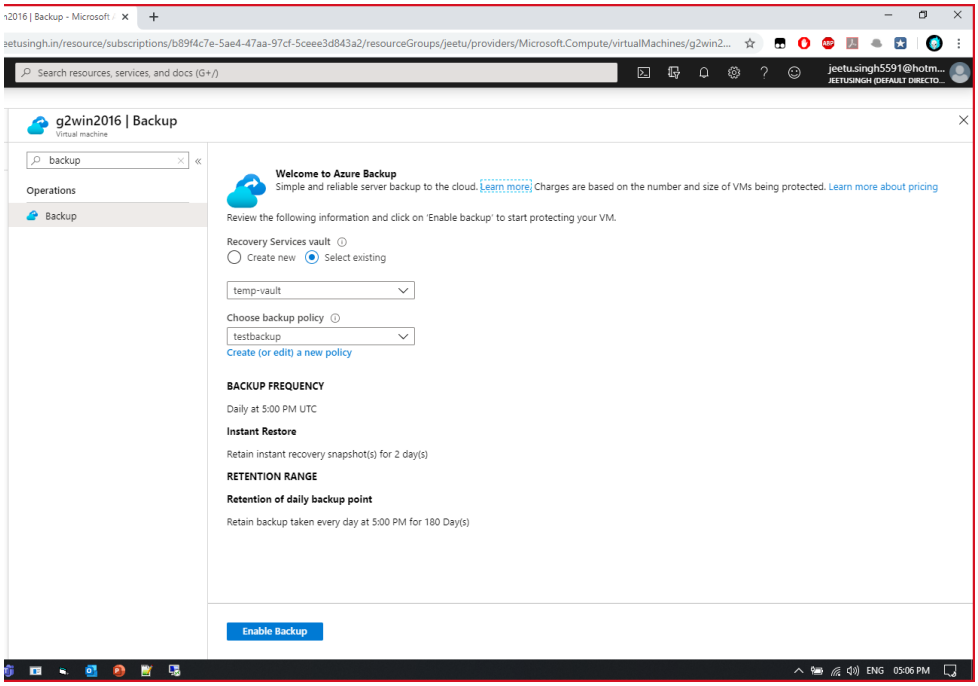
Download RDP & provide username & password.



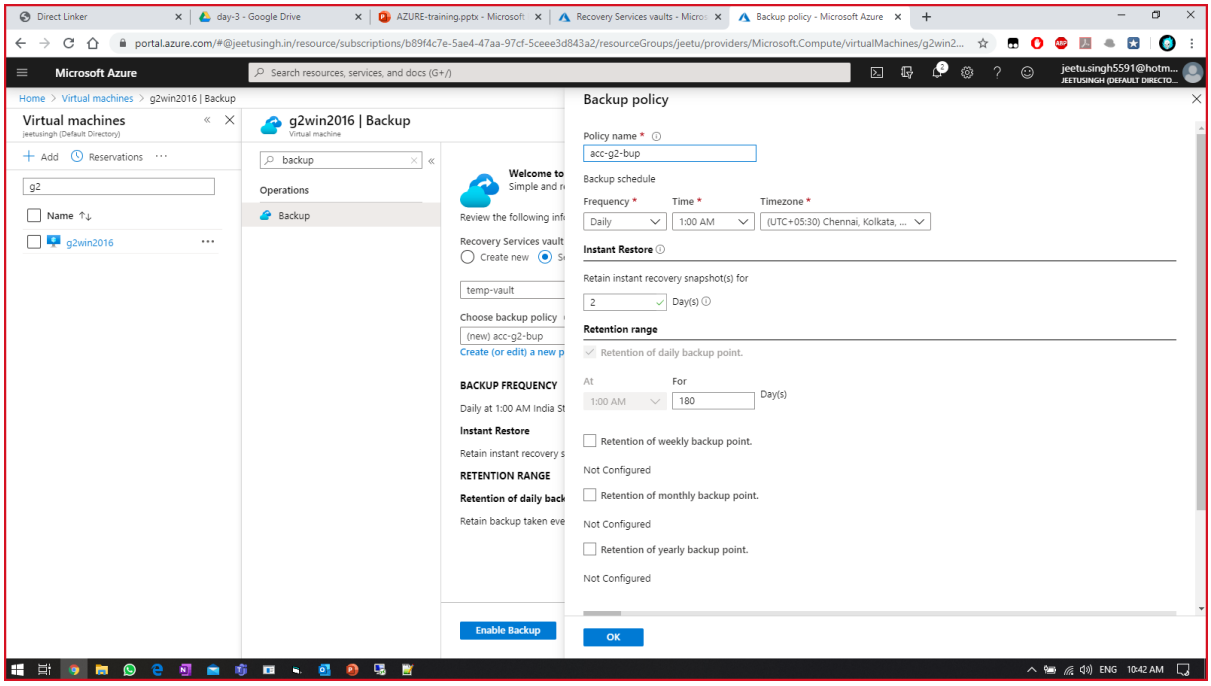
Verify:



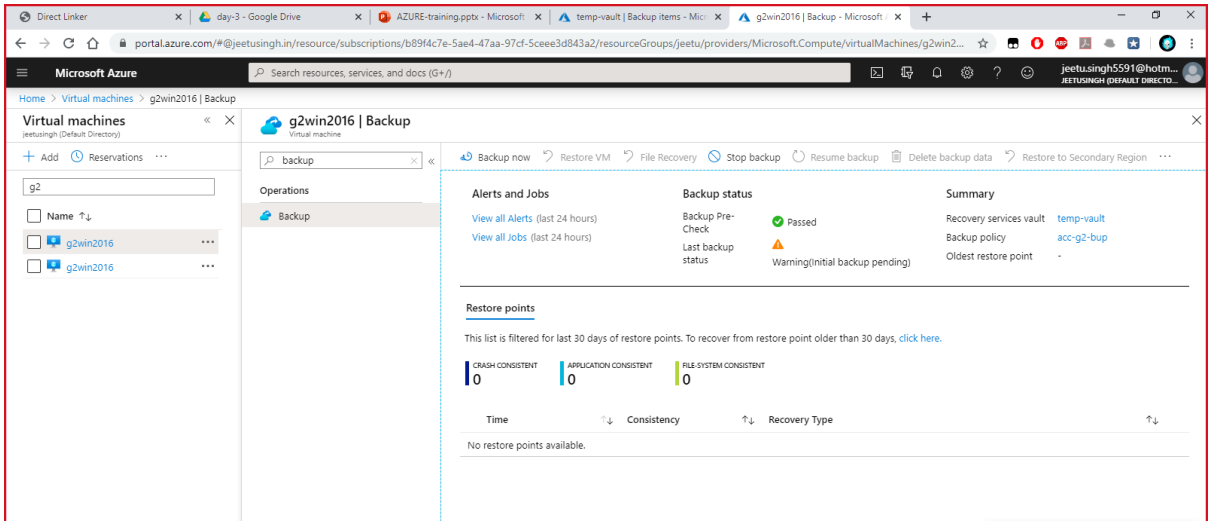
Perform the backup for the any windows VM. Select a VM & search for “backup” blade.



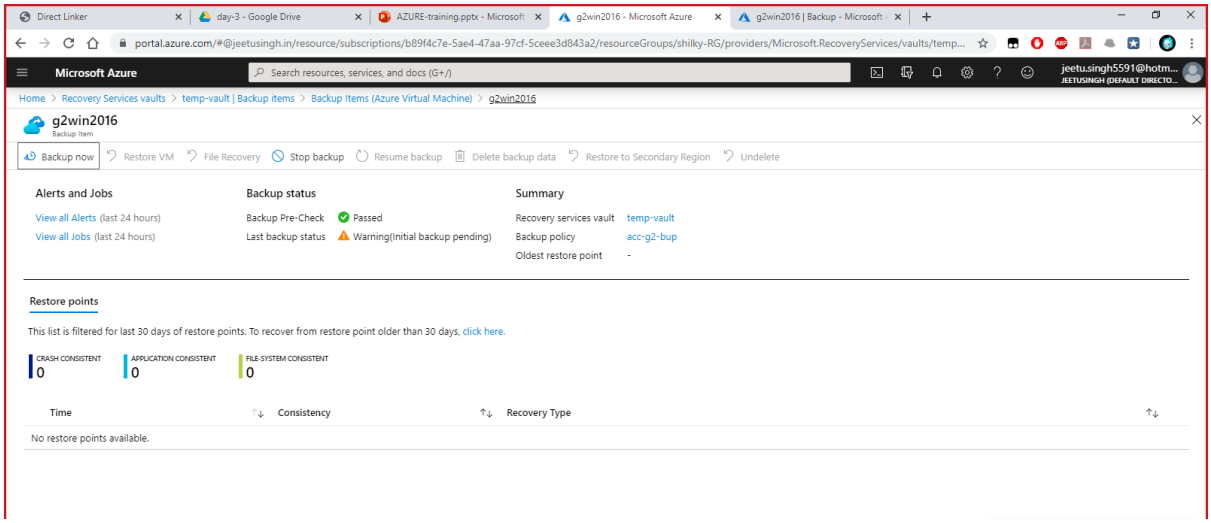
Enable backup & create backup policy.



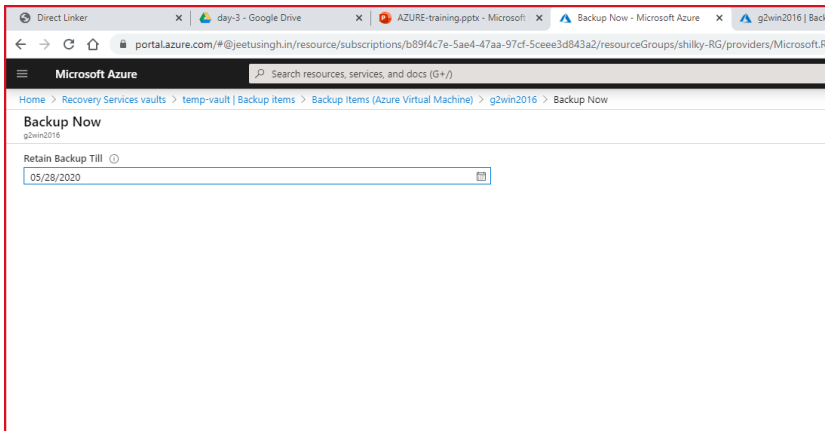
Once backup is ready,



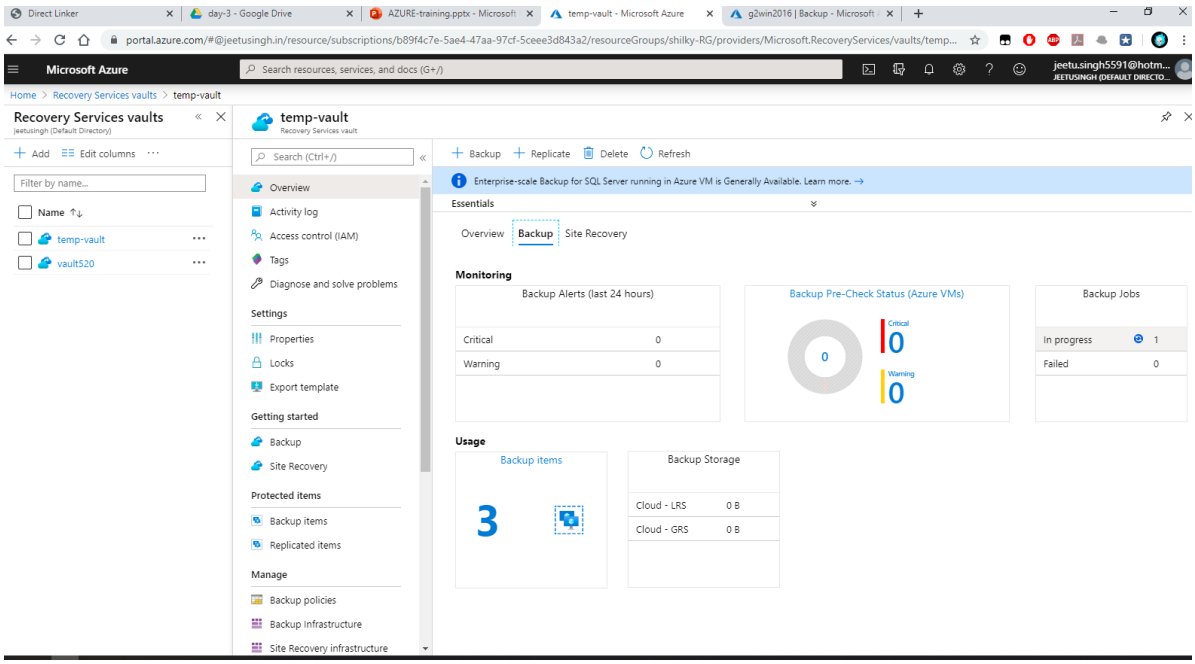
Select backup now,



Select the backup time and click OK

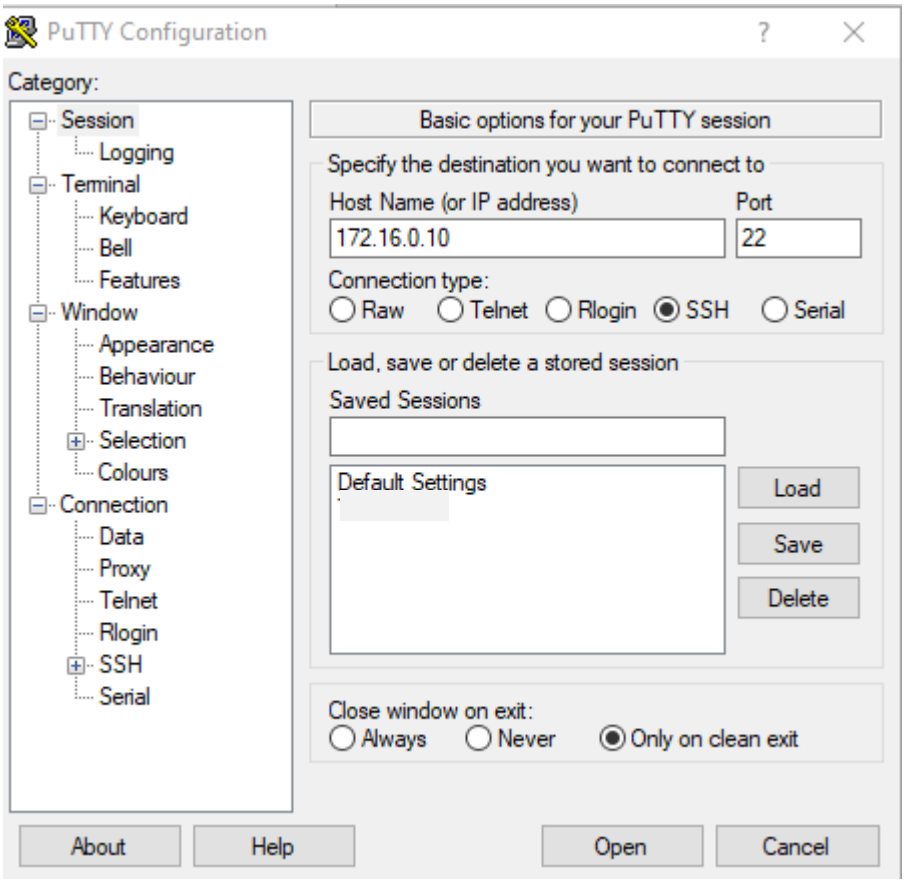


Something like this will be visible.



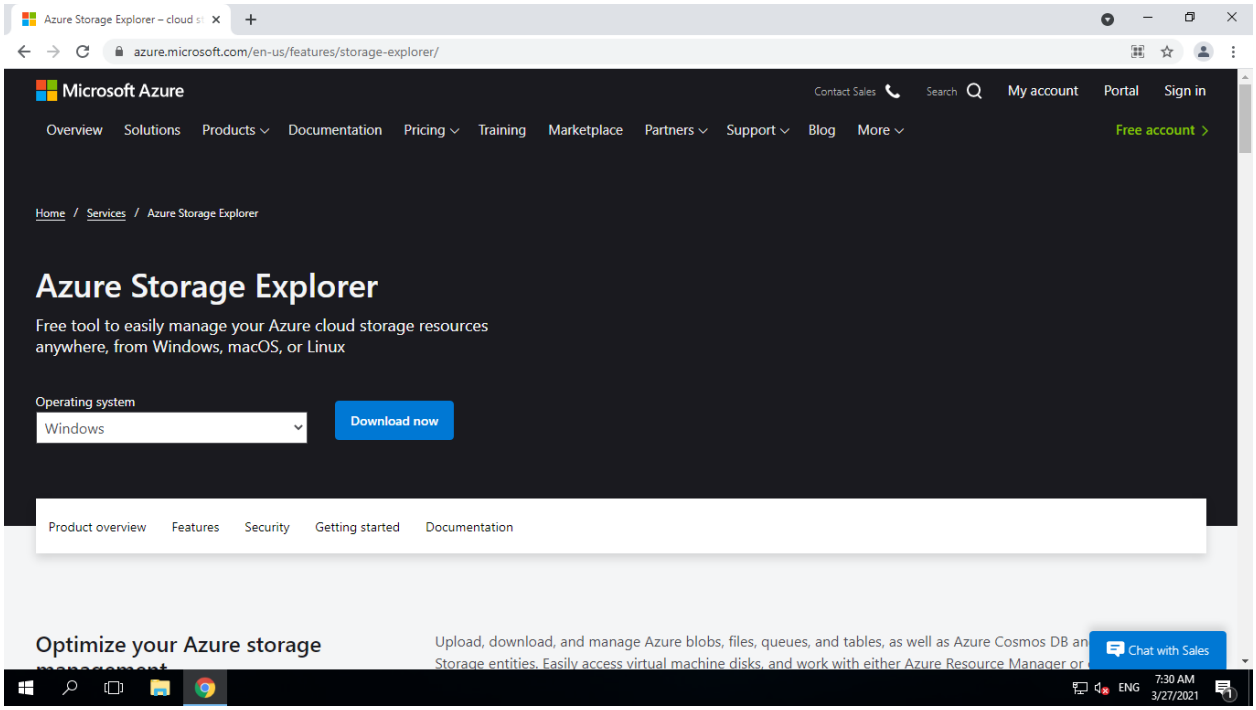
Connecting a linux machine using putty:

➔ Run putty on your system and enter the connection details of the linux machine as displayed in the example below and click open

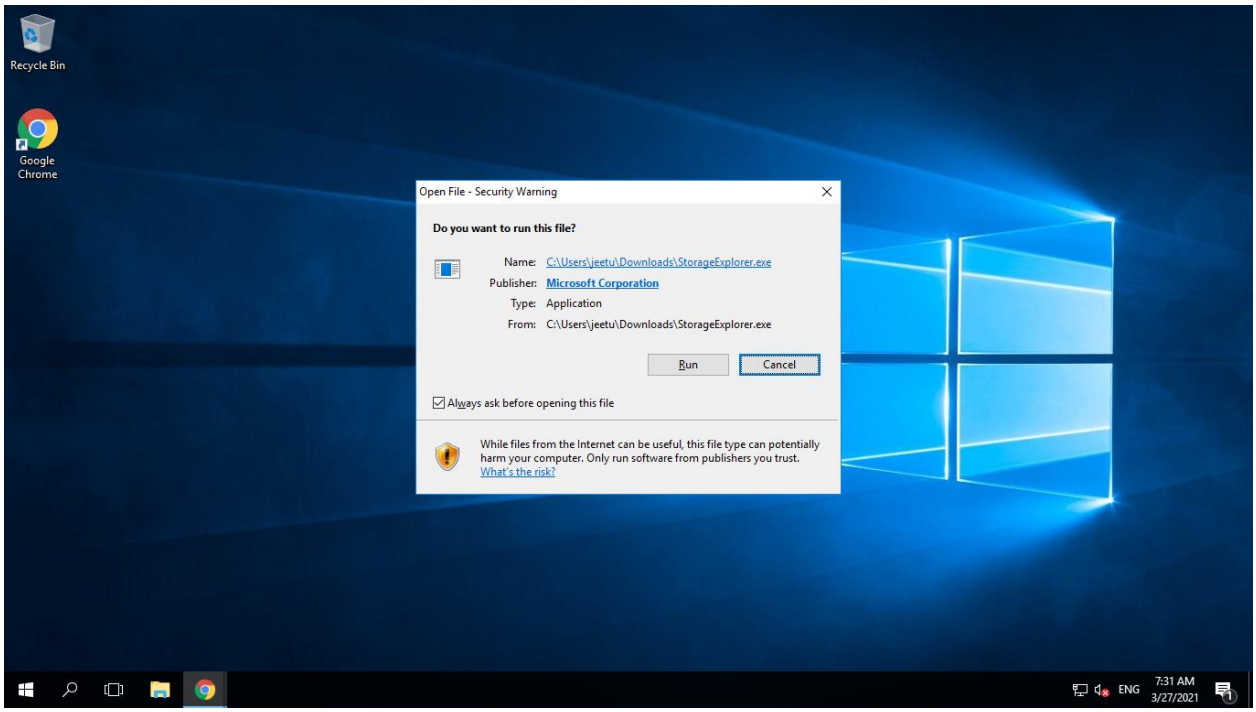


Lab 7: - Install Azure storage explorer & use it to connect & manage Azure storage accounts.

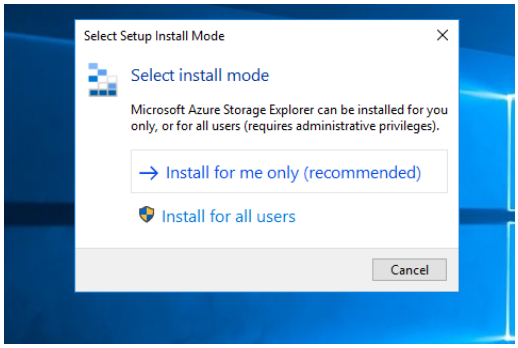
To download Azure storage explorer, browse to https://azure.microsoft.com/en-us/features/storage-explorer/ & select the required operating system & then click on “Download”.



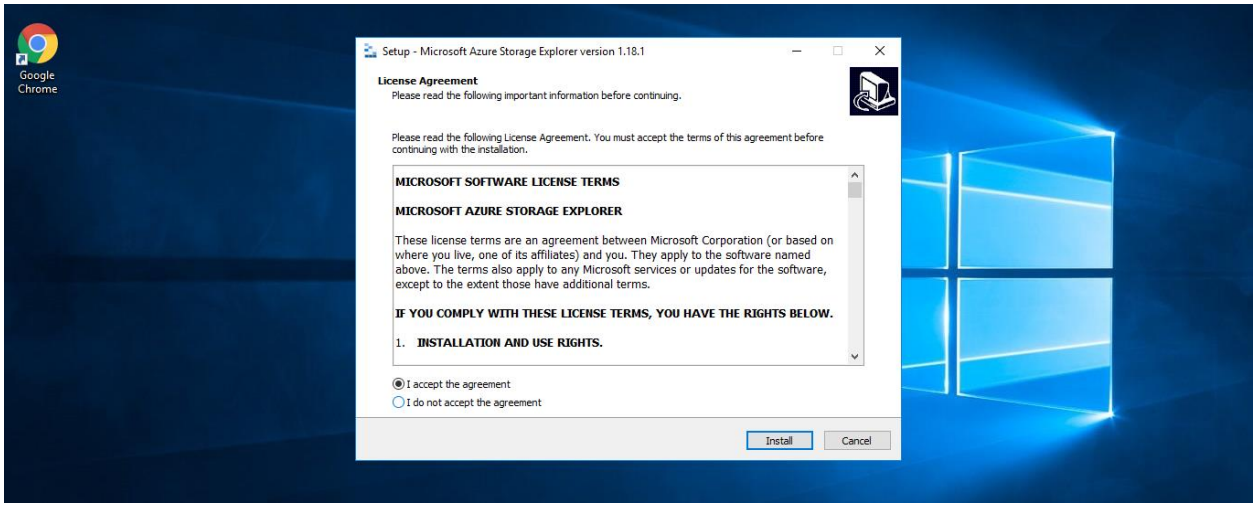
After download is done, click on the “Azure explorer.exe” file to install it.



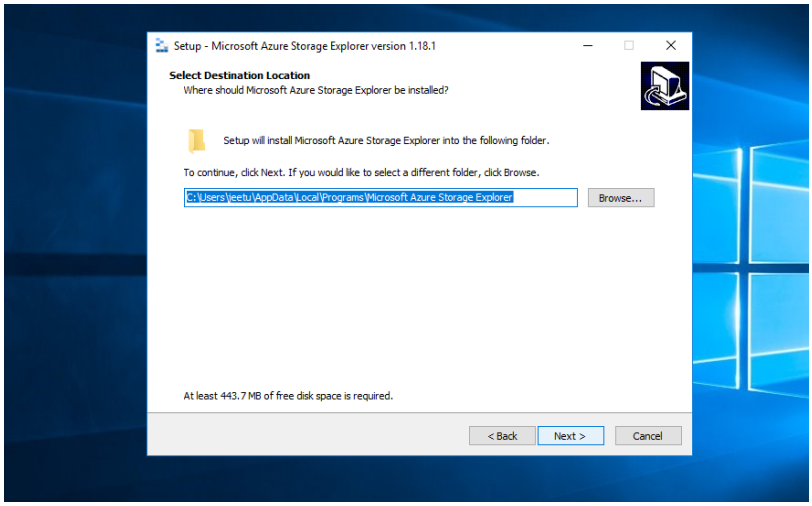
Select “Install for me only”.



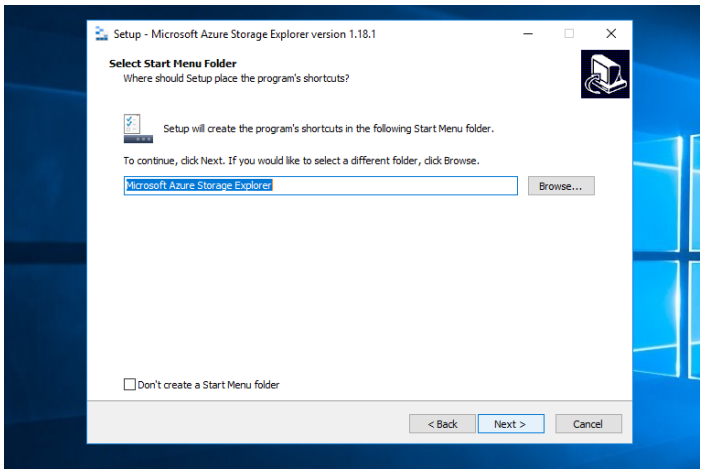
Select the “I accept the agreement” option to install it.



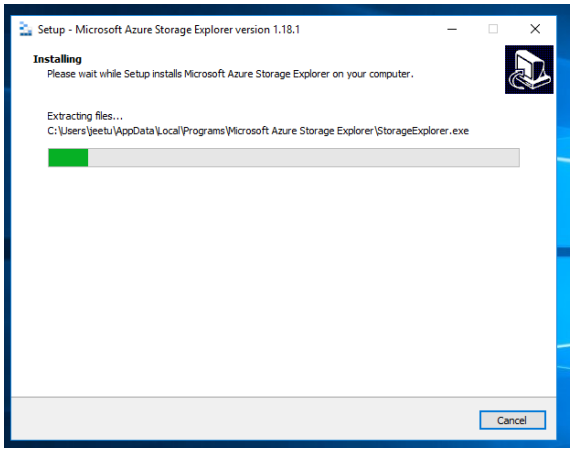
Select the default location:-

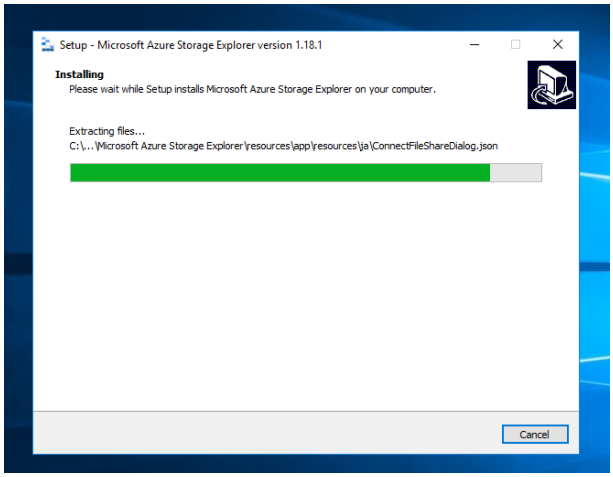


Click “Next” with default options: -

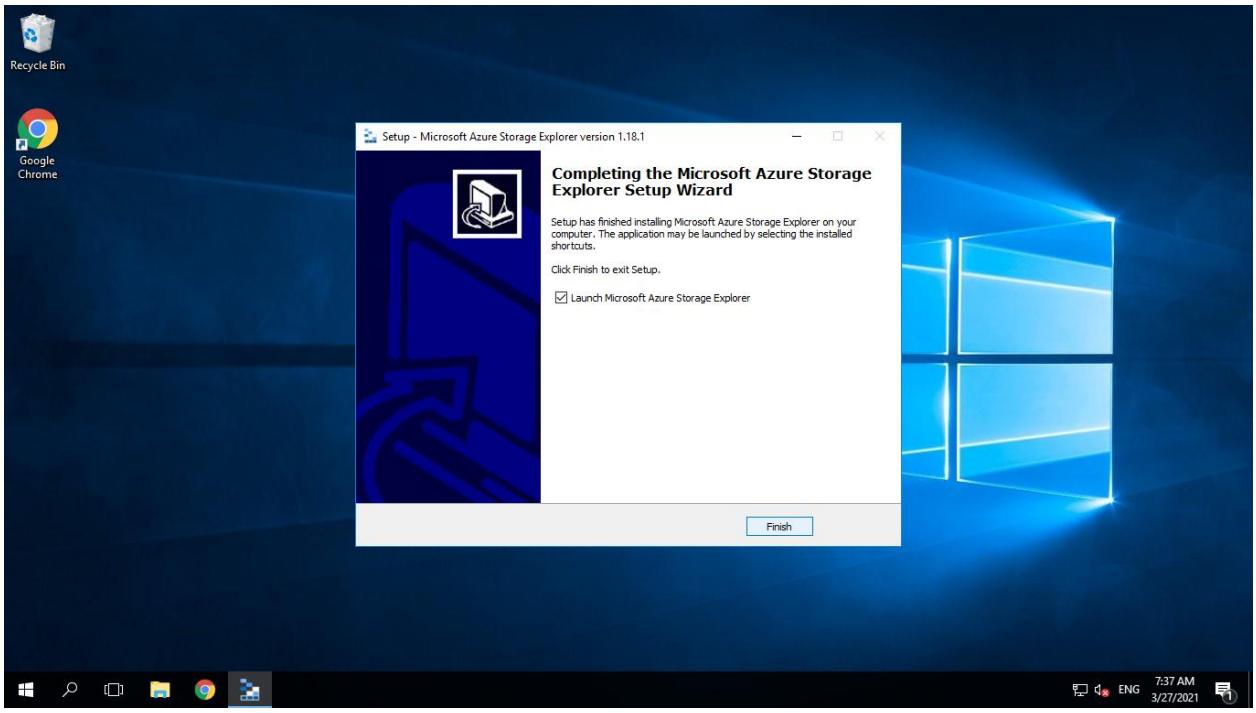


Let it get installed.

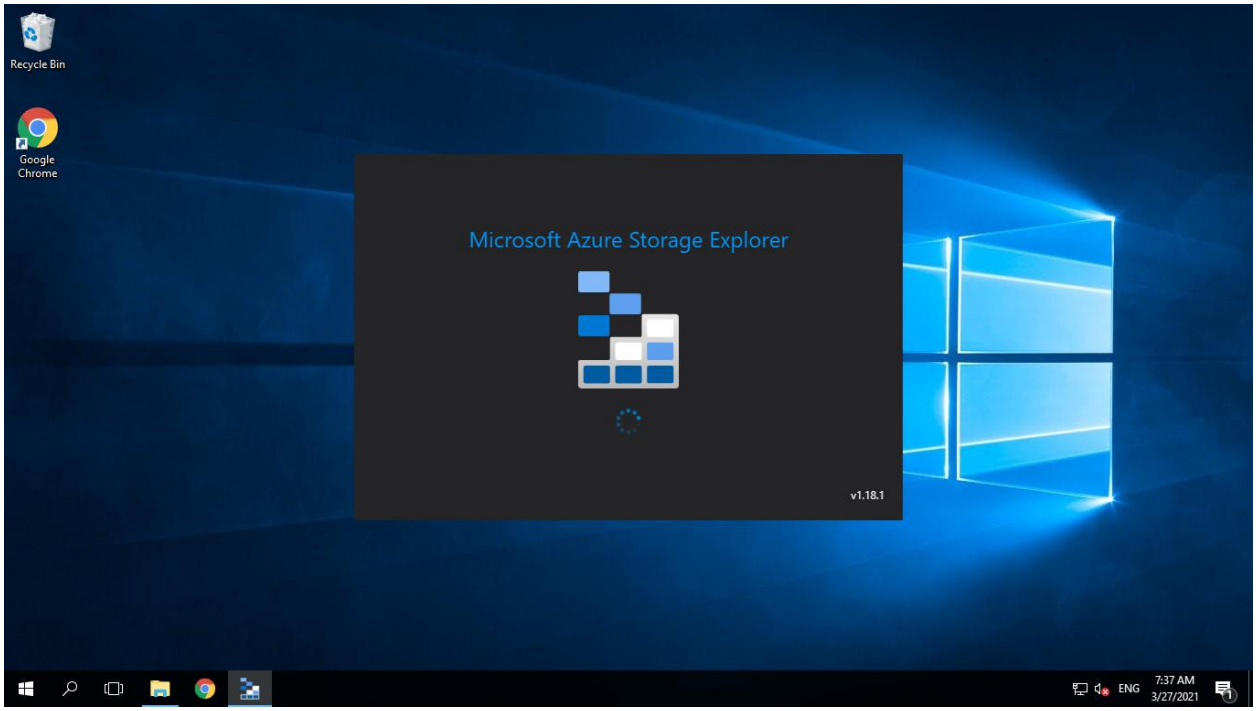




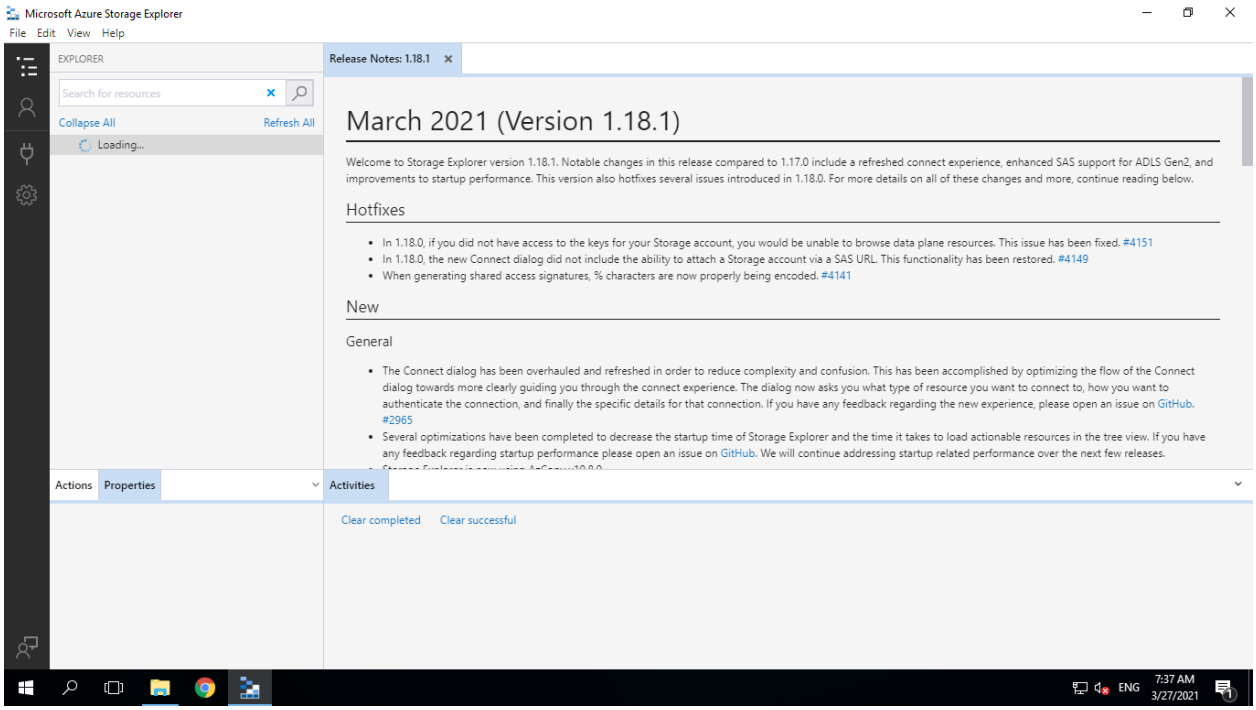
After installation is successfully done, click on “Finish”



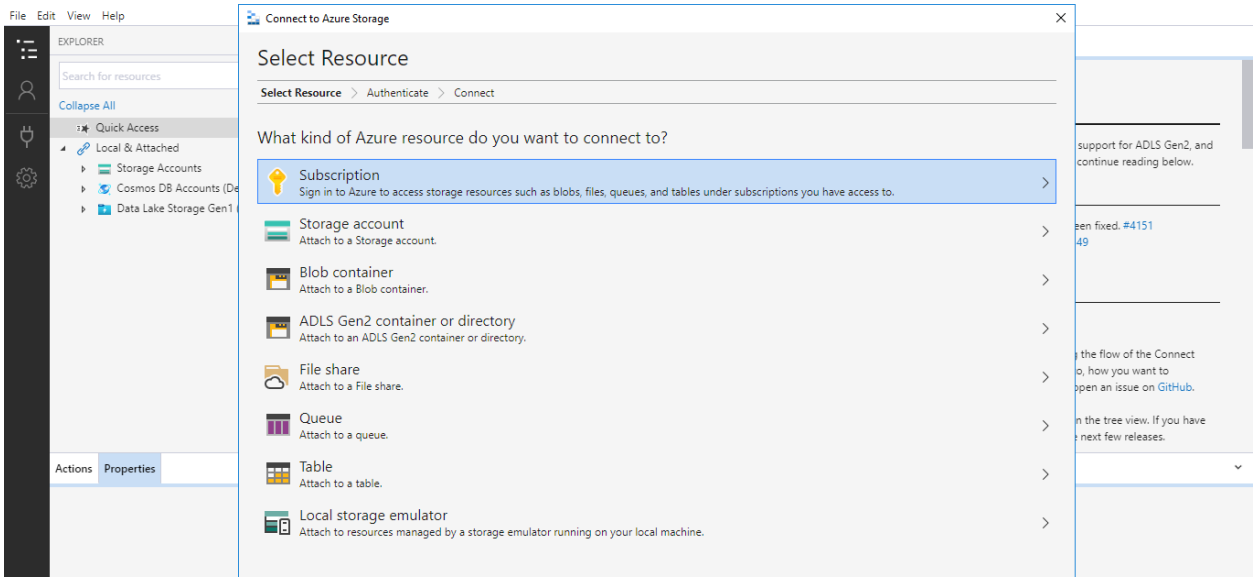
Wait some time to get it loaded:



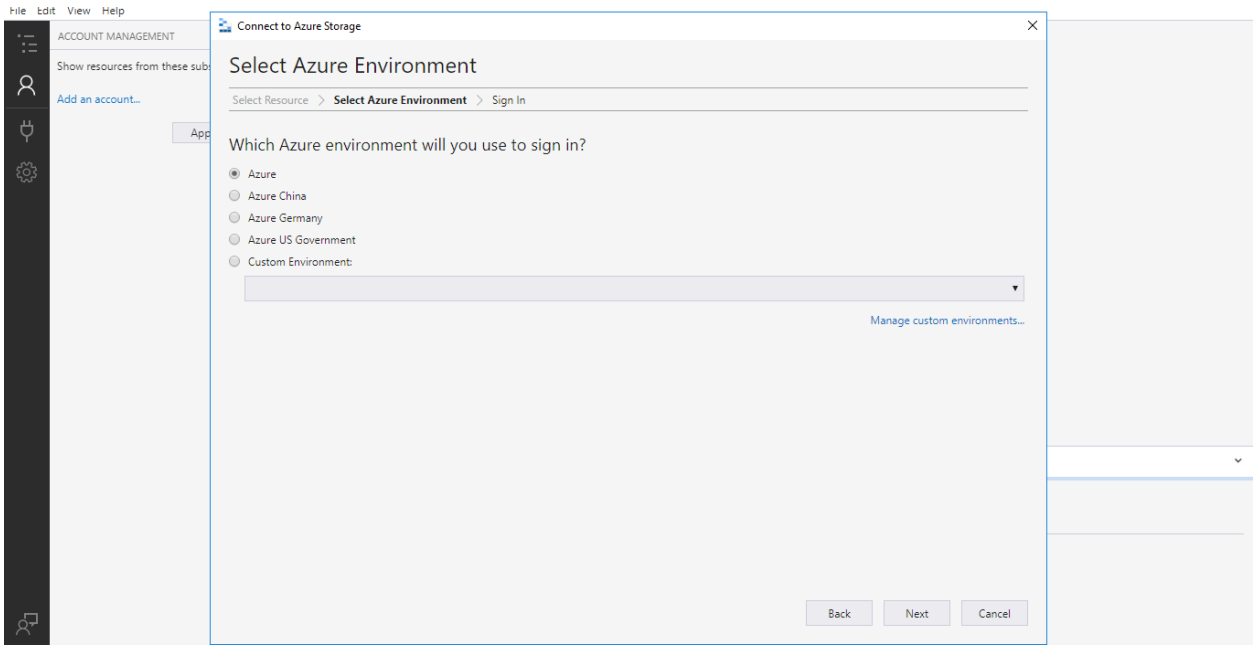
After it is loaded, you can check the version (it may differ for you)



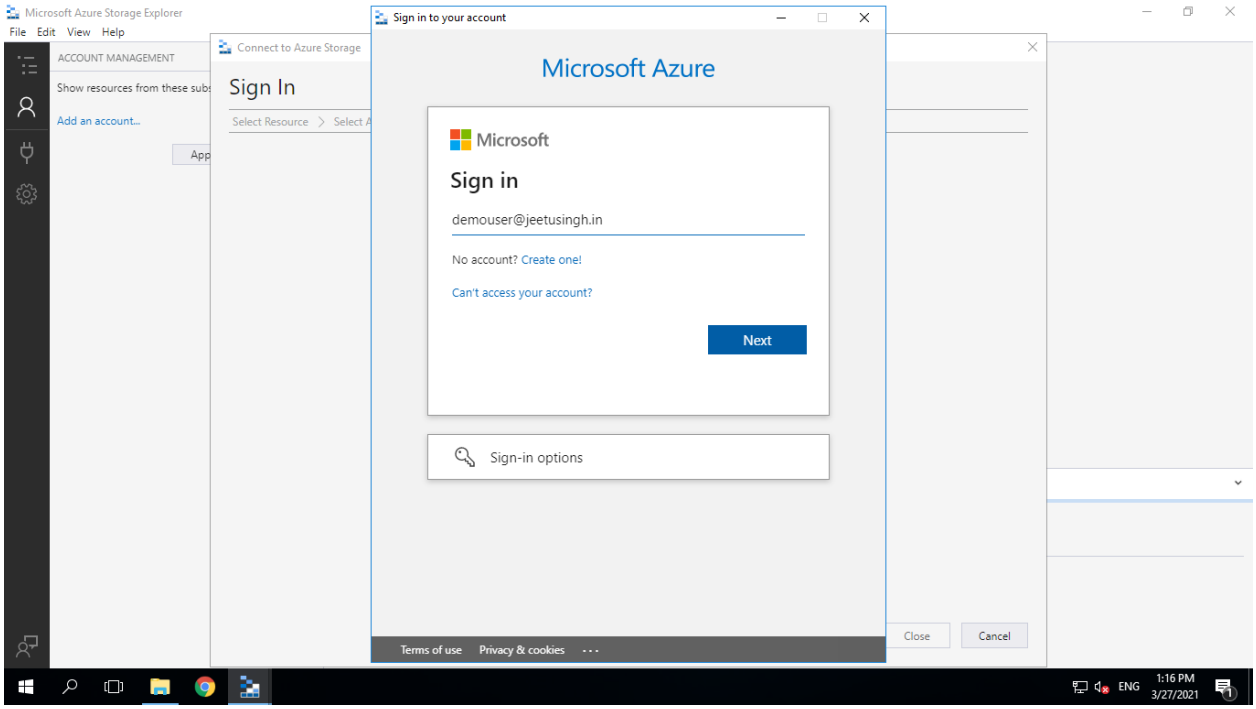
Select the “Subscription” option from the following:



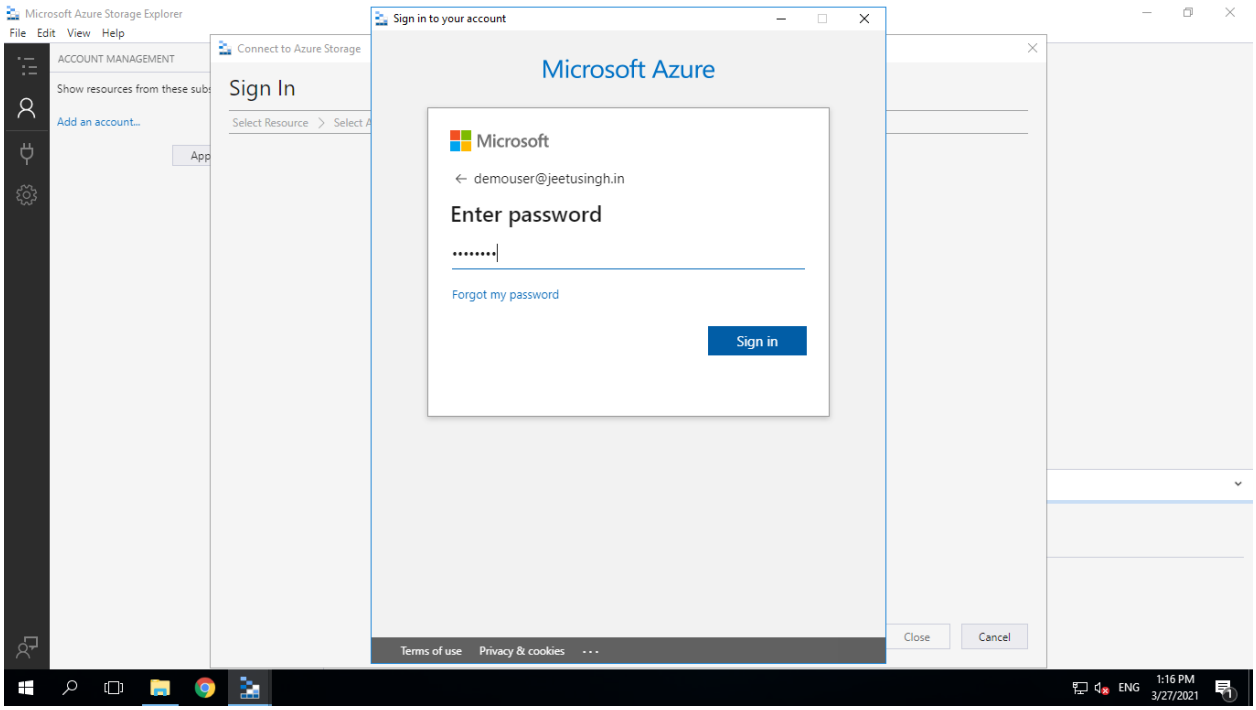
Select “Azure” radio-button to login to Azure account:



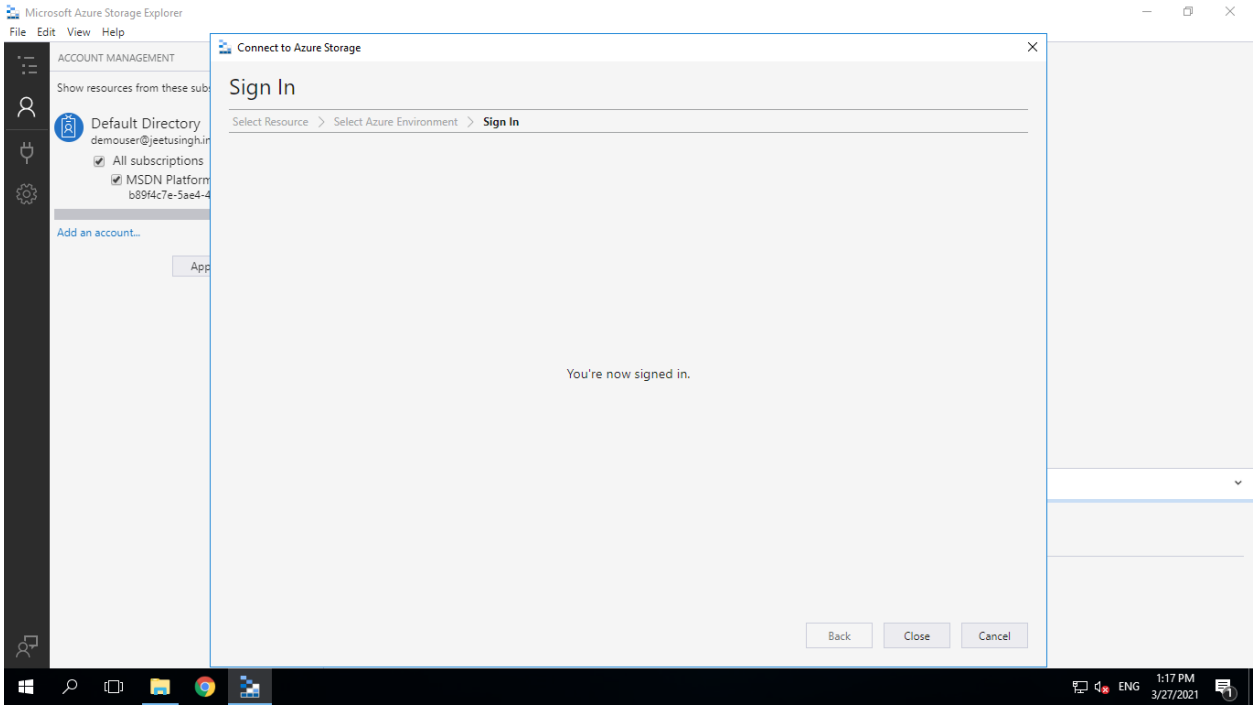
Login to Azure using your own email ID. (here is an example as demouser)



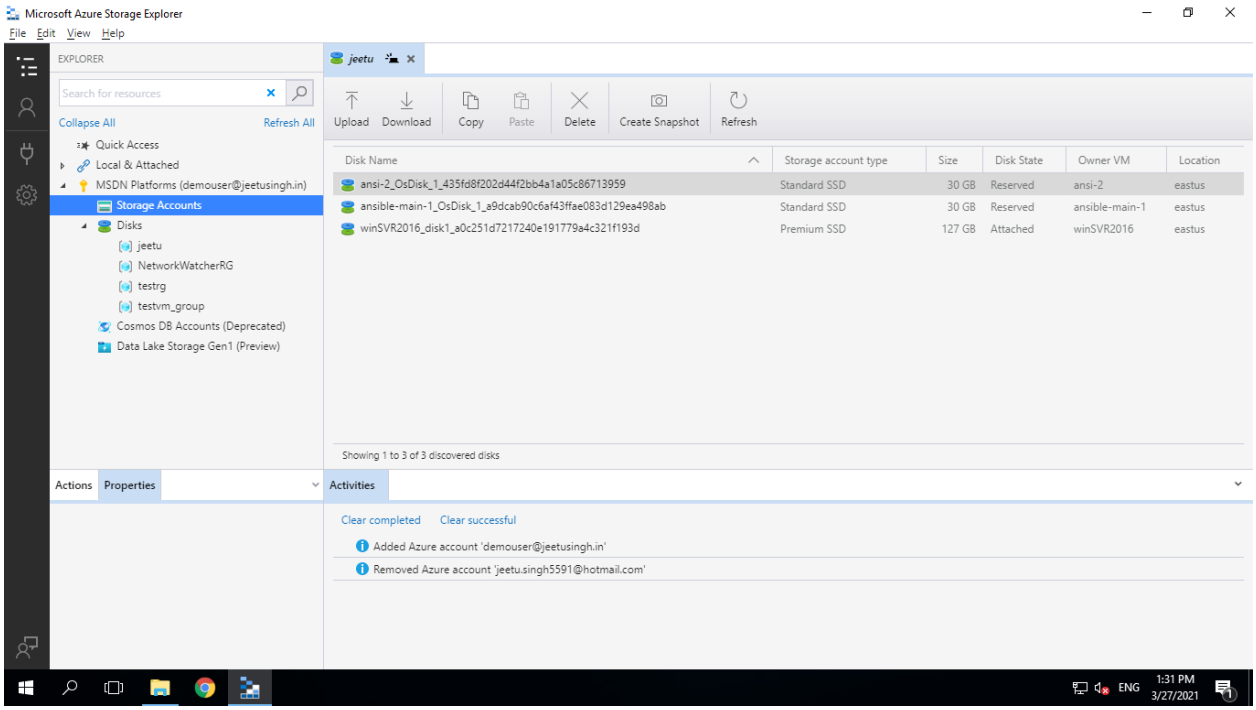
Enter proper password:



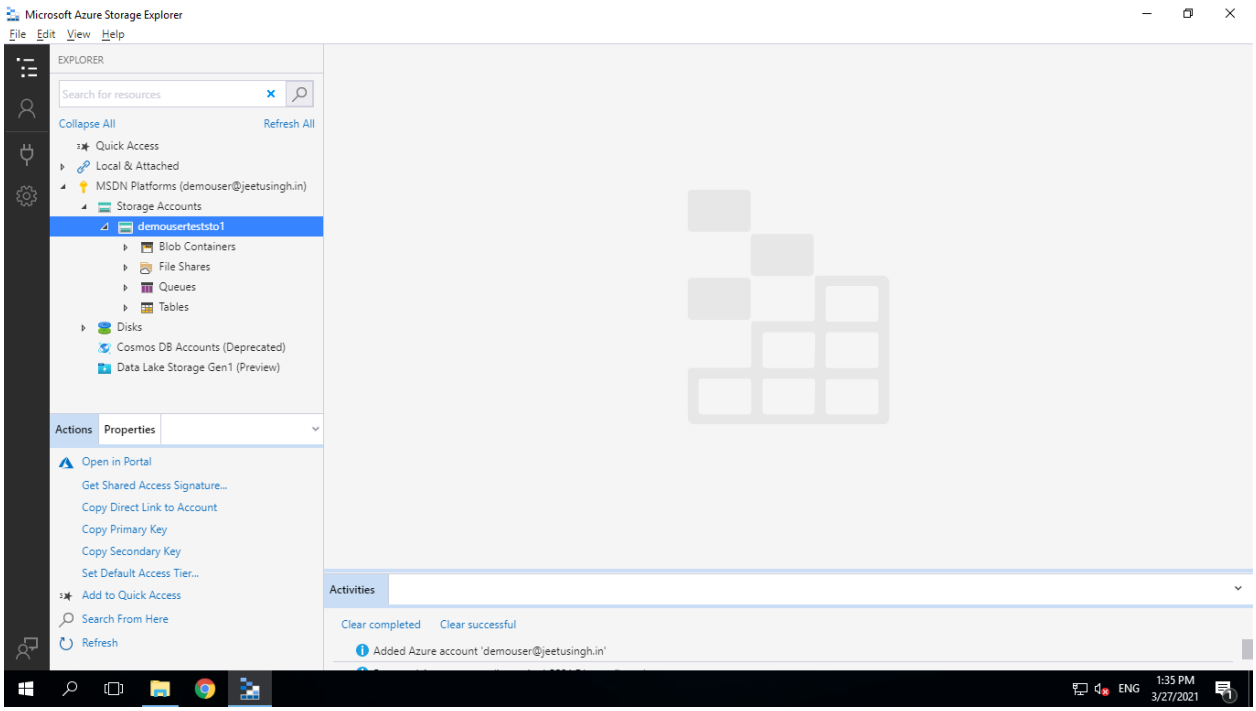
Once logged in successfully, you should be getting something like this:



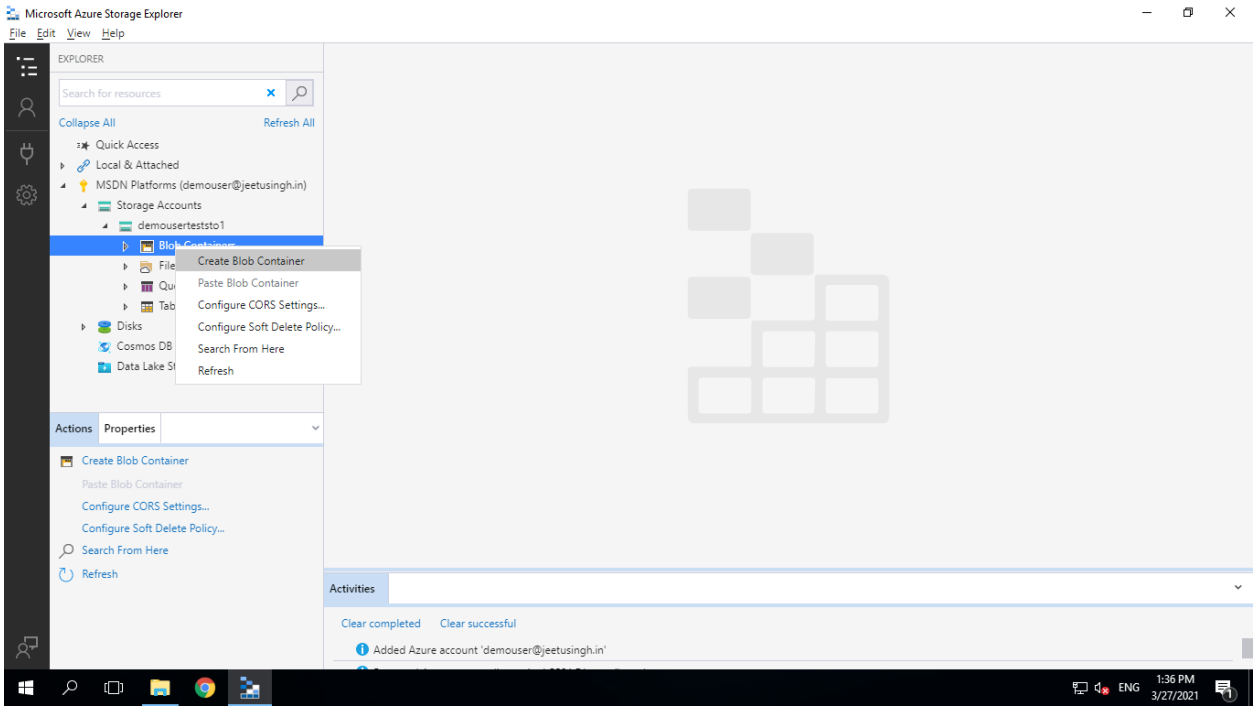
Once you click on the Storage option, similar to this might appear (I already have few Azure data disks present).



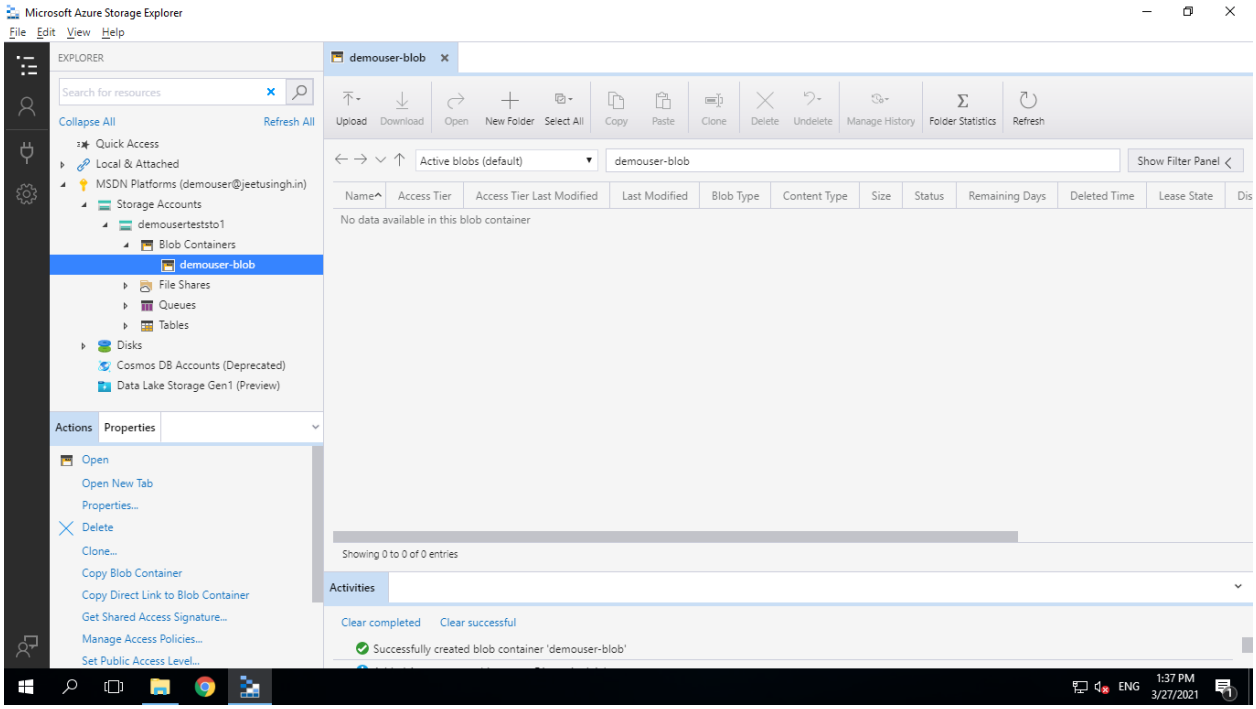
Manually create an Azure storage account is not already exists, else connect to it using the explorer.



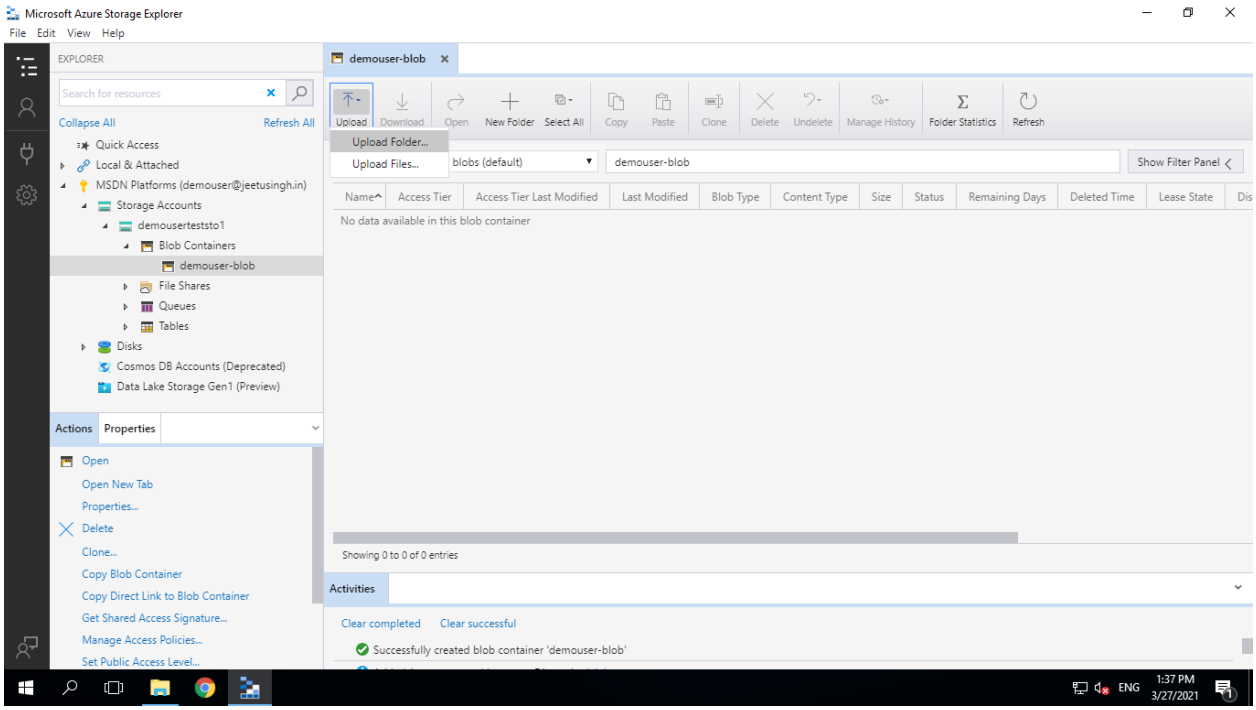
Creating a new BLOB container:



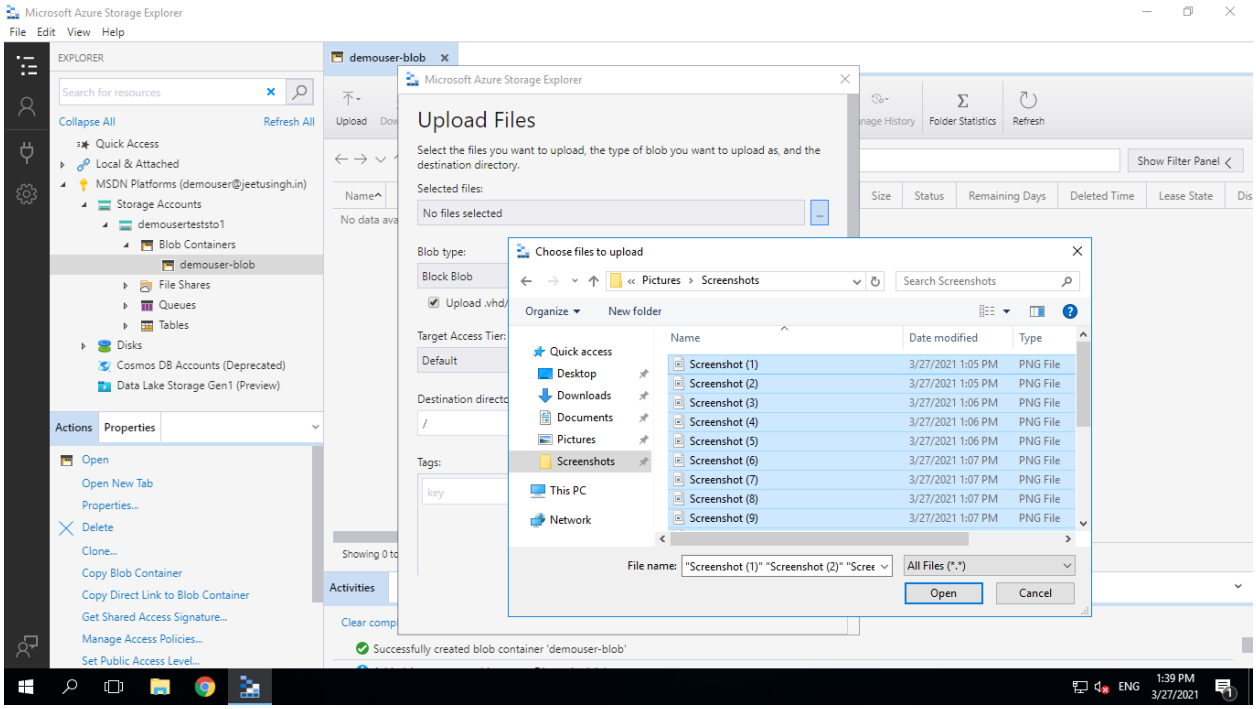
Name of the BLOB (demouser-blob) only in small letters:



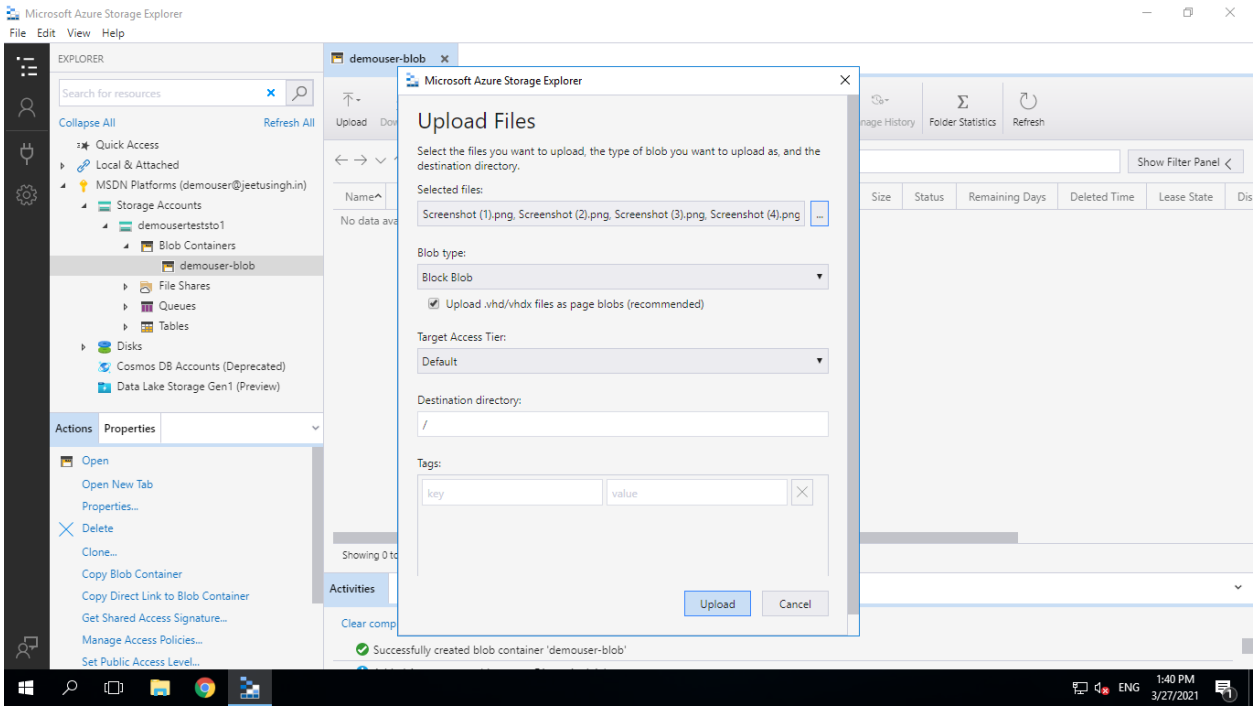
You can now upload any file(s) or folder(s) to the Azure storage account directly, without logging into the web portal:



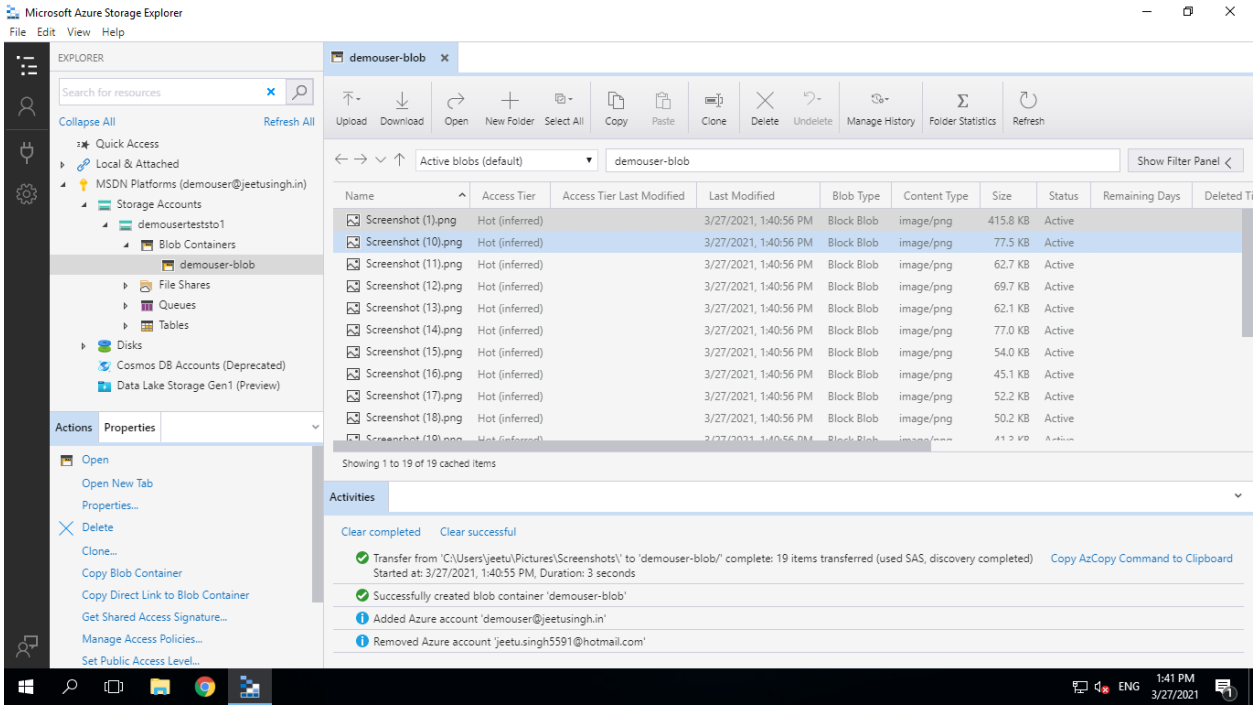
Here’s an example how to upload multiple files (PNG files) in the BLOB container:



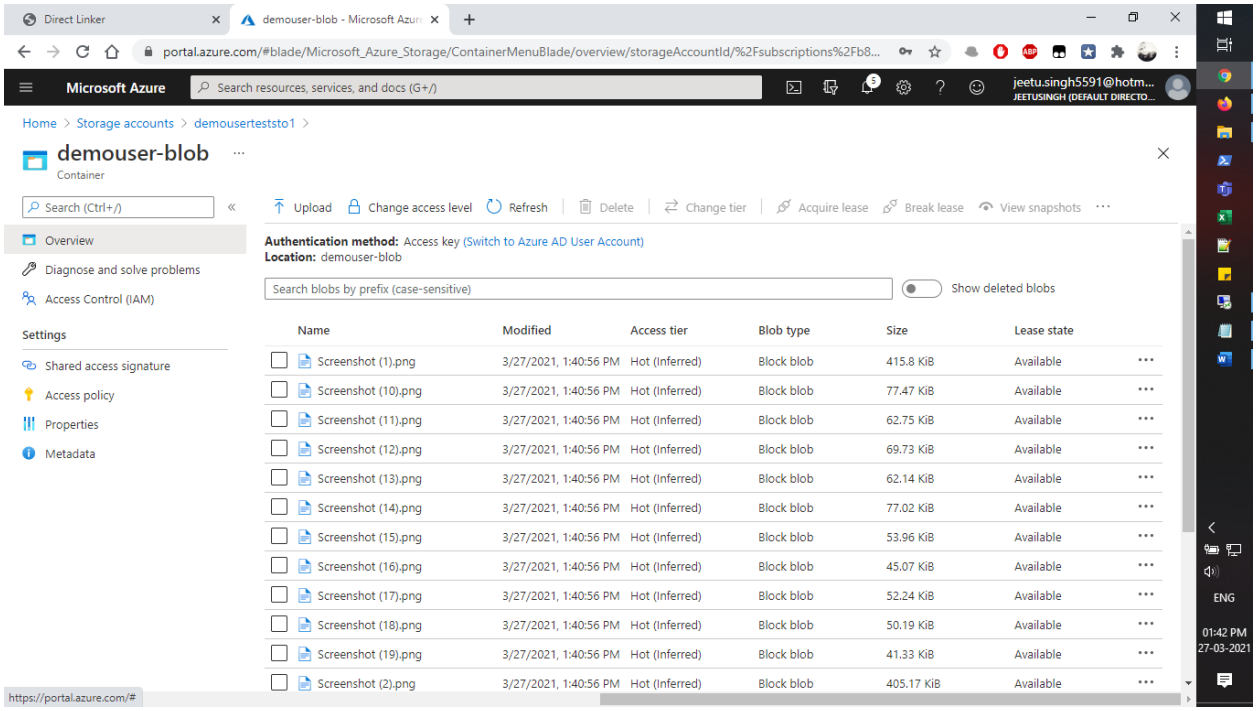
Select the “Upload” button:



In the centre-pane, you can verify the images with the logs written in the below pane:

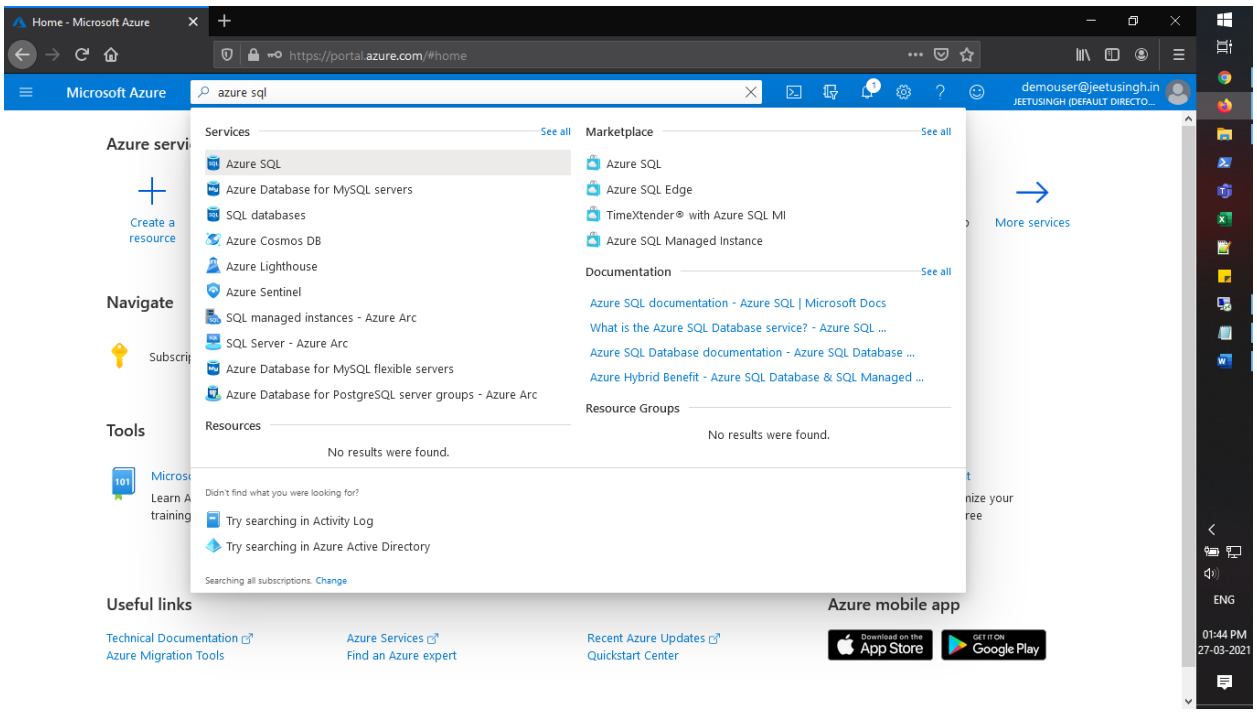


To verify it from the web portal, login the Azure storage & switch to the BLOB container:

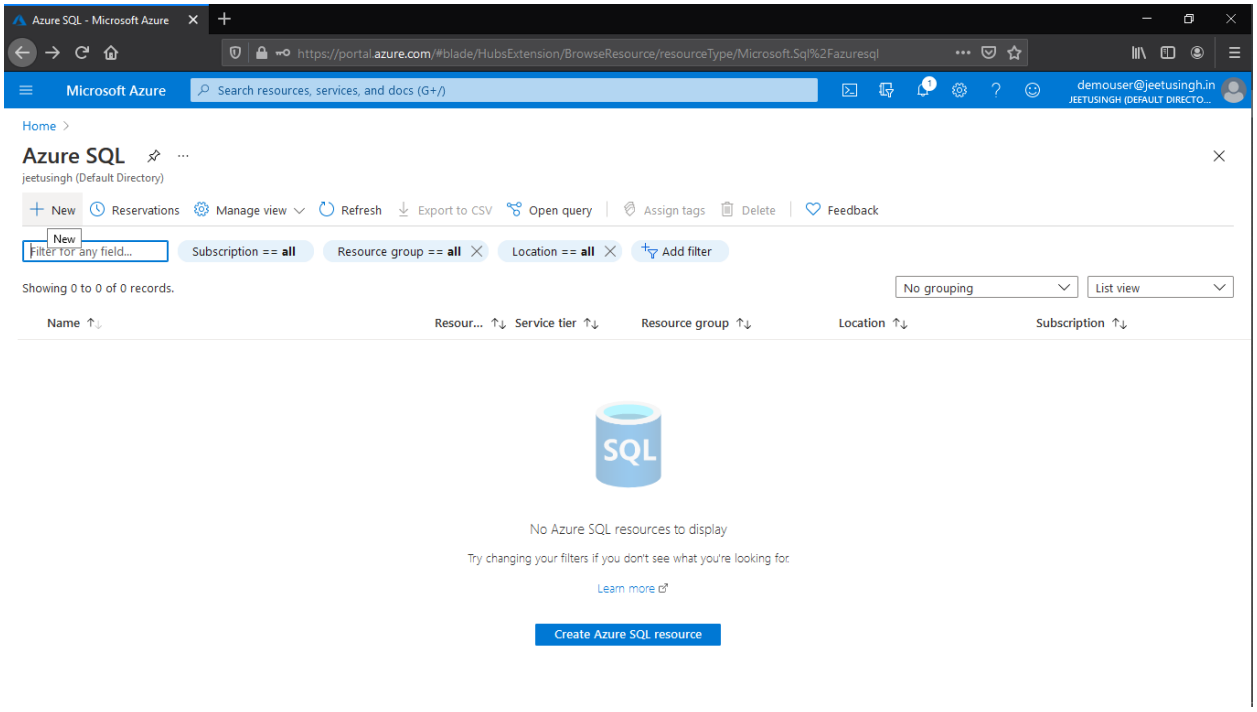


Lab 8: - Create an Azure SQL database single database client to create tables

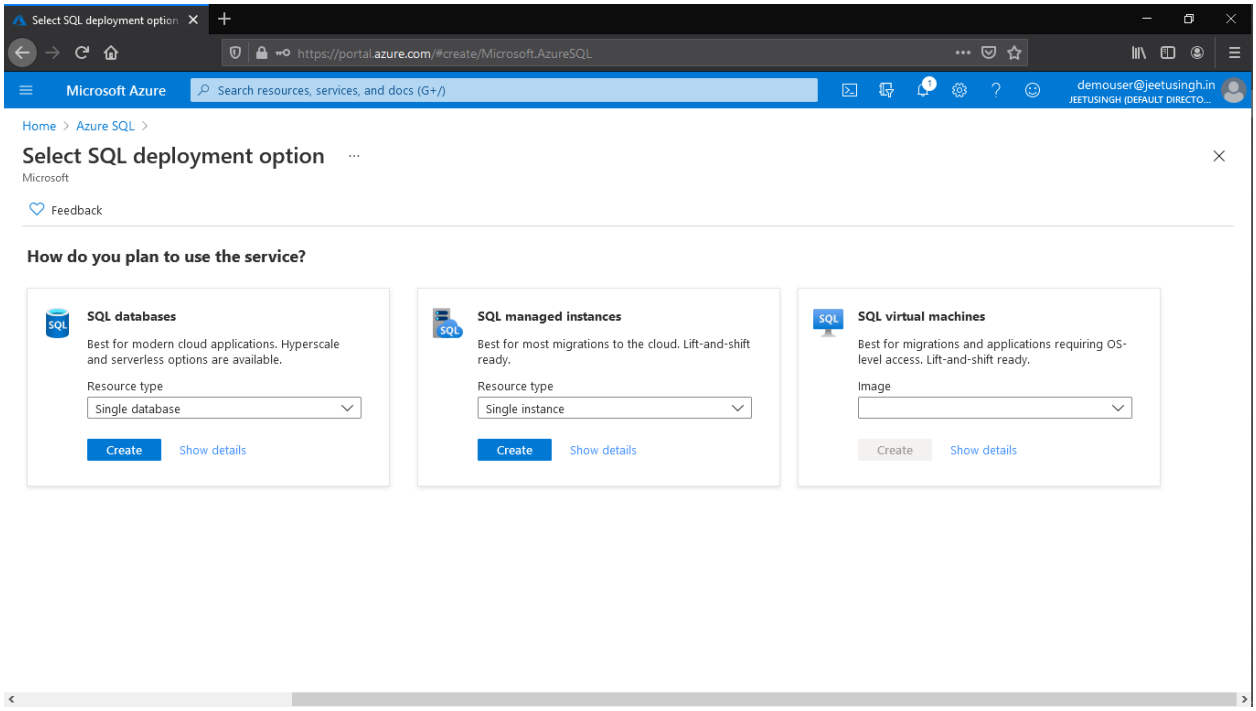
Search for Azure SQL database:



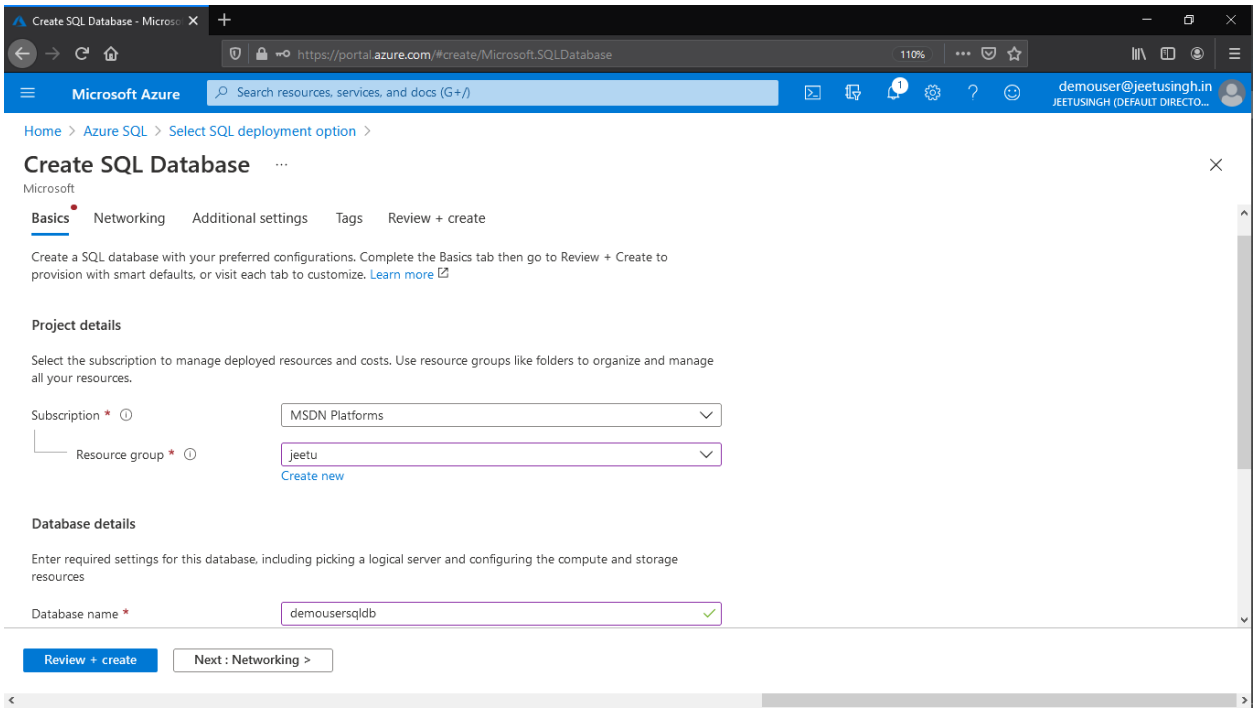
Click on “new” to create a new storage account:



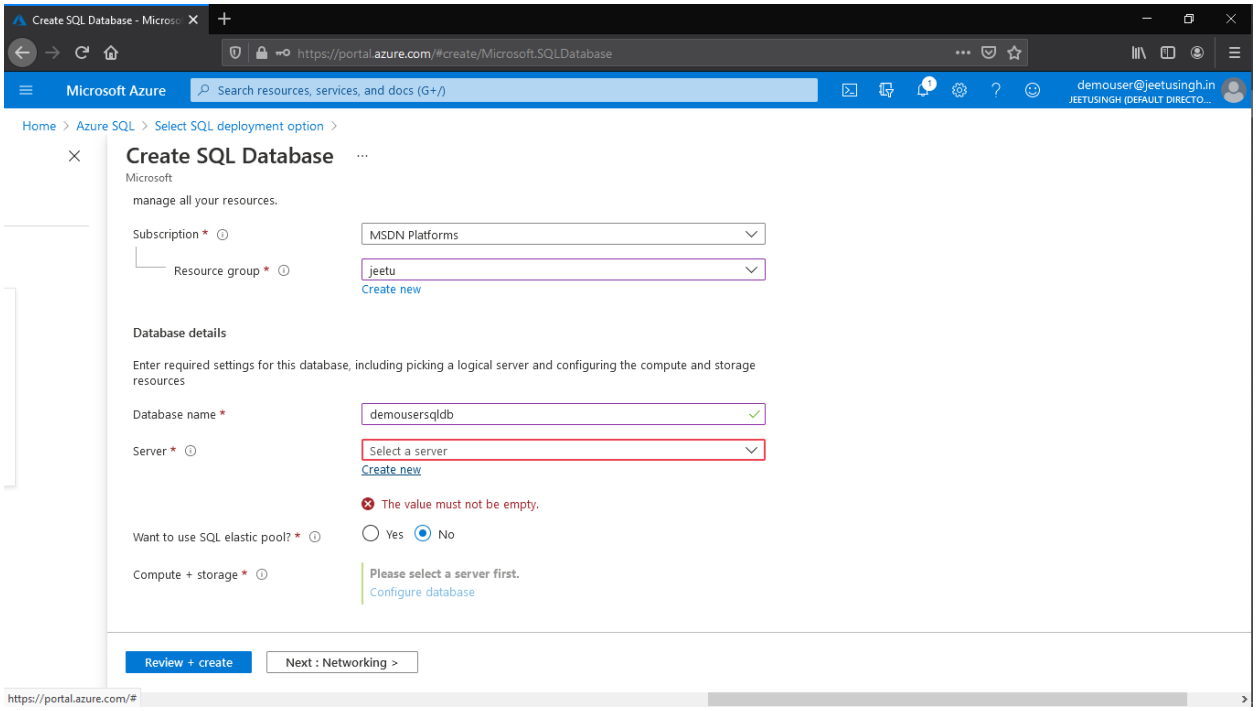
Select the type of database you want to create (in this case select **SQL database**, with resource type as ‘Single database’) & click on “Create”:



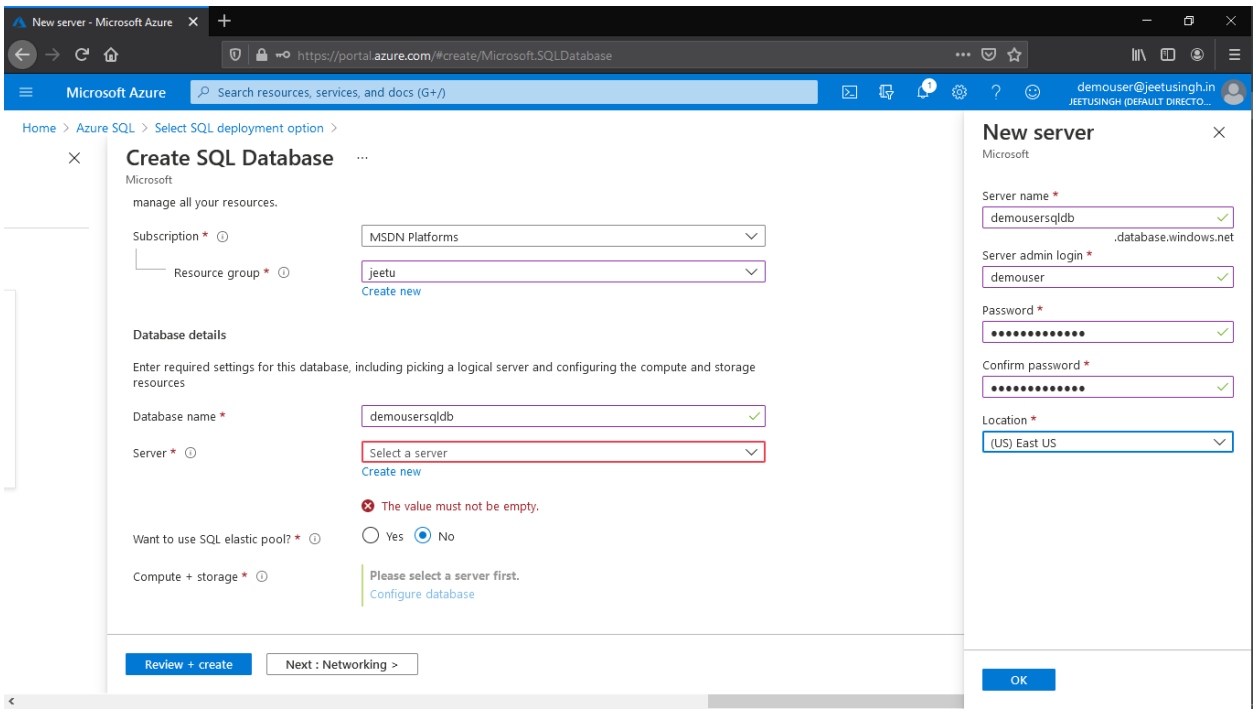
Fill the required details:



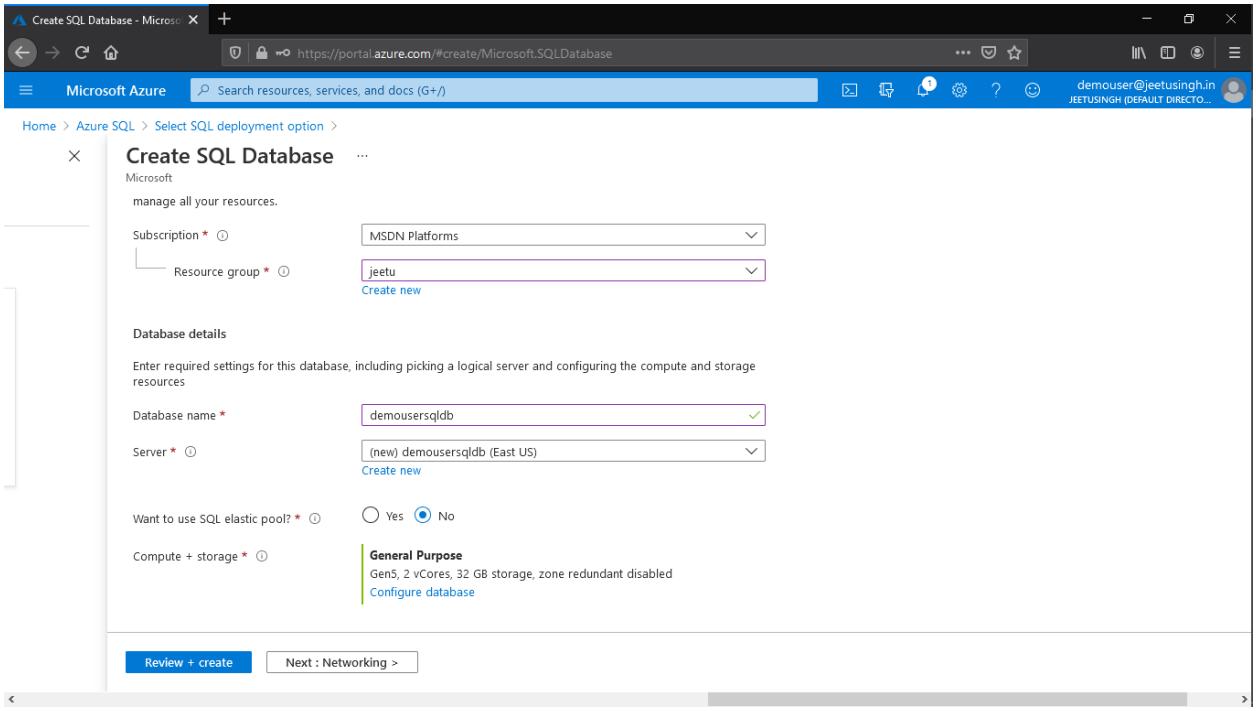
Click on “create new” to create a new server:



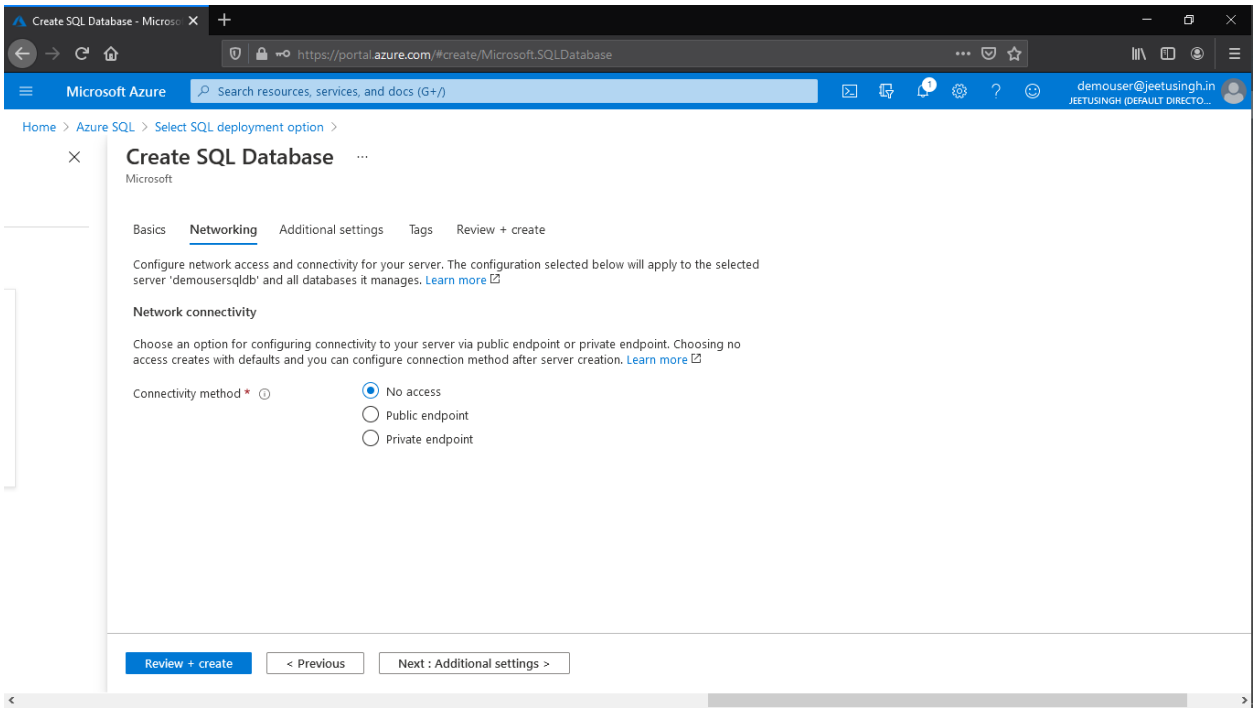
Fill the details with a strong password (at least 12 characters) & click on “ok”



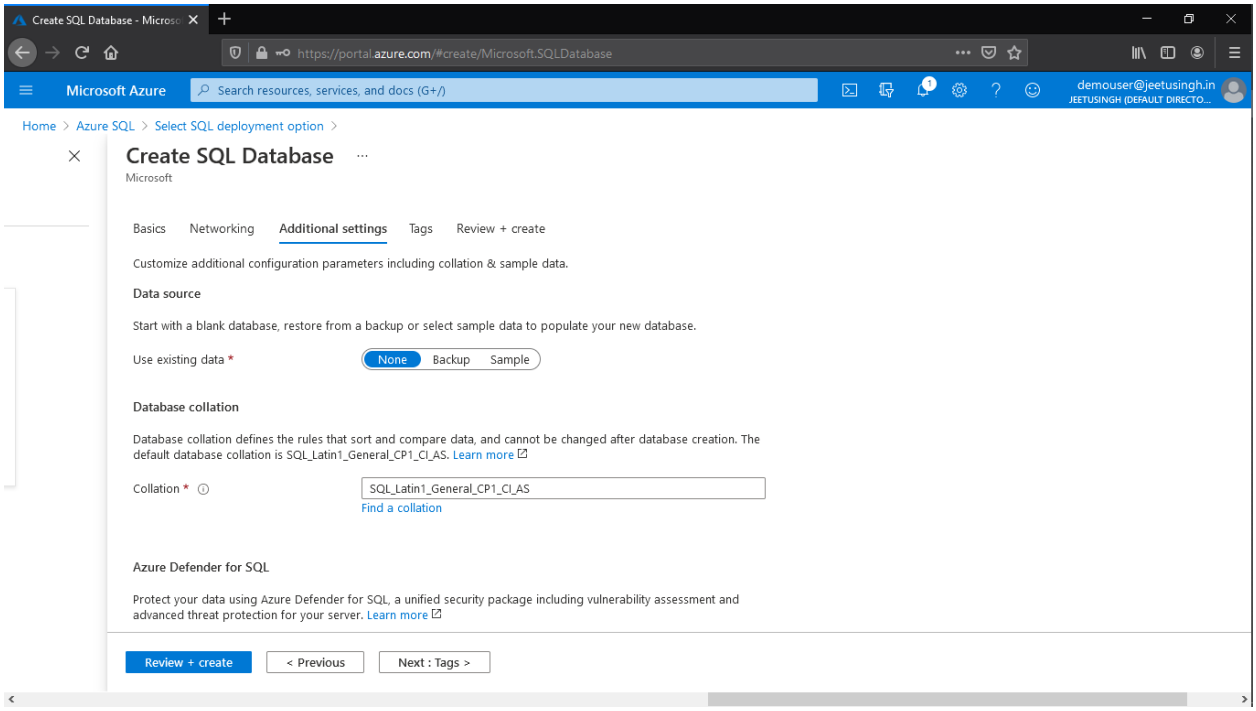
Select the required option according to your needs (here I am select the default options) & click on networking



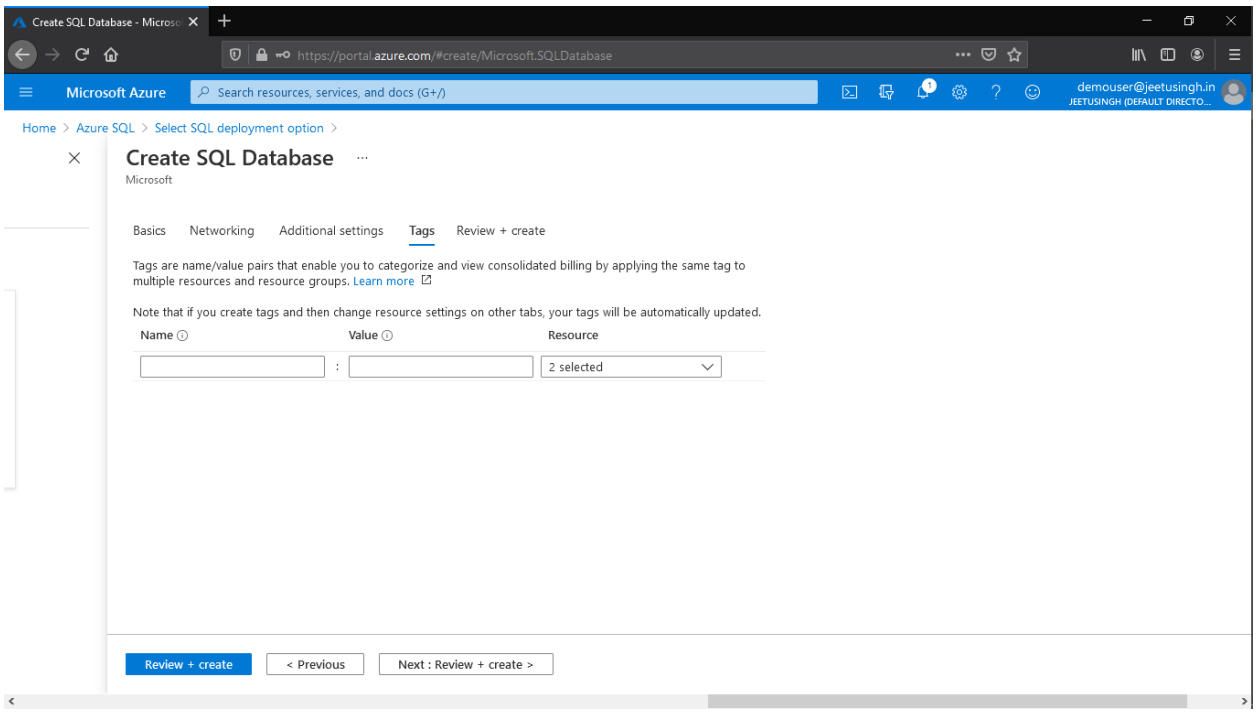
Select the connectivity method, based on requirement & go to ‘additional settings’:



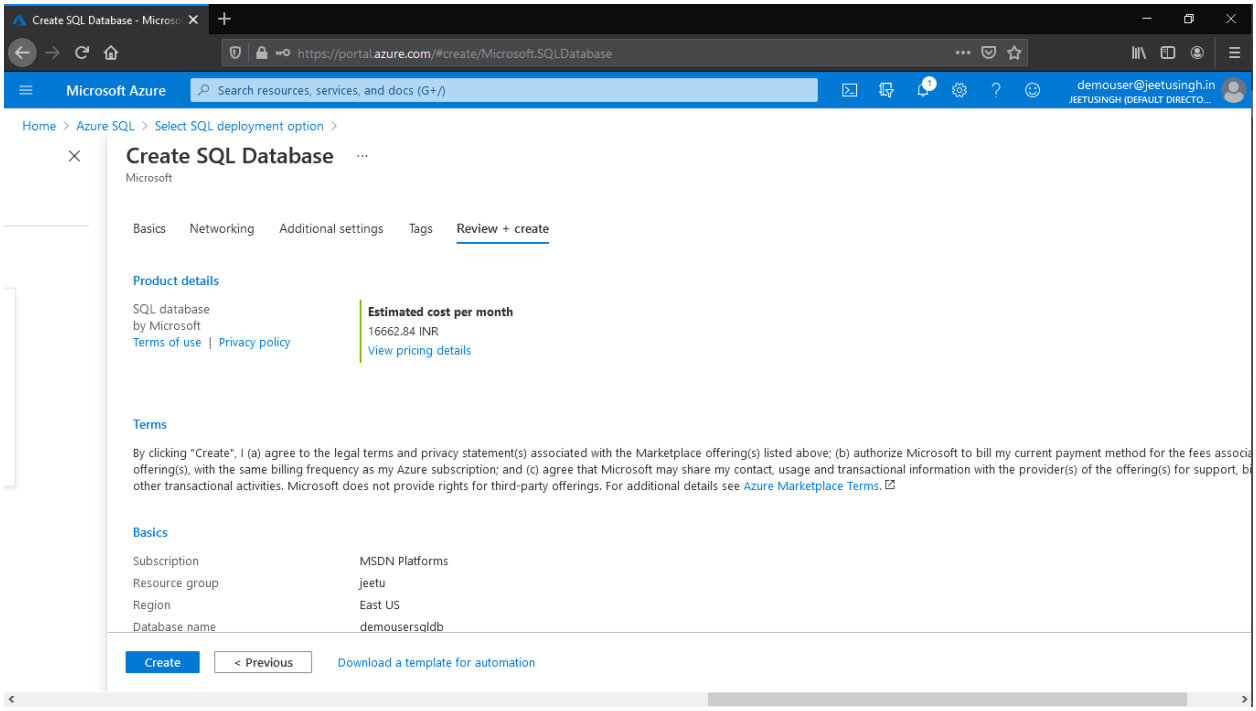
Select all default & select ‘tag’:



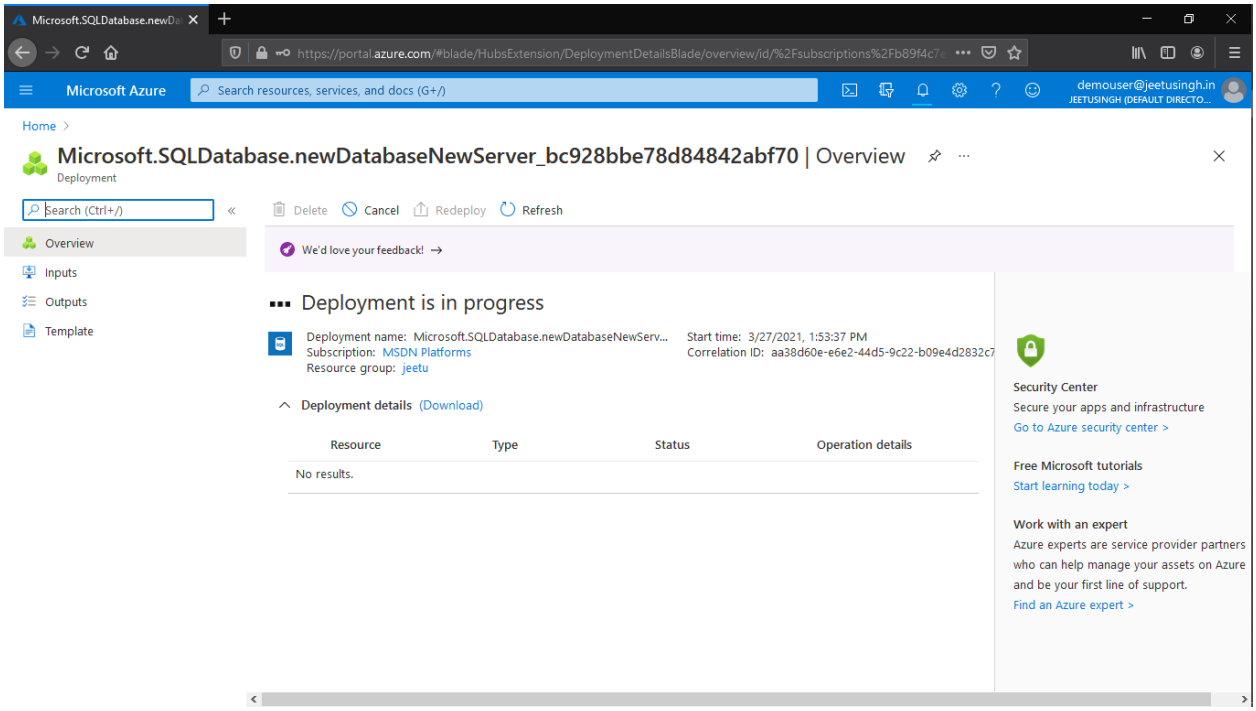
Provide tag values (optional) & click on ‘Review + Create’:



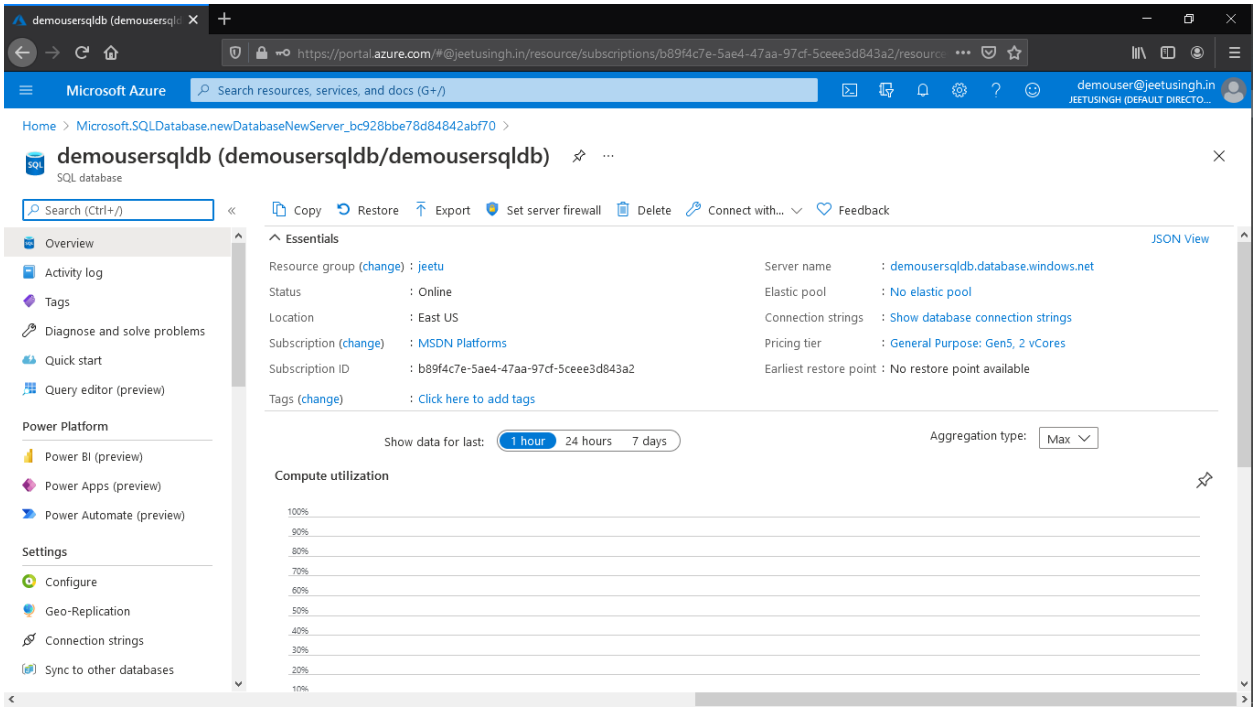
Verify all options & click on “Create”:



Wait until the deployment is over:

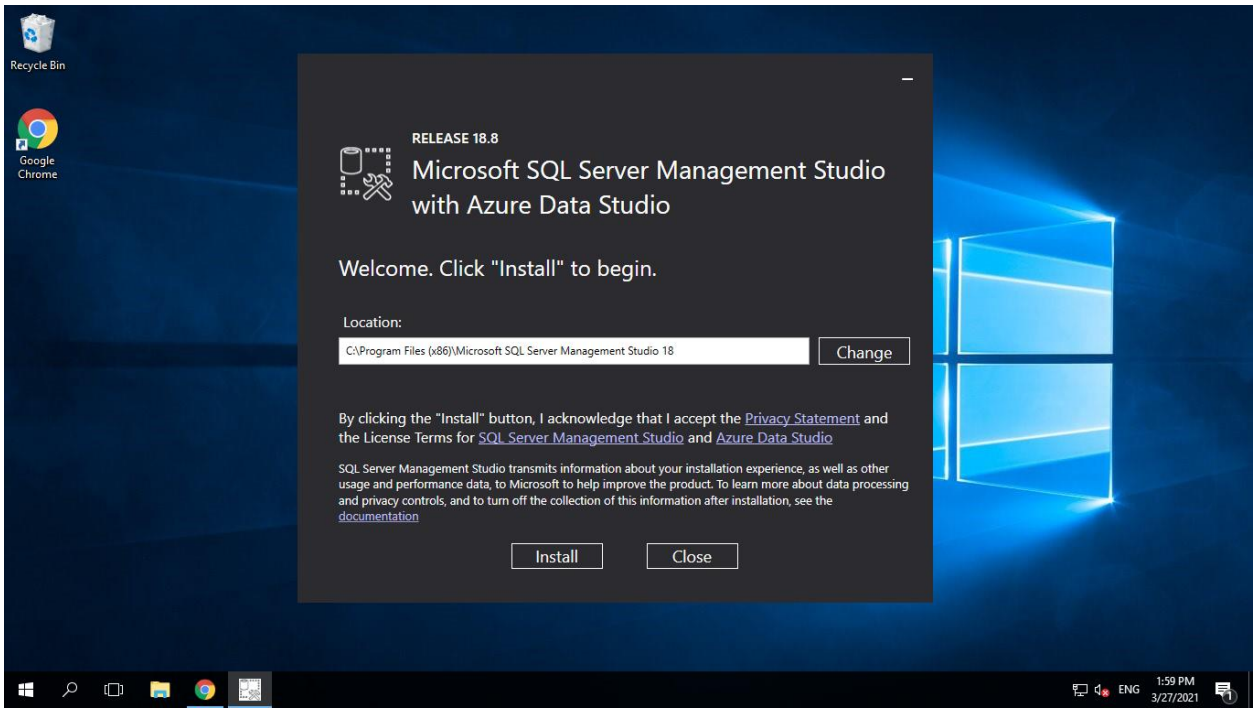


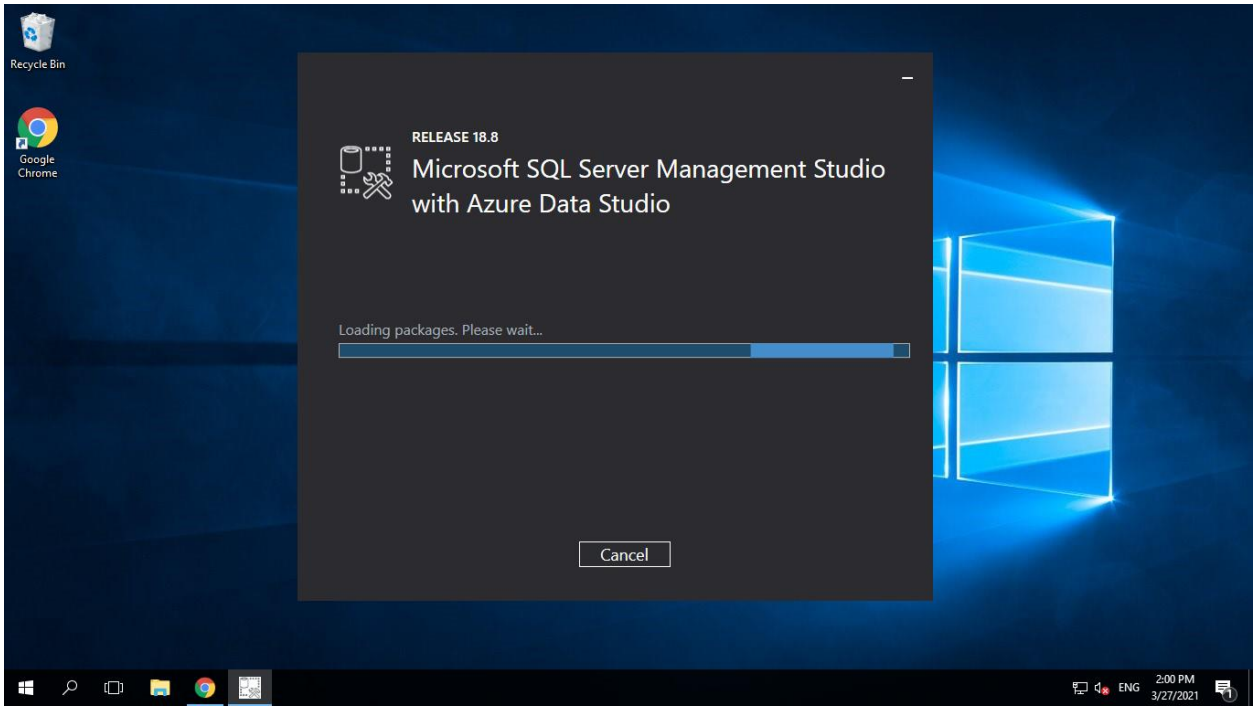
Verify:



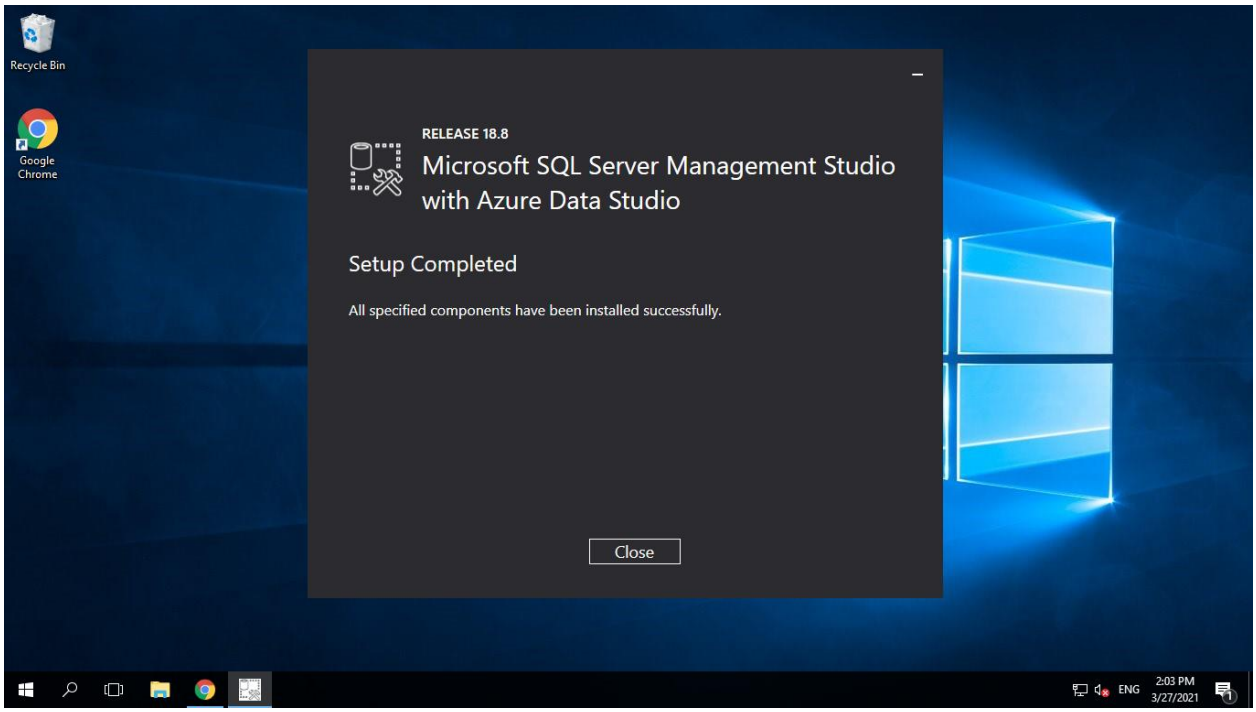
To create table, we can use SQL Server Management Studio (SSMS) using https://aka.ms/ssmsfullsetup

Click install to begin:



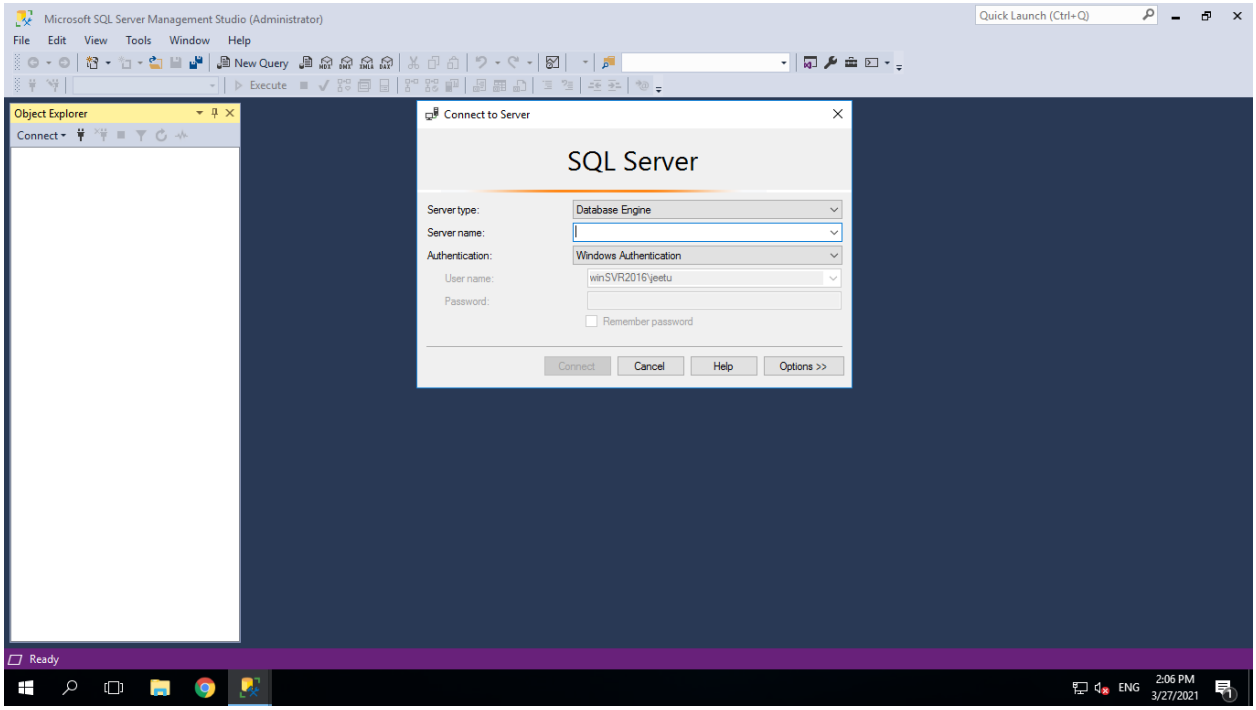

Recycle Bin
Google Chrome
RELEASE 18.8
Microsoft SQL Server Management Studio with Azure Data Studio
Loading packages. Please wait...
Cancel
ENG
2:00 PM
3/27/2021

Verify:

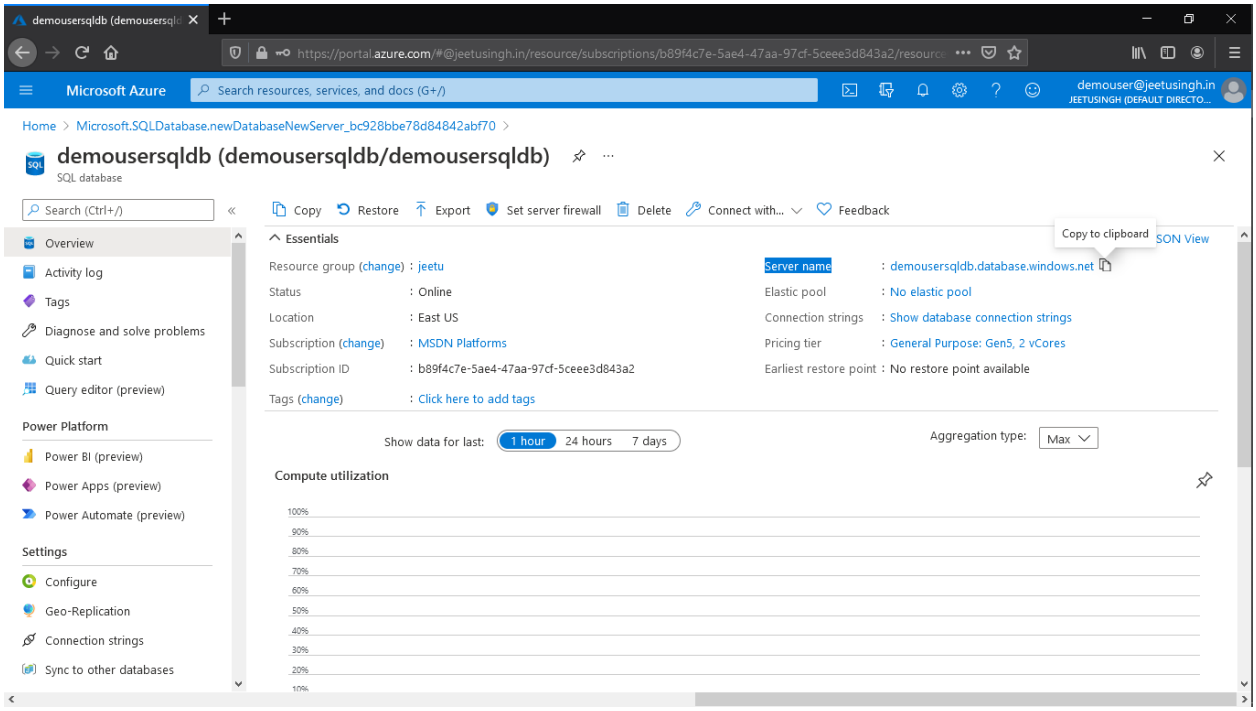

Recycle Bin
Google Chrome
RELEASE 18.8
Microsoft SQL Server Management Studio with Azure Data Studio
Setup Completed
All specified components have been installed successfully.
Close
ENG
2:03 PM
3/27/2021

Search for SQL Server Management Studio:

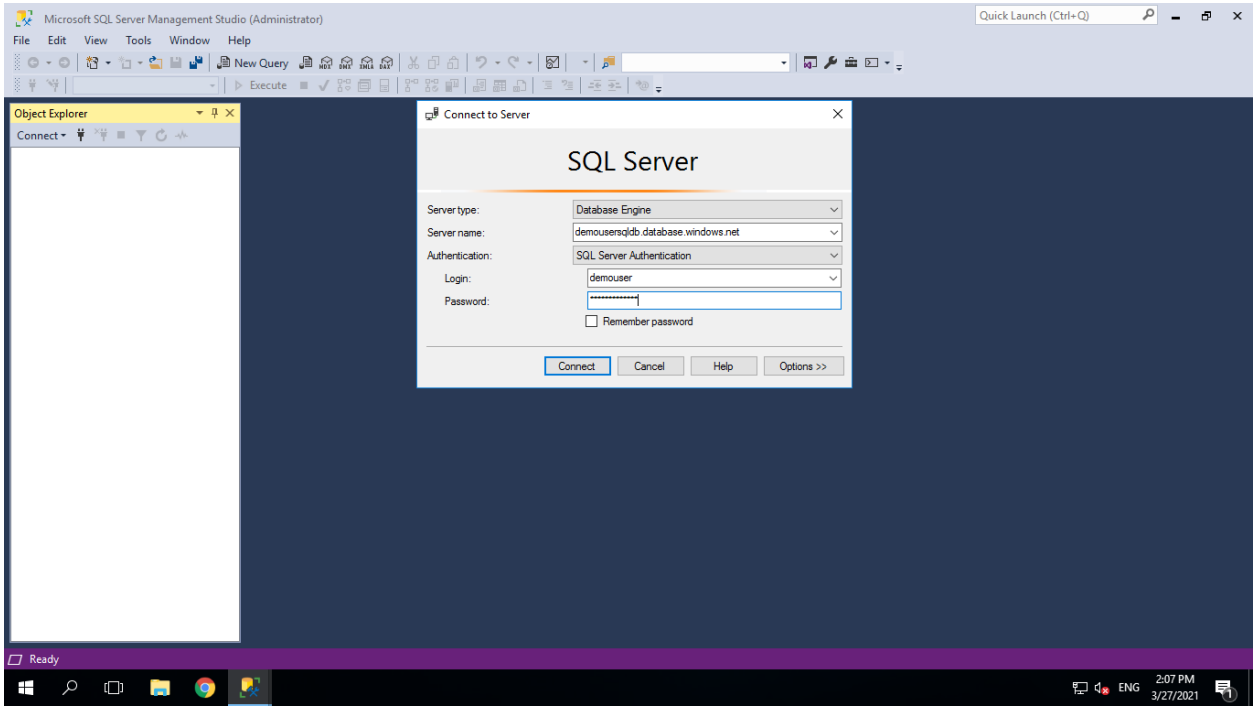
Fill the details:



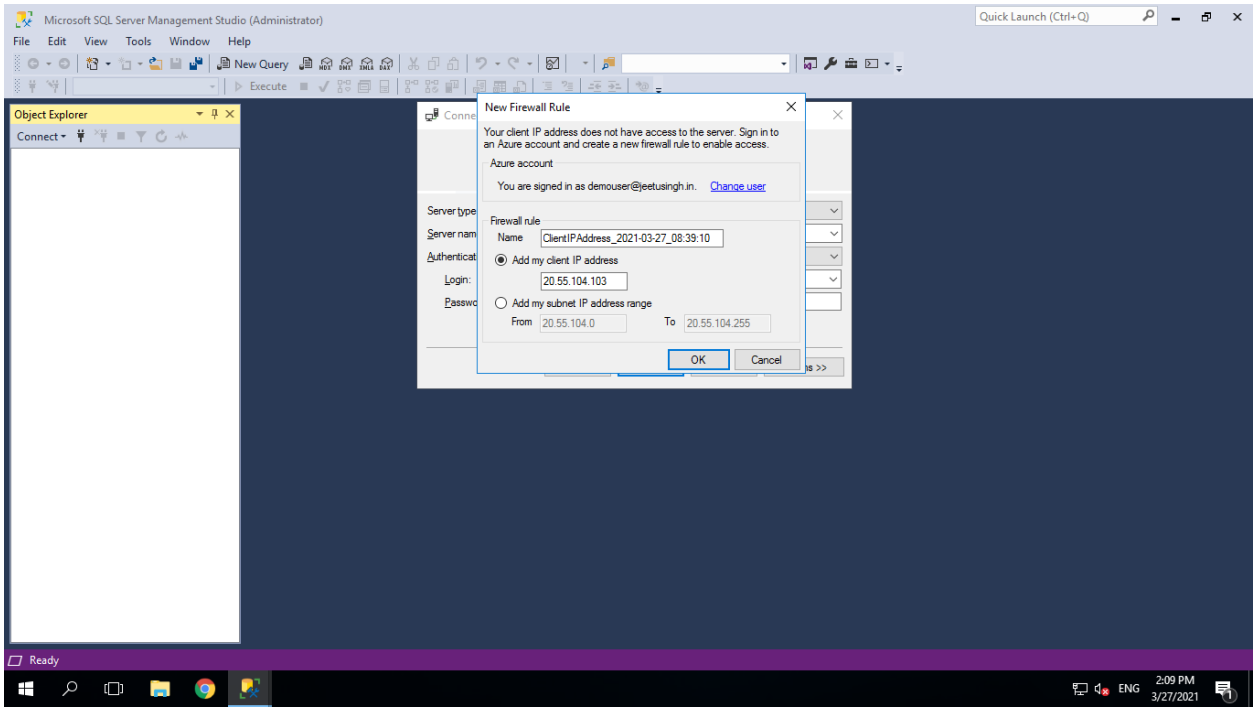
Service name: copy it from the web portal



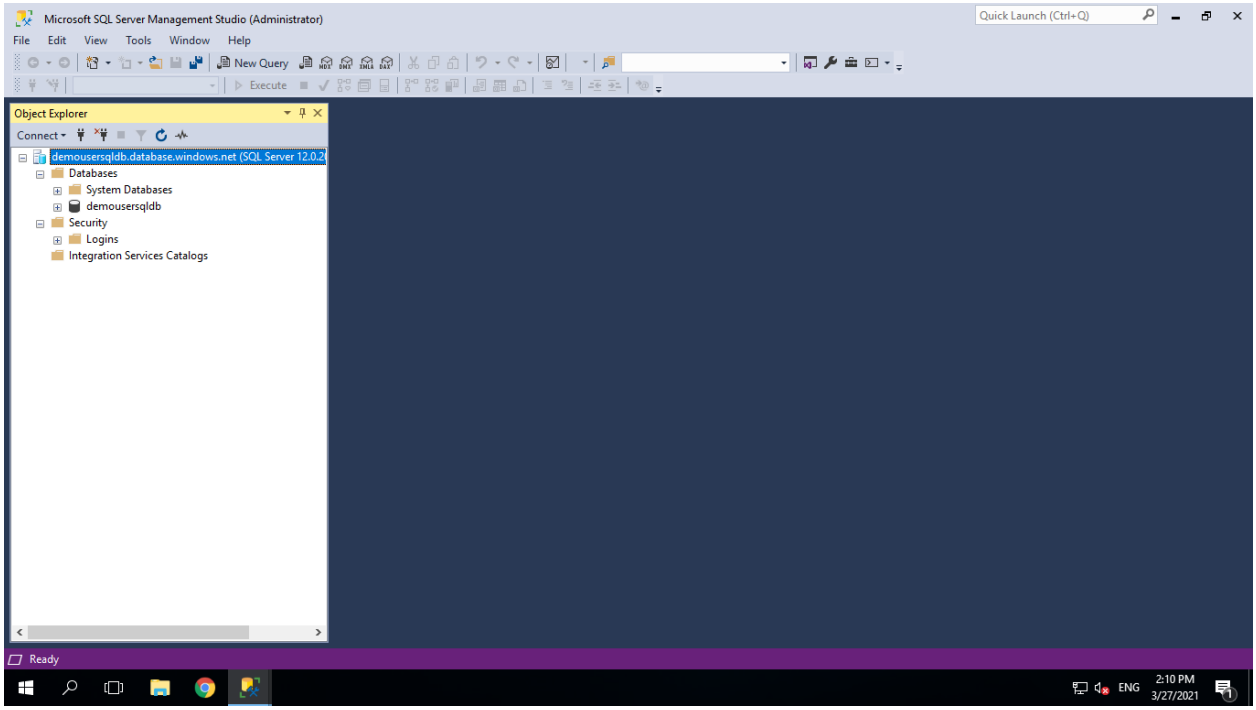
Select authentication method: SQL Server Authentication



Provide username & password of the Azure:



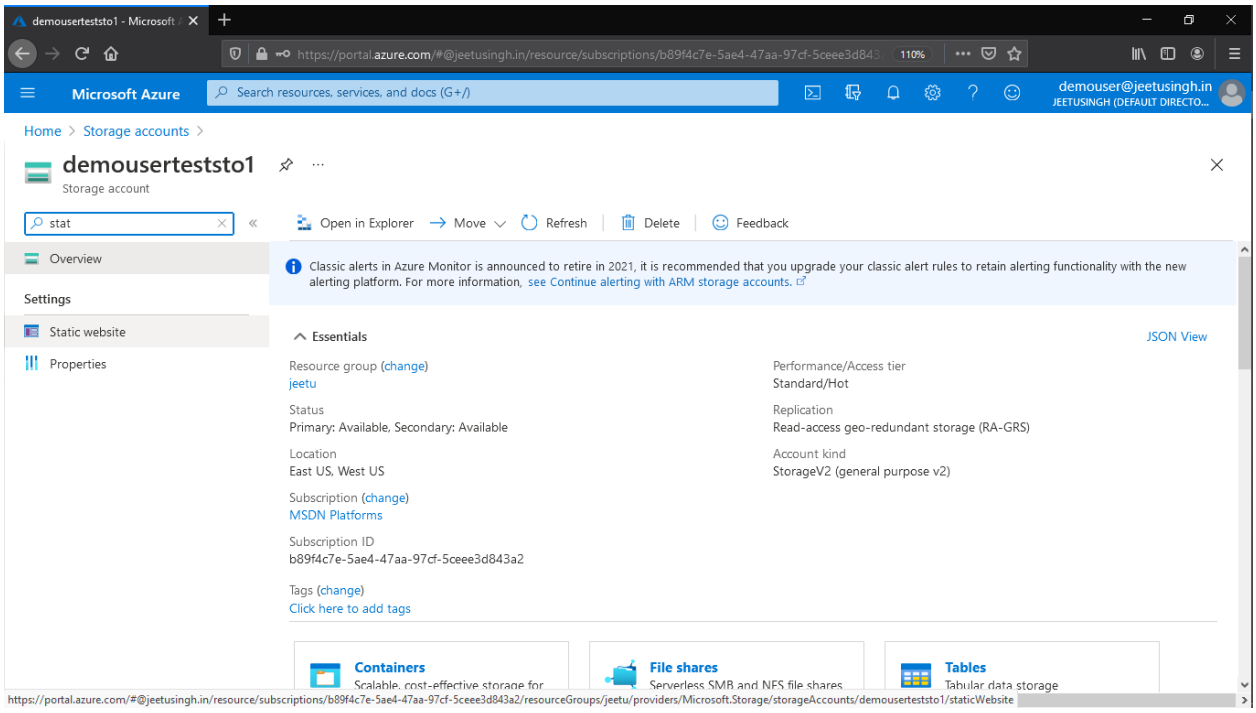
Verify:



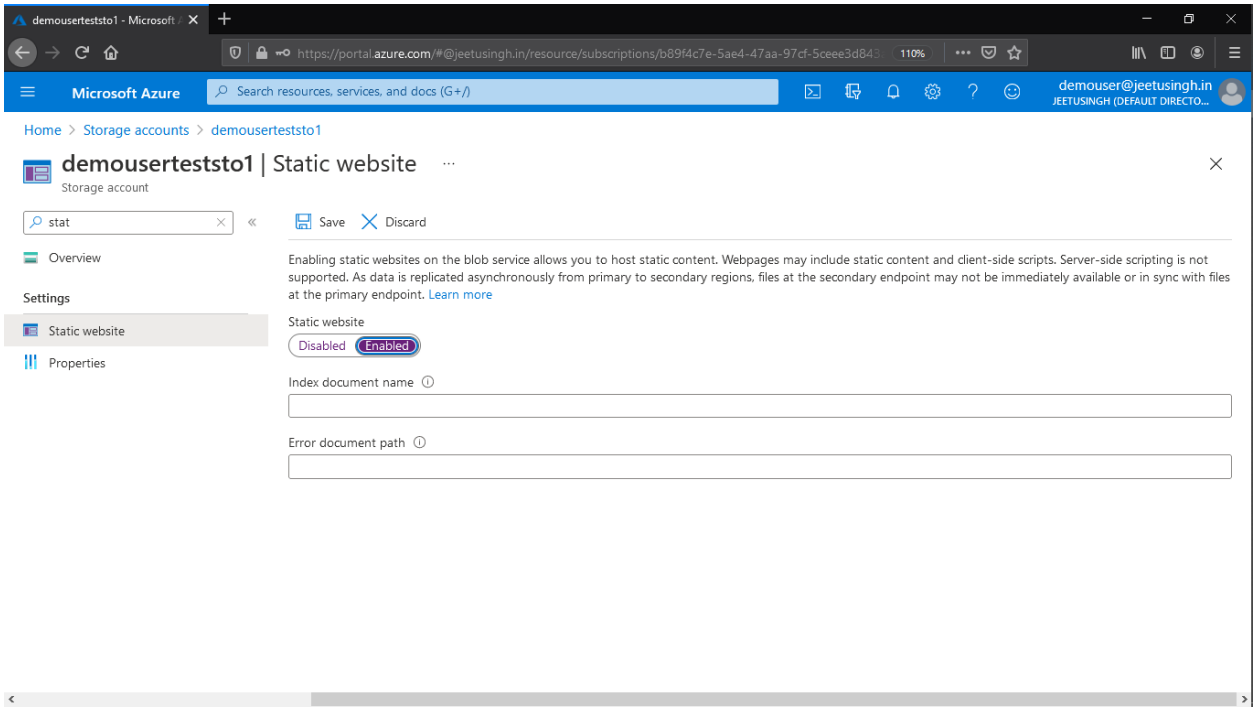
Lab 9: - Demonstrate steps to create a static HTML web app & publish it in Azure

To create a static website & host the web pages, use storage account:

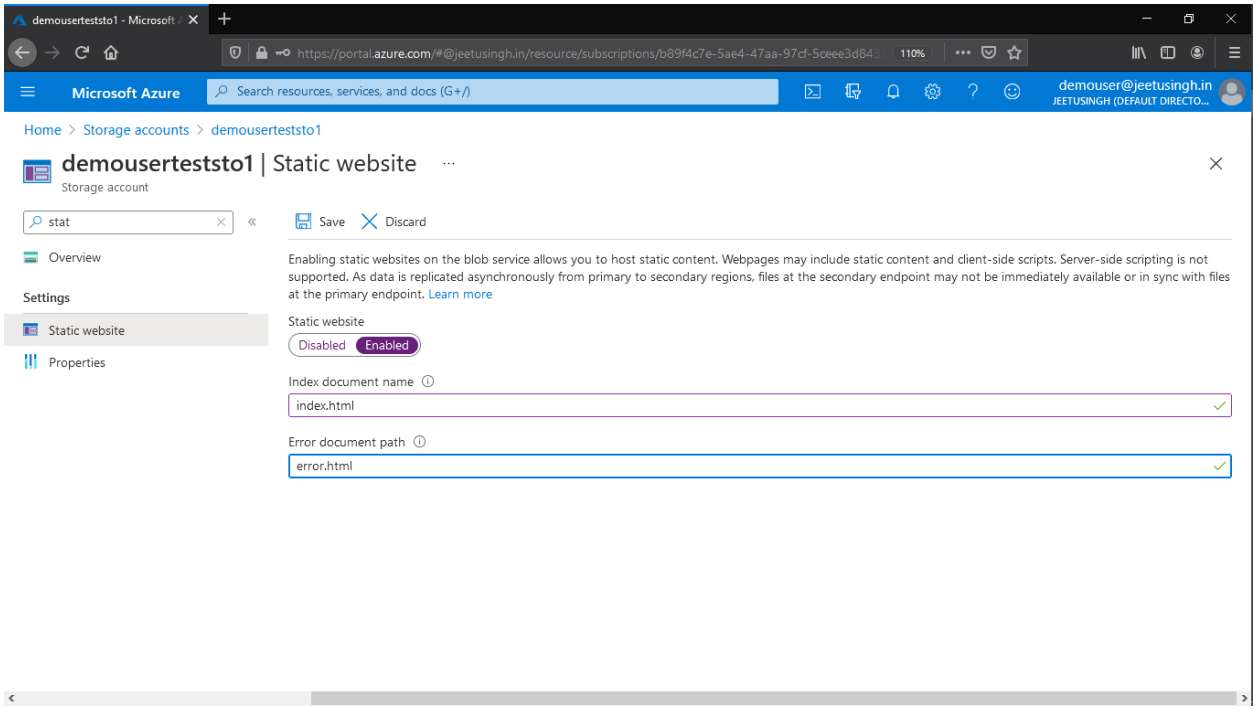
Switch to Azure storage account, search “Static website”.



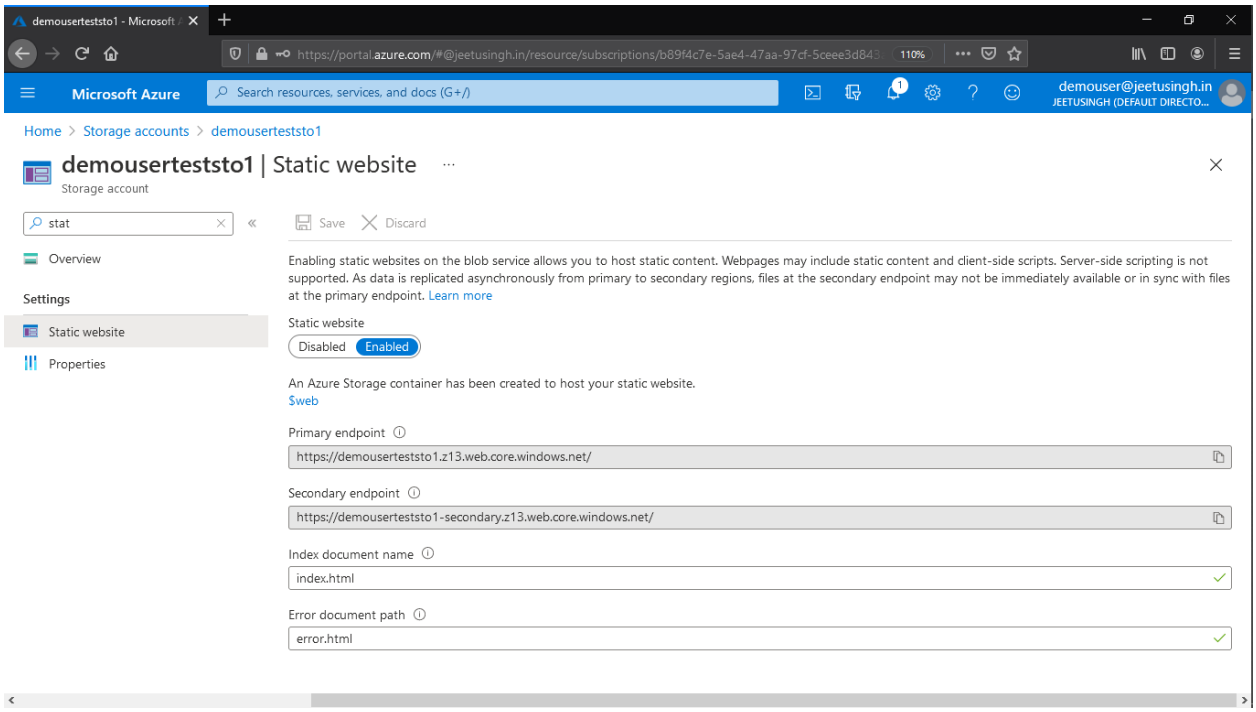
Click in “Enabled”:



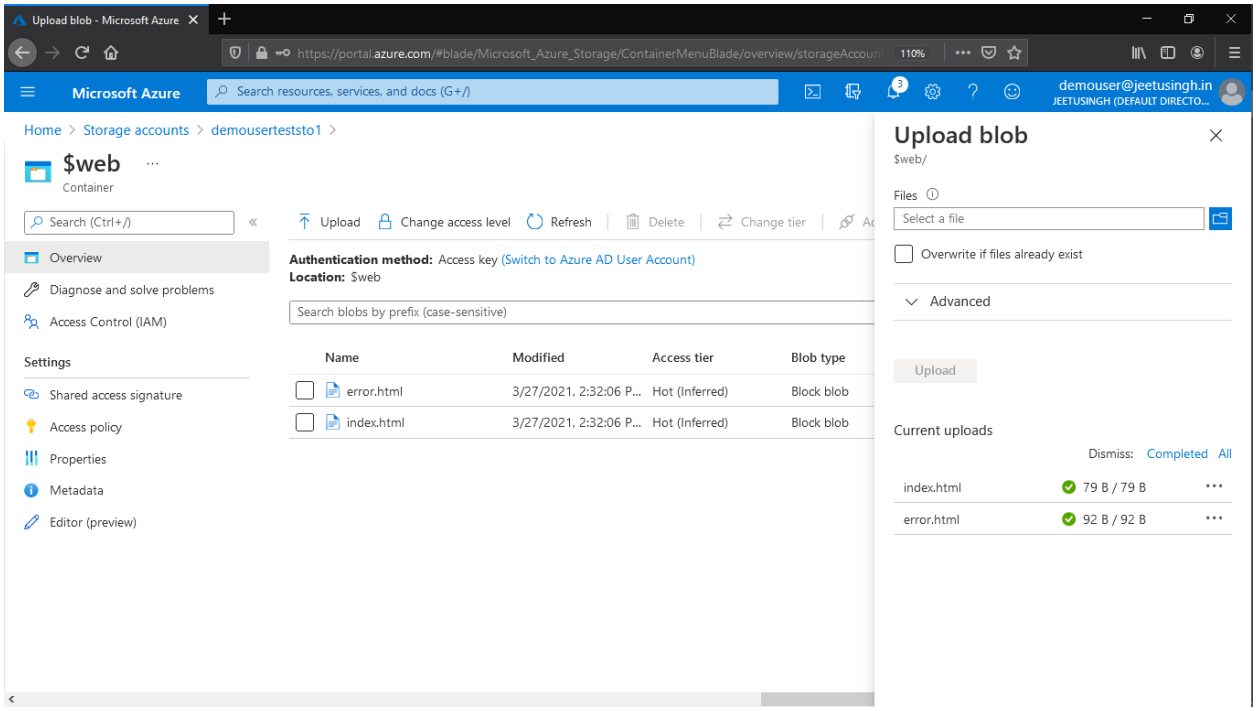
Type “index.html” in the Index document & “error.html” in error document page:



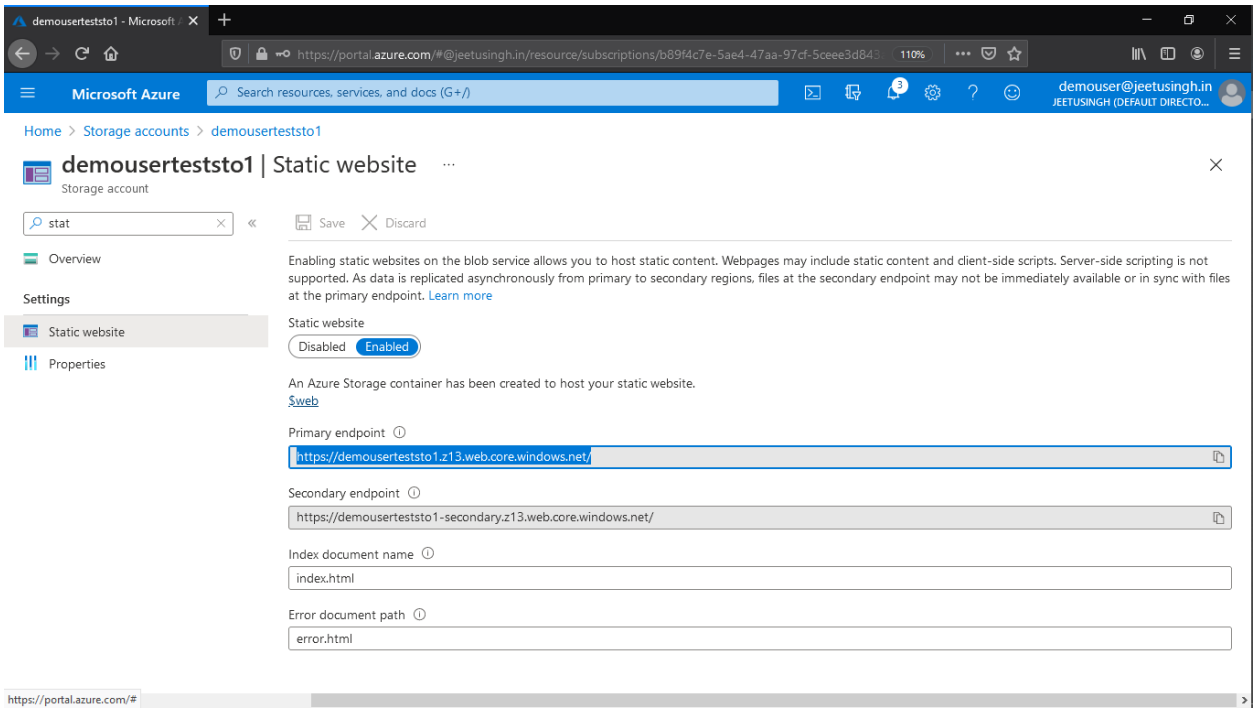
& click “SAVE” and verify.



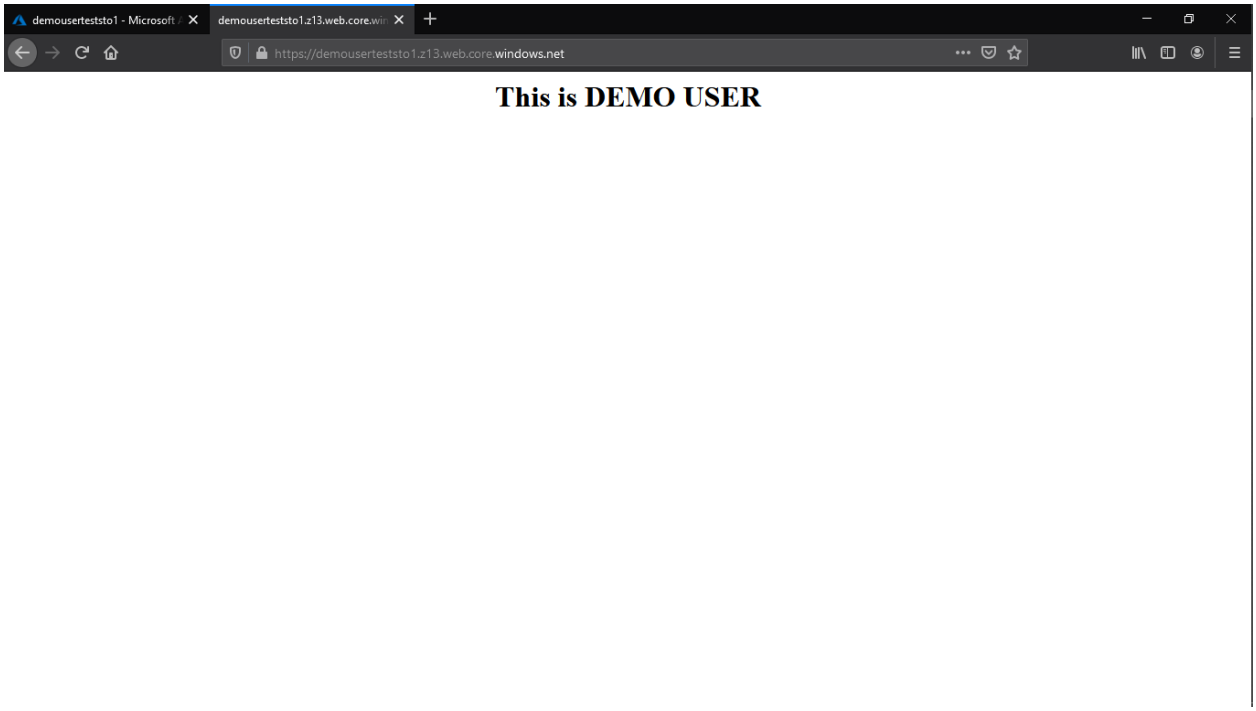
Switch to BLOB container, you would find a new container “$web”. Upload the index.html & error.html to this container.



Copy the URL from the static primary endpoint:

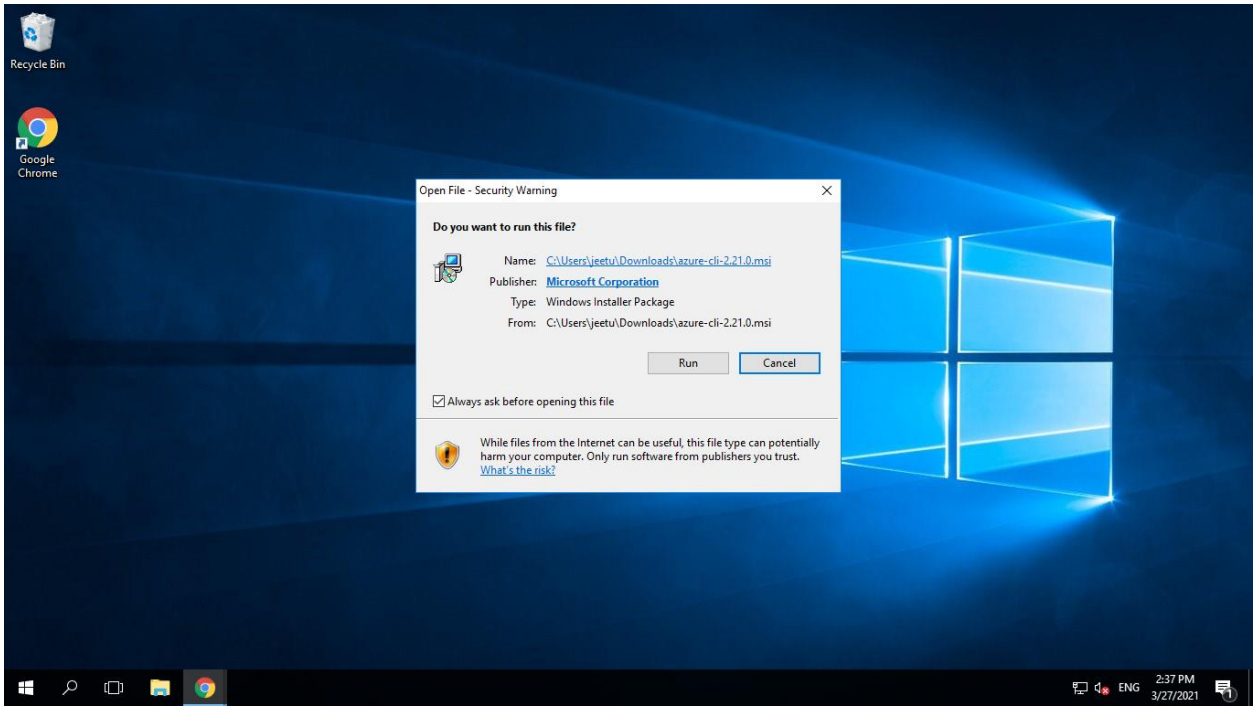


Copy & paste the URL in the web browser:

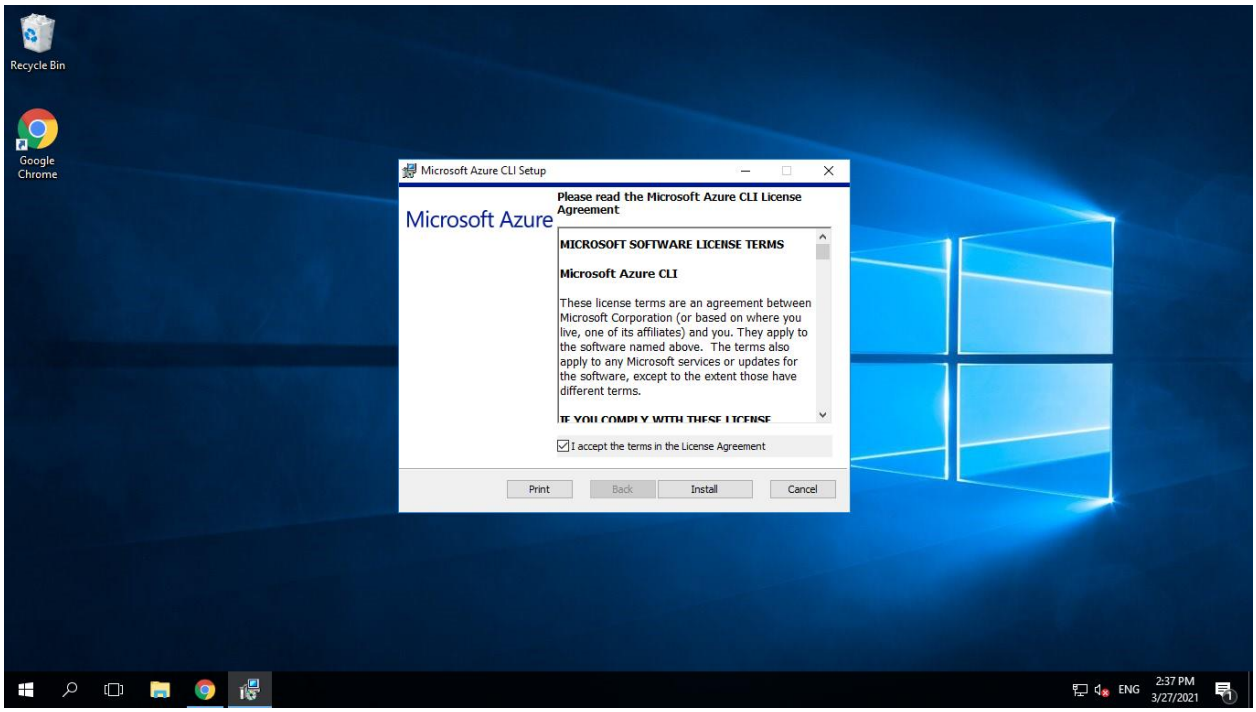


Lab 10: - Configure a local machine with Azure CLI & use CLI to create an instance

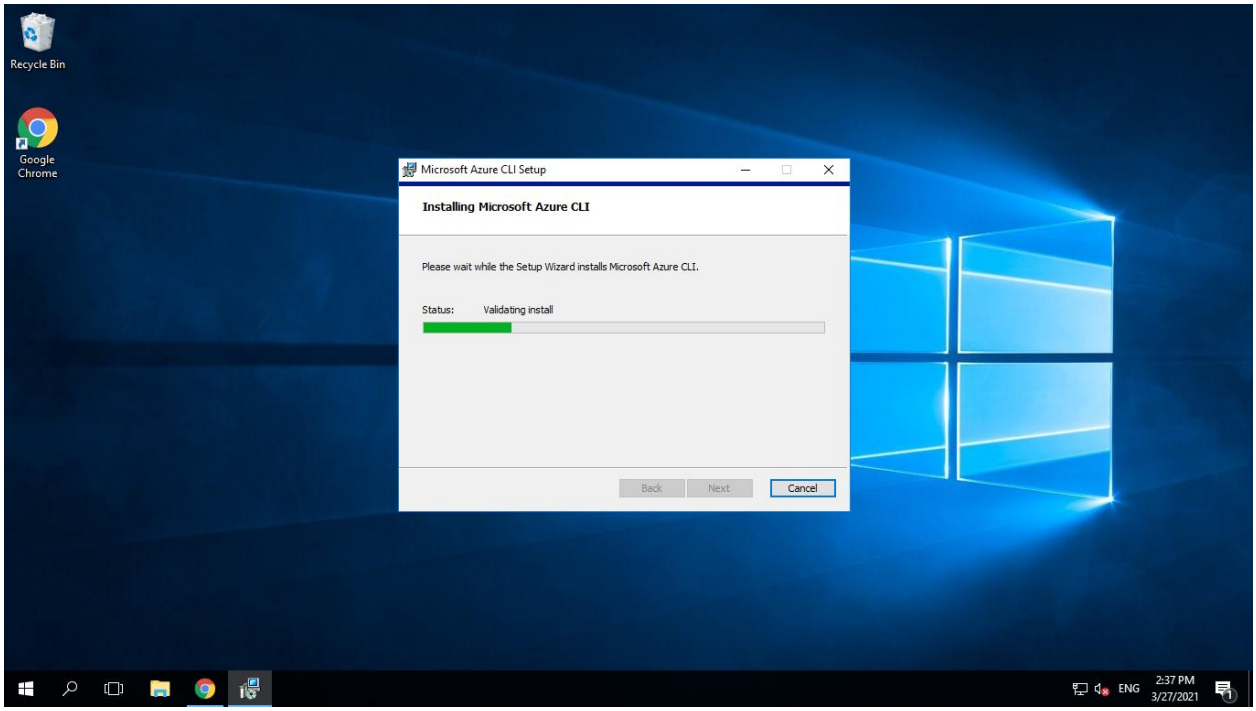
Download & install Azure CLI using: https://docs.microsoft.com/en-us/cli/azure/install-azure-cli-windows?tabs=azure-cli



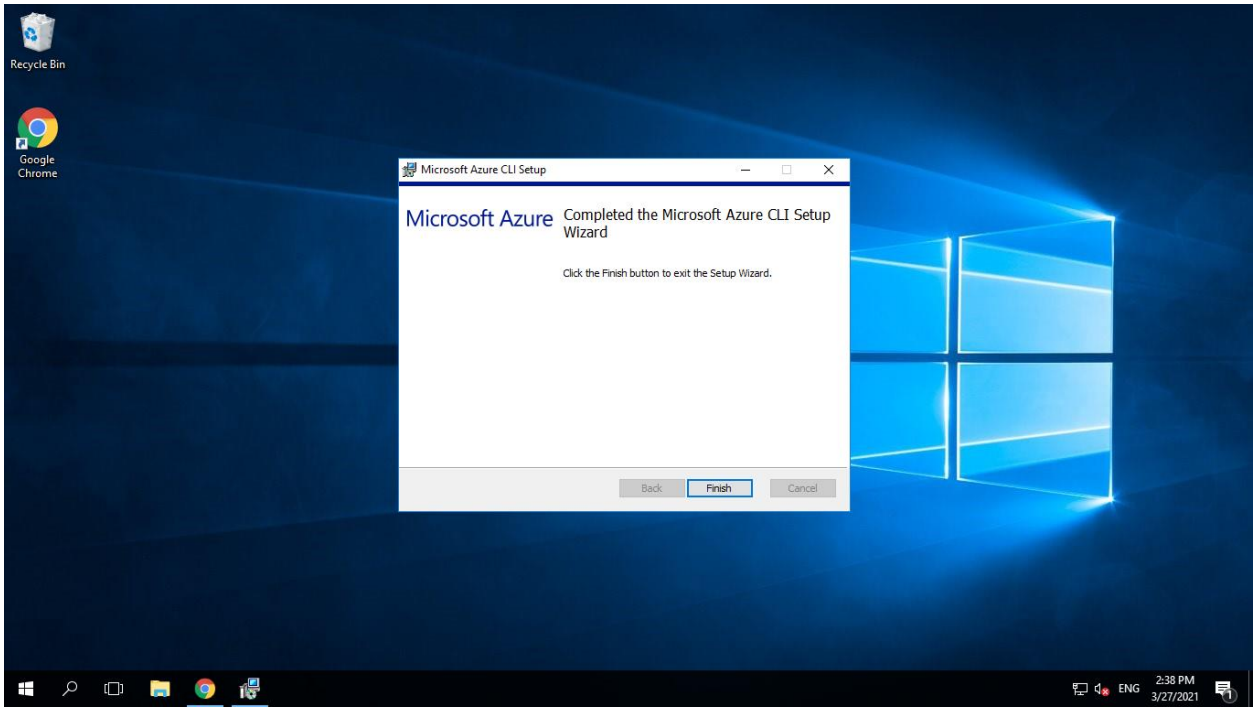
After, running the setup, accept license agreement & click INSTALL.



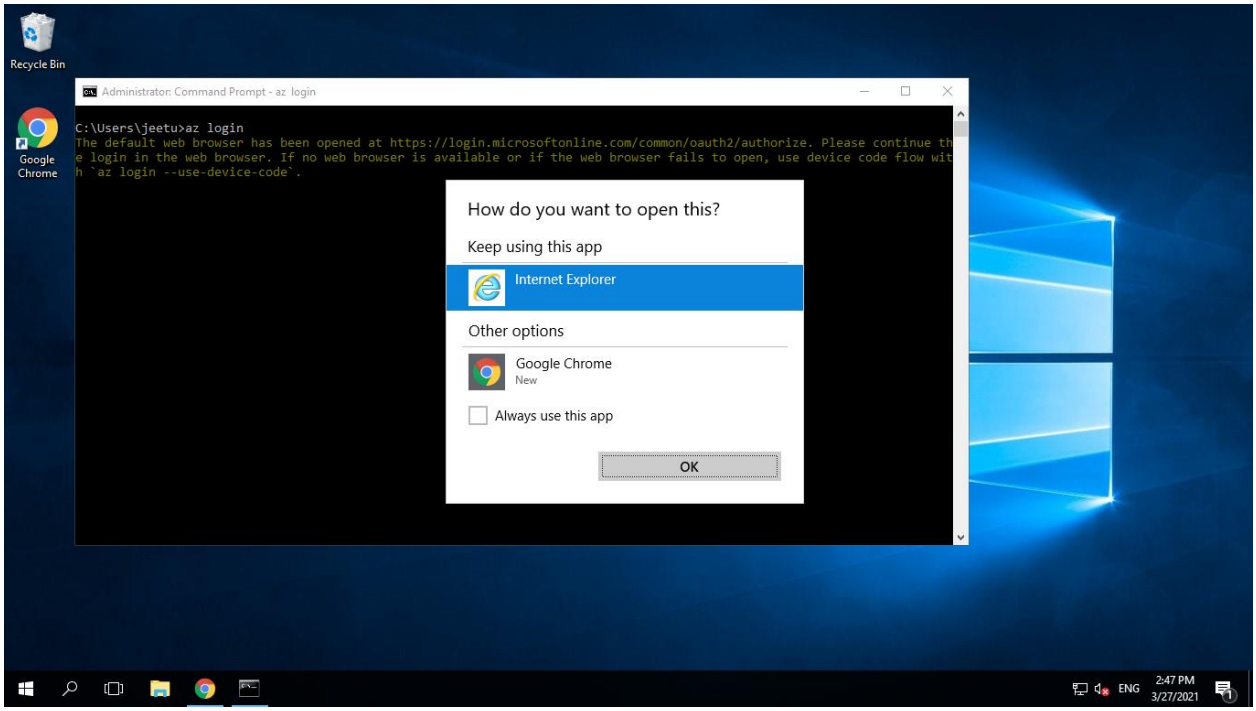
Wait until:



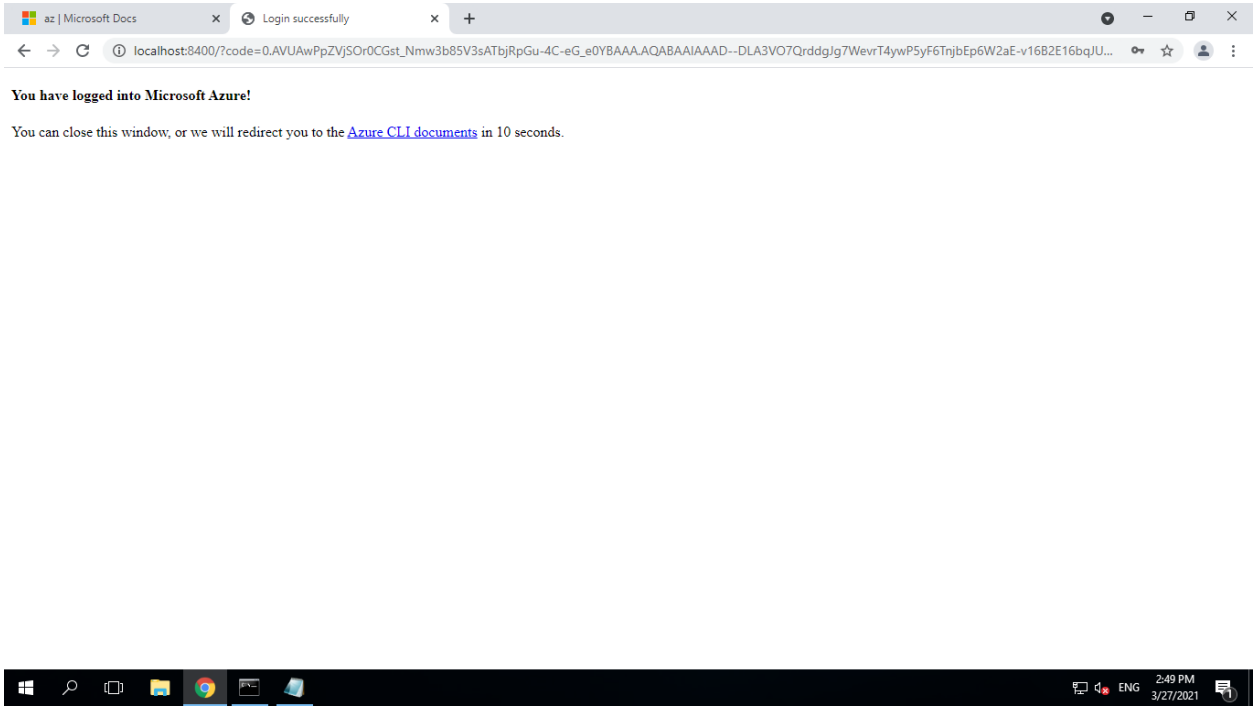
Click on ‘install’:



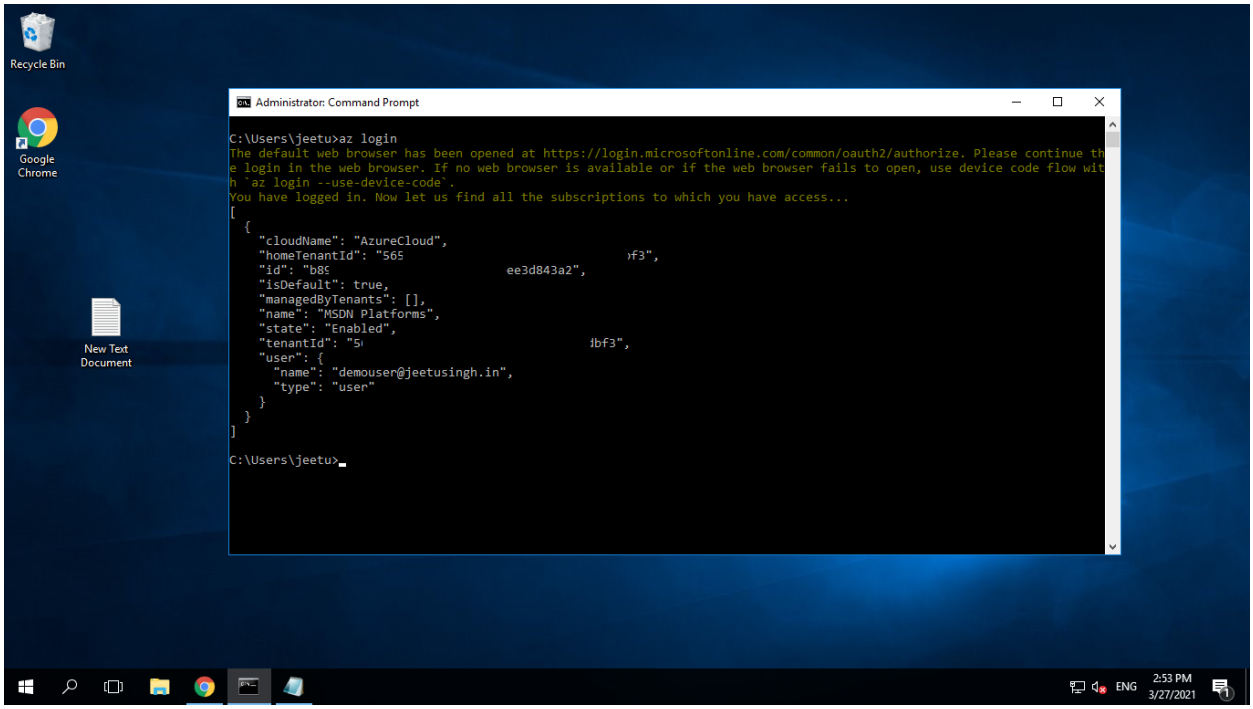
Run the command prompt using & run the “az login” command:



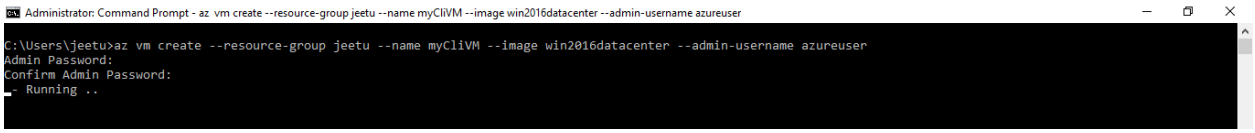
Select any web browser of your choice & provide username & password:



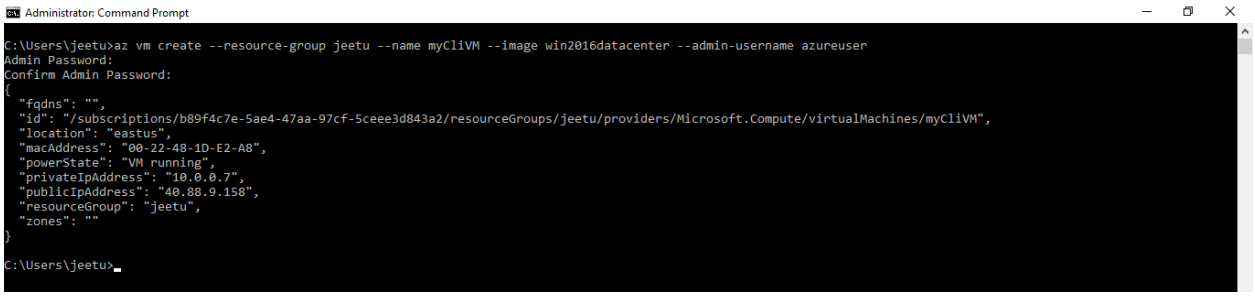
Verify on the command prompt (due to security reasons, some values in ID are covered):



Execute the command & fill the password.

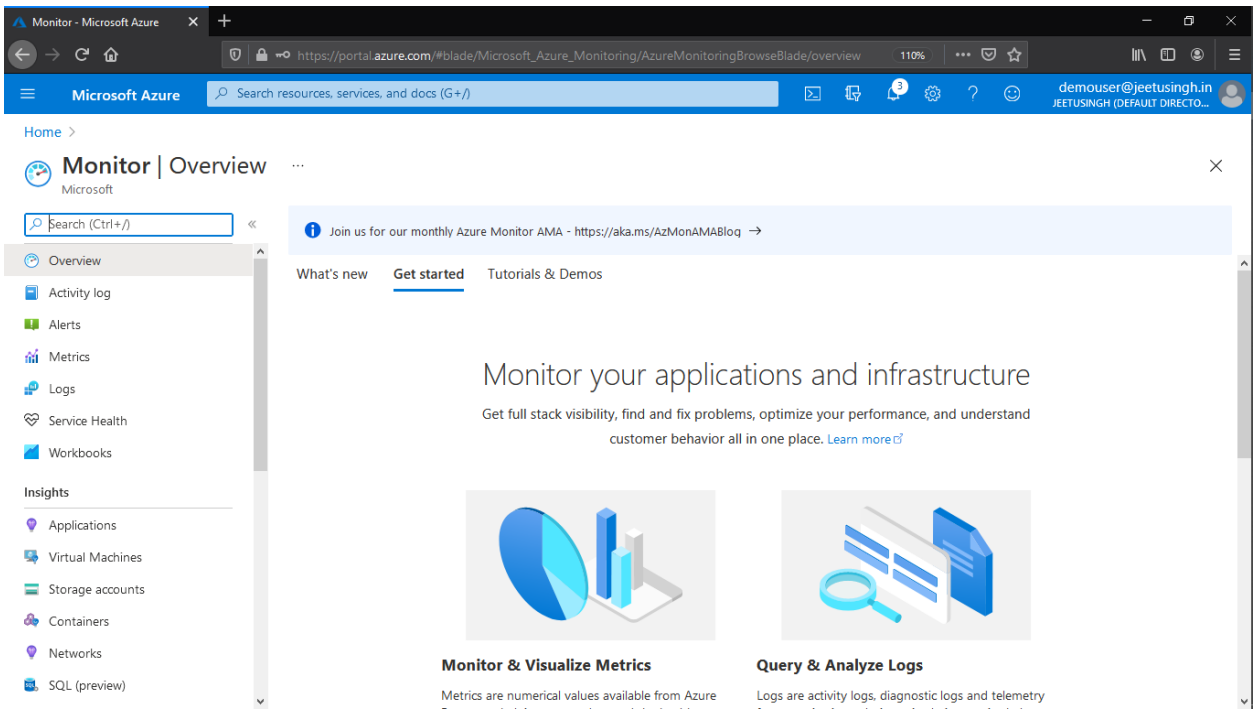


& verify:

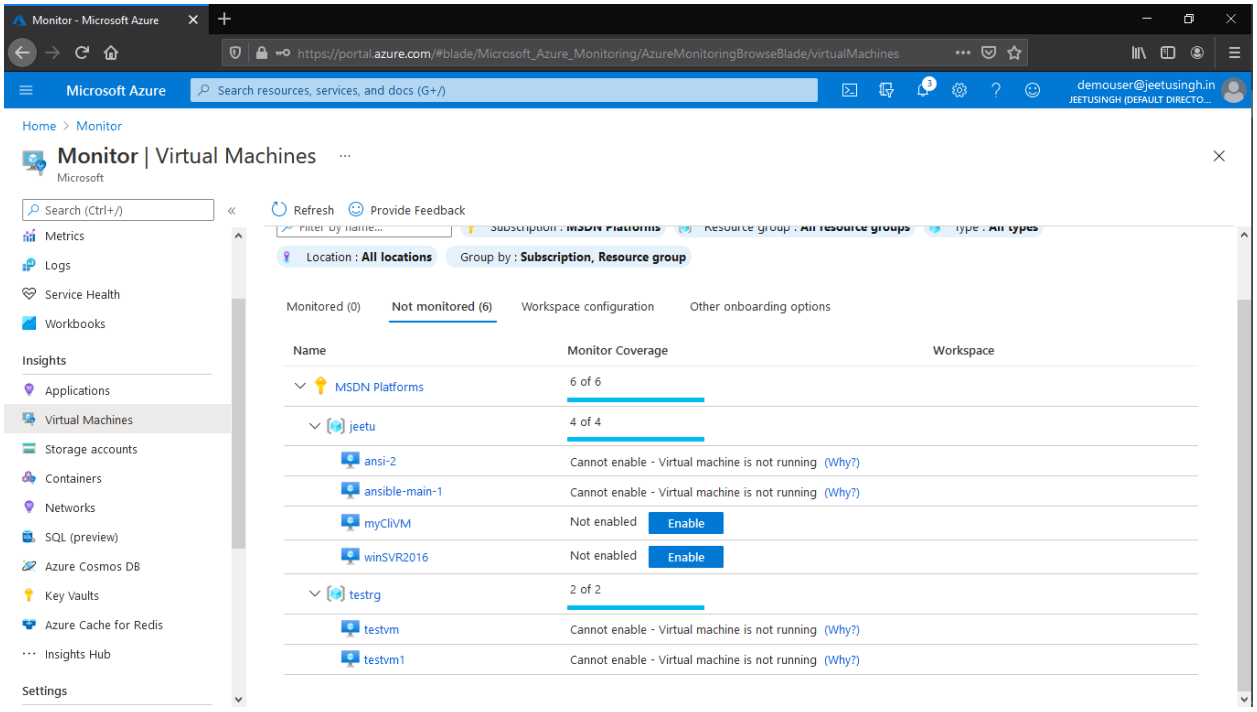


Lab 11: - Create charts from metric values, visual correlate trends using Azure monitor

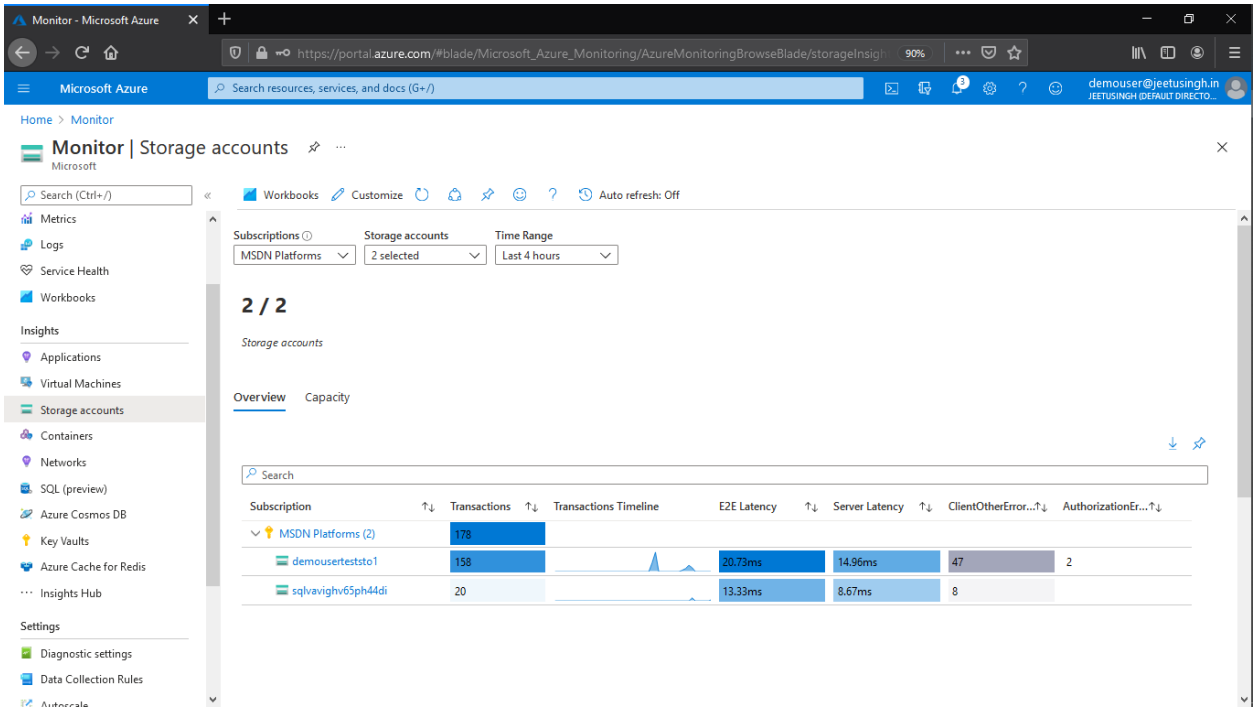
Search for the Azure Monitor within the Azure Portal:



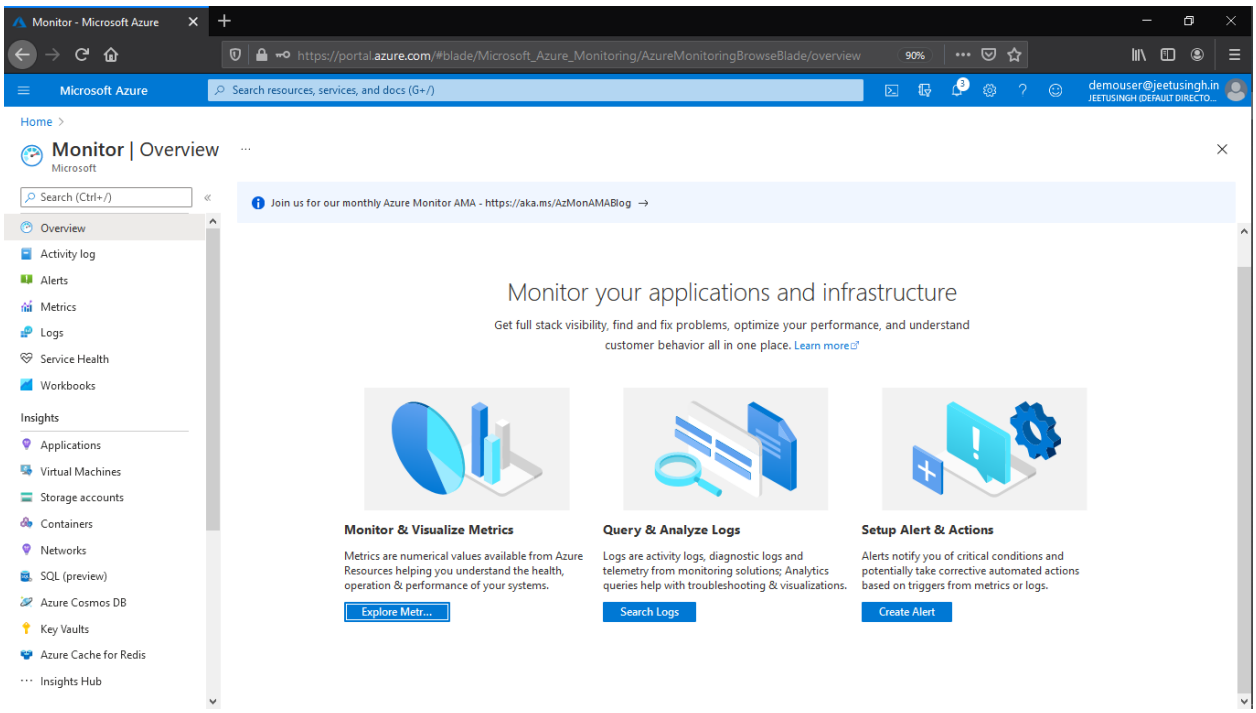
Select “Virtual Machine” within Insights blade:



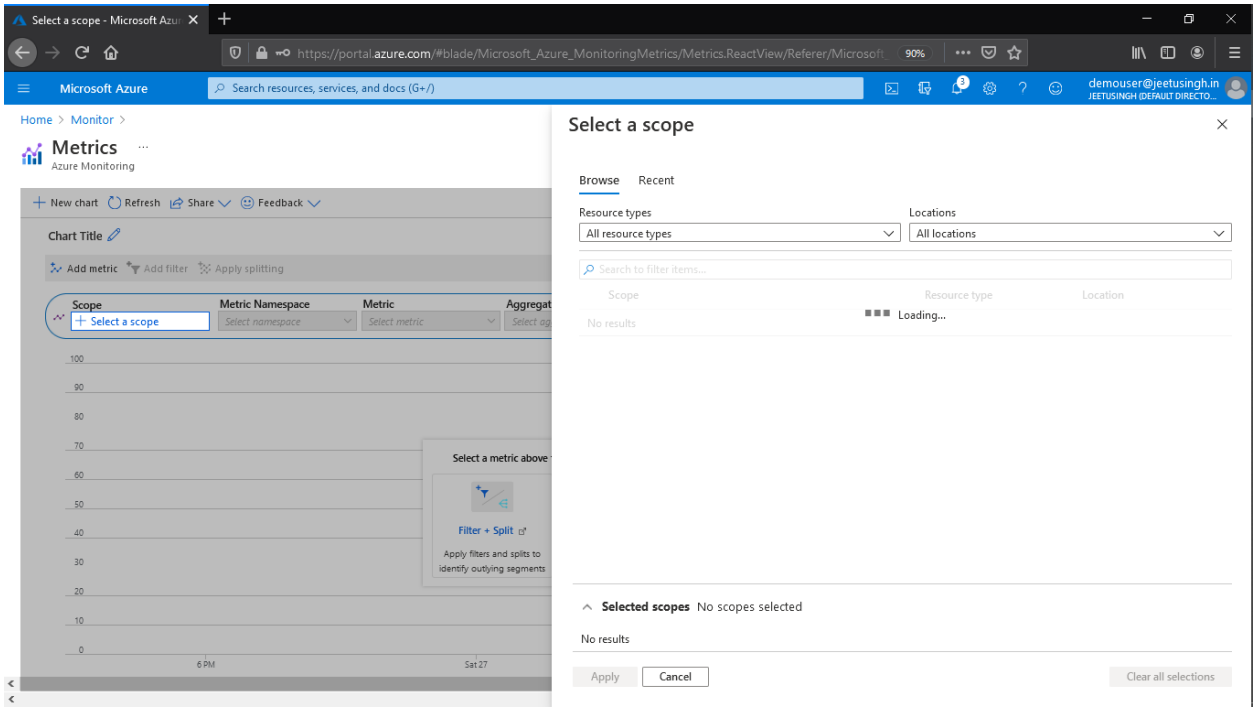
Select “Storage Account” within Insights blade:



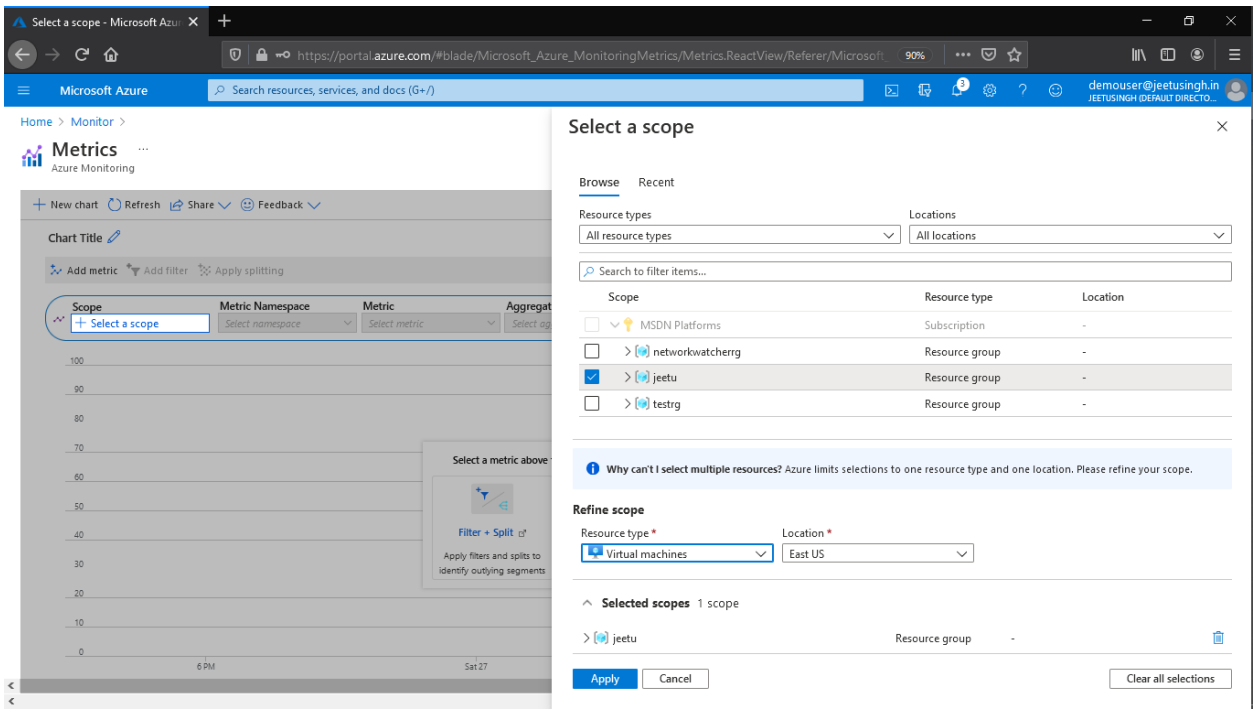
Go to “Overview” within Insights blade, select “Monitor & Visualize Metrics”:



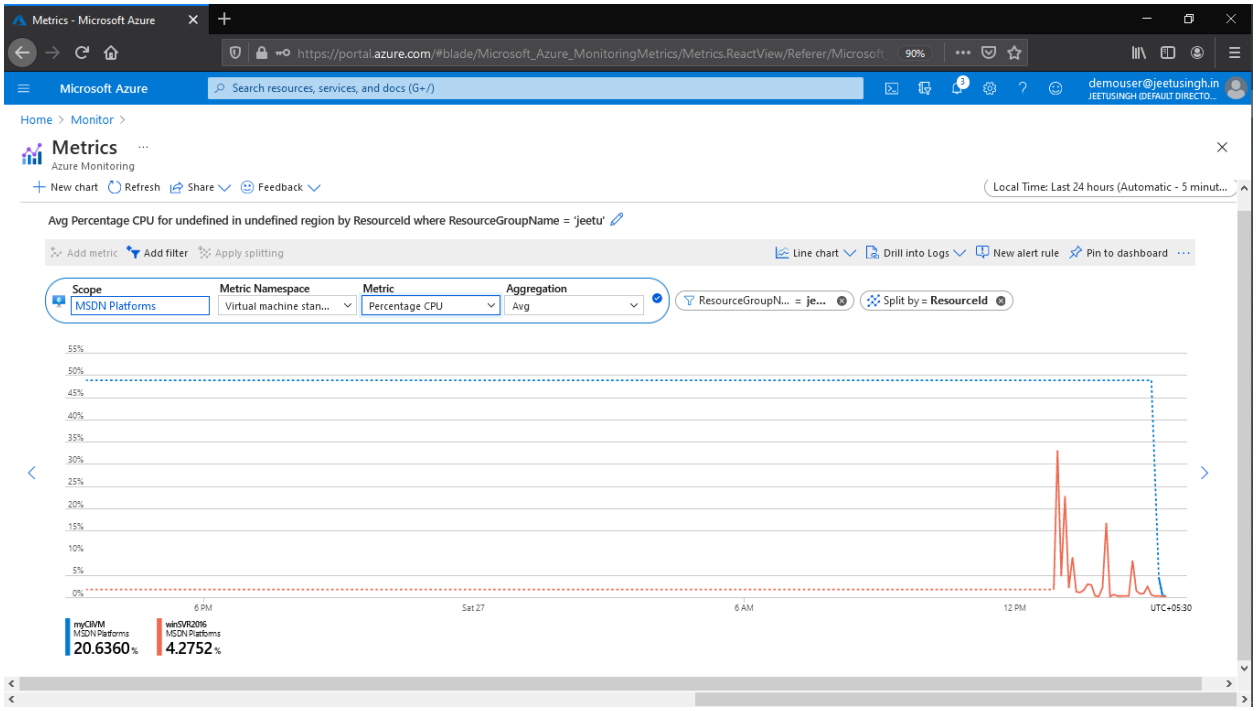
Select the scope:



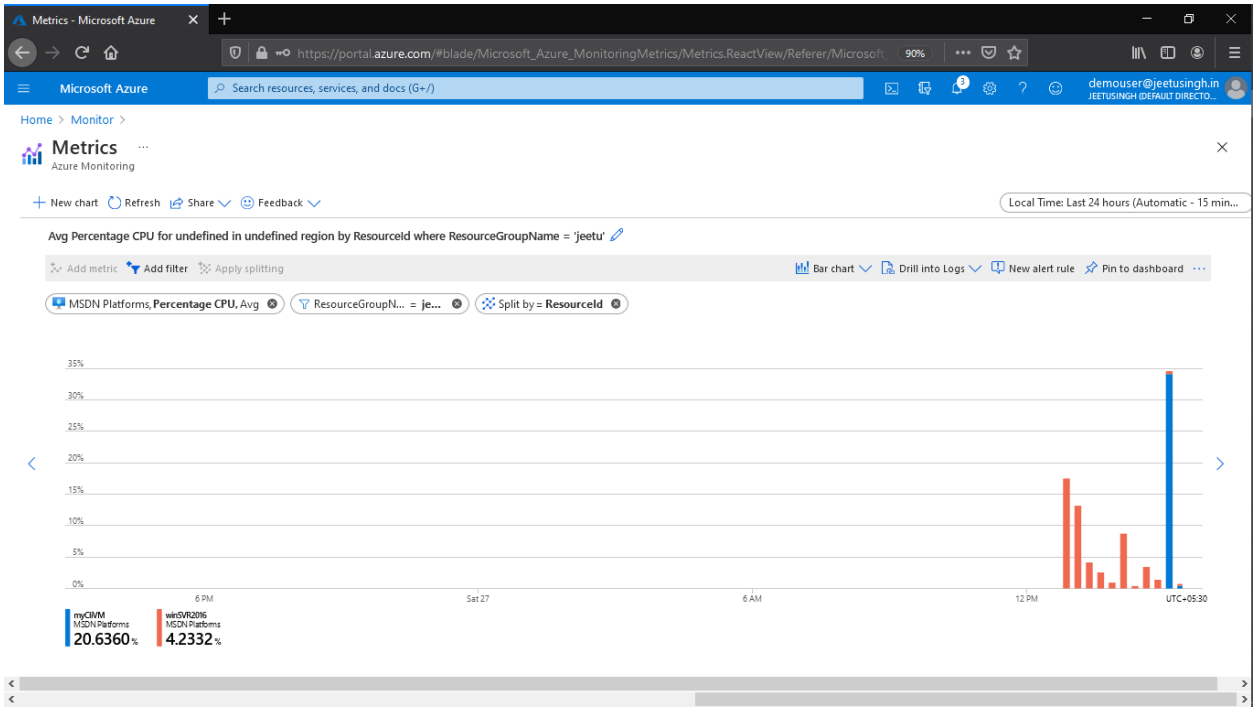
Select any resource group & any resource type & click APPLY:



Select any metric (for ex: Metric = Percentage CPU):



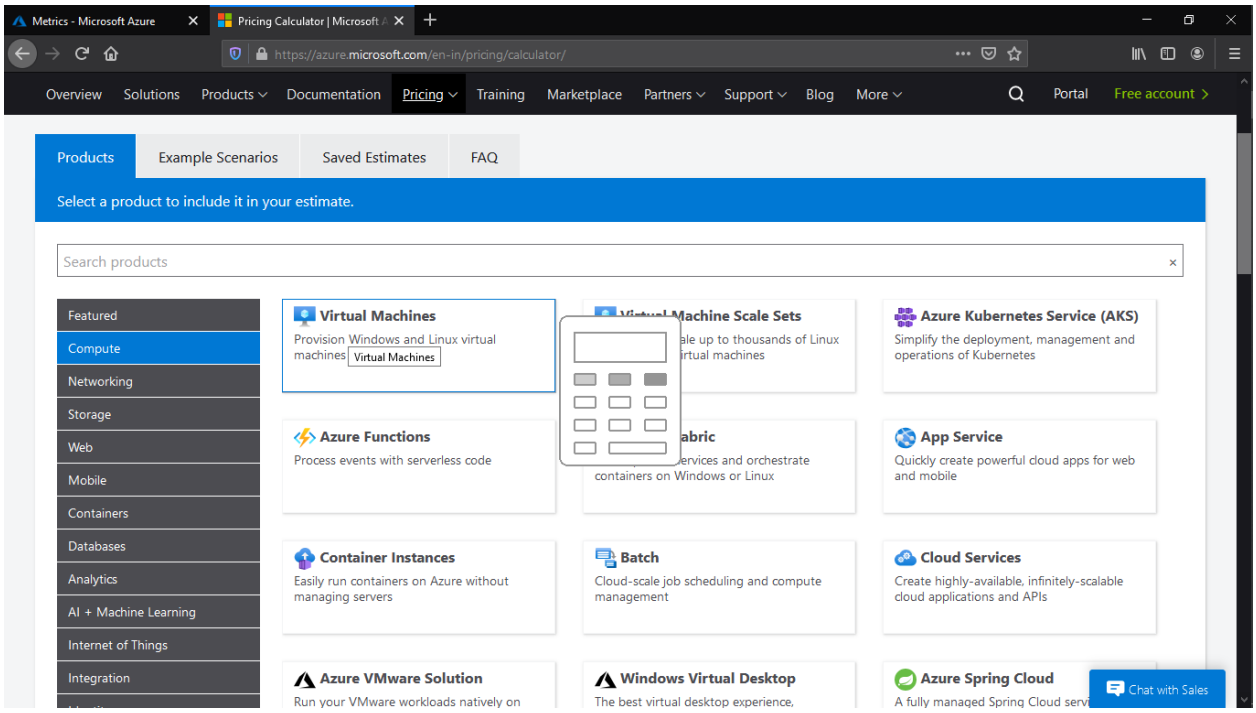
Use ‘chart’ option to change the view:



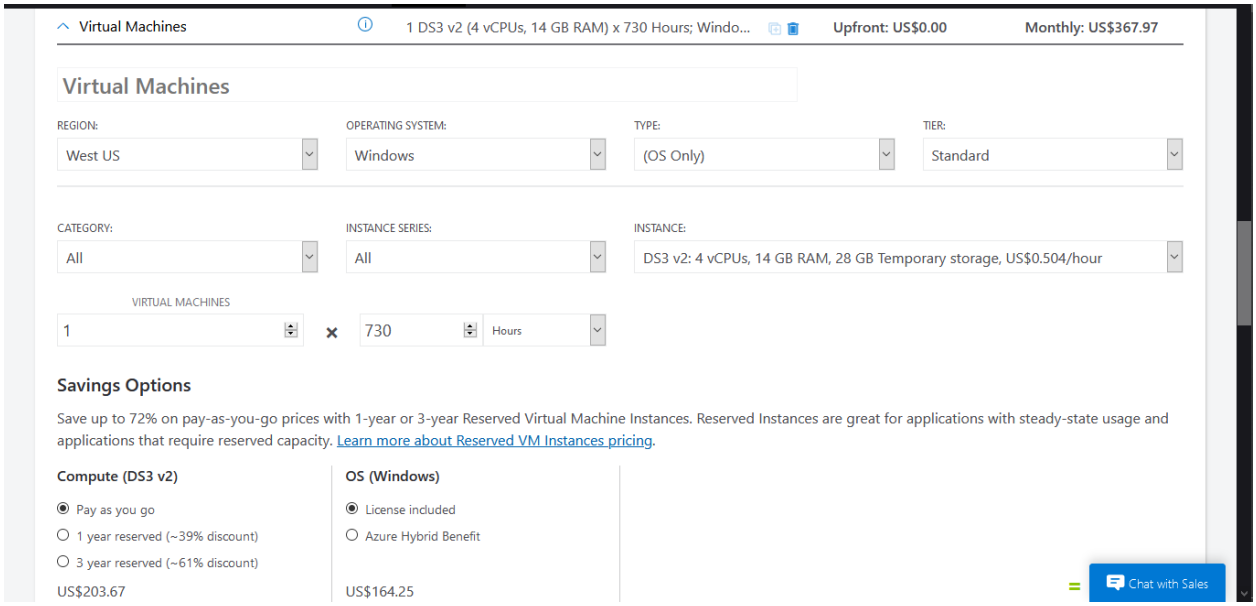
Lab 12: - Demonstrate the use of pricing calculator to configure & estimate the Azure products that you plan to use in your cloud architecture

Browse to the URL to check for the estimated cost for Azure resources depending on the type of usage: https://azure.microsoft.com/en-in/pricing/calculator/

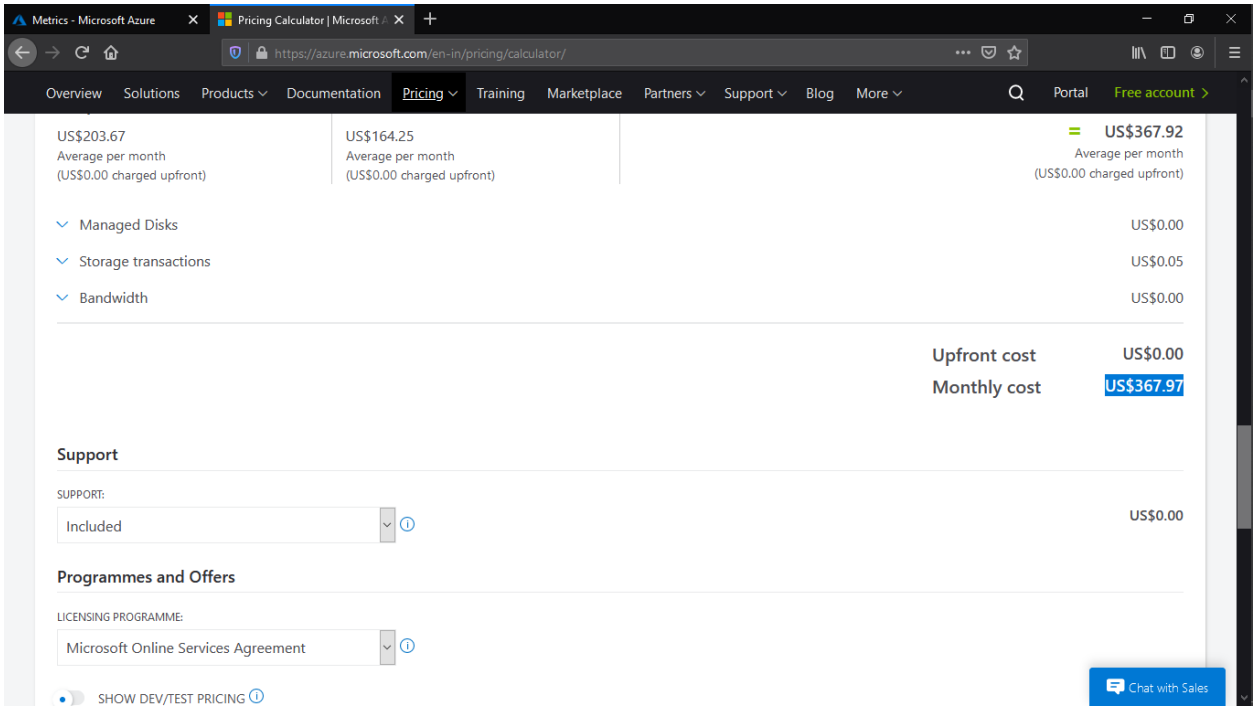
Select the category (ex: Compute), to find the costing:



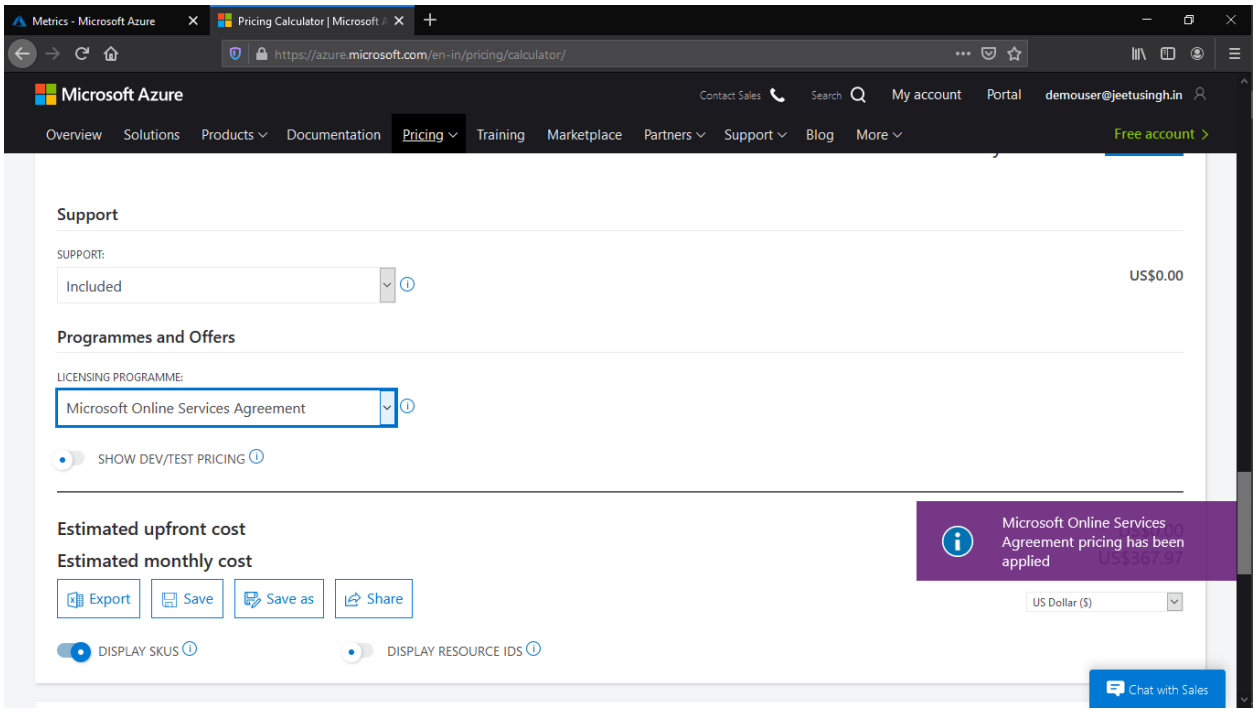
Fill the details for the virtual machine based on the requirement:



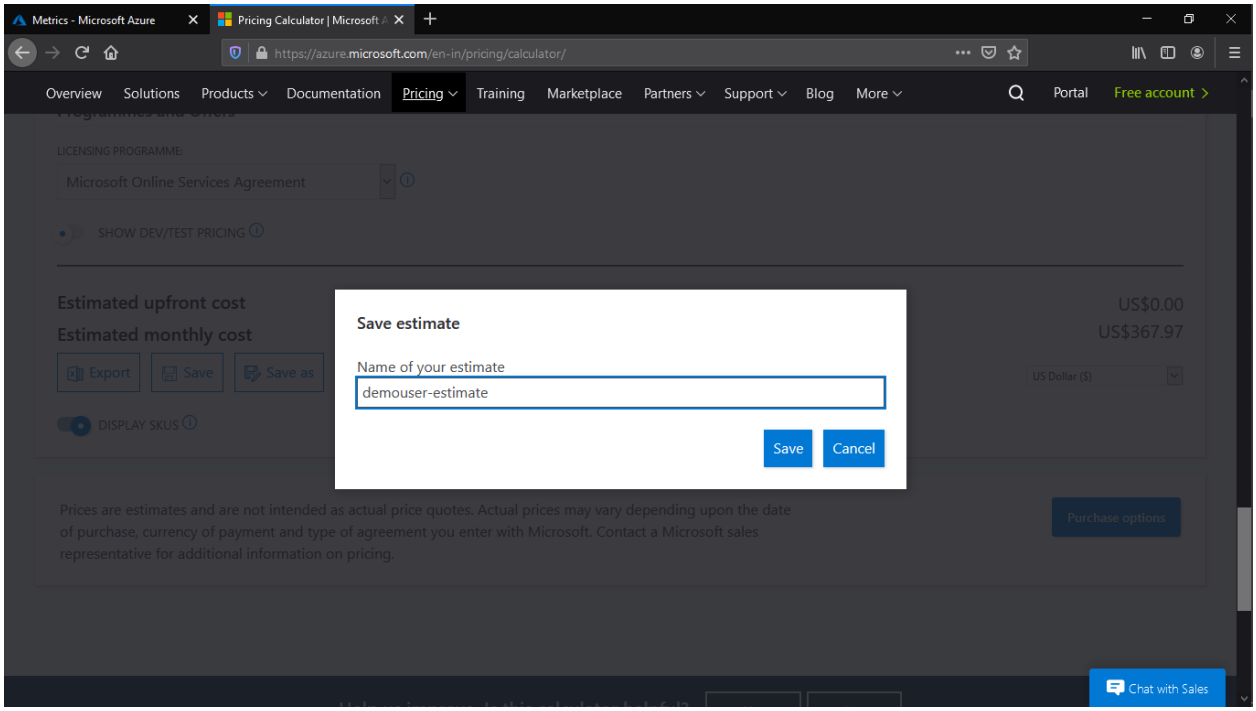
Check for the monthly cost in USD:

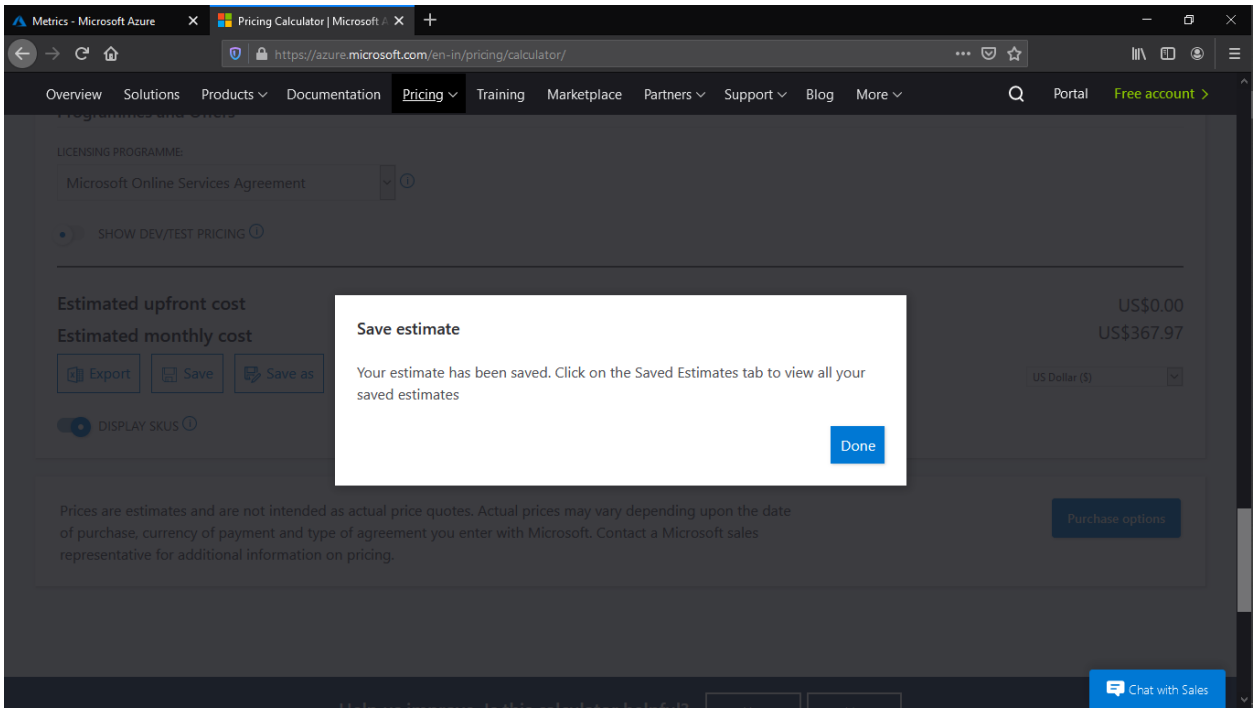


Check for the licensing program & click on “save” to save the estimate:

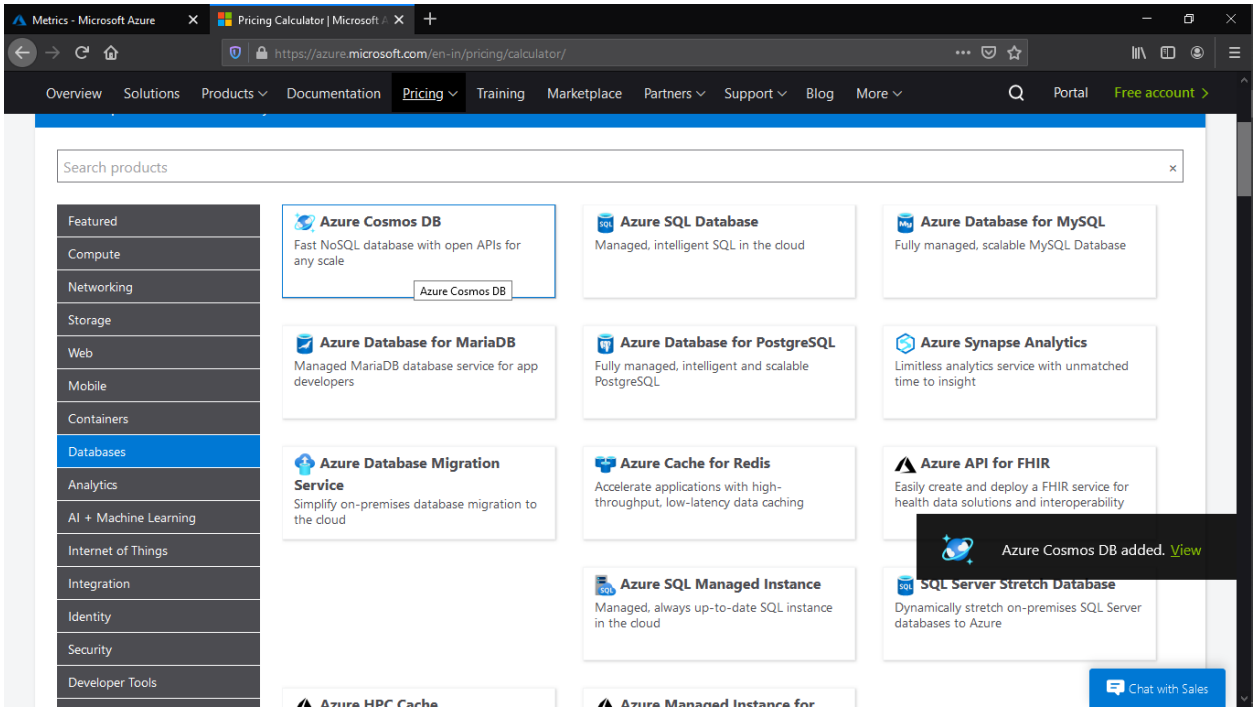


Provide a name for the estimate:

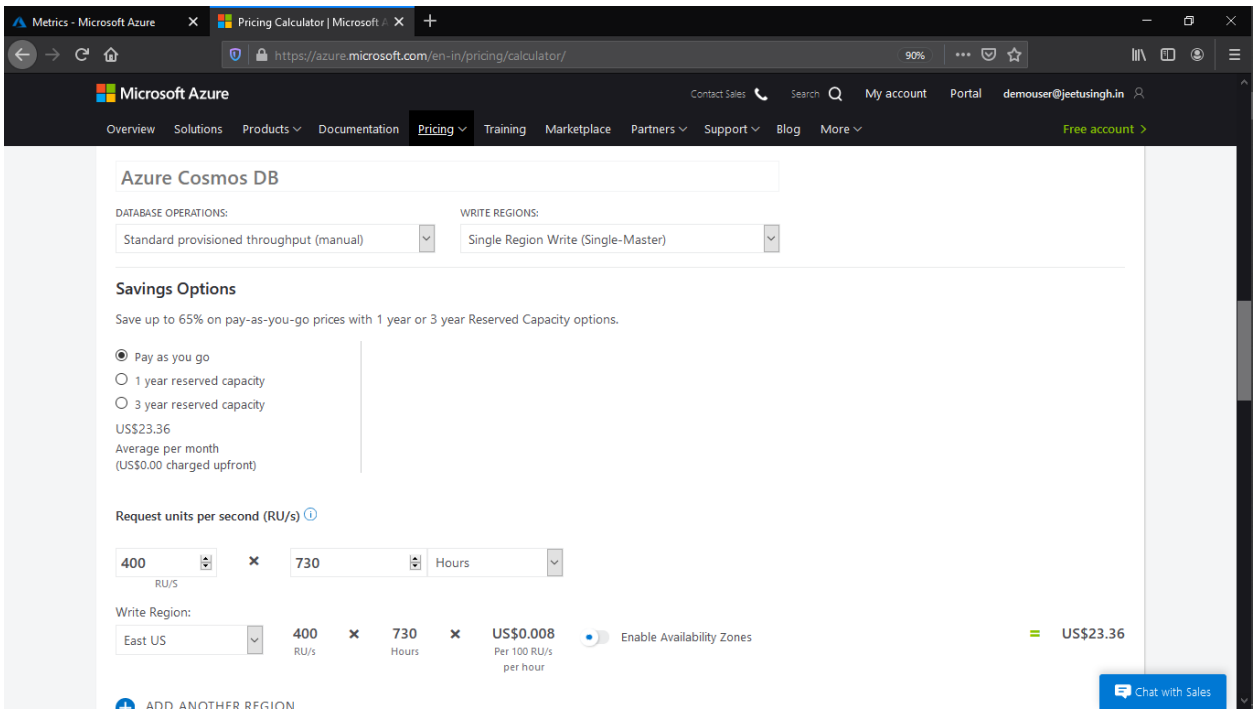




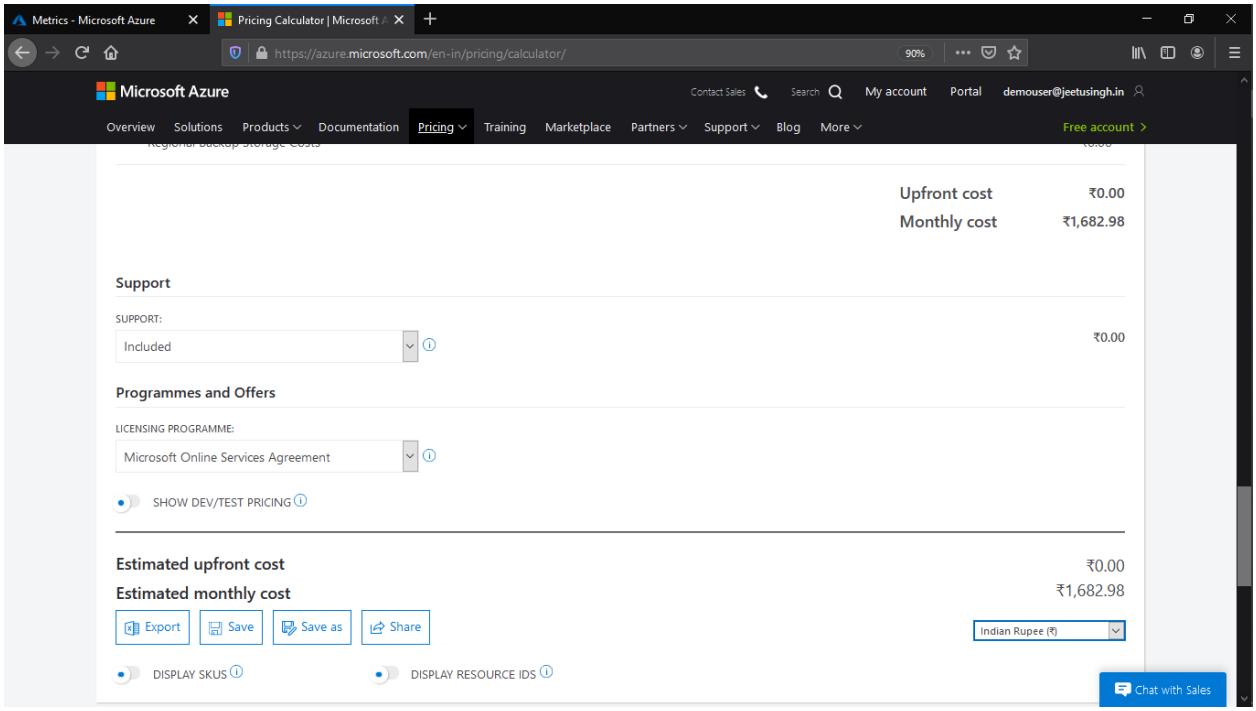
Similarly, search for any database option:



Make the changes according to your need & verify the cost(in USD):

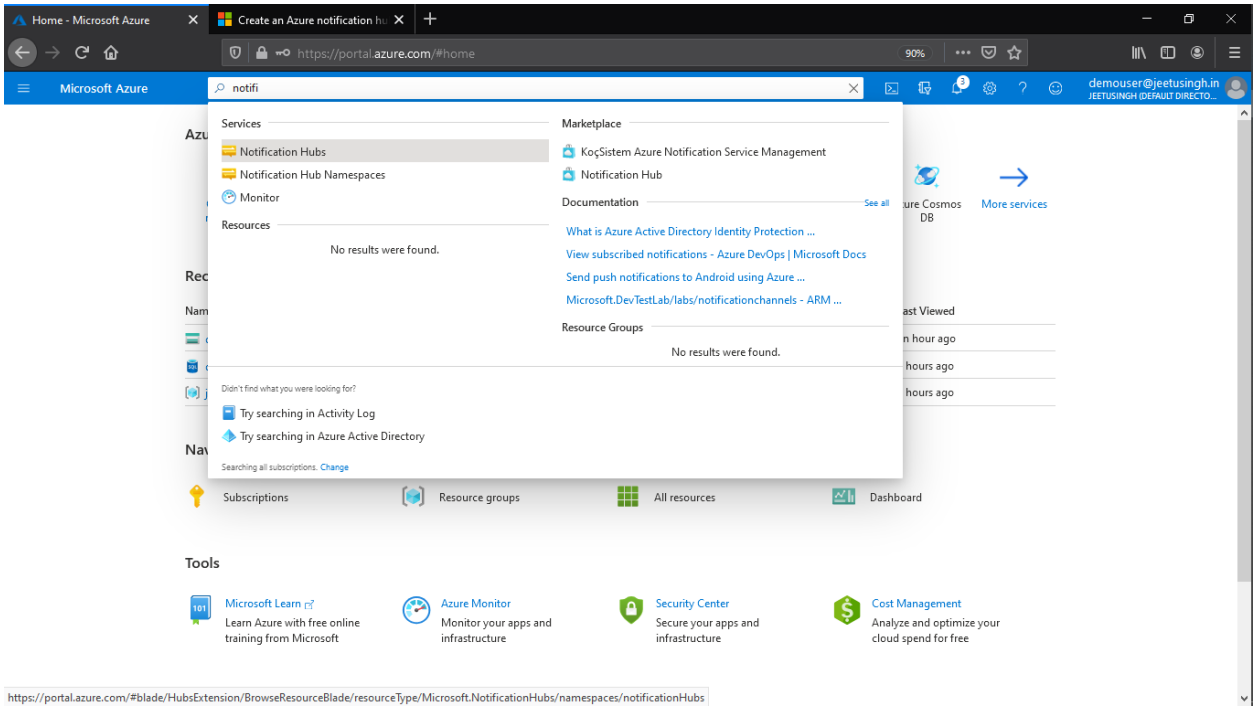


Change the Cost currency in to INR:

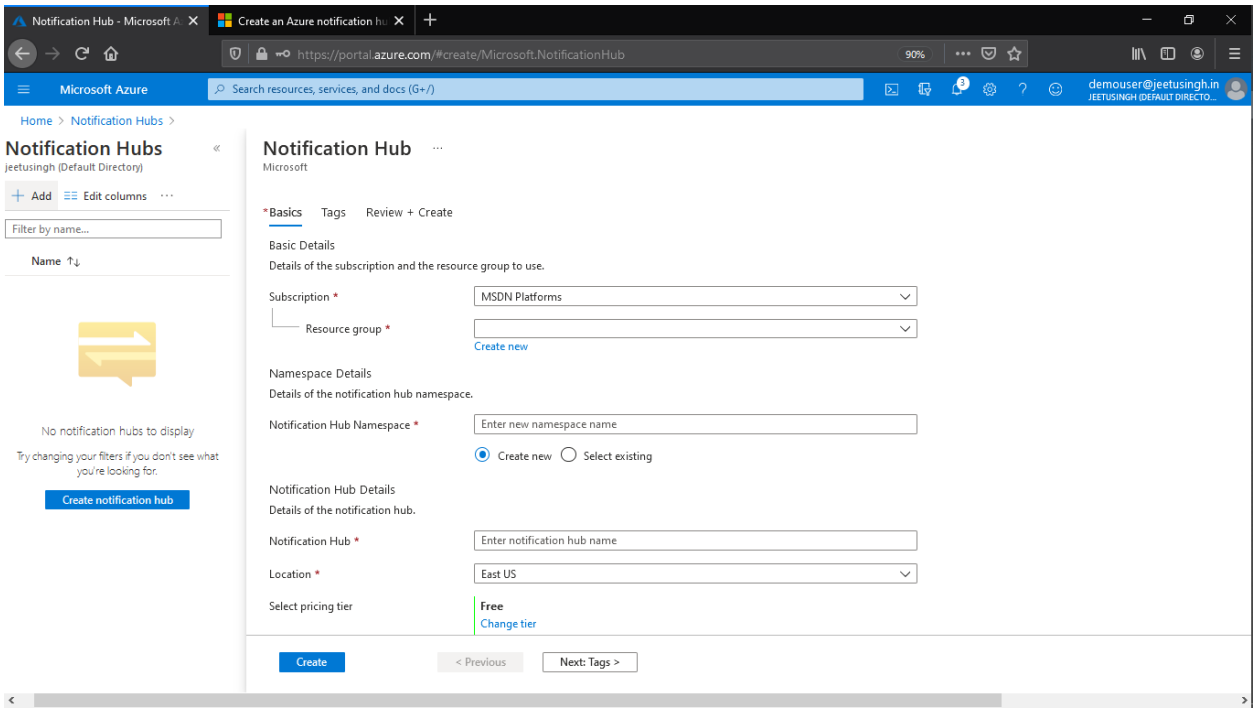


Lab 13: - Create an Azure notification hub in the Azure portal that can be used to send notifications to any platform

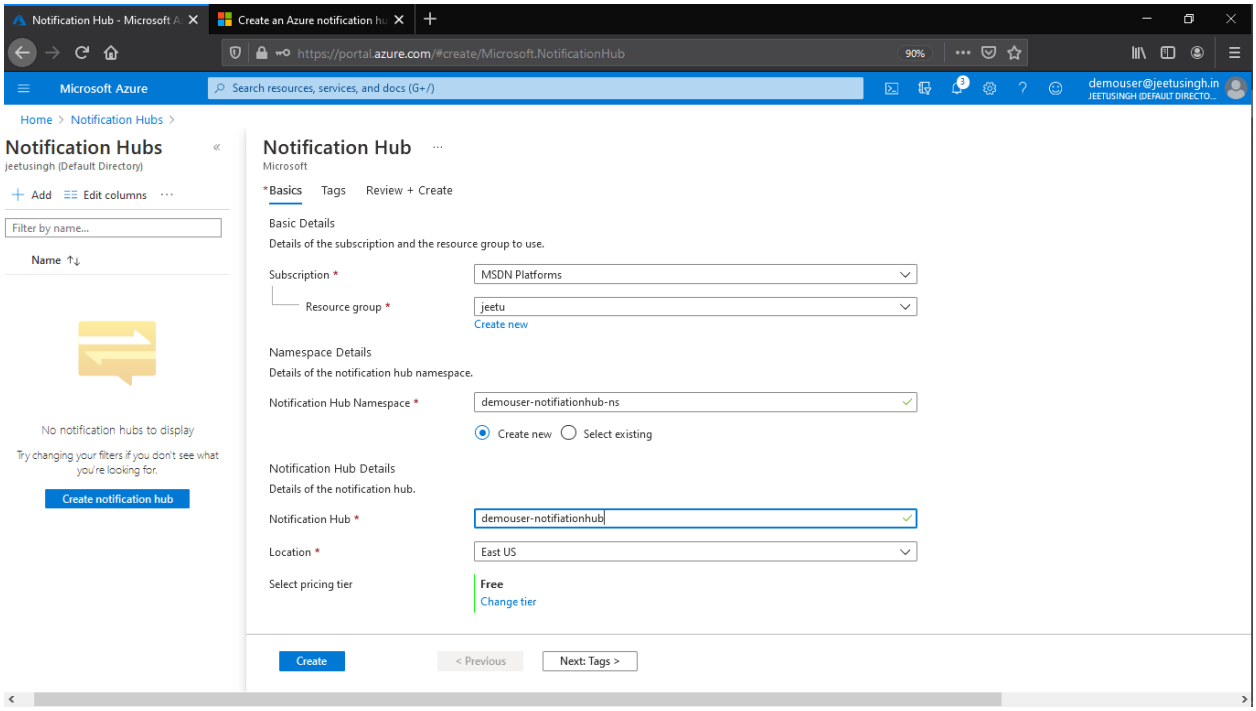
Go to Azure portal & search for “Notification Hub” in the search option & click on it:



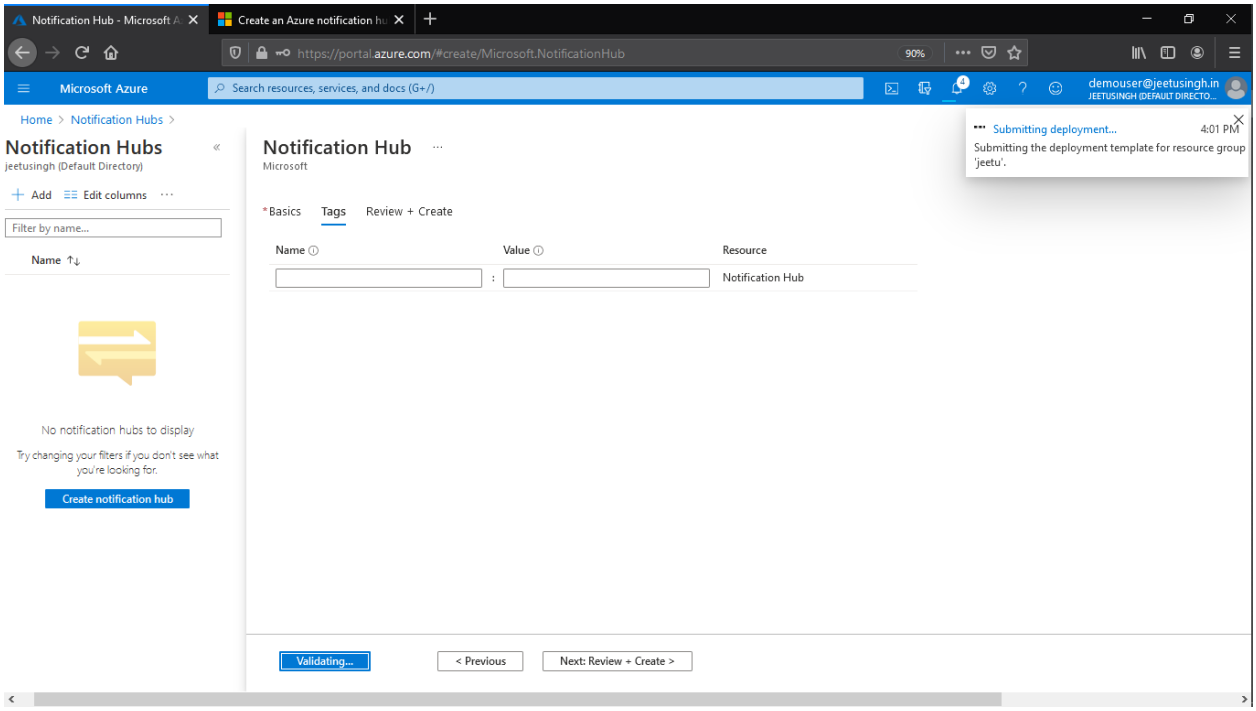
Click on “Add” to create a new notification hub:



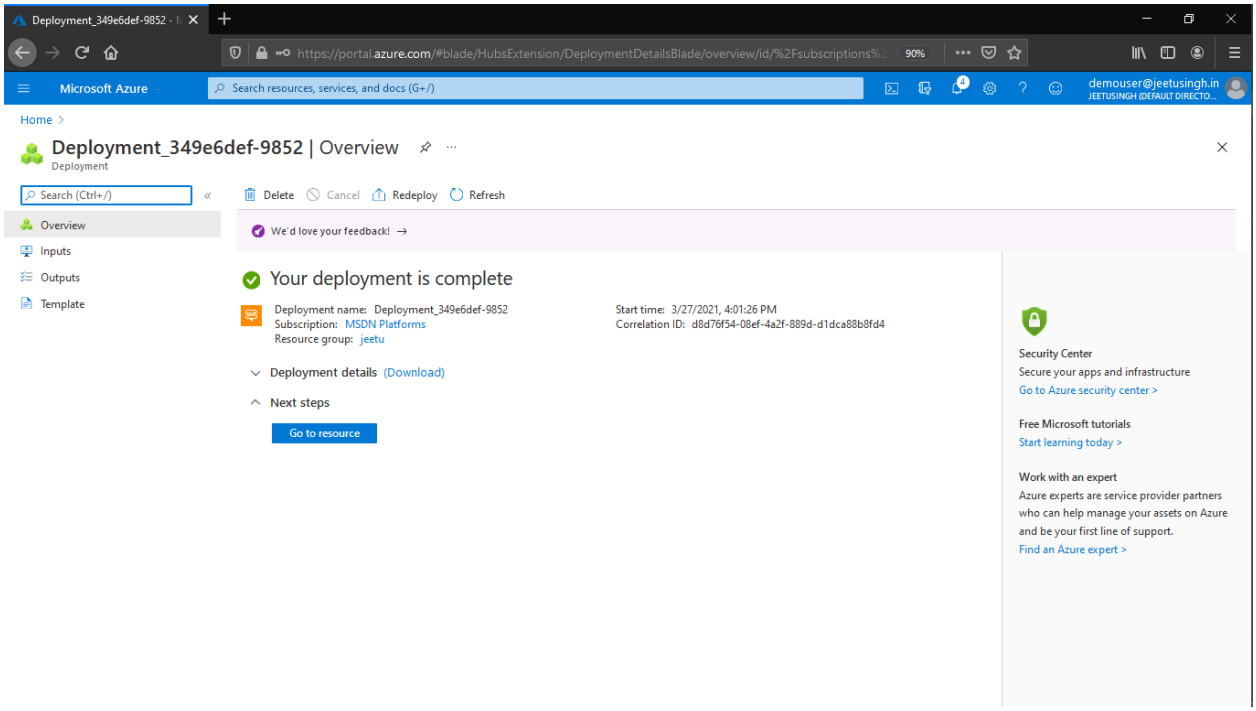
Fill the required details:



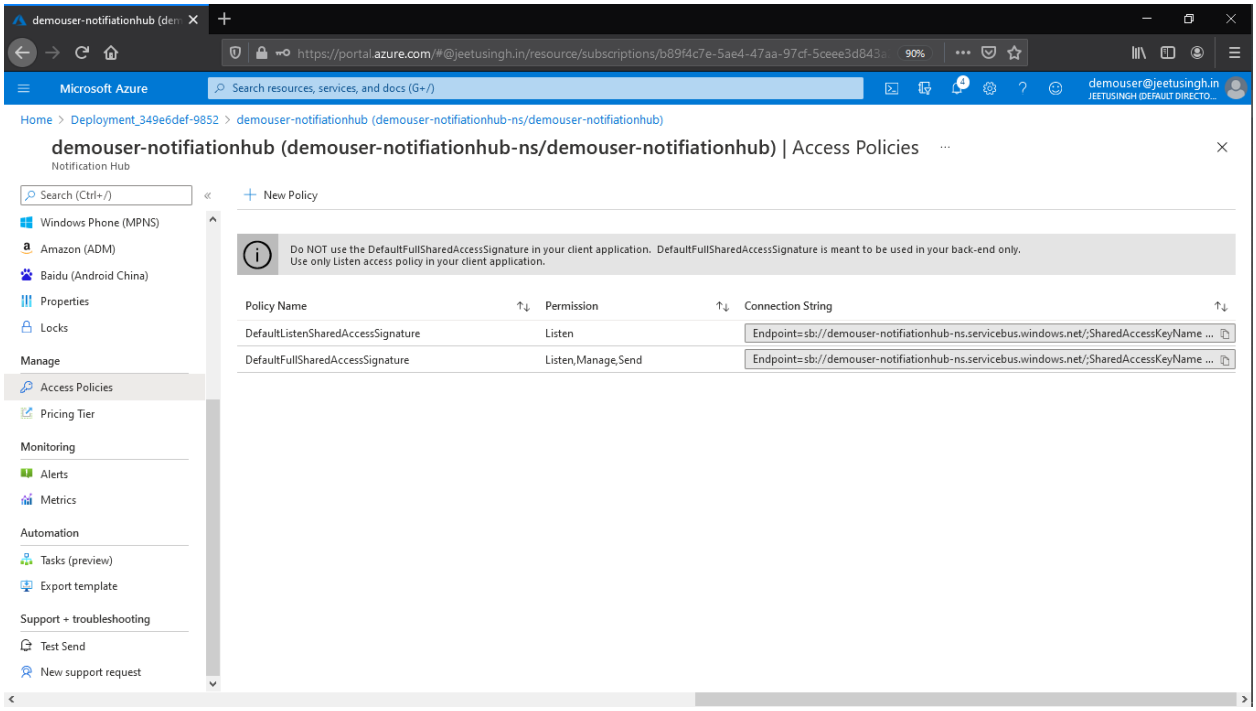
And click on create



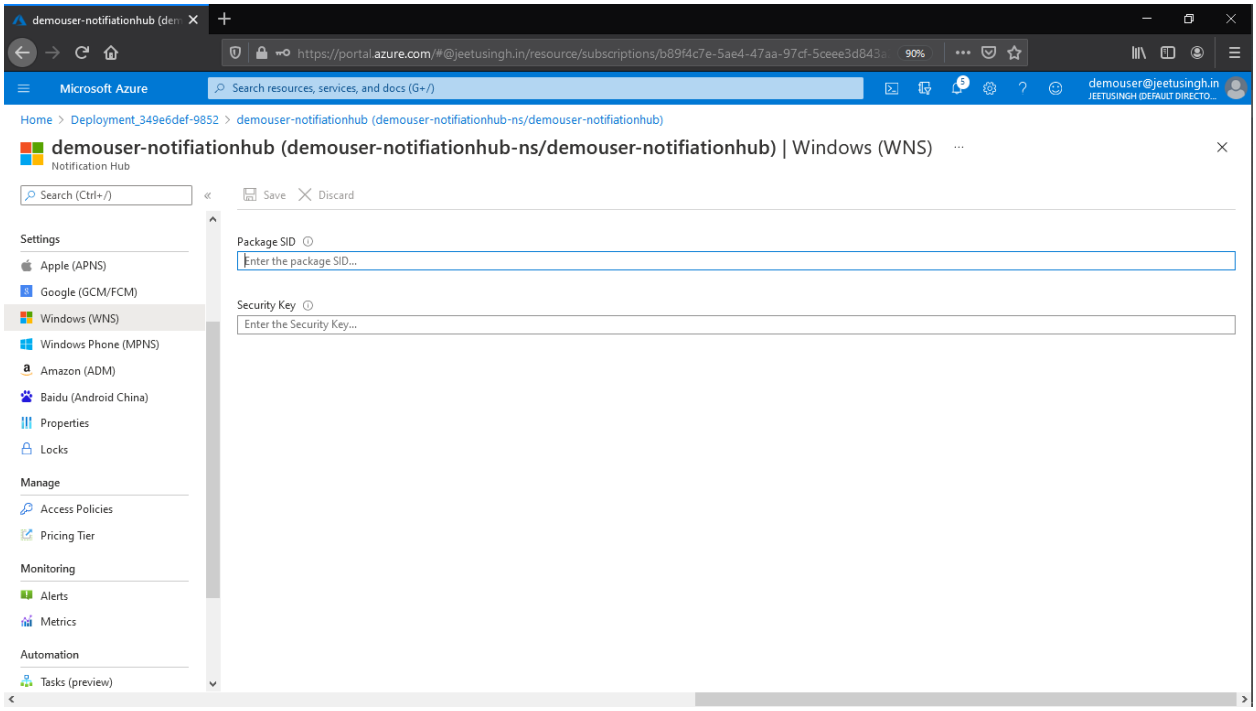
Once deployed, go to the resource:



Search for “Access policies” under Manage blade:

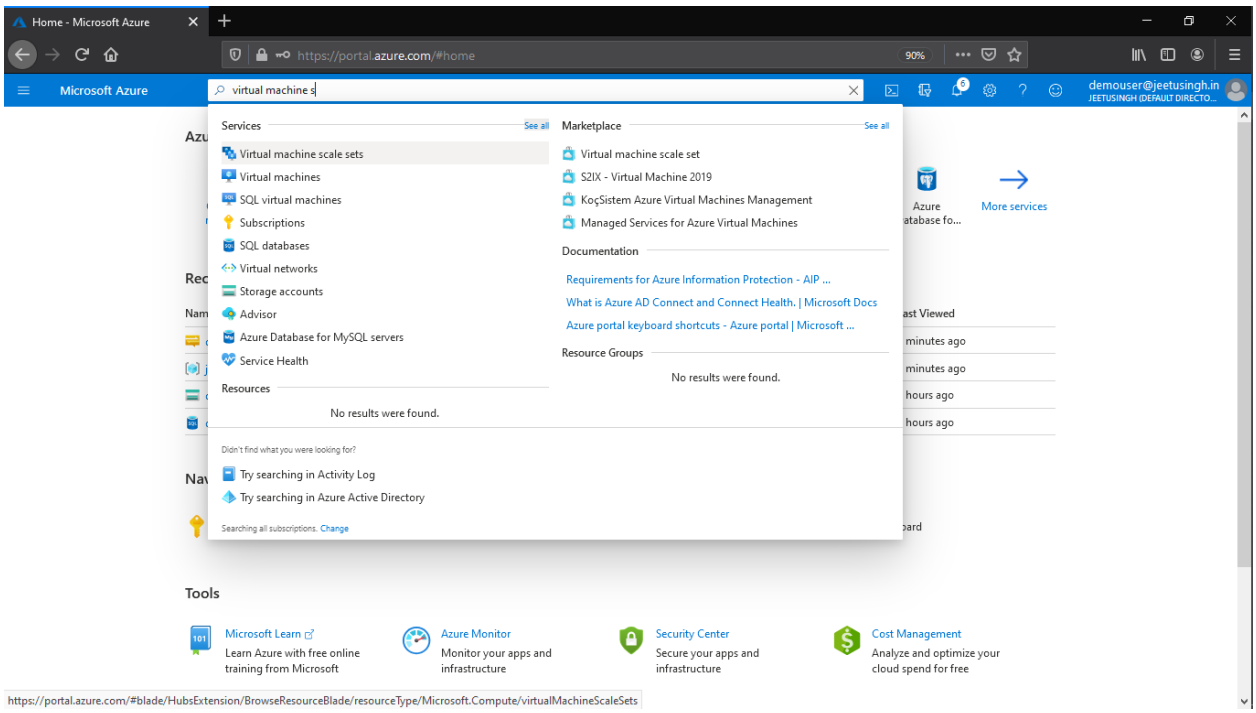


You can use any platform option (under Settings blade) to send notification to the platform.

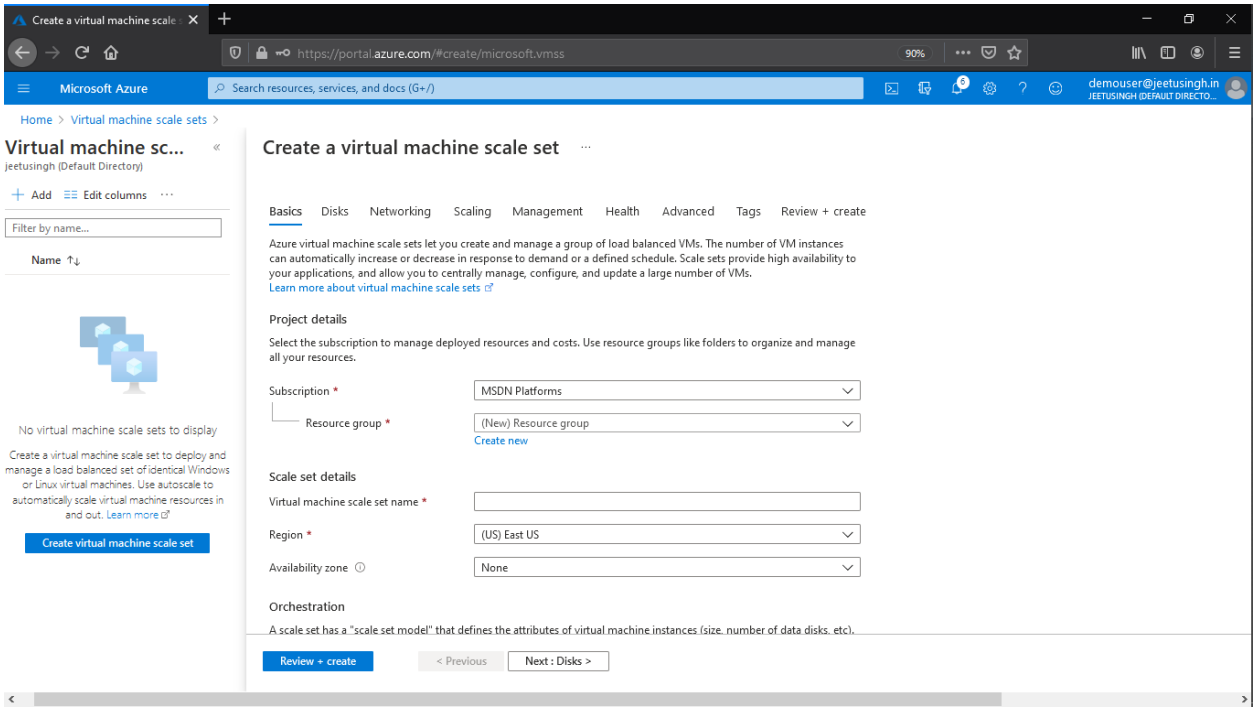


Lab 14: - Create & configure load balancer VMSS & configure autoscaling.

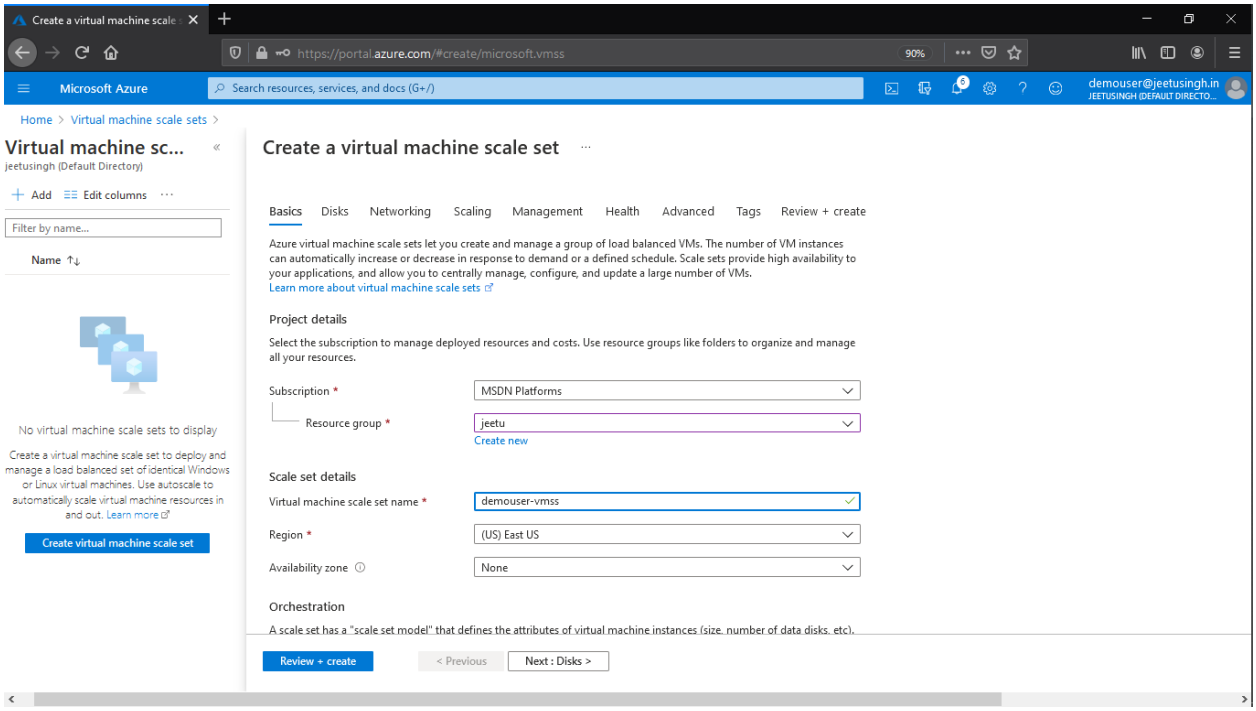
Switch to Azure portal & search for Azure Virtual Machine Scale Set (VMSS) & click on it:



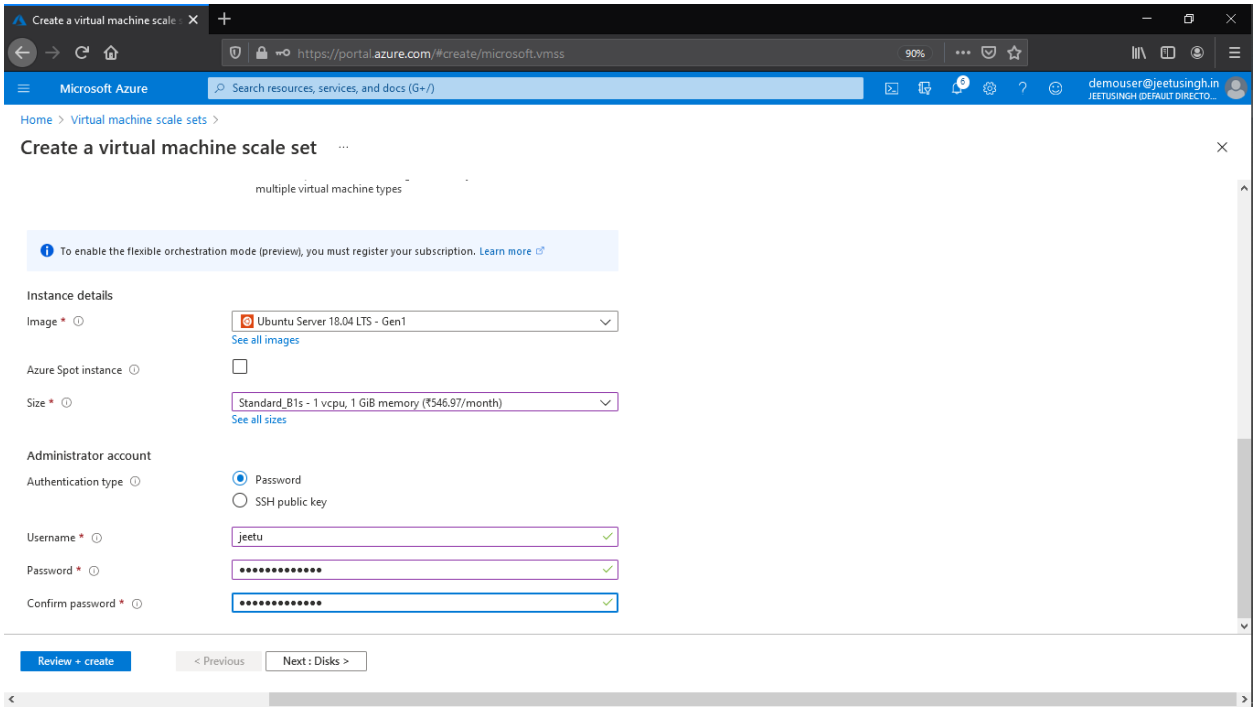
Click add to create a new VMSS:



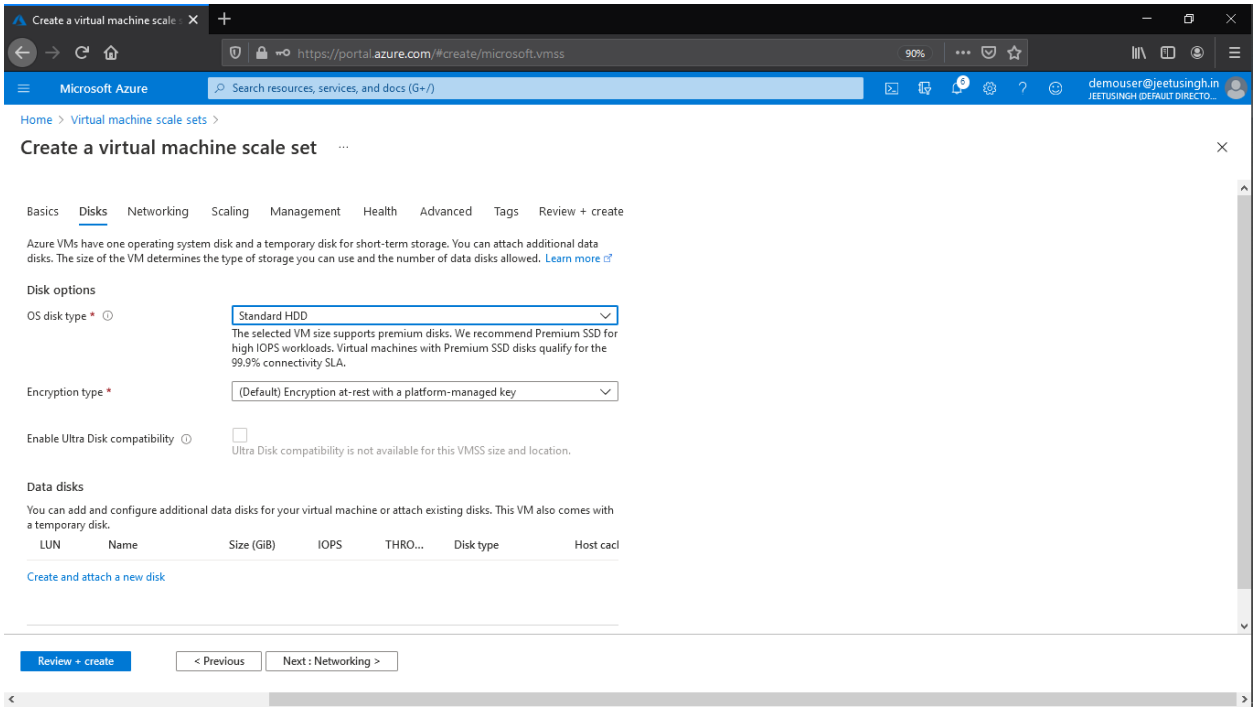
Fill the details for the VMSS:



Select the instance name, username, password or SSH Click on “Disk”:

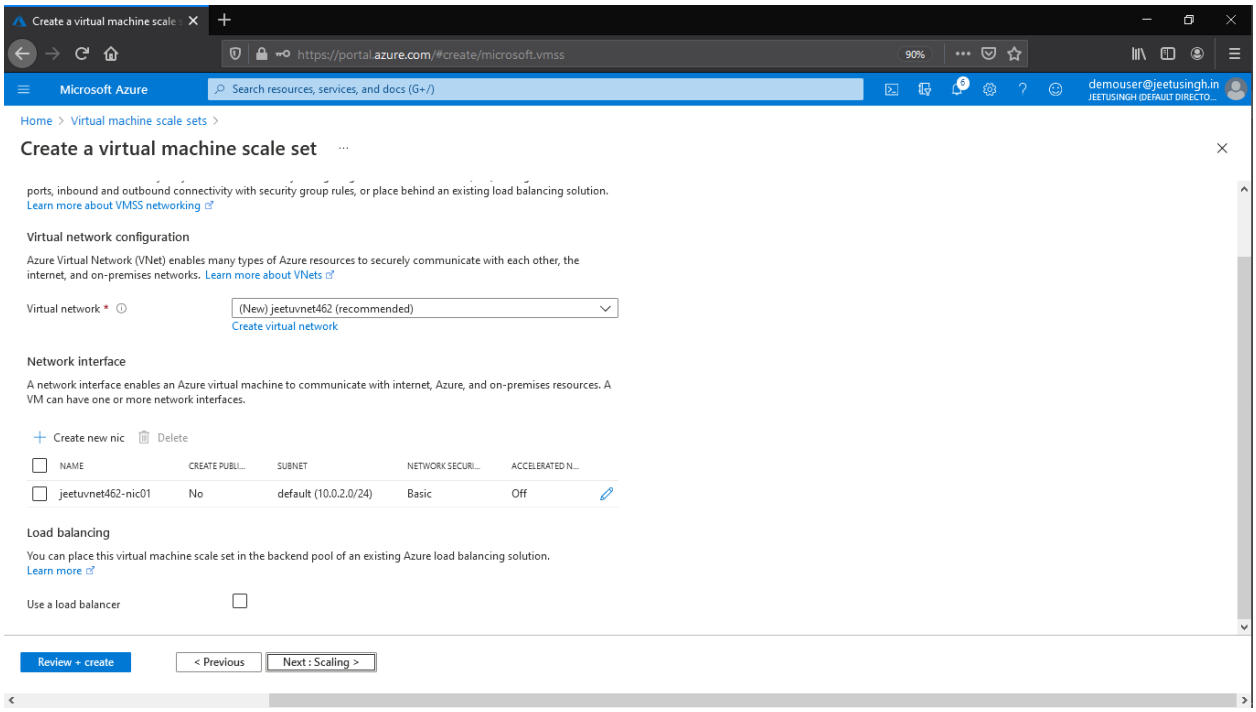


Select any disk of your choice

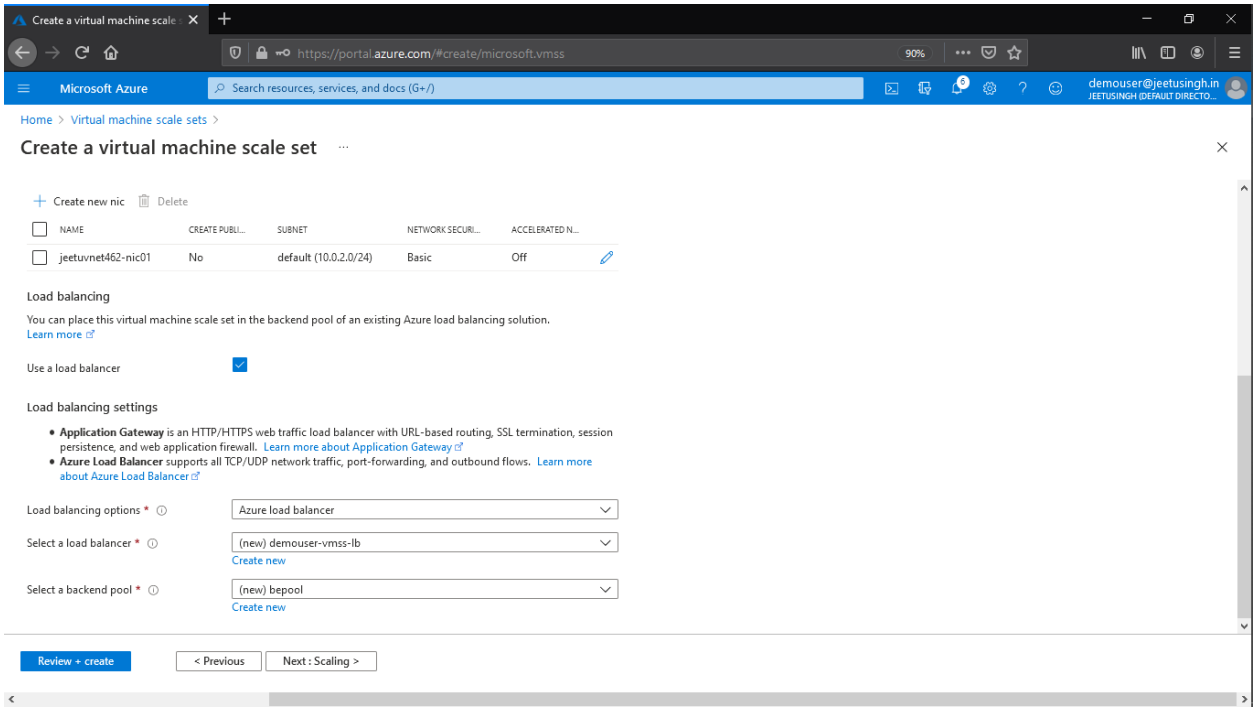


Click on “Networking”:

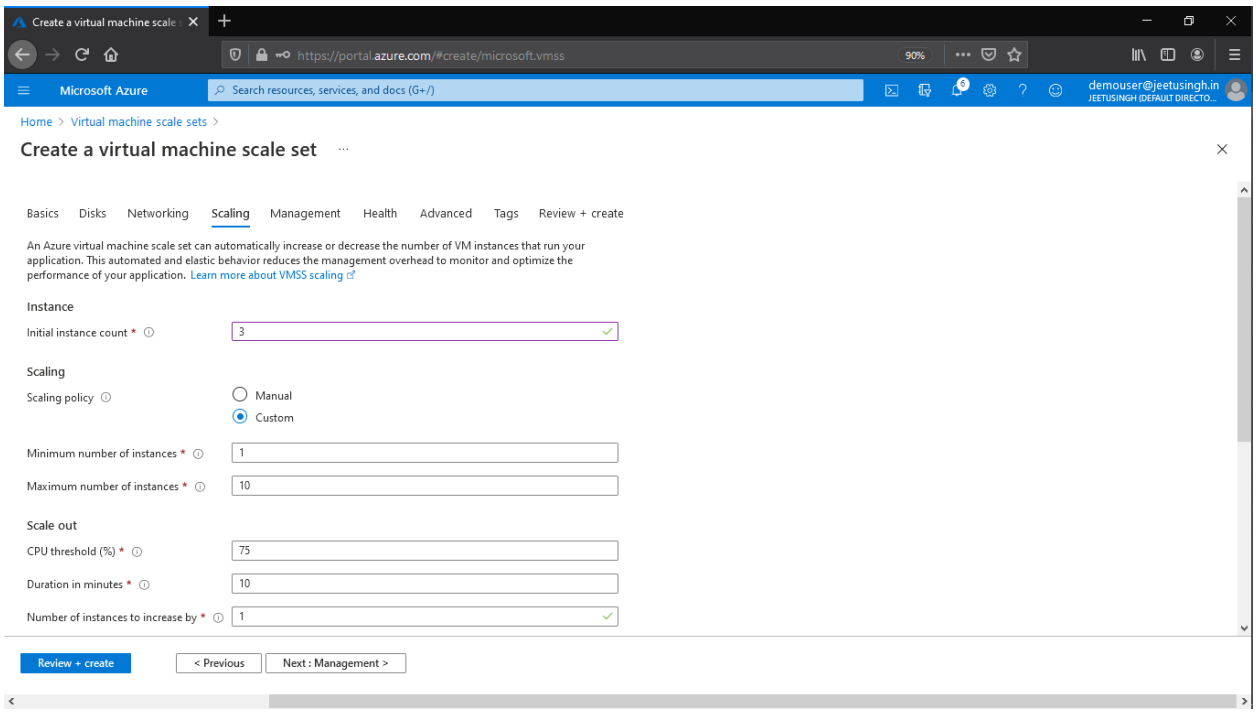
Provide the required networking details.

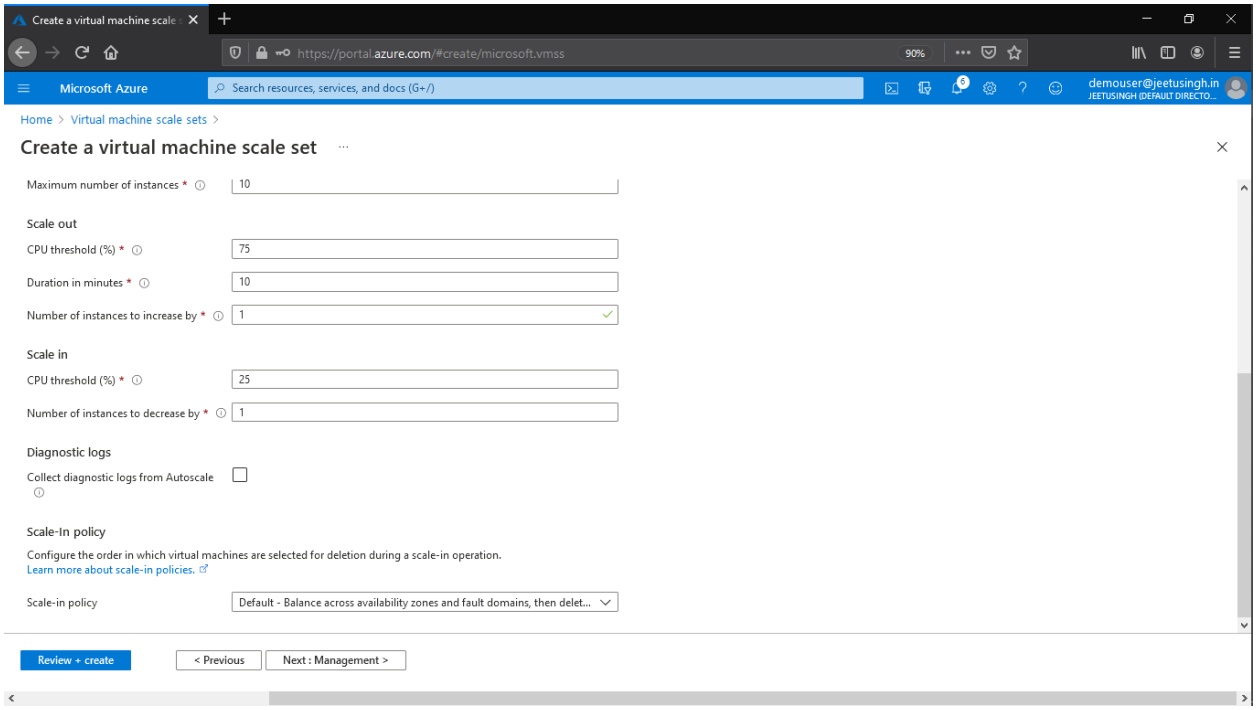


Ensure that you have selected “Use a Load Balancer” option & fill the details:

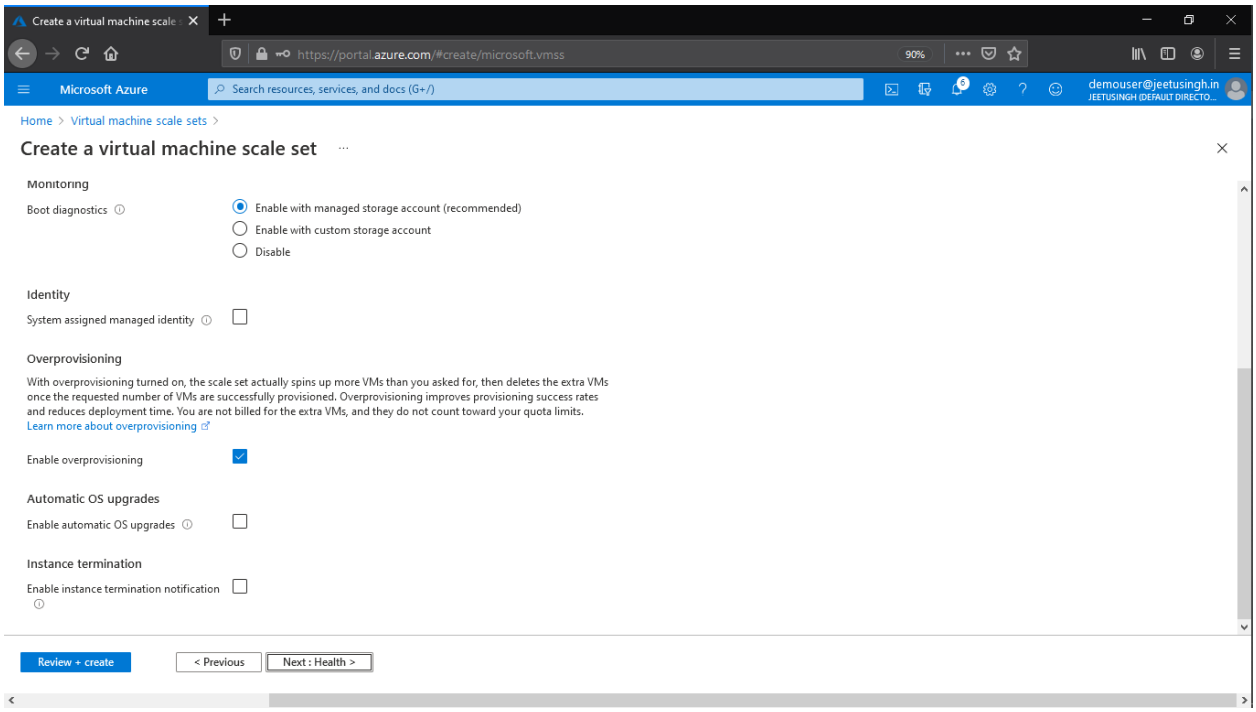


In the Scaling option, select “Custom” & fill the other details:



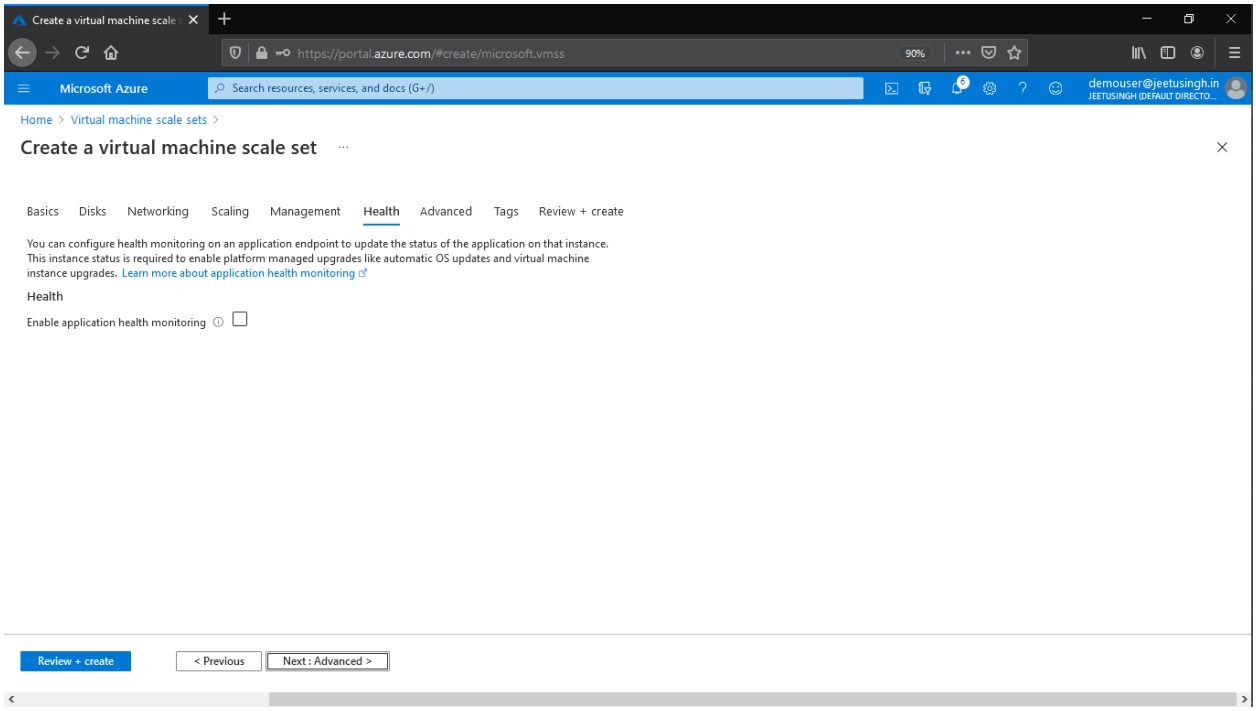


Click on “Management” & select all default:



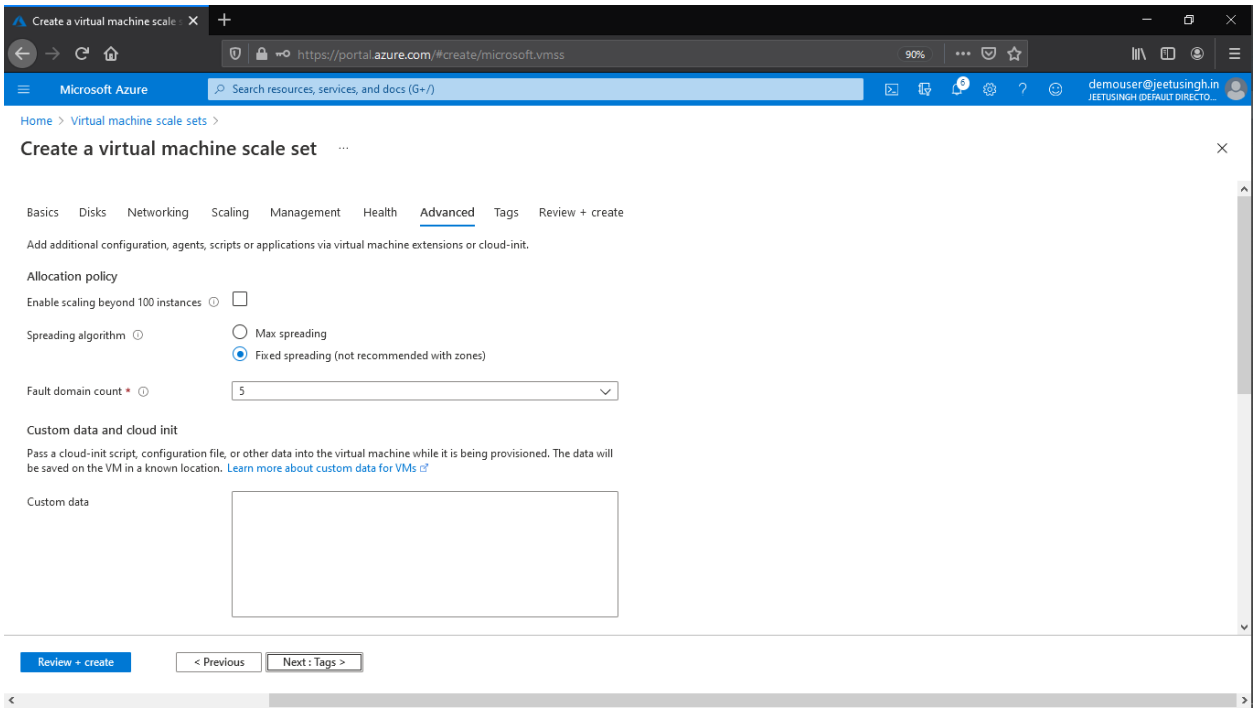
& click on “Health”

If you which to enable health monitoring of the application, then click on the check box (additional charges applied). I am not checking it.



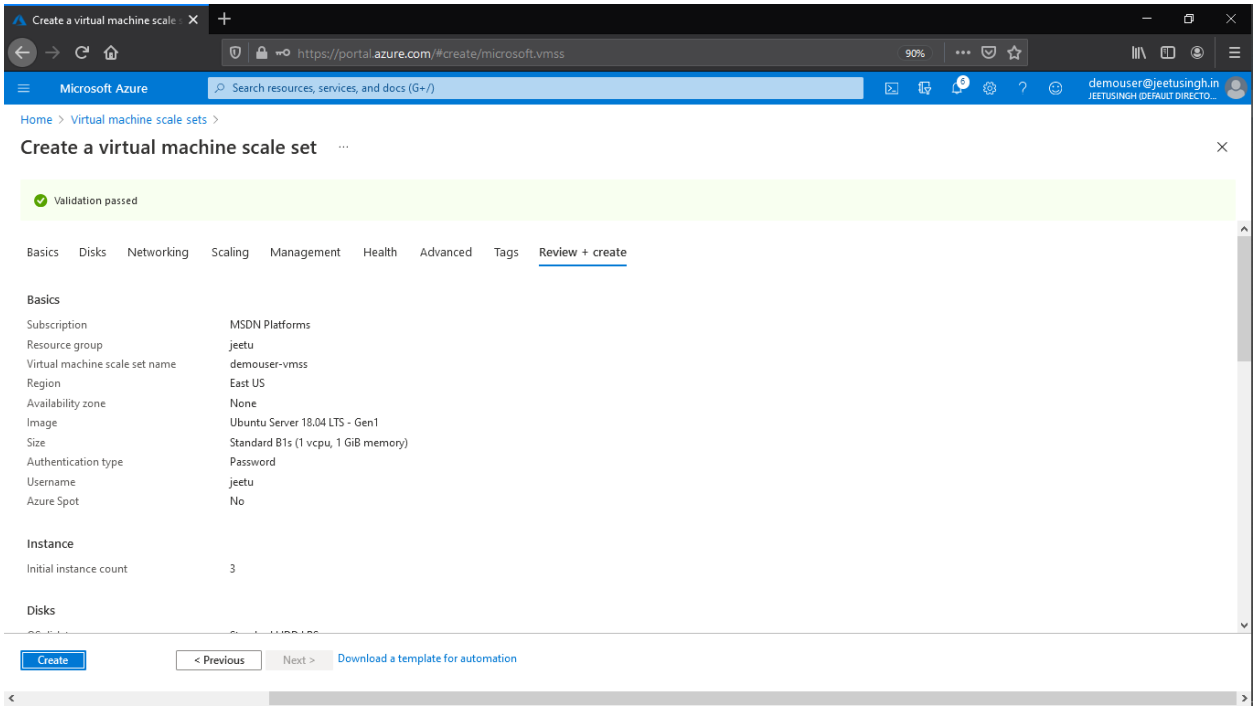
& click on “Advanced”

Fill the details (I selected all default):

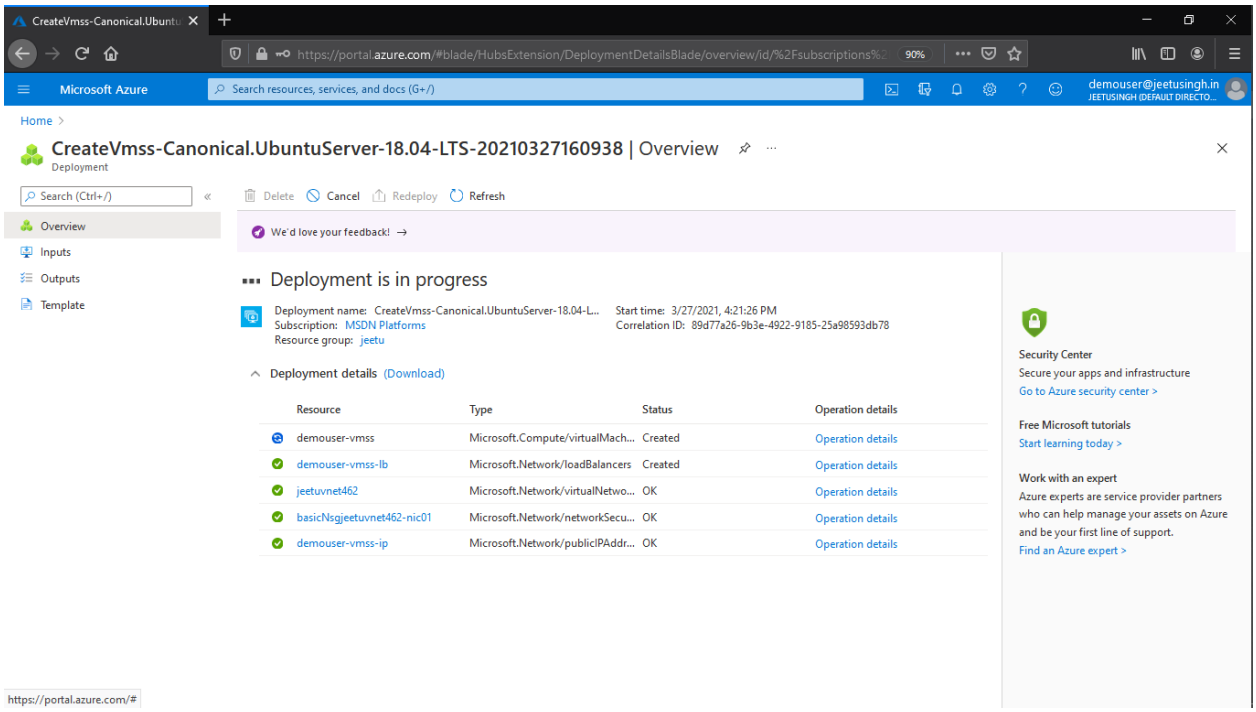


& click on “Review + Create”.

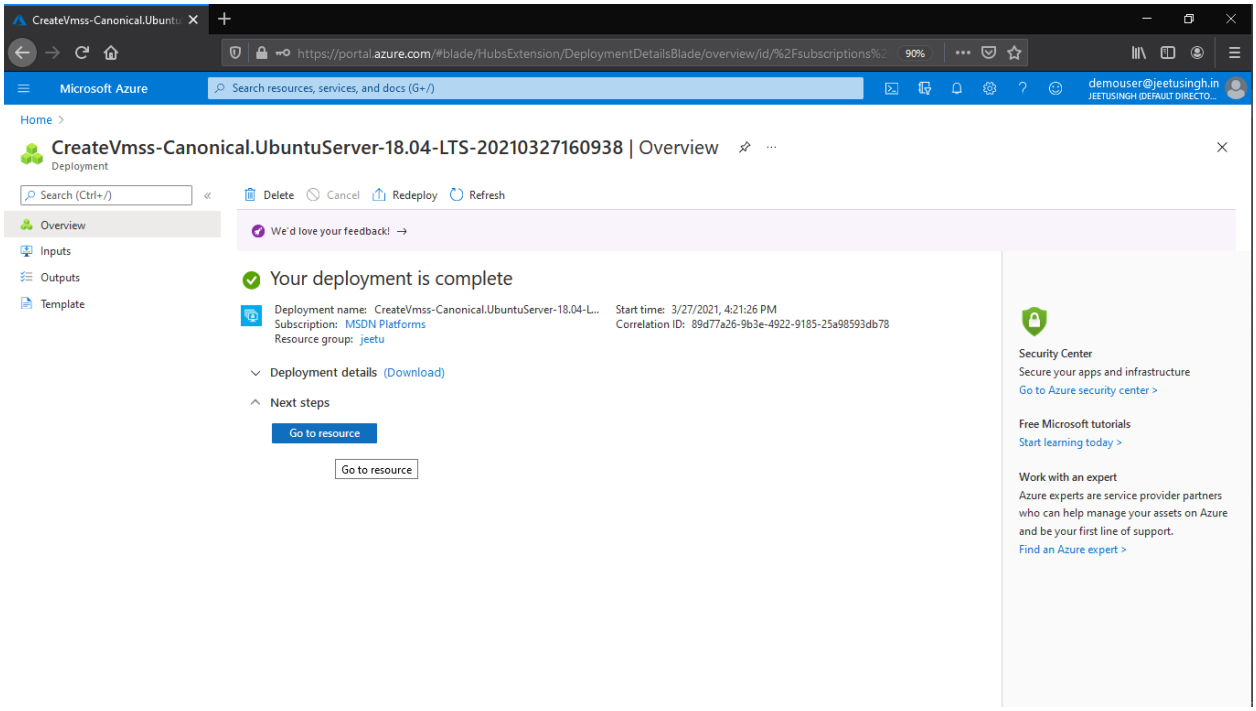
Once validation passed, click on “Create”



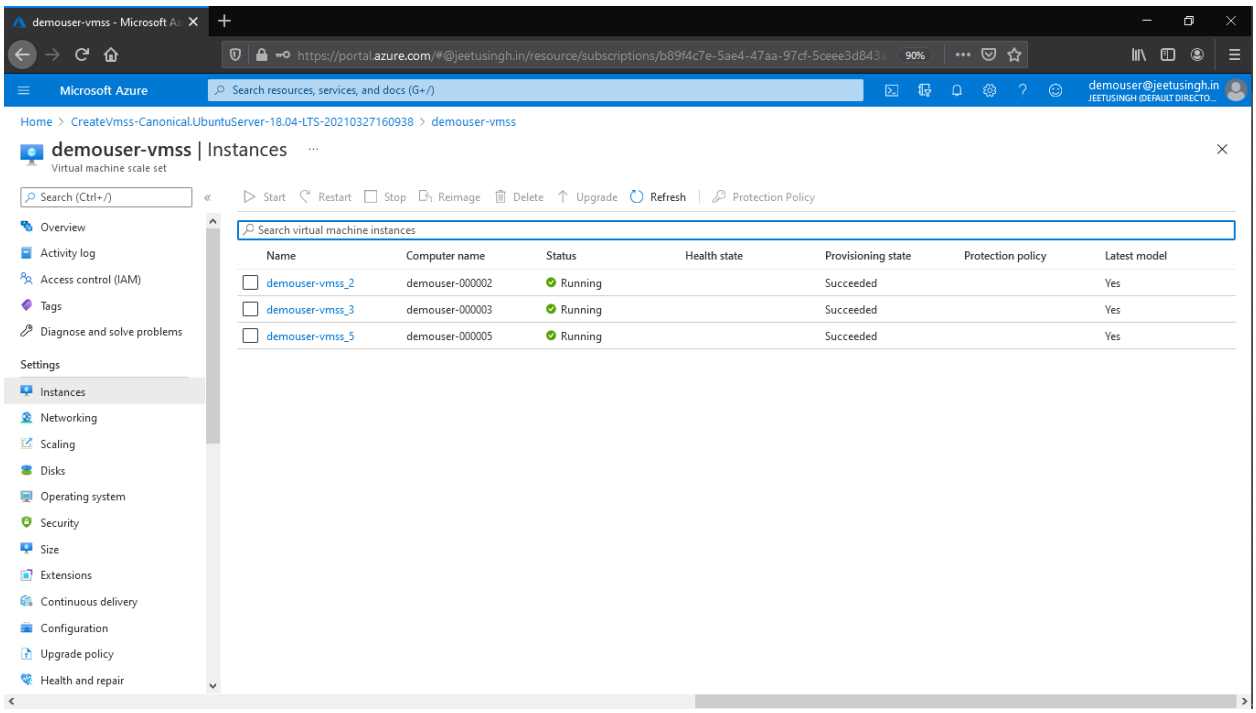
Wait until the deployment is over:



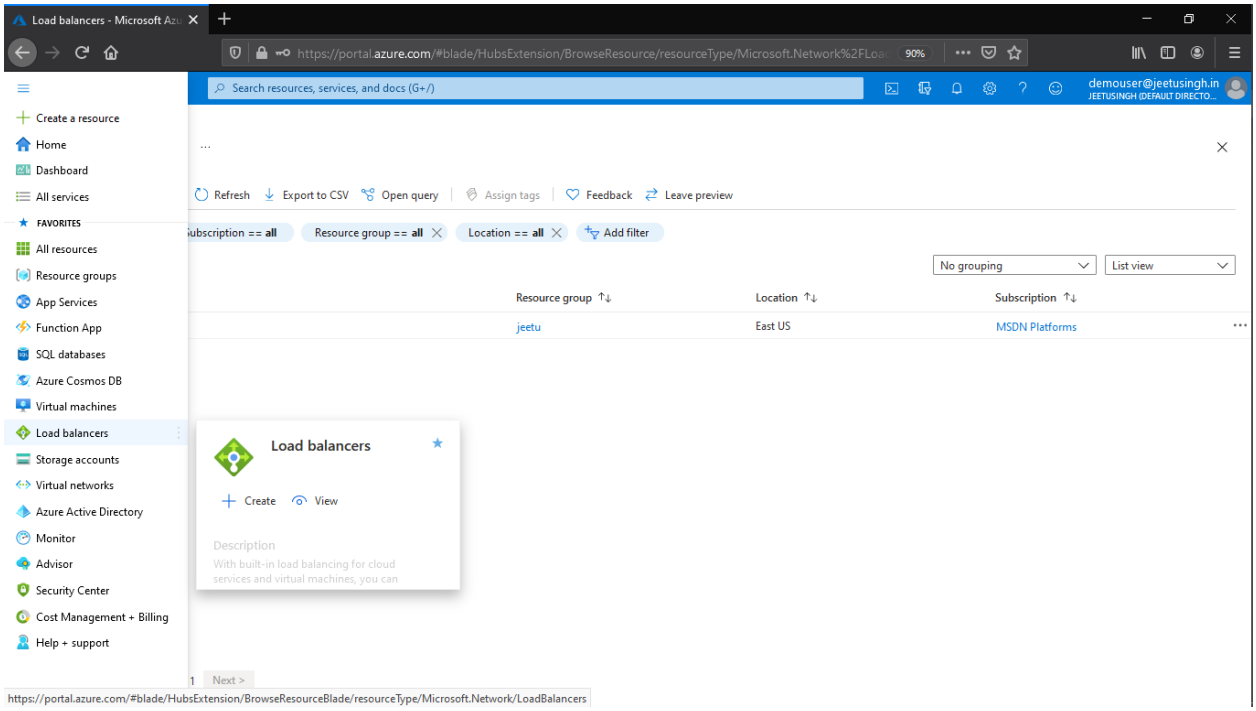
Once done, click on Go to resource:



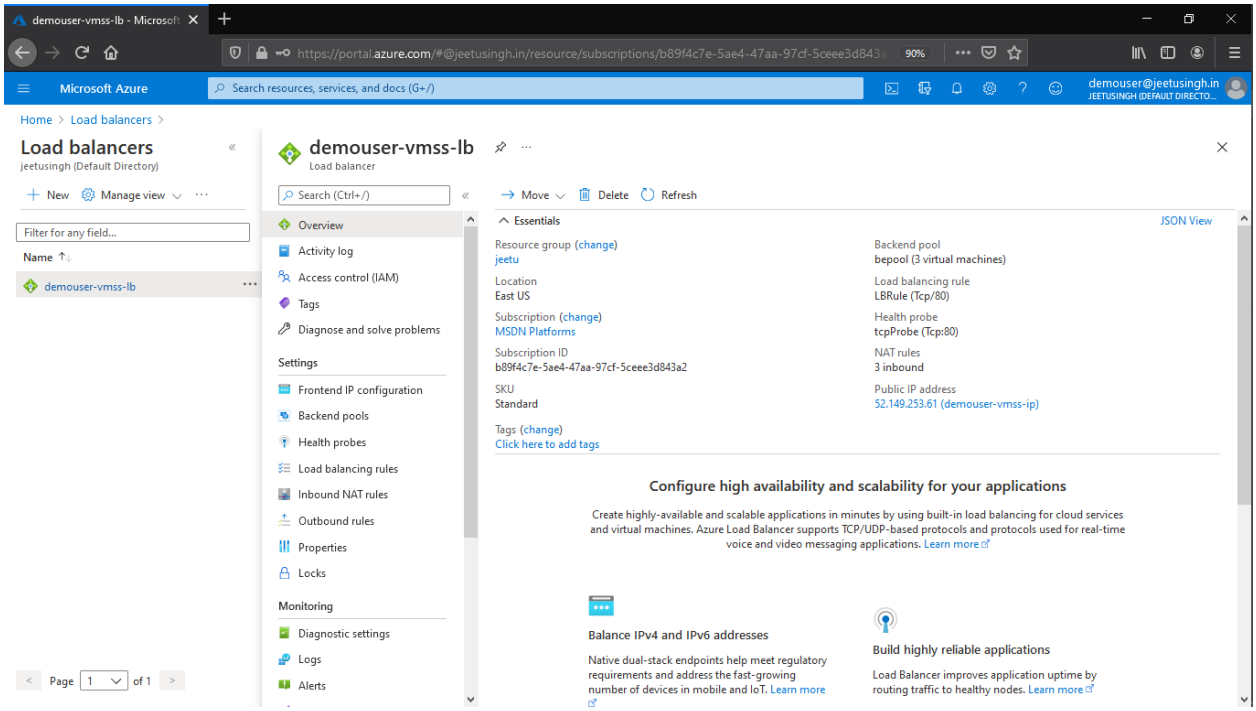
Click on the “Instances” under the Settings blade & verify the number of instances running:



On left hand side, select the Load Balancer option:



And select your load balancer:



Copy the load balancer public IP address & paste it in the web browser, if the VMs are configured with apache/nginx web server, then you would find the web page on the browser.