

## ASSIGNMENT – 14

### Create and Elastic IP for an instance

Step 1: First go to the ec2 and then create an instance

The screenshot shows the AWS Management Console for the 'ap-south-1' region. The left-hand navigation pane is expanded to 'EC2', showing options like Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, and Lifecycle Manager. The main content area displays the 'Amazon Elastic Compute Cloud (EC2)' overview. It includes a large heading 'Create, manage, and monitor virtual servers in the cloud.' and a 'Launch a virtual server' button. Below this, there's a 'Benefits and features' section stating 'EC2 offers ultimate scalability and control' with a list of features: 'Highest level of control of the entire technology stack, allowing full integration with all AWS services', 'Widest variety of server size options', 'Widest availability of operating systems to choose from including Linux, Windows, and macOS', and 'Global scalability'. There's also a 'Get started' section with a 'Get started walkthroughs' button. The bottom of the page shows the URL 'https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances:' and the footer with copyright information.

Step 2: Fill all the field in proper way having key pair, security group etc. and then create instance

The screenshot shows the 'Launch an instance' wizard in the AWS Management Console. The breadcrumb trail is 'EC2 > Instances > Launch an instance'. The main heading is 'Launch an instance' with an 'Info' link. Below the heading, it says 'Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.' The wizard is divided into several sections: 'Name and tags' with a text input field containing 'ss\_instance' and an 'Add additional tags' button; 'Application and OS Images (Amazon Machine Image)' with a search bar and a grid of AMIs including Amazon Linux, macOS, Ubuntu, Windows, Red Hat, SUSE Linux, and Debian; and a 'Summary' section on the right. The 'Summary' section lists the configuration: 'Number of instances' (1), 'Software Image (AMI)' (Amazon Linux 2023 AMI 2023.7.2...), 'Virtual server type (instance type)' (t2.micro), 'Firewall (security group)' (New security group), and 'Storage (volumes)' (1 volume(s) - 8 GiB). At the bottom of the 'Summary' section, there's a 'Free tier' notification and two buttons: 'Cancel' and 'Launch instance'. The footer shows 'CloudShell' and 'Feedback' links.

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Step 3: then copy the IPV4 address of the instance and login into bitvse client

Successfully initiated termination (deletion) of i-0e178c17f7ba7b198

Instances (1/2) Info

Find Instance by attribute or tag (case-sensitive) All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 D
ss_instance	i-09c76f658e63385ea	Running	t2.micro	Initializing	View alarms +	ap-south-1b	ec2-3-110-163
ss_instance	i-0e178c17f7ba7b198	Terminated	t2.micro	-	View alarms +	ap-south-1b	-

i-09c76f658e63385ea (ss\_instance)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary Info

Instance ID i-09c76f658e63385ea

IPv6 address -

Public IPv4 address copied 3.110.163.191 | open address

Instance state Running

Private IPv4 addresses 172.31.10.145

Public IPv4 DNS ec2-3-110-163-191.ap-south-1.compute.amazonaws.com | open address

Step 4: login in into bitvise

ubuntu@3.110.163.191:22 - Bitvise SSH Client

Default profile Window behavior

Login Options Terminal RDP SFTP Services C2S S2C SSH Notes About

Server

Host 3.110.163.191

Port 22

Enable obfuscation

Obfuscation keyword

Kerberos

SPN

GSS/Kerberos key exchange

Request delegation

gssapi-keyex authentication

Authentication

Username ubuntu

Initial method publickey

Client key Global 1

Passphrase

Elevation Default

Proxy settings Host key manager Client key manager Help

19:52:41.330 SHA-256 fingerprint: 00DSLgvKSPH+ozlrIAfk9cy92h799VkgI4MtNGRj1bI.

19:52:41.394 First key exchange completed using Curve25519 (strict). Connection encryption and integrity: aes256-gcm, compression: none.

19:52:41.458 Attempting publickey authentication. Testing client key 'Global 1' for acceptance.

19:52:41.458 The client key 'Global 1' has been accepted.

19:52:41.458 Attempting publickey authentication. Signing with client key 'Global 1' using rsa-sha2-512.

19:52:41.542 Authentication completed.

19:52:42.882 Host key has been saved to the global database. Algorithm: ECDSA/nistp256, size: 256 bits, SHA-256 fingerprint: 4CT5jng4KKEoPnJ6I4DmMr9RE/McKgvGspZbZa6lejY.

19:52:42.882 Host key has been saved to the global database. Algorithm: Ed25519, size: 255 bits, SHA-256 fingerprint: EjdgQ84uUd+GWNWVh9V1RJ18HJ/NXNnsTvQTRVcmBEo.

19:52:42.882 Host key synchronization completed with 2 keys saved to global settings. Number of keys received: 3.

Log out Exit

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Step 5: then in the bitwise terminal update and upgrade it and then install nginx

```
ubuntu@ip-172-31-10-145:~$ sudo apt-get update
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:11 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:12 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
]
```

```
ubuntu@ip-172-31-10-145:~$ sudo apt-get upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages have been kept back:
  linux-aws linux-headers-aws linux-image-aws
The following packages will be upgraded:
```

```
ubuntu@ip-172-31-10-145:~$ sudo apt install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  nginx-common
Suggested packages:
  fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  nginx nginx-common
```

Step 6: then copy the IPV4 address and open it another window



## Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

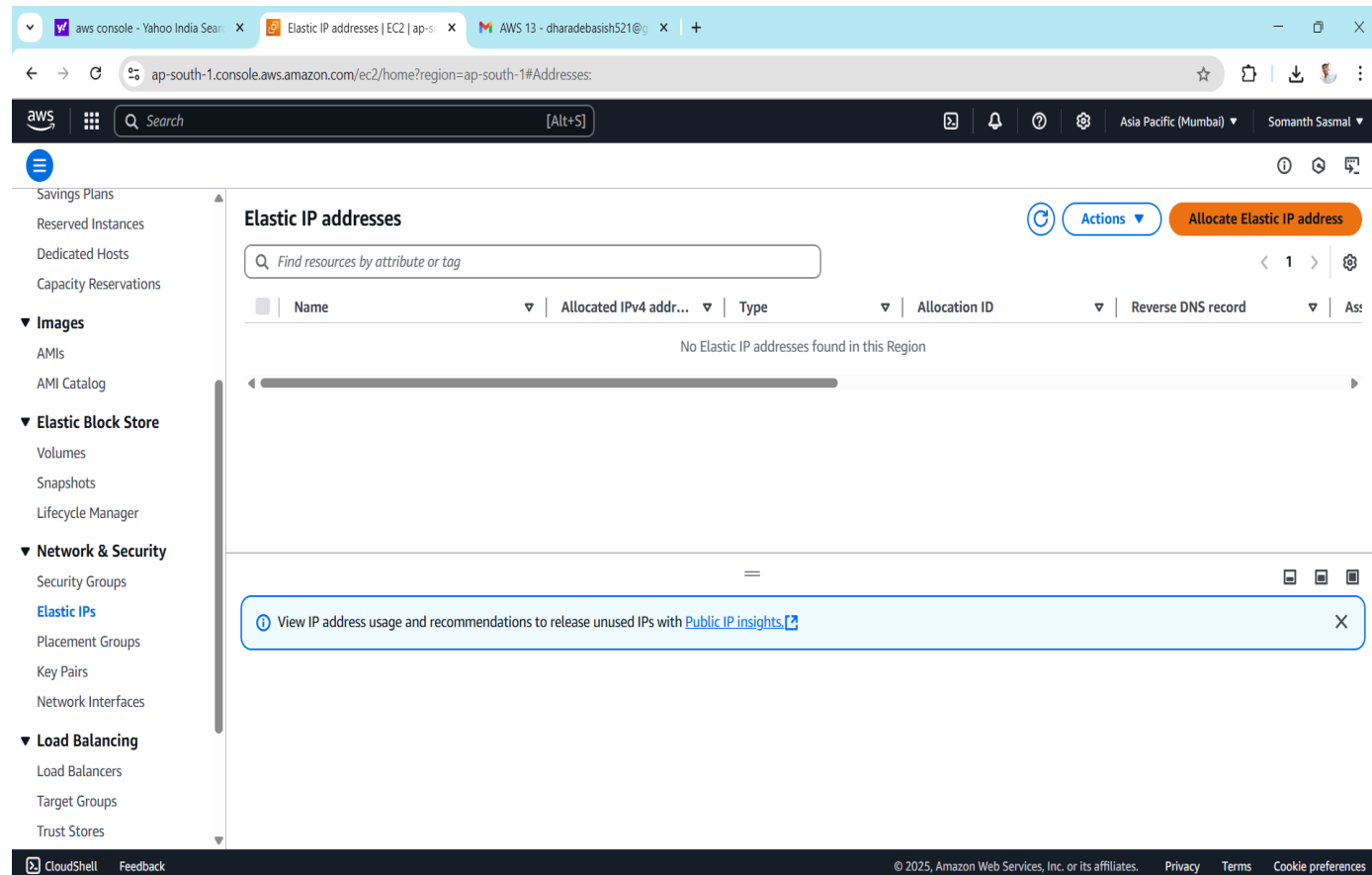
For online documentation and support please refer to [nginx.org](https://nginx.org).  
Commercial support is available at [nginx.com](https://nginx.com).

Thank you for using nginx.

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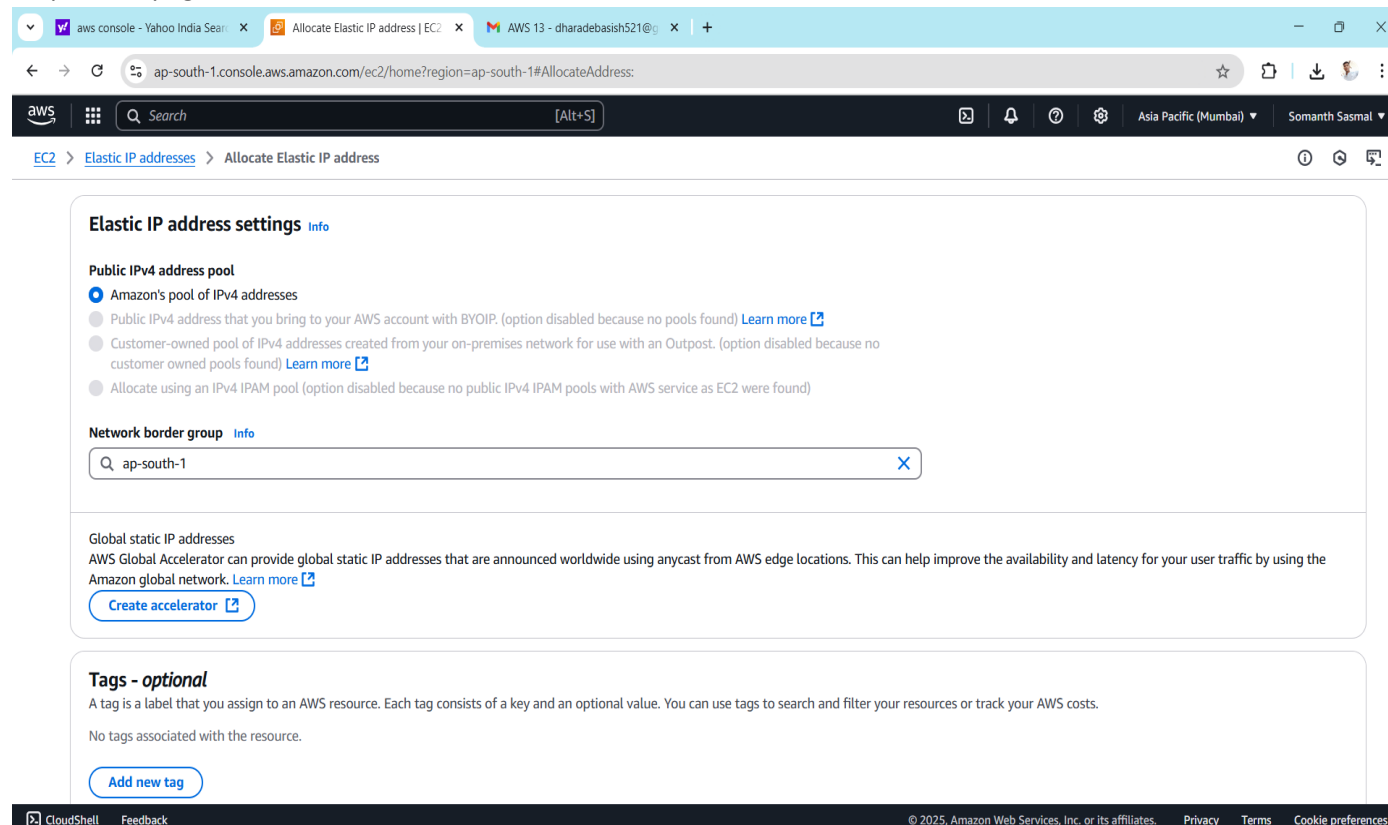
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Step 7: then go to the elastic ip and allocate elastic ip address



The screenshot shows the AWS Elastic IP addresses console. The left sidebar contains navigation links for Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images (AMIs, AMI Catalog), Elastic Block Store (Volumes, Snapshots, Lifecycle Manager), Network & Security (Security Groups, Elastic IPs, Placement Groups, Key Pairs, Network Interfaces), and Load Balancing (Load Balancers, Target Groups, Trust Stores). The main content area is titled "Elastic IP addresses" and features a search bar with the placeholder "Find resources by attribute or tag". Below the search bar is a table with columns: Name, Allocated IPv4 address, Type, Allocation ID, Reverse DNS record, and Actions. The table is currently empty, displaying the message "No Elastic IP addresses found in this Region". An "Allocate Elastic IP address" button is located in the top right corner. A notification banner at the bottom of the main content area reads: "View IP address usage and recommendations to release unused IPs with Public IP insights."

Step 8: this page remain same and then click on allocate



The screenshot shows the "Allocate Elastic IP address" page in the AWS console. The breadcrumb navigation at the top reads "EC2 > Elastic IP addresses > Allocate Elastic IP address". The main content area is titled "Elastic IP address settings" and includes the following sections:

- Public IPv4 address pool**: A list of radio buttons for selecting the address pool. The first option, "Amazon's pool of IPv4 addresses", is selected. The other options are "Public IPv4 address that you bring to your AWS account with BYOIP" (disabled), "Customer-owned pool of IPv4 addresses created from your on-premises network for use with an Outpost" (disabled), and "Allocate using an IPv4 IPAM pool" (disabled).
- Network border group**: A search bar containing the value "ap-south-1".
- Global static IP addresses**: A section explaining that AWS Global Accelerator can provide global static IP addresses and includes a "Create accelerator" button.
- Tags - optional**: A section explaining that tags are labels for AWS resources and includes an "Add new tag" button.

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Step 9: then click on the associate elastic ip address

The screenshot displays the AWS Management Console interface. The top navigation bar shows the user is logged in as 'Somanth Sasmal' in the 'Asia Pacific (Mumbai)' region. The breadcrumb trail indicates the user is in the 'EC2' console, specifically viewing 'Elastic IP addresses' for the IP address '15.207.189.97'.

The main content area shows the details for the Elastic IP address '15.207.189.97'. The 'Summary' section includes the following information:

Allocated IPv4 address	Type	Allocation ID	Reverse DNS record
15.207.189.97	Public IP	eipalloc-0738f0342ea30d139	-

Association ID	Scope	Associated instance ID	Private IP address
-	VPC	-	-

Network interface ID	Network interface owner account ID	Public DNS	NAT Gateway ID
-	-	-	-

The 'Tags' section shows 'No tags associated with this resource' and a 'Manage tags' button.

The 'Associate Elastic IP address' dialog is open, showing the 'Elastic IP address: 15.207.189.97'. The 'Resource type' is set to 'Instance'. A warning message states: '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](#)'. Below this, the 'Instance' field is populated with 'i-09c76f658e63385ea'. The 'Private IP address' field is populated with '172.31.10.145'. The 'Reassociation' checkbox is checked, indicating 'Allow this Elastic IP address to be reassociated'. The 'Associate' button is highlighted in orange.

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Step 11: then copy the allocate ipv4 address and open it in another window

The screenshot displays the AWS Management Console interface. The top navigation bar shows the user is logged in as 'Somanth Sasmal' in the 'Asia Pacific (Mumbai)' region. The left sidebar contains navigation links for EC2, Instances, Images, and Elastic Block Store. The main content area shows the details for the Elastic IP address 15.207.189.97. A green notification banner at the top states 'Elastic IP address associated successfully. Elastic IP address 15.207.189.97 has been associated with instance i-09c76f658e63385ea'. The details table includes the following information:

Property	Value
Type	Public IP
Allocation ID	eipalloc-0738f0342ea30d139
Reverse DNS record	-
Scope	VPC
Associated instance ID	i-09c76f658e63385ea
Private IP address	172.31.10.145
Association ID	eipassoc-0683ddc5eb3123d5f
Network interface ID	eni-048bb1d3fb0736b78
Network interface owner account ID	703671925175
Public DNS	ec2-15-207-189-97.ap-south-1.compute.amazonaws.com
Address pool	Amazon
Network border group	ap-south-1

Below the details table, there is a 'Tags(0)' section with a 'Manage tags' button. At the bottom of the screenshot, a CloudShell terminal window is open, showing the output of a command: 'Welcome to nginx!'.

## Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to [nginx.org](https://nginx.org).  
Commercial support is available at [nginx.com](https://nginx.com).

*Thank you for using nginx.*