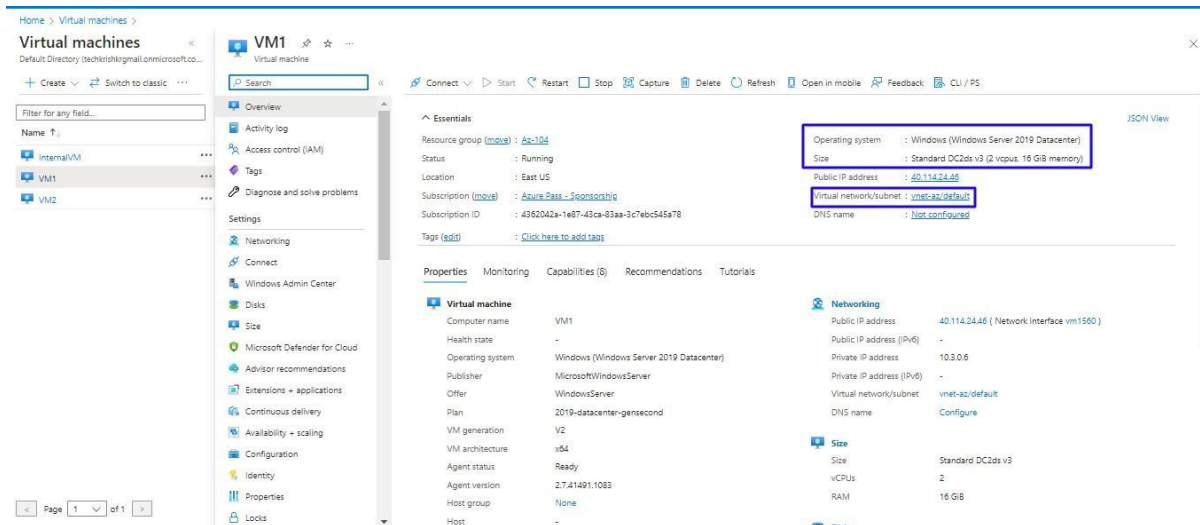




## **Module 7: Hands-On: Creating a Public Load Balancer**

Create two Windows Virtual Machines within the same VNet and resource groups. Also keep them in the same availability set to increase the accuracy

VM1:



Home > Virtual machines > Virtual machines

Default Directory (techintsklogmail.onmicrosoft.co...)

Filter for any field...

Internal/VM1

VM1

VM2

Page 1 of 1

VM1

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Networking

Connect

Windows Admin Center

Disks

Size

Microsoft Defender for Cloud

Advisor recommendations

Extensions + applications

Continuous delivery

Availability + scaling

Configuration

Identity

Properties

Locks

Essentials

Resource group (mouse) : [8a-104](#)

Status : Running

Location : East US

Subscription (mouse) : [Azure Pass - Sponsorship](#)

Subscription ID : 4362042a-1e87-43ca-83aa-3c7ebc545a78

Tags (edit) : [Click here to add tags](#)

Operating system : Windows (Windows Server 2019 Datacenter)

Size : Standard DC2ds v3 (2 vcpus, 16 GiB memory)

Public IP address : [40.114.24.46](#)

Virtual network/subnet : [vnet-az/default](#)

DNS name : [Not configured](#)

Properties

Monitoring

Capabilities (6)

Recommendations

Tutorials

Virtual machine

Computer name : VM1

Health state : -

Operating system : Windows (Windows Server 2019 Datacenter)

Publisher : MicrosoftWindowsServer

Offer : WindowsServer

Plan : 2019-datacenter-gensecond

VM generation : V2

VM architecture : x64

Agent status : Ready

Agent version : 2.7.41491.1083

Host group : None

Host : -

Networking

Public IP address : 40.114.24.46 (Network interface vm1560)

Public IP address (IPv6) : -

Private IP address : 10.3.0.6

Private IP address (IPv6) : -

Virtual network/subnet : vnet-az/default

DNS name : [Configure](#)

Size

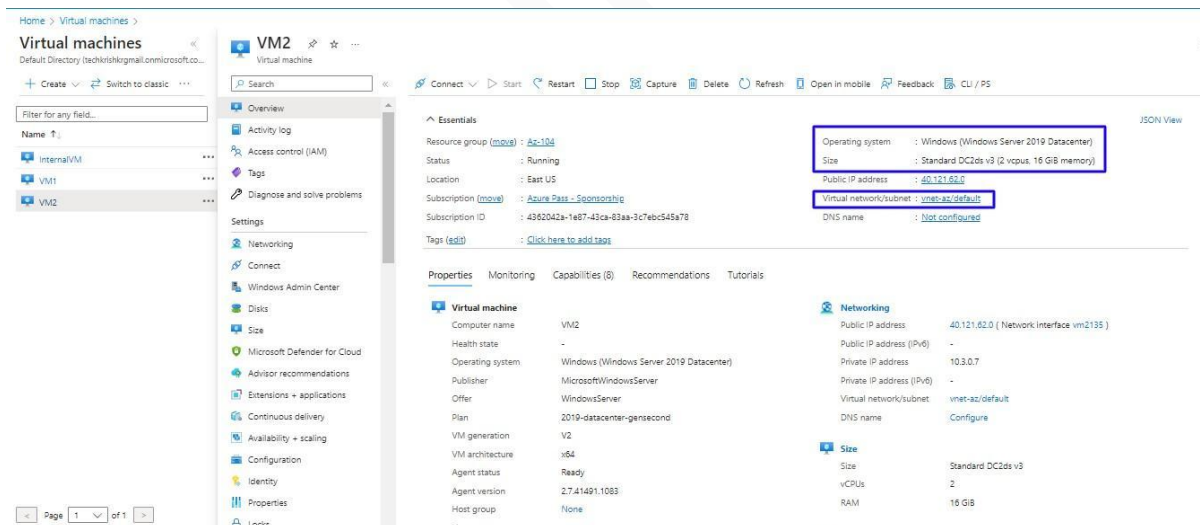
Size : Standard DC2ds v3

vCPUs : 2

RAM : 16 GiB

Plus

VM2:



Home > Virtual machines > Virtual machines

Default Directory (techintsklogmail.onmicrosoft.co...)

Filter for any field...

Internal/VM1

VM1

VM2

Page 1 of 1

VM2

Overview

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Availability + scaling

Configuration

Identity

Properties

Locks

Essentials

Resource group (mouse) : [8a-104](#)

Status : Running

Location : East US

Subscription (mouse) : [Azure Pass - Sponsorship](#)

Subscription ID : 4362042a-1e87-43ca-83aa-3c7ebc545a78

Tags (edit) : [Click here to add tags](#)

Operating system : Windows (Windows Server 2019 Datacenter)

Size : Standard DC2ds v3 (2 vcpus, 16 GiB memory)

Public IP address : [40.121.62.0](#)

Virtual network/subnet : [vnet-az/default](#)

DNS name : [Not configured](#)

Properties

Monitoring

Capabilities (6)

Recommendations

Tutorials

Virtual machine

Computer name : VM2

Health state : -

Operating system : Windows (Windows Server 2019 Datacenter)

Publisher : MicrosoftWindowsServer

Offer : WindowsServer

Plan : 2019-datacenter-gensecond

VM generation : V2

VM architecture : x64

Agent status : Ready

Agent version : 2.7.41491.1083

Host group : None

Host : -

Networking

Public IP address : 40.121.62.0 (Network interface vm2135)

Public IP address (IPv6) : -

Private IP address : 10.3.0.7

Private IP address (IPv6) : -

Virtual network/subnet : vnet-az/default

DNS name : [Configure](#)

Size

Size : Standard DC2ds v3

vCPUs : 2

RAM : 16 GiB

Plus

## Step 1: Create a Public Load Balancer. Apply Inbound Rules and Load Balancing Rules to it

Home > Load balancing | Load Balancer >

### Create load balancer

Information port, protocol type, health probe, etc. to distribute traffic. Load balancers can either be internet-facing where it is accessible via public IP addresses, or internal where it is only accessible from a virtual network. Azure load balancers also support Network Address Translation (NAT) to route traffic between public and private IP addresses. [Learn more.](#)

**Project details**

Subscription \*

Resource group \*  [Create new](#)

**Instance details**

Name \*

Region \*

SKU \* ☒ Standard ☐ Gateway ☐ Basic

Microsoft recommends Standard SKU load balancer for production workloads. [Learn more about pricing differences between Standard and Basic SKU.](#)

Type \* ☒ Public ☐ Internal

Tier \* ☒ Regional ☐ Global

[Review + create](#) [< Previous](#) [Next : Frontend IP configuration >](#) [Download a template for automation](#) [Give feedback](#)

## Step 2: Configure a new IP for Public Load balancer. After configuring the IP, click on OK and then Add

Home > Load balancing | Load Balancer >

### Create load balancer

1. Basics **Frontend IP configuration** Backend pools Inbound rules Outbound rules Tags Review + create

2. A 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.

**Add frontend IP configuration**

3. Name \*

IP version ☒ IPv4 ☐ IPv6

IP type ☒ IP address ☐ IP prefix

Public IP address \*  [Create new](#)

**Add a public IP address**

5. Name \*

SKU ☐ Basic ☒ Standard

Tier ☒ Regional ☐ Global

Assignment ☐ Dynamic ☒ Static

Availability zone \*

Routing preference ☒ Microsoft network ☐ Internet

[OK](#) [Cancel](#)

click on OK

**Step 3:** In the next step, we have to attach two backend pools for each VMs

Home > Load balancing > Load Balancer > Create load balancer >

### Add backend pool

Name \*

Virtual network

Backend Pool Configuration

☒ NIC  
☐ IP address

IP configurations

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 network.

<input type="checkbox"/>	Resource Name	Resource group	Type	IP configuration	IP Address	Availability set
<input checked="" type="checkbox"/>	VM1	Az-104	Virtual machine	ipconfig1	10.3.0.6	SET1

[Give feedback](#)

After this, click on Save. Follow the same step to configure pool2 for the second VM.

Home > Load balancing > Load Balancer > Create load balancer >

### Add backend pool

Name \*

Virtual network

Backend Pool Configuration

☒ NIC  
☐ IP address

IP configurations

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 network.

☐ Resource Name      Resource group      Type

#### 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 network.

Location: eastus Virtual network: vnet-az

☐ Show resources that are not available for selection

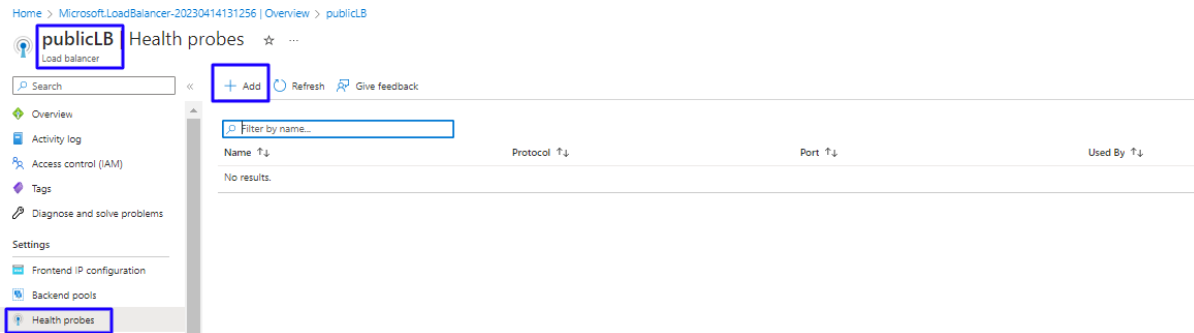
<input checked="" type="checkbox"/>	Resource Name	Resource group	Type	IP configuration	IP Address	Availability set	Tags
<input checked="" type="checkbox"/>	Virtual machine (3)						
<input type="checkbox"/>	InternalVM	Az-104	Virtual machine	ipconfig1	10.3.0.8	SET1	-
<input type="checkbox"/>	VM1	Az-104	Virtual machine	ipconfig1	10.3.0.6	SET1	-
<input checked="" type="checkbox"/>	VM2	Az-104	Virtual machine	ipconfig1	10.3.0.7	SET1	-

[Give feedback](#)

[Give feedback](#)

And then click on Add. Then Review+create.

**Step 4:** The load balancer is created. Now define the Health Probe and load balancing rules into it. Click on Add.



**Step 5:** Now fill in the details as shown here and again Add it

Home > Microsoft.LoadBalancer-20230414131256 | Overview > publicLB | Health probes >

### Add health probe

publicLB

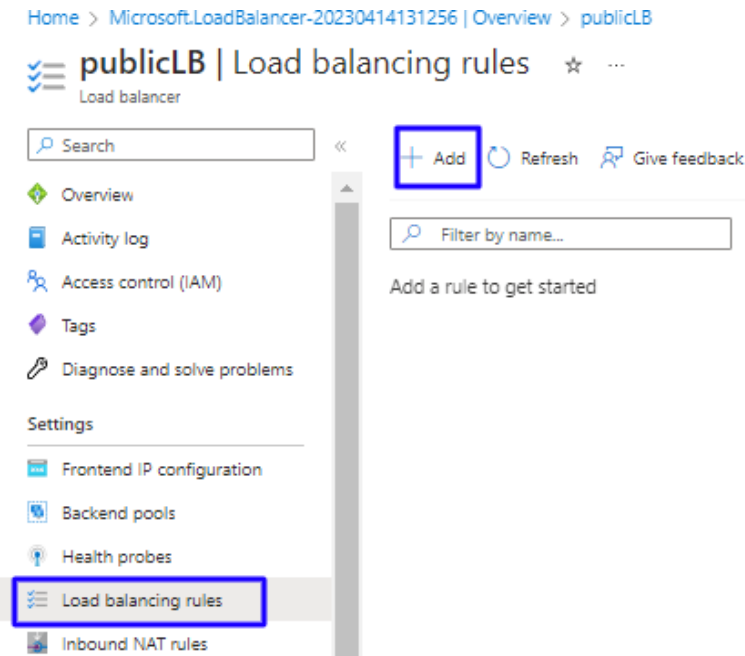
**Health probes** are used to check the status of a backend pool instance. If the health probe fails to get a response from a backend instance then no new connections will be sent to that backend instance until the health probe succeeds again.

Name *	Health
Protocol *	TCP
Port *	80
Interval *	5
	seconds
Used by	Not used

**Add** Give feedback

Now the health probe is attached

**Step 6:** Next we need to configure the load balancing rules. Click on Add.



Fill in the details for the load balancing rules and then click on Save

Home > Microsoft.LoadBalancer-20230414131256 | Overview > publicLB

## publicLB | Load balancing rules

Load balancer

Search << **Add** Refresh Give feedback

Filter by name...

Add a rule to get started

Overview  
Activity log  
Access control (IAM)  
Tags  
Diagnose and solve problems

Settings

Frontend IP configuration  
Backend pools  
Health probes  
**Load balancing rules**  
Inbound NAT rules

Home > Microsoft.LoadBalancer-20230414131256 | Overview > publicLB | Load balancing rules >

### Add load balancing rule

publicLB

A load balancing rule distributes incoming traffic that is sent to a selected IP address and port combination across a group of backend pool instances. Only backend instances that the health probe considers healthy receive new traffic.

Name \* Lbrule

IP Version \* ☒ IPv4 ☐ IPv6

Frontend IP address \* ① frontend-lb (4.157.209.80)

Backend pool \* ① pool1

Protocol ☒ TCP ☐ UDP

Port \* 80

Backend port \* ① 80

Health probe \* ① Health (TCP:80)

Session persistence ① None

Idle timeout (minutes) \* ① 4

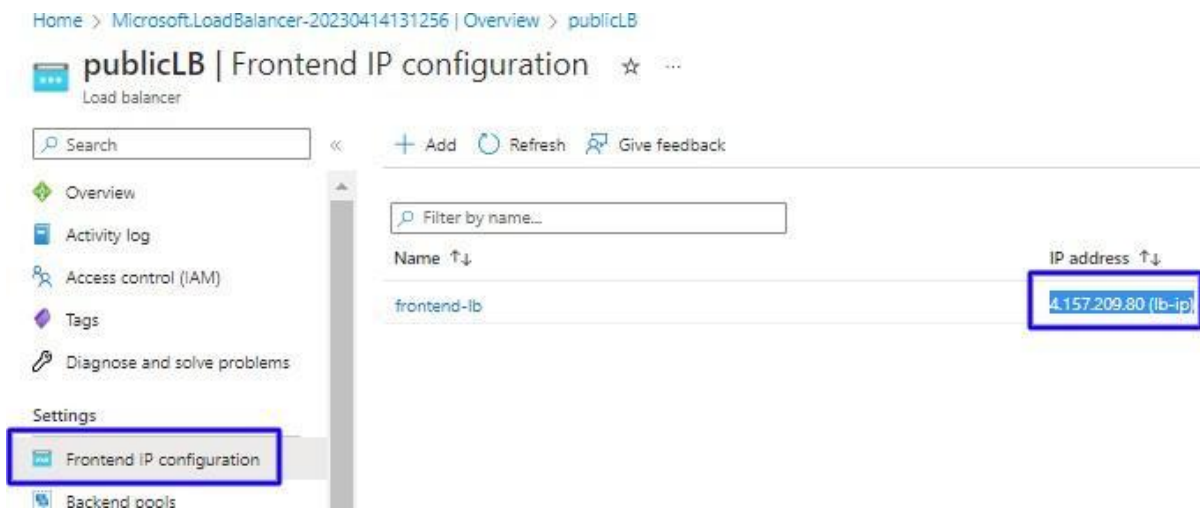
Enable TCP Reset ☐

Enable Floating IP ① ☐

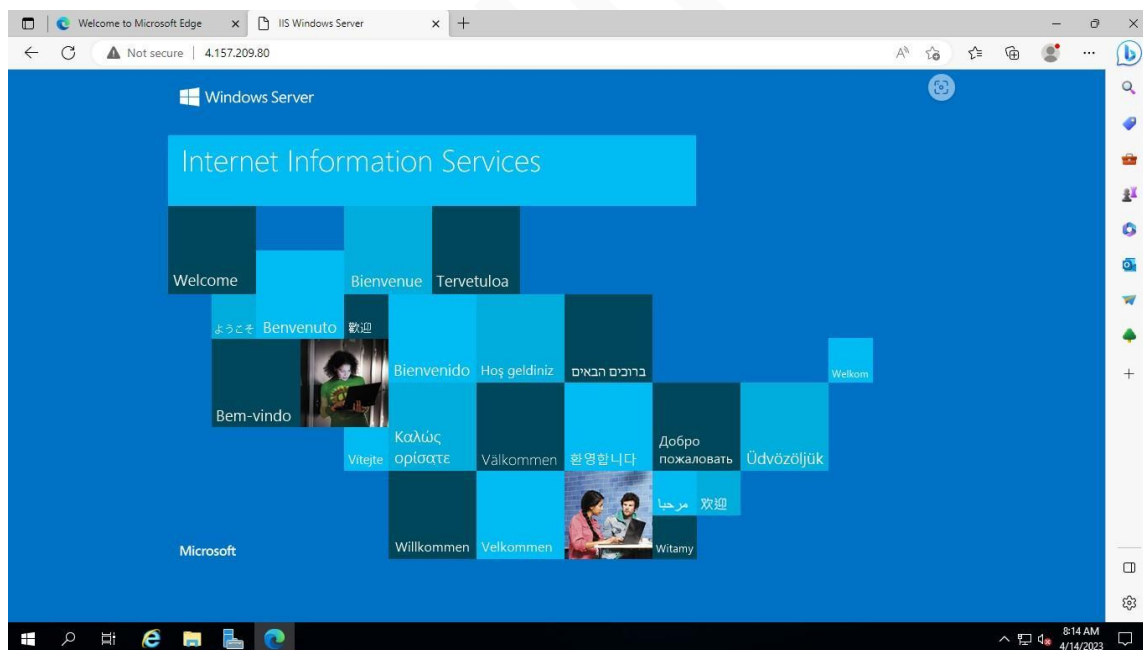
Outbound source network address translation (SNAT) ① ☒ (Recommended) Use outbound rules to provide backend pool members access to the internet. [Learn more.](#) ☐ Use default outbound access. This is not recommended because it can cause...

Save Cancel Give feedback

**Step 7:** Now, open Frontend IP configurations and copy the IP address from here



Paste the IP address of the Public Load Balancer in any one of the VMs, either VM1/VM2



And this IIS web server on the browser depicts that the load balancing is working properly.