

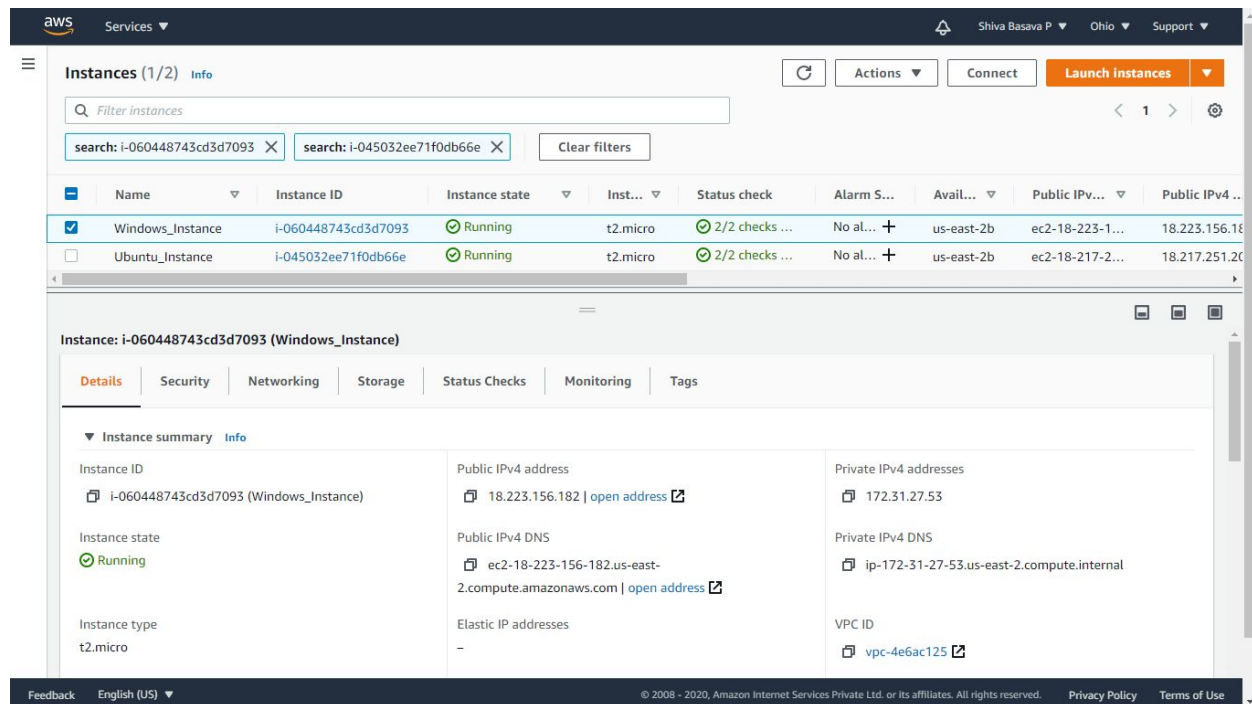
Assignment Solution - Day 3 & 4

- **PROJECT 1:**

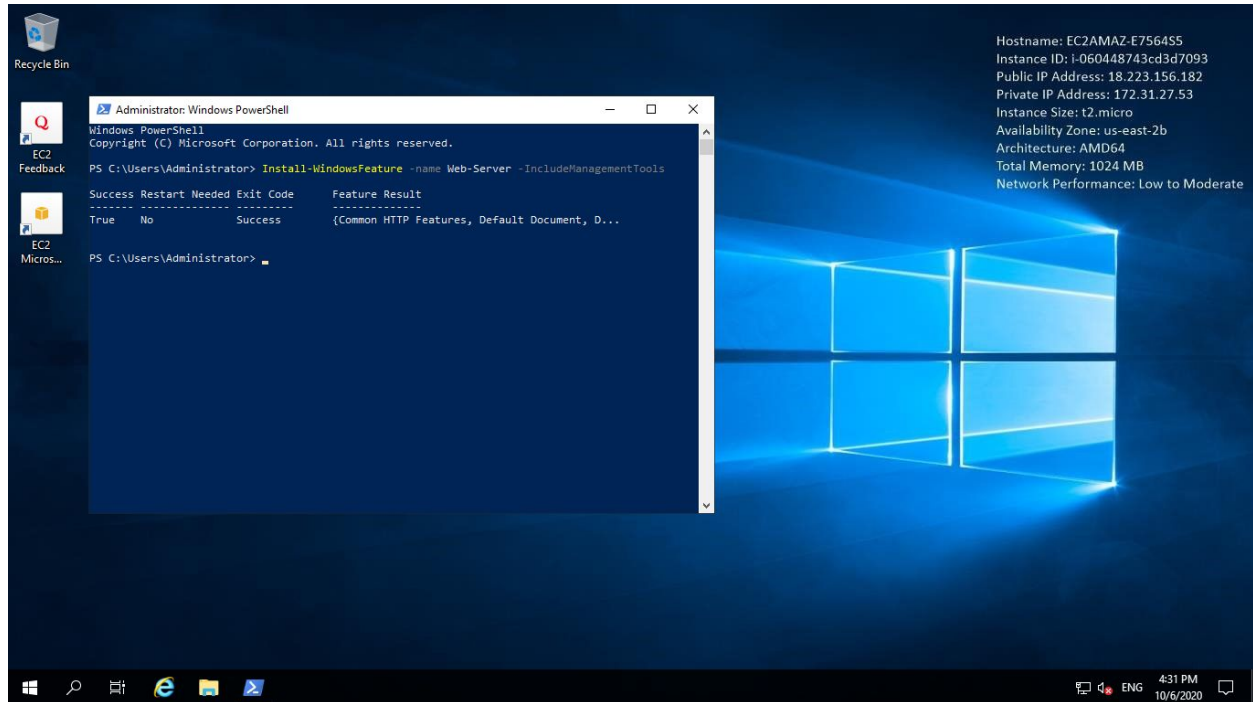
Deploying a web server in Windows instance.

Following are the stepwise screenshots from creation to deploying a web server in Windows instance.

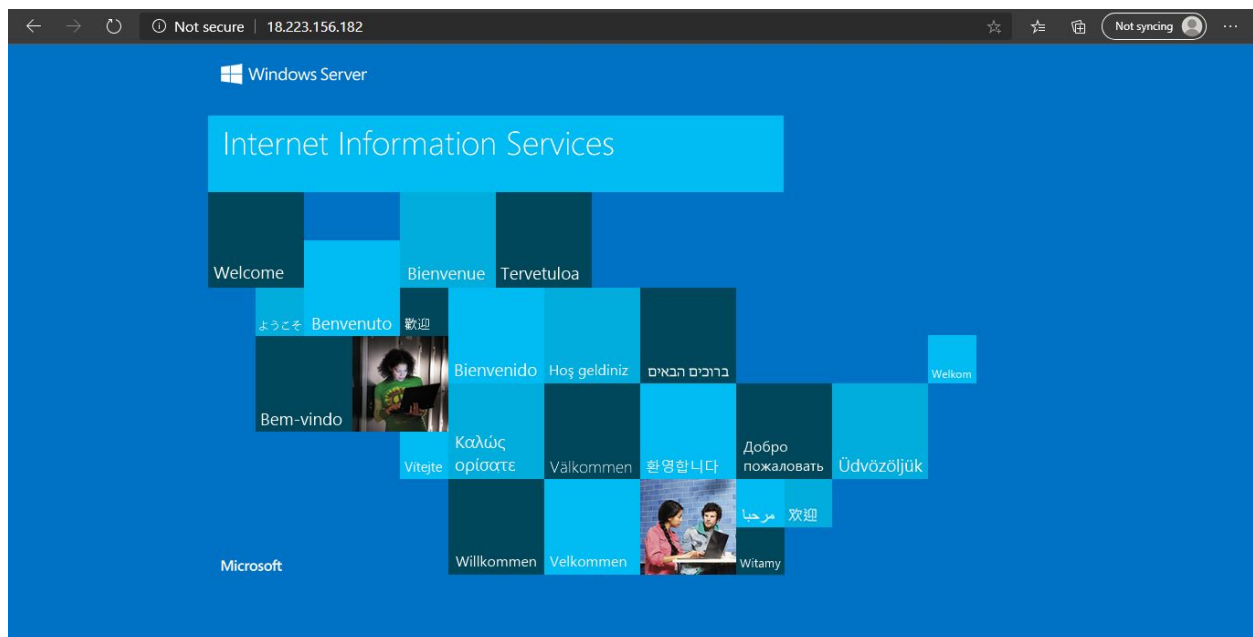
1. Below screenshot is an Overview of the Windows instance, after creation.



2. Installed a IIS web server in Windows Instance



3. We can access the web page by the Public IP - **18.223.156.182**

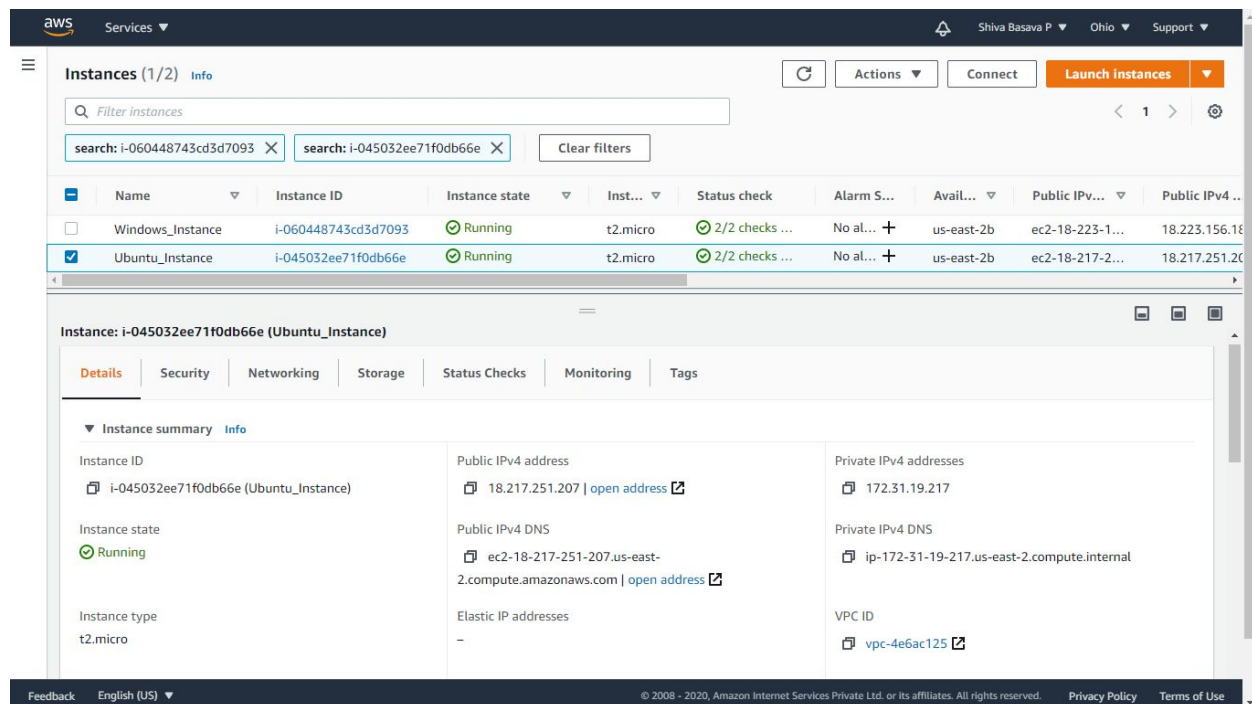


● **PROJECT 2:**

Deploying a web server in Ubuntu instance.

Following are the stepwise screenshots from creation to deploying a web server in Ubuntu instance.

- Below screenshot is an Overview of the Ubuntu instance, after creation.



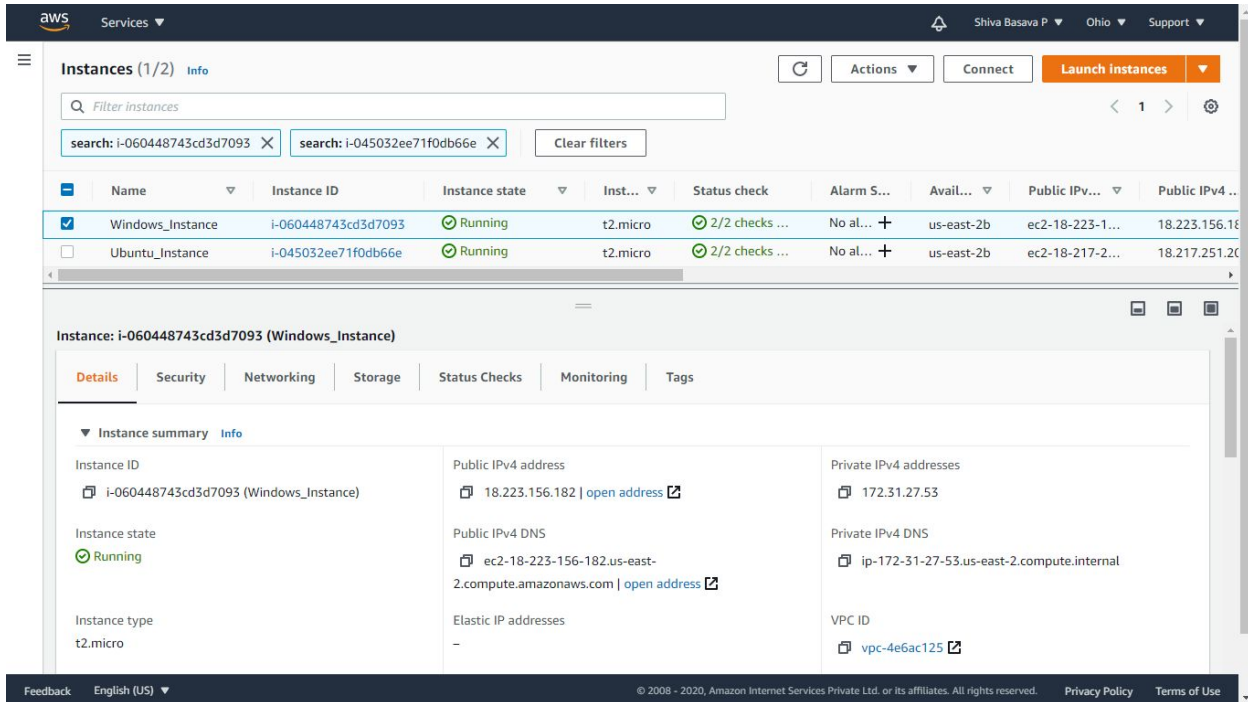
- After Successful login to Instance, Installed the 'nginx' server. Now, we can access the web page by the Public IP - **18.217.251.207**



● **PROJECT 3:** Working with volumes

Following are the stepwise screenshots, Which describe the creation or modifying of volume for Windows Instance.

- Created a Windows Instance



Instances (1/2)

Filter instances

search: i-060448743cd3d7093 search: i-045032ee71f0db66e Clear filters

| Name | Instance ID | Instance state | Inst... | Status check | Alarm S... | Avail... | Public IPv... | Public IPv4 ... |
|------------------|---------------------|----------------|----------|----------------|------------|------------|-----------------|-----------------|
| Windows_Instance | i-060448743cd3d7093 | Running | t2.micro | 2/2 checks ... | No al... | us-east-2b | ec2-18-223-1... | 18.223.156.182 |
| Ubuntu_Instance | i-045032ee71f0db66e | Running | t2.micro | 2/2 checks ... | No al... | us-east-2b | ec2-18-217-2... | 18.217.251.200 |

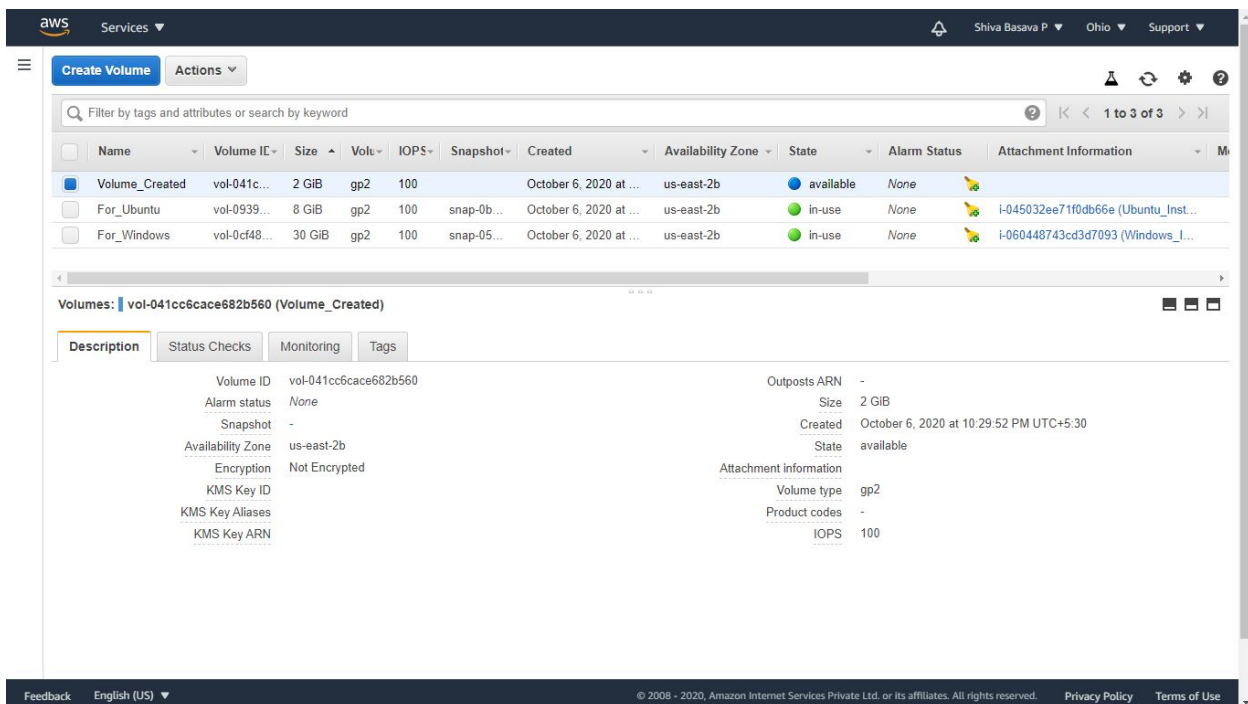
Instance: i-060448743cd3d7093 (Windows_Instance)

Details Security Networking Storage Status Checks Monitoring Tags

Instance summary

| | | |
|--|---|--|
| Instance ID | Public IPv4 address | Private IPv4 addresses |
| i-060448743cd3d7093 (Windows_Instance) | 18.223.156.182 open address | 172.31.27.53 |
| Instance state | Public IPv4 DNS | Private IPv4 DNS |
| Running | ec2-18-223-156-182.us-east-2.compute.amazonaws.com open address | ip-172-31-27-53.us-east-2.compute.internal |
| Instance type | Elastic IP addresses | VPC ID |
| t2.micro | - | vpc-4e6ac125 |

2. Created a New EBS Volume.



Create Volume

Filter by tags and attributes or search by keyword

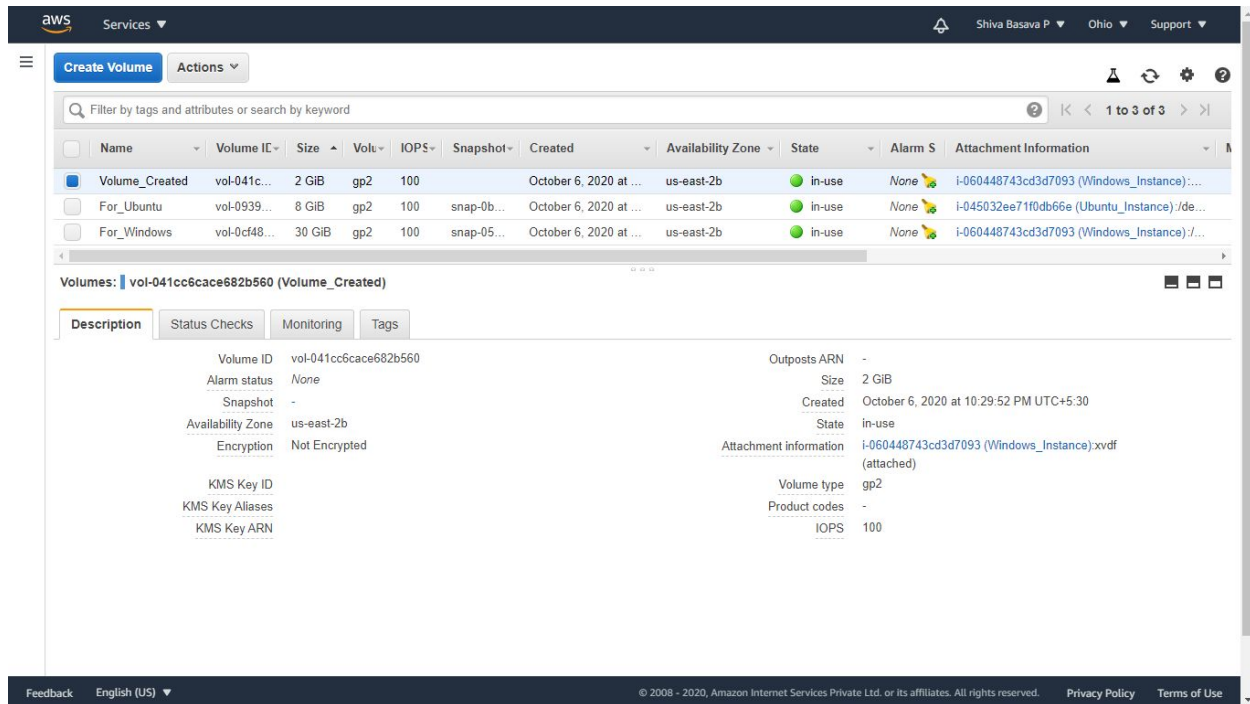
| Name | Volume ID | Size | Volu... | IOPS | Snapshot | Created | Availability Zone | State | Alarm Status | Attachment Information |
|----------------|-----------------------|--------|---------|------|------------|------------------------|-------------------|-----------|--------------|--|
| Volume_Created | vol-041cc6cace682b560 | 2 GiB | gp2 | 100 | - | October 6, 2020 at ... | us-east-2b | available | None | - |
| For_Ubuntu | vol-0939... | 8 GiB | gp2 | 100 | snap-0b... | October 6, 2020 at ... | us-east-2b | in-use | None | i-045032ee71f0db66e (Ubuntu_Instance) |
| For_Windows | vol-0cf48... | 30 GiB | gp2 | 100 | snap-05... | October 6, 2020 at ... | us-east-2b | in-use | None | i-060448743cd3d7093 (Windows_Instance) |

Volumes: vol-041cc6cace682b560 (Volume_Created)

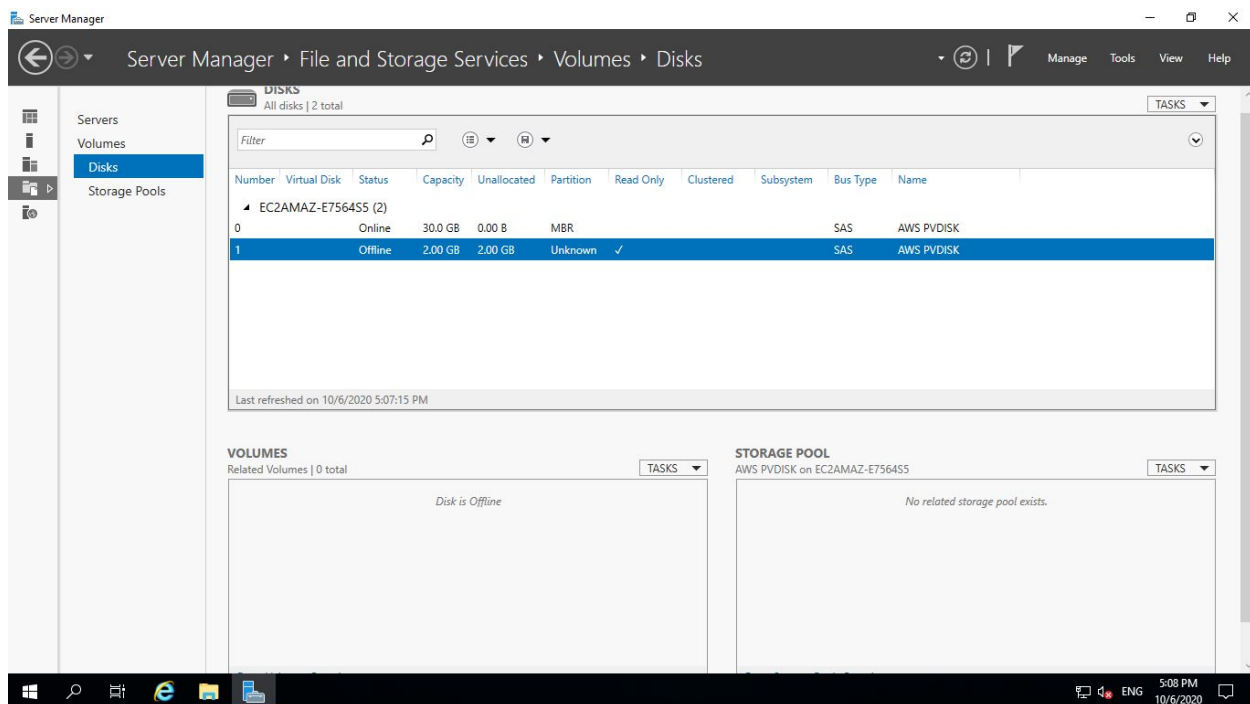
Description Status Checks Monitoring Tags

| | | | |
|-------------------|-----------------------|------------------------|---|
| Volume ID | vol-041cc6cace682b560 | Outposts ARN | - |
| Alarm status | None | Size | 2 GiB |
| Snapshot | - | Created | October 6, 2020 at 10:29:52 PM UTC+5:30 |
| Availability Zone | us-east-2b | State | available |
| Encryption | Not Encrypted | Attachment information | |
| KMS Key ID | - | Volume type | gp2 |
| KMS Key Aliases | - | Product codes | - |
| KMS Key ARN | - | IOPS | 100 |

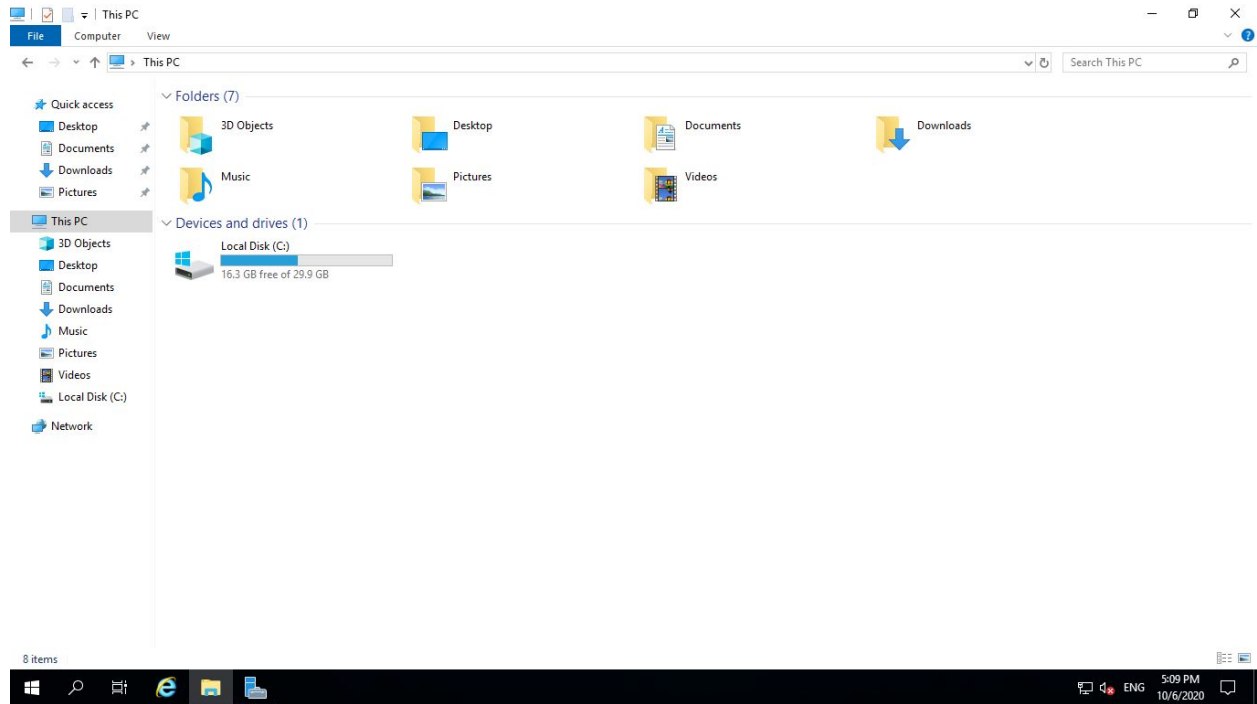
3. Attaching the Created EBS to the Windows Instance.



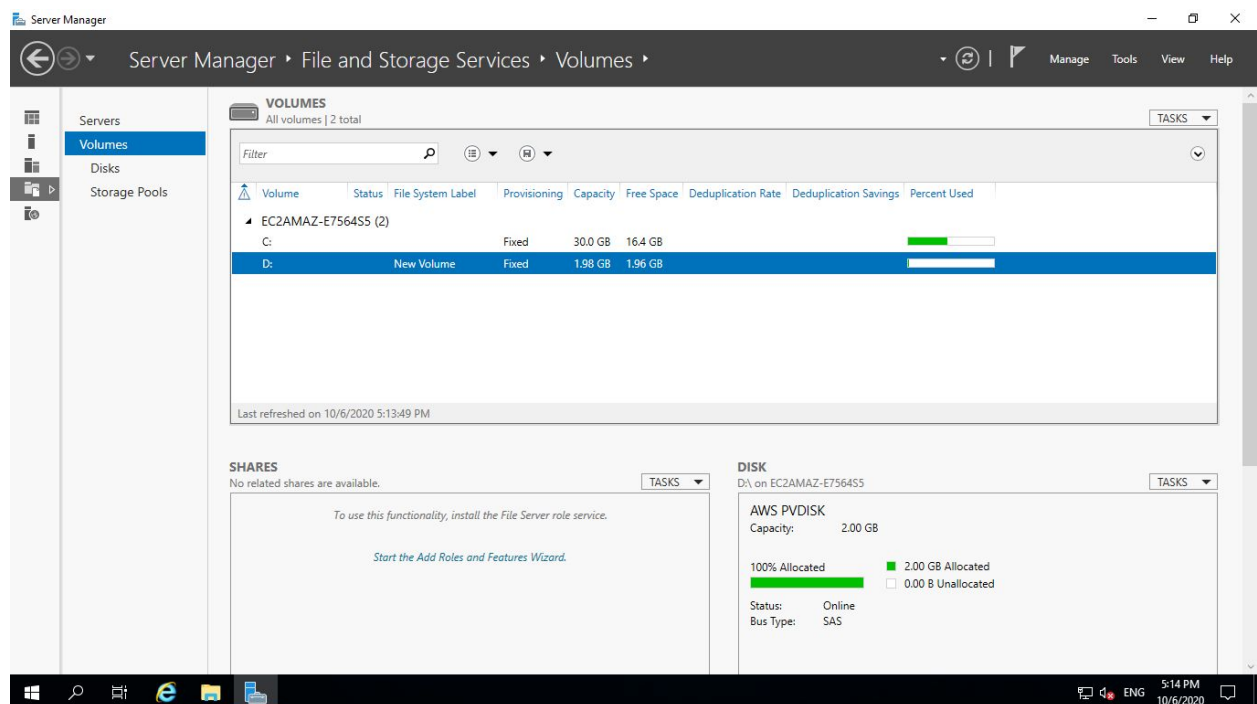
4. Now login to the Windows Instance and goto Server Management, Newly created EBS Volume will be in OFFLINE state.



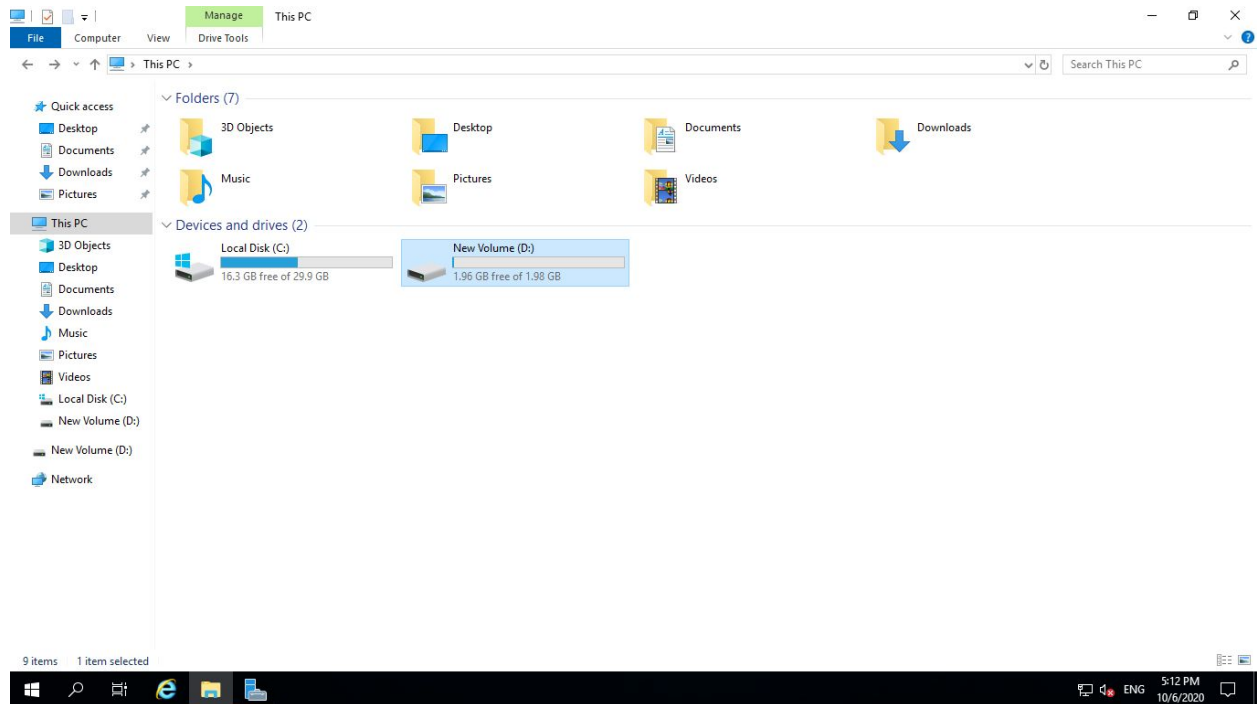
(This PC view)



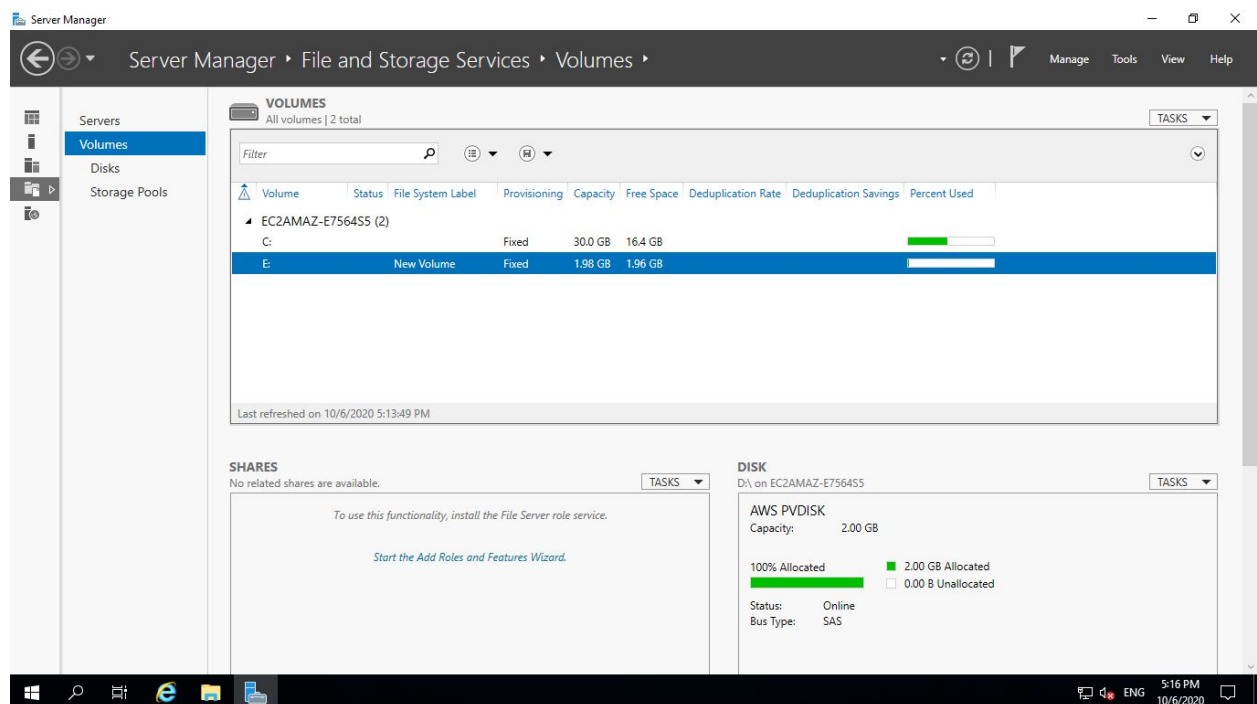
5. Bringing EBS ONLINE. And now the EBS volume is successfully Mounted.



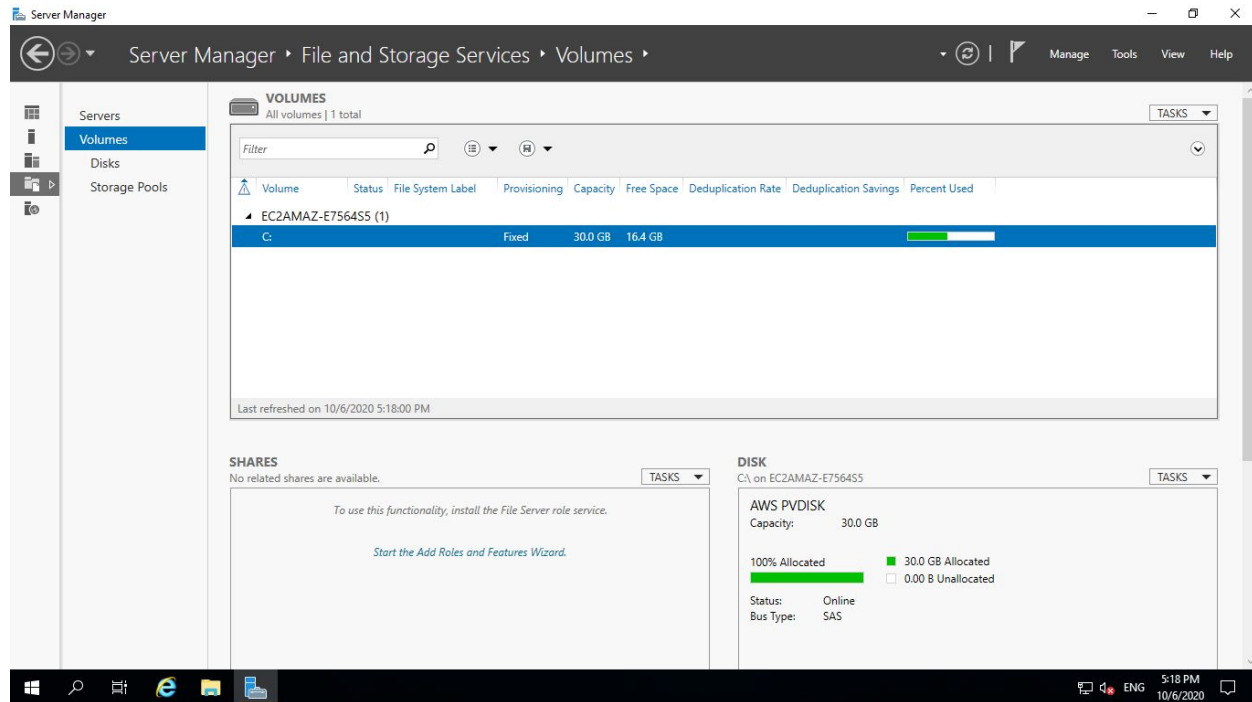
(This PC view)



6. Changed the Drive Name from 'D' to 'E'



7. Deleted the EBS Volume

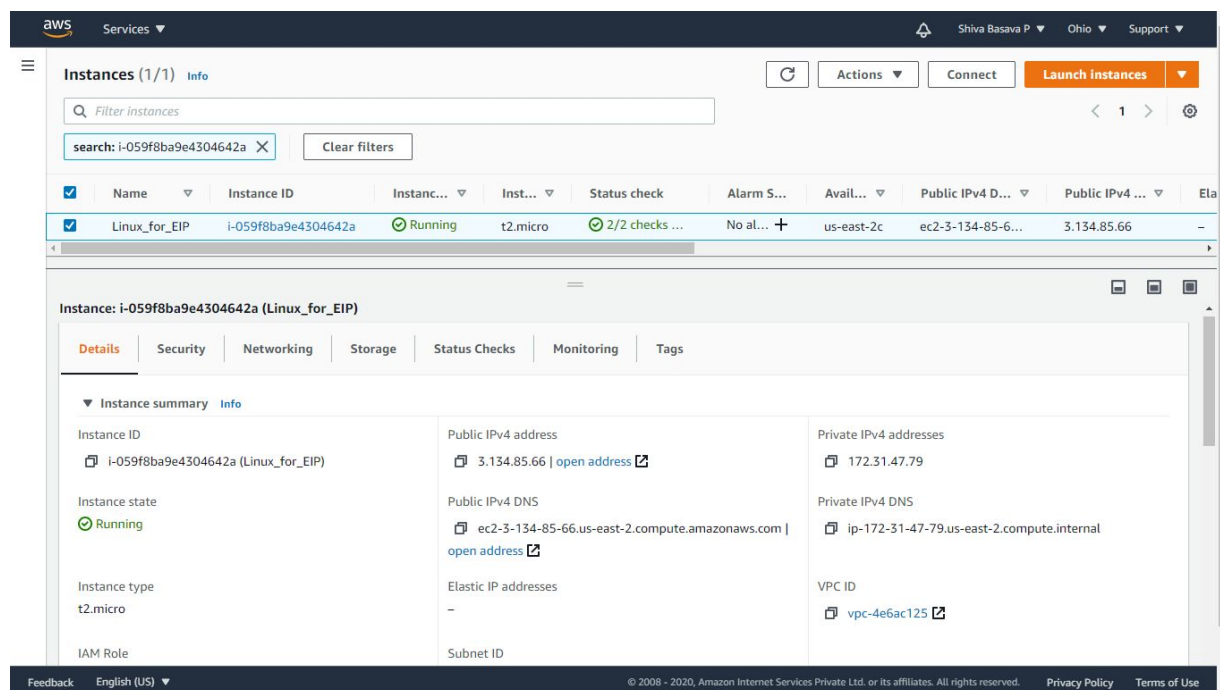


• **PROJECT 4:**

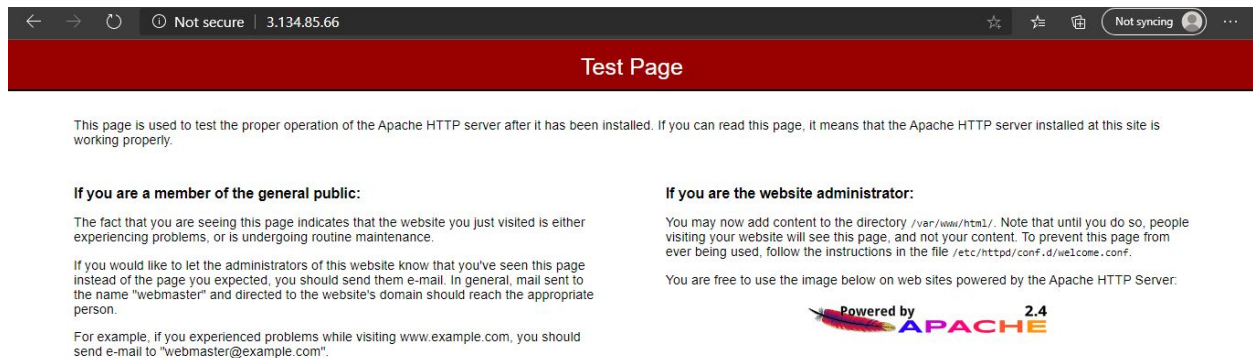
Working with Elastic IP's

Following are the stepwise screenshots, Which describe the creation of Elastic IP.

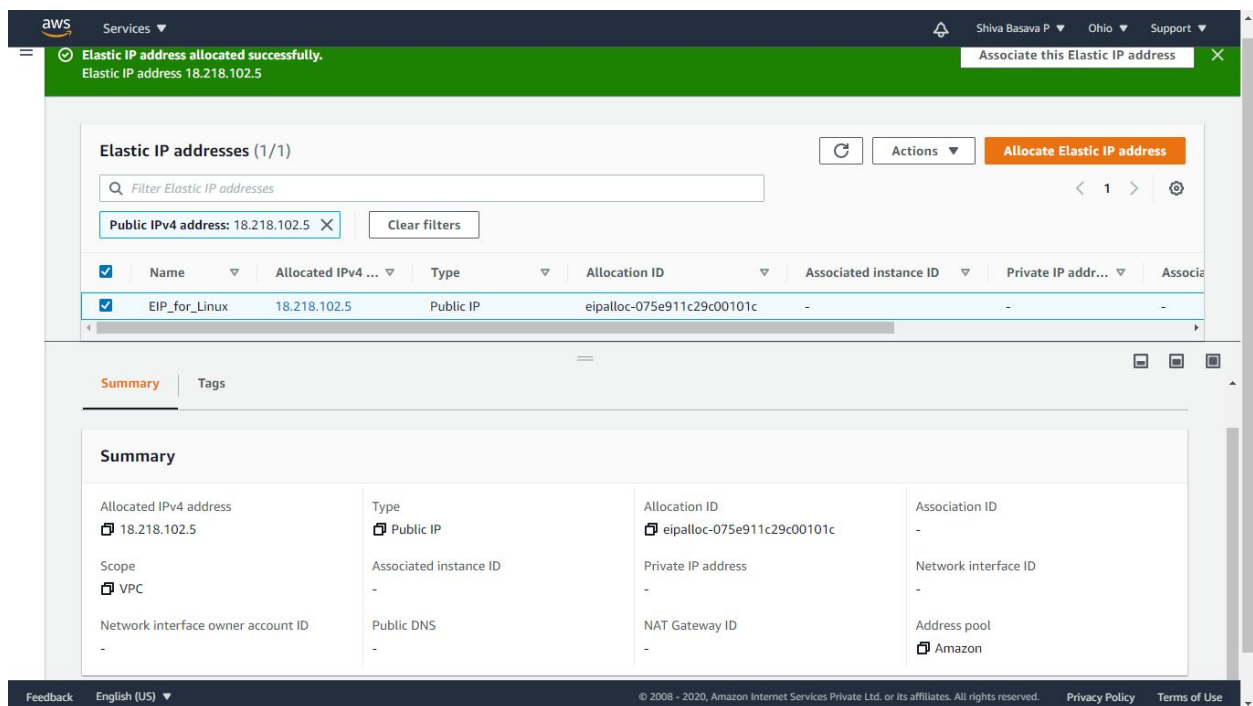
1. Created a Linux Instance.



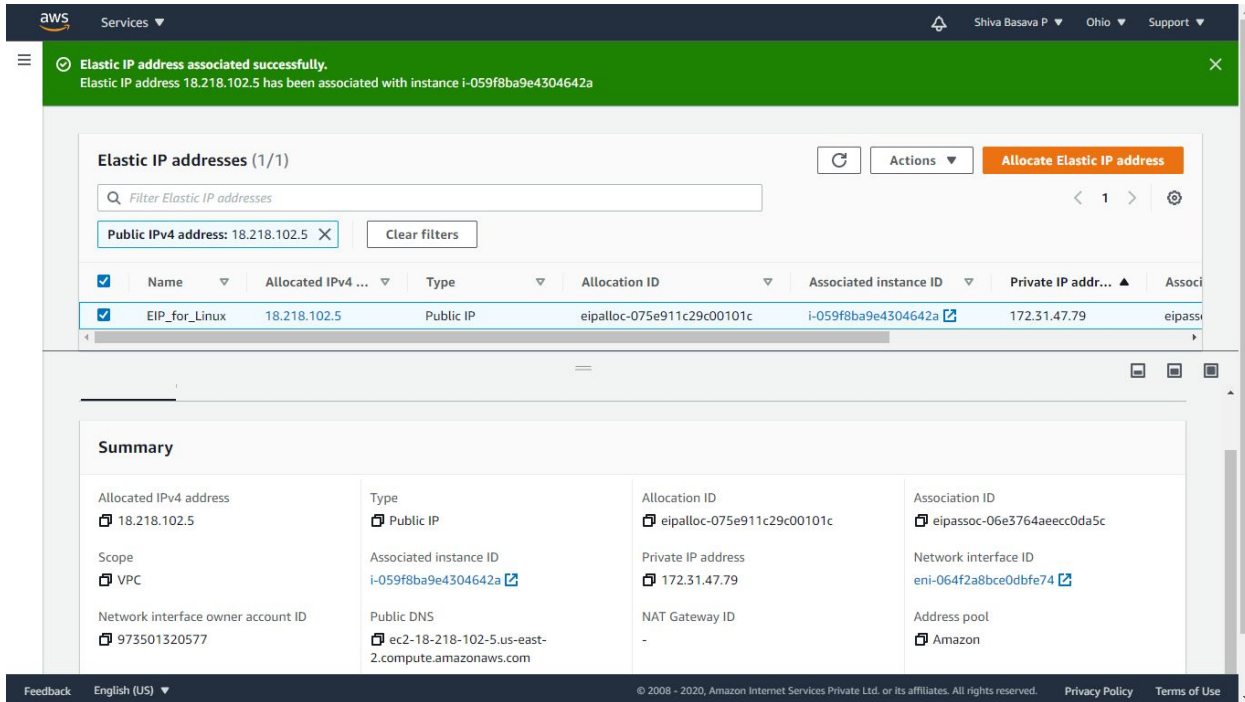
2. Logged in as a Super root user, Updated the system and installed Apache server.
Now the web page(Test page) can be accessed by IP - **3.134.85.66**



3. Created an Elastic IP.



4. Allocated it to above Linux Instance.



Elastic IP addresses (1/1)

Filter Elastic IP addresses

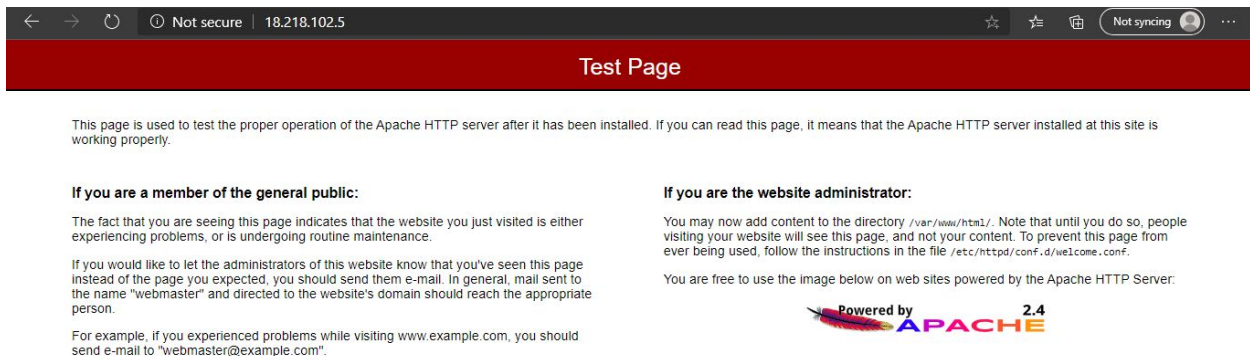
Public IPv4 address: 18.218.102.5

| Name | Allocated IPv4 ... | Type | Allocation ID | Associated instance ID | Private IP addr... | Associ |
|---------------|--------------------|-----------|----------------------------|------------------------|--------------------|--------|
| EIP_for_Linux | 18.218.102.5 | Public IP | eipalloc-075e911c29c00101c | i-059f8ba9e4304642a | 172.31.47.79 | eipass |

Summary

| | | | |
|--|--|---|---|
| Allocated IPv4 address 18.218.102.5 | Type Public IP | Allocation ID eipalloc-075e911c29c00101c | Association ID eipassoc-06e3764aecc0da5c |
| Scope VPC | Associated instance ID i-059f8ba9e4304642a | Private IP address 172.31.47.79 | Network interface ID eni-064f2a8bce0dbfe74 |
| Network interface owner account ID 973501320577 | Public DNS ec2-18-218-102-5.us-east-2.compute.amazonaws.com | NAT Gateway ID - | Address pool Amazon |

5. Now we can access the web page(Test page) by using the Elastic IP's Id - **18.218.102.5**



Test Page

This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.


If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting www.example.com, you should send e-mail to "webmaster@example.com".

If you are the website administrator:

You may now add content to the directory `/var/www/html/`. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file `/etc/httpd/conf.d/welcome.conf`.

You are free to use the image below on web sites powered by the Apache HTTP Server.

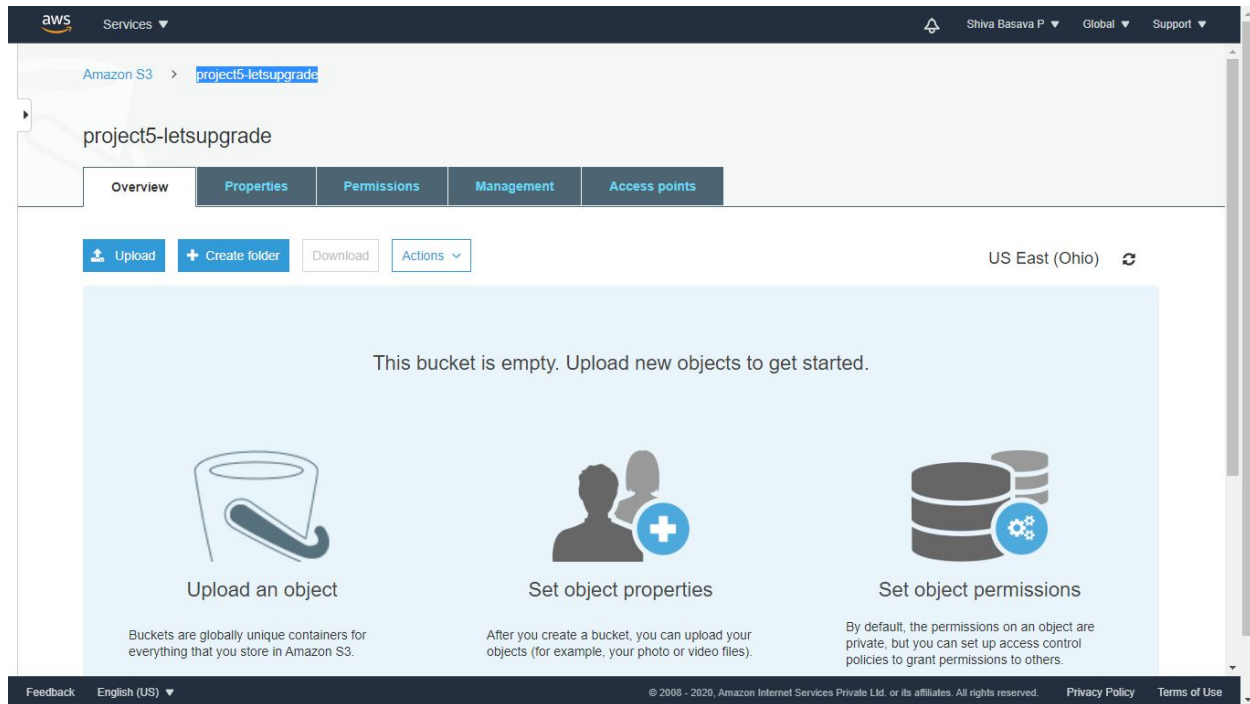
Powered by **2.4** 

• **PROJECT 5:**

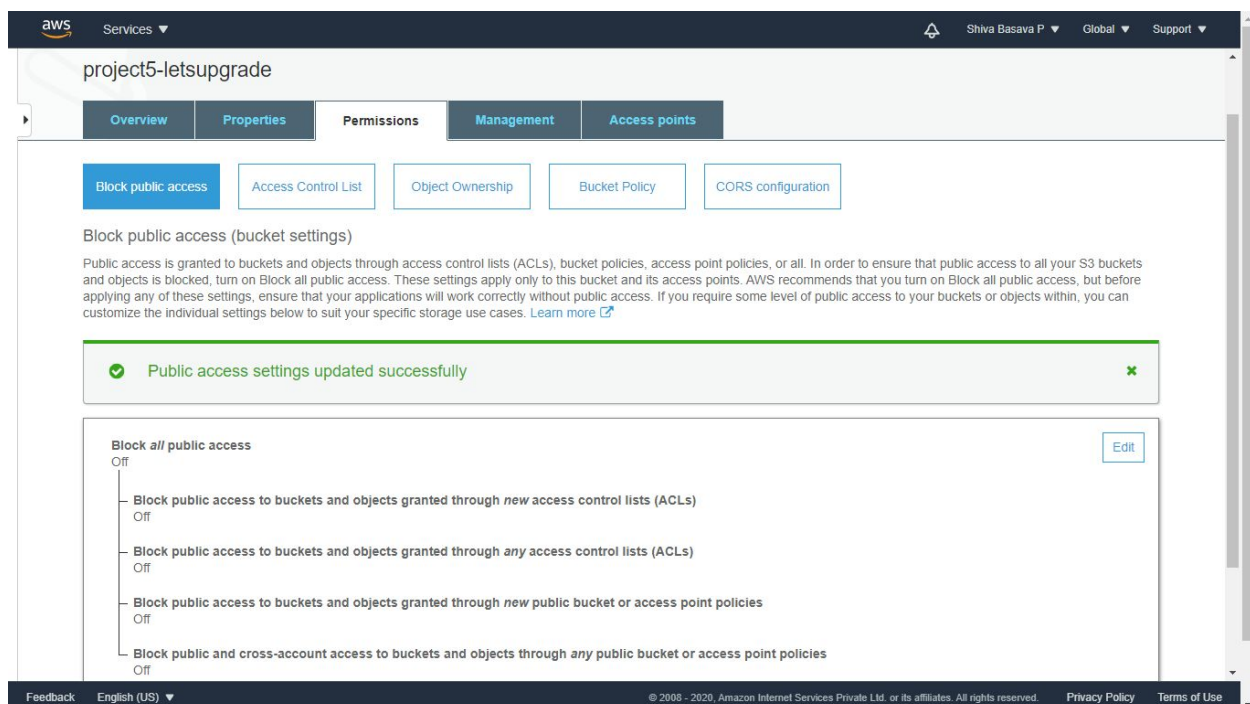
Working with S3 -

I. **Uploading an Image of format '.jpg' to S3**

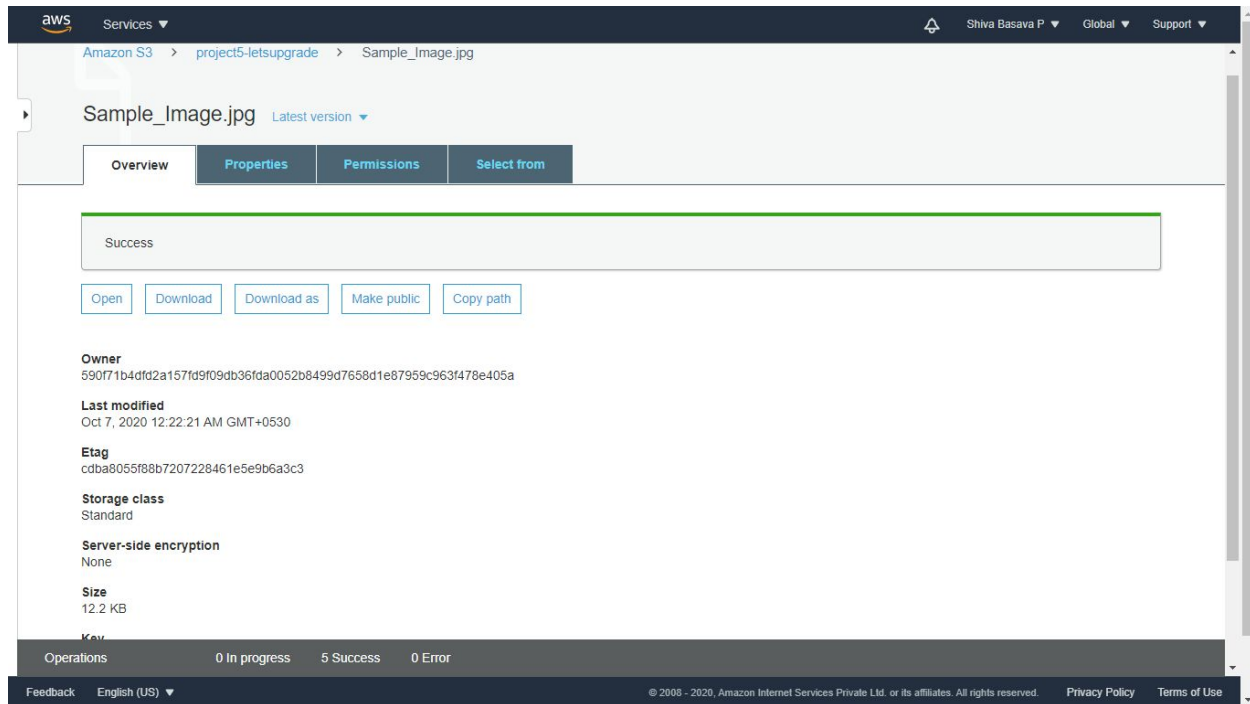
1. Create a S3 bucket (project5-letsupgrade)



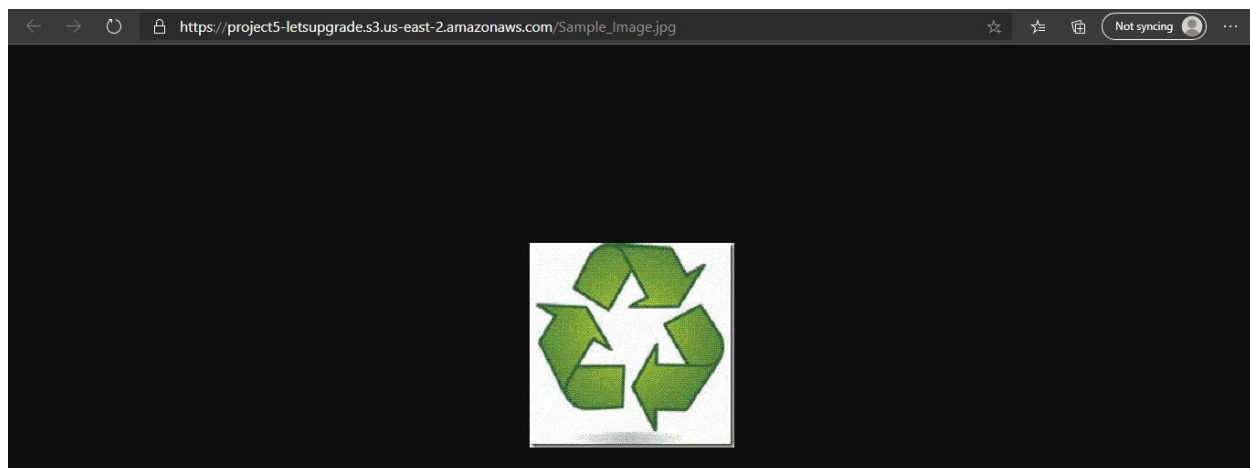
2. Make the S3 bucket's permission to PUBLIC.



3. Upload an Image of format '.jpg' and also change its visibility to PUBLIC as well.

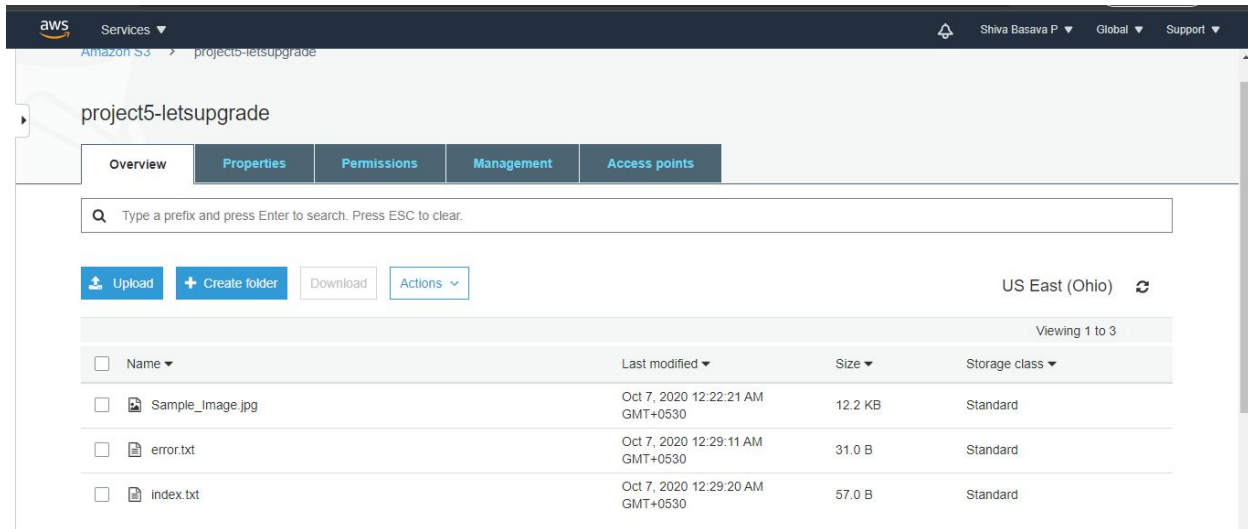


4. Now we'll be able to access the uploaded image by its **Object URL**.

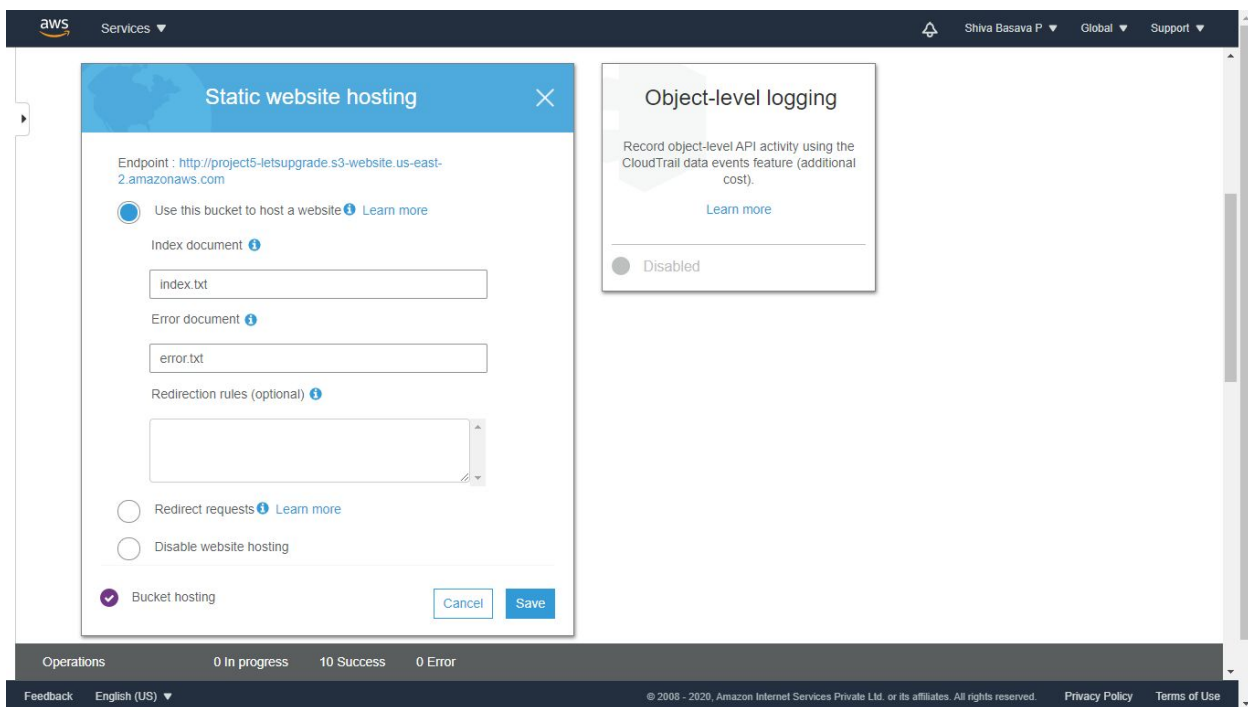


II. Static web hosting

1. In the above S3 bucket, Upload two text files - index.txt and error.txt

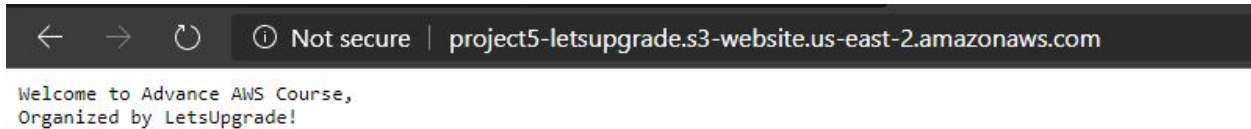


2. Let's ENABLE the option for Static Web Hosting. And fill in required details(like- file name). And it'll auto generate link, through which we can access this Static web page.

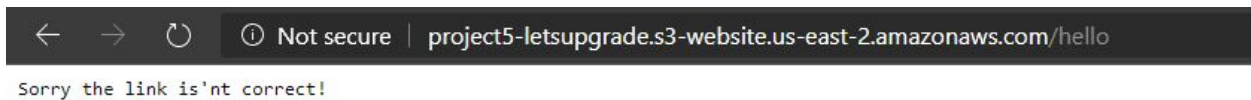


3. Following are the success and error messages, the web page will display.

(success)

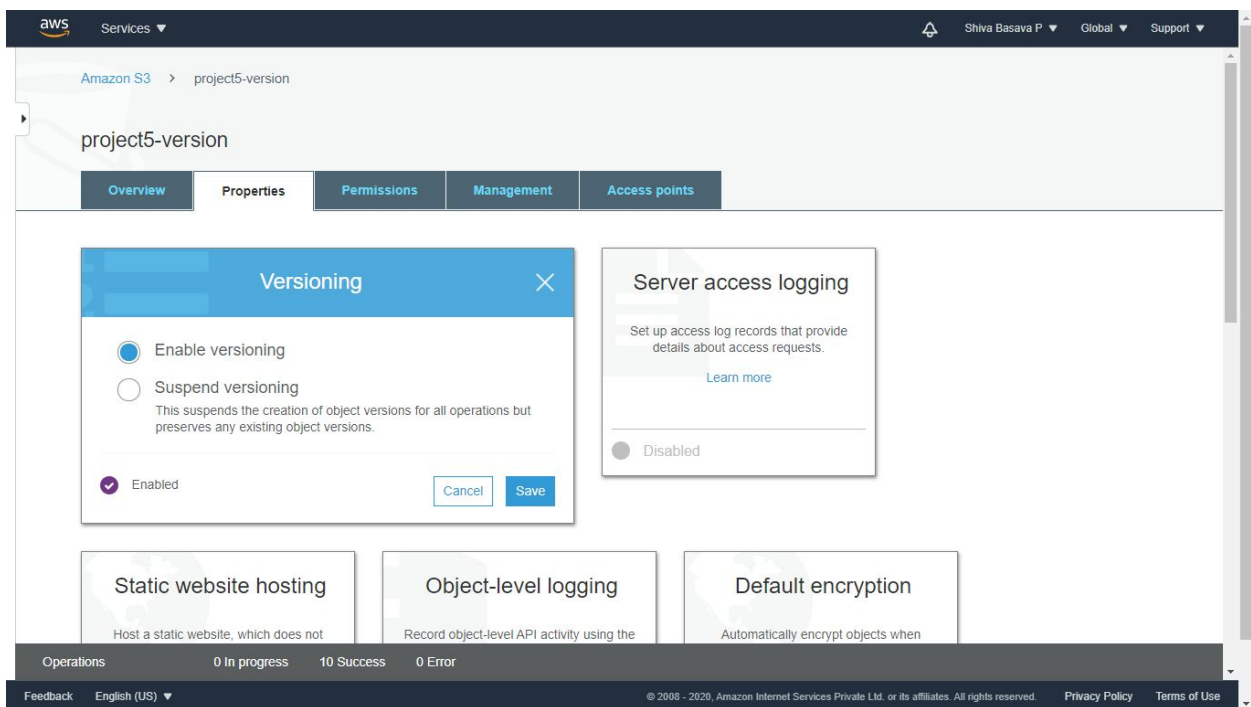


(error)



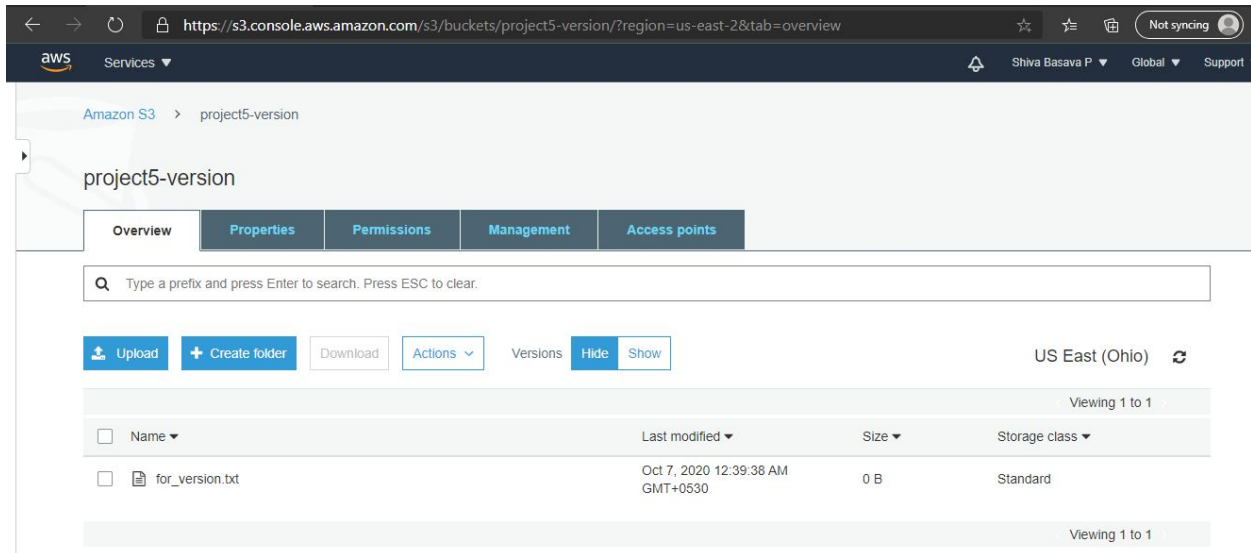
III. Versioning

1. Created a new S3 bucket (project5-version)



2. Enabling the Versioning option for the S3 Bucket.

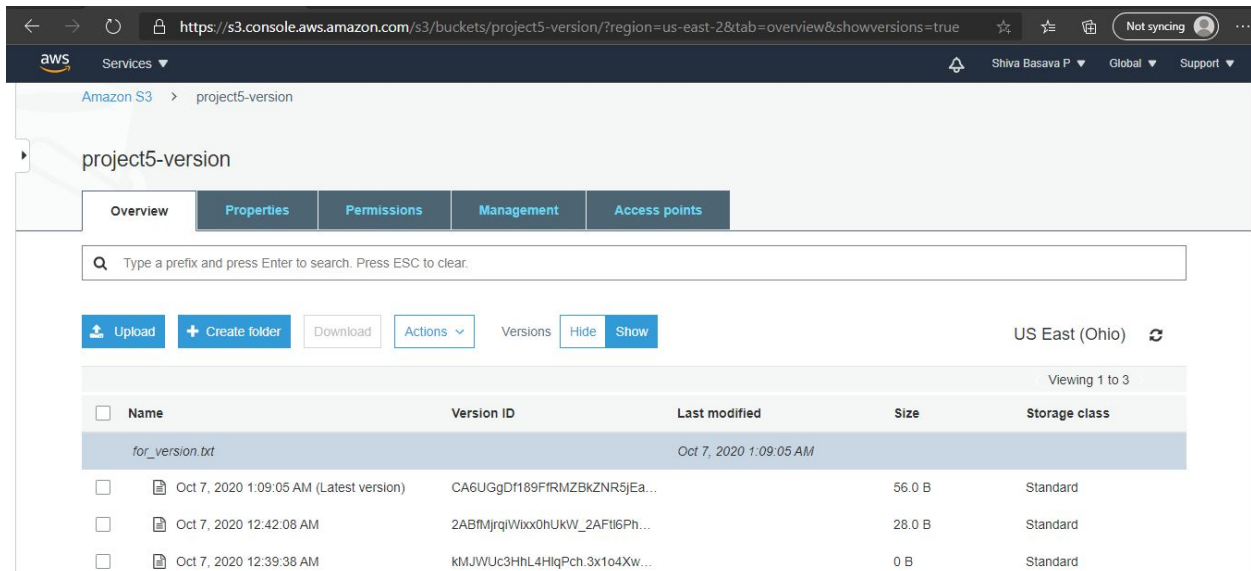
(hide versions)



The screenshot shows the AWS S3 console for the bucket 'project5-version'. The 'Versions' tab is selected, and the 'Hide' button is active, indicating that versioning is hidden. The table below shows a single object 'for_version.txt'.

| Name | Last modified | Size | Storage class |
|-----------------|----------------------------------|------|---------------|
| for_version.txt | Oct 7, 2020 12:39:38 AM GMT+0530 | 0 B | Standard |

(Show versions)



The screenshot shows the AWS S3 console for the bucket 'project5-version'. The 'Versions' tab is selected, and the 'Show' button is active, indicating that versioning is shown. The table below shows three versions of the object 'for_version.txt'.

| Name | Version ID | Last modified | Size | Storage class |
|---|--------------------------------|------------------------|--------|---------------|
| for_version.txt | | Oct 7, 2020 1:09:05 AM | | |
| Oct 7, 2020 1:09:05 AM (Latest version) | CA6UGgDf189FFRMZBKZNR5JEa... | | 56.0 B | Standard |
| Oct 7, 2020 12:42:08 AM | 2ABfMjrqlWvxx0hUkV_2Aftl6Ph... | | 28.0 B | Standard |
| Oct 7, 2020 12:39:38 AM | kMJWUc3HhL4HlqPch.3x1o4Xw... | | 0 B | Standard |

Question 1:

Explain life cycle effects on instances: Stop, start, reboot, terminate- public IP, Private Ip, Applications installed.

Following are the life cycle effects on instances,

- **Start** of Instance

When the instance is started, it enters into a pending state and then into running. An instance when stopped and started is launched on a new host. Any data on an instance store volume (not root volume) would be lost while data on the EBS volume persists.

- **Stop** of Instance

After the instance is stopped, it enters in stopping state and then to stopped state. While the instance is stopped, its root volume can be treated like any other volume, and modify it for e.g. repair file system problems or update software or change the instance type, user data(or Application), EBS optimization attributes etc. Volume can be detached from the stopped instance, and attached to a running instance, modified, detached from the running instance, and then reattached to the stopped instance.

Only EBS-backed instances can be stopped and started. Instance store-backed instances cannot be stopped and started. EC2 instance retains its private IP address as well as the Elastic IP address. If the instance has an IPv6 address, it retains its IPv6 address. However, the public IP address, if assigned instead of the Elastic IP address, would be released in the transition from Start to Stop.

- **Reboot** of Instance

An instance retains its public DNS, public and private IP address during the reboot. Data(or Application) on the EBS and Instance store volume is also retained. (Both EBS-backed and Instance store-backed instances can be rebooted.)

- **Terminate** of an Instance

An instance can be terminated, and it enters into the shutting-down and then the terminated state. After an instance is terminated, it can't be connected and all the IP(public & private), Applications are lost.