Azure Practical Lab Walkthrough

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Categories Azure Cloud

In this blog. We will look few Labs Configuration using Azure Cloud. There are 6 Task selected and I will walk through the steps of it and give a Basic idea in certain areas.

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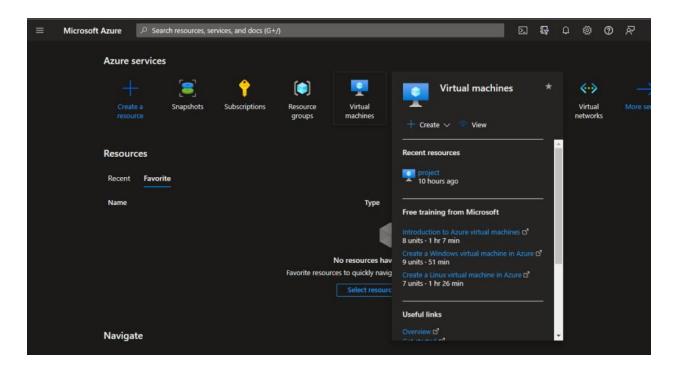
- 1. Task 1: Create a virtual machine in the portal.
- 2. Task 2: Deploy Azure Container Instances
- 3. Task 3: Describe the difference between Virtual Machines and Containers
- 4. Task 4: Create a virtual network
- 5. Task 5: Create a VM with these conditions.
- 6. Task 6: Secure network traffic

Task 1: Create a virtual machine in the portal.

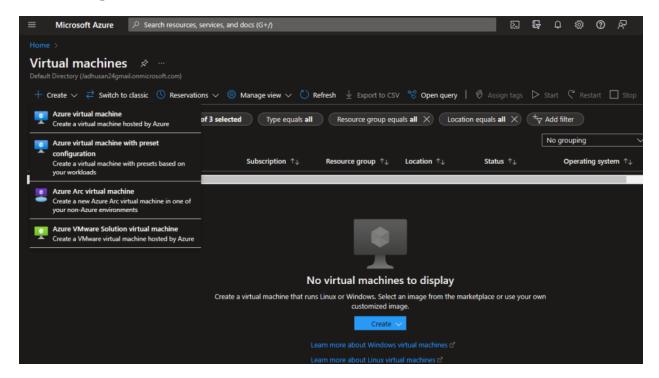
You are to create a virtual machine in the Azure portal, connect to the virtual machine, install the web server role and test

Virtual Machine

Select the Virtual Machine in the portal

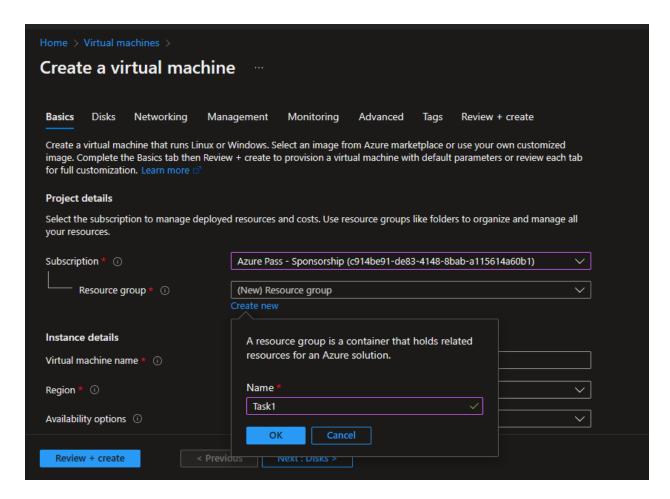


Select the Create option and click the Create Azure Virtual Machine

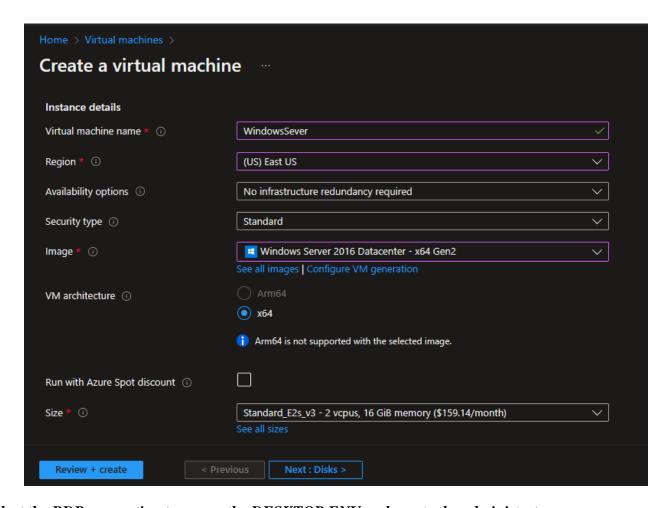


Make sure to fill the given details accordingly

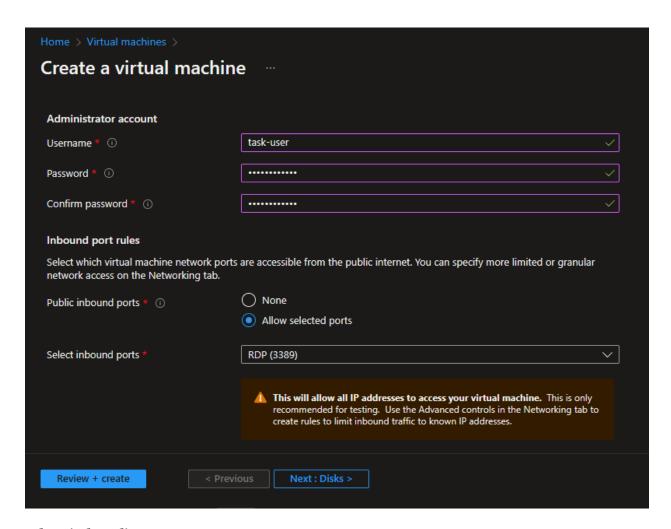
If you have existing Resource group you can mention it or create like me



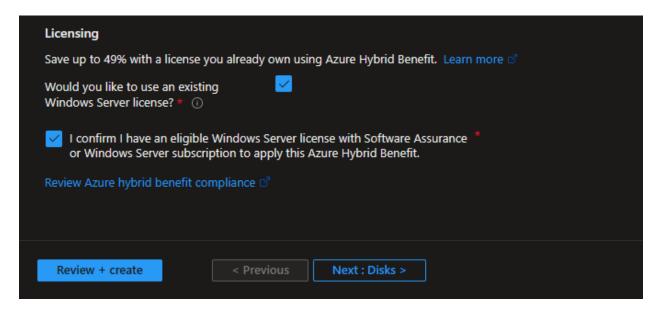
Create the instance details and select the Virtual Machine's sizing



Select the RDP connection to access the DESKTOP ENV and create the administrator account.

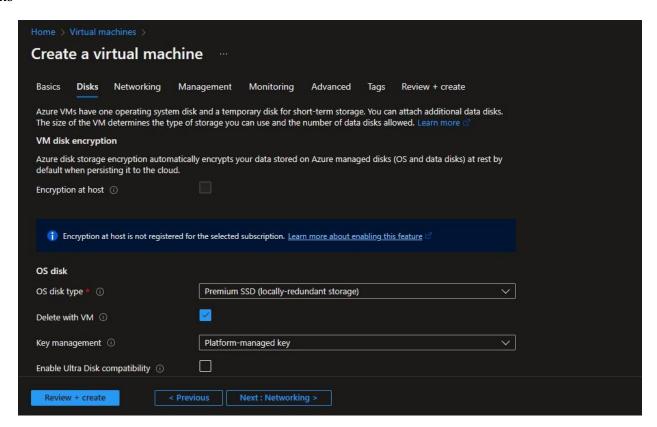


Accept the windows license

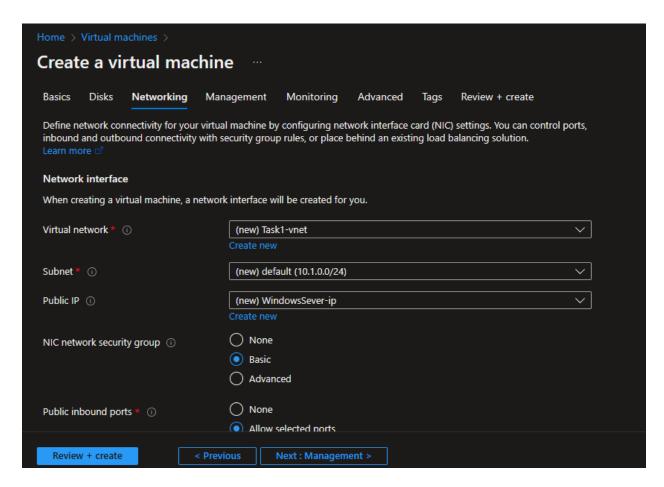


Keep other setting by default and Click Review + Create

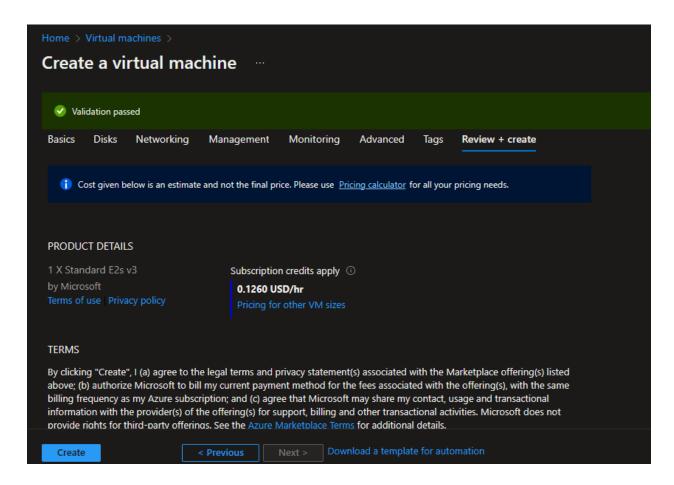
Disks



Networking (In this field you can add Virtual Network if you have already Created)

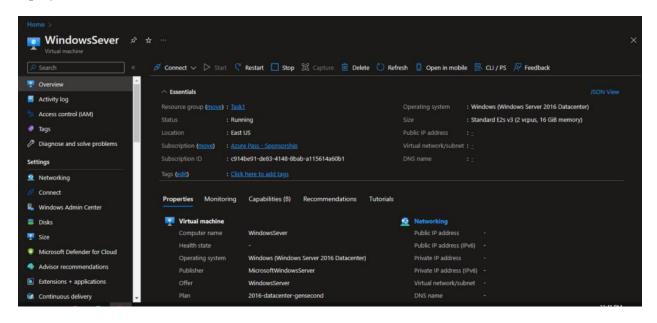


Create

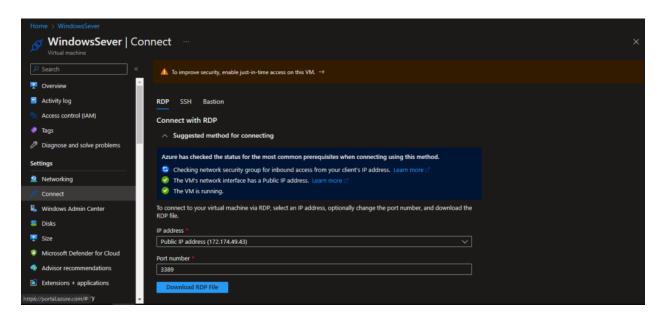


Web Serer Role

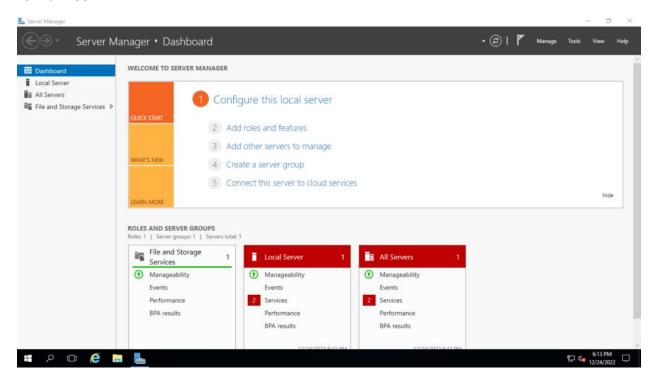
After deployment done click the Connect and select RDP



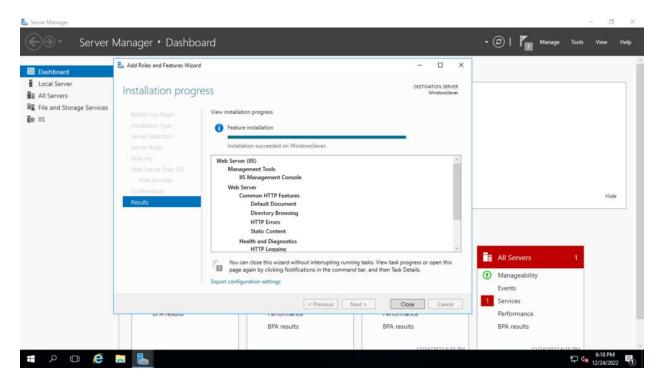
Download the RDP file and open it. Use your credential and login to the VM.



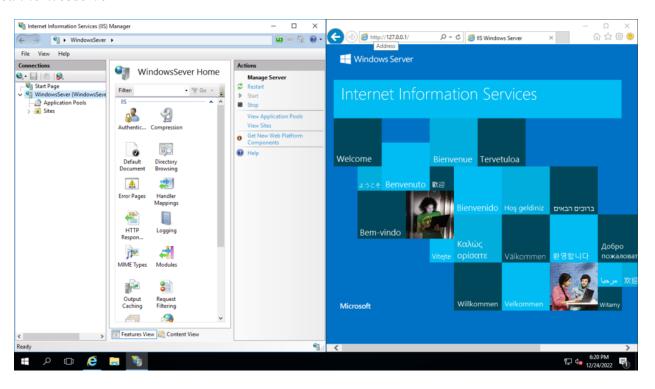
Successfully logged into our windows server



Installed Webserver Role



Tested the Webserver

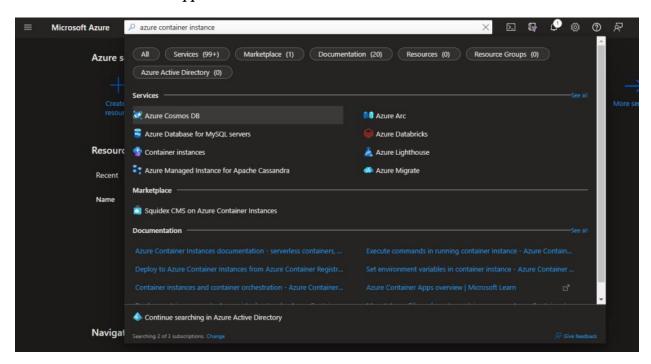


Task 2: Deploy Azure Container Instances

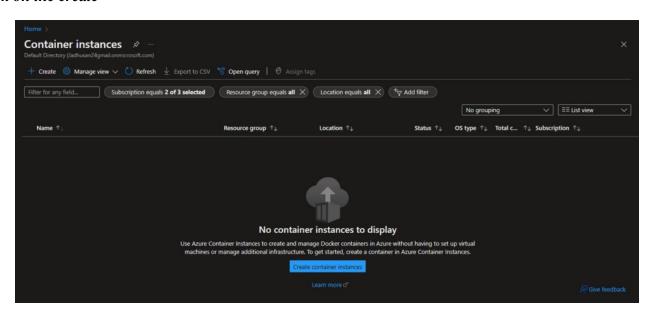
You are to create, configure, and deploy a container by using Azure Container Instances (ACI) in the Azure Portal. The container is a Welcome to ACI web application that displays a static HTML page.

Container

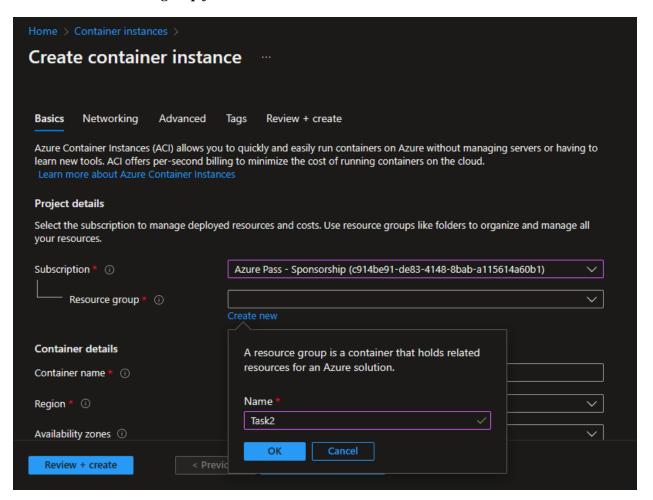
In the Azure Portal click on the Search Bar and type Azure Container Instance. Select the Container Instance Application



Click on the create

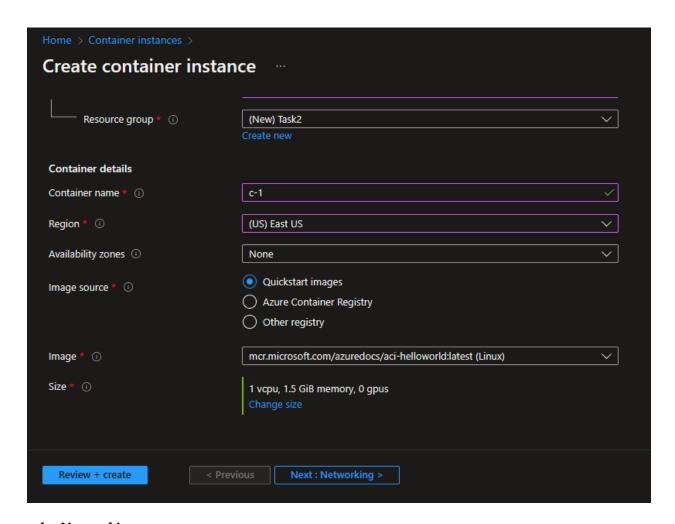


Let's create a new Resource group for our task 2

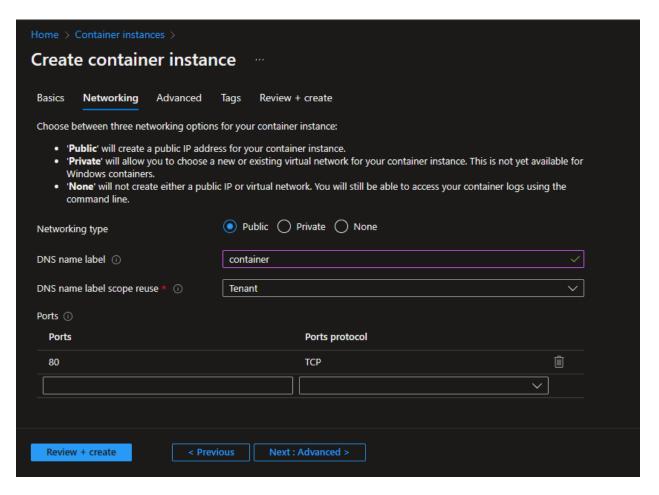


Fill the details accordingly

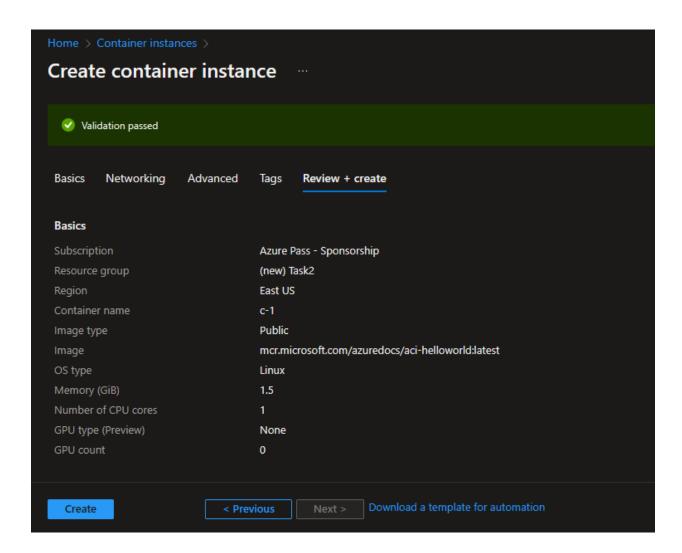
- Quickstart images
- helloworld(linux) Image



Create the Networking

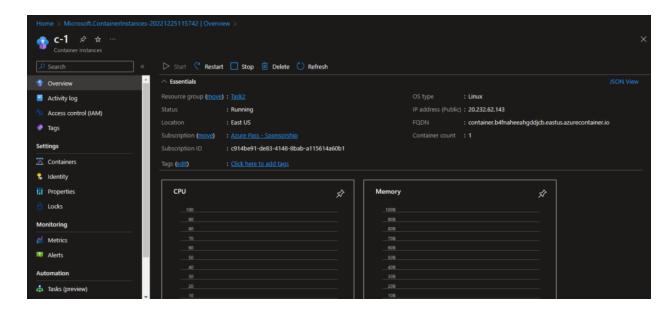


Keep the rest default and click Review + Create. Click Create



Testing

Copy the FQDN - container.egfsfdfacwc2hpdg.uksouth.azurecontainer.io



Search the FQDN in web browser.

Welcome to Azure Container Instances!



Task 3: Describe the difference between Virtual Machines and Containers.

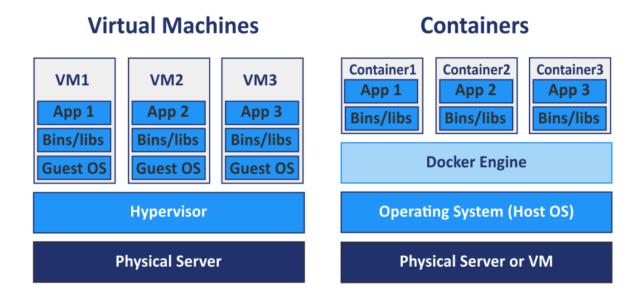
Virtual Machine

The entire emulation of low-level hardware devices, such as CPU, disk, and networking devices, is provided by virtual machines, which are large software packages.

Containers

Containers are small software packages that include all the requirements needed to run the software application they contain. System libraries, external third-party code packages, and other operating system-level programs are some examples of these dependencies.

Jadhusan Sadhik



Difference

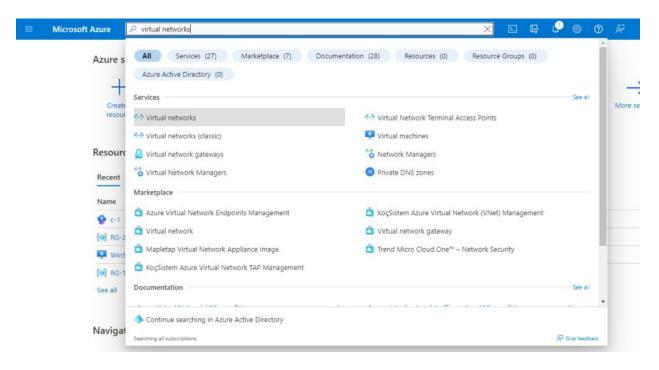
Virtual machines virtualize an entire machine down to the hardware layers, whereas containers only virtualize software layers above the operating system layer, which is a key difference between the two.

Task 4: Create a virtual network

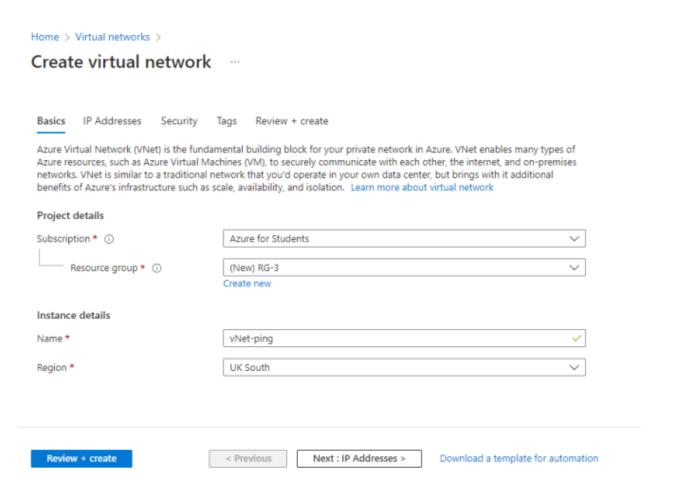
You are to create a virtual network on Microsoft Azure cloud service, deploy two virtual machines onto that virtual network and then configure them to allow one virtual machine to ping the other within that virtual network.

Virtual Network

In the Azure Portal click on the Search Bar and type Virtual Networks. Select the Virtual Network option.

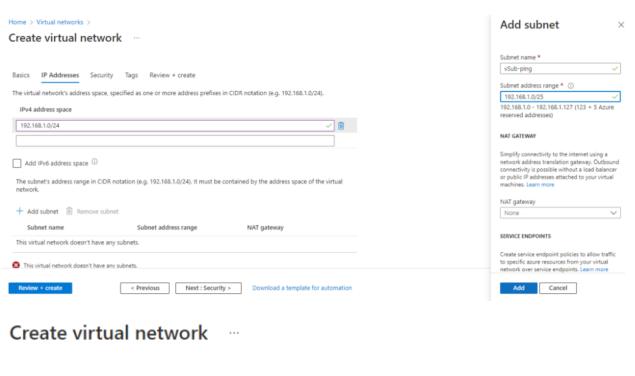


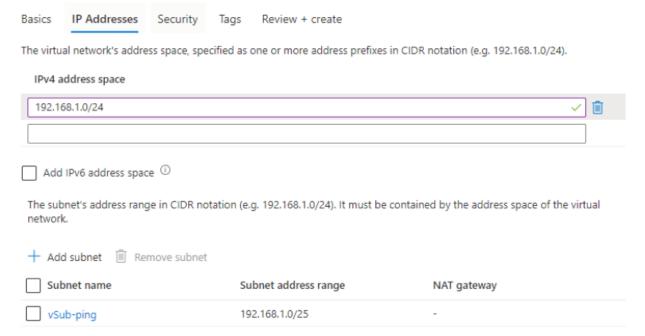
Click on Create and fill accordingly. I've made a new Resource group for this task RG-3



Enter the Network in IP address space.

Click Add subnet and make a new subnetting for the IP address network you created.

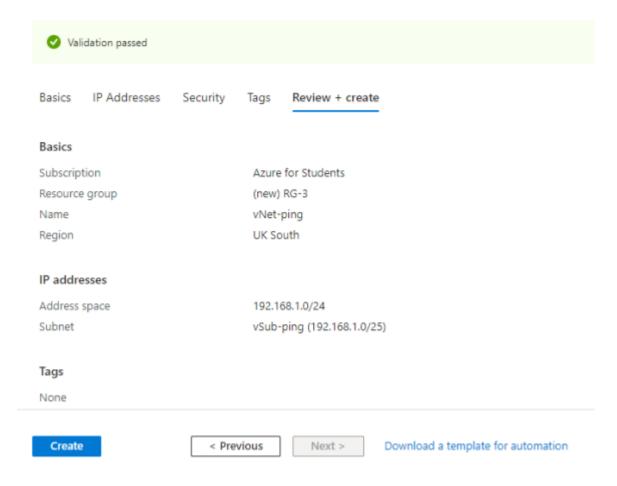




And then review + create

Home > Virtual networks >

Create virtual network

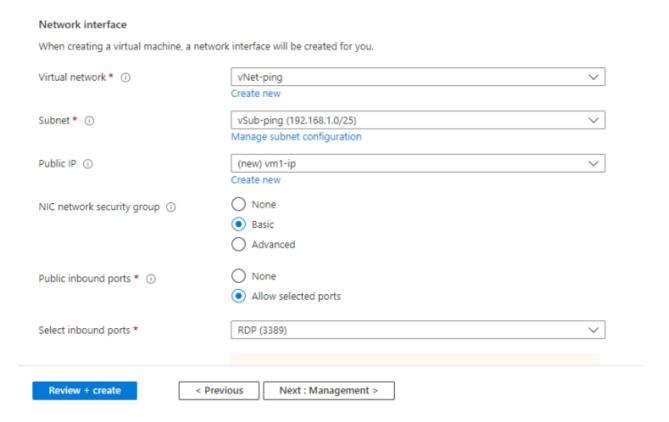


NOTE: To create Two Virtual Machine, you can check on TASK 1: Create Virtual Machine.

This how you will add an existing Virtual Network to the Virtual Machine you are creating. (In TASK 1: we have kept it in default).

Home > Virtual machines >

Create a virtual machine

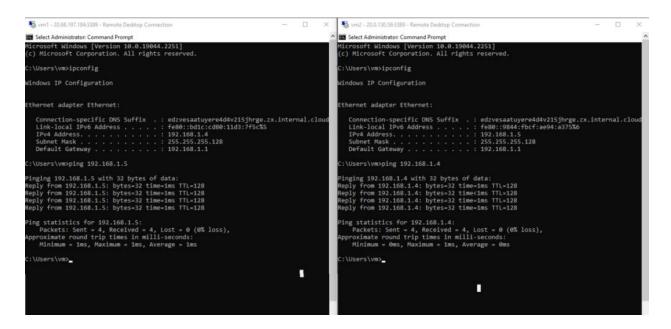


Testing

Now let's open both the virtual machine and check the IP ADDRESS.

Then let's do our PING Test.

The Test was successfully done.

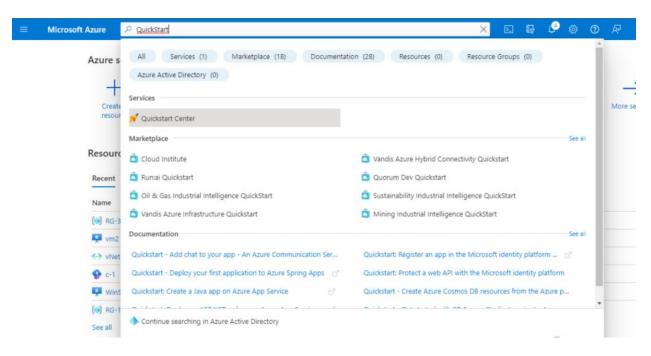


Task 5: Create a VM with these conditions.

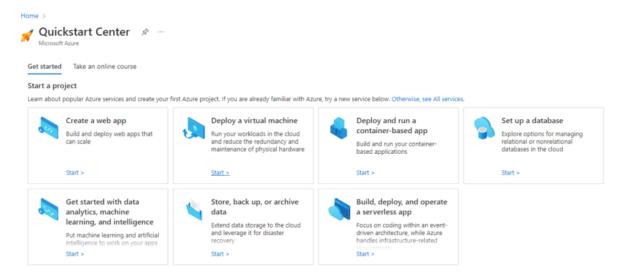
- 1. A VM with Template. You are to deploy a virtual machine with a QuickStart template and examine monitoring capabilities.
- 2. A VM with PowerShell. You are to configure the Cloud Shell, use Azure PowerShell module to create a resource group and virtual machine, and review Azure Advisor recommendations.
- 3. A VM with the CLI. You are to configure the Cloud Shell, use Azure CLI to create a resource group and virtual machine, and review Azure Advisor recommendations.
- 4. Comments on the differences and similarities of creating VMs on cloud with Template, PowerShell or with the CLI.

A VM with Template

In the Azure Portal click on the Search Bar and type QuickStart. Select the QuickStart Center



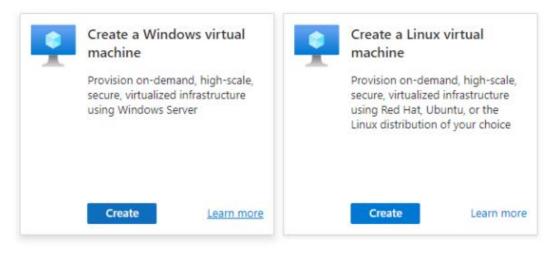
Select The Virtual Machine Option



Select Windows



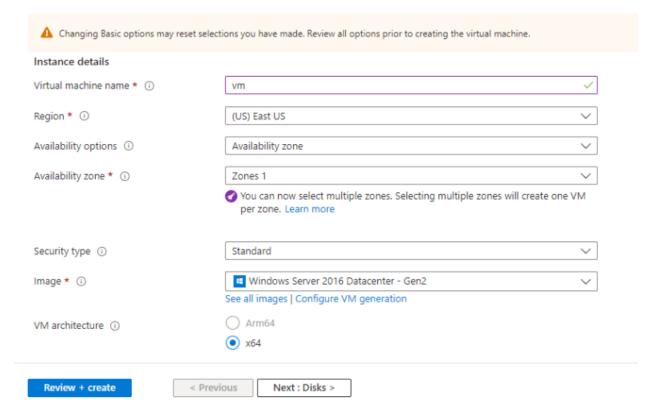
Pick one of these options to get started



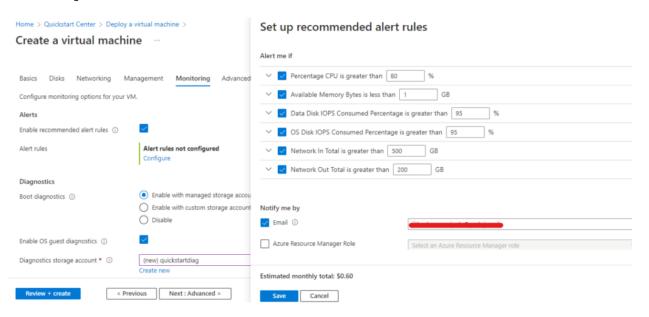
Fill the details Accordingly

Home > Quickstart Center > Deploy a virtual machine >

Create a virtual machine

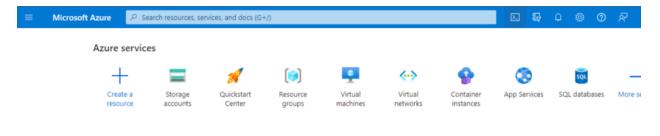


These are the capabilities

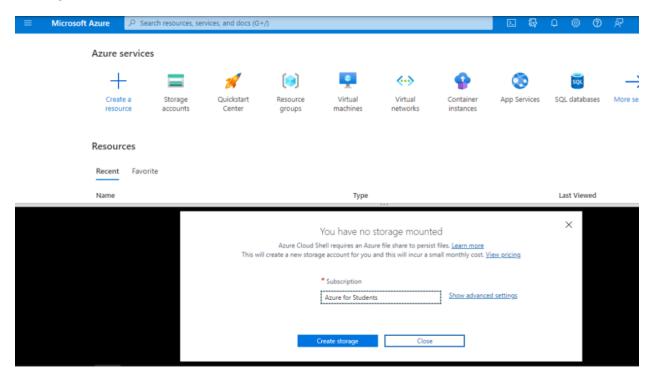


A VM with PowerShell

In the Azure portal Select the Cloud Shell



Create Storage and select Powershell.



The Commands to configure the needs in this task.

Resource Group

New-AzResourceGroup -Name 'myResourceGroup' -Location 'EastUS'

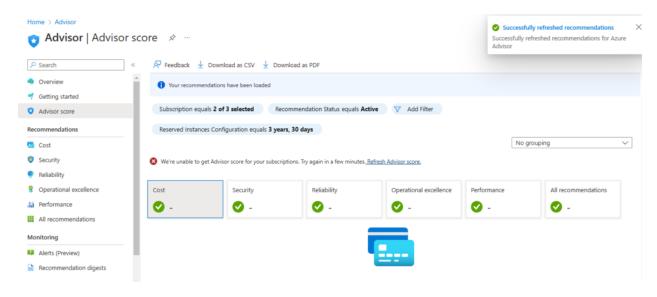
Virtual Machine

New-AzVm`

- -ResourceGroupName 'myResourceGroup' `
- -Name 'myVM'
- -Location 'East US' `
- -Image Debian`
- -size Standard_B2s`
- -PublicIpAddressName myPubIP`
- -OpenPorts 80`

- -GenerateSshKey`
- -SshKeyName mySSHKey

Azure Advisor recommendations



A VM with CLI

We have to use the same cloud shell as you we used previous on powershell.

The Commands to configure the needs in this task.

Resource Group

az group create --name myResourceGroup --location eastus

```
VERBOSE: Authenticating to Azure ...
VERBOSE: Building your Azure drive ...
PS /home/jadhusan> az group create --name myResourceGroup --location eastus
{
    "id": "/subscriptions/c914be91-de83-4148-8bab-a115614a60b1/resourceGroups/myResourceGroup",
    "location": "eastus",
    "managedBy": null,
    "name": "myResourceGroup",
    "properties": {
        "provisioningState": "Succeeded"
    },
    "tags": null,
    "type": "Microsoft.Resources/resourceGroups"
}
PS /home/jadhusan> []
```

Virtual Machine

az vm create \

- --resource-group myResourceGroup \
- --name myVM \

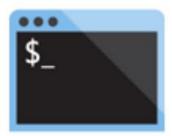
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- --image Debian \
- --admin-username azureuser \
- --generate-ssh-keys

Differences with CLI and PowerShell

The Azure CLI comes with an installer that enables you to use any of the four shell environments to execute its commands. Instead of being an independent program, Azure PowerShell is a collection of cmdlets bundled as a PowerShell module named Az.







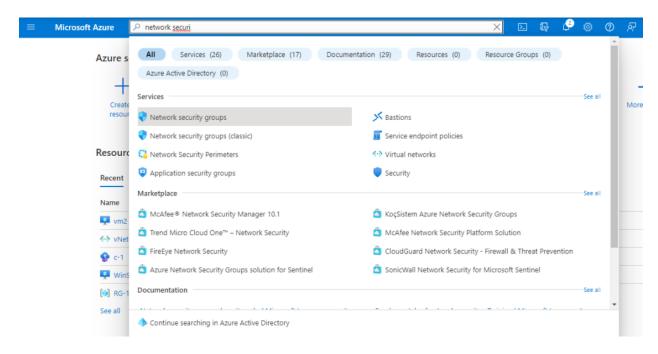


Task 6: Secure network traffic

You are to create a Windows Server 2019 Datacenter virtual machine on Azure and create a network security group and associate it with the network interface of your machines.

We have already created a windows server in our TASK 1: therefore, lets skip VM creation. In the azure portal search for Network Security and select the Network Security Group

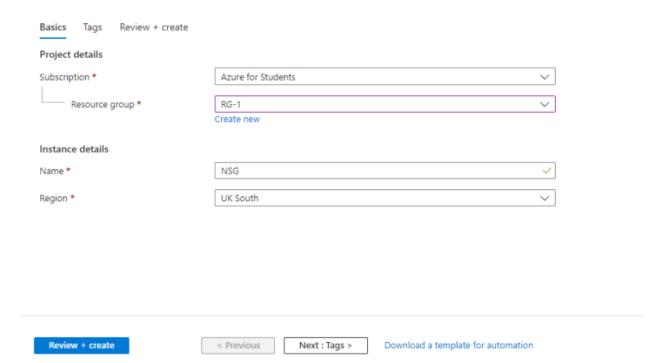
Select Create and choose the RG-1 since we deployed a Windows Server on that Resource Group.



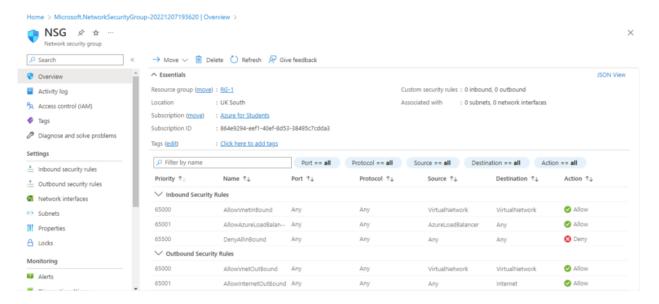
Give a name to the instance

Home > Network security groups >

Create network security group



The Network Security Groups Portal



Associating it with the VM network interface

