

Part 1: Launch a Basic EC2 Instance

1. Login to AWS Console

- Go to: <https://console.aws.amazon.com>
- Navigate to **EC2 service**

2. Launch a new instance

- Click on "**Launch Instance**"
- **Name:** `test_vm`
- **AMI:** Amazon Linux 2023 (or default)
- **Instance Type:** `t2.micro` (Free tier)
- **Key Pair:** Choose or create a `.pem` key
- **Network settings:** Allow **SSH (port 22)**
- Leave all other settings as default
- Click "**Launch Instance**"

3. Wait till the instance is running

- Go to **EC2 Dashboard > Instances**
 - Instance should show "**running**" with a green checkmark
-

Part 2: Connect to EC2 via SSH

1. Copy the public IPv4 address

Connect using SSH

bash

CopyEdit

```
ssh -i "your-key.pem" ec2-user@<public-ip>
```

- 2.
 3. Once connected, you are inside your EC2 Linux VM
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Part 3: Understand IPs (Public vs Private)

- In the **EC2 Dashboard**, observe:
 - **Public IPv4**: Internet-facing, dynamic
 - **Private IPv4**: Internal, static within the same subnet
 - Instructor showed:
 - **VPC ID** (Virtual Private Cloud — your isolated network in AWS)
 - **Subnet ID** (A range of IPs inside the VPC)
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Part 4: Test Dynamic Nature of Public IP

1. **Stop the instance:**
 - Click `Actions > Instance state > Stop instance`
 2. **Start the instance again**
 3.  Check the **Public IPv4** — it will have changed
 4.  Note: **Private IP stays the same**
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Part 5: Allocate and Attach an Elastic IP (Static IP)

1. Go to "Elastic IPs" under EC2 Network & Security

2. Click "Allocate Elastic IP address"

- Choose default options → Click Allocate
- You'll get a new Elastic IP

The screenshot shows the AWS EC2 console with the 'Elastic IP addresses' page open. The left sidebar shows navigation links for EC2, Images, Elastic Block Store, Network & Security (with 'Elastic IPs' selected), and Load Balancing. The main content area displays a success message: 'Elastic IP address associated successfully. Elastic IP address 16.170.26.194 has been associated with instance i-0856c5a2799165b68'. Below this, a table lists the allocated IP: Name - 16.170.26.194, Type - Public IP, Allocation ID - eipalloc-0d11b895deb1f2684, Reverse DNS record - -, Associated in - i-0856c5a279. There is also a 'Select an elastic IP address' section with a link to 'Public IP insights'.

3. Associate the EIP with `test_vm`

- Select the newly allocated IP
- Click Actions > Associate Elastic IP
- Choose:
 - Instance: `test_vm`
 - Private IP: select the default one shown

○ Click Associate

4. Go back to Instances

- You'll see that the Public IPv4 is now your Elastic IP

The screenshot shows the AWS EC2 Instances page. The left sidebar is collapsed. The main area displays a table of instances:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
My windows s...	i-0e35c310d34b6b5a1	Terminated	t3.micro	-	View alarms	eu-north-1b	-
My web server 1	i-055d7dacc0d5e85cf	Terminated	t3.micro	-	View alarms	eu-north-1b	-
test_vm	i-0856c5a2799165b68	Running	t3.micro	Initializing	View alarms	eu-north-1b	ec2-13-60-250-113.e

Below the table, the details for the selected instance (i-0856c5a2799165b68) are shown:

i-0856c5a2799165b68 (test_vm)

Instance summary

- Instance ID: i-0856c5a2799165b68
- IPv6 address: -
- Hostname type: IP name: ip-172-31-47-231.eu-north-1.compute.internal
- Answer private resource DNS name: IPv4 (A)

Public IPv4 address: 13.60.250.113 | [open address](#)

Instance state: Running

Private IP DNS name (IPv4 only): ip-172-31-47-231.eu-north-1.compute.internal

Instance type: t3.micro

Private IP4 addresses: 172.31.47.231

Public DNS: ec2-13-60-250-113.eu-north-1.compute.amazonaws.com | [open address](#)

Elastic IP addresses: -

Part 6: Restart and Observe Elastic IP Behavior

1. Stop and Start the instance again
2. The Elastic IP remains the same (unlike before)

Part 7: Cleanup – Terminate Instance & Release Elastic IP

1. Disassociate Elastic IP
 - Go to **Elastic IPs**
 - Select the IP
 - Click **Actions > Disassociate Elastic IP**
2. Release the IP
 - Click **Actions > Release Elastic IP**
3. Terminate the instance

- Go to Instances
- Select **test_vm** → Click Actions > Instance state > Terminate instance

The screenshot shows the AWS EC2 console with the 'Elastic IP addresses' page selected. A green banner at the top indicates that an IP address has been released: 'Elastic IP addresses released. Elastic IP addresses 16.170.26.194'. Below this, a search bar and filter options are visible. The main content area displays a table with one row for the IP address 16.170.26.194. The table includes columns for Name, Allocated IPv4 address, Type, Allocation ID, Reverse DNS record, and Associated instance ID. The 'Summary' tab is selected. At the bottom right of the page, there are links for CloudShell, Feedback, Privacy, Terms, and Cookie preferences.

Name	Allocated IPv4 address	Type	Allocation ID	Reverse DNS record	Associated instance ID
	16.170.26.194	Public IP	eipalloc-0d11b895deb1f2684	-	-