

System Admin & IT Infrastructure Project Plan

Project Name:

Hybrid Cloud Solution for MLTGLOBAL and INFINIT Operation

Tools & Technologies Used:

- Azure Virtual Machines
- Windows Server
- Azure Active Directory
- VPN Gateway
- Azure Site Recovery

1. Project Scope & Requirements

Objective:

To design and implement a secure, scalable hybrid cloud infrastructure that connects MLTGLOBAL.com (Austria) and INFINIT.de (Germany) using Microsoft Azure services

Key Components:

- **Azure Virtual Machines:** Hosting Windows Server instances for Active Directory (AD), DNS, and DHCP.
- **Hybrid Networking:** Establishing a Site-to-Site VPN between Azure and on-premises infrastructure.
- **Redundant Domain Controllers:** Deploying and configuring redundant DCs in both Azure (Austria) and on-premises (Germany) to ensure high availability.
- **Disaster Recovery:** Implementing Azure Site Recovery for business continuity and failover protection.
- **Security Compliance:** Enforcing GDPR compliance, Role-Based Access Control (RBAC), and Multi-Factor Authentication (MFA) for security enhancement.

2. Azure Environment Setup

Step 1: Creating a Microsoft Azure Account

- Navigate to [Azure Portal](#).
- Sign up for an account or log in with existing credentials.
- Subscribe to required Azure services.

Step 2: Creating a Resource Group

- Go to [Azure Portal > Resource Groups](#).

The screenshot shows the Microsoft Azure portal interface. At the top, there's a navigation bar with 'Microsoft Azure' and 'Upgrade' buttons, a search bar, and various icons for Copilot, AI, and settings. On the right, there's a user profile for 'marialourdestonitz@ou...' and a link to 'DEFAULT DIRECTORY (MARIALO...)'. Below the navigation bar, there's a section titled 'Azure services' with links to 'Create a resource', 'All resources', 'Resource groups', 'Virtual machines', 'Quickstart Center', 'Azure AI services', 'Kubernetes services', 'App Services', 'Storage accounts', and 'More services'. Under 'Resources', it shows a 'Recent' tab with a single item: 'Azure subscription 1' (Subscription type, last viewed 12 hours ago). There are also 'Favorite' and 'See all' buttons. In the 'Navigate' section, there are links for 'Subscriptions', 'Resource groups', 'All resources', and 'Dashboard'. The 'Tools' section includes links for 'Microsoft Learn', 'Azure Monitor', 'Microsoft Defender for Cloud', and 'Cost Management'.

- Click **Create Resource Group.**
 - Create a new Resource Group with the desired name
- Enter **Name, Subscription, and Region.**

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

Home > Resource groups > 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](#)

Subscription *

Resource group name *

Region *

Previous

Update Tags

- Go to each resource → **Tags** → Add/Edit key-value pairs

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

Home > Resource groups > Create a resource group ...

Basics **Tags** Review + create

Apply tags to your Azure resources to logically organize them by categories. A tag consists of a key (name) and a value. Tag names are case-insensitive and tag values are case-sensitive. [Learn more](#)

Name	Value	Resource
<input type="text"/>	<input type="text"/>	Resource group

Previous

Finally, Resource group created

The screenshot shows the Microsoft Azure Resource groups page. At the top, there's a header bar with the Microsoft Azure logo, an Upgrade button, a search bar, and user information. Below the header, the page title is "Resource groups". It displays one record: "vm-rg-mitgroup-austria-01". The details show it's in "Subscription: Azure subscription 1" and "Location: France Central". A success message at the top right says "Resource group created" with a checkmark. At the bottom, there are navigation buttons for "Previous", "Page", "Next >", and a "Give feedback" link.

Step 3: Deploying the First Domain Controller (DC)

- Navigate to Azure Virtual Machines.

The screenshot shows the Microsoft Azure portal homepage. The main navigation bar includes "Microsoft Azure", "Upgrade", "Search resources, services, and docs", "Copilot", and user info. On the left, there's a sidebar with "Azure services" (Create a resource, Resource groups, All resources, Virtual machines - highlighted), "Resources" (Recent: vm-rg-mitgroup-austria-01, Azure subscription 1; Favorite: See all), "Navigate" (Subscriptions, Resource groups), and "Tools" (Microsoft Learn, Azure Monitor, Microsoft Defender for Cloud, Cost Management). The central content area is the "Virtual machines" blade, which has a "Create" button and a "View" button. It contains a "Description" section about creating a virtual machine, followed by a "Free training from Microsoft" section with links to "Introduction to Azure virtual machines", "Create a Windows virtual machine in Azure", and "Create a Linux virtual machine in Azure". There are also "Last Viewed" sections for "a few seconds ago" and "12 hours ago". At the bottom of the blade, there are "Useful links" for "Overview" and "Dashboard". The URL in the address bar is "https://portal.azure.com/#blade/Microsoft_Azure_ComputeHub/ComputeHubMenuBlade/virtualMachinesBrowse".

Microsoft Azure Upgrade Search resources, services, and docs (G+) Copilot Home > Compute infrastructure Compute infrastructure | Virtual machines

Virtual machines Get started

+ Create Switch to classic Reservations Manage view Refresh Export to CSV Open query Assign tags Start Restart Stop ...

Azure virtual machine Create a virtual machine hosted by Azure

Azure virtual machine with preset configuration Create a virtual machine with presets based on your workloads

More VMs and related solutions Discover and deploy full workloads and Azure products for your business needs

No grouping List view

Resource group ↑ Location ↑ Status ↑ Operating system ↑ Size ↑ Public IP address ↑

No virtual machines to display

Create a virtual machine that runs Linux or Windows. Select an image from the marketplace or use your own customized image.

+ Create Learn more about Windows virtual machines Learn more about Linux virtual machines

Give feedback

Microsoft Azure Upgrade Search resources, services, and docs (G+) Copilot Home > Compute infrastructure | Virtual machines Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Basics Disks Networking Management Monitoring 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](#)

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

Project details

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

Subscription * Resource group * Create new

Instance details

Virtual machine name * Region * Availability options Zone options

< Previous Next : Disks > Review + create Give feedback

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

Home > Compute infrastructure | Virtual machines > Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Availability zone * Zone 1 You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

Security type Trusted launch virtual machines [Configure security features](#)
Trusted launch virtual machine is required when using 1P Gallery images.

Image * Windows Server 2022 Datacenter - x64 Gen2 (free services eligible) See all images | Configure VM generation

VM architecture x64 Arm64
Arm64 is not supported with the selected image.

Run with Azure Spot discount

You are in the free trial period. Costs associated with this VM can be covered by any remaining credits on your subscription. [Learn more](#)

Size * Standard_B1s - 1 vcpu, 1 GiB memory (US\$11.53/month) (free services eligib...)

< Previous Next : Disks > Review + create Give feedback

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

Home > Compute infrastructure | Virtual machines > Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Hibernate is not supported by the size that you have selected. Choose a size that is compatible with Hibernate to enable this feature. [Learn more](#)

Administrator account

Username * miltglobal-admin

Password * Confirm password *

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 * Allow selected ports None

Select inbound ports * HTTP (80), RDP (3389)

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

< Previous Next : Disks > Review + create Give feedback

Create a virtual machine

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

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

Encryption at host (Encryption at host is not registered for the selected subscription. [Learn more](#))

OS disk

OS disk size Image default (127 GiB)

OS disk type * Standard HDD (locally-redundant storage) The selected VM size supports premium disks. We recommend Premium SSD for high IOPS workloads. Virtual machines with Premium SSD disks qualify for the 99.9% connectivity SLA.

Delete with VM

Key management Platform-managed key

Enable Ultra Disk compatibility

Data disks for DC-01

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

LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM
Temporary disk	Temporary disk	100	Premium SSD	None	<input type="checkbox"/>

< Previous | Next : Networking > | Review + create | Give feedback

Create subnet

Create a virtual machine

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

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

Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can 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 * (new) DC-01-vnet Create new

Subnet * (new) default (10.0.0.0/24) Create new

Public IP (new) DC-01-ip Create new

NIC network security group None Basic Advanced

Public inbound ports * None Allow selected ports

Select inbound ports * HTTP (80), RDP (3389)

Create virtual network

The Microsoft Azure Virtual Network service enables Azure resources to securely communicate with each other in a virtual network which is a logical isolation of the Azure cloud dedicated to your subscription. You can connect virtual networks to other virtual networks, or on-premises network. [Learn more](#)

Name * vnet-dc-mitgroup-austria-01

Address space

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

Address range *	Addresses	Overlap
<input type="checkbox"/> 10.41.10.0/24	10.41.10.0 - 10.41.10.255 (256 addresses)	None
	(0 Addresses)	None

Subnets

The subnet's address range in CIDR notation. It must be contained by the address space of the virtual network.

Subnet name	Address range	Addresses
<input type="checkbox"/> mitgroup-austria	<input type="radio"/> 10.41.10.0/24	10.41.10.0 - 10.41.10.255 (256 addresses)
	(0 Addresses)	None

< Previous | Next : Management > | Review + create | OK | Discard

Microsoft Azure Upgrade Search resources, services, and docs (G+/-) Copilot Home > Compute infrastructure | Virtual machines > Create a virtual machine ...

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Basics Disks **Networking** Management Monitoring 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 * Create new

Subnet *

Public IP Create new

NIC network security group None Basic Advanced

Public inbound ports * None Allow selected ports

Select inbound ports *

< Previous Next : Management > Review + create Give feedback

Input appropriate Public IP name Allow HTTP:80 and RDP:3389 Port

Microsoft Azure Upgrade Search resources, services, and docs (G+/-) Copilot Home > Compute infrastructure | Virtual machines > Create a virtual machine ...

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

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

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

Virtual network * Create new

Subnet *

Public IP Create new

NIC network security group None Basic Advanced

Public inbound ports * None Allow selected ports

Select inbound ports *

< Previous Next : Management > Review + create

Create public IP address

Name *

SKU Basic Standard

Availability zones are only supported on Standard SKU public IP addresses.

Assignment Static

Routing preference Microsoft network Internet

Availability zone Zone-redundant Zone 1

OK

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

Home > Compute infrastructure | Virtual machines > Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Public inbound ports * None Allow selected ports

Select inbound ports *

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

Delete public IP and NIC when VM is deleted

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

Load balancing
You can place this virtual machine in the backend pool of an existing Azure load balancing solution. [Learn more](#)

Load balancing options None Azure load balancer Application gateway

Supports all TCP/UDP network traffic, port-forwarding, and outbound flows.
Web traffic load balancer for HTTP/HTTPS with URL-based routing, SSL termination, session persistence, and web application firewall.

< Previous Next : Management > Review + create Give feedback

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

Home > Compute infrastructure | Virtual machines > Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Basics Disk Networking **Management** Monitoring Advanced Tags Review + create

Configure management options for your VM.

Microsoft Defender for Cloud
Microsoft Defender for Cloud provides unified security management and advanced threat protection across hybrid cloud workloads. [Learn more](#)

Your subscription is protected by Foundational Cloud Security Posture Management Free Plan.

Identity
Enable system assigned managed identity

Microsoft Entra ID
Login with Microsoft Entra ID
RBAC role assignment of Virtual Machine Administrator Login or Virtual Machine User Login is required when using Microsoft Entra ID login. [Learn more](#)

Auto-shutdown
Enable auto-shutdown
Shutdown time
Time zone
Notification before shutdown
Email *

Backup
Enable backup

Guest OS updates
Enable periodic assessment
Enable hotpatch
Hotpatch is not available for this image. [Learn more](#)
Patch orchestration options
Automatic by OS (Windows Automatic Updates)
Some patch orchestration options are not available for this image. [Learn more](#)

< Previous Next : Monitoring > Review + create Give feedback

Microsoft Azure Upgrade Search resources, services, and docs (G+) Copilot Home > Compute infrastructure | Virtual machines > Create a virtual machine ...

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

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

Configure monitoring options for your VM.

Alerts

Enable recommended alert rules

Diagnostics

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

Enable OS guest diagnostics

Health

Enable application health monitoring

< Previous Next : Advanced > Review + create Give feedback

Microsoft Azure Upgrade Search resources, services, and docs (G+) Copilot Home > Compute infrastructure | Virtual machines > Create a virtual machine ...

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

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

Add additional configuration, agents, scripts or applications via virtual machine extensions or cloud-init.

Extensions

Extensions provide post-deployment configuration and automation.

Extensions Select an extension to install

VM applications

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

Select a VM application to install

Custom data

Pass a script, configuration file, or other data into the virtual machine **while it is being provisioned**. The data will be saved on the VM in a known location. [Learn more about custom data for VMs](#)

Custom data

< Previous Next : Tags > Review + create Give feedback

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

Home > Compute infrastructure | Virtual machines > Create a virtual machine ...

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

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

Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups. [Learn more about tags](#)

Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.

Name	Value	Resource
Internal	: mitgroup-au	13 selected
	:	13 selected

< Previous Next : Review + create Review + create Give feedback

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

Home > Compute infrastructure | Virtual machines > Create a virtual machine ...

Validation passed

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

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

Price

1 X Standard B1s by Microsoft Subscription credits apply 0.0158 USD/hr [Pricing for other VM sizes](#)

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.

⚠ You have set RDP port(s) open to the internet. This is only recommended for testing. If you want to change this setting, go back to Basics tab.

Basics

< Previous Next > **Create** Download a template for automation Give feedback

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

Home > CreateVm-MicrosoftWindowsServer.WindowsServer-202-20250304111923 | Overview

Deployment

Search Delete Cancel Redeploy Download Refresh

Overview Deployment

Deployment is in progress

Deployment name: CreateVm-MicrosoftWindowsServer.WindowsSe... Start time: 04/03/2025, 11:36:44
Subscription: Azure subscription 1 Correlation ID: f20ae8df-3210-4040-8689-b1277ce40a68

Resource group: vm-rg-mitgroup-austria-01

Deployment details

Resource	Type	Status	Operation details
DC-01	Microsoft.Compute/virtualMachin...	Created	Operation details
dc-01199_z1	Microsoft.Network/networkInterf...	Created	Operation details
vnet-dc-mitgroup-austria-01	Microsoft.Network/virtualNetworks	OK	Operation details
DC-01-nsg	Microsoft.Network/networkSecuri...	OK	Operation details
ip-mitgroup-austria	Microsoft.Network/publicIPAddre...	OK	Operation details

Give feedback [Tell us about your experience with deployment](#)

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

Home > CreateVm-MicrosoftWindowsServer.WindowsServer-202-20250304111923 | Overview

Deployment

Search Delete Cancel Redeploy Download Refresh

Overview Deployment

Your deployment is complete

Deployment name: CreateVm-MicrosoftWindowsServer.WindowsSe... Start time: 04/03/2025, 11:36:44
Subscription: Azure subscription 1 Correlation ID: f20ae8df-3210-4040-8689-b1277ce40a68

Resource group: vm-rg-mitgroup-austria-01

Deployment details

Next steps

Setup auto-shutdown Recommended
Monitor VM health, performance and network dependencies Recommended
Run a script inside the virtual machine Recommended

[Go to resource](#) [Create another VM](#)

Give feedback [Tell us about your experience with deployment](#)

Cost Management
Get notified to stay within your budget and prevent unexpected charges on your bill. [Set up cost alerts >](#)

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Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support. [Find an Azure expert >](#)

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

DC-01 | Overview

Virtual machine

arch Help me copy this VM in any region

view Help me copy this VM in any region

activity log

access control (IAM)

tags

diagnose and solve problems

connect

etworking

ettings

availability + scale

security

backup + disaster recovery

operations

onitoring

utomation

elp

Essentials

Resource group (move) : [vm-rg-mitgroup-austria-01](#)

Status : Running

Location : France Central (Zone 1)

Subscription (move) : [Azure subscription 1](#)

Subscription ID : b746e588-3f99-4164-a731-2214c687ea5e

Availability zone : 1

Tags (edit) : Internal : mitgroup-au

Operating system : Windows

Size : Standard B1s (1 vcpu, 1 GiB memory)

Public IP address : 20.39.241.181

Virtual network/subnet : [vnet-dc-mitgroup-austria-01/mitgroup-austria](#)

DNS name : Not configured

Health state : -

Time created : 04/03/2025, 10:36 UTC

Properties **Monitoring** **Capabilities (8)** **Recommendations** **Tutorials**

Virtual machine

Computer name	DC-01
Operating system	Windows
VM generation	V2
VM architecture	x64
Agent status	Not Ready

Networking

Public IP address	20.39.241.181 (Network interface dc-01199_z1)
Public IP address (IPv6)	-
Private IP address	10.41.10.4
Private IP address (IPv6)	-
Virtual network/subnet	vnet-dc-mitgroup-austria-01/mitgroup-austria

JSON View

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

Home > CreateVm-MicrosoftWindowsServer.WindowsServer-202-20250304111923 | Overview > DC-01

DC-01 | Connect

Virtual machine

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Connect

Connect

Bastion

Windows Admin Center

Networking

Settings

Availability + scale

Security

Backup + disaster recovery

Operations

Monitoring

Automation

Help

Connecting using Public IP address | 20.39.241.181

Admin username : mitglobal-admin

Port (change) : 3389 [Check access](#)

Just-in-time policy : Unsupported by plan

Most common

Native RDP

Connect via native RDP without any additional software needed. Recommended for testing only.

Public IP address (20.39.241.181)

Select Download RDP file

More ways to connect (4)

Native RDP

Connect from your local machine (Windows)

Switch local machine OS

1 Configure prerequisites for Native RDP

Azure needs to configure some features in order to connect to the VM.

2 Validating prerequisites before configuration

Port 3389 access

Validating access to port 3389 on the virtual machine. [Learn more](#)

Change the port for connecting to this virtual machine on the Connect page of the virtual machine.

3 Public IP address: 20.39.241.181

A public IP address is required to connect via this connection method.

Validating...

2 Open Remote Desktop Connection (on Windows)

Open Remote Desktop Connection. Or change your local machine operating system to view more instructions. [Learn more](#)

3 Download and open the RDP file

Download and open the RDP file to connect to the virtual machine.

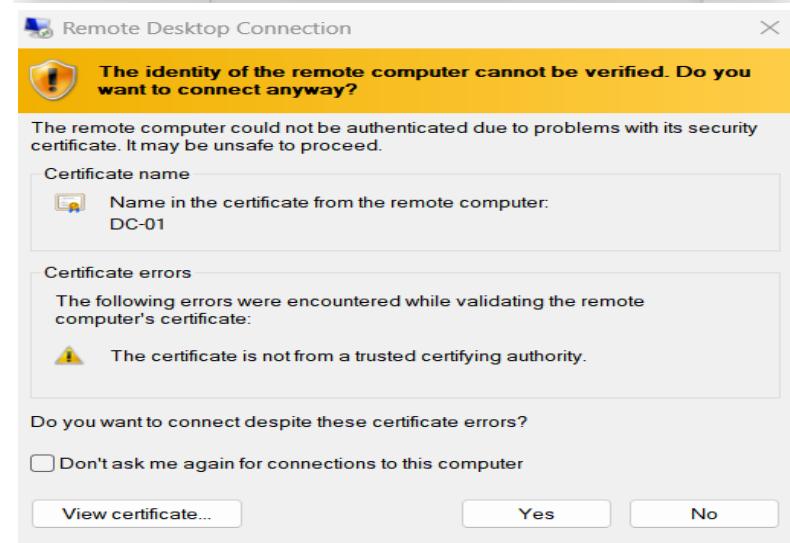
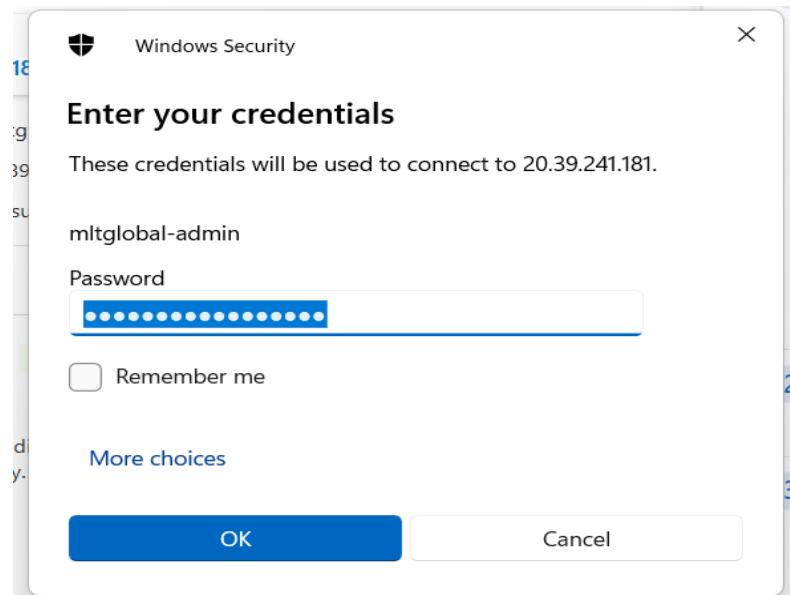
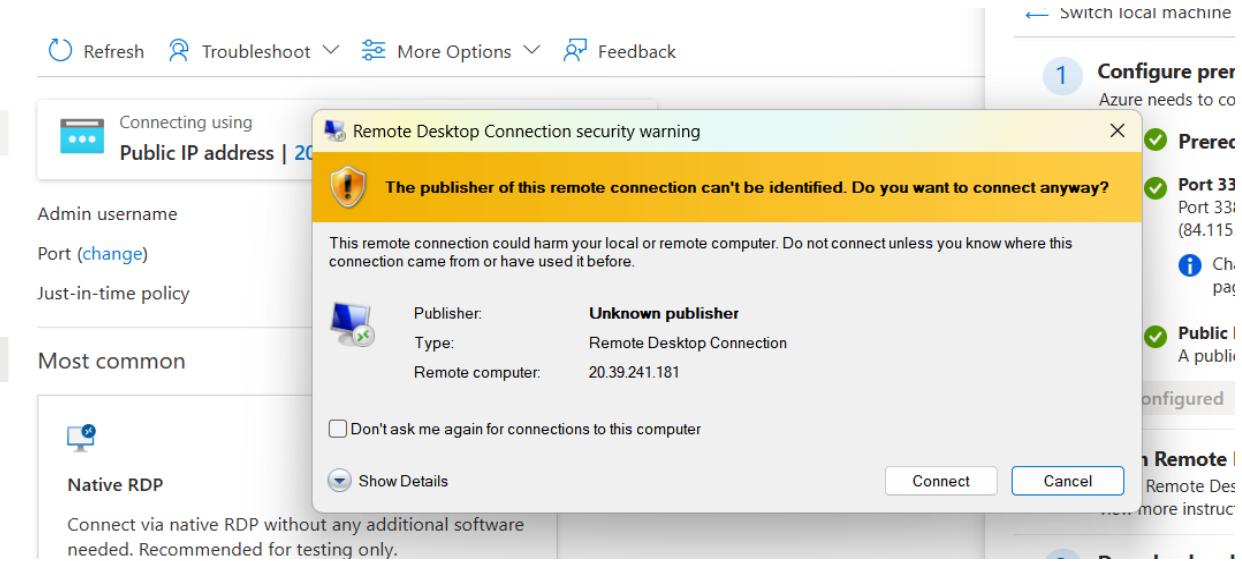
Username : mitglobal-admin

Download RDP file

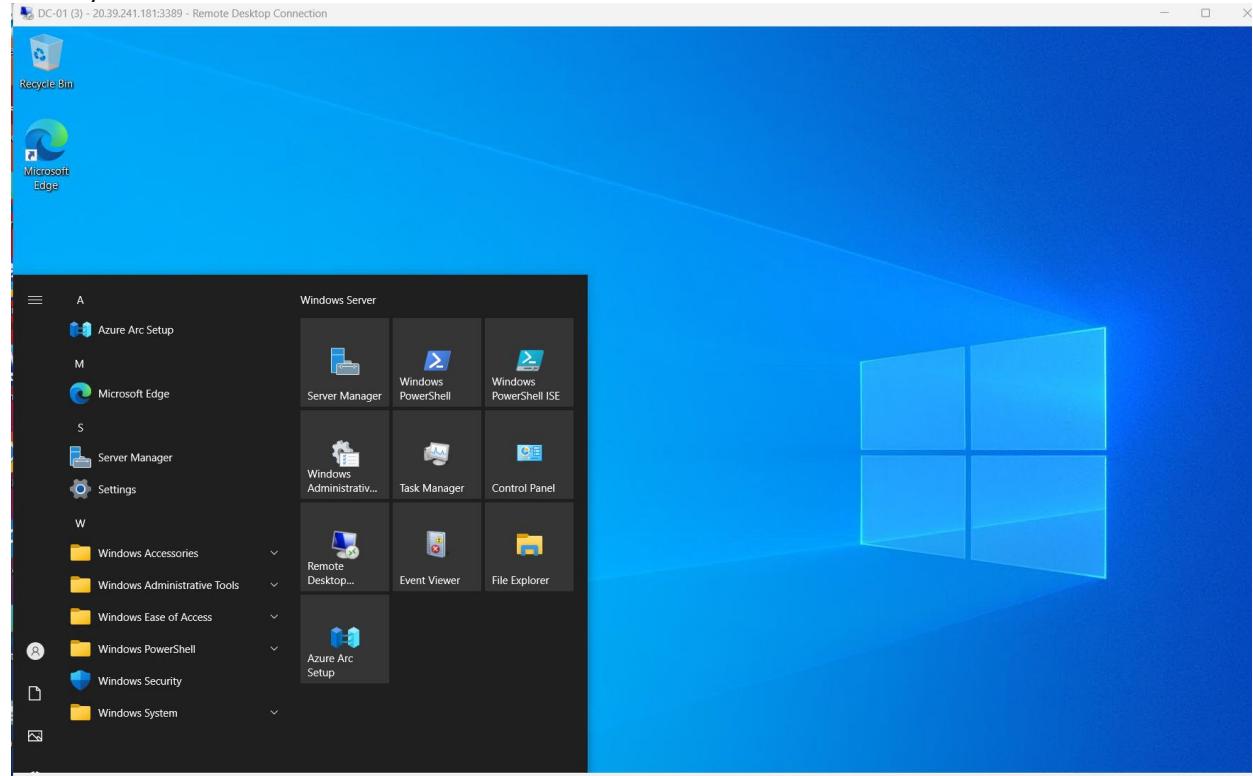
Other Information

- Forgot password? [Reset password](#)

Close Troubleshooting Give feedback



Finally, we are now inside our Windows Server machine



3. Create Virtual Network

All services > Virtual networks >

Create virtual network ...

Basics Security IP addresses Tags Review + create

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. [View](#)

Project details

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

Subscription *

Resource group * [Create new](#)

Instance details

Virtual network name *

Region * [View](#)

Deploy to an Azure Extended Zone

Previous Give feedback

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

All services > Virtual networks >

Create virtual network

Basics Security IP addresses Tags Review + create

Enhance the security of your virtual network with these additional paid security services. [Learn more](#)

Virtual network encryption

Enable Virtual network encryption to encrypt traffic traveling within the virtual network. Virtual machines must have accelerated networking enabled. Traffic to public IP addresses is not encrypted. [Learn more](#)

Virtual network encryption

Azure Bastion

Azure Bastion is a paid service that provides secure RDP/SSH connectivity to your virtual machines over TLS. When you connect via Azure Bastion, your virtual machines do not need a public IP address. [Learn more](#)

Enable Azure Bastion

Azure Firewall

Azure Firewall is a managed cloud-based network security service that protects your Azure Virtual Network resources. [Learn more](#)

Previous Next Review + create Give feedback

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

All services > Virtual networks >

Create virtual network

Basics Security IP addresses Tags Review + create

Configure your virtual network address space with the IPv4 and IPv6 addresses and subnets you need. [Learn more](#)

Define the address space of your virtual network with one or more IPv4 or IPv6 address ranges. Create subnets to virtual network address space into smaller ranges for use by your applications. When you deploy resources into a subnet, it assigns the resource an IP address from the subnet. [Learn more](#)

+ Add a subnet

Subnets	IP address range	Size	NAT gateway
default	10.41.0.0 - 10.41.0.255	/24 (256 addresses)	-

Add IPv4 address space

Edit subnet

Select an address space and configure your subnet. You can customize a default subnet or select from subnet templates if you plan to add select services later. [Learn more](#)

Subnet purpose Default

Name * default

IPv4

Include an IPv4 address space

IPv4 address range 10.41.0.0/21
10.41.0.0 - 10.41.7.255

Starting address * 10.41.0.0

Size /21 (2,048 addresses)

Subnet address range 10.41.0.0 - 10.41.7.255

IPv6

Include an IPv6 address space This virtual network has no IPv6 address ranges.

Private subnet

Private subnets enhance security by not providing default outbound access. To enable outbound connectivity for virtual machines to access the internet, it is necessary to explicitly grant outbound access. A NAT gateway is the recommended way to provide outbound connectivity for virtual machines in the subnet. [Learn more](#)

Enable private subnet (no default outbound access)

Save Cancel Give feedback

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

All services > Virtual networks > Create virtual network ...

Basics Security IP addresses Tags Review + create

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Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.

Name	Value	Resource
Vnetwork-mitgroup	: mitgroup-au	All resources selected
	:	All resources selected

Previous Next Review + create Give feedback

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

All services > Virtual networks > Create virtual network ...

Basics Security IP addresses Tags Review + create

[View automation template](#)

Basics

Subscription	Azure subscription 1
Resource Group	vnet-rg-mitgroup-01
Name	vnet-mitgroup-austria-02
Region	France Central

Security

Azure Bastion	Disabled
Azure Firewall	Disabled
Azure DDoS Network Protection	Disabled

IP addresses

Address space	10.41.0.0/21 (2,048 addresses)
Subnet	default (10.41.0.0/21) (2,048 addresses)

Tags

Vnetwork-mitgroup	mitgroup-au
-------------------	-------------

Previous Next Create Give feedback

Microsoft Azure Upgrade Search resources, services, and docs (G+/J) Copilot ⚡ ⓘ 🔍 ⚡ DEFAULT DIRECTORY (MARIAL...

vnet-mltgroup-austria-02-1741085889379 | Overview

All services > Deployment

Deployment name : vnet-mltgroup-austria-02-1741085889379
Subscription : Azure subscription 1
Resource group : vnet-rg-mltgroup-01

Start time : 04/03/2025, 11:58:12
Correlation ID : 2590b47f-2501-4d2a-9cf0-ade2e603ef1a

Your deployment is complete

Deployment details Next steps Go to resource

Give feedback Tell us about your experience with deployment

Cost management Get notified to stay within your budget and prevent unexpected charges on your bill. Set up cost alerts >

Microsoft Defender for Cloud Secure your apps and infrastructure Go to Microsoft Defender for Cloud >

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Microsoft Azure Upgrade Search resources, services, and docs (G+/J) Copilot ⚡ ⓘ 🔍 ⚡ DEFAULT DIRECTORY (MARIAL...

vnet-mltgroup-austria-02 | Overview

All services > vnet-mltgroup-austria-02-1741085889379 | Overview >

Virtual network

Move Delete Refresh Give feedback

Overview

Activity log Access control (IAM) Tags Diagnose and solve problems Settings Monitoring Automation Help

Essentials

Resource group (move) : vnet-rg-mltgroup-01	Address space : 10.41.0.0/21
Location (move) : France Central	DNS servers : Azure provided DNS service
Subscription (move) : Azure subscription 1	Flow timeout : Configure
Subscription ID : b746e588-3f99-4164-a731-2214c687ea5e	BGP community string : Configure
Tags (edit) : Vnetwork-mltgroup : mltgroup-au	Virtual network ID : 2bdebff89-927d-49ca-9f81-8bd34a453711

Topology Properties Capabilities (5) Recommendations Tutorials JSON View

DDoS protection Configure additional protection from distributed denial of service attacks. Not configured

Azure Firewall Protect your network with a stateful L3-L7 firewall. Not configured

Peerings Seamlessly connect two or more virtual networks. Not configured

Microsoft Defender for Cloud Strengthen the security posture of your environment.

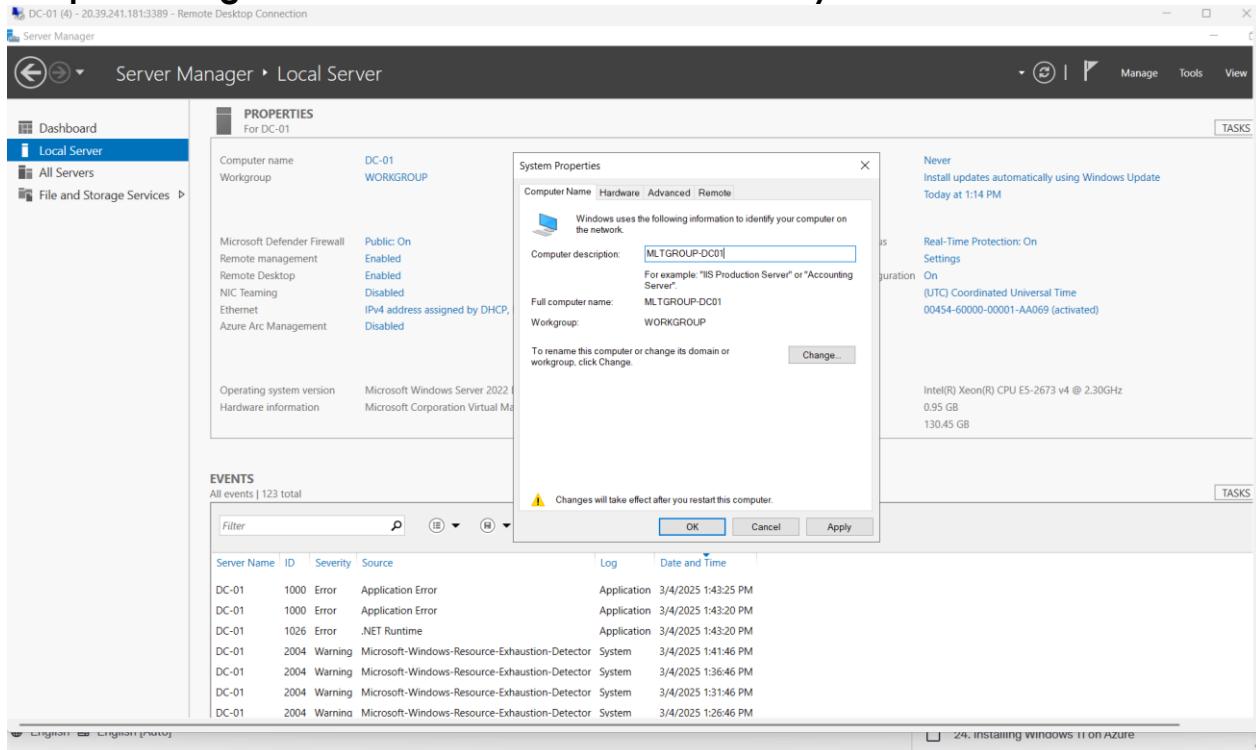
Private endpoints Privately access Azure services without sending traffic across internet.

The screenshot shows the Microsoft Azure portal interface for managing a virtual network. The top navigation bar includes 'Microsoft Azure', 'Upgrade', 'Search resources, services, and docs (G+)', 'Copilot', and user information. The main title is 'vnet-mltgroup-austria-02 | Address space'. The left sidebar has sections like 'Overview', 'Activity log', 'Access control (IAM)', 'Tags', 'Diagnose and solve problems', 'Address space' (which is selected), 'Connected devices', 'Subnets', 'Bastion', 'DDoS protection', 'Firewall', 'Microsoft Defender for Cloud', 'Network manager', 'DNS servers', 'Peering', 'Service endpoints', 'Private endpoints', and 'Properties'. The main content area shows the 'Address space' table with one entry: '10.41.0.0/21' with 'Address range' '10.41.0.0 - 10.41.7.255' and 'Address count' '2,048'. Below the table is a section for 'Peered virtual network address space' with the message 'No results.' At the bottom are 'Save' and 'Cancel' buttons, and a 'Give feedback' link.

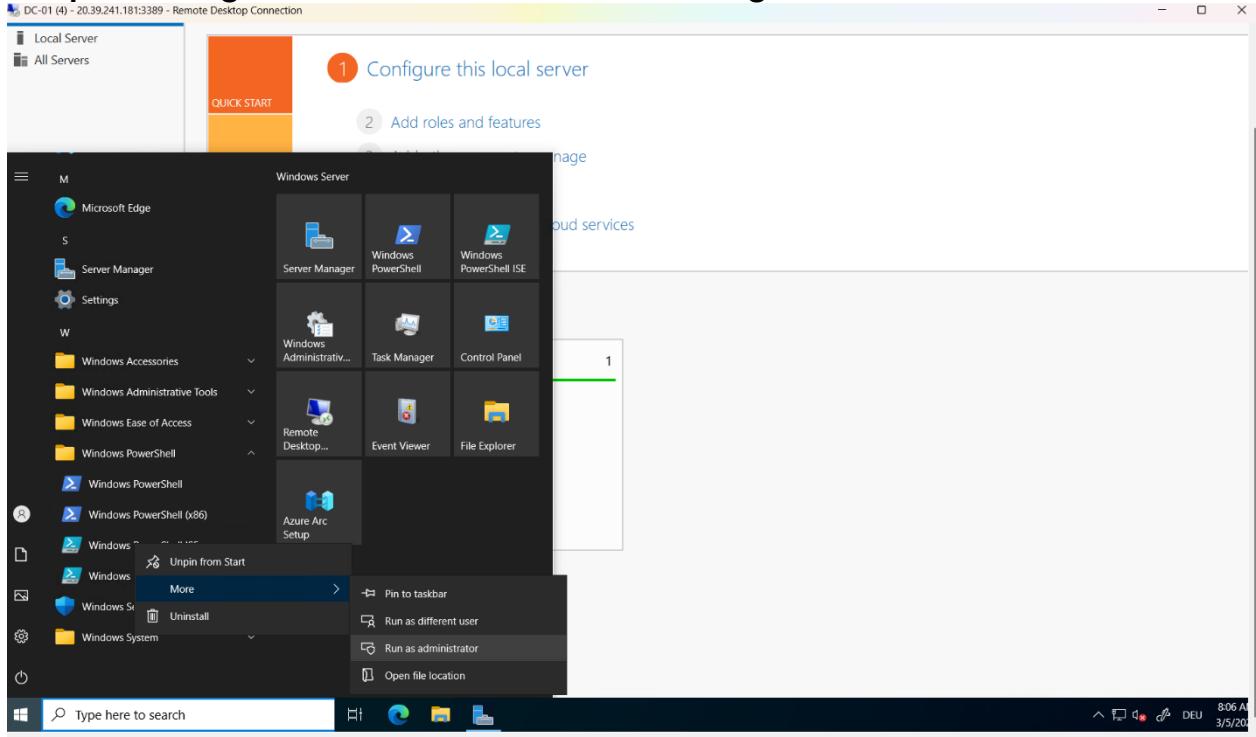
Step 4. Windows Server Post Installation

The screenshot shows a Windows Server 2022 desktop environment via Remote Desktop Connection. The taskbar at the bottom indicates the session is titled 'DC-01 (4) - 20.39.241.181:3389 - Remote Desktop Connection'. The Start menu is open, showing the 'Windows Update' option under 'Update & Security'. The main window is titled 'Windows Update' and displays the message 'Checking for updates...'. It also shows options to 'Pause updates for 7 days', 'Change active hours' (set to 8:00 AM to 5:00 PM), 'View update history', and 'Advanced options'. Below this, it says 'Looking for info on the latest updates?' with a 'Learn more' link. At the bottom, there are 'Related links' for 'Check Storage' and 'OS build info'. The status bar at the bottom right shows '23. Installing Windows 11 on a VMware workstation'.

Step 5. Change Windows Server Hostname manually



Step 6. Change Windows Server Hostname using Powershell



DC-01 (4) - 20.39.241.181:3389 - Remote Desktop Connection

Server Manager

Administrator: Windows PowerShell ISE

```
Untitled1.ps1*(Recovered) | Rename-Computer -Newname "MLTGROUP-DC" -Restart
```

PS C:\Users\mltglobal-admin>

Ln 1 Col 48 | 100%

DC-01 (4) - 20.39.241.181:3389 - Remote Desktop Connection

Server Manager

Server Manager • Local Server

Dashboard Local Server All Servers File and Storage Services

PROPERTIES For MLTGROUP-DC

Computer name	MLTGROUP-DC	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Install updates automatically using Windows Update
		Last checked for updates	Today at 8:20 AM
Microsoft Defender Firewall	Public: On	Microsoft Defender Antivirus	Real-Time Protection: On
Remote management	Enabled	Feedback & Diagnostics	Settings
Remote Desktop	Enabled	IE Enhanced Security Configuration	On
NIC Teaming	Disabled	Time zone	(UTC) Coordinated Universal Time
Ethernet	IPv4 address assigned by DHCP; IPv6 enabled	Product ID	00454-60000-00001-AA069 (activated)
Azure Arc Management	Disabled		
Operating system version	Microsoft Windows Server 2022 Datacenter	Processors	Intel(R) Xeon(R) Platinum 8272CL CPU @ 2.60GHz
Hardware information	Microsoft Corporation Virtual Machine	Installed memory (RAM)	0.95 GB
		Total disk space	130.45 GB

EVENTS All events | 157 total

Server Name	ID	Severity	Source	Log	Date and Time
MLTGROUP-DC	10016	Warning	Microsoft-Windows-DistributedCOM	System	3/5/2025 8:24:00 AM
MLTGROUP-DC	15	Warning	Microsoft-Windows-Wininit	System	3/5/2025 8:23:17 AM
MLTGROUP-DC	36	Error	Serial	System	3/5/2025 8:23:15 AM
MLTGROUP-DC	20	Error	Microsoft-Windows-WindowsUpdateClient	System	3/5/2025 8:21:05 AM
MLTGROUP-DC	20	Error	Microsoft-Windows-WindowsUpdateClient	System	3/5/2025 8:19:59 AM
MLTGROUP-DC	2004	Warning	Microsoft-Windows-Resource-Exhaustion-Detector	System	3/5/2025 8:19:41 AM
MLTGROUP-DC	10016	Warning	Microsoft-Windows-DistributedCOM	System	3/5/2025 8:18:47 AM

Step 7: Configuring a static IP address on a Windows Server 2022

Microsoft Azure Upgrade Search resources, services, and docs (G+) Copilot Home > DC-01 Virtual machine

Overview Help me copy this VM in any region Connect Start Restart Stop Hibernate Capture Delete Refresh Open in mobile Feedback CLI / PS

Properties Monitoring Capabilities (8) Recommendations (9) Tutorials

Virtual machine

Computer name	MLTGROUP-DC
Operating system	Windows (Windows Server 2022 Datacenter)
VM generation	V2
VM architecture	x64
Agent status	Ready
Agent version	2.7.41491.1149
Hibernation	Disabled
Host group	-
Host	-
Proximity placement group	-
Colocation status	N/A
Capacity reservation group	-
Disk controller type	SCSI

Networking

Public IP address	20.39.241.181 (Network interface dc-01199_z1)
Public IP address (IPv6)	-
Private IP address	10.41.10.4
Private IP address (IPv6)	-
Virtual network/subnet	vnet-dc-mltgroup-austria-01/mltgroup-austria
DNS name	Configure

Size

Size	Standard B1s
vCPUs	1
RAM	1 GiB

Source image details

Source image publisher	MicrosoftWindowsServer
Source image offer	WindowsServer
Source image plan	2022-datacenter-g2

Azure Spot Azure Spot

Microsoft Azure Upgrade Search resources, services, and docs (G+) Copilot Home > DC-01 DC-01 | Network settings Virtual machine

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Connect Networking Network settings Load balancing Application security groups Network manager Settings Availability + scale Security Backup + disaster recovery Operations Monitoring Automation Help

This is a new experience. Please provide feedback List all my network interfaces for DC-01. What are the requirements for attaching or detaching a network interface? How can I make my virtual machine secure?

Attach network interface Detach network interface View topology Troubleshoot Refresh Give feedback

Network interface / IP configuration dc-01199_z1 (primary) / ipconfig1 (primary)

Essentials

Network interface	: dc-01199_z1	Load balancers	: 0 (Configure)
Virtual network / subnet	: vnet-dc-mltgroup-austria-01 / mltgroup-austria	Application security gro...	: 0 (Configure)
Public IP address	: 20.39.241.181	Network security group	: DC-01-nsg
Private IP address	: 10.41.10.4	Accelerated networking	: Disabled
Admin security rules	: 0 (Configure)	Effective security rules	: 0

Rules Collapse all

Network security group DC-01-nsg (attached to networkinterface: dc-01199_z1)
Impacts 0 subnets, 1 network interfaces

+ Create port rule

Priority ↑	Name	Port	Protocol	Source	Destination	Action
Search rules	Source == all	Destination == all	Protocol == all	Action == all		

Edit IP configuration

dc-01199_z1

IP Settings

- Enable IP forwarding:
- Virtual network: vnet-dc-mitgroup-austria-01
- Gateway load balancer: None
- Subnet *: mltgroup-austria (10.41.10.0/24) 250 free IP addresses

Private and public IP addresses can be assigned to a virtual machine's network interface controller. You can add as many private and public IPv4 addresses as necessary to a network interface, within the limits listed in the Azure limits article [more](#).

Private IP address settings

- Allocation: Dynamic Static
- Private IP address *: 10.41.10.4

Public IP address settings

- Associate public IP address:
- Public IP address *: ip-mitgroup-austria (20.39.241.181)
- Create a public IP address

Save **Cancel** **Give feedback**

Name	IP Version	Type	Private IP Address	Public IP Address
ipconfig1	IPv4	Primary	10.41.10.4 (Static)	20.39.241.181 (ip-mitgroup-austria)

Apply **Discard changes** **Give feedback**

Step 8: Windows Server Hardening

- Hardening in Windows Server system is critical step to enhance its security and reduce vulnerabilities.