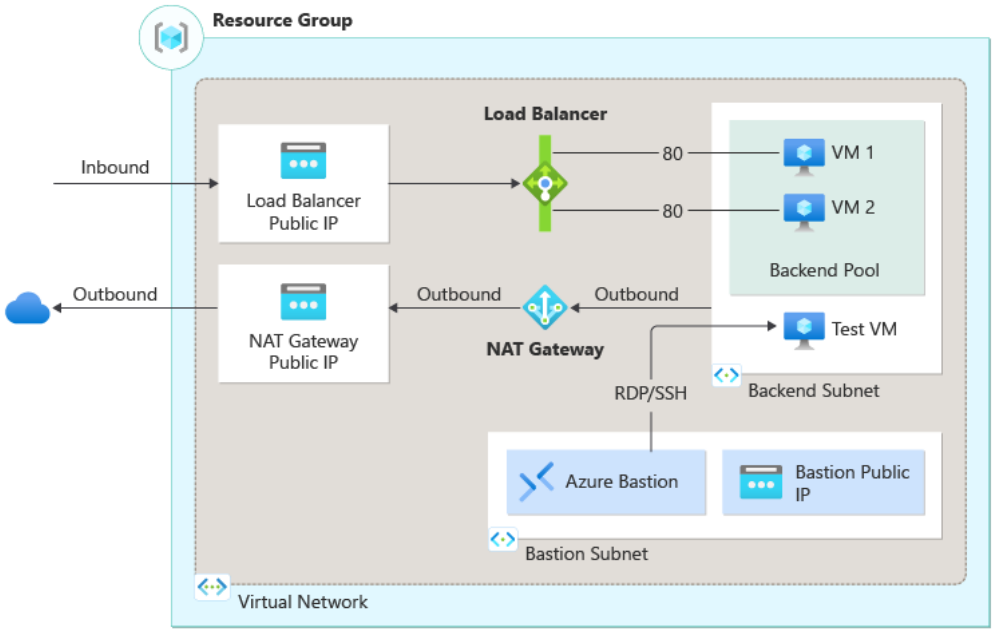
Azure VM creation with Bastion, Load Balancer and app-Gateway creation Step

Prerequisite to create Bastion

1. **Need One Resource Group**
2. **Need One Virtual Network**
3. **Need Two subnet in same Virtual Network**
    a. **One Subnet is for two VM with name "BackendSubnet1" and "BackendSubnet2"**
    b. **One Subnet is for one AzureBastionSubnet with name "AzureBastionSubnet"**
4. **Need to create 2 VNIC for 2 Virtual machine with name "BackendVMNIC1" and "BackendVMNIC2"**
5. **Need to Create 2 VM with name "BackendVM1" and "BackendVM2"**
6. **Need to create one Public IP for Bastion.**
7. **Need to create on more public IP for LoadBalancer**
8. **Write terraform code for these specification**



Step1 : Create Infrastructure in Azure cloud for Bastion with two vm and bastion.

Step2 : Login in azure portal and login in both BackendVM1 and BackendVM2 VM through Bastion and run below command from portal:

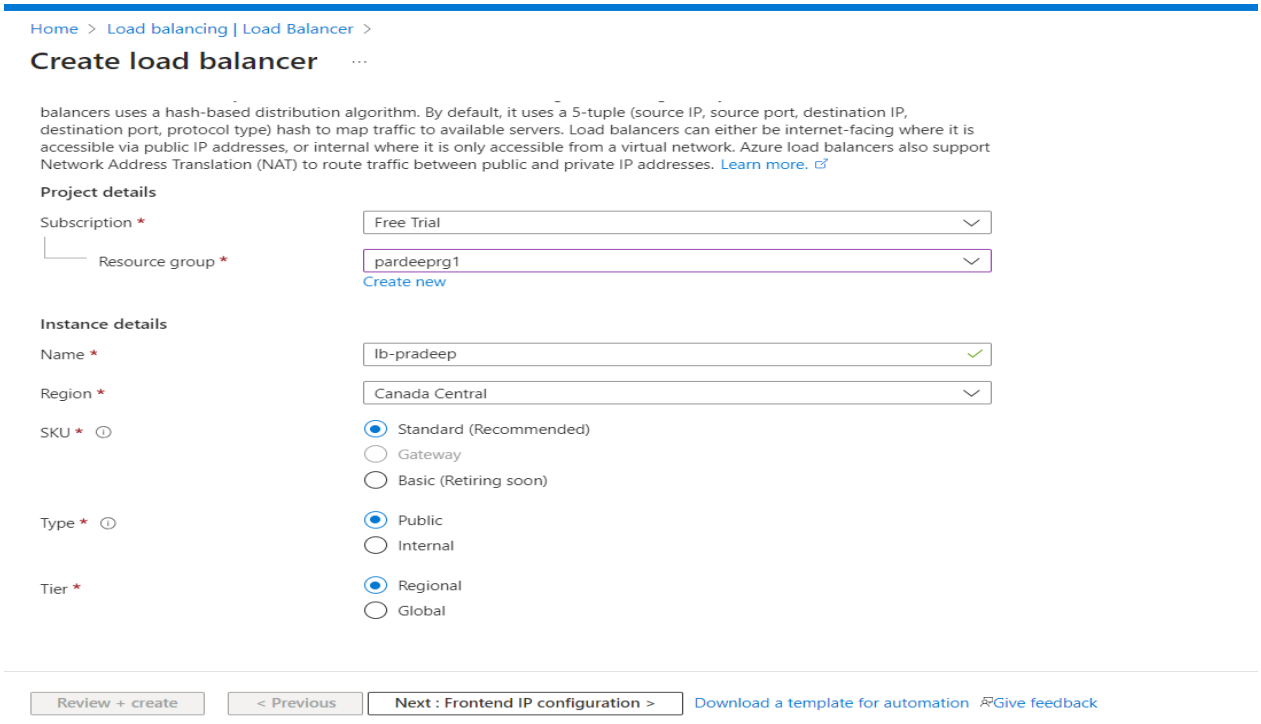
a. **Sudo apt update**

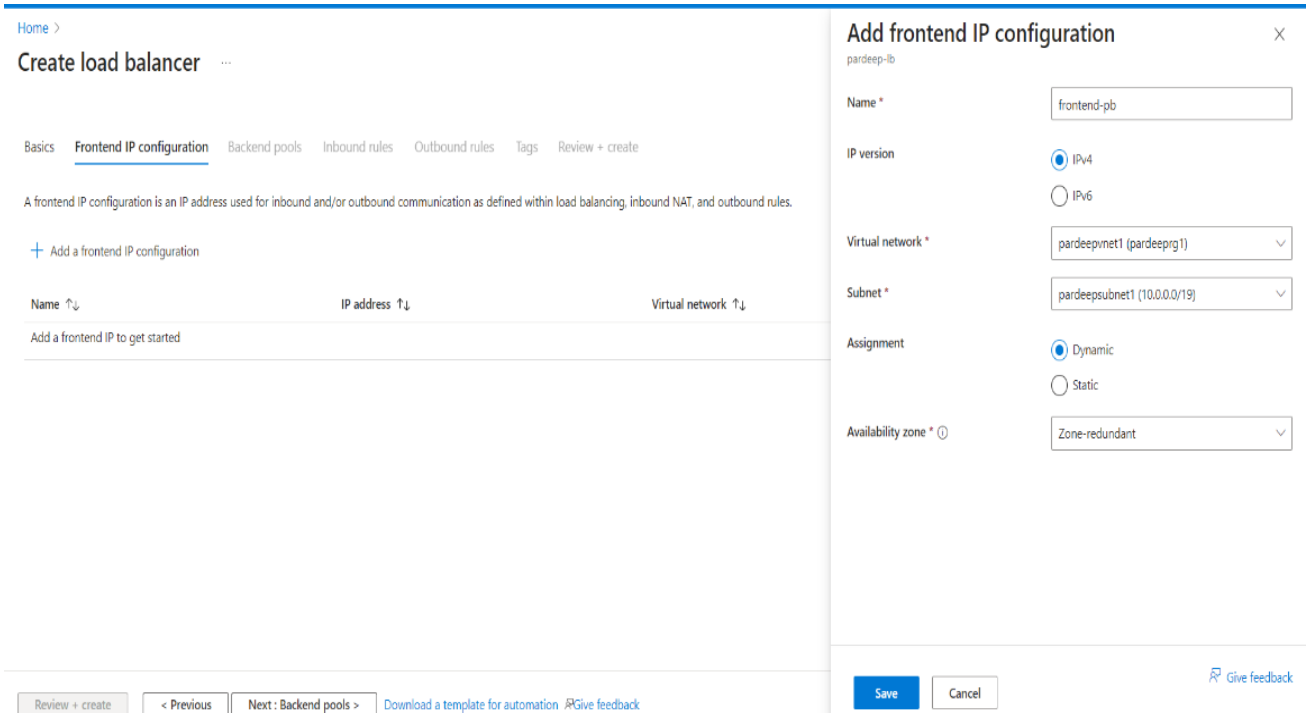
b. **Sudo apt install nginx**
c. **Cd /var/www/html**
d. **Vi index.html (Write VM1 in index.html and VM2 in index.html)**

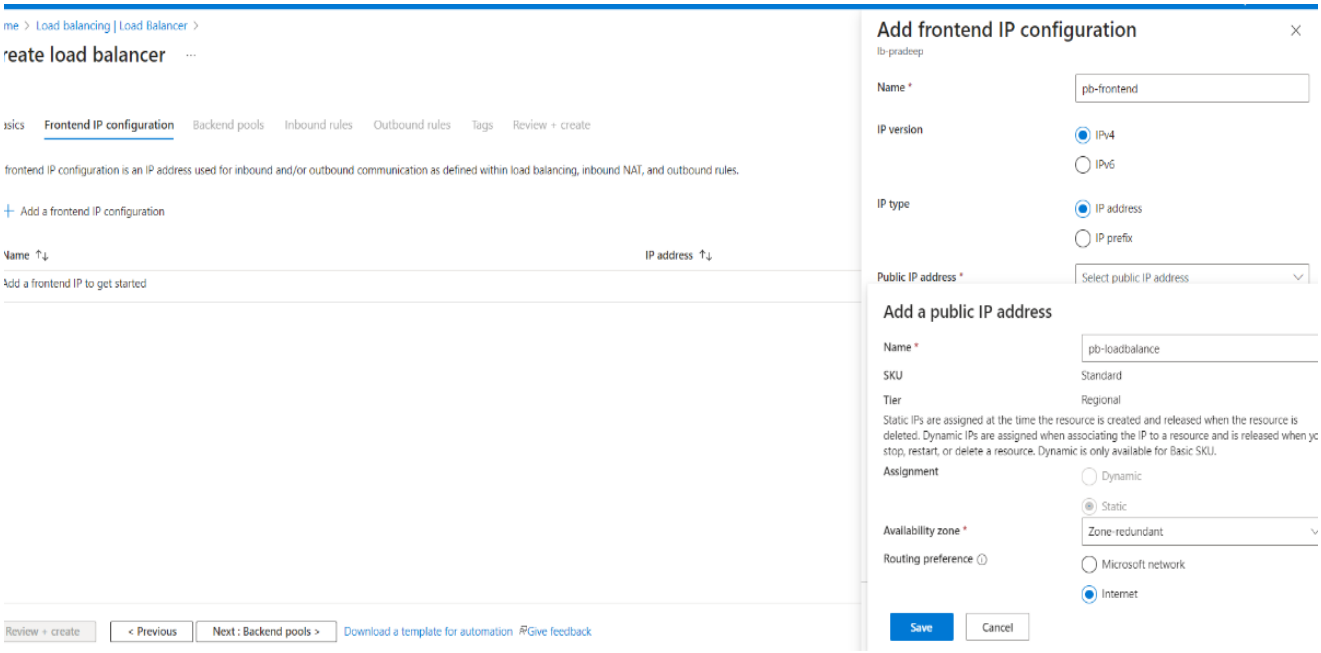
Step3: Go to each VM → Networking → add inbound rule for port 80 (used for http)

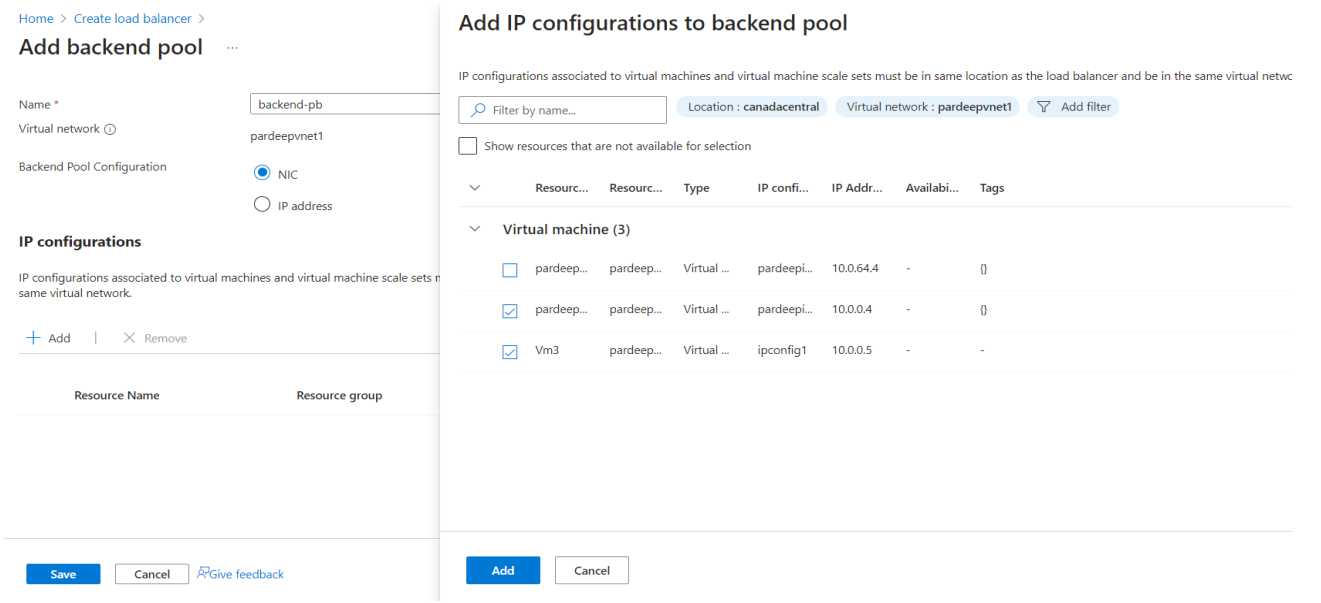
Step4: Create Load Balancer

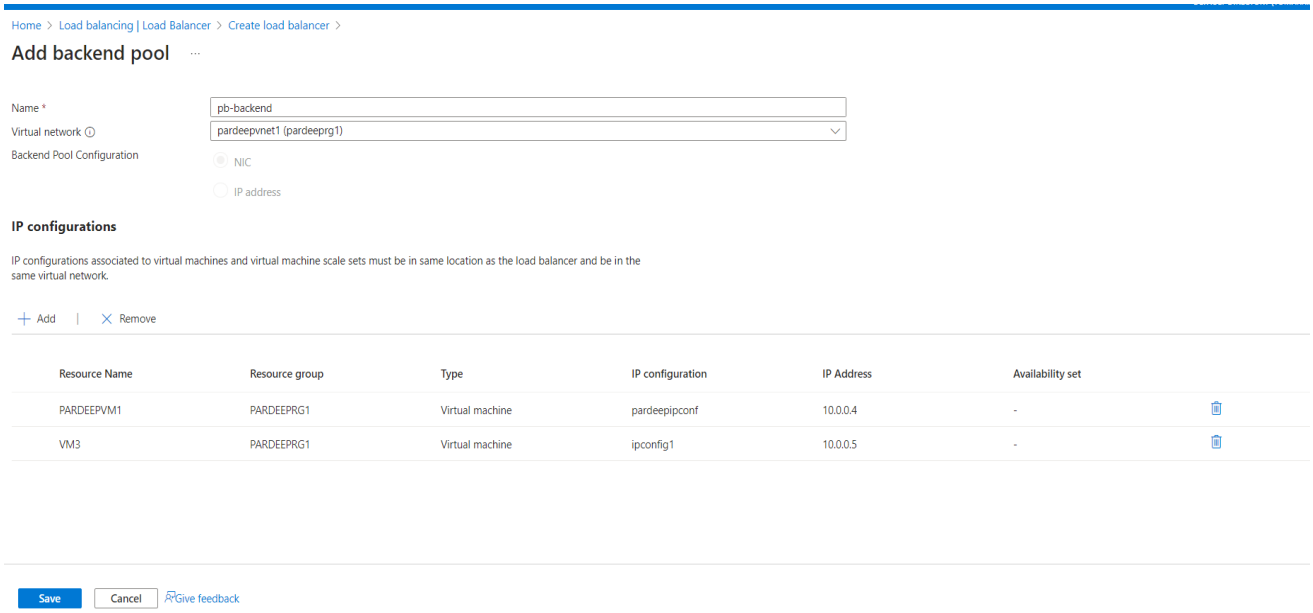
a. **Need to create Public Load balancer which will use to balance load over internet**






me > Load balancing | Load Balancer >
reate load balancer
sics
Frontend IP configuration
Backend pools
Inbound rules
Outbound rules
Tags
Review + create
frontend IP configuration is an IP address used for inbound and/or outbound communication as defined within load balancing, inbound NAT, and outbound rules.
Add a frontend IP configuration
Name
IP address
Add a frontend IP to get started
Review + create
< Previous
Next : Backend pools >
Download a template for automation
Give feedback
Add frontend IP configuration
lb-pradeep
Name *
pb-frontend
IP version
IPv4
IPv6
IP type
IP address
IP prefix
Public IP address *
Select public IP address
Add a public IP address
Name *
pb-loadbalance
SKU
Standard
Tier
Regional
Static IPs are assigned at the time the resource is created and released when the resource is deleted. Dynamic IPs are assigned when associating the IP to a resource and is released when yc stop, restart, or delete a resource. Dynamic is only available for Basic SKU.
Assignment
Dynamic
Static
Availability zone *
Zone-redundant
Routing preference
Microsoft network
Internet
Save
Cancel


Home > Create load balancer >
Add backend pool
Name *
backend-pb
Virtual network
pardeepvnet1
Backend Pool Configuration
NIC
IP address
IP configurations
IP configurations associated to virtual machines and virtual machine scale sets r
same virtual network.
Add
Remove
Resource Name
Resource group
Save
Cancel
Give feedback
Add IP configurations to backend pool
IP configurations associated to virtual machines and virtual machine scale sets must be in same location as the load balancer and be in the same virtual netwc
Filter by name...
Location : canadacentral
Virtual network : pardeepvnet1
Add filter
Show resources that are not available for selection
Resourc...
Resourc...
Type
IP confi...
IP Addr...
Availabi...
Tags
Virtual machine (3)
pardeep...
pardeep...
Virtual ...
pardeepi...
10.0.64.4
-
{}
pardeep...
pardeep...
Virtual ...
pardeepi...
10.0.0.4
-
{}
Vm3
pardeep...
Virtual ...
ipconfig1
10.0.0.5
-
-
Add
Cancel

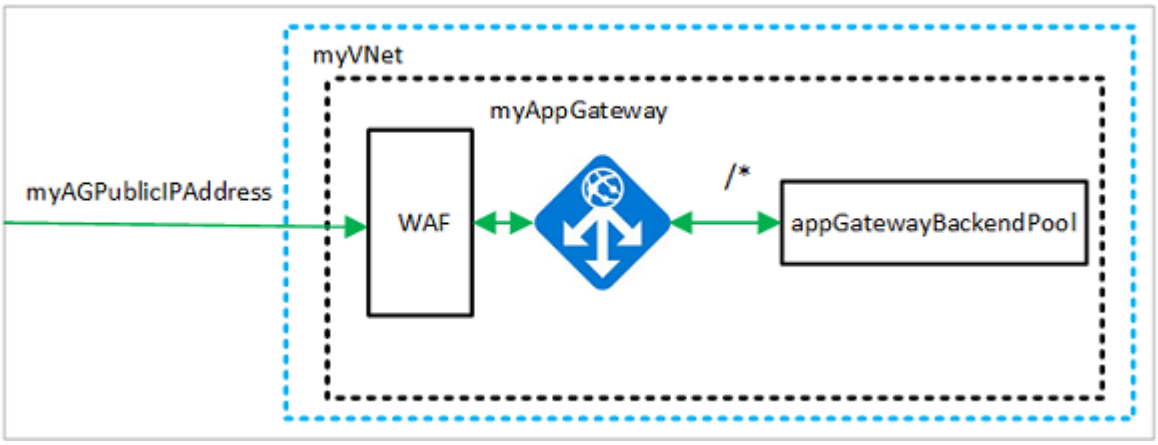


b. **Need to use load balancer public IP with port 80 and use in browser now we can show how load will distributed in both VM.**

Document Link : https://learn.microsoft.com/en-us/azure/load-balancer/quickstart-load-balancer-standard-public-portal

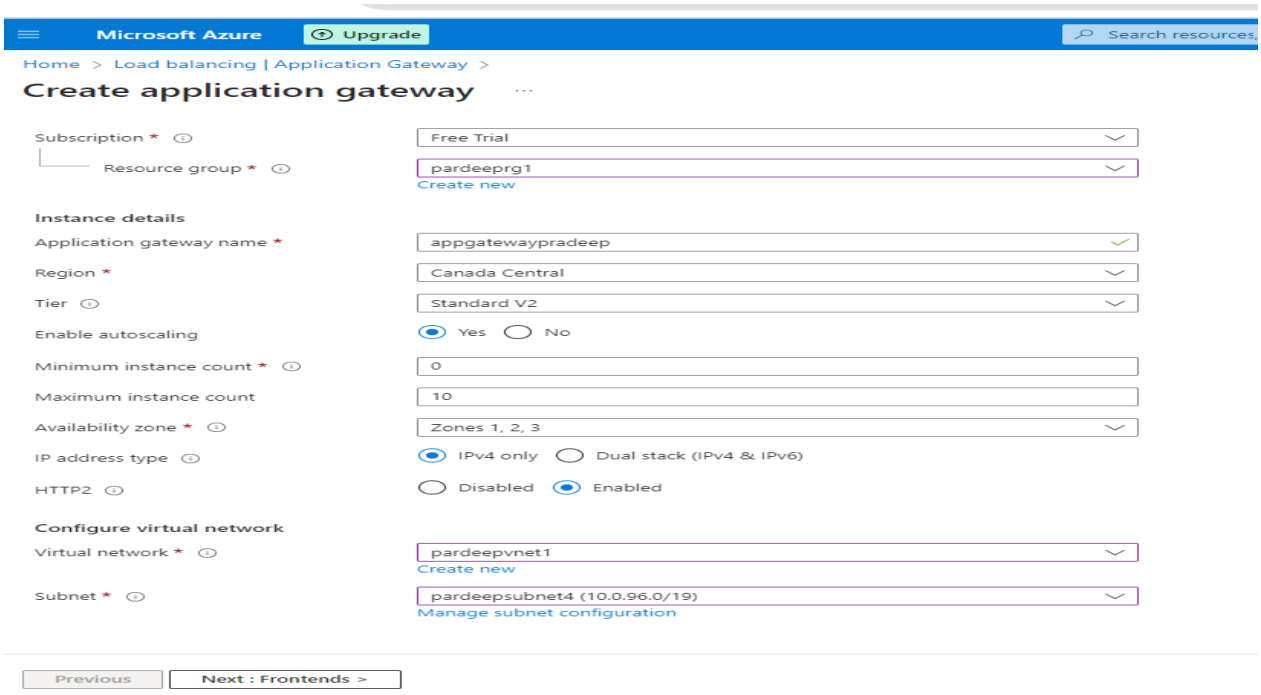
Prerequisite to create AppGateway

1. **Need One Resource Group**
2. **Need One Virtual Network**
3. **Need Three subnet in same Virtual Network**
    a. **One Subnet is for two VM with name “BackendSubnet1” and “BackendSubnet2”**
    b. **One Subnet is for one AzureBastionSubnet with name “AzureBastionSubnet”**
    c. **One Subnet is for App Gateway**
4. **Need to create 2 VNIC for 2 Virtual machine with name “BackendVMNIC1” and “BackendVMNIC2”**
5. **Need to Create 2 VM with name “BackendVM1” and “BackendVM2”**
6. **Need to create one Public IP for Bastion.**
7. **Need to create on more public IP for App Gateway**
8. **Write terraform code for these specification**



Step 1 to Step 3 is same as above

Step4 : Now Create App Gateway



Home > Load balancing | Application Gateway >

Create application gateway ...

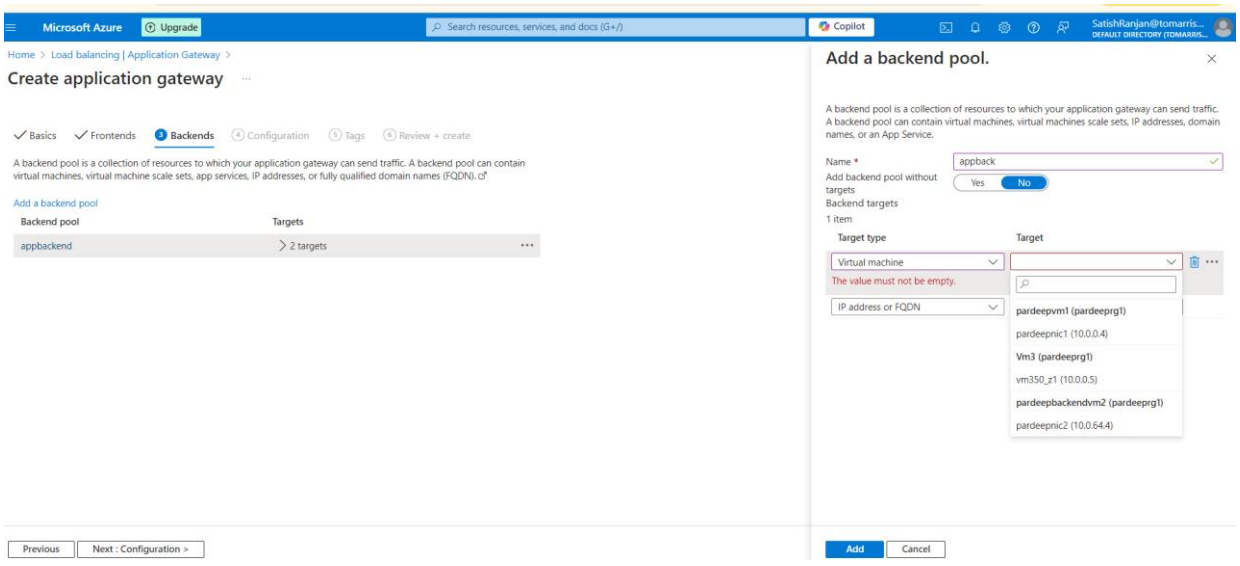
✓ Basics (2) Frontends (3) Backends (4) Configuration (5) Tags (6) Review + create

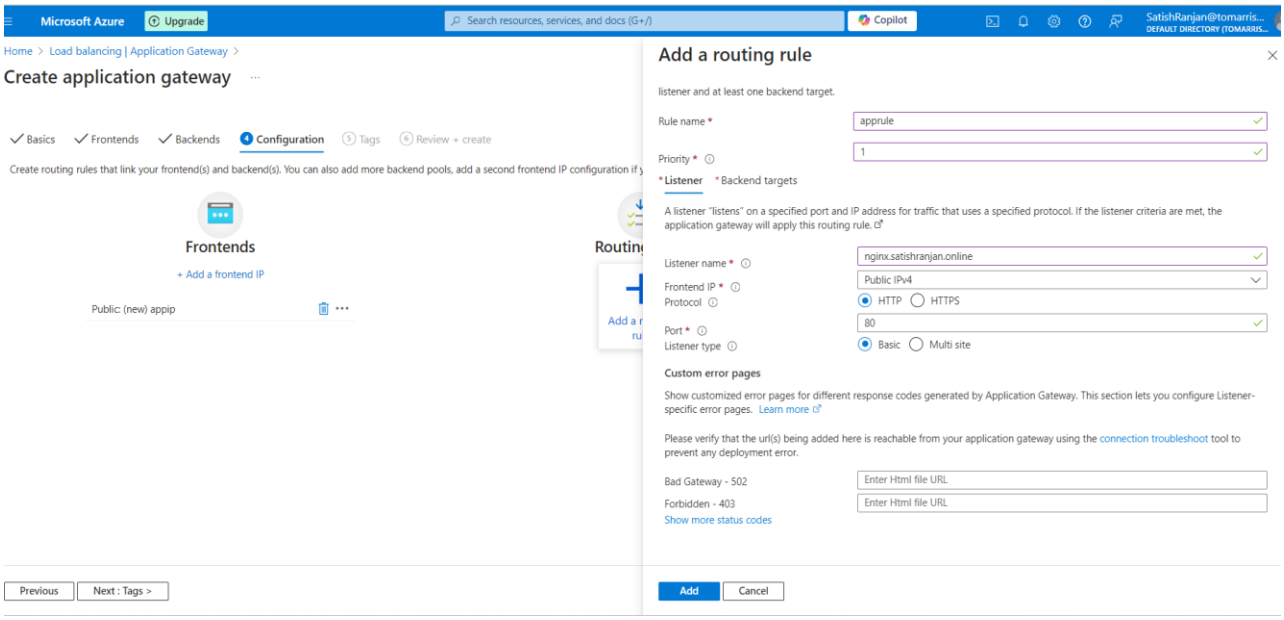
Traffic enters the application gateway via its frontend IP address(es). An application gateway can use a public IP address, private IP address, or one of each type.

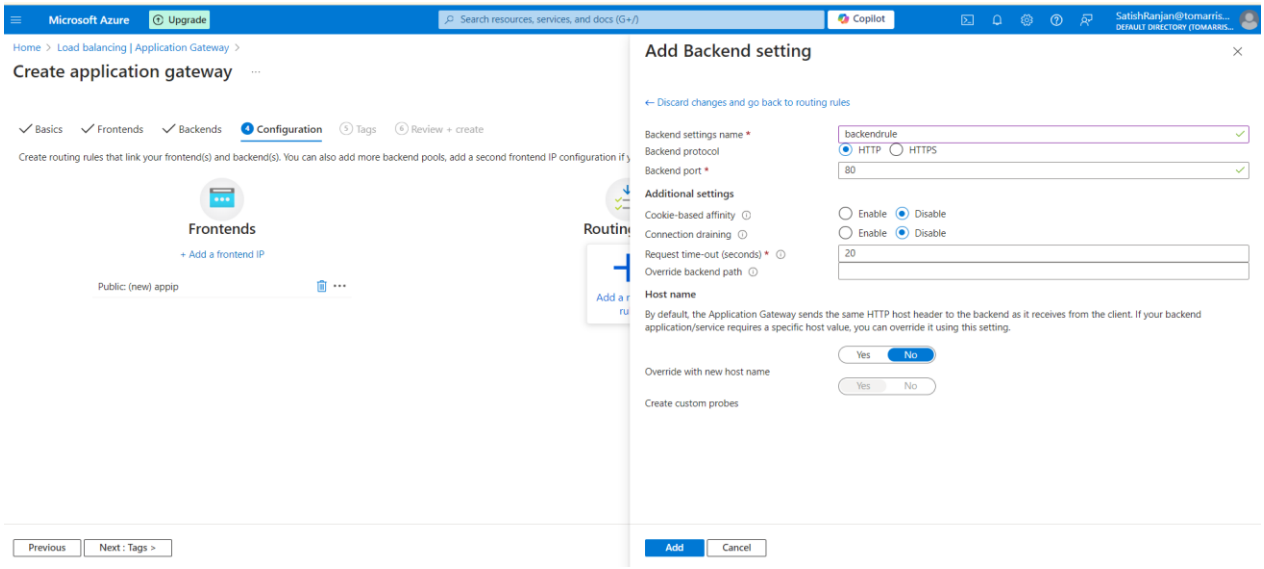
Frontend IP address type ⓘ — (•) Public ( ) Private ( ) Both

Public IPv4 address * — (New) appip

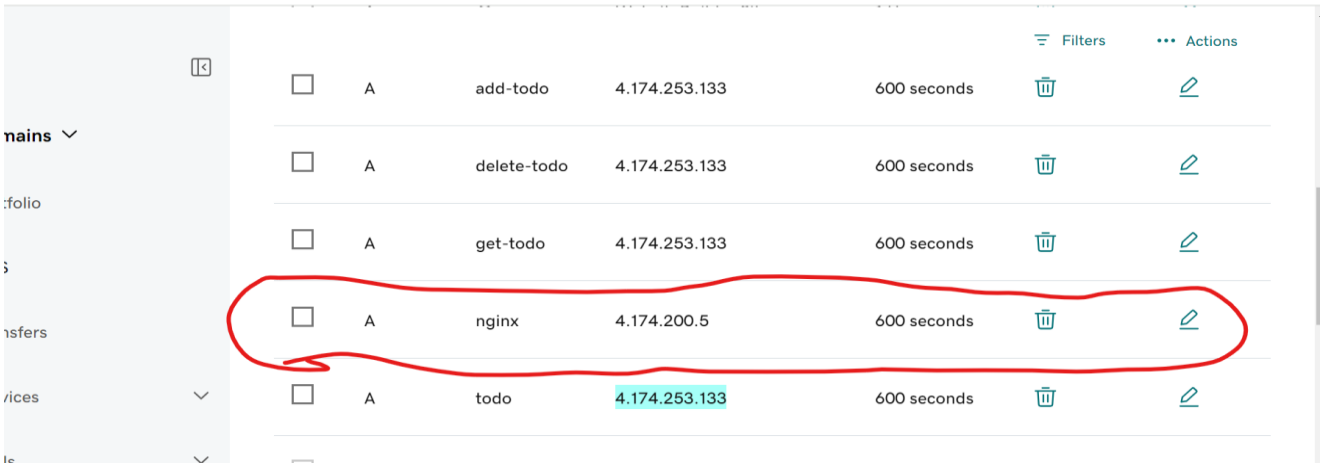
Add new







Step5 : Update DNS Related Entry in Go daddy Site.



Step6 : Wait some time, then check in browser :

https://nginx.satishonline.com

Document Link : https://learn.microsoft.com/en-us/azure/web-application-firewall/ag/application-gateway-web-application-firewall-portal