

https://microsoftlearning.github.io/AZ-104-MicrosoftAdministrator/Instructions/Labs/LAB_06-Implement_Network_Traffic_Management.html

Lab scenario

Task 1: Use a template to provision an infrastructure

In this task, you will use a template to deploy one virtual network, one network security group, and three virtual machines.

1. Download the **\Allfiles\Lab06** lab files (template and parameters).
2. Sign in to the **Azure portal** - <https://portal.azure.com>.
3. Search for and select **Deploy a custom template**.
4. On the custom deployment page, select **Build your own template in the editor**.
5. On the edit template page, select **Load file**.
6. Locate and select the **\Allfiles\Labs\06\az104-06-vms-template.json** file and select **Open**.
7. Select **Save**.
8. Select **Edit parameters** and load the **\Allfiles\Labs\06\az104-06-vms-parameters.json** file.
9. Select **Save**.

10. Use the following information to complete the fields on the custom deployment page, leaving all other fields with the default value.

Setting	Value
Subscription	your Azure subscription
Resource group	az104-rg6 (If necessary, select Create new)
Password	Provide a secure password

Note: If you receive an error that the VM size is unavailable, select a SKU that is available in your subscription and has at least 2 cores.

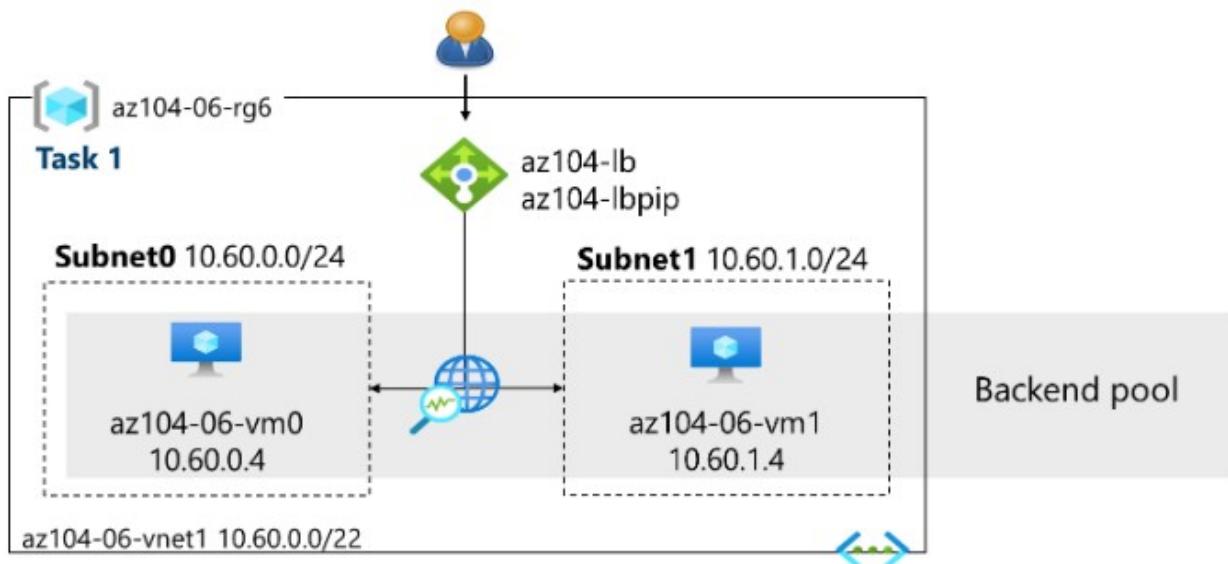
11. Select **Review + create** and then select **Create**.

Note: Wait for the deployment to complete before moving to the next task. The deployment should take approximately 5 minutes.

Note: Review the resources being deployed. There will be one virtual network with three subnets. Each subnet will have a virtual machine.

Task 2: Configure an Azure Load Balancer

In this task, you implement an Azure Load Balancer in front of the two Azure virtual machines in the virtual network. Load Balancers in Azure provide layer 4 connectivity across resources, such as virtual machines. Load Balancer configuration includes a front-end IP address to accept connections, a backend pool, and rules that define how connections should traverse the load balancer.



Microsoft Azure (Upgrade)

Home

Custom deployment

Deploy from a custom template

Select a template Basics Review + create

Automate deploying resources with Azure Resource Manager templates in a single, coordinated operation. Select a template below to get started. Learn more about template deployment [♂](#)

[Build your own template in the editor](#)

Common templates

- Create a Linux virtual machine
- Create a Windows virtual machine
- Create a web app
- Create a SQL database
- Azure landing zone

Start with a quickstart template or template spec

Template source Quickstart template Template spec

Quickstart template (disclaimer) [♂](#)

Search: deploy a custom template

All Services (99+) Marketplace (1) More (4)

Services

- Deploy a custom template
- Adviser
- Oracle Database@Azure
- Virtual machines

Marketplace

Template deployment (deploy using custom templates)

Documentation

- Deploy resources with Azure portal - Azure Resource Manager
- Deploy resources with PowerShell and template - Azure Resource Manager
- Deploy a fine-tuned model - Azure OpenAI
- Deploy resources to management group - Azure Resource Manager

Continue searching in Microsoft Entra ID

Searching all subscriptions. [Give feedback](#)

https://portal.azure.com/#create/Microsoft.Template

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Template source Quickstart template Template spec

Quickstart template (disclaimer) [♂](#)

Search resources, services, and docs (G+)

Copilot

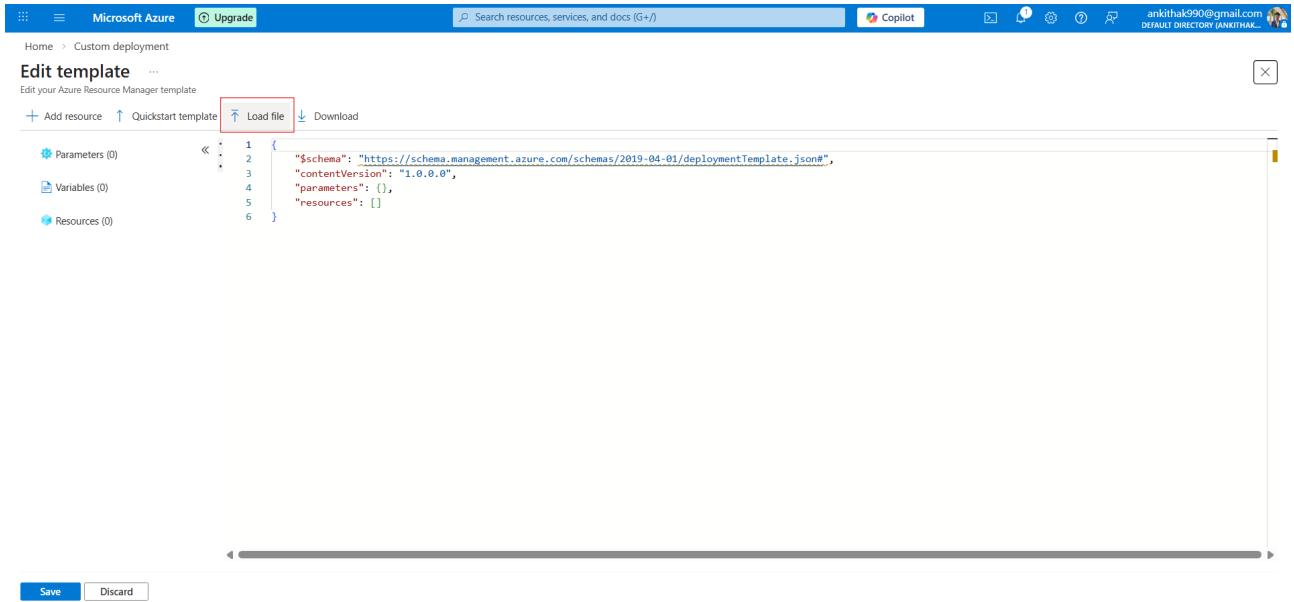
Microsoft Azure Upgrade Search resources, services, and docs (G+) Copilot Home > Custom deployment Edit template ... Edit your Azure Resource Manager template Add resource Quickstart template Load file Download

```
Parameters (0) 1 {  
2   "$$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",  
3   "contentVersion": "1.0.0.0",  
4   "parameters": {},  
5   "resources": []  
6 }
```

Variables (0)

Resources (0)

Save Discard



template link : <https://github.com/MicrosoftLearning/AZ-104-MicrosoftAzureAdministrator/blob/master/Allfiles/Labs/06/az104-06-vms-template.json>

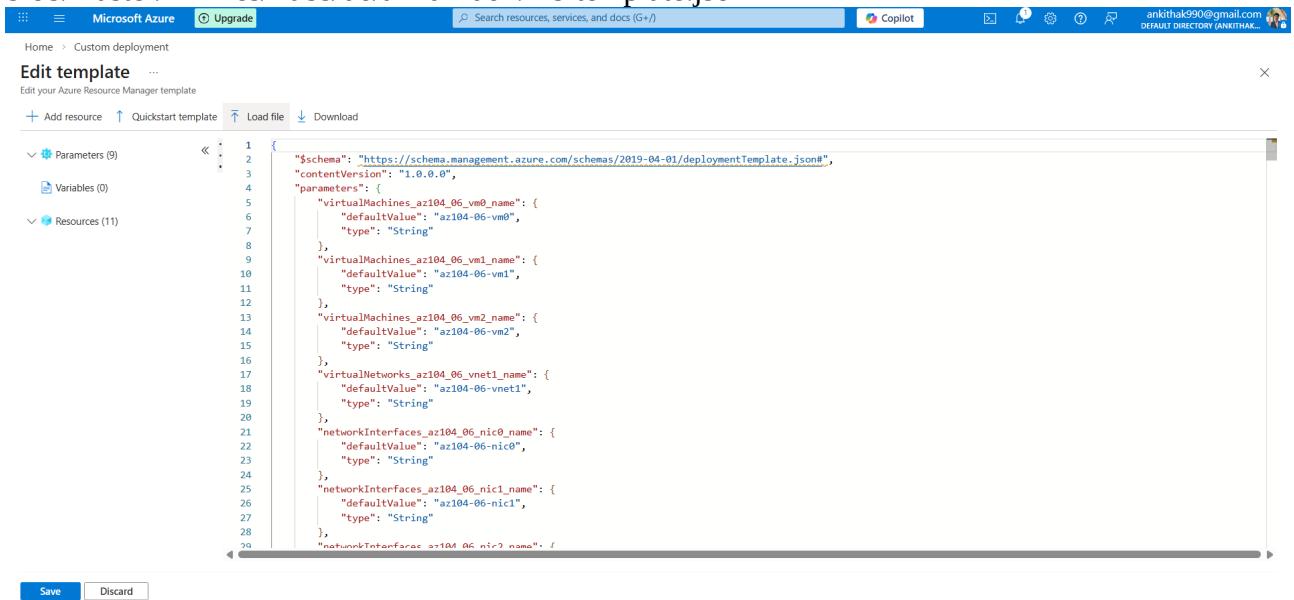
Microsoft Azure Upgrade Search resources, services, and docs (G+) Copilot Home > Custom deployment Edit template ... Edit your Azure Resource Manager template Add resource Quickstart template Load file Download

```
Parameters (9) 1 {  
2   "$$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",  
3   "contentVersion": "1.0.0.0",  
4   "parameters": {  
5     "virtualMachines_az104_06_vm0_name": {  
6       "defaultValue": "az104-06-vm0",  
7       "type": "String"  
8     },  
9     "virtualMachines_az104_06_vm1_name": {  
10       "defaultValue": "az104-06-vm1",  
11       "type": "String"  
12     },  
13     "virtualMachines_az104_06_vm2_name": {  
14       "defaultValue": "az104-06-vm2",  
15       "type": "String"  
16     },  
17     "virtualNetworks_az104_06_vnet1_name": {  
18       "defaultValue": "az104-06-vnet1",  
19       "type": "String"  
20     },  
21     "networkInterfaces_az104_06_nic0_name": {  
22       "defaultValue": "az104-06-nic0",  
23       "type": "String"  
24     },  
25     "networkInterfaces_az104_06_nic1_name": {  
26       "defaultValue": "az104-06-nic1",  
27       "type": "String"  
28     },  
29     "networkInterfaces_az104_06_nic2_name": {  
30       "defaultValue": "az104-06-nic2",  
31       "type": "String"  
32     }  
33   }  
34   "resources": [  
35     {  
36       "type": "Microsoft.Compute/virtualMachines",  
37       "name": "[parameters('virtualMachines_az104_06_vm0_name')]",  
38       "location": "West US",  
39       "properties": {  
40         "osProfile": {  
41           "computerName": "[parameters('virtualMachines_az104_06_vm0_name')]",  
42           "adminUsername": "az104-06",  
43           "adminPassword": "P@ssw0rd!",  
44           "linuxConfiguration": {  
45             "disablePasswordAuthentication": false  
46           }  
47         },  
48         "hardwareProfile": {  
49           "vmSize": "Standard_B1s"  
50         },  
51         "networkProfile": {  
52           "networkInterfaces": [  
53             {  
54               "id": "[resourceId('Microsoft.Network/networkInterfaces', parameters('networkInterfaces_az104_06_nic0_name'))]",  
55               "primary": true,  
56               "properties": {  
57                 "ipConfigurations": [  
58                   {  
59                     "name": "[resourceId('Microsoft.Network/ipConfigurations', parameters('networkInterfaces_az104_06_nic0_name'))]",  
60                     "properties": {  
61                       "subnet": "[resourceId('Microsoft.Network/virtualNetworkSubnets', parameters('virtualNetworks_az104_06_vnet1_name'))]"  
62                     }  
63                   }  
64                 ]  
65               }  
66             }  
67           ]  
68         }  
69       }  
70     }  
71   ]  
72 }
```

Variables (0)

Resources (11)

Save Discard



save

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Custom deployment ... Can I deploy multiple resources within a single ARM template? How do I roll back a failed ARM deployment? Generate a cheatsheet for deploying resources with CLI Copilot

New! Deployment Stacks let you manage the lifecycle of your deployments. Try it now →

Select a template Basics Review + create

Template Customized template 11 resources Edit template Edit parameters Visualize

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 subscription 1 Resource group * Create new

Instance details

Region * West US

Virtual Machines_az104_06_vm0_name az104-06-vm0

Virtual Machines_az104_06_vm1_name az104-06-vm1

Virtual Machines_az104_06_vm2_name az104-06-vm2

Virtual Networks_az104_06_vnet1_name az104-06-vnet1

Previous Next Review + create

<https://portal.azure.com/#>

Microsoft Azure Upgrade Search resources, services, and docs (G+)

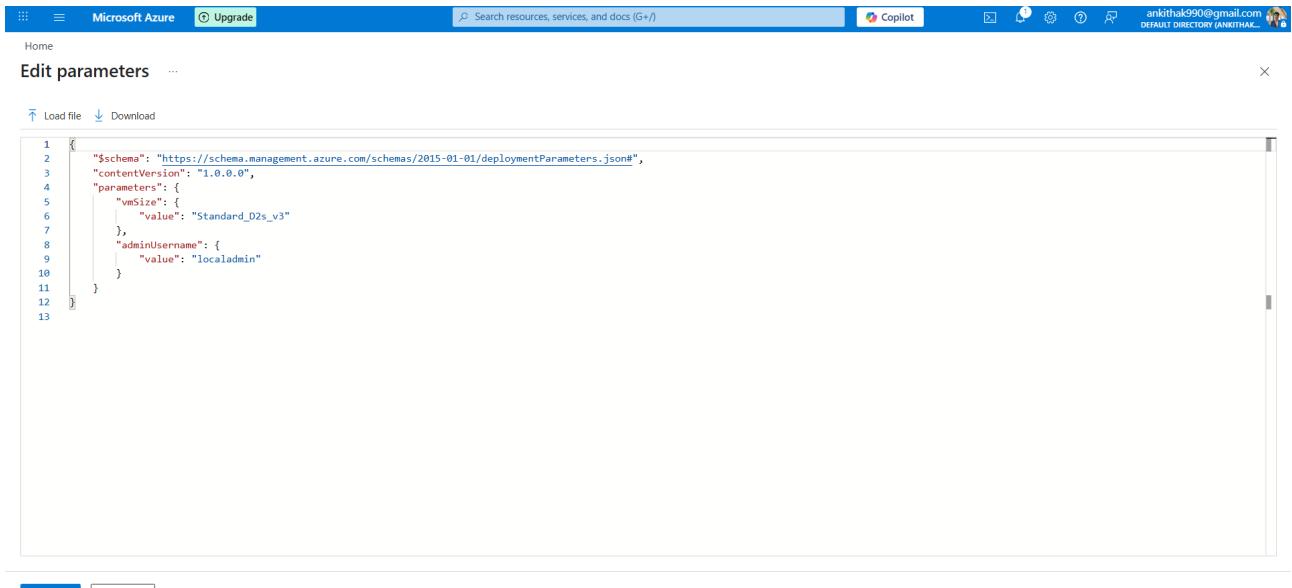
Edit parameters ...

Load file Download

```
1 {
2   "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentParameters.json",
3   "contentVersion": "1.0.0.0",
4   "parameters": {
5     "virtualMachines_az104_06_vm0_name": {
6       "value": "az104-06-vm0"
7     },
8     "virtualMachines_az104_06_vm1_name": {
9       "value": "az104-06-vm1"
10    },
11    "virtualMachines_az104_06_vm2_name": {
12      "value": "az104-06-vm2"
13    },
14    "virtualNetworks_az104_06_vnet1_name": {
15      "value": "az104-06-vnet1"
16    },
17    "networkInterfaces_az104_06_nic0_name": {
18      "value": "az104-06-nic0"
19    },
20    "networkInterfaces_az104_06_nic1_name": {
21      "value": "az104-06-nic1"
22    },
23    "networkInterfaces_az104_06_nic2_name": {
24      "value": "az104-06-nic2"
25    },
26    "networkSecurityGroups_az104_06_nsg1_name": {
27      "value": "az104-06-nsg1"
28    },
29    "adminPassword": {
30    }
31 }
```

Save Discard

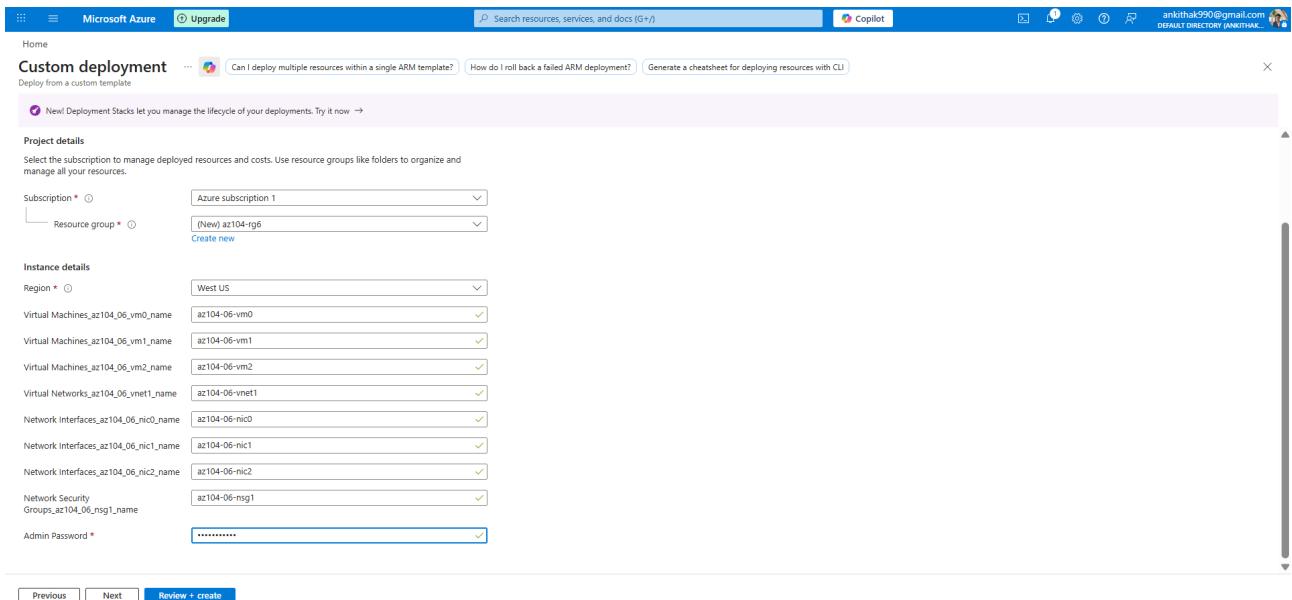
load file



```
1  {
2      "$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentParameters.json#",
3      "contentVersion": "1.0.0.0",
4      "parameters": {
5          "vmSize": {
6              "value": "Standard_D2s_v3"
7          },
8          "adminUsername": {
9              "value": "localadmin"
10         }
11     }
12 }
13
```

[Save](#) [Discard](#)

parameter link:<https://github.com/MicrosoftLearning/AZ-104-MicrosoftAzureAdministrator/blob/master/Allfiles/Labs/06/az104-06-vms-parameters.json>



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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 subscription 1](#)

Resource group * [\(New\) az104-rg6](#) [Create new](#)

Instance details

Region *	West US
Virtual Machines_az104_06_vm0_name	az104-06-vm0
Virtual Machines_az104_06_vm1_name	az104-06-vm1
Virtual Machines_az104_06_vm2_name	az104-06-vm2
Virtual Networks_az104_06_vnet1_name	az104-06-vnet1
Network Interfaces_az104_06_nic0_name	az104-06-nic0
Network Interfaces_az104_06_nic1_name	az104-06-nic1
Network Interfaces_az104_06_nic2_name	az104-06-nic2
Network Security Groups_az104_06_nsgr1_name	az104-06-nsgr1

Admin Password * [View password](#)

[Previous](#) [Next](#) [Review + create](#)

created a new resource group and added password

Home >

Microsoft.Template-20250114094611 | Overview

Deployment

Search X < > Delete Cancel Redeploy Download Refresh

Overview

- Inputs
- Outputs
- Template

Deployment is in progress

Deployment name : Microsoft.Template-20250... Start time : 1/14/2025, 9:46:14 AM
Subscription : Microsoft Azure Sponsor... Correlation ID : f19d407d-0c56-4ee8-9717...
Resource group : az104-rg6

Deployment details

Resource	Type	Status
az104-06-vnet1	Virtual network	Created
az104-06-nsg1	Network security group	OK

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Home > Load balancing

Load balancing | Load Balancer

Search X < > + Create Manage view Refresh Export to CSV Open query Assign tags

Overview

- Load Balancing Services
- Application Gateway
- Front Door and CDN profiles
- Load Balancer**
- Traffic Manager

Filter for any field... Subscription equals 2 of 3 selected Resource group equals all Add filter More (1)

Showing 0 to 0 of 0 records.

Name ↑↓	SKU ↑↓	Resource group ↑↓	Location ↑↓	Subscription ↑↓
---------	--------	-------------------	-------------	-----------------

No grouping List view

No load balancers to display

Azure Load Balancer enables your applications to be highly available and scalable. You can scale up and down based on your traffic patterns. Azure Load Balancer is best suited for network traffic requiring high performance and ultra-low latency.

+ Create

Learn more about Load balancers

Give feedback

[Home](#) > [Load balancing and content delivery](#) | Load balancers

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 four-tuple distribution. By definition, a 4-tuple (source IP, source port, destination IP, destination port) of protocol type has to map traffic to available servers. External ports can be public-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 * [Azure subscription 1](#)
 Resource group * [az104-rg6](#) [Create new](#)

Instance details

Name * [az104-lb](#)
 Region * [West US](#)
 SKU * Standard (Distribute traffic to backend resources)
 Gateway (Direct traffic to network virtual appliances)
 Type * Public
 Internal
 Tier * Regional
 Global

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

Create load balancer

[Basics](#) [**Frontend IP configuration**](#) [Backend pools](#) [Inbound rules](#) [Outbound rules](#) [Tags](#)

A frontend IP configuration is an IP address used for inbound and/or outbound communication as defined by the load balancer.

[+ Add a frontend IP configuration](#)
Name ↑↓

[Add a frontend IP to get started](#)

Add frontend IP configuration

az104-lb

Name * [az104-fe](#)
 IP version IPv4
 IPv6
 IP type IP address
 IP prefix
 Public IP address * [Select public IP address](#)
[Create new](#)
 Gateway Load balancer [None](#)

[Save](#)
[Cancel](#)
[Give feedback](#)
[Review + create](#) [< Previous](#) [Next : Backend pools >](#) [Download a template for automation](#)
Name ↑↓

[Add a frontend IP to get started](#)

Add a public IP address

Name * [az104-lbpip](#)
 SKU Standard
 Tier Regional
 Static IPs are assigned at the time the resource is created and released when the resource is deleted. Dynamic IPs are assigned when associating the IP to a resource and is released when you stop, restart, or delete a resource. Dynamic is only available for Basic SKU.
 Assignment Dynamic
 Static
 Availability zone * [No Zone](#)

[Save](#)
[Cancel](#)

Create load balancer

X

[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 ↑↓

az104-fe

IP address ↑↓

(new) az104-lbpip (To be created)

[Review + create](#)

< Previous

Next : Backend pools >

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

Create load balancer

X

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

A backend pool is a collection of resources to which your load balancer can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, and containers.

[+ Add a backend pool](#)

Name

Virtual network

Resource Name

Network interface

IP address

Availability zone

Admin state

Add a backend pool to get started

[Review + create](#)

< Previous

Next : Inbound rules >

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

Add backend pool

...

X

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.

+ Add | X Remove

Resource Name	Resource group	Type	IP configuration	IP Addr...	Availabi...

Save

Add backend pool

...

X

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.

+ Add | X Remove

Resource Name	Resource group	Type	IP configuration	IP Addr...	Availabi...

Add IP configurations to backend pool

Add bac

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.

Name * Location : northeurope Virtual network : az104-06-vnet1

Show resources that are not available for selection

Resource Name	Resource group	Type	IP configurati...	IP Address	Availability set	Tags
az104-06-vm0	az104-rg6	Virtual machine	ipconfig1	10.60.0.4	-	-
az104-06-vm1	az104-rg6	Virtual machine	ipconfig1	10.60.1.4	-	-
az104-06-vm2	az104-rg6	Virtual machine	ipconfig1	10.60.2.4	-	-

IP configura

Virtual machine (3)

IP configuration same virtual ne

+ Add | Reso

Save

Add backend pool

X

Name *

Virtual network

Backend Pool Configuration NIC

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](#)

Resource Name	Resource group	Type	IP configuration	IP Addr...	Availabi...	
az104-06-vm0	az104-rg6	Virtual machine	ipconfig1	10.60.0.4	-	
az104-06-vm1	az104-rg6	Virtual machine	ipconfig1	10.60.1.4	-	

[Save](#)[Cancel](#)[Give feedback](#)

Create load balancer

X

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

A backend pool is a collection of resources to which your load balancer can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, and containers.

[+ Add a backend pool](#)

Name	Virtual network	Resource Name	Network interface	IP address	Availability zone	Admin state	
az104-be							
az104-be	az104-06-vnet1	az104-06-vm0	az104-06-nic0	10.60.0.4	-	None	
az104-be	az104-06-vnet1	az104-06-vm1	az104-06-nic1	10.60.1.4	-	None	

[Review + create](#)< PreviousNext : Inbound rules >[Download a template for automation](#)[Give feedback](#)

Create load balancer ...

X

Validation passed

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

Basics

Subscription	Microsoft Azure Sponsorship
Resource group	az104-rg6
Name	az104-lb
Region	North Europe
SKU	Standard
Tier	Regional
Type	Public

Frontend IP configuration

Frontend IP configuration name	az104-fe
Frontend IP configuration IP address	To be created

Backend pools

Backend pool name	az104-be
-------------------	----------

Create

< Previous

Next >

Download a template for automation

Give feedback

Home >

Microsoft.LoadBalancer-20250114095206 | Overview**... Deployment in progress...**

Deployment to resource group 'az104-rg6' is in progress.



Deployment

Overview

Deployment is in progress

Deployment name : Microsoft.LoadBalancer-20... Start time : 1/14/2025, 9:55:27 AM
 Subscription : Microsoft Azure Sponsorsh... Correlation ID : 9618d0a9-5928-4281-9b42...
 Resource group : az104-rg6

Deployment details

Resource	Type	Status	O
az104-lbpip	Public IP address	Created	C

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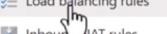
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az104-lb    

Load balancer

Search  Move  Delete  Refresh  Give feedback 

Overview  **Essentials**  JSON View

Activity log	Resource group (move) az104-rg6	Backend pool az104-be (2 virtual machines)
Access control (IAM)	Location North Europe	Load balancing rule -
Tags	Subscription (move) Microsoft Azure Sponsorship	Health probe -
Diagnose and solve problems	Subscription ID c74707ac-3518-4ac0-b5bc-2229b02f9a52	NAT rules 0 inbound
Settings	SKU Standard	Tier Regional
Frontend IP configuration		
Backend pools		
Health probes		
Load balancing rules 	Tags (edit) Add tags	
Inbound NAT rules		
Outbound rules		
Properties		
Locks		
Monitoring		
Automation		

Configure high availability and scalability for your applications

Create highly-available and scalable applications in minutes by using built-in load balancing for cloud services and virtual machines. Azure Load Balancer supports TCP/UDP-based protocols and protocols used for real-time voice and video messaging applications. [Learn more](#) 




az104-lb | Load balancing rules    

Load balancer

Search  Add  Refresh  Delete 

Load balancing rules 

A load balancer rule is used to define how incoming traffic is distributed to the all the instances within the backend pool. A load-balancing rule maps a given frontend IP configuration and port to multiple backend IP addresses and ports. An example would be a rule created on port 80 to load balance web traffic. [Learn more](#) 

 Name 	Protocol 	Backend pool 	Health probe 	Health status
No results.				

 Inbound NAT rules  Outbound rules

Add load balancing rule ...

az104-lb

IP Version *

 IPv4 IPv6

Frontend IP address * ⓘ

az104-fe (65.52.226.243)



Backend pool * ⓘ

az104-be



Protocol

 TCP UDP

Port *

80

Backend port * ⓘ

80



Health probe * ⓘ

No existing probes

[Create new](#)

Session persistence ⓘ

None



Idle timeout (minutes) * ⓘ

4

Enable TCP Reset

[Give feedback](#)[Save](#)[Cancel](#)**Add load balancing rule** ...

az104-lb

Backend pool * ⓘ

az104-be



Protocol

 TCP UDP

Port *

80

Backend port * ⓘ

80



Health probe * ⓘ

No existing probes

[Create new](#)

Session persistence ⓘ

None



Idle timeout (minutes) * ⓘ

4

Enable TCP Reset



need to create health probe

Add load balancing rule

az104-lb

Backend pool * Protocol TCP UDPPort * Backend port * Health probe * Session persistence Idle timeout (minutes) * Enable TCP Reset Enable Floating IP Outbound source network address translation (SNAT) (Recomm. access to)

① 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="az104-hp"/>
Protocol *	<input type="text" value="TCP"/>
Port * <input type="text" value="80"/>	
Interval (seconds) * <input type="text" value="5"/>	
Used by * <input type="text" value="Not used"/>	

Save**Cancel****Save****Cancel**

Add load balancing rule

az104-lb

 UDPPort * Backend port * Health probe * Session persistence Idle timeout (minutes) * Enable TCP Reset Enable Floating IP Outbound source network address translation (SNAT) (Recommended) Use outbound rules to provide backend pool members access to the internet. [Learn more.](#) Use default port allocation to provide backend pool members with a minimal set of SNAT ports. This is not recommended because it can cause SNAT port exhaustion. [Learn more.](#)[Give feedback](#)**Save****Cancel**

Home > Microsoft.LoadBalancer-20250114095206 | Overview > az104-lb

az104-lb | Load balancing rules ☆ ...

Load balancer

Search Search Add Refresh Delete

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 Outbound rules Properties Locks Monitoring Automation

A load balancer rule is used to define how incoming traffic is distributed to the all the instances within the backend pool. A load-balancing rule maps a given frontend IP configuration and port to multiple backend IP addresses and ports. An example would be a rule created on port 80 to load balance web traffic. [Learn more.](#)

Filter by name... Name ↑ Protocol ↑ Backend pool ↑ Health probe ↑ Health status

Name ↑	Protocol ↑	Backend pool ↑	Health probe ↑	Health status
az104-lbrule	TCP/80	az104-be	az104-hp	View details

Give feedback

Home > Microsoft.LoadBalancer-20250114095206 | Overview > az104-lb

az104-lb | Load balancing rules ☆ ...

Load balancer

Search Search Add Refresh Delete

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 Outbound rules Properties Locks Monitoring Automation

A load balancer rule is used to define how incoming traffic is distributed to the all the instances within the backend pool. A load-balancing rule maps a given frontend IP configuration and port to multiple backend IP addresses and ports. An example would be a rule created on port 80 to load balance web traffic. [Learn more.](#)

Filter by name... Name ↑ Protocol ↑ Backend pool ↑ Health probe ↑ Health status

Name ↑	Protocol ↑	Backend pool ↑	Health probe ↑	Health status
az104-lbrule	TCP/80	az104-be	az104-hp	View details

Home > Microsoft.LoadBalancer-20250114095206 | Overview > az104-lb

az104-lb | Frontend IP configuration ☆ ...

Load balancer

Search Search Add Refresh

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 Outbound rules Properties Locks Monitoring Automation

The frontend IP address configuration of a load balancer serves as the entry point for incoming traffic to the load balancer, and the load balancer then distributes the traffic to the backend pool of virtual machines or services. [Learn more.](#)

Type to start filtering ...

Showing all 1 items

Name ↑	IP address ↑	Rules count ↑
az104-fe	65.52.226.243 (az104-lbpip)	1

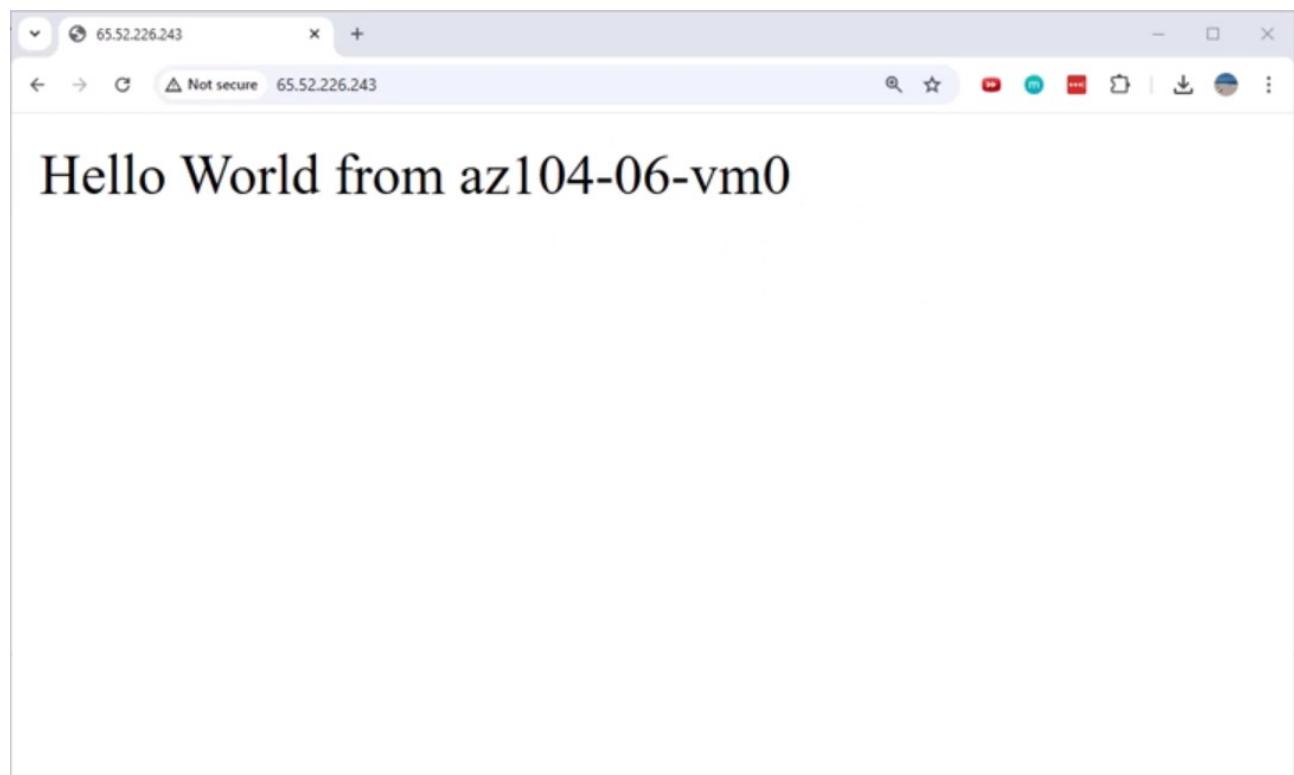
Give feedback

paste the front end ip address in browser



Hello World from az104-06-vm1

refresh



Hello World from az104-06-vm0

az104-06-vnet1 | Subnets

Virtual network

Subnets

Name ↑	IPAM Pool ↑	IPv4 ↑	IPv6 ↑	Available IPs ↑	Delegated to ↑	Security gro... ↑	Route tal...
subnet0	-	10.60.0.0/24	-	250	-	-	-
subnet1	-	10.60.1.0/24	-	250	-	-	-
subnet2	-	10.60.2.0/24	-	250	-	-	-

Add a subnet

Select an address space and configure your subnet. You can customize a default subnet or select from subnet templates if you plan to add select services later. [Learn more](#)

Subnet purpose Default

Name subnet-appgw

IPv4

Include an IPv4 address space

IPv4 address range 10.60.0.0/22
10.60.0.0 - 10.60.3.255

Starting address 10.60.3.224

Size /27 (32 addresses)

Subnet address range 10.60.3.224 - 10.60.3.255

IPv6

Include an IPv6 address space This virtual network has no IPv6 address ranges.

Private subnet

Private subnets enhance security by not providing default outbound access. To enable outbound connectivity for virtual machines to access the internet, it is necessary to explicitly grant outbound access. A NAT gateway is the recommended way to provide outbound connectivity for virtual machines in the subnet. [Learn more](#)

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

application gateway needed its own subnet

az104-06-vnet1 | Subnets

Virtual network

Subnets

Add a subnet

Select an address space and configure your subnet. You can customize a default subnet or select from subnet templates if you plan to add select services later. [Learn more](#)

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

Microsoft Azure Upgrade

Home > Load balancing and content delivery

Load balancing and content delivery | Application gateways

No application gateways to display

Azure Application Gateway gives you application-level routing and load balancing services that let you build a scalable and highly-available web front end in Azure.

+ Create

Learn more about application_gateways

View service comparison

Showing 1 - 0 of 0. Display count: auto

Add or remove favorites by pressing Ctrl+Shift+F

Give feedback

Home > Load balancing | Application Gateway >

Create application gateway

Subscription * Microsoft Azure Sponsorship

Resource group * az104-rg6

Create new

Instance details

Application gateway name * az104-appgw

Region * North Europe

Tier Standard V2

Enable autoscaling Yes No

Home > Load balancing | Application Gateway >

Create application gateway

Create new

Instance details

Application gateway name * az104-appgw

Region * North Europe

Tier Standard V2

Enable autoscaling Yes No

Instance count * 2

Availability zone * Zones 1

IP address type IPv4 only Dual stack (IPv4 & IPv6)

HTTP2 Disabled Enabled

Configure virtual network

Virtual network * Create new

Previous Next : Frontends >

Create application gateway

x

Instance details

Application gateway name * ✓

Region *

Tier

Enable autoscaling Yes No

Instance count *

Availability zone *

IP address type IPv4 only Dual stack (IPv4 & IPv6)

HTTP2 Disabled Enabled

Configure virtual network

Virtual network * v
Create new

Subnet * v
Manage subnet configuration

[Previous](#)[Next : Frontends >](#)

Create application gateway

x

[✓ Basics](#) [2 Frontends](#) [3 Backends](#) [4 Configuration](#) [5 Tags](#) [6 Review + create](#)

Traffic enters the application gateway via its frontend IP address(es). An application gateway can use a public IP address, private IP address, or one of each type.³

Frontend IP address type Public Private Both

Public IPv4 address *

 v[Add new](#)

Add a public IP

Name * ✓

SKU Basic Standard

Assignment Dynamic Static

Availability zone

OK **Cancel**

[Previous](#)[Next : Backends >](#)

Create application gateway

>

[✓ Basics](#) [2 Frontends](#) [3 Backends](#) [4 Configuration](#) [5 Tags](#) [6 Review + create](#)

Traffic enters the application gateway via its frontend IP address(es). An application gateway can use a public IP address, private IP address, or one of each type.³

Frontend IP address type Public Private Both

Public IPv4 address *

 v[Add new](#)

Home > Load balancing | Application Gateway >
Create application gateway ...

✓ Basics ✓ Frontends ② Backends ④ Configuration ⑤ Tags ⑥ Review + creat

A backend pool is a collection of resources to which your application gateway can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, app services, IP addresses, or fully qualified domain names (FQDN).

Add a backend pool

Backend pool	Targets
No results	

Add a backend pool. X

A backend pool is a collection of resources to which your application gateway can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, app services, IP addresses, or fully qualified domain names (FQDN).

Name *

az104-appgwbe ✓

Add backend pool without targets

Yes No

Backend targets

2 items

Target type

Virtual machine

az104-06-nic1



Virtual machine

az104-06-nic2 (10.60.2.4)



IP address or FQDN

...

Previous

Next : Configuration >

Add Cancel

Home > Load balancing | Application Gateway >

Create application gateway ... X

✓ Basics ✓ Frontends ② Backends ④ Configuration ⑤ Tags ⑥ Review + creat

A backend pool is a collection of resources to which your application gateway can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, app services, IP addresses, or fully qualified domain names (FQDN). ?

Add a backend pool

Backend pool	Targets	...
az104-appgwbe	> 2 targets	...

Previous

Next : Configuration >

Create application gateway

✓ Basics ✓ Frontends ② Backends ④ Configuration ⑤ Tags ⑥ Review + create

A backend pool is a collection of resources to which your application gateway can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, app services, IP addresses, or fully qualified domain names (FQDN).

Add a backend pool

Backend pool	Targets
az104-appgwbe	> 2 targets

Add a backend pool.

X

A backend pool is a collection of resources to which your application gateway can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, app services, IP addresses, or fully qualified domain names (FQDN).

Name *



Add backend pool without targets

Yes No

Backend targets

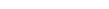
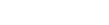
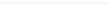
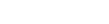
1 item

Target type

Virtual machine



IP address or FQDN



Create application gateway

Basics Frontends Backends Configuration Tags Review + create

A backend pool is a collection of resources to which your application gateway can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, app services, IP addresses, or fully qualified domain names (FQDN).

Add a backend pool

Backend pool	Targets
az104-appgwbe	> 2 targets
az104-imagebe	> 1 target

Add a backend pool.

X

A backend pool is a collection of resources to which your application gateway can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, app services, IP addresses, or fully qualified domain names (FQDN).

Name *

✓

Add backend pool without targets

 Yes No

Backend targets

1 item

Target type

Virtual machine



...

IP address or FQDN

Previous

Next : Configuration >

Add

Cancel

X

Create application gateway

Basics Frontends Backends Configuration Tags Review + create

A backend pool is a collection of resources to which your application gateway can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, app services, IP addresses, or fully qualified domain names (FQDN). [View details](#)

Add a backend pool

Backend pool	Targets	...
az104-appgwbe	> 2 targets	...
az104-imagebe	> 1 target	...
az104-videoobe	> 1 target	...

Previous

Next : Configuration >

Create application gateway ...

X

✓ Basics ✓ Frontends ✓ Backends Configuration Tags Review + create

Create routing rules that link your frontend(s) and backend(s). You can also add more backend pools, add a second frontend IP configuration if you haven't already, or edit previous configurations.

Frontends

+ Add a frontend IP
Public: (new) az104-gwpip

Routing rules

+ Add a routing rule

Backend pools

+ Add a backend pool

- az104-appgwbe
- az104-imagebe
- az104-videoobe

Previous Next : Tags >

Create application gateway ...

X

✓ Basics ✓ Frontends ✓ Backends Configuration

Create routing rules that link your frontend(s) and backend(s).

Frontends

+ Add a frontend IP
Public: (new) az104-gwpip

Add a routing rule

Rule name *

az104-grule

Priority * ①

10

*Listener * Backend targets

A listener "listens" on a specified port and IP address for traffic that uses a specified protocol. If the listener criteria are met, the application gateway will apply this routing rule.

Listener name * ①

az104-listene|

Frontend IP * ①

Public IPv4

 HTTP HTTPS

Protocol ①

80

 Basic Multi site

Port * ①

Listener type ①

Custom error pages

Show customized error pages for different response codes generated by Application Gateway. This section lets you configure Listener-specific error pages. [Learn more](#)Please verify that the url(s) being added here is reachable from your application gateway using the [connection troubleshoot](#) tool to prevent any deployment error.

Bad Gateway - 502

Enter Html file URL

Forbidden - 403

Enter Html file URL

Show more status codes

Add Cancel

Previous Next : Tags >

Create application gateway

 Basics Frontends Backends **Conf**

Create routing rules that link your frontend(s) and backend(s)



Frontends

[+ Add a frontend IP](#)

Public: (new) az104-gwpip

Add a routing rule

Rule name *

az104-gwrule

Priority *

10

* Listener Backend targets

Choose a backend pool to which this routing rule will send traffic. You will also need to specify a set of Backend settings that define the behavior of the routing rule.

Target type

 Backend pool Redirection

az104-appgwbe

Backend target * [\(i\)](#)[Add new](#)Backend settings * [\(i\)](#)[Add new](#)

Path-based routing

You can route traffic from this rule's listener to different backend targets based on the URL path of the request. You can also apply a different set of Backend settings based on the URL path.

Path based rules

Path	Target name	Backend setting name	Backend pool
No additional targets to display			

[Add multiple targets to create a path-based rule](#)[Previous](#)[Next : Tags >](#)[Add](#)[Cancel](#)

Target type

 Backend pool Redirection

az104-appgwbe

Backend target * [\(i\)](#)[Add new](#)Backend settings * [\(i\)](#)[Add new](#)

Path-based routing

Add Backend setting

[← Discard changes and go back to routing rules](#) Basics Frontends Backends **Conf**

Create routing rules that link your frontend(s) and backend(s)



Frontends

[+ Add a frontend IP](#)

Public: (new) az104-gwpip

Backend settings name *

az104-http

 HTTP HTTPS

Backend protocol

80



Backend port *

Additional settings

Cookie-based affinity [\(i\)](#) Enable DisableConnection draining [\(i\)](#) Enable DisableRequest time-out (seconds) * [\(i\)](#)

20

Override backend path [\(i\)](#)

Host name

By default, the Application Gateway sends the same HTTP host header to the backend as it receives from the client. If your backend application/service requires a specific host value, you can override it using this setting.

 Yes No

Override with new host name

 Yes No

Create custom probes

[Previous](#)[Next : Tags >](#)[Add](#)[Cancel](#)

Home > Load balancing | Application Gateway >

Create application gateway

✓ Basics ✓ Frontends ✓ Backends **4 Conf**

Create routing rules that link your frontend(s) and backend(s)

Frontends

+ Add a frontend IP

Public: (new) az104-gwpip

Add a routing rule

Priority * 10

* Listener * Backend targets

Choose a backend pool to which this routing rule will send traffic. You will also need to specify a set of Backend settings that define the behavior of the routing rule.³

Target type Backend pool Redirection

Backend target * az104-appgwbe

Add new az104-[http](#)

Backend settings * az104-[http](#)

Path-based routing

You can route traffic from this rule's listener to different backend targets based on the URL path of the request. You can also apply a different set of Backend settings based on the URL path.³

Path based rules

Path	Target name	Backend setting name	Backend pool
No additional targets to display			

Add multiple targets to create a path-based rule

Home > Load balancing | Application Gateway >

Create application gateway

✓ Basics ✓ Frontends ✓ Backends **4 Conf**

Create routing rules that link your frontend(s) and backend(s)

Frontends

+ Add a frontend IP

Public: (new) az104-gwpip

Add a path

← Discard changes and go back to routing rules

Target type Backend pool Redirection

Path * /image/*

Target name * images

Backend settings * az104-[http](#)

Backend target * az104-imagebe

Add new az104-[imagebe](#)

Previous Next : Tags > **Add** Cancel

Create application gateway

 Basics Frontends Backends Conf

Create routing rules that link your frontend(s) and backend(s)



Frontends

[+ Add a frontend IP](#)

Public: (new) az104-gwpip

Add a routing rule

Priority * Listener Backend targets

Choose a backend pool to which this routing rule will send traffic. You will also need to specify a set of Backend settings that define the behavior of the routing rule.

 Backend pool Redirection

az104-appgwbe

[Add new](#)

az104-http

[Add new](#)Backend settings *

Path-based routing

You can route traffic from this rule's listener to different backend targets based on the URL path of the request. You can also apply a different set of Backend settings based on the URL path.

Path based rules

Path	Target name	Backend setting name	Backend pool	...
/image/*	images	az104-http	az104-imagebe	...

[Add multiple targets to create a path-based rule](#)

Create application gateway

 Basics Frontends Backends Conf

Create routing rules that link your frontend(s) and backend(s)



Frontends

[+ Add a frontend IP](#)

Public: (new) az104-gwpip

Add a path

[← Discard changes and go back to routing rules](#)

Target type

 Backend pool RedirectionPath *

/video/*

Target name *

videos

Backend settings *

az104-http

Backend target *

az104-videoobe

[Add new](#)[Previous](#)[Next : Tags >](#)[Add](#)[Cancel](#)

Create application gateway

✓ Basics ✓ Frontends ✓ Backends **4 Configuration**

Create routing rules that link your frontend(s) and backend(s)



Frontends

+ Add a frontend IP

Public: (new) az104-gwpip

Add a routing rule

Priority * ⓘ

* Listener * Backend targets

Choose a backend pool to which this routing rule will send traffic. You will also need to specify a set of Backend settings that define the behavior of the routing rule. ⓘ

Target type

Backend pool Redirection

az104-appgwbe

Add new

az104-http

Add new

Backend target * ⓘ

Backend settings * ⓘ

Path-based routing

You can route traffic from this rule's listener to different backend targets based on the URL path of the request. You can also apply a different set of Backend settings based on the URL path. ⓘ

Path based rules

Path	Target name	Backend setting name	Backend pool	...
/image/*	images	az104-http	az104-imagebe	...
/video/*	videos	az104-http	az104-videoobe	...

Add multiple targets to create a path-based rule

Previous

Next : Tags >

Add

Cancel

Create application gateway

✓ Basics ✓ Frontends ✓ Backends **4 Configuration**

5 Tags

6 Review + create

Create routing rules that link your frontend(s) and backend(s). You can also add more backend pools, add a second frontend IP configuration if you haven't already, or edit previous configurations. ⓘ



Frontends

+ Add a frontend IP

Public: (new) az104-gwpip

...

az104-gwrule

Manage Backend settings



Routing rules

+ Add a routing rule



Backend pools

+ Add a backend pool

...

az104-appgwbe

...

az104-imagebe

...

az104-videoobe

Home > Load balancing | Application Gateway >

Create application gateway

Basics Frontends Backends Configuration Tags [Review + create](#)

Basics

Subscription	Microsoft Azure Sponsorship
Resource group	az104-rg6
Name	az104-appgw
Region	North Europe
Tier	Standard_v2
Enable autoscaling	Disabled
Instance count	2
Availability zone	Zones 1
HTTP2	Enabled
Virtual network	az104-06-vnet1
Subnet	subnet-appgw (10.60.3.224/27)
Subnet address space	10.60.3.224/27

Frontends

Public IPv4 address name	az104-gwpip
SKU	Standard
Assignment	Static

[Create](#) [Previous](#) [Next](#) Download a template for automation

*** Initializing deployment...
Initializing template deployment to resource group 'az104-rg6'.

Home > Microsoft.ApplicationGateway-20250114100333 | Overview > az104-rg6 > az104-appgw

az104-appgw | Backend health

Application gateway

Search Refresh Feedback

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

Backend health

By default, Azure Application Gateway probes backend servers to check their health and whether they're ready to serve requests. You can also create custom [Health Probes](#) to mention a specific hostname and path to be probed or a response code to be accepted as Healthy.

The Backend health report is updated based on the respective probe's refresh interval and doesn't depend on the page refresh.

Server (backend)	Status	Port (Backend s...)	Protocol	Details	Action
Loading...					

Backend health Connection troubleshoot Automation Help

Home > Microsoft.ApplicationGateway-20250114100333 | Overview > az104-rg6 > az104-appgw

az104-appgw | Backend health

Application gateway

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Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Monitoring

Alerts

Metrics

Diagnostic settings

Logs

Insights

Backend health

Connection troubleshoot

Automation

Help

Backend health

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The Backend health report is updated based on the respective probe's refresh interval and doesn't depend on the page refresh.

All	Healthy
Heart 4 out of 4	Green checkmark 4 out of 4

Search backend health

Server (backend ...)	Status	Port (Backend s...)	Protocol	Details	Action
10.60.1.4 (az104-app...)	Healthy	80 (az104- http)	Http	Success. Received 200 status code	
10.60.2.4 (az104-app...)	Healthy	80 (az104- http)	Http	Success. Received 200 status code	
10.60.2.4 (az104-vide...)	Healthy	80 (az104- http)	Http	Success. Received 200 status code	
10.60.1.4 (az104-imag...)	Healthy	80 (az104- http)	Http	Success. Received 200 status code	

all healthy

Home > Microsoft.ApplicationGateway-20250114100333 | Overview > az104-rg6 >

az104-appgw

Application gateway

Search Delete Refresh Feedback

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Tags

Diagnose and solve problems

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Metrics

Diagnostic settings

Logs

Insights

Backend health

Connection troubleshoot

Automation

Help

Essentials

Resource group ([move](#))
az104-rg6

Location
North Europe (Zone 1)

Subscription ([move](#))
[Microsoft Azure Sponsorship](#)

Subscription ID
c74707ac-3518-4ac0-b5bc-2229b02f9a52

Virtual network/subnet
[az104-06-vnet1/subnet-appgw](#)

Frontend public IP address
[20.82.186.133 \(az104-gwpip\)](#)

Frontend private IP address
-

Tier
Standard V2

Availability zone
1

Tags ([edit](#))
[Add tags](#)

Show data for last [1 hour](#) [6 hours](#) [12 hours](#) [1 day](#) [7 days](#) [30 days](#)

Sum Total Requests

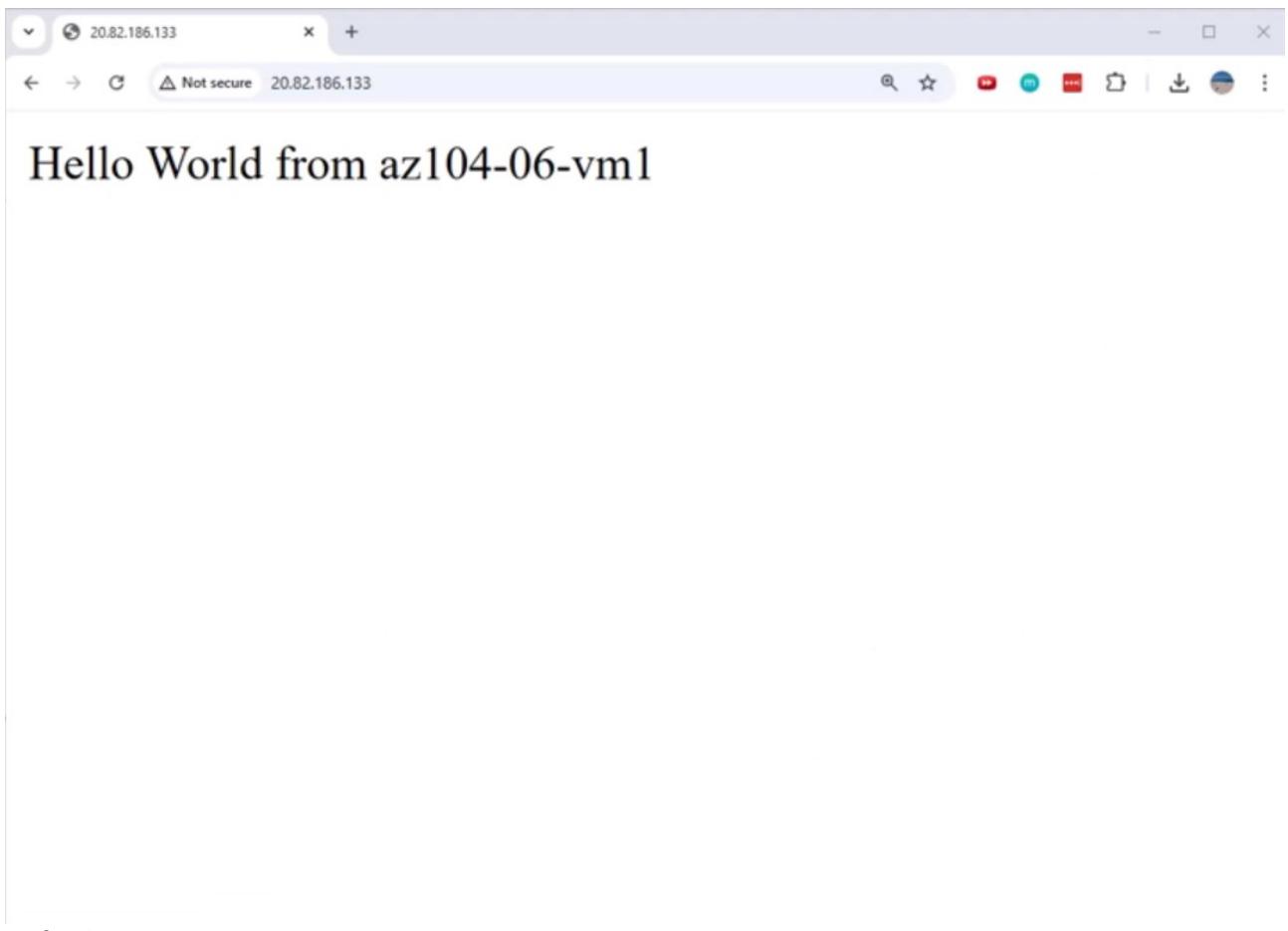
100	100
90	90
80	80
70	70

Sum Failed Requests

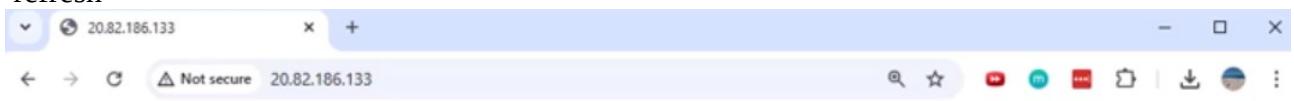
100	100
90	90
80	80
70	70

JSON View

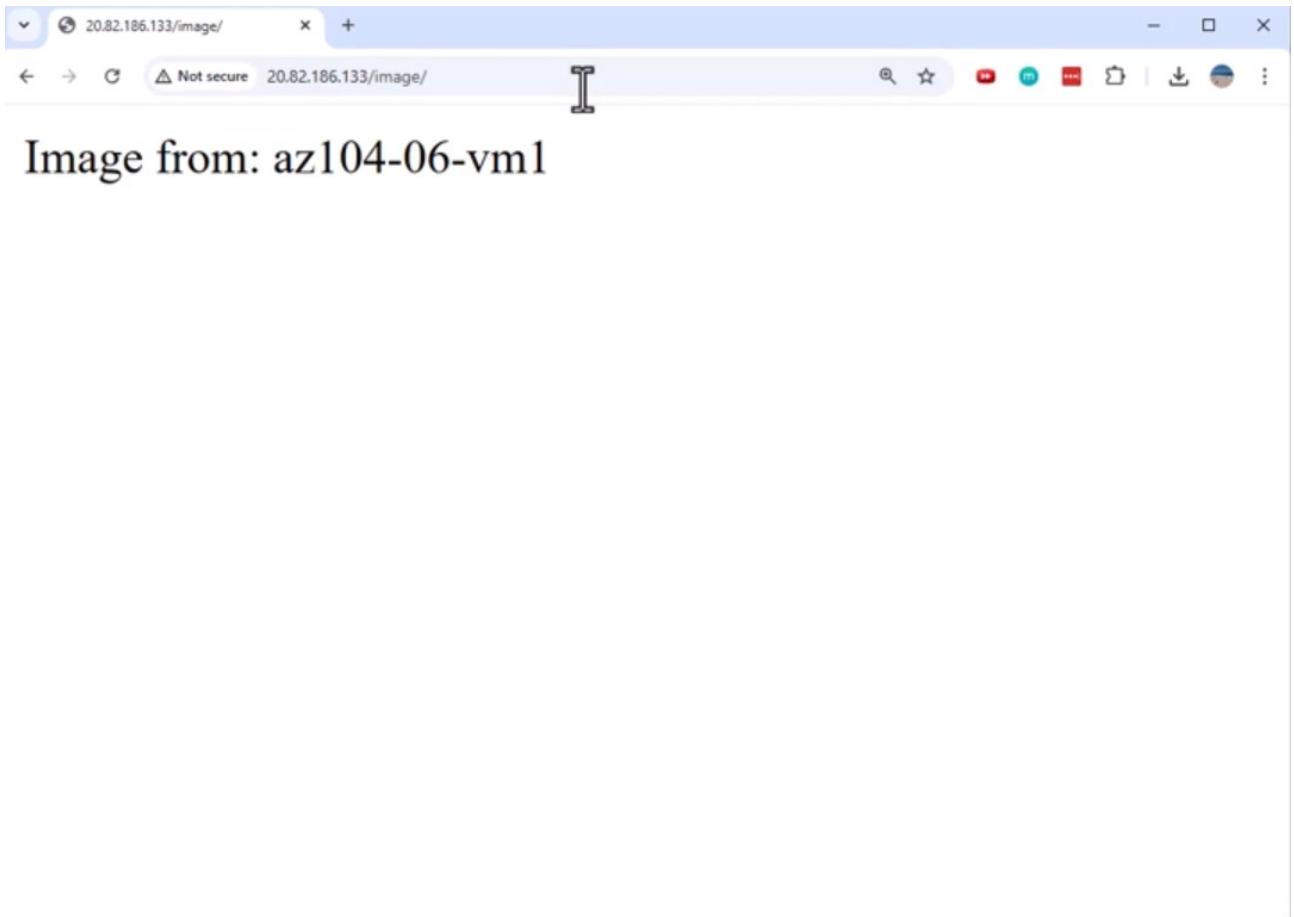
copy frontend ip address



refresh



Hello World from az104-06-vm2



comes from vm1



Video from: az104-06-vm2

i have created a standard load balancer that points to 2 vm to display website and also implemented the gateway pointing to machine 1 and 2 to display website nad also distinguish between server based on path which help with traffic management