Lab – Azure Virtual Network

Azure Virtual Network

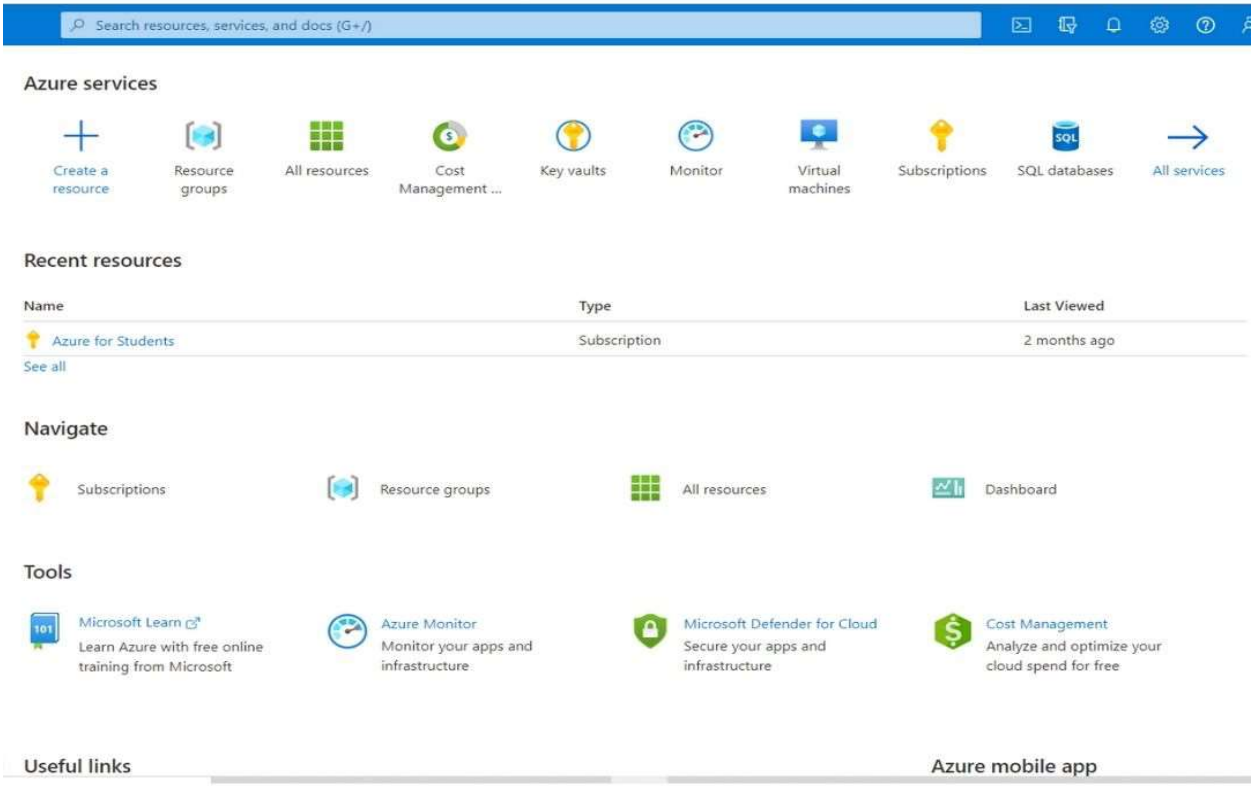
It is a representation of the on-premises network on the cloud. It helps us logically isolate the Azure cloud network dedicated to our subscription. It helps us to manage and provision virtual private networks in Azure, link the virtual networks with other virtual networks in Azure, or with on-premises IT infrastructure and networks that help us create hybrid or cross-premises solutions.

Each virtual network that we create has its own Classless Inter-Domain Routing (CIDR) block and can be linked with other virtual and on-premises networks of the CIDR blocks that do not overlap. We also have control of DNS server settings and segmentation of the virtual networks into the subnets.

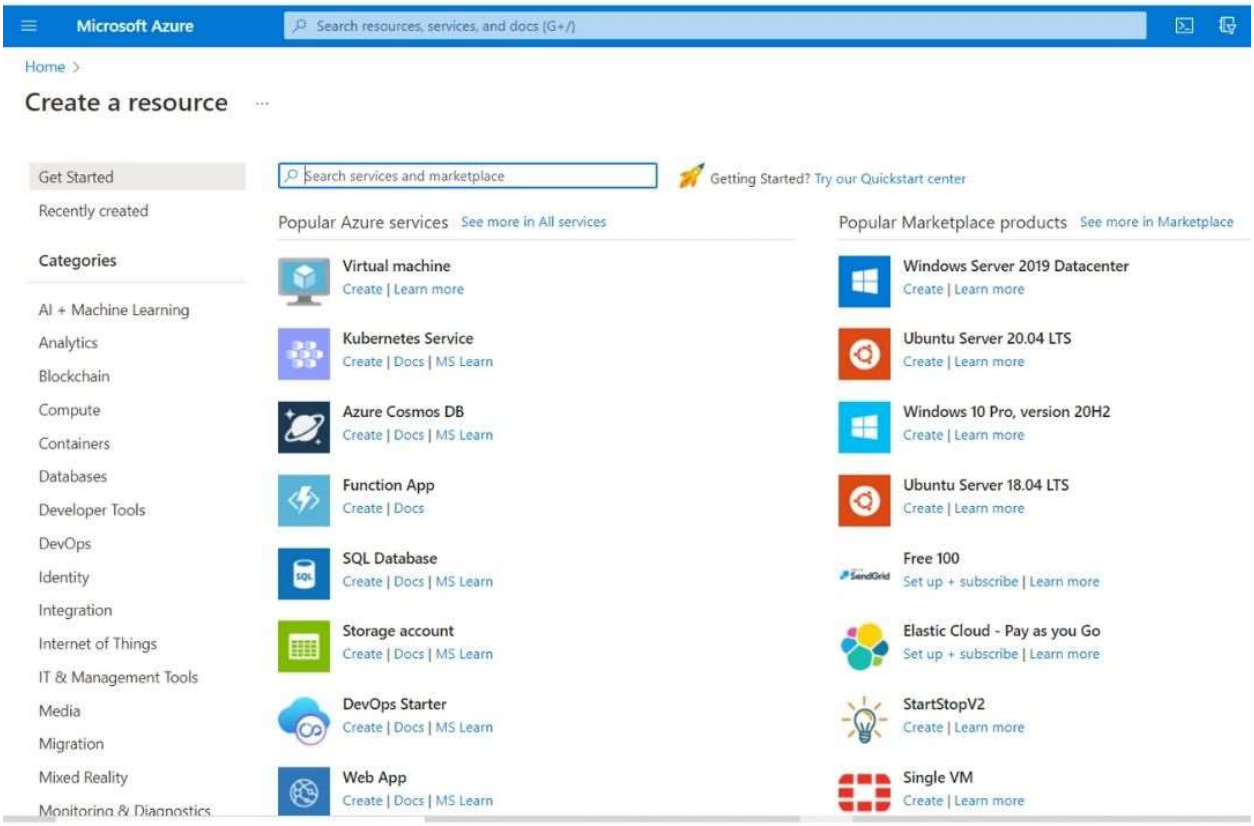
Steps to Creating Virtual Networks

We can create new virtual networks at any time or add virtual networks whenever we create a virtual machine. We have to define the address space and at least one subnet when creating the virtual network.

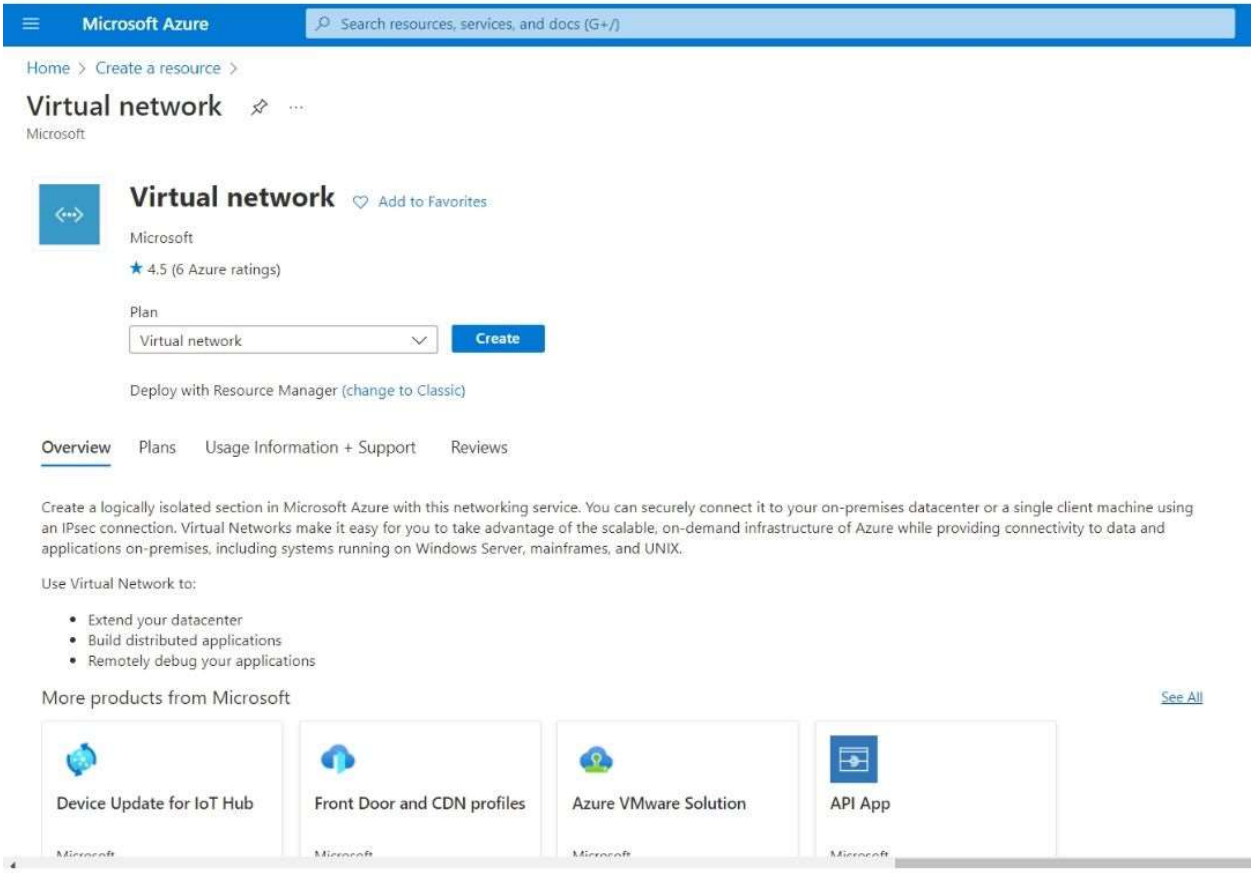
Step 1: Navigate to your Azure portal.



Step 2: Click on the **create resource** option. You will be listed with different resources that can be deployed on Azure.



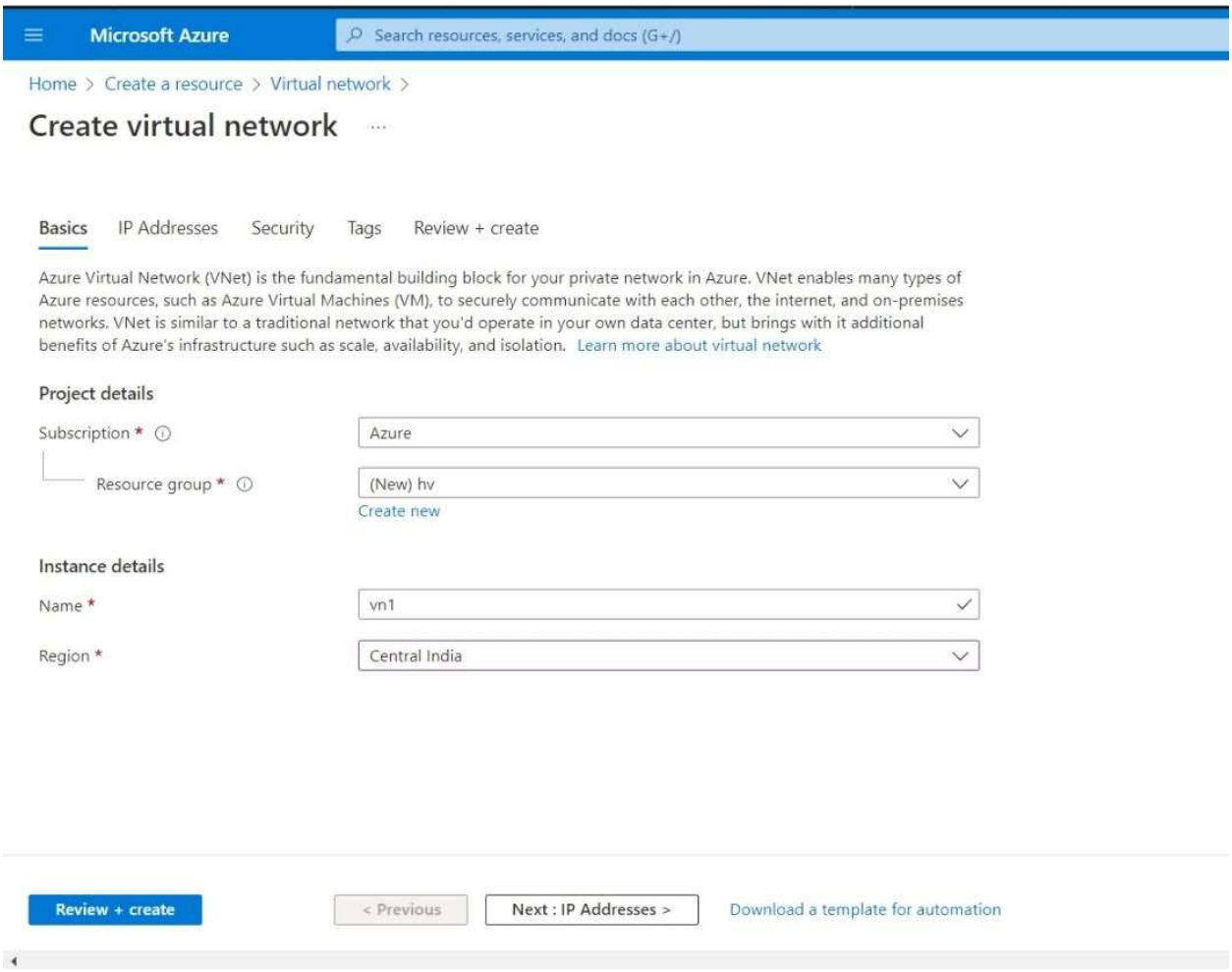
Step 3: Type in a **virtual network** in the search bar. Click on create option.



Step 4: You will be prompted to fill in details about the virtual network we wish to create.

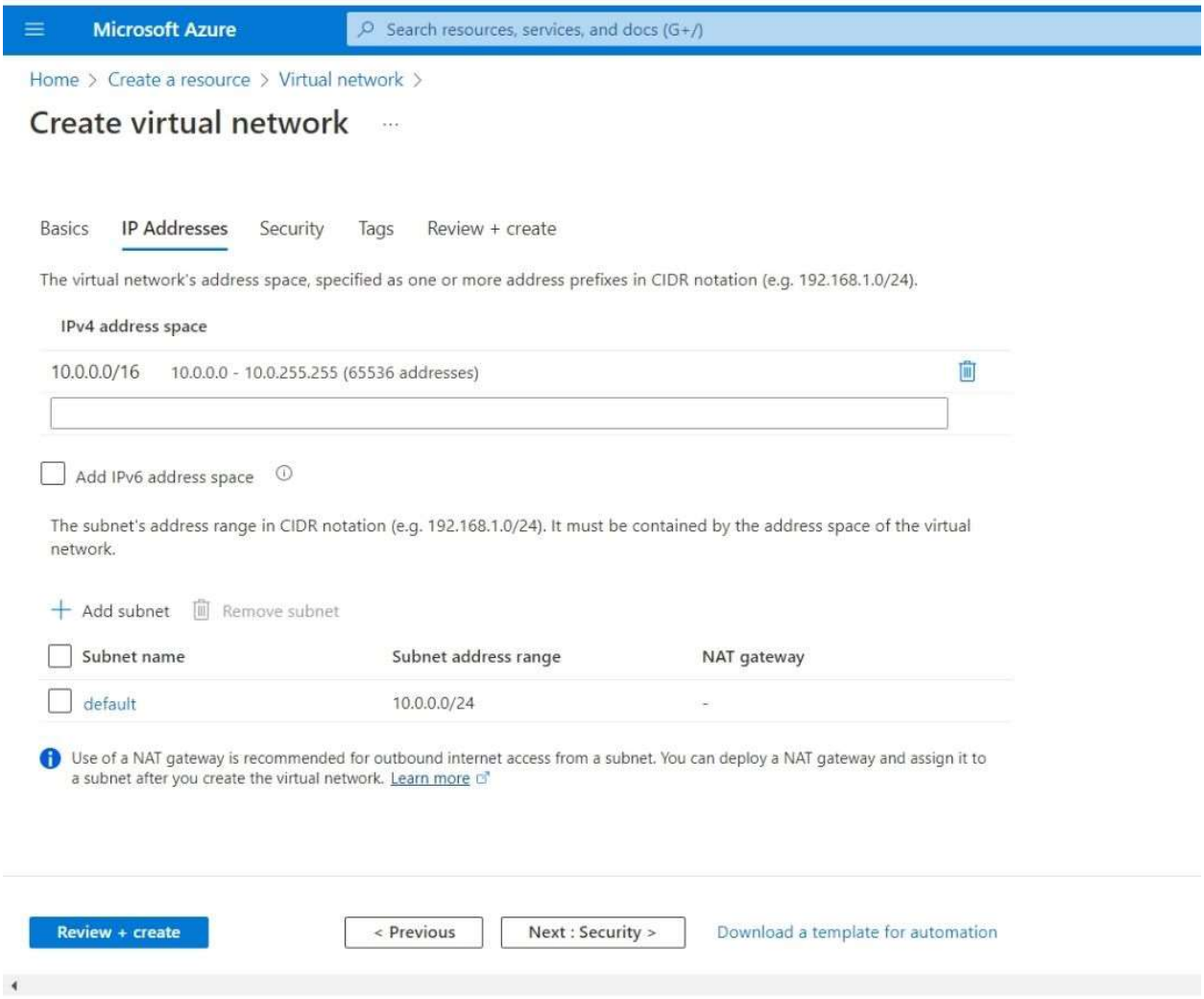
Step 5: In the **basics, tab** fill in the required details

- **Subscription**: The subscription in which you wish to create the virtual network.
- **Resource Group**: Choose the resource group where you wish to create the virtual network. You can create a new resource by clicking on create a new option.
- **Name**: Enter the name of your virtual network.
- **Region**: Choose the region for your virtual network.

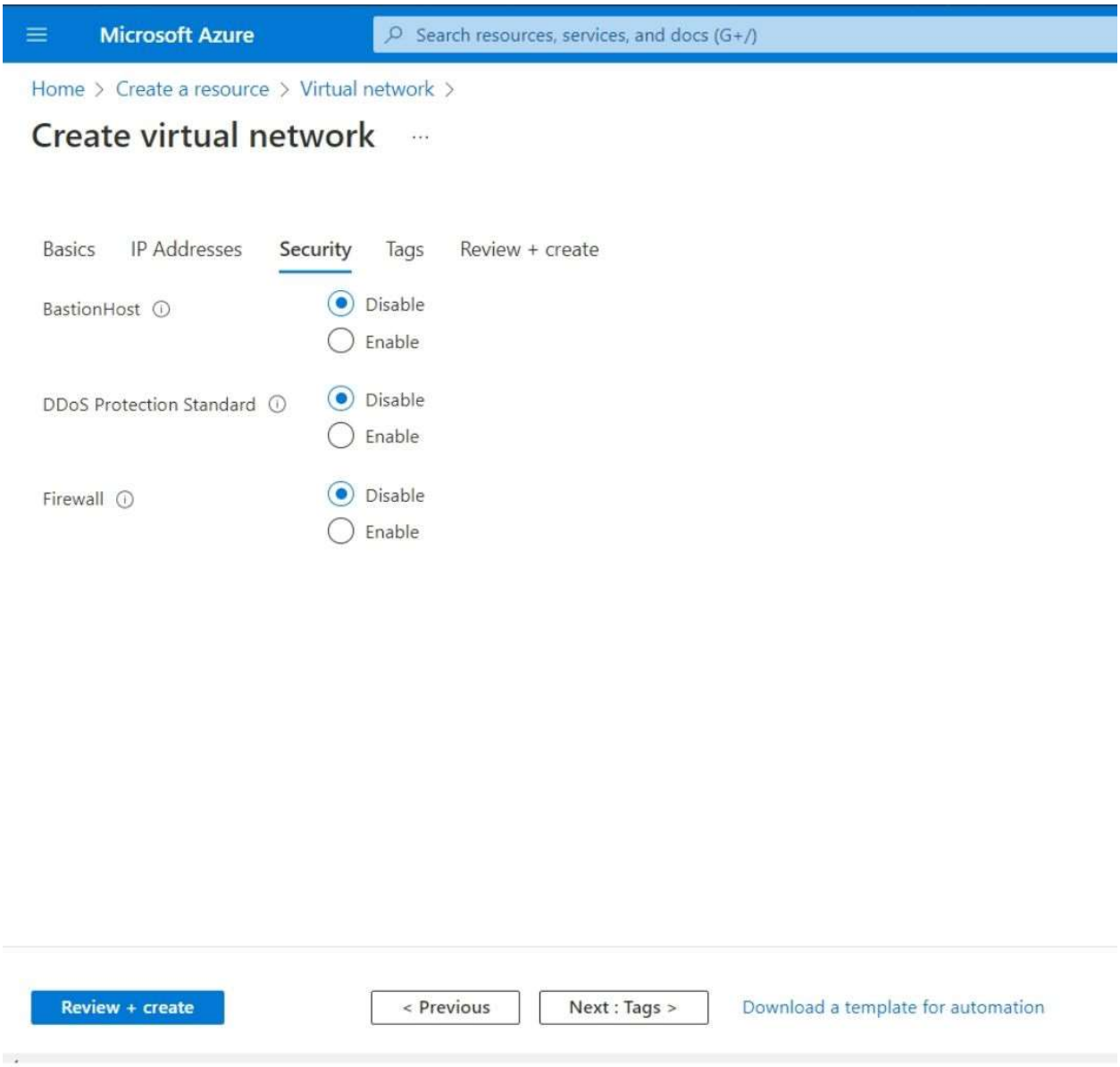


Step 6: Click on **the Next: IP Addresses** button. In the IP Addresses tab enter the following details

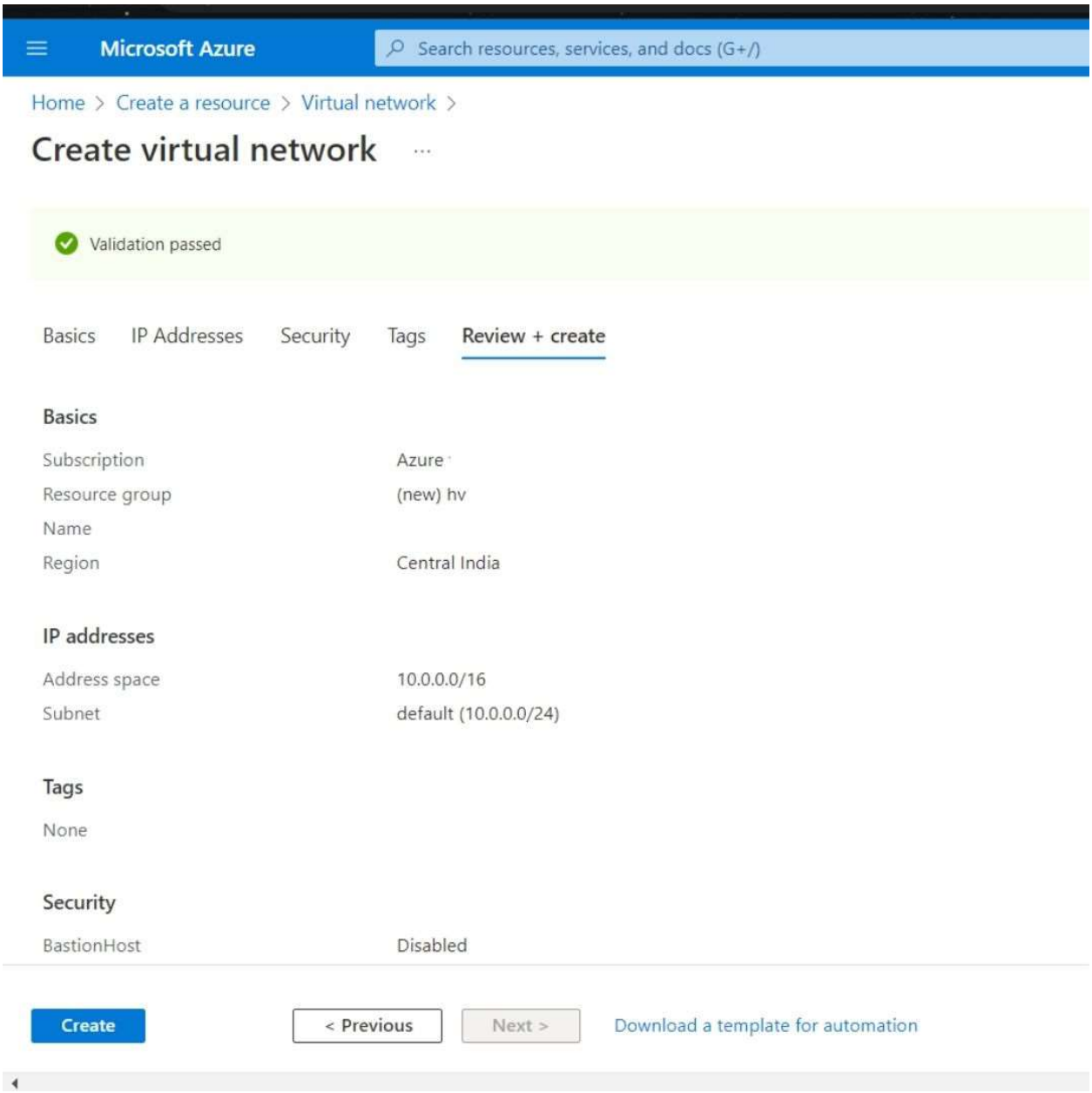
- **IPv4 address space**: Enter the IPV4 address range in CIDR notation (e.g. 192.208.9.0/32).
- **Subnet**: Create a subnet for your virtual network. There should be at least one subnet.



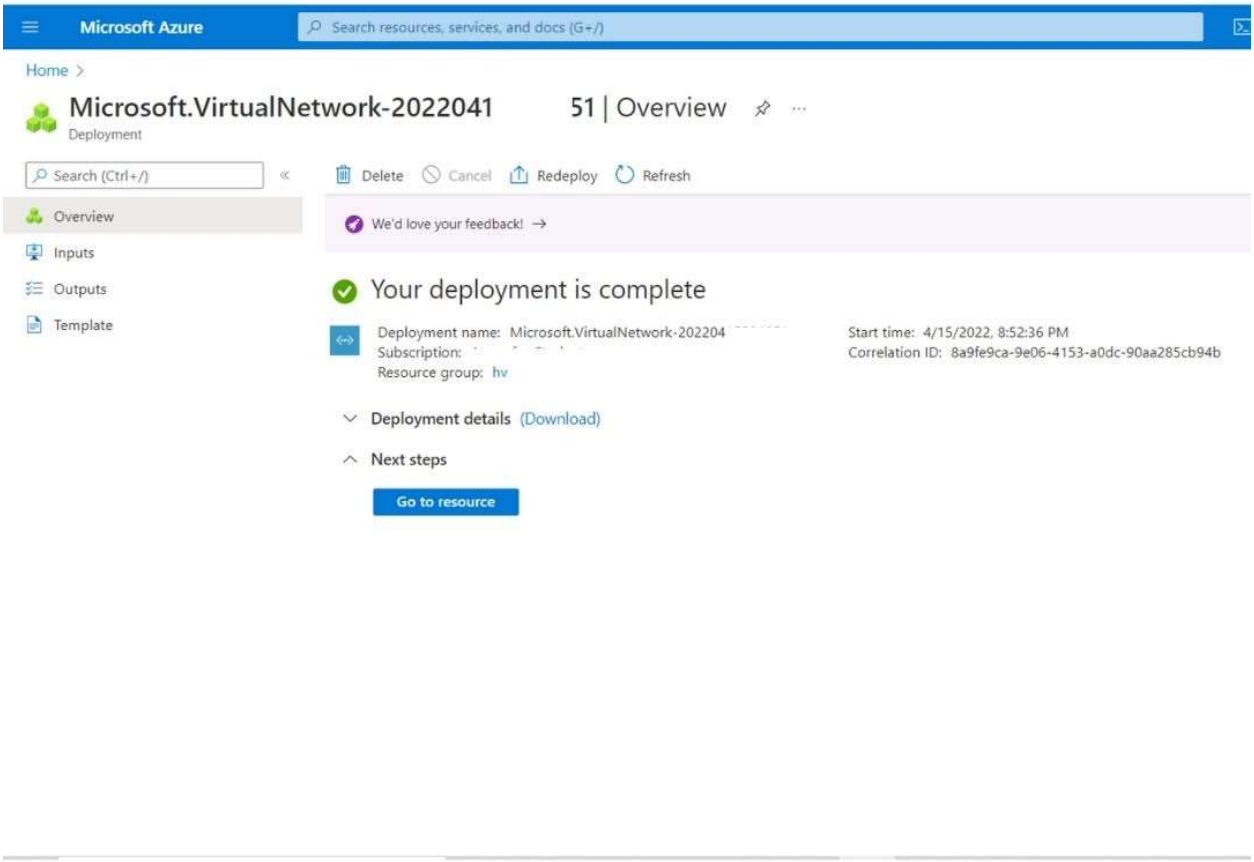
Step 7: Click on **'Next ': Security tab** and choose the security settings you wish for your virtual network.



Step 8: Click on the **review + create** option. Wait for all the validations to pass.



Step 9: Click on **create** option to create your virtual network.



This is how we can create an Azure virtual network. It serves as the fundamental building block for our private network in Azure. The virtual network is similar to a traditional network that we operate in our data centers with additional benefits of cloud infrastructure like scalability, isolation, and availability.

Azure IP addressing is critical in ensuring that all the resources are accessible. Private IP addresses are used to communicate between resources in Azure while public IP addresses are used to access Azure resources directly through the internet.