Task Eleven

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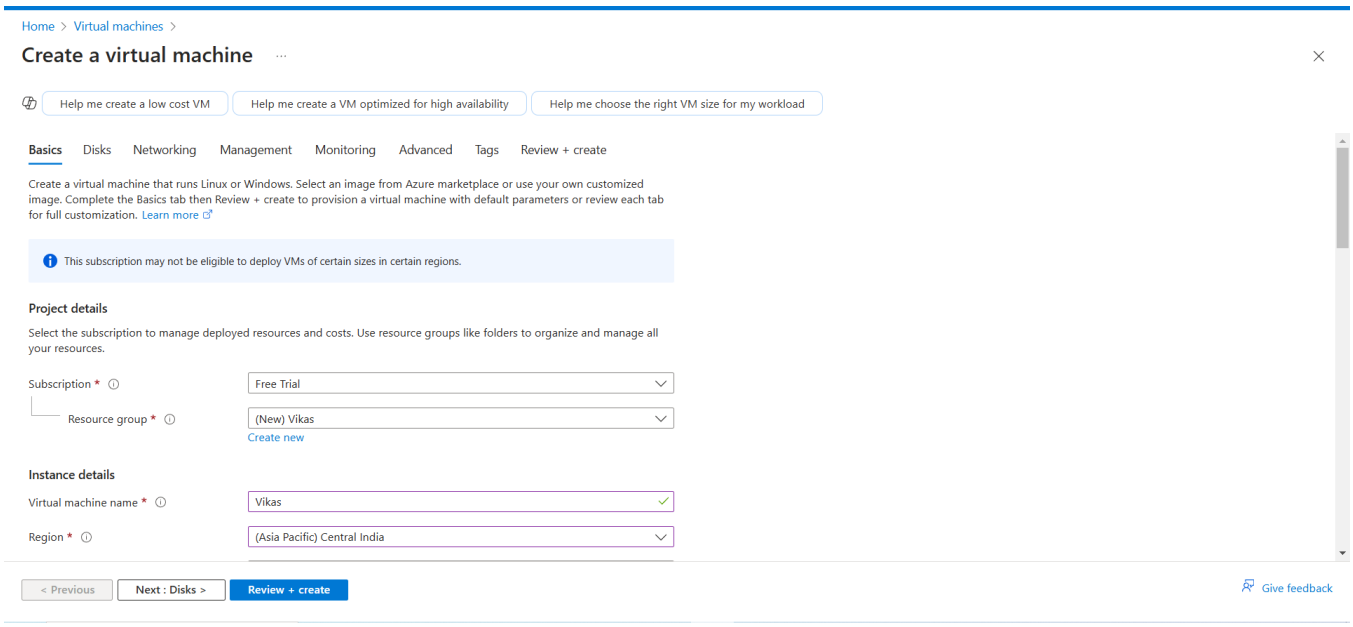
Objective: Create a free VM in the cloud and interact with it.

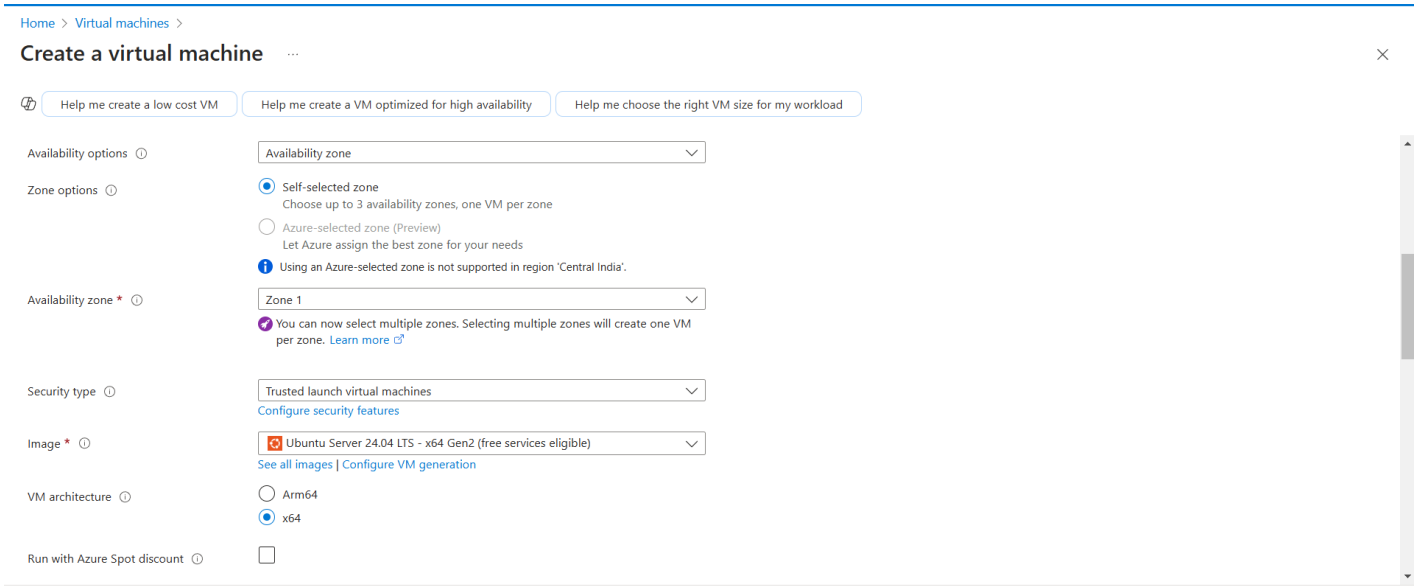
1. Research and learn how to start a *free* VM in your cloud account (Azure is preferred but you can also use GCP/AWS)

Step 1: Research and Start a Free VM in Azure

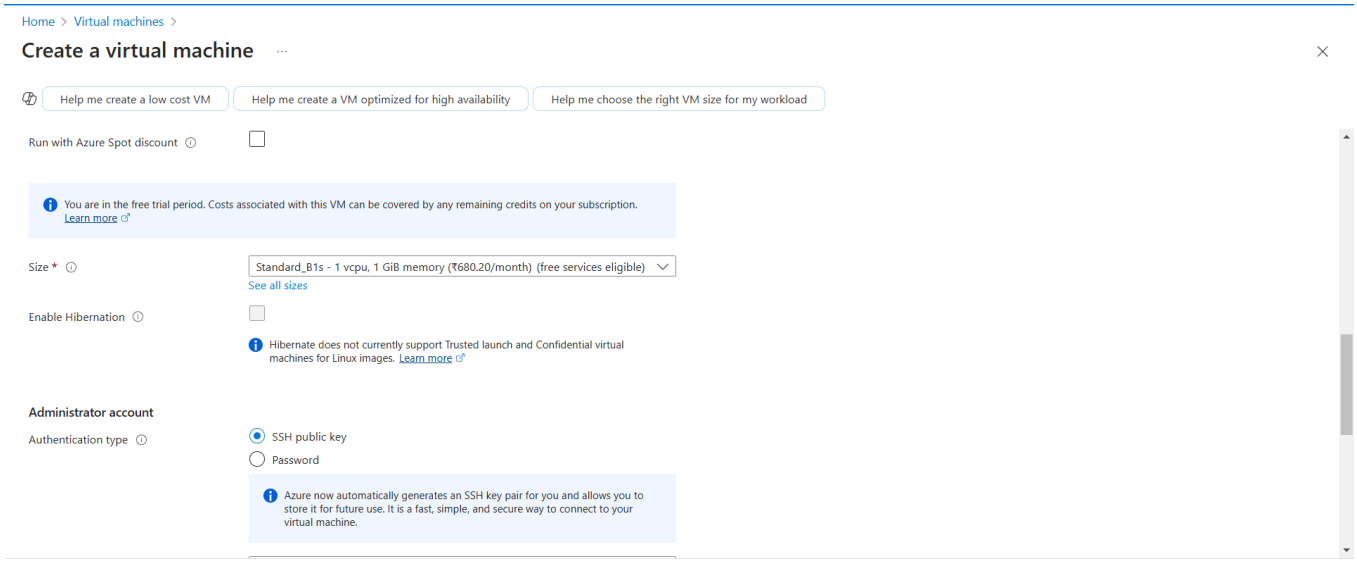
- Go to Azure Portal.
- Sign in with your Azure account (ensure you have a free-tier subscription).



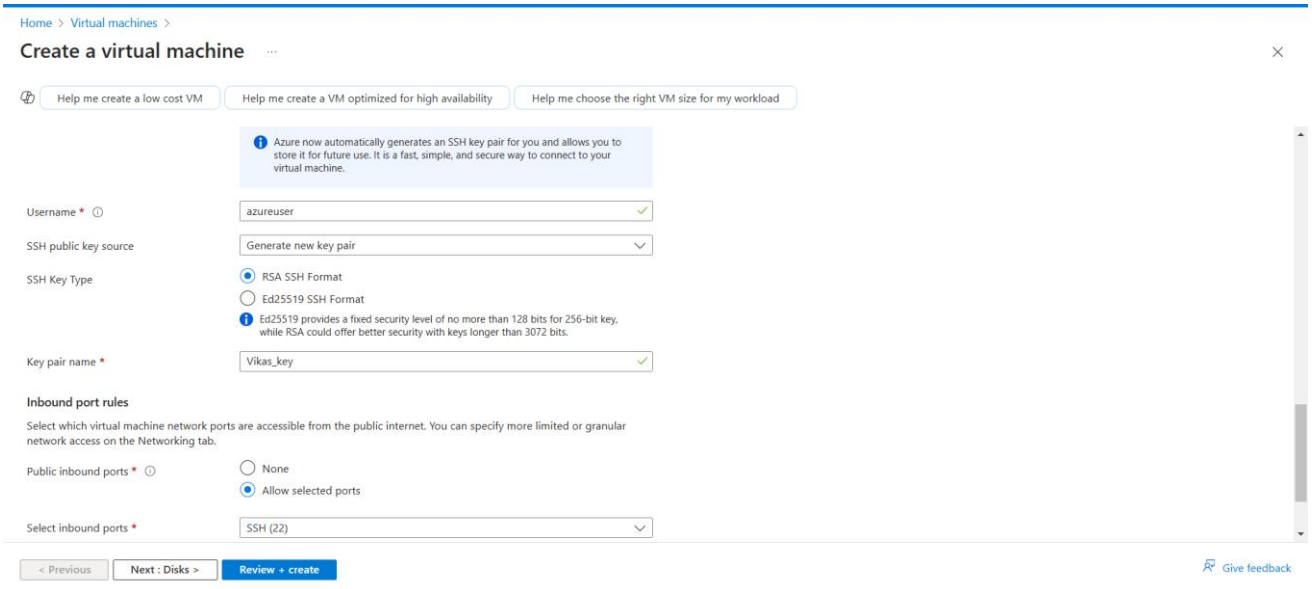
- Navigate to **Virtual Machines** from the Azure dashboard.
- Click **Create** > **Azure Virtual Machine**.



- Select an available free-tier VM, such as **Ubuntu Server 24.04 LTS Gen2**
- Choose a **resource group** (or create a new one).

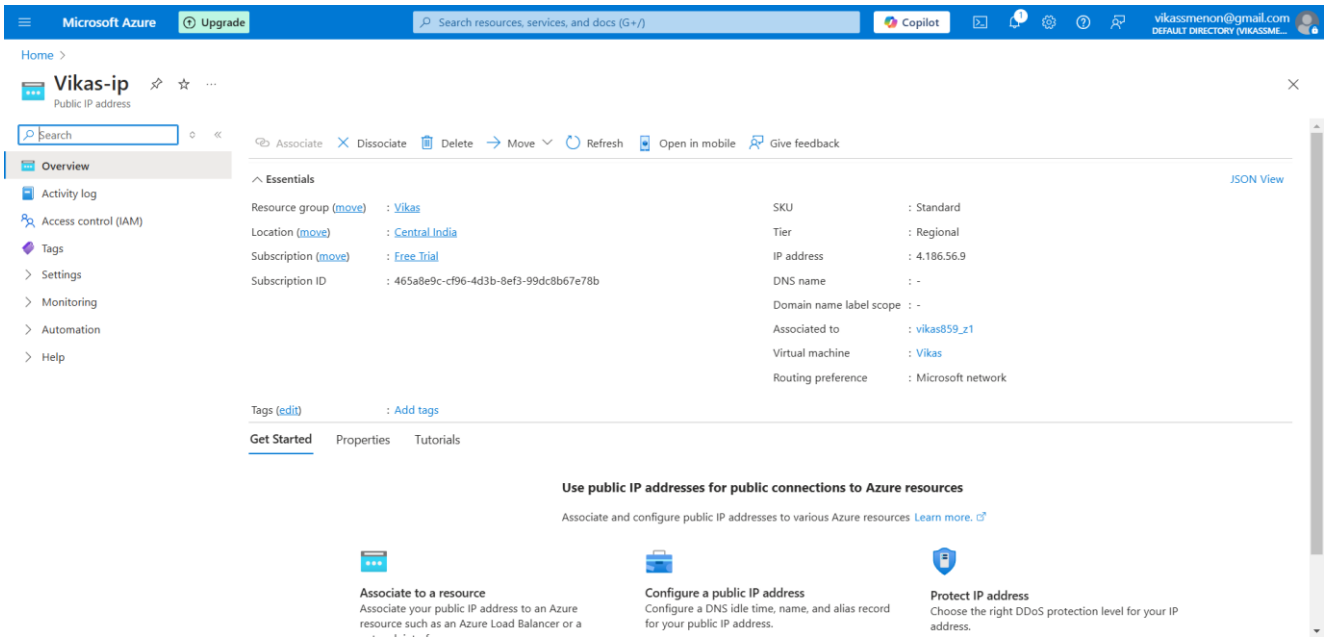


- Set authentication type to **SSH public key** (recommended) or **password**.

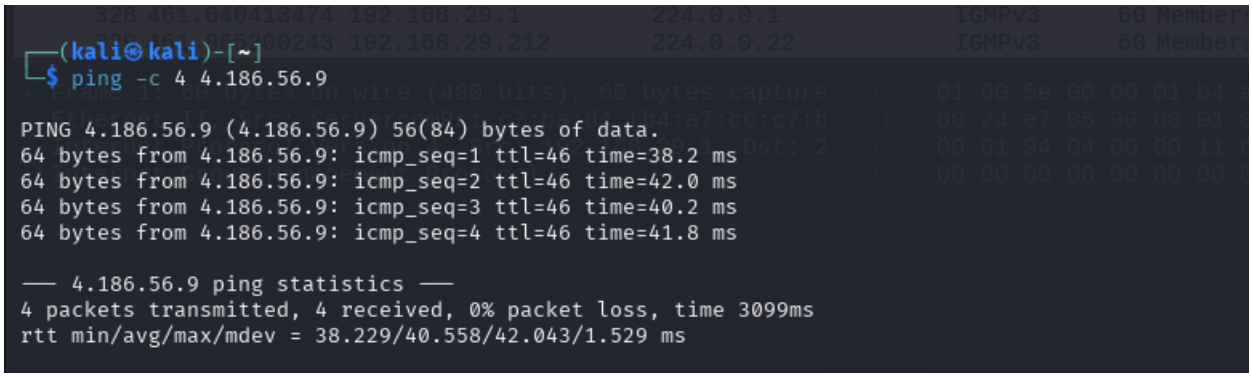


- Ensure **Allow SSH (port 22)** is enabled under **Networking**.
- Click **Review + Create** and then **Create**.

- Wait for the VM to be deployed and note its **public IP** from the Azure dashboard.



Step 2: Ping the VM from Kali Linux



- Open Kali Linux terminal.
- Run the command:

ping -c 4 <4.186.56.9>

- If the ping fails, check Azure's **Networking > Inbound Rules**:
    1. Ensure an inbound rule exists for ICMP (ping) requests.
    2. If not, create a new rule allowing ICMP from **anywhere**.

Step 3: Login to the VM via SSH

```
┌──(kali㉿kali)-[~]
└─$ sudo ssh -i /home/kali/Downloads/Vikas_key.pem azureuser@4.186.56.9

[sudo] password for kali:
The authenticity of host '4.186.56.9 (4.186.56.9)' can't be established.
ED25519 key fingerprint is SHA256:FHBYLk8cWXHdpdRUm9JOinMneH5ubyQAL984jRTq0aY.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? fingerprint
Please type 'yes', 'no' or the fingerprint: fingerprint
Please type 'yes', 'no' or the fingerprint: the fingerprint
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '4.186.56.9' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1021-azure x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 System information as of Sun Feb 16 12:27:54 UTC 2025

  System load:  0.08              Processes:             108
  Usage of /:   5.4% of 28.02GB   Users logged in:       0
  Memory usage: 29%               IPv4 address for eth0: 10.0.0.4
  Swap usage:   0%

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
   just raised the bar for easy, resilient and secure K8s cluster deployment.

   https://ubuntu.com/engage/secure-kubernetes-at-the-edge

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status


The list of available updates is more than a week old.
To check for new updates run: sudo apt update


The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
```

```
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

azureuser@Vikas:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 60:45:bd:ce:ed:1c brd ff:ff:ff:ff:ff:ff
    inet 10.0.0.4/24 metric 100 brd 10.0.0.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::6245:bdff:fece:ed1c/64 scope link
       valid_lft forever preferred_lft forever
azureuser@Vikas:~$
```

- If you chose **SSH key-based authentication**, ensure your private key is available.
- Connect using:

ssh -i /home/kali/Downloads/Vikas_key.pem azureuser@4.186.56.9

  - Replace /path/to/private_key with the actual location of your private key.
  - Replace username with the default username (e.g., azureuser).
- Once logged in, run: **ip a**

```
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

azureuser@Vikas:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 60:45:bd:ce:ed:1c brd ff:ff:ff:ff:ff:ff
    inet 10.0.0.4/24 metric 100 brd 10.0.0.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::6245:bdff:fece:ed1c/64 scope link
       valid_lft forever preferred_lft forever
```

Step 4 : Find your public IP and try pinging your public IP from cloud VM. Are you able to do it?

1. Find your own public IP:

curl ifconfig.me

```
┌──(kali㉿kali)-[~]
└─$ curl -4 ifconfig.me

49.47.240.204
```

2. Note down the IP and try pinging it from the Azure VM:

ping -c 4 49.47.240.204

Note: While try pinging the public IP from cloud VM, no packets are transmitted. It might be because of ISP restriction as there is no internal fire wall blockage.

Step 5: Shut It Down the VM

- Shut down the VM safely:

sudo shutdown -h now

Step 6: Destroy/Terminate the VM

1. Go to **Azure Portal** > **Virtual Machines**.
2. Select your VM and click **Delete**.
3. Delete the associated **resource group** to remove all dependencies.
4. Confirm deletion and ensure all resources are removed.