Name - **SAUNDARYA**
Registered Email - **1806516@kiit.ac.in**
Topic - **Microsoft Azure Cloud Computing (June-July '20)**

Under guidance of - **Mr. Rajdeep Das Sir (Verzeo)**

Major Project

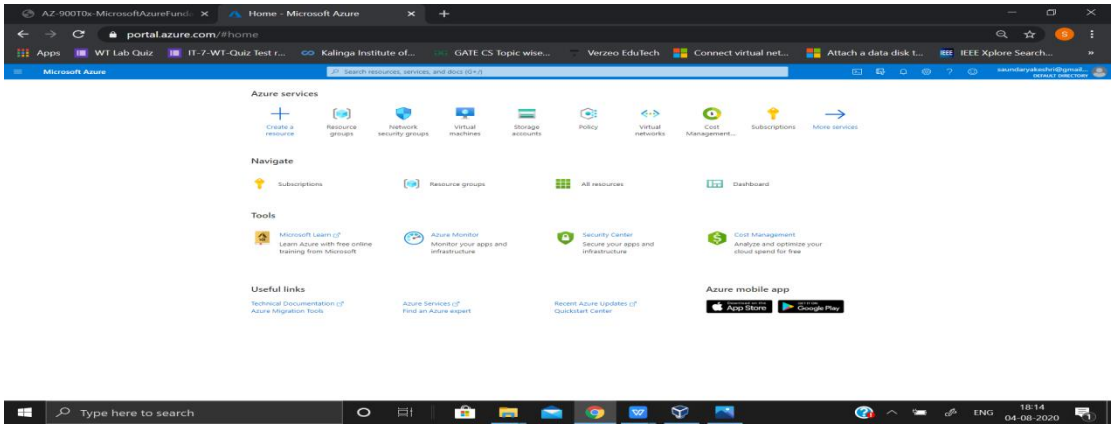
- Creating a Resource Group by name VerzeRG01

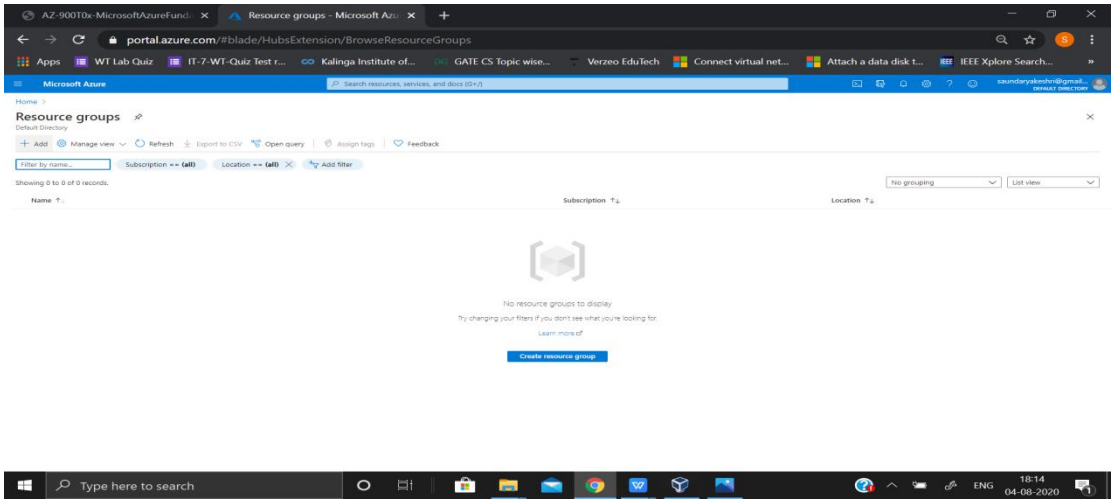
- Resource group are like folders which contain all resources (Virtual Networks , Virtual Machines etc)

------- It is a container that holds related resources for an Azure solution. The resources group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource group based on what makes the most sense for your organization.

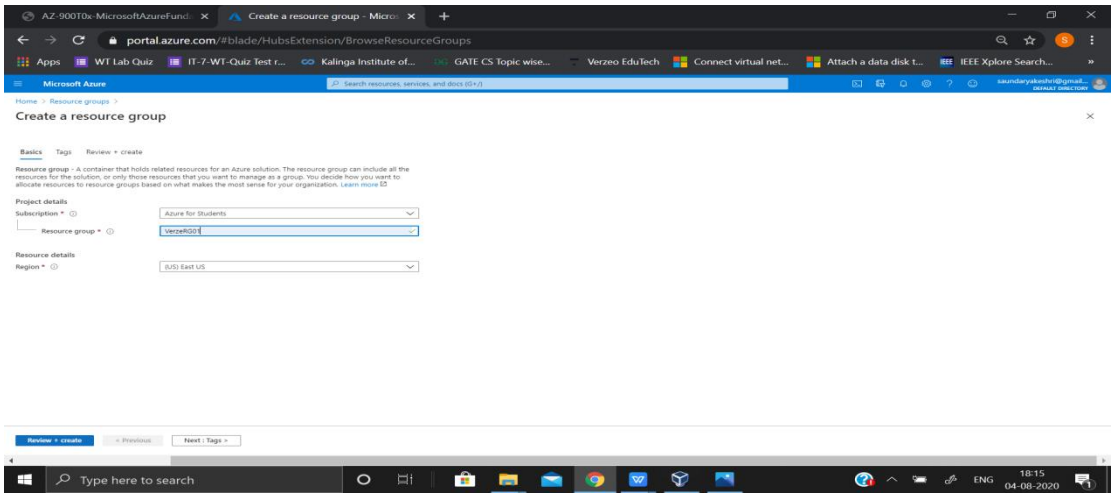
How to create Resource Group:

1. Sign in to the Azure portal at https://portal.azure.com
2. From the All services blade, search for and select Resource Group and then click **+Add**

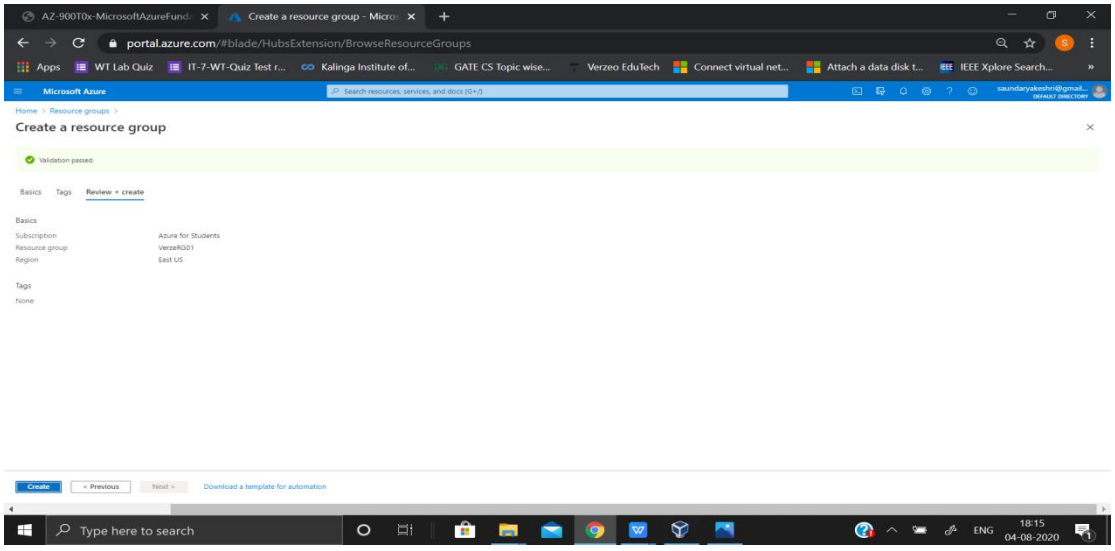


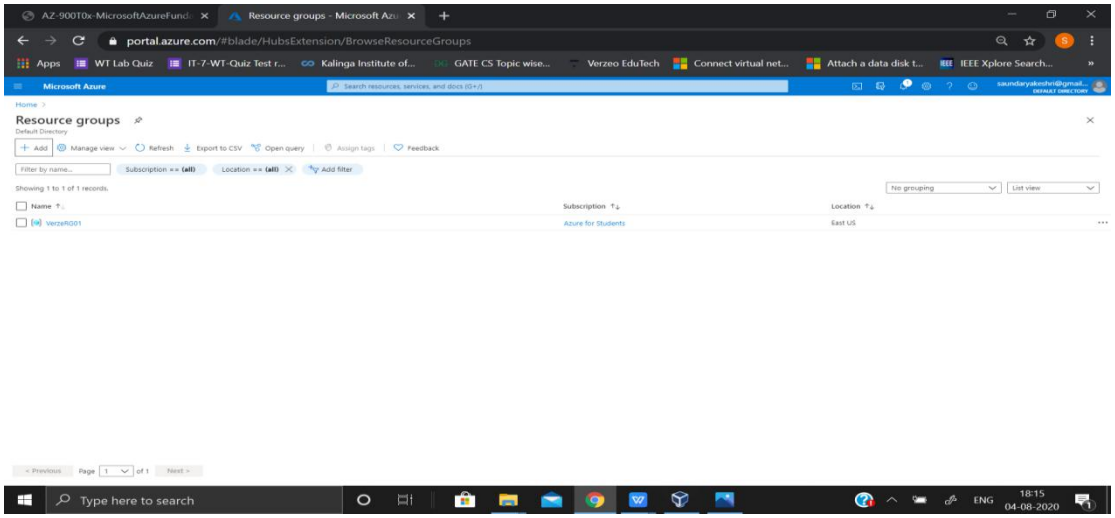


3. Fill the required details such as - Resource Group name , Region.
4. Click the **Review + create** button



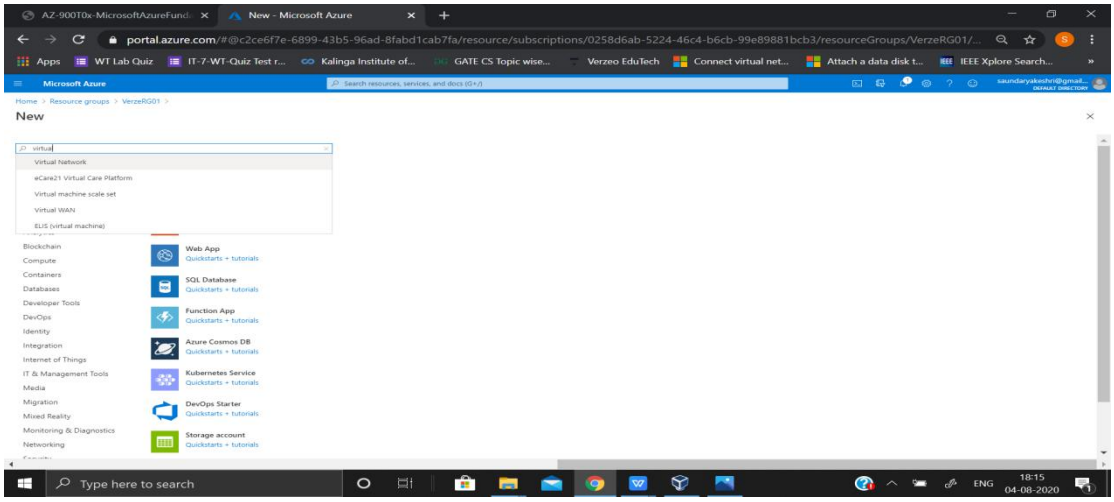
4. After the *Validation is passed* click on **Create**
5. The Resource group named as **VerzeRG01** is created.

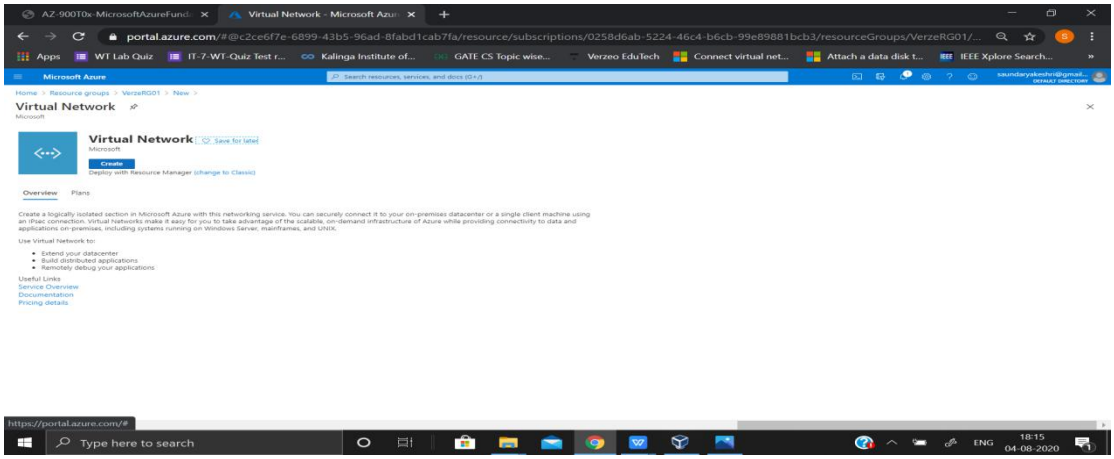




- Creating Virtual Network (verzvnet01) containing 1 Subnets (Subnet01)

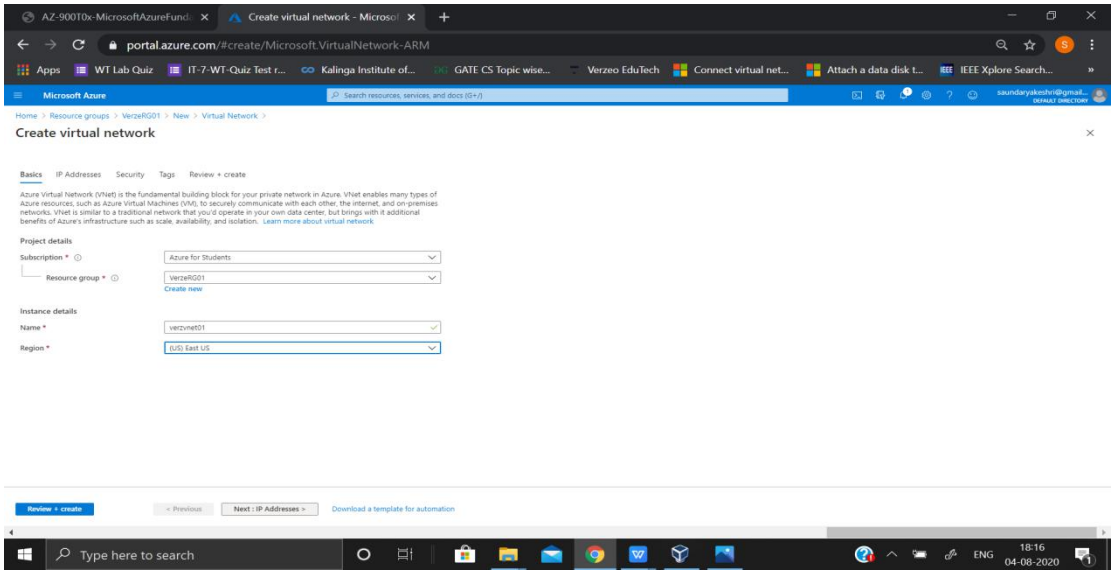
1. From the created Resource group(**VerzeRG01**) click on **+Add**,search for and select Virtual networks.



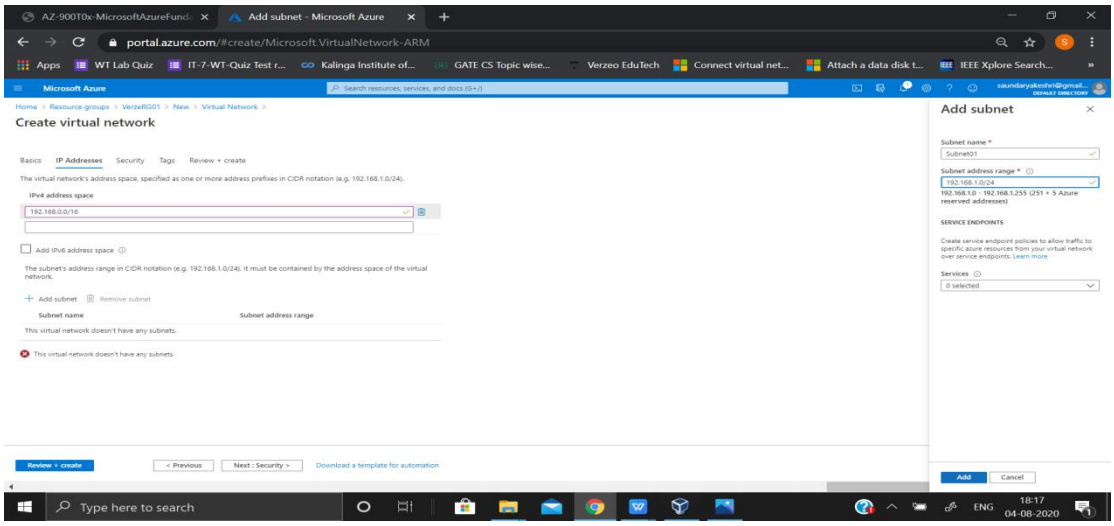


2. We name the VNet as - **verzvnet01** with a reserved CIDR block of *192.168.0.0/16* containing 1 subnets

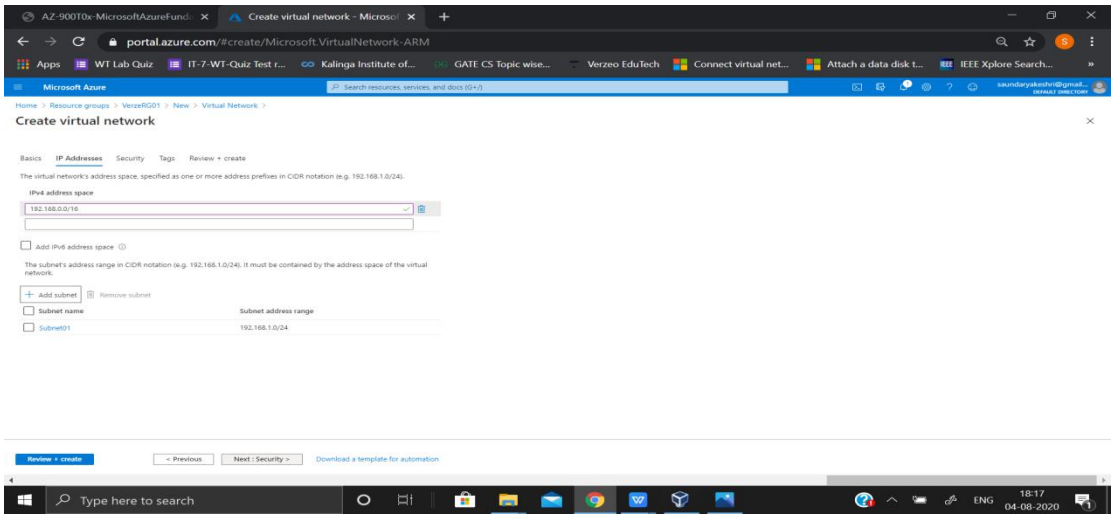
   a. **Subnet01**, using *192.168.1.0/24* as its CIDR block.



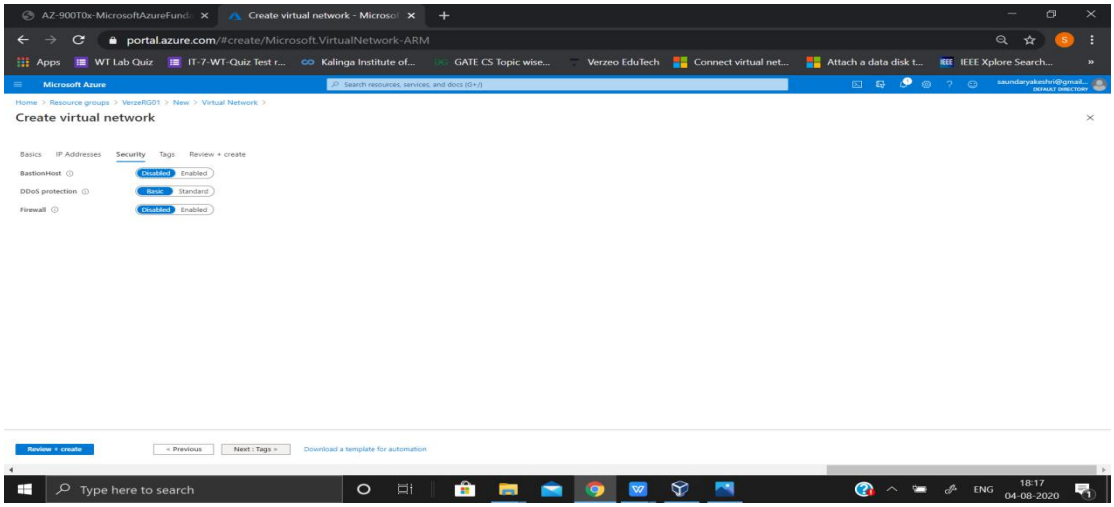
3. Click on **Next: IP Addresses**



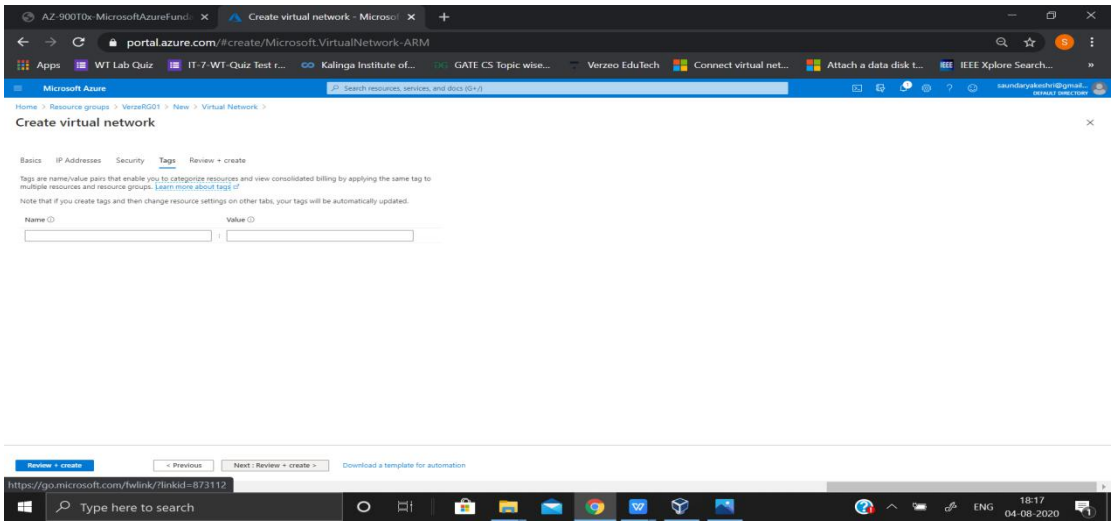
4. After creating the subnet - **Subnet01** click on **Next:Security**



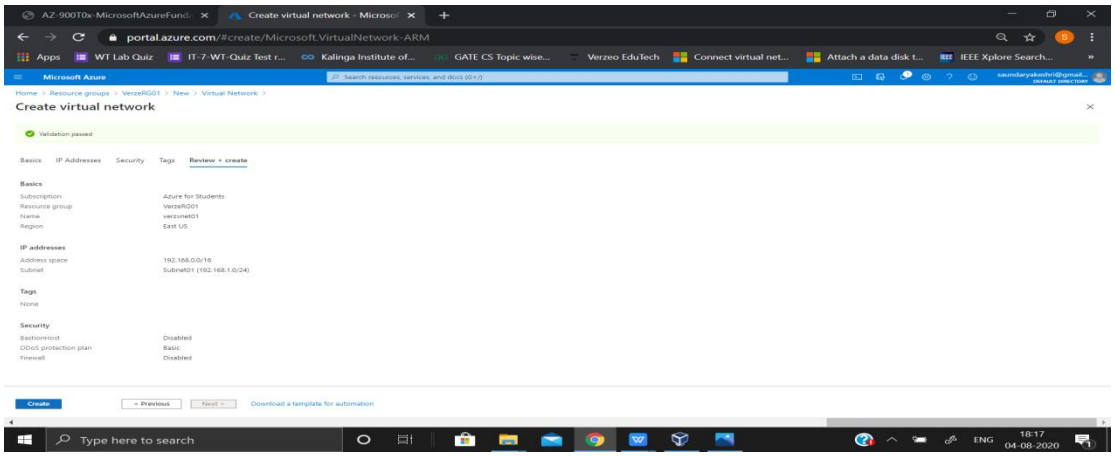
5. Under **Security** - no changes, click on **Next: Tags**



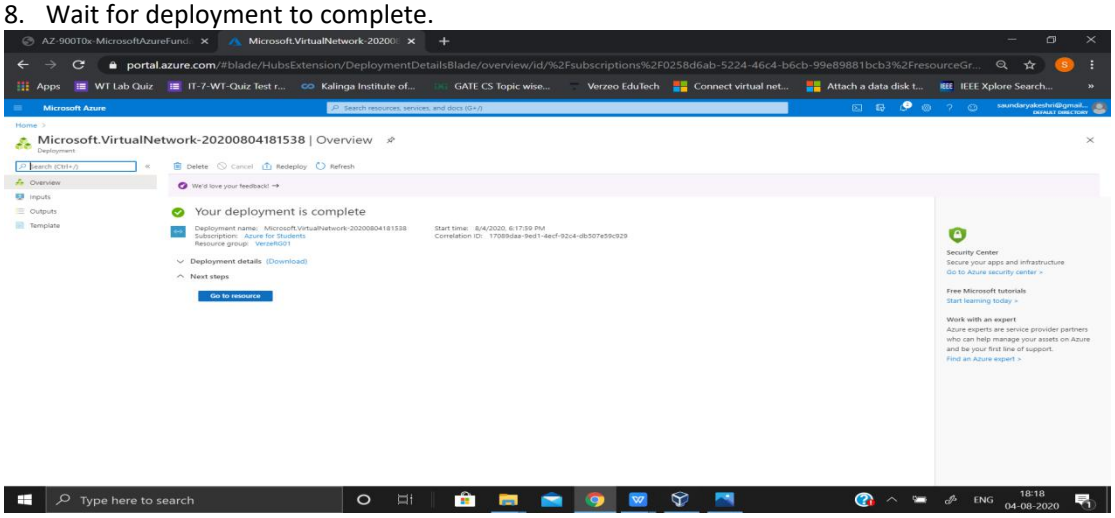
6. Under **Tags** - no change,click on Next: **Next: Review + Create**



7. After the *Validation is passed* click on **Create**



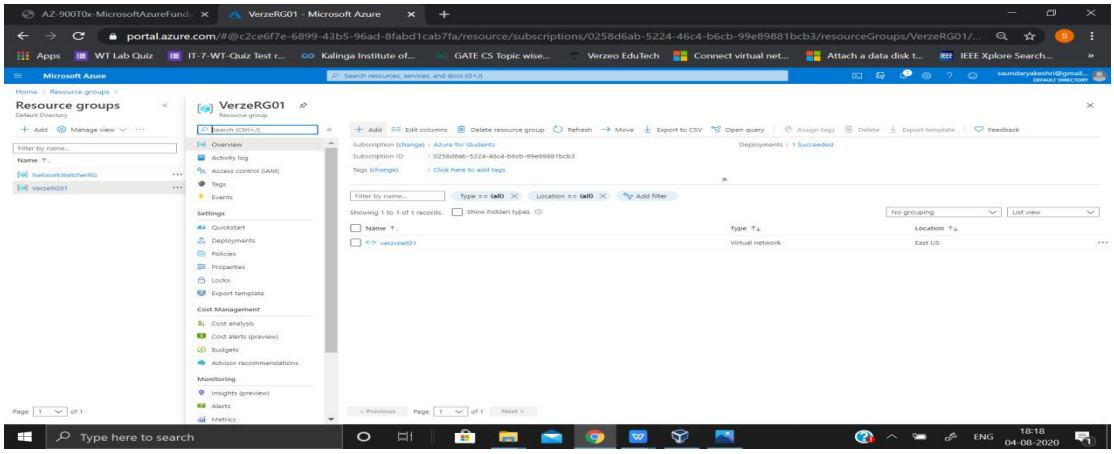
8. Wait for deployment to complete.



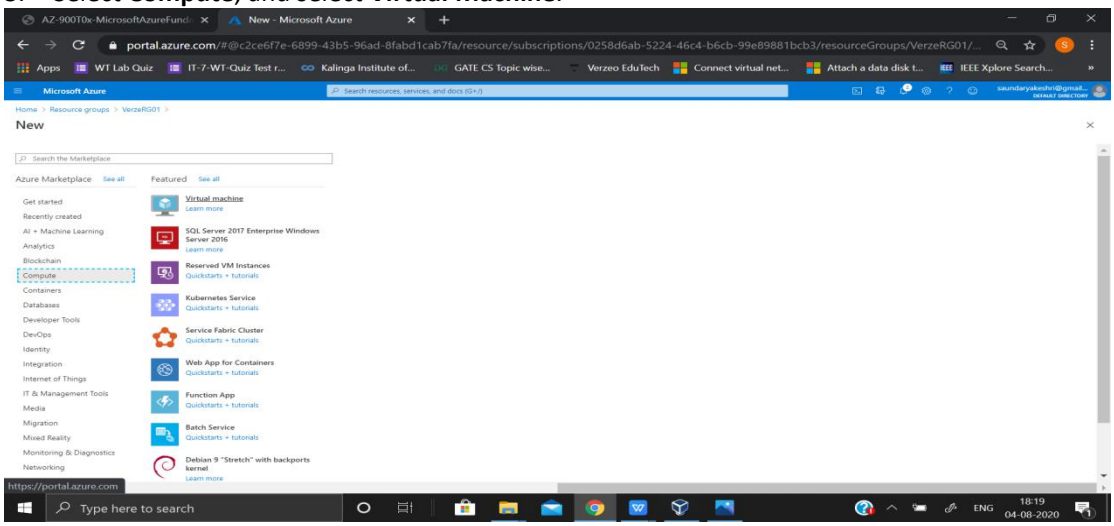
9. Thus, **verzvnet01** is created having 1 subnet - **Subnet01**

-Creating Virtual Machine (VerzVM01)

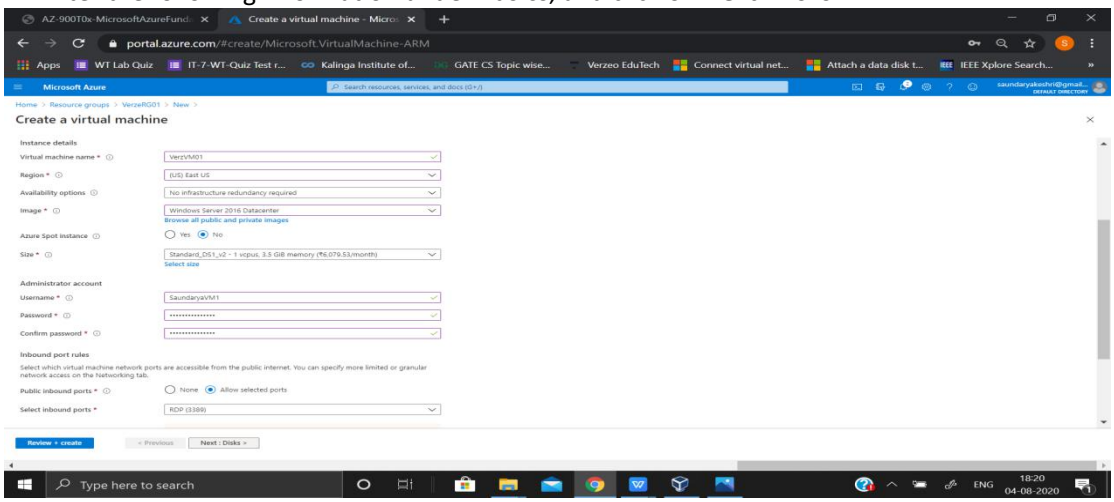
1. From the All services blade, search for and select **Resource Group** , and select the resource group that we have created (ex.**VerzeRG01**)
2. To create Virtual Machine ***VerzVM01*** for **verzvnet01 .** Select **verzvnet01**



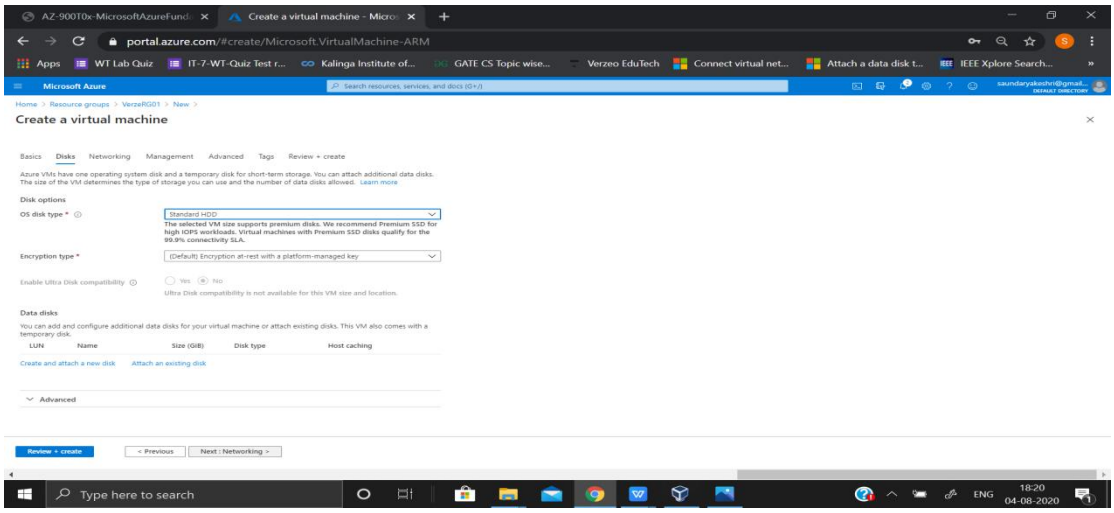
3. Select **Compute**, and select **Virtual Machine**.



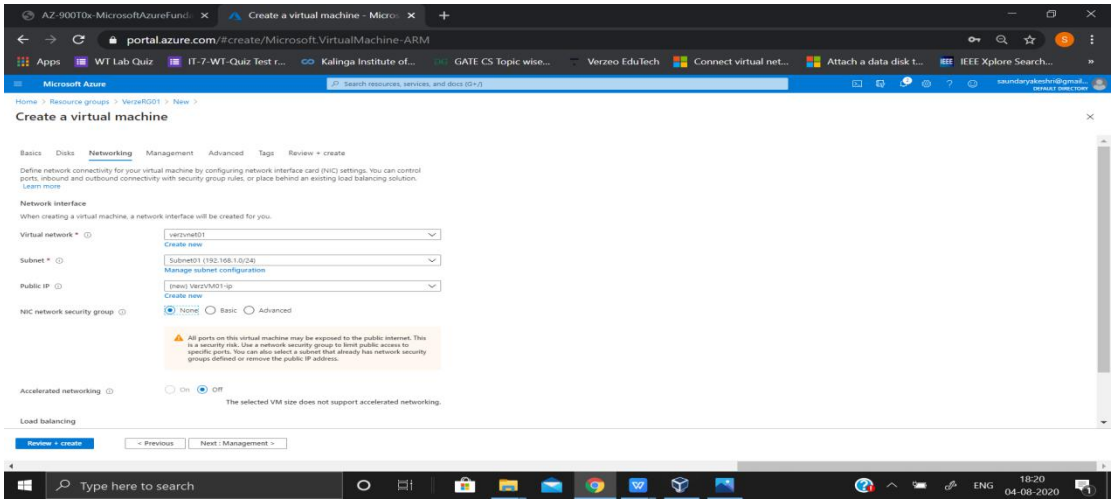
4. Enter the following information under **Basics**, and click on **Next: Disks**



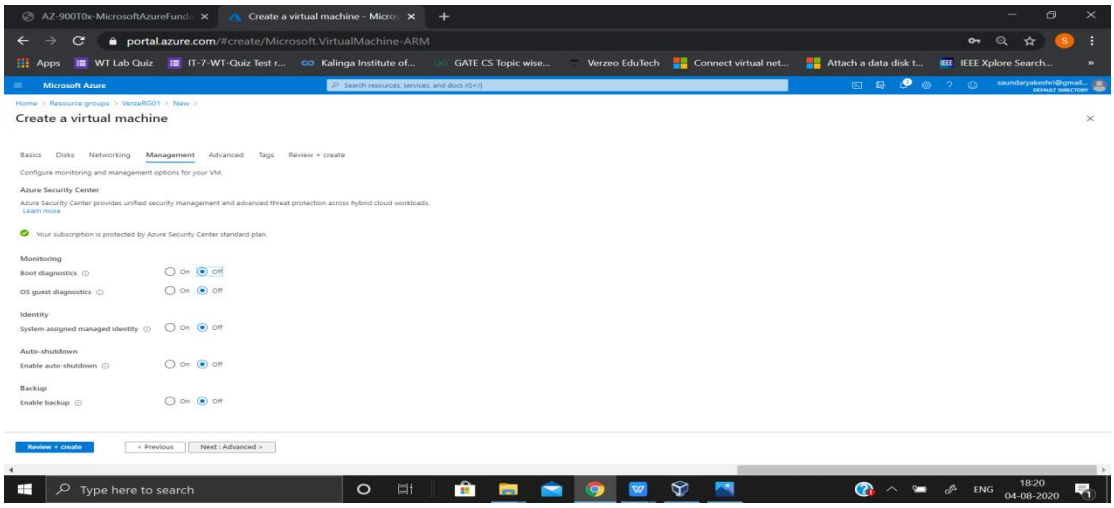
5. Under Disk select OS disk type as **Standard HDD,** keep the remaining as default and then click on **Next: Networking.**



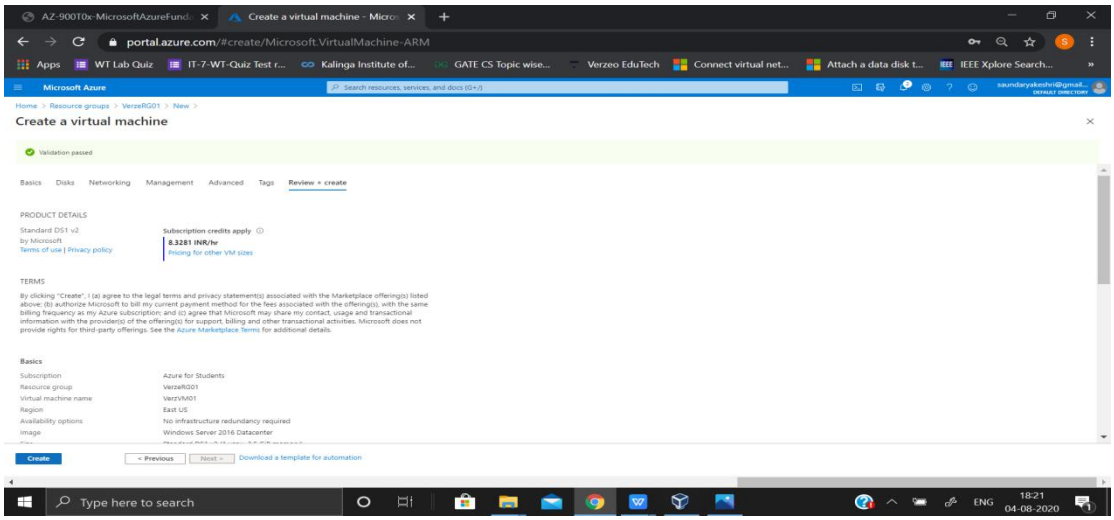
6. Enter the following information under **Networking**, make NIC network security group as **none** and click on **Next: Management**

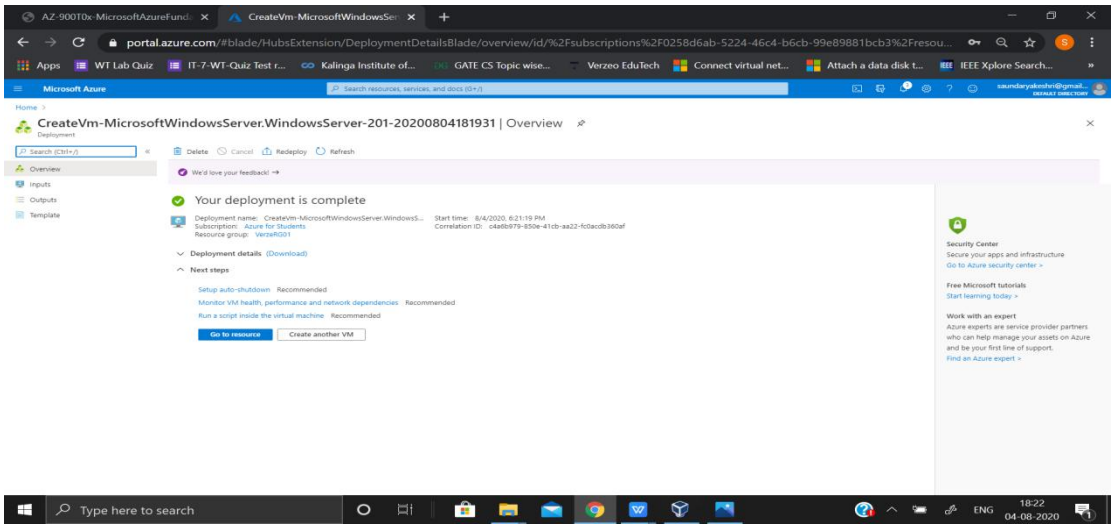


7. In the management section turn everything **Off,** and click on **Review + create.**



8. After the verification is passed.
9. Click on **Create.** Wait for the **VM02** to **deploy**

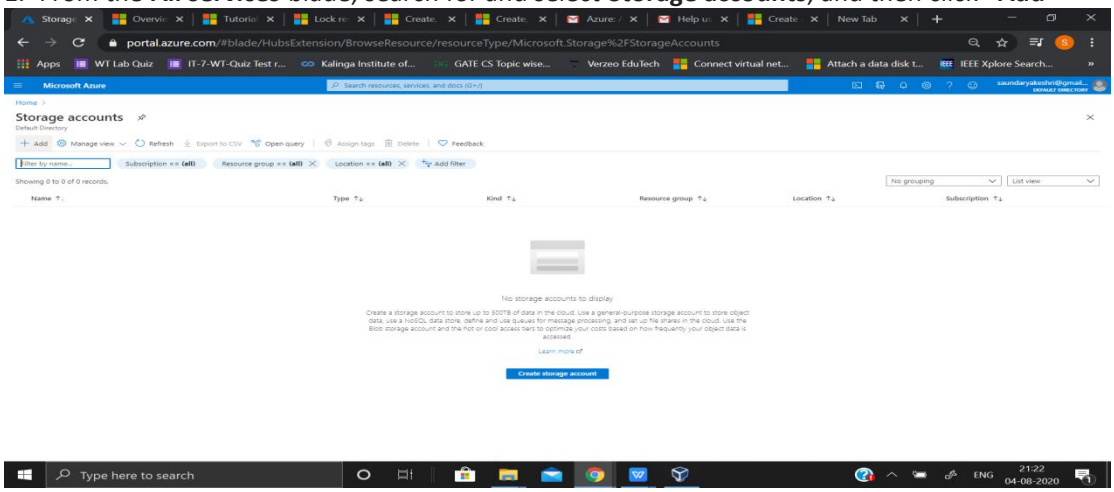




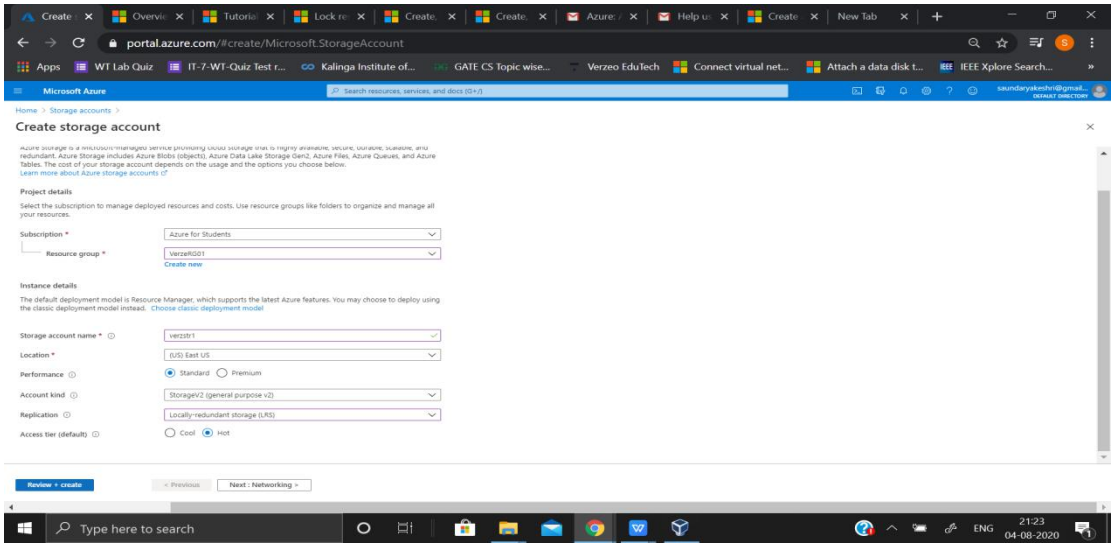
- Creating a Blob Storage (verzstr1)

Create a File Share (Verzfs01)and mount on the (VerzVM01)

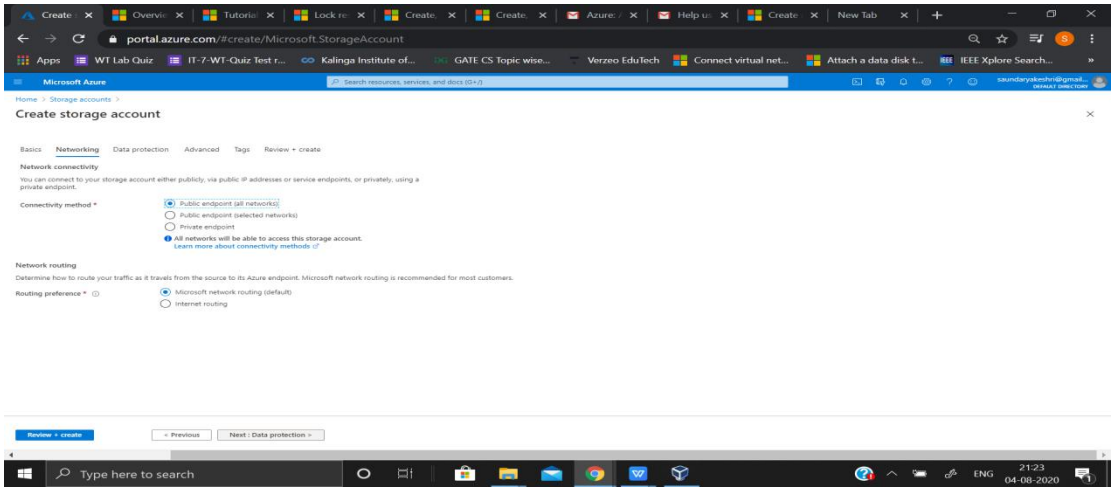
1. From the **All services** blade, search for and select **Storage accounts**, and then click **+Add**



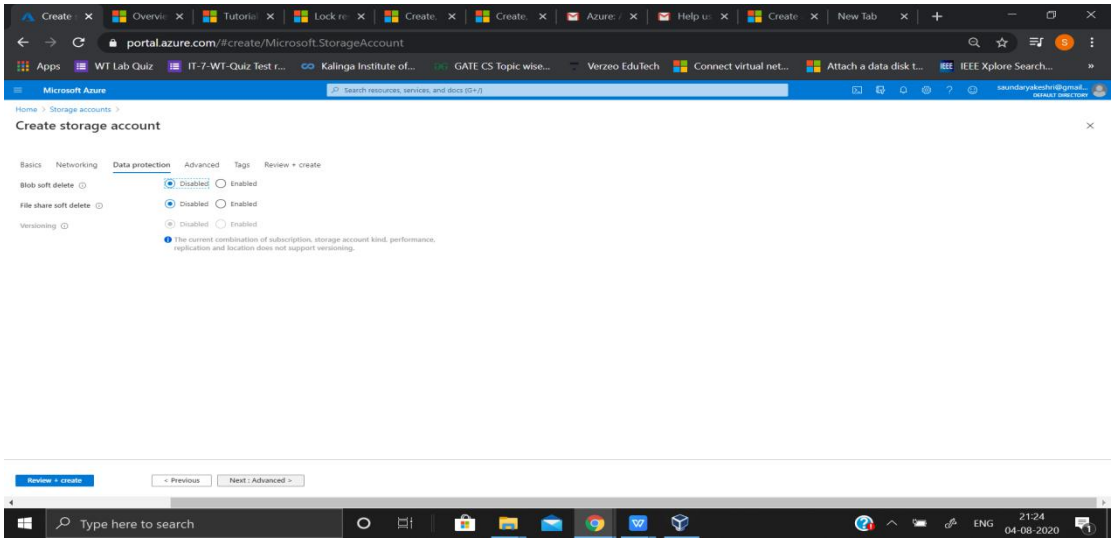
2. Enter the following information and click on **Next: Networking**



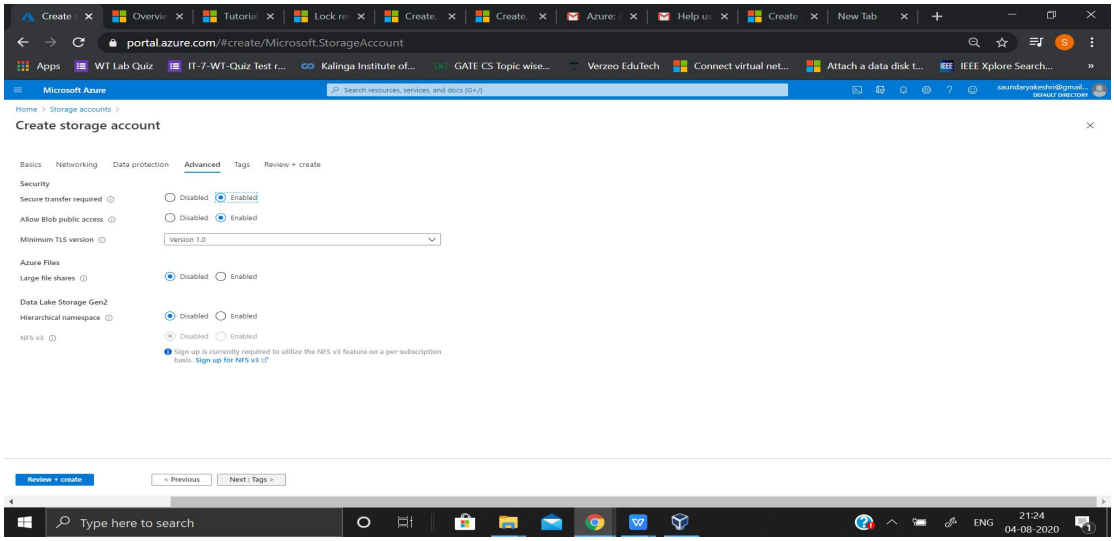
3. Select the appropriate option under **Networking** and click on **Next:Data protection**



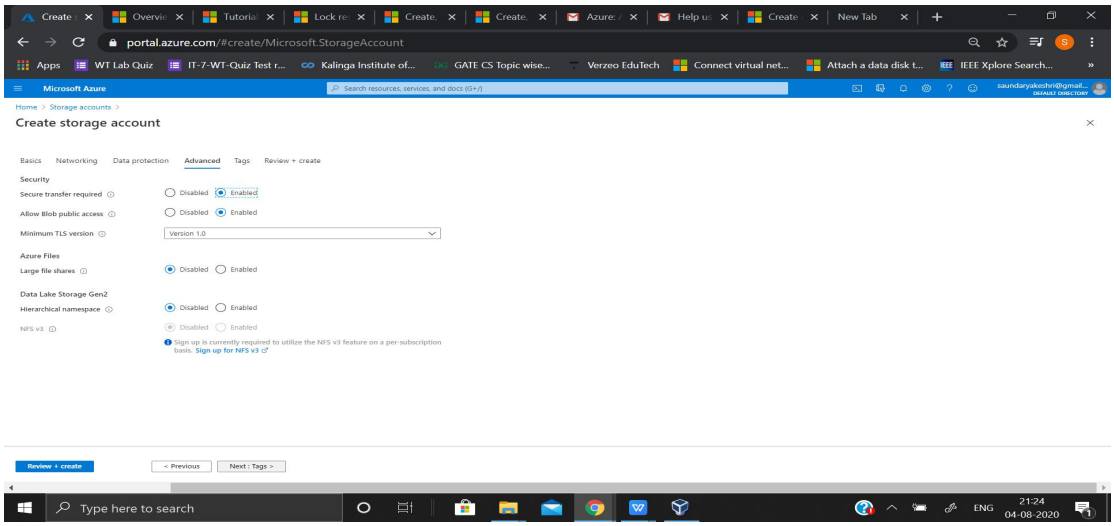
4. Select the appropriate option under **Data protection** and click on **Next: Advanced**



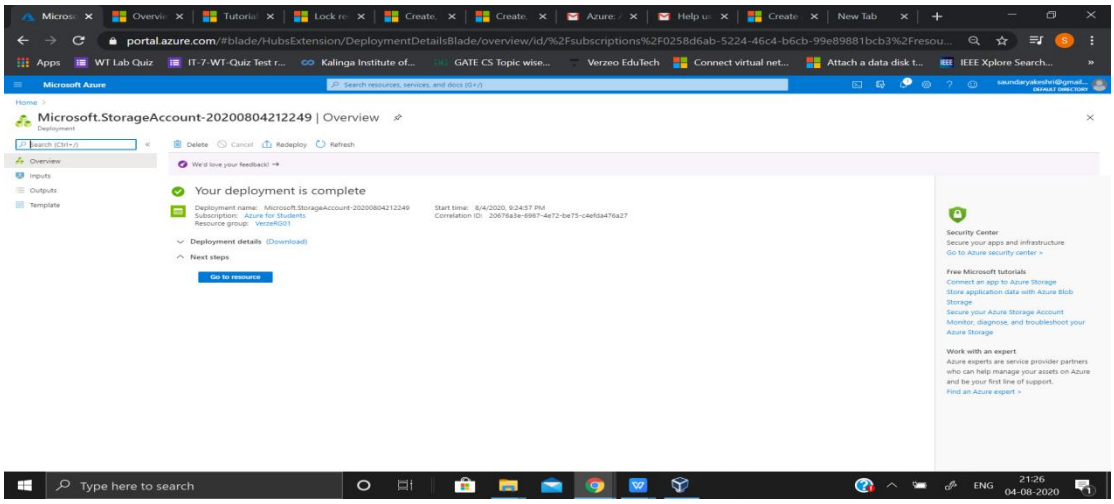
5. Select the appropriate option under **Advanced** and click on **Review + create**



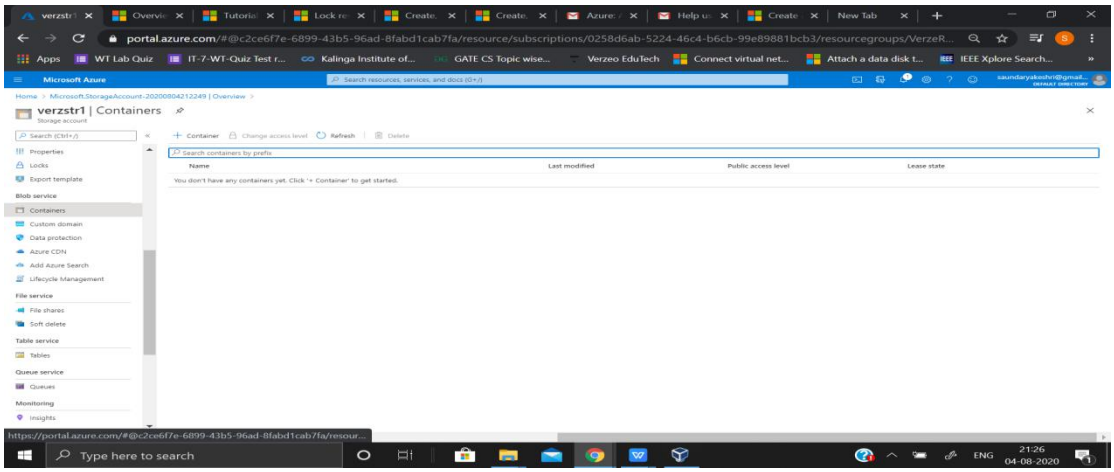
6. After the *Validation is passed* click on **Create .**



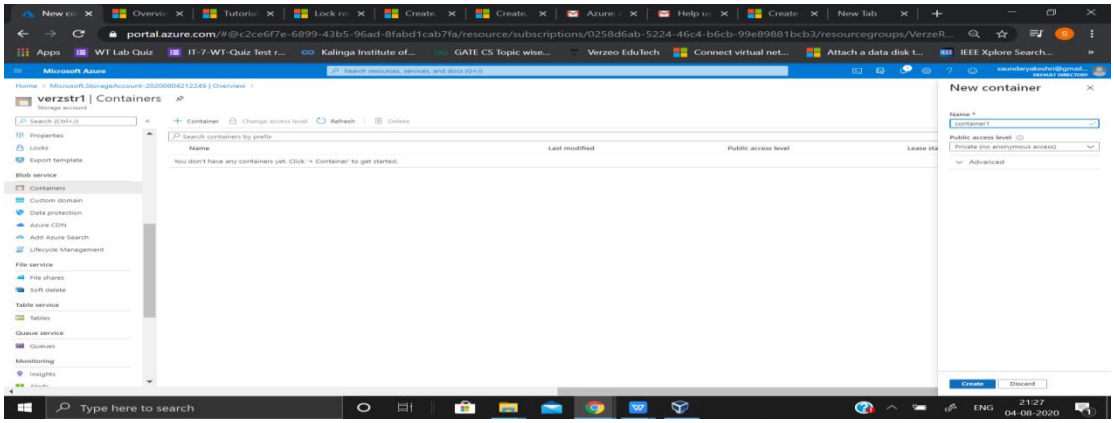
7. Wait for deployment to complete.



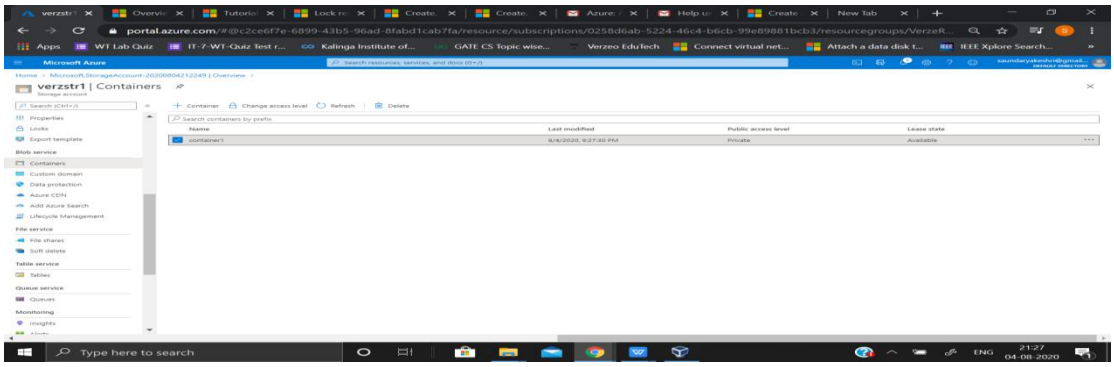
8. Go to the created Storage account- **verzstr1** and scroll to the **Blob service** section, and then click **Containers**.
9. Click **+ Container** and fill the information. When done click on **create**

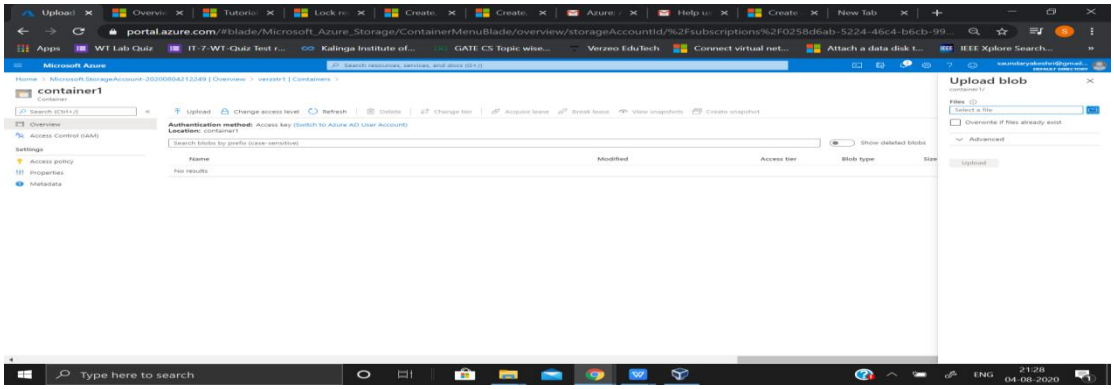


10. The container named **container1** is created.

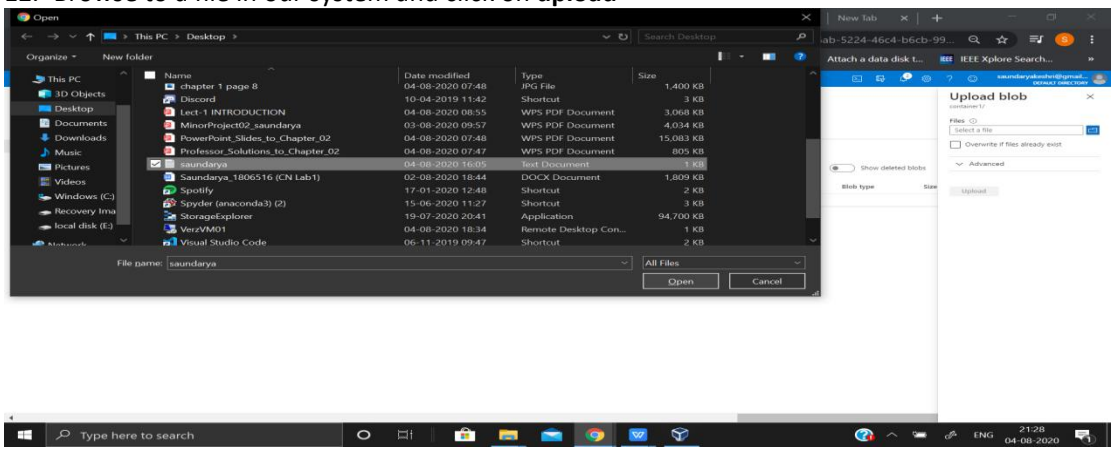


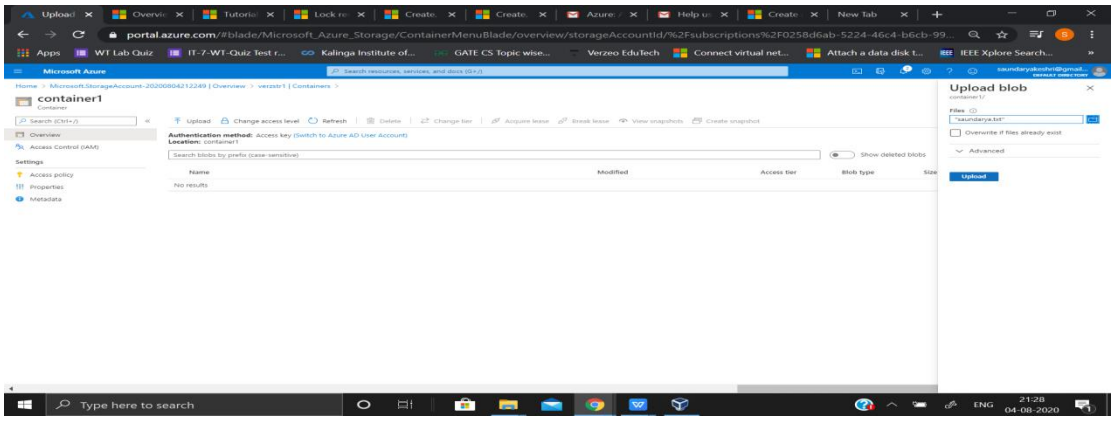
11. Click on the container created i.e **container1** and click on **Upload**

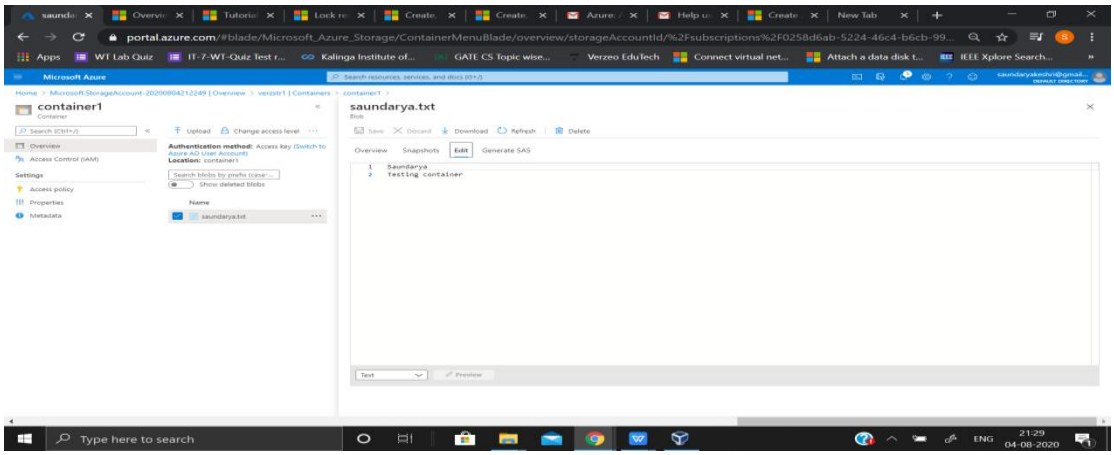




12. Browse to a file in our system and click on **upload**

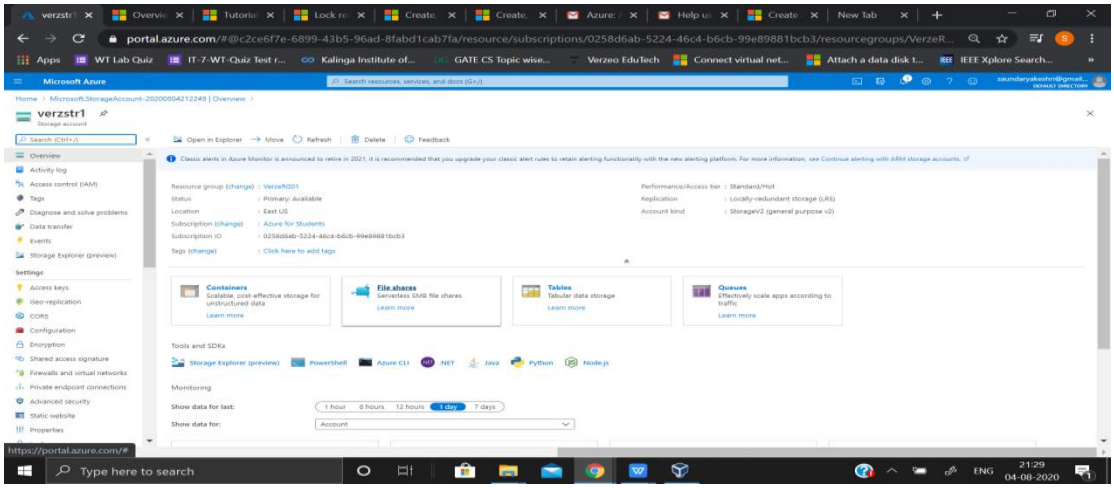




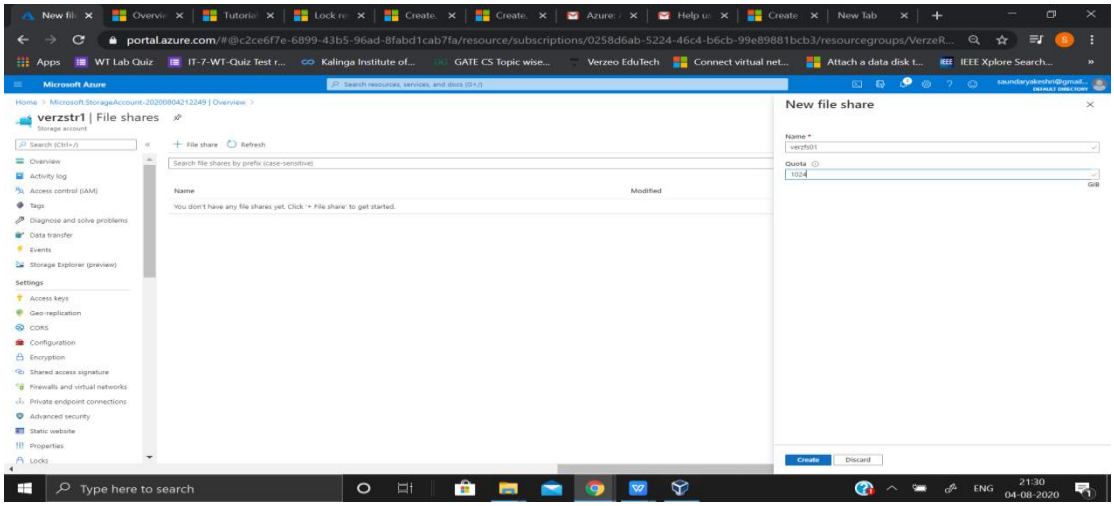


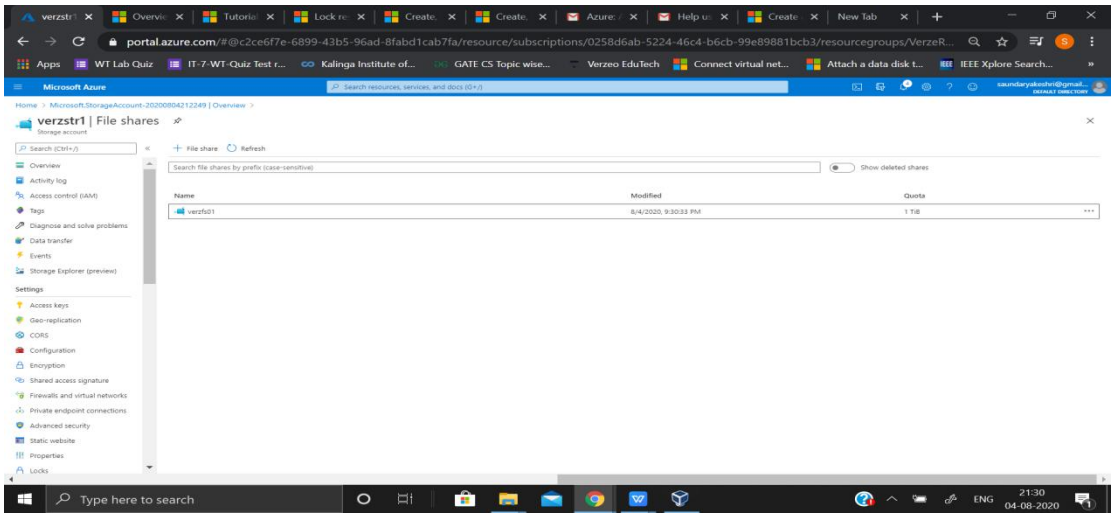
Create a File Share (Verzfs01)and mount on the (VerzVM01)

1. Go to the storage account **verzstr1** and select **File share.**

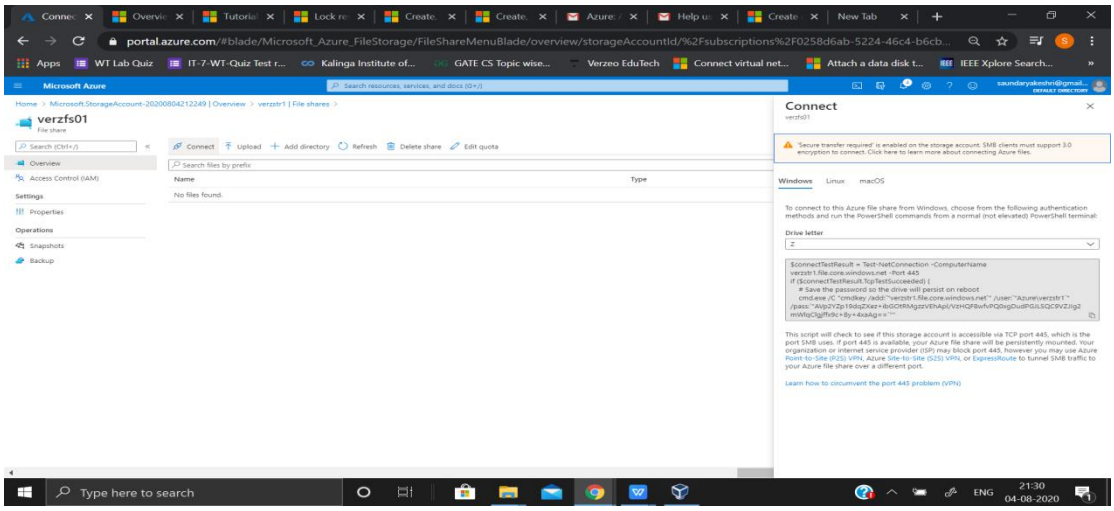


2. Click on **+File share** a section will pop at the right corner fill the details and then click on **create.**

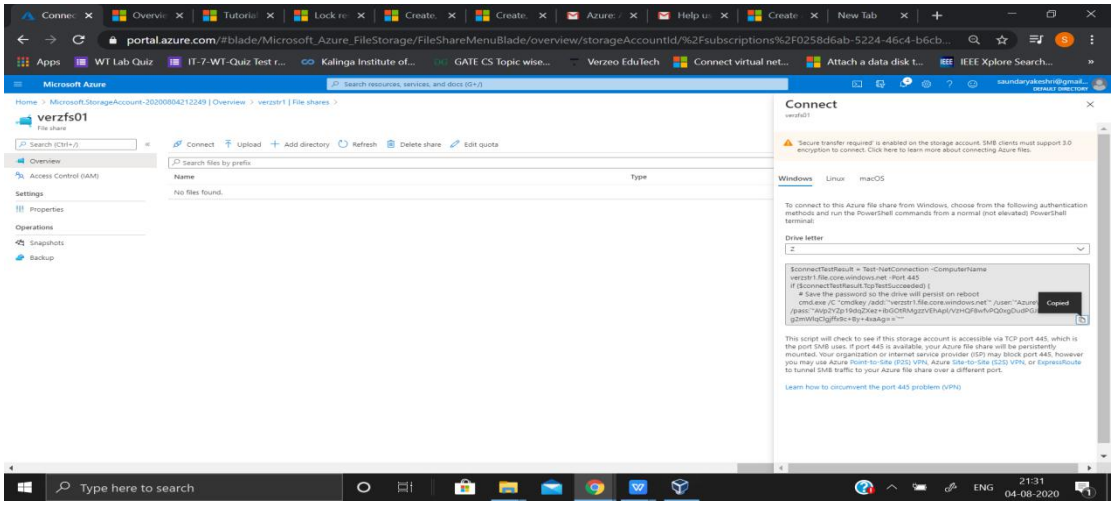


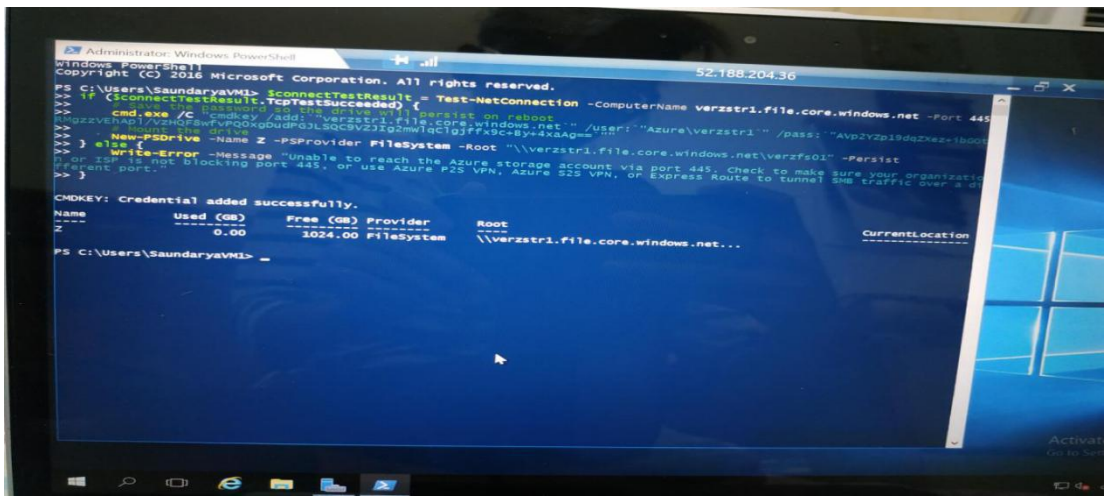


3. File share **verzfs01** is created.
4. Go to the created file share **verzfs01** and click on **connect**



5. Select the drive letter to mount the share to
6. Copy the provided script in the powershell of our Virtual Machine **VerzVM01**

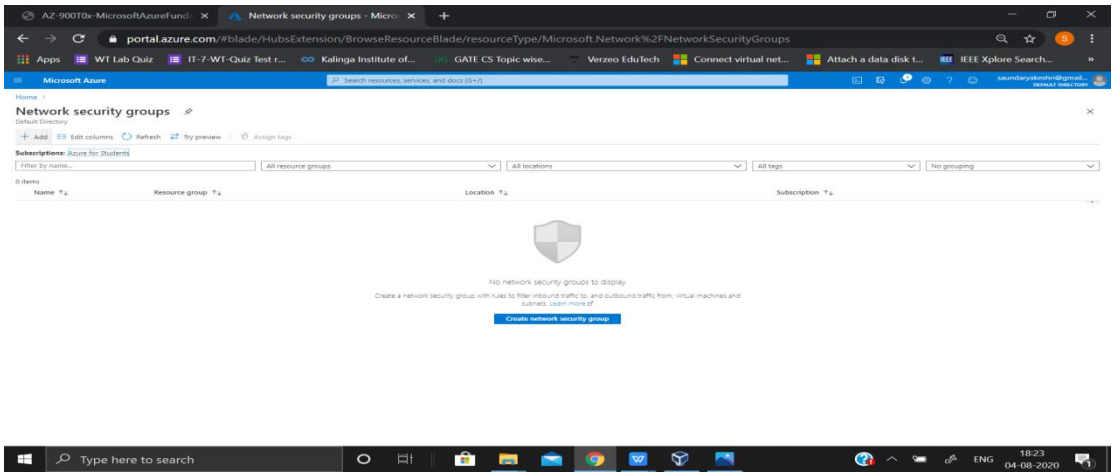




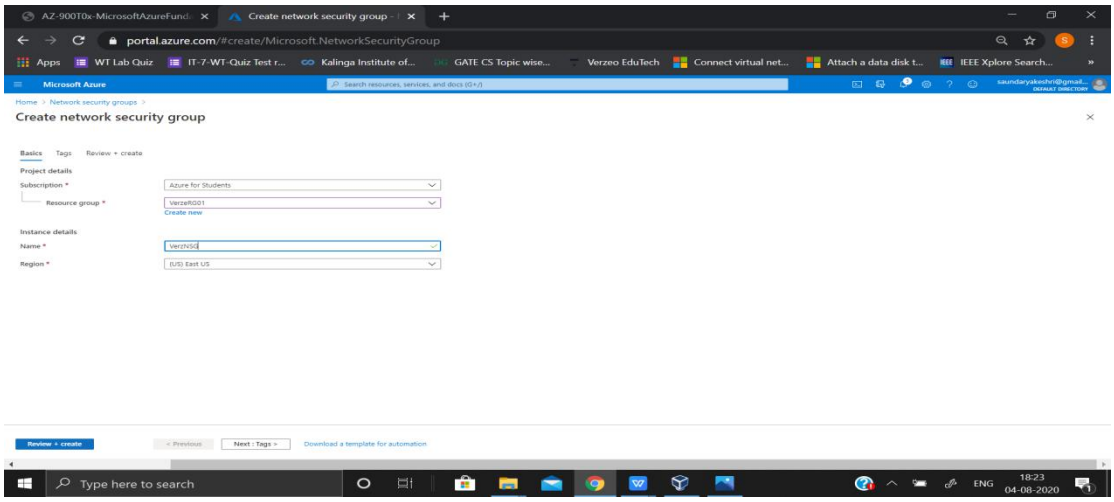
7. File **verzfs01** is mounted on virtual machine **VerzVM01** successfully.

-Creating a Network Security Group

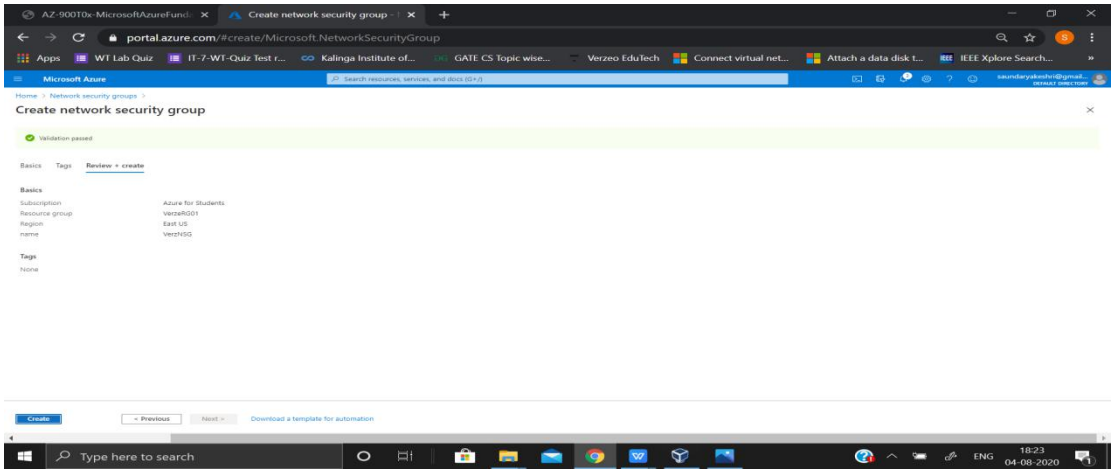
1. From the all service blade, search for and select **Network Security Group** and click **+Add.**



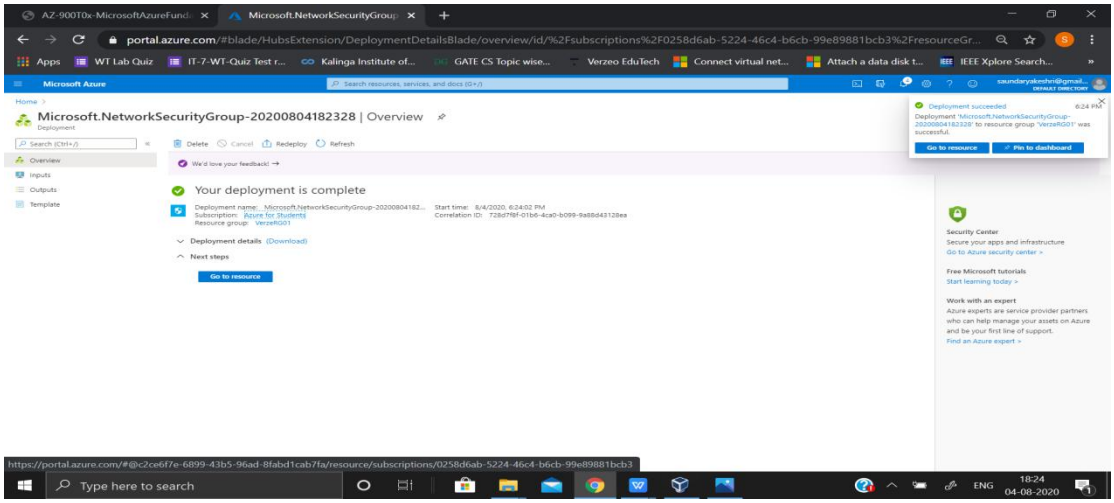
2. Fill the required information and click on **Review+Create**



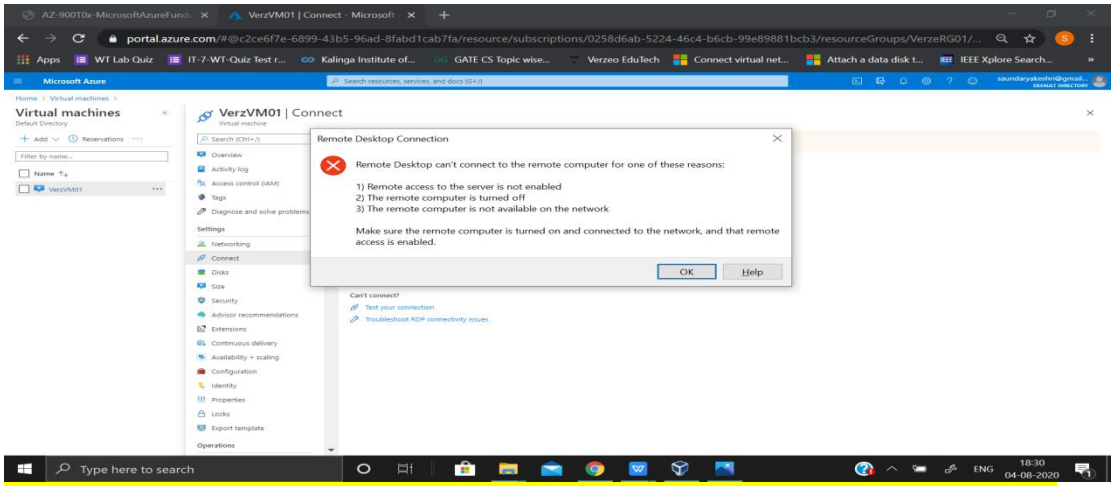
3. After the *Validation is passed* click on **Create .**



4. Wait for deployment to complete.

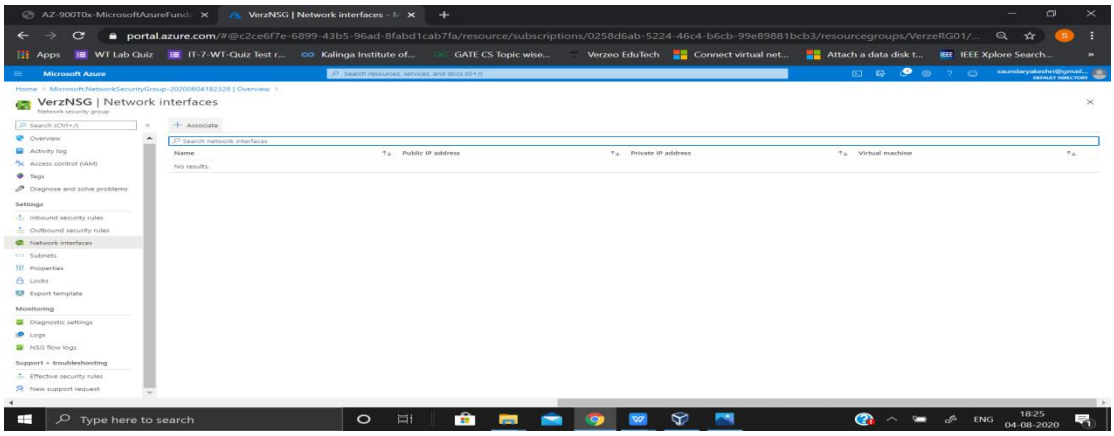


5. Thus the Network Security Group - **VerzNSG** is created
But when we try to connect to our virtual machine it shows:



To connect to our virtual machine **VerzVM01** we associated our created NSG **VerzNSG** to **VerzVM01**

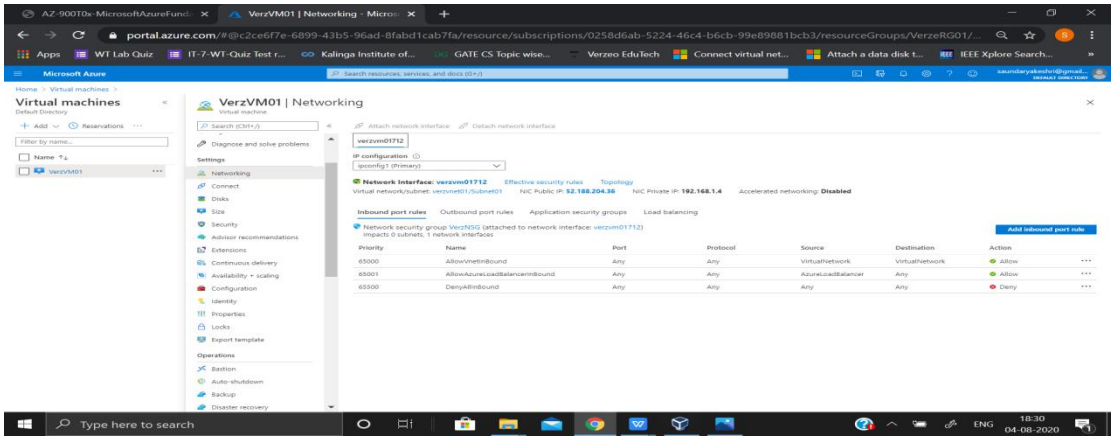
6. Go to **VerzNSG** and click on **+Associate**



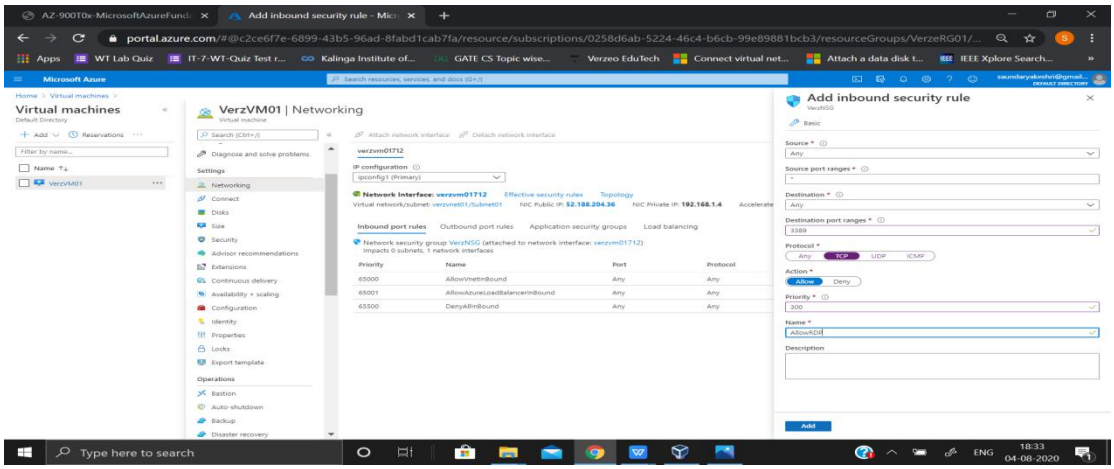
7. And select the virtual machine **VerzVM01** to associate **VerzNSG** with **VerzVM01.**

-Configure an inbound security port rule to allow RDP

1. Go to the Virtual Machine **VerzVM01** under **Setting** click on **Networking**
2. Select **Add inbound port rule**

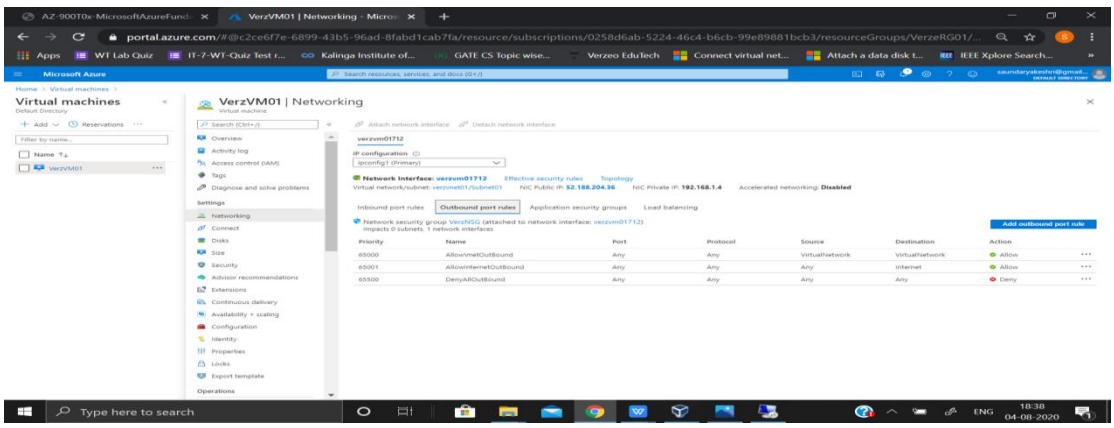


3. Fill the details and click on **+Add**

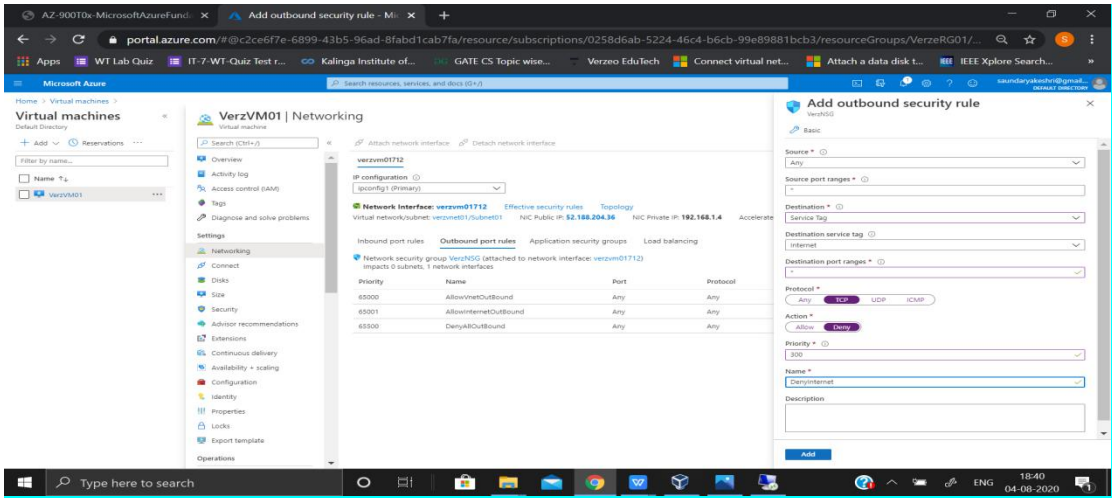


-Configure an outbound security port rule to deny Internet access

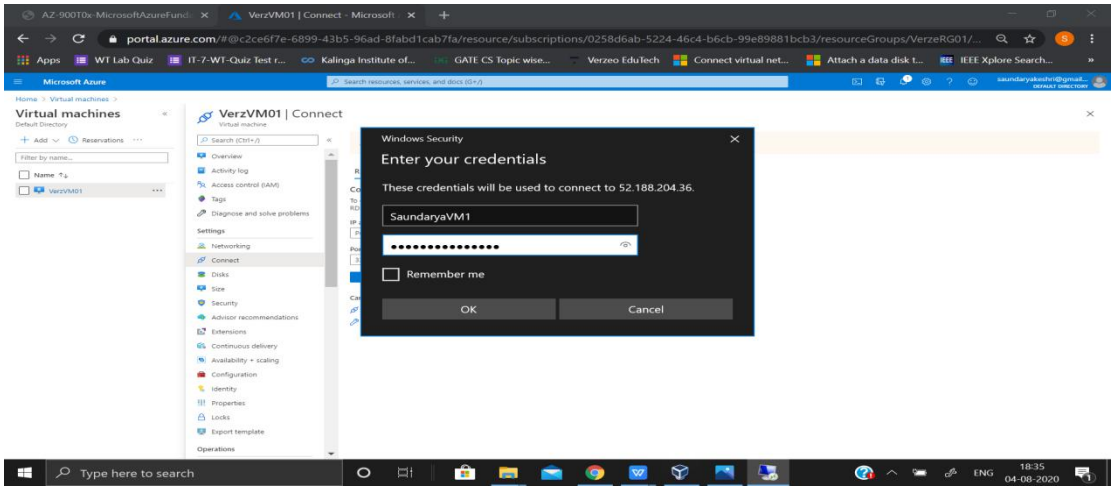
4. Go to the Virtual Machine **VerzVM01** under **Setting** click on **Networking**
5. Select **Add outbound port rule**

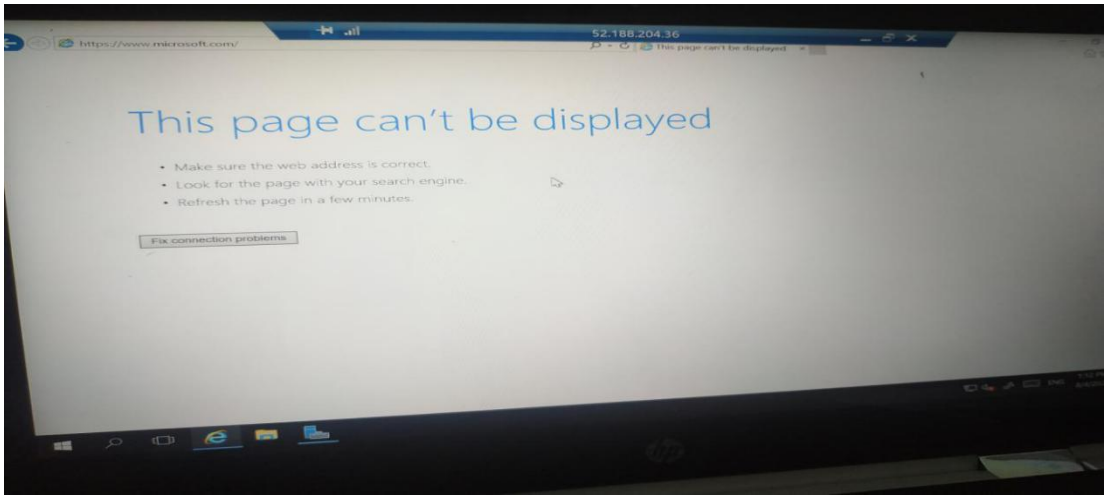


6. Fill the details and click on **+Add**



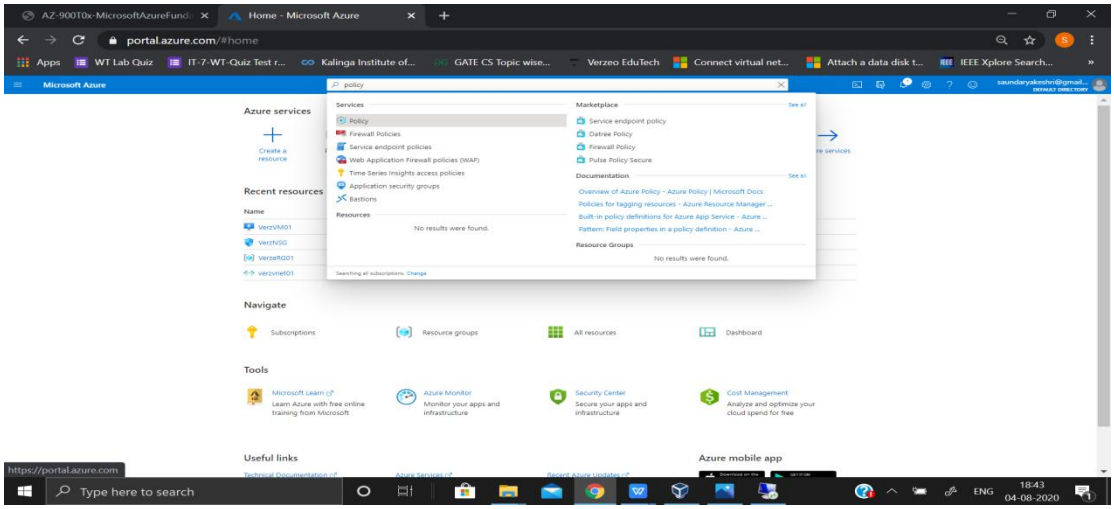
Result - we can connect to Virtual machine **VerzVM01** using RDP and the Internet connection is denied in **VerzVM01**



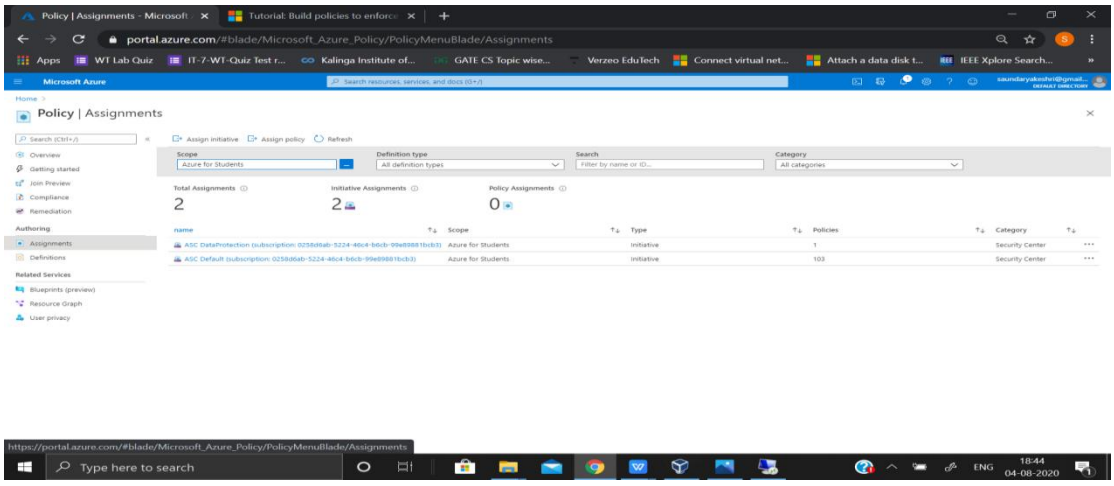


- Create an Azure Policy to only allow certain locations

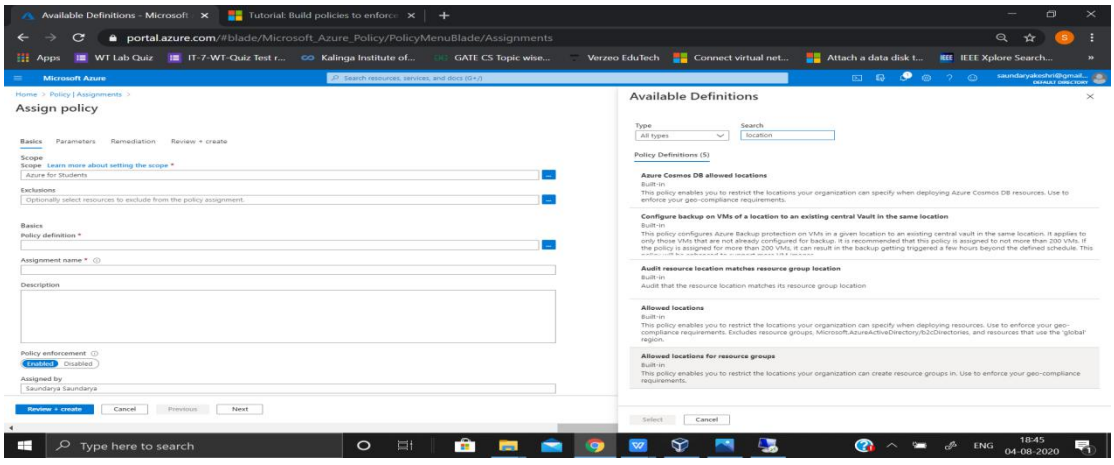
1. From the all service blade, search for and select **Policy** and click **+Add.**

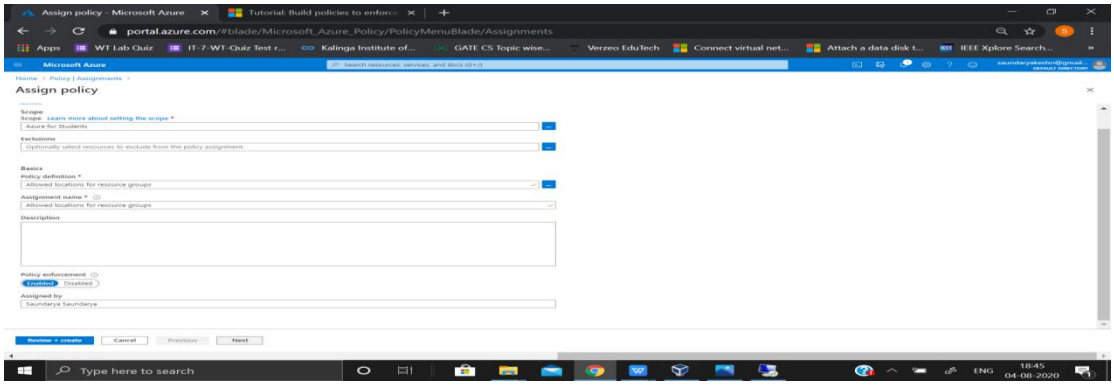


2. Under **Authoring** select **Assignments** and then select **Assign policy**

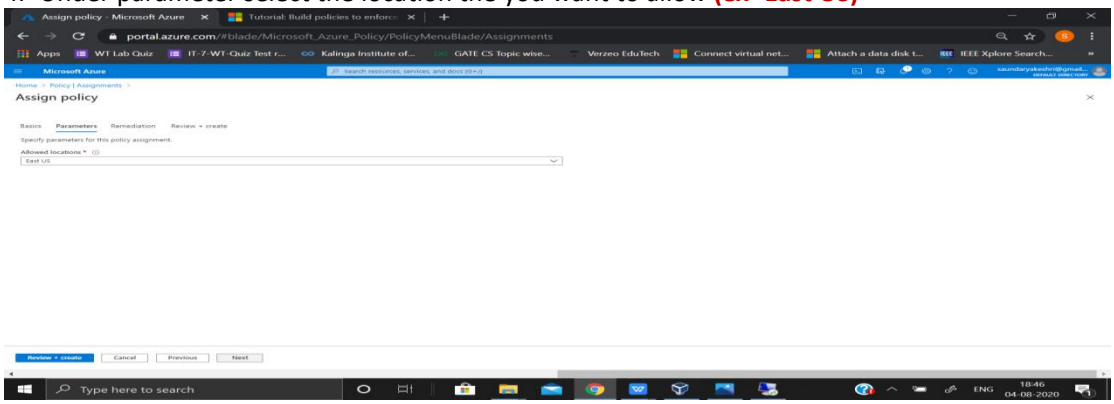


3. Fill the required information and under **Available Definitions** choose **policy defination** as - **Allowed location for Resource group**

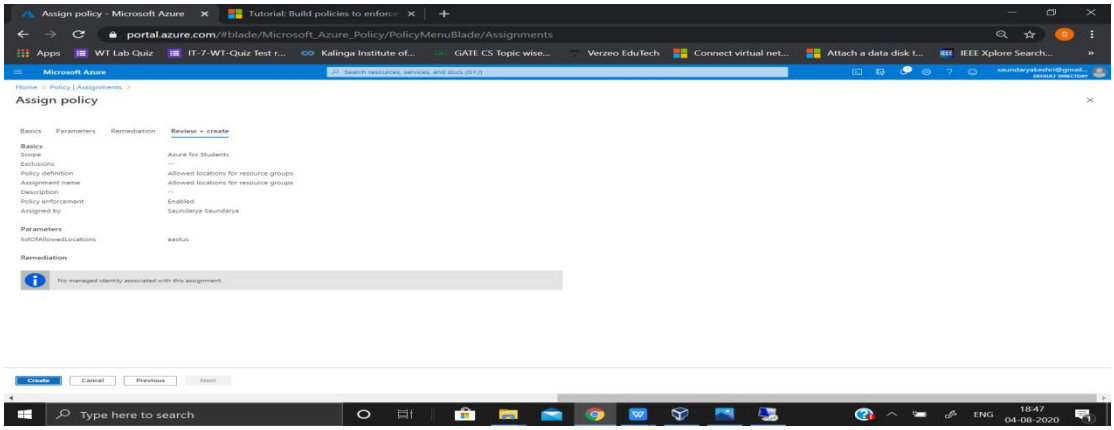




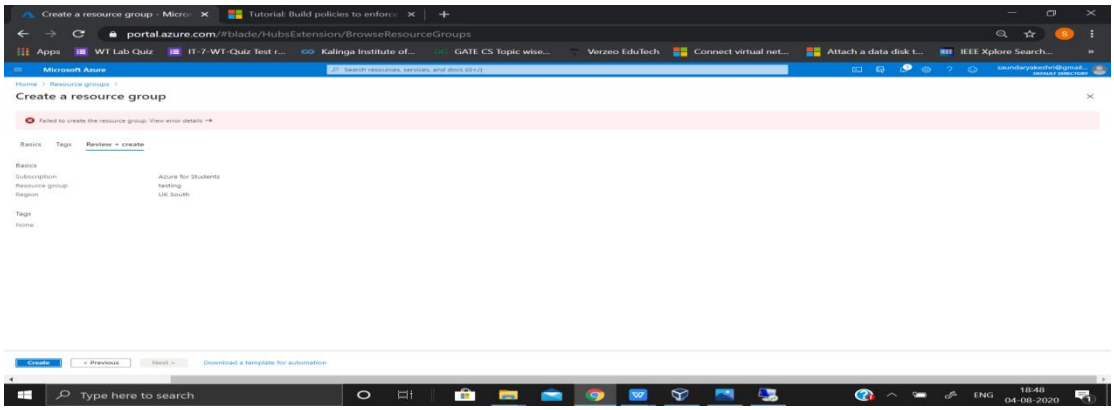
4. Under parameter select the location the you want to allow **(ex- East US)**



5. Click on **Review+Create** and click on **create**

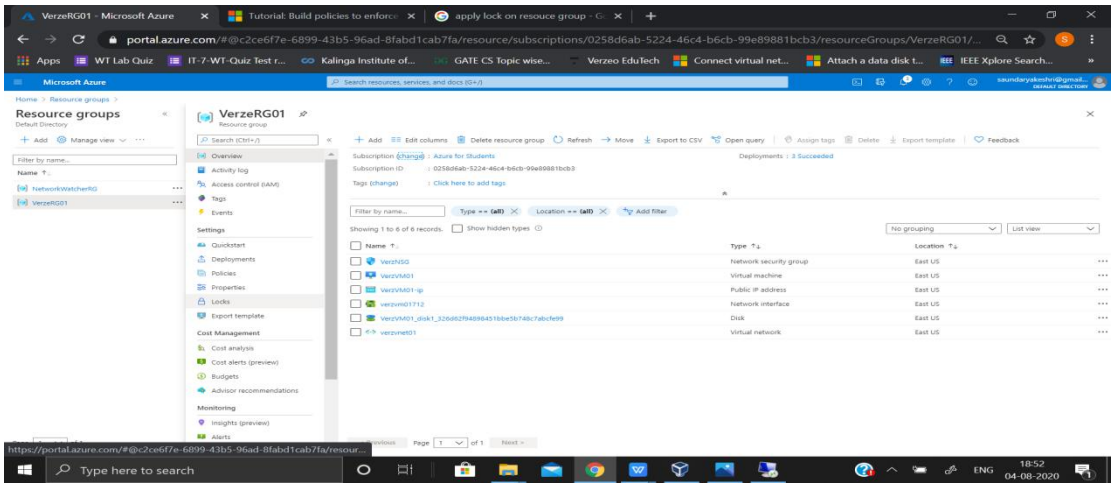


Result - cannot create resource group anywhere except East US

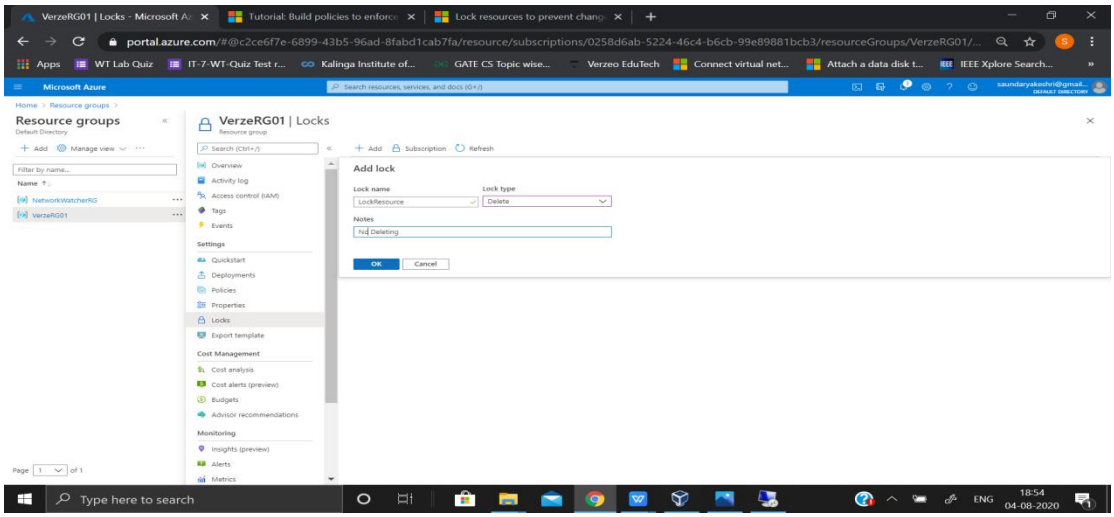


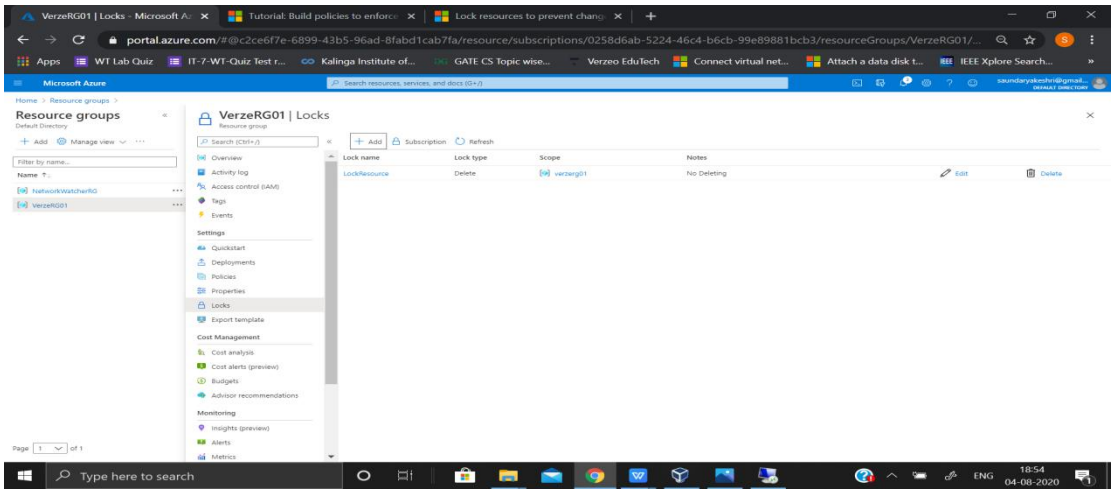
- Apply a lock on the (VerzeRG01) and test if you are allowed to delete any resource.

1. Go to the Resource group **VerzeRG01** and under setting click on **Locks.**



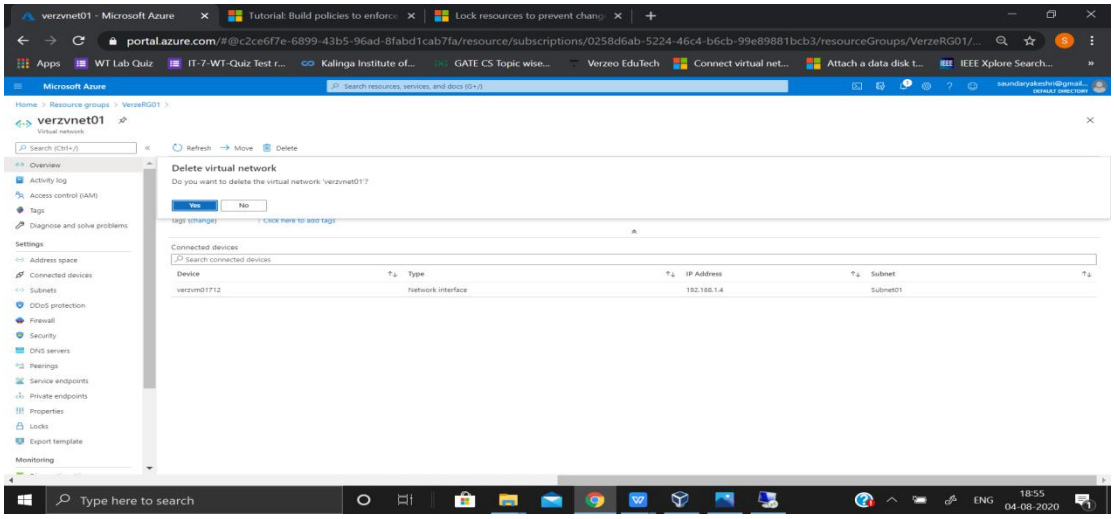
2. Click on **+Add**

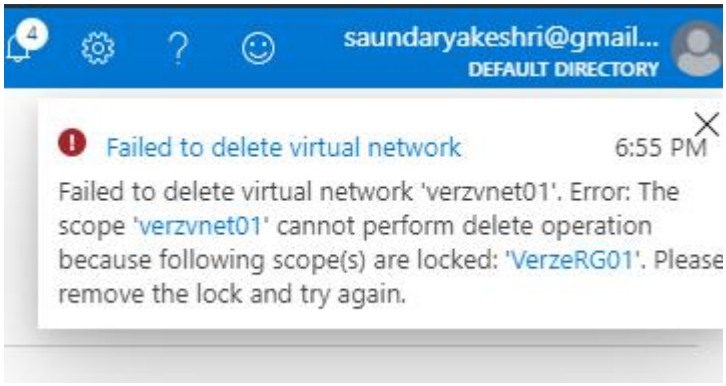




The lock **LockResource** is created which don't allow us to delete the resource belonging to the Resource Group **VerzeRG01.**

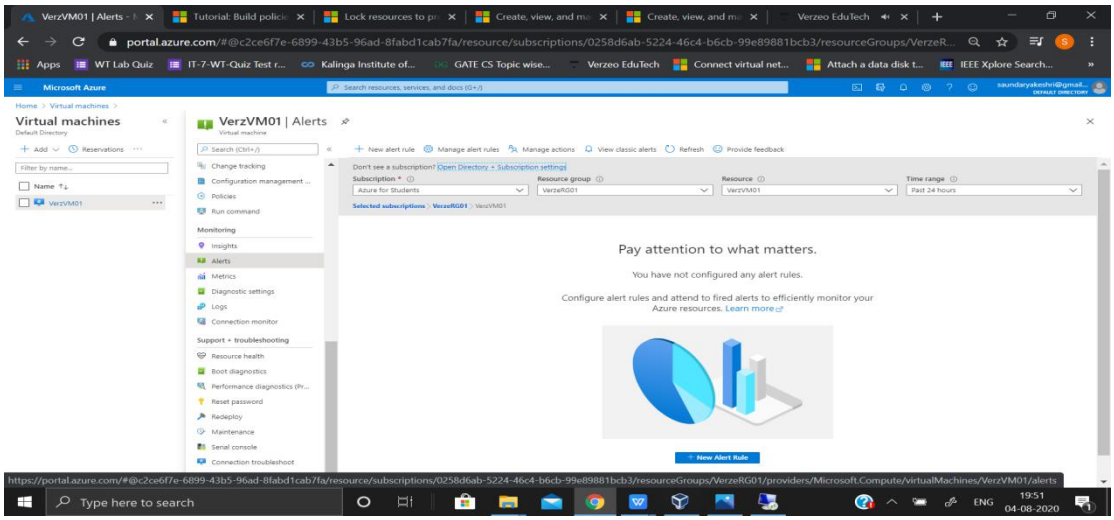
Result - We are not able to delete any Resource in Resource Group **VerzeRG01**

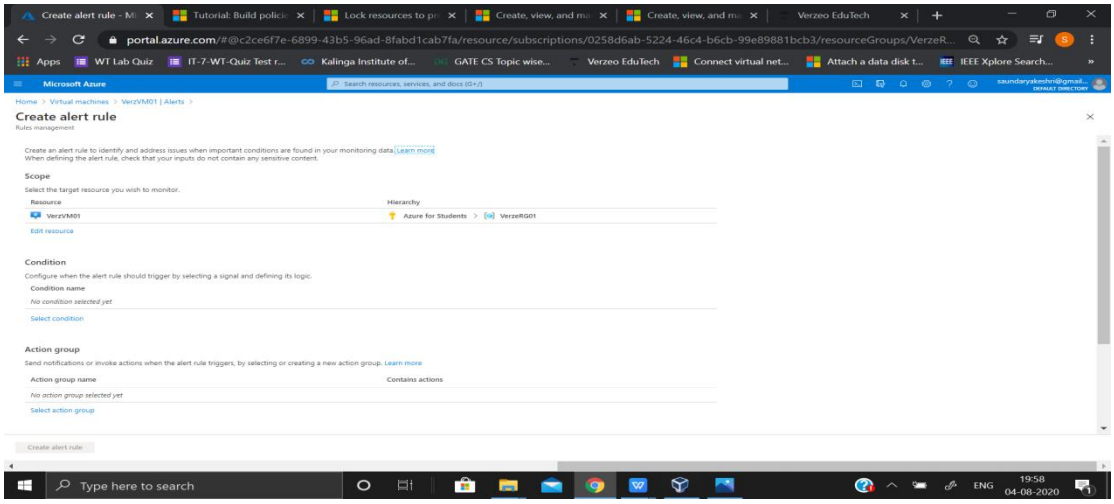




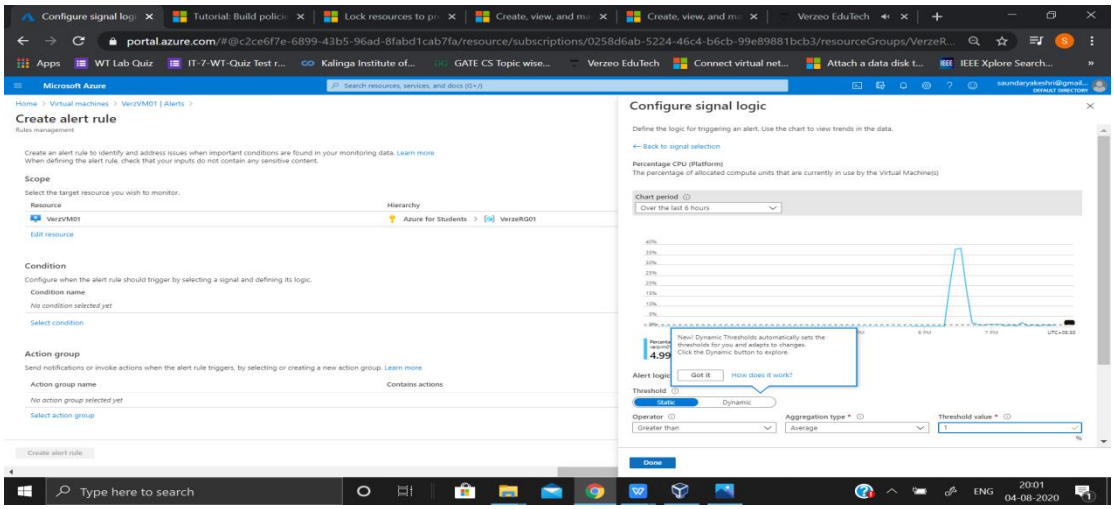
-Setup CPU Threshold alert for the VM (VerzVM01)

1. Go to the created virtual machine **VerzVM01** and under **Monitoring** section click on **Alert** and click on **+ New alert rule**



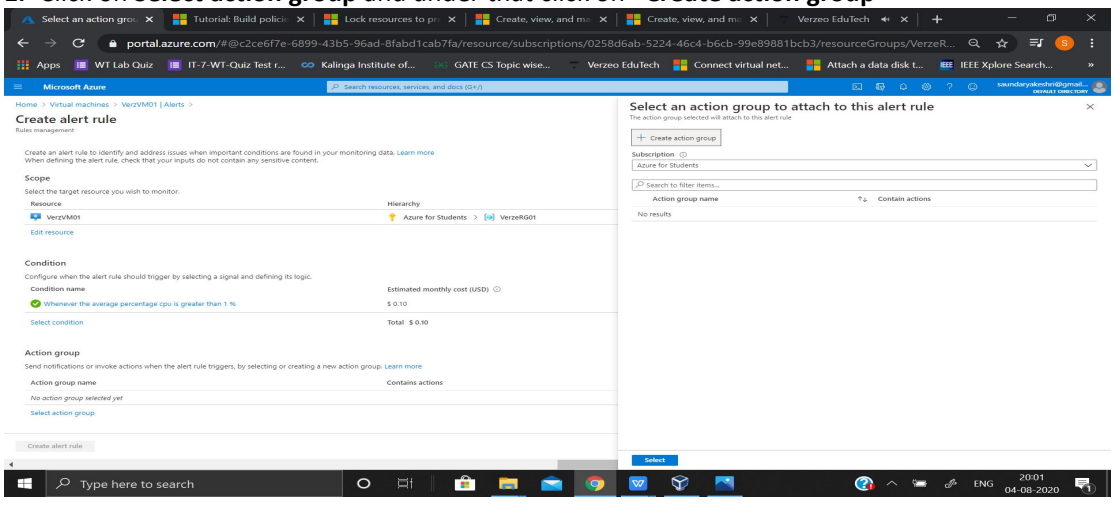


2. Click on **Select condition.** Select the appropriate option **(set threshold value as 1**)and fill the required field and click on **Done**

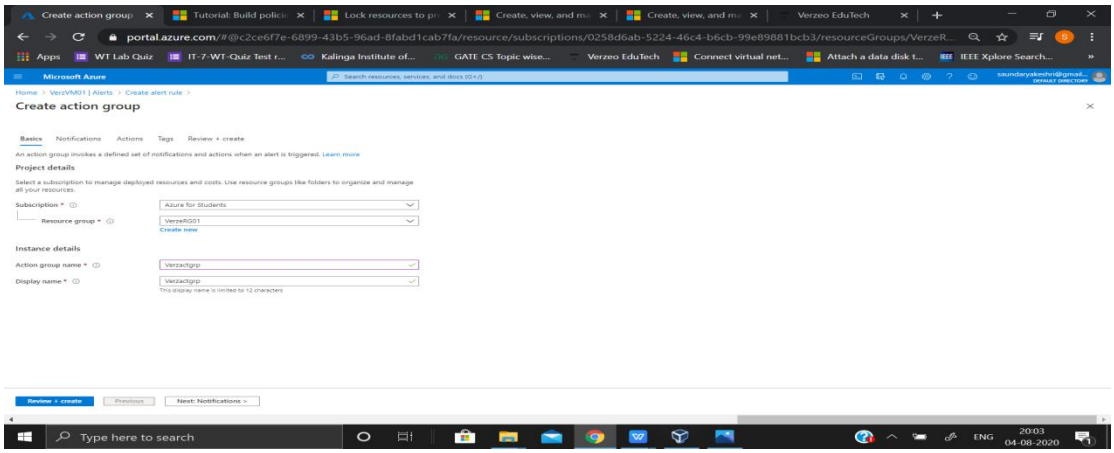


Create Action (Verzactgrp) Group for the above alert with your email id.
- Check if you are receiving the alert

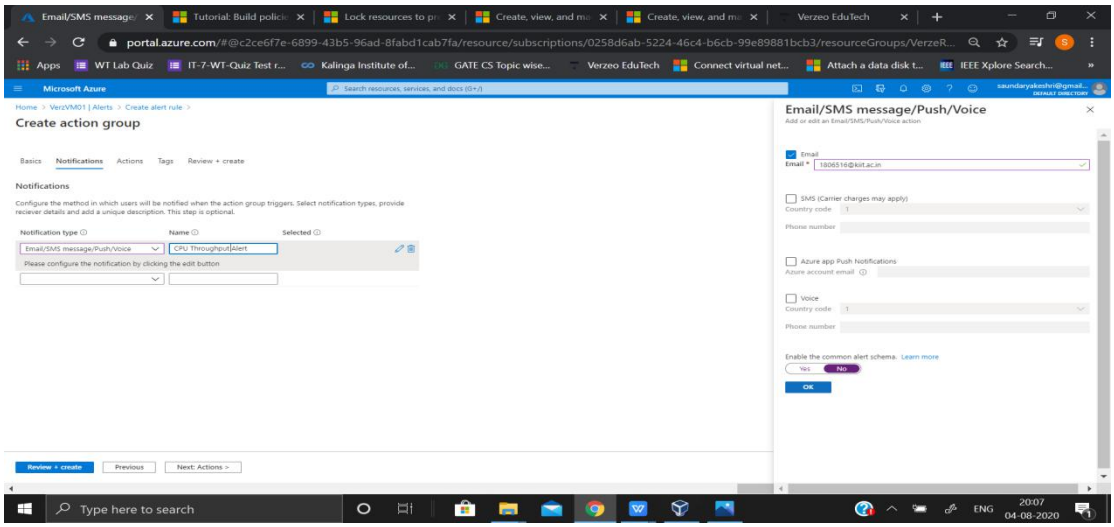
1. Click on **Select action group** and under that click on **+Create action group**



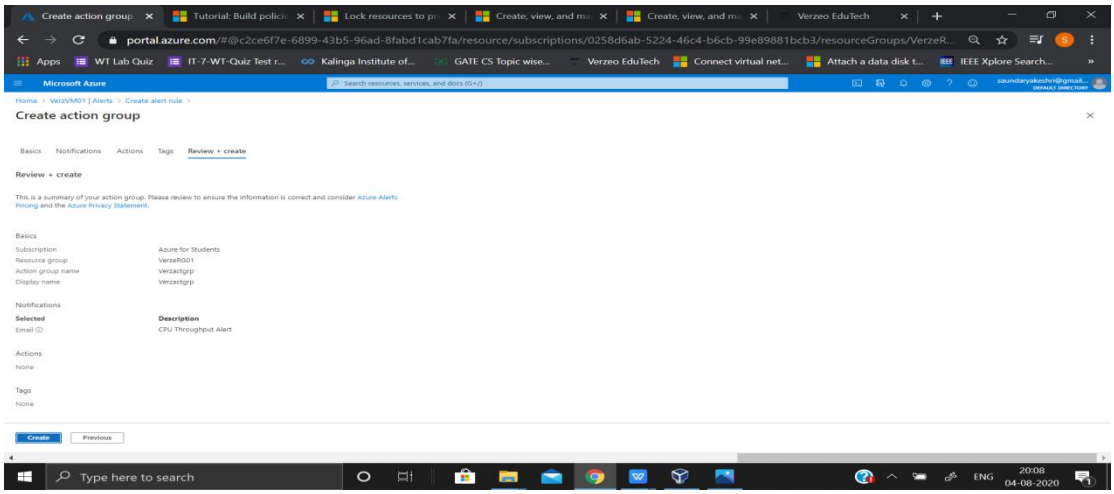
3. Filled the required field also provide the name of action group (ex- **Verzactgrp**)and click on **Next:Notification**



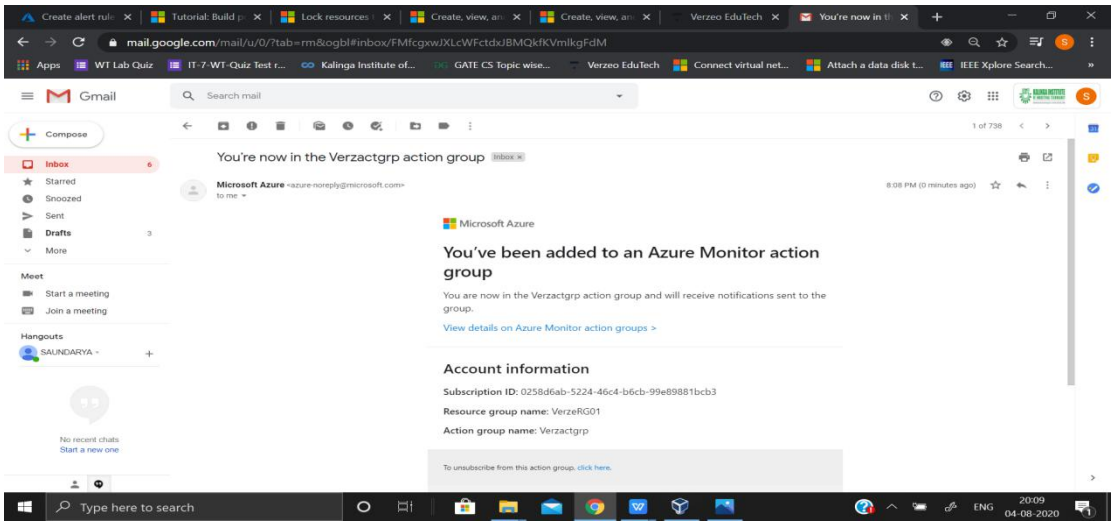
4. Select the **Notification Type** as **Email/SMS message/Voice** provide your email id and give the notification type some name (ex - **CPU Throughput**) and click on **Review+Create**



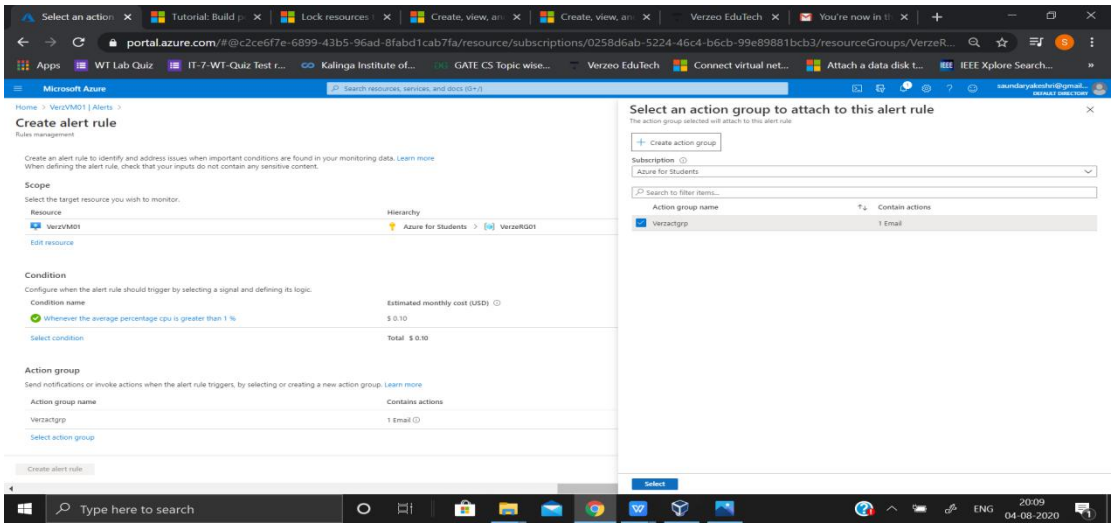
5. Click on **Create.**

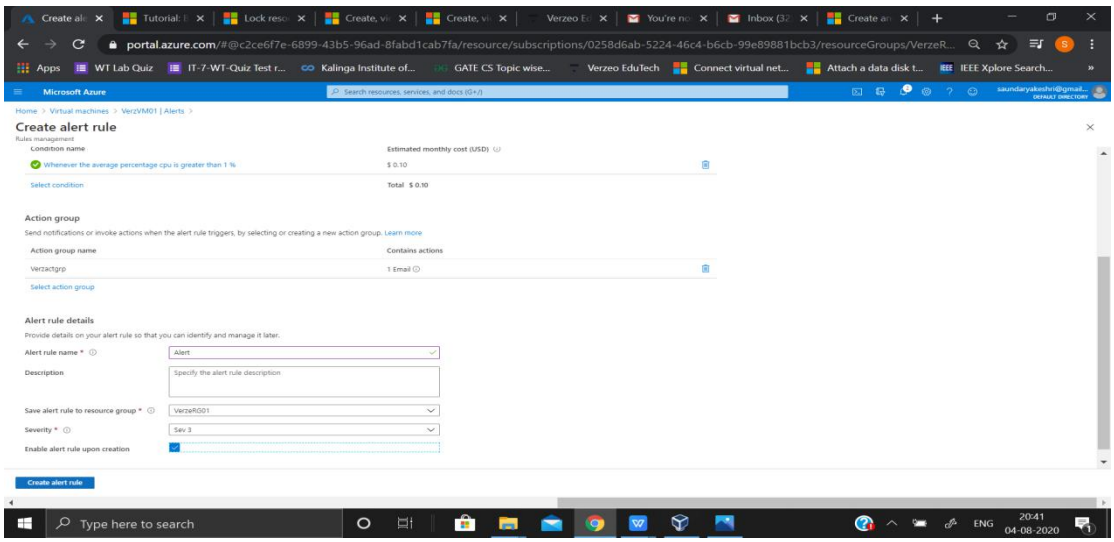


6. After the successfully creation of action group we will **receive a mail in registered email id**.

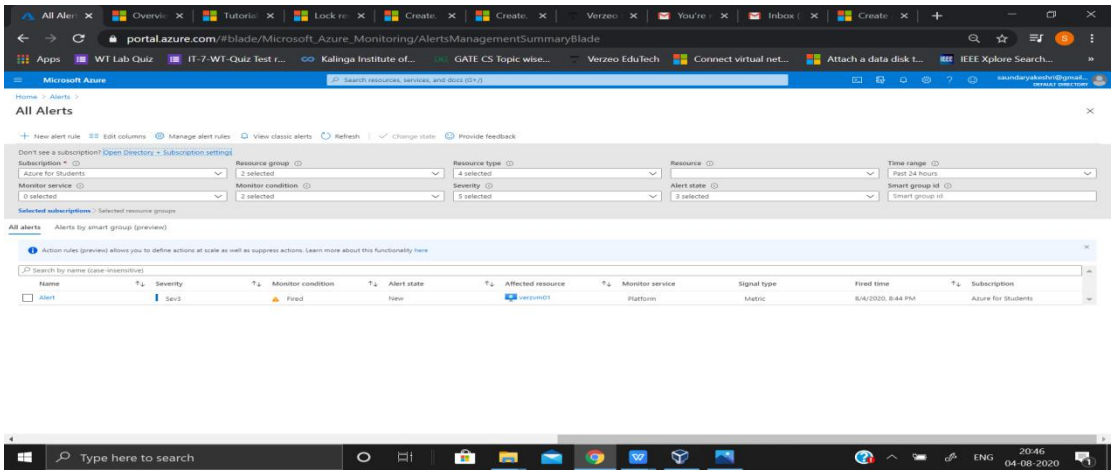


7. Now select the created action group and fill the remaining information and click on **Create alert rule**





8. Thus the alert group **verzactgrp** is created

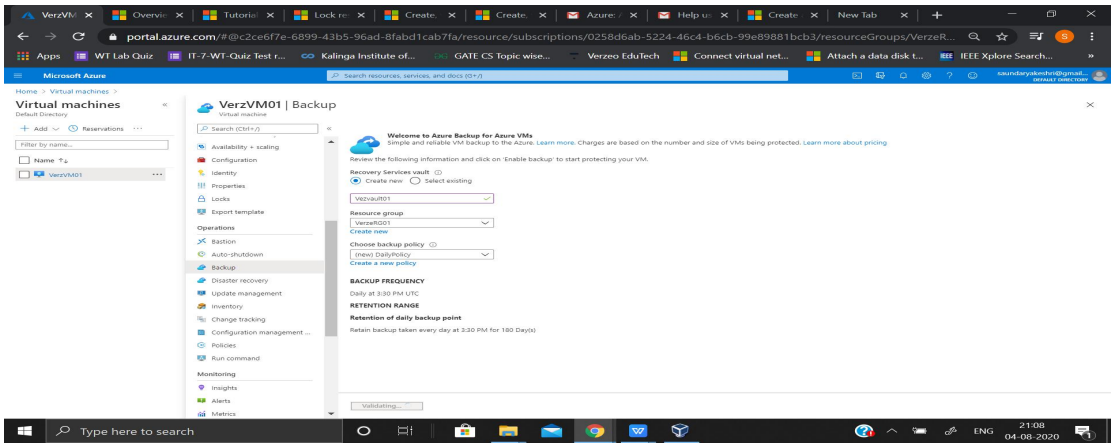


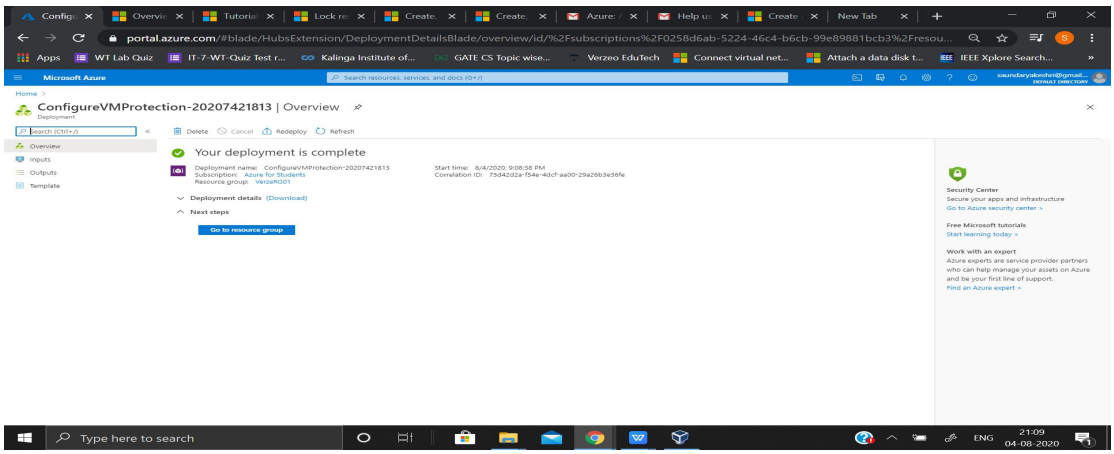
Create a Recovery Services vault (Vezvault01) in the Resource Group (VerzeRG01)

1. Go to the Virtual machine created **VerzVM01** and under **Operations** click on **Backup**, and select **Create new** . mention the vault name - **Vezvault01**
   choose a Resource group - **VerzeRG01**
   And choose a backup policy - **(new)DailyPolicy**

and click on **create.**

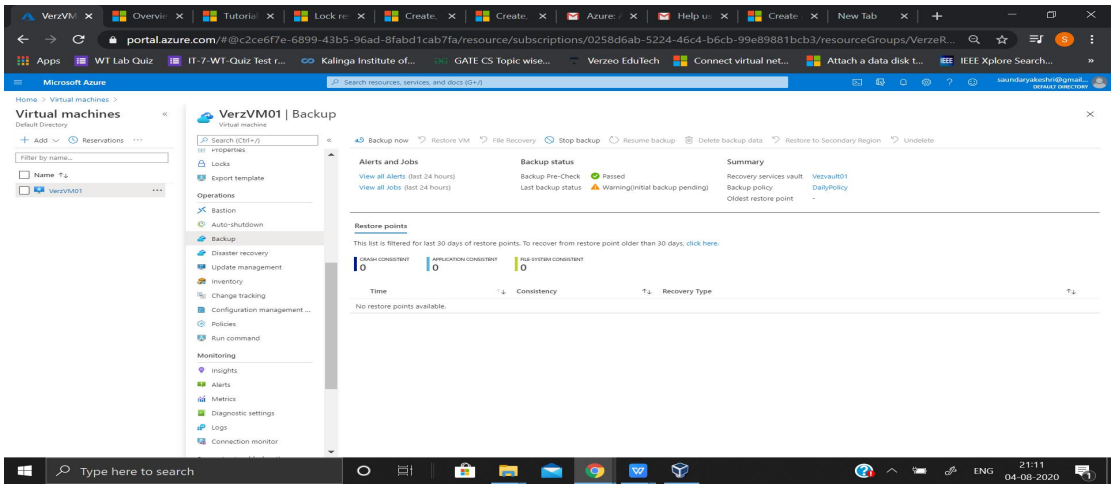
2. Wait for validation to pass and deployment to complete.



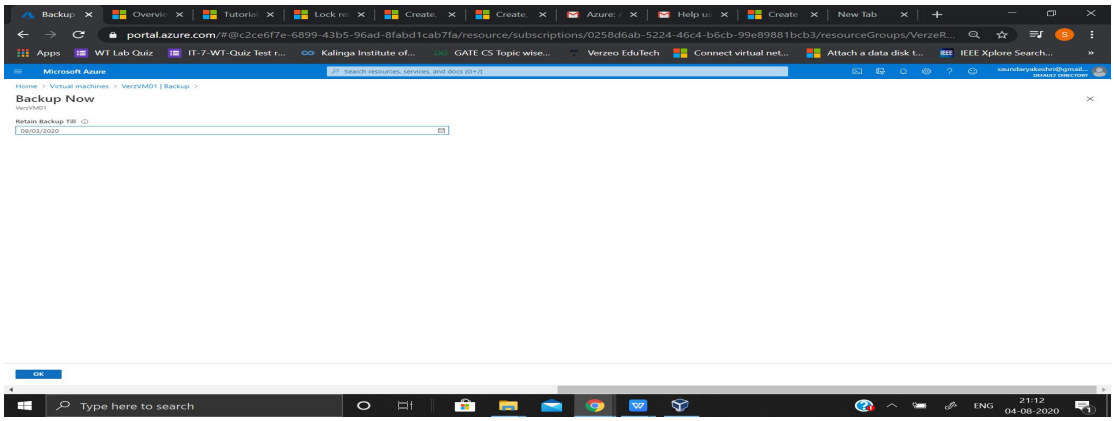


- Setup Backup for the Virtual Machine (VerzVM01) and ensure backup is completed successfully.

1. Go to the Virtual machine created **VerzVM01** and under **Operations** click on **Backup** and click on **Backup now**



2. Select the backup retain date and click on **OK**



Result - Backup triggered successfully.