Azure Load Balancer

Agenda

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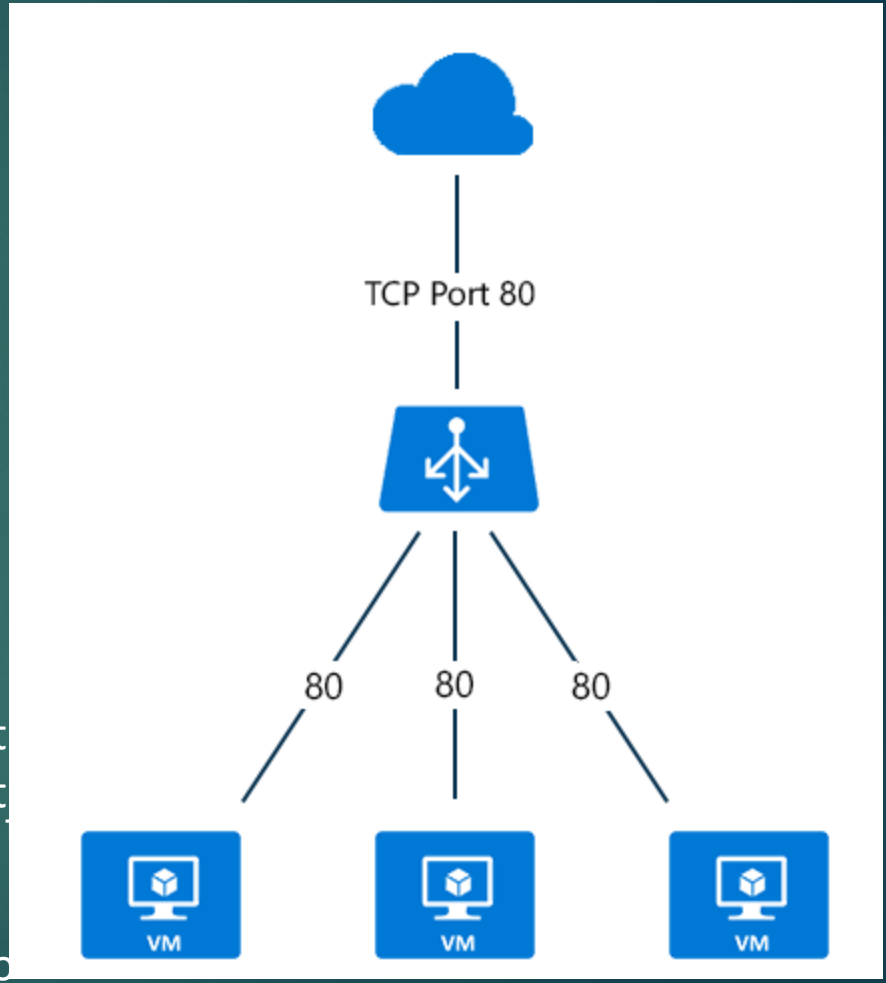
What is Azure Load Balancer

- Azure Load Balancer delivers high availability and network performance to your applications.
- It is a Layer 4 (TCP, UDP) load balancer that distributes incoming traffic.
- Azure Load Balancer can be configured to Load balance incoming Internet traffic to virtual machines

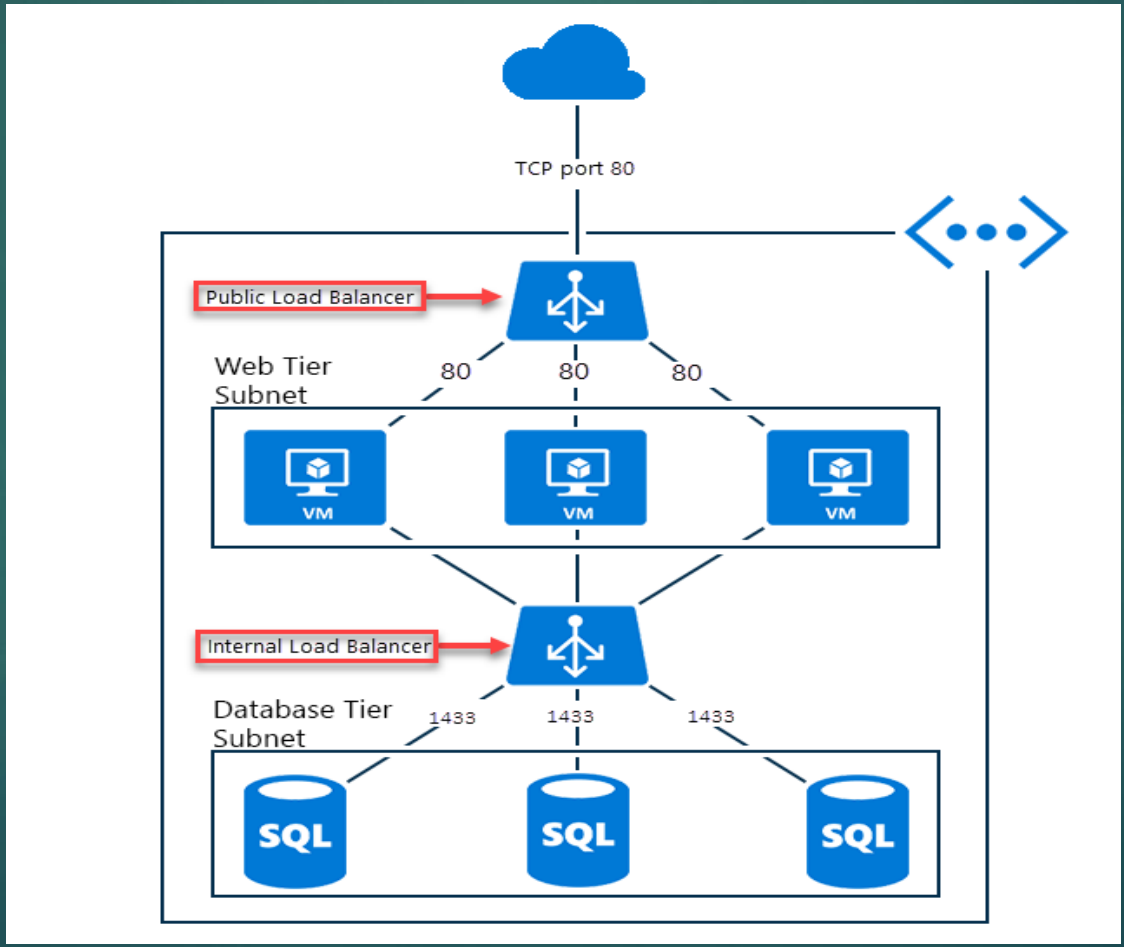
Azure Load Balancer: Internet Facing Load Balancer

- Load Balancer uses a 5-tuple hash composed of source IP address, source port, destination IP address, destination port, and IP protocol number to map flows to available servers.
- Azure load balancer maps the public IP address and port number of incoming traffic to the private IP address and port number of the virtual machine and vice versa for the response traffic from the virtual machine.
- Load balancing rules allow you to distribute specific types of traffic between multiple virtual machines or services.
- For example, you can spread the load of web request traffic across multiple web servers.
- The following figure shows a load-balanced endpoint for web traffic that shared among three virtual machines for the public and private TCP port of 80. These three virtual machines are in a load-balanced set.
- When Internet clients send web page requests to the public IP address o the cloud service on TCP port 80, the Azure Load Balancer distributes the requests between the three virtual machines in the load-balanced set.



Internal Facing Load Balancer

- Azure Internal Load Balancer (ILB) only directs traffic to resources that are inside a cloud service or that use a VPN to access Azure infrastructure.



Azure Load Balancer: Probes

- Azure Load Balancer offers the capability to monitor the health of server instances by using probes.
- When a probe fails to respond, Load Balancer stops sending new connections to the unhealthy instance.
- The existing connections are not affected, and new connections are sent to healthy instances.
- TCP or HTTP custom probes must be configured when you use VMs behind Load Balancer.
- Probe behavior depends on:
  - The number of successful probes that allow an instance to be labeled as up.
  - The number of failed probes that cause an instance to be labeled as down.
- The timeout and frequency values set in SuccessFailCount determine whether an instance is confirmed to be running or not running.

Azure Load Balancer: Multiple VIPs

- Azure Load Balancer allows you to load balance services on multiple ports, multiple IP addresses, or both.
- You can use public and internal load balancer definitions to load balance flows across a set of VMs.
- When you define an Azure Load Balancer, a frontend and a backend configuration are connected with rules.
- The health probe referenced by the rule is used to determine how new flows are sent to a node in the backend pool.
- The frontend is defined by a Virtual IP (VIP), which is comprised of an IP address (public or internal), a transport protocol (UDP or TCP) and a port number.

Hands-On Lab

Thank You