

Project Assignment

College Lab Management System in Cloud

Setup the engineering college computer lab in Azure Cloud using Infrastructure as code (IaC) in PowerShell scripting and ARM Template JSON Scripting. Your code should have below components:

- Create the computer Lab for first year, second year, third year and fourth year and in each year a separate lab for EC, CS, IT and Mechanical. Each Lab should have 2 computers (One Linux and one Windows).
- Create the connectivity between all the virtual networks so that each computers can access the computer from others networks.
- Create 4 network security group and apply it on each subnets of that year. Allow inbound and outbound traffic only on port 3389 and 22.
- Create a standard storage account and enable boot diagnostics in all the computers using same storage account.

Resource Group-

Name

firstyear-rg-01

secondyear-rg-01

thirdyear-rg-01

fourthyear-rg-01

Create Virtual Network –

Name- firstyear-vn-01

Vnet Range – 10.0.0.0/25

Name- secondyear-vn-01

Vnet Range – 20.0.0.0/25

Name- thirdyear-vn-01

Vnet Range – 30.0.0.0/25

Name- fourthyear-vn-01

Vnet Range – 40.0.0.0/25

Create Subnet –

Create 4 subnets in each virtual network which can have 64 computers in each subnets.

Subnet name –

ec-lab-sn-01, cs-lab-sn-01, it-lab-sn-01, mech-lab-sn-01

Network Security Group-

Name

firstyear-nsg-01

secondyear-nsg-01

thirdyear-rg-nsg-01

fourthyear-rg-nsg-01

Disk-

Attach a data disk in each virtual machine

Naming format- <ComputerName>-datadisk-01

Size – 80 GB

Public IP Address-

Naming format- <ComputerName>-pip-01

Network Interface Card-

Naming format- <ComputerName>-nic-01

Storage account-

Naming format- <your college name>sa

Operating System-

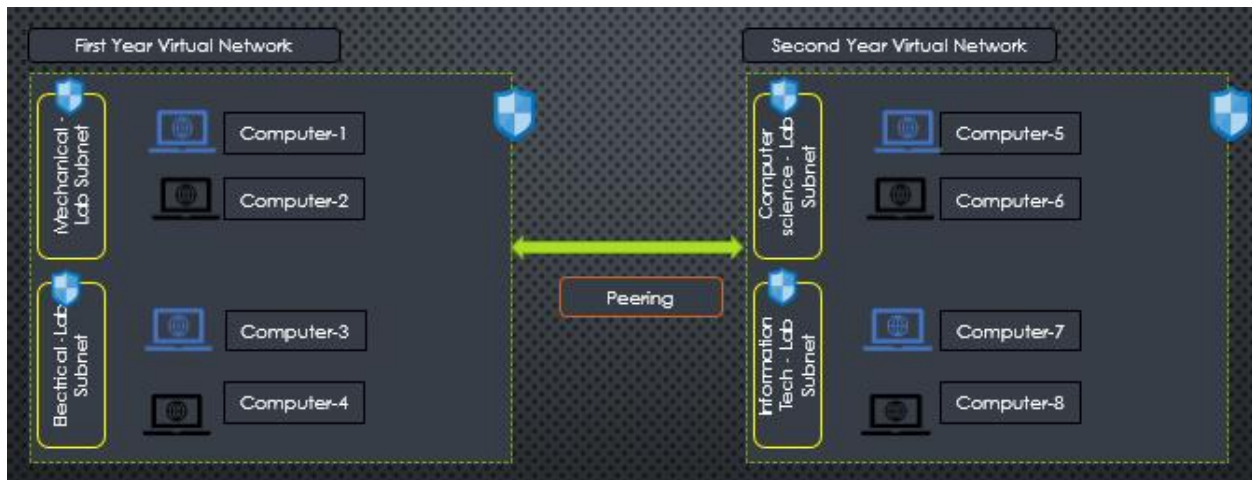
Windows – Windows server 2019 datacenter

Linux – Ubuntu server 18.04 LTS

Virtual machine-

First Year Computers	Second Year Computers	Third Year Computers	Fourth Year Computers
W-firstyear-ec-vm-01	W-secondyear-ec-vm-01	W-thirdyear-ec-vm-01	W-fourthyear-ec-vm-01
L-firstyear-ec-vm-02	L-secondyear-ec-vm-02	L-thirdyear-ec-vm-02	L-fourthyear-ec-vm-02
W-firstyear-cs-vm-01	W-secondyear-cs-vm-01	W-thirdyear-cs-vm-01	W-fourthyear-cs-vm-01
L-firstyear-cs-vm-02	L-secondyear-cs-vm-02	L-thirdyear-cs-vm-02	L-fourthyear-cs-vm-02
W-firstyear-it-vm-01	W-secondyear-it-vm-01	W-thirdyear-it-vm-01	W-fourthyear-it-vm-01
L-firstyear-it-vm-02	L-secondyear-it-vm-02	L-thirdyear-it-vm-02	L-fourthyear-it-vm-02
W-firstyear-mech-vm-01	W-secondyear-mech-vm-01	W-thirdyear-mech-vm-01	W-fourthyear-mech-vm-01
L-firstyear-mech-vm-02	L-secondyear-mech-vm-02	L-thirdyear-mech-vm-02	L-fourthyear-mech-vm-02

Reference Design:



Hints:

Command to create resource group - [New-AzResourceGroup](#)

Command to create virtual network - [New-AzVirtualNetwork](#)

Command to create public IP - [New-AzPublicIpAddress](#)

Command to create Network interface card - [New-AzNetworkInterface](#)

Command to create virtual machine - [New-AzVM](#)

Command to create virtual network peering - [Add-AzVirtualNetworkPeering](#)

Command to create Storage account - [New-AzStorageAccount](#)

Command to create new Disk - [New-AzDisk](#)