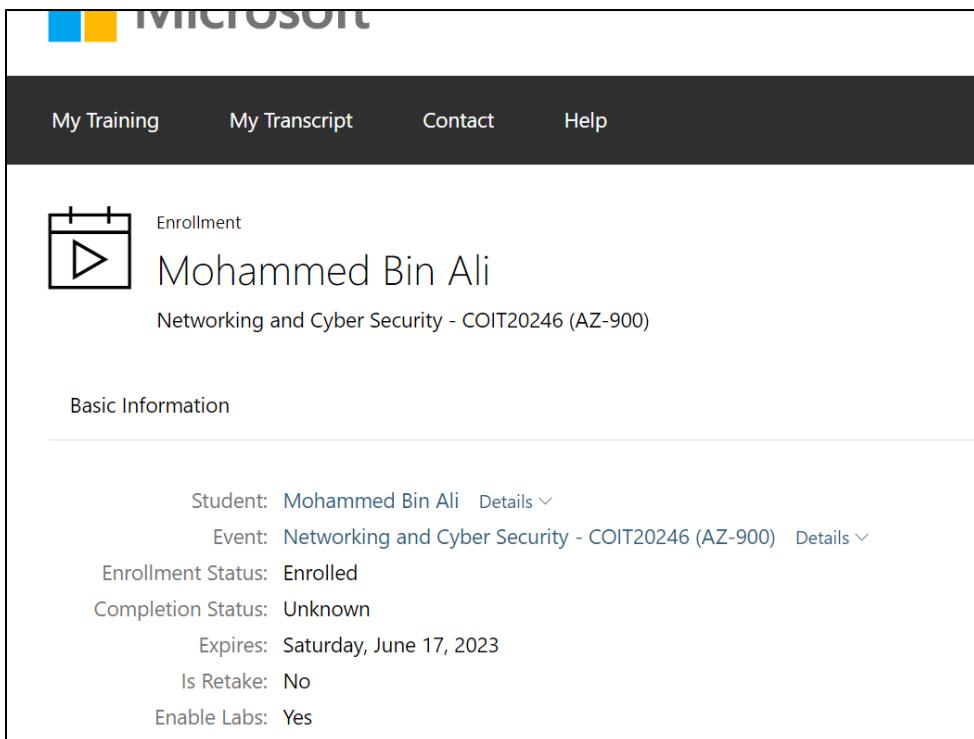


Week 7

Task 1 Login to Microsoft Learn on Demand

Creating an account on <https://msle.learnondemand.net/> with a Skillable account, with Registration Key, on Moodle.

After Successful, registration, we are able to Launch modules for each lab,

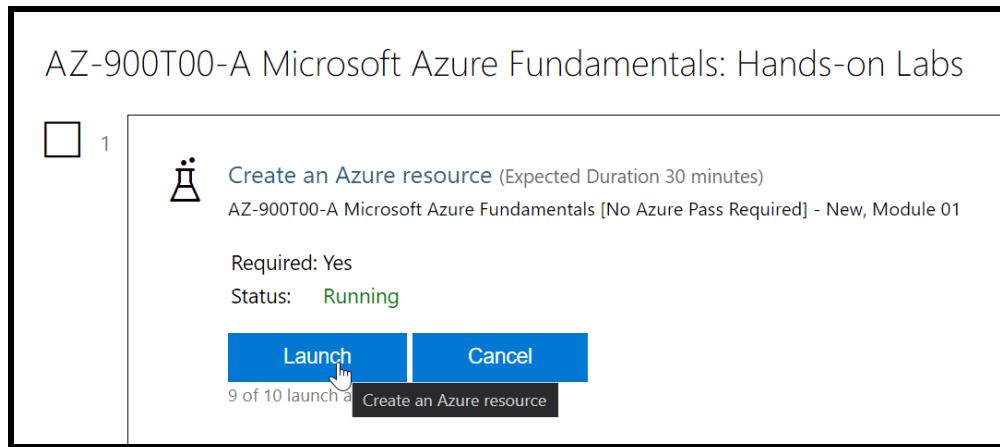


The screenshot shows the Microsoft Learn on Demand interface. At the top, there's a navigation bar with the Microsoft logo and links for 'My Training', 'My Transcript', 'Contact', and 'Help'. Below this, a large 'Enrollment' section is displayed for a user named 'Mohammed Bin Ali'. It includes a play button icon and the course title 'Networking and Cyber Security - COIT20246 (AZ-900)'. Under the 'Basic Information' heading, detailed enrollment information is listed:

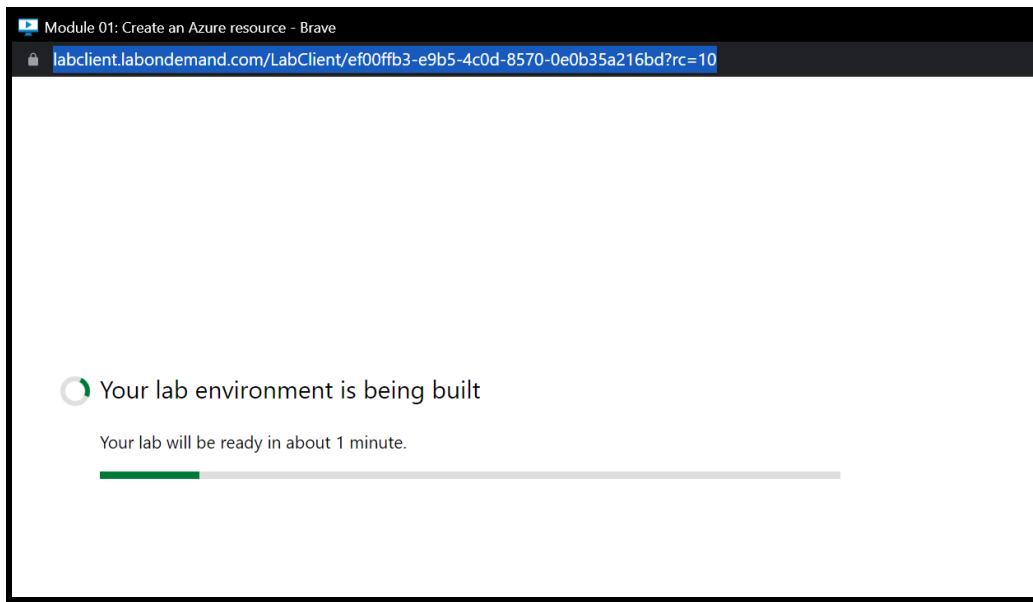
- Student: Mohammed Bin Ali [Details](#)
- Event: Networking and Cyber Security - COIT20246 (AZ-900) [Details](#)
- Enrollment Status: Enrolled
- Completion Status: Unknown
- Expires: Saturday, June 17, 2023
- Is Retake: No
- Enable Labs: Yes

##Task 2 Creating an Azure Resource

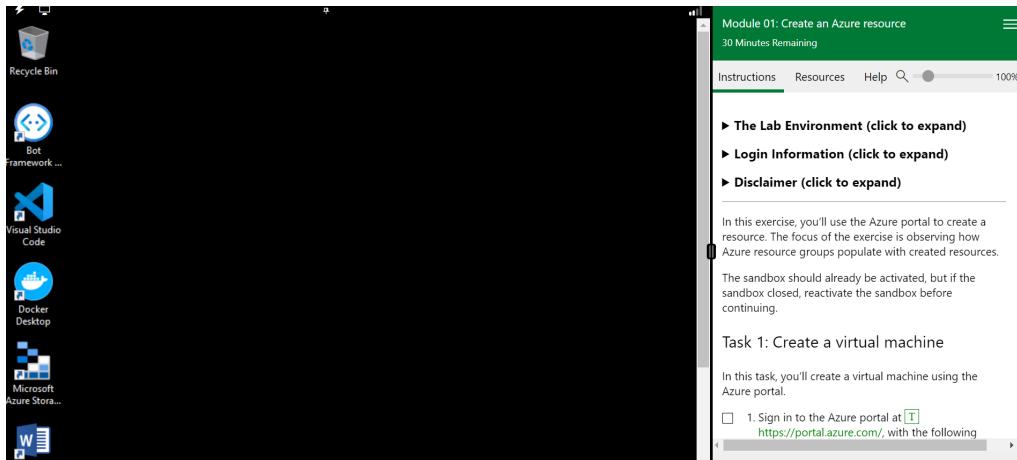
Opening the lab by clicking on Launch Button.



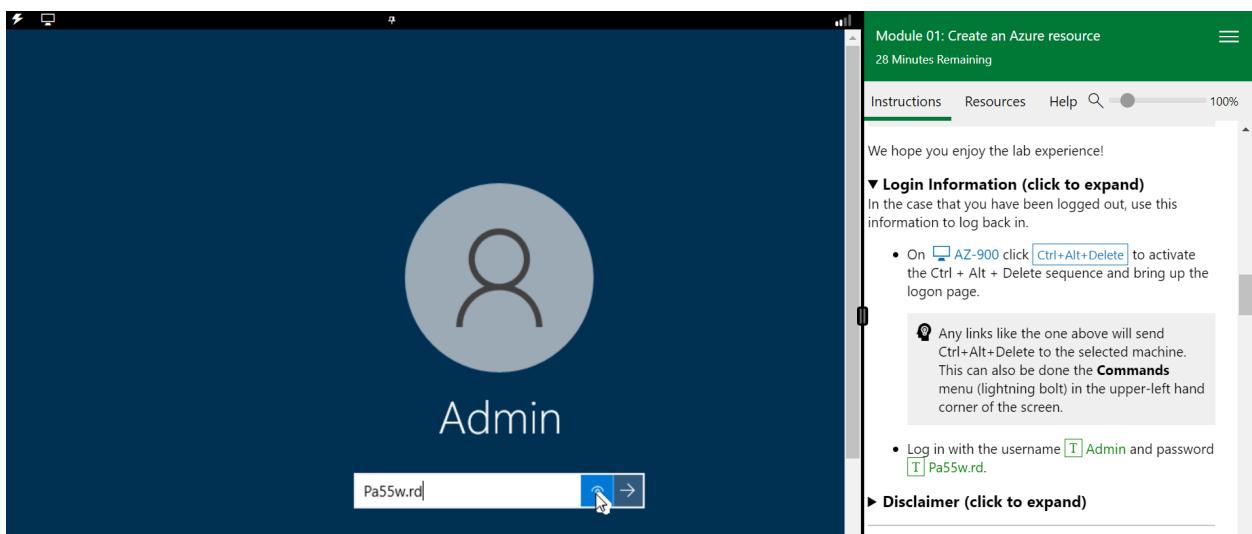
The lab opens up a new browser window, it is a cloud based Virtual Machine (Windows VM).



All the steps and guidelines to create and complete the module are listed on the right-hand-side of the new browser window.



Here are the screen captures following each step taken to proceed with the Module.



The screenshot shows a Microsoft sign-in page in a browser window. The URL is <https://login.microsoftonline.com/organizations/oauth2/native>. The page displays a Microsoft logo, an email input field containing "Az900User-30786493@cloudslice.onmicrosoft.com", and two links: "No account? Create one!" and "Can't access your account?". A large blue "Next" button is centered at the bottom. Below the sign-in form, there are "Sign in with GitHub" and "Sign-in options" buttons. At the bottom of the page are links for "Terms of use", "Privacy & cookies", and "...". To the right of the browser window is a green sidebar titled "Module 01: Create an Azure resource" with "23 Minutes Remaining". The sidebar contains four numbered steps:

1. Sign in to the Azure portal at <https://portal.azure.com/>, with the following credentials:

Username	Az900User-30786493@cloudslice.onmicrosoft.com
Password	Bh0De0!!De
2. Select Create a resource > Compute > Machine > Create.
3. The Create a virtual machine pane open basics tab.
4. Verify or enter the following values for each setting. If a setting isn't specified, leave default value.

Below the steps is a section titled "Basics tab" with a table:

Setting	Value
Setting	Value

The screenshot shows the Microsoft Azure portal interface. The title bar says "Virtual machines - Microsoft Azure". The URL is <https://portal.azure.com/#view/HubsExtension...>. The main area displays a table with columns: Name, Type, Subscription, Resource group, and Location. The table header includes filters: "Filter for any field...", "Subscription equals all", "Type equals all", "Add filter", and "More (2)". The message "Showing 0 to 0 of 0 records." is displayed. Below the table, there are four items listed under "Create a virtual machine":

- Azure virtual machine
- Azure virtual machine with preset configuration
- Azure Arc virtual machine
- Azure VMware Solution virtual machine

The "Azure virtual machine" option is highlighted with a mouse cursor. To the right of the table, a green sidebar titled "Module 01: Create an Azure resource" with "27 Minutes Remaining" is visible. The sidebar lists "Instructions", "Resources", and "Help" tabs, and includes a search bar.

Here is how the final virtual machine was created with all validations passed.

Validation passed

Cost given below is an estimate and not the final price. Please use [Pricing calculator](#) for all your pricing needs.

Price

1 X Standard B1ls by Microsoft

Subscription credits apply ⓘ

0.0052 USD/hr

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

[Pricing for other VM sizes](#)

myRGKV-lod30787090

Resource group

+ Create ⚙ Manage view Delete resource group Refresh Export to CSV Open

Essentials

Resources Recommendations

✓

Your resource is following Azure best practices.

Azure Advisor provides personalized recommendations to reduce costs, increase security, optimize performance and reliability and achieve operational excellence.

[View recommendations for all your resources in Azure Advisor](#)

List the resources that were created and give a short explanation of what each resource is for.

Virtual machine:

This resource allows you to create VM instances in the cloud. You can choose the operating system, hardware, and memory configuration of your virtual machine.

Virtual network:

This resource allows you to create a virtual network in your cloud. You can use this network to securely connect virtual machines and other cloud resources.

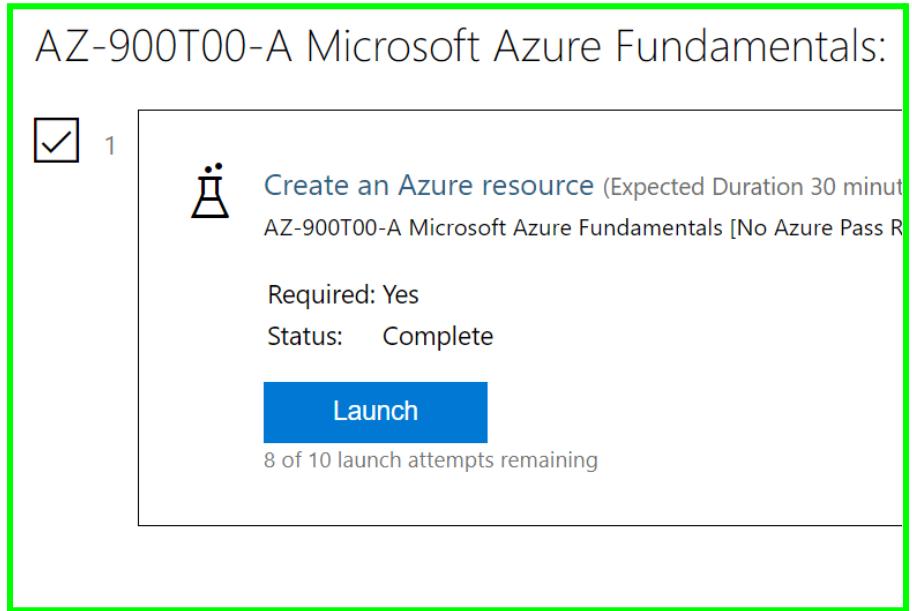
SQL database:

This resource allows you to create a managed relational database in the cloud. You can choose the performance level, memory, and other configuration settings for your database.

Storage account:

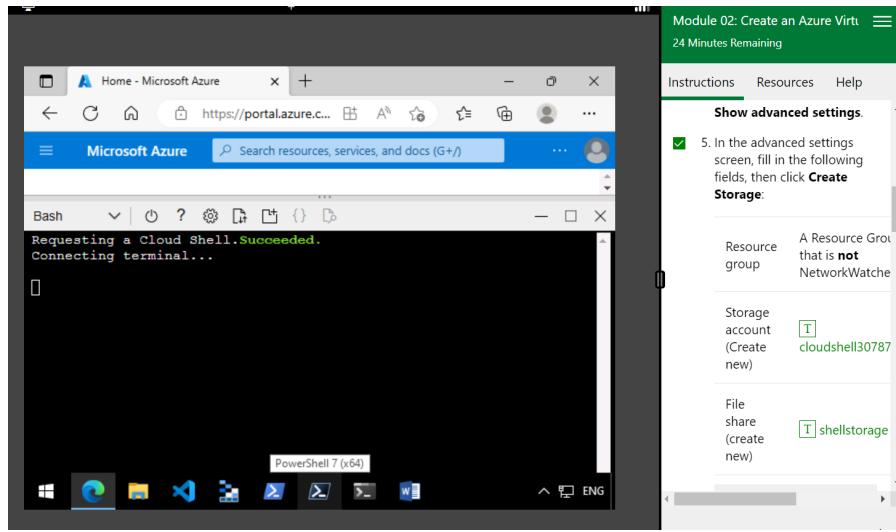
This resource allows you to create a storage account in the cloud. You can use this account to store files, blobs, tables, and queues.

This marks the Lab 1 complete.



Task 3: Create an Azure Virtual Machine.

Starting the lab, after navigating to **cloud cli**, we proceed with the mentioned commands. A screenshot for each and every step has been maintained to show stepwise proceedings.



Commands used to Create the Virtual Machine, Nginx , and to edit the index.html page

```
az vm create \
--resource-group myRGKV-lod30787221 \
--name my-VM-30787221 \
--image UbuntuLTS \
--admin-username azureuser \
--generate-ssh-keys
```

Create a new resource group in the West US region.

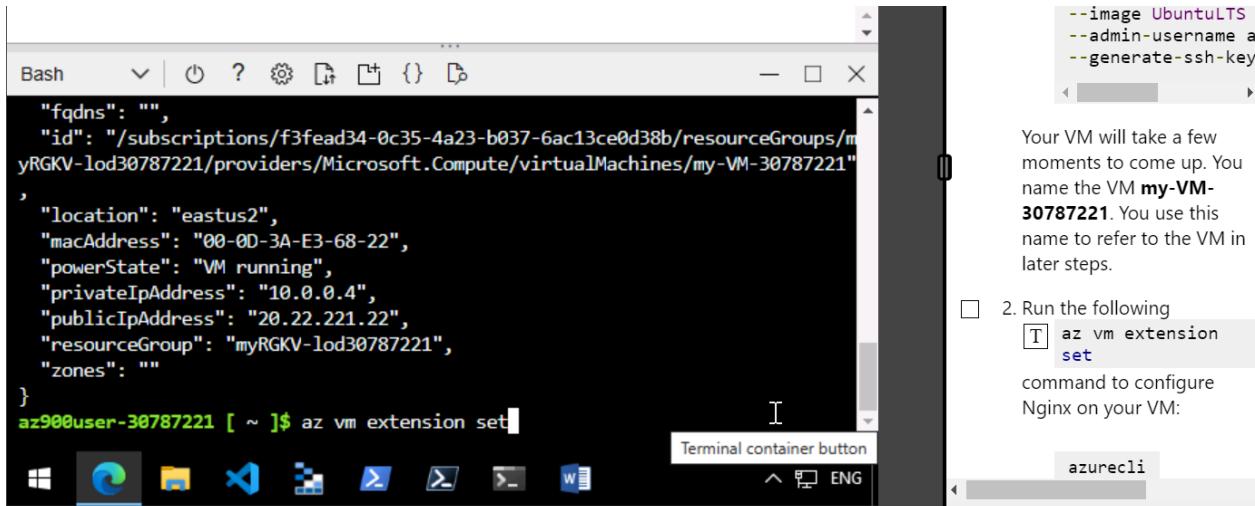
https://docs.microsoft.com/en-US/cli/azure/vm#az_vm_create
Read more about the command in reference docs

```
az900user-30787221 [ ~ ]$ az vm create \
> --resource-group myRGKV-lod30787221 \
> --name my-VM-30787221 \
> --image UbuntuLTS \
> --admin-username azureuser \
> --generate-ssh-keys
SSH key files '/home/az900user-30787221/.ssh/id_rsa' and '/home/az900user-30787221/.ssh/id_rsa.pub' have been generated under ~/.ssh to allow SSH access to the VM. If using machines without permanent storage, back up your keys to a
```

Your VM will take a few moments to come up. You name the VM **my-VM-30787221**. You use this name to refer to the VM in later steps.

2. Run the following
`az vm extension set`
command to configure Nginx on your VM:

```
az vm extension set
```



```

az vm extension set \
  --resource-group myRGKV-lod30787221 \
  --vm-name my-VM-30787221 \
  --name customScript \
  --publisher Microsoft.Azure.Extensions \
  --version 2.1 \
  --settings
'{"fileUris":["https://raw.githubusercontent.com/MicrosoftDocs/mslearn-welcome-to-azure/master/configure-nginx.sh"]}' \
  --protected-settings '{"commandToExecute": "./configure-nginx.sh"}'
  
```

SSH into the VM created:

Ssh -l <username> <ip_address>

#note: for checking the public ip of the created VM, check resource groups, and the name of VM created from the azure cli.

You will get the ip address(public), then proceed with the below mentioned commands.

Here is the Public Ip Address of The Virtual Machine Created.

^ Essentials

[JSON View](#)

Resource group (move)	Operating system
myRGKV-lod30787221	Linux (ubuntu 18.04)
Status	Size
Running	Standard DS1 v2 (1 vcpu, 3.5 GiB memory)
Location	Public IP address
East US 2	20.22.221.22
Subscription (move)	Virtual network/subnet
AZ-900T00-A CSR 1	my-VM-30787221VNET/my-VM-30787221Subnet
Subscription ID	DNS name
f3fead34-0c35-4a23-b037-6ac13ce0d38b	Not configured
	Health state
	-
Tags (edit)	
Click here to add tags	

```
ssh -l azureuser 20.22.221.22
```

You can check for a successful ssh by typing command **whoami**

The screenshot shows a terminal window with the following content:

```
Resource group (move)
myRGKV-lod30787221

Status
Running

Location
East US 2

Subscription (move)
Bash  ↻ | ⌂ ? ⚙ ⌛ ⌜ ⌝ ⌞ ⌟

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

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

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

azur...@my-VM-30787221:~$ whoami
azur...
azur...@my-VM-30787221:~$
```

To change the index.html,

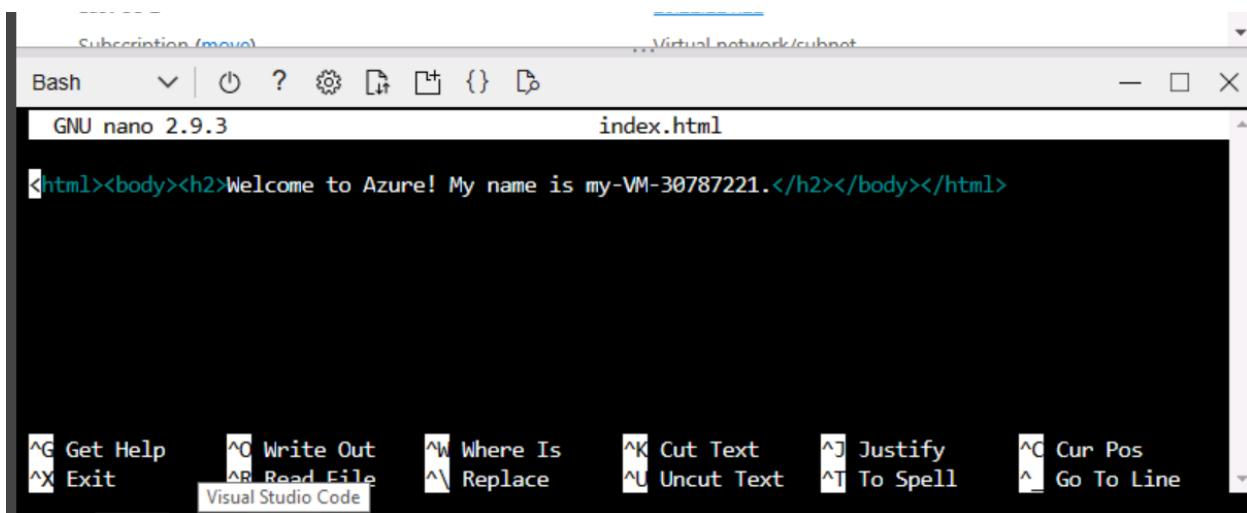
```
cd /var/www/html
```

```
ls
```

```
sudo nano index.html
```

```
azureuser@my-VM-30787221:~$ whoami
azureuser
azureuser@my-VM-30787221:~$ cd /var/
azureuser@my-VM-30787221:/var$ cd www/html
azureuser@my-VM-30787221:/var/www/html$ ls
index.html  index.nginx-debian.html
azureuser@my-VM-30787221:/var/www/html$ sudo nano index.html
azureuser@my-VM-30787221:/var/www/html$
```

It will open the file in a text editor: make necessary changes.



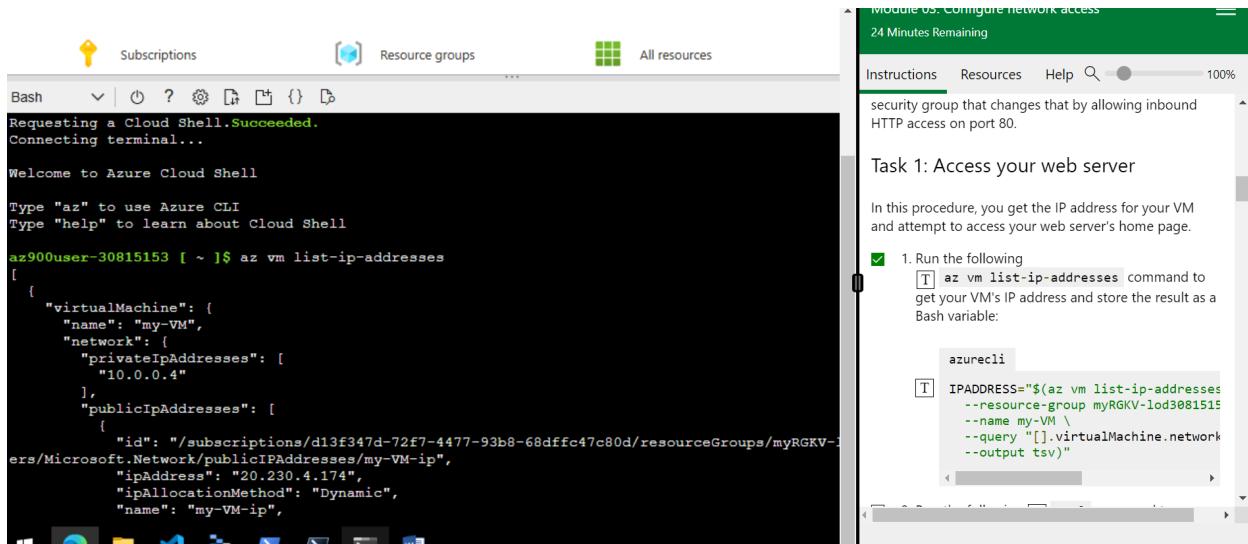
Updated index.html file.

```
azureuser@my-VM-30787221:~$ cat /var/www/html/index.html
<html><body><h2>Welcome to Azure! My name is Mohammad Bin Ali .</h2></body>
</html>
azureuser@my-VM-30787221:~$
```

Task 4 Configure Network Access to VM

Module 03: Configure network access

`az vm list-ip-addresses` command to get your VM's IP address and store the result as a Bash variable:



```
Bash Subscriptions Resource groups All resources
Requesting a Cloud Shell.Succeeded.
Connecting terminal...
Welcome to Azure Cloud Shell
Type "az" to use Azure CLI
Type "help" to learn about Cloud Shell
az900user:30815153 [ ~ ]$ az vm list-ip-addresses
[{"virtualMachine": {"name": "my-VM", "network": {"privateIpAddresses": [{"id": "/subscriptions/d13f347d-72f7-4477-93b8-68dfffc47c80d/resourceGroups/myRGKV/providers/Microsoft.Network/publicIPAddresses/my-VM-ip", "ipAddress": "20.230.4.174", "ipAllocationMethod": "Dynamic", "name": "my-VM-ip"}]}}]
```

Module 05: Configure network access
24 Minutes Remaining
Instructions Resources Help 100%
security group that changes that by allowing inbound HTTP access on port 80.
Task 1: Access your web server
In this procedure, you get the IP address for your VM and attempt to access your web server's home page.
 1. Run the following
az vm list-ip-addresses command to get your VM's IP address and store the result as a Bash variable:
azrecli
IPADDRESS=\$(az vm list-ip-addresses --resource-group myRGKV-1od30815153 --name my-VM --query "[].virtualMachine.network.publicIpAddresses[*].ipAddress" --output tsv)"

azurecli

```
IPADDRESS=$(az vm list-ip-addresses \
--resource-group myRGKV-1od30815153 \
--name my-VM \
--query "[].virtualMachine.network.publicIpAddresses[*].ipAddress" \
--output tsv)"
```

Command to download the home page:

```
curl --connect-timeout 5 http://\$IPADDRESS
```

Hmmm... can't reach this page

20.230.4.174 took too long to respond

Try:

- Search the web for [20.230.4.174](#)
- Checking the connection
- [Checking the proxy and the firewall](#)
- [Running Windows Network Diagnostics](#)

Module 03: Configure network access
19 Minutes Remaining

Instructions Resources Help

d. Keep this browser tab open for later.

Task 2: List the current network security group rules

Your web server wasn't accessible. To find out why, let's examine your current NSG rules.

1. Run the following az network nsg list command to list the network security groups that are associated with ...

```
"resourceGroup": "myRGKV-lod30815153"
}
]
az900user-30815153 [ ~ ]$ IPADDRESS=$(az vm list-ip-addresses \
> --resource-group myRGKV-lod30815153 \
> --name my-VM \
> --query "[].virtualMachine.network.publicIpAddresses[*].ipAddress" \
> --output tsv"
az900user-30815153 [ ~ ]$ curl --connect-timeout 5 http://$IPADDRESS
curl: (28) Failed to connect to 20.230.4.174 port 80 after 5001 ms: Timeout was reached
az900user-30815153 [ ~ ]$ curl --connect-timeout 5 http://$IPADDRESS
curl: (28) Failed to connect to 20.230.4.174 port 80 after 5000 ms: Timeout was reached
az900user-30815153 [ ~ ]$ curl --connect-timeout 5 http://$IPADDRESS --connect-timeout
curl: option --connect-timeout: requires parameter
curl: try 'curl --help' or 'curl --manual' for more information
az900user-30815153 [ ~ ]$ echo $IPADDRESS
20.230.4.174
az900user-30815153 [ ~ ]$ az network nsg list \
> --resource-group myRGKV-lod30815153 \
> --query '[].name' \
> --output tsv
my-VM-nsg
az900user-30815153 [ ~ ]$
```

az network nsg list \
--resource-group myRGKV-lod30815153 \
--query '[].name' \
--output tsv

You see this:

output
my-VM-NSG

Every VM on Azure is associated with at least security group. In this case, Azure created an called **my-VM-ns**.

2. Run the following az network nsg rule list command to list the rules associated with the my-VM-ns:

azurecli

Commands

```
azurecli
IPADDRESS=$(az vm list-ip-addresses \
--resource-group myRGKV-lod30815153 \
--name my-VM \
--query "[].virtualMachine.network.publicIpAddresses[*].ipAddress" \
--output tsv)"
bash
curl --connect-timeout 5 http://$IPADDRESS

echo $IPADDRESS
azurecli
az network nsg list \
--resource-group myRGKV-lod30815153 \
--query '[].name' \
--output tsv

az network nsg rule list \
```

```

--resource-group myRGKV-lod30815153 \
--nsg-name my-VM-nsg

az network nsg rule list \
--resource-group myRGKV-lod30815153 \
--nsg-name my-VM-nsg

azurecli
az network nsg rule create \
--resource-group myRGKV-lod30815153 \
--nsg-name my-VM-nsg \
--name allow-http \
--protocol tcp \
--priority 100 \
--destination-port-range 80 \
--access Allow

azurecli
az network nsg rule list \
--resource-group myRGKV-lod30815153 \
--nsg-name my-VM-nsg \
--query '[].{Name:name, Priority:priority, Port:destinationPortRange, Access:access}' \
--output table

curl --connect-timeout 5 http://$IPADDRESS

```

Curl Successfully Accessing the website

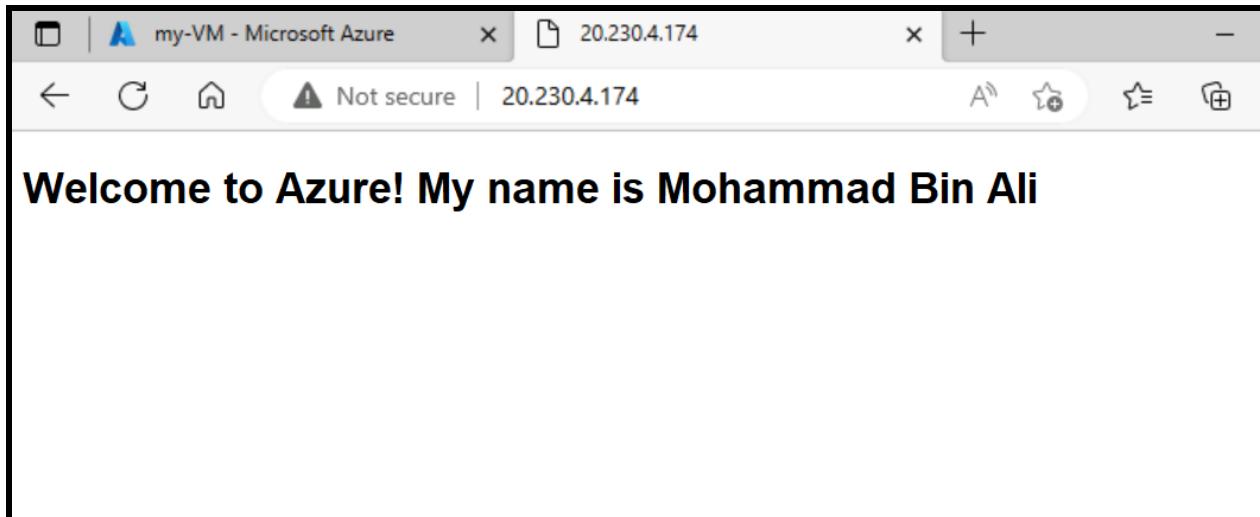
```

az900user-30815153 [ ~ ]$ curl --connect-timeout 5 http://$IPADDRESS
<html><body><h2>Welcome to Azure! My name is my-VM.</h2></body></html>
az900user-30815153 [ ~ ]$ 

```

Note: I had to redo the Lab 2 for making changes to the index.html file to show my Name on the webpage.

After making necessary changes, by generating sshkeys fo the new VM and by sshing into the VM, I WAS ABLE TO CHANGE THE NAME



Explanation:

There are two network security rules that allow access to your VM. For each rule, give the port number and explain what that rule allows (e.g., what applications or protocols).

```
az network nsg rule create \
--resource-group myRGKV-lod30815153 \
--nsg-name my-VM-nsg \
--name allow-http \
--protocol tcp \
--priority 100 \
--destination-port-range 80 \
--access Allow
```

Here the port 80 is for HTTP protocol, by allowing this port number, we are accepting http requests to our machine. It is allowing incoming HTTP traffic to Our created VM. One can access it using the VM's Public Ip and a browser.

To summarize:

Rule 1: Port 22 - This rule allows SSH access to the VM, which allows users to remotely connect to the VM using the SSH protocol. It is a network protocol again, allowing incoming SSH traffic to the VM.

Rule 2: Port 80 - This rule allows HTTP traffic to reach the VM, which is required to serve web pages using Nginx.

Advice for a small business on transitioning to cloud services:

Dependence on internet connectivity - Cloud services require reliable and stable internet connectivity to function properly. Any disruptions to internet service can negatively impact the business's ability to use cloud services effectively.

Data security and privacy - Storing sensitive business data on third-party servers can pose security and privacy risks. It's important to carefully consider the cloud provider's security measures and compliance certifications before migrating sensitive data to the cloud.

Training and support - Transitioning to cloud services often requires significant changes in workflows and processes. Adequate training and support may be required to ensure that employees can effectively use cloud services and minimize disruptions to business operations.

Vendor lock-in - Transitioning to a particular cloud provider can create a dependence on that provider's services and infrastructure. This can make it difficult to switch to a different provider or migrate away from cloud services altogether if necessary.

Cost - While cloud services can offer cost savings in some areas, it's important to carefully consider the total cost of ownership, including any additional costs for training, support, and customization. Cloud services may not always be the most cost-effective solution for every business.

Task 5. Create a Storage Blob in Azure

Complete Module 04: Create a storage blob. Follow the instructions in Microsoft Learn On Demand

The screenshot shows the Microsoft Azure Marketplace interface. A search bar at the top contains the term "storage". Below the search bar, there are filters for "Pricing : All", "Operating System : All", and "Publisher Type : All". A checkbox for "Azure services only" is unchecked. The search results show 1 to 20 of 1651 results for 'storage'. One result, "Storage account" by Microsoft, is highlighted with a yellow box and has a "Storage account" button. Other results include "Azure Storage Mover" and "Azure Blob Storage on IoT Edge". To the right, a task card titled "Create a storage account" provides instructions for creating a new storage account. It includes a list of steps with checkboxes, a "Username" field with the value "Az900User-30816812@cloudslice.r", and a "Password" field with the value "k*GqpHN75\$".

Create a storage account

In this task, we will create a new storage account.

1. Sign in to the Azure portal at <https://portal.azure.com/>, with the following credentials.

Username

Password

2. Select Create a resource.

3. Under Categories, select Storage.

4. Under Storage Account, select Create.

5. On the Basics tab of the Create storage blade, fill in the following information. Use defaults for everything else.

Create a storage account

Instance details

If you need to create a legacy storage account type, please click [here](#).

Storage account name	cloudshell30816812
Region	(US) East US
Performance	<input checked="" type="radio"/> Standard: Recommended for most scenarios (general-purpose v2 account)
Redundancy	Geo-redundant storage (GRS)

Review

27 Minutes Remaining

Instructions Resources Help

Storage account name: cloudshell30816812

Region: Default

Performance: Standard

Redundancy: Locally redundant storage (LRS)

- 6. Select Review to review your storage account settings and allow Azure to validate the configuration.
- 7. Once validated, select Create. Wait for the notification that the account was successfully created.
- 8. Select Go to resource.

Work with blob storage

In this section, you'll create a blob storage account.

Create

< Previous Next > Download a template for automation

cloudshell30816812_1683557614524 | Overview

Deployment

Search

Overview Inputs Outputs Template

Deployment is in progress

Deployment name: cloudshell30816812_1683557614524 Start time: 5/8/2023, 7:53:46 AM Subscription: AZ-900T00-A CSR 6 Resource group: myRGKV...

Deployment details

Resource	Type	Status
No results.		

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

Free Microsoft tutorial: Start learning today >

Instructions Resources Help

Storage account name: cloudshell30816812

Region: Default

Performance: Standard

Redundancy: Locally redundant storage (LRS)

- 6. Select Review to review your storage account settings and allow Azure to validate the configuration.
- 7. Once validated, select Create. Wait for the notification that the account was successfully created.
- 8. Select Go to resource.

Work with blob storage

New container

Name * my-first-container

Public access level Private (no anonymous access)

Create

2. Select + Container and complete the information.

Name Enter a name for the container

Public access level Private (no anonymous access)

3. Select Create.

Step 4 will need an image. If you want to upload an image you already have on your computer, continue to Step 4. Otherwise, open a new browser window and search Bing for an image of a flower. Save the image to your computer.

my-first-container

Container

Upload

Authentications method: Access key (Switch to Azure AD User Account)

Location: my-first-container

Search blobs by prefix (case-sensitive)

Add filter

Access tier Archive status Blob type Size Lease state

23 Minutes Remaining

Instructions Resources Help

3. Select Create.

Step 4 will need an image. If you want to upload an image you already have on your computer, continue to Step 4. Otherwise, open a new browser window and search Bing for an image of a flower. Save the image to your computer.

4. Back in the Azure portal select the container you created, then select Upload.

5. Browse for the image file you want to upload. Select it and then select upload.

Save As

This PC > Downloads

Organize New folder

Documents Downloads

File name: waterfall

Save as type: JPEG Image (*.jfif)

Save Cancel

Module 04: Create a storage blob

21 Minutes Remaining

Instructions Resources Help

3. Select Create.

Step 4 will need an image. If you want to upload an image you already have on your computer, continue to Step 4. Otherwise, open a new browser window and search Bing for an image of a flower. Save the image to your computer.

4. Back in the Azure portal select the container you created, then select Upload.

5. Browse for the image file you want to upload. Select it and then select upload.

You can upload as many blobs as you want. New blobs will be listed with their names.

Upload blob - Microsoft Azure

https://portal.azure.com/#view/Microsoft_AzureStorage_ContainerList_ContainerDetail

Microsoft Azure

Search resources, services, and docs (G+)

Home > cloudshell30816812

Upload blob

my-first-cont Container

Upload Change acc

Authentication method: Access key
Location: my-first-container

Search blobs by prefix (case-sensitive)

Add filter

Access tier

Drag and drop files here
or
[Browse for files](#)

Overwrite if files already exist

Advanced

Module 01: Create a storage account

21 Minutes Remaining

Instructions Resources

Name

Public access level

3. Select Create.

Step 4 will now image you a to Step 4. Open search Bing to your computer

4. Back in the Azure portal then select Upload

5. Browse for the image you want to upload then select upload

sydney1.jfif

Blob

Save Discard Download Refresh Delete Change tier Acquire lease ...

Overview Versions Snapshots Edit Generate SAS

Properties

Copy to clipboard

URL <https://cloudshell30816812.blob.core.windows.net/sydney1.jfif>

LAST MODIFIED 5/8/2023, 7:59:46 AM

CREATION TIME 5/8/2023, 7:59:46 AM

VERSION ID -

TYPE Block blob

SIZE 24.7 KiB

 my-first-container ...

Container

Upload Change access level Refresh Delete Change tier Acquire lease ...

Change access level

Change the access level of container 'my-first-container'.

Public access level [\(i\)](#)

Private (no anonymous access) [▼](#)

Private (no anonymous access)

Blob (anonymous read access for blobs only) 

Container (anonymous read access for containers and blobs) [Hot \(Inferred\)](#)

 waterfall.jfif 5/8/2023, 7:59:47 AM Hot (Inferred)

◀ ▶

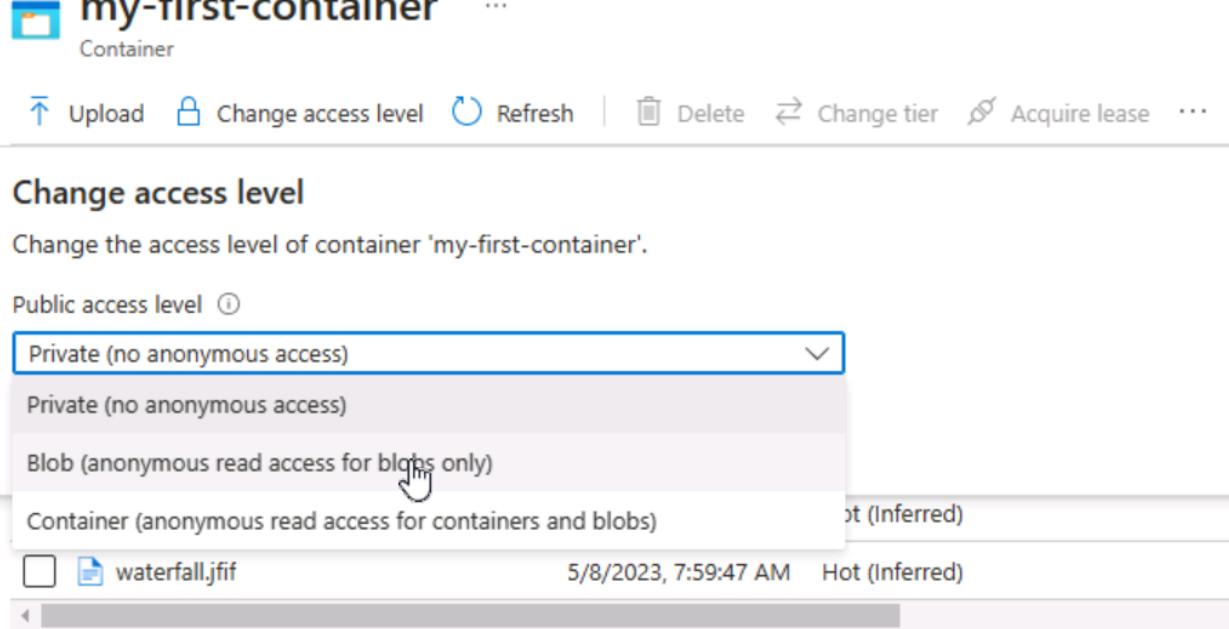
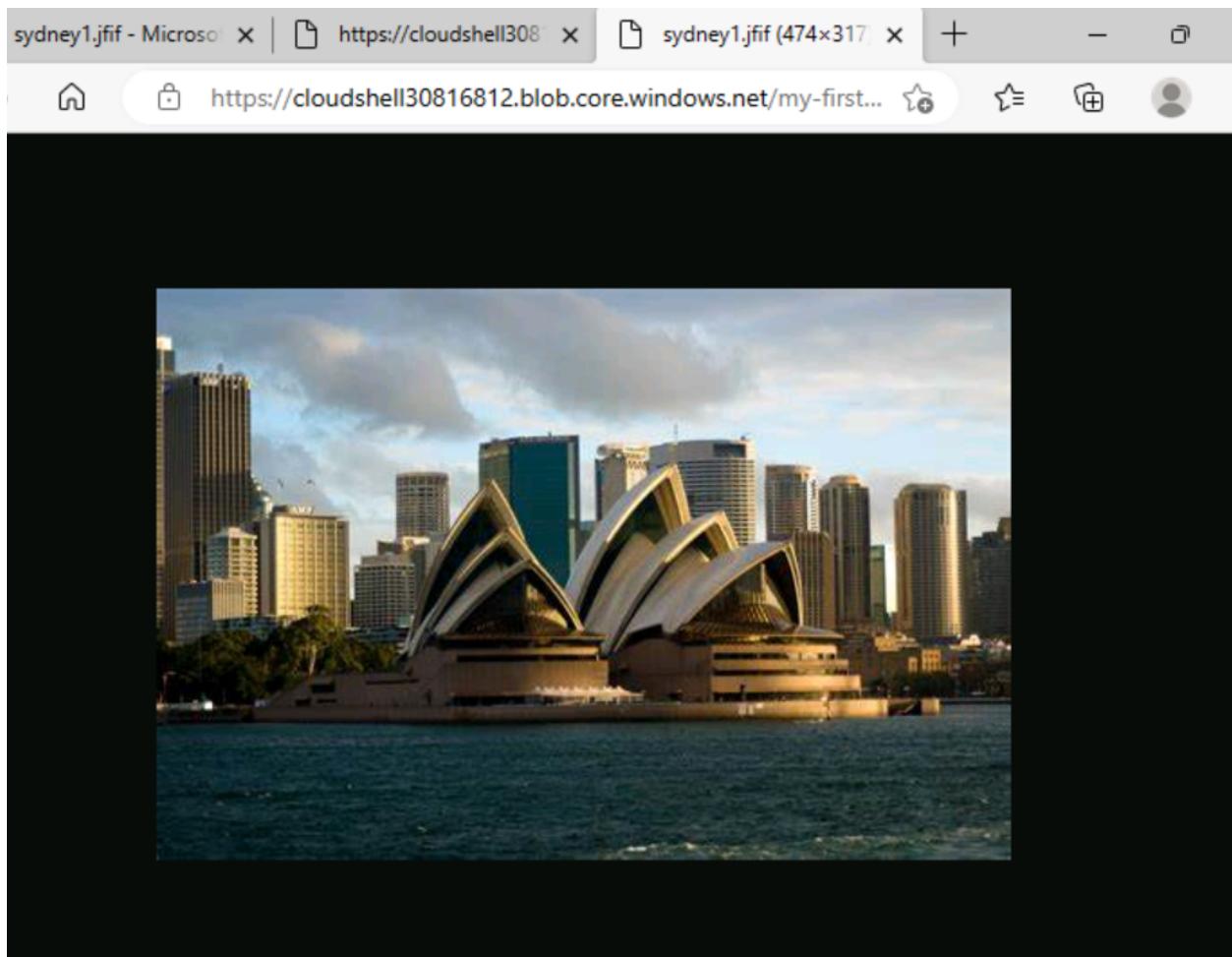


Image being able to be viewed.

Include a screenshot that shows one of the images and the full URL to access the image. •
Include a screenshot of your Azure Portal resources that show the container(s).



Task 6. Create a Resource Lock

In Azure, resource locks can be applied to resource groups, subscriptions, or individual resources. Locks can be used to prevent deletion or modification of resources. There are two types of locks in Azure. Read-only lock and delete lock.

As the name suggests, read-only locks prevent modifications to resources, but not deletion of resources. A read-only lock allows a user to view a resource and perform operations that do not modify the resource, such as: B. Start or stop virtual machines, but cannot change resources. B. Adding or Deleting Components. Deletion locks, on the other hand, prevent the resource from being deleted or modified. This is a more restrictive lock type that prevents accidental deletion of critical resources. A delete lock prevents users from modifying or deleting resources, even if they have owner or contributor permissions.

Lab 5 Completion Screenshots.

The screenshot illustrates the steps to add a lock to a Microsoft Azure storage account. It consists of four panels:

- Top Left Panel:** Shows the Azure Storage account 'cloudshell30817854' overview. The 'Locks' option in the left sidebar is highlighted.
- Top Right Panel:** A callout box provides instructions:
 1. Scroll down until you find the blade on the left of the screen.
 2. Select Locks.
 3. Select + Add.A screenshot shows the 'Locks' blade open with the '+ Add' button highlighted.
- Middle Panel:** Shows the 'Add lock' dialog box. The 'Lock name *' field contains 'Locking' and the 'Lock type *' dropdown is set to 'Read-only'. The 'Ok' button is highlighted with a cursor.
- Bottom Panel:** Shows the 'Locks' blade with one lock listed:

Lock name	Lock t...	Scope	Notes
Locking	Read-	cloudshell3081	

The screenshot shows the Azure Storage Explorer interface. On the left, a list of containers is displayed, including one named '\$logs' last modified on 5/8/2023 at 8:33:21 AM. In the center, a modal window is open for creating a new container named 'container2'. The 'Public access level' dropdown is set to 'Private (no anonymous access)'. A tooltip on the 'Create' button indicates it is being clicked. To the right, a detailed error message is shown:

Failed to create storage container

Failed to create storage container 'container2'. Error: The scope 'myRGKV-1d30817854/providers/Microsoft.Storage/storageAcc...' cannot perform write operation because following scope(s) are locked: '/subscriptions/52dc3c3b-d3f2-402c-a619-5d2abd83dc30/resourcegroups/myRGKV-1d30817854/providers/Microsoft.Storage/storageAcc...'. Please remove the lock and try again.

On the far right, a vertical sidebar displays a checklist:

- 4. Enter a container name and select Create
- 5. You should receive an error message: create storage container.

A note below the checklist explains the error message: "The error message lets you know that you couldn't create a storage container because a lock is in place. The read-only lock prevents any create or update operations on the storage account, so you're unable to create a storage container."

cloudshell30817854 | Locks

Storage account

Search Add Resource group Subscription Refresh Feedback

Azure search

Settings Configuration Data Lake Gen2 upgrade Resource sharing (CORS) Advisor recommendations Endpoints Locks

Monitoring Insights Alerts Metrics

Lock name Lock t... Scope Notes

locking Read... cloudshell3081

Edit lock

locking

Lock type * Read-only

Delete

OK Cancel

Name * container3

Public access level Private (no anonymous access)

Advanced

Create Give feedback

16 Minutes Remaining

Instructions Resources Help

Container Change access level Restore containers

Search containers by prefix

Name	Last modified	Pub
\$logs	5/8/2023, 8:33:21 AM	Priv

2

5. Scroll up until you find the Data of the blade on the left of the s

6. Select Containers.

7. Select + Container.

8. Enter a container name and se

9. Your storage container should

You can now understand how the read prevented you from adding a containe

The following storage account and its contents will be deleted.

Resource to be deleted

cloudshell30817854

Dependent resources to be deleted

The data provided is regularly updated about 2-4 times a day and published hourly. If your account has extremely large objects, it may be over a day between updates.

Resource	Number of instances	Total data stored
Containers	-	-
File shares	-	-
Tables	-	-
Queues	-	-

Info 'cloudshell30817854' can't be deleted because this resource or its parent has a delete lock. Locks must be removed before this resource can be deleted. [Learn more about delete locks](#)

Properties **Monitoring** **Delete** **Cancel** **Give feedback**

5 **Configure a resource lock** (Expected Duration 30 minutes)
AZ-900T00-A Microsoft Azure Fundamentals [No Azure Pass Required] - New, Module 05
Required: Yes
Status: Complete
Started: Tuesday, May 9, 2023 1:29 AM (AUS Eastern Standard Time)
Launch
9 of 10 launch attempts remaining

Task 7. Compare Cloud vs On-premise Costs

Consumer desktop PC:

Dell XPS 8940 Desktop:

- Processor: 11th Gen Intel Core i7-11700
- Memory: 16GB DDR4 2933MHz
- Storage: 512GB M.2 PCIe NVMe SSD

- Graphics: NVIDIA GeForce GTX 1650 4GB GDDR5
- Price: \$1,249.99 (as of May 2023)

Server:

HP ProLiant DL360 Gen10:

- Processor: Intel Xeon Silver 4210 2.2 GHz 10-core
- Memory: 32GB DDR4 2666MHz
- Storage: None included
- Graphics: None included
- Price: \$4,385.00 (as of May 2023)

Cloud virtual machine:

Azure VM Standard B2s:

- Processor: 2 vCPUs, Intel Xeon E5-2673 v4 2.3GHz
- Memory: 4GB RAM
- Storage: 8GB temporary storage
- Graphics: None included
- Price: \$0.082/hour (as of May 2023)

Consumer Desktop PC:

CPU: Intel Core i7-11700K 3.6 GHz

RAM: 16 GB DDR4

Storage: 512 GB NVMe SSD

GPU: NVIDIA GeForce GTX 1660 SUPER

OS: Windows 10 Home

Cost: \$1,299

Server:

CPU: Intel Xeon E-2278G 3.4 GHz

RAM: 16 GB DDR4 ECC

Storage: 1 TB SATA HDD

RAID: RAID 1

OS: Windows Server 2019 Standard

Cost: \$1,899

Azure VM:

CPU: 4 vCPUs (Intel Xeon Platinum 8272CL, 2.5 GHz)

RAM: 16 GB DDR4

Storage: 256 GB Premium SSD

OS: Windows Server 2019 Datacenter

Cost: \$139.53/month or \$1,662.36/year

Note:

The Azure VM cost is based on the pricing for a D4s v4 instance running Windows Server in the East US 2 region, with pay-as-you-go pricing.

When it comes to upfront cost, the consumer desktop PC is the cheapest option. However, it is important to note that this cost does not include peripherals such as a monitor, keyboard, and mouse. The server is the most expensive upfront option, but it also comes with features that are designed specifically for running applications and services in a business environment, such as RAID. The Azure VM has a moderate upfront cost, but its main advantage is that it is a flexible, scalable option that can be easily adjusted to meet changing needs. In terms of running costs, both consumer desktop PCs and servers require ongoing maintenance, including: B. Hardware upgrades, software updates, electricity bills. Azure VMs, on the other hand, have a predictable monthly cost that includes everything from hardware to software licenses.

Another trade-off to consider is the level of control and customization each option offers. Consumer desktop PCs give the user complete control over the hardware and software, allowing for maximum customization. Servers give users less control over the physical hardware, but allow them to customize the software to meet their specific needs. Azure VMs give users even less

control over the physical hardware, but give them access to a variety of pre-configured software, making it easy to scale resources up or down as needed.