

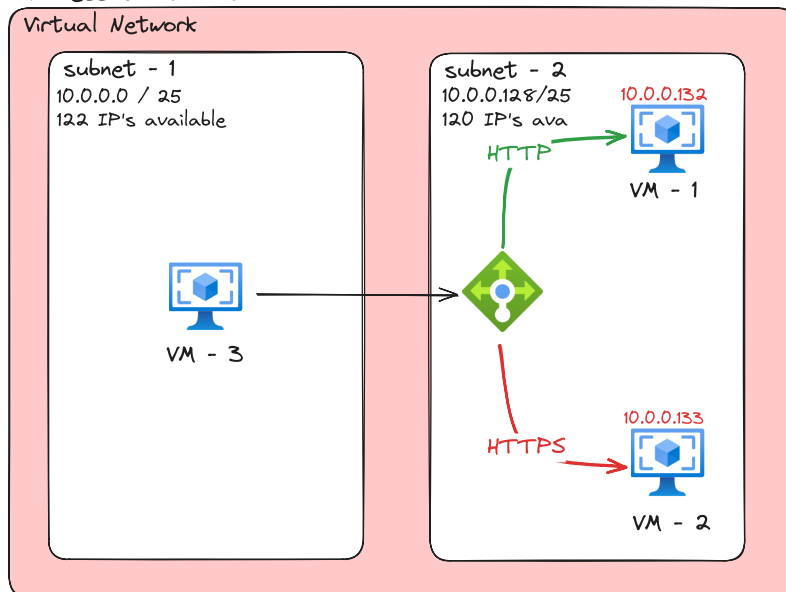
internal-load-balancers

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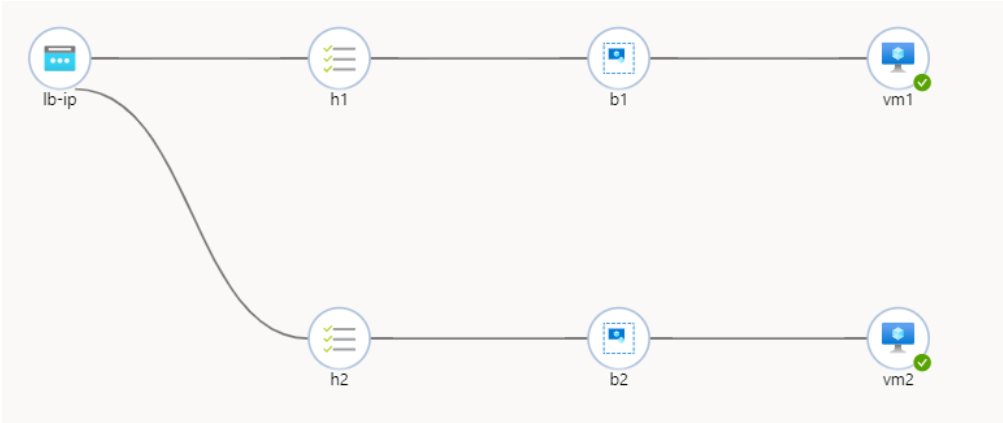
Architecture

Address space - 10.0.0.0/24
Address range - 10.0.0.0 - 10.0.0.255
Address count - 256



[arc-internal-load-balancer](#)

Load-balancer analysis



IP-schema

Load-balancer

- Frontend-IP config
 - 10.0.0.134
- Backend-pools
 - b1

b1

internal-lb

Name *

b1

Virtual network

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

×

Remove

| Resource Name | Resource group | Type | IP configuration | IP Address |
|---------------|----------------|-----------------|------------------|------------|
| vm1 | internal-lb | Virtual machine | ipconfig1 | 10.0.0.134 |

-
- b2

b2

...

internal-lb

Name *

b2

Virtual network ⓘ

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

|

✕ Remove

| | Resource Name | Resource group | Type | IP configuration | IP Address |
|--------------------------|---------------|----------------|-----------------|------------------|------------|
| <input type="checkbox"/> | vm2 | internal-lb | Virtual machine | ipconfig1 | 10.0.0.1 |

•

Health-Probes

- one for two.

lb-probe

...

✕

internal-lb

ⓘ

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 *

lb-probe

Protocol *

TCP

▼

Port * ⓘ

80

Interval (seconds) * ⓘ

5

Used by * ⓘ

h1

h2

•

- used by h1 and h2, which means the single health probe is used by two load-balancer rules

Load-balancing rules

- h1

h1 ...



internal-lb

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

| | |
|----------------------------|--|
| Name * | <input type="text" value="h1"/> |
| IP Version * | <div><input checked="" type="radio"/> IPv4</div> <div><input type="radio"/> IPv6</div> |
| Frontend IP address * ⓘ | <input type="text" value="lb-ip (10.0.0.134)"/> |
| Backend pool * ⓘ | <input type="text" value="b1"/> |
| High availability ports ⓘ | <input type="checkbox"/> |
| Protocol | <div><input checked="" type="radio"/> TCP</div> <div><input type="radio"/> UDP</div> |
| Port * | <input type="text" value="80"/> |
| Backend port * ⓘ | <input type="text" value="80"/> |
| Health probe * ⓘ | <div><input type="text" value="lb-probe (TCP:80)"/></div> <div>Create new</div> |
| Session persistence ⓘ | <input type="text" value="None"/> |
| Idle timeout (minutes) * ⓘ | <input type="text" value="4"/> |
| Enable TCP Reset | <input type="checkbox"/> |
| Enable Floating IP ⓘ | <input type="checkbox"/> |

Save

Cancel

Give feedback

- h2

h2 ...

internal-lb



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

| | |
|----------------------------|--|
| Name * | <input type="text" value="h2"/> |
| IP Version * | <input checked="" type="radio"/> IPv4 <input type="radio"/> IPv6 |
| Frontend IP address * ⓘ | <input type="text" value="lb-ip (10.0.0.134)"/> |
| Backend pool * ⓘ | <input type="text" value="b2"/> |
| High availability ports ⓘ | <input type="checkbox"/> |
| Protocol | <input checked="" type="radio"/> TCP <input type="radio"/> UDP |
| Port * | <input type="text" value="443"/> |
| Backend port * ⓘ | <input type="text" value="443"/> |
| Health probe * ⓘ | <input type="text" value="lb-probe (TCP:80)"/> Create new |
| Session persistence ⓘ | <input type="text" value="None"/> |
| Idle timeout (minutes) * ⓘ | <input type="text" value="4"/> |
| Enable TCP Reset | <input type="checkbox"/> |

•

[Give feedback](#)

VM's

VM-1 NIC

| Priority | Name | Port | Protocol | Source | Destination | Action |
|----------|-------------------------------|------|----------|-------------------|----------------|--------|
| 300 | RDP | 3389 | TCP | Any | Any | Allow |
| 310 | AllowAnyHTTPInbound | 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 |

VM-2 NIC

| Priority | Name | Port | Protocol | Source | Destination | Action |
|----------|-------------------------------|------|----------|-------------------|----------------|--------|
| 300 | RDP | 3389 | TCP | Any | Any | Allow |
| 320 | HTTPS | 443 | 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 |

| Priority | Name | Port | Protocol | Source | Destination | Action |
|----------|------|------|----------|--------|-------------|--------|
|----------|------|------|----------|--------|-------------|--------|

- \$ The **Http** traffic is hitting **VM1** through the Firewall.
- ! The **Https** is not hitting **VM2** through the Firewall, as the servers are configured for port number **80** (HTTP), not for **443** (HTTPS).
- Two **backend pools** are created, and each VM, VM1 and VM2 are attached to the backend pools.
- The two backend pools are connected to the same health probe which uses **port 80** to send message packets to acknowledge the health status.
- ! The health status of VM2 degrades to 50%, because the web servers are not configured to HTTPS. To recover the health status, re-configure the load-balancer-rules from HTTPS to HTTP.
- source :

