

Assignment Solution - Day 5 & 6

• **PROJECT 1 :**

Working with IAM Roles with S3 and bootstrapping with EC2

I. Task 1 : Creating a Bootstrapped Instance

1. Instance overview

The screenshot displays the AWS Management Console interface for the 'Instances (1/1)' page. The instance 'Project 1 - Task 1' (ID: i-0feb4f4f672150a51) is shown in a 'Running' state. The instance summary includes the following details:

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0feb4f4f672150a51 (Project 1 - Task 1)	3.23.94.63 open address	172.31.18.201

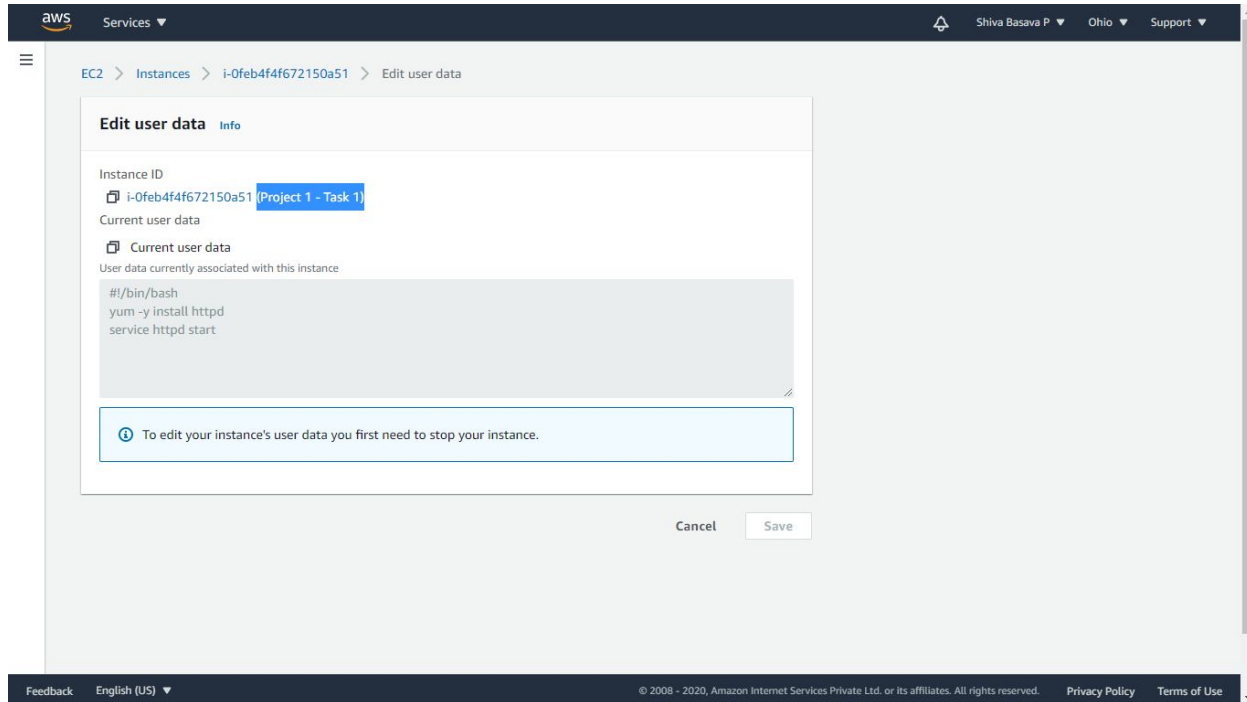
Instance state	Public IPv4 DNS	Private IPv4 DNS
Running	ec2-3-23-94-63.us-east-2.compute.amazonaws.com open address	ip-172-31-18-201.us-east-2.compute.internal

Instance type	Elastic IP addresses	VPC ID
t2.micro	-	vpc-4e6ac125

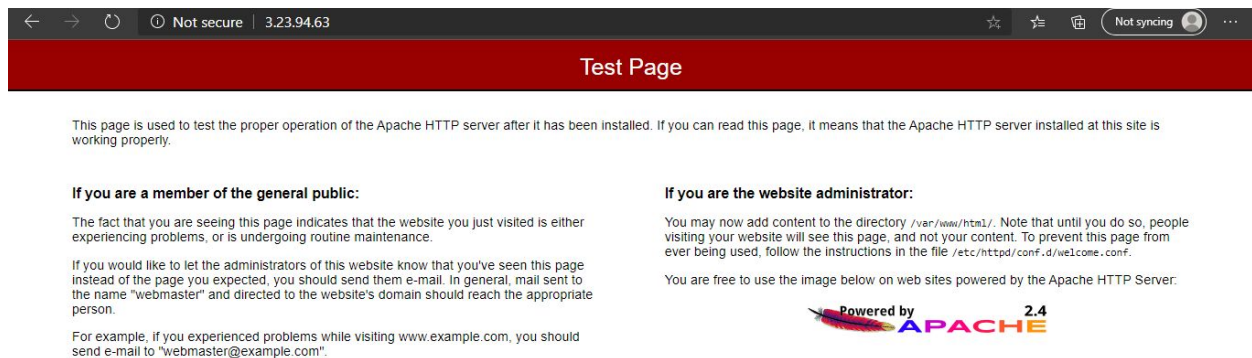
IAM Role	Subnet ID
-	subnet-f6434b8c

The console also shows a table of instances with columns: Name, Instance ID, Instance type, Status check, Availability Zone, Public IPv4 DNS, and Public IPv4 address. The instance 'Project 1 - Task 1' is listed with a status of 'Running' and a public IP of 3.23.94.63.

2. User Data of instance



3. Web page at IP - 3.23.94.63



II. Task 2 : Checking bucket list and creating a new bucket from EC2 using IAM Roles

1. Instance overview

The screenshot shows the AWS Management Console 'Instances' page. Two instances are listed: 'Project 1 - Task 1' (ID: i-0feb4f4f672150a51) and 'Project 1 - Task 2' (ID: i-0483a318da889cac7). The second instance is selected. Below the table, the 'Instance summary' for i-0483a318da889cac7 is displayed, showing it is in a 'Running' state, of type 't2.micro', with an IAM role of 'Task_2_full_s3_access'. Other details include public and private IP addresses, DNS names, and VPC ID.

Name	Instance ID	Inst...	Ins...	Status che...	Alar...	Avail...	Public IPv4 DNS	Public IPv4 ...	Elastic Ip
Project 1 - Task 1	i-0feb4f4f672150a51	✓ Ru...	t2.micro	✓ 2/2 che...	N...	us-east-...	ec2-3-23-94-63.us...	3.23.94.63	-
Project 1 - Task 2	i-0483a318da889cac7	✓ Ru...	t2.micro	✓ 2/2 che...	N...	us-east-...	ec2-52-15-157-11...	52.15.157.114	-

Instance summary Info

Instance ID: i-0483a318da889cac7 (Project 1 - Task 2)

Instance state: **Running**

Instance type: t2.micro

IAM Role: Task_2_full_s3_access

Public IPv4 address: 52.15.157.114 | open address

Public IPv4 DNS: ec2-52-15-157-114.us-east-2.compute.amazonaws.com | open address

Private IPv4 addresses: 172.31.22.225

Private IPv4 DNS: ip-172-31-22-225.us-east-2.compute.internal

Elastic IP addresses: -

VPC ID: vpc-4e6ac125

Subnet ID: subnet-f6434b8c

2. IAM role for S3 full access

The screenshot shows the AWS IAM console 'Summary' page for the role 'Task_2_full_s3_access'. The role is created on 2020-10-13 and has the 'AmazonS3FullAccess' policy attached. The role description states it allows EC2 instances to call AWS services on behalf of the user.

Summary

Role ARN: am:aws:iam::973501320577:role/Task_2_full_s3_access

Role description: Allows EC2 instances to call AWS services on your behalf. | Edit

Instance Profile ARNs: am:aws:iam::973501320577:instance-profile/Task_2_full_s3_access

Path: /

Creation time: 2020-10-13 21:40 UTC+0530

Last activity: Not accessed in the tracking period

Maximum session duration: 1 hour | Edit

Permissions | Trust relationships | Tags | Access Advisor | Revoke sessions

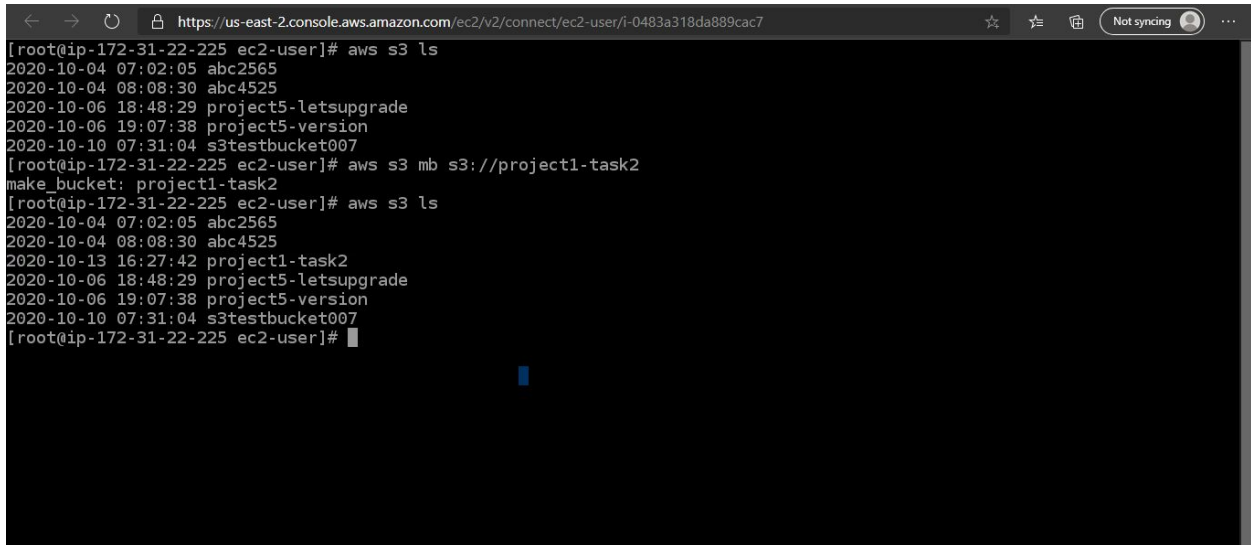
Permissions policies (1 policy applied)

Attach policies | Add inline policy

Policy name	Policy type
AmazonS3FullAccess	AWS managed policy

Permissions boundary (not set)

3. Commands Executed at Linux instance



The screenshot shows the AWS Management Console terminal for an EC2 instance. The terminal output is as follows:

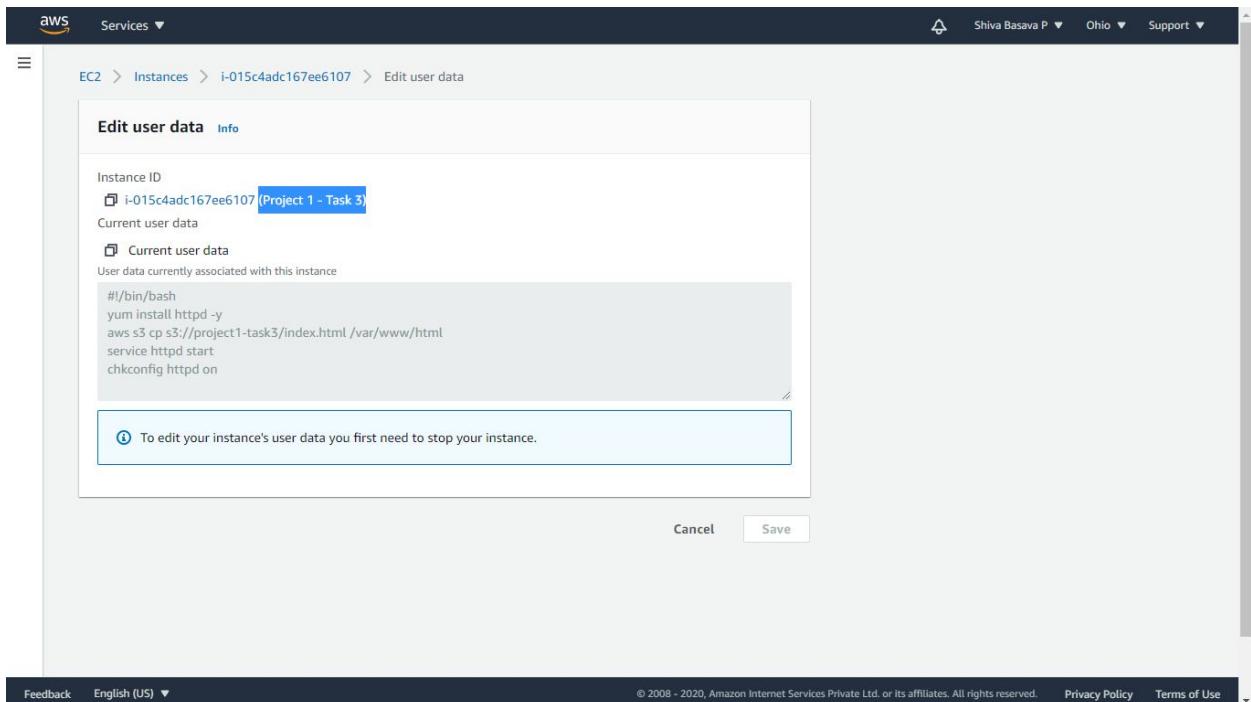
```
[root@ip-172-31-22-225 ec2-user]# aws s3 ls
2020-10-04 07:02:05 abc2565
2020-10-04 08:08:30 abc4525
2020-10-06 18:48:29 project5-letsupgrade
2020-10-06 19:07:38 project5-version
2020-10-10 07:31:04 s3testbucket007
[root@ip-172-31-22-225 ec2-user]# aws s3 mb s3://project1-task2
make_bucket: project1-task2
[root@ip-172-31-22-225 ec2-user]# aws s3 ls
2020-10-04 07:02:05 abc2565
2020-10-04 08:08:30 abc4525
2020-10-13 16:27:42 project1-task2
2020-10-06 18:48:29 project5-letsupgrade
2020-10-06 19:07:38 project5-version
2020-10-10 07:31:04 s3testbucket007
[root@ip-172-31-22-225 ec2-user]#
```

i-0483a318da889cac7 (Project 1 - Task 2)

Public IPs: 52.15.157.114 Private IPs: 172.31.22.225

III. Task 3 :

1. User data for Linux Instance



2. Overview of Instance

Instances (1/3) Info

Filter instances

search: i-0feb4f4672150a51 X search: i-0483a318da889cac7 X search: i-015c4adc167ee6107 X Clear filters

	Name	Instance ID	Inst...	Ins...	Status che...	Alar...	Avail...	Public IPv4 DNS	Public IPv4 ...
<input type="checkbox"/>	Project 1 - Task 1	i-0feb4f4672150a51	✓ Ru...	t2.micro	✓ 2/2 che...	N... +	us-east-...	ec2-3-23-94-63.us...	3.23.94.63
<input type="checkbox"/>	Project 1 - Task 2	i-0483a318da889cac7	✓ Ru...	t2.micro	✓ 2/2 che...	N... +	us-east-...	ec2-52-15-157-11...	52.15.157.114
<input checked="" type="checkbox"/>	Project 1 - Task 3	i-015c4adc167ee6107	✓ Ru...	t2.micro	✓ 2/2 che...	N... +	us-east-2c	ec2-3-19-141-37.u...	3.19.141.37

Instance summary Info

Instance ID i-015c4adc167ee6107 (Project 1 - Task 3)	Public IPv4 address 3.19.141.37 open address	Private IPv4 addresses 172.31.47.85
Instance state Running	Public IPv4 DNS ec2-3-19-141-37.us-east-2.compute.amazonaws.com open address	Private IPv4 DNS ip-172-31-47-85.us-east-2.compute.internal
Instance type t2.micro	Elastic IP addresses -	VPC ID vpc-4e6ac125
IAM Role Task_3_full_s3_access	Subnet ID subnet-b95424f5	

3. Bucket with an Index.html file

https://s3.console.aws.amazon.com/s3/buckets/project1-task3/?region=us-east-1&tab=overview

Amazon S3 > project1-task3

project1-task3

Overview Properties Permissions Management Access points

Type a prefix and press Enter to search. Press ESC to clear.

Upload Create folder Download Actions

US East (N. Virginia)

Name	Last modified	Size	Storage class
index.html	Oct 13, 2020 10:26:02 PM GMT+0530	40.0 B	Standard

4. Web page at IP - 3.19.141.37

Not secure | 3.19.141.37

Hello welcome!

- **PROJECT 2 :**
Creating an EC2 instance in custom VPC

1. Task 1: Created a VPC

The screenshot shows the AWS Management Console interface for a VPC. At the top, a green notification bar states: "You successfully created vpc-073b94d5203d7829c / vpc_project2". Below this, the VPC name "vpc-073b94d5203d7829c / vpc_project2" is displayed. The "Details" tab is active, showing a table of VPC attributes:

Details			
VPC ID vpc-073b94d5203d7829c	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP options set dopt-f6fe729d	Route table rtb-02a805d7ad4be0513	Network ACL acl-0c93a2dc31e9d64da
Default VPC No	IPv4 CIDR 172.16.0.0/16	IPv6 pool -	IPv6 CIDR -
Owner ID 973501320577			

Below the details, the "CIDRs" tab is selected, showing a table of IPv4 CIDRs:

CIDR	Status
172.16.0.0/16	Associated

2. Task 2: Created Internet Gateway & associated it with the above VPC

The screenshot shows the AWS Management Console interface for an Internet Gateway. At the top, a green notification bar states: "Internet gateway igw-0a1df14b1433b92a6 successfully attached to vpc-073b94d5203d7829c". Below this, the Internet Gateway name "igw-0a1df14b1433b92a6 / IGW_project2" is displayed. The "Details" tab is active, showing a table of Internet Gateway attributes:

Details			
Internet gateway ID igw-0a1df14b1433b92a6	State Attached	VPC ID vpc-073b94d5203d7829c vpc_project2	Owner 973501320577

Below the details, the "Tags" tab is selected, showing a table of tags:

Key	Value
Name	IGW_project2

3. Task 3: Created a Route Table, added a Route & made it as a Main

The screenshot shows the AWS Management Console interface for a Route Table. The top navigation bar includes the AWS logo, 'Services', and user information 'Shiva Basava P' in 'Ohio'. The main content area is titled 'Route Table: rtb-0377c4d79976efd97'. It features a 'Create route table' button and an 'Actions' dropdown. Below this is a search bar and a table listing route tables. The table has columns: Name, Route Table ID, Explicit, Edge as, Main, VPC ID, and Owner. One entry is shown: 'route_project2' with ID 'rtb-0377c4d79976efd97', which is the 'Main' route table for VPC 'vpc-073b94d5203d7829c'. Below the table, there are tabs for 'Summary', 'Routes', 'Subnet Associations', 'Edge Associations', 'Route Propagation', and 'Tags'. The 'Routes' tab is selected, showing a table of routes with columns: Destination, Target, Status, and Propagated. Two routes are listed: one for destination '172.16.0.0/16' targeting 'local' (status 'active'), and another for '0.0.0.0/0' targeting 'lgw-0a1df14b1433b92a6' (status 'active').

Name	Route Table ID	Explicit	Edge as	Main	VPC ID	Owner
route_project2	rtb-0377c4d79976efd97	-	-	Yes	vpc-073b94d5203d7829c vpc_project2	973501320577

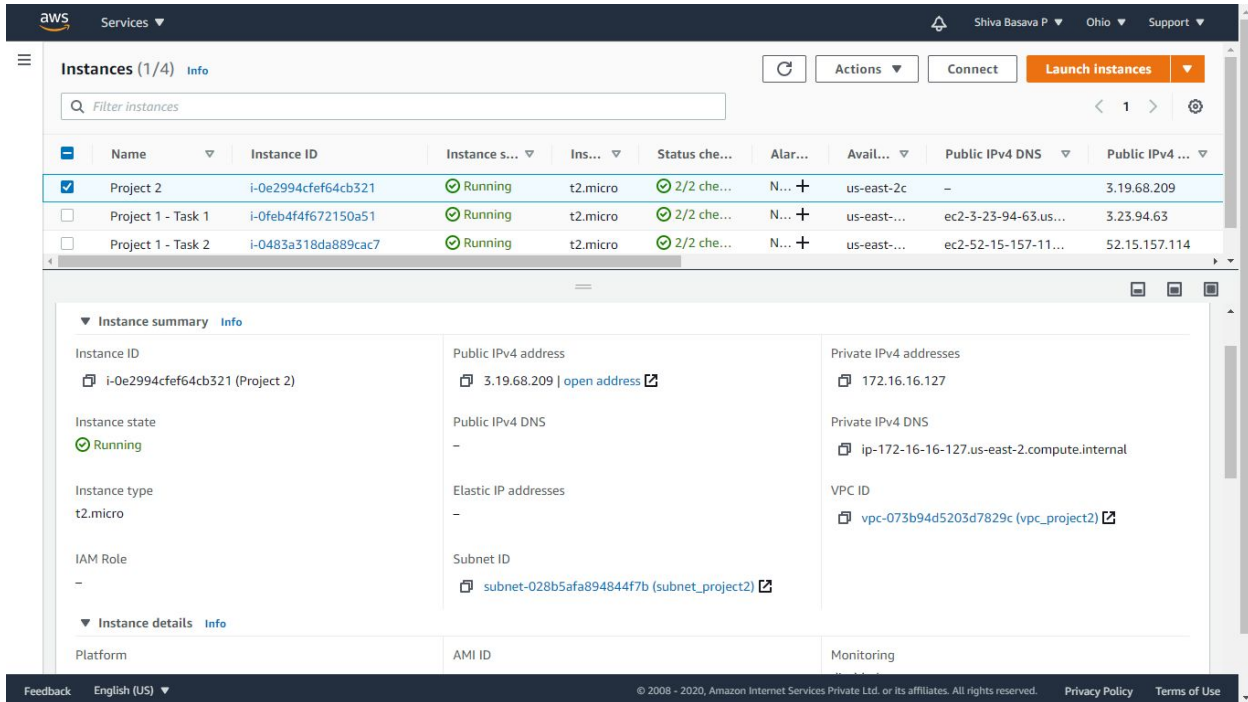
Destination	Target	Status	Propagated
172.16.0.0/16	local	active	No
0.0.0.0/0	lgw-0a1df14b1433b92a6	active	No

4. Task 4: Created a Subnet

The screenshot shows the AWS Management Console interface for a Subnet. The top navigation bar is the same as the previous screenshot. The main content area is titled 'Subnet: subnet-028b5afa894844f7b'. It features a 'Create subnet' button and an 'Actions' dropdown. Below this is a search bar and a table listing subnets. The table has columns: Name, Subnet ID, State, VPC, IPv4 CIDR, Availability Zone, and IPv6 CIDR. One entry is shown: 'subnet_project2' with ID 'subnet-028b5afa894844f7b', which is 'available' and associated with VPC 'vpc-073b94d5203d7829c'. Below the table, there are tabs for 'Description', 'Flow Logs', 'Route Table', 'Network ACL', 'Tags', and 'Sharing'. The 'Description' tab is selected, showing a detailed configuration for the subnet. Key details include: Subnet ID 'subnet-028b5afa894844f7b', VPC 'vpc-073b94d5203d7829c', IPv4 CIDR '172.16.16.0/24', Availability Zone 'us-east-2c', and Route Table 'rtb-0377c4d79976efd97'.

Name	Subnet ID	State	VPC	IPv4 CIDR	Availability Zone	IPv6 CIDR
subnet_project2	subnet-028b5afa894844f7b	available	vpc-073b94d5203d7829c vpc_project2	172.16.16.0/24	us-east-2c	-

Subnet ID	subnet-028b5afa894844f7b	State	available
VPC	vpc-073b94d5203d7829c vpc_project2	IPv4 CIDR	172.16.16.0/24
Available IPv4 Addresses	251	IPv6 CIDR	-
Availability Zone	us-east-2c (use2-az3)	Route Table	rtb-0377c4d79976efd97 route_project2
Network ACL	acl-0c93a2dc31e9d64da	Default subnet	No
Auto-assign public IPv4 address	Yes	Auto-assign customer-owned IPv4 address	No
Customer-owned IPv4 pool	-	Auto-assign IPv6 address	No
Outpost ID	-	Owner	973501320577

5. Task 5: Created a Windows Instance and added the above VPC to it.


Instances (1/4)

Name	Instance ID	Instance s...	Ins...	Status che...	Alar...	Avail...	Public IPv4 DNS	Public IPv4 ...
Project 2	i-0e2994cfef64cb321	Running	t2.micro	2/2 che...	N...	us-east-2c	-	3.19.68.209
Project 1 - Task 1	i-0feb4f4f672150a51	Running	t2.micro	2/2 che...	N...	us-east-...	ec2-3-23-94-63.us...	3.23.94.63
Project 1 - Task 2	i-0483a318da889cac7	Running	t2.micro	2/2 che...	N...	us-east-...	ec2-52-15-157-11...	52.15.157.114

Instance summary

Instance ID: i-0e2994cfef64cb321 (Project 2)

Instance state: Running

Instance type: t2.micro

IAM Role: -

Public IPv4 address: 3.19.68.209 | open address

Private IPv4 addresses: 172.16.16.127

Public IPv4 DNS: -

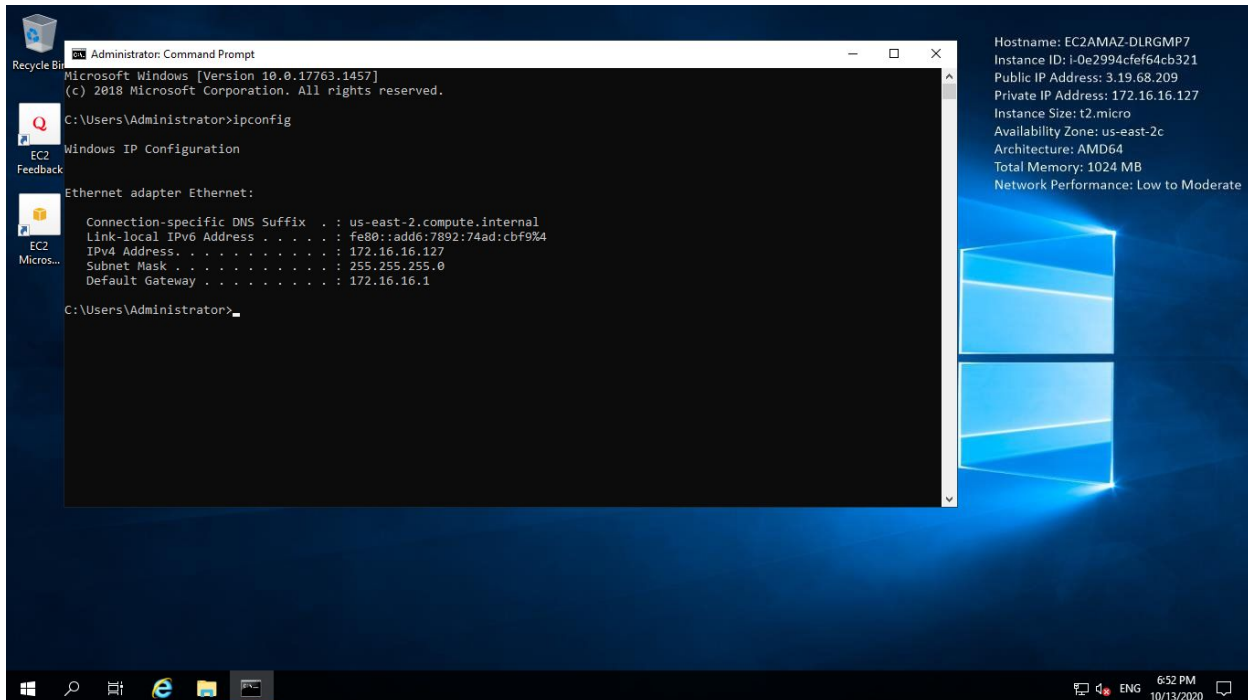
Private IPv4 DNS: ip-172-16-16-127.us-east-2.compute.internal

Elastic IP addresses: -

VPC ID: vpc-073b94d5203d7829c (vpc_project2)

Subnet ID: subnet-028b5afa894844f7b (subnet_project2)

Platform: AMI ID: Monitoring

6. Task 6: Connected to the above Windows Instance, Checking **ipconfig** on the same.


Administrator: Command Prompt

Microsoft Windows [Version 10.0.17763.1457]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

Connection-specific DNS Suffix . : us-east-2.compute.internal
Link-local IPv6 Address : fe80::add6:7892:74ad:cbf9%4
IPv4 Address. : 172.16.16.127
Subnet Mask : 255.255.255.0
Default Gateway : 172.16.16.1

C:\Users\Administrator>

Hostname: EC2AMAZ-DLRGMP7
Instance ID: i-0e2994cfef64cb321
Public IP Address: 3.19.68.209
Private IP Address: 172.16.16.127
Instance Size: t2.micro
Availability Zone: us-east-2c
Architecture: AMD64
Total Memory: 1024 MB
Network Performance: Low to Moderate