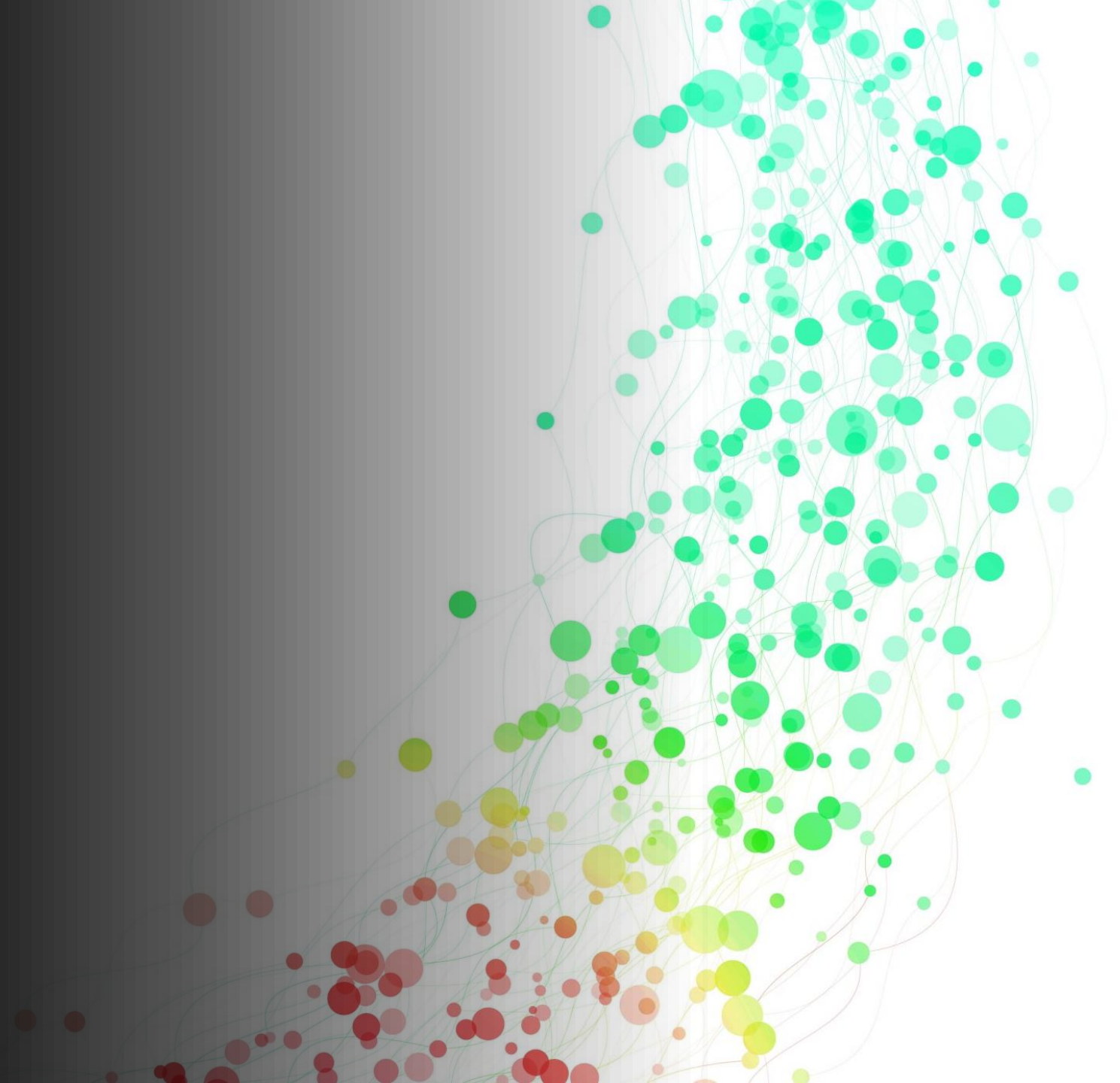
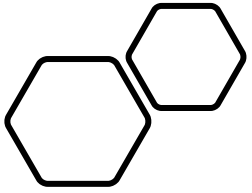




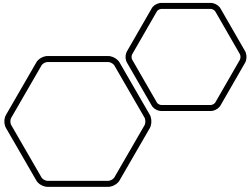
NETW211 Final Project





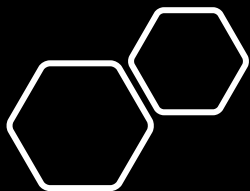
Introduction

This project covers a lot of the basics of VM's, everything from deploying a VM, creating subnets, verifying the connections between to VM's , accessing files , blob snapshots and testing alerts and few more of the many things that can be done with a VM.



Career Skills

- Deploying VMs
- Testing connections between different VM's
- Configuring a NSG
- Testing alerts



Deploying a VM in Azure

Microsoft Azure portal screenshot showing the details of a virtual machine named **NETW211VM**.

Overview

Search resources, services, and docs (G+)

Home > CreateVm-MicrosoftWindowsServer.WindowsServer-201-20221105165107 | Overview >

NETW211VM
Virtual machine

Connect Start Restart Stop Capture Delete Refresh Open in mobile CLI / PS Feedback

Essentials

Resource group (move) : [NETW211-BS](#)
Status : Running
Location : East US (Zone 1)
Subscription (move) : [Azure for Students](#)
Subscription ID : e5c5ada3-cb59-4176-8b31-a0d0eaa644b3
Availability zone : 1
Tags (edit) : [Click here to add tags](#)

Operating system : Windows (Windows Server 2019 Datacenter)
Size : Standard B1s (1 vcpu, 1 GiB memory)
Public IP address : [20.102.88.195](#)
Virtual network/subnet : [NETW211-BS-vnet/default](#)
DNS name : [Not configured](#)

Properties Monitoring Capabilities (8) Recommendations Tutorials

Virtual machine

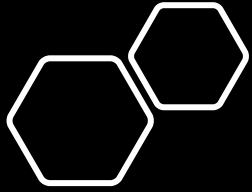
Computer name	NETW211VM
Health state	-
Operating system	Windows (Windows Server 2019 Datacenter)
Publisher	MicrosoftWindowsServer
Offer	WindowsServer
Plan	2019-datacenter-gensecond
VM generation	V2
VM architecture	x64
Agent status	Ready
Agent version	2.7.41491.1044

Networking

Public IP address	20.102.88.195
Public IP address (IPv6)	-
Private IP address	10.0.0.4
Private IP address (IPv6)	-
Virtual network/subnet	NETW211-BS-vnet/default
DNS name	Configure

Size

Size	Standard B1s
vCPUs	1



Connecting to the VM

The screenshot displays the Windows Server Manager interface for a local server named NETW211VM. The left-hand navigation pane includes links to the Dashboard, Local Server (which is currently selected), All Servers, and File and Storage Services. The main area is titled 'PROPERTIES For NETW211VM' and contains a table of system information. Below this, an 'EVENTS' section shows a single event log entry.

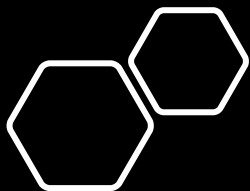
Computer name		Last installed updates	
Computer name	NETW211VM	Last installed updates	Today at 10:02 PM
Workgroup	WORKGROUP	Windows Update	Install updates automatically using Windows Update
		Last checked for updates	Today at 10:01 PM

Windows Defender Firewall		Windows Defender Antivirus	
Remote management	Private: On	Windows Defender Antivirus	Real-Time Protection: On
Remote Desktop	Enabled	Feedback & Diagnostics	Settings
NIC Teaming	Enabled	IE Enhanced Security Configuration	On
Ethernet	Disabled	Time zone	(UTC) Coordinated Universal Time
	IPv4 address assigned by DHCP, IPv6 enabled	Product ID	00430-00000-00000-AA581 (activated)

Operating system version		Processors	
Operating system version	Microsoft Windows Server 2019 Datacenter	Processors	Intel(R) Xeon(R) Platinum 8171M CPU @ 2.60GHz
Hardware information	Microsoft Corporation Virtual Machine	Installed memory (RAM)	1 GB
		Total disk space	130.45 GB

EVENTS
All events | 1 total

Server Name	ID	Severity	Source	Log	Date and Time
NETW211VM	7031	Error	Microsoft-Windows-Service Control Manager	System	11/5/2022 10:03:03 PM



- Deleting the VM

Resource groups - Microsoft Azure

https://portal.azure.com/?Microsoft_Azure_Education_correlationId=872869a4e951462392665e23293c073a8&Microsoft_Azure_Education_newA4E=true&Microsoft_A...

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

bsisk3@my.devry.edu DEVRY UNIVERSITY (MYDEVRYE...)

Home >

Resource groups

DeVry University (mydevryedu.onmicrosoft.com)

+ Create Manage view Refresh Export to CSV Open query Assign tags

Filter for any field... Subscription equals all Location equals all Add filter

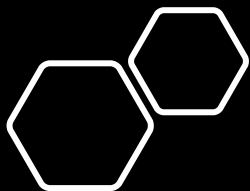
0 Unsecure resources 0 Recommendations

No grouping List view

<input type="checkbox"/> Name ↑↓	Subscription ↑↓	Location ↑↓	
<input type="checkbox"/> NetworkWatcherRG	Azure for Students	East US	...

< Previous Page 1 of 1 Next > Showing 1 to 1 of 1 records.

Give feedback



Deploying a VM in Azure

Microsoft Azure portal screenshot showing the details of a virtual machine named NETW211VM.

Overview

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Settings
 - Networking
 - Connect
 - Windows Admin Center
 - Disks
 - Size
 - Microsoft Defender for Cloud
 - Advisor recommendations
 - Extensions + applications
 - Continuous delivery
 - Availability + scaling
- Configuration
- Identity
- Properties

Essentials

Resource group (move)	: NETW211-BS	Operating system	: Windows (Windows Server 2019 Datacenter)
Status	: Running	Size	: Standard B1s (1 vcpu, 1 GiB memory)
Location	: East US (Zone 1)	Public IP address	: 20.102.88.195
Subscription (move)	: Azure for Students	Virtual network/subnet	: NETW211-BS-vnet/default
Subscription ID	: e5c5ada3-cb59-4176-8b31-a0d0eaa644b3	DNS name	: Not configured
Availability zone	: 1		
Tags (edit)	: Click here to add tags		

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

Virtual machine

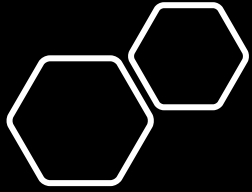
Computer name	NETW211VM
Health state	-
Operating system	Windows (Windows Server 2019 Datacenter)
Publisher	MicrosoftWindowsServer
Offer	WindowsServer
Plan	2019-datacenter-gensecond
VM generation	V2
VM architecture	x64
Agent status	Ready
Agent version	2.7.41491.1044

Networking

Public IP address	20.102.88.195
Public IP address (IPv6)	-
Private IP address	10.0.0.4
Private IP address (IPv6)	-
Virtual network/subnet	NETW211-BS-vnet/default
DNS name	Configure

Size

Size	Standard B1s
vCPUs	1

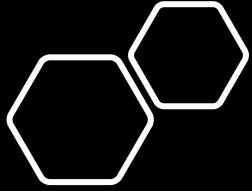


Connecting to the VM

The screenshot displays the Windows Server Manager interface for a local server named NETW211VM. The left-hand navigation pane includes links to the Dashboard, Local Server (which is currently selected), All Servers, and File and Storage Services. The main area is titled 'PROPERTIES For NETW211VM' and contains a table of system information. Below this, an 'EVENTS' section shows a single event log entry.

Computer name		Last installed updates	
Computer name	NETW211VM	Last installed updates	Today at 10:02 PM
Workgroup	WORKGROUP	Windows Update	Install updates automatically using Windows Update
		Last checked for updates	Today at 10:01 PM
Windows Defender Firewall		Private: On	Windows Defender Antivirus
Remote management	Enabled		Real-Time Protection: On
Remote Desktop	Enabled		Settings
NIC Teaming	Disabled		IE Enhanced Security Configuration
Ethernet	IPv4 address assigned by DHCP, IPv6 enabled		On
		Time zone	(UTC) Coordinated Universal Time
		Product ID	00430-00000-00000-AA581 (activated)
Operating system version	Microsoft Windows Server 2019 Datacenter	Processors	Intel(R) Xeon(R) Platinum 8171M CPU @ 2.60GHz
Hardware information	Microsoft Corporation Virtual Machine	Installed memory (RAM)	1 GB
		Total disk space	130.45 GB

Server Name	ID	Severity	Source	Log	Date and Time
NETW211VM	7031	Error	Microsoft-Windows-Service Control Manager	System	11/5/2022 10:03:03 PM



Creating a VNet with Two Subnets

- 1. With a /24 network prefix, how many **usable** IPv4 host addresses are there? [hint: you learned this in NETW191]
- Answer here: 254
-
- 2. Given the answer above, why is the number of available IP addresses for Subnet0 (10.0.0.0/24) or Subnet1 (10.0.1.0/24) shown as 251? [hint: where did the missing addresses go?]
- Answer here: In IPv4, there are two IPs that cannot be assigned to any devices. These are the **Network ID** and the **Broadcast IP address**. Therefore, you need to subtract two addresses from the total IP formula.
- References (here are two examples to get your research started):
- 1. IP Subnet Calculator, <https://www.calculator.net/ip-subnet-calculator.html>
- 2. Azure Virtual Network frequently asked questions, <https://docs.microsoft.com/en-us/azure/virtual-network/virtual-networks-faq>
- 3. <https://hub.packtpub.com/understanding-address-spaces-and-subnetting-in-ipv4-tutorial/>
- 4.



Deploying VMs into Subnets

The screenshot displays the Microsoft Azure portal interface. The browser address bar shows the URL: <https://portal.azure.com/#@mydevryedu.onmicrosoft.com/resource/subscriptions/e5c5ada3-cb59-4176-8b31-a0d0eaa644b3/resourcegroups/NETW211-RG/pr...>. The page title is "Subnet0-VM - Microsoft Azure". The breadcrumb navigation shows: Home > CreateVm-MicrosoftWindowsServer.WindowsServer-201-20221110162102 | Overview >.

The main content area shows the "Subnet0-VM" virtual machine details. A warning banner at the top states: "Subnet0-VM virtual machine agent status is not ready. Troubleshoot the issue →".

Essentials

Property	Value	Property	Value
Resource group (move)	NETW211-RG	Operating system	Windows (Windows Server 2019 Datacenter)
Status	Running	Size	Standard B1s (1 vcpu, 1 GiB memory)
Location	East US	Public IP address	52.146.35.173
Subscription (move)	Azure for Students	Virtual network/subnet	NETW211-VNet-BS/Subnet0
Subscription ID	e5c5ada3-cb59-4176-8b31-a0d0eaa644b3	DNS name	Not configured
Tags (edit)	Click here to add tags		

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

Virtual machine

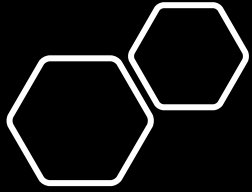
Property	Value	Property	Value
Computer name	Subnet0-VM	Public IP address	52.146.35.173
Health state	-	Public IP address (IPv6)	-
Operating system	Windows	Private IP address	10.0.0.4
Publisher	MicrosoftWindowsServer	Private IP address (IPv6)	-
Offer	WindowsServer	Virtual network/subnet	NETW211-VNet-BS/Subnet0
Plan	2019-datacenter-gensecond	DNS name	Configure
VM generation	V2		

Networking

Property	Value
Public IP address	52.146.35.173
Public IP address (IPv6)	-
Private IP address	10.0.0.4
Private IP address (IPv6)	-
Virtual network/subnet	NETW211-VNet-BS/Subnet0
DNS name	Configure

The left sidebar contains the following navigation items: Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Networking, Connect, Windows Admin Center, Disks, Size, Microsoft Defender for Cloud, Advisor recommendations, Extensions + applications, Continuous delivery, Availability + scaling, Configuration, and Identity.

The bottom of the screen shows a Windows taskbar with the search bar "Type here to search", several application icons, and system tray information including "70°F Mostly cloudy" and the time "4:34 PM 11/10/2022".



Deploying VMs into Subnets cont'd

The screenshot shows the Microsoft Azure portal interface. The browser address bar displays the URL: <https://portal.azure.com/#@mydevryedu.onmicrosoft.com/resource/subscriptions/e5c5ada3-cb59-4176-8b31-a0d0eaa644b3/resourcegroups/NETW211-RG/pr...>. The page title is "Subnet1-VM - Microsoft Azure". The main content area shows the details for the virtual machine "Subnet1-VM".

Subnet1-VM
Virtual machine

Search

Connect Start Restart Stop Capture Delete Refresh Open in mobile CLI / PS Feedback

Overview

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

Settings

- Networking
- Connect
- Windows Admin Center
- Disks
- Size
- Microsoft Defender for Cloud
- Advisor recommendations
- Extensions + applications
- Continuous delivery
- Availability + scaling
- Configuration
- Identity
- Properties

Subnet1-VM virtual machine agent status is not ready. Troubleshoot the issue →

Essentials

Resource group (move)	: NETW211-RG	Operating system	: Windows
Status	: Running	Size	: Standard B1s (1 vcpu, 1 GiB memory)
Location	: East US	Public IP address	: 20.228.182.250
Subscription (move)	: Azure for Students	Virtual network/subnet	: NETW211-VNet-BS/Subnet1
Subscription ID	: e5c5ada3-cb59-4176-8b31-a0d0eaa644b3	DNS name	: Not configured
Tags (edit)	: Click here to add tags		

Properties Monitoring Capabilities (8) Recommendations Tutorials

Virtual machine

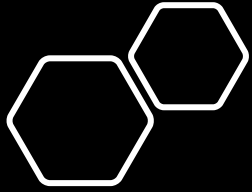
Computer name	Subnet1-VM
Health state	-
Operating system	Windows
Publisher	MicrosoftWindowsServer
Offer	WindowsServer
Plan	2019-datacenter-gensecond
VM generation	V2
VM architecture	x64
Agent status	Not Ready

Networking

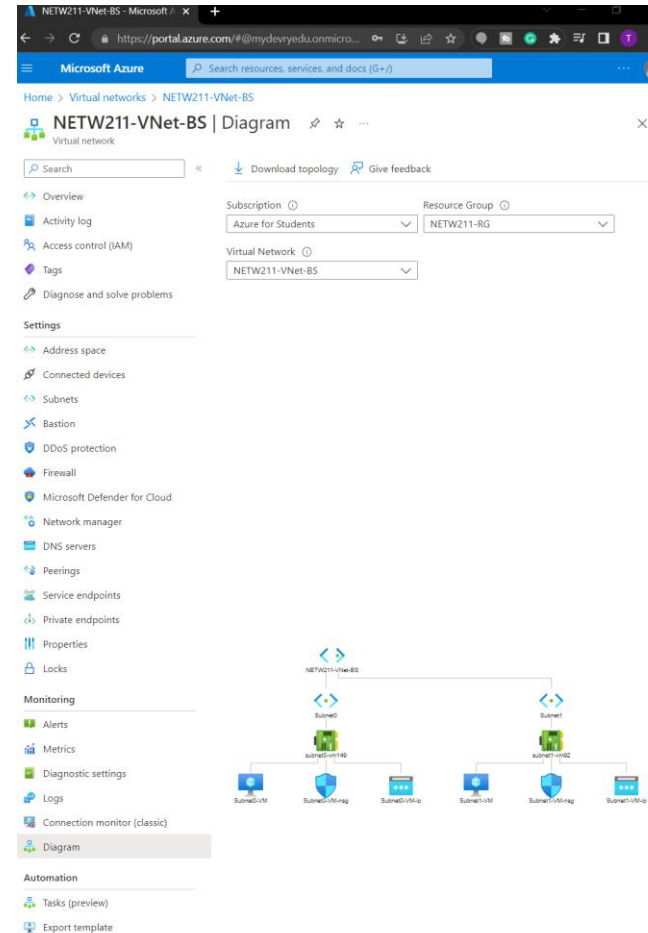
Public IP address	20.228.182.250
Public IP address (IPv6)	-
Private IP address	10.0.1.4
Private IP address (IPv6)	-
Virtual network/subnet	NETW211-VNet-BS/Subnet1
DNS name	Configure

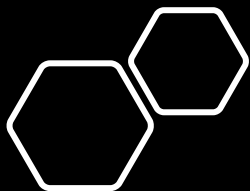
Size

Size	Standard B1s
------	--------------



Deploying VMs into Subnets cont'd





Verifying Connectivity between VMs

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.17763.3650]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\myaccount>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

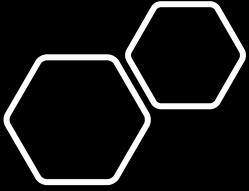
    Connection-specific DNS Suffix  . : v0ilp24mr5teznb1qd32jubmga.bx.internal.cloudapp.net
    Link-local IPv6 Address . . . . . : fe80::243f:7cc9:31e9:a703%5
    IPv4 Address. . . . . : 10.0.0.4
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.0.0.1

C:\Users\myaccount>ping 10.0.1.4

Pinging 10.0.1.4 with 32 bytes of data:
Reply from 10.0.1.4: bytes=32 time=1ms TTL=128
Reply from 10.0.1.4: bytes=32 time=2ms TTL=128
Reply from 10.0.1.4: bytes=32 time=3ms TTL=128
Reply from 10.0.1.4: bytes=32 time=2ms TTL=128

Ping statistics for 10.0.1.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 3ms, Average = 2ms

C:\Users\myaccount>
```



- Verifying Connectivity between VMs
- cont'd

```
Select Administrator: Command Prompt

Microsoft Windows [Version 10.0.17763.3650]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\myaccount>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

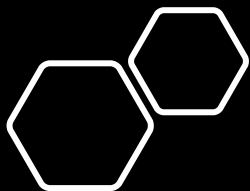
    Connection-specific DNS Suffix  . : v0ilp24mr5teznb1qd32jubmga.bx.internal.cloudapp.net
    Link-local IPv6 Address . . . . . : fe80::f029:fd4f:5983:89c2%6
    IPv4 Address. . . . . : 10.0.1.4
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.0.1.1

C:\Users\myaccount>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:
Reply from 10.0.0.4: bytes=32 time=2ms TTL=128
Reply from 10.0.0.4: bytes=32 time=2ms TTL=128
Reply from 10.0.0.4: bytes=32 time=2ms TTL=128
Reply from 10.0.0.4: bytes=32 time=2ms TTL=128

Ping statistics for 10.0.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 2ms, Average = 2ms

C:\Users\myaccount>
```



Verifying Connectivity between VMs

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.17763.3650]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\myaccount>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

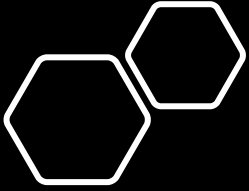
    Connection-specific DNS Suffix  . : v0ilp24mr5teznb1qd32jubmga.bx.internal.cloudapp.net
    Link-local IPv6 Address . . . . . : fe80::243f:7cc9:31e9:a703%5
    IPv4 Address. . . . . : 10.0.0.4
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.0.0.1

C:\Users\myaccount>ping 10.0.1.4

Pinging 10.0.1.4 with 32 bytes of data:
Reply from 10.0.1.4: bytes=32 time=1ms TTL=128
Reply from 10.0.1.4: bytes=32 time=2ms TTL=128
Reply from 10.0.1.4: bytes=32 time=3ms TTL=128
Reply from 10.0.1.4: bytes=32 time=2ms TTL=128

Ping statistics for 10.0.1.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 3ms, Average = 2ms

C:\Users\myaccount>
```



- Verifying Connectivity between VMs
- cont'd

```
Select Administrator: Command Prompt

Microsoft Windows [Version 10.0.17763.3650]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\myaccount>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

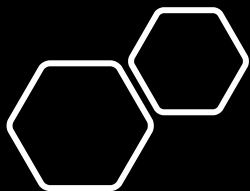
    Connection-specific DNS Suffix  . : v0ilp24mr5teznb1qd32jubmga.bx.internal.cloudapp.net
    Link-local IPv6 Address . . . . . : fe80::f029:fd4f:5983:89c2%6
    IPv4 Address. . . . . : 10.0.1.4
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.0.1.1

C:\Users\myaccount>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:
Reply from 10.0.0.4: bytes=32 time=2ms TTL=128
Reply from 10.0.0.4: bytes=32 time=2ms TTL=128
Reply from 10.0.0.4: bytes=32 time=2ms TTL=128
Reply from 10.0.0.4: bytes=32 time=2ms TTL=128

Ping statistics for 10.0.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 2ms, Average = 2ms

C:\Users\myaccount>
```

Launching a VM

Microsoft Azure portal screenshot showing the details of a virtual machine named **NETW211VM**.

Overview

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

Settings

- Networking
- Connect
- Disks
- Size
- Microsoft Defender for Cloud
- Advisor recommendations
- Extensions + applications
- Continuous delivery
- Availability + scaling
- Configuration
- Identity

Essentials

Resource group (move)	: NETW211-RG-BS	Operating system	: Linux (ubuntu 20.04)
Status	: Running	Size	: Standard B1s (1 vcpu, 1 GiB memory)
Location	: East US	Public IP address	: 20.231.98.205
Subscription (move)	: Azure for Students	Virtual network/subnet	: NETW211-RG-BS-vnet/default
Subscription ID	: e5c5ada3-cb59-4176-8b31-a0d0eaa644b3	DNS name	: Not configured
Tags (edit)	: Click here to add tags		

Properties | Monitoring | Capabilities (7) | Recommendations | Tutorials

Virtual machine

Computer name	NETW211VM
Health state	-
Operating system	Linux (ubuntu 20.04)
Publisher	canonical
Offer	0001-com-ubuntu-server-focal
Plan	20_04-lts-gen2
VM generation	V2
VM architecture	x64
Agent status	Ready

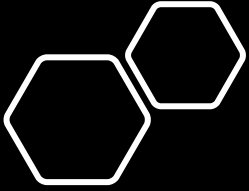
Networking

Public IP address	20.231.98.205
Public IP address (IPv6)	-
Private IP address	10.0.0.4
Private IP address (IPv6)	-
Virtual network/subnet	NETW211-RG-BS-vnet/default
DNS name	Configure

Size

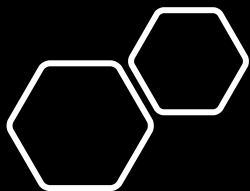
Size	Standard B1s
------	--------------

NETW211-VM-BS....pem [Show all](#)



- Connecting to the VM
- via SSH

```
azureuser@NETW211VM: ~  
HOME_URL="https://www.ubuntu.com/"  
SUPPORT_URL="https://help.ubuntu.com/"  
BUG_REPORT_URL="https://bugs.launchpad.net/ubuntu/"  
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-policy"  
VERSION_CODENAME=focal  
UBUNTU_CODENAME=focal  
azureuser@NETW211VM:~$ ping -c 4 www.facebook.com  
PING star-mini.c10r.facebook.com (31.13.66.35) 56(84) bytes of data.  
64 bytes from edge-star-mini-shv-01-iad3.facebook.com (31.13.66.35): icmp_seq=1 ttl=54 time=1.42 ms  
64 bytes from edge-star-mini-shv-01-iad3.facebook.com (31.13.66.35): icmp_seq=2 ttl=54 time=1.43 ms  
64 bytes from edge-star-mini-shv-01-iad3.facebook.com (31.13.66.35): icmp_seq=3 ttl=54 time=1.52 ms  
64 bytes from edge-star-mini-shv-01-iad3.facebook.com (31.13.66.35): icmp_seq=4 ttl=54 time=1.88 ms  
  
--- star-mini.c10r.facebook.com ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3005ms  
rtt min/avg/max/mdev = 1.424/1.563/1.882/0.187 ms  
azureuser@NETW211VM:~$ ip addr  
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000  
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00  
    inet 127.0.0.1/8 scope host lo  
        valid_lft forever preferred_lft forever  
    inet6 ::1/128 scope host  
        valid_lft forever preferred_lft forever  
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000  
    link/ether 00:0d:3a:1d:4c:af brd ff:ff:ff:ff:ff:ff  
    inet 10.0.0.4/24 brd 10.0.0.255 scope global eth0  
        valid_lft forever preferred_lft forever  
    inet6 fe80::20d:3aff:fe1d:4caf/64 scope link  
        valid_lft forever preferred_lft forever  
azureuser@NETW211VM:~$
```



Configuring an NSG

Microsoft Azure portal screenshot showing the configuration of a Network Security Group (NSG) for a virtual machine.

Page Title: NETW211VM | Networking

Left Navigation Panel:

- Overview
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Settings
 - Networking**
 - Connect
 - Disks
 - Size
 - Microsoft Defender for Cloud
 - Advisor recommendations
 - Extensions + applications
 - Continuous delivery
 - Availability + scaling
 - Configuration
 - Identity
 - Properties

Main Content Area:

netw211vm341

IP configuration: ipconfig1 (Primary)

Network Interface: netw211vm341 | Effective security rules | Troubleshoot VM connection issues | Topology

Virtual network/subnet: NETW211-RG-BS-vnet/default | NIC Public IP: 20.231.98.205 | NIC Private IP: 10.0.0.4 | Accelerated networking: Disabled

Inbound port rules | Outbound port rules | Application security groups | Load balancing

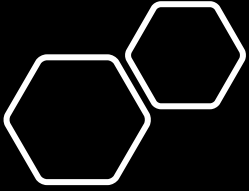
Network security group **NETW211VM-nsg** (attached to network interface: netw211vm341)
Impacts 0 subnets, 1 network interfaces

[Add inbound port rule](#)

Priority	Name	Port	Protocol	Source	Destination	Action
300	SSH	22	TCP	Any	Any	Allow
310	Allow_Ping	Any	ICMP	Any	Any	Allow
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	Allow
65500	DenyAllInBound	Any	Any	Any	Any	Deny

Need help?

- [Understand Azure load balancing](#)
- [Quickstart: Create a public load balancer to load balance Virtual Machines](#)



- Configuring an NSG
- cont'd

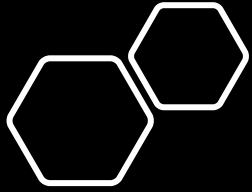
```
Administrator: Command Prompt
C:\WINDOWS\system32>cd C:\users\brady
C:\Users\brady>ping 20.231.98.205

Pinging 20.231.98.205 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.

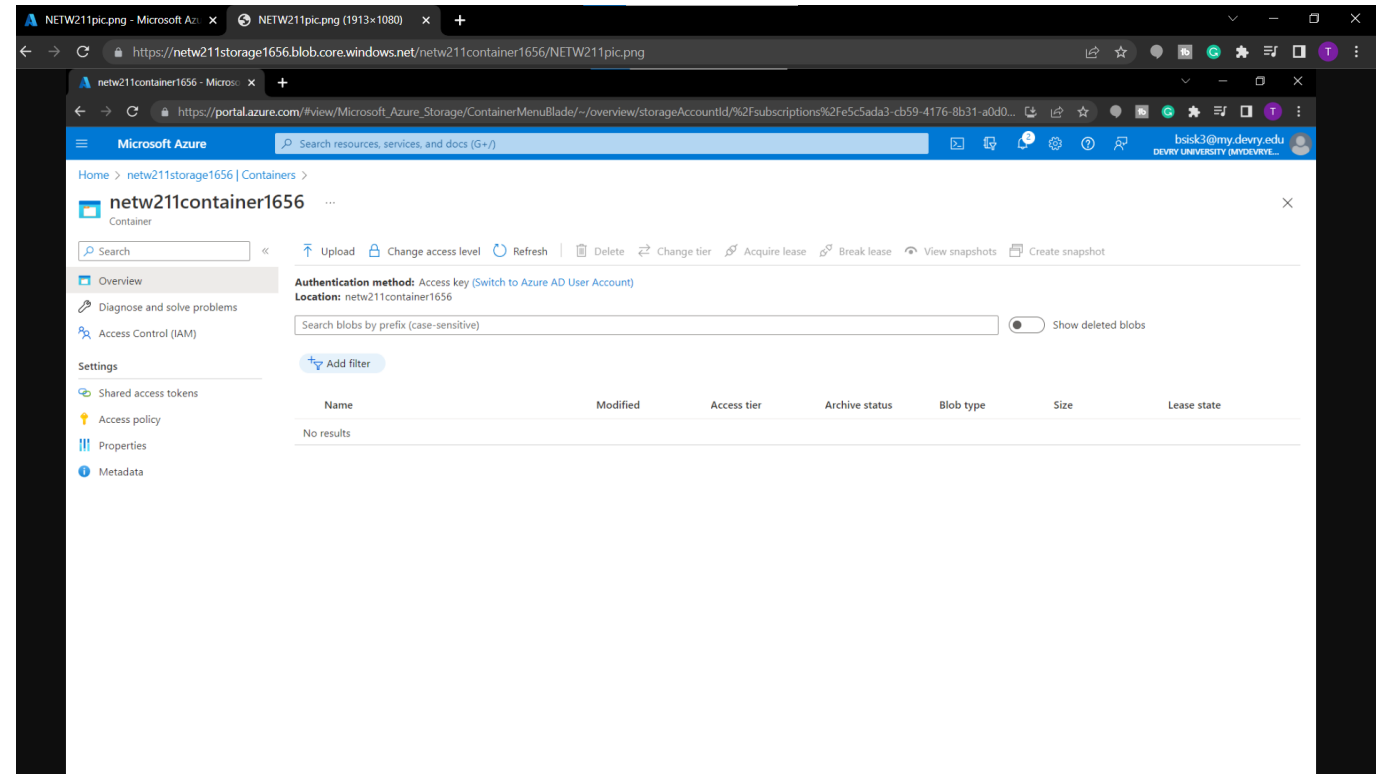
Ping statistics for 20.231.98.205:
    Packets: Sent = 3, Received = 0, Lost = 3 (100% loss),
Control-C
^C
C:\Users\brady>ping 20.231.98.205

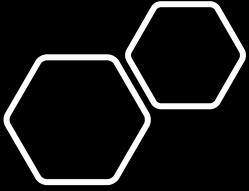
Pinging 20.231.98.205 with 32 bytes of data:
Reply from 20.231.98.205: bytes=32 time=62ms TTL=49
Reply from 20.231.98.205: bytes=32 time=60ms TTL=49
Reply from 20.231.98.205: bytes=32 time=60ms TTL=49
Reply from 20.231.98.205: bytes=32 time=60ms TTL=49

Ping statistics for 20.231.98.205:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 60ms, Maximum = 62ms, Average = 60ms
C:\Users\brady>
C:\Users\brady>
```



Uploading and Accessing a File



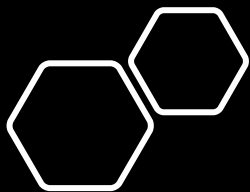


Question

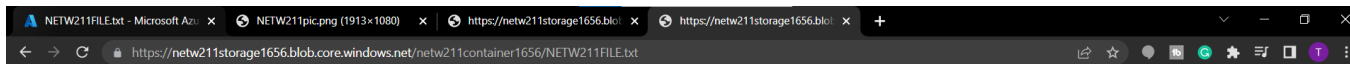
- What does the *access tier* setting do? What are the Azure blob storage access tiers?
- [hint: in the Azure portal, on the *Upload blob* page, under *Advanced*, click the ? circle above the *Access tier* box.]
- Answer here:
- Access tier determines which online tier a new blob is created by default.

- Azure blob storage access tiers is a tool that can be used to reduce cost, the tiers are divided into three groups based on how frequently it accessed and how rapidly it is required and those groups are hot, cool, and archive.

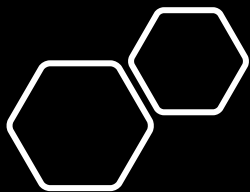
- References (here are two examples to get your research started):
- 1. Hot, Cool, and Archive access tiers for blob data, <https://docs.microsoft.com/en-us/azure/storage/blobs/access-tiers-overview>
- 2. Azure Blob Storage Access Tiers, <https://devry.percipio.com/courses/c7ef0333-8560-403f-a004-9c5c843866b0/videos/2658bbe6-ee97-438b-a376-fbb079c3b3a0>
- 3.
- 4.



Creating Blob Snapshots



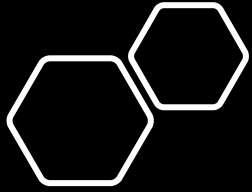
This is the original version.--B5



Enabling Blob Versioning



This is the first revised version.--BS



- Setting up an Action Group and Notifications

Resource groups - Microsoft Azure

https://portal.azure.com/#view/HubsExtension/BrowseResourceGroups

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

bsisk3@my.devry.edu DEVRY UNIVERSITY (MYDEVRYE...)

Home >

Resource groups

DeVry University (mydevryedu.onmicrosoft.com)

+ Create Manage view Refresh Export to CSV Open query Assign tags

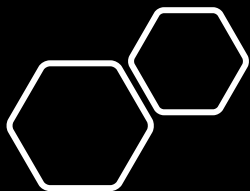
Filter for any field... Subscription equals all Location equals all Add filter

0 Unsecure resources 0 Recommendations No grouping List view

<input type="checkbox"/> Name ↑↓	Subscription ↑↓	Location ↑↓	
<input type="checkbox"/> NETW211-RG-BS1656	Azure for Students	East US	...
<input type="checkbox"/> NetworkWatcherRG	Azure for Students	East US	...

< Previous Page 1 of 1 Next > Showing 1 to 2 of 2 records.

Give feedback



Setting up Alert Rules

Alert rules - Microsoft Azure

https://portal.azure.com/#view/Microsoft_Azure_Monitoring_Alerts/AlertRulesBlade/resourceId/%2Fsubscriptions%2F5c5ada3-cb59-4176-8b31-a0d0ea644b...

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

Home > NETW211-RG-BS | Alerts >

Alert rules

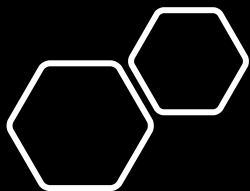
+ Create Columns Refresh Export to CSV Open query Delete Enable Disable

Search Target resource type : all Target scope : NETW211-RG-BS Subscription : all Signal type : all Severity : all Status : Enabled

Showing 1 to 2 of 2 Alert rules. No grouping

Name ↑↓	Condition	Severity ↑↓	Target scope	Target resource type	Signal type ↑↓	Status ↑↓
<input type="checkbox"/> VM-Deallocate	Category=Administrative, Opera...	4 - Verbose	NETW211-RG-BS	Virtual machine	Activity log	Enabled
<input type="checkbox"/> VM-Restart	Category=Administrative, Opera...	4 - Verbose	NETW211-RG-BS	Virtual machine	Activity log	Enabled

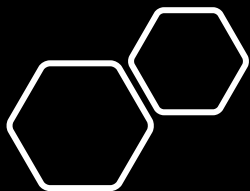
< Previous Page 1 of 1 Next >



Testing Alerts

The screenshot shows a web browser with multiple tabs: 'DeVry Student Portal', 'Mail - Sisk, Brady - Outlook', 'Module 6: Project - Cloud Monit...', 'Dashboard', and '(58,135 unread) - bradysiskpro@...'. The active tab is the Outlook mail interface. The Yahoo Mail header is visible with the 'yahoo!mail' logo and a search bar. The left sidebar shows the 'Compose' button and a list of folders: 'Inbox' (999+), 'Unread', 'Starred', 'Drafts' (14), 'Sent', 'Archive', 'Spam', 'Trash', and 'Less'. Below these are 'Views' (Hide) and a list of categories: 'Photos', 'Documents', 'Subscriptions', 'Shopping', 'Receipts', and 'Travel'. At the bottom of the sidebar are 'Folders' (Hide), '+ New Folder', 'Drafts', and 'hkk htm c. nih'. The main content area displays an email from 'bsisk3@my.devry.edu' with the subject 'Azure Monitor alert 'VM-Restart' was activated for 'NETW211-RG-BS' at December 4, 2022 20:42 UTC'. The email body states: 'You're receiving this notification as a member of the VM-Status action group because an Azure Monitor alert was activated.' Below the text is a table of alert details:

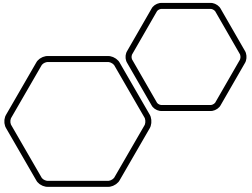
Activity	VM-Restart log alert
Time	December 4, 2022 20:42 UTC
Category	Administrative
Operation name	Microsoft.Compute/virtualMachines/restart/action
Correlation ID	c09bc68b-e25e-4e5f-b792-9bed2438bb8c
Level	Informational
Resource ID	/subscriptions/e5c5ada3-cb59-4176-8b31-a0d0eaa644b3/resourceGroups/NETW211-RG-BS1656/providers/Microsoft.Compute/virtualMachines/NETW211-RG-BS
Caller	bsisk3@my.devry.edu



Testing Alerts cont'd

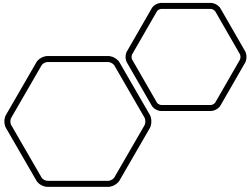
The screenshot shows a web browser window displaying a Yahoo Mail inbox. The email being viewed is an Azure Monitor alert. The subject line is "Azure Monitor alert 'VM-Deallocate' was activated for 'NETW211-RG-BS' at December 4, 2022 20:46 UTC". The email body contains a notification message and a table of alert details.

Activity	VM-Deallocate
log alert	
Time	December 4, 2022 20:46 UTC
Category	Administrative
Operation name	Microsoft.Compute/virtualMachines/deallocate/action
Correlation ID	ba6f1112-762f-4fe4-a55a-8b6256a9d493
Level	Informational
Resource ID	/subscriptions/e5c5ada3-cb59-4176-8b31-a0d0eaa644b3/resourceGroups/NETW211-RG-BS1656/providers/Microsoft.Compute/virtualMachines/NETW211-RG-BS
Caller	bsisk3@my.devry.edu



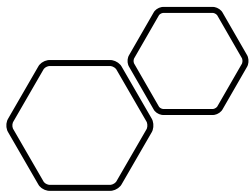
Challenges

I didn't run into a lot of challenges throughout the course but if it would be anything I think it would have to be remembering all the commands and what they do when working in the command prompt



References

Site: <https://bradysisk.github.io/>



conclusion

