**Task1: Create a resource group in EastUS with name class and it will have a network 172.16.0.0/16 with subnet 172.10.10.0/24**

**To create a group**

az group create -l eastus -n class

az network vnet create \

  --name vnet1 \

  --resource-group class \

  --address-prefixes 172.16.0.0/16 \

  --subnet-name office \

  --subnet-prefixes 172.16.10.0/24

**Task2: create a storage account & create a container name data within.**

To create a storage account—

az storage account create \

    --name timirlab \

    --resource-group class \

    --location eastus \

    --sku Standard\_ZRS \

    --encryption-services blob

To create a container name data

az storage container create \

    --account-name timirlab \

    --name data

**Task3: create a Azure log analytics dashboard in EastUS2**

**To create a log  analytics dashboard**

az monitor log-analytics workspace create -g class -n log1

**To delete**

az group delete –n class

**To create a Windows VM**

az vm create \

    --resource-group class \

    --name vm1\

       --image win2022datacenter \

    --admin-username sysadmin \

--admin-password Timirchandra@1993

**To RDP**

Get-AzRemoteDesktopFile -ResourceGroupName "ClassRG" -Name "vm1" -Launch

mstsc /v:publicIpAddress

mstsc /v:

az vm show -d -g ClassRG -n vm1 --query publicIps -o tsv

**To view the image**

az vm image list

**To view the VM**

Az vm list

**Create vnet**

az network vnet create \

  --name vnet1 \

  --resource-group ClassRG \

  --address-prefixes 172.16.0.0/16 \

  --subnet-name office \

  --subnet-prefixes 172.16.10.0/24

**To view vnet**

az network vnet list

**To create a vm with in the vnet**

az vm create --resource-group class --name vm1 --image win2022datacenter --vnet-name vnet1 --subnet office --public-ip-sku Standard --admin-username sysadmin --admin-password Timirchandra@1993

az vm create \

  --resource-group $resourceGroup \

  --name $vmName \

  --image UbuntuLTS \

  --vnet-name $vnetName \

  --subnet $subnetName \

  --generate-ssh-keys \

  --output json \

  --verbose

az vm create \

    --resource-group ClassRG \

    --name vm1 \

    --image Win2022AzureEditionCore \

    --public-ip-sku Standard \

    --admin-username sysadmin

--admin-password Timirchandra@1993

**To RDP of a Windows Vm**

az vm show -d -g class -n vm1 --query publicIps -o tsv

* az vm show is the Azure CLI command to show details about a virtual machine.
* -d or --show-details is an optional parameter that indicates that the command should show all details about the virtual machine, including the public IP address.
* -g ClassRG or --resource-group ClassRG is the name of the resource group that contains the virtual machine.
* -n vm1 or --name vm1 is the name of the virtual machine that you want to connect to.
* --query publicIps is a parameter that specifies the JSON property to extract from the output of the command. In this case, we're extracting the public IP address of the virtual machine.
* -o tsv or --output tsv is an optional parameter that specifies the format of the output. In this case, we're using the tab-separated value (TSV) format, which is easier to work with when you want to extract a single value.

**To delete a VM**

az vm delete -g ClassRG -n vm1

**Install IIS**

az vm run-command invoke -g class \

   -n vm1 \

   --command-id RunPowerShellScript \

   --scripts "Install-WindowsFeature -name Web-Server -IncludeManagementTools"

**Open port 80 for web traffic**

az vm open-port --port 80 --resource-group class --name vm1

**Create a Storage account**

az storage account create \

    --name timirlab \

    --resource-group class \

    --location eastus \

    --sku Standard\_ZRS \

    --encryption-services blob

* az storage account create: This is the command to create an Azure Storage account using the Azure CLI.
* --name <storage-account>: This parameter specifies the name of the storage account that you want to create. Replace <storage-account> with the name you want to use.
* --resource-group <resource-group>: This parameter specifies the name of the resource group that you want to use for the storage account. Replace <resource-group> with the name of an existing resource group or create a new one.
* --location <location>: This parameter specifies the Azure region where you want to create the storage account. Replace <location> with the name of a region, such as "eastus" or "westus".
* --sku Standard\_ZRS: This parameter specifies the SKU (or pricing tier) of the storage account. In this case, it's set to "Standard\_ZRS", which stands for Zone-Redundant Storage. This means that data will be replicated across multiple Azure availability zones within a region for high availability and disaster recovery.
* --encryption-services blob: This parameter specifies that encryption should be enabled for blob storage. Blob storage is used for storing unstructured data such as images, videos, and documents.

**Create a container**

az storage container create \

    --account-name timirlab \

    --name data \

az storage container create \

    --account-name timirlab \

    --name data \

    --auth-mode login      //(this command not run due to security reason)

* az storage container create: This is the command to create a container within an Azure Storage account using the Azure CLI.
* --account-name <storage-account>: This parameter specifies the name of the storage account where you want to create the container. Replace <storage-account> with the name of an existing storage account.
* --name <container>: This parameter specifies the name of the container that you want to create within the storage account. Replace <container> with the name you want to use for the new container.
* --auth-mode login: This parameter specifies that you want to use login-based authentication to access the storage account. This means that you will need to provide your Azure credentials to authenticate and access the storage account.

**To create a log  analytics dashboard**

az monitor log-analytics workspace create -g MyResourceGroup -n MyWorkspace

**Load balancer**

**https://learn.microsoft.com/en-us/azure/load-balancer/quickstart-load-balancer-standard-public-cli**

az vm create \

    --resource-group class \

    --name vm1\

       --image win2022datacenter \

    --admin-username sysadmin \

--admin-password Timirchandra@1993

**Create the load balancer resource**

az network lb create \

    --resource-group class \

    --name lb1 \

    --sku Standard \

    --public-ip-address publicip \

    --frontend-ip-name frontend \

    --backend-pool-name backendpool

**Create the health probe**

az network lb probe create \

    --resource-group class \

    --lb-name lb1 \

    --name healthProbe \

    --protocol tcp \

    --port 80

**Create the load balancer rule**

az network lb rule create \

    --resource-group class \

    --lb-name lb1 \

    --name httprules \

    --protocol tcp \

    --frontend-port 80 \

    --backend-port 80 \

    --frontend-ip-name frontend \

    --backend-pool-name backendPool \

    --probe-name healthProbe \

    --disable-outbound-snat true \

    --idle-timeout 15 \

    --enable-tcp-reset true

**Add virtual machines to load balancer backend pool**

array=(myNicVM1 myNicVM2)

  for vmnic in "${array[@]}"

  do

    az network nic ip-config address-pool add \

     --address-pool myBackendPool \

     --ip-config-name ipconfig1 \

     --nic-name $vmnic \

     --resource-group CreatePubLBQS-rg \

     --lb-name myLoadBalancer

  done

**Create a disk and attach into VM**

az disk create \

--name datadisk \

--resource-group class \

--size-gb 4 \

--sku Premium\_LRS \

--os-type Windows \

--location eastus

**Attach disk**

az vm disk attach --vm-name vm1 --resource-group class --sku Standard\_LRS --disks datadisk