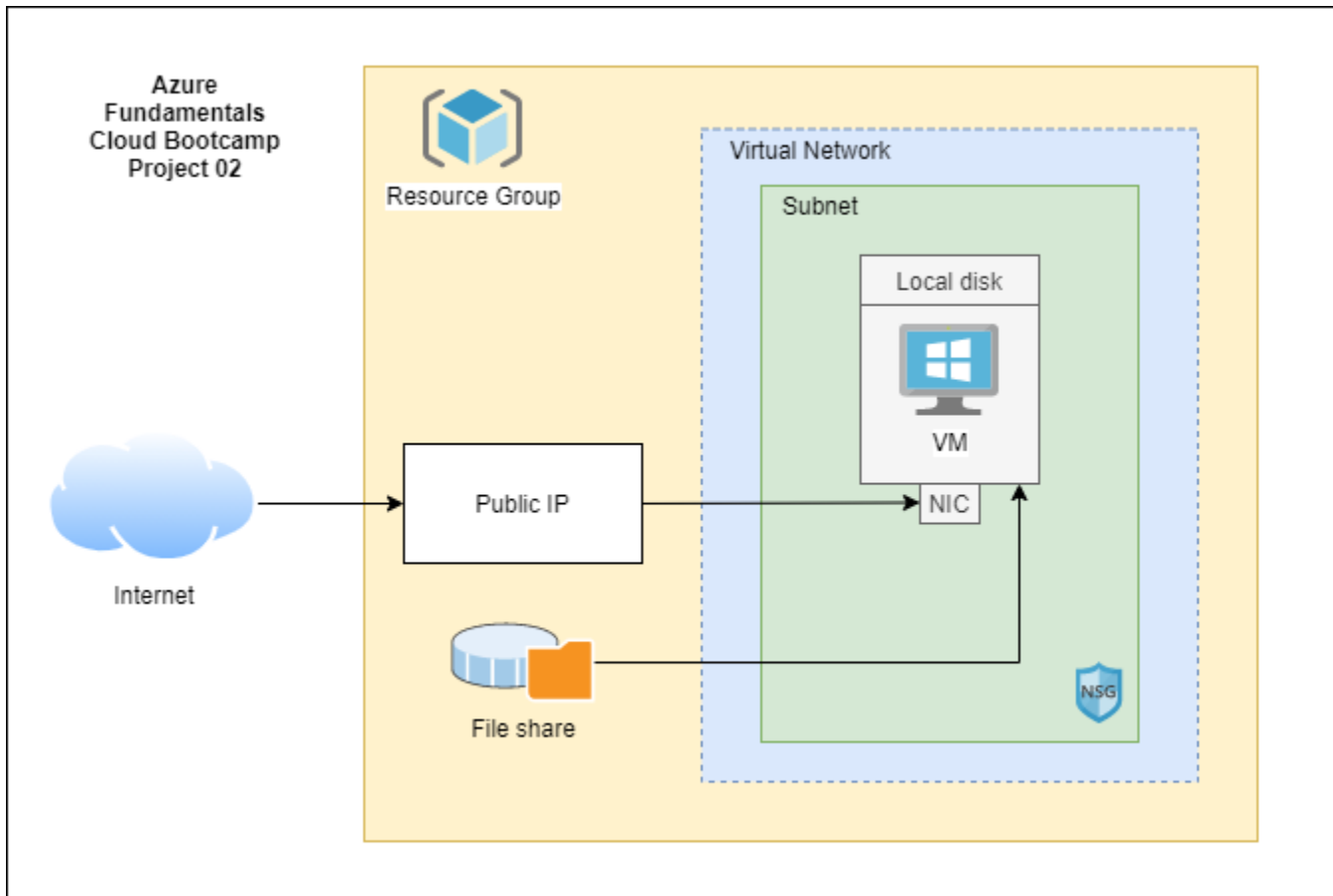


# Azure Fundamentals Cloud Bootcamp Project 02

- High-level Diagram



## - Azure Dashboard

The screenshot shows the Microsoft Azure portal home dashboard. At the top, there's a navigation bar with the Microsoft Azure logo, an 'Upgrade' button, a search bar, and user information. Below the navigation bar, the 'Azure services' section displays various service icons like 'Create a resource', 'Cost Management', 'Users', 'Storage accounts', 'Security', 'Azure AD Domain...', 'Azure Active Directory', 'AD Connect', 'Quickstart Center', and 'More services'. The 'Recent resources' section features a table listing recently viewed resources. The 'Navigate' section at the bottom provides quick access to 'Subscriptions', 'Resource groups', 'All resources', and the 'Dashboard'.

Name	Type	Last Viewed
myVM	Virtual machine	4 days ago
thanaponwutsg	Storage account	5 days ago
myVM_disk1_fd385db43d1d4e208a3d86282b1f12ed	Disk	5 days ago
myResourceGroup	Resource group	5 days ago
myvm224	Network interface	5 days ago
myVM-ip	Public IP address	5 days ago
myResourceGroup-vnet	Virtual network	5 days ago
myVM-nsg	Network security group	5 days ago
Azure subscription 1	Subscription	5 days ago

## - Resource Group

The screenshot displays the 'myResourceGroup' overview page in the Azure portal. The left sidebar contains navigation links for Overview, Activity log, Access control (IAM), Tags, Resource visualizer, Events, Settings, Deployments, Security, Policies, Properties, Locks, Cost Management, Cost analysis, Cost alerts (preview), Budgets, and Advisor recommendations. The main content area shows the 'Essentials' section with details about the resource group, including its subscription, ID, location, and tags. Below this, a table lists the resources within the group, filtered by 'Type == all' and 'Location == all'. The table columns are Name, Type, and Location. The resources listed are myResourceGroup-vnet, myVM, myVM-ip, myVM-nsg, myvm224, myVM\_disk1\_fd385db43d1d4e208a3d86282b1f12ed, and thanaponwutsg. The page also includes a search bar, action buttons (Create, Edit columns, Delete resource group, Refresh, Export to CSV, Open query, Assign tags, Move, Delete, Export template), and pagination controls at the bottom.

Name	Type	Location
myResourceGroup-vnet	Virtual network	East US
myVM	Virtual machine	East US
myVM-ip	Public IP address	East US
myVM-nsg	Network security group	East US
myvm224	Network interface	East US
myVM_disk1_fd385db43d1d4e208a3d86282b1f12ed	Disk	East US
thanaponwutsg	Storage account	East US

- Network Security Group
  - o Allow 3389 for remote desktop (testing purpose only)
  - o Allow 80 for web access testing
  - o Deny any other ports by default

The screenshot shows the Microsoft Azure portal interface for a Network Security Group named 'myVM-nsg'. The left sidebar contains navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Network interfaces, Subnets, Properties, Locks, Monitoring, Alerts, Diagnostic settings, Logs, and NSG flow logs. The main content area displays the 'Essentials' section with details about the resource group, location, subscription, and tags. Below this, the 'Inbound Security Rules' table is visible, with a red box highlighting the first three rules: RDP (3389), HTTP (80), and a default deny rule (65500).

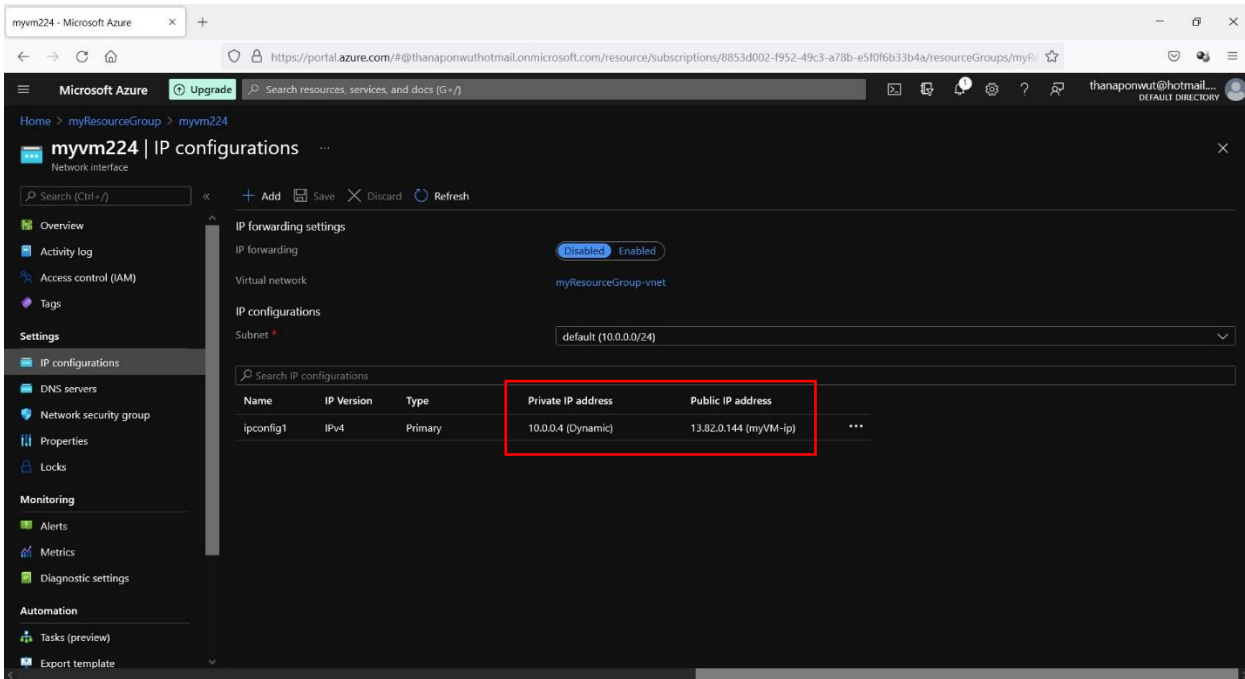
Priority	Name	Port	Protocol	Source	Destination	Action
300	RDP	3389	TCP	Any	Any	Allow
320	HTTP	80	TCP	Any	Any	Allow
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	Allow
65500	DenyAllInBound	Any	Any	Any	Any	Deny

## - Virtual Machine

The screenshot shows the Microsoft Azure portal interface for a Virtual Machine named 'myVM'. The left sidebar contains navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Networking, Connect, Windows Admin Center (preview), Disks, Size, Security, Advisor recommendations, Extensions, Continuous delivery, Availability + scaling, and Configuration. The main content area displays the 'Essentials' section with details about the resource group, location, subscription, and tags. Below this, the 'Properties' section is visible, showing details about the virtual machine's configuration, including the operating system, size, public IP address, and network settings.

Property	Value
Computer name	myVM
Operating system	Windows
Publisher	MicrosoftWindowsServer
Offer	WindowsServer
Plan	2016-Datacenter
VM generation	V1
Agent status	Not Ready
Agent version	Unknown
Host group	None
Host	-

- VM network interface (mapping private IP to Public IP)



myvm224 - Microsoft Azure

https://portal.azure.com/#@thanaponwut@hotmail.onmicrosoft.com/resource/subscriptions/8853d002-f952-49c3-a78b-e5f0f6b33b4a/resourceGroups/myR...

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

Home > myResourceGroup > myvm224

myvm224 | IP configurations Network interface

Overview Activity log Access control (IAM) Tags Settings IP configurations DNS servers Network security group Properties Locks Monitoring Alerts Metrics Diagnostic settings Automation Tasks (preview) Export template

IP forwarding settings

IP forwarding: Disabled Enabled

Virtual network: myResourceGroup-vnet

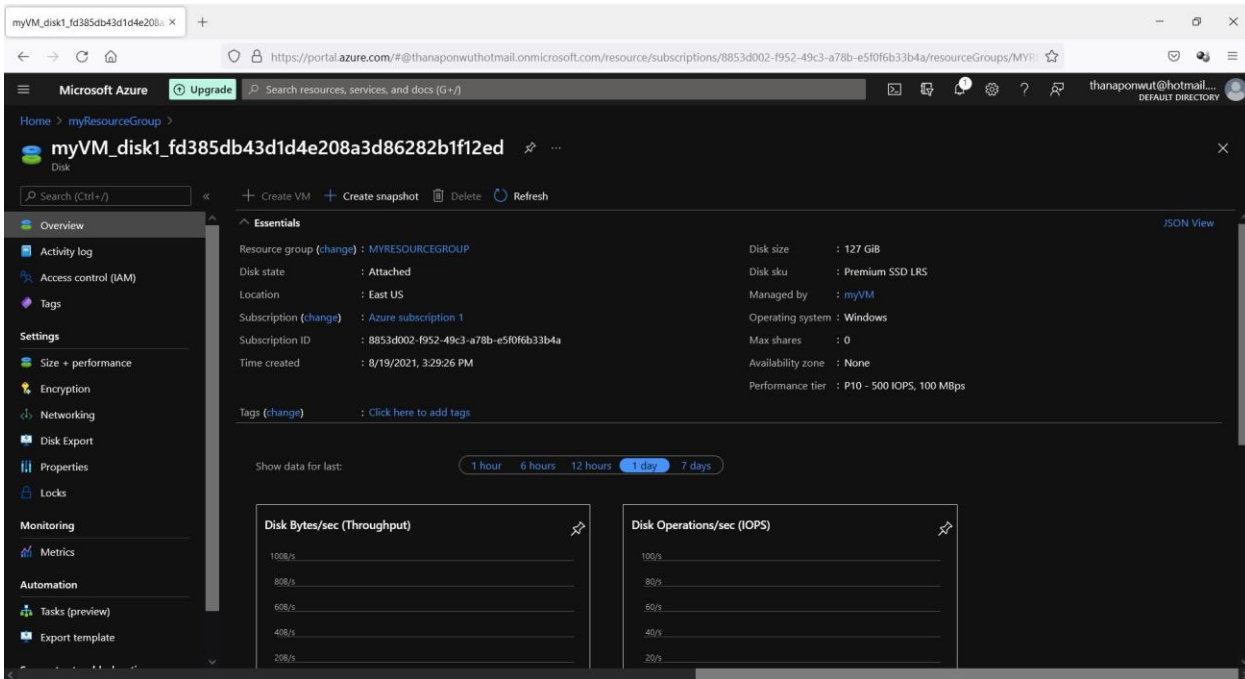
IP configurations

Subnet: default (10.0.0.0/24)

Search IP configurations

Name	IP Version	Type	Private IP address	Public IP address	
ipconfig1	IPv4	Primary	10.0.0.4 (Dynamic)	13.82.0.144 (myVM-ip)	...

- VM local disk



myVM\_disk1\_fd385db43d1d4e208a3d86282b1f12ed - Microsoft Azure

https://portal.azure.com/#@thanaponwut@hotmail.onmicrosoft.com/resource/subscriptions/8853d002-f952-49c3-a78b-e5f0f6b33b4a/resourceGroups/MYR...

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

Home > myResourceGroup > myVM\_disk1\_fd385db43d1d4e208a3d86282b1f12ed

myVM\_disk1\_fd385db43d1d4e208a3d86282b1f12ed Disk

Overview Activity log Access control (IAM) Tags Settings Size + performance Encryption Networking Disk Export Properties Locks Monitoring Metrics Automation Tasks (preview) Export template

Essentials

Resource group (change): MYRESOURCEGROUP

Disk size: 127 GiB

Disk state: Attached

Disk sku: Premium SSD LRS

Location: East US

Managed by: myVM

Subscription (change): Azure subscription 1

Operating system: Windows

Subscription ID: 8853d002-f952-49c3-a78b-e5f0f6b33b4a

Max shares: 0

Time created: 8/19/2021, 3:29:26 PM

Availability zone: None

Performance tier: P10 - 500 IOPS, 100 MBps

Tags (change): Click here to add tags

Show data for last: 1 hour 6 hours 12 hours 1 day 7 days

Disk Bytes/sec (Throughput)

Disk Operations/sec (IOPS)

## - VM virtual network

The screenshot displays the Azure portal interface for a virtual network named 'myResourceGroup-vnet'. The left sidebar contains navigation options such as 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, and Properties. The main content area shows the 'Essentials' section with the following details:

- Resource group (change): myResourceGroup
- Location: East US
- Subscription (change): Azure subscription 1
- Subscription ID: 8853d002-f952-49c3-a78b-e5f0f6b33b4a
- Tags (change): Click here to add tags
- Address space: 10.0.0.0/24
- DNS servers: Azure provided DNS service

Below the Essentials section, the 'Connected devices' table is shown:

Device	Type	IP Address	Subnet
myvm224	Network interface	10.0.0.4	default

## - Storage account (create file share and mapping to VM)

The screenshot displays the Azure portal interface for a storage account named 'thanaponwutsg'. The left sidebar contains navigation options such as Overview, Activity log, Tags, Diagnose and solve problems, Access Control (IAM), Data migration, Events, Storage Explorer (preview), Data storage, Containers, File shares, Queues, Tables, Security + networking, Networking, Azure CDN, and Access keys. The main content area shows the 'File share settings' section with the following details:

- Active Directory: Not configured
- Soft delete: 7 days
- Maximum capacity: 5 TiB

Below the settings, the 'File shares' table is shown:

Name	Modified	Tier	Quota
fileshare	8/19/2021, 4:40:15 PM	Transaction optimized	5 TiB

## - Mapping file share to VM

The screenshot shows a Windows PowerShell window with the following commands and output:

```
PS C:\Users\azureuser> Test-NetConnection -ComputerName thanaponutsg.file.core.windows.net -Port 445

ComputerName : thanaponutsg.file.core.windows.net
RemoteAddress : 20.60.7.104
RemotePort : 445
InterfaceAlias : Ethernet 2
SourceAddress : 10.0.0.4
TcpTestSucceeded : True

PS C:\Users\azureuser> $connectTestResult = Test-NetConnection -ComputerName thanaponutsg.file.core.windows.net -Port 445
45
PS C:\Users\azureuser> if ($connectTestResult.TcpTestSucceeded) {
    >>> cmd.exe /C "cmdkey /add: "/>
    >>> New-PSDrive -Name Z -PSProvider FileSystem -Root "\\thanaponutsg.file.core.windows.net\fileshare" -Persist
    >>> } else {
    >>> Write-Error -Message "Unable to reach the Azure storage account via port 445. Check to make sure your organization
    >>> or ISP is not blocking port 445, or use Azure P2S VPN, Azure S2S VPN, or Express Route to tunnel SMB traffic over a di
    >>> fferent port."
    >>> }
CMDKEY: Credential added successfully.

Name Used (GB) Free (GB) Provider Root CurrentLocation
-----
Z 0.00 5120.00 FileSystem \\thanaponutsg.file.core.window...
```

The File Explorer window shows the mapped drive Z: with a search bar and a "Hide" button.

## - Test access file share

The screenshot shows a Windows PowerShell window with the following commands and output:

```
PS C:\Users\azureuser> Test-NetConnection -ComputerName thanaponutsg.file.core.windows.net -Port 445

ComputerName : thanaponutsg.file.core.windows.net
RemoteAddress : 20.60.7.104
RemotePort : 445
InterfaceAlias : Ethernet 2
SourceAddress : 10.0.0.4
TcpTestSucceeded : True

PS C:\Users\azureuser> $connectTestResult = Test-NetConnection -ComputerName thanaponutsg.file.core.windows.net -Port 445
45
PS C:\Users\azureuser> if ($connectTestResult.TcpTestSucceeded) {
    >>> cmd.exe /C "cmdkey /add: "/>
    >>> New-PSDrive -Name Z -PSProvider FileSystem -Root "\\thanaponutsg.file.core.windows.net\fileshare" -Persist
    >>> } else {
    >>> Write-Error -Message "Unable to reach the Azure storage account via port 445. Check to make sure your organization
    >>> or ISP is not blocking port 445, or use Azure P2S VPN, Azure S2S VPN, or Express Route to tunnel SMB traffic over a di
    >>> fferent port."
    >>> }
CMDKEY: Credential added successfully.

Name Used (GB) Free (GB) Provider Root CurrentLocation
-----
Z 0.00 5120.00 FileSystem \\thanaponutsg.file.core.window...
```

The File Explorer window shows the mapped drive Z: with a search bar and a "Hide" button. The search bar contains the text "fileshare (\\thanaponutsg.file.core.windows.net) (Z:) > test".

The Notepad window shows the text "test test test".

## - Public IP address

The screenshot shows the 'myVM-ip | Configuration' page in the Microsoft Azure portal. The page is for a Public IP address. The left sidebar contains navigation links for Overview, Activity log, Access control (IAM), Tags, Settings, Configuration, Properties, Locks, Monitoring, Alerts, Metrics, Diagnostic settings, Logs, Automation, Tasks (preview), and Export template. The main content area shows the IP address assignment settings. The 'IP address assignment' is set to 'Dynamic'. The 'IP address' is '13.82.0.144'. The 'Idle timeout (minutes)' is set to 4. The 'DNS name label (optional)' is empty. Below this, there is a section for 'Alias record sets' with a link to 'Create an alias record in Azure DNS'. At the bottom, there is a table with columns: Subscription, DNS zone, Name, Type, and TTL. The table shows 'No results'.

## - Access Control (IAM)

- Thanapon: Owner
- Wuthisoonthronlert: Contributor
- Luis: Reader

The screenshot shows the 'myResourceGroup | Access control (IAM)' page in the Microsoft Azure portal. The page displays the role assignments for the resource group. The left sidebar contains navigation links for Overview, Activity log, Access control (IAM), Tags, Resource visualizer, Events, Settings, Deployments, Security, Policies, Properties, Locks, Cost Management, Cost analysis, Cost alerts (preview), Budgets, and Advisor recommendations. The main content area shows the 'Role assignments' tab. It displays the 'Number of role assignments for this subscription' as 4. Below this, there is a search bar and filters for Type, Role, Scope, and Group by. The table shows 3 items (3 Users) with columns: Name, Type, Role, Scope, and Condition. The table lists three users: Wuthisoonthronlert (Guest) as Contributor, Thanapon Wuthisoonthronlert as Owner, and Luis Pagan (Guest) as Reader.

Name	Type	Role	Scope	Condition
Wuthisoonthronlert (Guest) wuthisoonthronlert@hotmail...	User	Contributor	This resource	None
Thanapon Wuthisoonthronlert thanaponwut_hotmail.com#...	User	Owner	Subscription (Inherited)	None
Luis Pagan (Guest) luis.pagan@quickstart.com	User	Reader	This resource	None



- Contributor: Full access, but does not allow to assign roles

myResourceGroup - Microsoft Azure

myResourceGroup | Access control (IAM)

Check access Role assignments Roles Deny assignments Classic administrators

Number of role assignments for this subscription 4 2000

Search by name or email Type: All Role: All Scope: All scopes Group by: Role

3 items (3 Users)

Name	Type	Role	Scope	Condition
<input type="checkbox"/> wuthisoonthornlert (Guest) wuthisoonthornlert@hotmail...	User	Contributor	This resource	None
<input type="checkbox"/> Thanapon Wuthisoonthornlert thanaponwut_hotmail.com#...	User	Owner	Subscription (Inherited)	None
<input type="checkbox"/> Luis Pagan (Guest) luis.pagan@quickstart.com	User	Reader	This resource	None

- Owner: Full access to manage all resources

myResourceGroup - Microsoft Azure

myResourceGroup | Access control (IAM)

Check access Role assignments Roles Deny assignments Classic administrators

Number of role assignments for this subscription 4 2000

Search by name or email Type: All Role: All Scope: All scopes Group by: Role

3 items (3 Users)

Name	Type	Role	Scope	Condition
<input type="checkbox"/> wuthisoonthornlert (Guest) wuthisoonthornlert@hotmail...	User	Contributor	This resource	None
<input type="checkbox"/> Thanapon Wuthisoonthornlert thanaponwut_hotmail.com#...	User	Owner	Subscription (Inherited)	None
<input type="checkbox"/> Luis Pagan (Guest) luis.pagan@quickstart.com	User	Reader	This resource	None



- Reader: Can view all resources, but does not allow to make any changes

myResourceGroup | Access control (IAM)

Number of role assignments for this subscription: 4 / 2000

Search by name or email: [Search] Type: All Role: All Scope: All scopes Group by: Role

Name	Type	Role	Scope	Condition
<b>Contributor</b>				
<input type="checkbox"/> wuthisoonthronlert (Guest) wuthisoonthronlert@hotmail.com	User	Contributor	This resource	None
<b>Owner</b>				
<input type="checkbox"/> Thanapon Wuthisoonthronlert thanaponwut_hotmail.com#...	User	Owner	Subscription (Inherited)	None
<b>Reader</b>				
<input type="checkbox"/> Luis Pagan (Guest) luis.pagan@quickstart.com	User	Reader	This resource	None

- Test log in to contributor account: full access, but cannot modify roles

myResourceGroup | Access control (IAM)

Buttons: Add role assignment (disabled), Add co-administrator (disabled), Add custom role (disabled)

View my level of access to this resource.

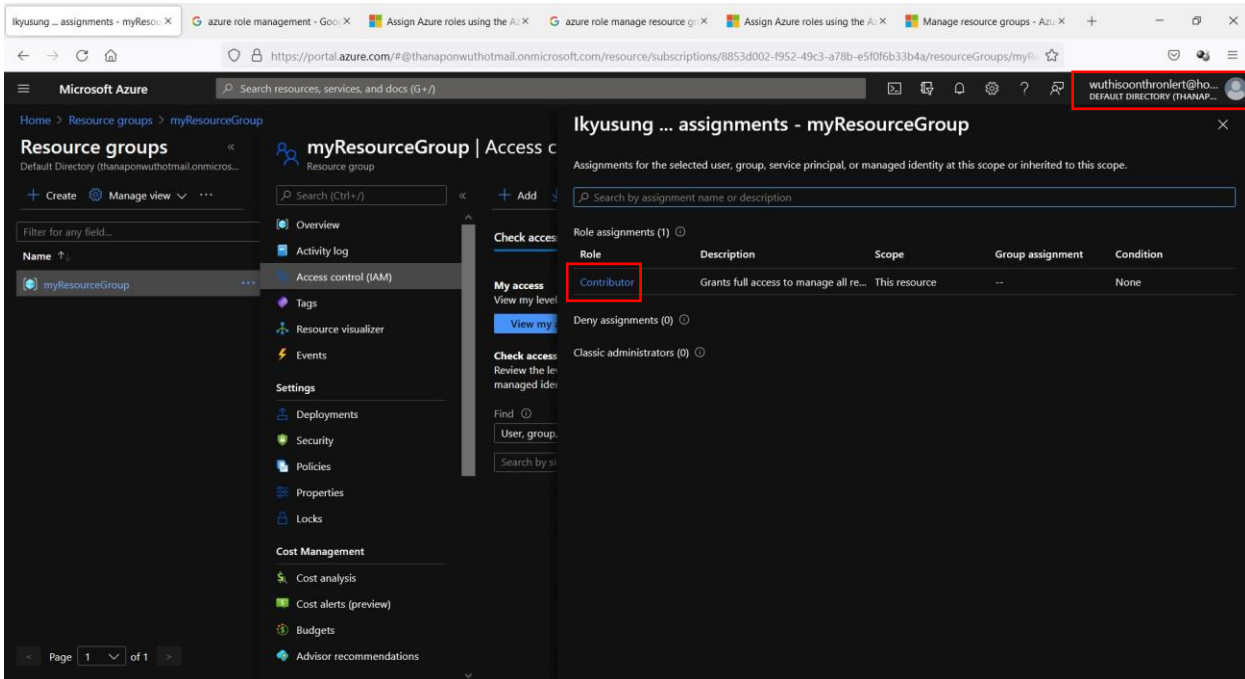
Check access: Review the level of access a user, group, service principal, or managed identity has to this resource.

Find: [Search] User, group, or service principal [Dropdown] Search by sign-in name [Search]

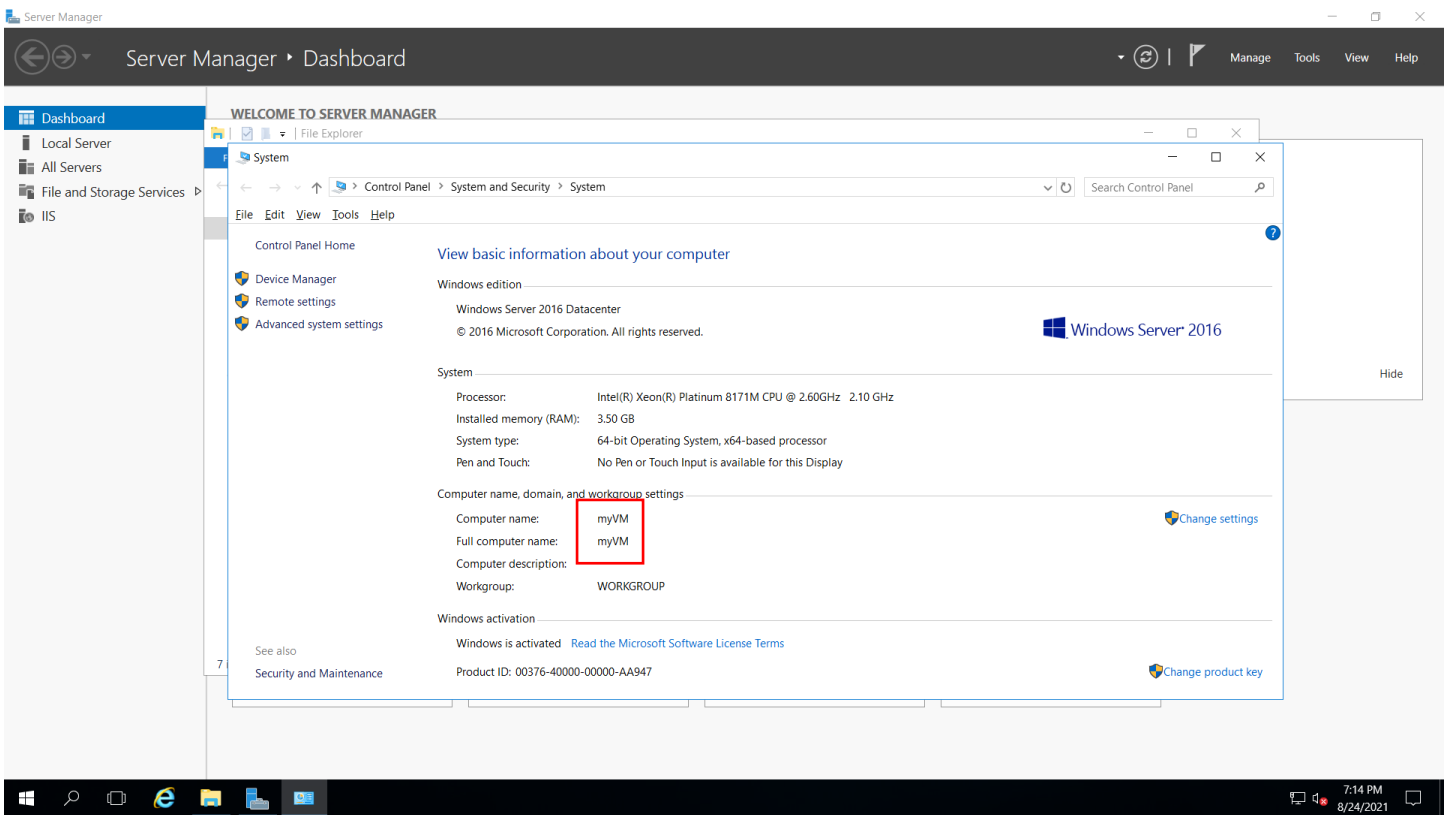
Grant access to this resource: Grant access to resources by assigning a role. Add role assignment (Preview) Use the classic experience

View access to this resource: View the role assignments that grant access to this and other resources. View Learn more

View deny assignments: View the role assignments that have been denied access to specific actions at this scope.



- Log on to VM



- Install IIS web service to VM, and test access from the internet

