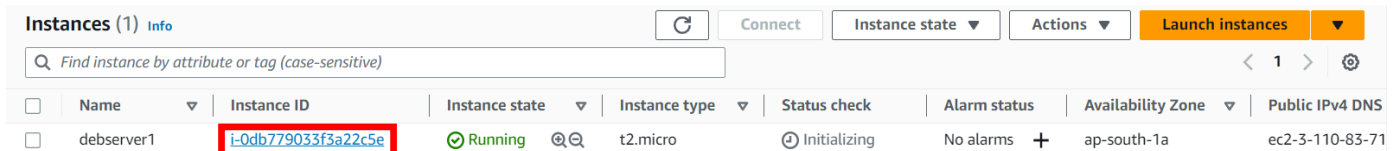


ASSIGNMENT – 14

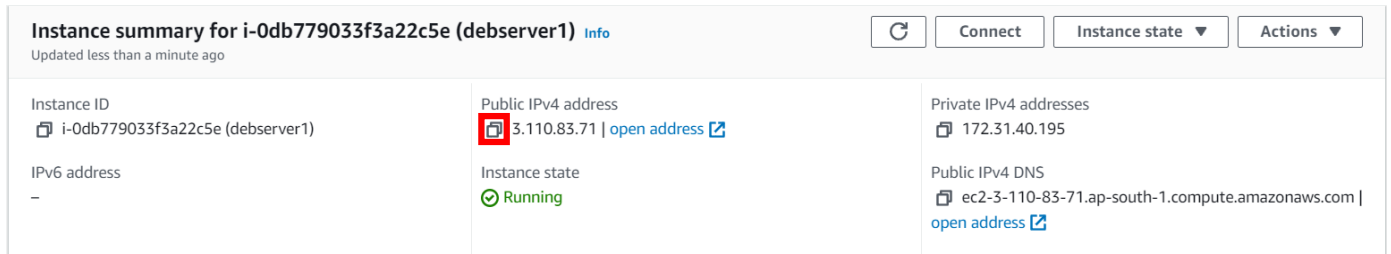
Problem Statement: Create an elastic IP for an instance.

1. Sign-in to your **AWS console**.
2. Create an **EC2 instance**. (We do not need any user-data or any custom security group for this assignment)



| <input type="checkbox"/> | Name | Instance ID | Instance state | Instance type | Status check | Alarm status | Availability Zone | Public IPv4 DNS |
|--------------------------|------------|---------------------|----------------|---------------|--------------|--------------|-------------------|-----------------|
| <input type="checkbox"/> | debserver1 | i-0db779033f3a22c5e | Running | t2.micro | Initializing | No alarms | ap-south-1a | ec2-3-110-83-71 |

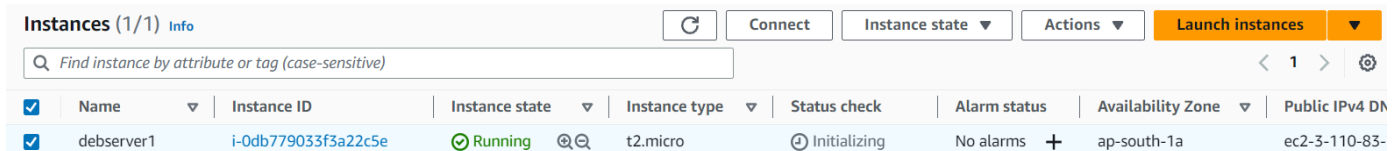
3. After the instance gets created **click** on it. **Copy** the **public IPv4 address** and **paste** it in a **simple text file** anywhere in your pc.



| Instance summary for i-0db779033f3a22c5e (debserver1) | |
|---|--|
| Instance ID i-0db779033f3a22c5e (debserver1) | Public IPv4 address 3.110.83.71 open address |
| IPv6 address - | Instance state Running |
| | Private IPv4 addresses 172.31.40.195 |
| | Public IPv4 DNS ec2-3-110-83-71.ap-south-1.compute.amazonaws.com open address |

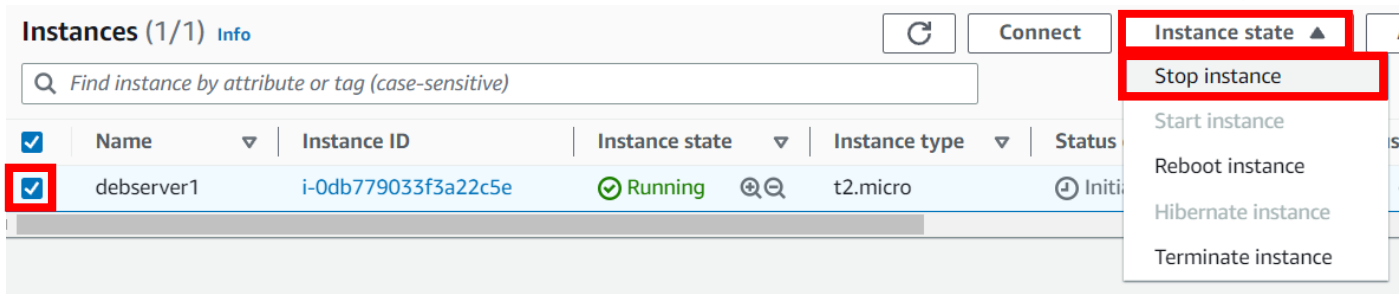
3.110.83.71

4. Now **go back** to the **instances list** and **select** our instance.



| <input checked="" type="checkbox"/> | Name | Instance ID | Instance state | Instance type | Status check | Alarm status | Availability Zone | Public IPv4 DNS |
|-------------------------------------|------------|---------------------|----------------|---------------|--------------|--------------|-------------------|-----------------|
| <input checked="" type="checkbox"/> | debserver1 | i-0db779033f3a22c5e | Running | t2.micro | Initializing | No alarms | ap-south-1a | ec2-3-110-83- |

5. After selection **click** on the **Instance state** button and **click** on the **Stop Instance** option.

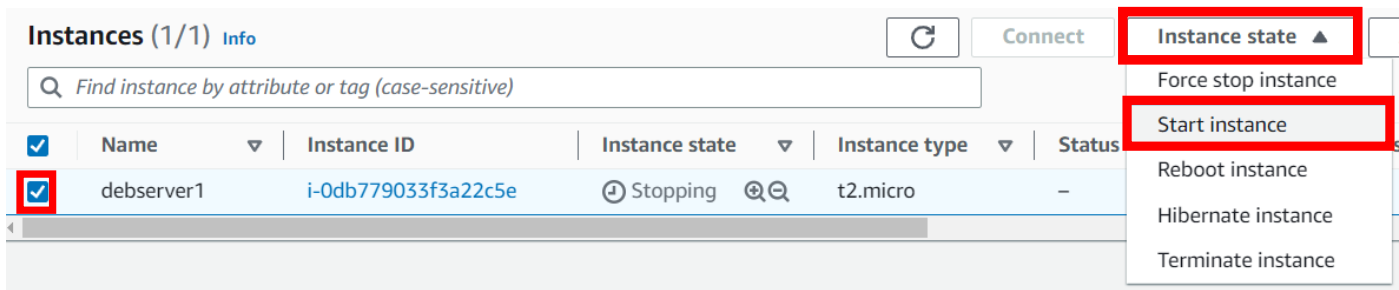


| <input checked="" type="checkbox"/> | Name | Instance ID | Instance state | Instance type | Status |
|-------------------------------------|------------|---------------------|----------------|---------------|--------|
| <input checked="" type="checkbox"/> | debserver1 | i-0db779033f3a22c5e | Running | t2.micro | Initi |

Instance state
Stop instance
Start instance
Reboot instance
Hibernate instance
Terminate instance

6. Wait for few seconds.

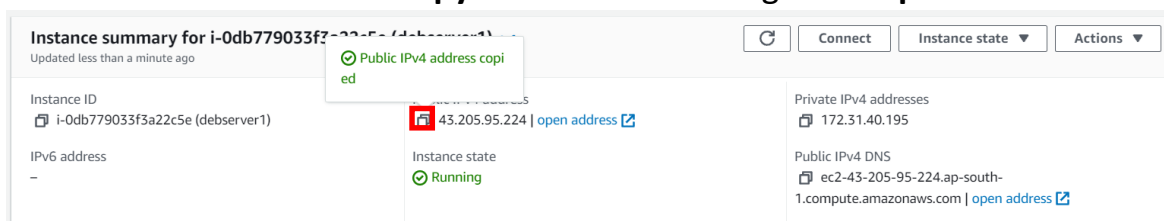
7. Now again select the instance and click on the **Instance state** button. Now click on the **start instance** button.



| <input checked="" type="checkbox"/> | Name | Instance ID | Instance state | Instance type | Status |
|-------------------------------------|------------|---------------------|----------------|---------------|--------|
| <input checked="" type="checkbox"/> | debserver1 | i-0db779033f3a22c5e | Stopping | t2.micro | - |

Instance state
Force stop instance
Start instance
Reboot instance
Hibernate instance
Terminate instance

8. Click on the instance and **copy** the **IPv4 address** again and **paste** it in the **same text file**.



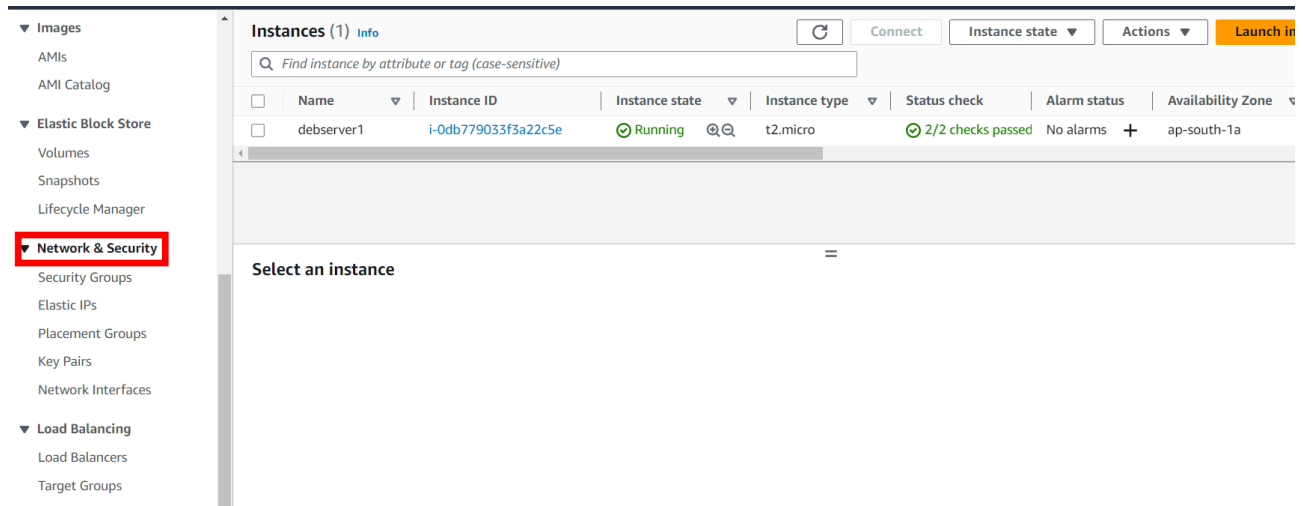
| Instance summary for i-0db779033f3a22c5e (debserver1) | |
|---|--|
| Instance ID i-0db779033f3a22c5e (debserver1) | Public IPv4 address 43.205.95.224 open address |
| IPv6 address - | Instance state Running |
| | Private IPv4 addresses 172.31.40.195 |
| | Public IPv4 DNS ec2-43-205-95-224.ap-south-1.compute.amazonaws.com open address |

9. Now compare **both** the new and old IP address and notice that **they are not the same**.

3.110.83.71
43.205.95.224

So even if we stop and restart our same instance it changes its public IPv4 address. This may not be desirable in some situations. So, to ensure that our instance does not change its public IPv4 address under any circumstances, **we need to create an Elastic IP and associate/bind the instance to it**. After that it **will always be assigned the same Elastic IP as its public IPv4 address (static)** all the time.

10. For creating an Elastic IP, we need to go scroll down the left side Nav bar and find the **Network and security** section.



11. Under it **click** on the **Elastic IPs** option.

▼ Network & Security

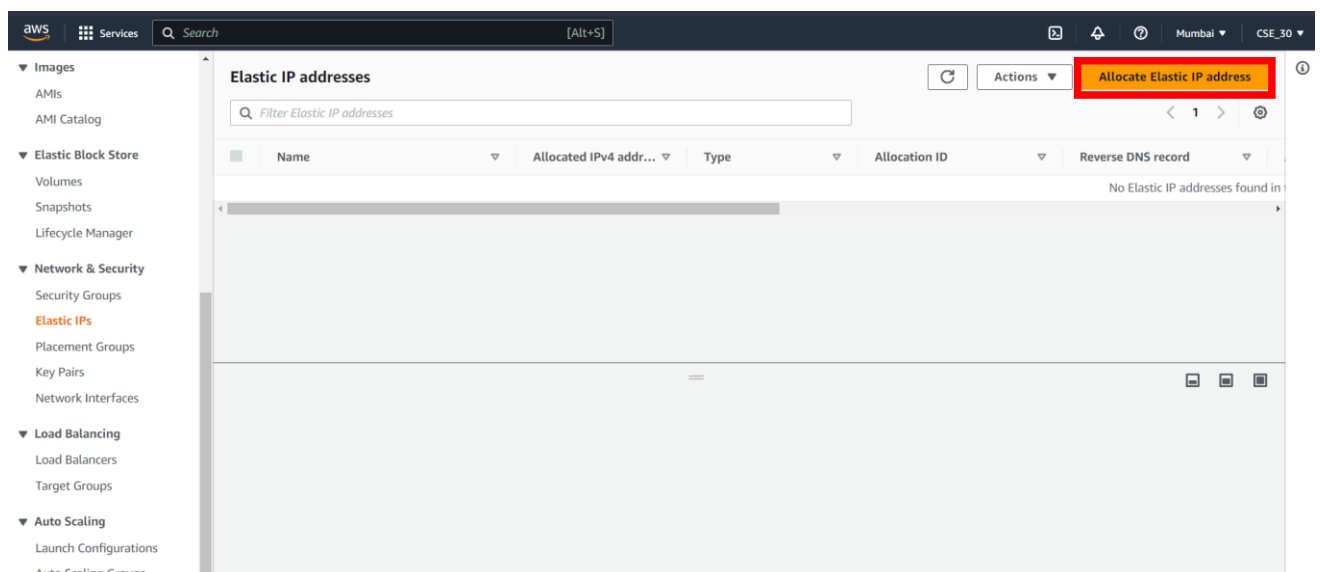
Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces



12. Now, click on the **Allocate Elastic IP address** button on the right side. No need to change any options. Just click on the **Allocate** button.

Search: ap-south-1 X

Public IPv4 address pool

- ☒ Amazon's pool of IPv4 addresses
- ☐ Public IPv4 address that you bring to your AWS account (option disabled because no pools found) [Learn more](#)
- ☐ Customer owned pool of IPv4 addresses (option disabled because no customer owned pools found) [Learn more](#)

Global static IP addresses

AWS Global Accelerator can provide global static IP addresses that are announced worldwide using anycast from AWS edge locations. This can help improve the availability and latency for your user traffic by using the Amazon global network. [Learn more](#)

[Create accelerator](#)

Tags - optional

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

No tags associated with the resource.

[Add new tag](#)

You can add up to 50 more tag

[Cancel](#) [Allocate](#)

13. Now click on the Elastic IP address (in blue).

Elastic IP addresses (1/1)

Filter Elastic IP addresses

| <input checked="" type="checkbox"/> | Name | Allocated IPv4 addr... | Type | Allocation ID | Reverse DNS record |
|-------------------------------------|------|------------------------|-----------|----------------------------|--------------------|
| <input checked="" type="checkbox"/> | - | 3.7.231.115 | Public IP | eipalloc-0864617bd007a2f9b | - |

14. Next click on the **Associate Elastic IP address** button.

EC2 > Elastic IP addresses > 3.7.231.115

3.7.231.115

[Actions](#) [Associate Elastic IP address](#)

Summary

| | | | |
|---------------------------------------|---|---|-------------------------|
| Allocated IPv4 address 3.7.231.115 | Type Public IP | Allocation ID eipalloc-0864617bd007a2f9b | Reverse DNS record - |
| Association ID - | Scope VPC | Associated instance ID - | Private IP address - |
| Network interface ID - | Network interface owner account ID - | Public DNS - | NAT Gateway ID - |
| Address pool Amazon | Network Border Group ap-south-1 | | |

Tags (0) [Manage tags](#)

| Key | Value |
|-----|-------|
|-----|-------|

15. Choose your instance you want to associate with it.

16. Keep the **Private IP address** as specified in the dropdown when clicking for the Private Address.


17. Select the **Allow Elastic IP to be reassociated** option if we want to reuse it again for another instance.

Elastic IP address: 3.7.231.115

Resource type

Choose the type of resource with which to associate the Elastic IP address.

- ☒ Instance
- ☐ Network interface

 If you associate an Elastic IP address with an instance that already has an Elastic IP address associated, the previously associated Elastic IP address will be disassociated, but the address will still be allocated to your account. [Learn more](#)

If no private IP address is specified, the Elastic IP address will be associated with the primary private IP address.

Instance

 i-0db779033f3a22c5e

Private IP address

The private IP address with which to associate the Elastic IP address.

 172.31.40.195

Reassociation

Specify whether the Elastic IP address can be reassociated with a different resource if it already associated with a resource.

☒ Allow this Elastic IP address to be reassociated

18. Now click the **Associate** button.

19. The Elastic IP should have been successfully associated with the instance.

20. To check it go back to the **instances page**. Click on the **Instance** and see the **Public IPv4 address** and the **Elastic IP** address. They should be same. Also notice that the public IPv4 address has turned into a hyperlink to the Elastic IP page.

Instance summary for i-0db779033f3a22c5e (debserver1) [Info](#)

Updated less than a minute ago



Connect

Instance state ▼

Actions ▼

Instance ID

 i-0db779033f3a22c5e (debserver1)

IPv6 address

—

Hostname type

IP name: ip-172-31-40-195.ap-south-1.compute.internal

Answer private resource DNS name
IPv4 (A)

Auto-assigned IP address

—

IAM Role

—


Public IPv4 address

 3.7.231.115 [open address](#)

Instance state

 Running

Private IP DNS name (IPv4 only)

 ip-172-31-40-195.ap-south-1.compute.internal

Instance type
t2.micro


VPC ID

 vpc-0a33deec3fd6dc096


Subnet ID

 subnet-0bbe74a9835a07e38

Private IPv4 addresses

 172.31.40.195


Public IPv4 DNS

 ec2-3-7-231-115.ap-south-1.compute.amazonaws.com | [open address](#)

Elastic IP addresses

 3.7.231.115 [Public IP]

AWS Compute Optimizer finding

 Opt-in to AWS Compute Optimizer for recommendations. | [Learn more](#)

Auto Scaling Group name

—

Now stop and restart the instance and see if the public IPv4 address changes or not. It will not change.

Hence, we have successfully created an Elastic IP for an instance.

To delete the Elastic IP, follow these steps:

1. Click on the **Elastic IP**.
2. Click on the **Actions** button.

The screenshot shows the AWS Elastic IP console for the IP address 3.7.231.115. The 'Actions' button is highlighted with a red box, and the 'Disassociate Elastic IP address' option is selected in the dropdown menu. The summary table below shows the current state of the Elastic IP.

| Summary | | | |
|----------------------------|------------------------------------|--|--|
| Allocated IPv4 address | Type | Allocation ID | |
| 3.7.231.115 | Public IP | eipalloc-0864617bd007a2f9b | |
| Association ID | Scope | Associated instance ID | |
| eipassoc-053b5539deac45cb4 | VPC | i-0db779033f3a22c5e | |
| Network interface ID | Network interface owner account ID | Public DNS | |
| eni-0d87560629582fe63 | 728364961341 | ec2-3-7-231-115.ap-south-1.compute.amazonaws.com | |
| Address pool | Network Border Group | | |
| Amazon | ap-south-1 | | |

3. From the **drop-down menu** select **Disassociate Elastic IP address**. Then again click on **disassociate** in the pop-up.
4. Next again click on the **Actions** button and this time select **Release Elastic IP address**.

The screenshot shows the AWS Elastic IP console for the IP address 3.7.231.115. The 'Actions' button is highlighted with a red box, and the 'Release Elastic IP addresses' option is selected in the dropdown menu. The summary table below shows the current state of the Elastic IP.

| Summary | | | |
|------------------------|------------------------------------|----------------------------|--|
| Allocated IPv4 address | Type | Allocation ID | |
| 3.7.231.115 | Public IP | eipalloc-0864617bd007a2f9b | |
| Association ID | Scope | Associated instance ID | |
| - | VPC | - | |
| Network interface ID | Network interface owner account ID | Public DNS | |
| - | - | - | |
| Address pool | Network Border Group | | |
| Amazon | ap-south-1 | | |

5. Now you can go back to your instance and see that the IPv4 address has already changed to a random one and it has no Elastic IP address associated with it. Now you can terminate the instance.