Task 1: Provision the lab environment

az104-06-rg1
Resource group

Search

+ Create | Manage view ∨   🗑 Delete resource group   ↻ Refresh   ⬇ Export to CSV   ⌕ Open query | ⊘ Assign tags   → Move ∨   🗑 Delete   ⬆ Export template   ⋯

Overview
Activity log
Access control (IAM)
Tags
Resource visualizer
Events

Settings
Deployments
Security
Policies
Properties
Locks

Cost Management
Cost analysis
Cost alerts (preview)
Budgets
Advisor recommendations

Monitoring
Insights (preview)
Alerts
Metrics

∧ Essentials   JSON View

Subscription (move) : Azure subscription 1   Deployments : 1 Succeeded
Subscription ID   : 453194c6-9b5a-46f8-bf6e-6b5a4133ee3a   Location   : East US
Tags (edit)   : Click here to add tags

Resources   Recommendations

Filter for any field...   Type equals **all** ✕   Location equals **all** ✕   ⊞ Add filter

Showing 1 to 18 of 18 records.   ☐ Show hidden types ⓘ   No grouping ∨   ☰ List view ∨

☐ Name ↑↓	Type ↑↓	Location ↑↓	
☐ az104-06-nic0	Network Interface	East US	⋯
☐ az104-06-nic1	Network Interface	East US	⋯
☐ az104-06-nic2	Network Interface	East US	⋯
☐ az104-06-nic3	Network Interface	East US	⋯
☐ az104-06-nsg01	Network security group	East US	⋯
☐ az104-06-nsg2	Network security group	East US	⋯
☐ az104-06-nsg3	Network security group	East US	⋯
☐ az104-06-vm0	Virtual machine	East US	⋯
☐ az104-06-vm0_OsDisk_1_1f3c37e0fe054a7f8164192422ad0d84	Disk	East US	⋯
☐ az104-06-vm1	Virtual machine	East US	⋯

< Previous   Page 1 ∨ of 1   Next >   ⬚ Give feedback

az104-06-rg1
Resource group

Search

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∧ Essentials   JSON View
         Hide Essentials
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Showing 1 to 18 of 18 records.   ☐ Show hidden types ⓘ   No grouping ∨   ☰ List view ∨

☐ Name ↑↓	Type ↑↓	Location ↑↓	
☐ az104-06-vm0	Virtual machine	East US	
☐ az104-06-vm0_OsDisk_1_1f3c37e0fe054a7f8164192422ad0d84	Disk	East US	⋯
☐ az104-06-vm1	Virtual machine	East US	⋯
☐ az104-06-vm1_OsDisk_1_fdcca546d85149d5beec27ff3a953723	Disk	East US	⋯
☐ az104-06-vm2	Virtual machine	East US	⋯
☐ az104-06-vm2_OsDisk_1_faa67946ac3946a69e7183ca1e576a98	Disk	East US	⋯
☐ az104-06-vm3	Virtual machine	East US	⋯
☐ az104-06-vm3_OsDisk_1_3db152a06d8b46c7a098faf191c00bb0	Disk	East US	⋯
☐ az104-06-vnet01	Virtual network	East US	⋯
☐ az104-06-vnet2	Virtual network	East US	⋯
☐ az104-06-vnet3	Virtual network	East US	⋯

< Previous   Page 1 ∨ of 1   Next >   ⬚ Give feedback

Task 2: Configure the hub and spoke network topology

az104-06-vnet01 | Peerings ☆ ⋯
Virtual network

🔍 Search

+ Add   🔄 Refresh | 🔄 Sync

Name ↑↓	Peering status ↑↓	Peer ↑↓	Gateway transit ↑↓	
☐ az104-06-vnet01_to_az104-06-vnet2	Connected	az104-06-vnet2	Disabled	⋯
☐ az104-06-vnet01_to_az104-06-vnet3	Connected	az104-06-vnet3	Disabled	⋯

Peering status == **all**

Filter by name...

Settings

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

Settings

- Address space
- Connected devices
- Subnets
- Bastion
- DDoS protection
- Firewall
- Microsoft Defender for Cloud
- Network manager
- DNS servers
- Peerings

Task 3: Test transitivity of virtual network peering

From VM0 to VM2:

Network Watcher | Connection troubleshoot
Microsoft

🔍 Search	«
🌐 Overview	
☁️ Get started	

Monitoring

🔷 Topology	
🔷 Connection monitor (classic)	
🔷 Connection monitor	
🔷 Network Performance Monitor	

Network diagnostic tools

🔲 IP flow verify	
🔷 NSG diagnostics	
🔷 Next hop	
🔷 Effective security rules	
🔷 VPN troubleshoot	
🔷 Packet capture	
🖥️ Connection troubleshoot	

Metrics

☰ Usage + quotas	

Logs

🔷 NSG flow logs	
🔷 Diagnostic logs	
☁️ Traffic Analytics	

Azure subscription 1 ⌄

Resource group *
az104-06-rg1 ⌄

Source type *
Virtual machine ⌄

*Virtual machine
az104-06-vm0 ⌄

Destination
◉ Select a virtual machine   ○ Specify manually

Resource group *
az104-06-rg1 ⌄

Virtual machine * ⓘ
az104-06-vm2 ⌄

Probe Settings

Preferred IP Version ⓘ
⌄

Protocol ⓘ
[TCP] [ICMP]

Destination port * ⓘ
3389 ✓

⌄ Advanced settings

[Check]

Status
✅ Reachable

From VM0 to VM3

Network Watcher | Connection troubleshoot   ⋯
Microsoft

🔍 Search

«

- 🌐 Overview
- 🔵 Get started

Monitoring

- 🔗 Topology
- 🔵 Connection monitor (classic)
- 🔵 Connection monitor
- 🔵 Network Performance Monitor

Network diagnostic tools

- 🟦 IP flow verify
- 🔵 NSG diagnostics
- 🔵 Next hop
- ⬇️ Effective security rules
- 🔷 VPN troubleshoot
- 🔵 Packet capture
- 🔵 **Connection troubleshoot**

Metrics

- ☰ Usage + quotas

Logs

- 📊 NSG flow logs
- 📊 Diagnostic logs
- ☁️ Traffic Analytics

Azure subscription 1 ⌄

Resource group *
| az104-06-rg1 | ⌄ |

Source type *
| Virtual machine | ⌄ |

*Virtual machine
| az104-06-vm0 | ⌄ |

Destination
(●) Select a virtual machine   ( ) Specify manually

Resource group *
| az104-06-rg1 | ⌄ |

Virtual machine * ⓘ
| az104-06-vm3 | ⌄ |

Probe Settings

Preferred IP Version ⓘ
| | ⌄ |

Protocol ⓘ
TCP   ICMP

Destination port * ⓘ
| 3389 | ✓ |

⌄ Advanced settings

Check

Status
✅ Reachable

From VM2 to VM3:

Network Watcher | Connection troubleshoot ...
Microsoft

🔍 Search	«
🌐 Overview	
☁️ Get started	

Monitoring

- 🔲 Topology
- Connection monitor (classic)
- Connection monitor
- Network Performance Monitor

Network diagnostic tools

- 🔲 IP flow verify
- NSG diagnostics
- Next hop
- ⬇️ Effective security rules
- VPN troubleshoot
- Packet capture
- Connection troubleshoot

Metrics

- ☰ Usage + quotas

Logs

- NSG flow logs
- Diagnostic logs
- Traffic Analytics

Azure subscription 1 ▾

Resource group *
az104-06-rg1 ▾

Source type *
Virtual machine ▾

*Virtual machine
az104-06-vm2 ▾

Destination
🔘 Select a virtual machine ⚪ Specify manually

Resource group *
az104-06-rg1 ▾

Virtual machine * ⓘ
az104-06-vm3 ▾

Probe Settings
Preferred IP Version ⓘ

▾

Protocol ⓘ
[TCP] [ICMP]

Destination port * ⓘ
3389 ✓

⌄ Advanced settings

[Check]

Status
⚠️ Unreachable

Task 4: Configure routing in the hub and spoke topology

Network Watcher | Connection troubleshoot
Microsoft

🔍 Search	«
🌐 Overview	
☁️ Get started	

Monitoring

🔲 Topology	
🔵 Connection monitor (classic)	
🔵 Connection monitor	
🔴 Network Performance Monitor	

Network diagnostic tools

🔲 IP flow verify	
🔵 NSG diagnostics	
🔵 Next hop	
↓ Effective security rules	
🔵 VPN troubleshoot	
🔵 Packet capture	
💻 Connection troubleshoot	

Metrics

☰ Usage + quotas	

Logs

📊 NSG flow logs	
📊 Diagnostic logs	
☁️ Traffic Analytics	

Azure subscription 1

Resource group *

az104-06-rg1

Source type *

Virtual machine

*Virtual machine

az104-06-vm2

Destination

🔘 Select a virtual machine   ⚪ Specify manually

Resource group *

az104-06-rg1

Virtual machine * ⓘ

az104-06-vm3

Probe Settings

Preferred IP Version ⓘ

Protocol ⓘ

| TCP | ICMP |

Destination port * ⓘ

3389 ✓

⌄ Advanced settings

Check

Status

✅ Reachable

Task 5: Implement Azure Load Balancer

az104-06-lb4 | Frontend IP configuration ...
Load balancer

Search

+ Add   ↻ Refresh   ⚲ Give feedback

Filter by name...

Name ↑↓	IP address ↑↓	Rules count ↑↓
az104-06-lb4-fe1	4.227.255.234 (az104-06-pip4)	1

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

Settings
Frontend IP configuration

← → C   ⚠ Not Secure | 4.227.255.234

Hello World from az104-06-vm0

← → C   ⚠ Not Secure | 4.227.255.234

Hello World from az104-06-vm1

Task 6: Implement Azure Application Gateway

az104-06-appgw5 | Frontend IP configurations ☆ ⋯ ✕
Application gateway

Type	Status	Name	IP address	Associated listeners
Public	Configured	appGwPublicFrontendIp	20.172.234.16 (az104-06-pip5)	az104-06-appgw5-rl1l1
Private	Not configured	-	-	-

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

Settings
- Configuration
- Web application firewall
- Backend pools
- Backend settings
- Frontend IP configurations

← → ↻ ⚠ Not Secure | 20.172.234.16

Hello World from az104-06-vm2

← → ↻ ⚠ Not Secure | 20.172.234.16

Hello World from az104-06-vm3