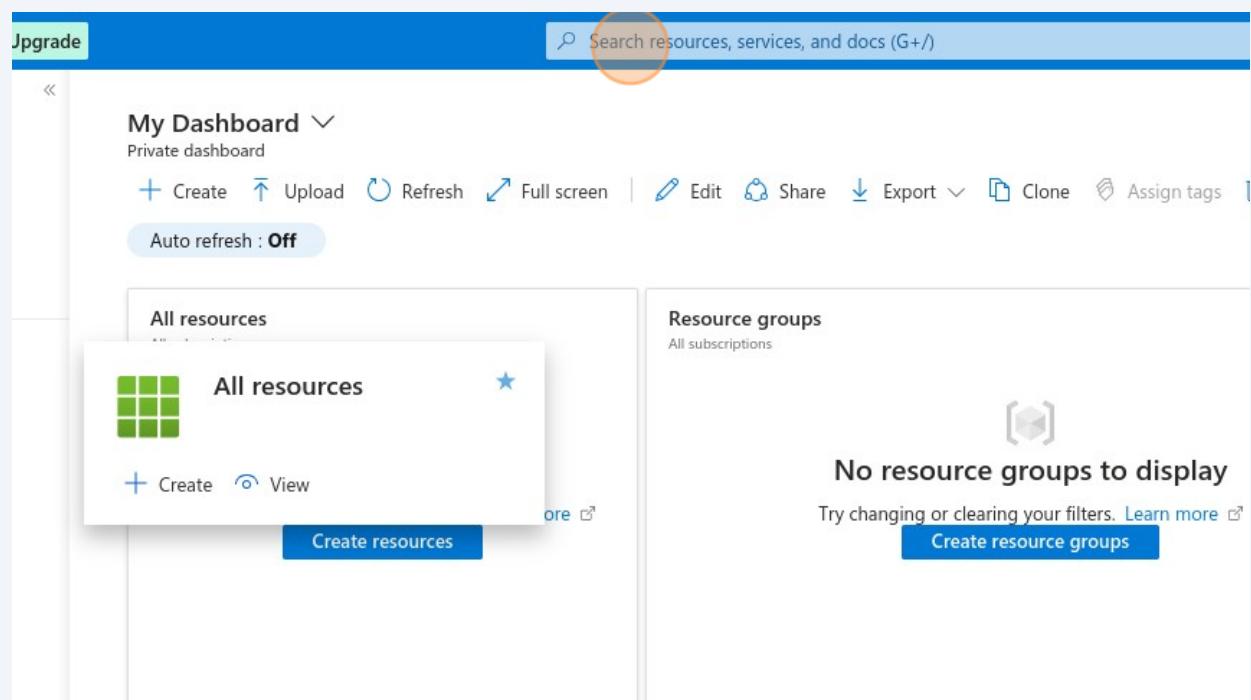


# Securing VM Access and Nginx Webapp hosting using Firewall and Bastion #Azure #VNET #NSG

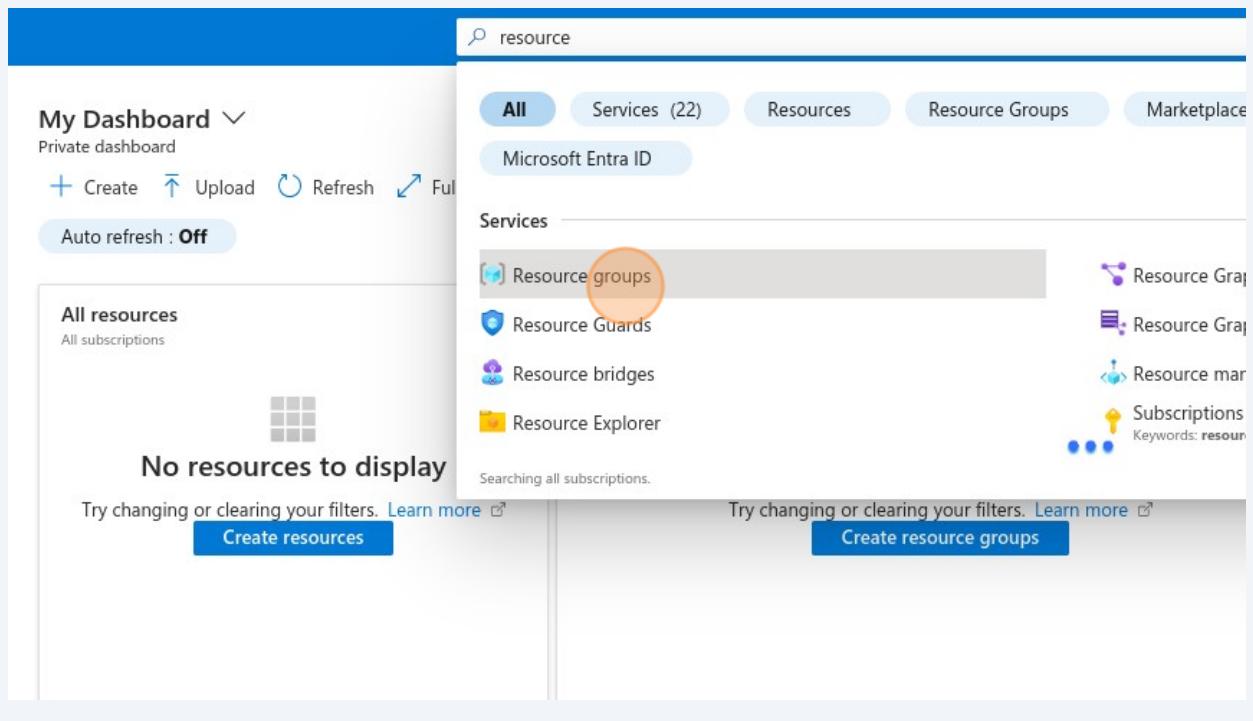
Scribe 

- 1 Navigate to <https://portal.azure.com/>

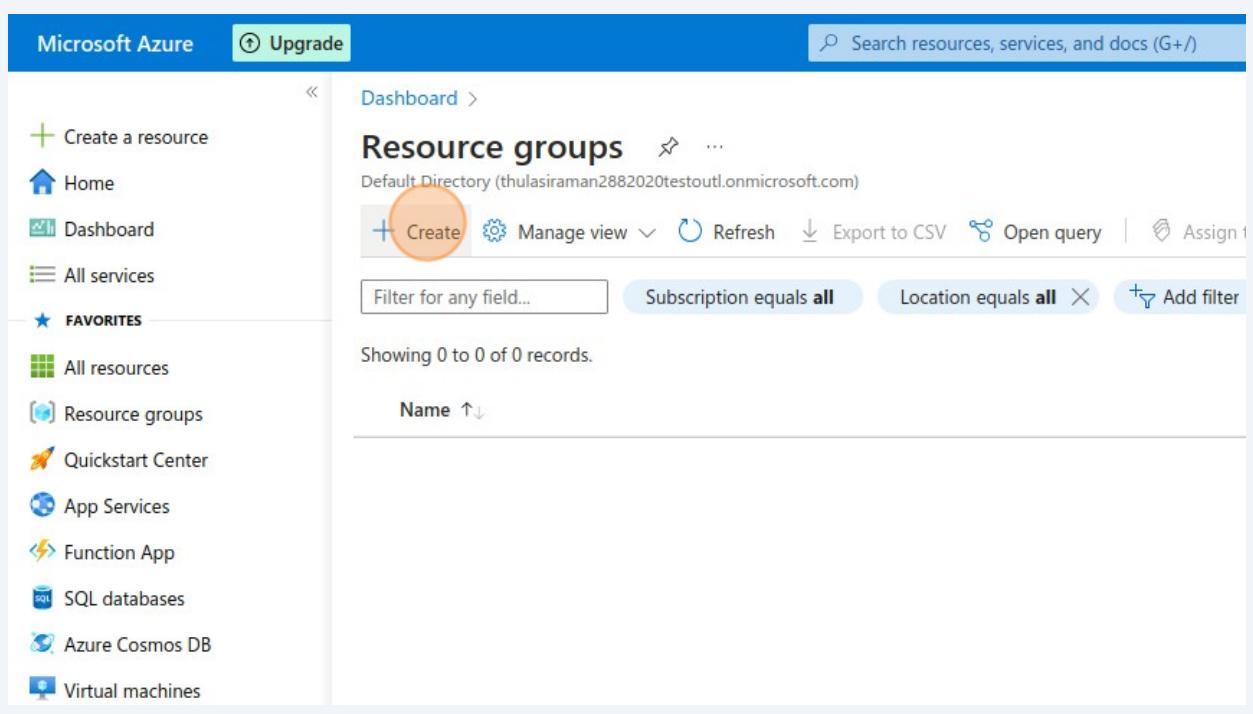
- 2 Click the "Search resources, services, and docs (G+)" field.



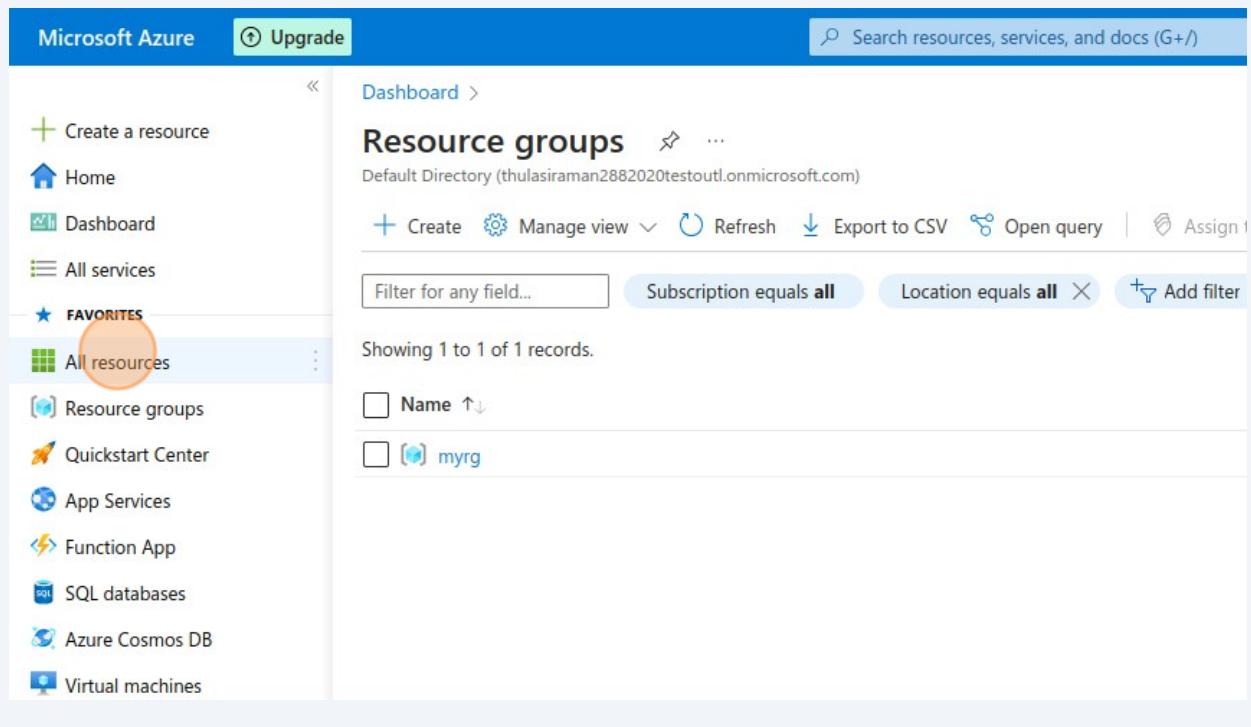
**3** Click "Resource groups"



**4** Click here.

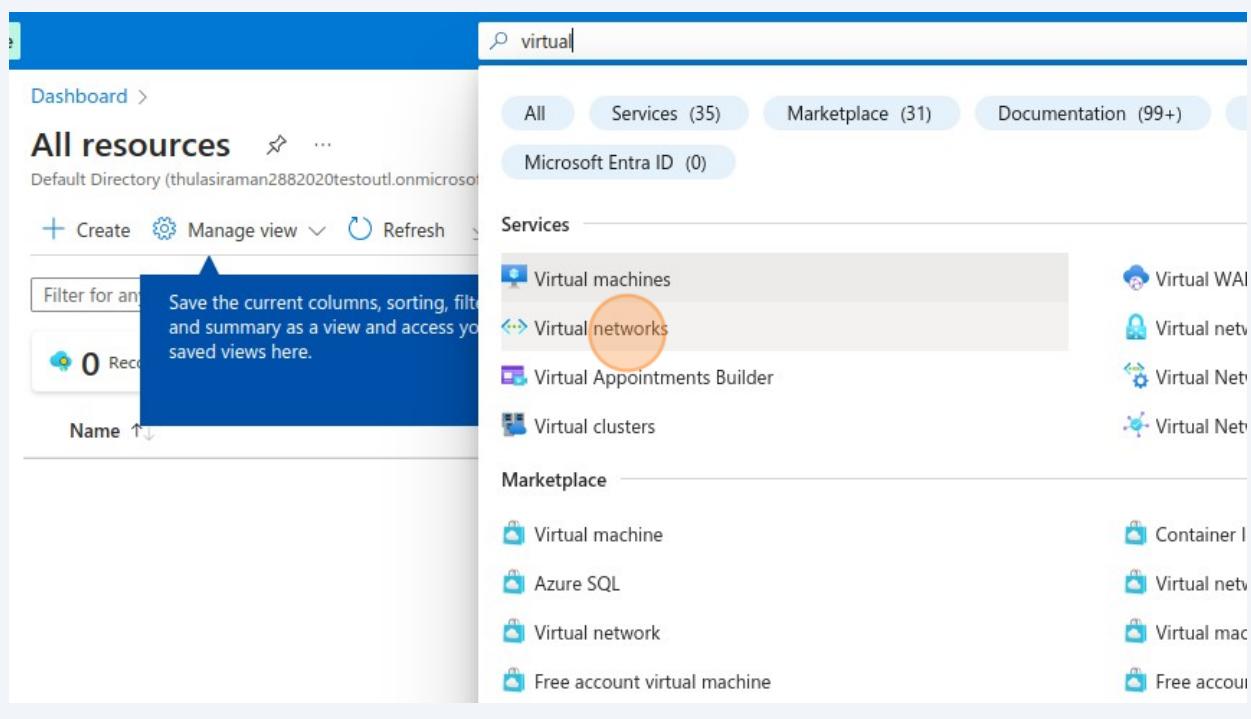


## 5 Click "All resources"



The screenshot shows the Microsoft Azure dashboard. On the left sidebar, under the 'FAVORITES' section, the 'All resources' option is highlighted with an orange circle. The main content area is titled 'Resource groups' and shows a single record named 'myrg'. The search bar at the top right contains 'Search resources, services, and docs (G+/-)'.

## 6 Click "Virtual networks"



The screenshot shows the Microsoft Azure 'All resources' page. A tooltip appears over the 'Virtual machines' link, stating: 'Save the current columns, sorting, filter and summary as a view and access your saved views here.' The 'Virtual networks' link is highlighted with an orange circle. The search bar at the top right contains 'virtual'.

7 Click here.

The screenshot shows the Microsoft Azure Virtual networks dashboard. The top navigation bar includes 'Microsoft Azure', 'Upgrade', and a search bar. Below the bar, there's a sidebar with links like 'Create a resource', 'Home', 'Dashboard', 'All services', 'FAVORITES' (with 'All resources', 'Resource groups', 'Quickstart Center', 'App Services', 'Function App', 'SQL databases', 'Azure Cosmos DB', and 'Virtual machines'), and a 'Filter for any column' dropdown. The main content area is titled 'Virtual networks' and shows a 'Create' button with a tooltip: 'Save the current columns, sorting, filtering and summary as a view and access your saved views here.' There are also buttons for 'Manage view', 'Refresh', 'Export to CSV', 'Open query', and 'Assign to...'.

8 Click "Virtual machines"

The screenshot shows the Microsoft Azure portal with the 'Virtual machines' section selected in the sidebar. The sidebar also lists 'All resources', 'Resource groups', 'Quickstart Center', 'App Services', 'Function App', 'SQL databases', 'Azure Cosmos DB', 'Load balancers', 'Storage accounts', 'Virtual networks', 'Microsoft Entra ID', 'Monitor', 'Advisor', and 'Microsoft Defender for Cloud'. On the right, there's a summary card for a deployment: 'Deployment name : myvnet-170820202952', 'Subscription : Free Trial', and 'Resource group : myrg'. Below this is a 'Deployment details' section with a table of resources: myvnet-Firewall, myvnet-Bastion, myvnet, myvnet-firewall-policy, myvnet-bastion, and myvnet-firewall. At the bottom, there are 'Give feedback' and 'Tell us about your experience with deployment' buttons.

9 Click here.

The screenshot shows the Microsoft Azure Virtual machines dashboard. On the left, there's a sidebar with various service icons like Create a resource, Home, Dashboard, All services, Favorites, All resources, Resource groups, Quickstart Center, App Services, Function App, SQL databases, Azure Cosmos DB, and Virtual machines. The 'Virtual machines' icon is at the bottom of the sidebar. The main area has a blue header bar with 'Microsoft Azure' and 'Upgrade' buttons, and a search bar. Below the header is a breadcrumb trail 'Dashboard > Virtual machines'. A top navigation bar includes 'Create' (with an orange circle highlighting it), 'Switch to classic', 'Reservations', 'Manage view', 'Refresh', and a download icon. There are also filters for 'Subscription equals all', 'Type equals all', and 'Resource group equals all'. The main content area displays a message 'Showing 0 to 0 of 0 records.' and a table header with columns 'Name ↑↓', 'Type ↑↓', and 'Subscription ↑↓'.

10 Click here.

This screenshot is identical to the one above, showing the Microsoft Azure Virtual machines dashboard. The 'Create' button in the top navigation bar is highlighted with an orange circle. The main content area shows 'Showing 0 to 0 of 0 records.' and a table header with columns 'Name ↑↓', 'Type ↑↓', and 'Subscription ↑↓'. The 'Filter for any field...' input field is also highlighted with an orange circle.

## 11 Click "(New) Resource group"

for full customization. [Learn more](#)

i This subscription may not be eligible to deploy VMs of certain sizes in certain regions.

**Project details**

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

Subscription *	Free Trial
Resource group *	(New) Resource group
	Select existing...

**Instance details**

Virtual machine name \* myrg

Region \* (US) East US

Availability options No infrastructure redundancy required

Security type Loading... [Configure security features](#)

## 12 Click here.

i This subscription may not be eligible to deploy VMs of certain sizes in certain regions.

**Project details**

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

Subscription *	Free Trial
Resource group *	(New) Resource group
	Create new

**Instance details**

Virtual machine name \* myrg

Region \* (US) East US

Availability options No infrastructure redundancy required

Security type Loading... [Configure security features](#)

Image \* Ubuntu Server 20.04 LTS - x64 Gen2 (free services eligible)

[See all images](#) | [Configure VM generation](#)

### 13 Click the "Virtual machine name" field.

The screenshot shows the Azure portal interface for creating a new virtual machine. On the left, there's a sidebar with various navigation items. The main area is divided into two sections: 'Project details' and 'Instance details'. In the 'Project details' section, the 'Subscription' dropdown is set to 'Free Trial' and the 'Resource group' dropdown contains 'myrg' with 'Create new' as an option. In the 'Instance details' section, the 'Virtual machine name' field is highlighted with a red circle, indicating it's the target for step 13. Other fields include 'Region' (set to '(US) East US'), 'Availability options' (set to 'Availability zone'), 'Availability zone' (set to 'Zones 1'), and 'Security type' (set to 'Trusted launch virtual machines'). A note at the bottom of the instance details section states: 'You can now select multiple zones. Selecting multiple zones will create one VM per zone.' with a 'Learn more' link.

### 14 Click "Trusted launch virtual machines"

The screenshot shows the 'Instance details' section of the Azure portal for creating a new virtual machine. The 'Virtual machine name' is 'myvmnginx', 'Region' is '(US) East US', and 'Availability options' is 'No infrastructure redundancy required'. The 'Security type' dropdown is open, showing 'Trusted launch virtual machines' selected, which is highlighted with a red circle. A tooltip for 'Standard' security level is visible. Below the dropdown, there's a description of 'Trusted launch virtual machines' and another section for 'Confidential virtual machines'.

**15** Click "The basic level of security for your virtual machines."

Create new

**Instance details**

Virtual machine name \* ⓘ myvmnginx ✓

Region \* ⓘ (US) East US ✓

Availability options ⓘ No infrastructure redundancy required ✓

Security type ⓘ Trusted launch virtual machines ✓

Configure security features

Image \* ⓘ Ubuntu Server 20.04 LTS - x64 Gen2 (free services eligible) ✓

See all images | Configure VM generation

VM architecture ⓘ

Arm64  
 x64

Run with Azure Spot discount ⓘ

**Review + create** < Previous Next : Disks >

**16** Click "Next : Disks >"

Username \* ⓘ azureuser ✓

SSH public key source Generate new key pair ✓

Key pair name \* myvmnginx\_key ✓

**Inbound port rules**

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports \* ⓘ

None  
 Allow selected ports

Select inbound ports \* SSH (22) ✓

**Tip** All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.

**Review + create** < Previous Next : Disks >

**17** Click "Next : Networking >"

OS disk type \* ⓘ Premium SSD (locally-redundant storage) ▾

Delete with VM ⓘ

Key management ⓘ Platform-managed key ▾

Enable Ultra Disk compatibility ⓘ  Ultra disk is supported in Availability Zone(s) 1,2,3 for the selected VM size Standard\_B1s.

**Data disks for myvmnginx**

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

LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM ⓘ

Create and attach a new disk      Attach an existing disk

✓ Advanced

Review + create      < Previous      **Next : Networking >**

**18** Click "(new) myvmnginx-ip"

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 \* ⓘ myvnet ▾  
Create new

Subnet \* ⓘ default (10.0.0.0/24) ▾  
Manage subnet configuration

Public IP ⓘ (new) myvmnginx-ip ▾  
(new) myvmnginx-ip

NIC network security group ⓘ None  
 Basic  
 Advanced

Public inbound ports \* ⓘ  None  
 Allow selected ports

Select inbound ports \* ⓘ SSH (22)

## 19 Click "None"

Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network \* ⓘ mynet  
Create new

Subnet \* ⓘ default (10.0.0.0/24)  
Manage subnet configuration

Public IP ⓘ (new) myvmnginx-ip  
Create new

NIC network security group ⓘ None  
Basic  
Advanced

Public inbound ports \* ⓘ None  
Allow selected ports

Select inbound ports \* SSH (22)

**⚠️ This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to**

## 20 Click this icon.

Public inbound ports \* ⓘ None  
Allow selected ports

Select inbound ports \* SSH (22)

**⚠️ This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to**

Delete NIC when VM is deleted ⓘ

Enable accelerated networking ⓘ  The selected VM size does not support accelerated networking

**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  
Application gateway

## 21 Click "Next : Management >"

**⚠️ This will allow all IP addresses to access your virtual machine.** This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

Delete NIC when VM is deleted

Enable accelerated networking  The selected VM size does not support accelerated networking.

**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.

[Review + create](#) [< Previous](#) [Next : Management >](#)

## 22 Click "Next : Monitoring >"

Login with Azure AD   
**i** RBAC role assignment of Virtual Machine Administrator Login or Virtual Machine User Login is required when using Azure AD login. [Learn more](#)

**Auto-shutdown**

Enable auto-shutdown

**Backup**

Enable backup

**Guest OS updates**

Patch orchestration options  Image default  
**i** Some patch orchestration options are not available for this image. [Learn more](#)

[Review + create](#) [< Previous](#) [Next : Monitoring >](#)

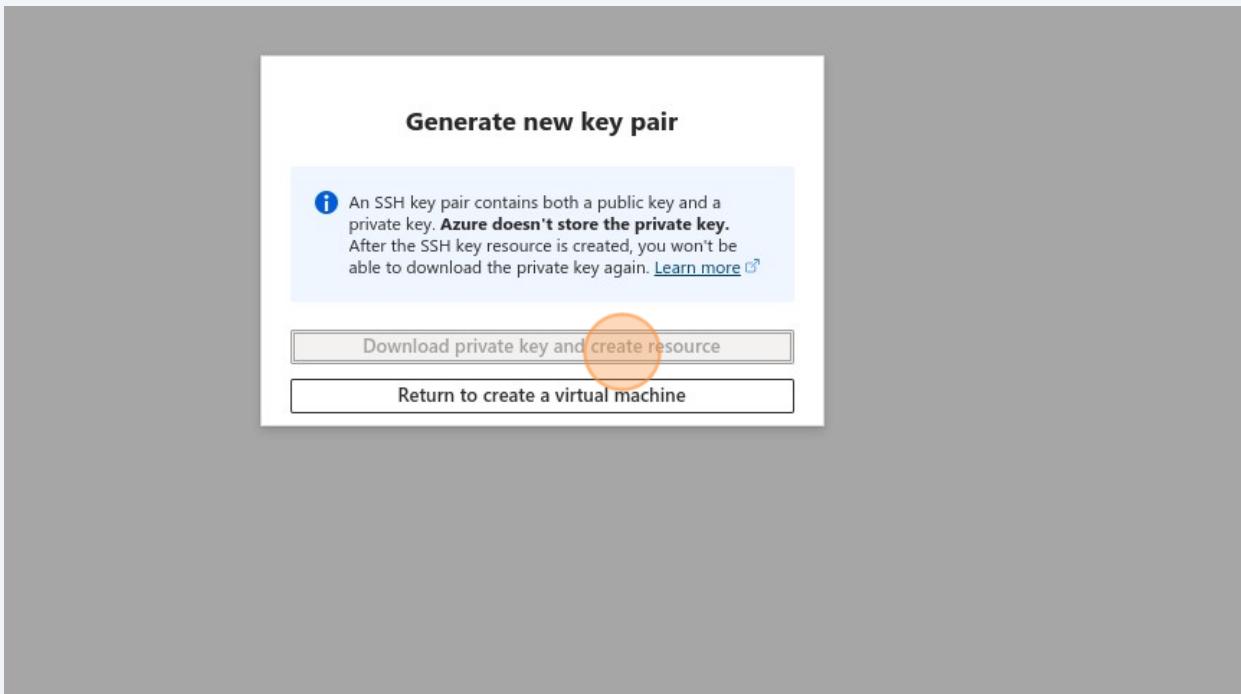
## 23 Click "Disable"

The screenshot shows the Azure portal interface for configuring monitoring options for a VM. The 'Monitoring' tab is selected. In the 'Diagnostics' section, the 'Boot diagnostics' setting is configured with the 'Disable' option selected (radio button highlighted with an orange circle). Other options include 'Enable with managed storage account (recommended)' and 'Enable with custom storage account'. The 'Alerts' section shows an unchecked checkbox for enabling recommended alert rules.

## 24 Click here.

The screenshot shows the Azure portal interface for creating a new VM. On the left, there is a sidebar with various service icons. The main area displays 'Patch orchestration options' and 'Image Default' settings. Under the 'Monitoring' section, all four options (Alerts, Boot diagnostics, Enable OS guest diagnostics, and Enable application health monitoring) are set to 'Off'. The 'Advanced' section lists several configuration parameters, all set to 'None' or 'No'. At the bottom of the page, there is a 'Create' button, which is highlighted with an orange circle, and navigation links for '< Previous' and 'Next >'. A link to 'Download a template for automation' is also present.

**25** Click "Download private key and create resource"



**26** Click "Go to resource"

The screenshot shows the Azure deployment summary page for a deployment named "CreateVM-Canonical.0001-com-ubuntu-server-1...". The deployment was created on 2023-09-11T10:25:00Z and is associated with a "Free Trial" subscription and a "myrg" resource group. The "Deployment details" section is expanded, showing the deployment name, subscription, and resource group. The "Next steps" section is collapsed. Below it, three recommended actions are listed: "Setup auto-shutdown" (Recommended), "Monitor VM health, performance and network dependencies" (Recommended), and "Run a script inside the virtual machine" (Recommended). At the bottom of the page are two buttons: "Go to resource" (highlighted with a red circle) and "Create another VM". Below the buttons are links for "Give feedback" and "Tell us about your experience with deployment".

## 27 Click "Bastion"

The screenshot shows the Azure portal's 'Overview' page for a virtual machine. On the left, there's a sidebar with 'Favorites' and a list of services like App Services, Resource groups, Quickstart Center, etc. The main area has sections for 'Overview', 'Connect' (with 'Bastion' highlighted), 'Networking', and 'Settings'. On the right, the 'Essentials' panel displays resource group (myrg), status (Running), location (East US), subscription (Free Trial), and a 'Tags' section. Below that is a 'Virtual machine' card with details: Computer name (myvmnginx), Operating system (Linux (ubuntu 20.04 LTS)), Image publisher (canonical), Image offer (0001-com-ubuntu-20\_04-lts-gen2), and Image plan.

## 28 Click "Bastion"

This screenshot is similar to the previous one, showing the 'Overview' page for the same virtual machine. The 'Bastion' link in the 'Connect' section is again highlighted with an orange circle. The rest of the interface and data in the 'Essentials' and 'Virtual machine' cards are identical to the first screenshot.

## 29 Click this text field.

Azure Bastion protects your virtual machines by providing lightweight, browser-based connectivity without the need to expose them through public IP addresses. Deploying will automatically create a Bastion host on a subnet in your virtual network. [Learn more](#)

Using Bastion: **myvnet-Bastion**

Provisioning State: **Succeeded**

Please enter username and password to your virtual machine to connect using Bastion.

Authentication Type ⓘ

Username ⓘ   

Local File ⓘ

Open in new browser tab

**Connect**

## 30 Click this file field.

Please enter username and password to your virtual machine to connect using Bastion.

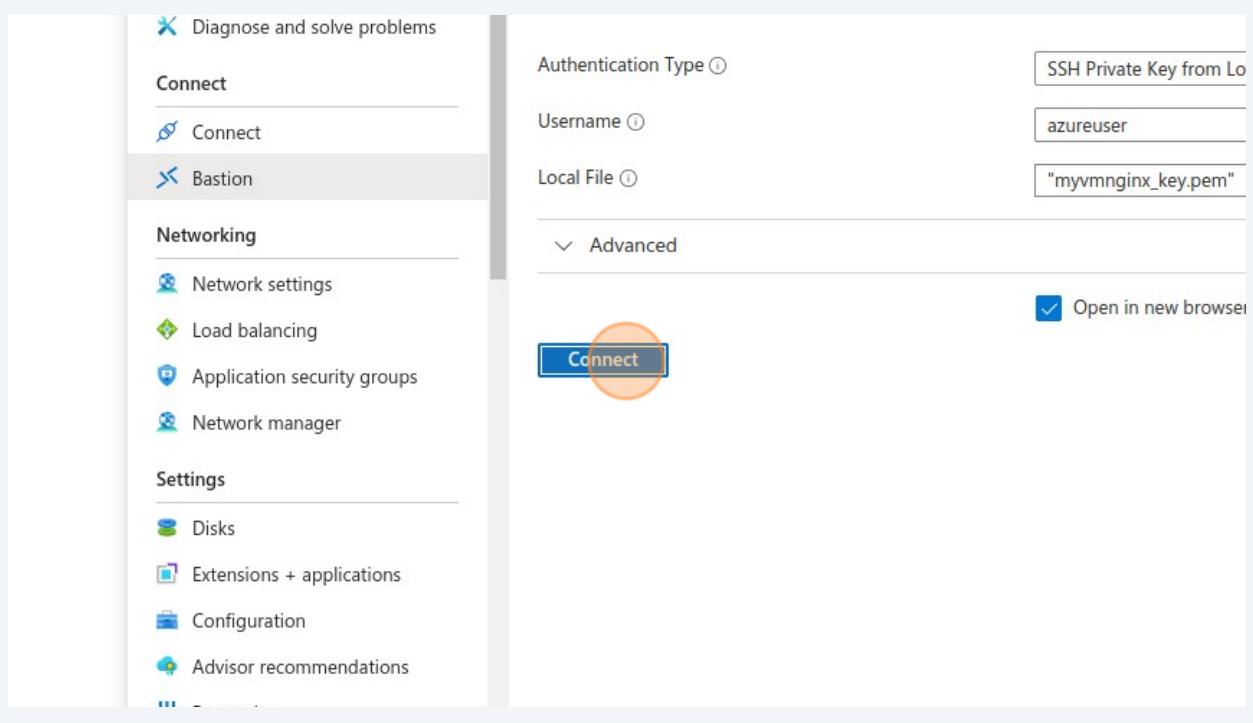
Authentication Type ⓘ

Username  ✓

Local File   

Open in new browser tab

### 31 Click "Connect"



### 32 Click here.

```
ABSOLUTELY NO WARRANTY, to the extent permitted by  
administrator (user "root"), use "sudo <command>".  
for details.  
:~$
```

The screenshot shows a terminal window with a black background. It displays a root prompt: ':~\$'. A large brown circle highlights the entire prompt area.

**33** Type "sudo su -"

**34** Click here.

```
al files in /usr/share/doc/*copyright.

comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
law.

command as administrator (user "root"), use "sudo <command>".
sudo_root" for details.

r@myvmnginx:~$ sudo su -■
```



**35** Type "**enter** apt-get update **enter**"

**36** Click here.

```
untu.com/esm or run: sudo pro status

ncluded with the Ubuntu system are free software;
ribution terms for each program are described in the
es in /usr/share/doc/*/*copyright.

ith ABSOLUTELY NO WARRANTY, to the extent permitted by
.

nd as administrator (user "root"), use "sudo <command>".
root" for details.

nginx:~$ sudo su -
:~# apt-get update
zure.archive.ubuntu.com/ubuntu focal InRelease
zure.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
zure.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
zure.archive.ubuntu.com/ubuntu focal-security InRelease [114 kB]
zure.archive.ubuntu.com/ubuntu focal/universe amd64 Packages [8628 kB]
zure.archive.ubuntu.com/ubuntu focal/universe Translation-en [5124 kB]
zure.archive.ubuntu.com/ubuntu focal/universe amd64 c-n-f Metadata [265 kB]
zure.archive.ubuntu.com/ubuntu focal/multiverse amd64 Packages [144 kB]
zure.archive.ubuntu.com/ubuntu focal/multiverse Translation-en [104 kB]
zure.archive.ubuntu.com/ubuntu focal/multiverse amd64 c-n-f Metadata [0136 kB]
```

**37** Type "clear **enter** apt-get install nginx -y **enter**"

**38** Click here.

```
-y

be installed:
libfontconfig1 libgd3 libjbig0 libjpeg-turbo8 libjpeg8 libnginx-mod-http-image-filter li
libxpm4 nginx-common nginx-core

rt
alled:
libfontconfig1 libgd3 libjbig0 libjpeg-turbo8 libjpeg8 libnginx-mod-http-image-filter li
libxpm4 nginx nginx-common nginx-core
none and 2 not upgraded.

onal disk space will be used.
```

**39** Click here.

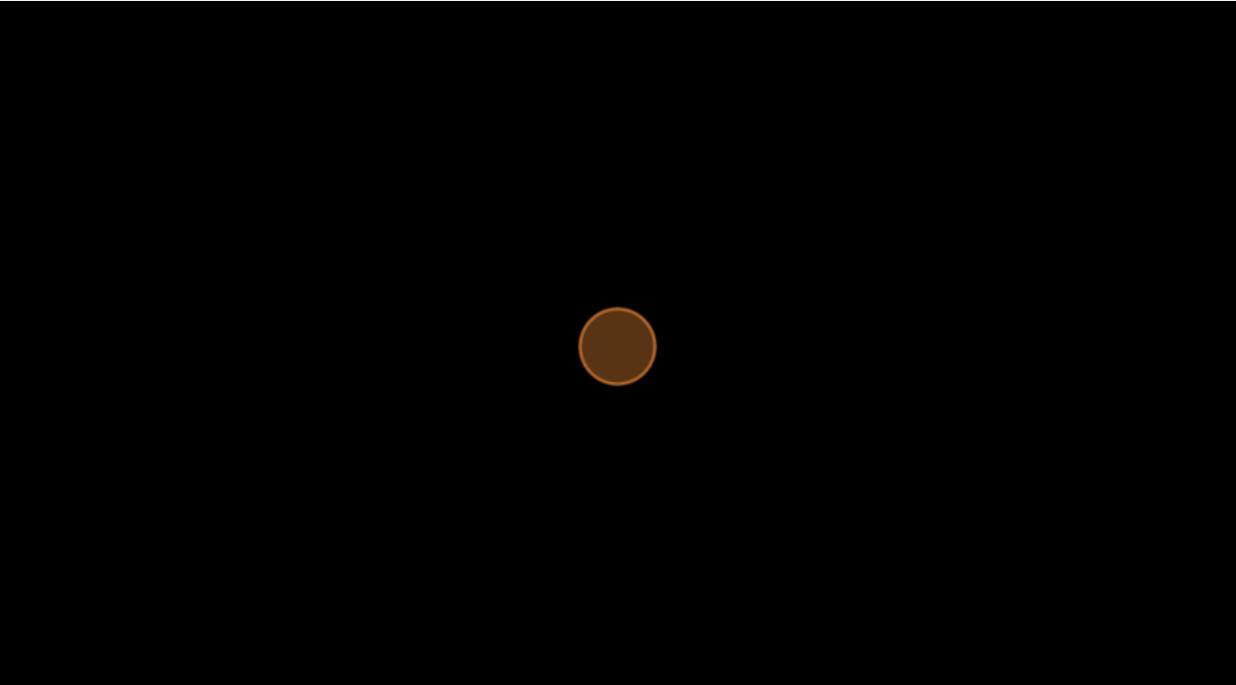
```
libnginx-mod-stream.
-stream_1.18.0-0ubuntu1.4_amd64.deb ...
ubuntul.4) ...
nginx-core.
.18.0-0ubuntu1.4_amd64.deb ...
) ...
nginx.
-0ubuntu1.4_all.deb ...

ntu0.20.04.2) ...
1.4) ...
ti-user.target.wants/nginx.service → /lib/systemd/system/nginx.service.
u0.20.04.1) ...
r (1.18.0-0ubuntu1.4) ...
u0.20.04.3) ...
..
0ubuntu1.20.04.3) ...
...
buntu1.4) ...
buntu3) ...
0ubuntu1.4) ...
117-2ubuntu0.20.04.11) ...
-2ubuntu3) ...
u2.1) ...
er (1.18.0-0ubuntu1.4) ...
4)
```

**40** Type "cd /var/www/html **enter** dir **enter** vi index.html **enter** <h1>i"

**41** Type "clear **enter** systemctl restart nginx **enter**"

**42** Click here.



**43** Type "systemctl status nginx **enter**"

**44** Click here.

```
v/html# systemctl restart nginx
v/html# systemctl status nginx
  high performance web server and a reverse proxy server
  /lib/systemd/system/nginx.service; enabled; vendor preset: enabled
  (8)
  (8)
  StartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0,
  Start=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
  nix)
  1062)

  nix/nginx.service
  nix: master process /usr/sbin/nginx -g daemon on; master_process on;
  nix: worker process

  nix systemd[1]: nginx.service: Succeeded.
  nix systemd[1]: Stopped A high performance web server and a reverse proxy server.
  nix systemd[1]: Starting A high performance web server and a reverse proxy server...
  nix systemd[1]: Started A high performance web server and a reverse proxy server.
v/html# █
```

**45** Type "curl localhost:80 **enter**"

**46** Click here.

```
system.slice/nginx.service
-2708 nginx: master process /usr/sbin/nginx -g daemon on; master_process on;
-2709 nginx: worker process

9 myvmnginx systemd[1]: nginx.service: Succeeded.
9 myvmnginx systemd[1]: Stopped A high performance web server and a reverse proxy server.
9 myvmnginx systemd[1]: Starting A high performance web server and a reverse proxy server...
9 myvmnginx systemd[1]: Started A high performance web server and a reverse proxy server.
/var/www/html# curl localhost:80
the website for documenting azure networking </h1>
/var/www/html# █
```

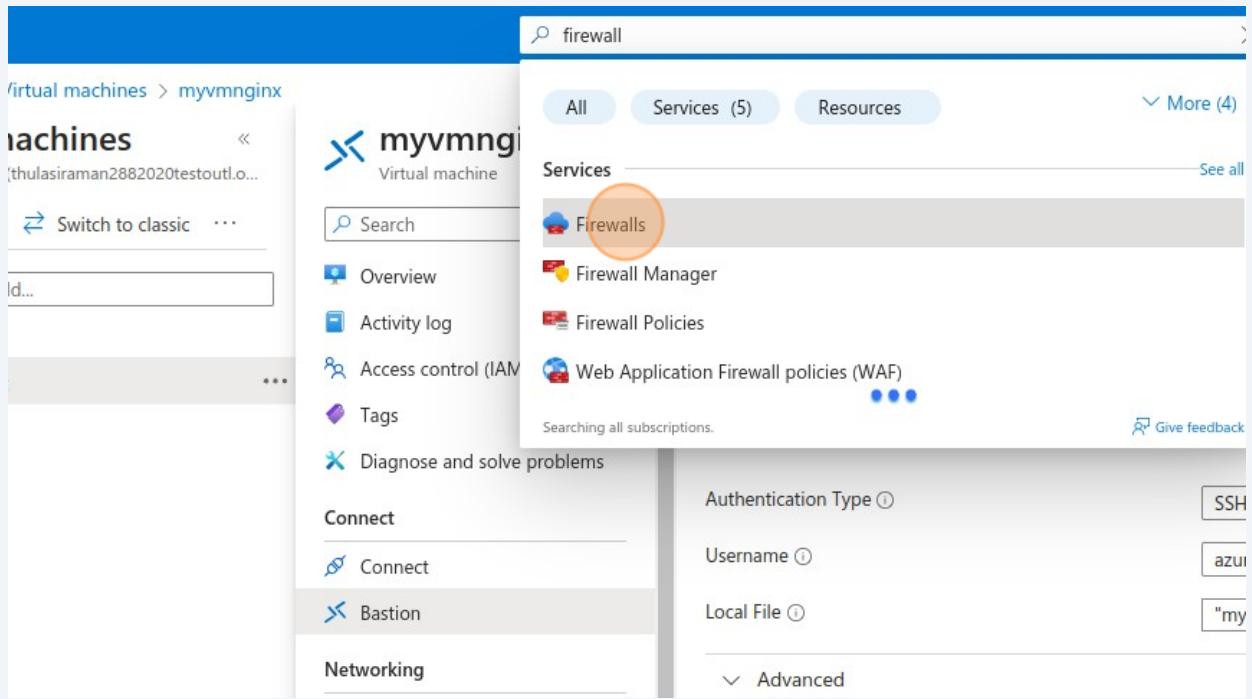


**47** Click the "Search resources, services, and docs (G+/" field.

The screenshot shows the Azure portal interface for a virtual machine named 'myvmnginx'. The search bar at the top is highlighted with a large orange circle. The main content area displays the VM's details, including its name, provisioning state (Succeeded), and connection options like Bastion and SSH. On the left, there's a sidebar with navigation links for machines, storage, and networking.

48 Type "firewall"

49 Click "Firewalls"



**50** Click "myvnet-Firewall"

The screenshot shows the 'Firewall Manager | Azure Firewalls' interface. On the left, there's a sidebar with 'Getting Started', 'Deployments' (Virtual Networks, Virtual Hubs, Application Delivery Platforms), and 'Security' (Azure Firewalls, Azure Firewall Policies, Security Partner Providers, DDoS Protection Plans, Web Application Firewall Policies). The main area shows a table with one record: 'Showing 1 to 1 of 1 records.' A row for 'myvnet-Firewall' is listed, with the 'Name' column containing 'myvnet-Firewall'. An orange circle highlights the 'myvnet-Firewall' text in this column.

**51** Click "myvnet-firewall-policy"

The screenshot shows the 'Essentials' tab of a firewall configuration page. It lists resource group (myrg), location (East US), subscription (Free Trial), subscription ID (8db2307d-351a-444e-91e5-4cb920d4b34d), virtual network (myvnet), firewall policy (myvnet-firewall-policy), and provisioning state (Succeeded). Below this, under 'Tags', it says 'Tags (edit) : Add tags'. At the bottom, there's a 'Firewall policy' section with a link to edit it. The 'Policy' link 'myvnet-firewall-policy (change)' is highlighted with an orange circle.

## 52 Click "DNAT rules"

The screenshot shows the Azure portal's 'Overview' page for a resource group named 'myrg'. The 'Settings' section is open, displaying various policy and rule collections. The 'DNAT rules' option is highlighted with an orange circle.

## 53 Click here.

The screenshot shows the 'myvnet-firewall-policy | DNAT rules' page in the Firewall Manager. The left sidebar shows 'Settings' with 'DNAT rules' selected. The main area displays a table with no DNAT rule collections found. The 'Add a rule collection' button is highlighted with an orange circle.

**54** Click the "Name" field.

The screenshot shows the 'Add a rule collection' interface. On the left, there's a sidebar with 'AT rules' and a 'rule collection' section. The main area has fields for 'Name' (highlighted with an orange circle), 'Rule collection type' (set to 'DNAT'), 'Priority' (with validation errors: 'The value must not be empty.', 'The value must be a number.', and 'The value must be between 100 and 65000.'), 'Rule collection action' (set to 'Destination Network Address Translation (DNAT)'), and 'Rule collection group' (set to 'DefaultDnatRuleCollectionGroup'). Below these are sections for 'Rules' and a table for defining them.

**55** Click the "Name" field.

This screenshot is identical to the previous one, showing the 'Add a rule collection' form. The 'Name' field now contains the prefix 'my' and is still highlighted with an orange circle. The rest of the form and its validation errors remain the same.

**56** Type "mydnatruletoaccessnginx"

**57** Click the "Priority" field.

Search resources, services, and docs (G+)

net-Firewall > myvnet-firewall->

### Add a rule collection

AT rules ⋆ ...

Rule collection + Add rule

wn in the order of execution below priority.

filter items...

Collection P..↑ Rule collection n

ule collections found

Name \* mydnatruletoaccessnginx

Rule collection type \* DNAT

Priority \*  (highlighted with a red circle)

The value must not be empty.  
The value must be a number.  
The value must be between 100 and 65000.

Rule collection action Destination Network Address Translation (DNAT)

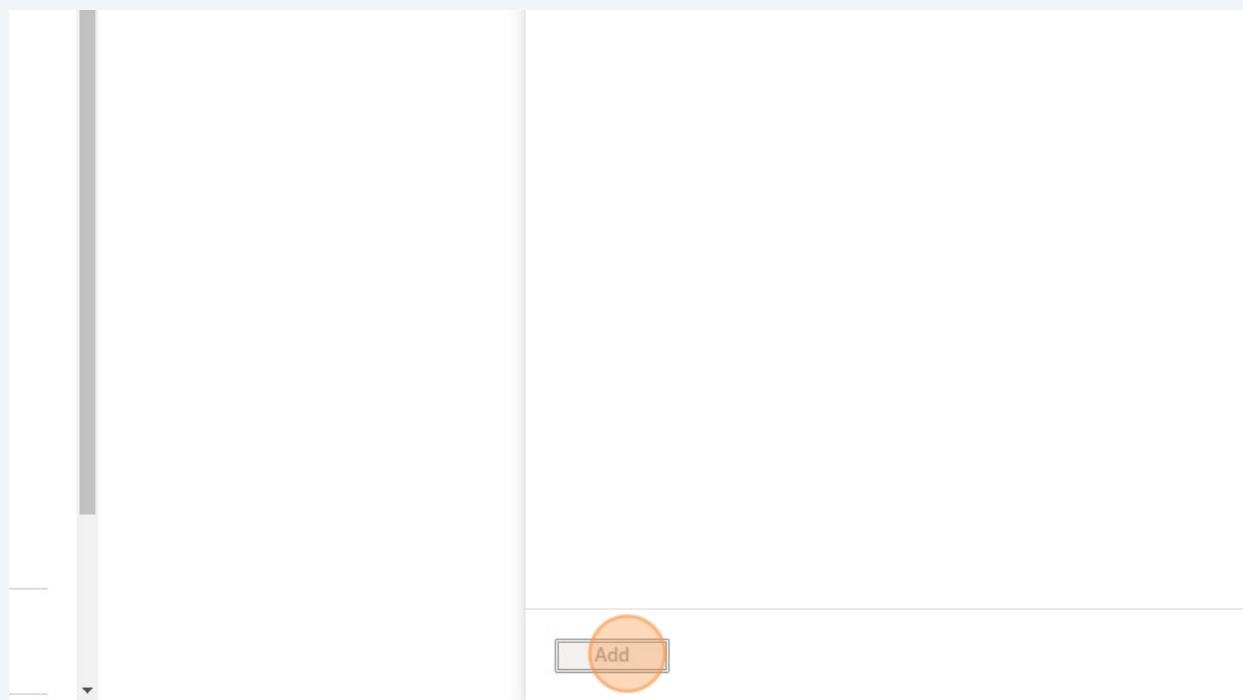
Rule collection group \* DefaultDnatRuleCollectionGroup

Rules

Name	Source type	Source	Protocol	Destina
	IP Address	*, 192.168.10.1, 192...	0 selected	8080

**58** Type "100"

## 59 Click "Add"



## 60 Click "DNAT rules"

A screenshot of the Azure portal interface. On the left, there is a sidebar with various service icons and names. The 'FAVORITES' section includes 'All services', 'All resources', 'Resource groups', 'Quickstart Center', 'App Services', 'Function App', 'SQL databases', 'Azure Cosmos DB', 'Virtual machines', 'Load balancers', 'Storage accounts', 'Virtual networks', 'Microsoft Entra ID', and 'Monitor'. To the right of the sidebar, there is a main content area. At the top of this area, there are several navigation links: 'Overview', 'Activity log', 'Access control (IAM)', 'Tags', 'Settings', 'Parent policy', 'Rule collections', 'DNAT rules' (which is highlighted with an orange circle), 'Network rules', 'Application rules', 'DNS', 'Threat Intelligence', 'TLS inspection', 'IDPS', and 'Secured virtual hubs'. Below these links, a search bar says 'Search to filter items...' and there are buttons for 'Rule Collection P...↑↓', 'Rule collection n...', and 'Rule'. A message at the bottom states 'No DNAT rule collections found'.

61 Click here.

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

Firewall Manager | Azure Firewalls > myvnet-Firewall > myvnet-firewall-policy

## myvnet-firewall-policy | DNAT rules

Policy

Collections

rules

irk rules

Add a rule collection

Add rule

Edit

Delete

Rules are shown in the order of execution below. Network rules take precedence over application rules regardless of collection priority.

Search to filter items...

Rule Collection P...	Rule collection n...	Rule name	Source	Port
No DNAT rule collections found				

62 Click "None selected"

The rule will be added to the selected rule collection upon saving.

Rule collection group \*

None selected

DefaultDnatRuleCollectionGroup

None selected

Name \*

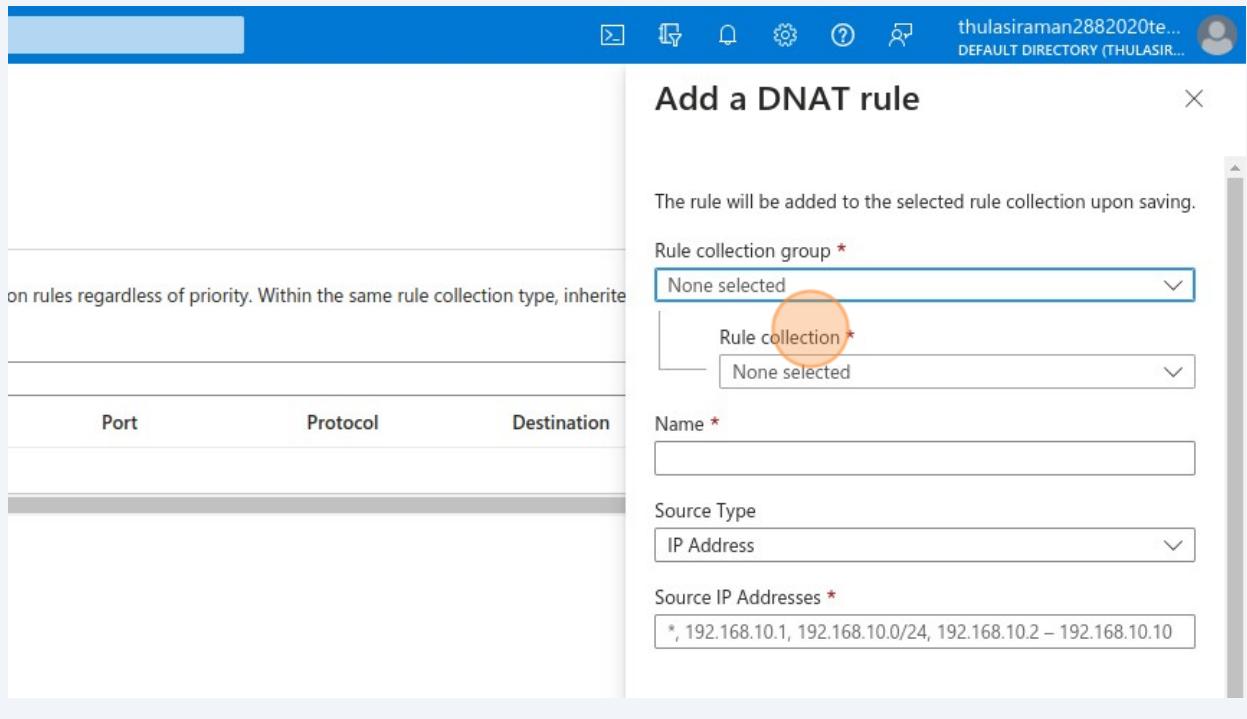
Source Type

IP Address

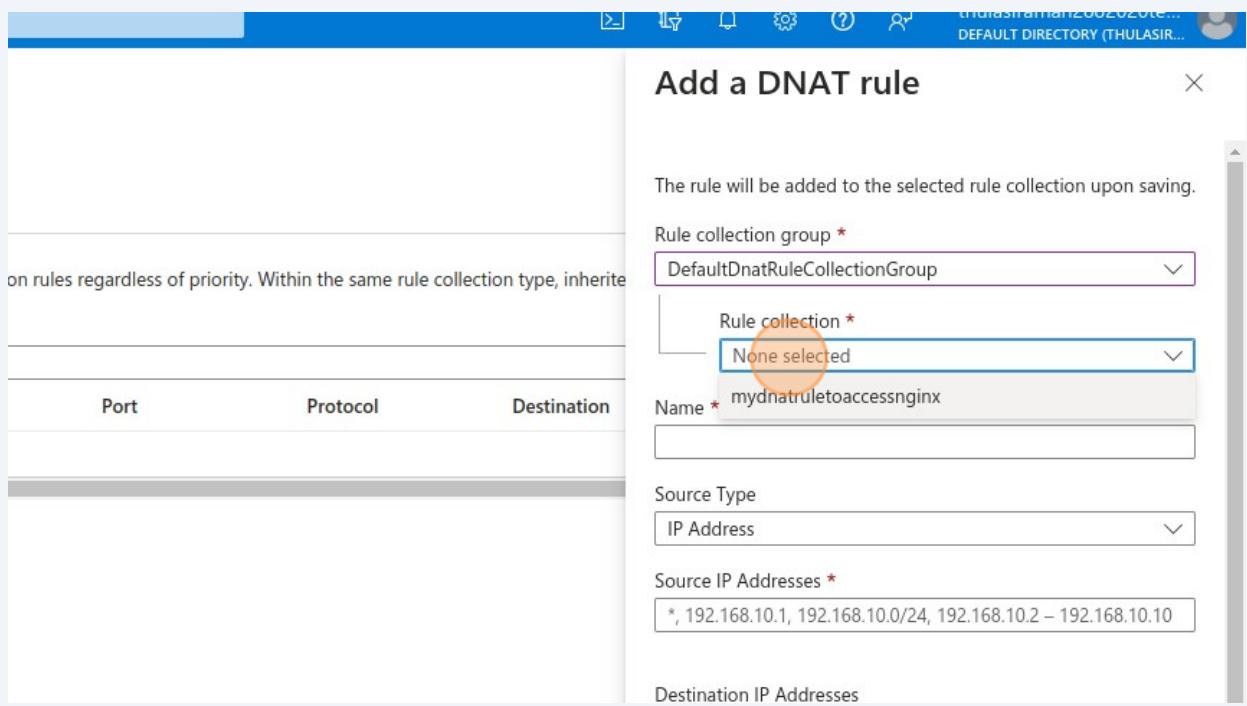
Source IP Addresses \*

\* , 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10.10

**63** Click "DefaultDnatRuleCollectionGroup"



**64** Click "None selected"



**65** Click "mydnatruletoaccessnginx"

The rule will be added to the selected rule collection upon saving.

Rule collection group \*

DefaultDnatRuleCollectionGroup

Rule collection \*

None selected

Name \*

Source Type

IP Address

Source IP Addresses \*

\*, 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10.10

Destination IP Addresses

\*, 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10....✓

**66** Click the "Name" field.

The rule will be added to the selected rule collection upon saving.

Rule collection group \*

DefaultDnatRuleCollectionGroup

Rule collection \*

mydnatruletoaccessnginx

Name \*

Source Type

IP Address

Source IP Addresses \*

\*, 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10.10

Destination IP Addresses

\*, 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10....✓

**67** Type "fromfirewalltoallownginx"

**68** Click the "Source IP Addresses" field.

On rules regardless of priority, within the same rule collection type, inheritance is applied from left to right.

Port	Protocol	Destination

Rule collection \*

mydnatruletoaccessnginx

Name \*

fromfirewalltoallownginx

Source Type

IP Address

Source IP Addresses \*

\* , 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10.10

Destination IP Addresses

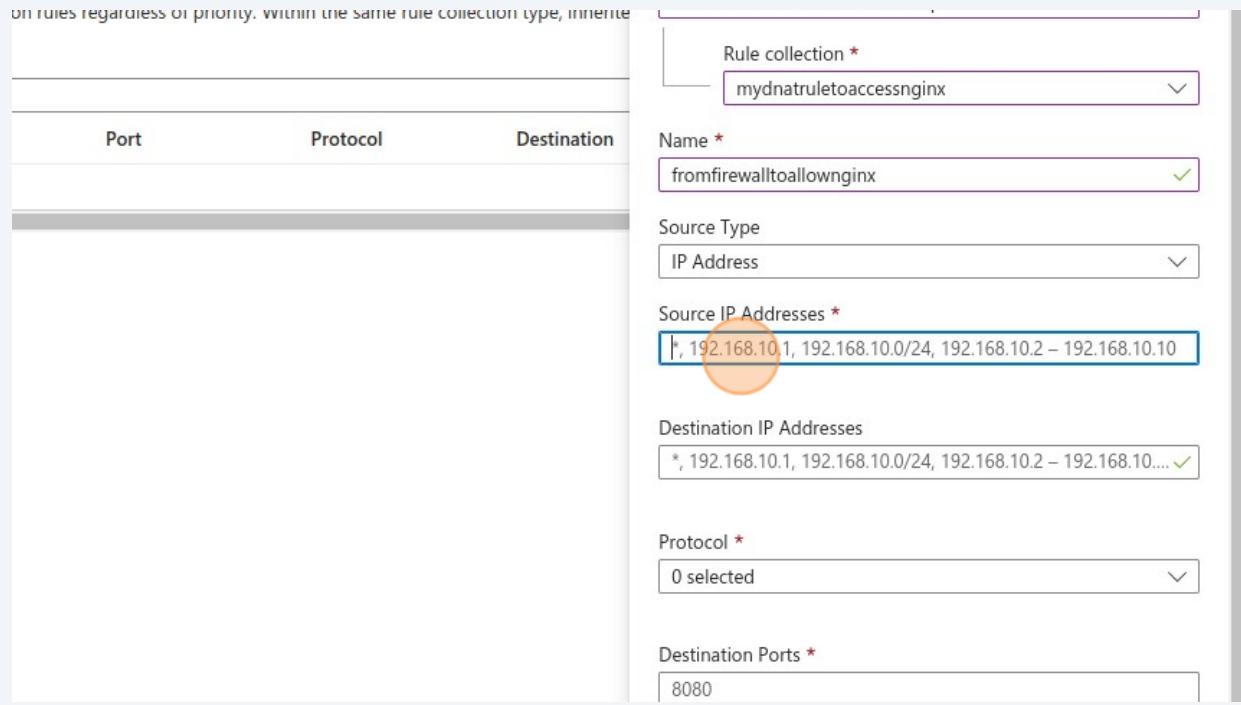
\* , 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10....

Protocol \*

0 selected

Destination Ports \*

8080



**69** Switch to tab "Scribe | Workspace"

**70** Switch to tab "New tab"

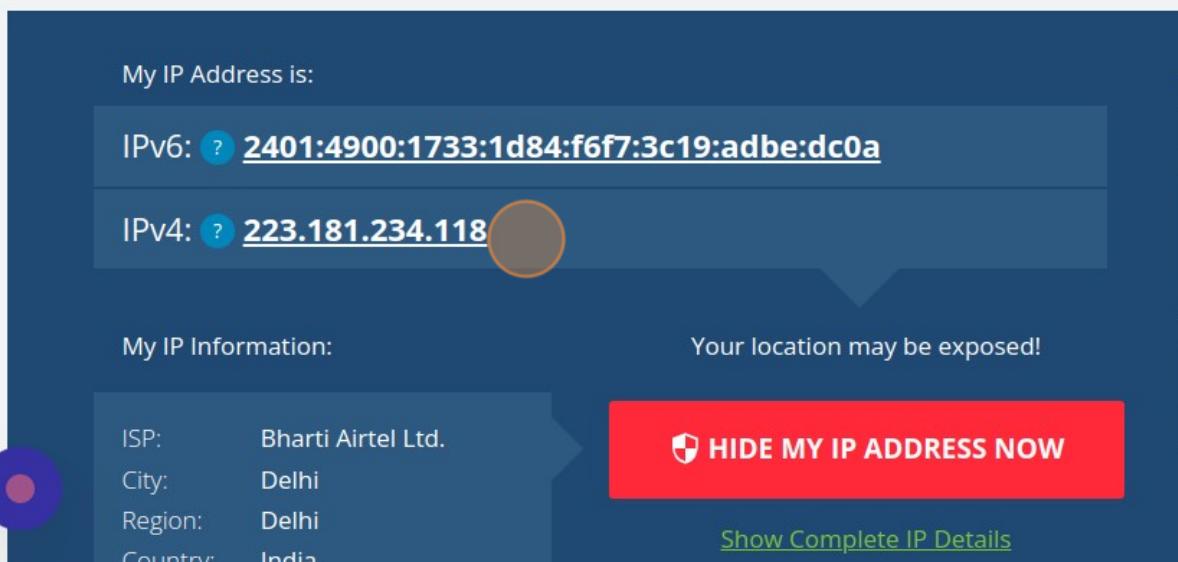
**71** Click "What Is My IP Address - See Your Public Address - IPv4"

72

Switch to tab "[bing.com/ck/a?!&&p=213a3d9180760e95jmltdHM9MTcwNjY1OTIwMCZpZ3VpZD0zNzQ3Y2E0MS0zNWVjLTYwYmEtMjc4Yi1kZTU2MzQwNjYxMGQmaW5zaWQ9NTIyMA&ptn=3&ver=2&hsh=3&fclid=3747ca41-35ec-60ba-278b-de563406610d&psq=myip&u=a1aHR0cHM6Ly93aGF0aXNteWIwYWRkcmVzcy5jb20v&ntb=1](https://bing.com/ck/a?!&&p=213a3d9180760e95jmltdHM9MTcwNjY1OTIwMCZpZ3VpZD0zNzQ3Y2E0MS0zNWVjLTYwYmEtMjc4Yi1kZTU2MzQwNjYxMGQmaW5zaWQ9NTIyMA&ptn=3&ver=2&hsh=3&fclid=3747ca41-35ec-60ba-278b-de563406610d&psq=myip&u=a1aHR0cHM6Ly93aGF0aXNteWIwYWRkcmVzcy5jb20v&ntb=1)"

73

Click "IPv4: ? 223.181.234.118"



74

Press **ctrl + c**

**75** Click the "Source IP Addresses" field.

on rules regardless of priority. Within the same rule collection type, inheritance is applied from the most specific to the least specific rule. This means that if two rules have the same priority, the one with the more specific source and destination criteria will be applied.

Port	Protocol	Destination

DefaultDnatRuleCollectionGroup

Rule collection \*

mydnatruletoaccessnginx

Name \*

fromfirewalltoallownginx

Source Type

IP Address

Source IP Addresses \*

[\*, 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10.10]

Destination IP Addresses

[\*, 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10....]

Protocol \*

0 selected

Destination Ports \*

.....

**76** Press **ctrl + v**

**77** Click the "Destination IP Addresses" field.

Port	Protocol	Destination
		<p>Name *</p> <input type="text" value="fromfirewalltoallownginx"/> <p>Source Type</p> <p>IP Address</p> <p>Source IP Addresses *</p> <input type="text" value="223.181.234.118"/> <p>Destination IP Addresses</p> <input type="text" value="*, 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10.1"/> <p>Protocol *</p> <p>0 selected</p> <p>Destination Ports *</p> <input type="text" value="8080"/> <p>Translated Type</p>

**78** Click "myvnet-Firewall"

resource machines networks

Resources

Recent   Favorite

Name	Type	Created
myvnet-firewall-policy	Policy	2023-09-15 10:15:00
myvnet-Firewall	Firewall	2023-09-15 10:15:00
myvmnginx	VM	2023-09-15 10:15:00
myvnet	Network	2023-09-15 10:15:00
myrg	Region	2023-09-15 10:15:00
Free Trial	Subscription	2023-09-15 10:15:00

See all

Navigation

**79** Click "myvnet-firewall"

The screenshot shows the Azure Firewall configuration page. At the top right, there are links for 'SERVICE DIRECTORY' and 'VIEW LOGS'. Below that is a 'JSON View' link. The main area displays the following configuration details:

SKU	: Standard( <a href="#">change</a> )
Subnet	: <a href="#">AzureFirewallSubnet</a>
Public IP	: <a href="#">myvnet-firewall</a>
Private IP	: 10.0.1.68
Management subnet	: -
Management public IP	: -
Private IP Ranges	: <a href="#">Managed by Firewall Policy</a>
Route Server (preview)	: <a href="#">Add</a>

**80** Click here.

The screenshot shows the Azure Firewall configuration page. At the top right, there is a 'JSON View' link. The main area displays the following configuration details:

SKU	: Standard
Tier	: Regional
IP address	: 20.231.74.57
DNS name	: -
Associated to	: <a href="#">myvnet-Firewall</a>
Virtual machine	: -
Routing preference	: Microsoft network

At the bottom left, there is a note: 'Public IP addresses for public connections to Azure resources'.

81 Click "0"

The rule will be added to the selected rule collection upon

Rule collection group \*

DefaultDnatRuleCollectionGroup

Rule collection \*

mydnatruletoaccessnginx

Name \*

fromfirewalltoallownginx

Source Type

IP Address

Source IP Addresses \*

223.181.234.118

Destination IP Addresses

\*, 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.1

82 Click "0 selected"

Source type

IP Address

Source IP Addresses \*

223.181.234.118

Destination IP Addresses

\*, 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.1

Protocol \*

0 selected

TCP

UDP

Translated Type

Translated FQDN \*

time.windows.com

**83** Click here.

Source IP Addresses \*

223.181.234.118 ✓

Destination IP Addresses

\* , 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10.... ✓

Protocol \*

TCP

TCP

UDP

8080

Translated Type

Translated FQDN \*

time.windows.com

**84** Click the "Destination IP Addresses" field.

Port	Protocol	Destination

Name \*

fromfirewalltoallownginx ✓

Source Type

IP Address

Source IP Addresses \*

223.181.234.118 ✓

Destination IP Addresses

\* , 192.168.10.1, 192.168.10.0/24, 192.168.10.2 – 192.168.10.... ✓

Protocol \*

TCP

TCP

UDP

8080

Translated Type

**85** Press **ctrl + v**

**86** Click the "Destination Ports" field.

The screenshot shows a configuration form with the following fields:

- Destination IP Addresses: 223.181.234.118
- Protocol: TCP
- Destination Ports: 8080 (highlighted with a red circle)
- Translated Type: (dropdown menu)
- Translated FQDN: time.windows.com
- Translated Port: 8080

**87** Type "80"

**88** Click here.

The screenshot shows a configuration form for a destination rule. The fields are as follows:

- Destination IP Address: 20.231.74.57
- Protocol: TCP
- Destination Ports: 80
- Translated Type: A dropdown menu with three options: "IP address" (highlighted with an orange circle), "FQDN", and another option partially visible.
- Translated Port: 8080
- Buttons: Save (blue) and Cancel (white)

**89** Click "IP address"

The screenshot shows the same configuration form after the "IP address" option was selected in the "Translated Type" dropdown. The "Translated Address" field now contains the value 192.168.10.0, and the "Translated Type" dropdown is no longer highlighted.

The fields are identical to the previous screenshot, except for the "Translated Address" field which has been populated.

## 90 Click "Virtual machines"

All resources

Resource groups

Quickstart Center

App Services

Function App

SQL databases

Azure Cosmos DB

**Virtual machines**

Load balancers

Storage accounts

Virtual networks

Microsoft Entra ID

Monitor

Advisor

Microsoft Defender for Cloud

Access control (IAM)

Tags

**Settings**

Configuration

Properties

Locks

**Monitoring**

Insights

Alerts

Metrics

Diagnostic settings

**Automation**

CLI / PS

Tasks (preview)

Resource group ([move](#)) : [myrg](#)

Location ([move](#)) : East US

Subscription ([move](#)) : [Free Trial](#)

Subscription ID : 8db2307d-351a-444e-91e5-4cb921

Tags ([edit](#)) : Add tags

Get Started Properties Tutorials

Associate to a resource  
Associate your public IP resource such as an Azure network interface.

## 91 Click "myvmnginx"

Create a resource

Home

Dashboard

All services

**FAVORITES**

All resources

Resource groups

Quickstart Center

App Services

Function App

SQL databases

Azure Cosmos DB

**Virtual machines**

Load balancers

Storage accounts

Virtual machines

Virtual machines

Default Directory (thulasiraman2882020testoutl.onmicrosoft.com)

Create Switch to classic Reservations Manage view Refresh

Filter for any field... Subscription equals all Type equals all Resource group equals all

Showing 1 to 1 of 1 records.

Name ↑	Type ↑	Subscription ↑
<a href="#">myvmnginx</a>	Virtual machine	Free Trial

**92** Click "10.0.0.4"

Health state : -

Capabilities (7) Recommendations Tutorials

**Networking**

Public IP address	-
Public IP address (IPv6)	-
Private IP address	10.0.0.4
Private IP address (IPv6)	-
Virtual network/subnet	myvnet/default
DNS name	-

**Size**

Size	Standard B1s
vCPUs	1
RAM	1 GiB

**93** Press **ctrl + c**

**94** Click the "Translated Address" field.

The screenshot shows a configuration interface for translating addresses. The fields filled in are:

- Destination IP Addresses: 20.231.74.57
- Protocol: TCP
- Destination Ports: 80
- Translated Type: IP address
- Translated Address: 192.168.10.0 (This field is circled in orange)
- Translated Port: 8080

At the bottom are two buttons: Save and Cancel.

**95** Press **ctrl + v**

**96** Click the "Translated Port" field.

Protocol \*

TCP

Destination Ports \*

80

Translated Type

IP address

Translated Address \*

10.0.0.4

Translated Port \*

8080

Save Cancel

**97** Click the "Translated Port" field.

Protocol \*

TCP

Destination Ports \*

80

Translated Type

IP address

Translated Address \*

10.0.0.4

Translated Port \*

8080

Save Cancel

**98** Click the "Translated Port" field.

The screenshot shows a configuration interface with the following fields:

- Protocol \*: TCP
- Destination Ports \*: 80
- Translated Type: IP address
- Translated Address \*: 10.0.0.4
- Translated Port \*: 80

The "Translated Port" field is highlighted with an orange circle. At the bottom are "Save" and "Cancel" buttons.

**99** Type "80"

**100** Click here.

Protocol \*

TCP

Destination Ports \*

80

Translated Type

IP address

Translated Address \*

10.0.0.4

Translated Port \*

80

Save Cancel

**101** Click the "Search resources, services, and docs (G+)" field.

Search resources, services, and docs (G+)

Machines

thulasiraman2882020testoutl.onmicrosoft.com

Switch to classic Reservations Manage view Refresh Export to CSV Open query Assign tags

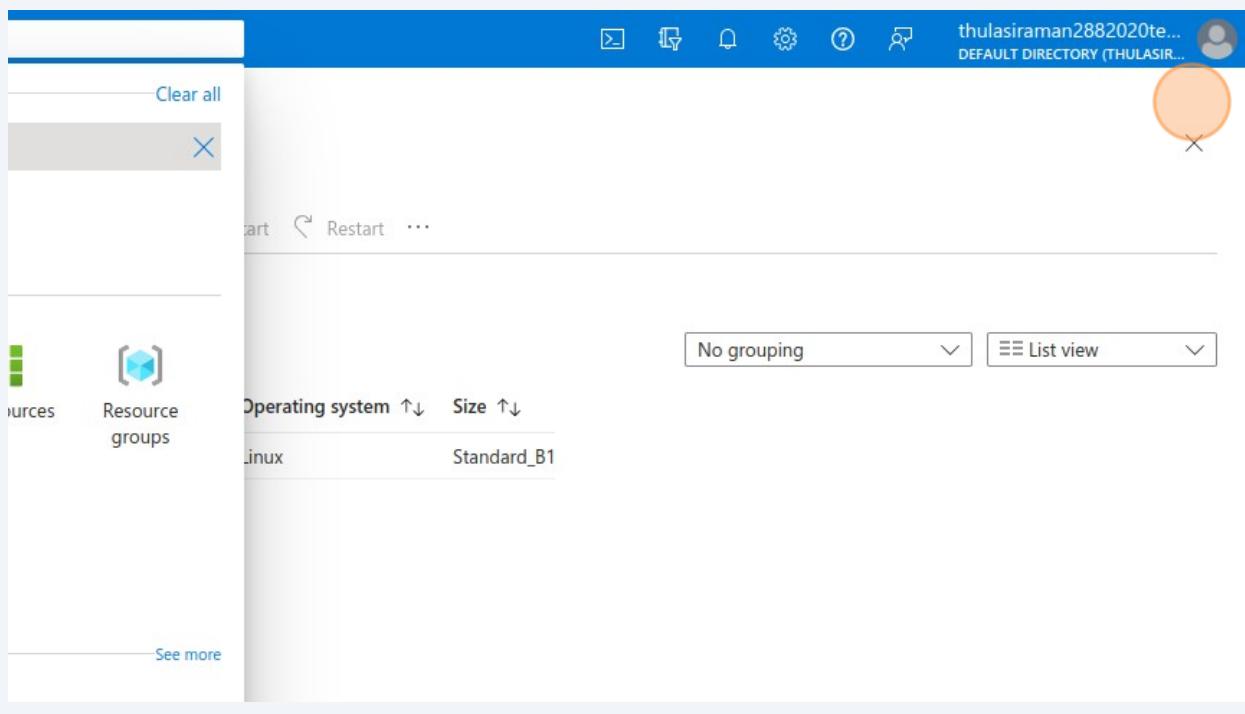
Add filter

Subscription equals all Type equals all Resource group equals all Location equals all Add filter

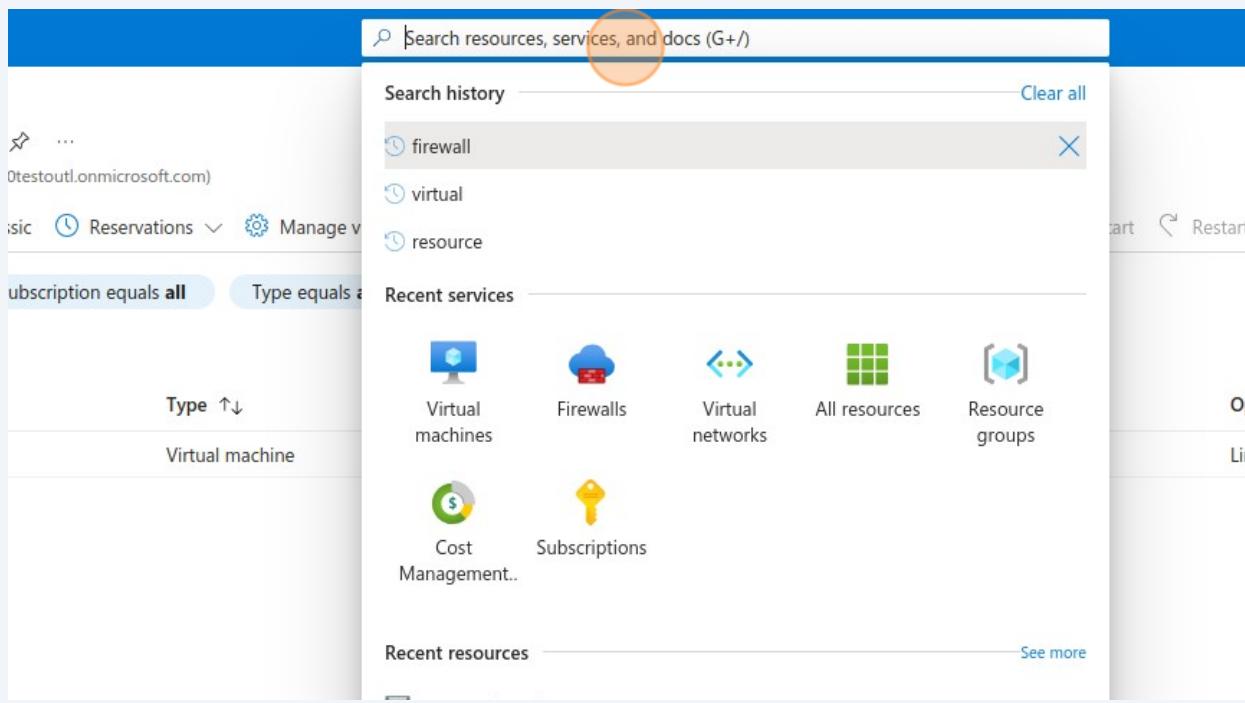
No grouping

Type ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	
ginx	Virtual machine	Free Trial	myrg	East US	Running

102 Click this icon.



103 Click the "Search resources, services, and docs (G+)" field.

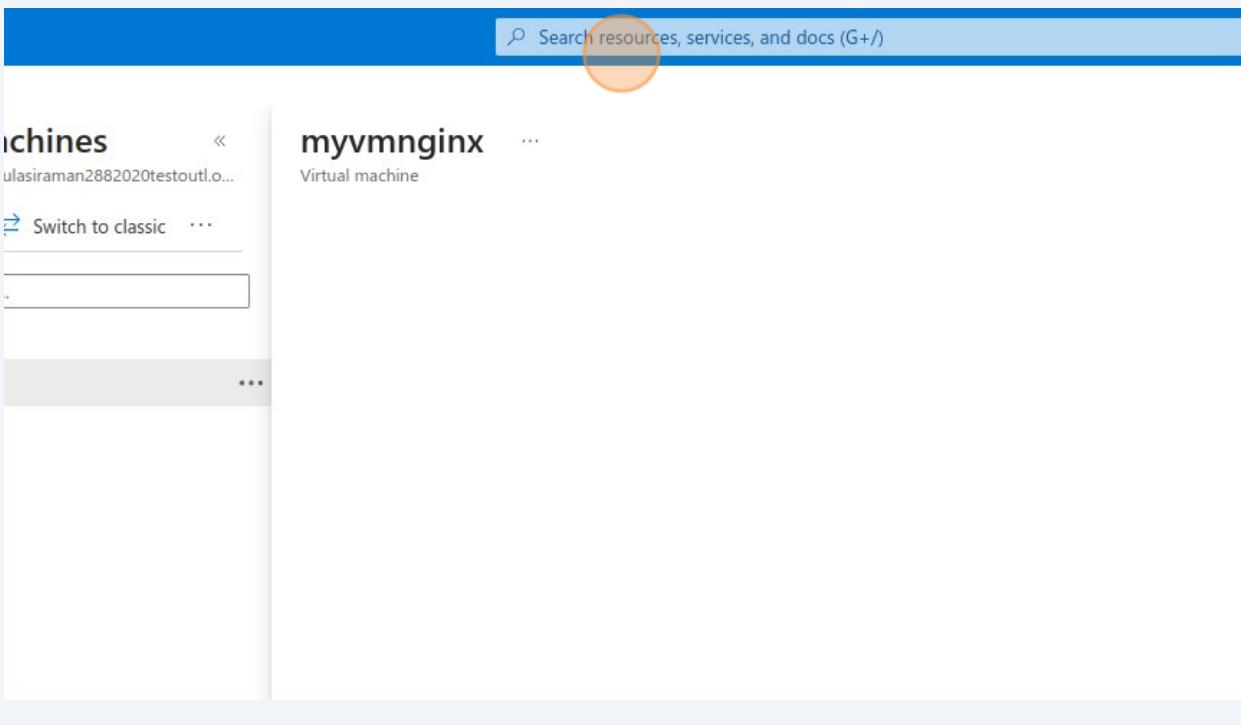


104 Type "fireall"

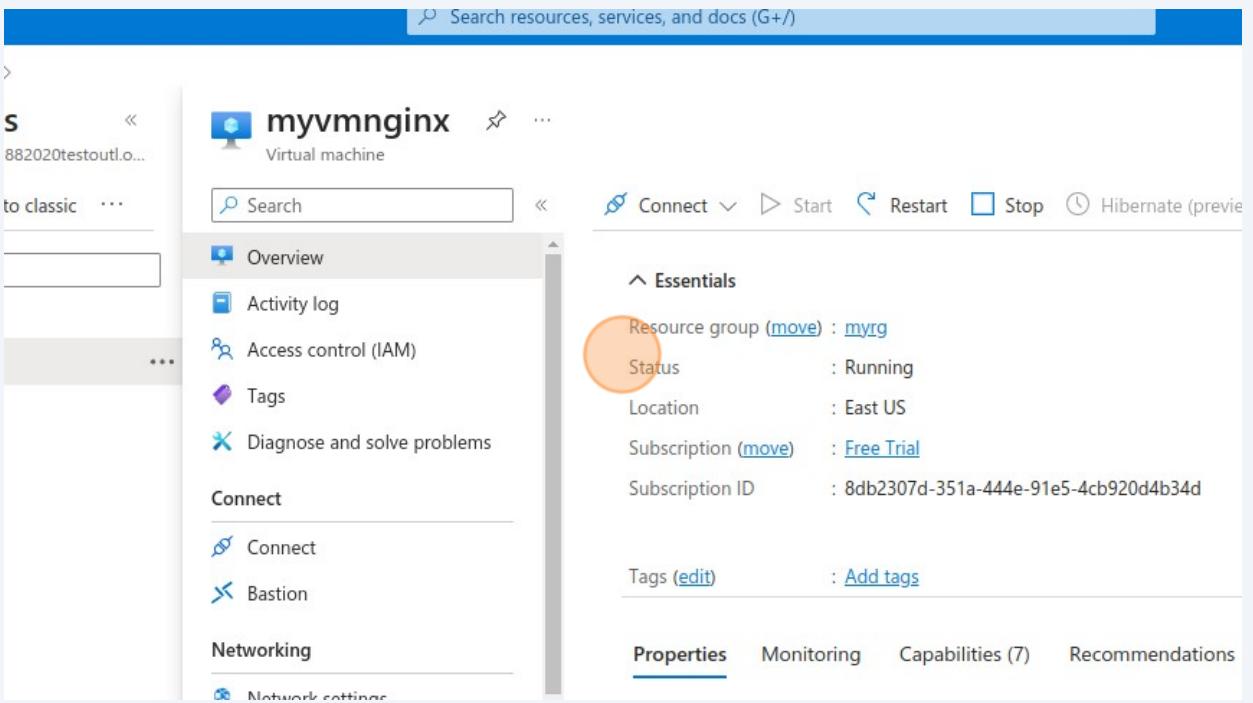
105 Click "myvmnginx"

The screenshot shows the Azure portal interface. On the left, there's a sidebar with various navigation options like Home, Dashboard, All services, and Favorites. The Favorites section is expanded, showing items such as All resources, Resource groups, Quickstart Center, App Services, Function App, SQL databases, Azure Cosmos DB, Virtual machines, Load balancers, and Storage accounts. The main content area is titled "Virtual machines" and shows a single record: "myvmnginx" (Type: Virtual machine). This item is circled in red. The top right of the screen shows a sidebar with sections for Services (Firewalls, Firewall Manager, Firewall Policies, Web Application Firewall), Resources, Marketplace, and Documentation. A status message at the bottom right says "Searching all subscriptions."

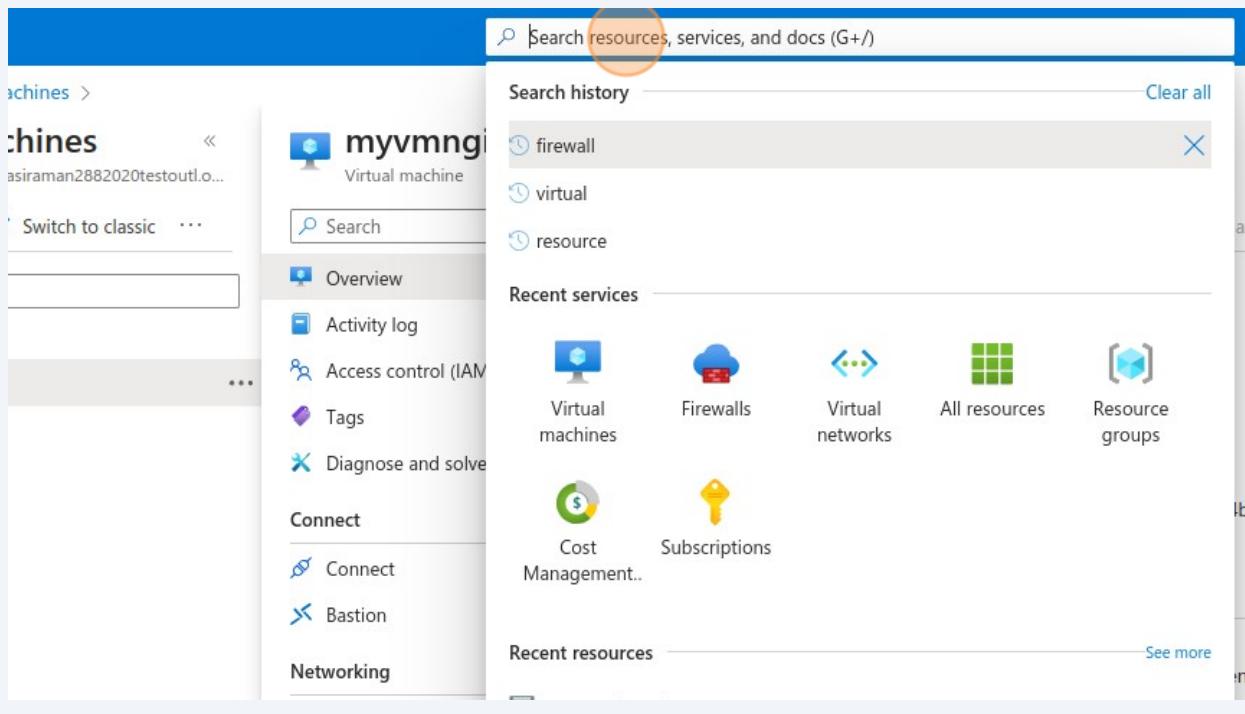
**106** Click the "Search resources, services, and docs (G+/" field.



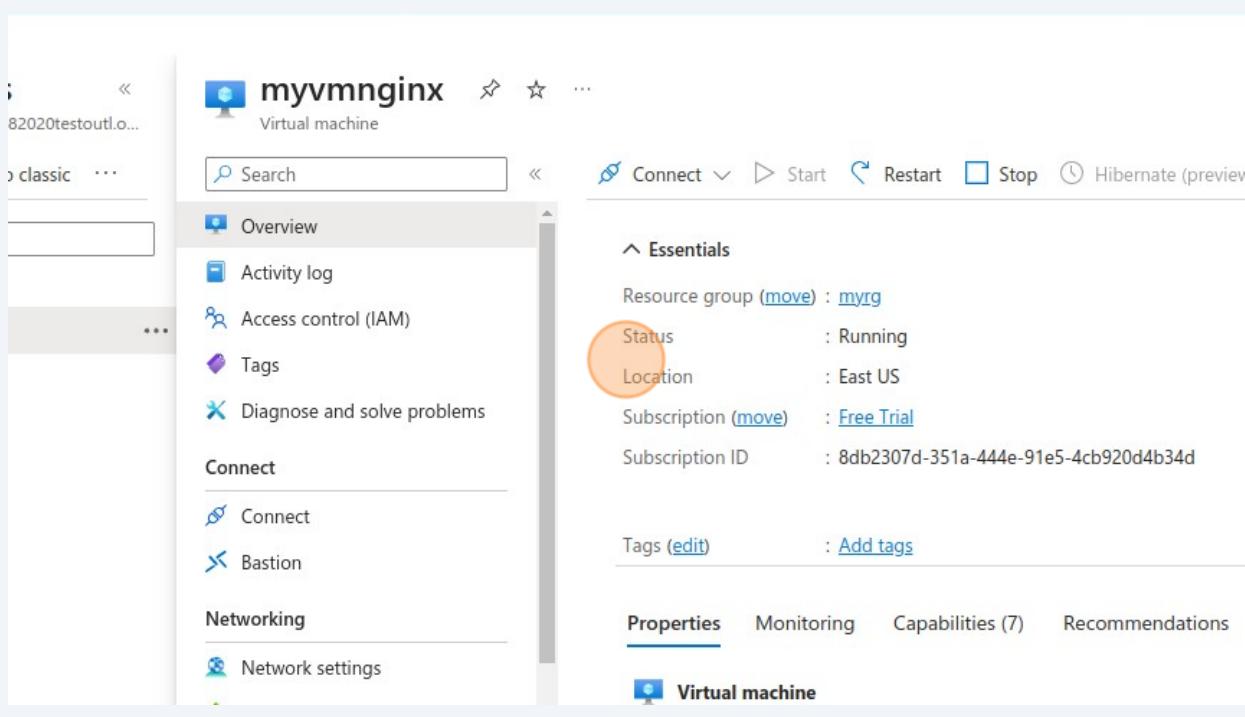
**107** Click here.



**108** Click the "Search resources, services, and docs (G+/" field.



**109** Click "Firewalls"



110 Click "myvnet-Firewall"

The screenshot shows the Azure Firewall Manager interface. On the left, there's a sidebar with sections like 'Getting Started', 'Deployments' (Virtual Networks, Virtual Hubs, Application Delivery Platforms), and 'Security' (Azure Firewalls, Azure Firewall Policies, Security Partner Providers, DDoS Protection Plans, Web Application Firewall Policies). The main area is titled 'Firewall Manager | Azure Firewalls' and shows a table with one record. The record has a checkbox next to it, followed by the name 'myvnet-Firewall' and its type 'Firewall'. A large orange circle highlights the 'myvnet-Firewall' text.

111 Click "myvnet-firewall"

The screenshot shows the properties of an Azure Firewall resource. It lists various configuration details: SKU (Standard), Subnet (AzureFirewallSubnet), Public IP (myvnet-firewall, highlighted with an orange circle), Private IP (10.0.1.68), Management subnet (empty), Management public IP (empty), Private IP Ranges (Managed by Firewall Policy), and Route Server (preview) (Add). A 'JSON View' link is visible at the top right.

**112** Click "□"

Open in mobile  Give feedback

JSON

SKU	: Standard
Tier	: Regional
IP address	: 20.231.74.57 
DNS name	: -
Associated to	: myvnet-Firewall
Virtual machine	: -
Routing preference	: Microsoft network

ublic IP addresses for public connections to Azure resources

**113** Switch to tab "New tab"

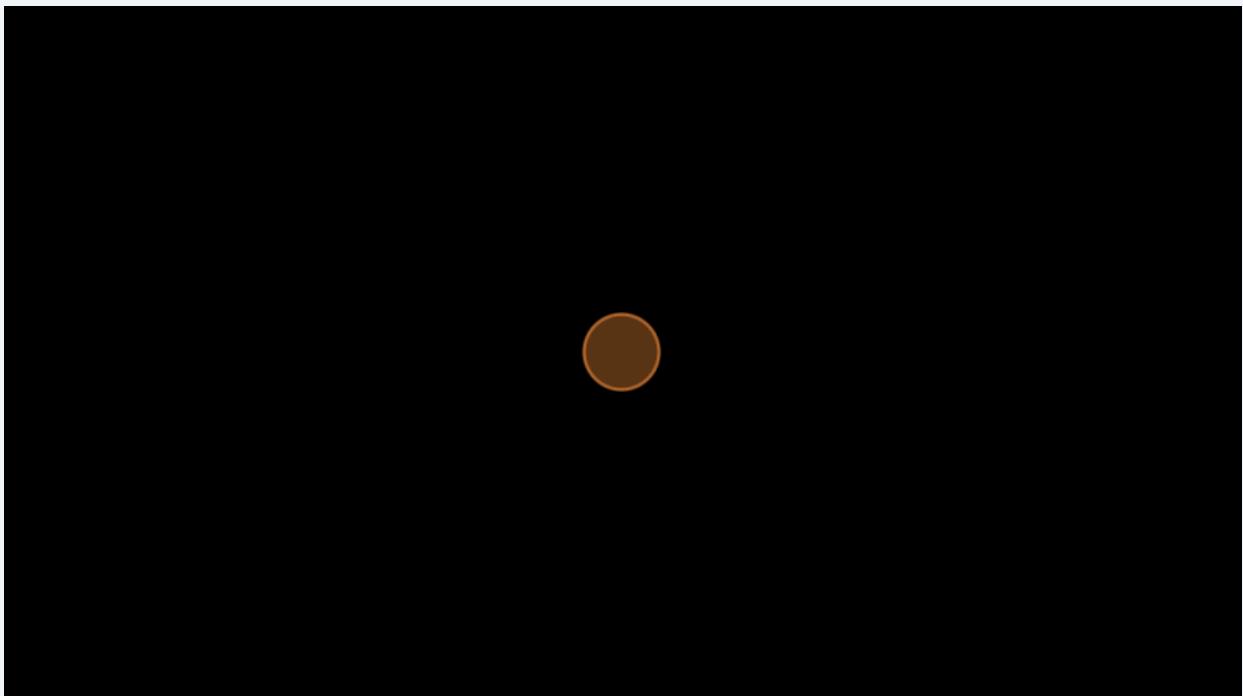
114 Click "this is the website for documenting azure networking"

**the website for documenting azure networking**



115 Type "vi /etc/hosts <tab> <tab> <enter> i <End> <enter> <enter> <h2> updating after the firewall configurations <Escape> <x> <enter>"

**116** Click here.



**117** Type "clear enter"

118 Click here.

```
root@myvmnginx:/var/www/html#
```



119 Type "curl localhost:80 **enter** systemctl restart nginx **enter**"

120

Click "this is the website for documenting azure networking updating after the firewall configurations"

**this is the website for documenting azure networking  
updating after the firewall configurations**

