

A. Hands-On: Create resource group 1. Open the Azure management console at <https://portal.azure.com/?quickstart=True#home> (you will be required to sign in using your free account)

2. In the Azure search bar paste the value as mentioned below and press enter. Resource groups 3. Click on Create a. Select Subscription as Free Trial/Pay-As-You-Go b. Resource group: paste the value as mentioned below GL-VMSS-RG c. Region leave the default value d. Click Review + Create e. Click Create

The screenshot shows the Azure portal interface for 'Resource groups'. The top navigation bar includes the Microsoft Azure logo, a search bar, and user information. The main content area shows a table with one record: 'GL-VMSS-RG' under the 'Pay-As-You-Go' subscription in the 'East US' region. The page includes filters, sorting options, and a 'Create' button.

B. Hands-On: Create Virtual Machine Scale Set :

Basics 1. In the Azure search bar paste the value as mentioned below and press enter. Virtual Machine Scale Sets

The screenshot shows the Azure portal interface for 'Virtual machine scale sets'. The page displays a message: 'No virtual machine scale sets to display'. Below the message is a 'Create virtual machine scale set' button and a 'Learn more' link.

2. Click on Create a. Select Subscription as Free Trial

Microsoft Azure

Home > Virtual machine scale sets >

Create a virtual machine scale set

Learn more about virtual machine scale sets

Project details

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

Subscription * Pay-As-You-Go

Resource group * GL-VMSS-RG

Create new

Scale set details

Virtual machine scale set name * virtual1

Region * (US) East US

Availability zone Zones 1, 2, 3

Autoscaling can help you respond to an outage by scaling out new instances in another zone.

Orchestration

A scale set has a "scale set model" that defines the attributes of virtual machine instances (size, number of data disks, etc). As the number of instances in the scale set changes, new instances are added based on the scale set model.

Learn more about the scale set model

< Previous Next: Spot > Review + create

Give feedback

b. Resource group as GL-VMSS-RG (should be already by default)

c. Virtual Machine Scale Set Name : Provide a name of your choice

d. Region : Select East US

e. Availability Zone : Select All zones available in the drop down

Microsoft Azure

Home > Virtual machine scale sets >

Create a virtual machine scale set

Orchestration mode *

☒ Flexible: achieve high availability at scale with identical or multiple virtual machine types

☐ Uniform: optimized for large scale stateless workloads with identical instances

Security type

Trusted launch virtual machines

Configure security features

Scaling

Scaling mode

☒ Manually update the capacity: Maintain a fixed amount of instances.

☐ Autoscaling: Scaling based on a CPU metric, on any schedule.

☐ No scaling profile: manual attach virtual machines after deployment

Instance count *

2

Configure scaling options

Instance details

Image *

Ubuntu Server 20.04 LTS - x64 Gen2

See all images | Configure VM generation

VM architecture

☐ Arm64

☒ x64

< Previous Next: Spot > Review + create

Give feedback

f. Image : Select Ubuntu 20.04

g. Authentication type : SSH public key

h. Username : azureuser

i. SSH source : Generate New Key Pair j. Key Pair Name : Enter a name of your choice 3. Click on Next : Disks 4. Use the default options and click on Next : Networking

Microsoft Azure

Home > Virtual machine scale sets >

Create a virtual machine scale set

+ Create new nic - Delete

NAME	CREATE PUBLIC...	SUBNET	NETWORK SECUR...	ACCELERATED N...
GL-VMSS-RG-vnet-nic01	Yes	default (10.0.0.0/20)	Basic	On

Load balancing

You can place this virtual machine in the backend pool of an existing Azure load balancing solution. [Learn more](#)

Load balancing options

☐ None

☒ **Azure load balancer**
Supports all TCP/UDP network traffic, port-forwarding, and outbound flows.

☐ Application gateway
Web traffic load balancer for HTTP/HTTPS with URL-based routing, SSL termination, session persistence, and web application firewall.

To allow traffic from your load balancing product, please update the appropriate port configuration on your network security group associated with your network interface.

Select a load balancer *

No existing load balancers in current subscription and location.
[Create a load balancer](#)

< Previous Next: Management > Review + create

Create a load balancer

Details such as subscription and resource group will be inherited from the virtual machine that you're creating. A default IP, backend pool, and load balancer rule will be created on your behalf, though certain configurations can be changed if desired.

Load balancer name *

Type *

☒ **Public**
Provides outbound connections for virtual machines inside your virtual network using public load balancers.

☐ Internal
Used to load balance traffic inside a virtual network. A load balancer frontend can be accessed from an on-premises network in a hybrid scenario.

Protocol *

☒ TCP

☐ UDP

Rules

Rules

☒ Load balancer rule

☒ Inbound NAT rule

Create Cancel

Microsoft Azure

Home > Virtual machine scale sets >

Create a virtual machine scale set

Running final validation...

Basics Spot Disks Networking Management Health Advanced Tags Review + create

Basics

Subscription	Pay-As-You-Go
Resource group	GL-VMSS-RG
Virtual machine scale set name	virtual1
Region	East US
Orchestration mode	Flexible
Availability zone	1,2,3
Image	Ubuntu Server 20.04 LTS - Gen2
Size	Standard D2s v3 (2 vcpus, 8 GiB memory)
Scaling mode	Manually update the capacity
Instance count	2
Security type	Trusted launch virtual machines
Enable secure boot	Yes
Enable vTPM	Yes
Integrity monitoring	No
Enable Hibernation (preview)	No

< Previous Next > Create

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

D. Hands-On: Create Virtual Machine Scale Set : Scaling 1. Use the following options in the Scaling tab

a. Initial Instance Count : 2 b. Scaling Policy : Custom c. Minimum instances : 2 d. Maximum instances : 5 e. Rest of the options can be left to their default values 2. Click on Next : Management. 3. Use the default options and click on Next : Health

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

All services > Help + support > virtual1

virtual1 | Scaling Virtual machine scale set

Scaling

Availability + scale

Scaling

Manual scale ☐ Custom autoscale ☒

Manual scale: Maintain a fixed instance count

Custom autoscale: Scale on any schedule, based on any metrics

Custom autoscale

Autoscale setting name * virtual1-Autoscale-715

Resource group GL-VMSS-RG

Predictive autoscale Mode Disabled Pre-launch setup of instances (minutes) 0

Enable Forecast only or Predictive autoscale. [Learn more about Predictive autoscale.](#)

Default * Auto created default scale condition

Delete warning The very last or default recurrence rule cannot be deleted. Instead, you can disable autoscale to turn off autoscale.

Scale mode ☐ Scale based on a metric ☒ Scale to a specific instance count

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

All services > Help + support > virtual1

virtual1 | Scaling Virtual machine scale set

Scaling

Availability + scale

Scaling

Resource group GL-VMSS-RG

Predictive autoscale Mode Disabled Pre-launch setup of instances (minutes) 0

Enable Forecast only or Predictive autoscale. [Learn more about Predictive autoscale.](#)

Default * Auto created default scale condition

Delete warning The very last or default recurrence rule cannot be deleted. Instead, you can disable autoscale to turn off autoscale.

Scale mode ☒ Scale based on a metric ☐ Scale to a specific instance count

Rules Scale is based on metric trigger rules but no rule(s) is defined; click [Add a rule](#) to create a rule. For example: 'Add a rule that increases instance count by 1 when CPU Percentage is above 70%'. If no rules is defined, the resource will be set to default instance count.

Instance limits Minimum * 2 Maximum * 5 Default * 2

Schedule This scale condition is executed when none of the other scale condition(s) match

+ Add a scale condition

E. Hands-On: Create Virtual Machine Scale Set : Health a. Check the box “ Enable application health monitoring” b. Protocol : HTTP c. Port number : 80 d. Path : /health.html e. Click on Next : Advanced

All services > Help + support > virtual1

virtual1 | Health and repair ☆ ...

Virtual machine scale set

Health

Overview

Settings

Properties

Operations

Health and repair

Help

Resource health

Application health monitor *

Application health extension

Application health monitoring is required by rolling upgrades, and automatic OS upgrades.

You can only enable one health monitor. You have Application health extension enabled already.

Health states * ⓘ

Binary - healthy or unhealthy

Protocol * ⓘ

HTTP

Port number * ⓘ

80

Request path * ⓘ

/health.html

Automatic repair policy

Before enabling the automatic repairs policy, review the requirements for opting in. [Learn more](#)

Enable automatic repairs ⓘ

☐

Grace period (min) ⓘ

10

Save Discard

F. Hands-On: Create Virtual Machine Scale Set : Advanced a. Under the field Custom Data, enter the following script (As always, please be careful while copying the script) `#!/bin/bash`
`APP_NAME=LiftShift-Application apt update -y && apt -y install python3-pip zip cd /opt wget https://d6opu47qoi4ee.cloudfront.net/loadbalancer/simuapp-v1.zip unzip simuapp-v1.zip rm -f simuapp-v1.zip sed -i "s=MOD_APPLICATION_NAME=$APP_NAME=g" templates/index.html pip3 install -r requirements.txt nohup python3 simu_app.py >> application.log 2>&1 &` b. The rest of the options can be left to their default values

G. Hands-On: Configure Networking rules 1. Once the resource is created ,navigate to it using the “Go to Resource” button presented. 2. Navigate to “Networking ” using the left sidebar 3. Click on Add Inbound Port Rule 4. Fill up the options as given below a. Source : Any b. Source Port Ranges : * c. Destination : Any d. Service : HTTP e. Action : Allow f. Priority : 100 g. Name : Port_80 h. Click on Add 5. Select Add Inbound Port Rule Again 6. Fill up the options as given below a. Source : Any b. Source Port Ranges : * c. Destination : Any d. Service : SSH e. Action : Allow f. Priority : 110 g. Name : Port_22 h. Click on Add

Microsoft Azure

Search resources, services, and docs (G+J)

Home > virtual1

virtual1 | Network settings ☆ ...

Virtual machine scale set

Networking

Network settings

Network manager

Rules Collapse all

This is a new experience. [Please provide feedback](#)

Network security group **basicNsgGL-VMSS-RG-vnet-nic01** (attached to networkInterface: GL-VMSS) Impacts 0 subnets, 2 network interfaces

Search rules

Source == all Destination == all Protocol == all Action ==

Priority ↑	Name	Port	Protocol
300	Tcp	80	TCP
65000	AllowVnetInBound ⓘ	Any	Any
65001	AllowAzureLoadBalancerInBound ⓘ	Any	Any
65500	DenyAllInBound ⓘ	Any	Any

Outbound port rules (3)

Add inbound security rule

basicNsgGL-VMSS-RG-vnet-nic01

Source ⓘ

Any

Source port ranges * ⓘ

*

Destination ⓘ

Any

Service ⓘ

Custom

Destination port ranges * ⓘ

8080

Protocol

☒ Any

☐ TCP

☐ UDP

☐ ICMP

Action

☒ Allow

☐ Deny

Add Cancel

[Give feedback](#)

Microsoft Azure

Home > virtual1

virtual1 | Network settings

Networking

Network settings

Network manager

Rules

Network security group basicNsgGL-VMSS-RG-vnet-nic01 (attached to networkInterface: GL-VMSS-RG-vnet-nic01) Impacts 0 subnets, 2 network interfaces

Search rules

Source == all Destination == all Protocol == all Action ==

Priority ↑	Name	Port	Protocol
Inbound port rules (4)			
300	Tcp	80	TCP
65000	AllowVnetInBound	Any	Any
65001	AllowAzureLoadBalancerInBound	Any	Any
65500	DenyAllInBound	Any	Any
Outbound port rules (3)			

Add inbound security rule

basicNsgGL-VMSS-RG-vnet-nic01

HTTP

Destination port ranges

80

Protocol

Any

TCP

UDP

ICMP

Action

Allow

Deny

Priority *

100

Name *

Port_80

Description

Add Cancel

Give feedback

Microsoft Azure

Home > virtual1

virtual1 | Network settings

Networking

Network settings

Network manager

Network security group basicNsgGL-VMSS-RG-vnet-nic01 (attached to networkInterface: GL-VMSS-RG-vnet-nic01) Impacts 0 subnets, 2 network interfaces

Search rules

Source == all Destination == all Protocol == all Action == all

Priority ↑	Name	Port	Protocol	Source	Destination	Action
Inbound port rules (5)						
100	Port_80	80	TCP	Any	Any	Allow
300	Tcp	80	TCP	Any	Any	Allow
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	Allow
65500	DenyAllInBound	Any	Any	Any	Any	Deny
Outbound port rules (3)						

Create port rule

Microsoft Azure

Home > virtual1

virtual1 | Network settings

Networking

Network settings

Network manager

Network security group basicNsgGL-VMSS-RG-vnet-nic01 (attached to networkInterface: GL-VMSS-RG-vnet-nic01) Impacts 0 subnets, 2 network interfaces

Search rules

Source == all Destination == all Protocol == all Action ==

Priority ↑	Name	Port	Protocol
Inbound port rules (5)			
100	Port_80	80	TCP
300	Tcp	80	TCP
65000	AllowVnetInBound	Any	Any
65001	AllowAzureLoadBalancerInBound	Any	Any
65500	DenyAllInBound	Any	Any
Outbound port rules (3)			

Add inbound security rule

basicNsgGL-VMSS-RG-vnet-nic01

Destination port ranges

22

Protocol

Any

TCP

UDP

ICMP

Action

Allow

Deny

Priority *

110

Name *

Port_22

Description

Add Cancel

Give feedback

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

Home > virtual1

virtual1 | Network settings

Virtual machine scale set

Networking

Network settings

Network manager

This is a new experience. [Please provide feedback](#)

Updated security rule
Successfully saved security rule 'Port_22'.

Network security group basicNsgGL-VMSS-RG-vnet-nic01 (attached to networkInterface: GL-VMSS-RG-vnet-nic01)
Impacts 0 subnets, 2 network interfaces

+ Create port rule

Search rules

Source == all Destination == all Protocol == all Action == all

Priority ↑	Name	Port	Protocol	Source	Destination	Action
Inbound port rules (6)						
100	Port_80	80	TCP	Any	Any	Allow
110	Port_22	22	TCP	Any	Any	Allow
300	Tcp	80	TCP	Any	Any	Allow
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	Allow
65500	DenyAllInBound	Any	Any	Any	Any	Deny
Outbound port rules (3)						

H. Access the application a. Search for Load Balancers using the Search Box at the top of the screen and navigate to it b. Select the created resource c. Under the Overview section, copy the public IP address. You may have to click on the “See More button” d. Paste the IP address into the web browser to access the custom application

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

Home > Load balancing

Load balancing | Load Balancer

Search

+ Create Manage view Refresh Export to CSV Open query Assign tags

Overview

Filter for any field... Subscription equals all Resource group equals all Location equals all Add filter

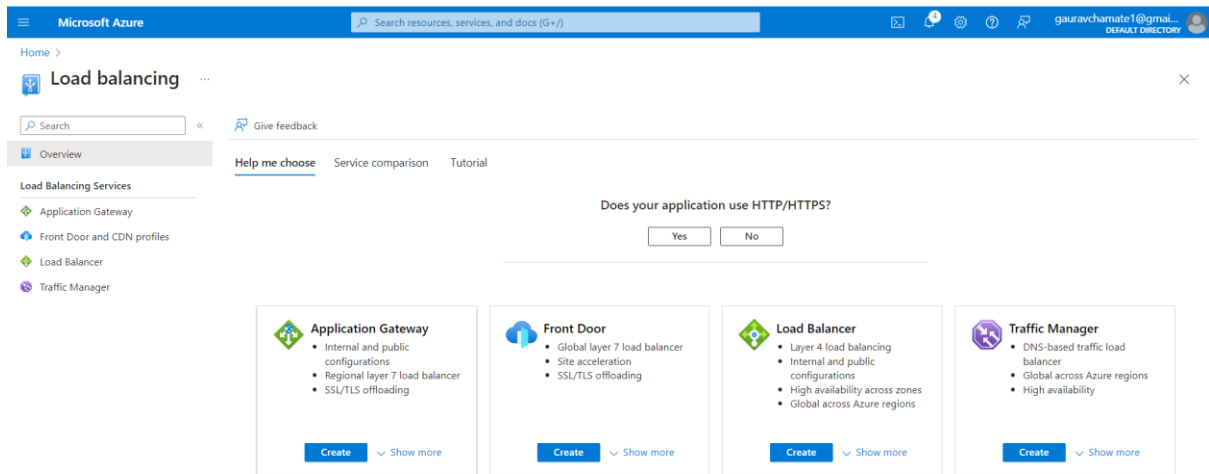
Showing 1 to 1 of 1 records.

No grouping List view

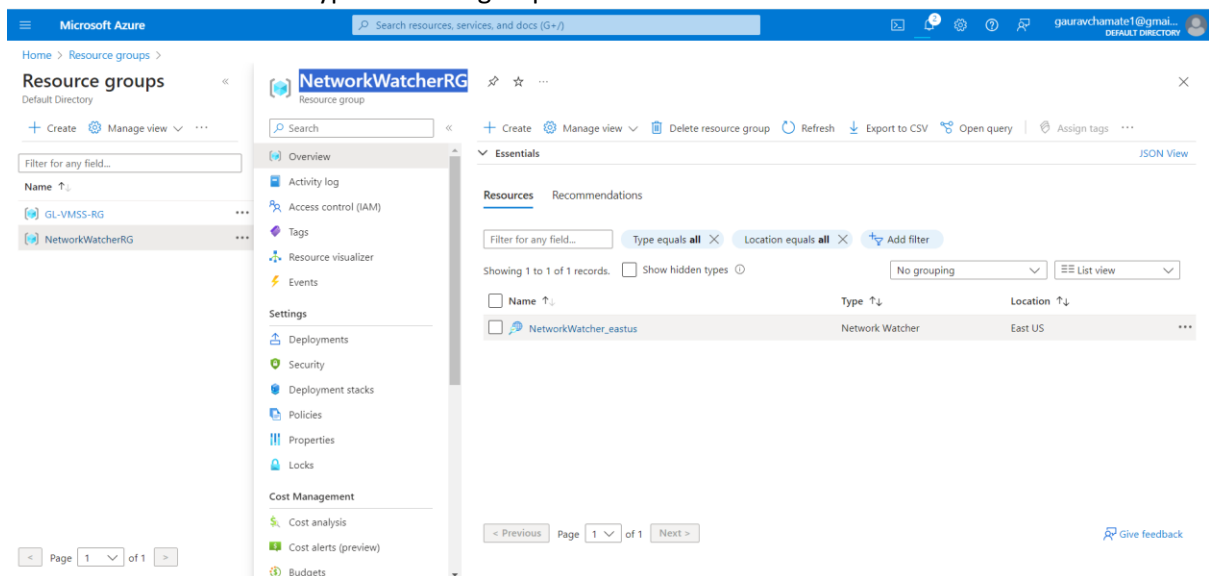
Name ↑	Resource group ↑	Location ↑	Subscription ↑
load1	GL-VMSS-RG	East US	Pay-As-You-Go

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Give feedback



Hands-On: Terminate the resources a. In the Azure search bar paste the value as mentioned below and press enter. Resource groups b. Click on GL-VMSS-RG c. Click on Delete resource group in the top middle of the window d. Type resource group name as below. GL-VMSS-RG e. Click Delete



Microsoft Azure

Search resources, services, and docs (G+)

Home > Resource groups >

Resource groups

Default Directory

Create

Manage view

Filter for any field...

Name

GL-VMSS-RG

NetworkWatcherRG

GL-VMSS-RG

Resource group

Search

Create

Manage view

Delete resource group

Overview

Activity log

Access control (IAM)

Tags

Resource visualizer

Events

Settings

Deployments

Security

Deployment stacks

Policies

Properties

Locks

Cost Management

Cost analysis

Cost alerts (preview)

Budgets

Resources

Recommendations

Filter for any field...

Type equals all

Showing 1 to 12 of 12 records.

☐

Name

☐

basicNsgGL-VMSS-RG-vnet-nic01

☐

GL-VMSS-RG-vnet

☐

GL-VMSS-RG-vnet-nic01-342bf44b

☐

GL-VMSS-RG-vnet-nic01-b0196590

☐

load1-publicip

☐

publicip-GL-VMSS-RG-vnet-nic01-342bf44b

☐

publicip-GL-VMSS-RG-vnet-nic01-b0196590

☐

virtual1

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Page 1 of 1

Next >

Delete a resource group

The following resource group and all its dependent resources will be permanently deleted.

Resource group to be deleted

GL-VMSS-RG

Dependent resources to be deleted (9)

All dependent resources, including hidden types, are shown

Name	Resource type
basicNsgGL-VMSS-RG-vnet-nic01	Network security group
GL-VMSS-RG-vnet	Virtual network
HealthExtension (virtual1_23c0853b/HealthExt	Microsoft.Compute/virtualMachine...
HealthExtension (virtual1_9f209255/HealthExt	Microsoft.Compute/virtualMachine...
load1-publicip	Public IP address
virtual1	Virtual machine scale set

☒ Apply force delete for selected Virtual machines and Virtual machine scale sets

Enter resource group name to confirm deletion *

GL-VMSS-RG

Delete Cancel