# What is Azure Load Balancer?

Load balancing refers to evenly distributing load (incoming network traffic) across a group of backend resources or servers.

It's the single point of contact for clients. Load Balancer distributes inbound flows that arrive at the load balancer's front end to backend pool instances. These flows are according to configured load balancing rules and health probes. The backend pool instances can be Azure Virtual Machines or instances in a virtual machine scale set.

A [**public load balancer**](https://docs.microsoft.com/en-us/azure/load-balancer/components#frontend-ip-configurations) can provide outbound connections for virtual machines (VMs) inside your virtual network. These connections are accomplished by translating their private IP addresses to public IP addresses. Public Load Balancers are used to load balance internet traffic to your VMs.

An [**internal (or private) load balancer**](https://docs.microsoft.com/en-us/azure/load-balancer/components#frontend-ip-configurations) is used where private IPs are needed at the frontend only. Internal load balancers are used to load balance traffic inside a virtual network. A load balancer frontend can be accessed from an on-premises network in a hybrid scenario.

**Azure Load Balancer**

**It balances the load/ traffic / incoming requests on our VMs.**

With Azure Load Balancer, We can scale our application and create high availability for your services.

We can use Azure Load Balancer to:

* Load balance incoming internet traffic to your VMs. This is known as Public Load Balancer. : IT IS OUTSIDE THE NETWORK, request coming through Internet
* Load Balance Traffic across VMs inside a Virtual Network. This is known as Internal Load Balancer.
* Port forward traffic to a specific port on specific VM
* Provide outbound connectivity for VMs inside your virtual network by using a Public Load Balancer.

Fundamental Load Balancer features

* Load Balancer uses a hash-based algorithm for distribution of inbound flows and rewrites the headers of flows to backend pool instances accordingly.
* By default, Load Balancer uses a 5-tuple hash composed of source IP address, source port, destination IP, destination port and IP Protocol no. to map flows to available server

## Azure load balancer overview

An Azure load balancer provides high availability by distributing incoming traffic among healthy VMs. A load balancer health probe monitors a given port on each VM and only distributes traffic to an operational VM.

You define a front-end IP configuration that contains one or more public IP addresses. This front-end IP configuration allows your load balancer and applications to be accessible over the Internet.

Virtual machines connect to a load balancer using their virtual network interface card (NIC). To distribute traffic to the VMs, a back-end address pool contains the IP addresses of the virtual (NICs) connected to the load balancer.

To control the flow of traffic, you define load balancer rules for specific ports and protocols that map to your VMs.

Load Balancer supports both standard and basic SKU

Backend Pool Size Supports upto 1000 instances supports

Backend pool Any VM in a single virtual network

Endpoint including blend of VM, ASet,

Virtual Machine Scale Set

Health Probe TCP, HTTP, HTTPS

Health Probe Down TCPConnections stay alive

Behavoour probe down

and on all

A Zone Zone Redundant, Cross

Balancing

Management Opertaions Most oprrtiona < 30 sec

Priing : Charged based on no.of rules , data

Processed, inbound