DEPLOYING WINDOWS VIRTUAL MACHINE USING AZURE PORTAL, CLI, POWERSHELL AND ARM TEMPLATE

Virtual Machine

In Simpler terms virtual machine is a computer inside a computer.

virtual machine is the virtualization/emulation of a computer system. Virtual machines are based on computer architectures and provide functionality of a physical computer. Their implementations may involve specialized hardware, software, or a combination.

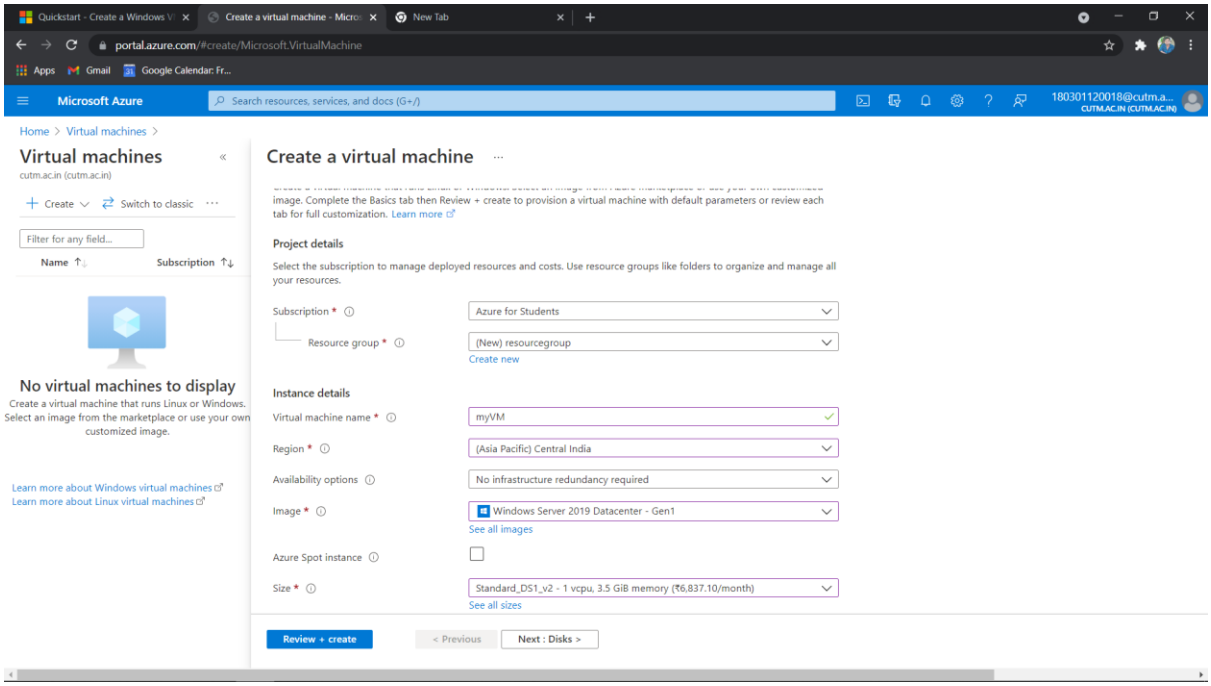
CREATING WINDOWS VIRTUAL MACHINE USING AZURE PORTAL-

Sign in to Azure

Login to Azure Portal using your credentials.

Create virtual machine

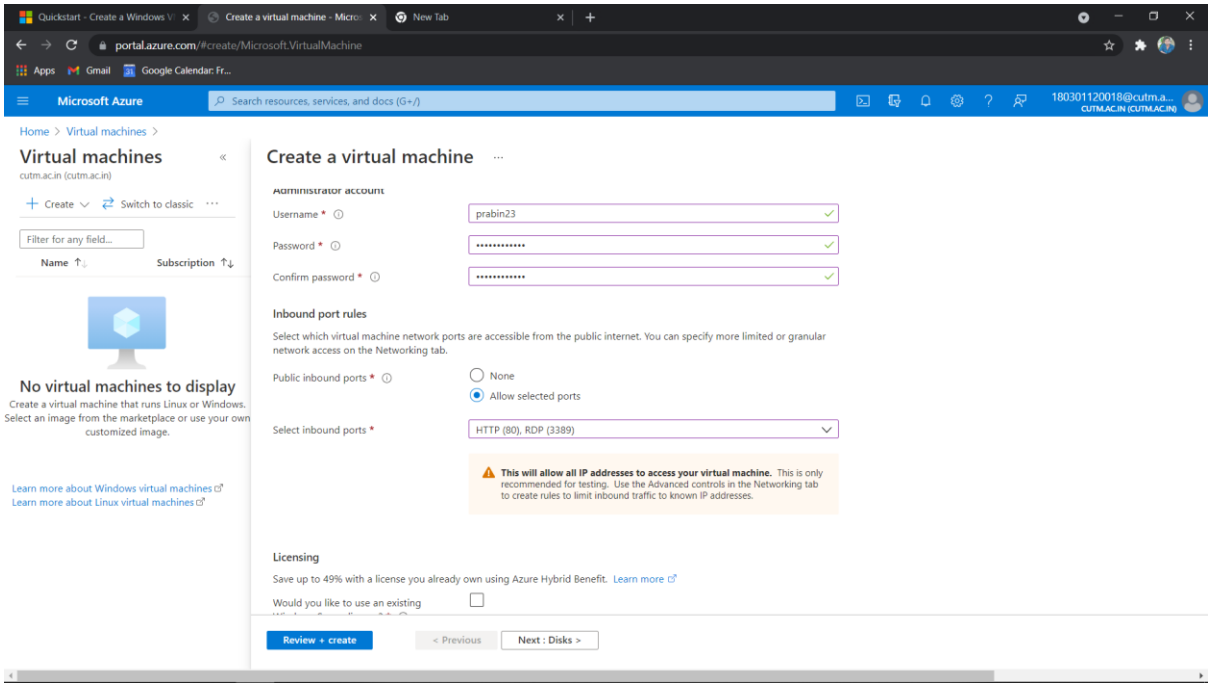
- Type virtual machines in the search.
- Under Services, select Virtual machines.
- Add Virtual Machine.
- In the Basics tab, under Project details, make sure the correct subscription is selected and then choose to Create new resource group. Type resourceGroup for the name.
- Under Instance details, type myVM for the Virtual machine name and choose Asia Pacific(Central India) for your Region. Choose Windows Server 2019 Datacentre for the Image and Standard_DS1_v2 for the Size. Leave the other defaults.



Under Administrator account, provide a username, such as prabin and a password

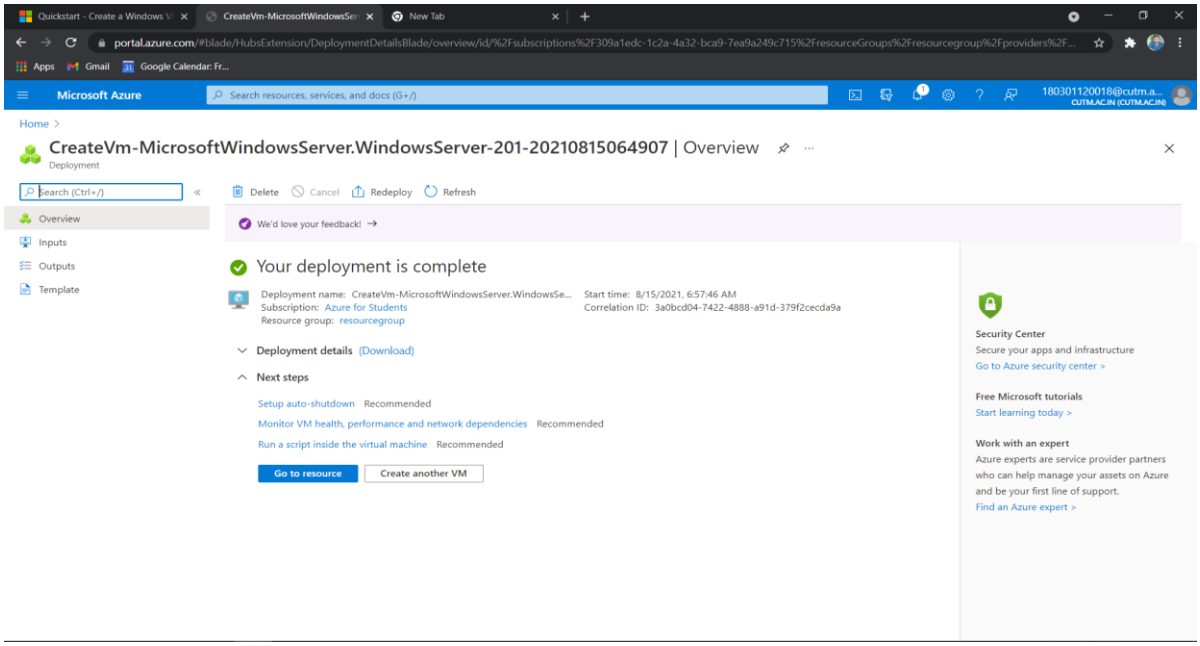
Under Inbound port rules, choose Allow selected ports and then select RDP (3389) and HTTP (80) from the drop-down.

Leave the remaining defaults and then select the Review + create button at the bottom of the page.

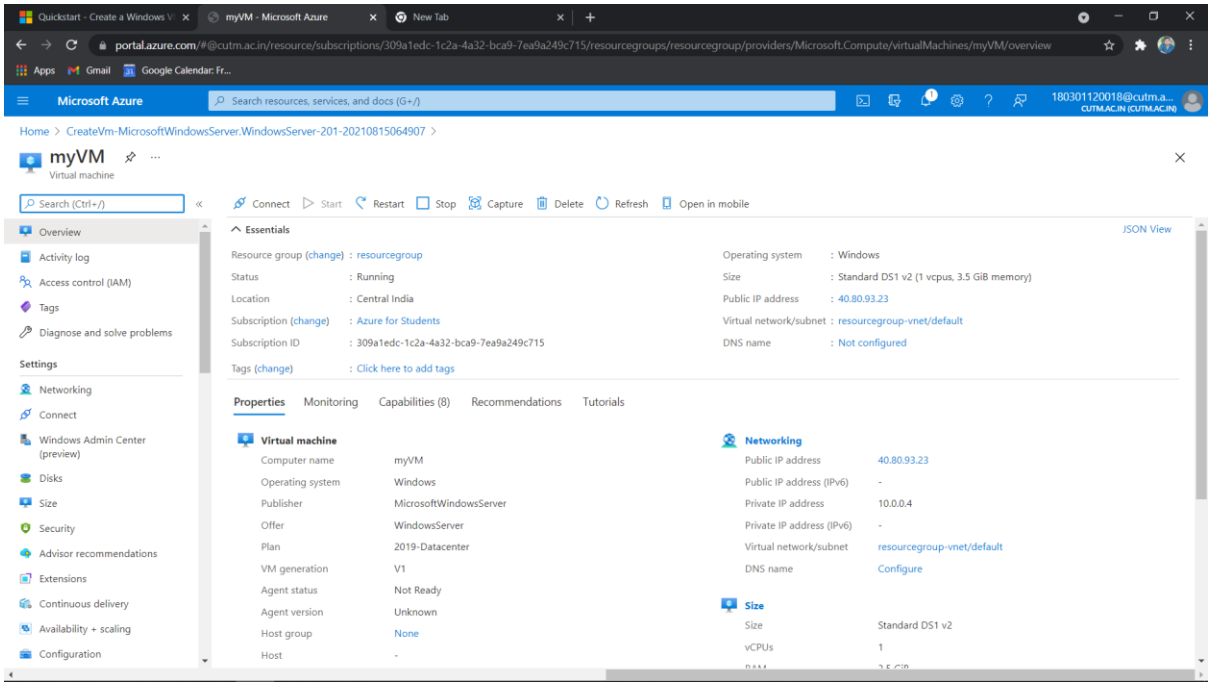


After validation runs, select the Create button at the bottom of the page.

Wait for deployment to complete

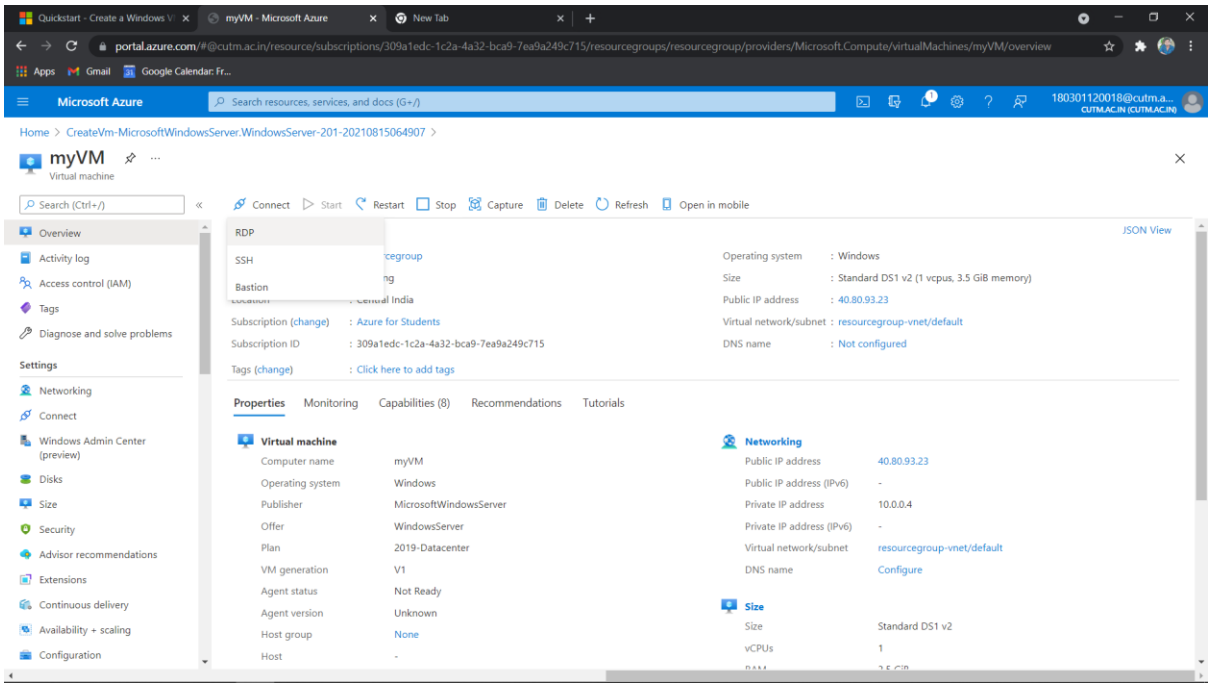


Select Goto resource. It will show all the information.



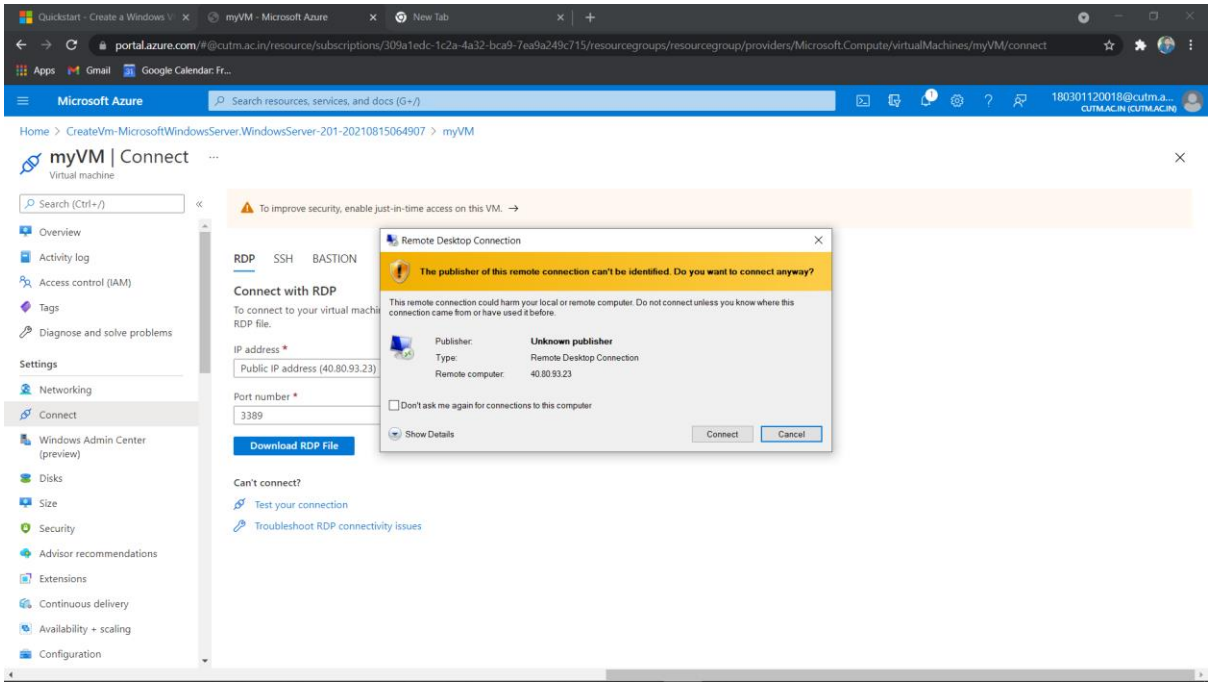
Connect to virtual machine

On the overview page for your virtual machine, select the Connect button then select RDP.



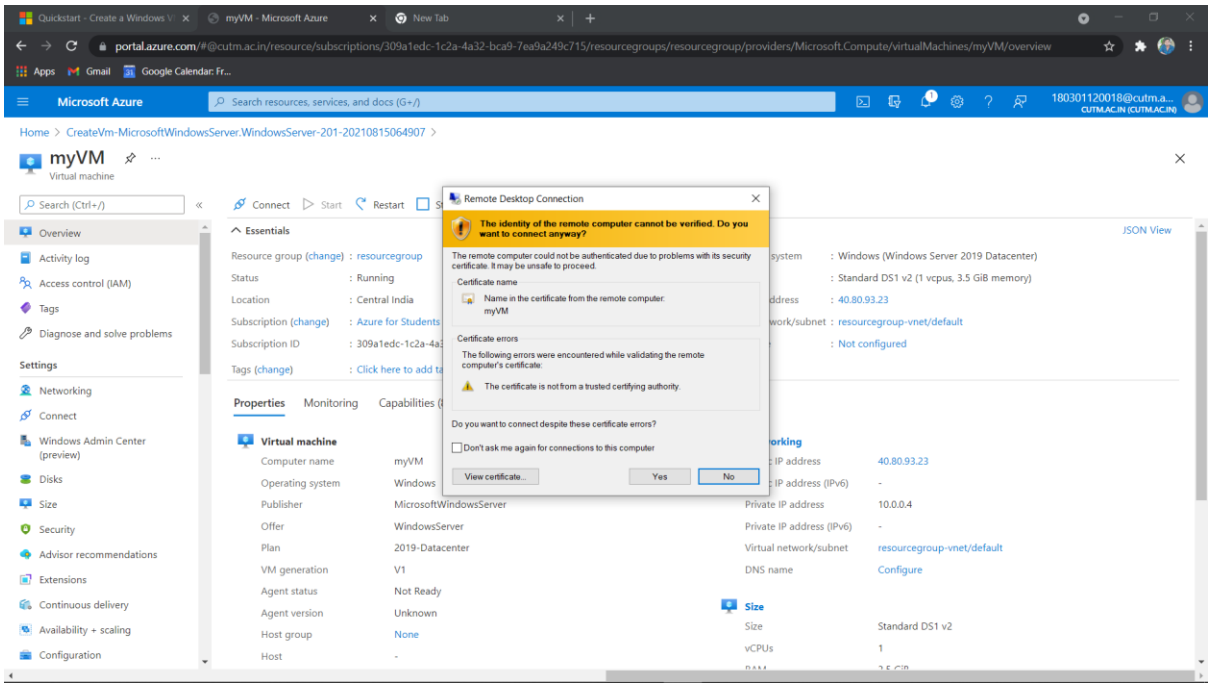
In the Connect with RDP page, keep the default options to connect by IP address, over port 3389, and click Download RDP file.

Open the downloaded RDP file and click Connect when prompted.

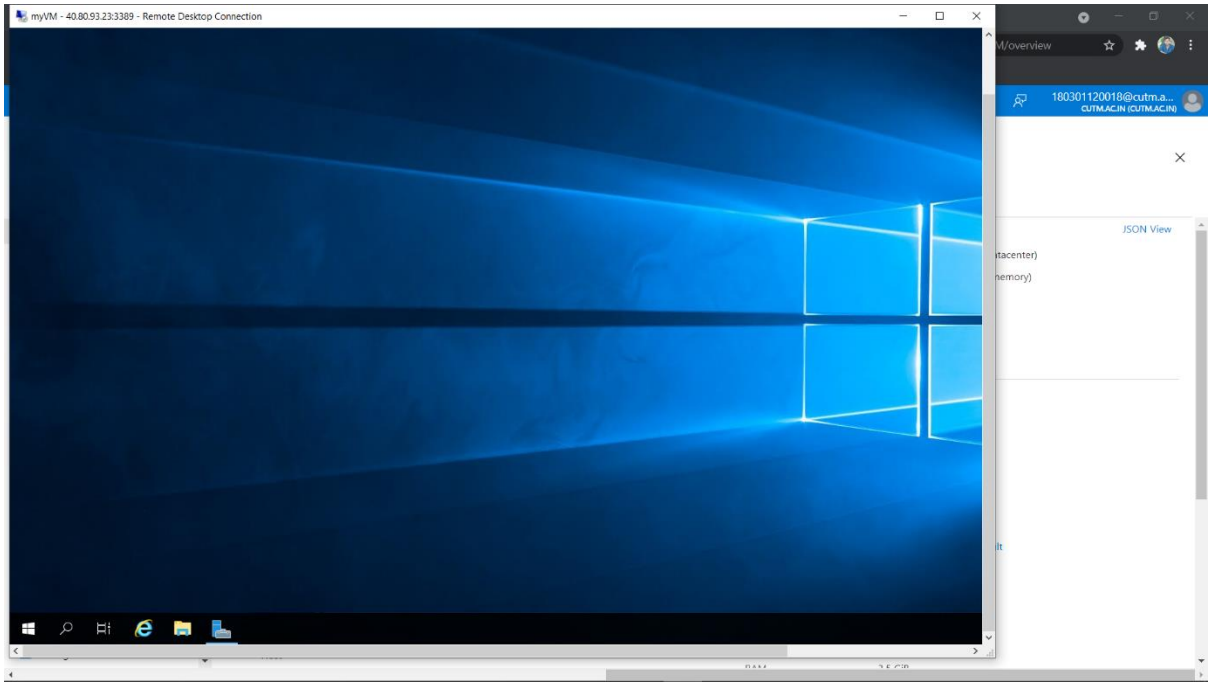


Type the username as localhost\username, enter the password you created for the virtual machine, and then click OK.

It may show a certificate warning during the sign-in process. Click Yes or Continue to create the connection.

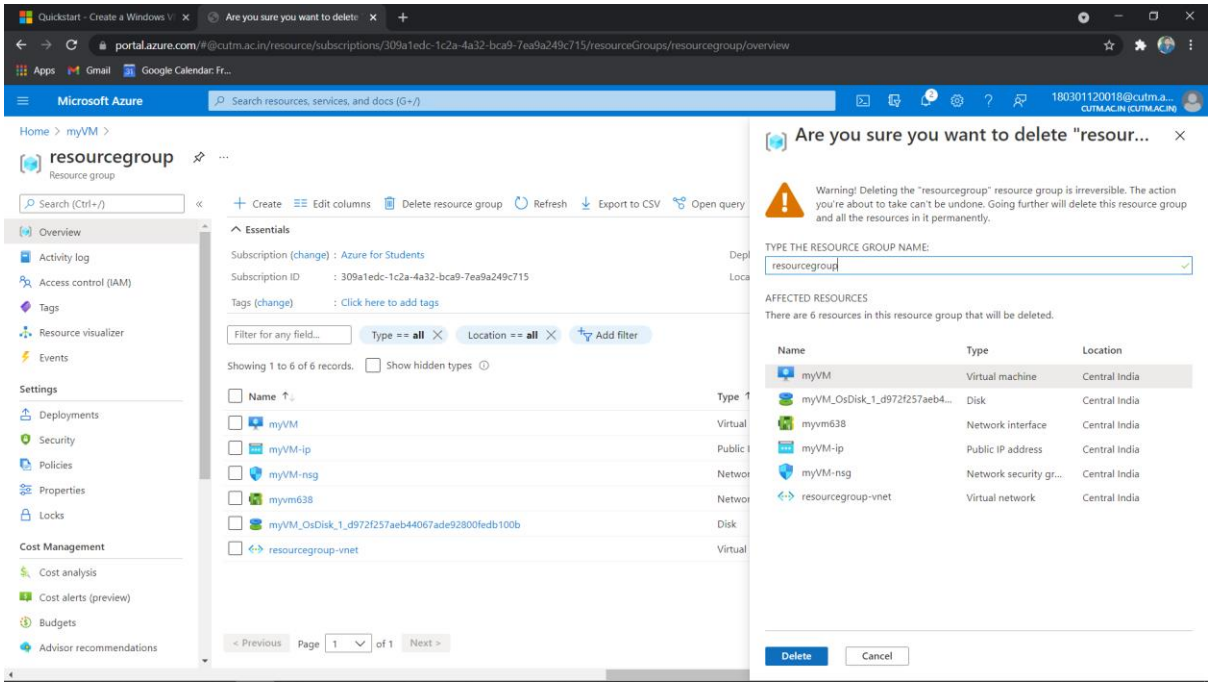


It will Connect to the Windows Virtual Machine.



Delete the resource group, virtual machine, and all related resources after work.

Go to the resource group for the virtual machine, then select Delete resource group. Confirm the name of the resource group to finish deleting the resources.



CREATING WINDOWS VIRTUAL MACHINE USING AZURE CLI-

Create a resource group

Create a resource group with the az group create command. An Azure resource group is a logical container into which Azure resources are deployed and managed.

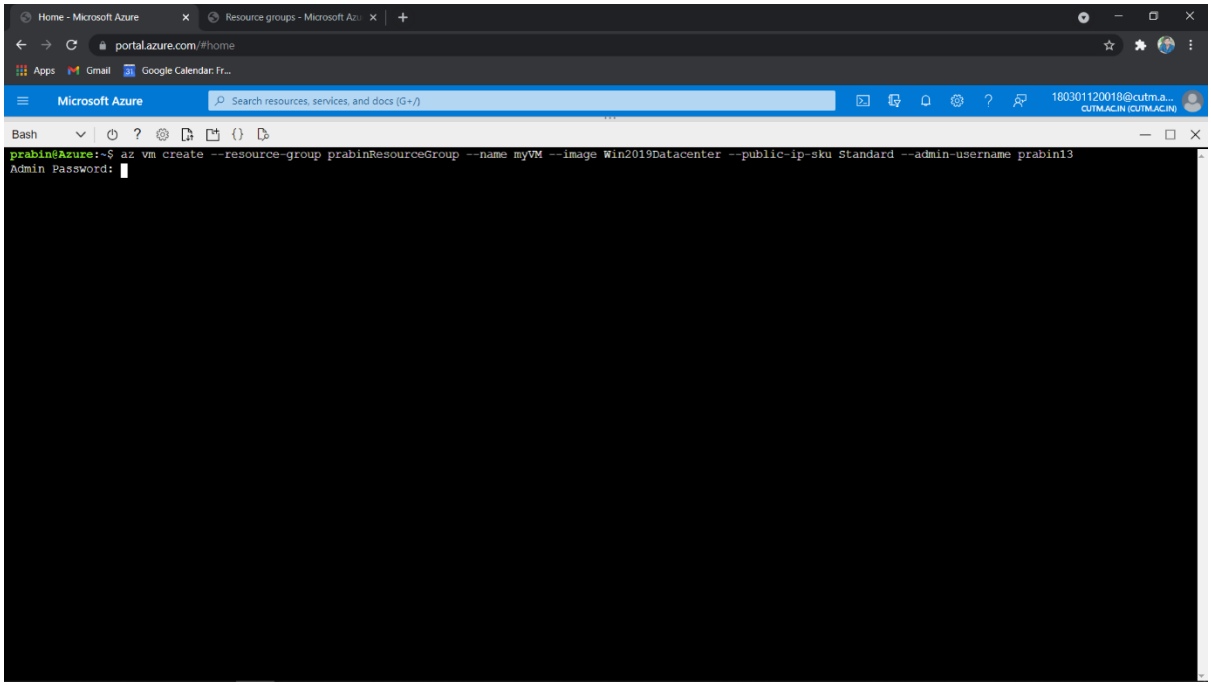
>az group create --name prabinResourceGroup --location centralindia

Create virtual machine

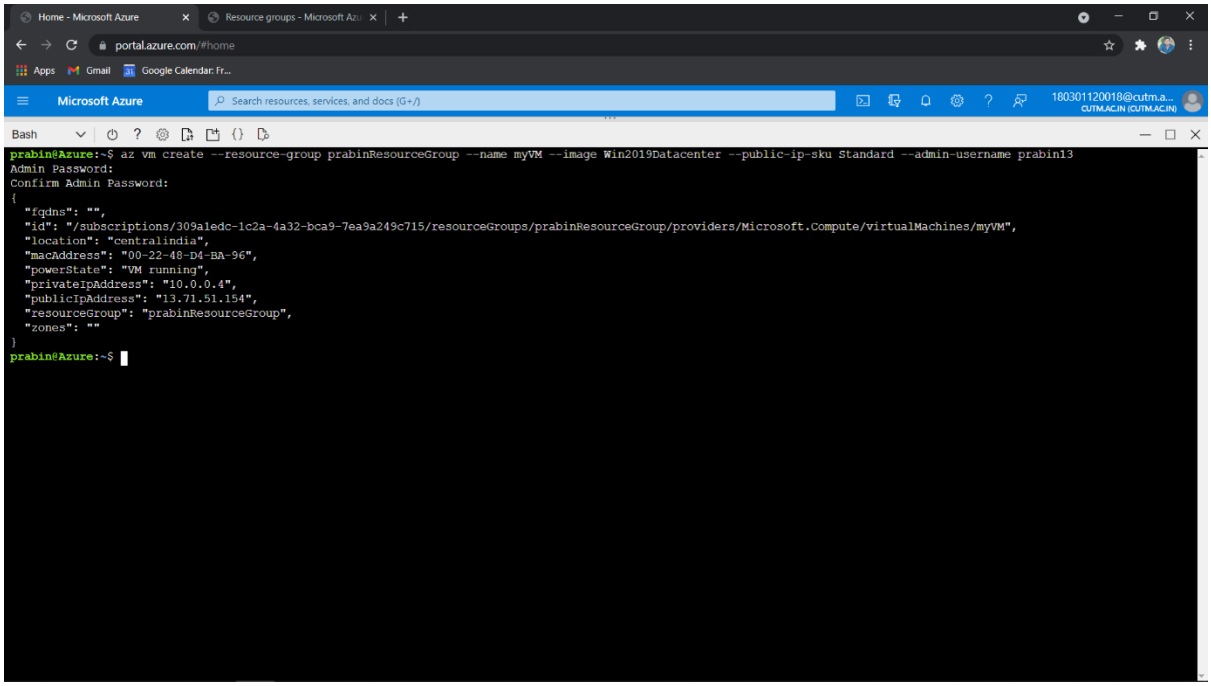
Create a VM with az vm create. I will create virtual machine name myVM and username named prabin13.

add the the --admin-password parameter with a value for your password. The user name and password will be used later, when we connect to the VM.

> az vm create --resource-group prabinResourceGroup --name myVM --image Win2019Datacenter --public-ip-sku Standard --admin-username prabin13



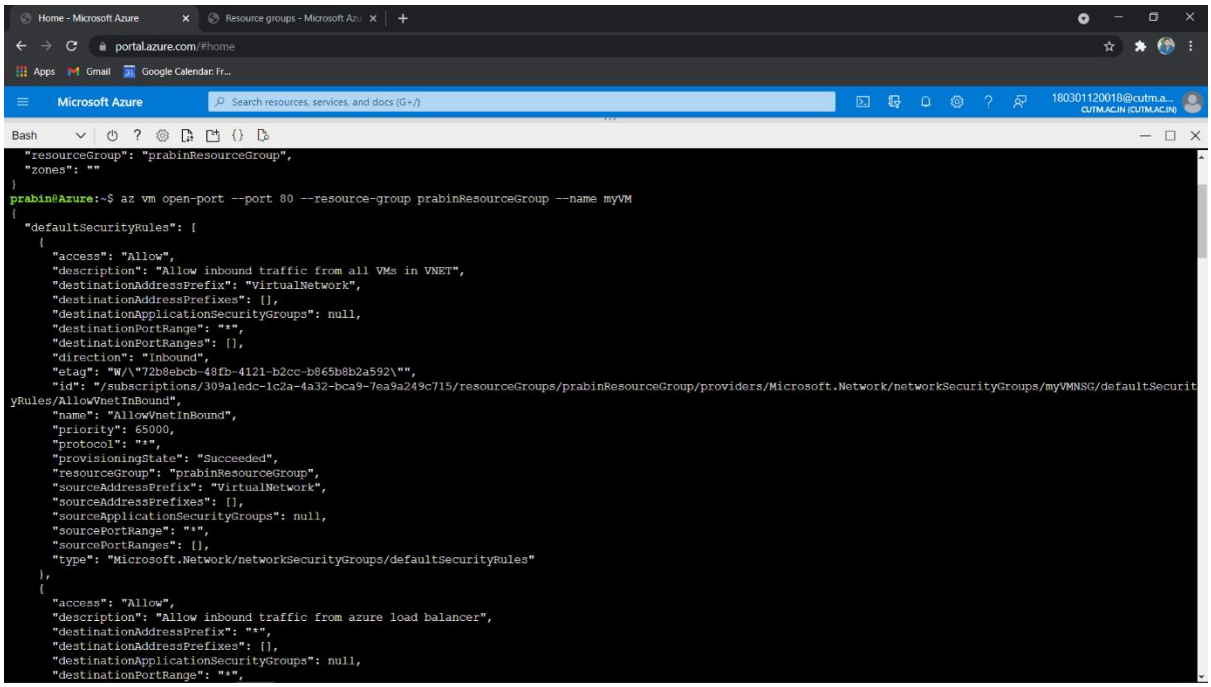
It will take a few minutes to create the VM and supporting resources. It will show the output like this .



Open port 80 for web traffic

By default, only RDP connections are opened when you create a Windows VM in Azure. Use az vm open-port to open TCP port 80 for use with the IIS web server:

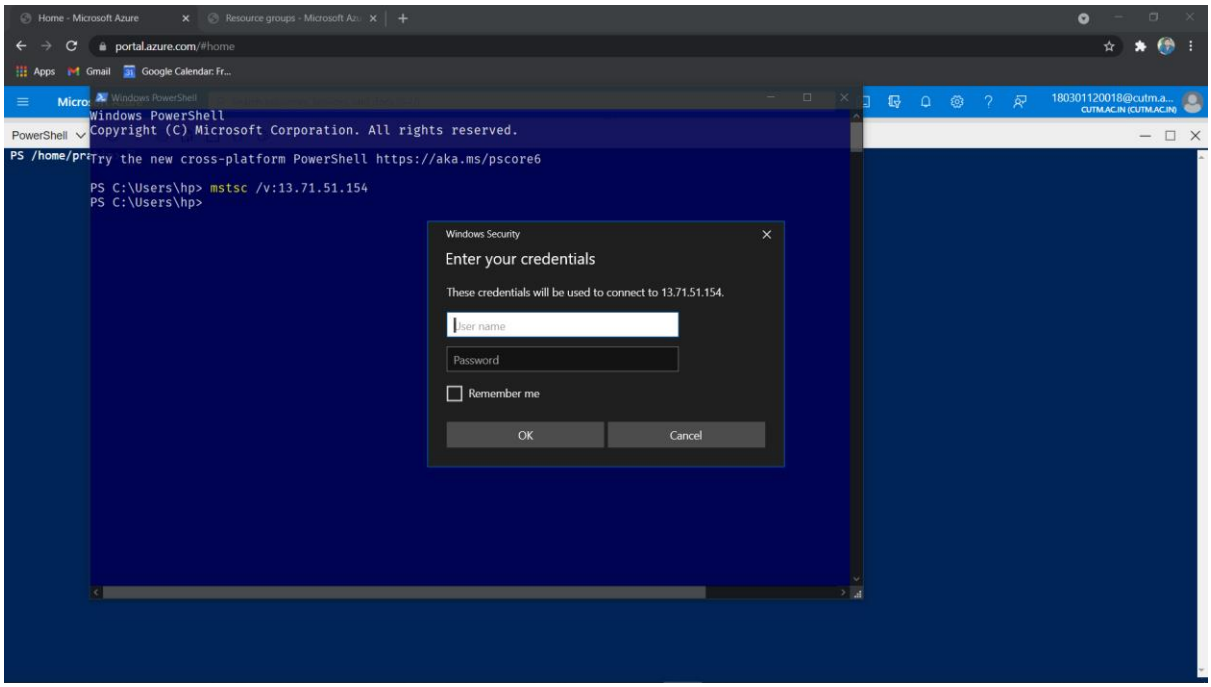
>az vm open-port --port 80 --resource-group prabinResourceGroup --name myVM



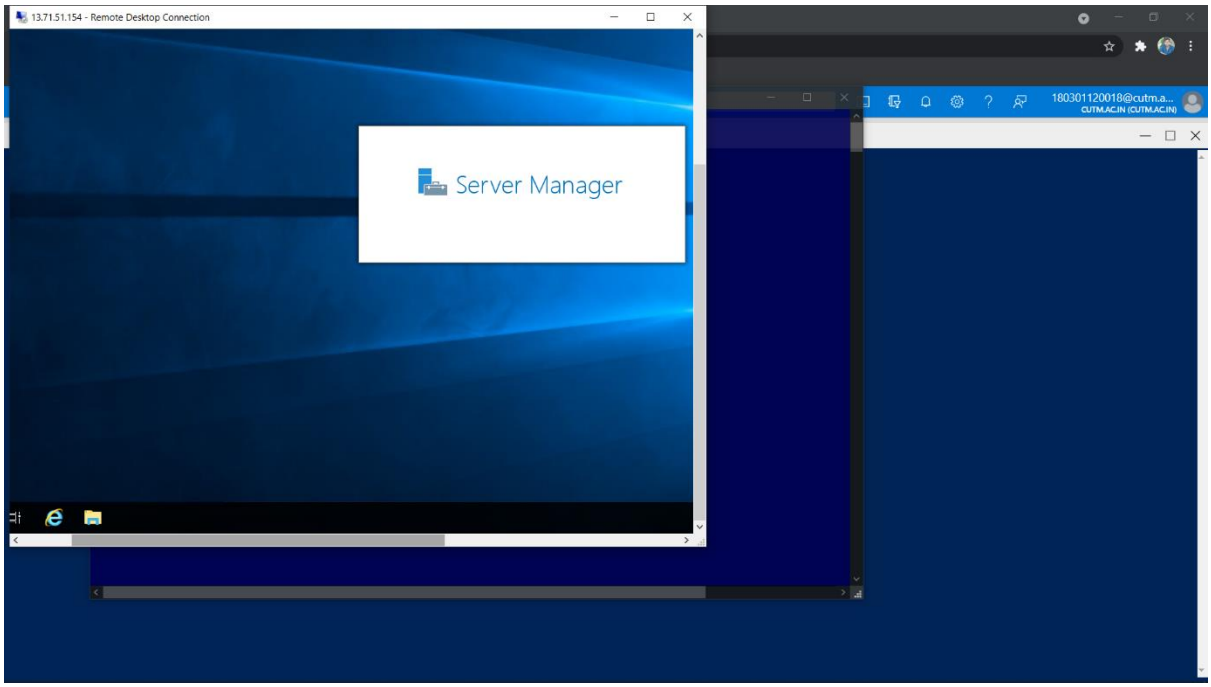
Connect to virtual machine

Use the command to create a remote desktop session from your local computer. Replace the IP address with the public IP address of your VM. When prompted, enter the credentials used when the VM was created:

mstsc /v:13.71.51/154



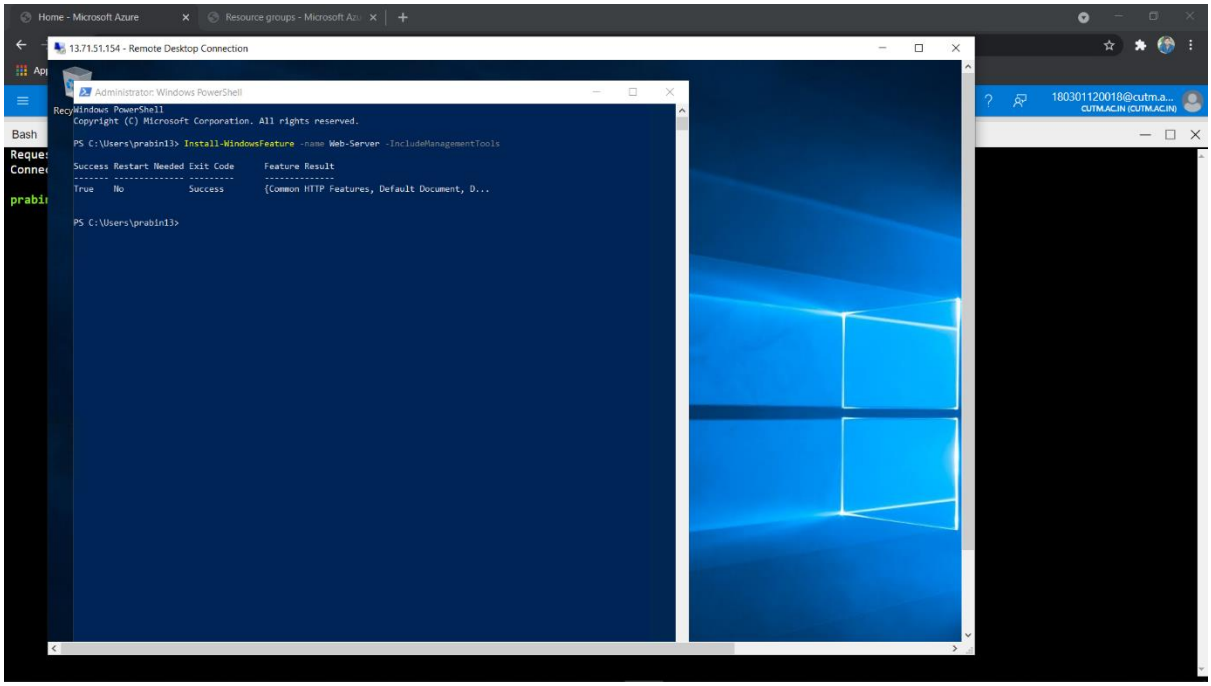
It will launch our virtual machine.



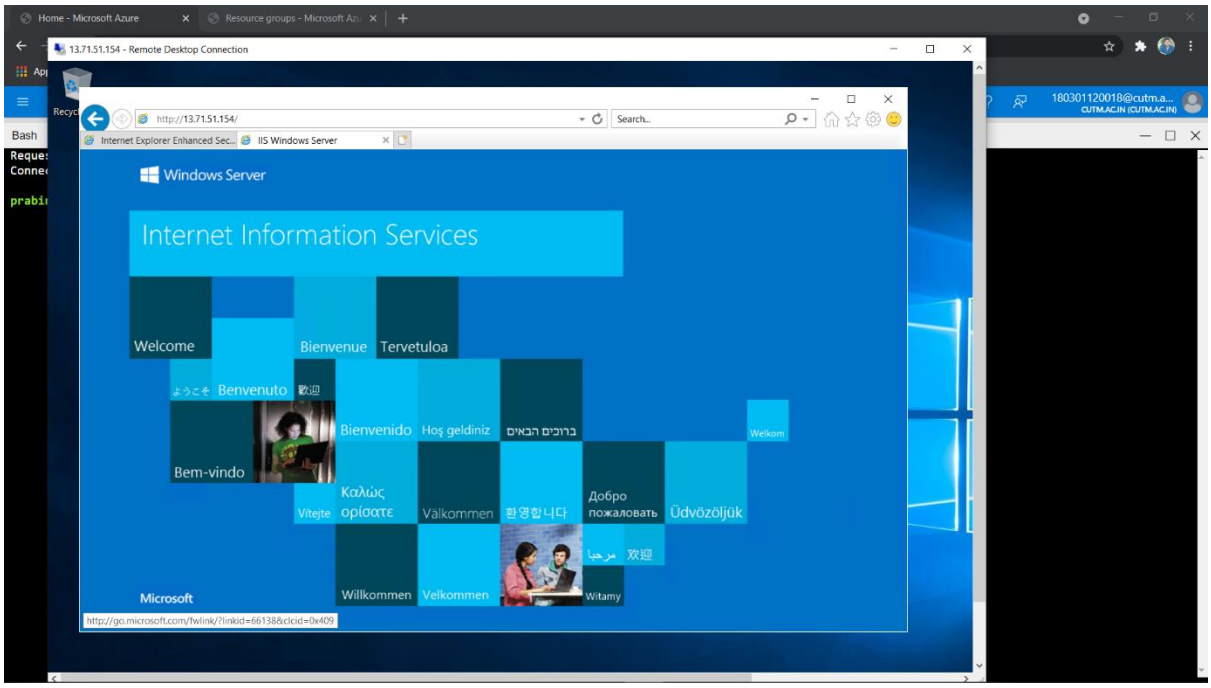
Install web server

To see VM in action, install the IIS web server. Open a PowerShell prompt on the VM and run the following command:

>Install-WindowsFeature -name Web-Server -IncludeManagementTools



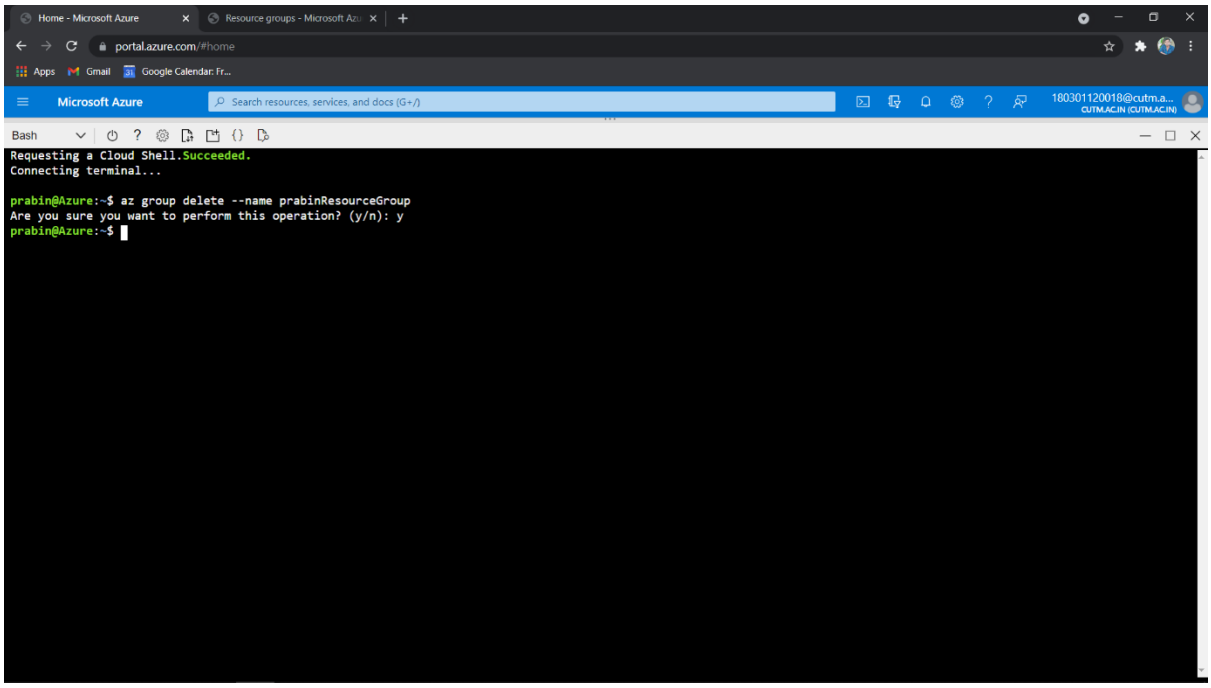
View the web server in action



Delete the resourceGroup

After the creating the virtual machine delete the resourceGroup using the command

>az group delete --name prabinResourceGroup

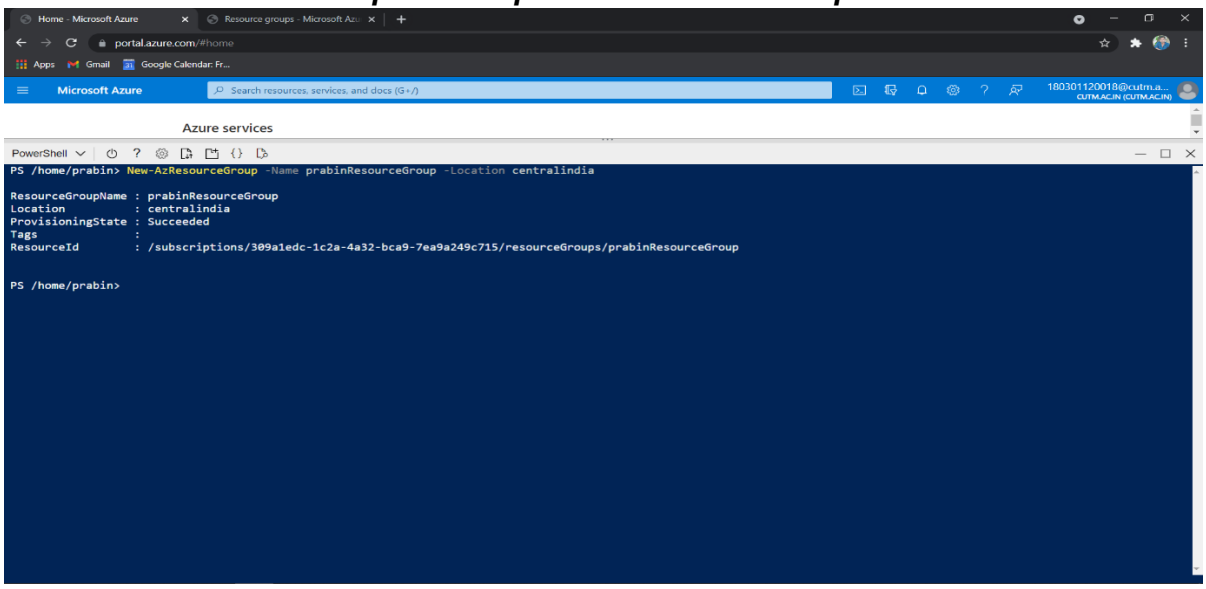


CREATING VIRTUAL MACHINE USING POWERSHELL-

Create resource group

Create an Azure resource group with New-AzResourceGroup. A resource group is a logical container into which Azure resources are deployed and managed.

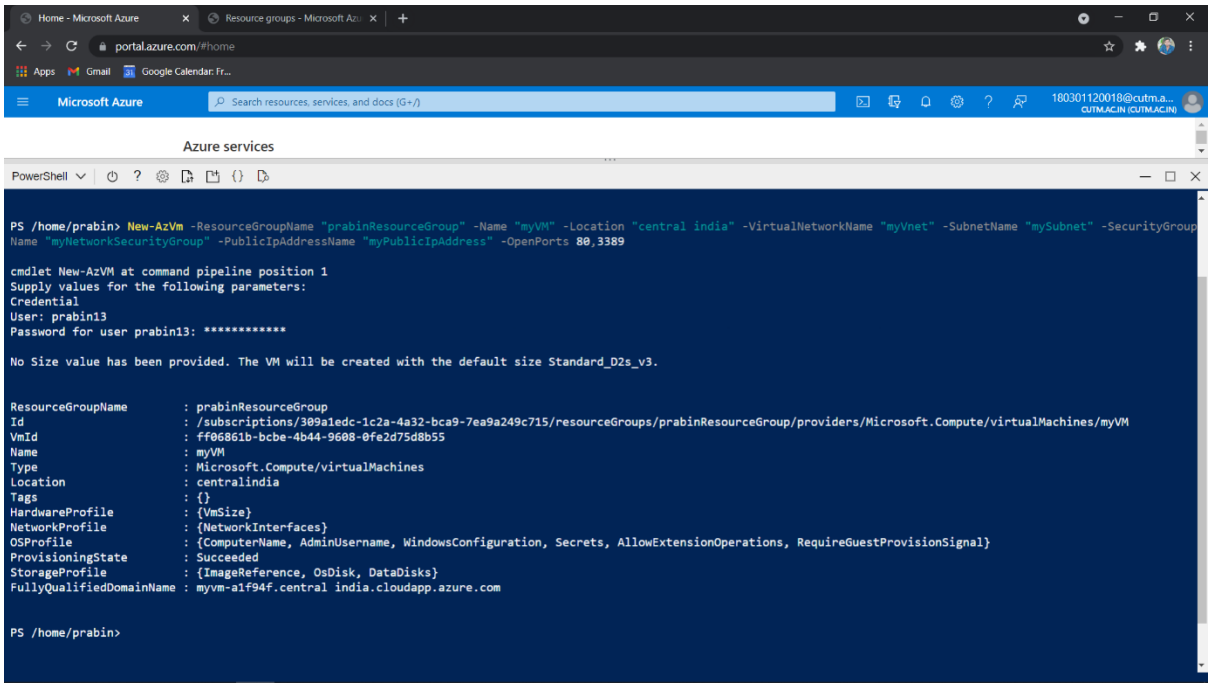
> New-AzResourceGroup -Name prabinResourceGroup -Location Centraiindia



Create virtual machine

Create a VM with New-AzVM. Provide names for each of the resources and the New-AzVM cmdlet creates if they don't already exist.

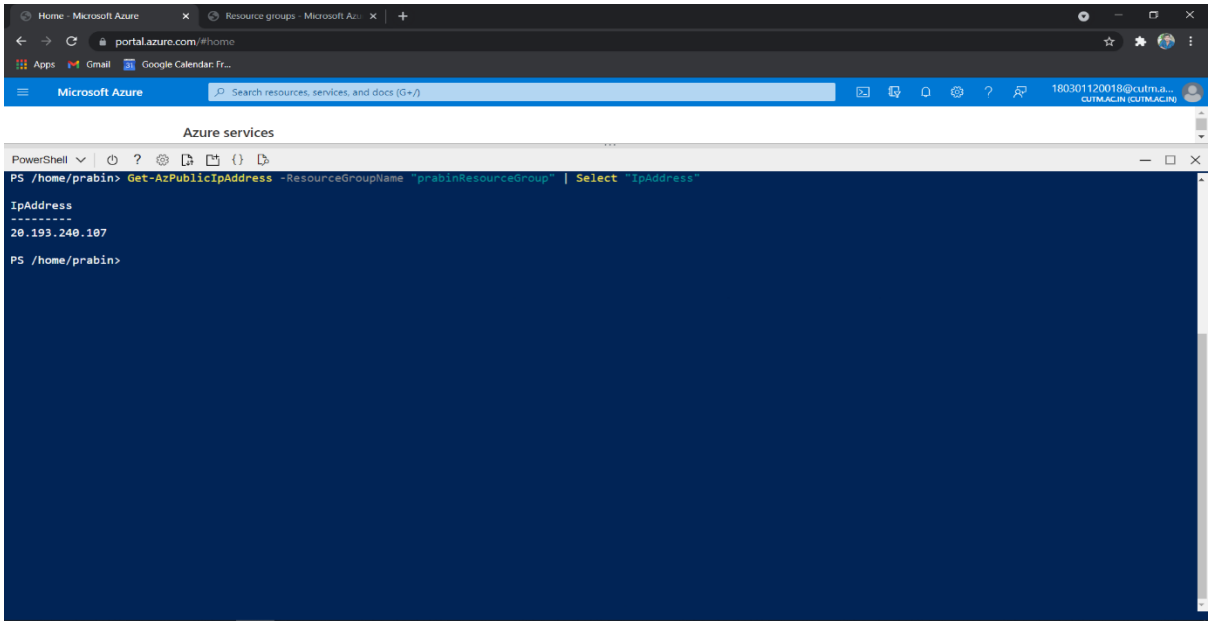
When prompted, provide a username and password to be used as the sign-in credentials for the VM:



Connect to virtual machine

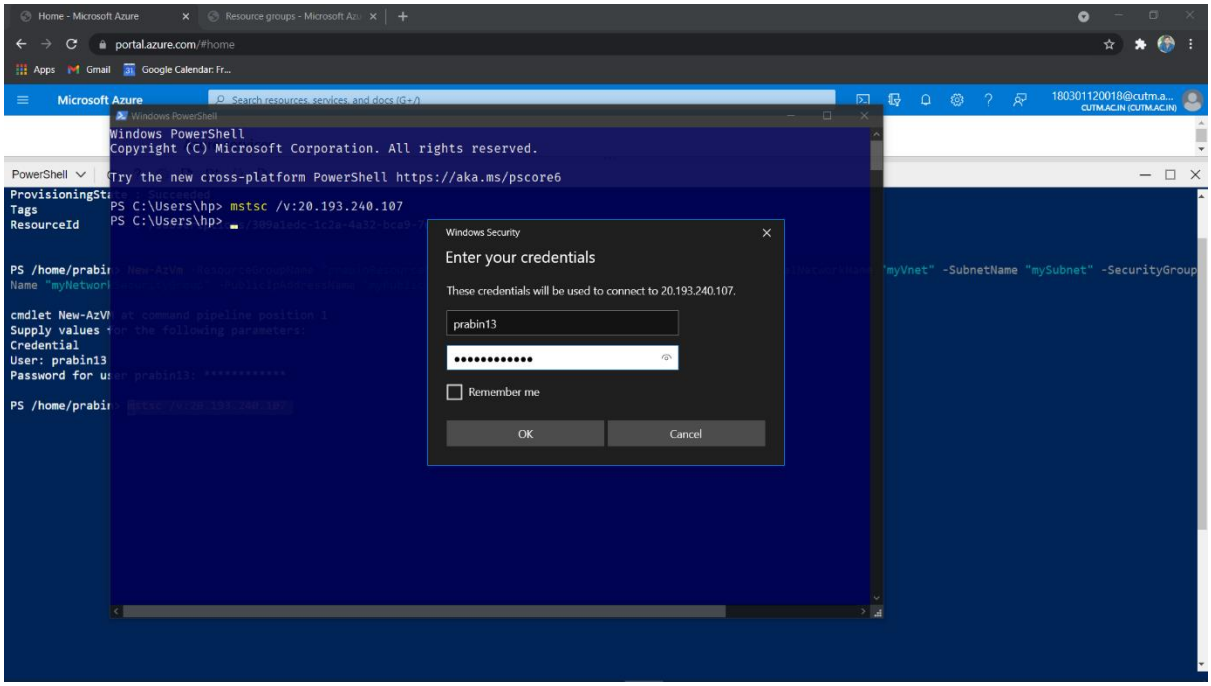
After the deployment has completed, RDP to the VM. To see your VM in action, the IIS web server is then installed.

To see the public IP address of the VM, use the **Get-AzPublicIpAddress** cmdlet:



Use the command to create a remote desktop session from our local computer. Replace the IP address with the public IP address of our VM.

>mstsc /v:20.193.240.107

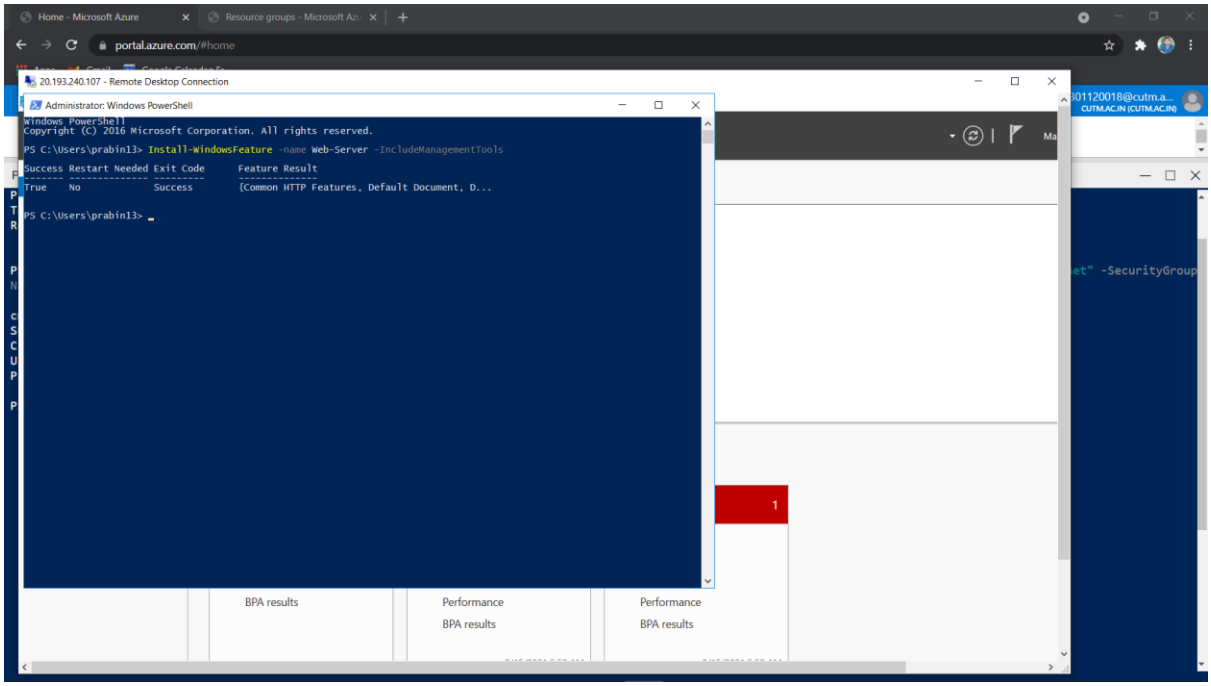


It will launch our virtual machine.

Install web server

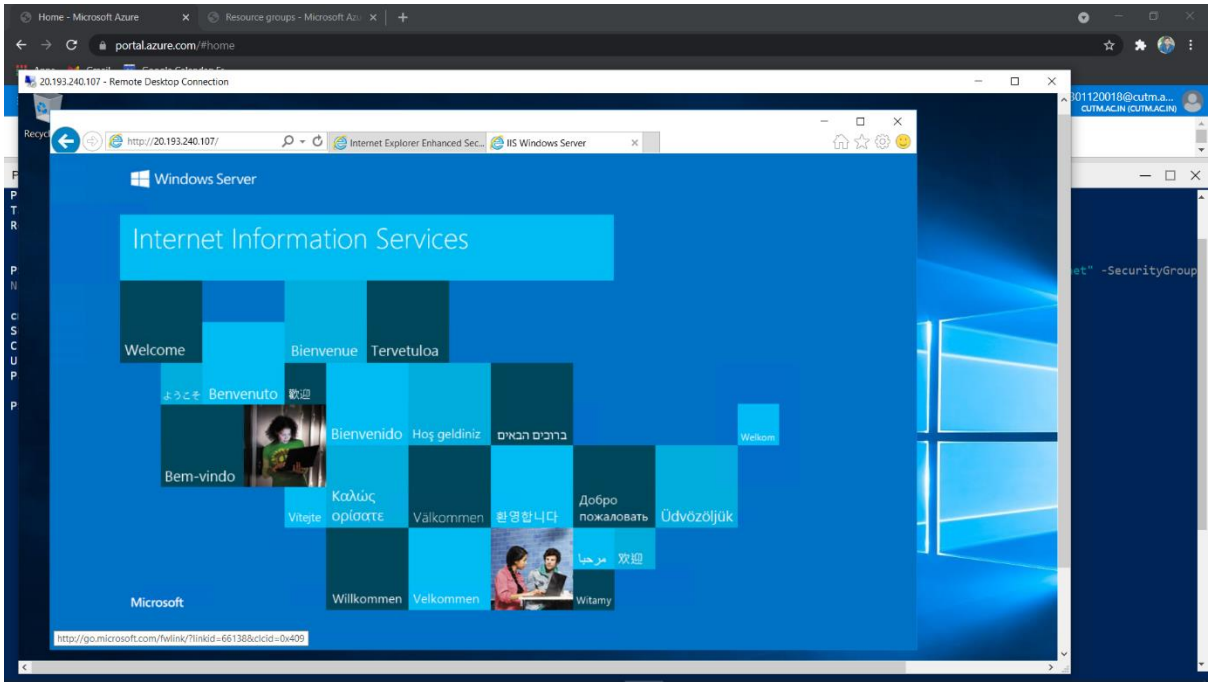
To see our VM in action, install the IIS web server. Open a PowerShell prompt on the VM and run the following command:

> Install-WindowsFeature -name Web-Server -IncludeManagementTools



View the web server in action

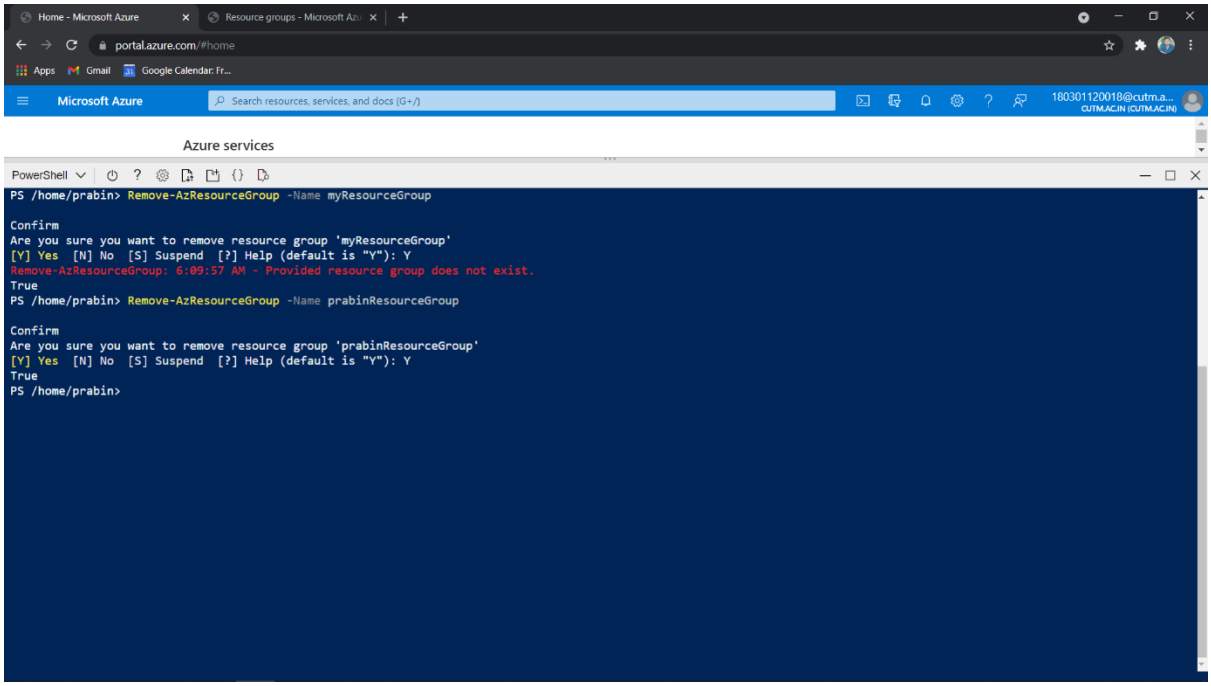
With IIS installed and port 80 now open on your VM from the Internet, use a web browser of your choice to view the default IIS welcome page. Use the public IP address of your VM obtained in a previous step.



Clean up resources

When no longer needed, you can use the Remove-AzResourceGroup cmdlet to remove the resource group, VM, and all related resources:

> Remove-AzResourceGroup -Name prabinResourceGroup



CREATING WINDOWS VIRTUAL MACHINE USING ARM TEMPLATE-

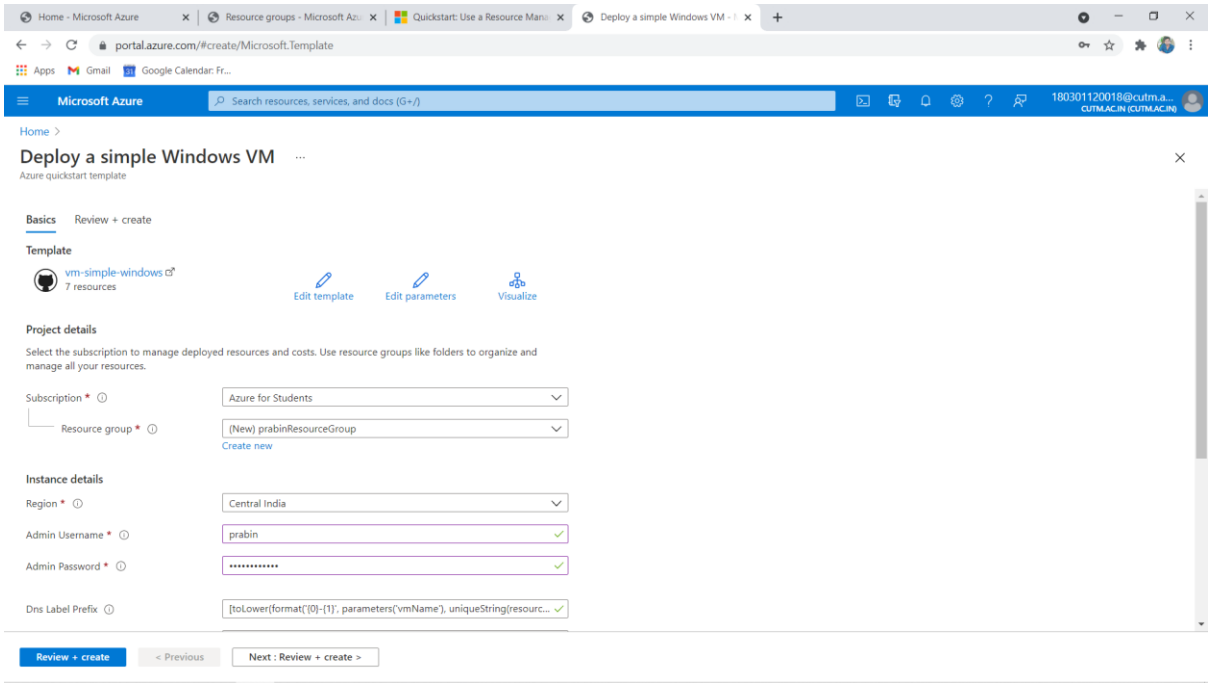
ARM Referes to AZURE RESOURCE MANAGER.

I am using here the previous template provided by the azure and deploying it.

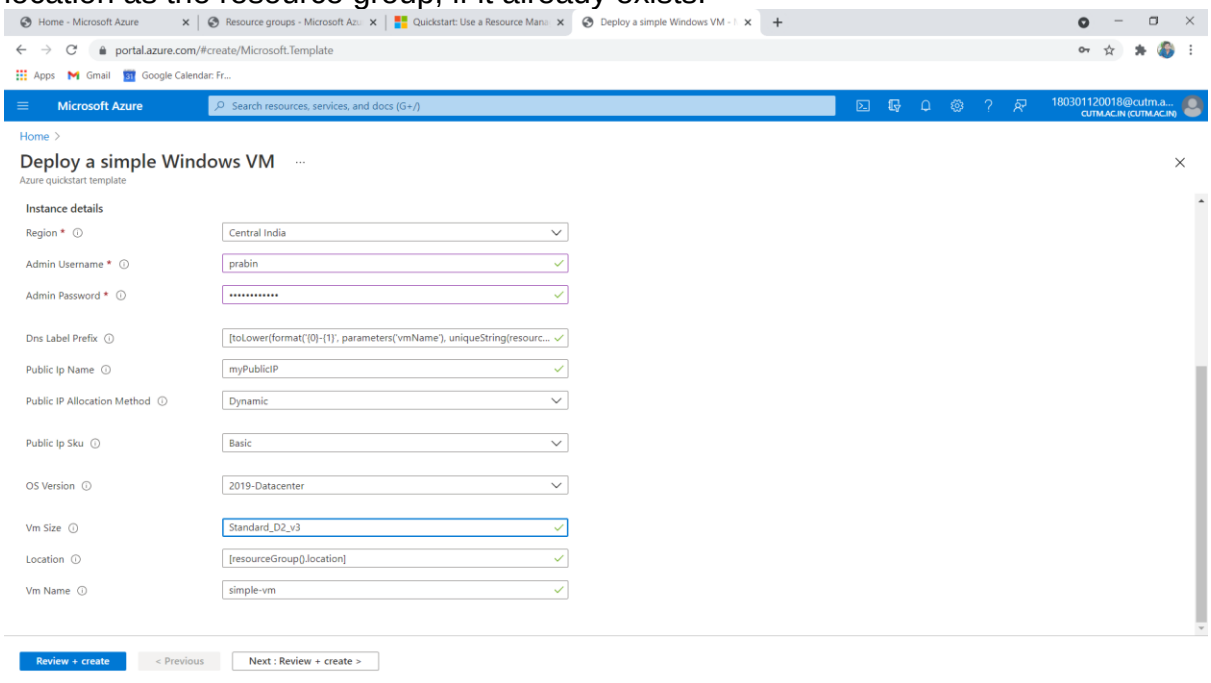
Open the template page.

After opening fill the values-

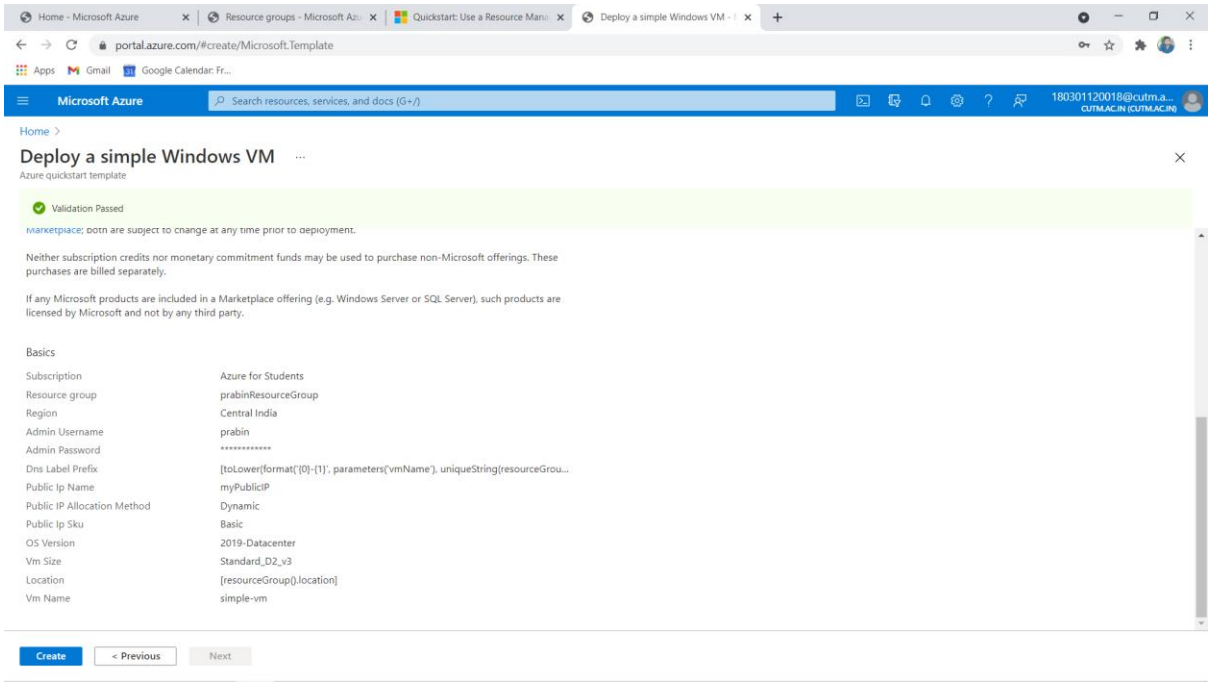
- **Subscription**: select an Azure subscription.In my case its student account.
- **Resource group**: **Create new**, enter a unique name for the resource group, and then click **OK**.
- **Location**: select a location. For example, **Central India**.
- **Admin username**: provide a username, such as *azureuser*.
- **Admin password**: provide a password to use for the admin account. The password must be at least 12 characters long and meet the defined complexity requirements.
- **DNS label prefix**: enter a unique identifier to use as part of the DNS label.



Windows OS version: select which version of Windows you want to run on the VM.**VM size**: select the size to use for the VM. **Location**: the default is the same location as the resource group, if it already exists.



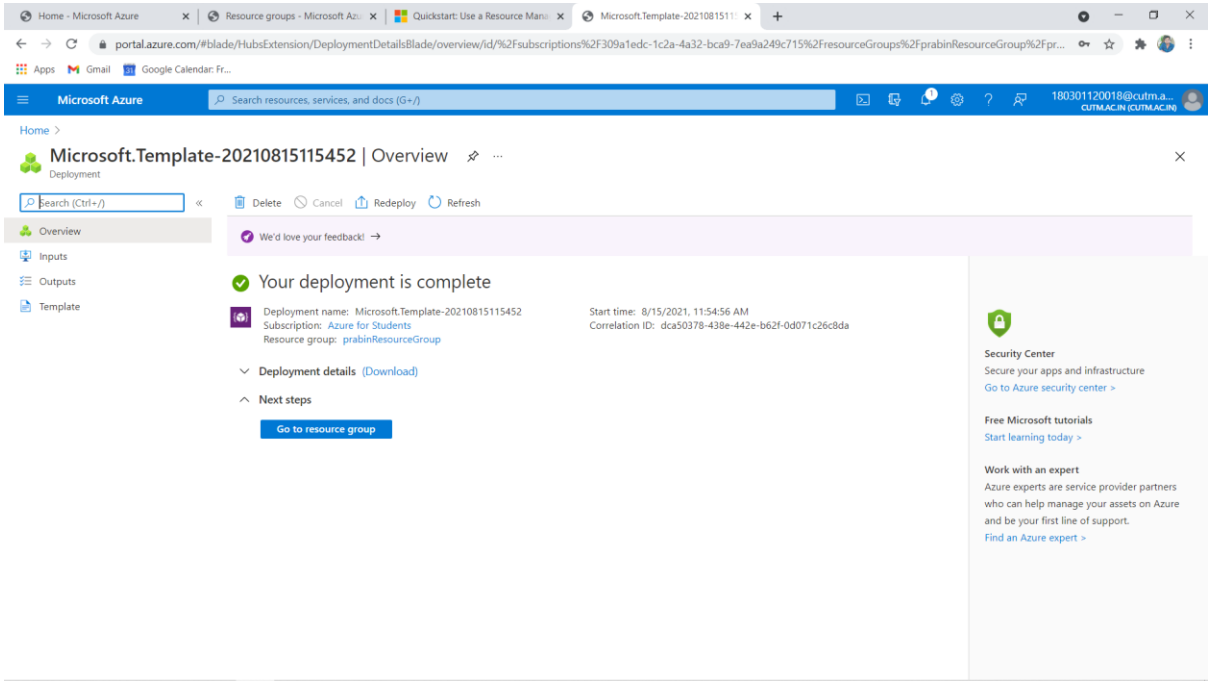
Select **Review + create**. After validation completes, select **Create** to create and deploy the VM.



The Azure portal is used to deploy the template.

Review deployed resources

You can use the Azure portal to check on the VM and other resource that were created. After the deployment is finished, select **Go to resource group** to see the VM and other resources.

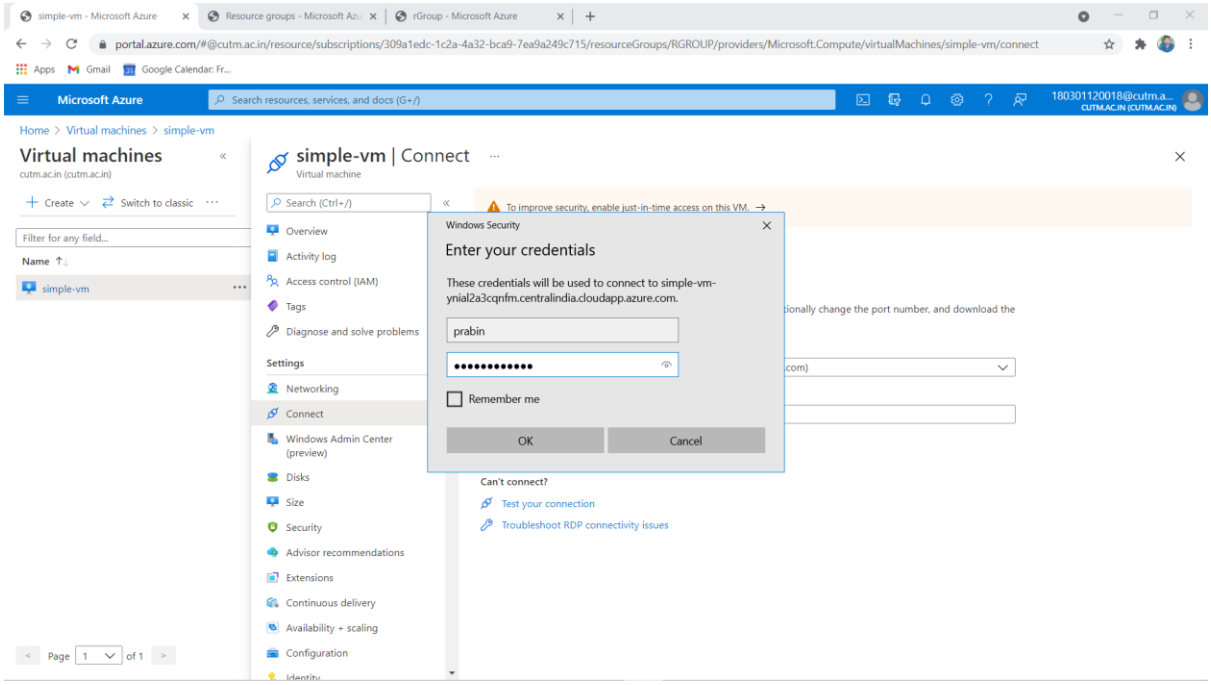


Connect to Virtual Machine

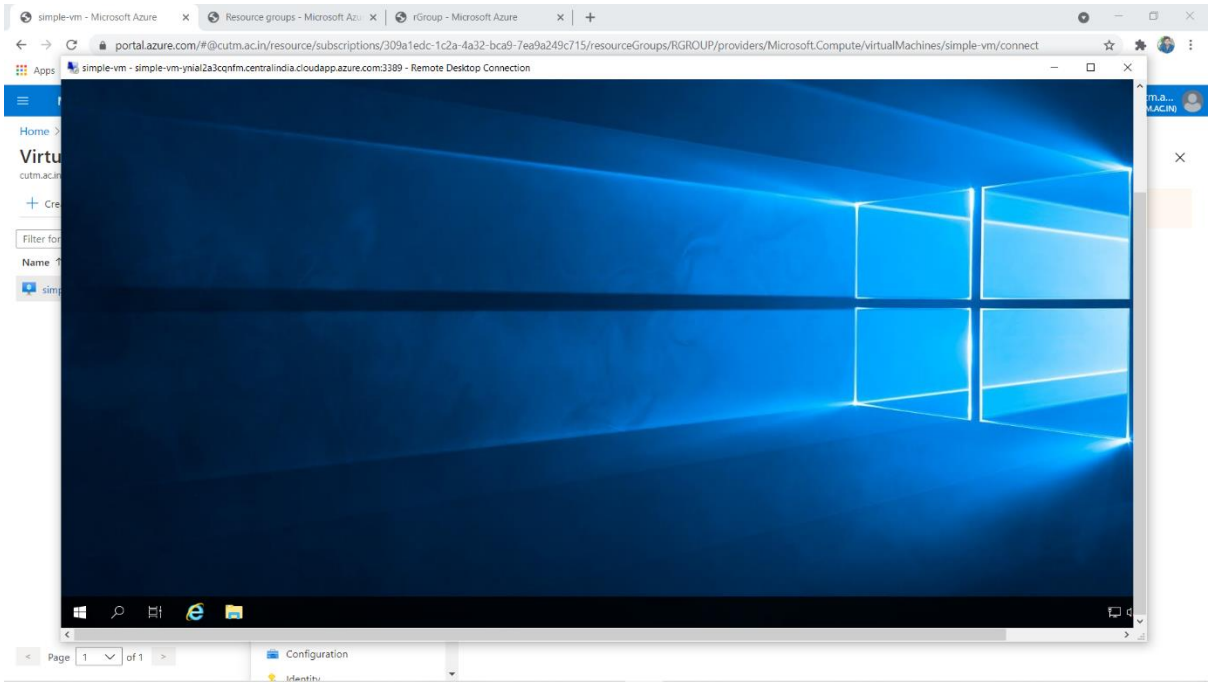
In Virtual machine section select the virtual machine and click connect.

Select the RDP and download the RDP File.

Open the file and enter the credentials and click and accept the certificate warning.



It will launch our virtual machine.



Clean up resources

1. Select the **Resource group**.
2. On the page for the resource group, select **Delete**.
3. When prompted, type the name of the resource group and then select **Delete.**

We have Successfully Created the Windows Virtual machine.

PRABIN MANTRY