St. JOSEPH'S
GROUP OF INSTITUTIONS
OMR, CHENNAI - 119

PLACEMENT EMPOWERMENT PROGRAM

CLOUD COMPUTING AND DEVOPS CENTRE

TASK 16 - Set up a load balancer and configure a load balancer to distribute traffic across multiple VMs

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DEPT - ADS

Steps to Set Up an Azure Load Balancer

Step 1: Create Virtual Machines (VMs)

1. Go to **Azure Portal** → **Virtual Machines** → Click **Create**.
2. Configure:
   - **Region** (same for all VMs)
   - **Image** (e.g., Ubuntu, Windows Server)
   - **Networking**: Attach all VMs to the **same Virtual Network (VNet)**.
3. Repeat the process to create at least **two VMs**.

Step 2: Create an Azure Load Balancer

1. Go to **Azure Portal** → **Load Balancers** → Click **Create**.
2. Select:
   - **Type**: Choose **Public** for external traffic or **Internal** for private traffic.
   - **Region**: Same as your VMs.
   - **Public IP**: Create a new one (if Public LB).
3. Click **Review + Create** → **Create**.

Step 3: Configure the Backend Pool

1. Open the **Load Balancer** → Click **Backend pools** → **Add**.
2. Enter a **Name** for the pool.
3. Select **Virtual Network** → Click **+ Add** to add **VMs**.
4. Click **Save**.

Step 4: Configure Health Probes

1. Open the **Load Balancer** → Click **Health probes** → **Add**.
2. Enter:
   - **Name**: e.g., http-probe
   - **Protocol**: HTTP
   - **Port**: 80 (or app-specific port)
3. Click **Save**.

Step 5: Create a Load Balancer Rule

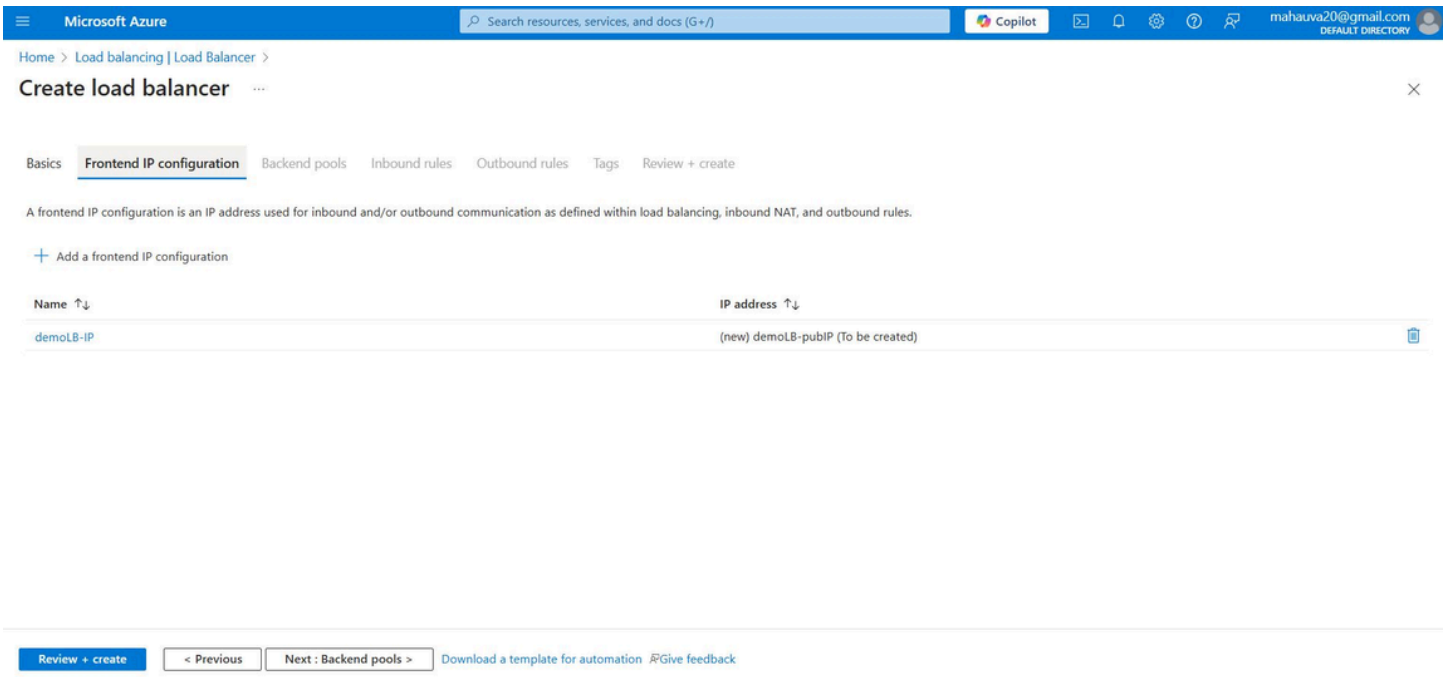
1. Open **Load Balancer** → **Load balancing rules** → **Add**.
2. Set:
   - **Frontend IP**: Select created Public IP.
   - **Protocol**: TCP

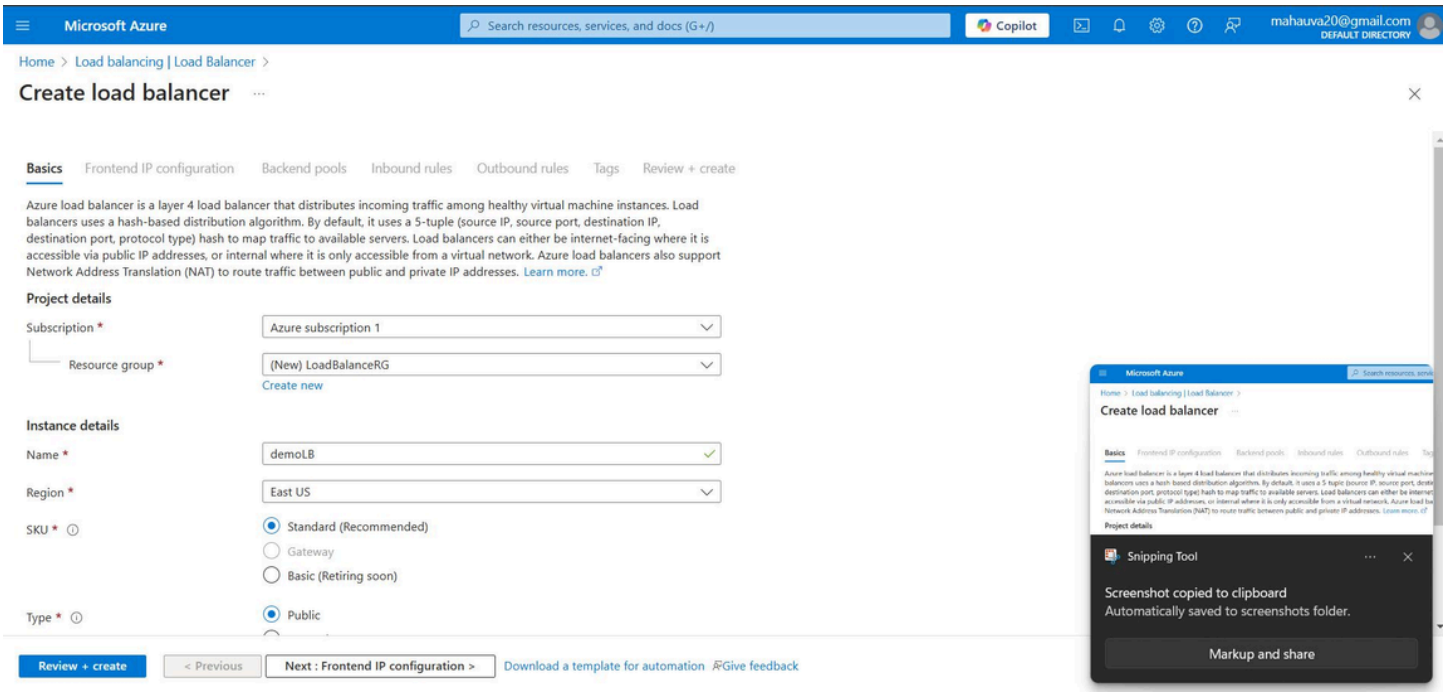
- **Port**: 80 (or your app port)
- **Backend Pool**: Choose the pool from Step 3.
- **Health Probe**: Select the probe from Step 4.

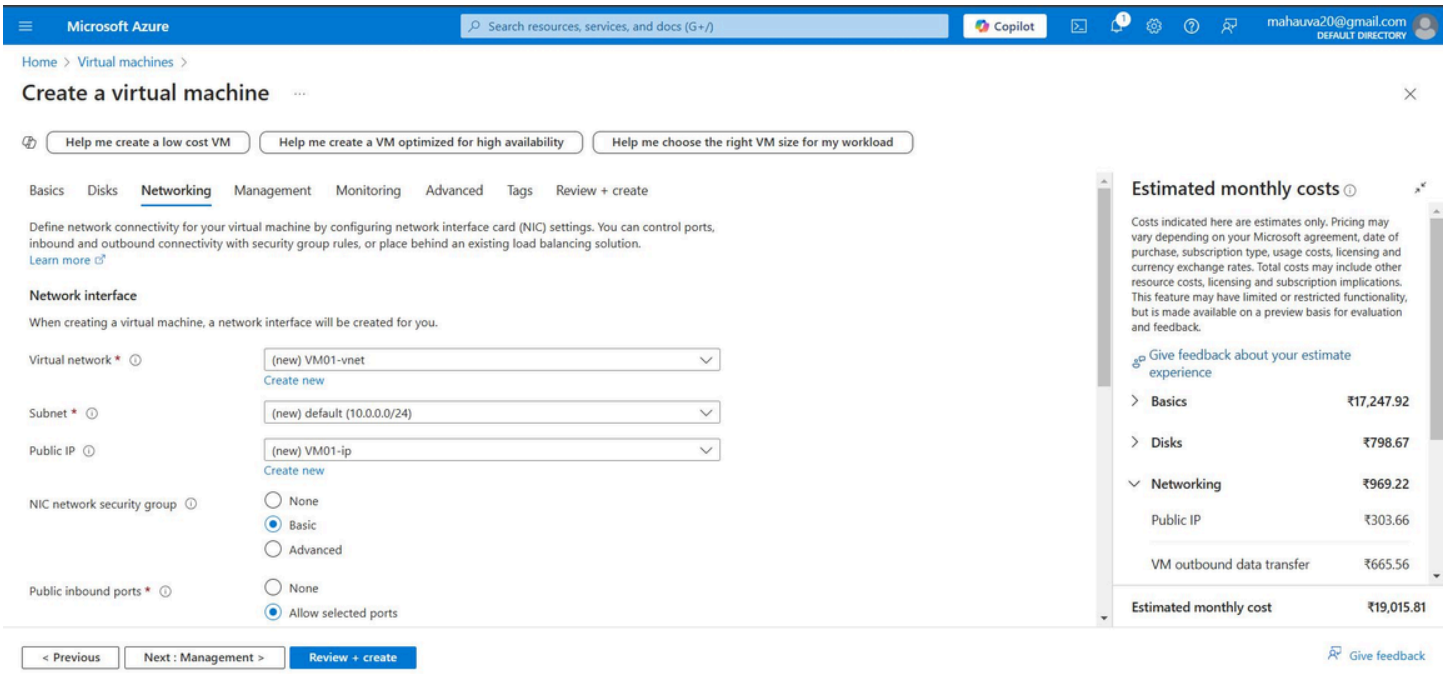
3. Click **Save**.

Step 6: Test Load Balancing

1. Get the **Load Balancer Public IP**.
2. Check the traffic.



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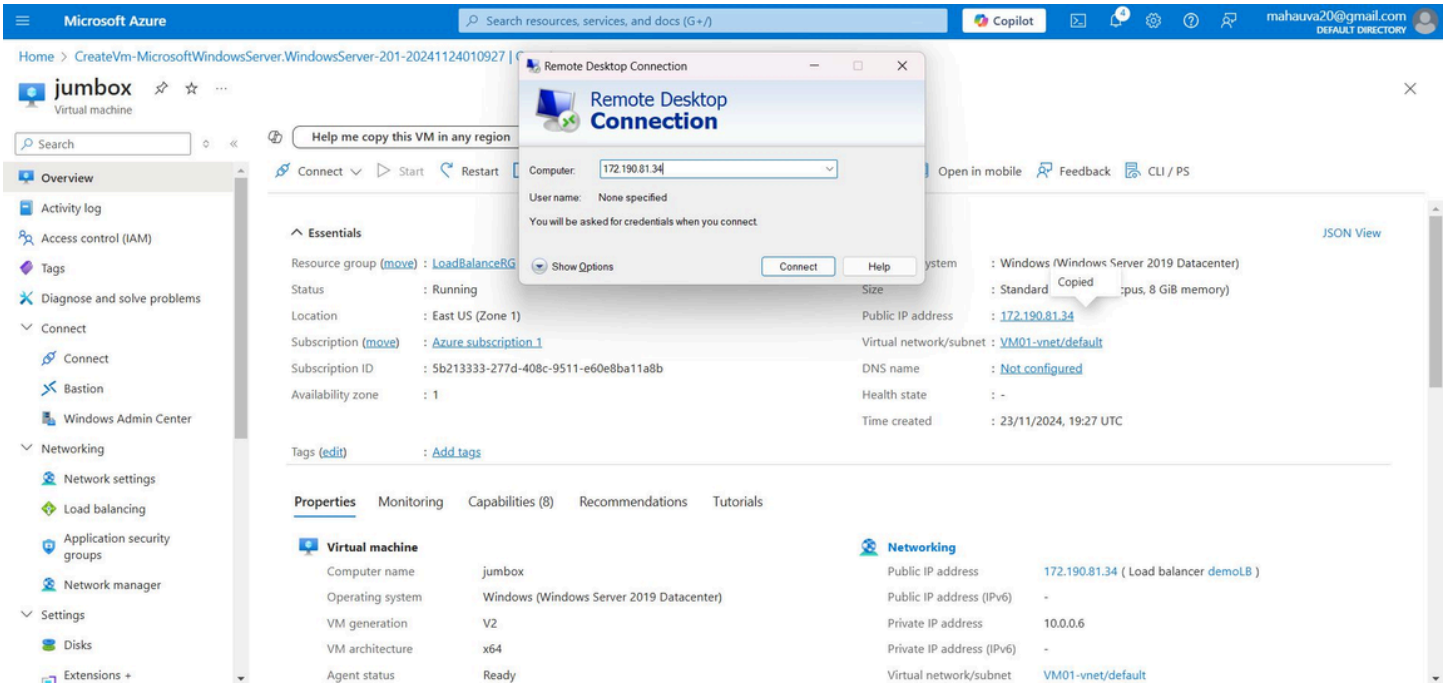
Home > Virtual machines >
Create a virtual machine
Help me create a low cost VM
Help me create a VM optimized for high availability
Help me choose the right VM size for my workload
Basics Disks Networking Management Monitoring Advanced Tags Review + create
Define network connectivity for your virtual 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 *
(new) VM01-vnet
Create new
Subnet *
(new) default (10.0.0.0/24)
Public IP
(new) VM01-ip
Create new
NIC network security group
None
Basic
Advanced
Public inbound ports *
None
Allow selected ports
Estimated monthly costs
Costs indicated here are estimates only. Pricing may vary depending on your Microsoft agreement, date of purchase, subscription type, usage costs, licensing and currency exchange rates. Total costs may include other resource costs, licensing and subscription implications. This feature may have limited or restricted functionality, but is made available on a preview basis for evaluation and feedback.
Give feedback about your estimate experience
Basics ₹17,247.92
Disks ₹798.67
Networking ₹969.22
Public IP ₹303.66
VM outbound data transfer ₹665.56
Estimated monthly cost ₹19,015.81
< Previous
Next : Management >
Review + create
Give feedback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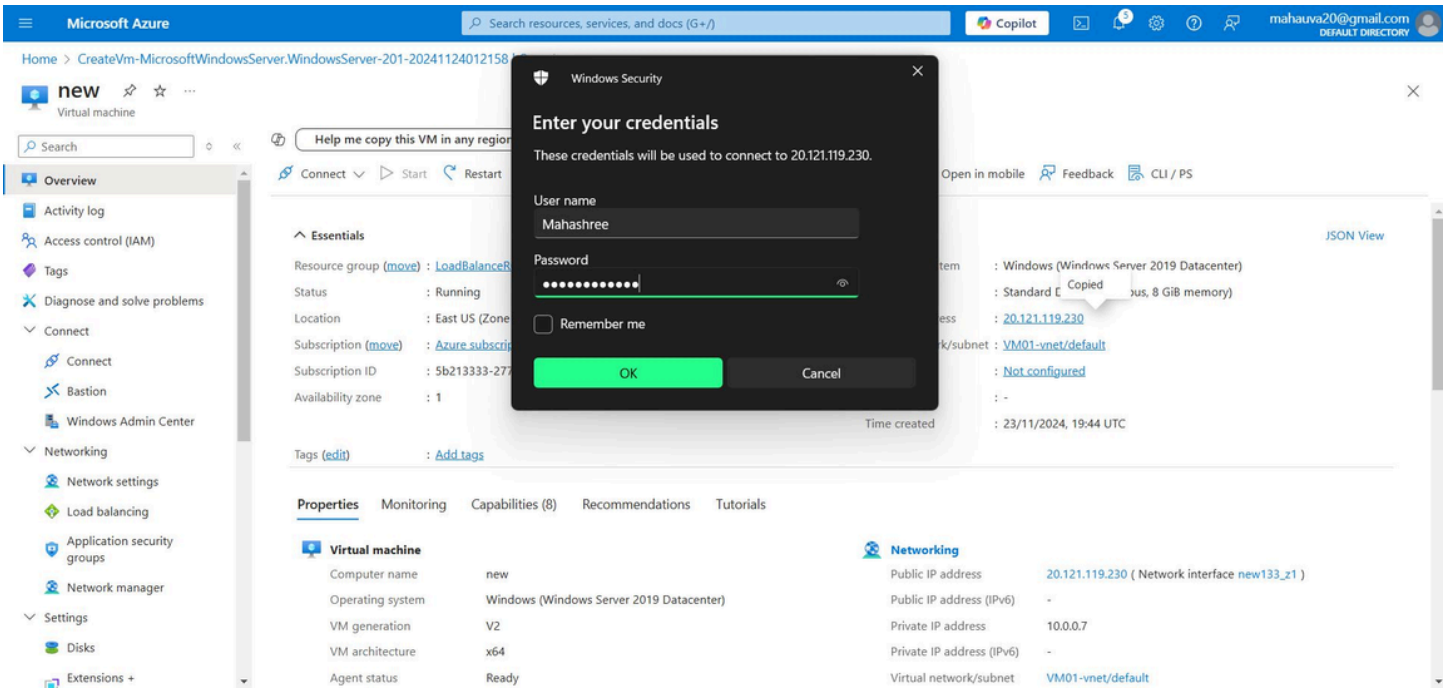
DEFAULT DIRECTORY
Home > CreateVm-MicrosoftWindowsServer.WindowsServer-201-20241124010927 |
jumbox
Virtual machine
Remote Desktop Connection
Remote Desktop Connection
Computer: 172.190.81.34
User name: None specified
You will be asked for credentials when you connect.
Show Options
Connect
Help
Help me copy this VM in any region
Connect
Start
Restart
Open in mobile
Feedback
CLI / PS
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Connect
Connect
Bastion
Windows Admin Center
Networking
Network settings
Load balancing
Application security groups
Network manager
Settings
Disks
Extensions +
Essentials
JSON View
Resource group (move) : LoadBalanceRG
Status : Running
Location : East US (Zone 1)
Subscription (move) : Azure subscription 1
Subscription ID : 5b213333-277d-408c-9511-e60e8ba11a8b
Availability zone : 1
Windows (Windows Server 2019 Datacenter)
Size : Standard
Copied
Public IP address : 172.190.81.34
Virtual network/subnet : VM01-vnet/default
DNS name : Not configured
Health state : -
Time created : 23/11/2024, 19:27 UTC
Tags (edit) : Add tags
Properties
Monitoring
Capabilities (8)
Recommendations
Tutorials
Virtual machine
Computer name jumbox
Operating system Windows (Windows Server 2019 Datacenter)
VM generation V2
VM architecture x64
Agent status Ready
Networking
Public IP address 172.190.81.34 (Load balancer demoLB)
Public IP address (IPv6) -
Private IP address 10.0.0.6
Private IP address (IPv6) -
Virtual network/subnet VM01-vnet/default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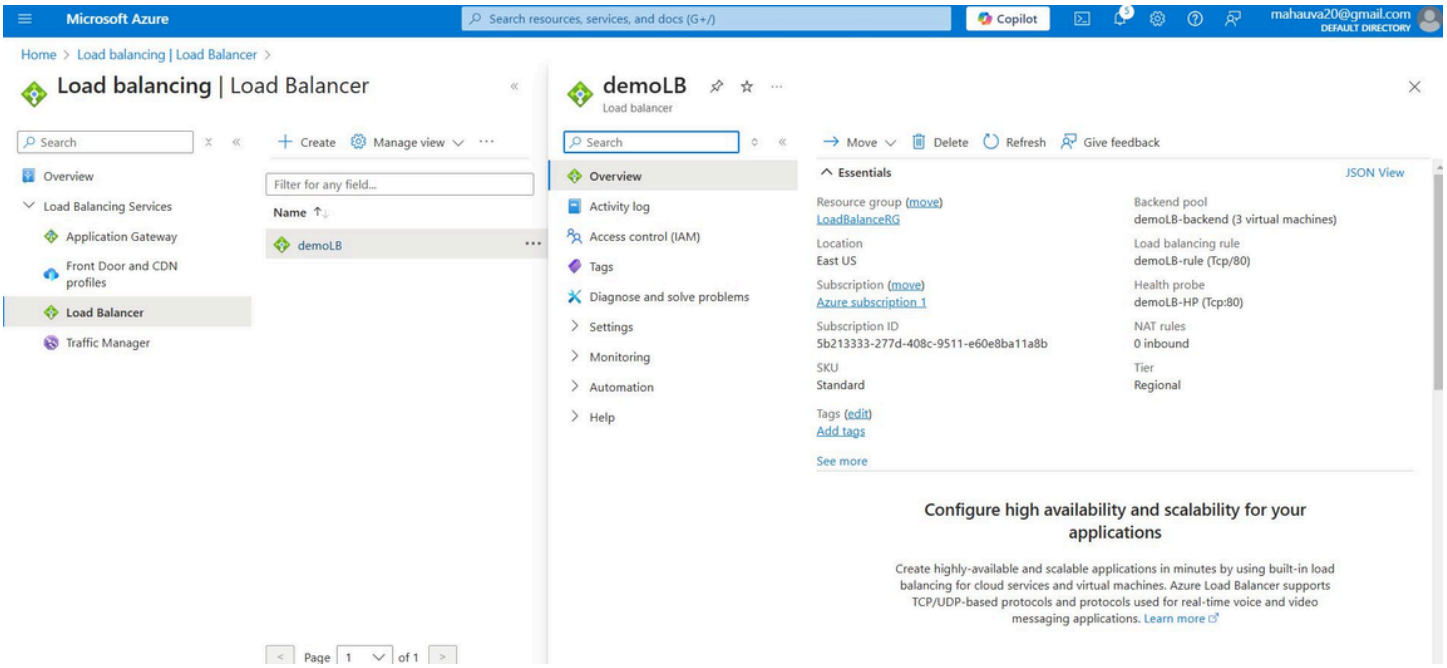
new
Virtual machine
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Connect
Connect
Bastion
Windows Admin Center
Networking
Network settings
Load balancing
Application security groups
Network manager
Settings
Disks
Extensions +
Help me copy this VM in any region
Connect
Start
Restart
Open in mobile
Feedback
CLI / PS
Windows Security
Enter your credentials
These credentials will be used to connect to 20.121.119.230.
User name
Mahashree
Password
Remember me
OK
Cancel
Essentials
JSON View
Resource group (move) : LoadBalanceR
Status : Running
Location : East US (Zone
Subscription (move) : Azure subscrip
Subscription ID : 5b213333-277
Availability zone : 1
Tags (edit) : Add tags
Windows (Windows Server 2019 Datacenter)
Standard D
Copied
us, 8 GiB memory)
20.121.119.230
VM01-vnet/default
Not configured
Time created : 23/11/2024, 19:44 UTC
Properties
Monitoring
Capabilities (8)
Recommendations
Tutorials
Virtual machine
Computer name new
Operating system Windows (Windows Server 2019 Datacenter)
VM generation V2
VM architecture x64
Agent status Ready
Networking
Public IP address 20.121.119.230 (Network interface new133_z1)
Public IP address (IPv6) -
Private IP address 10.0.0.7
Private IP address (IPv6) -
Virtual network/subnet VM01-vnet/default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Home > Load balancing | Load Balancer >
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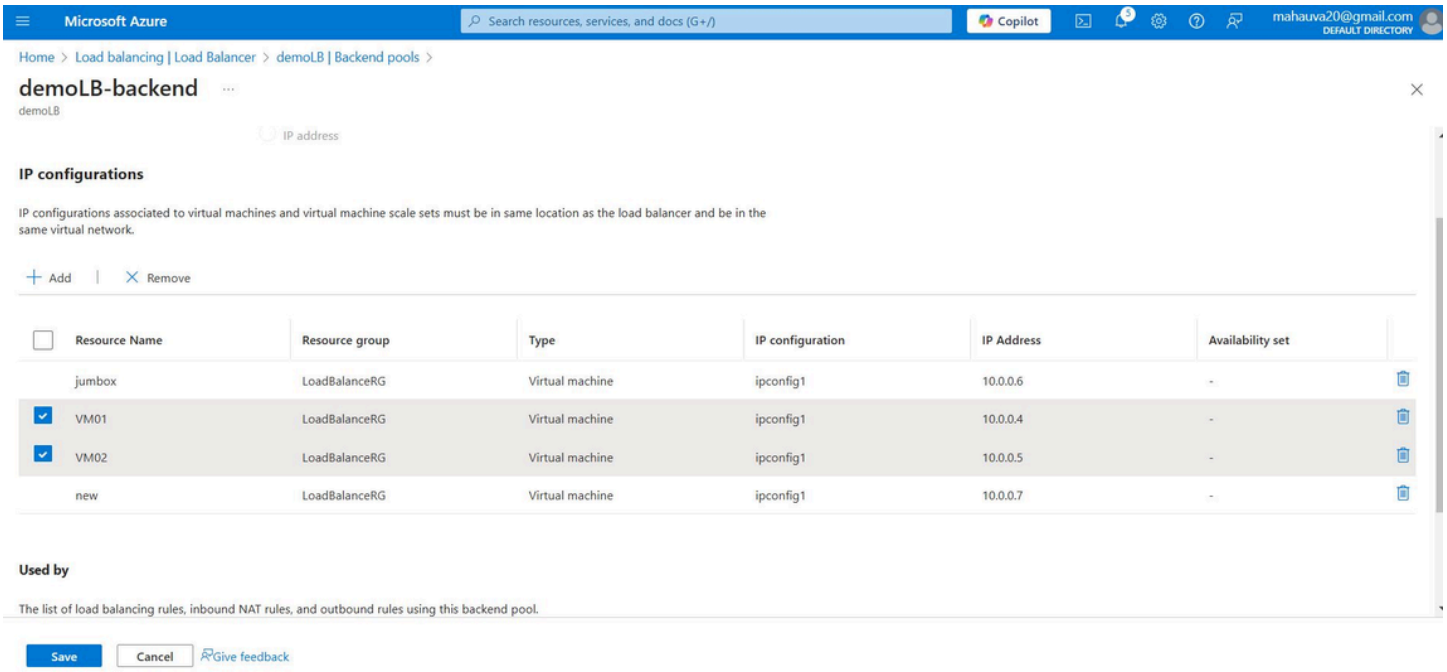
Search
Overview
Load Balancing Services
Application Gateway
Front Door and CDN profiles
Load Balancer
Traffic Manager
Create
Manage view
Filter for any field...
Name
demoLB
Page 1 of 1
demoLB
Load balancer
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Monitoring
Automation
Help
Move
Delete
Refresh
Give feedback
Essentials
JSON View
Resource group (move)
LoadBalanceRG
Location
East US
Subscription (move)
Azure subscription 1
Subscription ID
5b213333-277d-408c-9511-e60e8ba11a8b
SKU
Standard
Tags (edit)
Add tags
See more
Backend pool
demoLB-backend (3 virtual machines)
Load balancing rule
demoLB-rule (Tcp/80)
Health probe
demoLB-HP (Tcp:80)
NAT rules
0 inbound
Tier
Regional
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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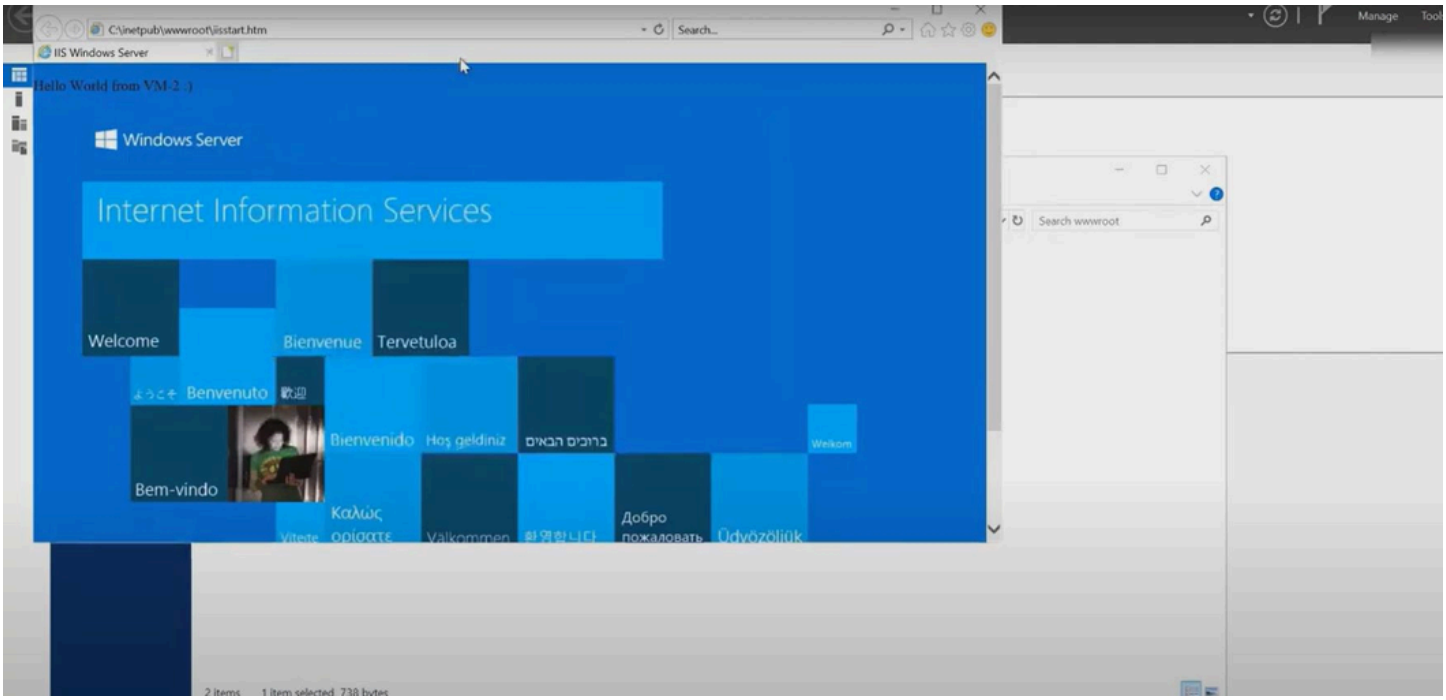
DEFAULT DIRECTORY
Home > Load balancing | Load Balancer > demoLB | Backend pools >
demoLB-backend
demoLB
IP address
IP configurations
IP configurations associated to virtual machines and virtual machine scale sets must be in same location as the load balancer and be in the same virtual network.
Add
Remove
Resource Name
Resource group
Type
IP configuration
IP Address
Availability set
jumbox LoadBalanceRG Virtual machine ipconfig1 10.0.0.6 -
VM01 LoadBalanceRG Virtual machine ipconfig1 10.0.0.4 -
VM02 LoadBalanceRG Virtual machine ipconfig1 10.0.0.5 -
new LoadBalanceRG Virtual machine ipconfig1 10.0.0.7 -
Used by
The list of load balancing rules, inbound NAT rules, and outbound rules using this backend pool.
Save
Cancel
Give feedback


C:\inetpub\wwwroot\iisstart.htm
Search...
IIS Windows Server
Hello World from VM-2 :)
Windows Server
Internet Information Services
Welcome
Bienvenue
Tervetuloa
Benvenuto
Bienvenido
Hoş geldiniz
ברוכים הבאים
Bem-vindo
Καλώς ορίσατε
Добро пожаловать
Üdvözöllük
Search wwwroot
Manage
2 items
1 item selected 738 bytes