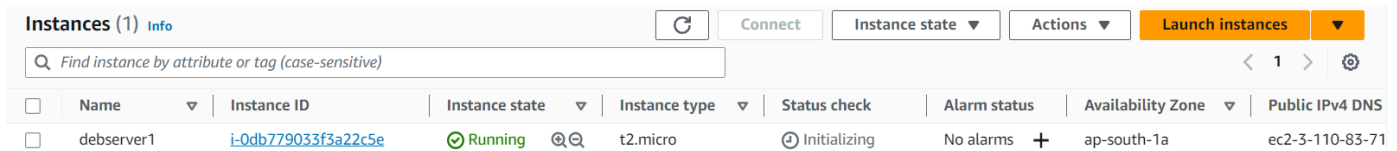


# ASSIGNMENT – 14

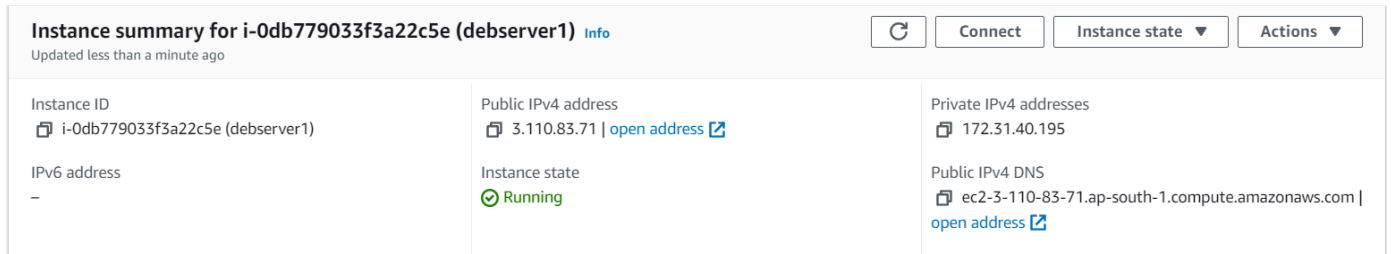
## Problem Statement: Create an elastic IP for an instance.

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)



Instances (1) Info								
Find instance by attribute or tag (case-sensitive)								
<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

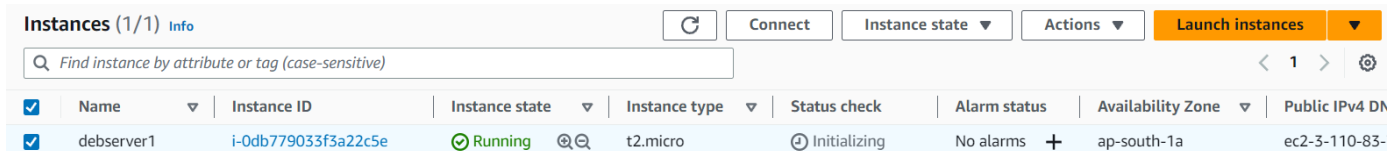
3. After the instance gets created click on it. Copy the public IPv4 address and paste it in a simple text file anywhere in your pc.



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

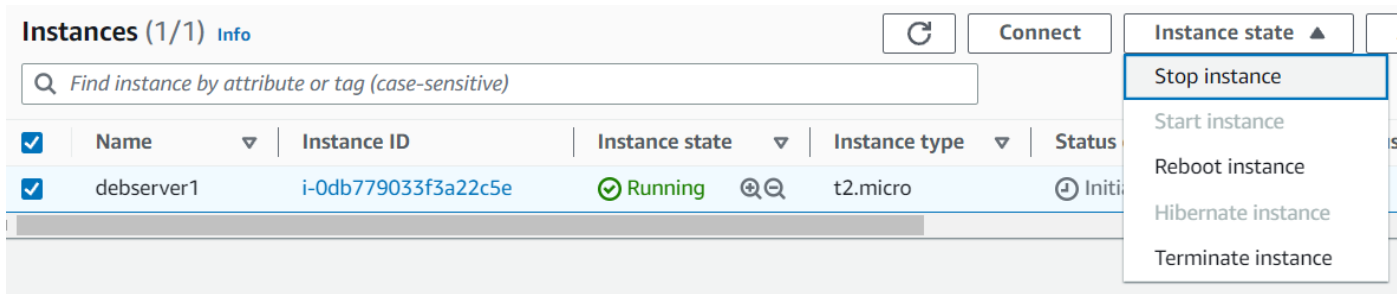
3.110.83.71

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



Instances (1/1) Info								
Find instance by attribute or tag (case-sensitive)								
<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.



Instances (1/1) Info					
Find instance by attribute or tag (case-sensitive)					
<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status
<input checked="" type="checkbox"/>	debserver1	i-0db779033f3a22c5e	Running	t2.micro	Initi

Stop instance

Start instance

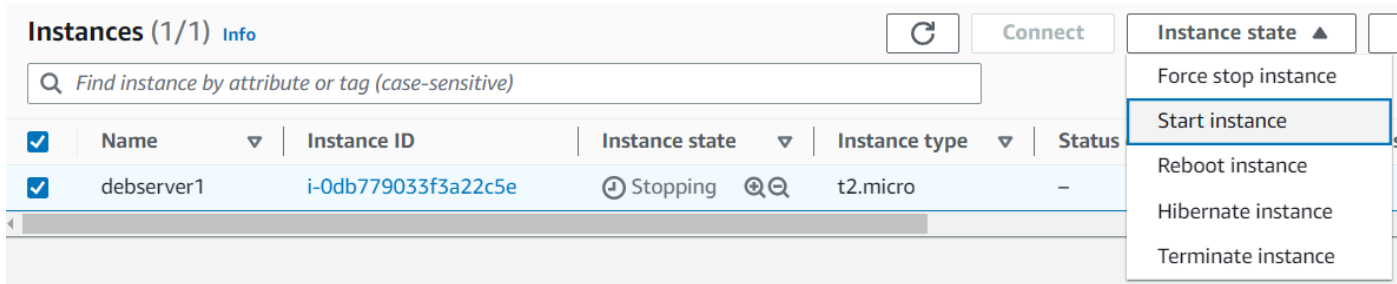
Reboot instance

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.



Instances (1/1) Info					
Find instance by attribute or tag (case-sensitive)					
<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status
<input checked="" type="checkbox"/>	debserver1	i-0db779033f3a22c5e	Stopping	t2.micro	-

Force stop instance

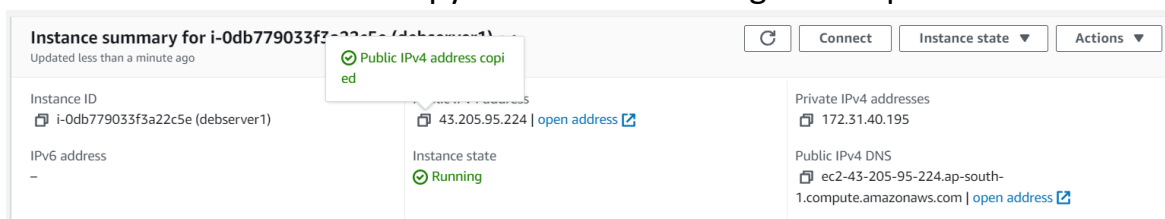
Start instance

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.



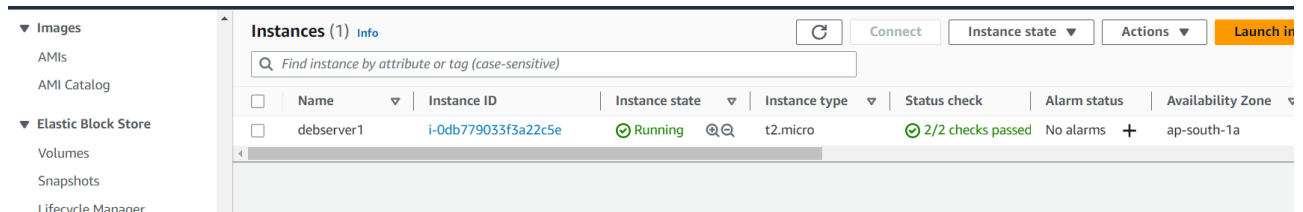
Instance summary for i-0db779033f3a22c5e (debserver1)		
Updated less than a minute ago		
Instance ID i-0db779033f3a22c5e (debserver1)	Public IPv4 address 43.205.95.224   open address	Private IPv4 addresses 172.31.40.195
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-43-205-95-224.ap-south-1.compute.amazonaws.com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

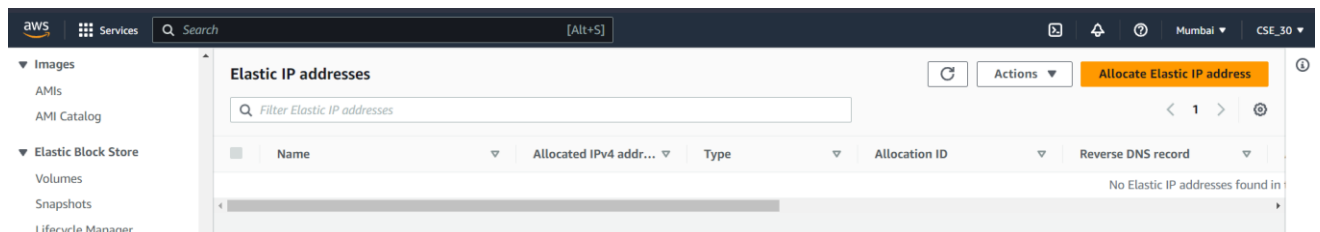
Security Groups

**Elastic IPs**

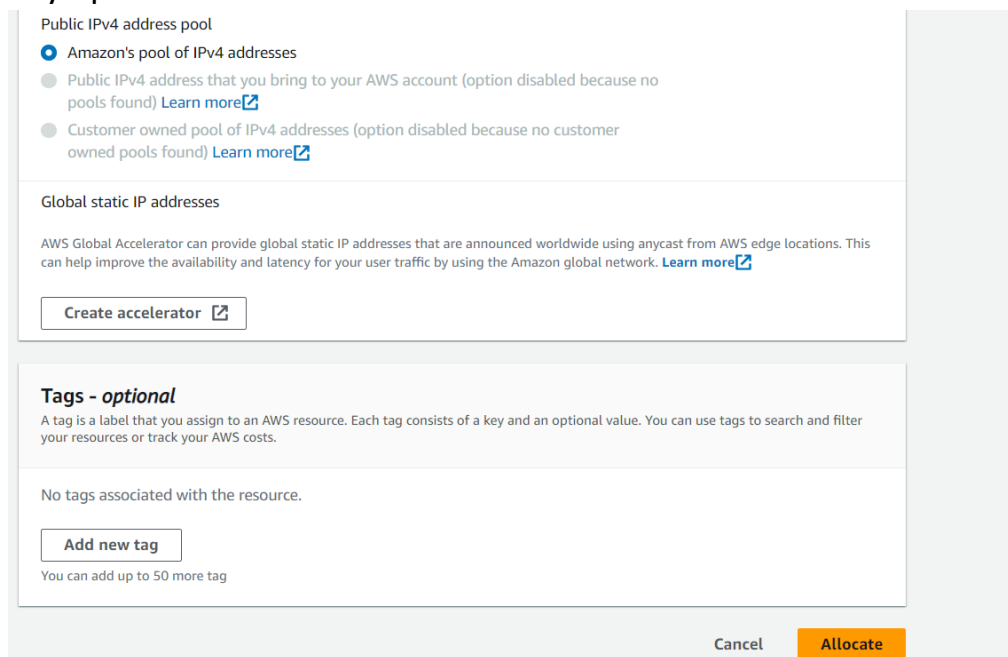
Placement Groups

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.



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

Elastic IP addresses (1/1)						Actions	Allocate Elastic IP address
Filter Elastic IP addresses						< 1 >	⚙
<input checked="" type="checkbox"/>	Name	Allocated IPv4 address	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

< 1 > ⚙

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 reassocated 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

Q i-0db779033f3a22c5e

X

↺

Private IP address

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

Q 172.31.40.195

X

Reassociation

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

☒ Allow this Elastic IP address to be reassocated

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) <a href="#">Info</a>		
Updated less than a minute ago		
Instance ID i-0db779033f3a22c5e (debserver1)	Public IPv4 address 3.7.231.115   <a href="#">open address</a>	Private IPv4 addresses 172.31.40.195
IPv6 address -	Instance state <span>Running</span>	Public IPv4 DNS ec2-3-7-231-115.ap-south-1.compute.amazonaws.com   <a href="#">open address</a>
Hostname type IP name: ip-172-31-40-195.ap-south-1.compute.internal	Private IP DNS name (IPv4 only) ip-172-31-40-195.ap-south-1.compute.internal	Elastic IP addresses 3.7.231.115 [Public IP]
Answer private resource DNS name IPv4 (A)	Instance type t2.micro	AWS Compute Optimizer finding <a href="#">Opt-in to AWS Compute Optimizer for recommendations.</a> <a href="#">Learn more</a>
Auto-assigned IP address -	VPC ID vpc-0a33deec3fd6dc096	Auto Scaling Group name -
IAM Role -	Subnet ID subnet-0bbe74a9835a07e38	

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.

EC2 > Elastic IP addresses > 3.7.231.115

3.7.231.115

Summary

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

Actions

Associate Elastic IP address

Release Elastic IP addresses

Disassociate Elastic IP address

Update reverse DNS

Enable transfers

Disable transfers

Accept transfers

172.31.40.195

NAT Gateway ID  
-

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

EC2 > Elastic IP addresses > 3.7.231.115

3.7.231.115

Actions

Associate Elastic IP address

Release Elastic IP addresses

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.