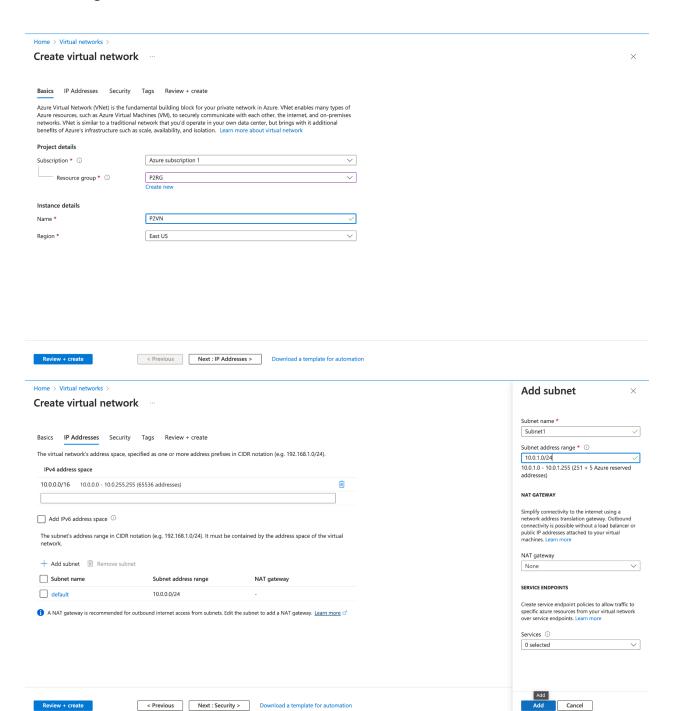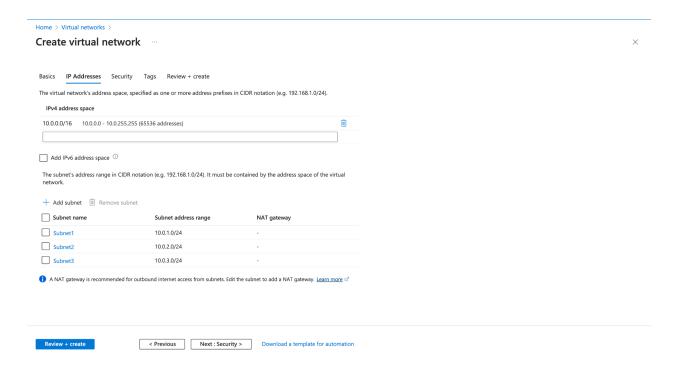# Creating a Virtual Network

Create virtual network ···

Basics   IP Addresses   Security   Tags   Review + create

Azure Virtual Network (VNet) is the fundamental building block for your private network in Azure. VNet enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation. Learn more about virtual network

Project details

Subscription * ⓘ	Azure subscription 1
Resource group * ⓘ	P2RG

Create new

Instance details

Name *	P2VN
Region *	East US

[Review + create]   [< Previous]   [Next : IP Addresses >]   Download a template for automation

---

Create virtual network ···

Basics   **IP Addresses**   Security   Tags   Review + create

The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

IPv4 address space

10.0.0.0/16	10.0.0.0 - 10.0.255.255 (65536 addresses) 🗑

☐ Add IPv6 address space ⓘ

The subnet's address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual network.

＋ Add subnet   🗑 Remove subnet

Subnet name	Subnet address range	NAT gateway
☐ default	10.0.0.0/24	-

ⓘ A NAT gateway is recommended for outbound internet access from subnets. Edit the subnet to add a NAT gateway. Learn more ⧉

[Review + create]   [< Previous]   [Next : Security >]   Download a template for automation

Add subnet ✕

Subnet name *

Subnet1

Subnet address range * ⓘ

10.0.1.0/24

10.0.1.0 - 10.0.1.255 (251 + 5 Azure reserved addresses)

NAT GATEWAY

Simplify connectivity to the internet using a network address translation gateway. Outbound connectivity is possible without a load balancer or public IP addresses attached to your virtual machines. Learn more

NAT gateway

None

SERVICE ENDPOINTS

Create service endpoint policies to allow traffic to specific azure resources from your virtual network over service endpoints. Learn more

Services ⓘ

0 selected

Add

[Add]   [Cancel]

Create virtual network ...

Basics   **IP Addresses**   Security   Tags   Review + create

The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

IPv4 address space

10.0.0.0/16	10.0.0.0 - 10.0.255.255 (65536 addresses)	🗑

☐ Add IPv6 address space ⓘ

The subnet's address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual network.

➕ Add subnet   🗑 Remove subnet

	Subnet name	Subnet address range	NAT gateway
☐	Subnet1	10.0.1.0/24	-
☐	Subnet2	10.0.2.0/24	-
☐	Subnet3	10.0.3.0/24	-

ⓘ A NAT gateway is recommended for outbound internet access from subnets. Edit the subnet to add a NAT gateway. Learn more ⧉
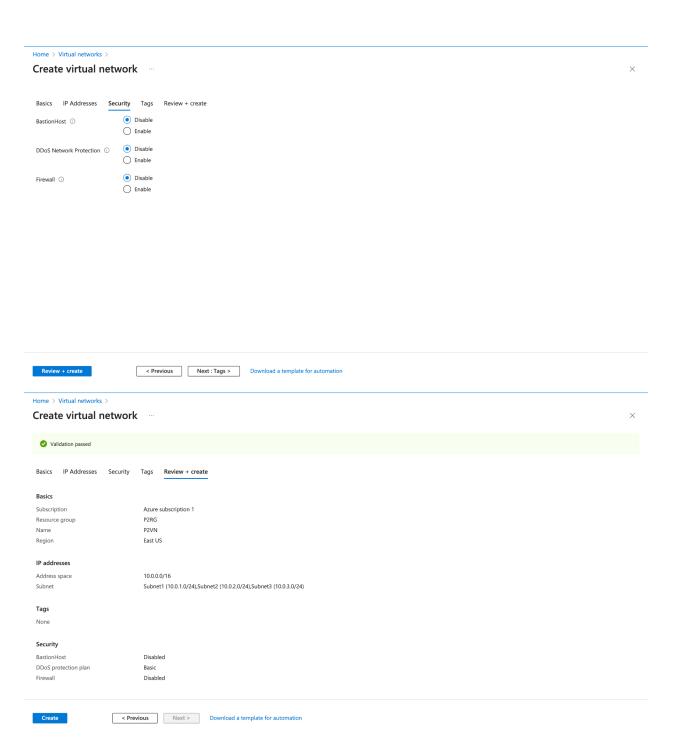

Review + create   < Previous   Next : Security >   Download a template for automation

Create virtual network   ⋯

Basics   IP Addresses   **Security**   Tags   Review + create

BastionHost ⓘ   ⦿ Disable
                       ◯ Enable

DDoS Network Protection ⓘ   ⦿ Disable
                             ◯ Enable

Firewall ⓘ   ⦿ Disable
                      ◯ Enable

| **Review + create** | | < Previous | Next : Tags > | Download a template for automation |

Create virtual network   ⋯

✓ Validation passed

Basics   IP Addresses   Security   Tags   **Review + create**

Basics

Subscription	Azure subscription 1
Resource group	P2RG
Name	P2VN
Region	East US

IP addresses

Address space	10.0.0.0/16
Subnet	Subnet1 (10.0.1.0/24),Subnet2 (10.0.2.0/24),Subnet3 (10.0.3.0/24)

Tags

None

Security

BastionHost	Disabled
DDoS protection plan	Basic
Firewall	Disabled

| **Create** | | < Previous | Next > | Download a template for automation |

Creating a VM Scale Set

Create a virtual machine scale set ···

Basics **Spot** Disks Networking Scaling Management Health Advanced Tags Review + create

Azure Spot offers unused Azure capacity at a discounted rate. Your workloads should be able to tolerate interruptions or infrastructure loss when Azure needs the capacity elsewhere. Learn more about Azure Spot ⬈

> ⓘ You must enable Spot and select your size on the Basics tab before configuring Spot.

Eviction options

Configure the conditions Azure will use to determine why and how an Azure Spot instance is evicted.

> ⓘ To select eviction options, turn on Run with Azure Spot discount.

Eviction type ⓘ
- ◉ Capacity only: Your virtual machine will be evicted when Azure's excess capacity disappears.
- ○ Price or capacity: Your virtual machine will be evicted when Azure's excess capacity disappears, or costs exceed your specified max price.

Maximum price you want to pay per hour (USD) ⓘ
`7.53931`
Enter a price greater than or equal to the hardware costs (US$0.00001)

Eviction policy ⓘ
- ◉ Stop / Deallocate
- ○ Delete

Try to restore instances ⓘ   ☐

Scale with VMs and discounted Spot VMs

[Review + create]   [< Previous]   [Next : Disks >]   ⇱ Give feedback

---

Create a virtual machine scale set ···

Basics Spot **Disks** Networking Scaling Management Health Advanced Tags Review + create

Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks. The size of the VM determines the type of storage you can use and the number of data disks allowed. Learn more ⬈

VM disk encryption

Azure disk storage encryption automatically encrypts your data stored on Azure managed disks (OS and data disks) at rest by default when persisting it to the cloud.

Encryption at host ⓘ   ☐

> ⓘ Encryption at host is not registered for the selected subscription.
> Learn more about enabling this feature ⬈

OS disk

OS disk type * ⓘ
`Premium SSD (locally-redundant storage)              ⌄`

Key management ⓘ
`Platform-managed key                                 ⌄`

Enable Ultra Disk compatibility ⓘ   ☐

> ⓘ Ultra Disks can be used only with Virtual Machine Scale Sets in an Availability Zone.

Data disks

You can add and configure additional data disks for your virtual machine scale set or attach existing disks. This VMSS also comes with a temporary disk.

LUN	Name	Size (GiB)	IOPS	THRO...	Disk type	Host cachin

[Review + create]   [< Previous]   [Next : Networking >]   ⇱ Give feedback

Create a virtual machine scale set ...

Basics   Spot   Disks   **Networking**   Scaling   Management   Health   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 about VMSS networking ⧉

Virtual network configuration

Azure Virtual Network (VNet) enables many types of Azure resources to securely communicate with each other, the internet, and on-premises networks. Learn more about VNets ⧉

Virtual network * ⓘ   [P2VN   ⌄]
                                       Create virtual network
                                       Manage selected virtual network

Network interface

A network interface enables an Azure virtual machine to communicate with internet, Azure, and on-premises resources. A VM can have one or more network interfaces.

+ Create new nic   🗑 Delete

☐	NAME	CREATE PUBLI...	SUBNET	NETWORK SECURIT...	ACCELERATED N...	
☐	P2VN-nic01	No	Subnet1 (10.0.1.0/24)	Basic	On	✏

Load balancing

You can place this virtual machine scale set in the backend pool of an existing Azure load balancing solution. Learn more ⧉

Use a load balancer   ☑

[Review + create]   [< Previous]   [Next : Scaling >]   ⟲ Give feedback

---

Create a virtual machine scale set ...

Basics   Spot   Disks   Networking   **Scaling**   Management   Health   Advanced   Tags   Review + create

An Azure virtual machine scale set can automatically increase or decrease the number of VM instances that run your application. This automated and elastic behavior reduces the management overhead to monitor and optimize the performance of your application. Learn more about VMSS scaling ⧉

Initial instance count * ⓘ   [2   ]

Scaling

Scaling policy ⓘ   ⦿ Manual
                                       ○ Custom

Scale-In policy

Configure the order in which virtual machines are selected for deletion during a scale-in operation.
Learn more about scale-in policies. ⧉

Scale-in policy   [Default - Balance across availability zones and fault domains, then delete V... ⌄]

Apply force delete to scale-in operations   ☐
ⓘ

[Review + create]   [< Previous]   [Next : Management >]   ⟲ Give feedback

Create a virtual machine scale set ...

Basics   Spot   Disks   Networking   Scaling   **Management**   Health   Advanced   Tags   Review + create

Configure monitoring and management options for your virtual machine scale set instances.

Microsoft Defender for Cloud

Microsoft Defender for Cloud provides unified security management and advanced threat protection across hybrid cloud workloads. Learn more ⧉

✅ Your subscription is protected by Microsoft Defender for Cloud basic plan.

Upgrade policy

Upgrade mode * ⓘ | Manual - Existing instances must be manually upgraded   ▼ |

Monitoring

Boot diagnostics ⓘ   🔘 Enable with managed storage account (recommended)
                               ⚪ Enable with custom storage account
                               ⚪ Disable

Identity

Enable system assigned managed
identity ⓘ   ☐

Azure AD

Login with Azure AD ⓘ   ☐

[Review + create]   [< Previous]   [Next : Health >]   ⤺ Give feedback

---

Create a virtual machine scale set ...

Allocation policy

Enable scaling beyond 100 instances ⓘ   ☑

Spreading algorithm ⓘ   🔘 Max spreading
                                          ⚪ Fixed spreading (not recommended with zones)

VM applications

VM applications contain application files that are securely and reliably downloaded on your VM after deployment. In addition to the application files, an install and uninstall script are included in the application. You can easily add or remove applications on your VM after create. Learn more ⧉

Select a VM application to install

Custom data and cloud init

Pass a cloud-init script, configuration file, or other data into the virtual machine **while it is being provisioned**. The data will be saved on the VM in a known location. Learn more about custom data for VMSS ⧉

Custom data | #!/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

                            ℹ Custom data on the selected image will be processed by cloud-init.
                            Learn more about custom data for VMSS ⧉

User data

Pass a script, configuration file, or other data that will be accessible to your applications **throughout the lifetime of the virtual**

[Review + create]   [< Previous]   [Next : Tags >]   ⤺ Give feedback

Scale Set Network Security Group

webapp-sp | Networking ☆ ⋯
Virtual machine scale set

✕

🔍 Search   «

🔁 Overview

📄 Activity log

👥 Access control (IAM)

🏷️ Tags

🩺 Diagnose and solve problems

Settings

🖥️ Instances

🗺️ Networking

🔧 Scaling

💽 Disks

🖥️ Operating system

🛡️ Microsoft Defender for Cloud

✳️ Guest + host updates

🔍 Size

📦 Extensions + applications

🚚 Continuous delivery

⚙️ Configuration

📄 Upgrade policy

🗨️ Feedback   🖋️ Add network interface   🖋️ Remove network interface

P2VN-nic01

IP configuration ⓘ

[P2VN-nic01-defaultIpConfiguration (... ⌄]

🔲 **Network Interface:** P2VN-nic01   **Topology**
Virtual network/subnet: P2VN/Subnet1   Accelerated networking: **Enabled**

Inbound port rules   Outbound port rules   Load balancing

🛡️ Network security group basicNsgP2VN-nic01 (attached to network interface: P2VN-nic01)
Impacts 0 subnets, 2 network interfaces

Add inbound port rule

Priority	Name	Port	Protocol	Source	Destination	Action	
100	⚠️ AllowAnySSHInbound	22	TCP	Any	Any	✅ Allow	⋯
110	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	⋯

Need help?

Understand Azure load balancing ⧉

~~Quickstart: Create a public load balancer to load balance Virtual Machines ⧉~~

📄 webaoo_key.pem   ^   Show all   ✕

App Service Set-up

Create Web App ···

Project Details

Select a 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 * ⓘ
[P2RG   ∨]
Create new

Instance Details

Need a database? Try the new Web + Database experience. ⧉

Name *
[employeeswebapp   ✓]
.azurewebsites.net

Publish *
(●) Code ( ) Docker Container ( ) Static Web App

Runtime stack *
[PHP 8.1   ∨]

Operating System *
(●) Linux ( ) Windows

Region *
[East US   ∨]
ⓘ Not finding your App Service Plan? Try a different region or select your App Service Environment.

Pricing plans

App Service plan pricing tier determines the location, features, cost and compute resources associated with your app.

[Review + create] [< Previous] [Next : Deployment >]

Create Web App ···

Basics | Deployment | **Networking** | Monitoring | Tags | Review + create

Web Apps can be provisioned with the inbound address being public to the internet or isolated to an Azure virtual network. Web Apps can also be provisioned with outbound traffic able to reach endpoints in a virtual network, be governed by network security groups or affected by virtual network routes. By default, your app is open to the internet and cannot reach into a virtual network. These aspects can also be changed after the app is provisioned. Learn more ⧉

Enable public access * ⓘ
(●) On ( ) Off

Enable network injection *
( ) On (●) Off

[Review + create] [< Previous] [Next : Monitoring >]

Create Traffic Manager Profile

Create Traffic Manager profile ...   ✕

Name *

_____

.trafficmanager.net

Routing method

Weighted   ⌄

Subscription *

Azure subscription 1   ⌄

Resource group *

P2RG   ⌄

Create new

Resource group location ⓘ

East US   ⌄

Create   Automation options

🌐 Load balancing | Traffic Manager   «

🔍 Search   «   + Create   ⚙ Manage view ⌄ ···

📊 Overview   Filter for any field...

Load Balancing Services   Name ↑↓

🔷 Application Gateway   🌐 P2TF   ···

🔵 Front Door and CDN profiles

🟢 Load Balancer

🌐 Traffic Manager

🌐 P2TF | Endpoints   📌
Traffic Manager profile

🔍 Search   «

🌐 Overview

📋 Activity log

👥 Access control (IAM)

🏷 Tags

🔧 Diagnose and solve problems

Settings

⚙ Configuration

🌐 Real user measurements

🌐 Traffic view

▮▮▮ Endpoints

▮▮ Properties

🔒 Locks

Monitoring

📊 Alerts

📈 Metrics

🔷 Diagnostic settings

🔵 Logs

Automation

🌐 Add endpoint   ✕
P2TF

Type * ⓘ

Azure endpoint   ⌄

Name *

_____

Enable Endpoint

☑

Target resource type

App Service   ⌄

Target resource *

employeeswebapp (East US)   ⌄

Weight *

10   ⌄

Custom Header settings ⓘ

Configure in this format, host:contoso.com,customheader:contoso

⚠ Do NOT input sensitive customer data in this field (i.e. APIKeys, Secrets, and Auth tokens etc.).

Add

< Page 1 ⌄ of 1 >

Host:	
Current load:	NONE
Health status:	HEALTHY
Actions:	MAKE UNHEALTHY CHECK HEALTH START LOAD