Azure Section 6 - Azure Compute

Azure Compute

This is a service which allows us to host and run the applications. It allows us to upload the code and then run code on it. They are very flexible and efficient.

Virtual Machine:

This is a not real server running on a real server. The physical servers are made available virtually. That is we can create the servers with just few clicks.

From users point of view it is just like a original server. It is just that the physical servers are made available to us virtually and remotely.

This Virtual machine service is called as unmanaged service. This is called because azure doesn't manage what is happening inside the virtual machine.

Azure only care about the hardware functioning of the virtual machine. What we do on it after allocating it to ourself azure has got nothing to do with it. We will be the one who will install the operating system, maintain its security and also all the software that we need.

Architecture of Virtual Machine:

The lowest layer is host operating system. Above this host operating system there is a hypervisor installed. This hypervisor helps us to divide the hardware resources and use them by the virtual machines which will be installed over this hypervisor.

The operating system which is installed on the virtual machine is called as guest operating system.

On this Virtual machine we have binaries and libraries and guest OS and other software. This three layers are called as virtual.

The number of virtual machine made on single host is called as density of the VM over that host.

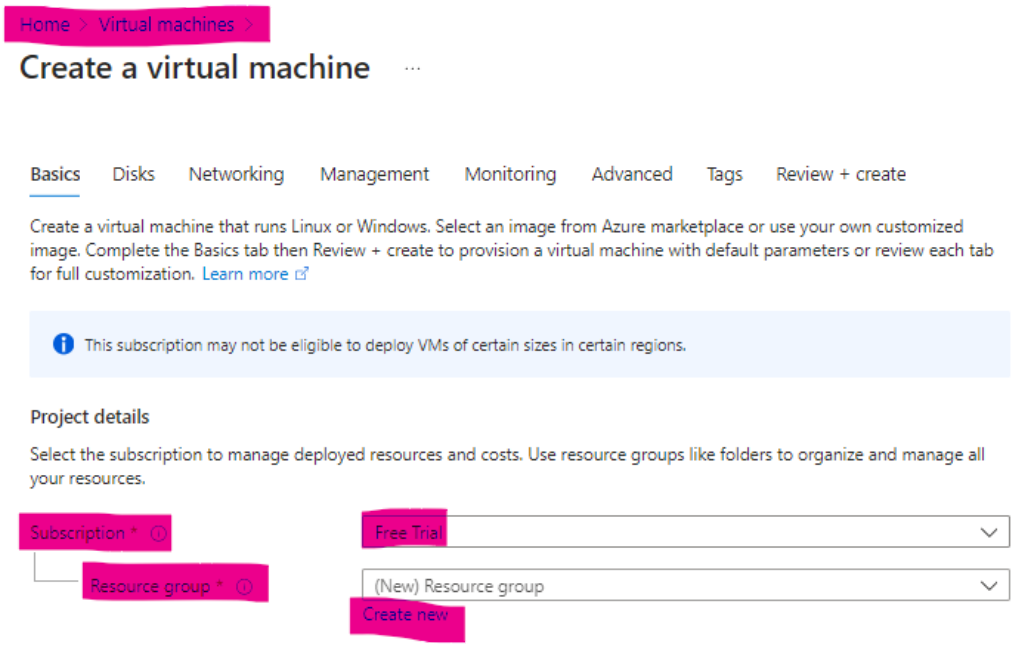
The below two layers of hypervisor and the host is managed by the azure itself and we do not have access to it.

Creation of Virtual Machine:

▼ Creation process of Virtual machine:

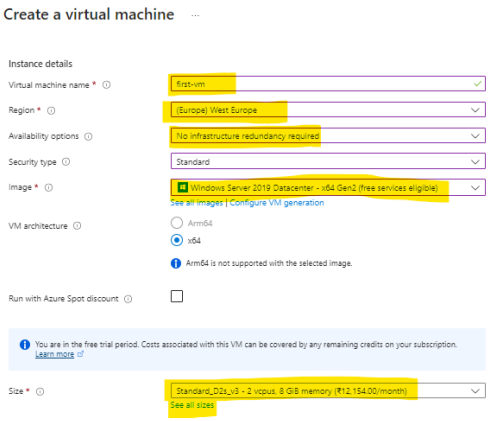
▼ Step 1: Go to the Virtual machine page and Choose Subscription and resource group.

- Go to the portal and search in the search bar for virtual machine. After that click add virtual machine.
- This will take you to the page where we need to choose the subscription. The subscription will be the free tier subscription.
- Then we also need to choose the resource group as every resource is supposed to be added in the logical container of resource group.
- So click on create a resource group which is on the same page below the field of resource group.
- I have named it as first-vm-rg



▼ Step 2: Give name for VM and choose the image and size of VM

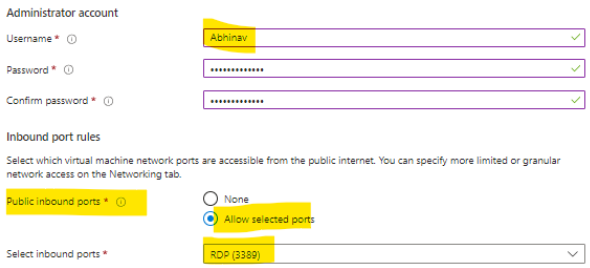
- Below this there is name of the virtual machine and i have given it a name of first-vm.
- Then choose the region as west Europe and we dont need any availability option. Choose image windows server 2019 and size of virtual machine as D2s with 2 CPU and 8gib memory.
- You can see the image size by clicking on the link which is below the size option.



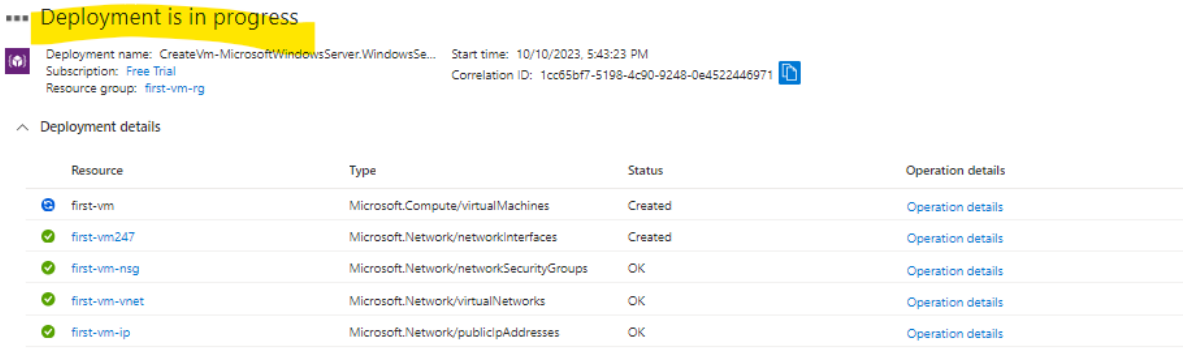
▼ Step3: Give username and password and set the inbound rule.

- Now give the user name and password to login to the virtual machine. choose the password which matches the criteria of the password.
- Then we need to check the inbound rules. As this is windows server we will be doing RDP and the port for accessing the VM by doing RDP is 3389 port. So select RDP option and select the port number as 3389.

CLICK ON REVIEW AND CREATE.

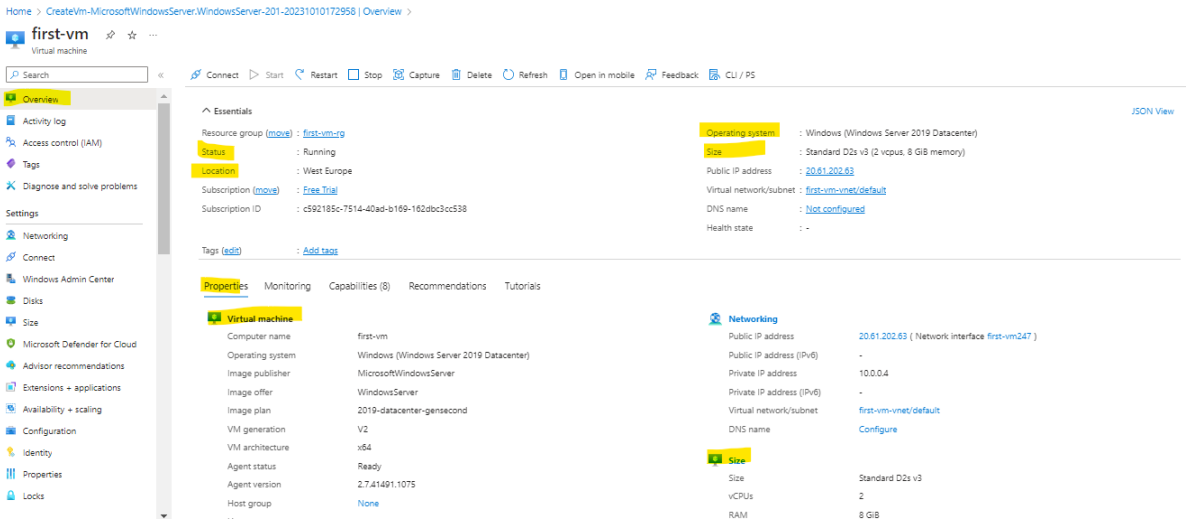


> **Every time a resource is requested to be create to azure portal there is this deployment task which is created first. This deployment task will create our requested resource and also along with that it will also create the supporting resources. Every time a vm is created then there are following supporting resources as network interface, security group, virtual networks, public addresses and the VM itself.**



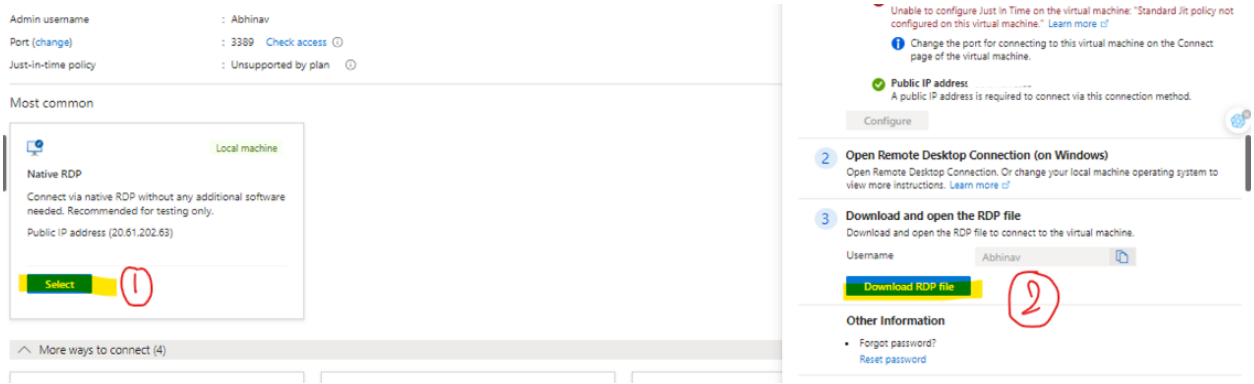
Now go to the created virtual machine. As said previously we will be having an overview page which will give us all the basic information about the virtual machine.

▼ The overview page will show you the status of the machine the subscription id under which it was created, the resource group to which the vm belongs, the location where the vm is created, ISO image details, size of the virtual machine etc. Below the brief overview on the same page below there are properties of virtual machine. Which almost has same report of VM in much more detailed and systematic way.



Now lets connect to the machine. The thing is that we connect to the linux machine using SSH and windows machine using RDP.

Hit the connect button on the top of the overview screen. This will take you to the connection detail page. There is an option of native rdp at the middle left of the screen. click on that. This will make a pop up appear on the right side of the screen where you can see the option of download RDP. Click on that option.



After that a dialog will appear and enter the username and password which we set during creation of VM machine.

And we are into our first VM.