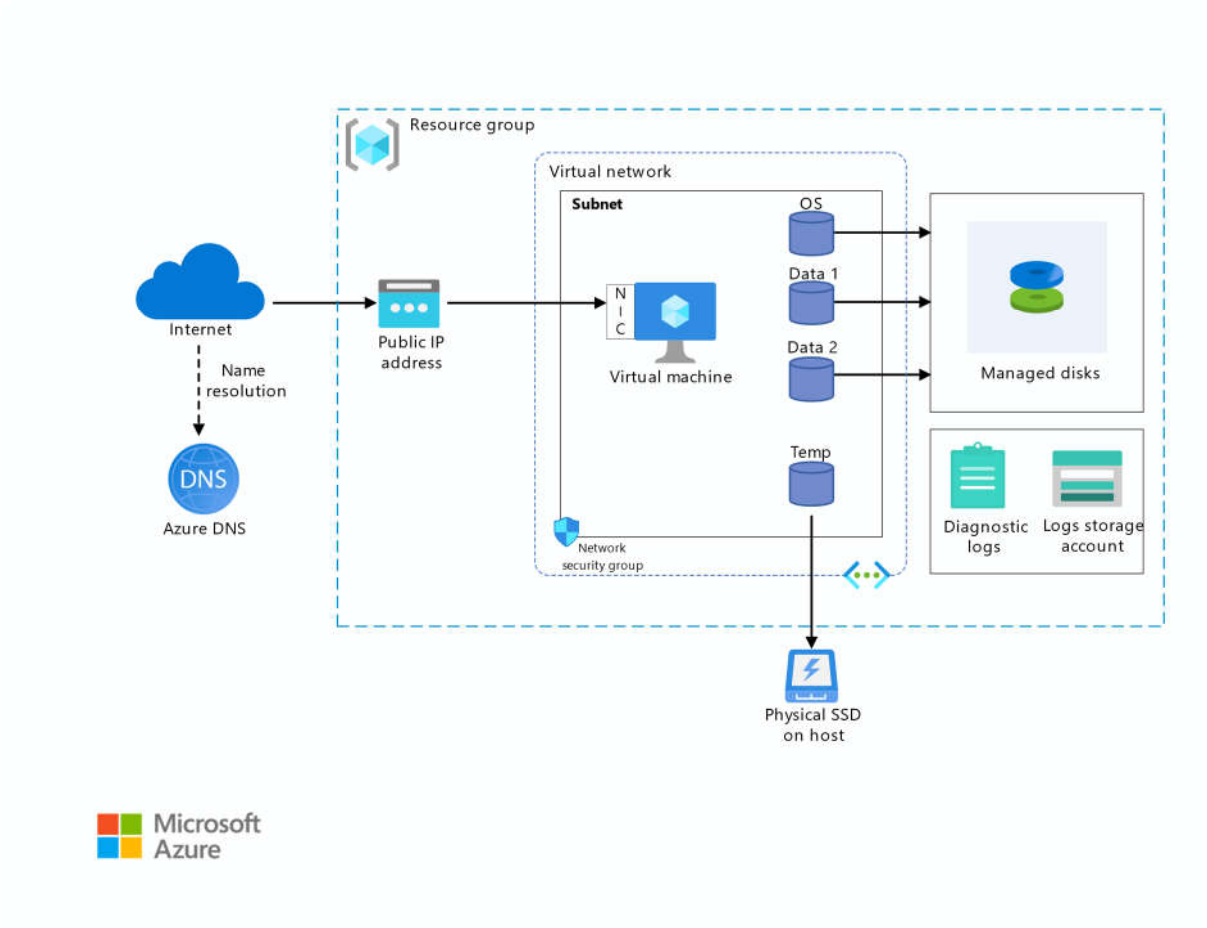
# CSE 4750 Introduction to Cloud Computing Lab

Lab 1: Creating and managing VM/EC2 in Microsoft Azure

**Instructions:**

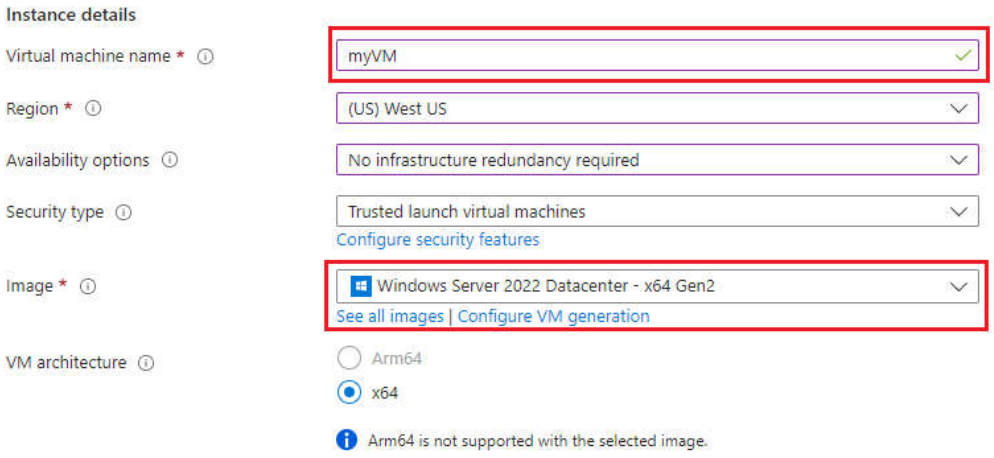
Architecture of VMs in Azure




## Create virtual machine

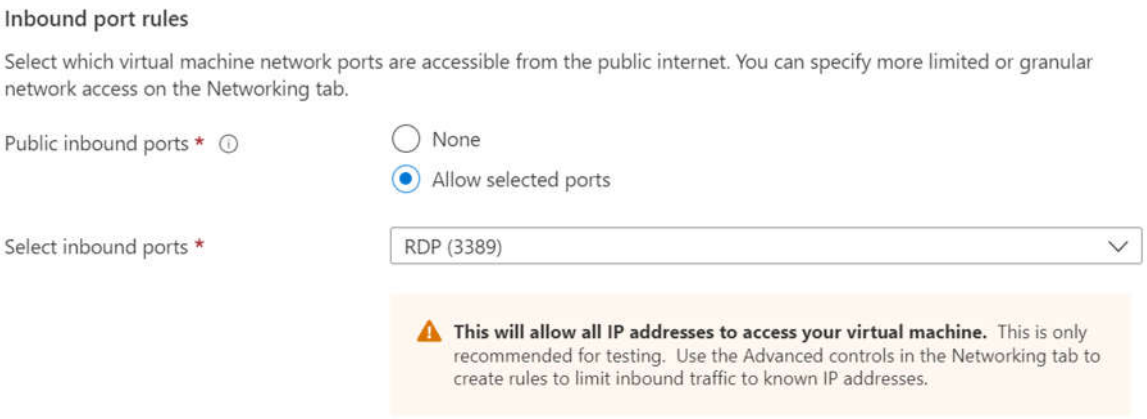
1. Enter *virtual machines* in the search.
2. Under **Services**, select **Virtual machines**.
3. In the **Virtual machines** page, select **Create** and then **Azure virtual machine**. The **Create a virtual machine** page opens.

4. Under **Instance details**, enter *myVM* for the **Virtual machine name** and choose *Windows Server 2022 Datacenter - Gen 2* for the **Image**. Leave the other defaults.

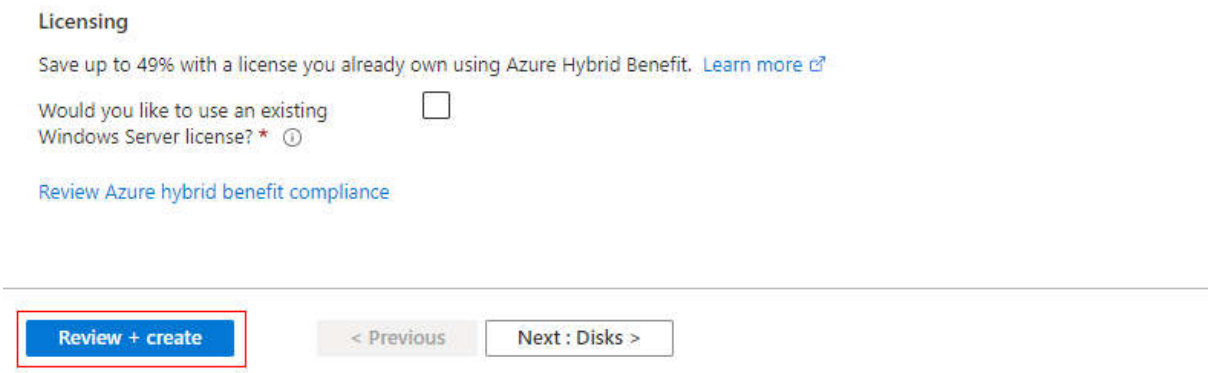



5. Under **Administrator account**, provide a username, such as *azureuser* and a password. The password must be at least 12 characters long and meet the [defined complexity requirements].

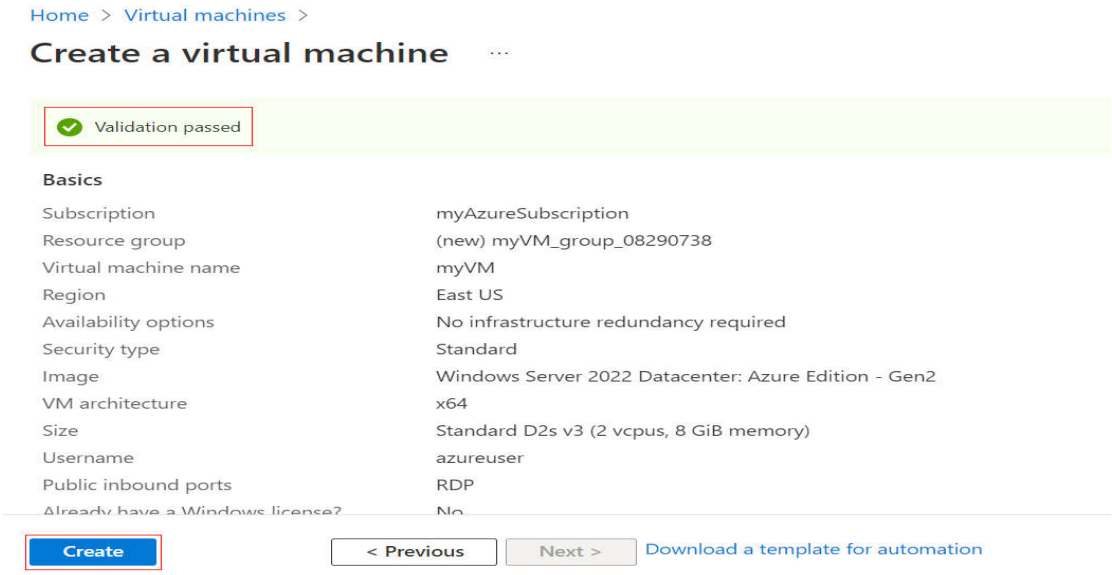

6. Under **Inbound port rules**, choose **Allow selected ports** and then select **RDP (3389)** and **HTTP (80)** from the drop-down.



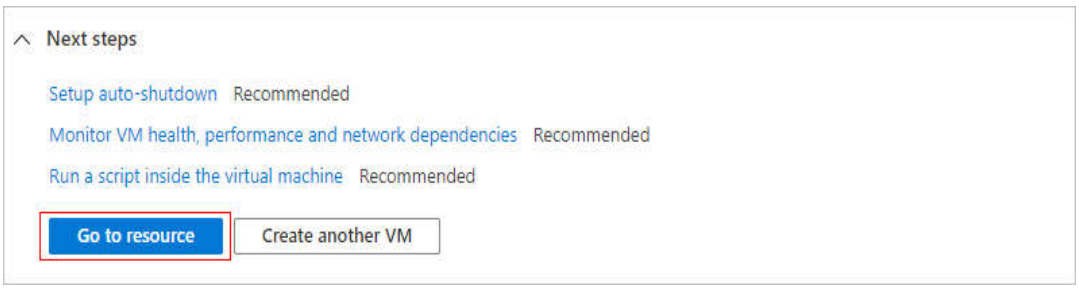

7. Leave the remaining defaults and then select the **Review + create** button at the bottom of the page.




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



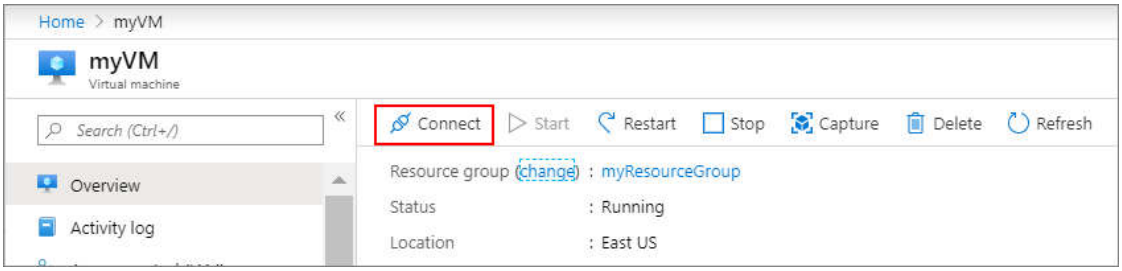

9. After deployment is complete, select **Go to resource**.



# Connect to virtual machine

Create a remote desktop connection to the virtual machine. These directions tell you how to connect to your VM from a Windows computer. On a Mac, you need an RDP client such as this Remote Desktop Client from the Mac App Store.

1. On the overview page for your virtual machine, select the **Connect** > **RDP**.




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


3. Open the downloaded RDP file and click **Connect** when prompted.
4. In the **Windows Security** window, select **More choices** and then **Use a different account**. Type the username as **localhost***username*, enter the password you created for the virtual machine, and then click **OK**.
5. You may receive a certificate warning during the sign-in process. Click **Yes** or **Continue** to create the connection.

# Install web server

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

PowerShell:

```
Install-WindowsFeature -name Web-Server -IncludeManagementTools
```

When done, close the RDP connection to the VM.

## View the IIS welcome page

In the portal, select the VM and in the overview of the VM, hover over the IP address to show **Copy to clipboard**. Copy the IP address and paste it into a browser tab. The default IIS welcome page will open, and should look like this:

## Task:

I. Create 2 VMs, 1 Ubuntu server image and 1 Window server image.

II. Establish a connection to those servers using HTTP, RDS, SSH (use putty for ssh)

III. Install a web server on those VMs server

## Clean up resources

When no longer needed, you can delete the resource group, virtual machine, and all related resources.

1. On the Overview page for the VM, select the **Resource group** link.
2. At the top of the page for the resource group, select **Delete resource group**.
3. A page will open warning you that you are about to delete resources. Type the name of the resource group and select **Delete** to finish deleting the resources and the resource group.