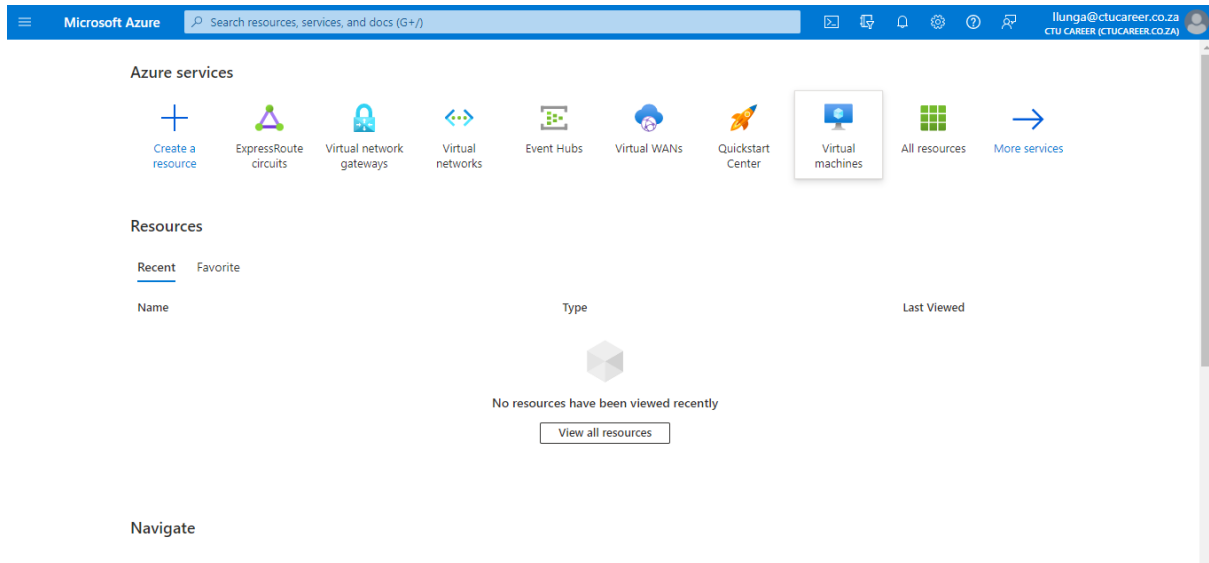


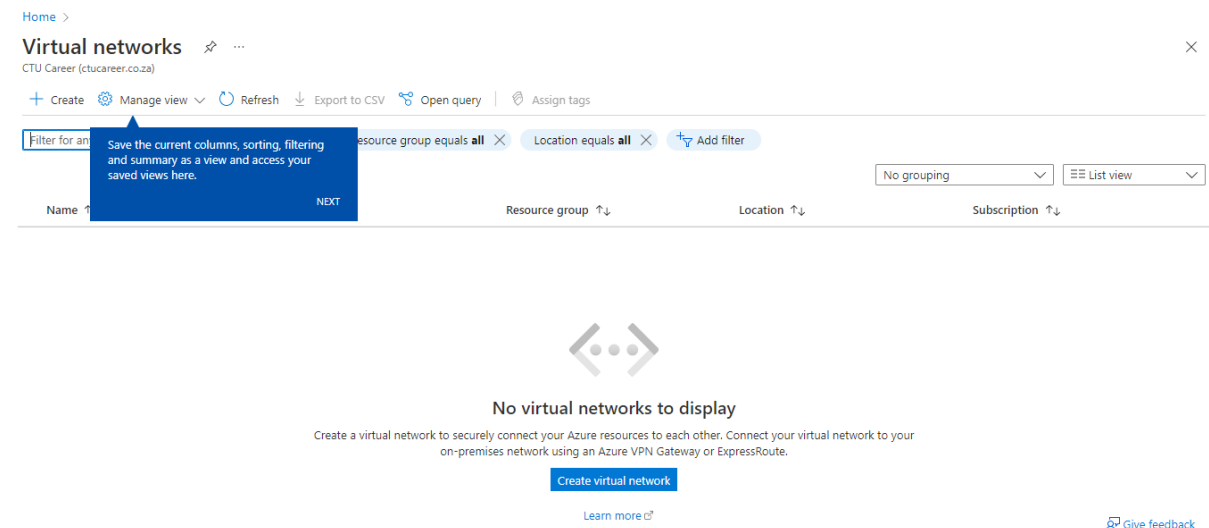
M04-Unit 4 Create and configure an Azure load balancer

Task 1: Create the virtual network

1. Log in to the Azure portal.



2. On the Azure portal home page, navigate to the Global Search bar and search Virtual Networks and select virtual networks under services.



3. Select Create on the Virtual networks page.

Home > Virtual networks >

Create virtual network ...

Basics IP Addresses Security Tags Review + create

Azure Virtual Network (VNet) is the fundamental building block for your private network in Azure. VNet enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation. [Learn more about virtual network](#)

Project details

Subscription * ⓘ Azure for Students

Resource group * ⓘ

Create new

Instance details

Name *

Region * West Europe

Review + create

< Previous

Next : IP Addresses >

[Download a template for automation](#)

4. On the Basics tab, use the information in the table below to create the virtual network.

Home > Virtual networks >

Create virtual network ...

Basics IP Addresses Security Tags Review + create

Azure Virtual Network (VNet) is the fundamental building block for your private network in Azure. VNet enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation. [Learn more about virtual network](#)

Project details

Subscription * ⓘ Azure for Students

Resource group * ⓘ (New) IntLB-RG

Create new

Instance details

Name * IntLB-VNet

Region * East US

5. Click Next : IP Addresses.

[Home](#) > [Virtual networks](#) >

Create virtual network ...

Basics **IP Addresses** Security Tags Review + create

The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

IPv4 address space

10.0.0.0/16 10.0.0.0 - 10.0.255.255 (65536 addresses)



☐ Add IPv6 address space ⓘ

The subnet's address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual network.

[+ Add subnet](#) [Remove subnet](#)

<input type="checkbox"/> Subnet name	Subnet address range	NAT gateway
<input type="checkbox"/> default	10.0.0.0/24	-

i Use of a NAT gateway is recommended for outbound internet access from a subnet. You can deploy a NAT gateway and assign it to

[Review + create](#)

[< Previous](#)

[Next : Security >](#)

[Download a template for automation](#)

6. On the IP Addresses tab, in the IPv4 address space box, remove the default and type 10.1.0.0/16.

[Home](#) > [Virtual networks](#) >

Create virtual network ...



The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

IPv4 address space

10.0.0.0/16 10.0.0.0 - 10.0.255.255 (65536 addresses)



10.1.0.0/16 ✓

☐ Add IPv6 address space ⓘ

The subnet's address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual network.

[+ Add subnet](#) [Remove subnet](#)

<input type="checkbox"/> Subnet name	Subnet address range	NAT gateway
<input type="checkbox"/> default	10.0.0.0/24	-

i Use of a NAT gateway is recommended for outbound internet access from a subnet. You can deploy a NAT gateway and assign it to a subnet after you create the virtual network. [Learn more](#)

7. On the IP Addresses tab, select + Add subnet.

k ...

5 (65536 addresses)

	✓	🗑️

otation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual

it

Subnet address range	NAT gateway
10.0.0.0/24	-

ad for outbound internet access from a subnet. You can deploy a NAT gateway and assign it to network. [Learn more](#)

< Previous Next : Security > [Download a template for automation](#)

Add subnet ✕

Subnet name *

Subnet address range * ⓘ

(0 Addresses)

NAT GATEWAY

Simplify connectivity to the internet using a network address translation gateway. Outbound connectivity is possible without a load balancer or public IP addresses attached to your virtual machines. [Learn more](#)

NAT gateway

None

SERVICE ENDPOINTS

Create service endpoint policies to allow traffic to specific azure resources from your virtual network over service endpoints. [Learn more](#)

Add

Cancel

8. In the Add subnet pane, provide a subnet name of myBackendSubnet, and a subnet address range of 10.1.0.0/24.

irtual network ...

is space

10.0.0.0 - 10.0.255.255 (65536 addresses)	🗑️
	✓

address space ⓘ

address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual

net 🗑️ Remove subnet

name	Subnet address range	NAT gateway
	10.0.0.0/24	-
EndSubnet	10.1.2.0/24	-

NAT gateway is recommended for outbound internet access from a subnet. You can deploy a NAT gateway and assign it to ter you create the virtual network. [Learn more](#)

reate < Previous Next : Security > [Download a template for automation](#)

Add subnet ⤴

Subnet name *
 ✓

Subnet address range * ⓘ
 ✓
10.1.0.0 - 10.1.0.255 (251 + 5 Azure reserved addresses)

NAT GATEWAY

Simplify connectivity to the internet using a network address translation gateway. Outbound connectivity is possible without a load balancer or public IP addresses attached to your virtual machines. [Learn more](#)

NAT gateway

None

SERVICE ENDPOINTS

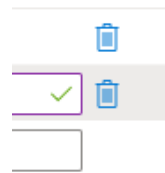
Create service endpoint policies to allow traffic to specific azure resources from your virtual network over service endpoints. [Learn more](#)

Add

Cancel

9. Click Add.

10. Click Add subnet, provide a subnet name of myFrontEndSubnet, and a subnet address range of 10.1.2.0/24. Click Add



the virtual

d assign it to

or automation

Add subnet



Subnet name *

myFrontEndSubnet



Subnet address range * ⓘ

10.1.2.0/24



10.1.2.0 - 10.1.2.255 (251 + 5 Azure reserved addresses)

NAT GATEWAY

Simplify connectivity to the internet using a network address translation gateway. Outbound connectivity is possible without a load balancer or public IP addresses attached to your virtual machines. [Learn more](#)

NAT gateway

None



SERVICE ENDPOINTS

Create service endpoint policies to allow traffic to specific azure resources from your virtual network over service endpoints. [Learn more](#)

Add

Cancel

☐ Add IPv6 address space ⓘ

The subnet's address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual network.

[+ Add subnet](#) [Remove subnet](#)

<input type="checkbox"/> Subnet name	Subnet address range	NAT gateway
<input type="checkbox"/> default	10.0.0.0/24	-
<input type="checkbox"/> myFrontEndSubnet	10.1.2.0/24	-
<input type="checkbox"/> myBackendSubnet	10.1.0.0/24	-

ⓘ Use of a NAT gateway is recommended for outbound internet access from a subnet. You can deploy a NAT gateway and assign it to a subnet after you create the virtual network. [Learn more](#) ⓘ

[Review + create](#)

[< Previous](#)

[Next : Security >](#)

[Download a template for automation](#)

11. Click Next : Security.

CREATE VIRTUAL NETWORK

Basics IP Addresses **Security** Tags Review + create

BastionHost ⓘ

☒ Disable
☐ Enable

DDoS Protection Standard ⓘ

☒ Disable
☐ Enable

Firewall ⓘ

☒ Disable
☐ Enable

[Review + create](#)

[< Previous](#)

[Next : Tags >](#)

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12. Under BastionHost select Enable, then enter the information from the table below.

Create virtual network ...

BasicsIP AddressesSecurityTagsReview + create

BastionHost ⓘ

☐ Disable

☒ Enable

Bastion name *

myBastionHost ✓

AzureBastionSubnet address space *

10.1.1.0/24 ✓

10.1.1.0 - 10.1.1.255 (256 addresses)

Public IP address *

(New) myBastionIP ✓

Create new

DDoS Protection Standard ⓘ

☒ Disable

☐ Enable

Firewall ⓘ

☒ Disable

☐ Enable

Review + create

< Previous

Next : Tags >

[Download a template for automation](#)

13. Click Review + create.

Create virtual network ...

✓ Validation passed

BasicsIP AddressesSecurityTagsReview + create

Basics

Subscription

Resource group

Name

Region

Azure for Students

(new) IntLB-RG

IntLB-VNet

East US

IP addresses

Address space

Subnet

10.0.0.0/16,10.1.0.0/16

default (10.0.0.0/24),myFrontEndSubnet (10.1.2.0/24),myBackendSubnet (10.1.0.0/24),AzureBastionSubnet (10.1.1.0/24)

Tags

Create

< Previous

Next >

[Download a template for automation](#)

14. Click Create.

Home > **Microsoft.VirtualNetwork-20220819174212** | Overview ✕ ...

Deployment

Search (Ctrl+/) << Delete Cancel Redeploy Download Refresh

- Overview
- Inputs
- Outputs
- Template

We'd love your feedback! →

Deployment name: Microsoft.VirtualNetwork-20220819... Start time: 8/19/2022, 6:05:53 PM
Subscription: [Azure for Students](#) Correlation ID: a81c3aa7-c519-4c60-9d25-324f19482f29
Resource group: [IntLB-RG](#)

Deployment details

Next steps

[Go to resource](#)

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Task 2: Create backend servers

1. In the Azure portal, open the PowerShell session within the Cloud Shell pane.



2. In the toolbar of the Cloud Shell pane, click the Upload/Download files icon, in the drop-down menu, click Upload and upload the following files azuredeploy.json, azuredeploy.parameters.vm1.json, azuredeploy.parameters.vm2.json and azuredeploy.parameters.vm3.json into the Cloud Shell home directory one by one.

```
MOTD: Install modules from PowerShell Gallery: Install-Module <module name>

VERBOSE: Authenticating to Azure ...
VERBOSE: Building your Azure drive ...
PS /home/ilungatshasuma> 
```

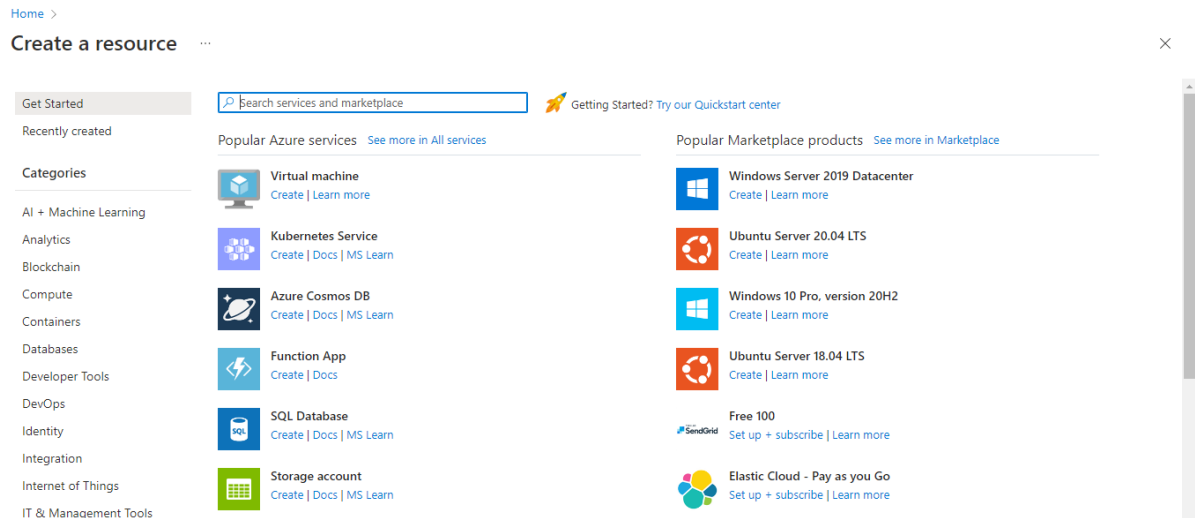
Upload destination: /home/ilungatshasuma
azuredeploy.parameters.vm3.json COMPLETE

3. Deploy the following ARM templates to create the VMs needed for this exercise:

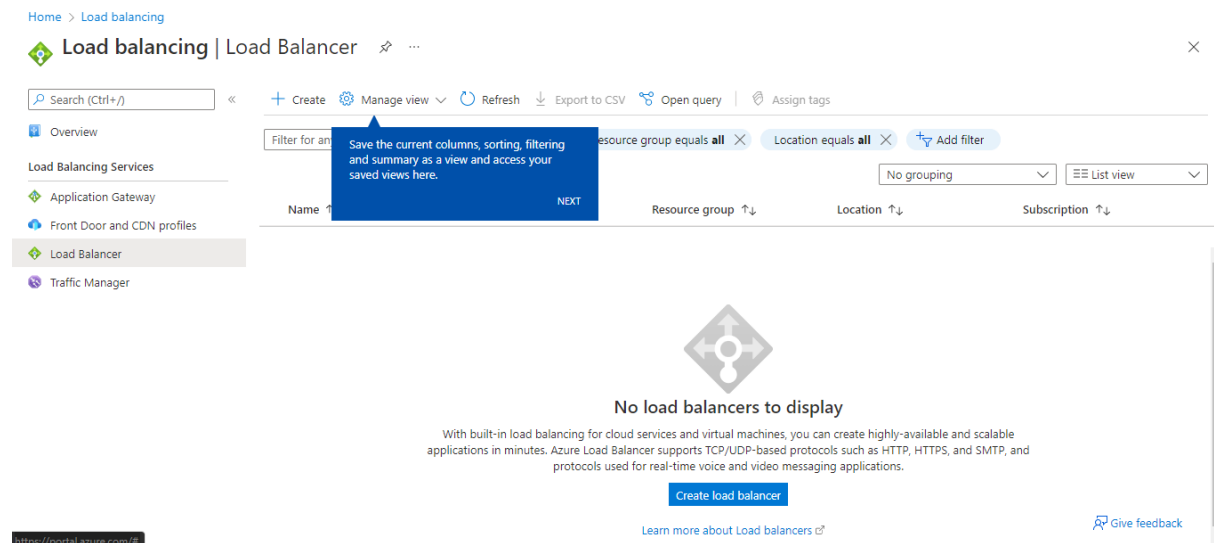
```
VERBOSE: Authenticating to Azure ...
VERBOSE: Building your Azure drive ...
PS /home/ilungatshasuma> $RGName = "IntLB-RG"
PS /home/ilungatshasuma>
PS /home/ilungatshasuma> New-AzResourceGroupDeployment -ResourceGroupName $RGName -TemplateFile azuredeploy.json -TemplateParameterFile azuredeploy.parameters.vm1.json
PS /home/ilungatshasuma> 
```

Task 3: Create the load balancer

1. On the Azure portal home page, click Create a resource.



2. In the search box at the top of the page, type Load Balancer, then press Enter (Note: do not select one from the list).



3. On the results page, locate and select Load Balancer (the one that says 'Microsoft' and 'Azure Service' under the name).

4. Click Create.

[Home](#) > [Load balancing](#) | [Load Balancer](#) >

Create load balancer

[Basics](#) [Frontend IP configuration](#) [Backend pools](#) [Inbound rules](#) [Outbound rules](#) [Tags](#) [Review + create](#)

Azure load balancer is a layer 4 load balancer that distributes incoming traffic among healthy virtual machine instances. Load balancers uses a hash-based distribution algorithm. By default, it uses a 5-tuple (source IP, source port, destination IP, destination port, protocol type) hash to map traffic to available servers. 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 *

Instance details

Name *

Region *

SKU * ☒ Standard ☐ Gateway

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

5. On the Basics tab, use the information in the table below to create the load balancer.

Subscription *

Resource group *

[Create new](#)

Instance details

Name *

Region *

SKU * ☒ Standard ☐ Gateway ☐ Basic

Type * ☐ Public ☒ Internal

Tier * ☒ Regional

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

6. Click Next: Frontend IP configurations.

Basics

Frontend IP configuration

Backend pools

Inbound rules

Outbound rules

Tags

Review + create

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 ↑↓	Virtual network ↑↓	Subnet ↑↓
Add a frontend IP to get started			

Review + create

< Previous

Next: Backend pools >

Download a template for automation

Give feedback

7. Click Add a frontend IP

Home > Load balancing | Load Balancer >

Create load balancer

...

Basics

Frontend IP configuration

Backend pools

Inbound rules

Outbound rules

Tags

Review + create

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 ↑↓	Virtual network ↑↓
Add a frontend IP to get started		

Add frontend IP configuration

×

Name *

Frontend IP configuration name

Virtual network

IntLB-VNet

Subnet *

Assignment

☒ Dynamic ☐ Static

Availability zone * ⓘ

Zone-redundant

8. On the Add frontend IP address blade, enter the information from the table below and select Add.

balancing | Load Balancer >

ad balancer ...

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.

Frontend IP configuration

IP address ↑↓

Virtual network ↑↓

Click here to get started

Add frontend IP configuration

Name *

LoadBalancerFrontEnd

Virtual network

IntLB-VNet

Subnet *

myFrontEndSubnet (10.1.2.0/24)

Assignment

☒ Dynamic

☐ Static

Availability zone * ⓘ

Zone-redundant

9. Click Review + create.

Create load balancer ...

Validation passed

Basics

Frontend IP configuration

Backend pools

Inbound rules

Outbound rules

Tags

Review + create

Basics

Subscription

Azure for Students

Resource group

IntLB-RG

Name

myIntLoadBalancer

Region

East US

SKU

Standard

Tier

Regional

Type

Internal

Frontend IP configuration

Frontend IP configuration name

LoadBalancerFrontEnd

Frontend IP configuration IP address

Dynamic

Create

< Previous

Next >

[Download a template for automation](#) [Give feedback](#)

10. Click Create.

The screenshot shows the Azure portal interface for a deployment named 'Microsoft.LoadBalancer-20220819183201'. The page title is 'Overview'. On the left, there is a sidebar with navigation links: Overview, Inputs, Outputs, and Template. The main content area has a top bar with actions: Delete, Cancel, Redeploy, Download, and Refresh. Below this, a message says 'We'd love your feedback! →'. A green checkmark icon indicates 'Your deployment is complete'. Below this, deployment details are listed: Deployment name: Microsoft.LoadBalancer-202208191..., Subscription: Azure for Students, Resource group: IntLB-RG, Start time: 8/19/2022, 6:39:21 PM, and Correlation ID: 8ef100b7-9dde-4eec-b6d3-cefbb6e3f5d3. There are expandable sections for 'Deployment details' and 'Next steps', with a 'Go to resource' button. On the right, there are three promotional cards: 'Cost Management' (Get notified to stay within your budget...), 'Microsoft Defender for Cloud' (Secure your apps and infrastructure...), and 'Free Microsoft tutorials' (Start learning today...).

Task 4: Create load balancer resources

1. On the Azure portal home page, click All resources, then click on myIntLoadBalancer from the resources list.

The screenshot shows the Azure portal configuration page for a load balancer named 'myIntLoadBalancer'. The page title is 'myIntLoadBalancer'. On the left, there is a sidebar with navigation links: 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, Properties, Locks, and Monitoring. The main content area has a top bar with actions: Move, Delete, Refresh, and Give feedback. Below this, there is a 'JSON View' link. The 'Essentials' section displays key properties: Resource group (move) : IntLB-RG, Location : East US, Subscription (move) : Azure for Students, Subscription ID : d49079e0-b13c-4413-8b03-36b4ad43ffd0, SKU : Standard, Tags (edit) : Click here to add tags, Backend pool : -, Load balancing rule : -, Health probe : -, NAT rules : 0 inbound, and Tier : Regional. Below this, there is a section titled 'Configure high availability and scalability for your applications' with a description and a 'Learn more' link. At the bottom, there are two cards: 'Balance IPv4 and IPv6 addresses' (Native dual-stack endpoints help meet regulatory) and 'Build highly reliable applications'.

2. Under Settings, select Backend pools, and then click Add.

Home > myIntLoadBalancer

myIntLoadBalancer | Backend pools

Load balancer

Search (Ctrl+/) << + Add Refresh Give feedback

Filter by name...

Backend pool == all Resource Name == all Resource Status == all IP address == all Network interface == all Availability zone == all

Group by Backend pool

Backend pool	Resource Name	Resource Status	IP address	Network interface	Availability zone	Resource type
Add a backend pool 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

Properties

Locks

Monitoring

3. On the Add backend pool page, enter the information from the table below.

Home > myIntLoadBalancer | Backend pools >

Add backend pool

myIntLoadBalancer

Name * myBackendPool

Virtual network IntLB-VNet

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.

+ Add | X Remove

4. Under Virtual machines, click Add.

[Home](#) > [myIntLoadBalancer | Backend pools](#) > [Add backend pool](#) >

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.

Filter by name...

Location : eastus

Virtual network : IntLB-VNet

Add filter

☐ Show resources that are not available for selection

	Resource Name	Resource group	Type	IP configuration	IP Address	Availability set	Tags
Virtual machine (3)							
<input type="checkbox"/>	myVM1	IntLB-RG	Virtual machine	ipconfig1	10.1.0.4	-	-
<input type="checkbox"/>	myVM2	IntLB-RG	Virtual machine	ipconfig1	10.1.0.5	-	-
<input type="checkbox"/>	myVM3	IntLB-RG	Virtual machine	ipconfig1	10.1.0.6	-	-

Add

Cancel

[Give feedback](#)

5. Select the checkboxes for all 3 VMs (myVM1, myVM2, and myVM3), then click Add.

[Home](#) > [myIntLoadBalancer | Backend pools](#) > [Add backend pool](#) >

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.

Filter by name...

Location : eastus

Virtual network : IntLB-VNet

Add filter

☐ Show resources that are not available for selection

	Resource Name	Resource group	Type	IP configuration	IP Address	Availability set	Tags
Virtual machine (3)							
<input checked="" type="checkbox"/>	myVM1	IntLB-RG	Virtual machine	ipconfig1	10.1.0.4	-	-
<input checked="" type="checkbox"/>	myVM2	IntLB-RG	Virtual machine	ipconfig1	10.1.0.5	-	-
<input checked="" type="checkbox"/>	myVM3	IntLB-RG	Virtual machine	ipconfig1	10.1.0.6	-	-

Add

Cancel

[Give feedback](#)

Create a health probe

1. Under Settings, click Health probes, then click Add. +2. On the Add health probe page, enter the information from the table below.

Add health probe ...

myIntLoadBalancer

i 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 *	<input type="text" value="myHealthProbe"/>	✓
Protocol *	<input type="text" value="HTTP"/>	✓
Port * ⓘ	<input type="text" value="80"/>	
Path * ⓘ	<input type="text" value="/"/>	✓
Interval * ⓘ	<input type="text" value="15"/>	seconds ✓
Used by ⓘ	Not used	

[Add](#) [Give feedback](#)

Create a load balancer rule

1. From the Backend pools page of your load balancer, under Settings, click Load balancing rules, then click Add.
2. On the Add load balancing rule page, enter the information from the table below.

Add load balancing rule ...

myIntLoadBalancer

backend pool instances. Only backend instances that the health probe considers healthy receive new traffic.

Name *	<input type="text" value="myHTTPRule"/>	✓
IP Version *	<input checked="" type="radio"/> IPv4 <input type="radio"/> IPv6	
Frontend IP address * ⓘ	<input type="text" value="LoadBalancerFrontEnd (10.1.2.4)"/>	✓
Backend pool * ⓘ	<input type="text" value="myBackendPool"/>	✓
	<input type="checkbox"/> HA Ports ⓘ	
Protocol *	<input checked="" type="radio"/> TCP <input type="radio"/> UDP	
Port *	<input type="text" value="80"/>	✓
Backend port * ⓘ	<input type="text" value="80"/>	✓
Health probe * ⓘ	<input type="text" value="myHealthProbe (HTTP:80)"/>	✓

[Create new](#)

[Add](#) [Give feedback](#)

session persistence ⓘ None

idle timeout (minutes) * ⓘ 15

TCP reset ☒ Disabled ☐ Enabled

floating IP ⓘ ☒ Disabled ☐ Enabled

[Add](#) [Give feedback](#)

3. Click Add

myIntLoadBalancer | Load balancing rules ...

Search

Frontend IP configuration

Backend pools

Health probes

Load balancing rules

Inbound NAT rules

Properties

Locks

Monitoring

+ Add Refresh Give feedback

Filter by name...

Name ↑↓	Load balancing rule ↑↓	Backend pool ↑↓	Health probe ↑↓	
myHTTPRule	myHTTPRule (TCP/80)	myBackendPool	myHealthProbe	...

Task 5: Test the load balancer

Create test VM

1. On the Azure portal home page, click Create a resource, then virtual, then select Virtual machine (if this resource type is not listed on the page, use the search box at the top of the page to search for it and select it).

Virtual machines

CTU Career

+ Create ▾ ↺ Switch to classic ⌚ Reservations ▾ ⚙️ Manage view ▾ ↻ Refresh ⬇️ Export to CSV 🔗 Open query | 🏷️ Assign tags ▶️ Start ⏮️ Restart ☐ Stop 🗑️ Delete ⋮

Filter for any field...

Subscription equals all

Type equals all

Resource group equals all ✕

Location equals all ✕

+ Add filter

No grouping ▾

List view

<input type="checkbox"/> Name ↑↓	Type ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating system ↑↓	Size ↑↓
<input type="checkbox"/> myVM1	Virtual machine	Azure for Students	IntLB-RG	East US	Running	Windows	Standard_DS1_v2
<input type="checkbox"/> myVM2	Virtual machine	Azure for Students	IntLB-RG	East US	Running	Windows	Standard_DS1_v2
<input type="checkbox"/> myVM3	Virtual machine	Azure for Students	IntLB-RG	East US	Running	Windows	Standard_DS1_v2

2. On the Create a virtual machine page, on the Basics tab, use the information in the table below to create the first VM.

Create a virtual machine

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Azure for Students

Resource group * ⓘ

IntLB-RG

[Create new](#)

Instance details

Virtual machine name * ⓘ

myTestVM ✓

Region * ⓘ

Availability options ⓘ

No infrastructure redundancy required

Security type ⓘ

Standard

Image * ⓘ

Windows Server 2019 Datacenter - Gen2

[See all images](#) | [Configure VM generation](#)

VM architecture ⓘ

Arm64

Review + create

< Previous

Next : Disks >

3. Click Next : Disks, then click Next : Networking.
4. On the Networking tab, use the information in the table below to configure networking settings.

Create a virtual machine ...

Basics Disks **Networking** Management Monitoring Advanced Tags Review + create

Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution. [Learn more](#)

Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network *	<div>IntLB-VNet</div> <div>Create new</div>
Subnet *	<div>myBackendSubnet (10.1.0.0/24)</div> <div>Manage subnet configuration</div>
Public IP	<div>None</div> <div>Create new</div>
NIC network security group	<div><input type="radio"/> None</div> <div><input type="radio"/> Basic</div> <div><input checked="" type="radio"/> Advanced</div>

Review + create

< Previous

Next : Management >

6. Click Review + create.+6. Click Create.

CreateVm-MicrosoftWindowsServer.WindowsServer-201-20220915192632 | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

We'd love your feedback! →

✓ Your deployment is complete

Deployment name: CreateVm-MicrosoftWindowsServer.WindowsSe...

Subscription: [Azure for Students](#)

Resource group: [IntLB-RG](#)

Start time: 9/15/2022, 7:33:11 PM

Correlation ID: 66939079-4a0f-4318-9b38-8a0f...

Deployment details

Next steps

Setup auto-shutdown Recommended

Monitor VM health, performance and network dependencies Recommended

Run a script inside the virtual machine Recommended

Go to resource

Create another VM

Deployment succeeded

Deployment 'CreateVm-MicrosoftWindowsServer.WindowsServer-20220915192632' to resource group 'IntLB' successful.

Go to resource

Pin to dashboard

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Connect to the test VM to test the load balancer

1. On the Azure portal home page, click All resources, then click on myIntLoadBalancer from the resources list. +2. On the Overview page, make a note of the Private IP address, or copy it to the clipboard. Note: you may need to select See more in order to see the Private IP address field.

The screenshot shows the Azure portal interface for the resource 'myIntLoadBalancer'. The left sidebar contains navigation options: Overview (selected), Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Frontend IP configuration, Backend pools, Health probes, Load balancing rules, Inbound NAT rules, and Properties. The main content area is titled 'Essentials' and displays key resource information in two columns. The left column lists: Resource group (intlB-RG), Location (East US), Subscription (Azure for Students), Subscription ID (22326a92-2476-4fb9-bdc9-48f3fdd5831), and SKU (Standard). The right column lists: Backend pool (myBackendPool (3 virtual machines)), Load balancing rule (myHTTPRule (Tcp/80)), Health probe (myHealthProbe (Http:80)), NAT rules (0 inbound), Tier (Regional), and Private IP address (10.1.2.4). At the bottom of the Essentials section, there are links for Tags (edit), Click here to add tags, and See less. A 'JSON View' link is located in the top right corner of the Essentials section.

Property	Value
Resource group	intlB-RG
Location	East US
Subscription	Azure for Students
Subscription ID	22326a92-2476-4fb9-bdc9-48f3fdd5831
SKU	Standard
Backend pool	myBackendPool (3 virtual machines)
Load balancing rule	myHTTPRule (Tcp/80)
Health probe	myHealthProbe (Http:80)
NAT rules	0 inbound
Tier	Regional
Private IP address	10.1.2.4

3. Click Home, then on the Azure portal home page, click All resources, then click on the myTestVM virtual machine that you just created. +4. On the Overview page, select Connect, then Bastion.

The screenshot shows the Azure portal interface for the resource 'myTestVM | Bastion'. The left sidebar contains navigation options: Overview (selected), Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Networking, Connect (selected), Windows Admin Center (preview), Disks, Size, Microsoft Defender for Cloud, Advisor recommendations, and Extensions + applications. The main content area displays information about the Bastion service. It includes a description: 'Azure Bastion Service enables you to securely and seamlessly RDP & SSH to your VMs in your Azure virtual network, without exposing a public IP on the VM, directly from the Azure portal, without the need of any additional client/agent or any piece of software. Learn more'. Below this, it states 'Using Bastion: myBastionHost, Provisioning State: Succeeded'. A message prompts the user to 'Please enter username and password to your virtual machine to connect using Bastion.' The 'Connection Settings' section contains fields for Username, Authentication Type (set to Password), and Password. There is a 'Show' button for the password field and a checkbox for 'Open in new browser tab' which is checked. A blue 'Connect' button is at the bottom of the settings section. At the very bottom, there is a link to 'Tell us what you think of the Bastion experience'.

Azure Bastion Service enables you to securely and seamlessly RDP & SSH to your VMs in your Azure virtual network, without exposing a public IP on the VM, directly from the Azure portal, without the need of any additional client/agent or any piece of software. [Learn more](#)

Using Bastion: **myBastionHost**, Provisioning State: **Succeeded**

Please enter username and password to your virtual machine to connect using Bastion.

Connection Settings

Username

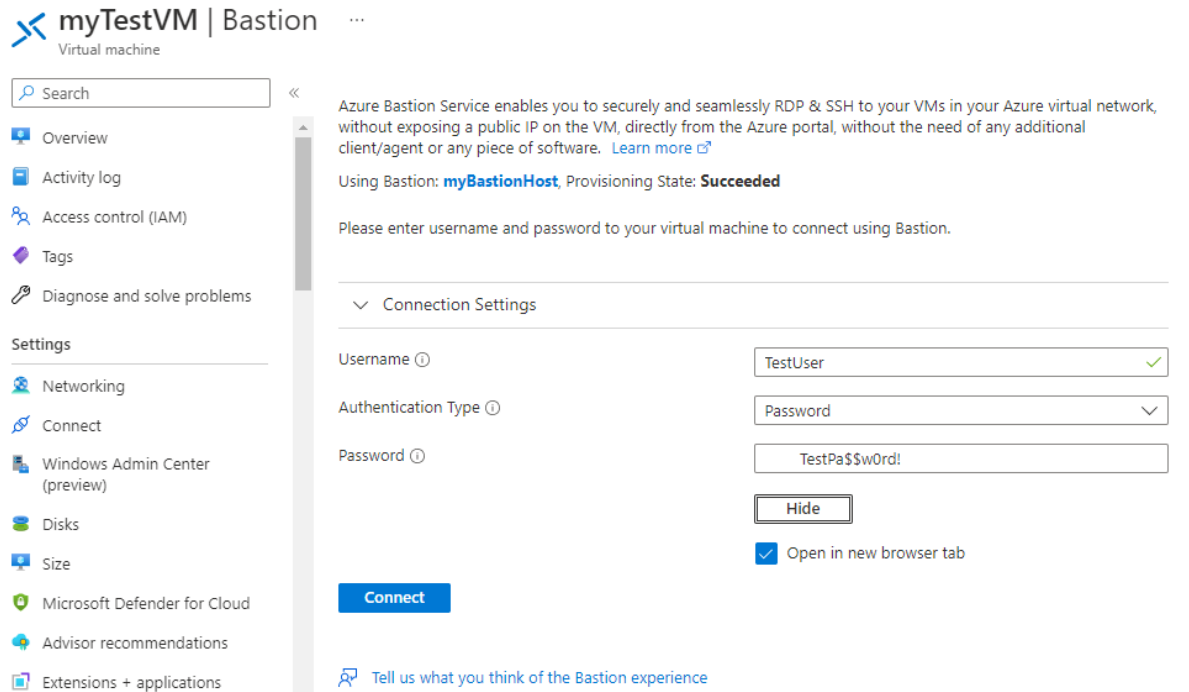
Authentication Type

Password

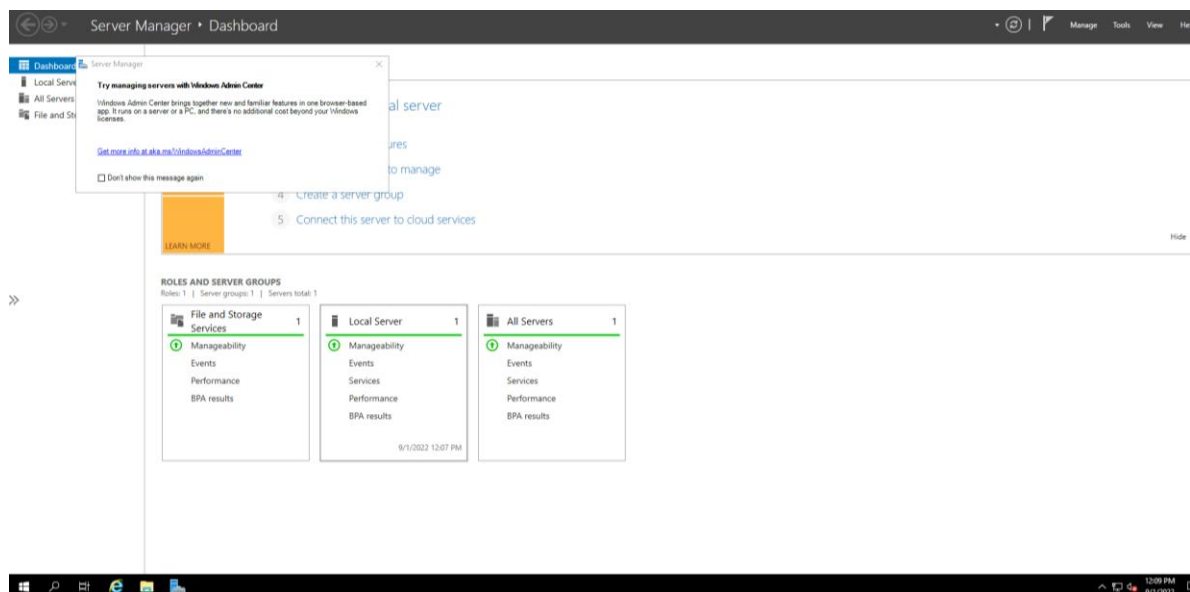
☒ Open in new browser tab

[Tell us what you think of the Bastion experience](#)

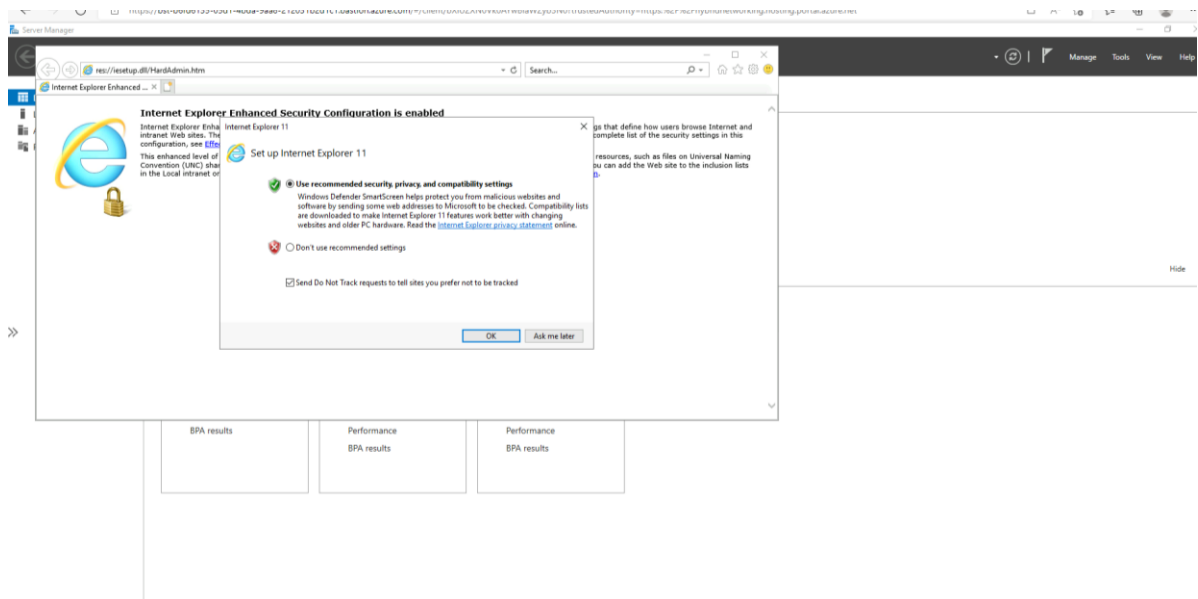
5. Click Use Bastion.+6. In the Username box, type TestUser and in the Password box, type TestPa\$\$w0rd!, then click Connect. If popup blocker is preventing the new window, allow popup blocker and Connect again.



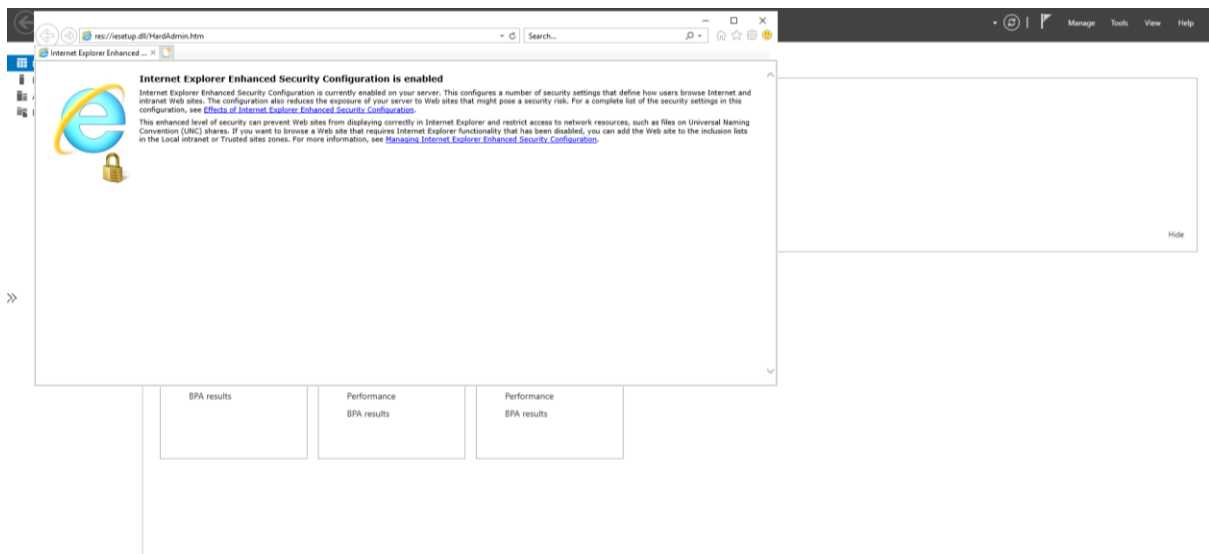
7. The myTestVM window will open in another browser tab.+8. If a Networks pane appears, click Yes.



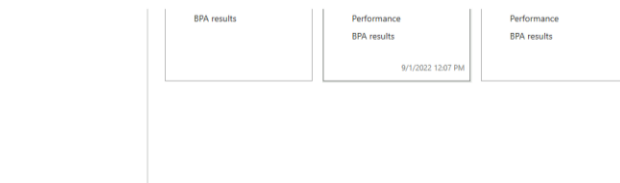
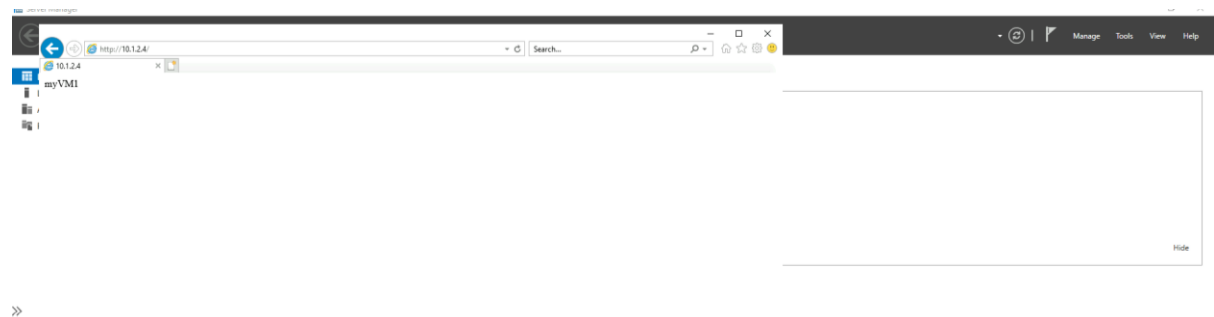
9. Click the Internet Explorer icon in the task bar to open the web browser.



10. Click OK on the Set up Internet Explorer 11 dialog box.



11. Enter (or paste) the Private IP address (e.g. 10.1.0.4) from the previous step into the address bar of the browser and press Enter.



12. The default web home page of the IIS Web server is displayed in the browser window. One of the three virtual machines in the backend pool will respond. + 13. If you click the refresh button in the browser a few times, you will see that the response comes randomly from the different VMs in the backend pool of the internal load balancer.

