DEVOPS with MULTI-CLOUD
Practice Tasks

Institute Name : V Cube software solutions
Course **:** DevOps with Multi-Cloud
Batch **:** 30
Trainer **:** Krishna reddy sir

Prepared by **:** G.Bhavish
(MCD-AZ30-024)

TASK-4 : Network Security Group(NSG).

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Objective :-

The objective of this task is to configure a Network Security Group (NSG) in Azure to control inbound and outbound network traffic. This helps secure Azure resources by allowing or denying traffic based on defined security rules.

Network Security Group(NSG) :-

An Azure Network Security Group (NSG) is a security service that filters network traffic to and from Azure resources. It uses rules based on IP address, port, and protocol to allow or deny traffic within a virtual network.

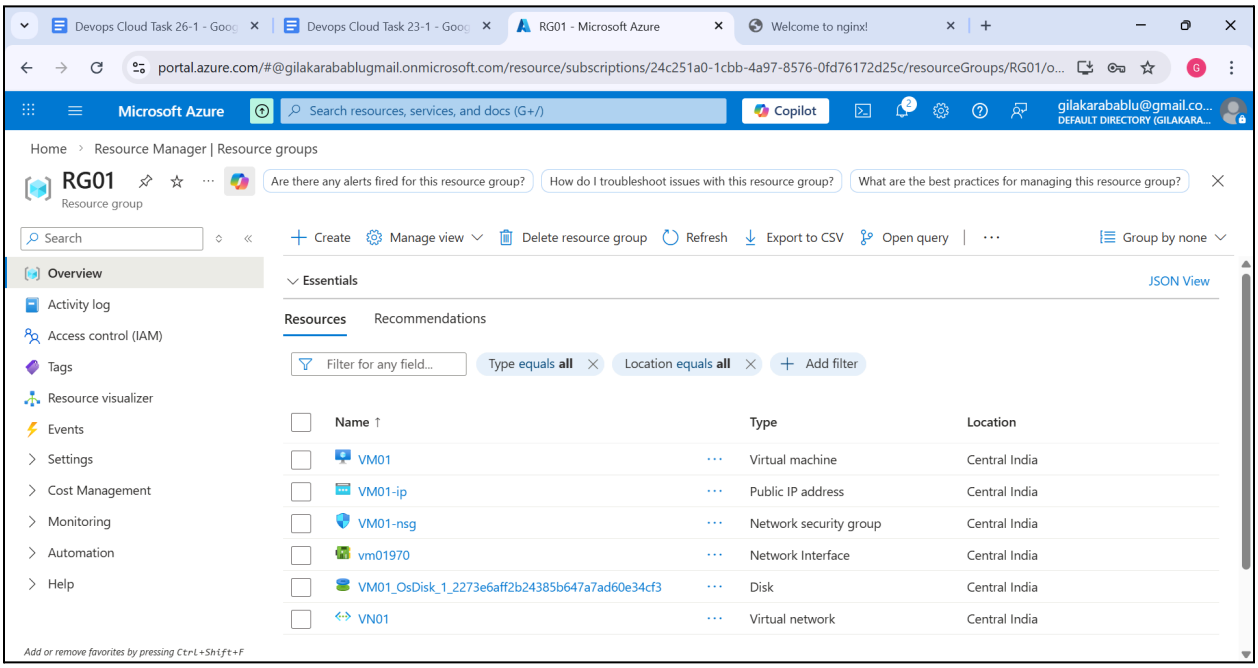
NSG can be applied at two levels :-

1. **NIC Level :-** NSG at NIC level is applied directly to a virtual machine's network interface card and controls traffic for that specific VM only. VM-specific security when individual machines require different access rules than the rest of the subnet.
2. **Subnet Level :-** NSG at subnet level is used to control traffic for all virtual machines within a subnet. It provides centralized, tier-based security by allowing

or denying inbound and outbound traffic based on defined rules.

NSG at NIC Level :-

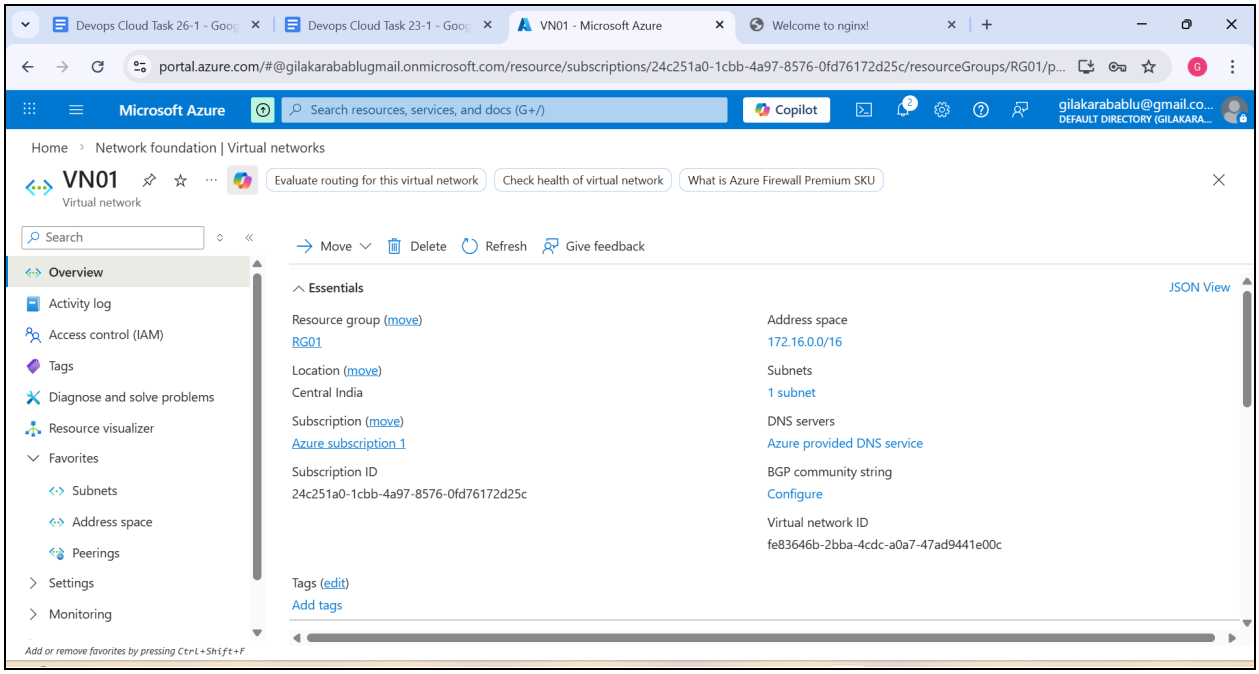
→ Create a Resource Group RG01.



fig(1) Resource group created.

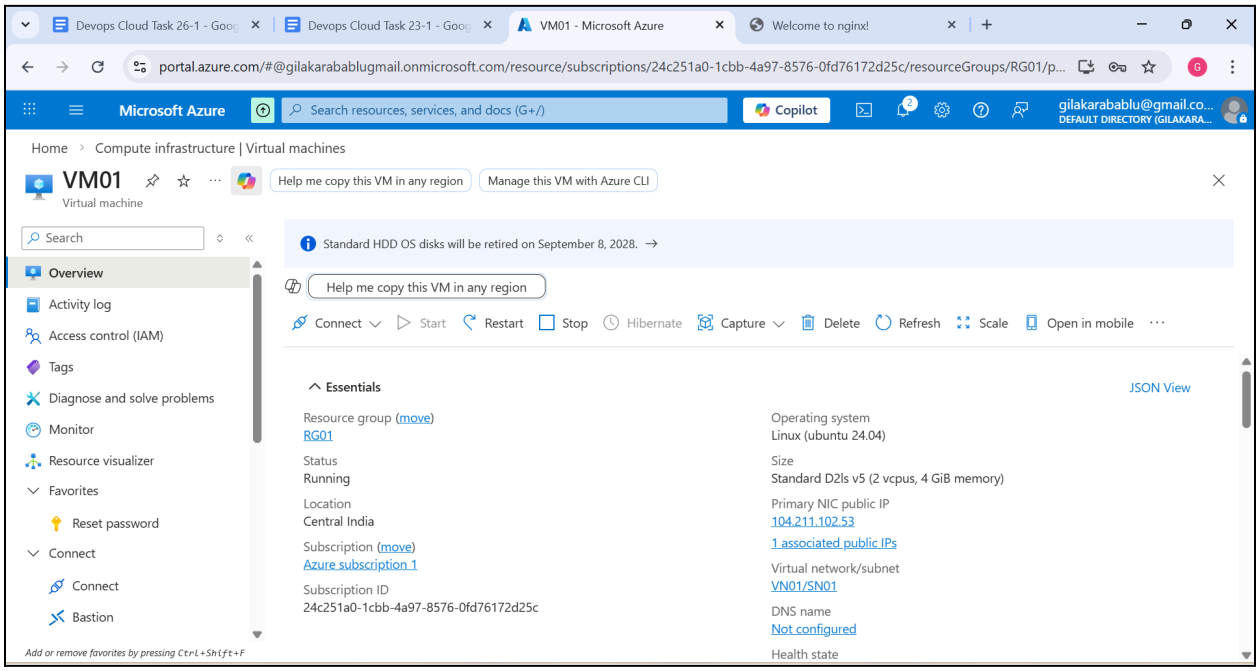
→ Create a Virtual Network VN01 and also a Sub Net SN01.

- Search virtual network and create virtual network vn01.
- While creating a virtual network by default one subnet is created, rename the subnet to sn01.



fig(2) virtual network and subnet created.

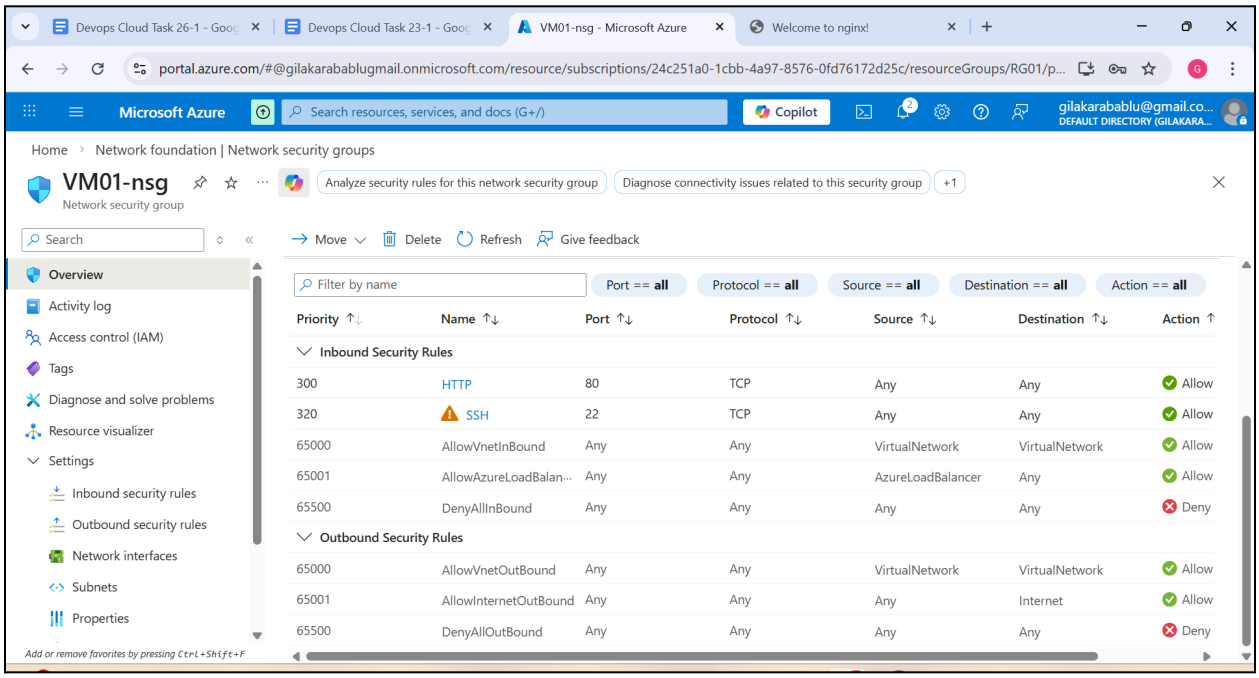
→ Create a Virtual Machine VM01.



fig(3) virtual machine created.

→ How to Create a NSG and associate with the virtual machine :

- Search nsg and create a nsgvm01
- Open that nsg and add inbound rules, allowing port numbers 22 & 80.
- Goto network interface and associate this nsg to the virtual machine vm01.

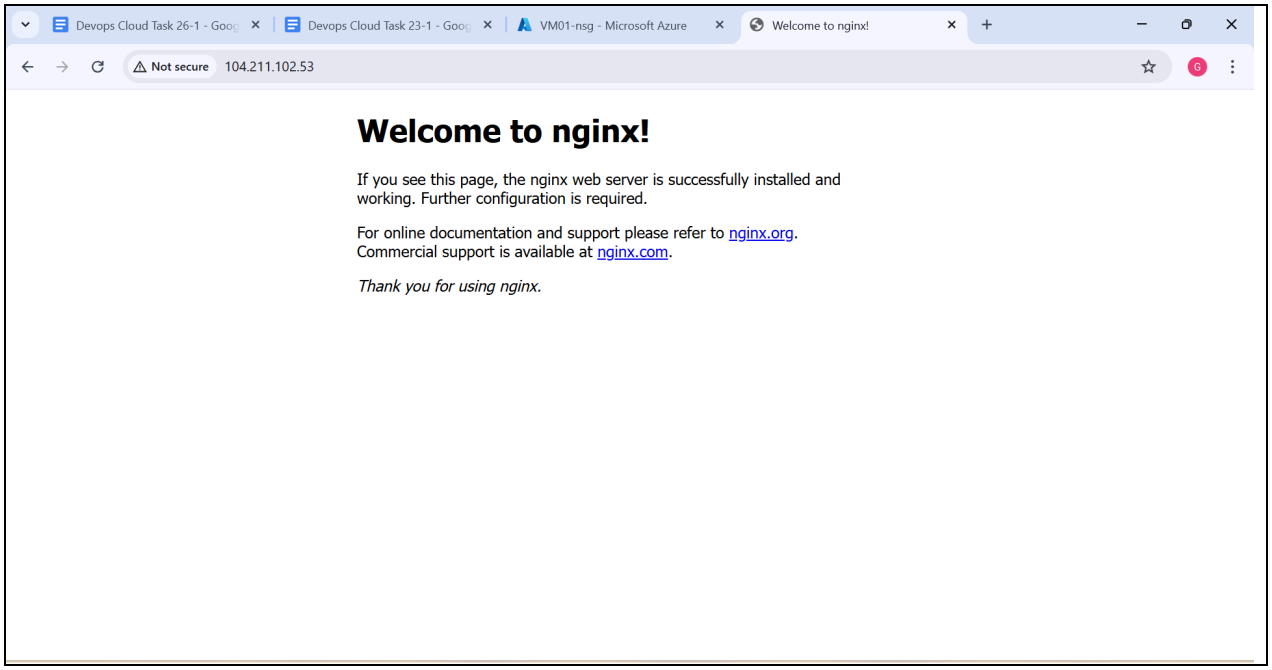


fig(4) NSG is created and associated to VM01.

→ Now login to the machine and install nginx with following commands :-

- sudo su
- apt update
- apt install nginx -y

→ Now we can browse with the vm ip address we will get the below nginx web page.



fig(5) Nginx is successfully installed.

→ Therefore NSG is successfully created and applied at the nic level.