MK Mahwete

How to set and spine up a VM instance on Oracle Cloud Infrastructure

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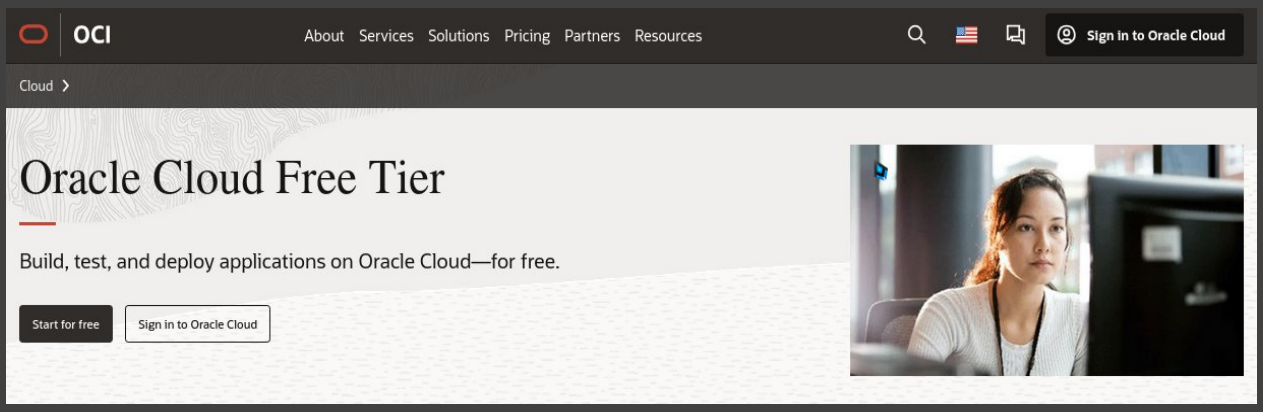
This document will take you through a step by step guide on how to setup a Virtual Machine Instance on Oracle Cloud. This will be beneficial if wanna start with homelab or you are new into cloud and you want a platform to practice cloud related topics with hands on practice in a lab environment. Lets get straight to it.

First step

The first thing you need is to make sure that you have an oracle cloud account, visit their official website to create one.
Website: https://www.oracle.com/cloud/free/



NOTE: will be asked for you banking details but that is only for billing for services that are not free

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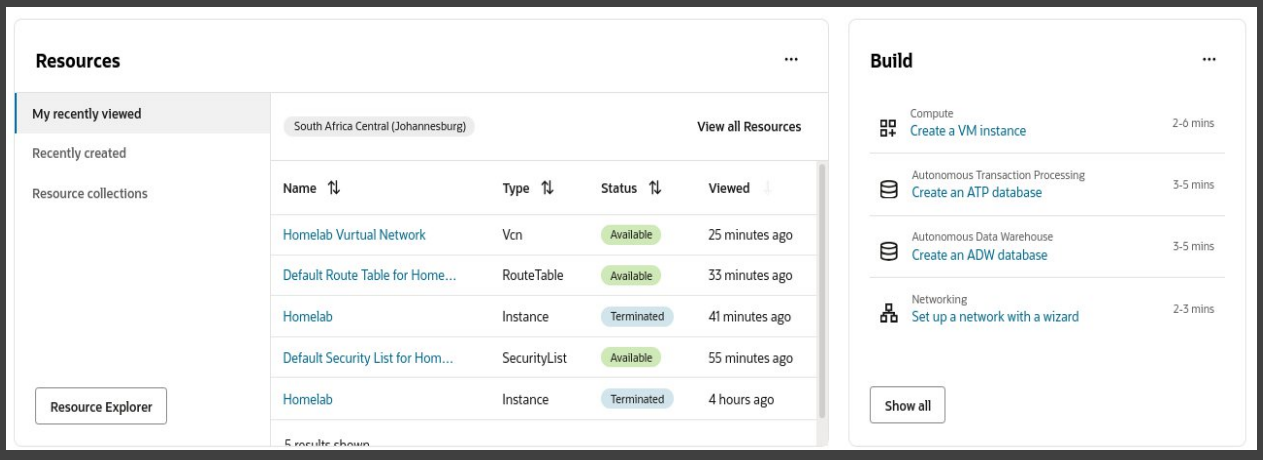
Second Step

You will be greeted with a dashboard that looks like this. This is you infrastructure home page where you will see all your recent viewed resources.



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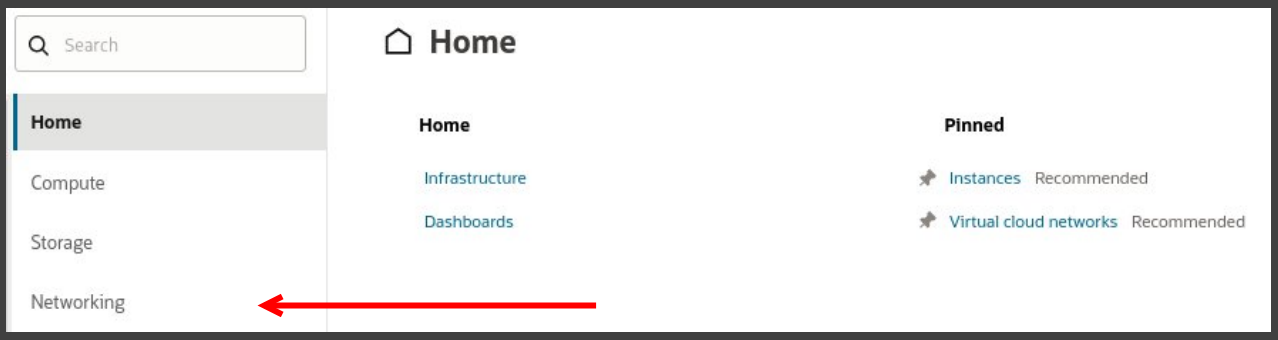
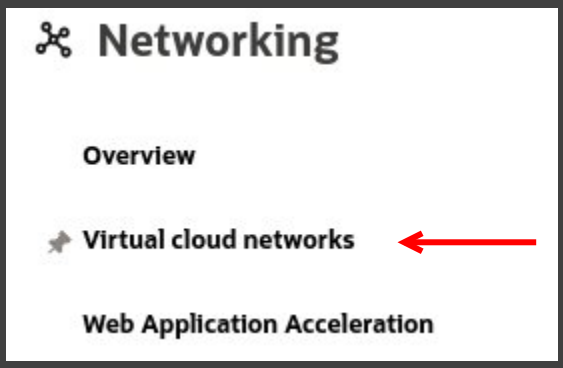
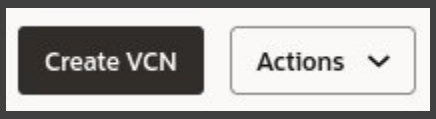
Before you can create any VM instance. We first need to create a Virtual Cloud Network. So move to the networking page to create a new VCN because we gonna need it when we create a VM instance.



Select Virtual Cloud Network Option



Select create “Create VCN”

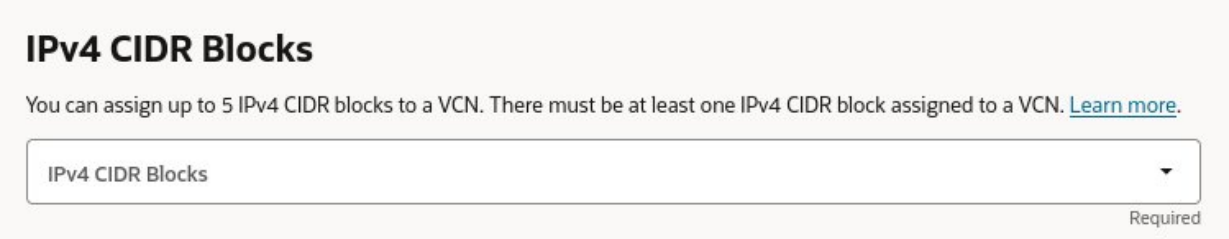


Now this is a critical moment you wanna pay attention to. You gonna have to give you network a name that best suits your VM name or idea like “ Homelab Virtual Network”

Now you need to set a Private IP for you network and that can be anything from 10.0.0.0/16. Something like 10.84.0.0/16 or 10.25.0.0/16 just leave the last 2 octats available for subnetting. Let me make it easy for you to understand this: you can say 10.<any_number_of_choice>.0.0/16

This way /16 you will get way more IP Addresses

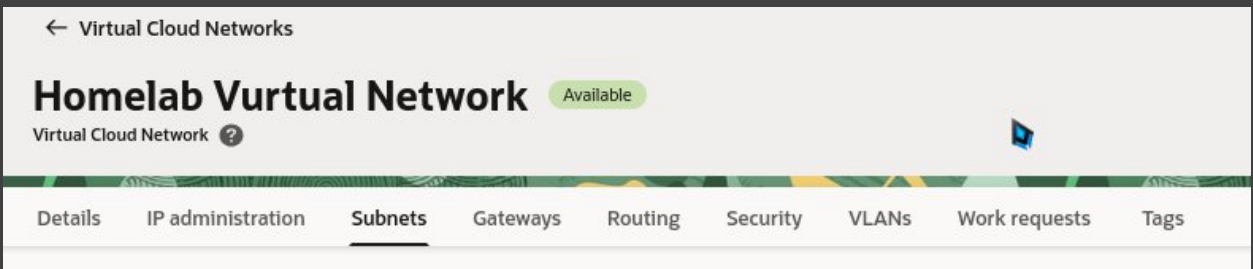
Remember that this number of choice should not exceed 255



Then click Create VCN button.

Third Step

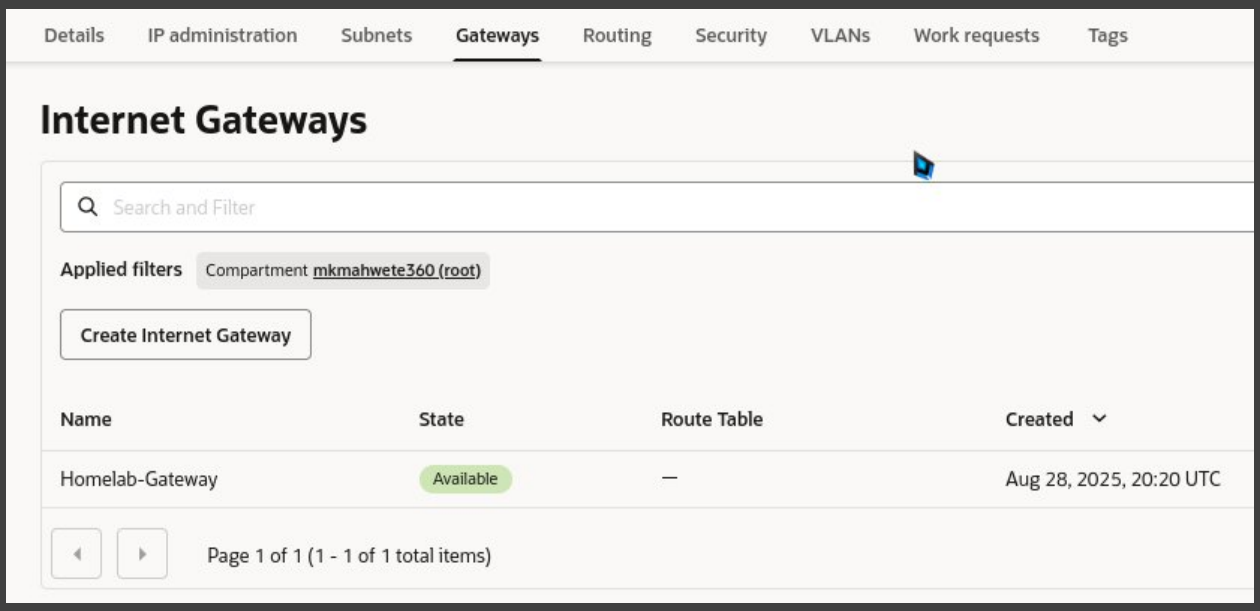
Now select the new Virtual Cloud Network you just created and look for a section that says "Subnets" and click create subnet button to create a new subnet for you network to separate or segment your network for better security and management.



Choose:

- Name: Public-Subnet
- CIDR Block: 10.84.1.0/24 or 10.25.1.0/24 or whatever you selected when creating your VCN. If your IP was 10.84.0.0/16 then here you will set it as 10.84.1.0/24 – this way you have created a separate network from you VCN
- Subnet Type: Public Subnet
- Route Table: Default (we'll edit soon)
- Security List: Default

Now move to the "Gateways" to create an internet gateway for VM to communicate to the internet (remote connection) via SSH or if planning to host something and you will need to access it via the internet.

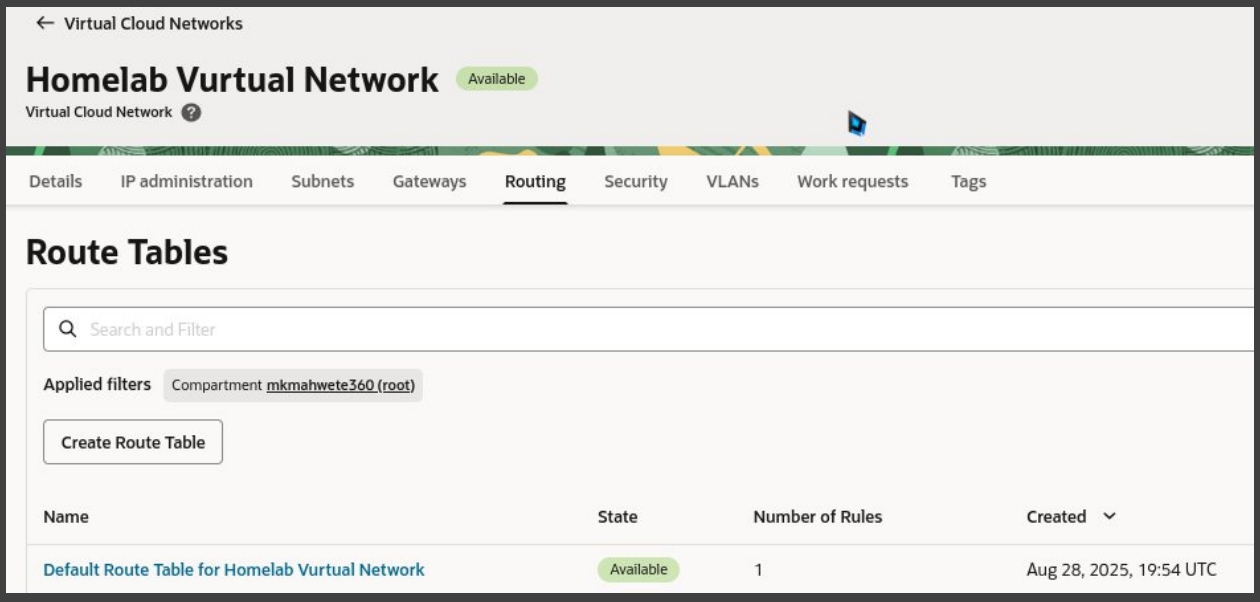


All you are required is to just give your gateway a name then click create internet gateway.

Forth step

Go to Route Tables → Click Default Route Table for Homelab-VCN.

- Then Add this rules:
  - Destination CIDR Block: 0.0.0.0/0
  - Target: Internet Gateway Homelab-IGW or the name of your internet gateway.



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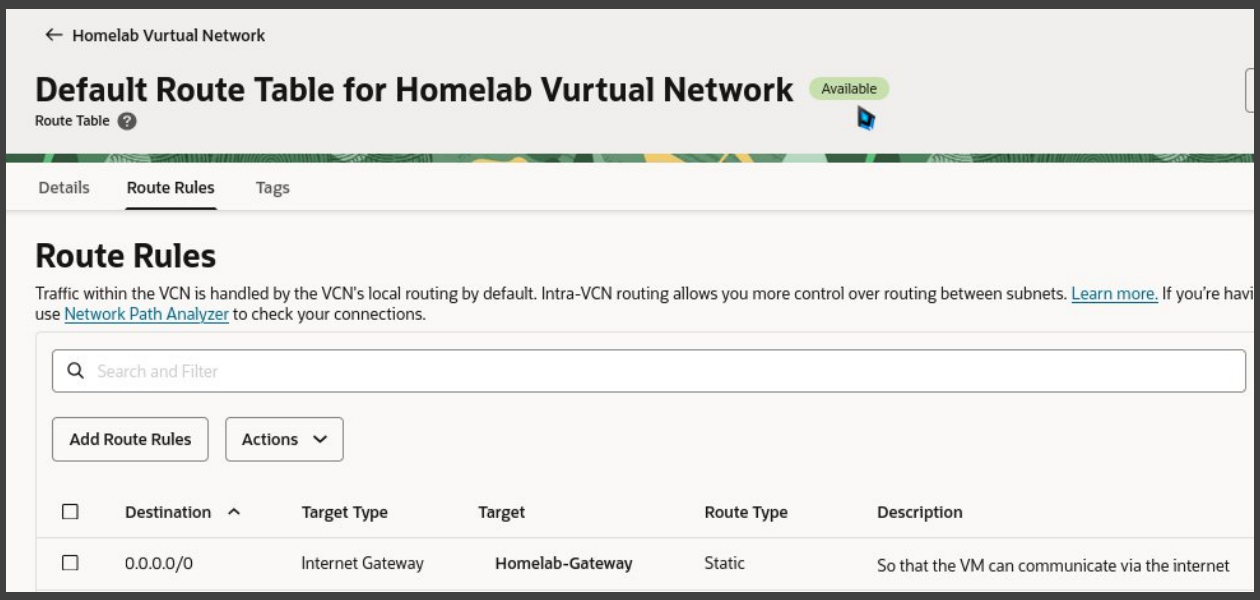
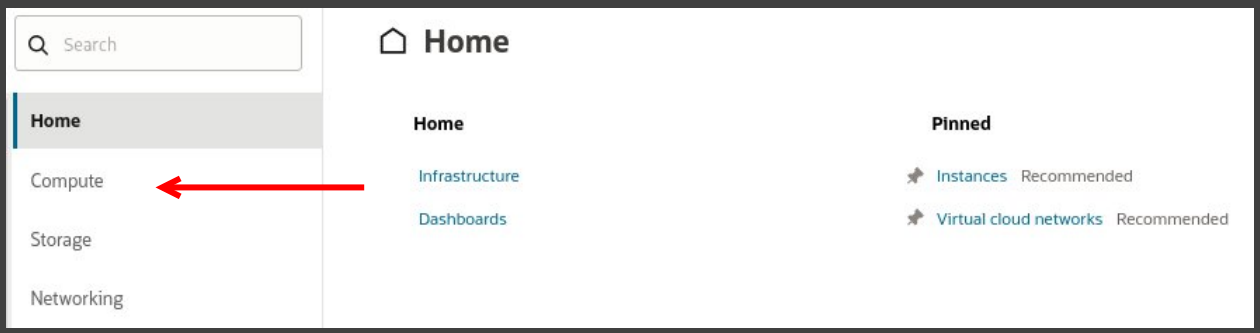


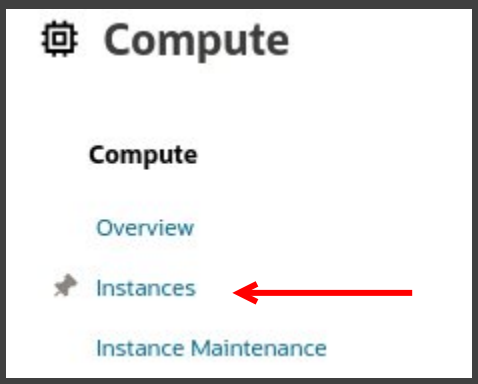
Now that you are done with Networking its time to setup a new VM to practice or for your lab.

Fiftieth step

The most important and critical step is out of the way now lets setup our VM. What you need is to move to the compute page



Select instances



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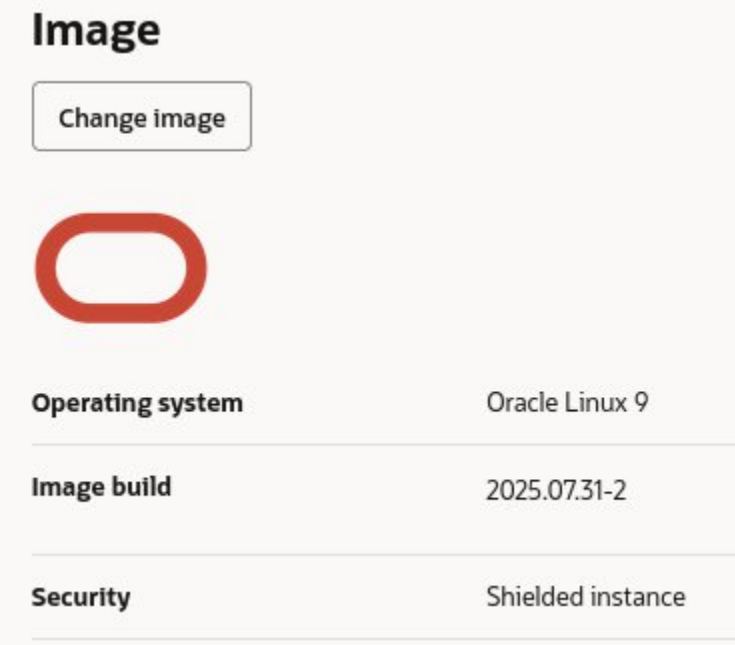
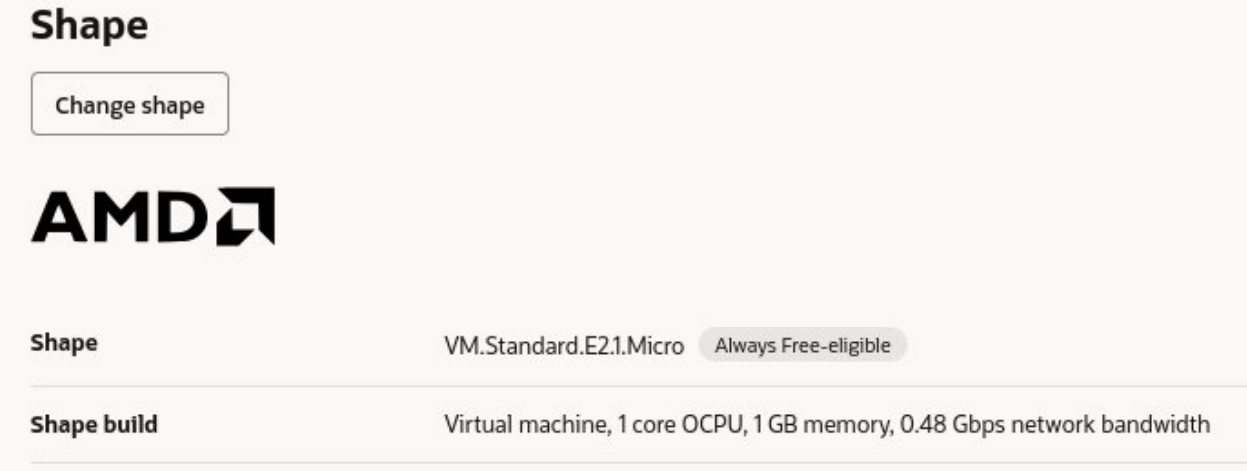
Click create instance button

Now give you instance a name or leave it as it is. You need to select an image of your choice by clicking on change image button



If you are in South Africa like I am, be aware that the Arm based CPU is not yet available in our region. So no need to change the shape and move on to the next step



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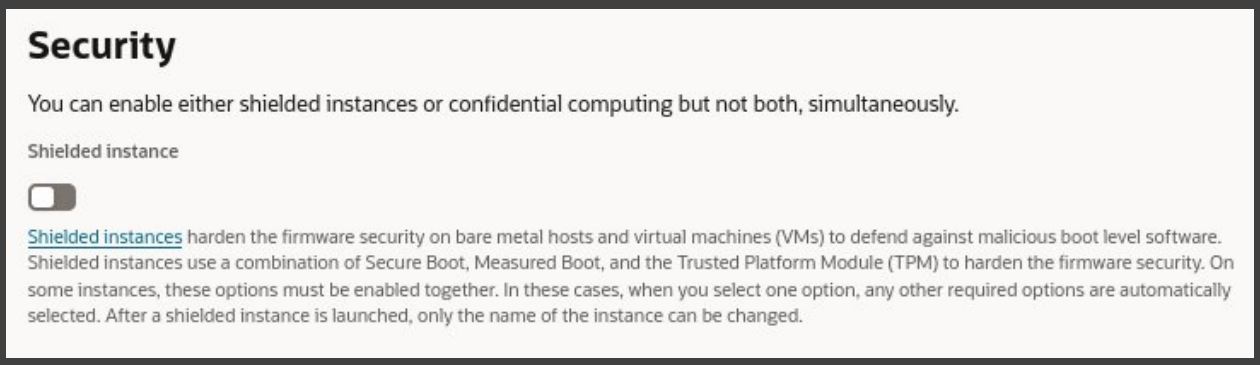
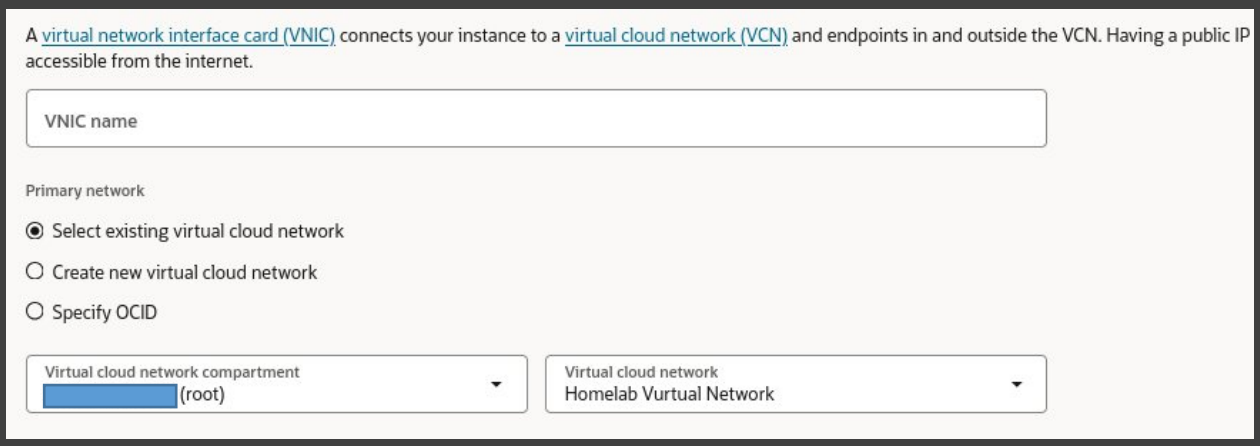
I highly recommend that you select Shielded instance for a more secure VM and move to the next step

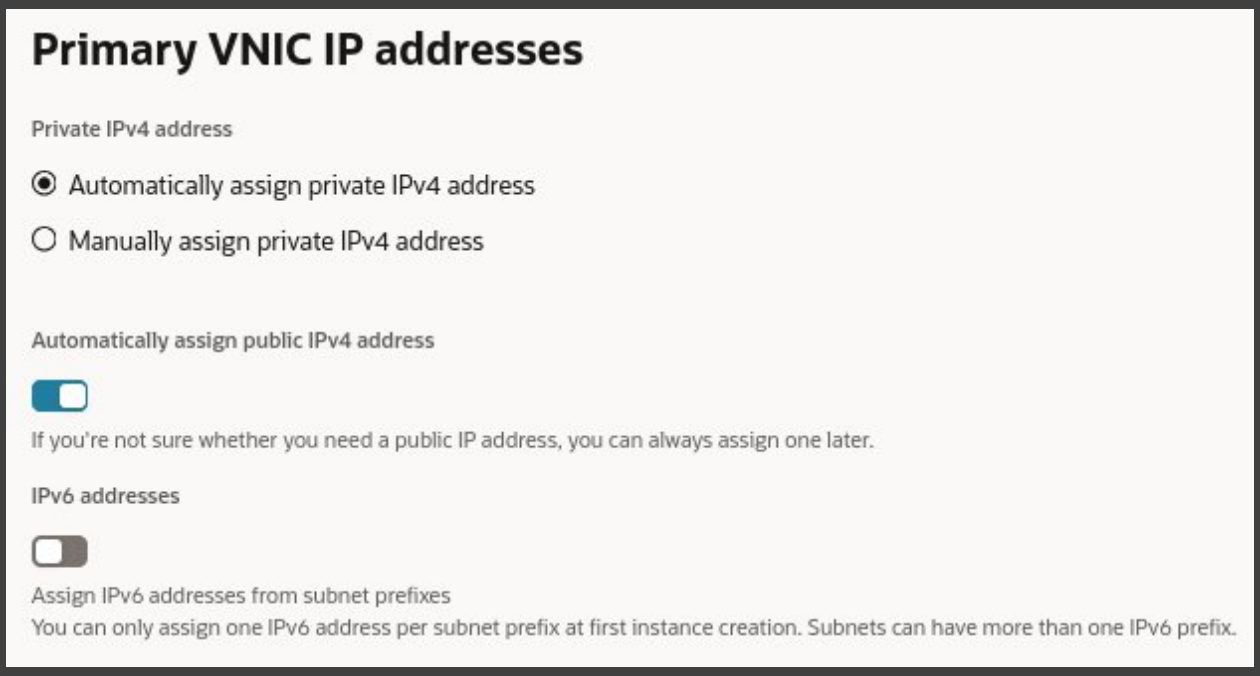


Sixth step

This is why the first step was important because now you just select and skip. Networking is very important in cloud computing.
Give your network interface card a name of your choice for this VM

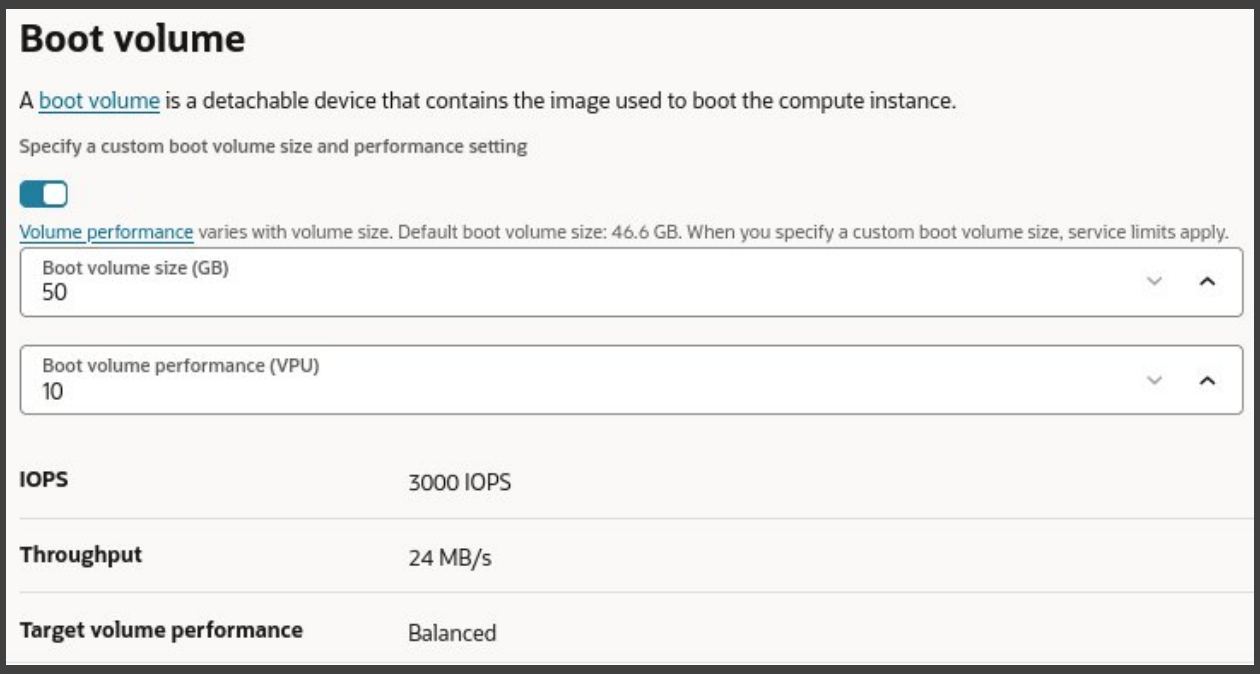


Now you need to set an IP address for you VM and if you are new to networking you can set an automatic IP to the VM



This part is very important because if you miss it you wont be able to remote login into your server. So please download the private key before you move on to the next step

Now its time to set storage volume. Select specify boot volume to set the amount of space you want



Press **next** and preview your VM then press Create and wait for your VM to be online then you ready to login to it.

Last step

Now that you are done and your VM is up and running, so login to it via SSH. Remember the private key you downloaded. We gonna need it to login but before that we need to change its permission to read only. Open your terminal and move to a directory you downloaded the key and type the following command:

```
┌──(mk-mahwete㉿lenovo-s145)-[~]
└─$ sudo chmod 400 ssh-key-2025-08-28.key
```

Then now your key is ready to be used. Use the following command to ssh or connect to your VM

```
┌──(mk-mahwete㉿lenovo-s145)-[~]
└─$ ssh -i ssh-key-2025-08-28.key ubuntu@129.151.169.197
```

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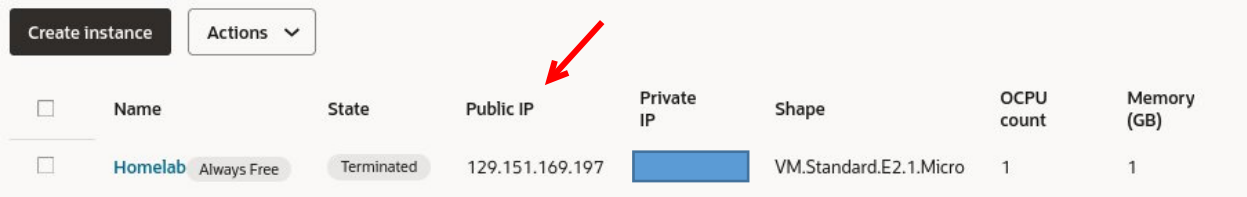
Replace 129.151.169.197 with the public IP address of your VM and to find it go to our instance page and look where it says public IP



Note: This instance I am showing here have been terminated and deleted