

---

# **Cloud & Virtualization Class**

Lab 1 - Virtual Machines

M. Sofiene Barka - Adam Lahbib - Mohamed Rafrraf

Feb. 15, 2023 @ INSAT

# Contents

<b>1</b>	<b>Introduction</b>	<b>4</b>
<b>2</b>	<b>Lab Walkthrough</b>	<b>5</b>
2.1	1. Deploy a Virtual Network . . . . .	5
2.2	2. Deploy a Virtual Machine as part of the newly created Virtual Network . . . . .	6
2.3	3. Connecting through RDP . . . . .	8
2.4	4. Checking Internet Explorer in the VM. . . . .	12
2.5	5. Adding Inbound Security Rule for port 80. . . . .	12
2.6	6. Public Access to the IIS Server using my own device. . . . .	14
2.7	7. DNS name label set-up . . . . .	14
2.8	8. Deploying SubnetA within vnet1 . . . . .	17
2.9	9. Creating Second Virtual Machine . . . . .	18
2.10	10. Accessing 10.0.0.4 (VM1 IP Address) from the newly created VM . . . . .	20
2.11	11. Changing the root page HTML content . . . . .	20
2.12	12. Installing DNS Server in VM2 . . . . .	21
<b>3</b>	<b>13. Active Directory Domain Services: Deployment Configuration</b>	<b>24</b>
3.1	14. Accessing the Azure provided DNS names in VM2. . . . .	27
3.2	15. Making use of the Private Domain . . . . .	28
3.3	16. Creating a new A record for VM1. . . . .	28
3.4	17. Changing DNS Servers to Azure-provided . . . . .	30
3.5	18. Custom Script Extension . . . . .	31
3.6	19. Changing the homepage content . . . . .	34
3.7	20. Creating an A record for VM2. . . . .	34
3.8	21. Trying to access the DNS Server FQDN from VM1 . . . . .	37
3.9	22. Creating Private DNS Zone . . . . .	37
3.10	23. Adding Virtual network link . . . . .	39
3.11	24. Trying again in VM1 and it works . . . . .	42
3.12	25. Scaling Storage Disks for VM1 . . . . .	42
3.13	26. Creating a drive Z: based off the newly attached disks . . . . .	45
3.14	27. Cleaning up . . . . .	48

**4 Conclusion**

**51**

# **1 Introduction**

This introductory lab will walk you through the process of creating a Virtual Machine in Azure. You will also learn how to connect to the VM using RDP, and how to access the VM from the internet using a DNS name label.

We will learn how to create a Virtual Network, and how to add a Virtual Machine to the Virtual Network. We will also learn about subnets.

The lab touches some advanced topics such as Active Directory Domain Services, DNS, and IIS.

## 2 Lab Walkthrough

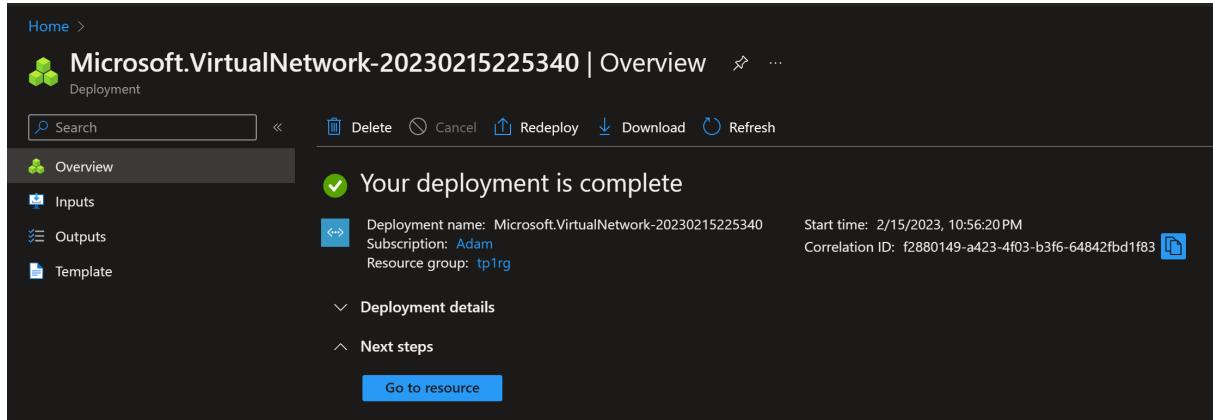
### 2.1 1. Deploy a Virtual Network

A Virtual Network is a representation of your own network in the cloud. Below is the details of the Virtual Network that we will create:

The screenshot shows the 'Create virtual network' wizard in the Azure portal, specifically the 'Basics' step. The page title is 'Create virtual network'. At the top, there are tabs for 'Basics', 'IP Addresses', 'Security', 'Tags', and 'Review + create'. The 'Basics' tab is selected.

The main content area contains the following information:

- Subscription:** Adam (selected from a dropdown menu)
- Resource group:** (New) tp1rg (selected from a dropdown menu; 'Create new' option is available)
- Project details:**
  - Name:** vnet1 (entered in the input field)
  - Region:** North Europe (selected from a dropdown menu)



## 2.2 2. Deploy a Virtual Machine as part of the newly created Virtual Network

A Virtual Machine is a virtualized computer system. It is a software implementation of a computer system. Below is the details of the Virtual Machine that we will create:

Size: B1 or B2 Region: North Europe.

## Create a virtual machine

Subscription \* ⓘ Adam

Resource group \* ⓘ tp1rg [Create new](#)

**Instance details**

Virtual machine name \* ⓘ vm1

Region \* ⓘ (Europe) North Europe

Availability options ⓘ Availability zone

Availability zone \* ⓘ Zones 1

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

Security type ⓘ Standard

Image \* ⓘ Windows Server 2019 Datacenter - x64 Gen2 [See all images](#) | [Configure VM generation](#)

VM architecture ⓘ  x64  Arm64

ⓘ Arm64 is not supported with the selected image.

Size \* ⓘ Standard\_B1s - 1 vcpu, 1 GiB memory (\$11.17/month) ▾  
See all sizes

Administrator account

Username \* ⓘ superadmin ✓

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 \* ⓘ  None  Allow selected ports

Select inbound ports \* RDP (3389) ▾

Home > CreateVm-MicrosoftWindowsServer.WindowsServer-201-20230216004713 | Overview ✖ ⋮

Deployment

Search

Delete Cancel Redeploy Download Refresh

Overview Deployment Inputs Outputs Template

>Your deployment is complete

Deployment name: CreateVm-MicrosoftWindowsServer.WindowsSe... Start time: 2/16/2023, 12:48:01 AM  
Subscription: Adam Correlation ID: 49a81e8c-f7b4-42f9-bf50-f98ae08023b6

Resource group: tp1rg

Deployment details

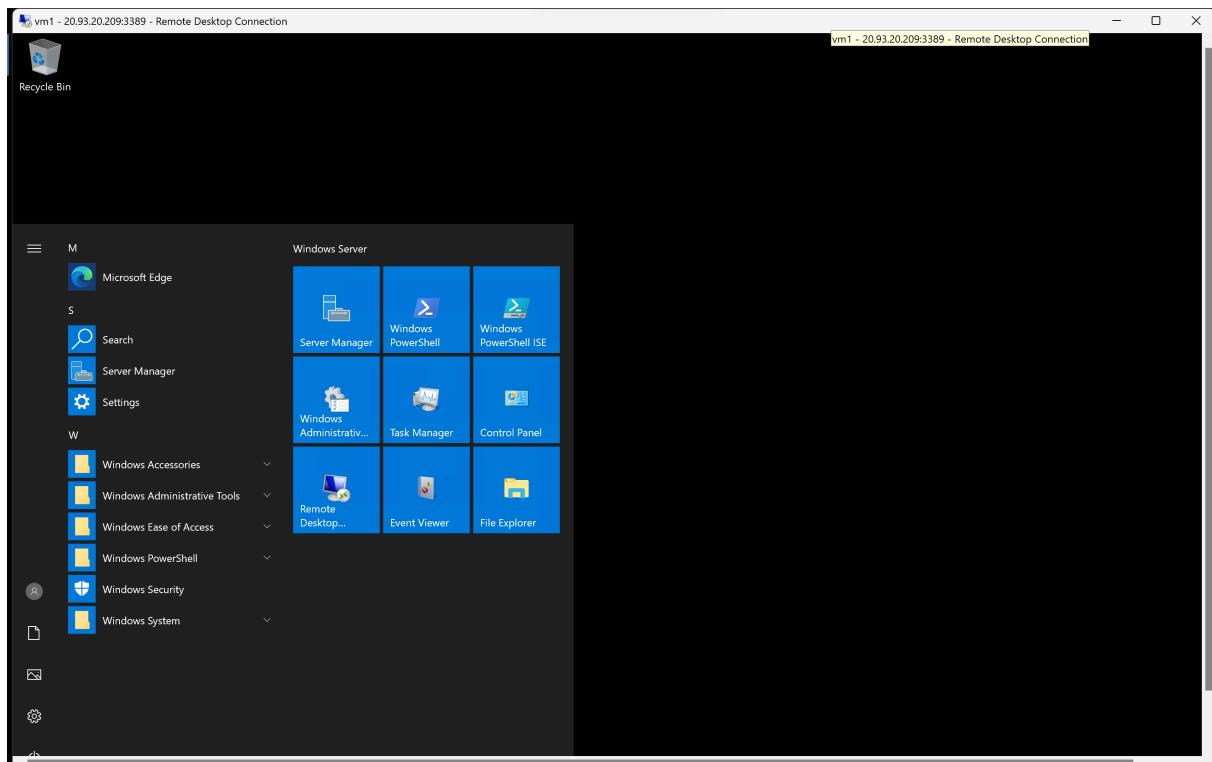
Next steps

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

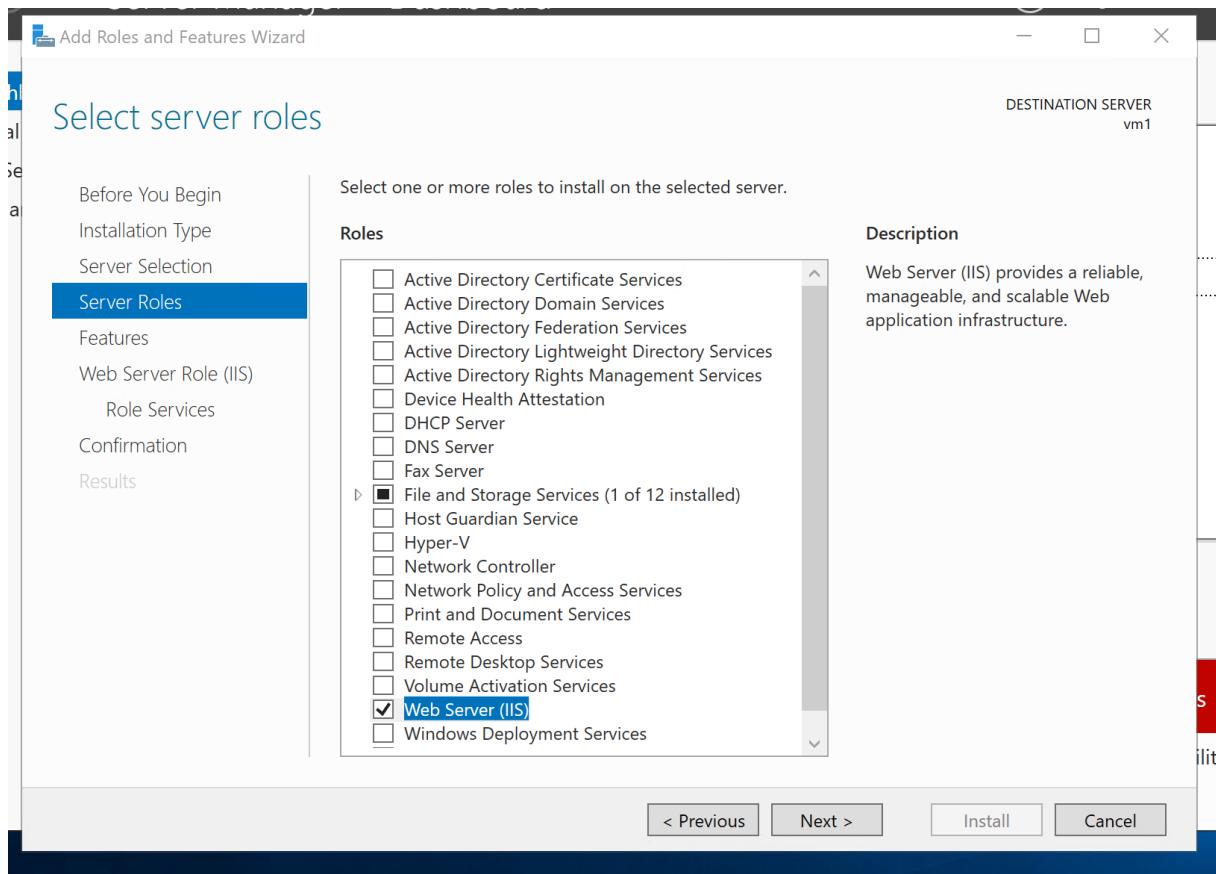
Go to resource Create another VM

## 2.3 3. Connecting through RDP

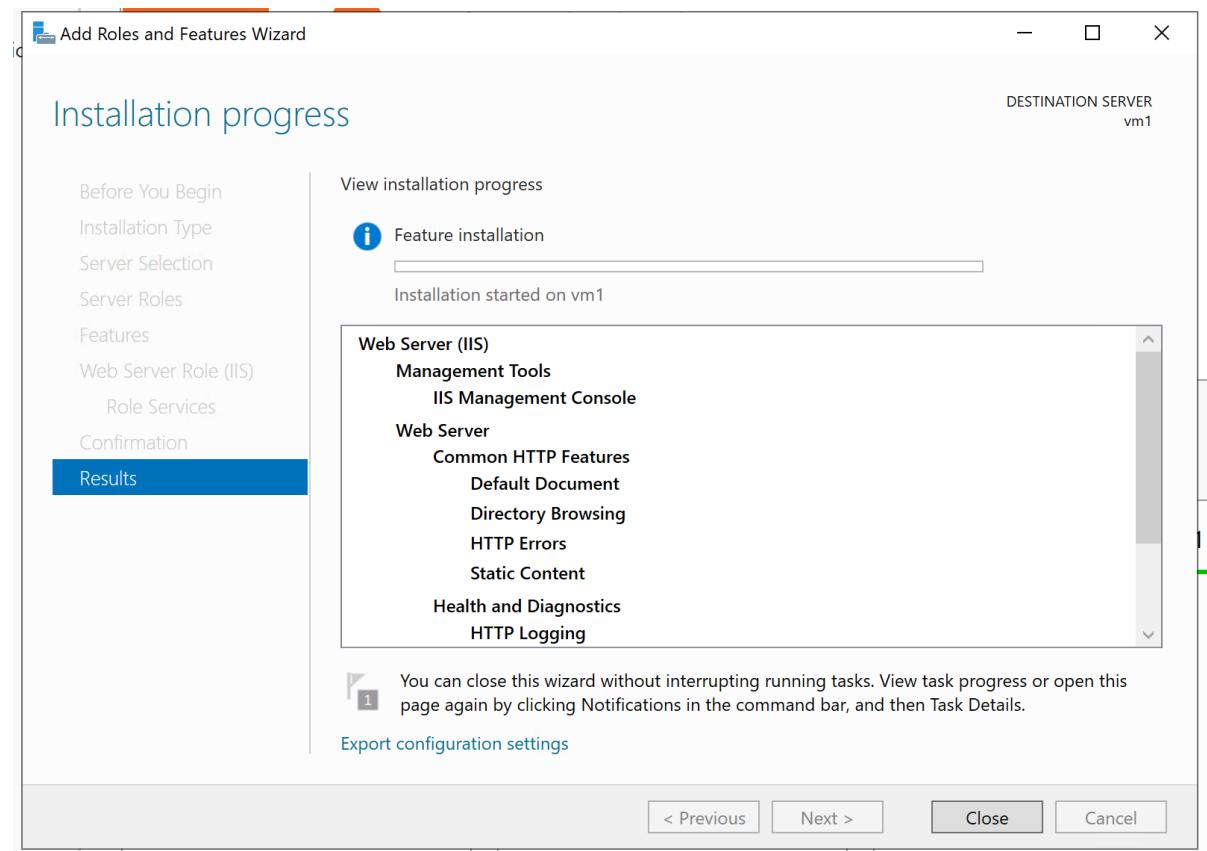
RDP is a protocol that allows you to connect to a remote computer and use it as if you were sitting in front of it.



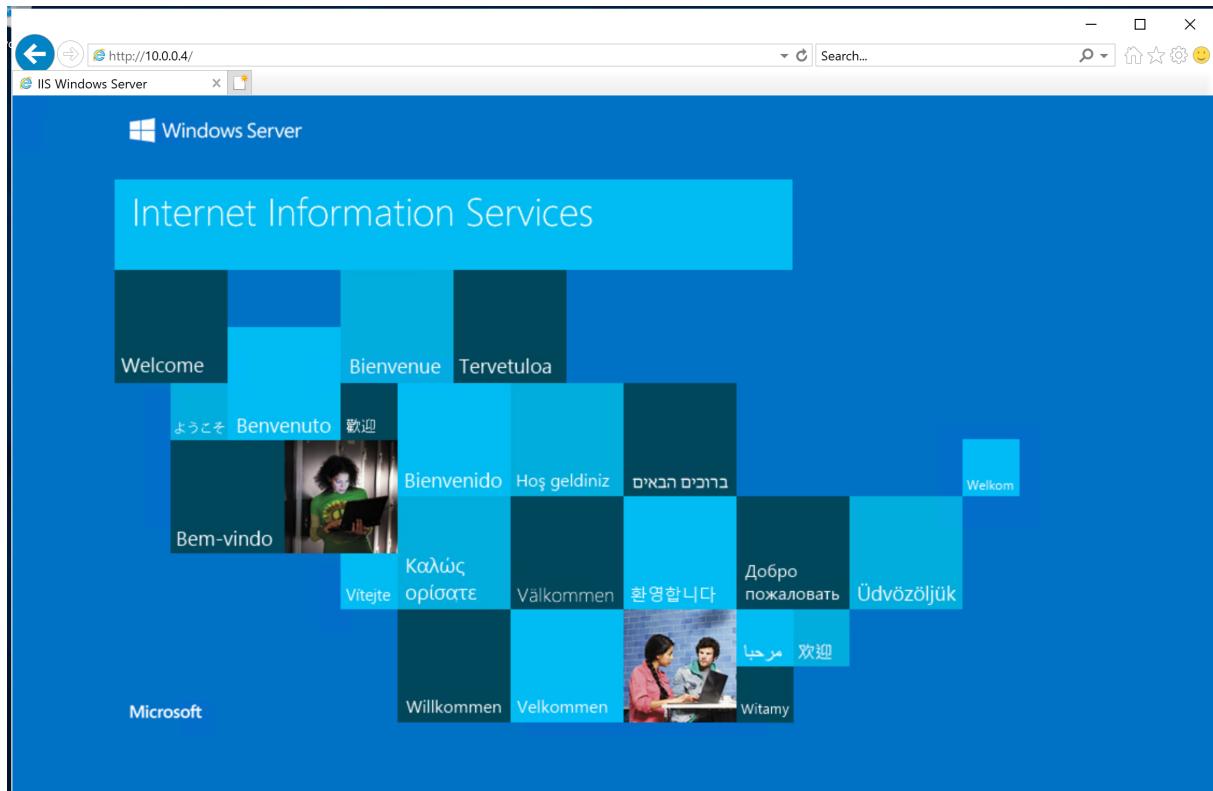
We open Server Manager, and add server roles for IIS as indicated below.



allow few seconds for the installation to complete.



## 2.4 4. Checking Internet Explorer in the VM.



## 2.5 5. Adding Inbound Security Rule for port 80.

The Inbound Security Rules are the rules that define the traffic that is allowed to enter the VM. We added a rule that allows traffic on port 80 (HTTP) to enter the VM.

 Add inbound security rule

vm1nsg119

**Source** ⓘ

Any

**Source port ranges \*** ⓘ

\*

**Destination** ⓘ

Any

**Service** ⓘ

Custom

**Destination port ranges \*** ⓘ

80

**Protocol**

Any

TCP

UDP

ICMP

**Action**

Allow

Deny

**Priority \*** ⓘ

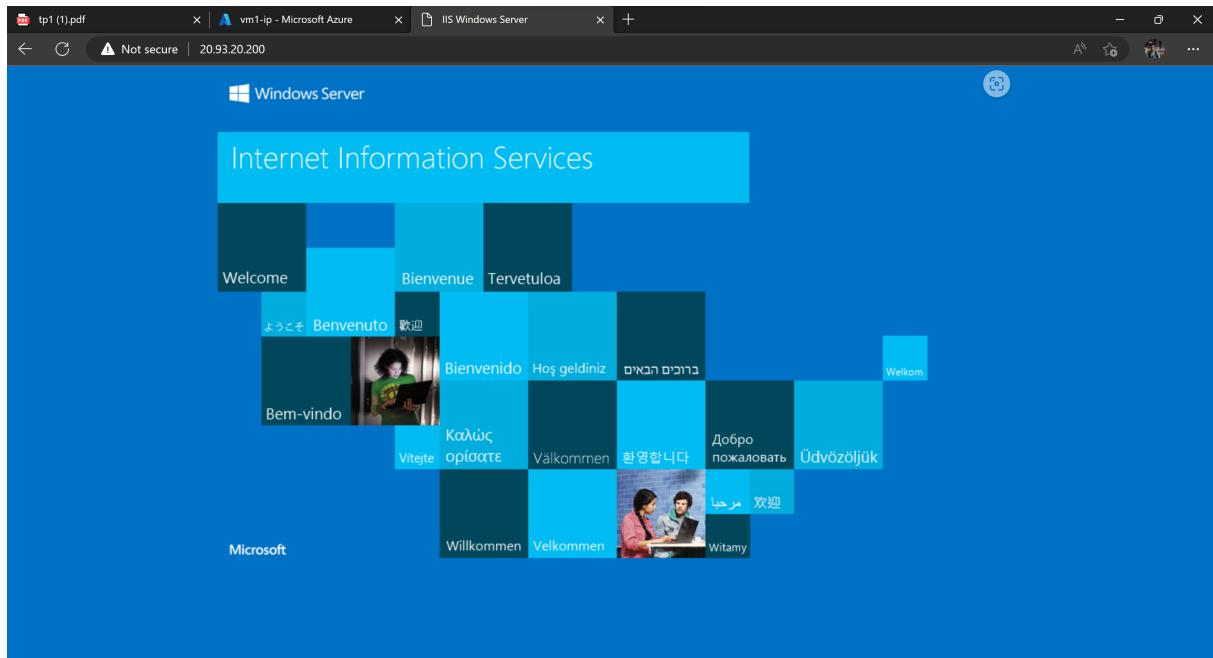
320

**Name \***

AllowAnyCustom80Inbound

**Add** **Cancel**  Give feedback

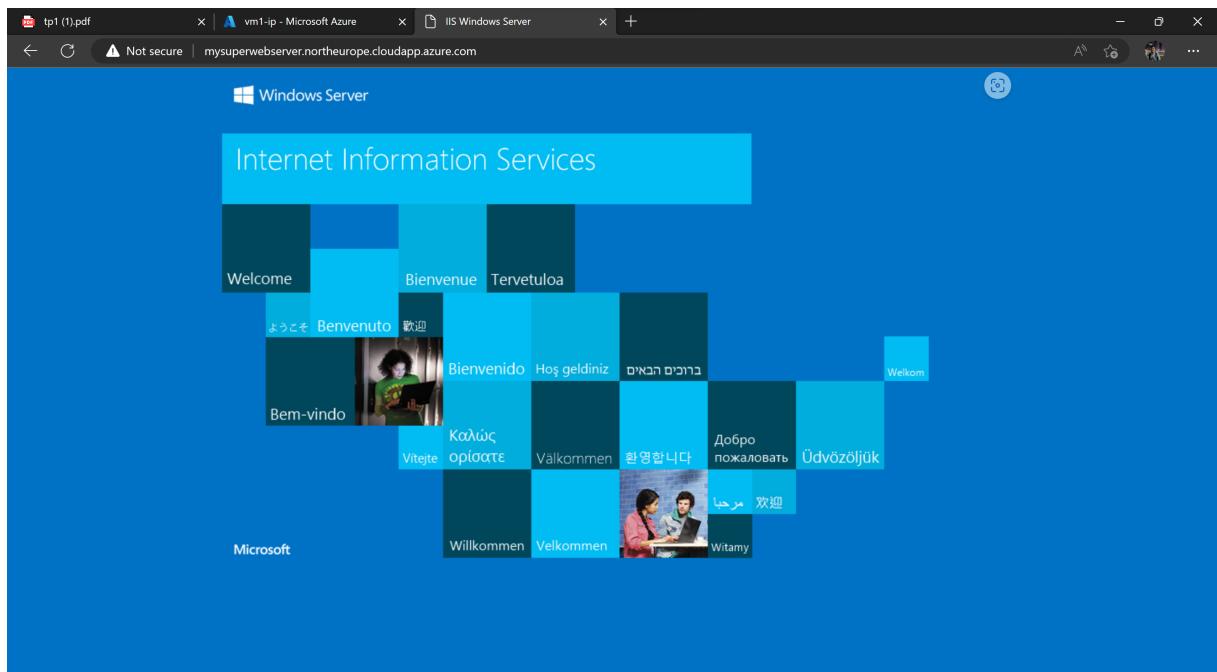
## 2.6 6. Public Access to the IIS Server using my own device.



## 2.7 7. DNS name label set-up

The DNS name label in Azure is the name that will be used to access the VM from the internet. It is the first part of the FQDN (Fully Qualified Domain Name) of the VM. The FQDN is the name that will be used to access the VM from the internet.

A screenshot of the Azure portal showing the 'IP address assignment' settings for a virtual machine. At the top, there are 'Save', 'Discard', and 'Refresh' buttons. The 'IP address assignment' dropdown is set to 'Static'. The 'IP address' field contains '20.93.20.200'. The 'Idle timeout (minutes)' field has a value of '4'. Below these, the 'DNS name label (optional)' field is filled with 'mysuperwebserver'. A note below it says '.northeurope.cloudapp.azure.com'. There is an information icon next to the note. At the bottom, there's a note about using the IP address as an 'A' DNS record or CNAME record, a link to learn more about adding a custom domain, and a 'Create alias record' button.





## 2.8 8. Deploying SubnetA within vnet1

**Add subnet**

Name \*

 ✓

Subnet address range \* ⓘ

10.0.1.0/24

10.0.1.0 - 10.0.1.255 (251 + 5 Azure reserved addresses)

Add IPv6 address space ⓘ

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

## 2.9 9. Creating Second Virtual Machine

We created a second VM, sized B2s, in the same region as the first VM, and in the same resource group. We added the second VM to the new created subnetA.

The screenshot shows the 'Create a virtual machine' wizard in the Azure portal. The top navigation bar includes 'Home > Virtual machines >' followed by the main title 'Create a virtual machine' and a '...' button. A warning message at the top states: '⚠️ Changing Basic options may reset selections you have made. Review all options prior to creating the virtual machine.' Below this, a note says: 'Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.' The configuration fields are as follows:

- Subscription:** Adam (selected)
- Resource group:** tp1rg (selected)
- Virtual machine name:** vm2 (selected)
- Region:** (Europe) North Europe
- Availability options:** Availability zone
- Availability zone:** Zones 1 (selected)
- Security type:** Standard
- Image:** Windows Server 2019 Datacenter - x64 Gen2 (selected)
- VM architecture:** x64 (selected)

At the bottom, there are three buttons: 'Review + create' (highlighted in blue), '< Previous', and 'Next : Disks >'.

Home > Virtual machines >

## Create a virtual machine

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 *	vnet
	<a href="#">Create new</a>
Subnet *	SubnetA (10.0.1.0/24)
	<a href="#">Manage subnet configuration</a>
Public IP	(new) vm2-ip
	<a href="#">Create new</a>
NIC network security group	<input type="radio"/> None <input checked="" type="radio"/> Basic <input type="radio"/> Advanced
Public inbound ports *	<input type="radio"/> None <input checked="" type="radio"/> Allow selected ports
Select inbound ports *	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

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

Home >

### CreateVm-MicrosoftWindowsServer.WindowsServer-201-20230216005812 | Overview

Deployment

Search | Delete | Cancel | Redeploy | Download | Refresh

**✓ Your deployment is complete**

Deployment name: CreateVm-MicrosoftWindowsServer.WindowsSe... Start time: 2/16/2023, 1:01:09 AM  
Subscription: Adam Correlation ID: 9e2f7a6c-aa71-4ab9-bfb9-85307345c90c

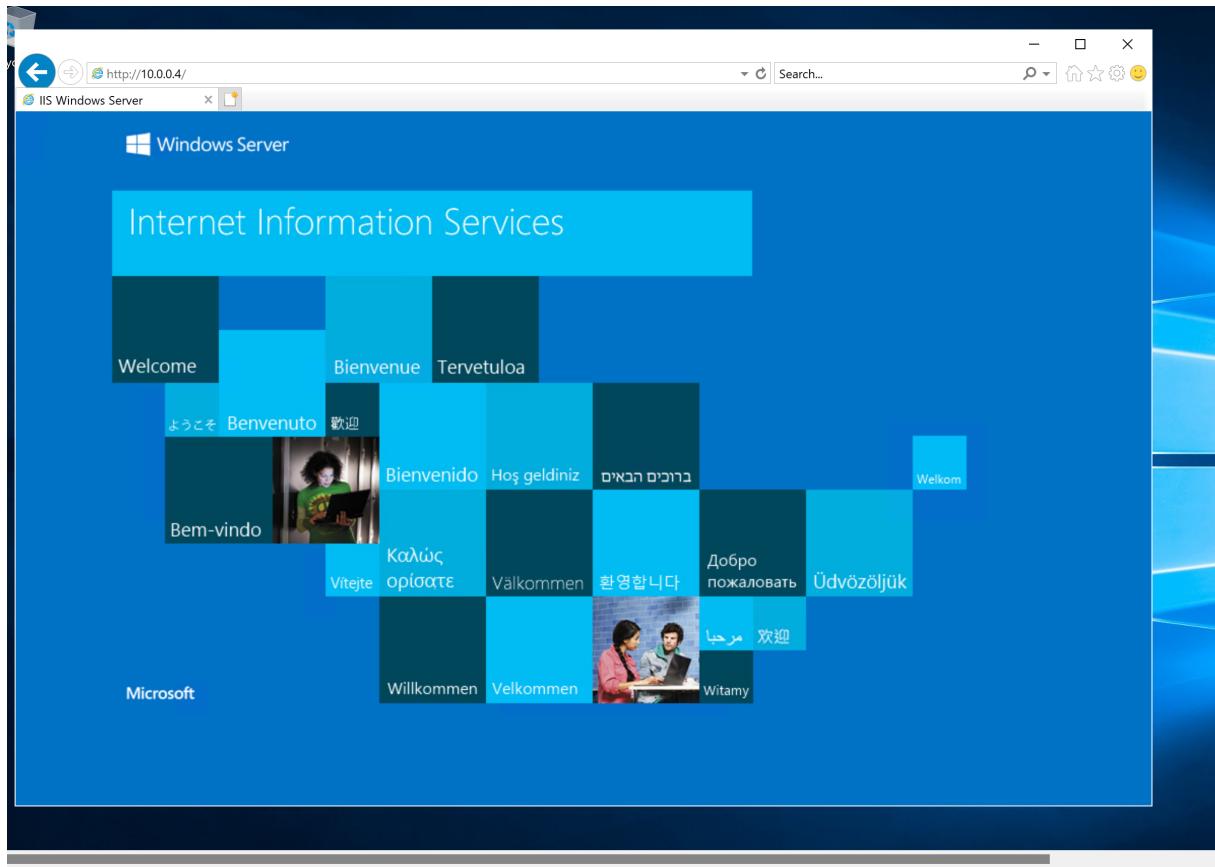
**Deployment details**

**Next steps**

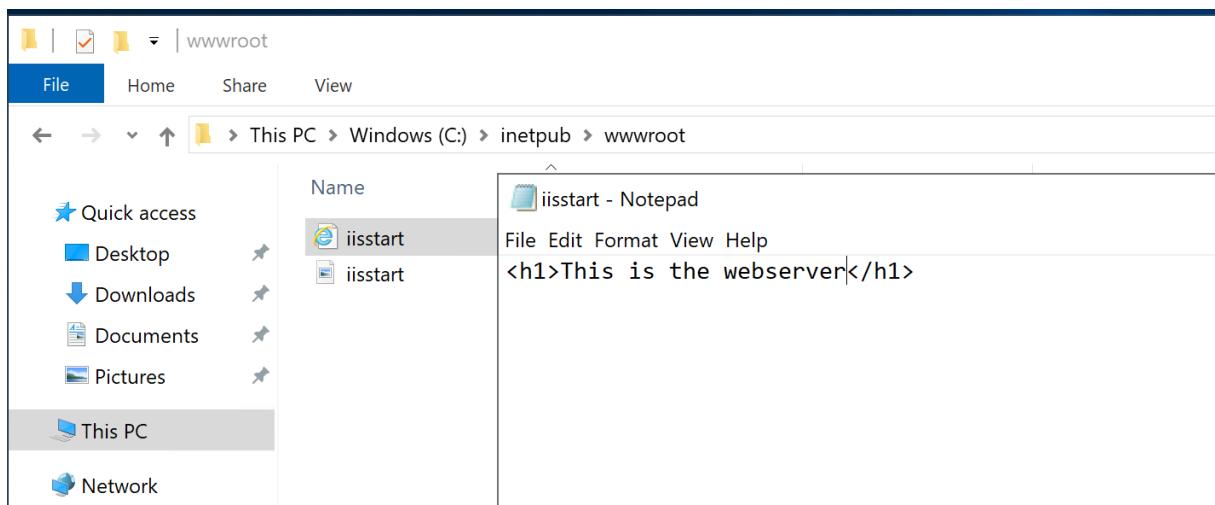
- [Setup auto-shutdown](#) Recommended
- [Monitor VM health, performance and network dependencies](#) Recommended
- [Run a script inside the virtual machine](#) Recommended

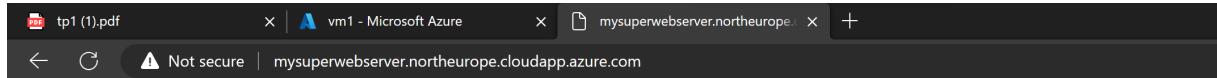
[Go to resource](#) | [Create another VM](#)

## 2.10 10. Accessing 10.0.0.4 (VM1 IP Address) from the newly created VM



## 2.11 11. Changing the root page HTML content



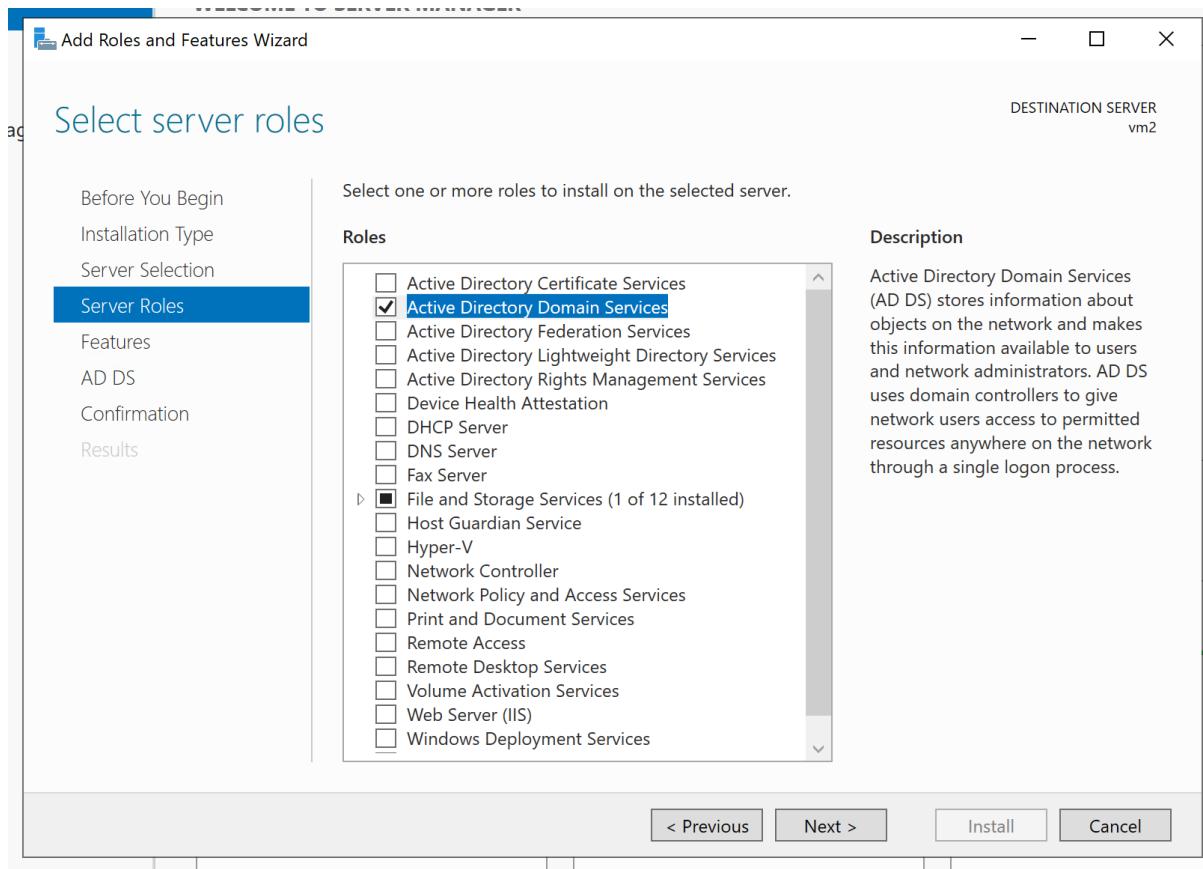


**This is the webserver**

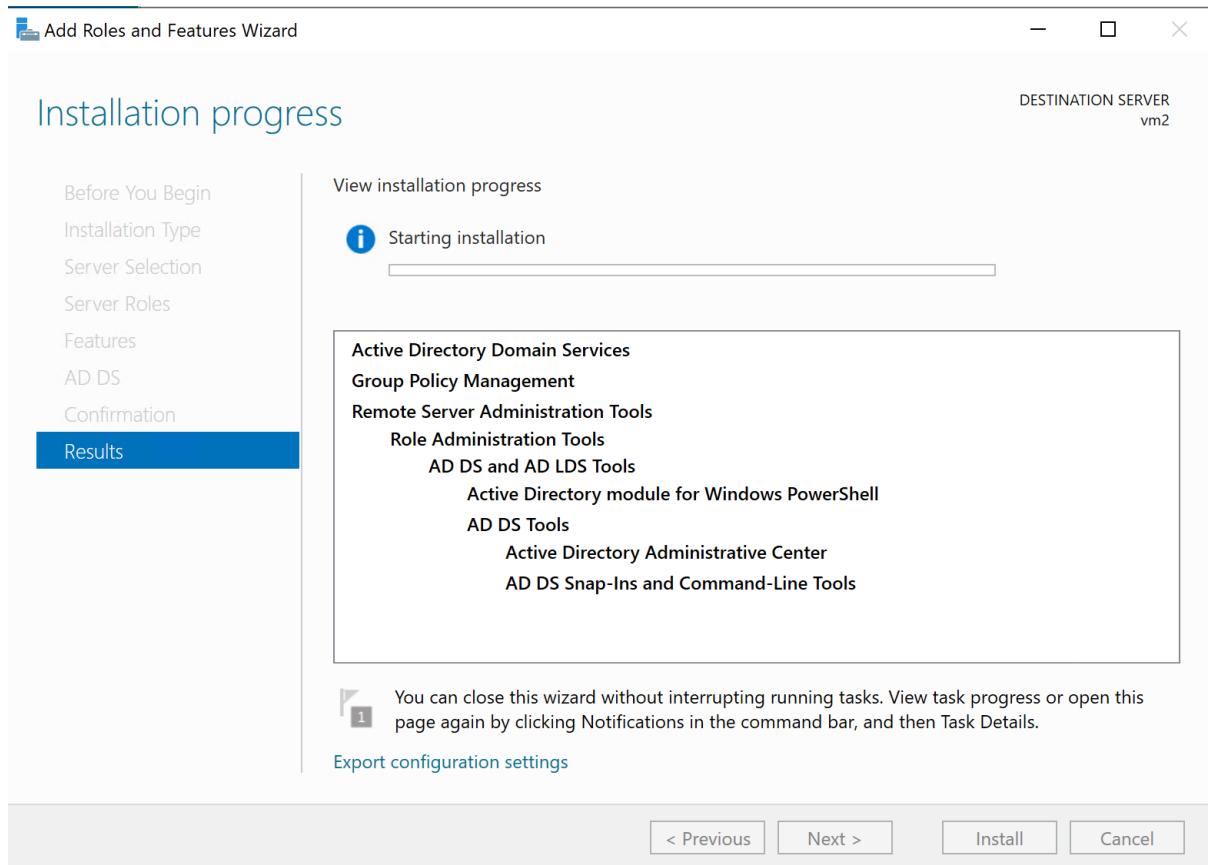
## 2.12 12. Installing DNS Server in VM2

We check Active Directory Domain Services.

The Active Directory Domain Services role is a server role that provides centralized management and access to resources in a network. It is a directory service that runs on Windows Server. It provides a centralized location for storing information about users, computers, and other network resources. It also provides a single location for managing user access to network resources.

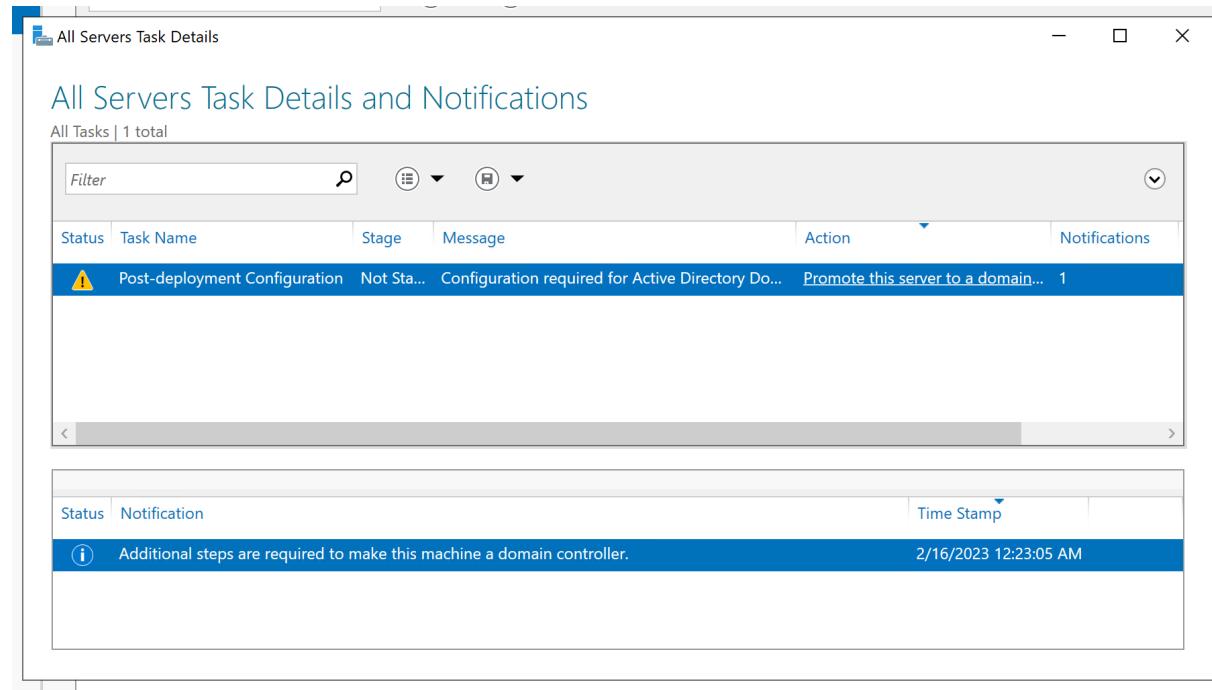


We allow few seconds for the installation to complete.



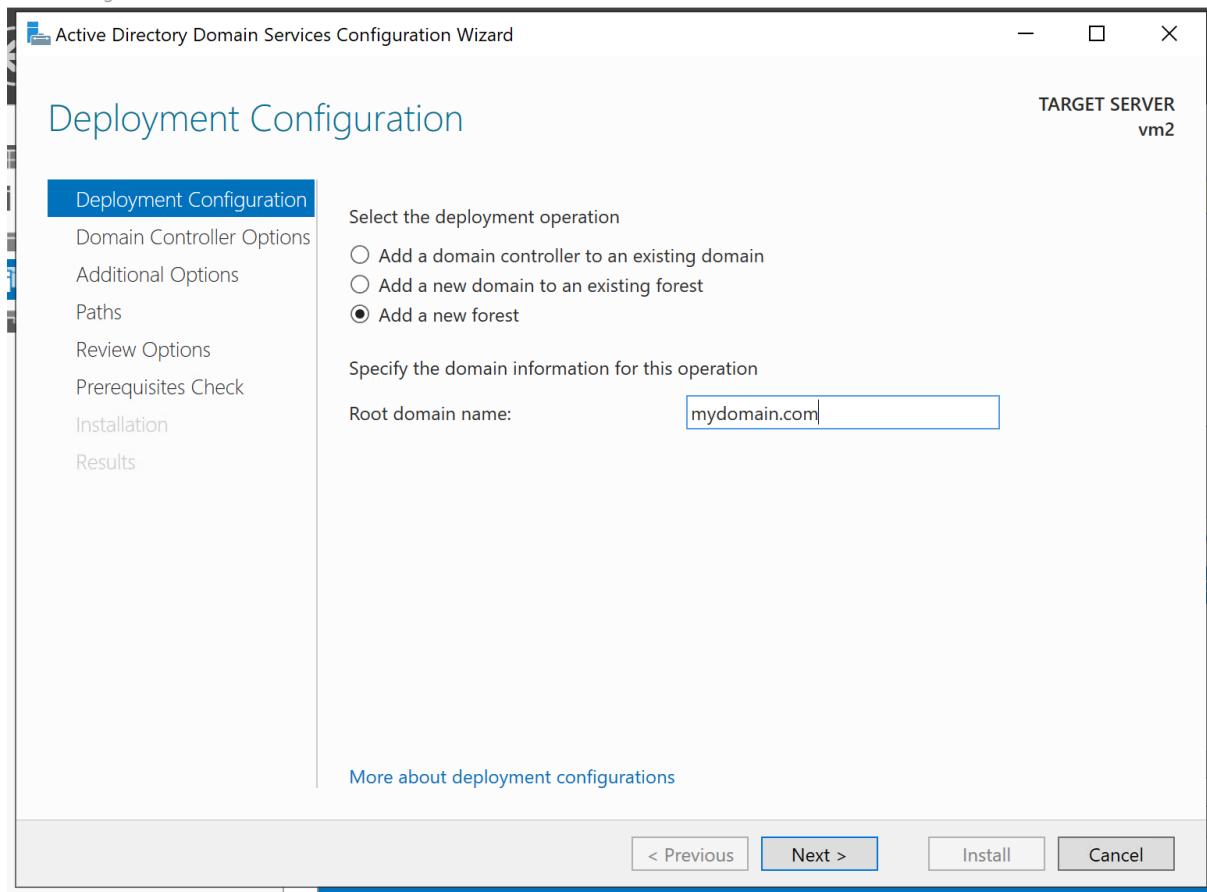
### 3 13. Active Directory Domain Services: Deployment Configuration

We make the Active Directory Domain Service as a Domain Controller. This means that the VM will be the main server for the domain.

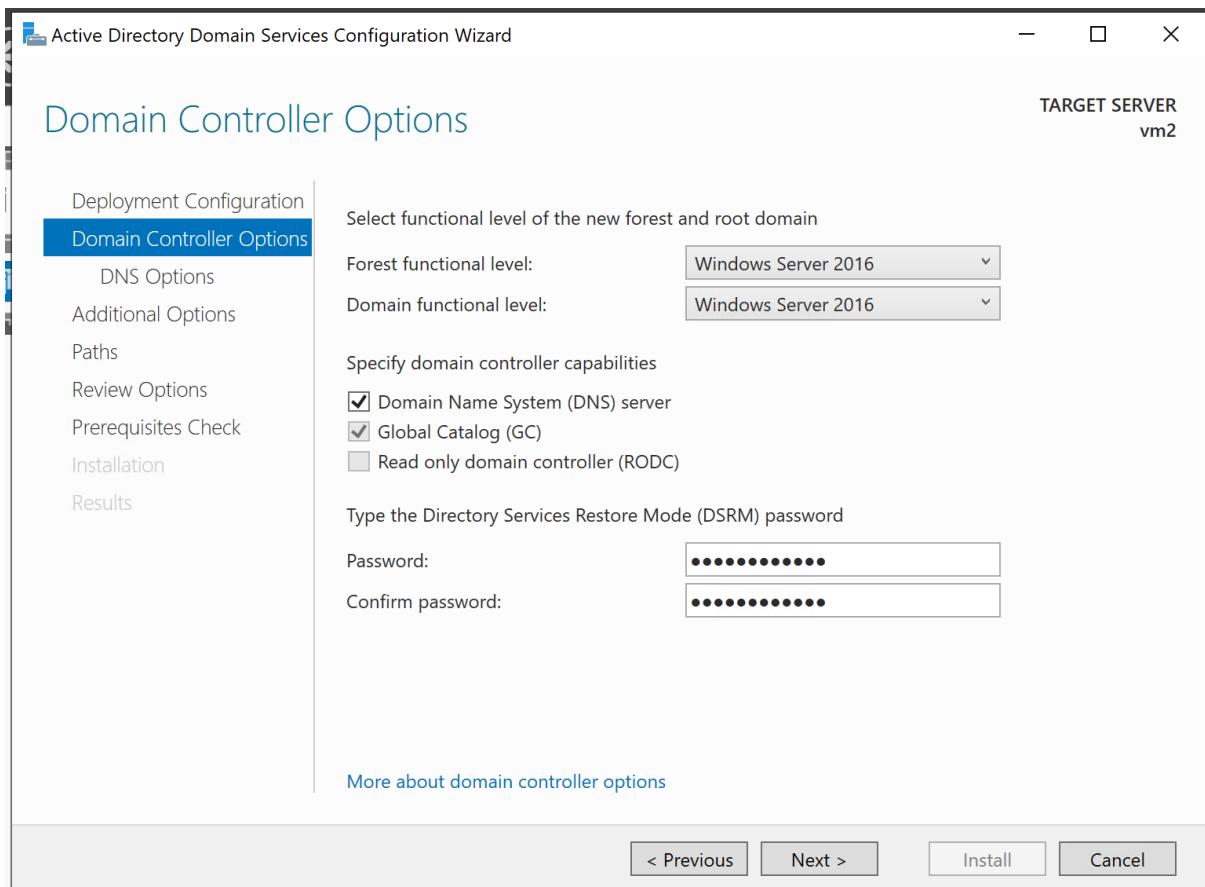


Then using “Add a new forest” option, we create a new forest. We name it “mydomain.com”. This means that the FQDN of the VM will be “vm1.mydomain.com”, but just not yet!

The term forest here is used to refer to a group of domains that share a common directory schema, global catalog, and directory configuration. A forest can contain one or more domains.



We specify a strong password for DSRM, which is the password for the Domain Services Restore Mode. This password is used to recover the Active Directory database in case of a disaster.



All set-up!

The screenshot shows the Windows Server Manager interface for a server named 'vm2'. The left sidebar has a navigation menu with items like Dashboard, Local Server, All Servers, AD DS (which is selected), DNS, and File and Storage Services. The main area is divided into three sections:

- SERVERS:** Shows one server: vm2 (10.0.1.4) is online and activated.
- EVENTS:** Displays a list of 22 events, mostly from the Directory Service and DFS Replication services.
- SERVICES:** Shows 13 total services.

### 3.1 14. Accessing the Azure provided DNS names in VM2.

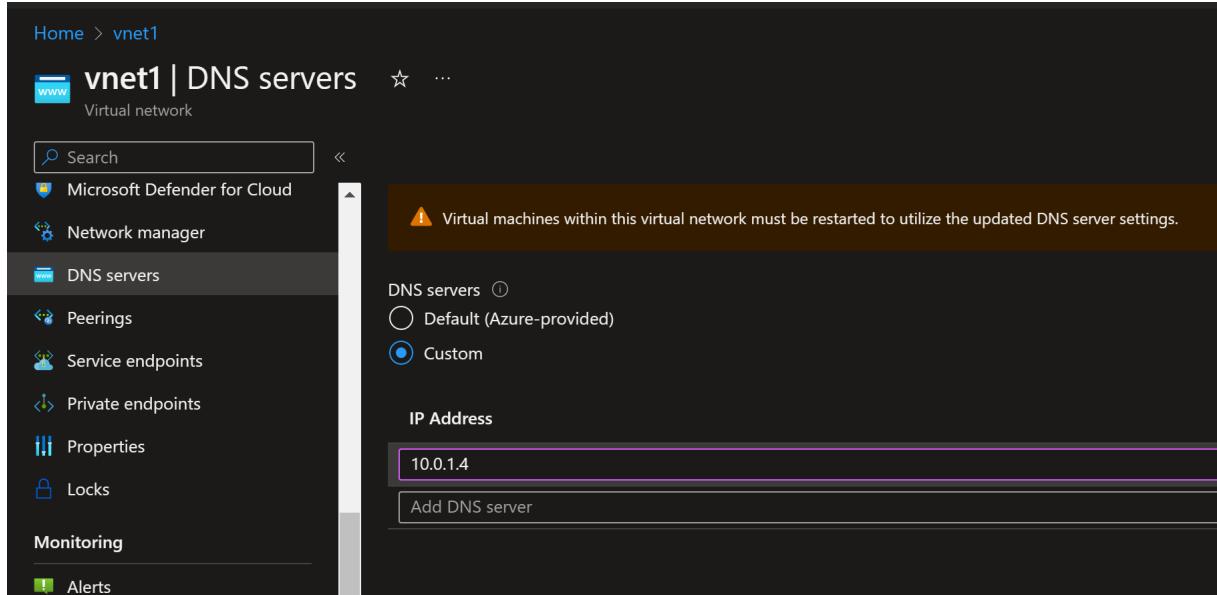
This is the Azure provided DNS name for VM1: `vm1.internal.cloudapp.net`

The screenshot shows a Microsoft Edge browser window with the following details:

- Title bar: 'vm2 (2) - 20.93.21.14:3389 - Remote Desktop Connection'
- Address bar: 'http://vm1.internal.cloudapp.net/'
- Content area: The text 'This is the webserver' is displayed.

### 3.2 15. Making use of the Private Domain

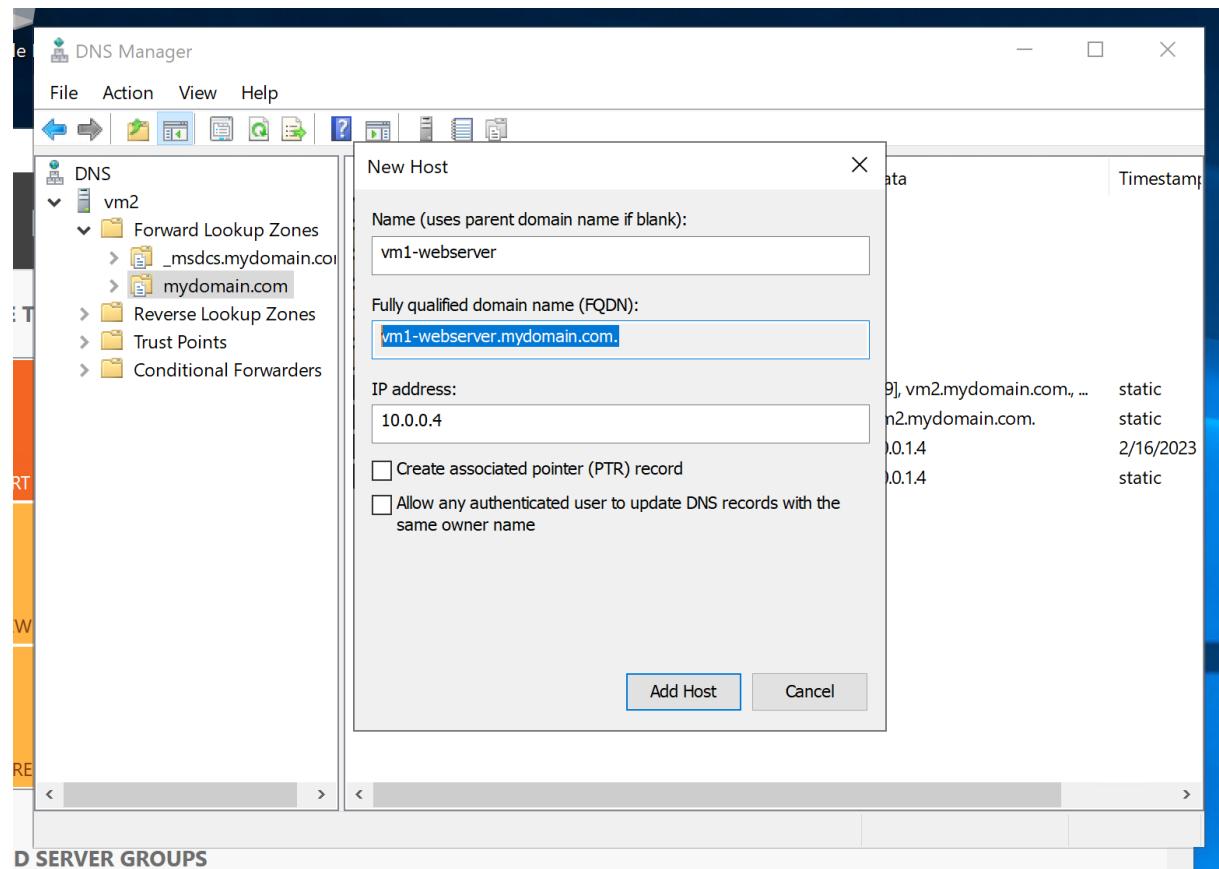
We set DNS Servers to custom and provide the IP address for vm2. Then we restart the VM for changes to take effect.



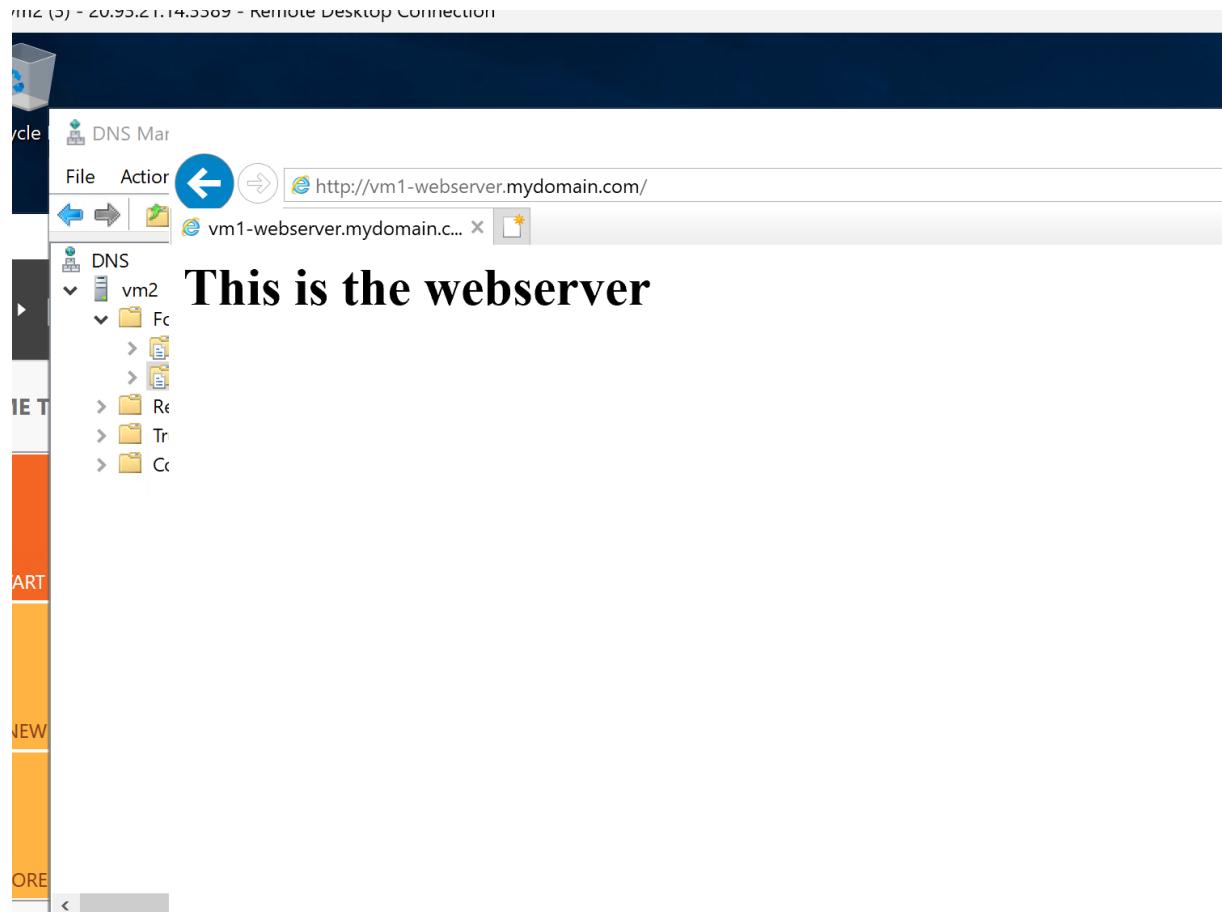
### 3.3 16. Creating a new A record for VM1.

Back in VM2, we manage DNS and add a new A record that maps vm1-webserver (Record name) to the private IP address of VM1 which will make the FQDN of VM1 to be `vm1-webserver.mydomain.com`.

An A record is a type of resource record in the Domain Name System (DNS) that maps a domain name to an IPv4 address.



Testing in Internet Explorer



FQDN working!

### 3.4 17. Changing DNS Servers to Azure-provided

We change back the DNS Servers to Azure-provided. Then we restart the VM for changes to take effect. We will be able to access the VM1 using the Azure-provided DNS name later...

The screenshot shows the Azure portal interface for managing a virtual network named 'vnet1'. The left sidebar contains a navigation menu with options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Address space, Connected devices, Subnets, Bastion, DDoS protection, Firewall, Microsoft Defender for Cloud, Network manager, DNS servers (which is selected and highlighted in blue), Peerings, Service endpoints, Private endpoints, Properties, and Locks. A search bar is at the top left. The main content area displays a warning message: 'Virtual machines within this virtual network must be restarted to utilize the updated DNS server settings.' Below this, there is a section titled 'DNS servers' with two options: 'Default (Azure-provided)' (selected) and 'Custom'. At the bottom right of the main content area are 'Save' and 'Cancel' buttons.

### 3.5 18. Custom Script Extension

The Custom Script Extension is an Azure VM extension that enables you to run a script on a VM during deployment or after deployment. The script can be a PowerShell script, a Bash script, or a Python script. The script we are using is installing the IIS Windows Feature through Powershell commandlets and is changing the default homepage of the IIS server to show vm2 as welcome message...

Home > vm2 | Extensions + applications >

## Install an Extension

...

Custom Script Extension

Microsoft Corp.

Custom Script handler extension for Windows

Load more

Next

Adding Blob Storage

**Create storage account**

Name \* myblobsto

Account kind Storage (general purpose v1)

Performance Standard

Replication Locally-redundant storage (LRS)

Location \* (US) East US

Resource group \* tp1rg

Minimum TLS version Version 1.2

Storage account 'myblobsto' is being created. Once it's ready, you'll be able to select it and create a container.

I uploaded the `install_IIS.ps1` file to the blob storage container as indicated...

Name	Modified	Access tier	Archive status	Blob type	Size	Lease state
install_IIS.ps1	2/16/2023, 1:59:44 AM			Block blob	245 B	Available

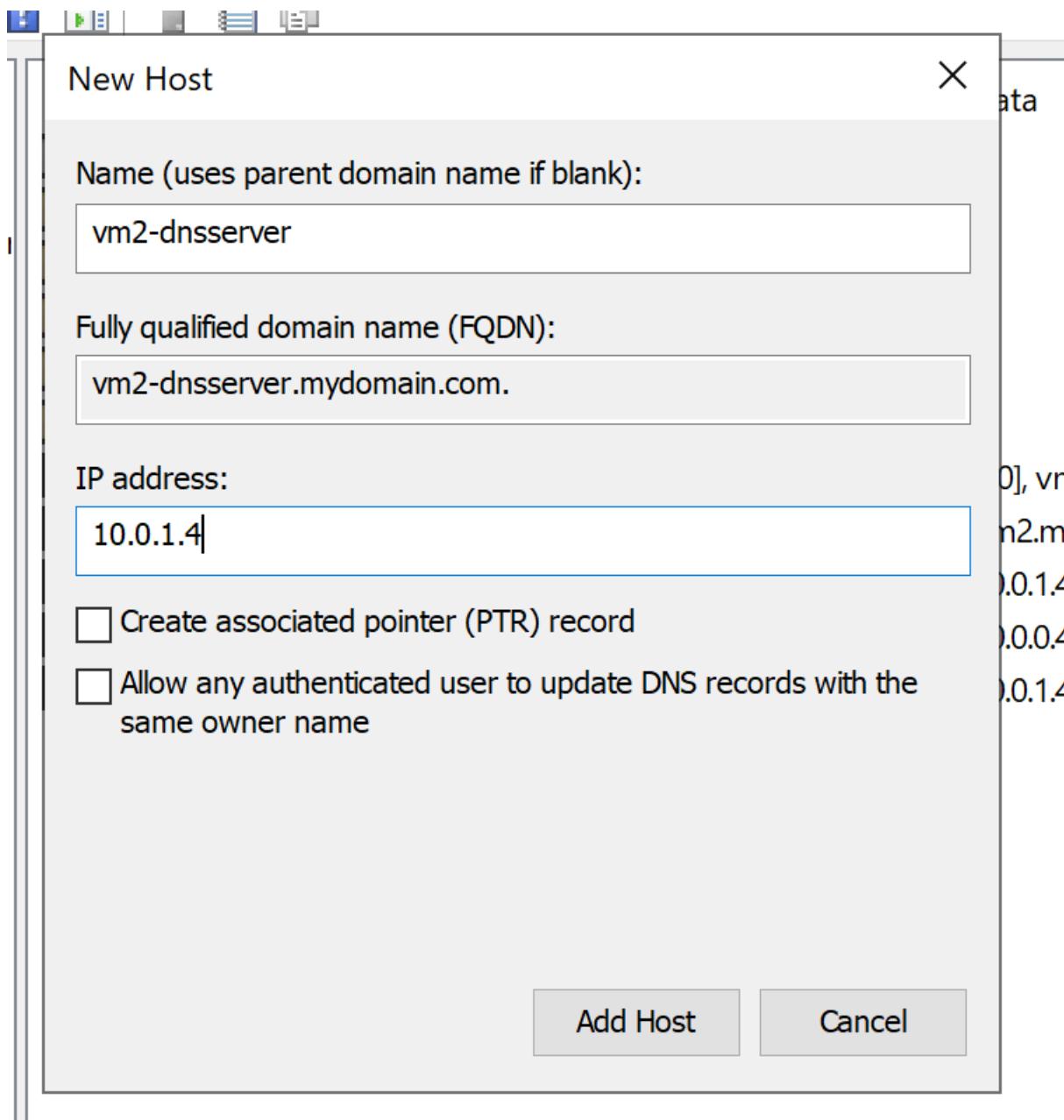
The screenshot shows the 'Overview' tab for a Microsoft Custom Script Extension deployment named 'Microsoft.CustomScriptExtension-20230216015524'. The deployment status is marked as 'complete' with a green checkmark. Deployment details include the name, subscription ('Adam'), resource group ('tp1rg'), start time ('2/16/2023, 2:00:12 AM'), and correlation ID ('d6e53529-6e88-4672-8606-d7344aba8622'). A table titled 'Deployment details' lists one resource: 'vm2/CustomScriptExtension' of type 'Microsoft.Compute/virtualMachineExtensions' in 'OK' status, with a link to 'Operation details'.

### 3.6 19. Changing the hompeage content

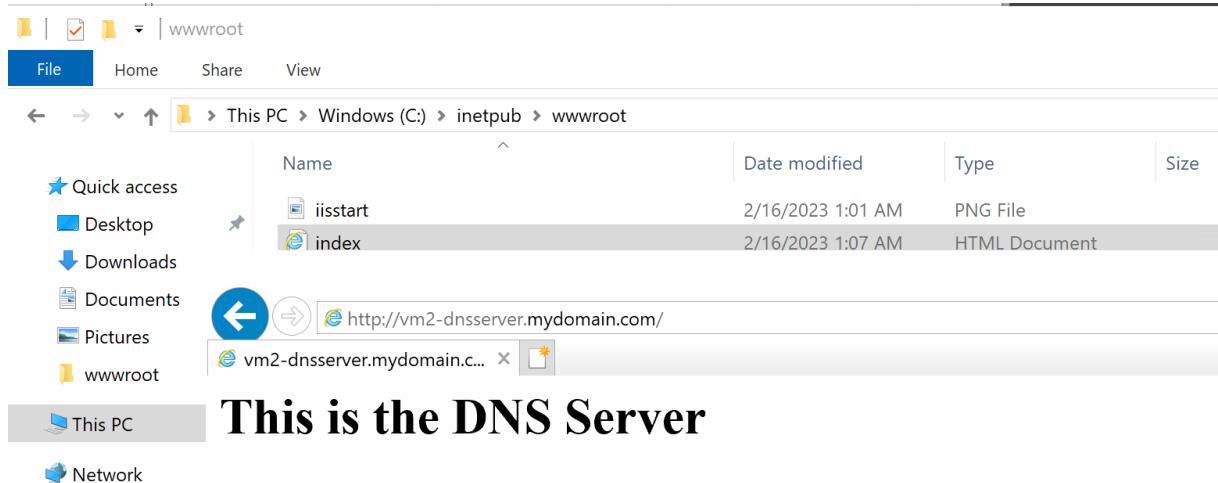
I simply went to C:\inetpub\wwwroot and made index.html file to show "This is the dns server" as the content of the webserver.

### 3.7 20. Creating an A record for VM2.

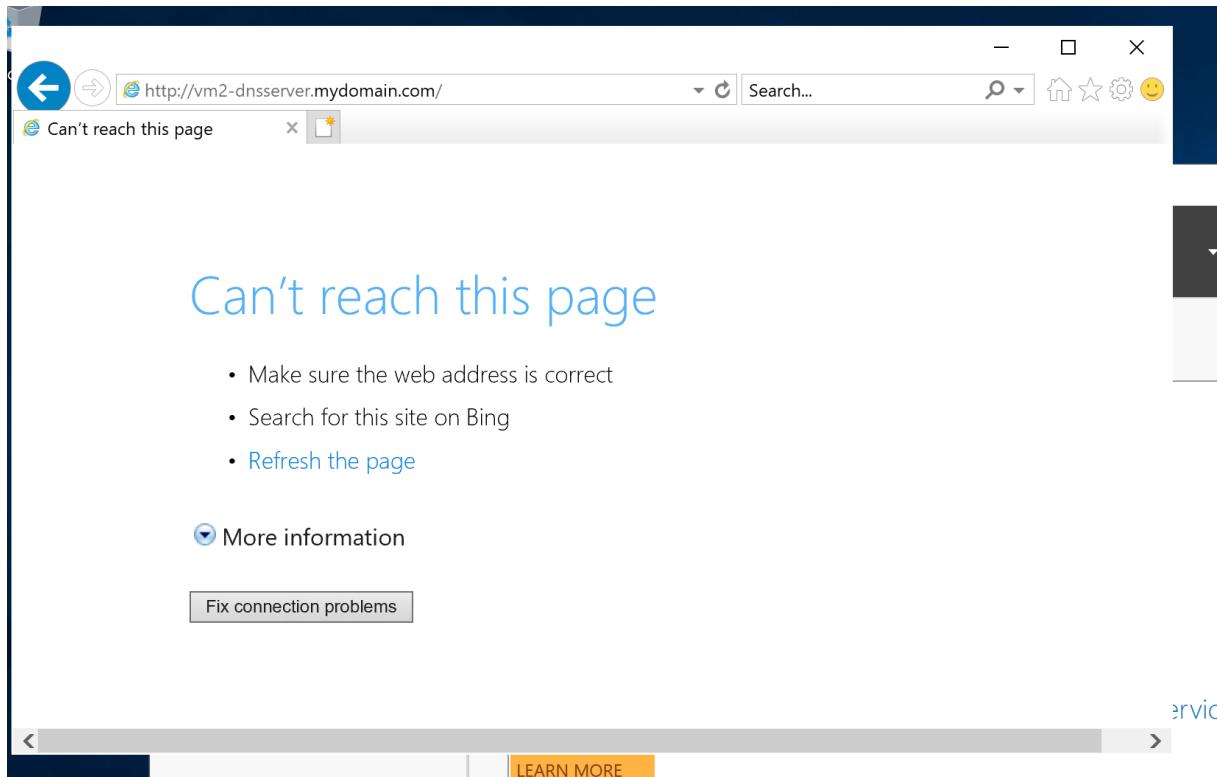
We now add a new A record that maps vm2-dnsserver (Record name) to the private IP address of VM2 which will make the FQDN of VM2 to be vm2-dnsserver.mydomain.com.



Then in Internet Explorer



### 3.8 21. Trying to access the DNS Server FQDN from VM1



It failed because a Private DNS Zone is needed to be created in order to access the DNS Server FQDN from VM1.

### 3.9 22. Creating Private DNS Zone

A Private DNS zone is a container for DNS records that you create in Azure. Private DNS zones are used to resolve names of resources in your virtual network. Private DNS zones are scoped to a virtual network.

Home > Private DNS zones >

## Create Private DNS zone

Validation passed

Basics Tags Review + create

### Basics

Subscription	Adam
Resource group	tp1rg
Resource group location	northeurope
Name	mydomain.com

### Tags

None

Create Previous Next Download a template for automation

The screenshot shows the Azure portal interface for a private DNS zone named 'mydomain.com'. The left sidebar includes navigation links for Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings (Virtual network links, Properties, Locks), Monitoring (Alerts, Metrics), and Metrics. The main content area displays the 'Essentials' section with resource group ('move') set to 'tp1rg', subscription ('move') set to 'Adam', and subscription ID '97cd8887-e707-4ecb-8c73-4eef77a13527'. A note indicates that users can search for record sets. Below this, a table lists the single record set: Name '@', Type 'SOA', TTL '3600', and Value containing details like Email: azureprivatedns-host.microsoft.com, Host: azureprivatedns.net, Refresh: 3600, Retry: 300, Expire: 2419200, Minimum TTL: 10, and Serial number: 1.

### 3.10 23. Adding Virtual network link

A virtual network link is a connection between a virtual network and a private DNS zone. Virtual network links are used to resolve names of resources in your virtual network.

Home > NoMarketplace-20230216021925 | Overview > mydomain.com | Virtual network links >

## Add virtual network link

mydomain.com

Link name \*

 ✓

Virtual network details

**Info** Only virtual networks with Resource Manager deployment model are supported for linking with Private DNS zones. Virtual networks with Classic deployment model are not supported.

I know the resource ID of virtual network  ⓘ

Subscription \*

 ▼

Virtual network \*

 ▼

Configuration

Enable auto registration  ⓘ

OK

Adding A record for vm2-dnsserver

## Add record set

mydomain.com

Name

 ✓

.mydomain.com

Type

 ✓

TTL \*

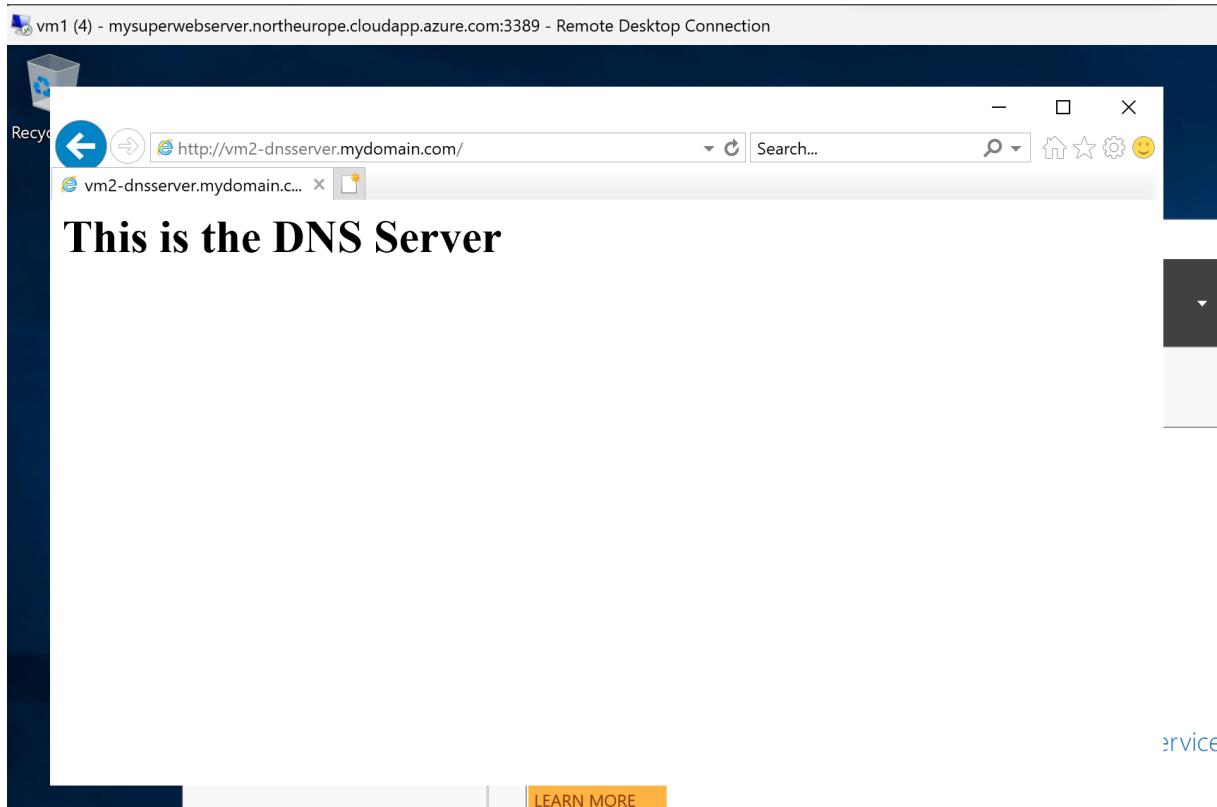
 ✓ TTL unit  ✓

IP address

10.0.1.4	...
0.0.0.0	

OK

### 3.11 24. Trying again in VM1 and it works



### 3.12 25. Scaling Storage Disks for VM1

In the Automation section, we click export template then deploy and then edit template, in order to replace dataDisks with new given configuration.

Home > vm1 | Export template >

## Custom deployment

Deploy from a custom template

Basics    Review + create

Template

Custom template 1 resource

Edit template Edit parameters Visualize

Project details

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

Subscription \* Adam

Resource group \* tp1rg

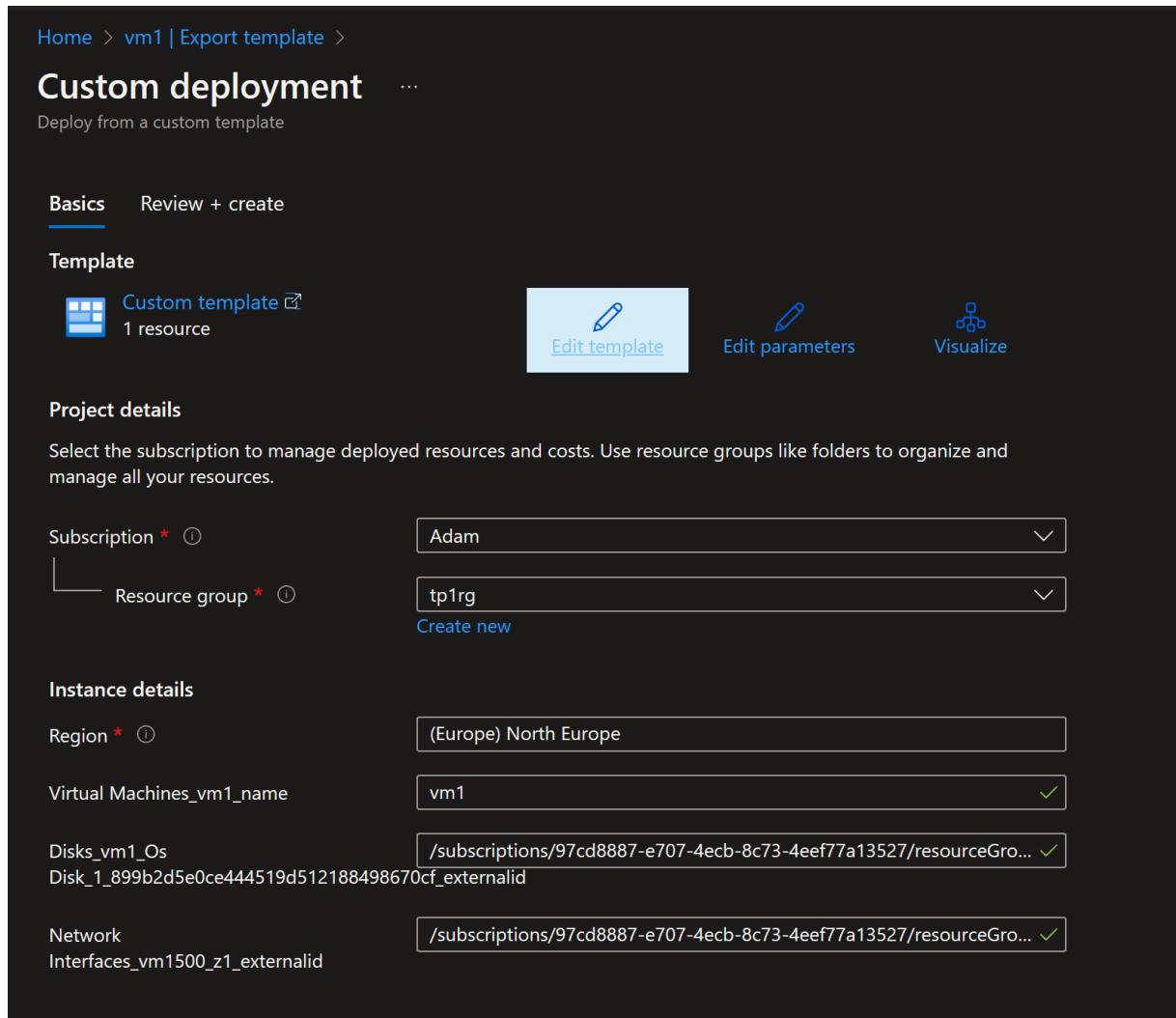
Instance details

Region \* (Europe) North Europe

Virtual Machines\_vm1\_name vm1

Disk /subscriptions/97cd8887-e707-4ecb-8c73-4eef77a13527/resourceGro...   
Disk\_1\_899b2d5e0ce444519d512188498670cf\_externalid

Network  
Interfaces\_vm1500\_z1\_externalid



Edit template ...

Edit your Azure Resource Manager template

+ Add resource ↑ Quickstart template ⏪ Load file ⏴ Download

```
40     "osType": "Windows",
41     "name": "[concat(parameters('virtualMachines_vm1_name'), '_OsDisk_1_899b2d5e0ce444519d512188498670c')]",
42     "createOption": "FromImage",
43     "caching": "ReadWrite",
44     "managedDisk": {
45         "storageAccountType": "Premium_LRS",
46         "id": "[parameters('disks_vm1_OsDisk_1_899b2d5e0ce444519d512188498670c')]"
47     },
48     "deleteOption": "Delete",
49     "diskSizeGB": 127
50 },
51 "dataDisks": [ {
52     "lun": 0,
53     "name": "vm1-disk0",
54     "diskSizeGB": "1024",
55     "caching": "ReadOnly",
56     "createOption": "Empty"
57 },
58 {
59     "lun": 1,
60     "name": "vm1-disk1",
61     "diskSizeGB": "1024",
62     "caching": "ReadOnly",
63     "createOption": "Empty"
64 }]
65 },
66 },
67 "osProfile": {
68     "computerName": "[parameters('virtualMachines_vm1_name')]",
69     "adminUsername": "superadmin"
```

Saved and created successfully

Now, in Disks we have

The screenshot shows the Microsoft Azure portal interface for a virtual machine named 'vm1'. The left sidebar includes sections for Automation, Configuration management (Preview), Policies, Run command, Monitoring (Insights, Alerts, Metrics, Diagnostic settings, Logs, Connection monitor (classic), Workbooks), and Automation (Tasks (preview)). The main content area is titled 'OS disk' and shows the following details:

Disk name	Storage type	Size (GiB)	Max IOPS	Max throughput (...)	Encryption	Host caching
vm1_OsDisk_1_899b2d5e0ce44	Premium SSD LRS	127	500	100	SSE with PMK	Read/write

Below this, under 'Data disks', it says 'Showing 2 of 2 attached data disks' and lists:

LUN	Disk name	Storage type	Size (GiB)	Max IOPS	Max throughput (...)	Encryption
0	vm1-datadisk0	Premium SSD LRS	1024	5000	200	SSE with PMK
1	vm1-datadisk1	Premium SSD LRS	1024	5000	200	SSE with PMK

### 3.13 26. Creating a drive Z: based off the newly attached disks

Given a set of Powershell commands to create a new drive Z: based off the newly attached disks.

The screenshot shows the 'Run Command Script' blade in the Azure portal. The title is 'Run Command Script' and the subtitle is 'RunPowerShellScript'. A message indicates 'Script execution complete'. The 'PowerShell Script' section contains the following command:

```
1 New-StoragePool -FriendlyName storagepool1 -StorageSubsystemFriendlyName "Windows Storage*" -Ph
```

Below the script, there is a 'Run' button. The 'Output' section displays the results of the command execution:

FriendlyName	OperationalStatus	HealthStatus	IsPrimordial	IsReadOnly	Size	AllocatedSize
storagepool1	OK	Healthy	False	False	2 TB	512 MB

- New-StoragePool is used to create a new storage pool. The storage pool is a logical grouping of disks that are used to create a storage volume.

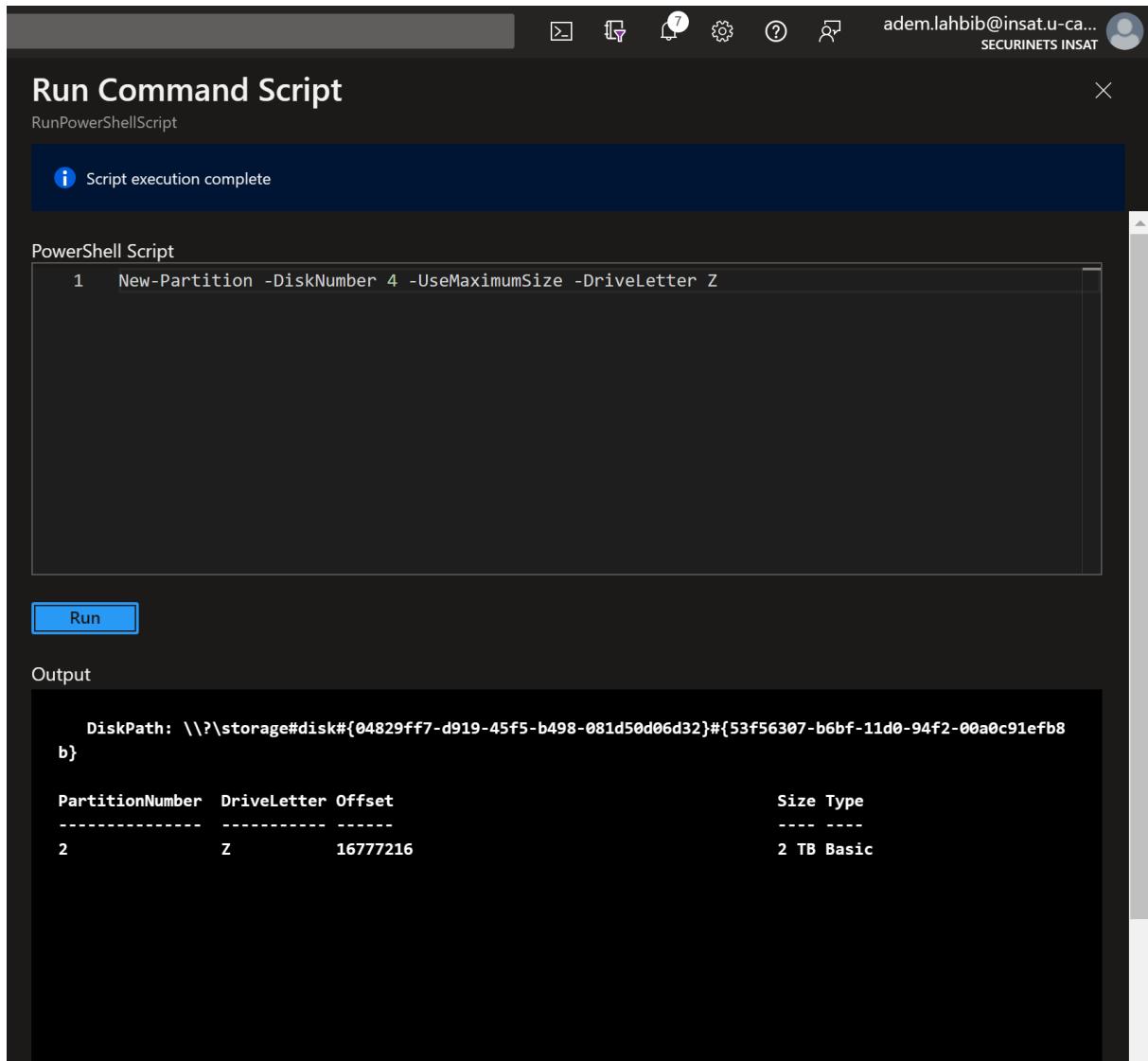
The screenshot shows a "Run Command Script" window. At the top, it says "RunPowerShellScript". Below that, a message says "Script execution complete". The main area is titled "PowerShell Script" and contains the command: "1 New-VirtualDisk -StoragePoolFriendlyName storagepool1 -FriendlyName virtualdisk1 -Size 2046GB". Below this, there is a "Run" button. The "Output" section shows the results of the command:

```
FriendlyName ResiliencySettingName FaultDomainRedundancy OperationalStatus HealthStatus Size FootprintOnPool StorageEfficiency
-----
virtualdisk1 Simple 0 OK Healthy 2 TB 2
TB 100.00%
```

- New-VirtualDisk is used to create a new virtual disk. The virtual disk is a logical grouping of storage space that is used to create a virtual hard disk.

The screenshot shows a user interface for running a PowerShell command. At the top, a dark header bar displays the title "Run Command Script" and the subtitle "RunPowerShellScript". Below this, a blue status bar indicates "Script execution complete" with an information icon. The main area is titled "PowerShell Script" and contains a single line of PowerShell code: "1 Initialize-Disk -VirtualDisk [Get-VirtualDisk -FriendlyName virtualdisk1]". A blue "Run" button is located at the bottom left of this section. Below the script area, there is a large, mostly empty "Output" window.

- InitializeDisk is used to initialize a disk. The disk must be initialized before it can be used to create a volume.



The screenshot shows a Windows PowerShell window titled "Run Command Script" with the sub-tittle "RunPowerShellScript". The window displays the output of a PowerShell script. At the top, there is a message: "Script execution complete". Below this, the PowerShell command "New-Partition -DiskNumber 4 -UseMaximumSize -DriveLetter Z" is shown. The output section shows the creation of a new partition:

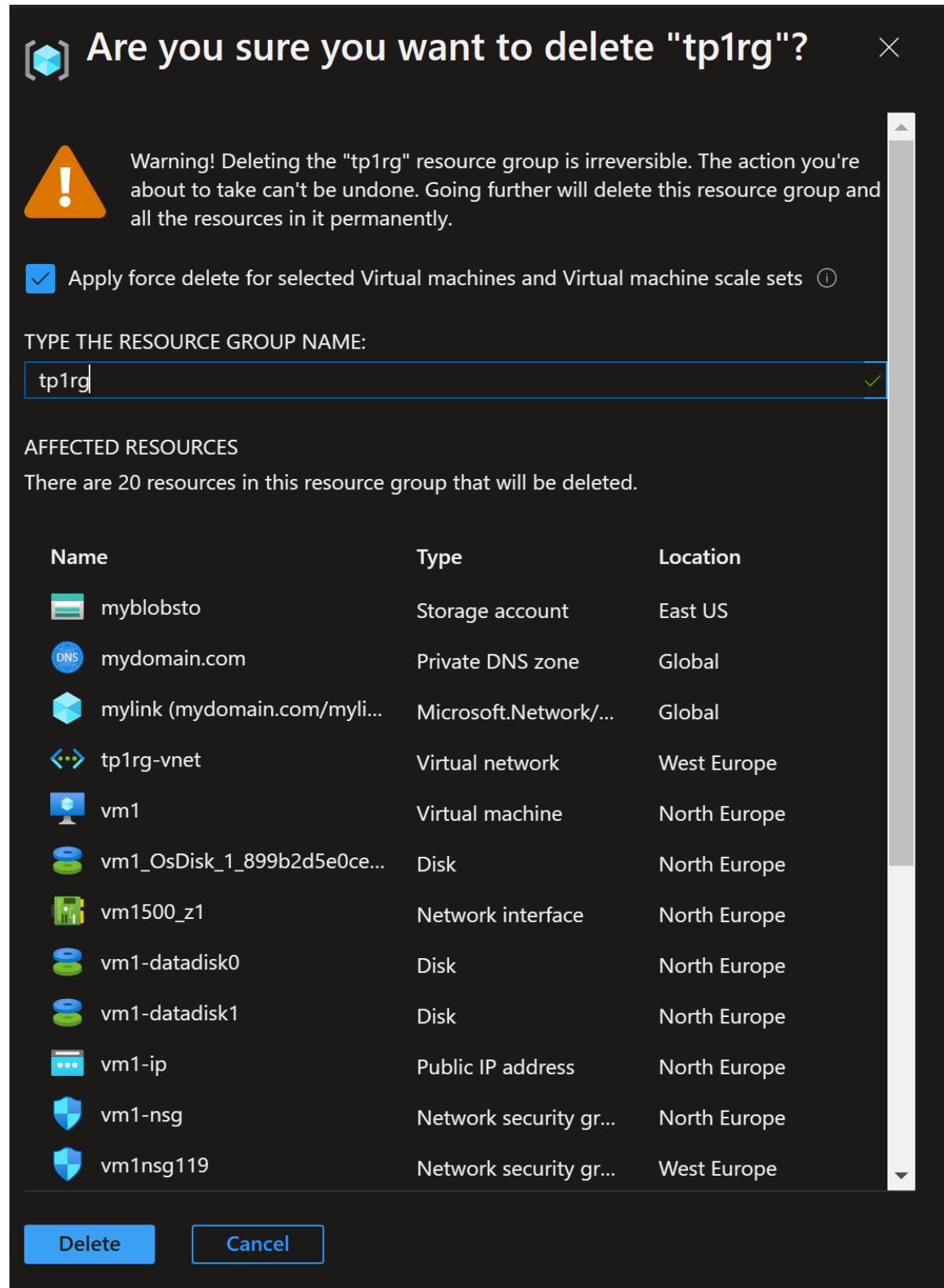
```
DiskPath: \\?\storage#disk#{04829ff7-d919-45f5-b498-081d50d06d32}#{53f56307-b6bf-11d0-94f2-00a0c91efb8
b}

PartitionNumber DriveLetter Offset Size Type
----- ----- -----
2 Z 16777216 2 TB Basic
```

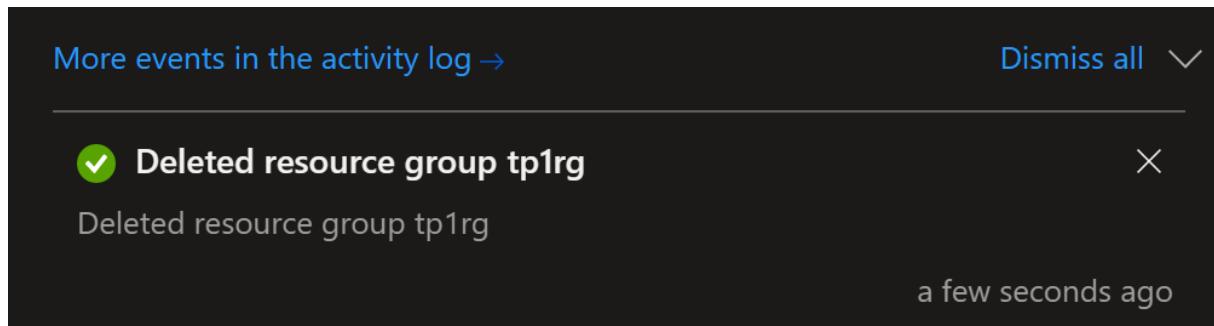
- `New-Partition` is used to create a new partition on a disk. The partition is a logical grouping of storage space that is used to create a volume.

### 3.14 27. Cleaning up

This is a way to quickly remove all the work we've done inside the resource group, whether a VM resource, network, subnets, assigned IP, disks etc...



It will take a moment, and done.



Everything within the resource is now deleted.

## **4 Conclusion**

In this lab, we learned how to create a Virtual Network, Subnets, Network Security Groups, Virtual Machines, Storage Accounts and Disks.

We also learned how to create a custom script extension, how to create a Private DNS Zone and a Private DNS Zone Virtual Network Link.

We also learned how to create a Private DNS Zone and a Private DNS Zone Virtual Network Link.

---

Lab By Mrs. Imen Mami.