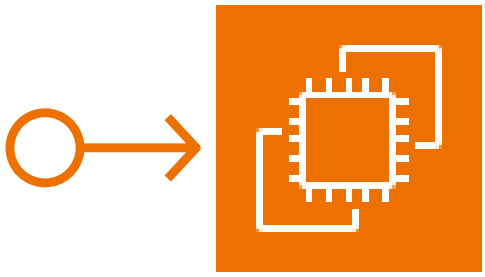
AWS Solution Architect Training with
AWS Cloud Practitioner Global Certification Training

Trainer: Aravindraj.G- Nminds Academy

Configure Elastic IP Address to Windows Web Server in AWS



Pradeep Kumar R

B.E - Computer Science and Engineering

Mepco Schlenk Engineering College

Sivakasi

Objective

An Elastic IP (EIP) in AWS is a static, public IP address designed for dynamic cloud computing. It is associated with your AWS account and can be quickly associated or disassociated with any EC2 instance in your account. This feature is particularly useful when you need to maintain a consistent IP address for your resources, even when you stop and start EC2 instances.

Common Use Cases for Elastic IP:

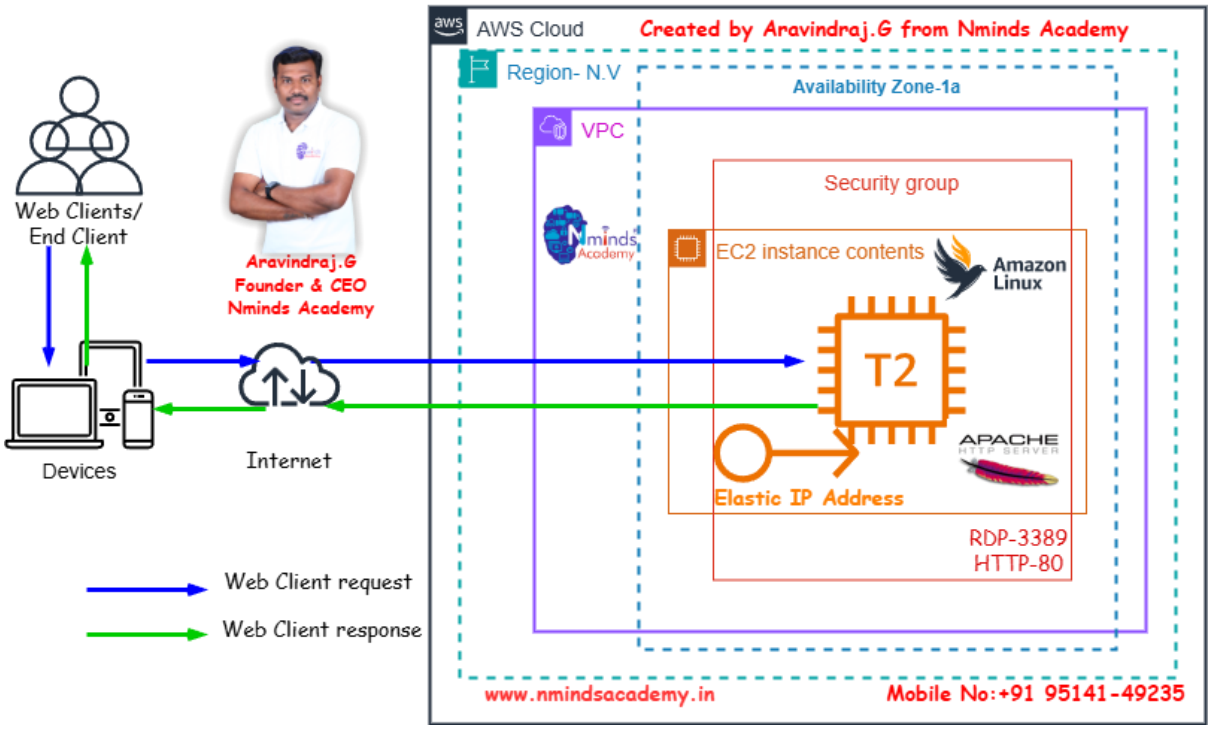
1. Highly Available Applications:
    - If you're running a service that requires high availability, you can use Elastic IPs to quickly reassign a static IP to a new instance if your primary instance fails, ensuring minimal downtime.
2. Web Servers:
    - If you host a website and need to ensure the IP address remains the same even if the underlying EC2 instance is restarted, an Elastic IP helps maintain this consistency.
3. Disaster Recovery:
    - Elastic IPs are useful for disaster recovery scenarios. If one instance goes down, you can quickly associate the EIP with a backup instance to ensure services are still accessible.

Best Practices:

- Use Elastic IPs only when necessary: Since they come with associated costs when unused, it's a good practice to release EIPs that are no longer required.
- Move IPs during instance failure: Instead of keeping an EIP permanently attached, use it as a failover method, reassociating it to a new instance when needed.
- Monitor EIP Usage: Periodically review your usage to ensure you're not paying for unnecessary Elastic IP addresses.

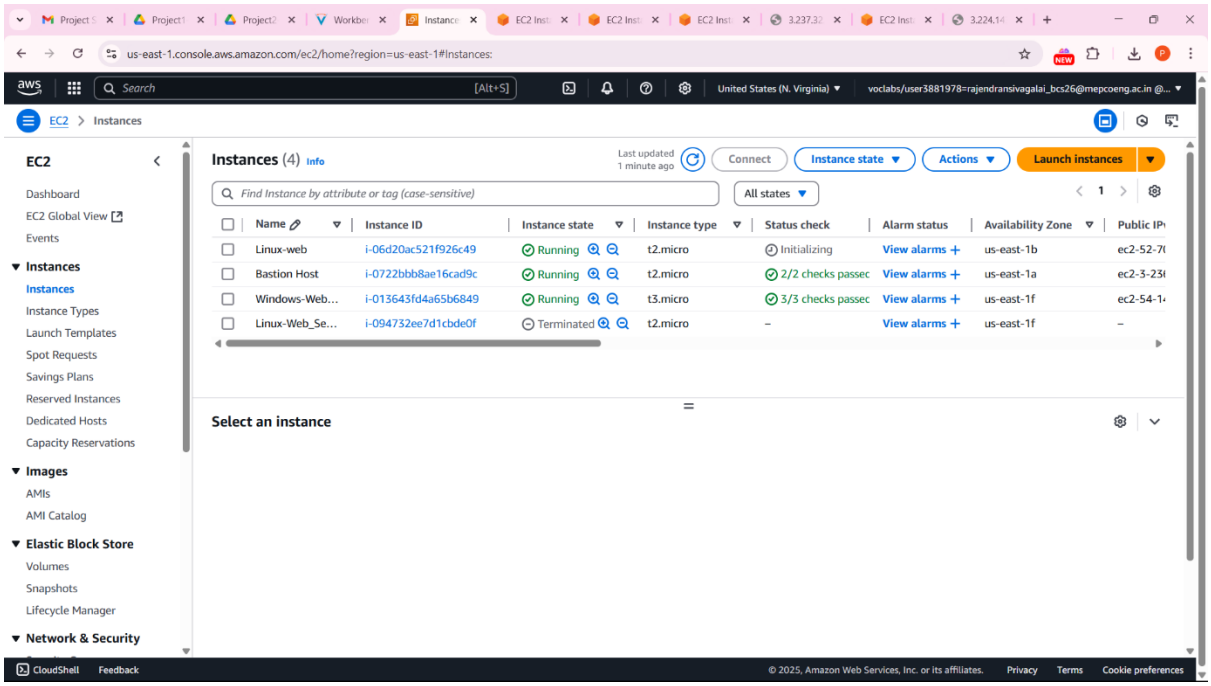
Topology

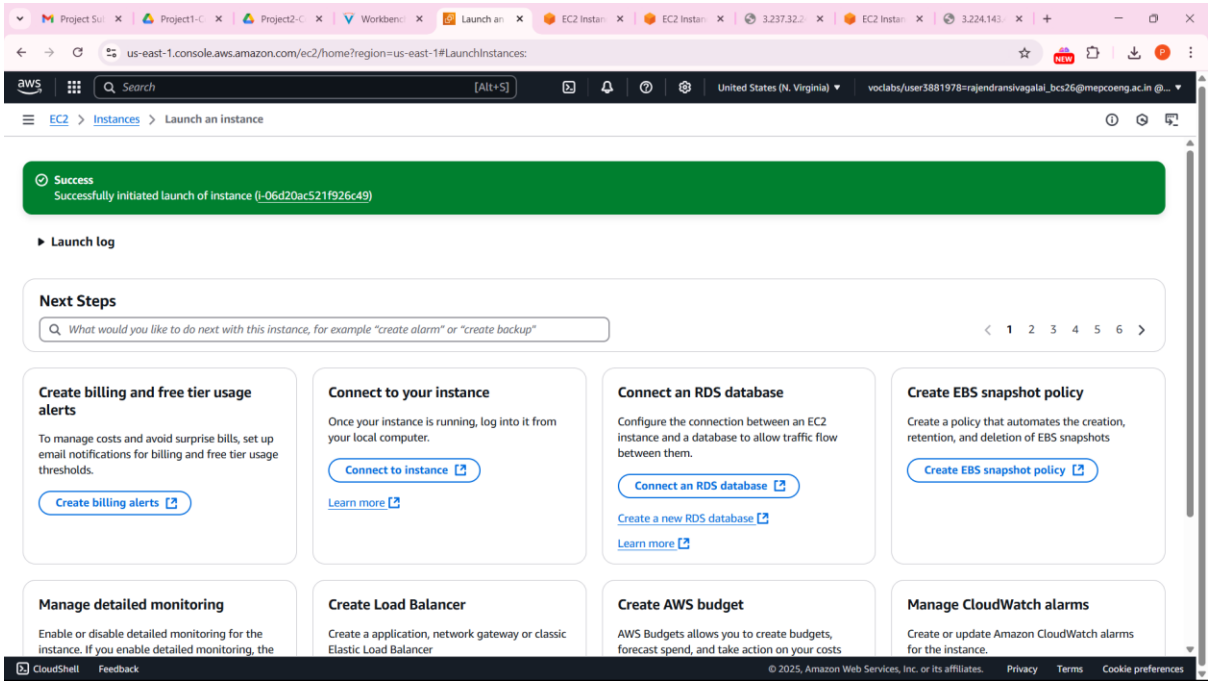
How to Configure the Elastic IP Address to Linux Web Server with AWS EC2



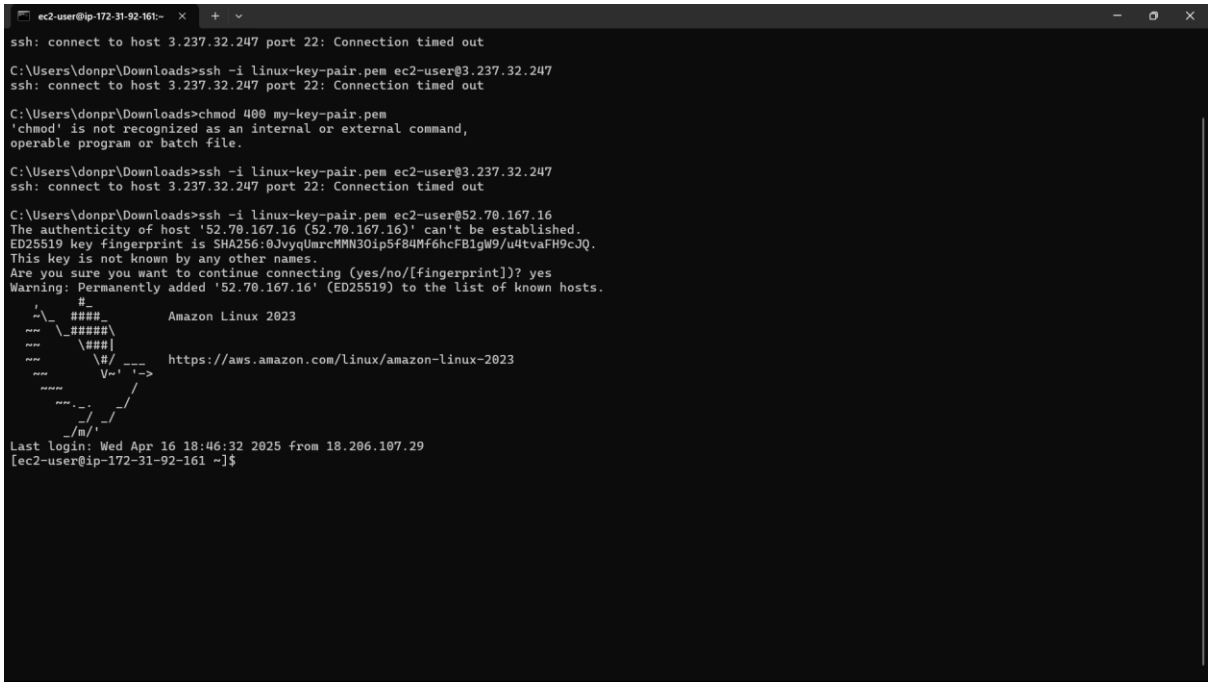
Execution Tasks:

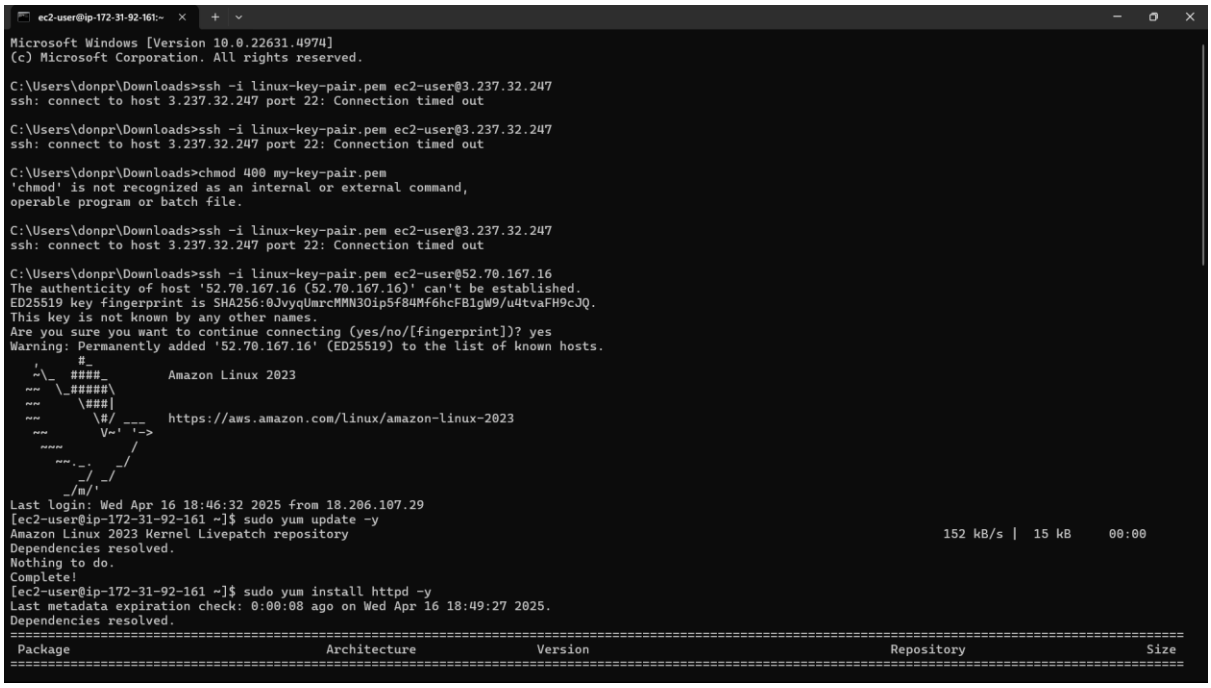
Step 1: Launch a Linux EC2 Instance





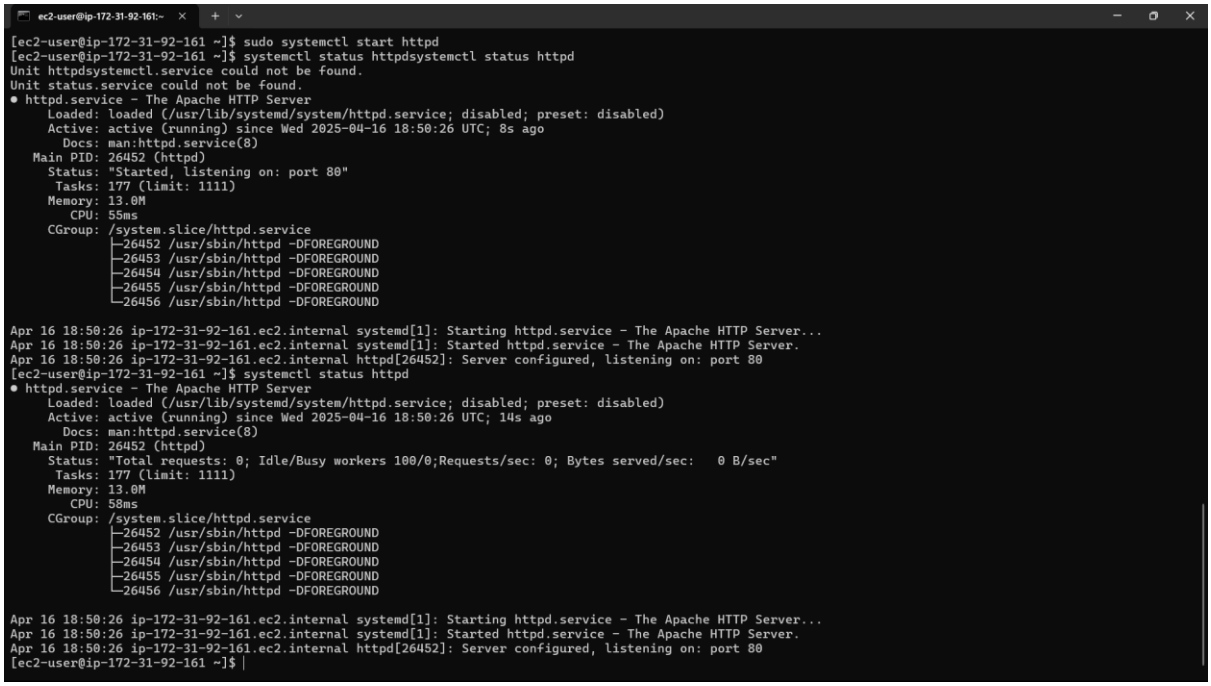
Step 2: Install Apache (Web Server) on the Linux Instance

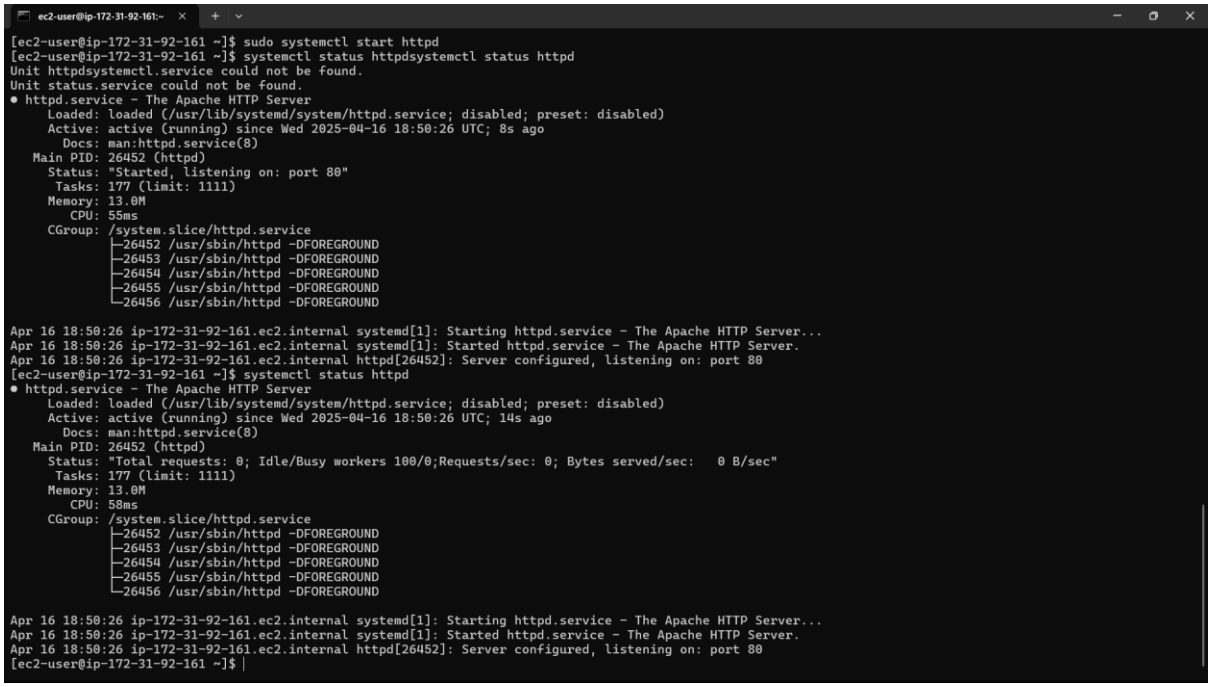




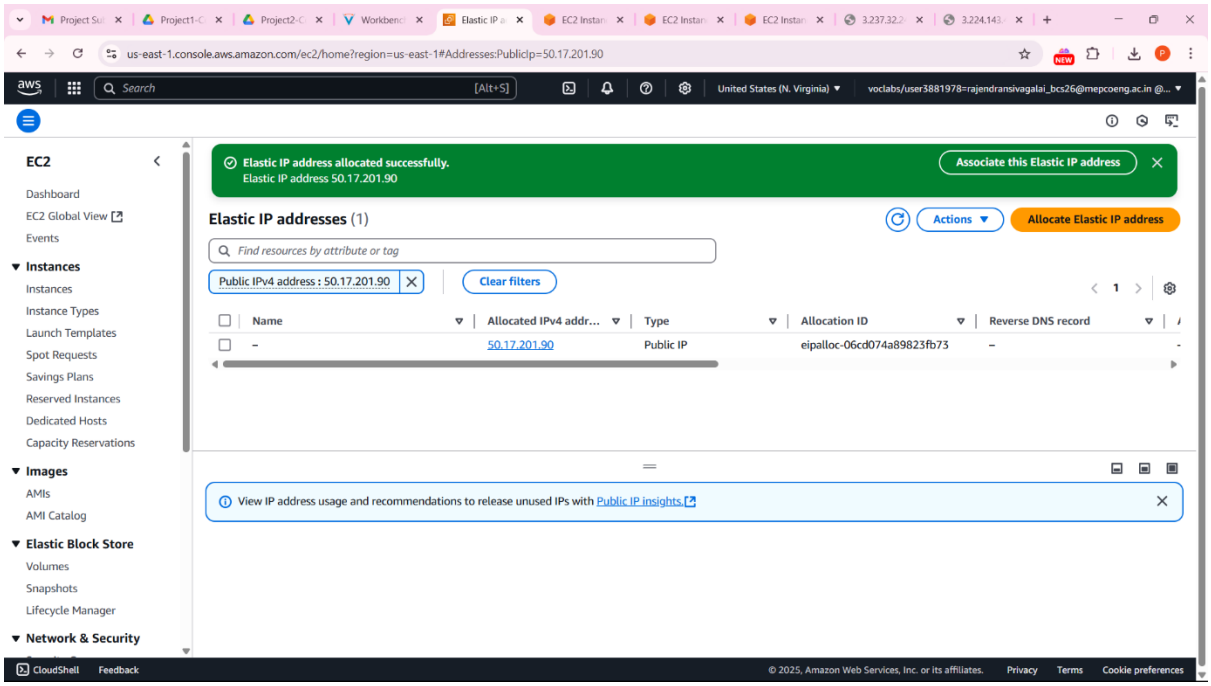
```
        _/ _/
      _/m/'
Last login: Wed Apr 16 18:46:32 2025 from 18.206.107.29
[ec2-user@ip-172-31-92-161 ~]$ sudo yum update -y
Amazon Linux 2023 Kernel Livepatch repository                                       152 kB/s |  15 kB     00:00
Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-172-31-92-161 ~]$ sudo yum install httpd -y
Last metadata expiration check: 0:00:08 ago on Wed Apr 16 18:49:27 2025.
Dependencies resolved.
==============================================================================================================
 Package                   Architecture        Version                        Repository               Size
==============================================================================================================
Installing:
 httpd                     x86_64              2.4.62-1.amzn2023              amazonlinux              48 k
Installing dependencies:
 apr                       x86_64              1.7.5-1.amzn2023.0.4           amazonlinux             129 k
 apr-util                  x86_64              1.6.3-1.amzn2023.0.1           amazonlinux              98 k
 generic-logos-httpd       noarch              18.0.0-12.amzn2023.0.3         amazonlinux              19 k
 httpd-core                x86_64              2.4.62-1.amzn2023              amazonlinux             1.4 M
 httpd-filesystem          noarch              2.4.62-1.amzn2023              amazonlinux              14 k
 httpd-tools               x86_64              2.4.62-1.amzn2023              amazonlinux              81 k
 libbrotli                 x86_64              1.0.9-4.amzn2023.0.2           amazonlinux             315 k
 mailcap                   noarch              2.1.49-3.amzn2023.0.3          amazonlinux              33 k
Installing weak dependencies:
 apr-util-openssl          x86_64              1.6.3-1.amzn2023.0.1           amazonlinux              17 k
 mod_http2                 x86_64              2.0.27-1.amzn2023.0.3          amazonlinux             166 k
 mod_lua                   x86_64              2.4.62-1.amzn2023              amazonlinux              61 k

Transaction Summary
==============================================================================================================
Install  12 Packages

Total download size: 2.3 M
Installed size: 6.9 M
Downloading Packages:
(1/12): apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64.rpm                            579 kB/s |  17 kB     00:00
(2/12): apr-1.7.5-1.amzn2023.0.4.x86_64.rpm                                         3.1 MB/s | 129 kB     00:00
(3/12): apr-util-1.6.3-1.amzn2023.0.1.x86_64.rpm                                    2.0 MB/s |  98 kB     00:00
(4/12): generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch.rpm                       855 kB/s |  19 kB     00:00
(5/12): httpd-2.4.62-1.amzn2023.x86_64.rpm                                          1.7 MB/s |  48 kB     00:00
(6/12): httpd-filesystem-2.4.62-1.amzn2023.noarch.rpm                               567 kB/s |  14 kB     00:00
(7/12): httpd-core-2.4.62-1.amzn2023.x86_64.rpm                                      15 MB/s | 1.4 MB     00:00
```

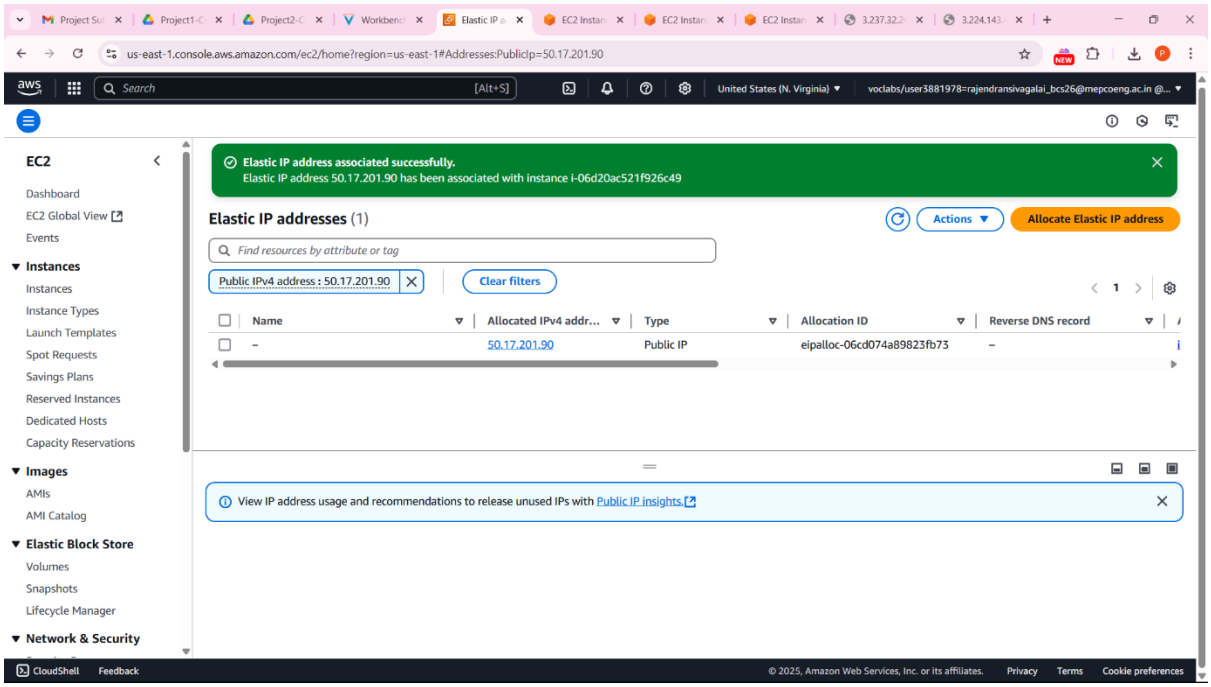
```
(12/12): mod_lua-2.4.62-1.amzn2023.x86_64.rpm                                       2.4 MB/s |  61 kB     00:00
--------------------------------------------------------------------------------------------------------------
Total                                                                                11 MB/s | 2.3 MB     00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :                                                                                        1/1
  Installing       : apr-1.7.5-1.amzn2023.0.4.x86_64                                                       1/12
  Installing       : apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64                                          2/12
  Installing       : apr-util-1.6.3-1.amzn2023.0.1.x86_64                                                  3/12
  Installing       : mailcap-2.1.49-3.amzn2023.0.3.noarch                                                  4/12
  Installing       : httpd-tools-2.4.62-1.amzn2023.x86_64                                                  5/12
  Installing       : libbrotli-1.0.9-4.amzn2023.0.2.x86_64                                                 6/12
  Running scriptlet: httpd-filesystem-2.4.62-1.amzn2023.noarch                                             7/12
  Installing       : httpd-filesystem-2.4.62-1.amzn2023.noarch                                             7/12
  Installing       : httpd-core-2.4.62-1.amzn2023.x86_64                                                   8/12
  Installing       : mod_http2-2.0.27-1.amzn2023.0.3.x86_64                                                9/12
  Installing       : mod_lua-2.4.62-1.amzn2023.x86_64                                                     10/12
  Installing       : generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch                                    11/12
  Installing       : httpd-2.4.62-1.amzn2023.x86_64                                                       12/12
  Running scriptlet: httpd-2.4.62-1.amzn2023.x86_64                                                       12/12
  Verifying        : apr-1.7.5-1.amzn2023.0.4.x86_64                                                       1/12
  Verifying        : apr-util-1.6.3-1.amzn2023.0.1.x86_64                                                  2/12
  Verifying        : apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64                                          3/12
  Verifying        : generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch                                     4/12
  Verifying        : httpd-2.4.62-1.amzn2023.x86_64                                                        5/12
  Verifying        : httpd-core-2.4.62-1.amzn2023.x86_64                                                   6/12
  Verifying        : httpd-filesystem-2.4.62-1.amzn2023.noarch                                             7/12
  Verifying        : httpd-tools-2.4.62-1.amzn2023.x86_64                                                  8/12
  Verifying        : libbrotli-1.0.9-4.amzn2023.0.2.x86_64                                                 9/12
  Verifying        : mailcap-2.1.49-3.amzn2023.0.3.noarch                                                 10/12
  Verifying        : mod_http2-2.0.27-1.amzn2023.0.3.x86_64                                               11/12
  Verifying        : mod_lua-2.4.62-1.amzn2023.x86_64                                                     12/12

Installed:
  apr-1.7.5-1.amzn2023.0.4.x86_64                     apr-util-1.6.3-1.amzn2023.0.1.x86_64       apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64
  generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch   httpd-2.4.62-1.amzn2023.x86_64             httpd-core-2.4.62-1.amzn2023.x86_64
  httpd-filesystem-2.4.62-1.amzn2023.noarch           httpd-tools-2.4.62-1.amzn2023.x86_64       libbrotli-1.0.9-4.amzn2023.0.2.x86_64
  mailcap-2.1.49-3.amzn2023.0.3.noarch                mod_http2-2.0.27-1.amzn2023.0.3.x86_64     mod_lua-2.4.62-1.amzn2023.x86_64

Complete!
[ec2-user@ip-172-31-92-161 ~]$
```





Step 3: Allocate an Elastic IP Address


us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Addresses:PublicIp=50.17.201.90
Search [Alt+S]
United States (N. Virginia)
EC2
Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Elastic IP address allocated successfully.
Elastic IP address 50.17.201.90
Associate this Elastic IP address
Elastic IP addresses (1)
Actions
Allocate Elastic IP address
Find resources by attribute or tag
Public IPv4 address : 50.17.201.90
Clear filters
Name
Allocated IPv4 addr...
Type
Allocation ID
Reverse DNS record
50.17.201.90
Public IP
eipalloc-06cd074a89823fb73
View IP address usage and recommendations to release unused IPs with Public IP insights
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Addresses:PublicIp=50.17.201.90
Search [Alt+S]
United States (N. Virginia)
EC2
Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Elastic IP address associated successfully.
Elastic IP address 50.17.201.90 has been associated with instance i-06d20ac521f926c49
Elastic IP addresses (1)
Actions
Allocate Elastic IP address
Find resources by attribute or tag
Public IPv4 address : 50.17.201.90
Clear filters
Name
Allocated IPv4 addr...
Type
Allocation ID
Reverse DNS record
50.17.201.90
Public IP
eipalloc-06cd074a89823fb73
View IP address usage and recommendations to release unused IPs with Public IP insights
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences