Stories 9 ：Host a Website Using NGINX server and attach Azure Public Load Balancer to two VMS

Load Balancer

A load balancer is a networking device or software application that distributes incoming network traffic across multiple servers to ensure that no single server bears too much load. The primary purpose of a load balancer is to optimize resource utilization, maximize throughput, minimize response time, and avoid server overload.

Here are the key functions and features of load balancers:

1. **Distribution of Traffic:** Load balancers distribute incoming network traffic or application requests across multiple servers. This helps in preventing any single server from becoming a bottleneck and ensures that the overall system can handle more concurrent requests.
2. **High Availability:** Load balancers enhance the availability and reliability of applications by directing traffic only to healthy servers. If one server becomes unavailable or fails, the load balancer automatically redirects traffic to other available servers.
3. **Scalability:** Load balancers facilitate horizontal scaling by allowing additional servers to be added to the server pool. As the demand for a service increases, more servers can be deployed, and the load balancer ensures an even distribution of traffic.
4. **Health Monitoring:** Load balancers regularly check the health of backend servers by sending health probes or monitoring specific health indicators. Unhealthy servers are automatically taken out of rotation until they recover.
5. **Security:** Load balancers can provide a level of security by hiding the internal IP addresses of backend servers. They act as an intermediary between clients and

servers, protecting the servers from direct exposure to the internet.

6. **Content Switching:** Load balancers can make decisions based on content, such as directing specific types of traffic to specific servers. This is useful for optimizing the handling of different types of requests.

Frontend IP" refers to the IP address and configuration associated with the external-facing side of the load balancer. The frontend IP is the entry point for incoming network traffic that is destined for the resources behind the load balancer.

Backend Pool refers to a collection of backend resources, typically servers or virtual machines, that are responsible for handling incoming network traffic. The load balancer distributes incoming requests among the servers in the backend pool to optimize resource utilization and ensure high availability.

Health probes, also known as health checks or health monitoring, are mechanisms used by load balancers to assess the status and health of backend servers or services. The primary purpose of health probes is to ensure that only healthy and responsive servers receive incoming traffic. If a server is determined to be unhealthy based on the results of health probes, the load balancer can automatically route traffic away from that server, preventing it from impacting the overall performance and reliability of the application or service.

- Azure Load Balancer is a single point of contact for clients. Load balancer distributes inbound flows that arrive at the load balancer's

Lab : Create load balancer and attach two different vms.

Create vnet

launch 2 servers

install nginx or apche2

Navigate to Load Balancers:

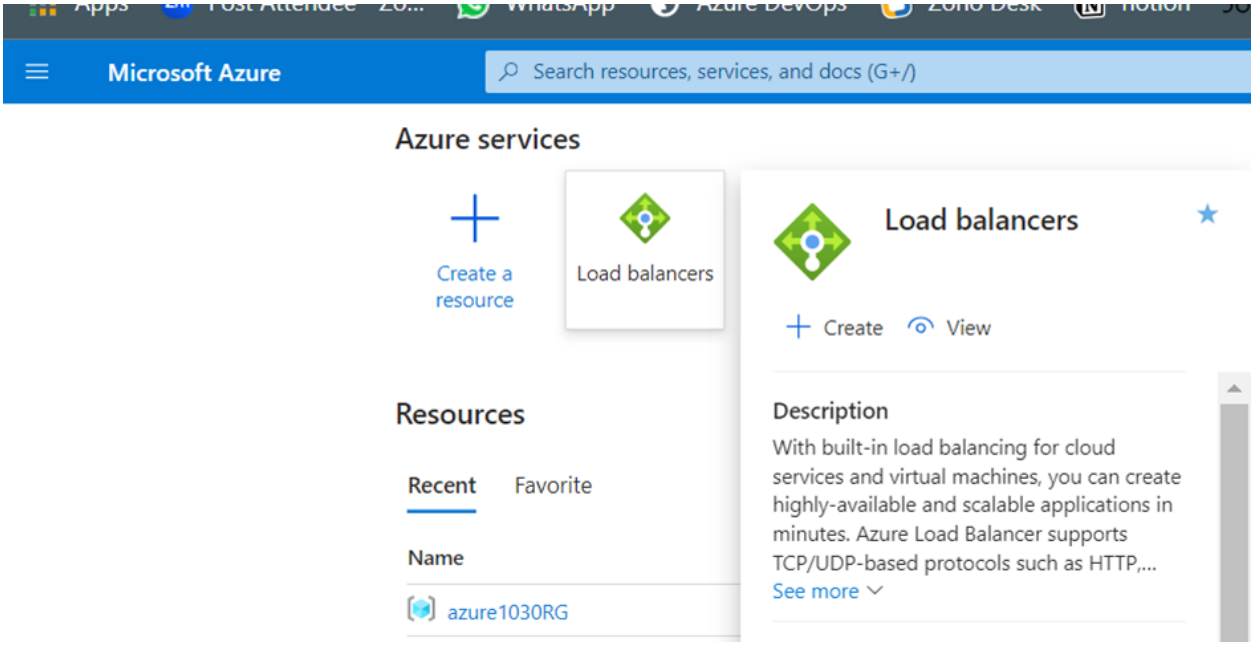
- In the Azure Portal, click on "Create a resource" or navigate to the "Create a resource" section.
- In the search bar, type "Load Balancer" and select the "Load Balancer" result.

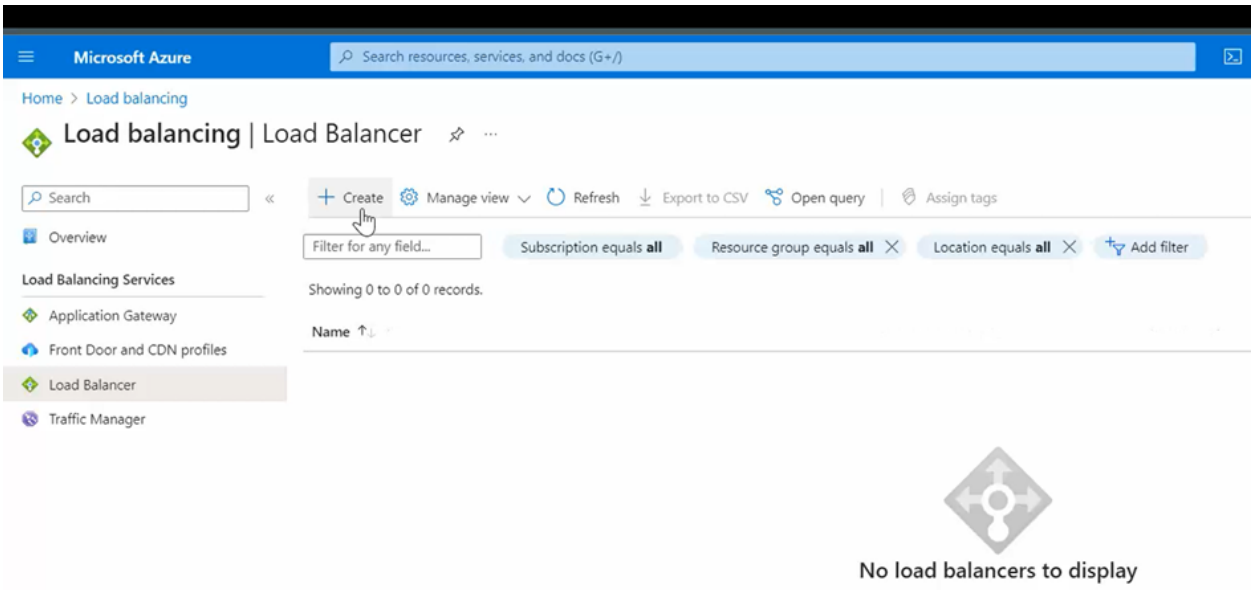
Create Load Balancer:

- Click on the "Create" button to start the creation process.

Basic Settings:

- In the "Basics" tab, provide the following information:
  - **Subscription:** Choose your Azure subscription.
  - **Resource Group:** Create a new one or select an existing resource group.
  - **Name:** Give your load balancer a unique name.
  - **Region:** Choose the Azure region where you want to deploy the load balancer.



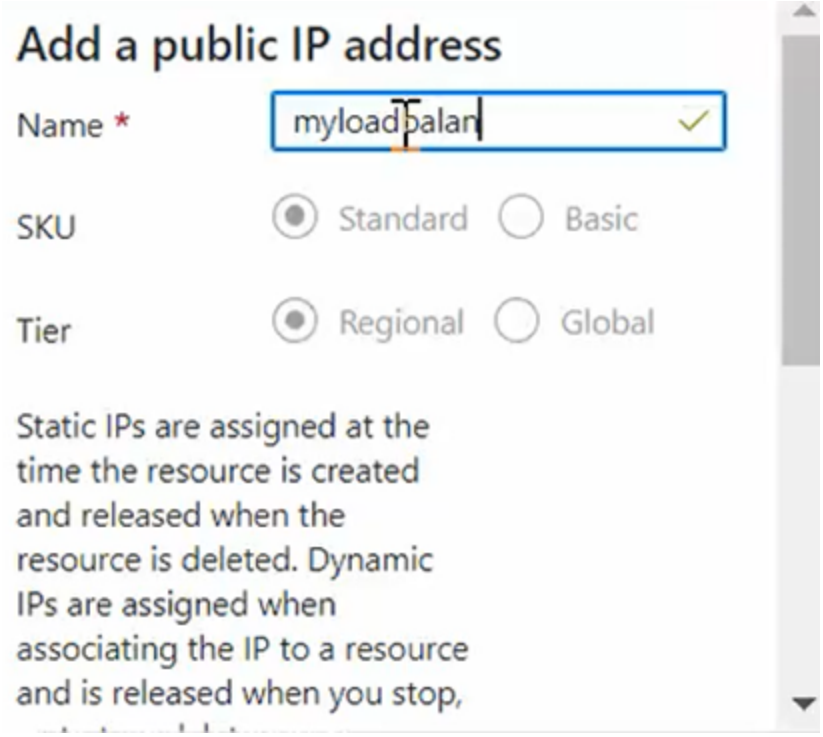


Select TYPE : public

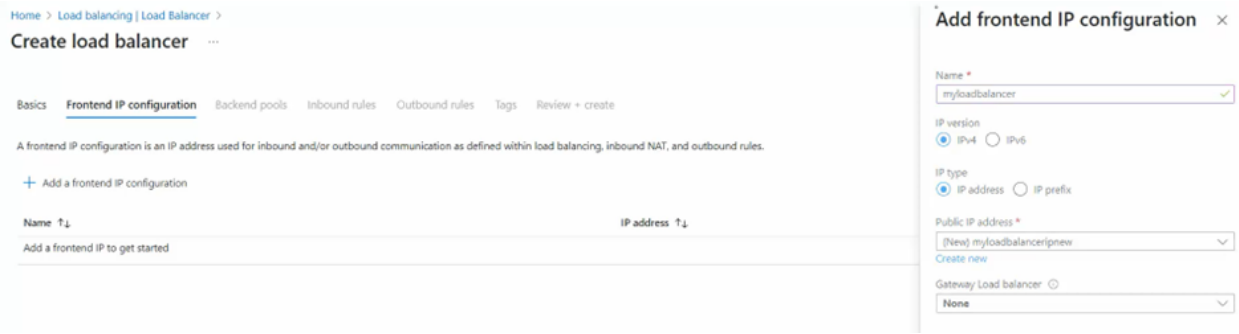
CREATE A FRONTEND IP

IP Configuration:

- Under the "IP Configuration" tab, configure the frontend IP configuration. You can choose either a new public IP address or use an existing one.

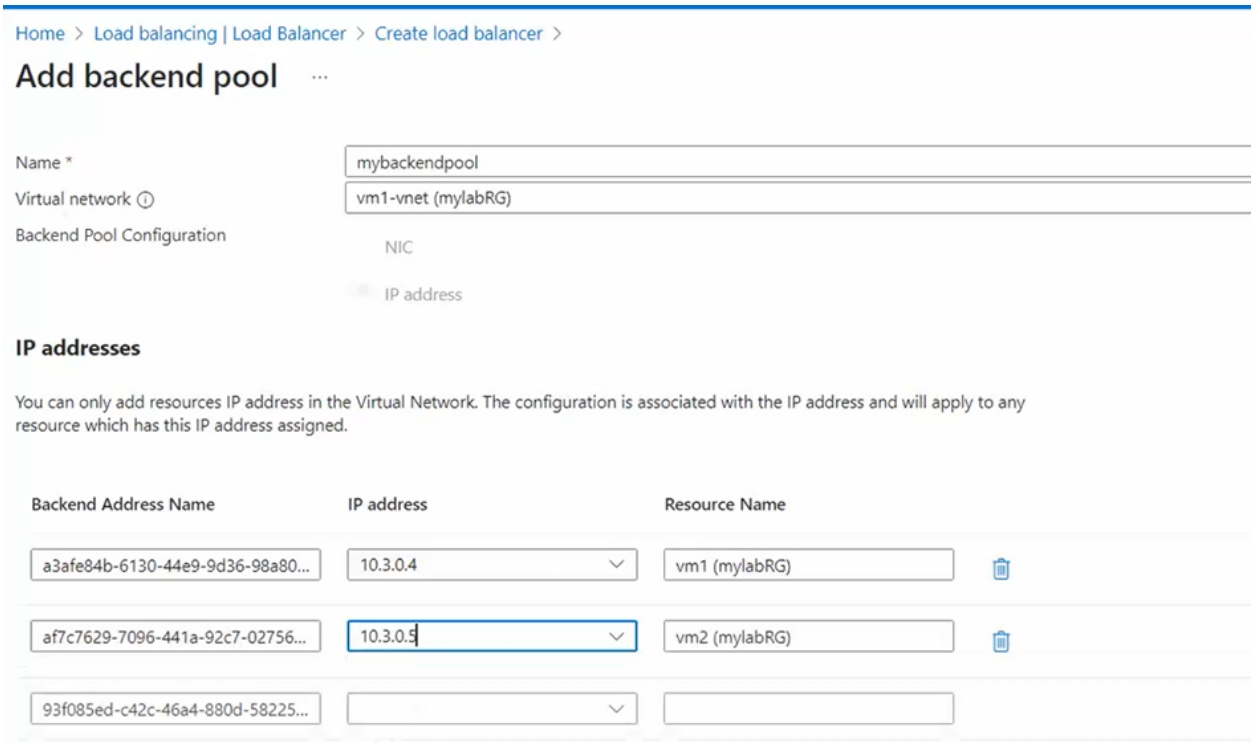


GIVE LOAD BALANCER CONFIGURATION NAME



CONFIGURE BACKEND POOLS

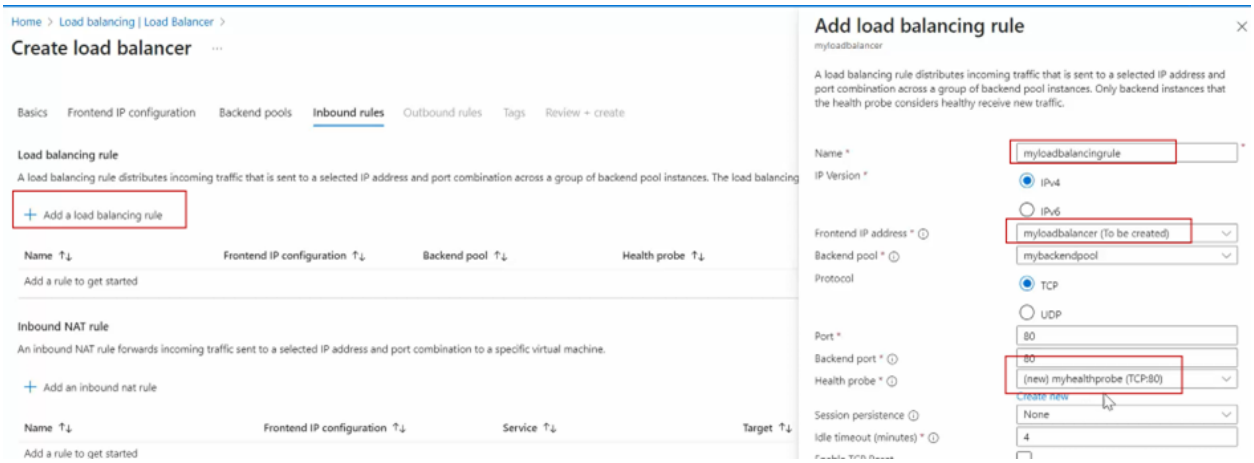
Backend Pools: Configure the backend pool, which defines the set of virtual machines or instances that will receive the incoming traffic. You can create a new backend pool and add virtual machines to it.



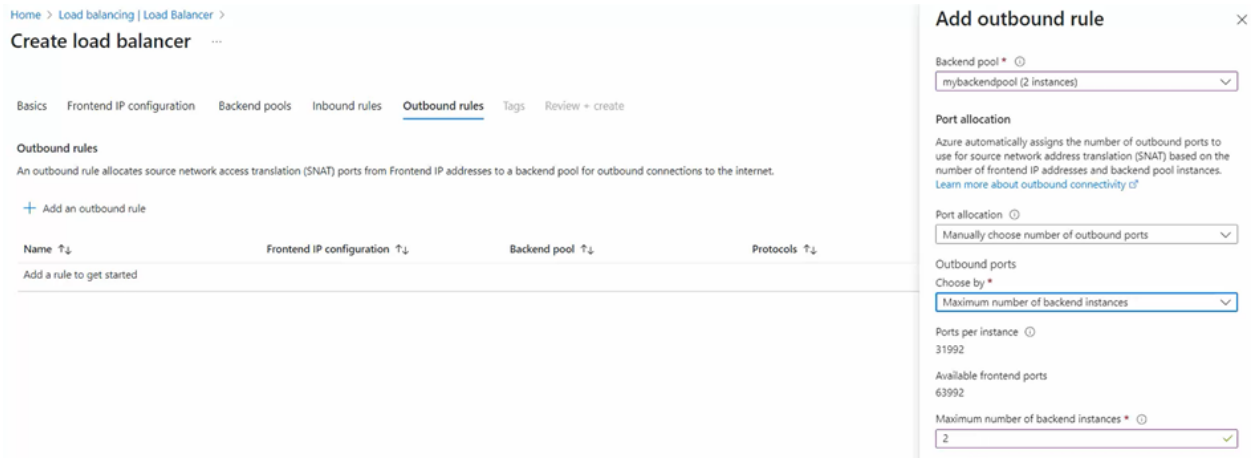
Health Probes:

- Set up health probes to monitor the health of your backend instances. This includes specifying a protocol, port, and probing interval.

ADD LOAD BALANCING RULE
Create load balancing rules to define how incoming traffic should be distributed. Specify the frontend IP, port, backend pool, and other settings.



CREATE OUTBOUND RULE



Review + Create

CHECK WITH FRONTEND IP

Not secure | 20.120.71.155
Post Attendee - Zo...
WhatsApp
Azure DevOps
Zoho Desk
notion
Welcome to Digital...
aws login
NB Tech Support
Apache2 Ubuntu Default Page
ubuntu
It works!
This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server ins at this site is working properly. You should replace this file (located at /var/www/html/index.htm before continuing to operate your HTTP server.
If you are a normal user of this web site and don't know what this page is about, this probably me