

Welcome to This **Azure: Create a Virtual Machine and Deploy a Web Server**. is a project-based course which should take approximately 2 hours to finish. Before diving into the project, please take a look at the course objectives and structure:

Course Objectives

In this course, we are going to focus on **eight** learning objectives:

1. *Create a Resource Group*
2. *Create a Virtual Network and a subnet*
3. *Protect a subnet using a Network Security Group*
4. *Deploy Bastion to connect to a Virtual Machine*
5. *Create an Ubuntu Server Virtual Machine*
6. *Install Nextcloud by connecting via SSH using Bastion*
7. *Publish an IP*
8. *Create a DNS label*

By the end of this course, you will be able to understand how the basic networking architecture in Azure works, by creating Virtual Networks, subnets, security groups and Virtual Machines. You will also learn how to use Bastion to connect to a Linux machine using SSH without exposing an external IP. You'll also learn how to expose a public IP and an HTTPS port to access your web server.

Course Structure

This course is divided into 4 parts:

1. Course Overview: This introductory reading material.
2. Azure: create a Virtual Machine and deploy a web server: This is the hands on project that we will work on in Rhyme.
3. Graded Quiz: This is the final assignment that you need to pass in order to finish the course successfully.

Project Structure

The hands on project on Azure: create a Virtual Machine and deploy a web server is divided into following tasks:

Task 1: Create a Resource Group

Task 2: Create a Virtual Network and a subnet

Task 3: Protect a subnet using a Network Security Group

Task 4: Deploy Bastion to connect to a Virtual Machine

Task 5: Create an Ubuntu Server Virtual Machine

Task 6: Install Nextcloud by connecting via SSH using Bastion

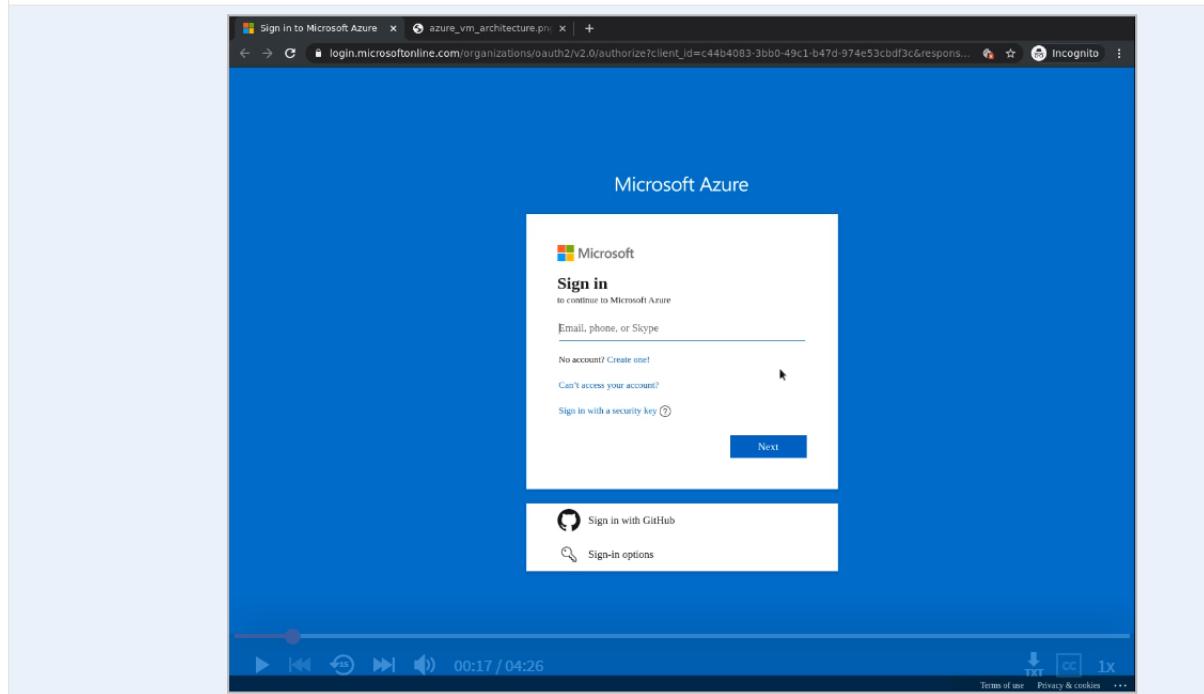
Task 7: Publish an IP

Task 8: Create a DNS label

Mario Ferraro is a CTO for startups, tech lead, digital consultant and software engineer. He collaborated with different companies, including Google for several years and has a background in open source software development.

<https://www.coursera.org/learn/azure-create-a-virtual-machine-and-deploy-a-web-server/home/module/1>

1. Create a Resource Group 4 min



Learn fundamental Azure architecture



Home - Microsoft Azure +

portal.azure.com/#home

Microsoft Azure Upgrade Search resources, services, and docs (G+?)

marioferraro@gmail.com DEFAULT DIRECTORY

Azure services

Create a resource Bastions Virtual machines Resource groups Network security groups Network Watcher All resources Public IP addresses App Services More services

Recent resources

Name	Type	Last Viewed
Free Trial	Subscription	2 hours ago

Navigate

Subscriptions Resource groups All resources Dashboard

Tools

Microsoft Learn Azure Monitor Security Center Cost Management

Learn Azure with free online training from Microsoft Monitor your apps and infrastructure Secure your apps and infrastructure Analyze and optimize your cloud spend for free

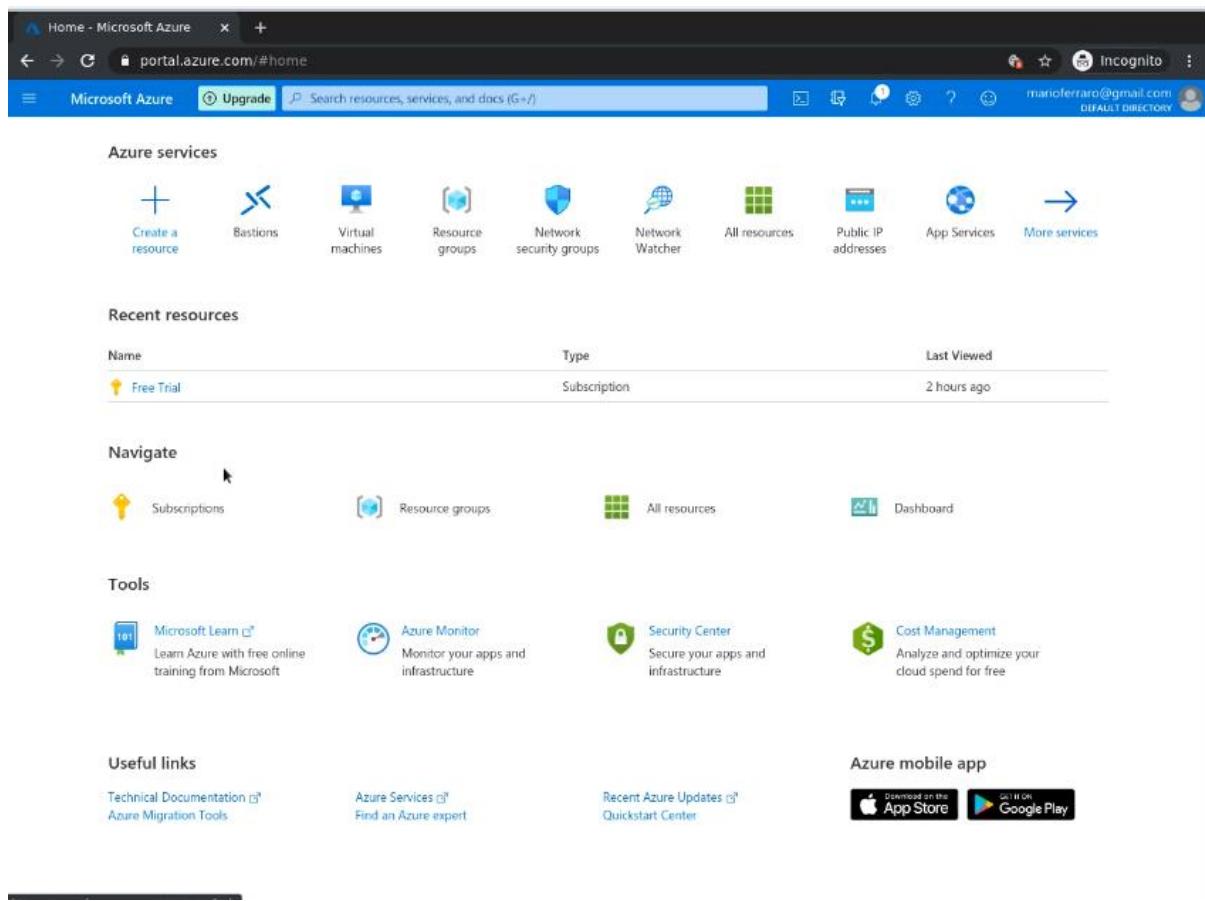
Useful links

Technical Documentation Azure Services Recent Azure Updates Quickstart Center

Azure Migration Tools Find an Azure expert

Azure mobile app

Download on the App Store Get it on Google Play

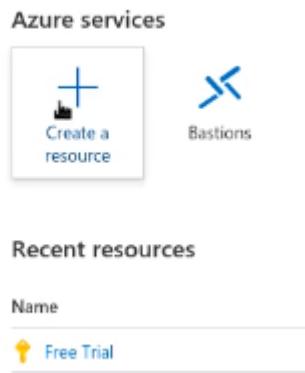


Azure services

Create a resource Bastions

Recent resources

Name
Free Trial



New

resource group

Resource group

Get started

Recently created

AI + Machine Learning

Analytics

Blockchain

Compute

Containers

Databases

Developer Tools

DevOps

Identity

Integration

Internet of Things

IT & Management Tools

Media

Migration

Mixed Reality

Monitoring & Diagnostics

Networking

Security

Software as a Service (SaaS)

Windows Server 2016 Datacenter

Ubuntu Server 18.04 LTS

Web App

SQL Database

Function App

Azure Cosmos DB

Kubernetes Service

DevOps Starter

Storage account

Show recently created items

Resource group - Microsoft  + 

portal.azure.com/#create/hub

Microsoft Azure  Search resources, services, and docs (G+)                     <img alt="Feedback icon" data-bbox="9225 106

Create a resource group - +

portal.azure.com/#create/Microsoft.ResourceGroup

Microsoft Azure Upgrade Search resources, services, and docs (S+)

Home > New > Resource group >

Create a resource group

Basics Tags Review + create

Resource group - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. [Learn more](#)

Project details

Subscription * Free Trial

Resource group * RG-USE-Nextcloud

Resource details

Region * (US) East US

Review Review + create Previous Next : Tags >

The screenshot shows the 'Create a resource group' wizard in the Microsoft Azure portal. The 'Basics' tab is selected. In the 'Project details' section, the subscription is set to 'Free Trial' and the resource group name is 'RG-USE-Nextcloud'. In the 'Resource details' section, the region is set to '(US) East US'. At the bottom, there are navigation buttons for 'Review', 'Review + create', 'Previous', and 'Next : Tags >'. The 'Review + create' button is highlighted.

Create a resource group - [X](#) +

← → C portal.azure.com/#create/Microsoft.ResourceGroup

Microsoft Azure [Upgrade](#) [Search resources, services, and docs \(G+\)](#)

Home > New > Resource group >

Create a resource group

Validation passed.

Basics Tags Review + create

Basics

Subscription	Free Trial
Resource group	RG-USE-Nextcloud
Region	East US

Tags

None

[Create](#) < Previous Next > Download a template for automation

4

Incognito

marioferraro@gmail.com

DEFAULT DIRECTORY

Notifications

More events in the activity log → Dismiss all ▾

✓ Resource group created ×

Creating resource group 'RG-USE-Nextcloud' in subscription 'Free Trial' succeeded.

[Go to resource group](#) [Pin to dashboard](#)

a few seconds ago

ⓘ €127.93 credit remaining ×

Subscription 'Free Trial' has a remaining credit of €127.93.

[Click here to upgrade to a Pay-As-You-Go subscription.](#)

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Incognito

marioferraro@gmail.com

DEFAULT DIRECTORY

Notifications

More events in the activity log → Dismiss all ▾

✓ Resource group created ×

Creating resource group 'RG-USE-Nextcloud' in subscription 'Free Trial' succeeded.

[Go to resource group](#) [Pin to dashboard](#)

a few seconds ago

ⓘ €127.93 credit remaining ×

Subscription 'Free Trial' has a remaining credit of €127.93.

[Click here to upgrade to a Pay-As-You-Go subscription.](#)

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RG-USE-Nextcloud - Microsoft Azure

Microsoft Azure | Upgrade | Search resources, services, and docs (G+)

Home > RG-USE-Nextcloud Resource group

Search (Ctrl+)

Overview

Add Edit columns Delete resource group Refresh Export to CSV Open query Assign tags Move ...

Essentials

Subscription (change) Deployment
Free Trial No deployments

Subscription ID Location
992c85e1-8642-4355-8562-367a88d3d309 East US

Tags (change) Click here to add tags

Filter for any field... Type == all Location == all Add filter

Showing 0 to 0 of 0 records. Show hidden types No grouping List view

Name ↑ Type ↑ Location ↑

No resources to display

The resources are currently filtered and not all resources may be displayed, such as hidden resources.

Try changing your filters if you don't see what you're looking for.

Learn more

Create resources Clear filters / Show hidden

Deployments

Security Policies Properties Locks

Cost Management

Cost analysis Cost alerts (preview) Budgets Advisor recommendations

Monitoring

Insights (preview) Alerts Metrics Diagnostic settings

2. Create a Virtual Network and a subnet 6 min

RG-USE-Nextcloud - Microsoft Azure

Microsoft Azure | Upgrade | Search resources, services, and docs (G+)

Home > RG-USE-Nextcloud Resource group

Search (Ctrl+)

Overview

Add Edit columns Delete resource group Refresh Export to CSV Open query Assign tags Move ...

Essentials

Subscription (change) Deployment
Free Trial No deployments

Subscription ID Location
992c85e1-8642-4355-8562-367a88d3d309 East US

Tags (change) Click here to add tags

Filter for any field... Type == all Location == all Add filter

Showing 0 to 0 of 0 records. Show hidden types No grouping List view

Name ↑ Type ↑ Location ↑

No resources to display

The resources are currently filtered and not all resources may be displayed, such as hidden resources.

Try changing your filters if you don't see what you're looking for.

Learn more

Create resources Clear filters / Show hidden

Deployments

Security Policies Properties Locks

Cost Management

Cost analysis Cost alerts (preview) Budgets Advisor recommendations

Monitoring

Insights (preview) Alerts Metrics Diagnostic settings

Let's add a new resource

New - Microsoft Azure X +

← → C portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resourceGroups/RG-USE-Nextcloud/providers/Microsoft.Network/virtualNetworks

Microsoft Azure Upgrade Search resources, services, and docs (G+?)

Home > RG-USE-Nextcloud >

New

Virtual Network
KoçSistem Azure Virtual Network TAP Management
Azure Virtual Network Endpoints Management
Virtual network gateway
KoçSistem Azure Virtual Network (VNet) Management

Blockchain
Compute
Containers
Databases
Developer Tools
DevOps
Identity
Integration
Internet of Things
IT & Management Tools
Media
Migration
Mixed Reality
Monitoring & Diagnostics
Networking
Security

Web App
Quickstarts + tutorials

SQL Database
Quickstarts + tutorials

Function App
Quickstarts + tutorials

Azure Cosmos DB
Quickstarts + tutorials

Kubernetes Service
Quickstarts + tutorials

DevOps Starter
Quickstarts + tutorials

Storage account
Quickstarts + tutorials

Show recently created items

The screenshot shows the Microsoft Azure portal with the URL <https://portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/resourceGroups/RG-USE-Nextcloud/providers/Microsoft.Network/virtualNetworks/VN-USE-Nextcloud>. The page title is "Virtual Network - Microsoft". The main content area displays the "Virtual Network" service details, including a "Create" button and a "Deploy with Resource Manager" link. Below this, there are tabs for "Overview" (which is selected), "Plans", "Usage Information + Support", and "Reviews". A descriptive text block explains that a Virtual Network is a logically isolated section in Azure. It also lists ways to use a Virtual Network, such as extending the datacenter, building distributed applications, and remotely debugging applications. A "See All" link is visible at the bottom right of the offer list.

Virtual Network

Microsoft

Add to Favorites

0.0 (0 ratings)

Create

Deploy with Resource Manager (change to Classic)

Overview Plans Usage Information + Support Reviews

Create a logically isolated section in Microsoft Azure with this networking service. You can securely connect it to your on-premises datacenter or a single client machine using an IPsec connection. Virtual Networks make it easy for you to take advantage of the scalable, on-demand infrastructure of Azure while providing connectivity to data and applications on-premises, including systems running on Windows Server, mainframes, and UNIX.

Use Virtual Network to:

- Extend your datacenter
- Build distributed applications
- Remotely debug your applications

More offers from Microsoft

See All

Workspace Microsoft No rating	Wire Data 2.0 Microsoft ★ ★ ★ ★ 3.5 (2 ratings)	Microsoft HPC Pack 2012 R2 Microsoft ★ ★ ★ ★ 3.9 (7 ratings)	Windows 10 IoT Core Services Microsoft ★ ★ ★ ★ 3.0 (2 ratings)
Virtual Machine Windows Virtual Desktop resource	Provides the ability to explore wire data and helps identify network related issues.	Enterprise-class HPC solution. Easy to deploy, cost-effective and supports Windows/Linux workloads.	Azure Service Commercialize your project with enterprise-grade security and support

Virtual machine should be in the same region as the virtual network

Create virtual network - Microsoft Azure

portal.azure.com/#create/Microsoft.VirtualNetwork-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+/)

Home > RG-USE-Nextcloud > New > 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 *

Resource group * [Create new](#)

Instance details

Name *

Region *

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

Assign default IP address of the virtual network

Let's delete the default

Create virtual network - M x +

portal.azure.com/#create/Microsoft.VirtualNetwork-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+ /)

Home > RG-USE-Nextcloud > New > Virtual Network >

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 Remove

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
<input type="checkbox"/> default	10.0.0.0/24

Review + create < Previous Next : Security > 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



Delete

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

default

10.0.0.0/24

Create virtual network - Microsoft Azure

portal.azure.com/#create/Microsoft.VirtualNetwork-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+?)

Home > RG-USE-Nextcloud > New > Virtual Network >

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

✓ ✖

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

This virtual network doesn't have any subnets.

✖ This virtual network doesn't have any subnets.

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

The screenshot shows the Microsoft Azure portal interface for creating a virtual network. The main navigation bar includes 'Microsoft Azure', 'Upgrade', 'Search resources, services, and docs (G+)', and the user's email 'marioferraro@gmail.com'. The current page is 'Create virtual network > IP Addresses'.

Add subnet

Subnet name *: SNET-USE-Nextcloud

Subnet address range *: 172.10.0.0/24 (172.10.0.0 - 172.10.0.255 (251 + 5 Azure reserved addresses))

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

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

IPv4 address space: 172.10.0.0/16

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

This virtual network doesn't have any subnets.

✖ This virtual network doesn't have any subnets.

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

There are 251 reserved IP addresses

Click review+create button below

Create virtual network - Mi x +

portal.azure.com/#create/Microsoft.VirtualNetwork-ARM

Microsoft Azure [Upgrade](#) Search resources, services, and docs (G+?)

Home > RG-USE-Nextcloud > New > Virtual Network >

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

172.10.0.0/16  

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

<input type="checkbox"/> Subnet name	Subnet address range
<input type="checkbox"/> SNET-USE-Nextcloud	172.10.0.0/24

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

Create virtual network - Microsoft Azure

portal.azure.com/#create/Microsoft.VirtualNetwork-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+?)

Home > RG-USE-Nextcloud > New > Virtual Network >

Create virtual network

Validation passed

Basics IP Addresses Security Tags Review + create

Basics

Subscription	Free Trial
Resource group	RG-USE-Nextcloud
Name	VNET-USE-Nextcloud
Region	East US

IP addresses

Address space	172.10.0.0/16
Subnet	SNET-USE-Nextcloud (172.10.0.0/24)

Tags

None

Security

BastionHost	Disabled
DDoS protection plan	Basic
Firewall	Disabled

Create < Previous Next > Download a template for automation

The screenshot shows the Microsoft Azure portal interface for a deployment named "Microsoft.VirtualNetwork-20210331105924". The main content area displays the message "... Deployment is in progress ...". Below this, deployment details are listed: Deployment name: Microsoft.VirtualNetwork-20210331105924, Start time: 3/31/2021, 11:06:22 AM, Subscription: Free Trial, Correlation ID: d8cf9974-6b78-41cf-8d33-84d6136a38fc. A table titled "Deployment details (Download)" shows "No results." under the columns Resource, Type, Status, and Operation details. On the right side, there are promotional links for Security Center, Free Microsoft tutorials, and Work with an expert.

The screenshot shows the Microsoft Azure portal interface for the same deployment. The main content area now displays the message "Your deployment is complete". Deployment details are identical to the previous screenshot. A success message at the top right states: "Deployment succeeded 11:06 AM Deployment 'Microsoft.VirtualNetwork-20210331105924' to resource group 'RG-USE-Nextcloud' was successful." Below this message are buttons for "Go to resource" and "Pin to dashboard". The right sidebar contains the same promotional links as the first screenshot.

Go to RG

Refresh the browser

RG-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/resourceGroups/RG-USE-Nextcloud/providers/Microsoft.Network/virtualNetworks/VNET-USE-Nextcloud

Microsoft Azure Upgrade Search resources, services, and docs (G+)

marioferraro@gmail.com DEFAULT DIRECTORY

Home > Microsoft.VirtualNetwork-20210331105924 > RG-USE-Nextcloud

RG-USE-Nextcloud Resource group

Search (Ctrl+)

Overview

Activity log

Access control (IAM)

Tags

Events

Settings

- Deployments
- Security
- Policies
- Properties
- Locks

Cost Management

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

Monitoring

- Insights (preview)
- Alerts
- Metrics
- Diagnostic settings

Essentials

Subscription (change)
Free Trial

Subscription ID
992c85e1-8642-4355-8562-367a88d3d309

Tags (change)
Click here to add tags

Add Edit columns Delete resource group Refresh Export to CSV Open query Assign tags Move ...

Filter for any field... Type == all Location == all Add filter

Showing 0 to 0 of 0 records. Show hidden types No grouping List view

Name ↑ Type ↑ Location ↑

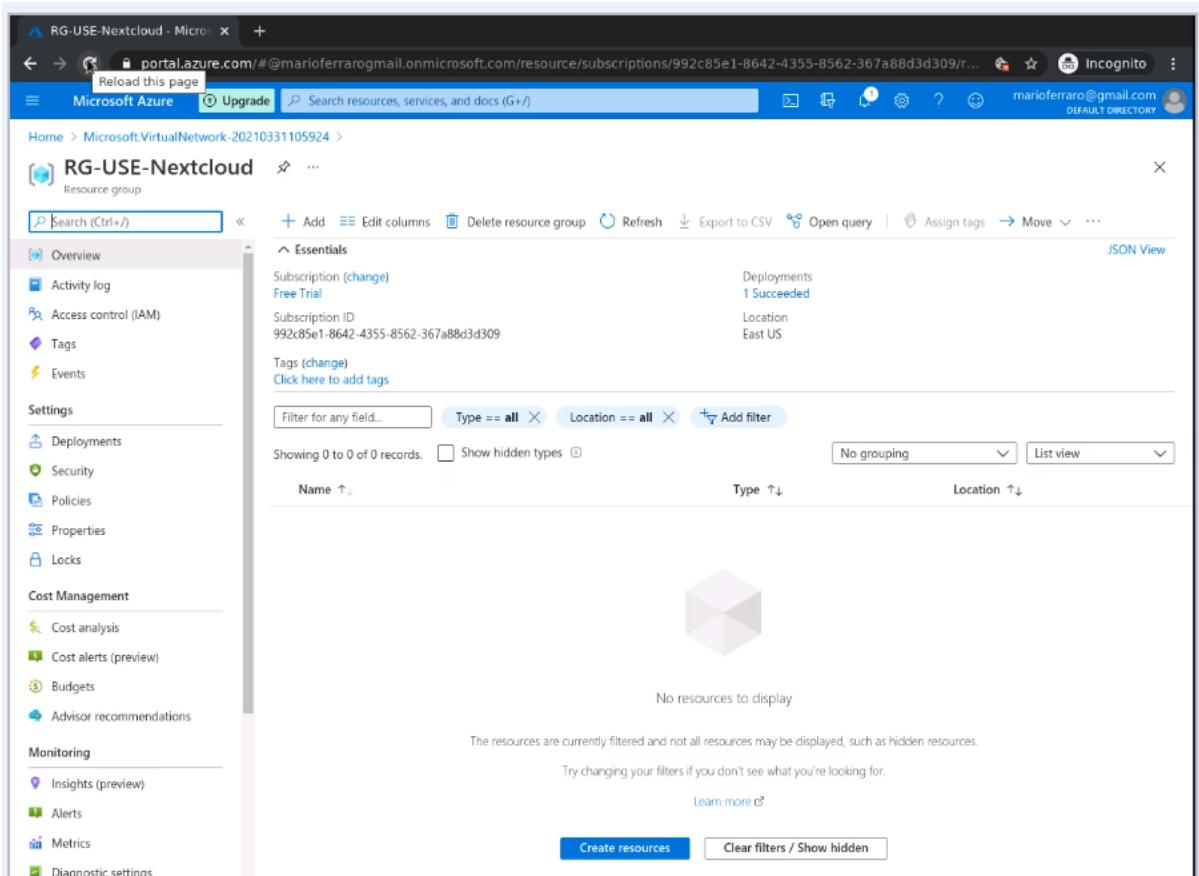
No resources to display

The resources are currently filtered and not all resources may be displayed, such as hidden resources.

Try changing your filters if you don't see what you're looking for.

Learn more ↗

Create resources Clear filters / Show hidden



RG-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/resourceGroups/RG-USE-Nextcloud/providers/Microsoft.Network/virtualNetworks/VNET-USE-Nextcloud

Microsoft Azure Upgrade Search resources, services, and docs (G+)

marioferraro@gmail.com DEFAULT DIRECTORY

Home > RG-USE-Nextcloud

RG-USE-Nextcloud Resource group

Search (Ctrl+)

Overview

Activity log

Access control (IAM)

Tags

Events

Settings

- Deployments
- Security
- Policies
- Properties
- Locks

Cost Management

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

Essentials

Subscription (change)
Free Trial

Subscription ID
992c85e1-8642-4355-8562-367a88d3d309

Tags (change)
Click here to add tags

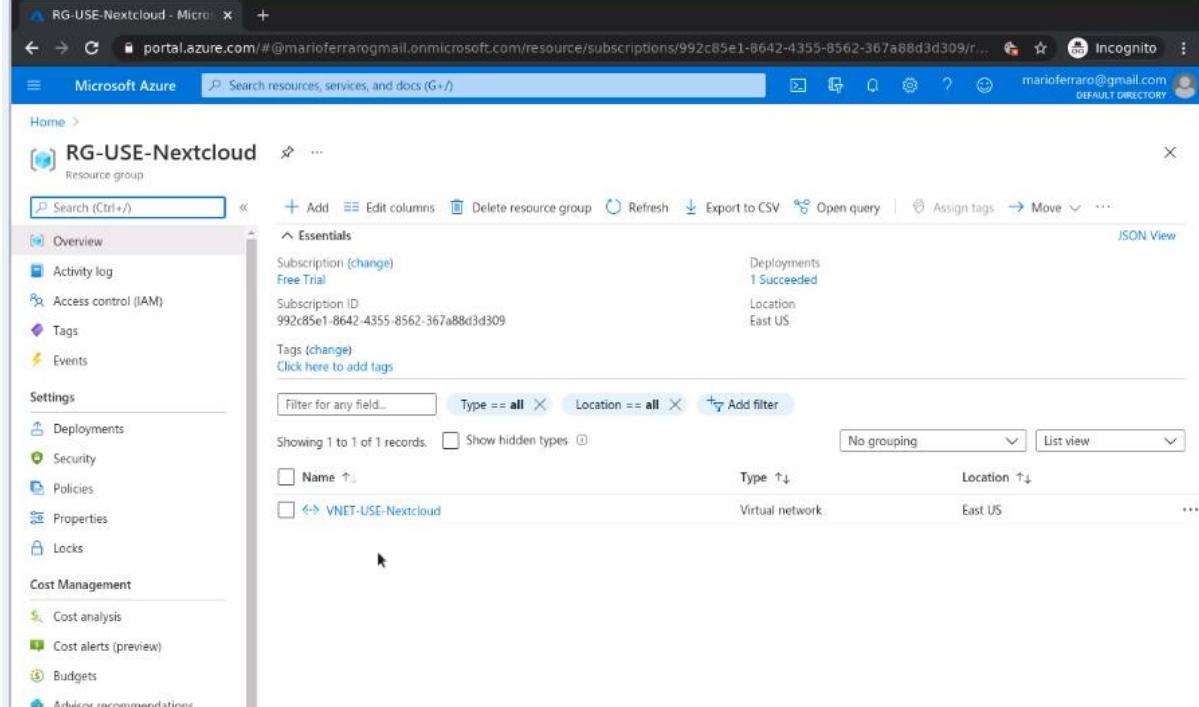
Add Edit columns Delete resource group Refresh Export to CSV Open query Assign tags Move ...

Filter for any field... Type == all Location == all Add filter

Showing 1 to 1 of 1 records. Show hidden types No grouping List view

Name ↑ Type ↑ Location ↑

VN-USE-Nextcloud Virtual network East US



Click on our virtual network as a part of RG

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

marioferraro@gmail.com DEFAULT DIRECTORY

Home > RG-USE-Nextcloud > VNET-USE-Nextcloud Virtual network

Search (Ctrl+ /) Refresh Move Delete

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

Address space Connected devices Subnets DDoS protection Firewall Security DNS servers Peerings Service endpoints Private endpoints Properties Locks

Monitoring Alerts Metrics

Resource group (change) RG-USE-Nextcloud

Location East US Subscription (change) Free Trial

Subscription ID 992c85e1-8642-4355-8562-367a88d3d309

Tags (change) Click here to add tags

Connected devices

Search connected devices

Device Type IP Address Subnet

No results.

JSON View

The screenshot shows the Azure portal interface for managing a virtual network named 'VNET-USE-Nextcloud'. The left sidebar contains navigation links for Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, and several other settings like Subnets, DDoS protection, Firewall, Security, DNS servers, Peerings, Service endpoints, Private endpoints, Properties, and Locks. The main content area displays the 'Address space' configuration, which is currently set to '172.10.0.0/16'. Other details shown include the Resource group ('RG-USE-Nextcloud'), Location ('East US'), and Subscription ('Free Trial'). A table lists connected devices, but it is currently empty. A 'JSON View' link is also present at the top right.

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

marioferraro@gmail.com DEFAULT DIRECTORY

Home > RG-USE-Nextcloud > VNET-USE-Nextcloud Virtual network

VNET-USE-Nextcloud | Address space

Address space

Address range

Address count

172.10.0.0/16 172.10.0.0 - 172.10.255.255 65536

Add additional address range

Save Cancel

The address space for a virtual network is composed of one or more non-overlapping address ranges that are specified in CIDR notation. The address range you define can be public or private (RFC 1918). [Learn more](#)

This screenshot shows the 'Address space' configuration page for the 'VNET-USE-Nextcloud' virtual network. The main table has three columns: 'Address space', 'Address range', and 'Address count'. One row is present with the address space '172.10.0.0/16' and an address range of '172.10.0.0 - 172.10.255.255', resulting in an address count of '65536'. Below the table, there is a text input field labeled 'Add additional address range' with a placeholder 'I'. At the bottom of the page are 'Save' and 'Cancel' buttons. A note at the top explains that the address space is composed of one or more non-overlapping address ranges in CIDR notation, with a link to learn more about RFC 1918.

Go to subnets

The screenshot shows the Azure portal interface for managing a virtual network. The left sidebar navigation bar includes Home, RG-USE-Nextcloud, VNET-USE-Nextcloud, Virtual network, Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings (with Address space selected), Connected devices, Subnets (selected), DDoS protection, Firewall, Security, DNS servers, Peerings, Service endpoints, Private endpoints, Properties, Locks, Monitoring (with Alerts and Metrics), and Save/Cancel buttons.

The main content area displays the 'Address space' configuration for 'VNET-USE-Nextcloud'. It shows one address range: 172.10.0.0/16 with an address count of 65536. There is also an 'Add additional address range' button.

The screenshot shows the Azure portal interface for managing subnets. The left sidebar navigation bar includes Home, RG-USE-Nextcloud, VNET-USE-Nextcloud, Virtual network, Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings (with Subnets selected), Connected devices, Subnets (selected), DDoS protection, Firewall, Security, DNS servers, Peerings, Service endpoints, Private endpoints, Properties, Locks, Monitoring (with Alerts and Metrics), and Save/Cancel buttons.

The main content area displays the 'Subnets' configuration for 'VNET-USE-Nextcloud'. It shows one subnet named 'SNET-USE-Nextcloud' with the IP range 172.10.0.0/24.

SNET-USE-Nextcloud

VNET-USE-Nextcloud

Name: SNET-USE-Nextcloud

Subnet address range: 172.10.0.0/24 (172.10.0.0 - 172.10.0.255 (251 + 5 Azure reserved addresses))

NAT gateway: None

Network security group: None

Route table: 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

SUBNET DELEGATION: Delegate subnet to a service. None

Save **Cancel**

Let's close this

VNET-USE-Nextcloud - Microsoft Edge

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > RG-USE-Nextcloud > VNET-USE-Nextcloud

VNET-USE-Nextcloud | Subnets

Virtual network

Subnet Gateway subnet Refresh Manage users Delete

Search (Ctrl + /) Search subnets

Name	IPv4	IPv6 (many available)	Delegated to	Security group
SNET-USE-Nextcloud	172.10.0.0/24	-	-	-

Firewall Security DNS servers Peerings Service endpoints Private endpoints Properties Locks Monitoring Alerts Metrics Diagnostic settings Logs Connection monitor (classic) Diagram Automation Tasks (preview) Export template Support + troubleshooting Connection troubleshoot New support request

https://portal.azure.com/#@marioferraro@gmail.onmicrosoft.com

Click on Diagram

VNET-USE-Nextcloud - Microsoft Edge

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > RG-USE-Nextcloud > VNET-USE-Nextcloud

VNET-USE-Nextcloud | Diagram

Virtual network

Download topology

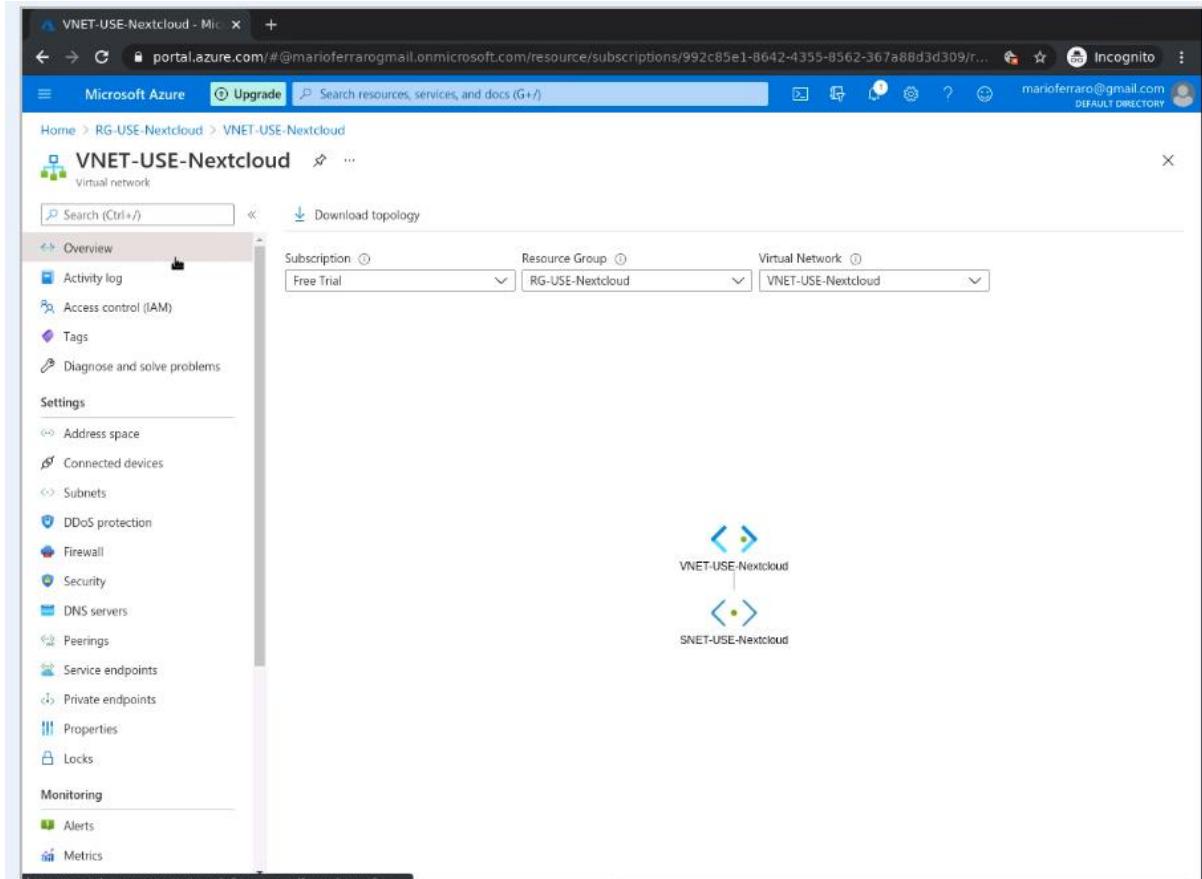
Subscription: Free Trial Resource Group: RG-USE-Nextcloud Virtual Network: VNET-USE-Nextcloud

Firewall Security DNS servers Peerings Service endpoints Private endpoints Properties Locks Monitoring Alerts Metrics Diagnostic settings Logs Connection monitor (classic) Diagram Automation Tasks (preview) Export template Support + troubleshooting Connection troubleshoot New support request

The diagram shows two nodes: 'VNET-USE-Nextcloud' at the top and 'SNET-USE-Nextcloud' at the bottom. They are connected by a line with a blue arrowhead pointing from VNET-USE-Nextcloud to SNET-USE-Nextcloud. Each node has a small icon above it: VNET-USE-Nextcloud has a green icon with two dots and arrows, and SNET-USE-Nextcloud has a blue icon with two dots and arrows.

This is a logical topology of the virtual network we created

Let's go back to our VN overview above



The screenshot shows the Microsoft Azure portal interface for managing a virtual network. The main title bar reads "VNET-USE-Nextcloud - Microsoft Azure". The left sidebar contains a navigation menu with sections like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings (Address space, Connected devices, Subnets, DDoS protection, Firewall, Security, DNS servers, Peerings, Service endpoints, Private endpoints, Properties, Locks), Monitoring (Alerts, Metrics), and a search bar. The main content area is titled "Essentials" and displays resource group details: RG-USE-Nextcloud, Location East US, Subscription Free Trial, and Address space 172.10.0.0/16. It also shows DNS servers as Azure provided DNS service. A "Connected devices" section is present with a search bar and a note "No results.". A "JSON View" link is located in the top right corner.

3. Protect a subnet using a Network Security Group 4 min

We are going to create a network security group (NSG) around subnets

This would allow or don't allow the inbound traffic to/from different Azure resources and also to the Internet

Let's go back to our RG

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

marioferraro@gmail.com DEFAULT DIRECTORY

Home > RG-USE-Nextcloud > VNET-USE-Nextcloud

Virtual network

Search (Ctrl+)

Overview Refresh Move Delete

Essentials

Resource group (change) RG-USE-Nextcloud Address space 172.10.0.0/16

Location RG-USE-Nextcloud East US DNS servers Azure provided DNS service

Subscription (change) Free Trial Subscription ID 992c85e1-8642-4355-8562-367a88d3d309

Tags (change) Click here to add tags

Connected devices

Address space

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Subnets

DDoS protection

Firewall

Security

DNS servers

Peerings

Service endpoints

Private endpoints

Properties

Locks

Monitoring

Alerts

Metrics

JSON View

RG-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

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Home > RG-USE-Nextcloud > VNET-USE-Nextcloud

RG-USE-Nextcloud Resource group

Search (Ctrl+)

Add Edit columns Delete resource group Refresh Export to CSV Open query Assign tags Move ...

Essentials

Subscription (change) Free Trial Deployments 1 Succeeded

Subscription ID 992c85e1-8642-4355-8562-367a88d3d309 Location East US

Tags (change) Click here to add tags

Filter for any field... Type == all Location == all Add filter

Showing 1 to 1 of 1 records. Show hidden types No grouping List view

Name	Type	Location
VNET-USE-Nextcloud	Virtual network	East US

< Previous Page 1 of 1 Next >

Overview

Activity log

Access control (IAM)

Tags

Events

Deployments

Security

Policies

Properties

Locks

Cost Management

Cost analysis

Cost alerts (preview)

Budgets

Advisor recommendations

Monitoring

Insights (preview)

Alerts

Metrics

Diagnostic settings

New - Microsoft Azure X +

portal.azure.com/#@marioferrarogmail.onmicrosoft.com/resource/subscriptions/992c85e

Microsoft Azure [Upgrade](#) [Search resources, services, and docs \(G+?\)](#)

Home > RG-USE-Nextcloud > VNET-USE-Nextcloud > RG-USE-Nextcloud >

New

[Search](#)

Network security group
KoçSistem Azure Network Security Groups

Get started  Windows Server 2019 Datacenter [Quickstarts + tutorials](#)

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Databases  Azure Cosmos DB [Quickstarts + tutorials](#)

Developer Tools  DevOps [Quickstarts + tutorials](#)

Identity  Integration [Quickstarts + tutorials](#)

Internet of Things  Internet of Things [Quickstarts + tutorials](#)

IT & Management Tools  Media [Quickstarts + tutorials](#)

Media  Migration [DevOps Starter](#)

Migration  Mixed Reality [Quickstarts + tutorials](#)

Mixed Reality  Monitoring & Diagnostics [Quickstarts + tutorials](#)

Monitoring & Diagnostics  Networking [Storage account](#)

Networking  Security [Quickstarts + tutorials](#)

[Show recently created items](#)

Network security group - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > RG-USE-Nextcloud > VNET-USE-Nextcloud > RG-USE-Nextcloud > New >

Network security group

Microsoft

 Network security group Add to Favorites

4.1 (401 ratings)

Create Deploy with Resource Manager (change to Classic)

Overview Plans Usage Information + Support Reviews

A network security group is a layer of security that acts as a virtual firewall for controlling traffic in and out of virtual machines (via network interfaces) and subnets. It contains a set of security rules that allow or deny inbound and outbound traffic using the following 5-tuple: protocol, source IP address range, source port range, destination IP address range, and destination port range. A network security group can be associated to multiple network interfaces and subnets, but each network interface or subnet can be associated to only one network security group.

Security rules are evaluated in priority-order, starting with the lowest number rule, to determine whether traffic is allowed in or out of the network interfaces or subnets associated with the network security group. A network security group has separate inbound and outbound rules, and each rule can allow or deny traffic. Each network security group has a set of default security rules, which allows all traffic within a virtual network and outbound traffic to the internet. There is also a rule to allow traffic originating from Azure's load balancer probe. All other traffic is automatically denied. These default rules can be overridden by specifying rules with a lower priority number.

In the Classic deployment model, endpoints - with access control lists (ACLs) - were used to control traffic in and out of virtual machines. In the Resource Manager deployment model, traffic can be controlled by using either network security groups or load balancers with inbound NAT rules. While inbound NAT rules are functionally equivalent to endpoints, Azure recommends using network security groups for new deployments where NAT features (like port translation) are not required.

There are no additional charges for creating network security groups in Microsoft Azure.

More offers from Microsoft

See All

 Workspace	 Wire Data 2.0	 Microsoft HPC Pack 2012 R2	 Windows 10 IoT Core Services
Microsoft	Microsoft	Microsoft	Microsoft
No rating	3.5 (2 ratings)	3.9 (7 ratings)	3.0 (2 ratings)
Virtual Machine	Azure Service	Virtual Machine	Azure Service
Windows Virtual Desktop resource	Provides the ability to explore wire	Enterprise-class HPC solution. Easy to	Commercialize your project with

<https://portal.azure.com/#>

Create network security group X +

portal.azure.com/#create/Microsoft.NetworkSecurityGroup-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+?)

Home > RG-USE-Nextcloud > VNET-USE-Nextcloud > RG-USE-Nextcloud > New > Network security group >

Create network security group ...

Basics Tags Review + create

Project details

Subscription * Free Trial

Resource group * RG-USE-Nextcloud

Create new

Instance details

Name * NSG-USE-Nextcloud ✓

Region * (US) East US

[Review + create](#) < Previous Next : Tags > Download a template for automation

The screenshot shows the Microsoft Azure portal interface for creating a Network Security Group (NSG). The top navigation bar includes the Azure logo, a 'Create network security group' button, and a search bar. Below the navigation is a breadcrumb trail: Home > RG-USE-Nextcloud > VNET-USE-Nextcloud > RG-USE-Nextcloud > New > Network security group >. The main title is 'Create network security group ...'. A horizontal navigation bar at the top of the form includes 'Basics', 'Tags', and 'Review + create' (which is highlighted in blue). The 'Project details' section contains fields for 'Subscription' (set to 'Free Trial') and 'Resource group' (set to 'RG-USE-Nextcloud'). Below that is the 'Instance details' section, which includes a 'Name' field set to 'NSG-USE-Nextcloud' with a green checkmark and a 'Region' field set to '(US) East US'. At the bottom of the form are several buttons: 'Review + create' (highlighted with a mouse cursor), '< Previous' and 'Next : Tags >', and a link to 'Download a template for automation'.

Create network security group X +

portal.azure.com/#create/Microsoft.NetworkSecurityGroup-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+?)

Home > RG-USE-Nextcloud > VNET-USE-Nextcloud > RG-USE-Nextcloud > New > Network security group >

Create network security group ...

Validation passed

Basics Tags Review + create

Basics

Subscription	Free Trial
Resource group	RG-USE-Nextcloud
Region	East US
name	NSG-USE-Nextcloud

Tags

None

Create Create < Previous Next > Download a template for automation

Microsoft NetworkSecurity x +

portal.azure.com/#blade/HubsExtension/DeploymentDetailsBlade/overview/id/%2Fsubscriptions%2F992c85e1-8642-4355-85... 🌐 ⚡ Incognito Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Microsoft.NetworkSecurityGroup-20210331111642 | Overview Deployment

Search (Ctrl +/)

Delete Cancel Redeploy Refresh

We'd love your feedback! →

Deployment succeeded Deployment "Microsoft NetworkSecurityGroup-20210331111642" to resource group "RG-USE-Nextcloud" was successful.

Go to resource Pin to dashboard

11:17 AM

Overview Inputs Outputs Template

Deployment is in progress

Deployment name: Microsoft.NetworkSecurityGroup-20210331111... Start time: 3/31/2021, 11:17:11 AM
Subscription: Free Trial Correlation ID: 57736afc-8a18-4fd1-a5e3-8f98ae070861
Resource group: RG-USE-Nextcloud

Deployment details (Download)

Resource	Type	Status	Operation details
NSG-USE-Nextcloud	Microsoft.Network/network... Microsoft NetworkSecurityGroup	Created	Operation details

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The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft NetworkSecurity tab, a plus sign for creating new resources, and the URL portal.azure.com/#blade/HubsExtension/DeploymentDetailsBlade/overview/id/%2Fsubscriptions%2F992c85e1-8642-4355-85.... On the right side of the top bar are icons for browser tabs, a star, a person, and the text "Incognito". Below the top bar, the Microsoft Azure logo is followed by an "Upgrade" button, a search bar with the placeholder "Search resources, services, and docs (G+)", and several small navigation icons. The main header displays "Microsoft NetworkSecurityGroup-20210331111642 | Overview". A sidebar on the left lists "Deployment", "Overview", "Inputs", "Outputs", and "Template". The main content area shows a green checkmark icon and the message "Your deployment is complete". It provides deployment details: Deployment name: Microsoft.NetworkSecurityGroup-20210331111..., Subscription: Free Trial, Resource group: RG-USE-Nextcloud, Start time: 3/31/2021, 11:17:11 AM, Correlation ID: 57736afc-8a18-4fd1-a5e3-8f98ae070861. Below this, there are sections for "Deployment details" (with a download link) and "Next steps" (with a "Go to resource" button). To the right, there are links to "Security Center", "Free Microsoft tutorials", "Work with an expert", and "Find an Azure expert".

Azure created inbound/outbound routes for us

The screenshot shows the Azure portal interface for managing a Network Security Group (NSG). The main pane displays the 'Essentials' section, which includes information about the resource group (RG-USE-Nextcloud), location (East US), and subscription (Free Trial). It also shows that there are 0 inbound and 0 outbound custom security rules, and that it is associated with 0 subnets and 0 network interfaces.

The left sidebar contains a navigation menu with the following sections:

- Overview
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Settings**
 - Inbound security rules
 - Outbound security rules
 - Network interfaces
 - Subnets
 - Properties
 - Locks
- Monitoring
 - Alerts
 - Diagnostic settings
 - Logs
 - NSG flow logs
- Automation
 - Tasks (preview)
- Support + troubleshooting

Nothing can enter the network by default

Let's assign these rules to our subnets

NSG-USE-Nextcloud - Microsoft Azure

Microsoft Azure | Search resources, services, and docs (G+) | portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Home > Microsoft.NetworkSecurityGroup-20210331111642 >

NSG-USE-Nextcloud

Network security group

Search (Ctrl+ /) Move Delete Refresh

Essentials JSON View

Resource group (change)	RG-USE-Nextcloud	Custom security rules 0 inbound, 0 outbound
Location	East US	Associated with 0 subnets, 0 network interfaces
Subscription (change)	Free Trial	
Subscription ID	992c85e1-8642-4355-8562-367a88d3d309	
Tags (change)	Click here to add tags	

Inbound Security Rules

Priority ↑	Name ↑	Port ↑	Protocol ↑	Source ↑	Destination ↑	Action ↑
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowAzureLoadBalanc...	Any	Any	AzureLoadBalancer	Any	Allow
65500	DenyAllInBound	Any	Any	Any	Any	Deny

Outbound Security Rules

Priority ↑	Name ↑	Port ↑	Protocol ↑	Source ↑	Destination ↑	Action ↑
65000	AllowVnetOutBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowInternetOutBound	Any	Any	Any	Internet	Allow
65500	DenyAllOutBound	Any	Any	Any	Any	Deny

RG-USE-Nextcloud - Microsoft Azure

Microsoft Azure | Search resources, services, and docs (G+) | portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Home > Microsoft.NetworkSecurityGroup-20210331111642 > NSG-USE-Nextcloud >

RG-USE-Nextcloud

Resource group

Search (Ctrl+ /) Add Edit columns Delete resource group Refresh Export to CSV Open query Assign tags Move ...

Essentials JSON View

Subscription (change)	Free Trial	Deployments 2 Succeeded
Subscription ID	992c85e1-8642-4355-8562-367a88d3d309	Location East US
Tags (change)	Click here to add tags	

Filter for any field... Type == all X Location == all X Add filter

Showing 1 to 2 of 2 records. Show hidden types No grouping List view

Name ↑	Type ↑	Location ↑
NSG-USE-Nextcloud	Network security group	East US
VNET-USE-Nextcloud	Virtual network	East US

Let's assign NSG to our subnets

RG-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferrarogmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+) marioferraro@gmail.com Incognito

Home > Microsoft.NetworkSecurityGroup-20210331111642 > NSG-USE-Nextcloud > RG-USE-Nextcloud

RG-USE-Nextcloud Resource group

Search (Ctrl+ /) Add Edit columns Delete resource group Refresh Export to CSV Open query Assign tags Move ... JSON View

Overview

Subscription (change)
Free Trial
Subscription ID
992c85e1-8642-4355-8562-367a88d3d309

Tags (change)
Click here to add tags

Deployments
2 Succeeded

Location
East US

Activity log

Access control (IAM)

Tags

Events

Settings

Deployments

Security

Policies

Properties

Locks

Cost Management

Cost analysis

Cost alerts (preview)

Budgets

Essentials

Filter for any field... Type == all Location == all Add filter

Showing 1 to 2 of 2 records. Show hidden types

Name	Type	Location
NSG-USE-Nextcloud	Network security group	East US
VNET-USE-Nextcloud	Virtual network	East US

No grouping List view

...

...

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferrarogmailcom

Microsoft Azure Upgrade Search resource

Home > Microsoft.NetworkSecurityGroup-20210331111642 >

VNET-USE-Nextcloud | Subnets

Virtual network

Search (Ctrl+ /) <<

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

Settings

- Address space
- Connected devices
- Subnets** (selected)
- DDoS protection
- Firewall
- Security
- DNS servers
- Peerings
- Service endpoints
- Private endpoints
- Properties
- Locks

Monitoring

- Alerts
- Metrics

https://portal.azure.com/#@marioferrarogmailcom

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Microsoft.NetworkSecurityGroup-20210331111642 > NSG-USE-Nextcloud > RG-USE-Nextcloud > VNET-USE-Nextcloud

VNET-USE-Nextcloud | Subnets

Virtual network

Search (Ctrl+/) + Subnet + Gateway subnet Refresh Manage users Delete

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

Subnets

Name	IPv4	IPv6 (many available)	Delegated to	Security group
SNET-USE-Nextcloud	172.10.0.0/24	-	-	-

SNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Microsoft.NetworkSecurityGroup-20210331111642 > NSG-USE-Nextcloud > RG-USE-Nextcloud > VNET-USE-Nextcloud

SNET-USE-Nextcloud

VNET-USE-Nextcloud

Name: SNET-USE-Nextcloud

Subnet address range: 172.10.0.0/24 (172.10.0.0 - 172.10.0.255 (251 + 5 Azure reserved addresses))

Add IPv6 address space:

NAT gateway: None

Network security group: None

NSG-USE-Nextcloud
resource group: RG-USE-Nextcloud

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

Subnet delegation

Delegate subnet to a service: None

Save Cancel

SNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+?)

Home > Microsoft.NetworkSecurityGroup-20210331111642 > NSG-USE-Nextcloud > RG-USE-Nextcloud > VNET-USE-Nextcloud | Subnets

Virtual network

Subnet address range * 172.10.0.0/24 (172.10.0.0 - 172.10.0.255 (251 + 5 Azure reserved addresses))

Add IPv6 address space

NAT gateway None

Network security group NSG-USE-Nextcloud

Route table None

Service endpoints Services 0 selected

Delegate subnet to a service None

Name SNET-USE-Nextcloud

Subnet address range 172.10.0.0/24

IPv6 address space

Address space

Connected devices

Subnets

DDoS protection

Firewall

Security

DNS servers

Peerings

Service endpoints

Private endpoints

Properties

Locks

Monitoring

Alerts

Metrics

Save Cancel

The screenshot shows the Azure portal interface for managing a virtual network. On the left, there's a navigation sidebar with various options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings (Address space, Connected devices, Subnets, DDoS protection, Firewall, Security, DNS servers, Peerings, Service endpoints, Private endpoints, Properties, Locks), Monitoring (Alerts, Metrics), and more. The main content area is titled 'VNET-USE-Nextcloud | Subnets'. It displays a table with one row for 'SNET-USE-Nextcloud' with an IP range of 172.10.0.0/24. To the right of the table are several configuration fields: Name (SNET-USE-Nextcloud), Subnet address range (172.10.0.0/24), Add IPv6 address space (unchecked), NAT gateway (None), Network security group (NSG-USE-Nextcloud), Route table (None), and Service endpoints (Services 0 selected). At the bottom right are 'Save' and 'Cancel' buttons.

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferrarogmail.com

Microsoft Azure Upgrade Search resources, services

Home > Microsoft.NetworkSecurityGroup-20210331111642 > NSG

VNET-USE-Nextcloud | Subnets

Virtual network

Subnets

DDoS protection

Firewall

Security

DNS servers

Peerings

Service endpoints

Private endpoints

Properties

Locks

Monitoring

Alerts

Metrics

Diagnostic settings

Logs

Connection monitor (classic)

Diagram

Automation

Tasks (preview)

Export template

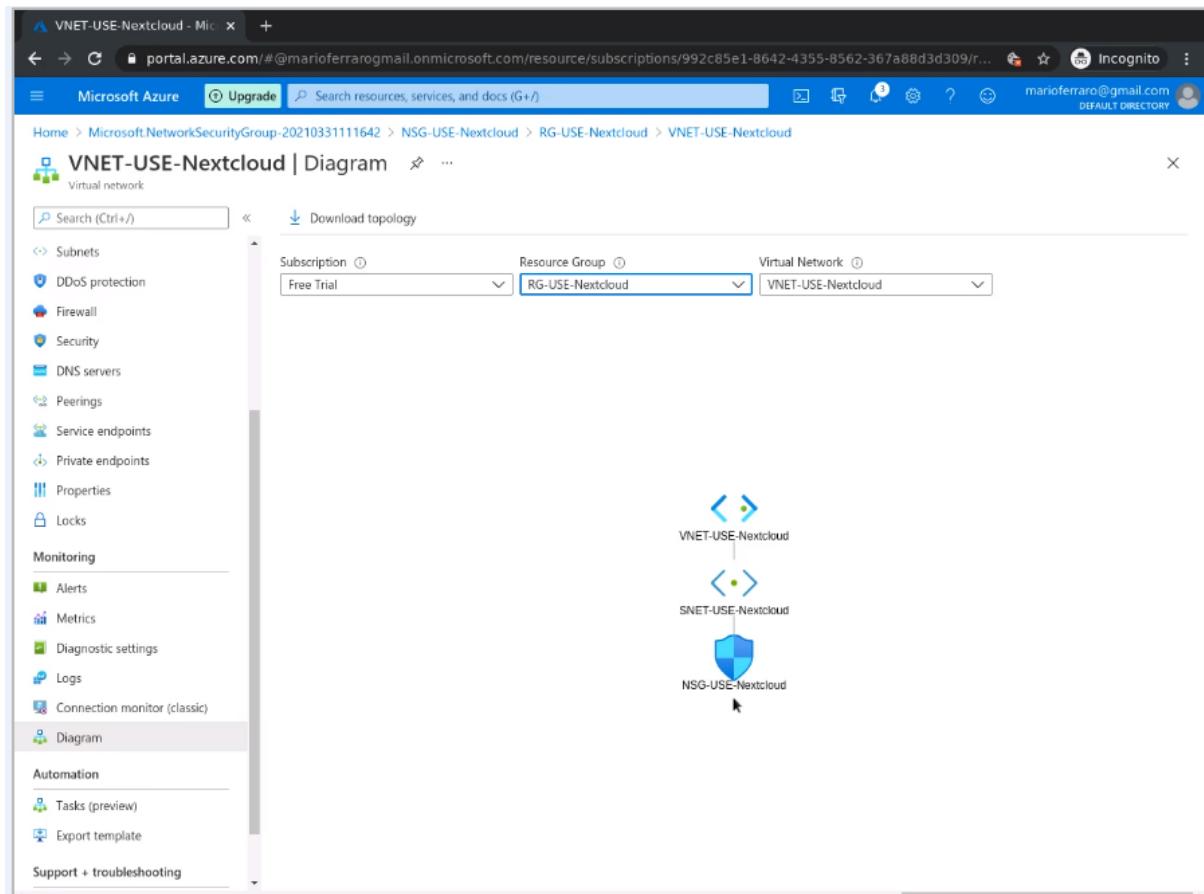
Support + troubleshooting

Search (Ctrl+ /) Subnet Gateway

Name ↑↓

SNET-USE-Nextcloud

This screenshot shows the Microsoft Azure portal interface for managing a virtual network named 'VNET-USE-Nextcloud'. The left sidebar contains a navigation tree with options like Subnets, DDoS protection, Firewall, Security, DNS servers, Peerings, Service endpoints, Private endpoints, Properties, Locks, Monitoring, Automation, and Support + troubleshooting. The 'Subnets' section is currently selected. On the right, there's a search bar for 'Subnets' and a 'Name ↑↓' filter set to 'SNET-USE-Nextcloud'. At the top, there are tabs for 'Subnet' and 'Gateway'.



4. Deploy Bastion to connect to a Virtual Machine 4 min

Create a subnet first

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferrarogmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Microsoft.NetworkSecurityGroup-2021031111642 > NSG-USE-Nextcloud > RG-USE-Nextcloud > VNET-USE-Nextcloud

VNET-USE-Nextcloud | Diagram

Virtual network

Search (Ctrl+I) Download topology

Subscription: Free Trial Resource Group: RG-USE-Nextcloud Virtual Network: VNET-USE-Nextcloud

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

Settings

- Address space
- Connected devices
- Subnets**
- DDoS protection
- Firewall
- Security
- DNS servers
- Peerings
- Service endpoints
- Private endpoints
- Properties

```

graph TD
    VNET[VNET-USE-Nextcloud] --> SNET[SNET-USE-Nextcloud]
    SNET --> NSG[NSG-USE-Nextcloud]
  
```

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferrarogmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

marioferraro@gmail.com DEFAULT DIRECTORY

Home > Microsoft.NetworkSecurityGroup-2021031111642 > NSG-USE-Nextcloud > RG-USE-Nextcloud > VNET-USE-Nextcloud

VNET-USE-Nextcloud | Subnets

Virtual network

Search (Ctrl+I) + Subnet + Gateway subnet Refresh Manage users Delete

Subnet

Search subnets

Name	IPv4	IPv6 (many available)	Delegated to	Security group
SNET-USE-Nextcloud	172.10.0.0/24	-	-	NSG-USE-Nextcloud

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

Settings

- Address space
- Connected devices
- Subnets**
- DDoS protection
- Firewall
- Security

Add subnet - Microsoft Azure

Microsoft Azure | Upgrade | Search resources, services, and docs (G+)

Home > Microsoft.NetworkSecurityGroup-20210331111642 > NSG-USE-Nextcloud > RG-USE-Nextcloud > VNET-USE-Nextcloud | Subnets

Add subnet

Name *

Subnet address range * 172.10.1.0 - 172.10.1.255 (251 + 5 Azure reserved addresses)

Add IPv6 address space

NAT gateway

Network security group

Route table

SERVICE ENDPOINTS

Create service endpoint policies to allow traffic to specific azure resources from your virtual network over service endpoints. [Learn more](#)

Services

SUBNET DELEGATION

Delegate subnet to a service

Save Cancel

Search (Ctrl+ /) Subnet Gateway subnet Refresh Manage users

Virtual network

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

Address space Connected devices Subnets DDoS protection Firewall Security DNS servers Peering Service endpoints Private endpoints Properties Locks

Monitoring Alerts Metrics

VNET-USE-Nextcloud - Microsoft Azure

Microsoft Azure | Upgrade | Search resources, services, and docs (G+)

Home > Microsoft.NetworkSecurityGroup-20210331111642 > NSG-USE-Nextcloud > RG-USE-Nextcloud > VNET-USE-Nextcloud

VNET-USE-Nextcloud | Subnets

Successfully added subnet 11:49 AM
Successfully added subnet 'AzureBastionSubnet' to virtual network 'VNET-USE-Nextcloud'.

Subnet Gateway subnet Refresh Manage users Delete

Search subnets

Name	IPv4	IPv6 (many available)	Delegated to	Security group
SNET-USE-Nextcloud	172.10.0.0/24	-	-	NSG-USE-Nextcloud
AzureBastionSubnet	172.10.1.0/24	-	-	-

Search (Ctrl+ /) Subnet Gateway subnet Refresh Manage users

Virtual network

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

Address space Connected devices Subnets DDoS protection Firewall Security

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/...

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Microsoft.NetworkSecurityGroup-20210331111642 > NSG-USE-Nextcloud > RG-USE-Nextcloud > VNET-USE-Nextcloud

VNET-USE-Nextcloud | Diagram

Virtual network

Search (Ctrl + /) Download topology

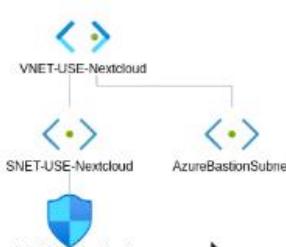
Subscription: Free Trial Resource Group: RG-USE-Nextcloud Virtual Network: VNET-USE-Nextcloud

Firewall
Security
DNS servers
Peerings
Service endpoints
Private endpoints
Properties
Locks

Monitoring
Alerts
Metrics
Diagnostic settings
Logs
Connection monitor (classic)
Diagram

Automation
Tasks (preview)
Export template

Support + troubleshooting
Connection troubleshoot
New support request



```
graph TD; VNET[VNET-USE-Nextcloud] ---> SNET[SNET-USE-Nextcloud]; VNET ---> AB[ AzureBastionSubnet]; SNET ---> NSG[NSG-USE-Nextcloud]
```

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@

Microsoft Azure Upgrade

Home > Microsoft.NetworkSecurityGroup-2

VNET-USE-Nextcloud

Virtual network

Search (Ctrl+ /) <>

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Address space

Connected devices

Subnets

DDoS protection

Firewall

Security

DNS servers

Peerings

Service endpoints

Private endpoints

Properties

Locks

This screenshot shows the Microsoft Azure portal interface for managing a Network Security Group (NSG). The main title bar indicates the resource is 'VNET-USE-Nextcloud'. The address bar shows the URL 'portal.azure.com/#@'. The top navigation bar includes the Microsoft Azure logo and an 'Upgrade' button. Below the navigation is the breadcrumb trail 'Home > Microsoft.NetworkSecurityGroup-2'. The main content area has a heading 'VNET-USE-Nextcloud' with a 'Virtual network' subtitle. A search bar is at the top right. On the left, a vertical sidebar lists several tabs: 'Overview' (which is highlighted in grey), 'Activity log', 'Access control (IAM)', 'Tags', and 'Diagnose and solve problems'. Below this is a section titled 'Settings' with icons and links for 'Address space', 'Connected devices', 'Subnets', 'DDoS protection', 'Firewall', 'Security', 'DNS servers', 'Peerings', 'Service endpoints', 'Private endpoints', 'Properties', and 'Locks'. The 'Properties' link is the one currently being viewed.

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+/)

Home > VNET-USE-Nextcloud

Virtual network

Search (Ctrl+I) Refresh Move Delete

Overview

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

Settings

- Address space
- Connected devices
- Subnets
- DDoS protection
- Firewall
- Security
- DNS servers
- Peerings
- Service endpoints
- Private endpoints
- Properties
- Locks

Essentials

Resource group (change)
RG-USE-Nextcloud

Address space
172.10.0.0/16

Location
East US

Subscription (change)
Free Trial

Subscription ID
992c85e1-8642-4355-8562-367a88d3d309

Tags (change)
Click here to add tags

Connected devices

Device ↑ Type ↑ IP Address ↑ Subnet ↑

No results.

RG-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Upgrade Search resources, services, and docs (G+/)

Home > VNET-USE-Nextcloud > RG-USE-Nextcloud

Resource group

Search (Ctrl+I) Add Edit columns Delete resource group Refresh Export to CSV Open query Assign tags Move ...

Essential Add

Subscription (change)
Free Trial

Deployments
2 Succeeded

Subscription ID
992c85e1-8642-4355-8562-367a88d3d309

Location
East US

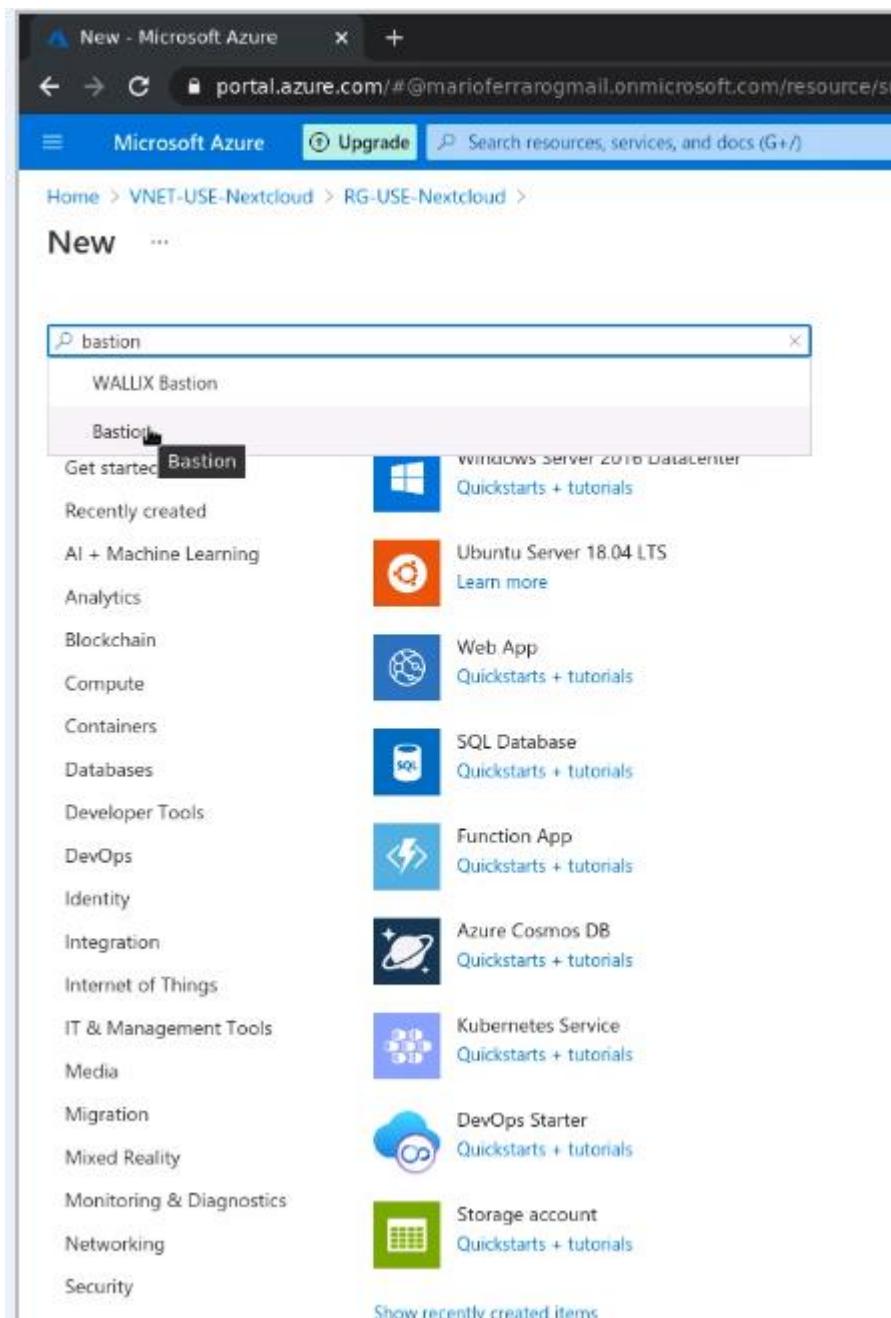
Tags (change)
Click here to add tags

Filter for any field... Type == all Location == all Add filter

Showing 1 to 2 of 2 records. Show hidden types

No grouping List view

Name	Type	Location
NSG-USE-Nextcloud	Network security group	East US
VNET-USE-Nextcloud	Virtual network	East US



Azure Bastion is a new fully platform-managed PaaS service you provision inside your virtual network. It provides secure and seamless RDP/SSH connectivity to your VMs directly in the **Azure** portal over SSL. When you connect via **Azure Bastion**, your virtual machines do not need a public IP address.

The Microsoft **Remote Desktop** Protocol (**RDP**) provides remote display and input capabilities over network connections for Windows-based applications running on a server." (MSDN) Essentially, **RDP** allows users to control their remote Windows machine as if they were working on it locally (well, almost).

SSL Stands for secure sockets layer. Protocol for web browsers and servers that allows for the authentication, encryption and decryption of data sent over the Internet.

Bastion - Microsoft Azure

Microsoft Azure Upgrade Search resources, services, and docs (G+?)

Home > VNET-USE-Nextcloud > RG-USE-Nextcloud > New >

Bastion

Microsoft

 Bastion [Add to Favorites](#)
Microsoft  2.5 (2 ratings)

[Create](#)

[Overview](#) [Plans](#) [Usage Information + Support](#) [Reviews](#)

Bastion enables seamless secure RDP/SSH connectivity to Azure Virtual Machines in your Azure Virtual Networks directly in your web browser and without the need of public IP on your Virtual Machines.

More offers from Microsoft [See All](#)

 Workspace Microsoft No rating Virtual Machine Windows Virtual Desktop resource Create 	 Wire Data 2.0 Microsoft ★★★★☆ 3.5 (2 ratings) Azure Service Provides the ability to explore wire data and helps identify network related issues. Create 	 Microsoft HPC Pack 2012 R2 Microsoft ★★★★☆ 3.9 (7 ratings) Virtual Machine Enterprise-class HPC solution. Easy to deploy, cost effective and supports Windows/Linux workloads. Create 	 Windows 10 IoT Core Services Microsoft ★★★★☆ 3.0 (2 ratings) Azure Service Commercialize your project with enterprise-grade security and support Create 
--	--	--	---

Create a Bastion - Microsoft Azure

portal.azure.com/#create/Microsoft.BastionHost-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > VNET-USE-Nextcloud > RG-USE-Nextcloud > New > Bastion >

Create a Bastion

Basics Tags Review + create

Bastion allows web based RDP access to your vnet VM. [Learn more.](#)

Project details

Subscription *

Resource group * [Create new](#)

Instance details

Name *

Region *

Configure virtual networks

Virtual network * [Create new](#)

Subnet * [Manage subnet configuration](#)

Public IP address

Public IP address * Create new Use existing

Public IP address name *

Public IP address SKU

Assignment Dynamic Static

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

Review + create

Create a Bastion - Microsoft Azure +

portal.azure.com/#create/Microsoft.BastionHost-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > VNET-USE-Nextcloud > RG-USE-Nextcloud > New > Bastion >

Create a Bastion ...

i Validation passed

Basics Tags Review + create

Summary

Basics

Name	BASTION-USE-Nextcloud
Subscription	Free Trial
Resource group	RG-USE-Nextcloud
Region	East US
Virtual network	VNET-USE-Nextcloud
Subnets	AzureBastionSubnet
Public IP address	BASTIONIP-USE-Nextcloud

Create Previous Next Download a template for automation **Create**

Microsoft.BastionHost-20210331115318 | Overview

Deployment name: Microsoft.BastionHost-20210331115318 Start time: 3/31/2021, 11:53:19 AM
Subscription: Free Trial Correlation ID: 333c063c-21e7-4b4a-a123-5ada770a076e
Resource group: RG-USE-Nextcloud

Deployment details (Download)

Resource	Type	Status	Operation details
No results.			

Microsoft.BastionHost-20210331115318 | Overview

Deployment name: Microsoft.BastionHost-20210331115318 Start time: 3/31/2021, 11:53:19 AM
Subscription: Free Trial Correlation ID: 333c063c-21e7-4b4a-a123-5ada770a076e
Resource group: RG-USE-Nextcloud

Deployment details (Download)

Resource	Type	Status	Operation details
BASTION-USE-Nextcloud	Microsoft.Network/basti...	Created	Operation details
BASTIONIP-USE-Nextcloud	Microsoft.Network/publi...	OK	Operation details

The Bastion instance is created to connect to our VM using SSH

RG-USE-Nextcloud - Microsoft Azure

Microsoft Azure | Upgrade | Search resources, services, and docs (G+)

Home > Microsoft BastionHost-2021033115318 >

RG-USE-Nextcloud

Resource group

Search (Ctrl+)

Overview

Activity log

Access control (IAM)

Tags

Events

Settings

- Deployments
- Security
- Policies
- Properties
- Locks

Cost Management

- Cost analysis
- Cost alerts (preview)

Essentials

Subscription (change)
Free Trial

Subscription ID
992c85e1-8642-4355-8562-367a88d3d309

Tags (change)
Click here to add tags

Add Edit columns Delete resource group Refresh Export to CSV Open query Assign tags Move ...

Deployments
1 Deploying, 2 Succeeded

Location
East US

Filter for any field... Type == all Location == all Add filter

Showing 1 to 4 of 4 records. Show hidden types No grouping List view

Name	Type	Location	...
BASTION-USE-Nextcloud	Bastion	East US	...
BASTIONIP-USE-Nextcloud	Public IP address	East US	...
NSG-USE-Nextcloud	Network security group	East US	...
VNET-USE-Nextcloud	Virtual network	East US	...

JSON View

This screenshot shows the Azure portal interface for the 'RG-USE-Nextcloud' resource group. The left sidebar lists various management categories like Overview, Activity log, and Settings. The main content area displays the 'Essentials' section with subscription information (Free Trial), tags, and a detailed list of resources. The resource list includes four items: BASTION-USE-Nextcloud (Bastion, East US), BASTIONIP-USE-Nextcloud (Public IP address, East US), NSG-USE-Nextcloud (Network security group, East US), and VNET-USE-Nextcloud (Virtual network, East US). A filter bar at the top allows for searching by name, type, and location.

5. Create an Ubuntu Server Virtual Machine

RG-USE-Nextcloud - Microsoft Azure

Microsoft Azure | Upgrade | Search resources, services, and docs (G+)

Home > Microsoft BastionHost-2021033115318 >

RG-USE-Nextcloud

Resource group

Search (Ctrl+)

Overview

Activity log

Access control (IAM)

Tags

Events

Settings

- Deployments
- Security
- Policies
- Properties
- Locks

Cost Management

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

Monitoring

- Insights (preview)
- Alerts
- Metrics
- Diagnostic settings

Add Edit columns Delete resource group Refresh Export to CSV Open query Assign tags Move ...

Deployments
1 Deploying, 2 Succeeded

Location
East US

Filter for any field... Type == all Location == all Add filter

Showing 1 to 4 of 4 records. Show hidden types No grouping List view

Name	Type	Location	...
BASTION-USE-Nextcloud	Bastion	East US	...
BASTIONIP-USE-Nextcloud	Public IP address	East US	...
NSG-USE-Nextcloud	Network security group	East US	...
VNET-USE-Nextcloud	Virtual network	East US	...

JSON View

This screenshot is identical to the one above, showing the 'RG-USE-Nextcloud' resource group in the Azure portal. It displays the same resource list and interface elements, indicating no changes have occurred between the two screenshots.

The screenshot shows the Microsoft Azure Marketplace interface. At the top, there's a search bar with the placeholder "Search the Marketplace". Below it, a navigation bar includes "Azure Marketplace" and "See all". A "Popular" section is displayed on the right, featuring icons and names for various services: Windows Server 2016 Datacenter, Ubuntu Server 18.04 LTS, Web App, SQL Database, Function App, Azure Cosmos DB, Kubernetes Service, DevOps Starter, Storage account, and others. On the left, a sidebar lists categories such as Get started, Recently created, AI + Machine Learning, Analytics, Blockchain, Compute, Containers, Databases, Developer Tools, DevOps, Identity, Integration, Internet of Things, IT & Management Tools, Media, Migration, Mixed Reality, Monitoring & Diagnostics, Networking, and Security.

Long-term support (**LTS**) is a product lifecycle management policy in which a stable release of **computer** software is maintained for a longer period of time than the standard edition.

Input/output operations per second

Input/output operations per second (**IOPS**, pronounced eye-ops) is an input/output performance measurement used to characterize **computer** storage devices like hard disk drives (HDD), solid state drives (SSD), and storage area networks (SAN).

Create a virtual machine - +

portal.azure.com/#create/Canonical.UbuntuServer1804LTS-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+/?)

Home > Microsoft.BastionHost-2021031115318 > RG-USE-Nextcloud > New >

Create a virtual machine

Basics Disks Networking Management Advanced Tags Review + create

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. [Learn more](#)

Project details

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

Subscription * (1) Free Trial

Resource group * (1) RG-USE-Nextcloud [Create new](#)

Instance details

Virtual machine name * (1) VM-USE-Nextcloud

Region * (1) (US) East US

Availability options (1) Availability zone

Availability zone * (1) 1

Image * (1) Ubuntu Server 18.04 LTS - Gen1 [See all images](#)

Azure Spot instance (1)

Size * (1) Standard_B1s - 1 vcpu, 1 GiB memory (€6.40/month) [See all sizes](#)

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

Create a virtual machine - +

portal.azure.com/#create/Canonical.UbuntuServer1804LTS-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+ /)

Home > Microsoft BastionHost-20210331115318 > RG-USE-Nextcloud > New >

Create a virtual machine

See all sizes

Administrator account

Authentication type SSH public key Password

Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

Username * ✓

SSH public key source

Key pair name * ✓

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

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

Create a virtual machine - [X](#) [+](#)

portal.azure.com/#create/Canonical.UbuntuServer1804LTS-ARM

Microsoft Azure [Upgrade](#) [Search resources, services, and docs \(G+/-\)](#)

Home > Microsoft.BastionHost-20210331115318 > RG-USE-Nextcloud > New >

Create a virtual machine

Basics **Disks** Networking Management 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](#)

Disk options

OS disk size *	Default size (30 GiB)
OS disk type *	Premium SSD
Encryption type *	(Default) Encryption at-rest with a platform-managed key

Enable Ultra Disk compatibility

Data disks

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
-----	------	------------	-----------	--------------

[Create and attach a new disk](#) [Attach an existing disk](#)

[Advanced](#)

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

Create a virtual machine - +

← → C portal.azure.com/#create/Canonical.UbuntuServer1804LTS-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Microsoft BastionHost-20210331115318 > RG-USE-Nextcloud > New >

Create a virtual machine

Basics Disks Networking Management 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 * ⓘ VNET-USE-Nextcloud

Subnet * ⓘ SNET-USE-Nextcloud (172.10.0.0/24)

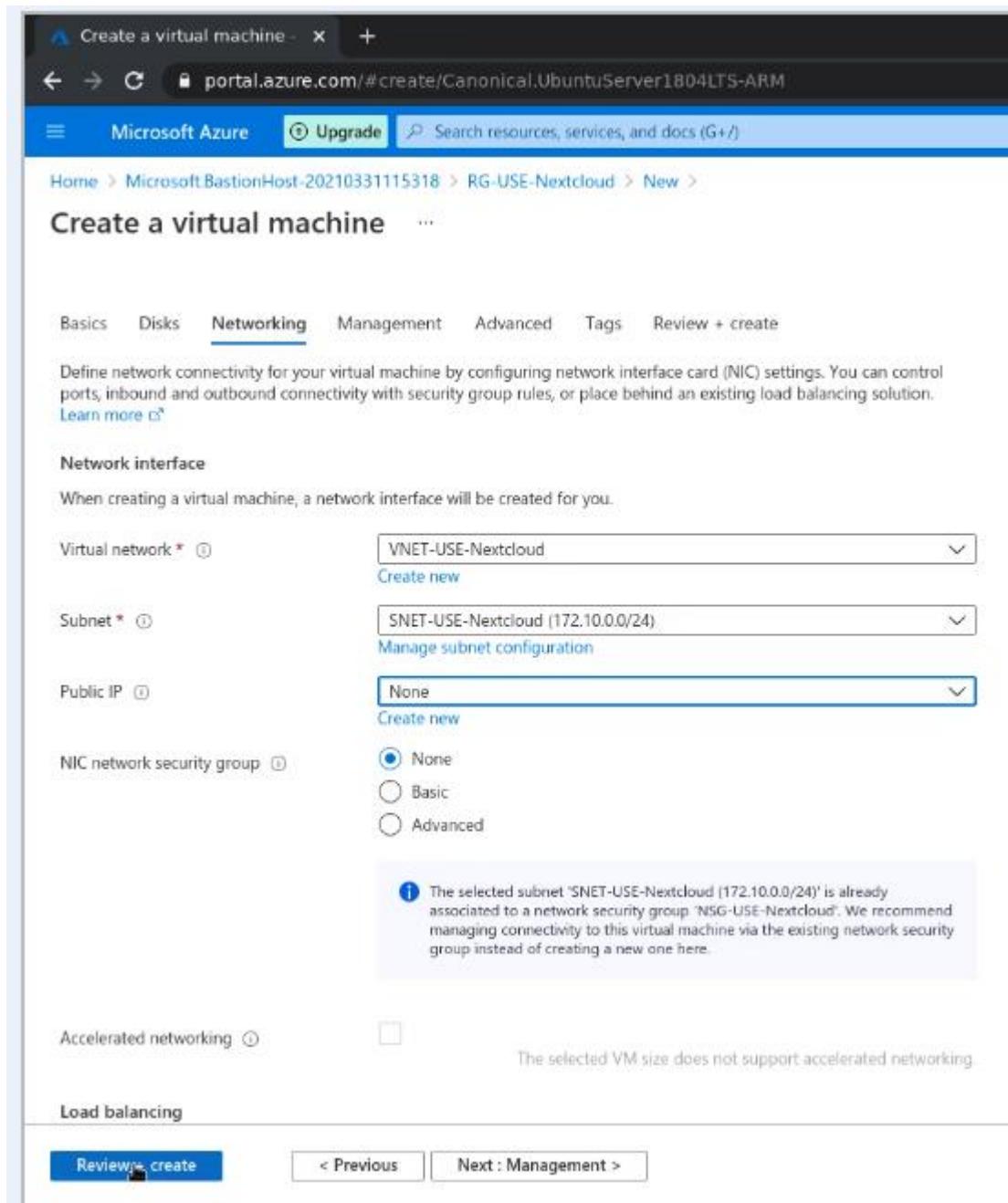
Public IP ⓘ None

NIC network security group ⓘ None Basic Advanced

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

Load balancing

Review + create



Create a virtual machine - +

portal.azure.com/#create/Canonical.UbuntuServer1804LTS-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+I)

Home > Microsoft.BastionHost-20210331115318 > RG-USE-Nextcloud > New >

Create a virtual machine

Validation passed

Basics Disks Networking Management Advanced Tags Review + create

Basics

Subscription	Free Trial
Resource group	RG-USE-Nextcloud
Virtual machine name	VM-USE-Nextcloud
Region	East US
Availability options	Availability zone
Availability zone	1
Image	Ubuntu Server 18.04 LTS - Gen1
Size	Standard B1s (1 vcpu, 1 GiB memory)
Authentication type	SSH public key
Username	mario
Key pair name	VM-USE-Nextcloud_SSHkey
Azure Spot	No

Disks

OS disk size	Default size (30 GiB)
OS disk type	Premium SSD LRS
Use managed disks	Yes
Use ephemeral OS disk	No

Create < Previous Next > Download a template for automation

Create a virtual machine - × +

← → C portal.azure.com/#create/Canonical.UbuntuServer1804LTS-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Microsoft.BastionHost-20210331115318 > RG-USE-Nextcloud > New >

Create a virtual machine

Validation passed.

Basics Disks Networking Management Advanced Tags **Review + create**

PRODUCT DETAILS

Standard B1s by Microsoft Subscription credits apply ⓘ **0.0088 EUR/hr** Pricing for other VM sizes

[Terms of use](#) | [Privacy policy](#)

TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

Basics

Subscription	Free Trial
Resource group	RG-USE-Nextcloud
Virtual machine name	VM-USE-Nextcloud
Region	East US
Availability options	Availability zone
Availability zone	1
Image	Ubuntu Server 18.04 LTS - Gen1
Size	Standard B1s (1 vcpu, 1 GiB memory)

Create < Previous Next > Download a template for automation

Create a virtual machine - x +

← → C portal.azure.com/#create/Canonical,UbuntuServer1804LTS-ARM

Microsoft Azure Upgrade Search resources, services, and docs (G+/?)

Home > Microsoft.BastionHost-20210331115318 > RG-USE-Nextcloud > New >

Create a virtual machine

Validation passed

Availability options	Availability zone
Availability zone	1
Image	Ubuntu Server 18.04 LTS - Gen1
Size	Standard B1s (1 vcpu, 1 GiB memory)
Authentication type	SSH public key
Username	mario
Key pair name	VM-USE-Nextcloud_SSHkey
Azure Spot	No

Disks

OS disk size	Default size (30 GiB)
OS disk type	Premium SSD LRS
Use managed disks	Yes
Use ephemeral OS disk	No

Networking

Virtual network	VNET-USE-Nextcloud
Subnet	SNET-USE-Nextcloud (172.10.0.0/24)
Public IP	None
NIC network security group	None
Accelerated networking	Off
Place this virtual machine behind an existing load balancing solution?	No

Management

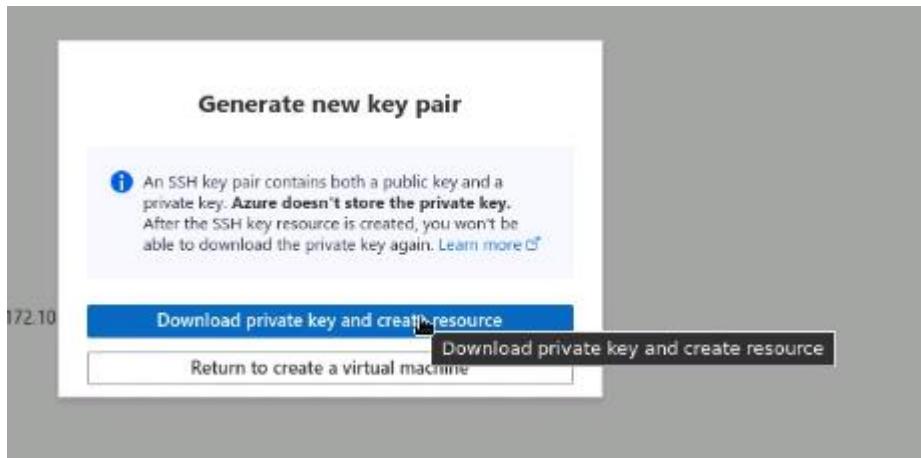
Create < Previous Next > Download a template for automation

Generate new key pair

An SSH key pair contains both a public key and a private key. **Azure doesn't store the private key.** After the SSH key resource is created, you won't be able to download the private key again. [Learn more](#)

2.10 Download private key and create resource

Return to create a virtual machine



Microsoft Azure | portal.azure.com | Microsoft Edge | Incognito | marioferraro@gmail.com | DEFAULT DIRECTORY

Home > CreateVm-Canonical.UbuntuServer-18.04-LTS-20210331115638 | Overview

Deployment in progress... 12:03 PM Deployment to resource group 'RG-USE-Nextcloud' is in progress.

Search (Ctrl+I)

Overview Inputs Outputs Template

We'd love your feedback! →

Deployment is in progress

Deployment name: CreateVm-Canonical.UbuntuServer-18.04-LTS-2... Start time: 3/31/2021, 12:03:19 PM
Subscription: Free Trial Correlation ID: 22ba60e2-c9b3-4b85-b805-78a37414a99e
Resource group: RG-USE-Nextcloud

Deployment details (Download)

Resource	Type	Status	Operation details
vm-use-nextcloud936	Microsoft.Network/network...	Created	Operation details

Security Center Secure your apps and infrastru
[Go to Azure security center >](#)

Free Microsoft tutorials
[Start learning today >](#)

Work with an expert Azure experts are service provi
who can help manage your ass
and be your first line of support
[Find an Azure expert >](#)

6. Install Nextcloud by connecting via SSH using Bastion

The screenshot shows the Microsoft Azure portal with the URL <https://portal.azure.com/#blade/HubsExtension/DeploymentDetailsBlade/overview/id/%2Fsubscriptions%2F992c85e1-8642-4355-85...>. The page title is "CreateVm-Canonical.UbuntuServer-18.04-LTS-2021033115638 | Overview". The main content area displays a green checkmark icon and the message "Your deployment is complete". Below this, it shows deployment details: Deployment name: CreateVm-Canonical.UbuntuServer-18.04-LTS-2..., Subscription: Free Trial, Resource group: RG-USE-Nextcloud. To the right, there are links for "Security Center", "Free Microsoft tutorials", and "Work with an expert". At the bottom, there are two buttons: "Go to resource" and "Create another VM".

We need to connect to our VM and install a server

Let's go back to our RG

This screenshot is identical to the one above, showing the Microsoft Azure portal deployment overview for the same deployment name. It confirms that the deployment is complete and provides the same deployment details and associated links.

Go to VN

RG-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Search resources, services, and docs (G+)

marioferraro@gmail.com DEFAULT DIRECTORY

RG-USE-Nextcloud Resource group

Home > CreateVm-CanonicalUbuntuServer-18.04-LTS-20210331115638 >

RG-USE-Nextcloud Resource group

Overview Activity log Access control (IAM) Tags Events Deployments Security Policies Properties Locks Cost Management Cost analysis Cost alerts (preview) Budgets Advisor recommendations Monitoring Insights (preview) Alerts

Subscription (change) Free Trial Deployment 4 Succeeded Subscription ID 992c85e1-8642-4355-8562-367a88d3d309 Location East US Tags (change) Click here to add tags

Filter for any field... Type == all Location == all Add filter

Showing 1 to 8 of 8 records. Show hidden types No grouping List view

Name	Type	Location	...
BASTION-USE-Nextcloud	Bastion	East US	...
BASTIONIP-USE-Nextcloud	Public IP address	East US	...
NSG-USE-Nextcloud	Network security group	East US	...
VM-USE-Nextcloud	Virtual machine	East US	...
vm-use-nextcloud936	Network interface	East US	...
VM-USE-Nextcloud_OsDisk_1_abe5b96237364e19be6c6e42dc61698f	Disk	East US	...
VM-USE-Nextcloud_SSHkey	SSH key	East US	...
VNET-USE-Nextcloud	Virtual network	East US	...

< Previous Page 1 of 1 Next >

[https://portal.azure.com/#@marioferraro@gmail.onmicrosoft.c...](https://portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/)

VM-USE-Nex...pem Show all

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

Microsoft Azure Search resources, services, and docs (G+)

marioferraro@gmail.com DEFAULT DIRECTORY

VNET-USE-Nextcloud Virtual network

DNS servers Peering Service endpoints Private endpoints Properties Locks Monitoring Alerts Metrics Diagnostic settings Logs Connection monitor (classic) Diagram Automation Tasks (preview) Export template Support + troubleshooting Connection troubleshoot New support request

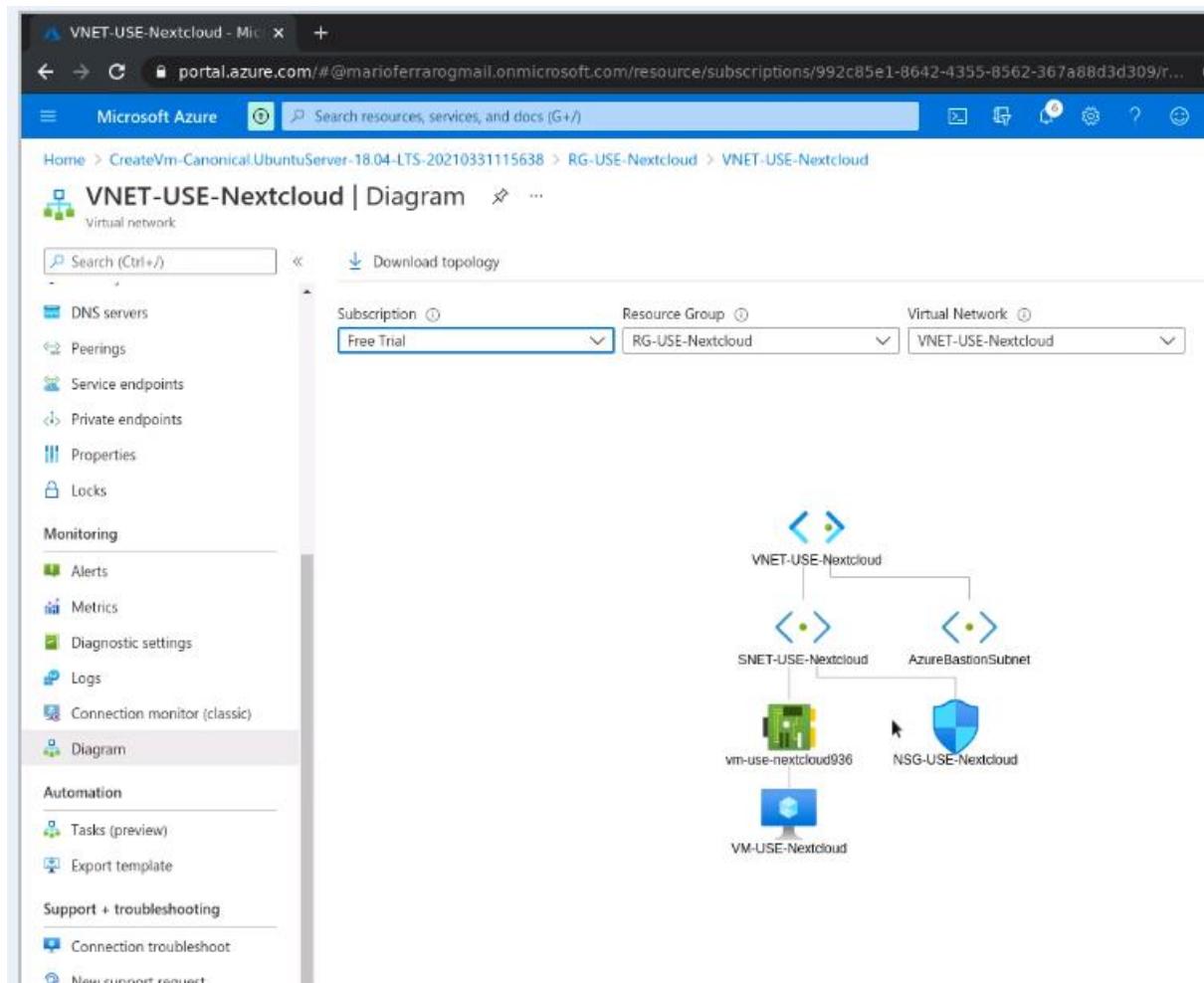
Resource group (change) RG-USE-Nextcloud Address space 172.10.0.0/16 Location East US Subscription (change) Free Trial DNS servers Azure provided DNS service

Tags (change) Click here to add tags

Connected devices

Device	Type	IP Address	Subnet
vm-use-nextcloud936	Network interface	172.10.0.4	SNET-USE-Nextcloud
BASTION-USE-Nextcloud	bastionHosts	-	AzureBastionSubnet

[https://portal.azure.com/#@marioferraro@gmail.onmicrosoft.c...](https://portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/)



Connection is via virtual network interface controller (green) created by Azure

A **network interface controller (NIC)**, also known as a **network interface card**,^[3] **network adapter**, **LAN adapter** or **physical network interface**,^[4] and by similar terms) is a **computer hardware** component that connects a **computer** to a **computer network**.^[5]

Let's click on our VM

VNET-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferrarogmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a8

Microsoft Azure Search resources, services, and docs (G+)

Home > CreateVm-Canonical.UbuntuServer-18.04-LTS-20210331115638 > RG-USE-Nextcloud > VNET-USE-Nextcloud

VNET-USE-Nextcloud | Diagram

Virtual network

Search (Ctrl+ /) Download topology

Subscription: Free Trial Resource Group: RG-USE-Nextcloud Virtual Network: VNET-USE-Nextcloud

- DNS servers
- Peerings
- Service endpoints
- Private endpoints
- Properties
- Locks

Monitoring

- Alerts
- Metrics
- Diagnostic settings
- Logs
- Connection monitor (classic)
- Diagram

Automation

- Tasks (preview)
- Export template

Support + troubleshooting

Connection troubleshoot

The diagram illustrates the network topology for the VNET-USE-Nextcloud virtual network. At the top level, there is a 'VNET-USE-Nextcloud' node. Below it, two sub-nodes are shown: 'SNET-USE-Nextcloud' and 'AzureBastionSubnet'. The 'SNET-USE-Nextcloud' node is connected to a green server icon labeled 'vm-use-nextcloud936'. The 'AzureBastionSubnet' node is connected to a blue shield icon labeled 'NSG-USE-Nextcloud'. Both the server and the NSG icons have arrows pointing towards the 'VM-USE-Nextcloud' node at the bottom, indicating a connection. The entire diagram is contained within a light gray box.

The screenshot shows the Microsoft Azure portal interface for a virtual machine named 'VM-USE-Nextcloud'. The left sidebar contains navigation links for Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings (Networking, Connect, Disks, Size, Security, Advisor recommendations, Extensions, Continuous delivery, Availability + scaling, Configuration, Identity, Properties, Locks, Operations), and a file named 'VM-USE-Nex...pem'. The main content area is titled 'VM-USE-Nextcloud' and shows the 'Essentials' tab. It displays the following resource group: 'rg-use-nextcloud', Status: 'Running', Location: 'East US (Zone 1)', Subscription: 'Free Trial', Subscription ID: '992c85e1-8642-4355-8562-367a88d3d309', Availability zone: '1', and Tags: 'Click here to add tags'. Below this, there are tabs for Properties, Monitoring, Capabilities (7), Recommendations, and Tutorials. The 'Properties' tab is selected, showing details for the Virtual machine and Networking. Under 'Virtual machine', fields include Computer name: 'VM-USE-Nextcloud', Operating system: 'Linux (ubuntu 18.04)', Publisher: 'Canonical', Offer: 'UbuntuServer', Plan: '18.04-LTS', VM generation: 'V1', Agent status: 'Ready', and Agent version: '2.253.1'. Under 'Networking', fields include Public IP address: '-', Public IP address (IPv6): '-', Private IP address: '172.10.0.4', Private IP address (IPv6): '-', Virtual network/subnet: 'VNET-USE-Nextcloud/SNET-USE-Nextcloud', and DNS name: '-'. A 'Size' section indicates 'Standard B1s'.

We see the actual resource detail

Take note of private IP address

This is a detailed view of the Networking settings for the VM. It includes:

- Public IP address: -
- Public IP address (IPv6): -
- Private IP address: 172.10.0.4
- Private IP address (IPv6): -
- Virtual network/subnet: VNET-USE-Nextcloud/SNET-USE-Nextcloud
- DNS name: -

VM is started (Started button is grey)

The screenshot shows the Microsoft Azure portal interface for a virtual machine named "VM-USE-Nextcloud". The main content area displays the VM's properties, including its operating system (Linux (ubuntu 18.04)), size (Standard B1s), and networking details (Virtual network/subnet: VNET-USE-Nextcloud/SNET-USE-Nextcloud). The "Bastion" connection option is highlighted in the "Connect" menu. The left sidebar shows various settings like Networking, Connect, Disks, Size, Security, and Advisor recommendations.

VM-USE-Nextcloud Virtual machine

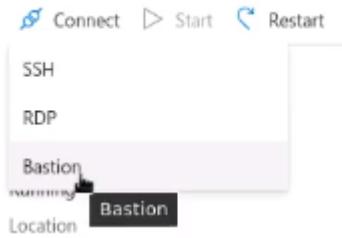
Connect

- SSH
- RDP
- Bastion

Properties

Virtual machine	Networking	Size
Computer name: VM-USE-Nextcloud	Public IP address: -	Standard B1s
Operating system: Linux (ubuntu 18.04)	Public IP address (IPv6): -	1 vCPU, 1 GiB memory
Publisher: Canonical	Private IP address: 172.10.0.4	
Offer: UbuntuServer	Private IP address (IPv6): -	
Plan: 18.04-LTS	Virtual network/subnet: VNET-USE-Nextcloud/SNET-USE-Nextcloud	
VM generation: V1	DNS name: -	
Agent status: Ready		
Agent version: 2.2.53.1		

Let's connect to VM



VM-USE-Nextcloud | Connect

Virtual machine

Search (Ctrl+ /)

To improve security, enable just-in-time access on this VM.

RDP SSH **BASTION**

Bastion is an Azure service that allows fast, secure connections to any VM within a VNet. [Learn more](#)

Use Bastion

VM-USE-Nextcloud - Microsoft Edge

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d309/r...

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

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Home > CreateVm-Canonical.UbuntuServer-18.04-LTS-20210331115638 > RG-USE-Nextcloud > VNET-USE-Nextcloud > VM-USE-Nextcloud

VM-USE-Nextcloud | Bastion

Virtual machine

Search (Ctrl+ /)

Connect using Azure Bastion

Azure Bastion Service enables you to securely and seamlessly RDP & SSH to your VMs in your Azure virtual network, without exposing a public IP on the VM, directly from the Azure portal, without the need of any additional client/agent or any piece of software. [Learn more about Azure Bastion](#).

Using Bastion: **BASTION-USE-Nextcloud**, Provisioning State: **Succeeded**

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

Open in new window

Username *

Authentication Type * Password SSH Private Key SSH Private Key from Local File SSH Private Key from Azure Key Vault

Local File *

Advanced

Connect

The key file was downloaded before

VM-USE-Nextcloud - Microsoft Edge

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d...

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VM-USE-Nextcloud | Bastion

Virtual machine

Search (Ctrl+)

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

Settings Networking Connect Disks Size Security Advisor recommendations Extensions Continuous delivery Availability + scaling Configuration

Connect using Azure Bastion

Azure Bastion Service enables you to securely and seamlessly RDP & SSH to your VMs in your Azure virtual network, without exposing a public IP on the VM, directly from the Azure portal, without the need of any additional client/agent or any piece of software. [Learn more about Azure Bastion](#).

Using Bastion: **BASTION-USE-Nextcloud**, Provisioning State: **Succeeded**

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

Open in new window

Username * mario

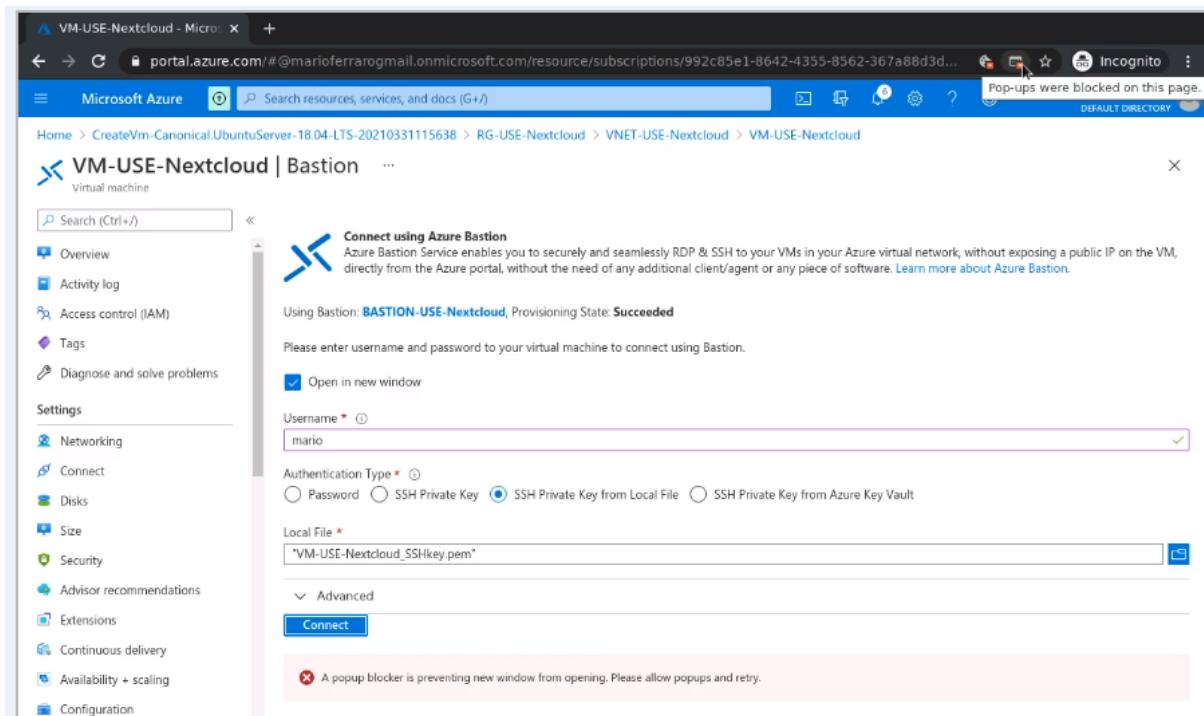
Authentication Type * Password SSH Private Key SSH Private Key from Local File SSH Private Key from Azure Key Vault

Local File * "VM-USE-Nextcloud_SSHkey.pem"

Advanced

Connect

A popup blocker is preventing new window from opening. Please allow popups and retry.



65e1-8642-4355-8562-367a88d3d... Incognito DEFAULT DIRECTORY

Pop-ups blocked:

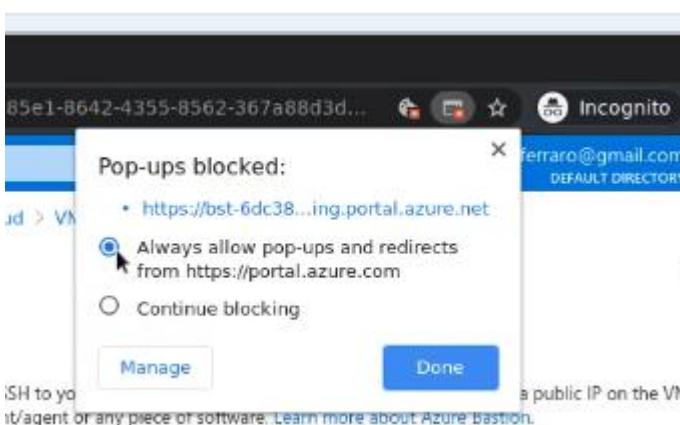
- https://bst-6dc38...ng.portal.azure.net

Always allow pop-ups and redirects from https://portal.azure.com

Continue blocking

Manage Done

A public IP on the VM without exposing it to the internet. Without an agent or any piece of software. Learn more about Azure Bastion.



VM-USE-Nextcloud | Bastion

Virtual machine

Search (Ctrl+I)

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Networking

Connect

Disk

Size

Security

Advisor recommendations

Extensions

Continuous delivery

Availability + scaling

Configuration

Connect using Azure Bastion

Azure Bastion Service enables you to securely and seamlessly RDP & SSH to your VMs in your Azure virtual network, without exposing a directly from the Azure portal, without the need of any additional client/agent or any piece of software. [Learn more about Azure Bastion](#)

Using Bastion: **BASTION-USE-Nextcloud**, Provisioning State: **Succeeded**

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

Open in new window

Username *

Authentication Type * Password SSH Private Key SSH Private Key from Local File SSH Private Key from Azure Key Vault

Local File *

Advanced

Connect

Connect

✗ A popup blocker is preventing new window from opening. Please allow popups and retry.

```
Welcome to Ubuntu 18.04.5 LTS (GNU/Linux 5.4.0-1043-azure x86_64)

* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/advantage

System information as of Wed Mar 31 12:09:33 UTC 2021

System load: 0.08      Processes:          109
Usage of /: 4.5% of 28.90GB  Users logged in:    0
Memory usage: 20%           IP address for eth0: 172.10.0.4
Swap usage:  0%

0 packages can be updated.
0 of these updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

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

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

mario@VM-USE-Nextcloud:~$
```

Perform basic cloud installation

```
VM-USE-Nextcloud - Micro VM-USE-Nextcloud x +  
bst-6dc389ac-5ea5-4f9a-9fd6-2c09fec125c8.bastion.azure.com/#/client/Vk0tVVNF  
Welcome to Ubuntu 18.04.5 LTS (GNU/Linux 5.4.0-1043-azure x86_64)  
* Documentation: https://help.ubuntu.com  
* Management: https://landscape.canonical.com  
* Support: https://ubuntu.com/advantage  
  
System information as of Wed Mar 31 12:09:33 UTC 2021  
  
System load: 0.08 Processes: 109  
Usage of /: 4.5% of 28.90GB Users logged in: 0  
Memory usage: 20% IP address for eth0: 172.10.0.4  
Swap usage: 0%  
  
0 packages can be updated.  
0 of these updates are security updates.  
  
The programs included with the Ubuntu system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*copyright.  
  
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.  
  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
I  
mario@VM-USE-Nextcloud:~$ sudo snap install nextcloud
```

```
mario@VM-USE-Nextcloud:~$ sudo snap install nextcloud  
2021-03-31T12:11:02Z INFO Waiting for automatic snapd restart...  
Automatically connect eligible plugs and slots of snap "snapd"  
nextcloud 20.0.7snap1 from Nextcloud✓ installed  
mario@VM-USE-Nextcloud:~$
```

Create a user account with sample user name admin and password mario

```
mario@VM-USE-Nextcloud:~$ sudo snap install nextcloud  
2021-03-31T12:11:02Z INFO Waiting for automatic snapd restart...  
Automatically connect eligible plugs and slots of snap "snapd"  
nextcloud 20.0.7snap1 from Nextcloud✓ installed  
mario@VM-USE-Nextcloud:~$ sudo nextcloud.manual-install admin mario
```

Create self-signed certificate

```
mario@VM-USE-Nextcloud:~$ sudo snap install nextcloud  
2021-03-31T12:11:02Z INFO Waiting for automatic snapd restart...  
Automatically connect eligible plugs and slots of snap "snapd"  
nextcloud 20.0.7snap1 from Nextcloud✓ installed  
mario@VM-USE-Nextcloud:~$ sudo nextcloud.manual-install admin mario  
^RNextcloud was successfully installed  
mario@VM-USE-Nextcloud:~$ sudo nextcloud.enable-https self-signed
```

Write exit

Choose close

VM-USE-Nextcloud - Microsoft Edge

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d... Incognito

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VM-USE-Nextcloud | Bastion Virtual machine

Search (Ctrl+)

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Networking

Connect

Disk

Size

Security

Advisor recommendations

Extensions

Continuous delivery

Availability + scaling

Configuration

Identity

Properties

Locks

Operations

Connect using Azure Bastion

Azure Bastion Service enables you to securely and seamlessly RDP & SSH to your VMs in your Azure virtual network, without exposing a public IP on the VM, directly from the Azure portal, without the need of any additional client/agent or any piece of software. Learn more about Azure Bastion.

Using Bastion: **BASTION-USE-Nextcloud**, Provisioning State: **Succeeded**

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

Open in new window

Username *

Authentication Type * Password SSH Private Key SSH Private Key from Local File SSH Private Key from Azure Key Vault

Local File *

Advanced

Connect

7. Publish an IP

Let's access our VM instance on the web

The screenshot shows the Azure portal interface for connecting to a virtual machine named 'VM-USE-Nextcloud'. On the left, a sidebar menu lists various settings like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Networking, Connect, Disks, Size, Security, Advisor recommendations, Extensions, Continuous delivery, Availability + scaling, Configuration, Identity, Properties, and Locks. The 'Networking' option is currently selected. The main content area is titled 'Connect using Azure Bastion' and includes instructions about using the service to securely RDP or SSH to the VM without exposing a public IP. It shows the provisioning state as 'Succeeded'. A form is provided for entering a username ('mario') and selecting an authentication type ('SSH Private Key from Local File'), which is chosen. A local file path ('*VM-USE-Nextcloud_SSHkey.pem') is also specified. A 'Connect' button is at the bottom of the form.

Click on the networking interface

The screenshot shows the Azure portal interface for managing the networking of the 'VM-USE-Nextcloud' virtual machine. The left sidebar shows the 'Networking' setting is selected. The main content area displays the 'vm-use-nextcloud936' network interface. It shows the primary IP configuration ('ipconfig1 (Primary)'). Below this, there's a summary of the network interface: Virtual network/subnet: VNET-USE-Nextcloud/SNET-USE-Nextcloud, NIC Public IP: 172.10.0.4, NIC Private IP: 172.10.0.4, and Accelerated networking: Disabled. There are tabs for Inbound port rules, Outbound port rules, Application security groups, and Load balancing. Under Inbound port rules, it shows three rules: AllowVnetInbound, AllowAzureLoadBalancerInbound, and DenyAllInbound. A 'Network security group NSG-USE-Nextcloud' is attached to the subnet. A 'Add inbound port rule' button is available. At the bottom, a message says 'Checking for additional rules...'.

vm-use-nextcloud936

Network interface

Overview

Activity log

Access control (IAM)

Tags

Settings

- IP configurations
- DNS servers
- Network security group
- Properties
- Locks
- Monitoring

Search (Ctrl+ /)

Move Delete Refresh Enabled accelerated networking

Essentials

Resource group (change) RG-USE-Nextcloud

Location East US

Subscription (change) Free Trial

Subscription ID 992c85e1-8642-4355-8562-367a88d3d309

Tags (change) Click here to add tags

Private IP address 172.10.0.4

Public IP address -

Private IP address (IPv6) -

Public IP address (IPv6) -

Virtual network/subnet VNET-USE-Nextcloud/SNET-USE-Nextcloud

JSON View

We need to add public IP address

vm-use-nextcloud936 | IP configurations

Network interface

Overview

Activity log

Access control (IAM)

Tags

Settings

- IP configurations
- DNS servers
- Network security group
- Properties
- Locks
- Monitoring

Search (Ctrl+ /)

Add Save Discard Refresh

IP forwarding settings

IP forwarding Enabled Disabled

Virtual network VNET-USE-Nextcloud

IP configurations

Subnet * SNET-USE-Nextcloud (172.10.0.0/24)

Name	IP Version	Type	Private IP address	Public IP address
ipconfig1	IPv4	Primary	172.10.0.4 (Dynamic)	-

vm-use-nextcloud936 - Microsoft Edge

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d...

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Home > CreateVm-Canonical.UbuntuServer-18.04-LTS-20210331115638 > RG-USE-Nextcloud > VNET-USE-Nextcloud > VM-USE-Nextcloud > vm-use-nextcloud936

vm-use-nextcloud936 | IP configurations

Network interface

Search (Ctrl+ /) Add Save Discard Refresh

Overview Activity log Access control (IAM) Tags

Settings IP configurations DNS servers Network security group Properties Locks

Monitoring

IP forwarding settings

IP forwarding Enabled

Virtual network VNET-USE-Nextcloud

IP configurations Subnet SNET-USE-Nextcloud (172.10.0.0/24)

Search IP configurations

Name	IP Version	Type	Private IP address	Public IP address
ipconfig1	IPv4	Primary	172.10.0.4 (Dynamic)	-

ipconfig1 - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com

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

Home > CreateVm-Canonical.UbuntuServer-18.04-LTS-20210331115638

ipconfig1

vm-use-nextcloud936

Save Discard

Public IP address settings

Public IP address Disassociate Associate

Private IP address settings

Virtual network/subnet VNET-USE-Nextcloud/SNET-USE-Nextcloud

Assignment

Dynamic Static

IP address 172.10.0.4

ipconfig1 - Microsoft Azure

portal.azure.com/#@marioferraro

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ipconfig1 ...

vm-use-nextcloud936

Save Discard

Public IP address settings

Public IP address

Public IP address *

Private IP address settings

Virtual network/subnet

VNET-USE-Nextcloud/SNET-USE-Nextcloud

Assignment

IP address

172.10.0.4

ipconfig1 ...

vm-use-nextcloud936

Save Discard

Public IP address settings

Public IP address

Public IP address *

Add a public IP address

Name *

SKU * Basic Standard

Assignment Dynamic Static

ipconfig1 - Microsoft Azure

portal.azure.com/#@marioferrarogm

Microsoft Azure Search resources, services

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ipconfig1 ...

vm-use-nextcloud936

Save Discard Save

Public IP address settings

Public IP address

Disassociate Associate

Public IP address *

(New) VMIP-USE-Nextcloud

Create new

Private IP address settings

Virtual network/subnet

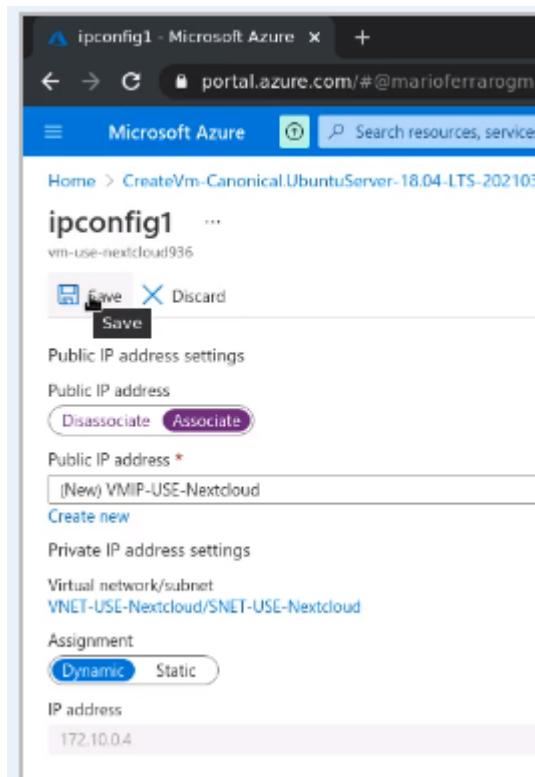
VNET-USE-Nextcloud/SNET-USE-Nextcloud

Assignment

Dynamic Static

IP address

172.10.0.4



ipconfig1 - Microsoft Azure

portal.azure.com/#@marioferrarogmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d...

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ipconfig1 ...

vm-use-nextcloud936

Save Discard

Public IP address settings

Public IP address

Disassociate Associate

Public IP address *

(New) VMIP-USE-Nextcloud

Create new

Private IP address settings

Virtual network/subnet

VNET-USE-Nextcloud/SNET-USE-Nextcloud

Assignment

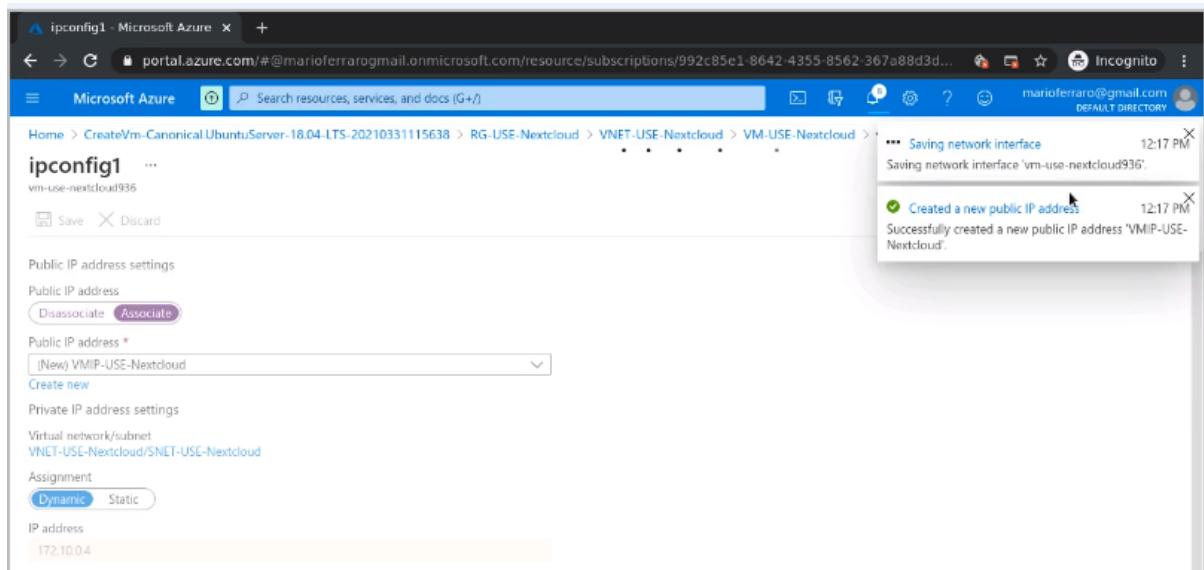
Dynamic Static

IP address

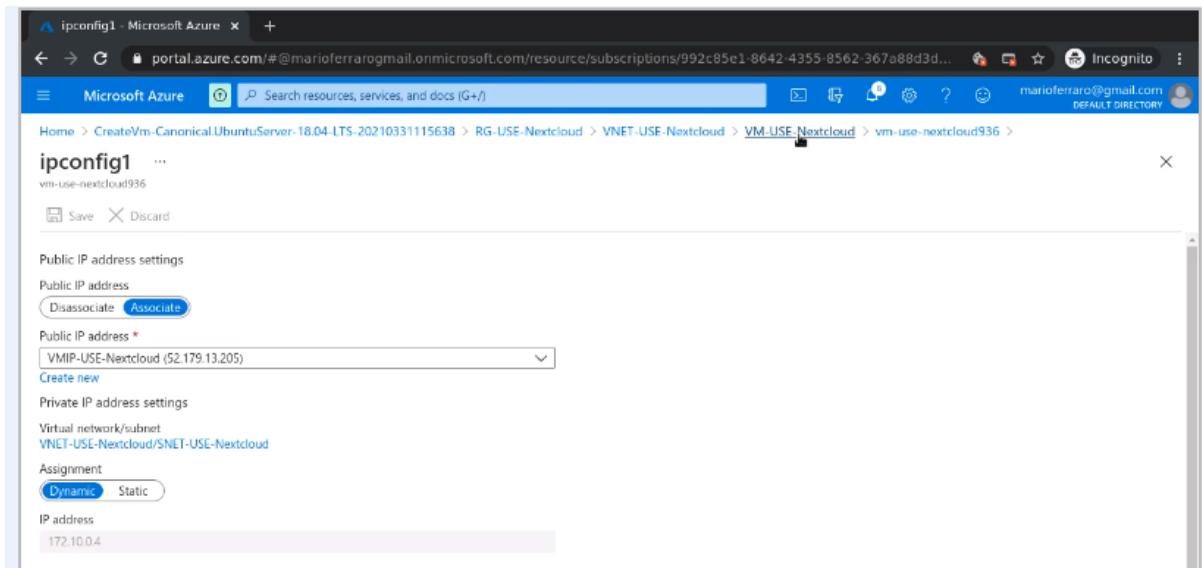
172.10.0.4

... Saving network interface 12:17 PM
Saving network interface 'vm-use-nextcloud936'.

Created a new public IP address 12:17 PM
Successfully created a new public IP address 'VMIP-USE-Nextcloud'.



Let's go back to our VM



VM-USE-Nextcloud | Networking

Virtual machine

Search (Ctrl+ /)

Attach network interface Detach network interface

vm-use-nextcloud936

IP configuration ipconfig1 (Primary)

Network Interface: vm-use-nextcloud936 Effective security rules Troubleshoot VM connection issues Topology

Virtual network/subnet: VNET-USL-Nextcloud/SNET-USL-Nextcloud NIC Public IP: - NIC Private IP: 172.10.0.4 Accelerated networking: Disabled

Inbound port rules Outbound port rules Application security groups Load balancing

Add inbound port rule

Priority	Name	Port	Protocol	Source	Destination	Action
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	<input checked="" type="checkbox"/> A
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	<input checked="" type="checkbox"/> A
65500	DenyAllInBound	Any	Any	Any	Any	<input checked="" type="checkbox"/> D

VM-USE-Nextcloud - Microsoft Azure

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d...

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VM-USE-Nextcloud

Virtual machine

Search (Ctrl+I)

Connect Start Restart Stop Capture Delete Refresh Open in mobile

Overview

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

Settings

Networking Connect Disks Size Security Advisor recommendations Extensions Continuous delivery Availability + scaling Configuration Identity Properties Locks Operations

Essentials

Resource group (change): rg-use-nextcloud Status: Running Location: East US (Zone 1) Subscription (change): Free Trial Subscription ID: 992c85e1-8642-4355-8562-367a88d3d309 Availability zone: 1 Tags (change): Click here to add tags

Operating system: Linux (Ubuntu 18.04) Size: Standard B1s (1 vcpus, 1 GiB memory) Public IP address: 52.179.13.205 Virtual network/subnet: VNET-USE-Nextcloud/SNET-USE-Nextcloud DNS name: Configure

Properties Monitoring Capabilities (7) Recommendations Tutorials

Virtual machine

Computer name	VM-USE-Nextcloud
Operating system	Linux (Ubuntu 18.04)
Publisher	Canonical
Offer	UbuntuServer
Plan	18.04-LTS
VM generation	V1
Agent status	Ready
Agent version	2.25.1

Networking

Public IP address	52.179.13.205
Public IP address (IPv6)	-
Private IP address	172.10.0.4
Private IP address (IPv6)	-
Virtual network/subnet	VNET-USE-Nextcloud/SNET-USE-Nextcloud
DNS name	Configure

Size

Standard B1s

JSON View

Networking

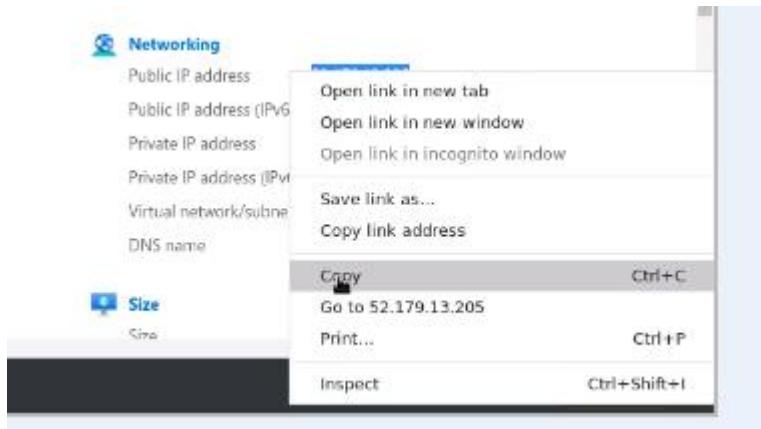
Public IP address	52.179.13.205
Public IP address (IPv6)	-
Private IP address	172.10.0.4
Private IP address (IPv6)	-
Virtual network/subnet	VNET-USE-Nextcloud/SNET-USE-Nextcloud
DNS name	Configure

Let's copy it

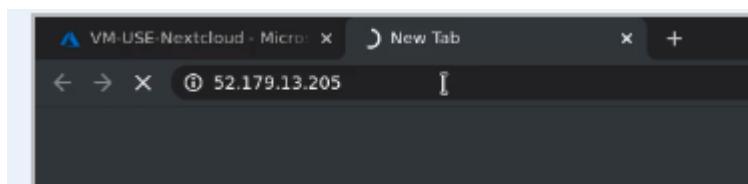
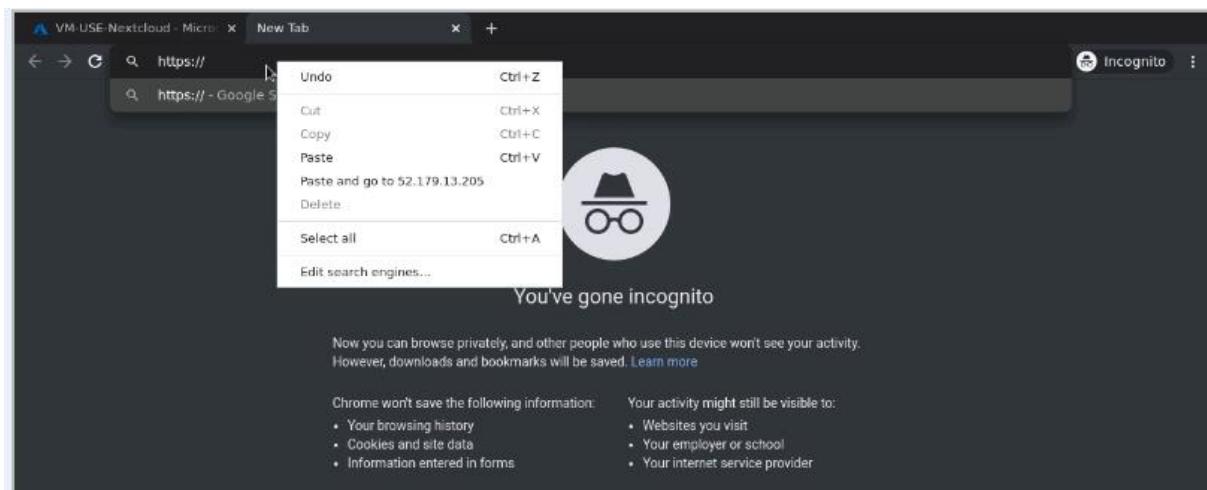
11/20/2021

Networking

Public IP address	52.179.13.205
Public IP address (IPv6)	-
Private IP address	172.10.0.4
Private IP address (IPv6)	-
Virtual network/subnet	VNET-USE-Nextcloud/SNET-USE-Nextcloud
DNS name	Configure

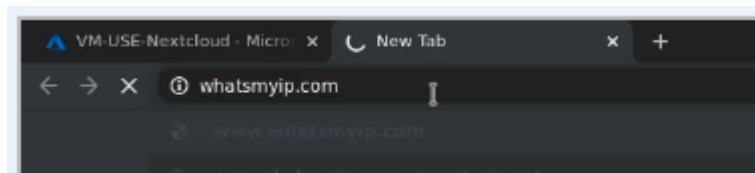


Open it on a different tab



It is not working because we didn't add a rule to allow inbound https traffic in our network security group.

Check my IP



VM-USE-Nextcloud - Microsoft Edge Whats My IP Address - IP A +

whatsmyip.com

Incognito

Whats My IP

VPN - Hide IP IP Tracer WHOIS History Articles API

Search IP/Domain... Search

My IP Address is:

18.215.14.88 ⓘ

Your IP Address » Browse Anonymous »

My Public IPv4:	18.215.14.88
Country:	United States (US)
Region:	Virginia
City:	Ashburn
Zip:	20149
Lati/Long:	39.0481 / -77.4729
Timezone:	America/New_York

Double click on IP and select copy

My IP Address is:

18.215.14.88 ⓘ

Your IP Address »

Copy Ctrl+C

Do to 18.215.14.88

Print... Ctrl+P

Inspect Ctrl+Shift+I

VM-USE-Nextcloud | Networking

Virtual machine

Search (Ctrl+I)

Connect Start Restart Stop Capture Delete Refresh Open in mobile

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Networking

Connect

Disk

Size

Security

Resource group (change)
rg-use-nextcloud

Status
Running

Location
East US (Zone 1)

Subscription (change)
Free Trial

Subscription ID
992c85e1-8642-4355-8562-367a88d3d309

Availability zone
1

Tags (change)
Click here to add tags

Operating system
Linux (ubuntu 18.04)

Size
Standard B1s (1 vcpus, 1 GiB memory)

Public IP address
52.179.13.205

Virtual network/subnet
VNET-USE-Nextcloud/SNET-USE-Nextcloud

DNS name
Configure

VM-USE-Nextcloud - Microsoft Edge What's My IP Address - IP A

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d... Incognito

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VM-USE-Nextcloud | Networking

Virtual machine

Search (Ctrl+F) Attach network interface Detach network interface

vm-use-nextcloud936

IP configuration: ipconfig1 (Primary)

Network Interface: vm-use-nextcloud936 Effective security rules Troubleshoot VM connection issues Topology

Virtual network/Subnet: VNET-USE-Nextcloud/SNET-USE-Nextcloud NIC Public IP: 52.179.13.205 NIC Private IP: 172.10.0.4
Accelerated networking: Disabled

Inbound port rules Outbound port rules Application security groups Load balancing

Add inbound port rule

Priority	Name	Port	Protocol	Source	Destination
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any
65500	DenyAllInBound	Any	Any	Any	Any

Add inbound security rule What's My IP Address - IP A

portal.azure.com/#@marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d... Incognito

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Home > CreateVm-CanonicalUbuntuServer-18.04-LTS-2021033115638 > RG-USE-Nextcloud > VNET-USE-Nextcloud

VM-USE-Nextcloud | Networking

Virtual machine

Search (Ctrl+F) Attach network interface Detach network interface

vm-use-nextcloud936

IP configuration: ipconfig1 (Primary)

Network Interface: vm-use-nextcloud936 Effective security rules

Virtual network/Subnet: VNET-USE-Nextcloud/SNET-USE-Nextcloud
Accelerated networking: Disabled

Inbound port rules Outbound port rules Application security groups

Add inbound security rule

NSG-USE-Nextcloud

Source: IP Addresses
Source IP addresses/CIDR ranges: 18.215.14.88

Source port ranges: *

Destination: IP Addresses
Destination IP addresses/CIDR ranges: 172.10.0.4

Service: HTTPS
Destination port ranges: 443

Protocol: Any
TCP
UDP
ICMP

Action: Allow

Add Cancel

options/992c85e1-8642-4355-8562-367a88d3d... Incognito marioferraro@gmail.com DEFAULT DIRECTORY

Add inbound security rule

NSG-USE-Nextcloud

Source IP address	172.10.0.4
Service	HTTPS
Destination port ranges	443
Protocol	<input checked="" type="radio"/> TCP
Action	<input checked="" type="radio"/> Allow
Priority	100
Name	HTTPS_Nextcloud
Description	

Add **Cancel**

VM-USE-Nextcloud - Microsoft Azure | portal.azure.com | What's My IP Address - IP A | +

Microsoft Azure | Search resources, services, and docs (G+) | marioferraro@gmail.com | DEFAULT DIRECTORY

Home > CreateVm-CanonicalUbuntuServer-18.04-LTS-20210331115638 > RG-USE-Nextcloud > VNET-USE-Nextcloud > VM-USE-Nextcloud

VM-USE-Nextcloud | Networking ...

Creating security rule
Creating security rule 'HTTPS_Nextcloud'. 12:21 PM

Virtual machine

Search (Ctrl+I)

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

Networking

Connect Disks Size Security Advisor recommendations Extensions Continuous delivery Availability + scaling

Attach network interface Detach network interface

vm-use-nextcloud936

IP configuration: Ipconfig1 (Primary)

Network Interface: vm-use-nextcloud936 Effective security rules Troubleshoot VM connection issues Topology

Virtual network/subnet: VNET-USE-Nextcloud/SNET-USE-Nextcloud NIC Public IP: 52.179.13.205 NIC Private IP: 172.10.0.4 Accelerated networking: Disabled

Inbound port rules Outbound port rules Application security groups Load balancing

Network security group NSG-USE-Nextcloud (attached to subnet: SNET-USE-Nextcloud) Impacts 1 subnets, 0 network interfaces

Add inbound port rule

Priority	Name	Port	Protocol	Source	Destination	Action
100	HTTPS_Nextcloud	443	TCP	18.215.14.88	172.10.0.4	<input checked="" type="radio"/> A
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	<input checked="" type="radio"/> A
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	<input checked="" type="radio"/> A
65500	DenyAllInBound	Any	Any	Any	Any	<input checked="" type="radio"/> D

Let's copy public IP address again

The screenshot shows the Microsoft Azure portal interface. The user is viewing the networking configuration for a virtual machine named 'VM-USE-Nextcloud'. In the main pane, under the 'IP configuration' section, the primary IP address is listed as 52.179.13.205. This address is highlighted in blue. A context menu is open over this address, with the 'Copy link address' option selected. The context menu also includes options like 'Open link in new tab', 'Open link in new window', and 'Save link as...'. Below the IP configuration, there is a table of inbound port rules. The table has columns for Priority, Name, Port, Protocol, Source, Destination, and Action. There are five entries in the table:

Priority	Name	Port	Protocol	Source	Destination	Action
100	HTTPS_Nextcloud	443	TCP	18.215.14.88	172.10.0.4	Allow
65000	AllowVnetInbound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowAzureLoadBalancerInbound	Any	Any	AzureLoadBalancer	Any	Allow
65500	DenyAllInbound	Any	Any	Any	Any	Deny

Go back to the other tab

A screenshot of a web browser window titled "VM-USE-Nextcloud - Microsoft Edge". The address bar shows "https://52.179.13.205". The main content area displays "My IP Address is: 18.215.14.88". To the right, a table provides geographical information: My Public IPv4: 18.215.14.88, Country: United States (US), Region: Virginia, City: Ashburn, Zip: 20149, Lat/Long: 39.0481 / -77.4729, Timezone: America/New_York.

Hit advanced

A screenshot of a web browser window titled "VM-USE-Nextcloud - Microsoft Edge". The address bar shows "https://52.179.13.205" with a warning icon. The main content area features a large red exclamation mark icon. Below it, the text "Your connection is not private" is displayed. A message states: "Attackers might be trying to steal your information from 52.179.13.205 (for example, passwords, messages, or credit cards). [Learn more](#)". Below this, the error code "NET::ERR_CERT_AUTHORITY_INVALID" is shown. At the bottom, there are two buttons: "Hide advanced" and "Back to safety". Further down, a message says: "This server could not prove that it is 52.179.13.205; its security certificate is not trusted by your computer's operating system. This may be caused by a misconfiguration or an attacker intercepting your connection." A link "Proceed to 52.179.13.205 (unsafe)" is also present.

8. Create a DNS label

The Domain Name System (**DNS**) is the phonebook of the Internet. Humans access information online through domain names, like nytimes.com or espn.com. Web browsers interact through Internet Protocol (IP) addresses. **DNS** translates domain names to IP addresses so browsers can load Internet resources.

Let's go back to our Azure portal

VM-USE-Nextcloud | Networking

IP configuration: ipconfig1 (Primary)

Network Interface: vm-use-nextcloud936

Virtual network/subnet: VNET-USE-Nextcloud/SNET-USE-Nextcloud NIC Public IP: 52.179.13.205 NIC Private IP: 172.10.0.4 Accelerated networking: Disabled

Inbound port rules

Priority	Name	Port	Protocol	Source	Destination	Action
100	HTTPS_Nextcloud	443	TCP	18.215.14.88	172.10.0.4	Allow (A)
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow (A)
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	Allow (A)
65500	DenyAllInBound	Any	Any	Any	Any	Deny (D)

Let's go back to our VNET

VM-USE-Nextcloud | Networking

IP configuration: ipconfig1 (Primary)

Network Interface: vm-use-nextcloud936

Virtual network/subnet: VNET-USE-Nextcloud/SNET-USE-Nextcloud NIC Public IP: 52.179.13.205 NIC Private IP: 172.10.0.4 Accelerated networking: Disabled

Inbound port rules

Priority	Name	Port	Protocol	Source	Destination	Action
100	HTTPS_Nextcloud	443	TCP	18.215.14.88	172.10.0.4	Allow (A)
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow (A)
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	Allow (A)
65500	DenyAllInBound	Any	Any	Any	Any	Deny (D)

VNET-USE-Nextcloud Virtual network

Overview

Resource group (change)
RG-USE-Nextcloud

Location
East US

Subscription (change)
Free Trial

Address space
172.10.0.0/16

DNS servers
Azure provided DNS service

Tags (change)
Click here to add tags

Connected devices

Device	Type	IP Address	Subnet
vm-use-nextcloud936	Network interface	172.10.0.4	SNET-USE-Nextcloud
BASTION-USE-Nextcloud	bastionHosts	-	AzureBastionSubnet

Let's click on Diagram

VNET-USE-Nextcloud | Diagram

Virtual network

Subscription: Free Trial

Resource Group: RG-USE-Nextcloud

Virtual Network: VNET-USE-Nextcloud

Diagram

The diagram illustrates the network topology for the VNET-USE-Nextcloud virtual network. It features three subnets: VNET-USE-Nextcloud, SNET-USE-Nextcloud, and AzureBastionSubnet. The SNET-USE-Nextcloud subnet contains a VM (VM-USE-Nextcloud) and an NSG (NSG-USE-Nextcloud). The AzureBastionSubnet subnet contains a VM (VMIP-USE-Nextcloud). Arrows indicate connections between the subnets.

Our public IP is connected to our VM interface controller



Screenshot of the Microsoft Azure portal showing the configuration of the VMIP-USE-Nextcloud public IP address. The page title is "VMIP-USE-Nextcloud - Microsoft Azure". The URL is "portal.azure.com/#@marioferraro@gmail.com/microsoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d...". The navigation bar shows "Home > CreateVm-Canonical UbuntuServer-18.04-LTS-20210331115638 > RG-USE-Nextcloud > VNET-USE-Nextcloud > VM-USE-Nextcloud > VMIP-USE-Nextcloud > VMIP-USE-Nextcloud".

VMIP-USE-Nextcloud

Public IP address

Overview

Resource group (change)
RG-USE-Nextcloud

Location
East US

Subscription (change)
Free Trial

Subscription ID
992c85e1-8642-4355-8562-367a88d3d309

SKU
Standard

Tier
Regional

IP address
52.179.13.205

DNS name
-

Associated to
vm-use-nextcloud935

Essentials

Tags (change)
Click here to add tags

See more

Configuration

Properties

Locks

Monitoring

Alerts

Metrics

Diagnostic settings

Automation

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes tabs for 'VMIP-USE-Nextcloud' and 'Nextcloud'. The URL in the address bar is portal.azure.com/#@marioferraro@gmail.com/microsoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d.... The user 'marioferraro@gmail.com' is logged in.

Home > CreateVm-CanonicalUbuntuServer-18.04-LTS-20210331115638 > RG-USE-Nextcloud > VNET-USE-Nextcloud > VM-USE-Nextcloud > VNET-USE-Nextcloud > VMIP-USE-Nextcloud

VMIP-USE-Nextcloud | Configuration

Public IP address

Search (Ctrl+/)

Save Discard Refresh

Overview Assignment
Activity log Static
Access control (IAM) IP address ⓘ 52.179.13.205
Tags Idle timeout (minutes) ⓘ 4

DNS name label (optional) Ⓢ .eastus.cloudapp.azure.com

Alias record sets
Want to closely track this Public IP address? Create an alias record in Azure DNS. Learn more.
+ Create alias record

Subscription	DNS zone	Name	Type	TTL
No results.				

Configuration Properties Locks

Monitoring Alerts Metrics Diagnostic settings

Automation Tasks (preview) Export template

The screenshot shows the Microsoft Azure portal interface, identical to the one above, displaying the configuration of the Public IP address 'VMIP-USE-Nextcloud'. The configuration details are the same, including the static IP address 52.179.13.205 and the optional DNS name 'marionextcloud'.

VMIP-USE-Nextcloud - Microsoft Edge

Nextcloud

portal.azure.com/#/marioferraro@gmail.onmicrosoft.com/resource/subscriptions/992c85e1-8642-4355-8562-367a88d3d... Incognito

Microsoft Azure Search resources, services, and docs (G+)

Home > CreateVm-CanonicalUbuntuServer-18.04-LTS-20210331115638 > RG-USE-Nextcloud > VNET-USE-Nextcloud > VM-USE-Nextcloud > VNET-USE-Nextcloud >

VMIP-USE-Nextcloud

Public IP address

Search (Ctrl+ /) Associate Dissociate Move Delete Refresh JSON View

Overview

Activity log

Access control (IAM)

Tags

Settings

Configuration

Properties

Locks

Monitoring

Alerts

Essentials

Resource group (change)
RG-USE-Nextcloud

Location
East US

Subscription (change)
Free Trial

Subscription ID
992c85e1-8642-4355-8562-367a88d3d309

SKU
Standard

Tier
Regional

IP address
52.179.13.205

DNS name
mario@nextcloud.eastus.cloudapp.azure.com

Associated to
vm-use-nextcloud936

Tags (change)
Click here to add tags

See more

Home > CreateVm-CanonicalUbuntuServer-18.04-LTS-20210331115638 > RG-USE-Nextcloud > VNET-USE-Nextcloud > VM-USE-Nextcloud > VNET-USE-Nextcloud >

VMIP-USE-Nextcloud

Public IP address

Search (Ctrl+ /) Associate Dissociate Move Delete Refresh

Overview

Activity log

Access control (IAM)

Tags

Settings

Configuration

Properties

Locks

Monitoring

Essentials

Resource group (change)
RG-USE-Nextcloud

Location
East US

Subscription (change)
Free Trial

Subscription ID
992c85e1-8642-4355-8562-367a88d3d309

Tags (change)
Click here to add tags

RG-USE-Nextcloud Resource group

Essentials

Subscription (change)	Deployments
Free Trial	4 Succeeded
Subscription ID 992c85e1-8642-4355-8562-367a88d3d09	Location East US
Tags (change) Click here to add tags	

Resources

Name	Type	Location	Actions
BASTION-USE-Nextcloud	Bastion	East US	...
BASTIONIP-USE-Nextcloud	Public IP address	East US	...
NSG-USE-Nextcloud	Network security group	East US	...
VM-USE-Nextcloud	Virtual machine	East US	...
vm-use-nextcloud936	Network interface	East US	...
VM-USE-Nextcloud_OsDisk_1	Disk	East US	...
VM-USE Nextcloud_SSHkey	SSH key	East US	...
VMIP-USE-Nextcloud	Public IP address	East US	...
VNFT-USE-Nextcloud	Virtual network	East US	...

VM-USE-Nextcloud Virtual machine

Essentials

Resource group (change)	Operating system
RG USE-NEXTCLOUD	Linux (ubuntu 18.04)
Status	Size
Running	Standard B1s (1 vcpus, 1 GiB memory)
Location	Public IP address
East US (Zone 1)	52.179.13.205
Subscription (change)	Virtual network/subnet
Free Trial	VNET-USE-Nextcloud/SNET-USE-Nextcloud
Subscription ID	DNS name
992c85e1-8642-4355-8562-367a88d3d09	marionextcloud.eastus.cloudapp.azure.com

Properties

Virtual machine	Networking
Computer name: VM-USE-Nextcloud	Public IP address: 52.179.13.205
Operating system: Linux (ubuntu 18.04)	Public IP address (IPv6): -
Publisher: Canonical	Private IP address: 172.10.0.4
Offer: UbuntuServer	Private IP address (IPv6): -
Plan: 18.04-LTS	Virtual network/subnet: VNET-USE-Nextcloud/SNET-USE-Nextcloud
VM generation: V1	DNS name: marionextcloud.eastus.cloudapp.azure.com
Agent status: Ready	
Agent version: 2.25.1	

Size

Size
Standard B1s

We have both public IP address and the DNS name

... > RG-USE-Nextcloud > VNET-USE-Nextcloud > VM-USE-Nextcloud > VNET-USE-Nextcloud > VMIP-USE-Nextcloud > RG-USE-Nextcloud >

VM-USE-Nextcloud

Virtual machine

Search (Ctrl+ /)

Connect Start Restart Stop Capture Delete Refresh Open in mobile

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

Settings Networking Connect Disks Disk

Essentials

Resource group (change)
RG-USE-NEXTCLOUD

Status
Running

Location
East US (Zone 1)

Subscription (change)
Free Trial

Subscription ID
992c85e1-8642-4355-8562-367a88d3d309

Availability zone
1

Taos (change)

Operating system
Linux (ubuntu 18.04)

Size
Standard B1s (1 vcpus, 1 GiB memory)

Public IP address
52.179.13.205

Virtual network/subnet
VNET-USE-Nextcloud/SNET-USE-Nextcloud

DNS name
marionextcloud.eastus.cloudapp.azure.com

JSON View

Connect Start

SSH RDP Bastion

VM-USE-Nextcloud | Connect

Virtual machine

Search (Ctrl+ /)

To improve security, enable just-in-time access on this VM. →

RDP SSH BASTION

Bastion is an Azure service that allows fast, secure connections to any VM within a VNet. Learn more.

Use Bastion

Use Bastion

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

Settings Networking Connect

VM-USE-Nextcloud | Bastion

Virtual machine

Search (Ctrl+ /)

Connect using Azure Bastion

Azure Bastion Service enables you to securely and seamlessly RDP & SSH to your VMs in your Azure virtual network, without exposing a public IP on the VM, directly from the Azure portal, without the need of any additional client/agent or any piece of software. [Learn more about Azure Bastion](#).

Using Bastion: BASTION-USE-Nextcloud. Provisioning State: Succeeded

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

Open in new window

Username *

Authentication Type * Password SSH Private Key SSH Private Key from Local File SSH Private Key from Azure Key Vault

Local File *

Advanced

Connect

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

Settings Networking Connect Disks Size Security Advisor recommendations Extensions Continuous delivery Availability + scaling

```
VM-USE-Nextcloud - Micro VM-USE-Nextcloud Nextcloud Incognito
bst-6dc389ac-5ea5-4f9a-9fd6-2c09fec125c8.bastion.azure.com/#/client/Vk0tVVNFLU5IeHRjbG91ZABjAGjpZnjvc3Q=?trustedA...
Welcome to Ubuntu 18.04.5 LTS (GNU/Linux 5.4.0-1043-azure x86_64)

* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/advantage

System information as of Wed Mar 31 12:33:17 UTC 2021

System load: 0.08      Processes: 133
Usage of /: 6.5% of 28.90GB  Users logged in: 0
Memory usage: 50%          IP address for eth0: 172.10.0.4
Swap usage: 0%

0 packages can be updated.
0 of these updates are security updates.

New release '20.04.2 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

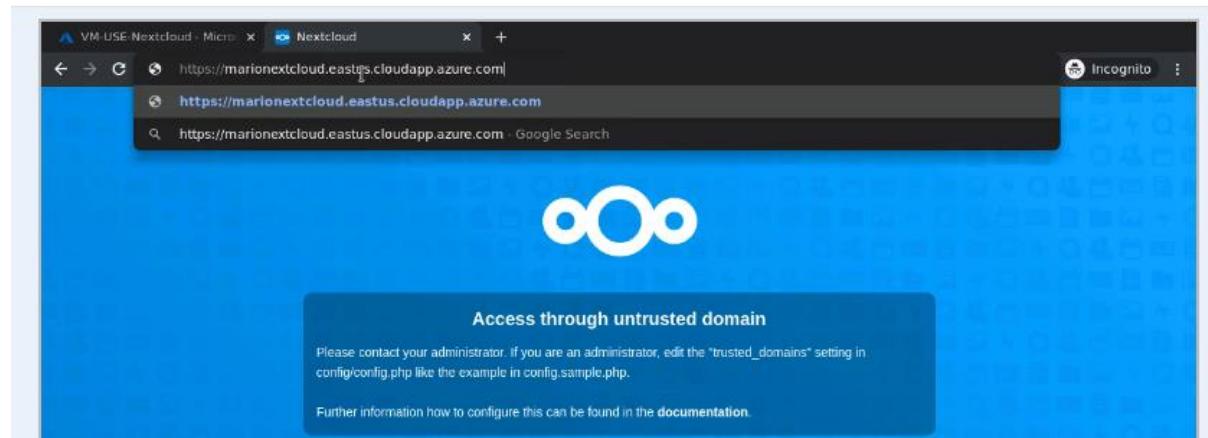
Last login: Wed Mar 31 12:09:35 2021 from 172.10.1.4
rio@VM-USE-Nextcloud:~$ sudo nextcloud.occ config:system:set trusted_domains 1 --value=marionextcloud.eastus.cloudapp.azure.com
```

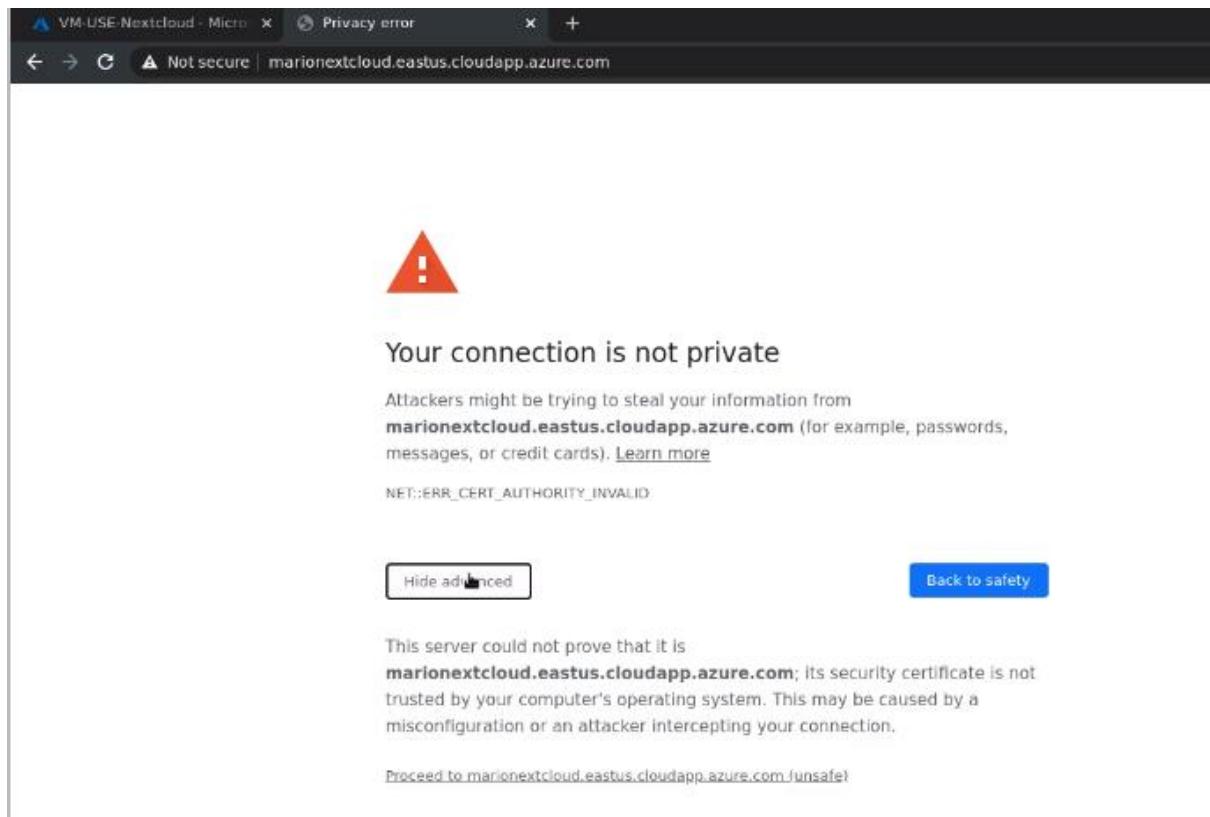
Set as trusted domain

```
Last login: Wed Mar 31 12:09:35 2021 from 172.10.1.4
rio@VM-USE-Nextcloud:~$ sudo nextcloud.occ config:system:set trusted_domains 1 --value=marionextcloud.eastus.cloudapp.azure.com
System config value trusted_domains => 1 set to string marionextcloud.eastus.cloudapp.azure.com
mario@VM-USE-Nextcloud:~$
```

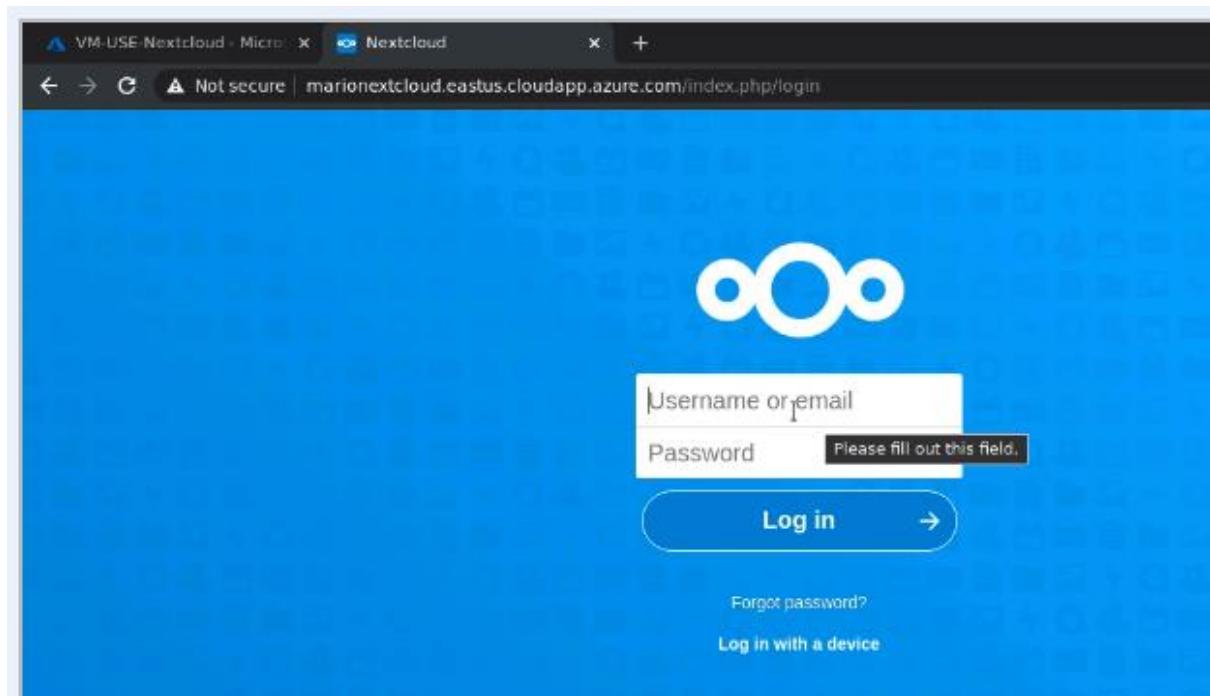
exit

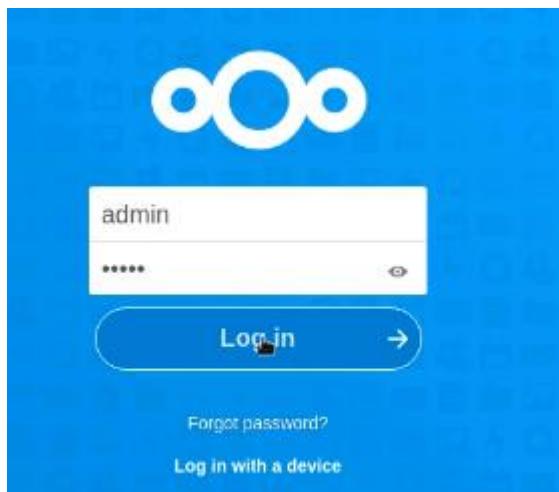
and then close Bastion





NextCloud is now up and running





VM and Bastion instances should be stopped (deleted from RG) or you will be charged

Graded Quiz: Test your Project understanding draft

TOTAL POINTS 8

-
1. All resources in a Resource Group should be located in the same region as the region of the Resource Group itself.

1 point

- No, it's not necessary.
 Yes, they should!

2. A Virtual Machine has to be in the same region as the Virtual Network it connects to.

1 point

- True
 False

3. What's the default security rule for inbound and outbound data outside a Virtual Network and to the Internet?

- All inbound and outbound data outside the Virtual Network is allowed.
- All inbound and outbound data outside the Virtual Network is denied.

4. What is the name of Bastion's subnet that's required in order to deploy a Bastion resource?

- AzureBastionSubnet
- Azure Bastion Subnet
- SubnetBastion

5. Can you use SSH keys to connect to an Azure Virtual Machine?

- Yes
- No

6. Why the Virtual Machine, that we created during the course, doesn't have a 172.10.0.1 private IP?

- Some IPs are reserved for Azure itself
- Just the one IP, specifically 172.10.0.1, has been reserved for Azure when creating the subnet
- We assigned that IP manually

7. Why couldn't we connect to our Nextcloud server as soon as we deployed it?

- Because traffic from the Internet wasn't allowed
- Because the Virtual Machine wasn't turned on by default
- Because HTTPS traffic from the Internet wasn't allowed
- Because we didn't setup a DNS label

8. Can we pick any DNS label for our Virtual Machine's public IP address?

No

Yes

2, 7 more options, 8

