Placement Empowerment Program

Cloud Computing and DevOps Centre

Set Up a Private Network in the Cloud

Create a Virtual Private Cloud (VPC) with subnets for your instances. Configure routing for internal communication between subnets.

Name: Harshana Perianayaki B Department : IT

St. JOSEPH'S COLLEGE OF ENGINEERING | St. JOSEPH'S INSTITUTE OF TECHNOLOGY
AUTONOMOUS INSTITUTIONS, AFFILIATED TO ANNA UNIVERSITY

INTRODUCTION

A Virtual Private Cloud (VPC) is a virtual networking environment that allows you to launch AWS resources in a virtual network that you define. Setting up a VPC with subnets and configuring routing for internal communication between subnets is a critical aspect of cloud computing.

OBJECTIVES

1. To understand the concept of a Virtual Private Cloud (VPC)
2. To learn how to create a VPC with subnets
3. To understand how to configure routing for internal communication between subnets
4. To learn how to verify connectivity between subnets

OVERVIEW

This provides a step-by-step approach to setting up a private network in the cloud.

1. Creating a Virtual Private Cloud (VPC)

2. Creating subnets for instances

3. Configuring routing for internal communication between subnets.

IMPORTANCE

Setting up a private network in the cloud is crucial for several reasons:

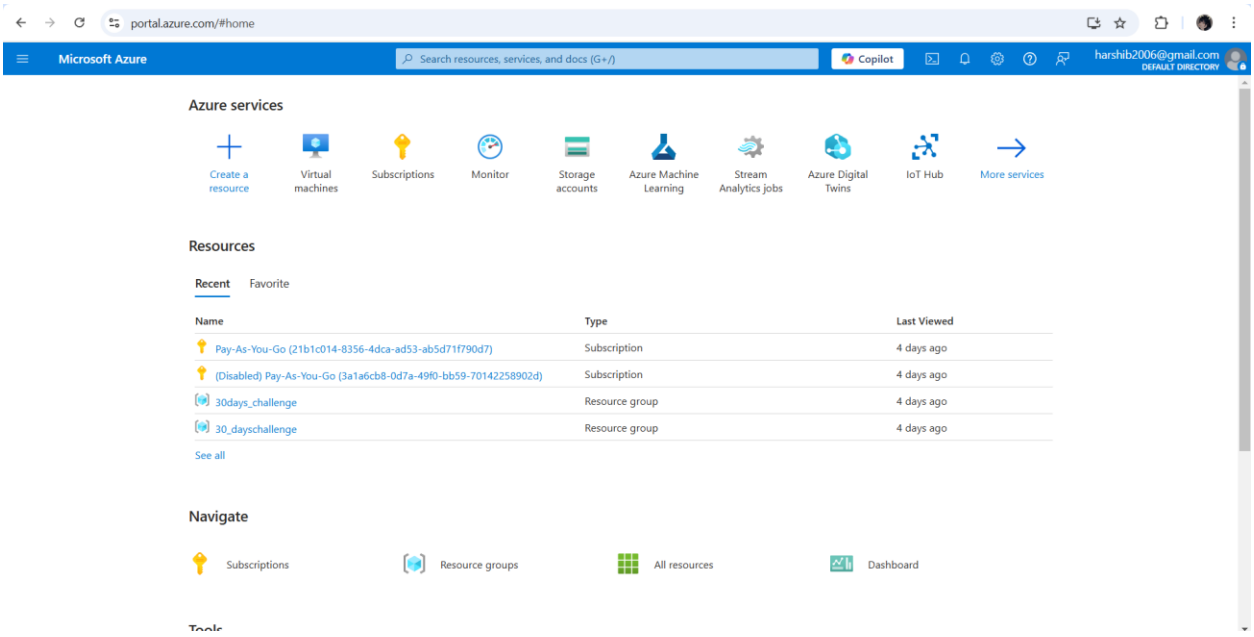
1. Security: A VPC provides a secure environment for your instances, isolated from the public internet.
2. Flexibility: A VPC allows you to define your own virtual networking environment, including subnets, routing tables, and network gateways.
3. Scalability: A VPC allows you to scale your infrastructure up or down as needed, without having to worry about the underlying network infrastructure.

STEP-BY-STEP OVERVIEW

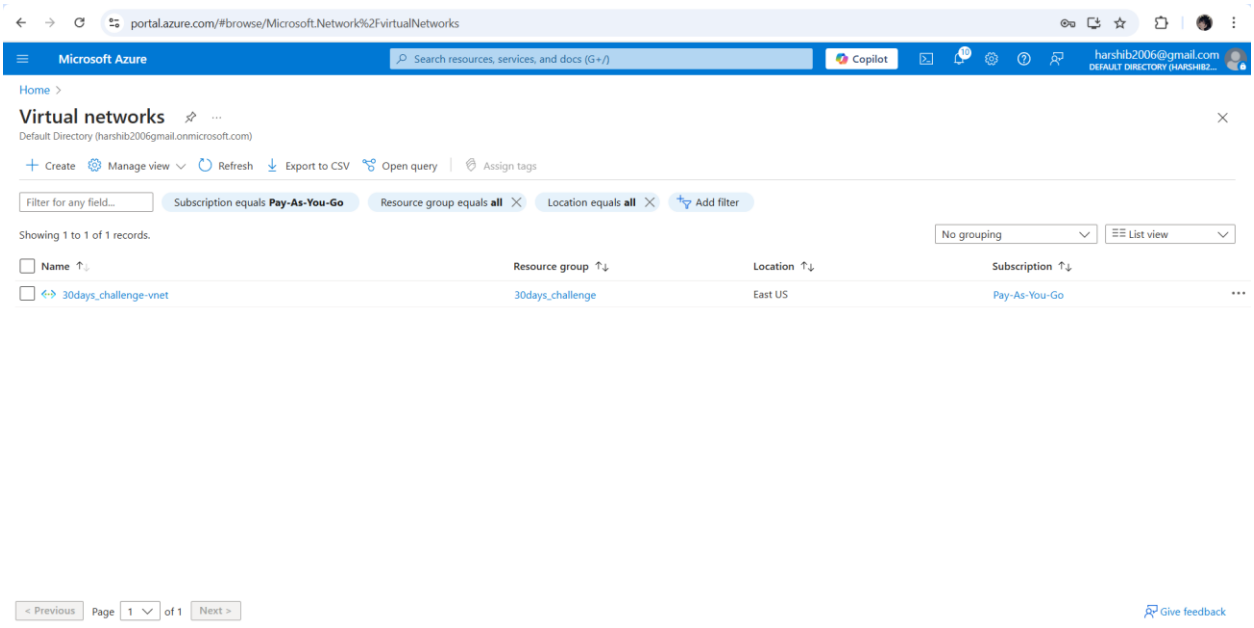
Here's a step-by-step guide to setting up a private network in Azure:

Create a Virtual Private Cloud (VPC)

1. Log in to the Azure portal



2. Click on "Create a resource" and search for "Virtual Network".

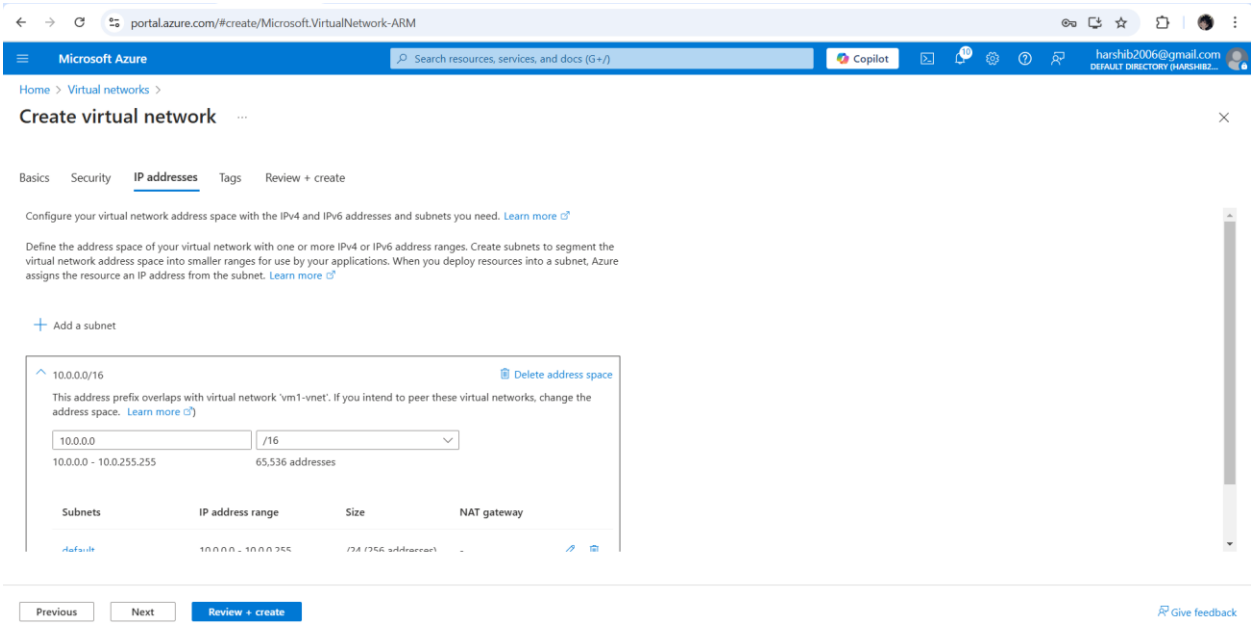


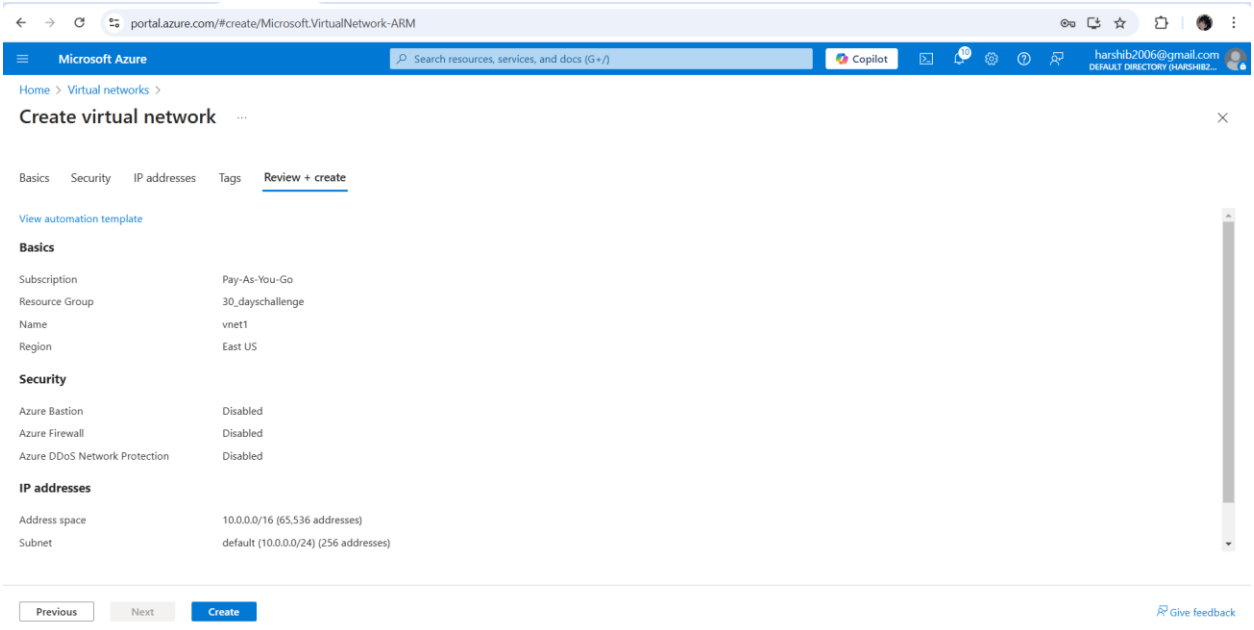
3. Select "Virtual Network" and click on "Create".

4. Enter a name for your VPC and select the resource group and location.

5. Configure the address space for your VPC (e.g., 10.0.0.0/16).

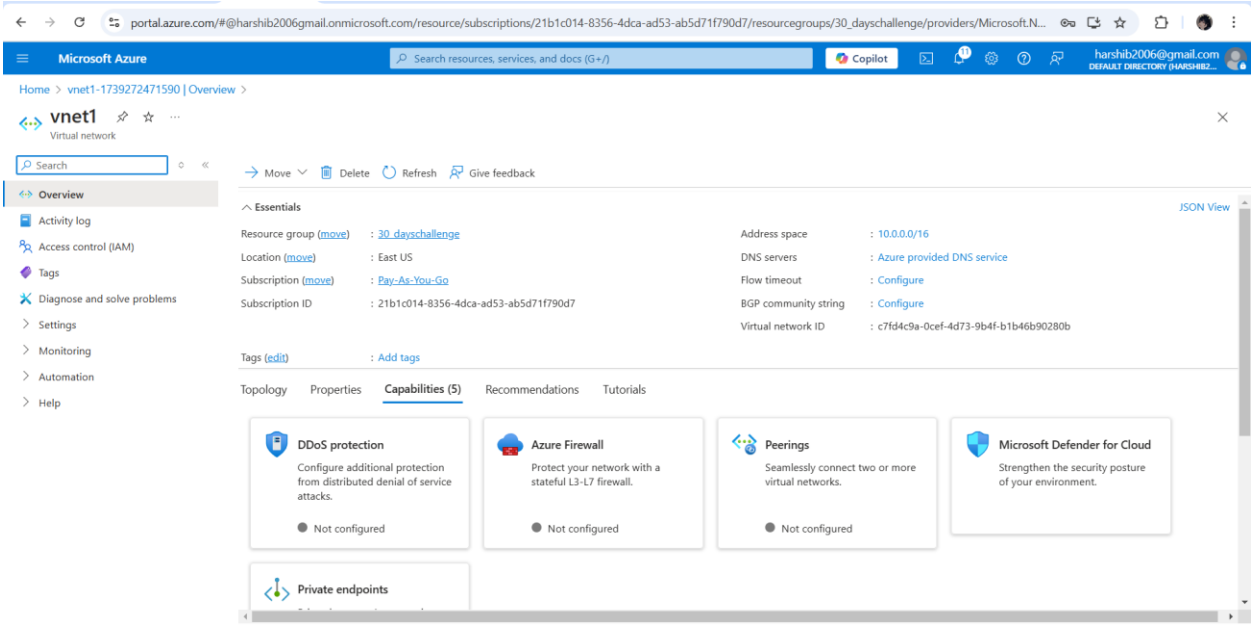
6. Click on "Create" to create the VPC.



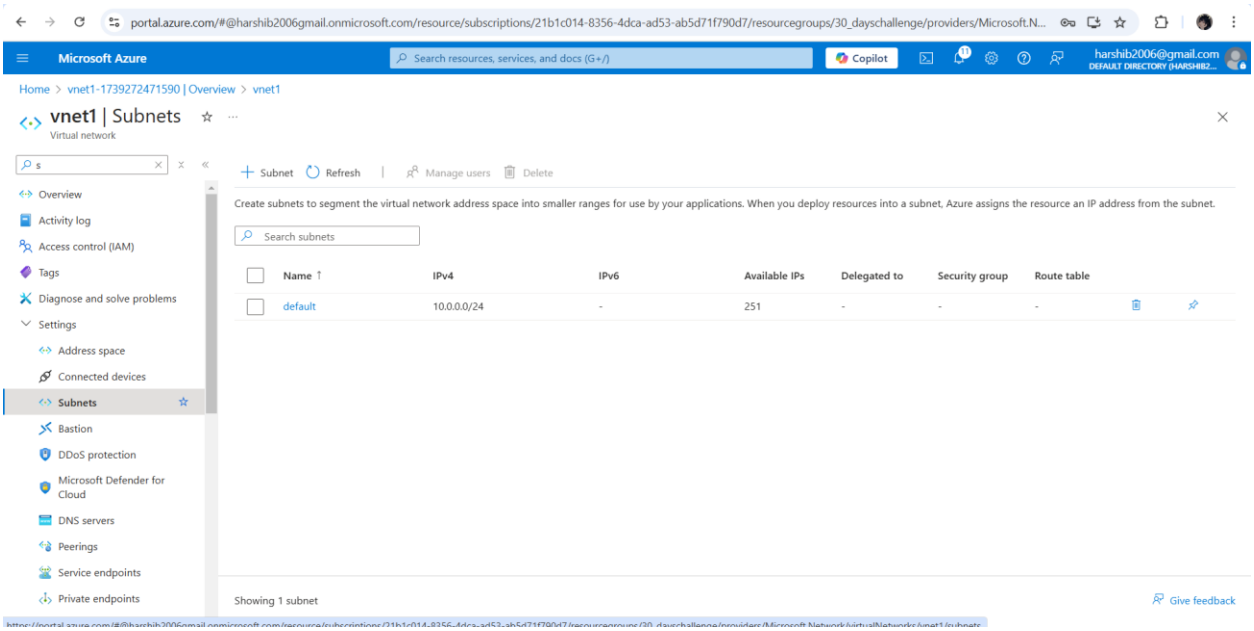


Create Subnets

1. Navigate to the VPC you created.

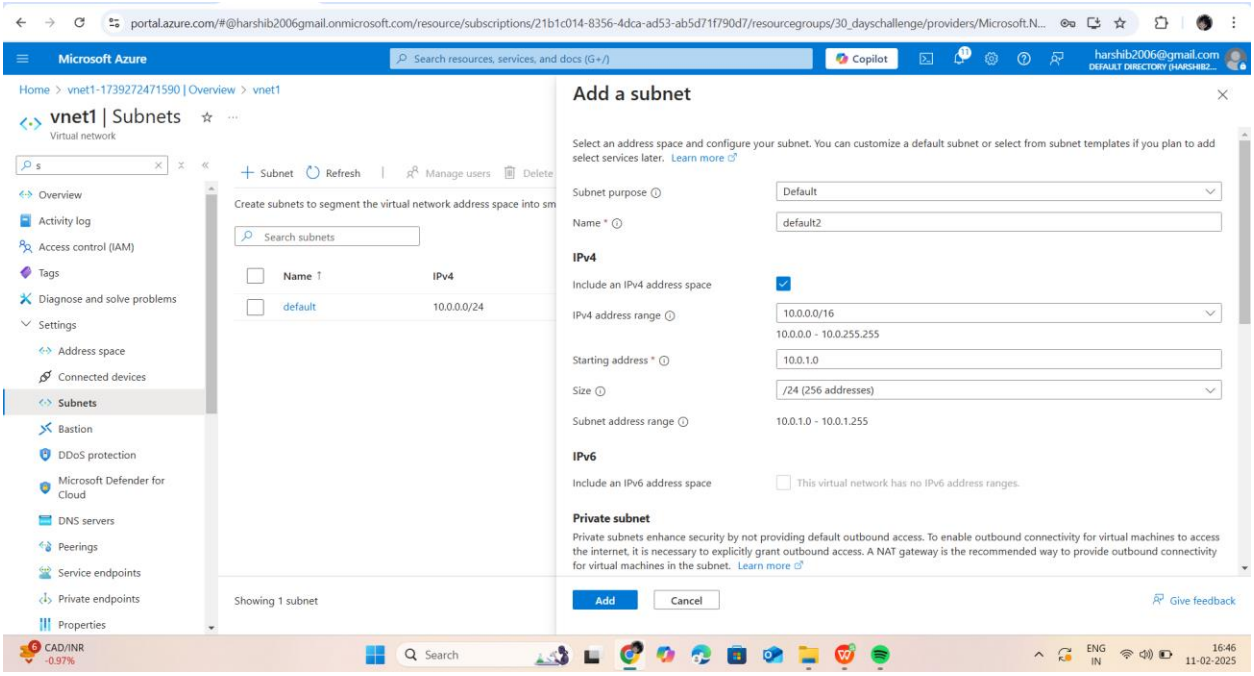


2. Click on "Subnets" and then click on "New subnet".

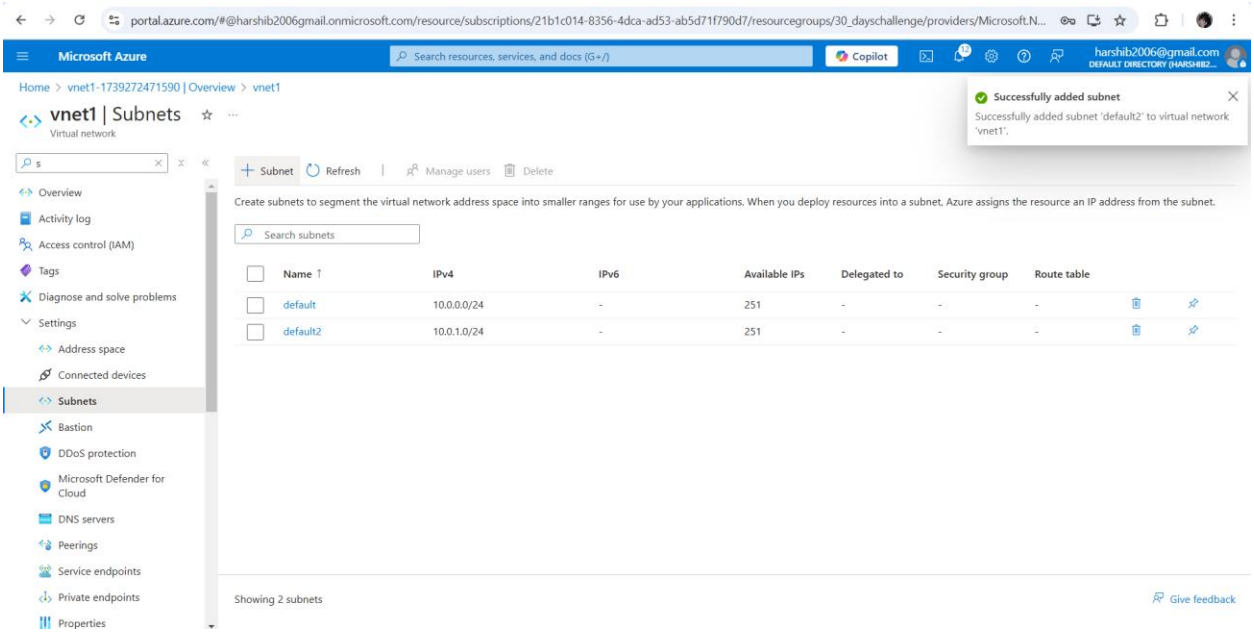


3. Enter a name for the subnet and configure the address range (e.g., 10.0.1.0/24).

4. Click on "Create" to create the subnet.



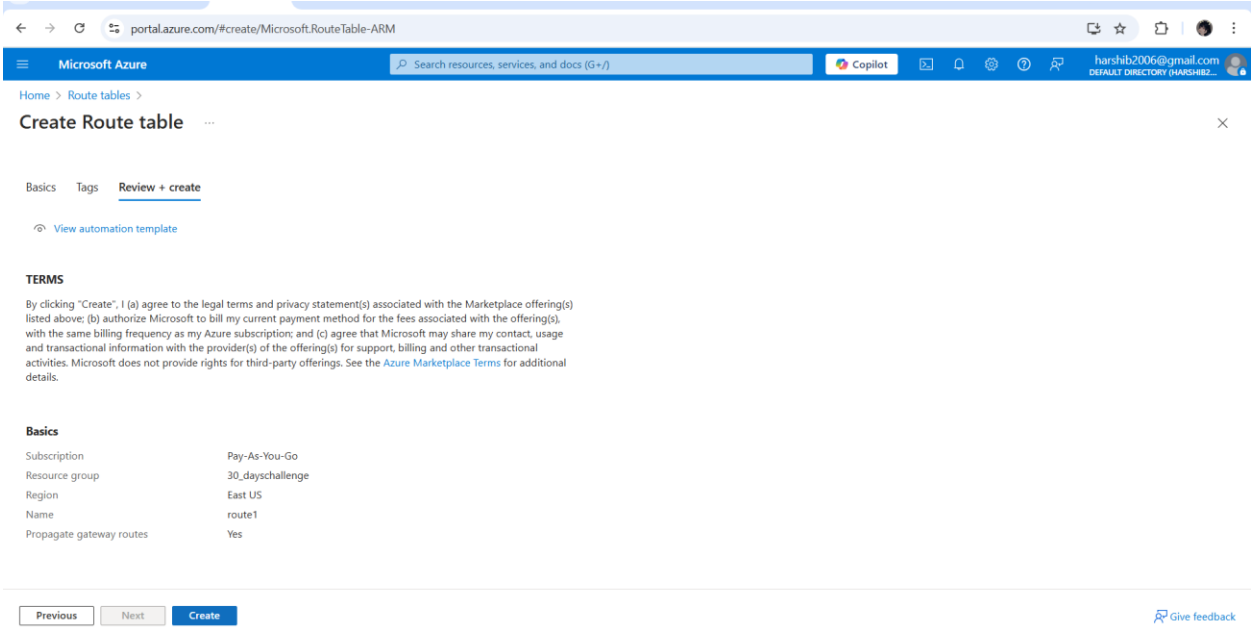
5. Repeat steps 2-4 to create additional subnets as needed.

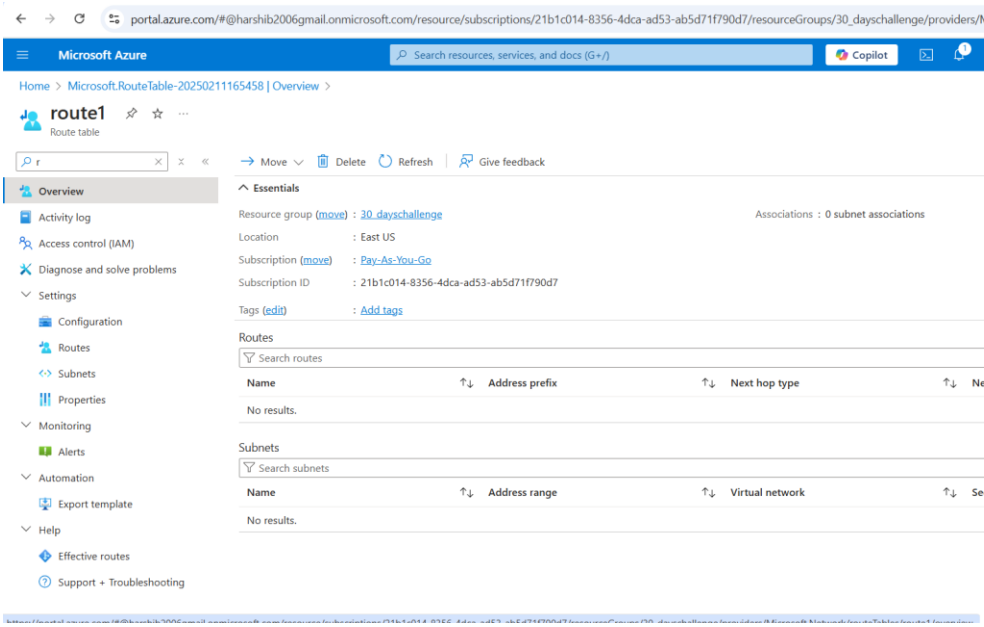


Configure Routing

1. Navigate to the VPC you created.

2. Click on "Route tables" and then click on "New route table".





3. Enter a name for the route table and select the VPC.

4. Click on "Create" to create the route table.

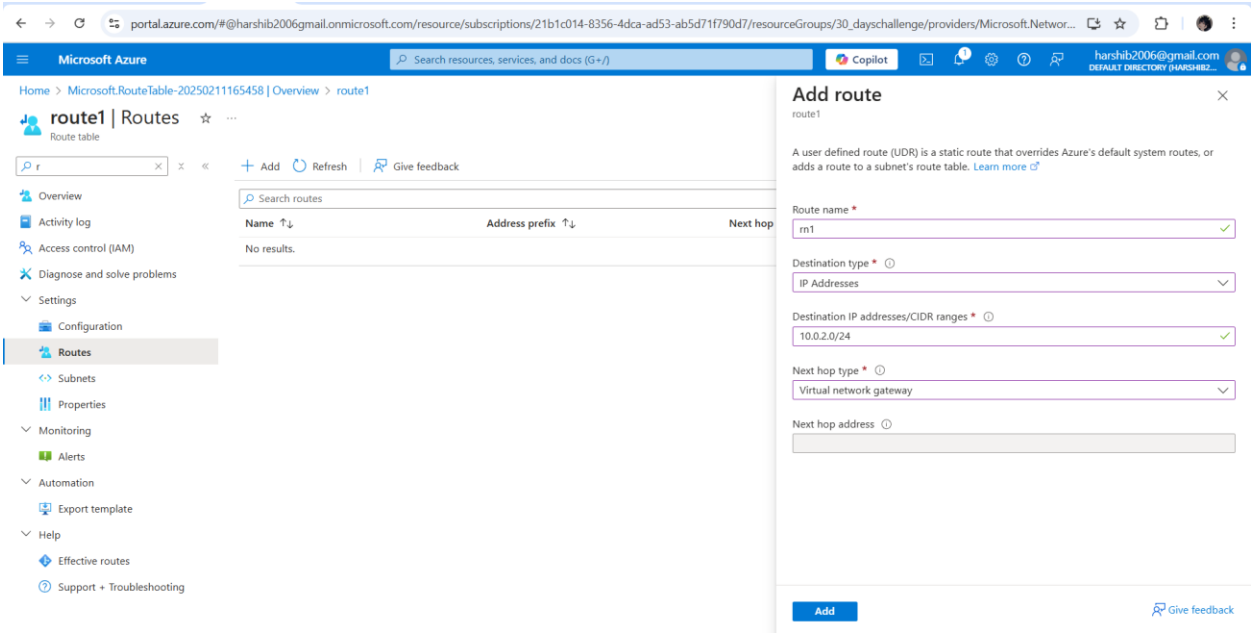
5. Configure routes for internal communication between subnets:

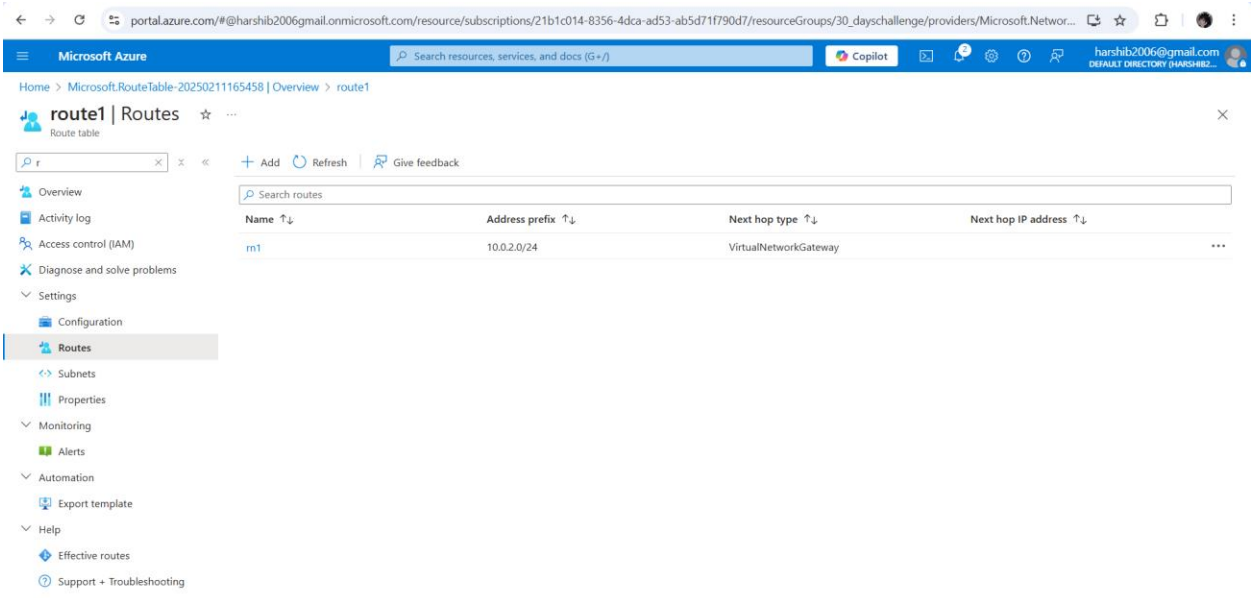
- Click on "Routes" and then click on "New route".

- Enter a name for the route and select the route table.

- Configure the address prefix (e.g., 10.0.2.0/24) and next hop type (e.g., "Virtual network gateway").

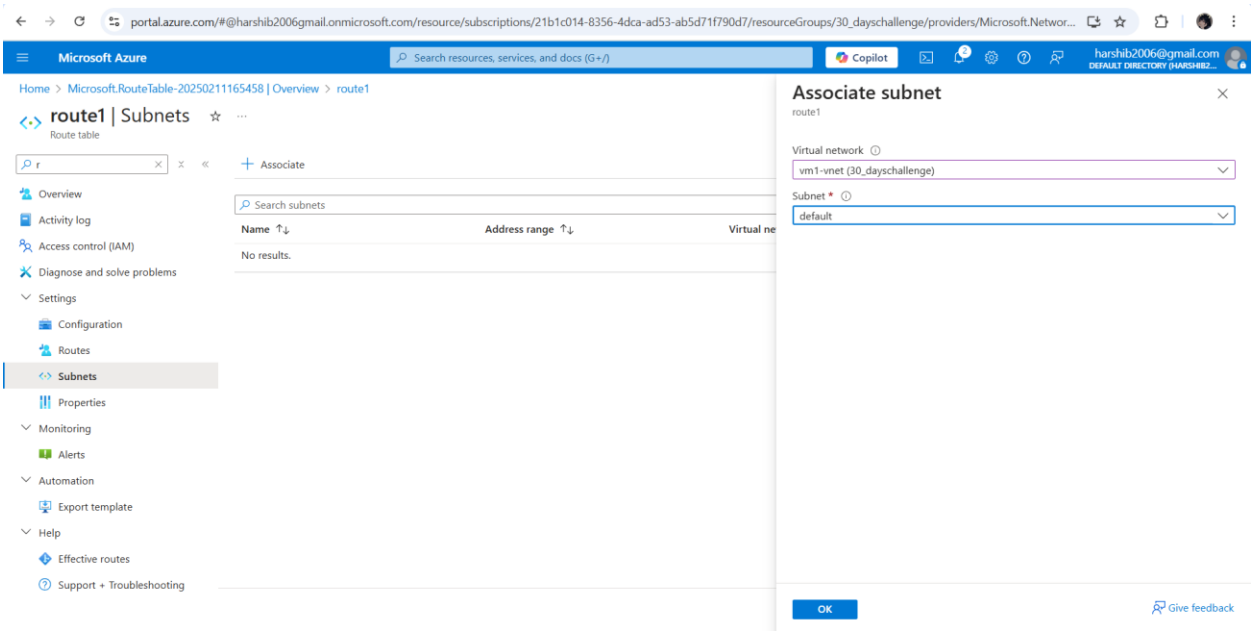
- Click on "Create" to create the route.

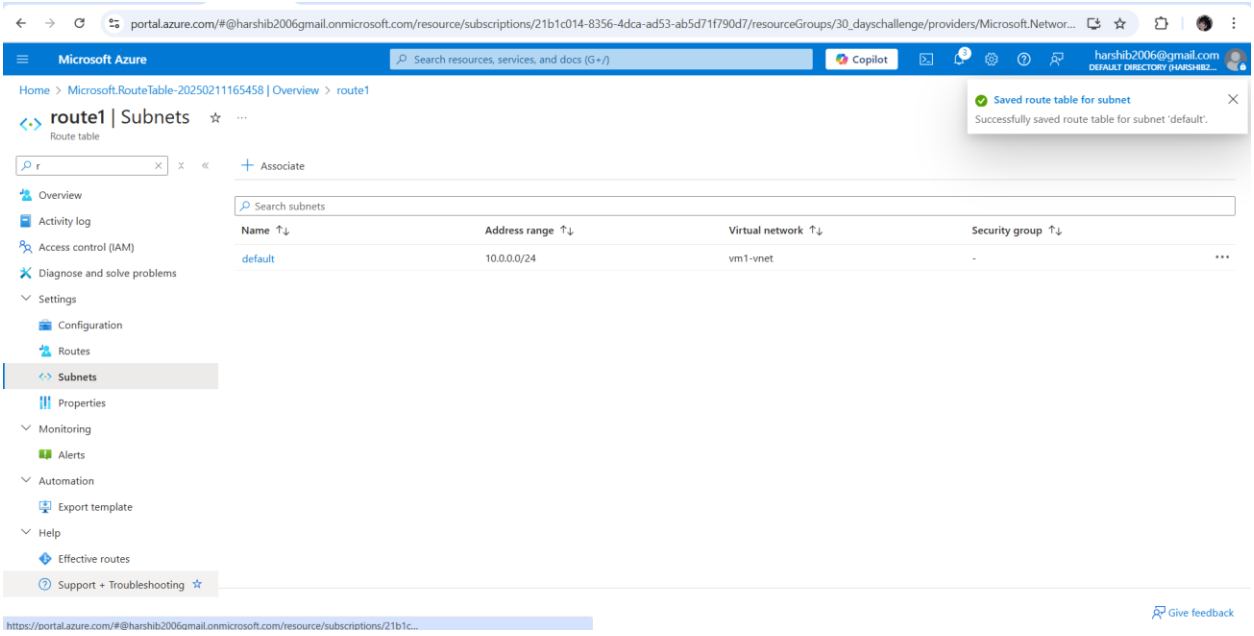




6. Associate the route table with the subnets:

- Navigate to the subnet.

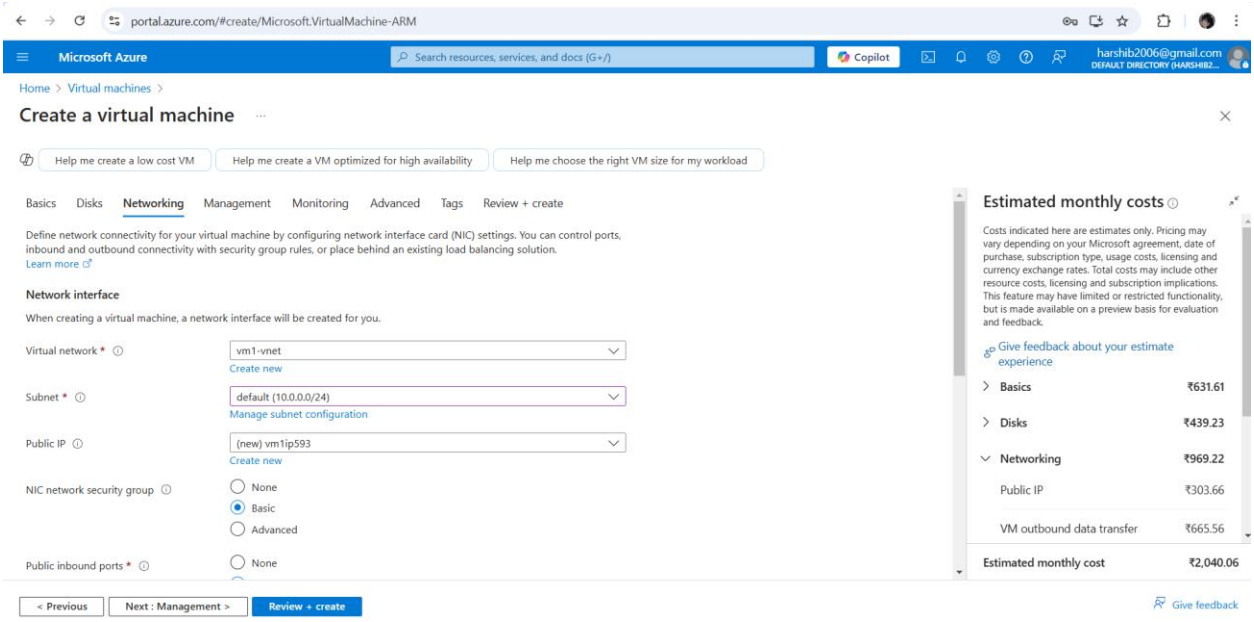


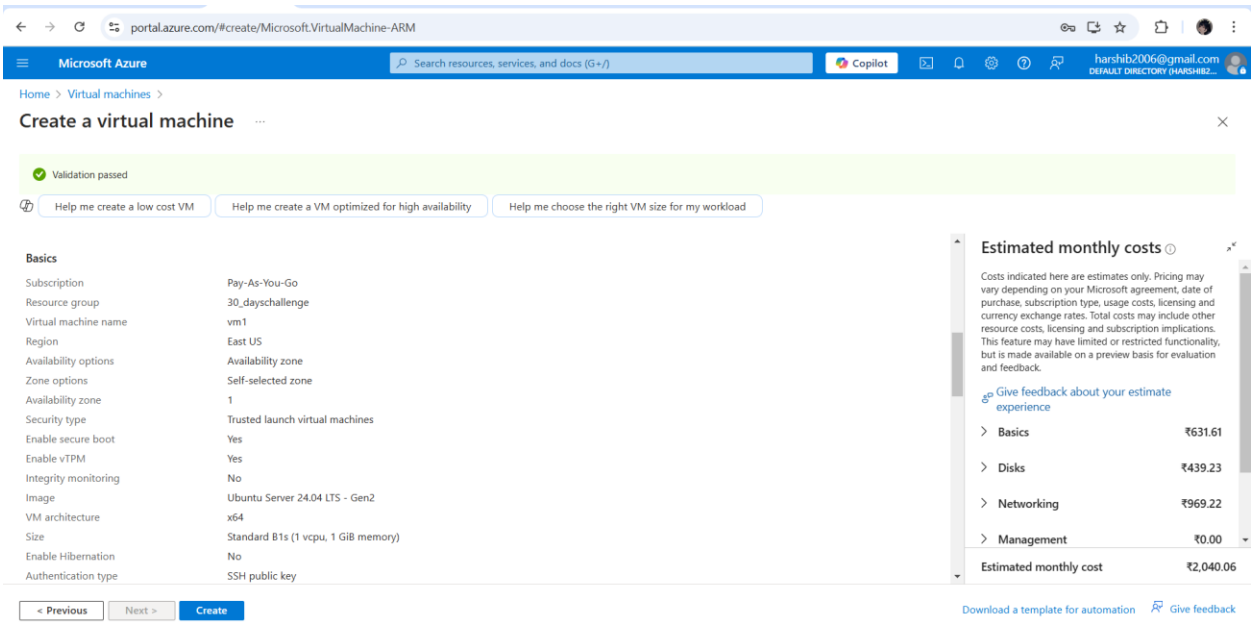


- *Click on "Route table" and select the route table.*

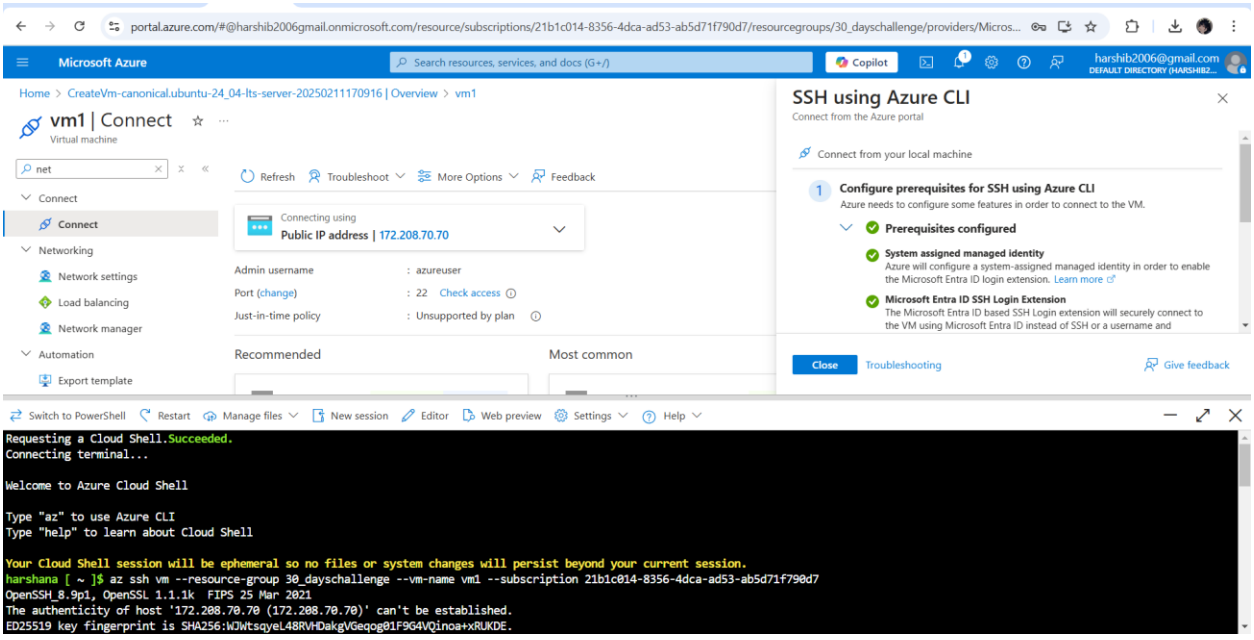
Verify Connectivity

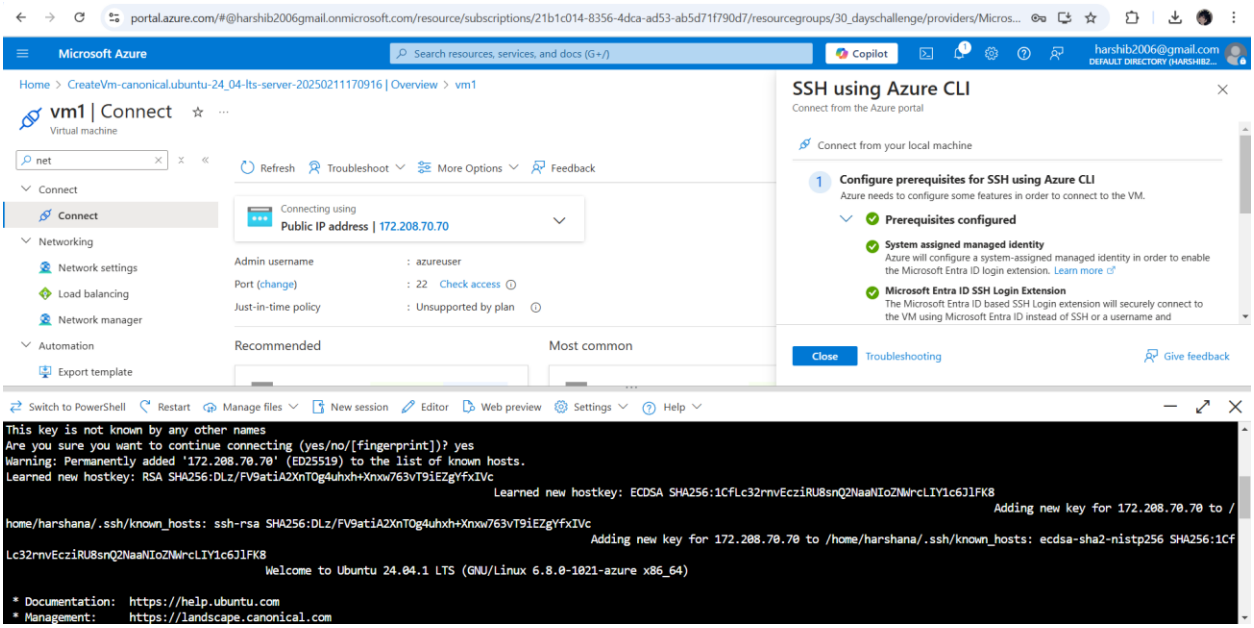
1. Create a virtual machine (VM) in each subnet.

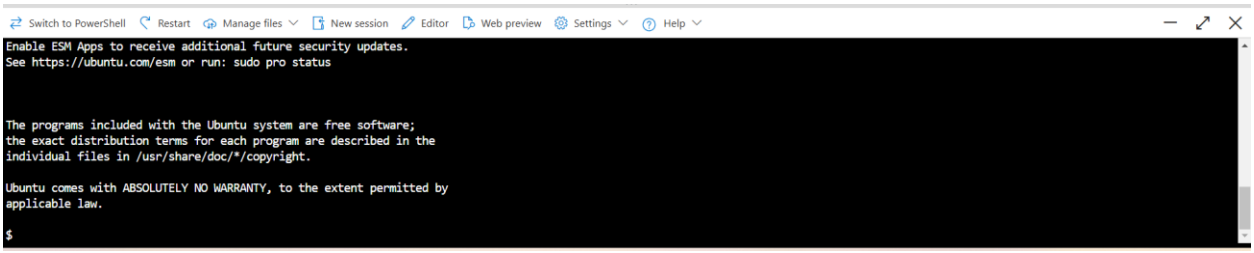




2. Connect to each VM using Remote Desktop or SSH.







3. Verify that you can communicate between VMs in different subnets.

That's it! You have now set up a private network in Azure with subnets and routing configured for internal communication.

OUTCOME

After completing, you will be able to:

1. Create a Virtual Private Cloud (VPC) with subnets

2. Configure routing for internal communication between subnets

3. Verify connectivity between subnets

4. Understand the benefits and importance of setting up a private network in the cloud.