

1. EC2 instances (2 machines - 1st machine - name, 2nd machine - surname)

EC2 > Instances > Launch an instance

Launch an instance [Info](#)

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Following the simple steps below.

Name and tags [Info](#)

Name

Quick Start

Amazon Linux macOS Ubuntu Windows Red Hat

[Browse more AMIs](#)
Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type Free tier eligible

ami-0648ea225c13e0729 (64-bit (x86)) / ami-01e2055f6d676839e (64-bit (Arm))

Virtualization: hvm ENA enabled: true Root device type: ebs

Description

Amazon Linux 2 Kernel 5.10 AMI 2.0.20221004.0 x86_64 HVM gp2

Architecture

64-bit (x86)

AMI ID

ami-0648ea225c13e0729

Verified provider

▼ Instance type [Info](#)

Instance type

t2.micro

Family: t2 1 vCPU 1 GiB Memory

On-Demand Linux pricing: 0.0132 USD per Hour

On-Demand Windows pricing: 0.0178 USD per Hour

Free tier eligible

[Compare instance types](#)

▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

mykeypair



[Create new key pair](#)

[EC2](#) > [Instances](#) > [Launch an instance](#)



Success

Successfully initiated launch of instance (i-0a562c63f9dffa94f)

[▶ Launch log](#)

Instance with user name

| Instances (1) Info | | | | | | | | Refresh | Connect | Instance state ▼ | Actions ▼ | Launch instance |
|--|-------|---------------------|----------------------|---------------|--------------------------------|--------------|-------------------|-------------------------|-------------------------|----------------------------------|---------------------------|---------------------------------|
| Find instance by attribute or tag (case-sensitive) | | | | | | | | | | | | |
| <input type="checkbox"/> | Name | Instance ID | Instance state | Instance type | Status check | Alarm status | Availability Zone | | | | | |
| <input type="checkbox"/> | Vijay | i-0a562c63f9dffa94f | Running | t2.micro | 2/2 checks passed | No alarms | eu-west-2b | | | | | |

Launching instance with Surname (Ubuntu machine)

Name

Deekonda

[Add additional tags](#)







▼ Application and OS Images (Amazon Machine Image) [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

🔍 Search our full catalog including 1000s of application and OS images

Recents

Quick Start

| | | | | | |
|---|--|---|--|--|---|
|  Amazon Linux |  macOS |  Ubuntu |  Windows |  Red Hat |  Browse more AMIs Including AMIs from AWS, Marketplace and the Community |
|---|--|---|--|--|---|

Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type
ami-0f540e9f488cfa27d (64-bit (x86)) / ami-018542fa4c710a021 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

Using same key pair

▼ Instance type [Info](#)

Instance type

t2.micro
Family: t2 1 vCPU 1 GiB Memory
On-Demand Linux pricing: 0.0132 USD per Hour
On-Demand Windows pricing: 0.0178 USD per Hour

Free tier eligible

[Compare instance types](#)

▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

mykeypair

[Create new key pair](#)

[EC2](#) > [Instances](#) > [Launch an instance](#)

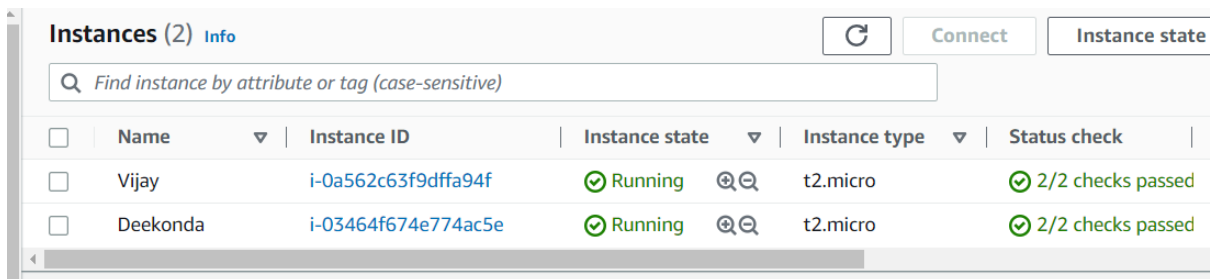


Success

Successfully initiated launch of instance (i-03464f674e774ac5e)

[▶ Launch log](#)

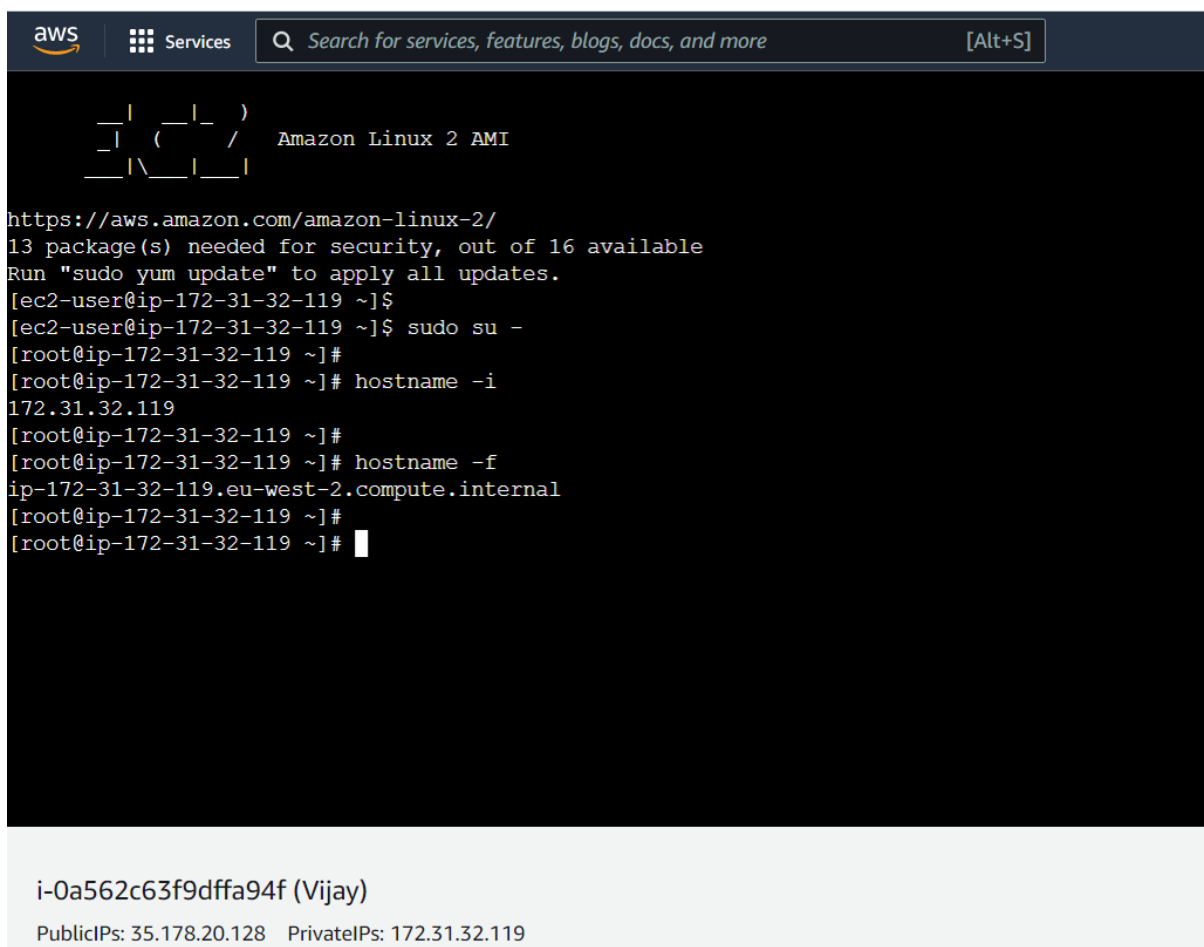
Two Instances with Name(Vijay) and Surname(Deekonda)



| <input type="checkbox"/> | Name | Instance ID | Instance state | Instance type | Status check |
|--------------------------|----------|---------------------|----------------|---------------|-------------------|
| <input type="checkbox"/> | Vijay | i-0a562c63f9dffa94f | Running | t2.micro | 2/2 checks passed |
| <input type="checkbox"/> | Deekonda | i-03464f674e774ac5e | Running | t2.micro | 2/2 checks passed |

Test Connection

Instance - Vijay



```
aws Services Search for services, features, blogs, docs, and more [Alt+S]

  _ | _ | _ )
  _ | ( _ | /   Amazon Linux 2 AMI
  _ | \ _ | _ |

https://aws.amazon.com/amazon-linux-2/
13 package(s) needed for security, out of 16 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-32-119 ~]$
[ec2-user@ip-172-31-32-119 ~]$ sudo su -
[root@ip-172-31-32-119 ~]#
[root@ip-172-31-32-119 ~]# hostname -i
172.31.32.119
[root@ip-172-31-32-119 ~]#
[root@ip-172-31-32-119 ~]# hostname -f
ip-172-31-32-119.eu-west-2.compute.internal
[root@ip-172-31-32-119 ~]#
[root@ip-172-31-32-119 ~]#
```

i-0a562c63f9dffa94f (Vijay)
PublicIPs: 35.178.20.128 PrivateIPs: 172.31.32.119

Instance – Deekonda

```
aws Services Search for services, features, blogs, docs, and more [Alt+S]
Swap usage: 0%
0 updates can be applied immediately.
The list of available updates is more than a week old.
To check for new updates run: sudo apt update
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
ubuntu@ip-172-31-32-233:~$
ubuntu@ip-172-31-32-233:~$ sudo su -
root@ip-172-31-32-233:~#
root@ip-172-31-32-233:~# hostname -i
172.31.32.233
root@ip-172-31-32-233:~# hostname -f
ip-172-31-32-233.eu-west-2.compute.internal
root@ip-172-31-32-233:~#
```

i-03464f674e774ac5e (Deekonda)
PublicIPs: 13.42.53.57 PrivateIPs: 172.31.32.233

2. EBS volume

Checking volume before EBS

```
[ec2-user@ip-172-31-32-119 ~]$ lsblk
NAME        MAJ:MIN RM  SIZE RO  TYPE MOUNTPOINT
xvda        202:0    0   8G  0  disk
└─xvda1    202:1    0   8G  0  part /
[ec2-user@ip-172-31-32-119 ~]$
[ec2-user@ip-172-31-32-119 ~]$
[ec2-user@ip-172-31-32-119 ~]$
```

i-0a562c63f9dffa94f (Vijay)
PublicIPs: 35.178.20.128 PrivateIPs: 172.31.32.119

| Volumes (2) | | | | | | | | | | |
|---|------|-----------------------|------|-------|------|------------|-----------------|----------------------------|-------------------|--|
| <input type="text" value="Search"/> <input type="button" value="Refresh"/> <input type="button" value="Actions"/> <input type="button" value="Create volume"/> | | | | | | | | | | |
| <input type="checkbox"/> | Name | Volume ID | Type | Size | IOPS | Throughput | Snapshot | Created | Availability Zone | |
| <input type="checkbox"/> | - | vol-019e402220c5578f1 | gp2 | 8 GiB | 100 | - | snap-069ad28... | 2022/10/25 17:33 GMT+5:... | eu-west-2a | |
| <input type="checkbox"/> | - | vol-05dbe08761f5b81b4 | gp2 | 8 GiB | 100 | - | snap-0b0448c... | 2022/10/25 17:42 GMT+5:... | eu-west-2a | |

Creating volume

EC2 > Volumes > Create volume

Create volume [Info](#)

Create an Amazon EBS volume to attach to any EC2 instance in the same Availability Zone.

Volume settings

Volume type [Info](#)
 General Purpose SSD (gp2)

Size (GiB) [Info](#)

Min: 1 GiB, Max: 16384 GiB. The value must be an integer.

IOPS [Info](#)
 100 / 3000
Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS.

Throughput (MiB/s) [Info](#)
 Not applicable

Availability Zone [Info](#)

Snapshot ID - optional [Info](#)

Encryption [Info](#)
 Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.
 Encrypt this volume

Tags - optional [Info](#)
 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.

Key **Value - optional**

New volume is created and it is in available state


| <input type="checkbox"/> | Name | Volume ID | Type | Size | IOPS | Throughput | Snapshot | Created | Availability Zone | Volume state |
|-------------------------------------|----------|-----------------------|------|-------|------|------------|-----------------|----------------------------|-------------------|---|
| <input type="checkbox"/> | - | vol-019e402220c5578f1 | gp2 | 8 GiB | 100 | - | snap-069ad28... | 2022/10/25 17:33 GMT+5:... | eu-west-2b | ✔ In-use |
| <input type="checkbox"/> | - | vol-05dbe08761f5b81b4 | gp2 | 8 GiB | 100 | - | snap-0b0448c... | 2022/10/25 17:42 GMT+5:... | eu-west-2b | ✔ In-use |
| <input checked="" type="checkbox"/> | myVolume | vol-03b0b9fba5e2f54e1 | gp2 | 8 GiB | 100 | - | - | 2022/10/25 18:02 GMT+5:... | eu-west-2a | ✔ Available |

Attach volume [Info](#)

Attach a volume to an instance to use it as you would a regular physical hard disk drive.

Basic details

Volume ID

 vol-031bbee6aad6b4c3e

Availability Zone

eu-west-2b

Instance [Info](#)


i-0a562c63f9dffa94f 

Only instances in the same Availability Zone as the selected volume are displayed.

Device name [Info](#)

/dev/sdf

Recommended device names for Linux: /dev/sda1 for root volume, /dev/sdf[-p] for data volumes.

 Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.

Cancel

Attach volume

lsblk output post attaching volume

```
[ec2-user@ip-172-31-32-119 ~]$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
xvda        202:0    0   8G  0 disk
└─xvda1    202:1    0   8G  0 part /
xvdf        202:80   0   8G  0 disk
[ec2-user@ip-172-31-32-119 ~]$
[ec2-user@ip-172-31-32-119 ~]$
```

i-0a562c63f9dffa94f (Vijay)

PublicIPs: 35.178.20.128 PrivateIPs: 172.31.32.119

```
[ec2-user@ip-172-31-32-119 ~]$ sudo mkfs -t xfs /dev/xvdf
meta-data=/dev/xvdf            isize=512    agcount=4, agsize=524288 blks
       =                       sectsz=512   attr=2, projid32bit=1
       =                       crc=1       finobt=1, sparse=0
data     =                       bsize=4096  blocks=2097152, imaxpct=25
       =                       sunit=0    swidth=0 blks
naming   =version 2           bsize=4096  ascii-ci=0 ftype=1
log      =internal log       bsize=4096  blocks=2560, version=2
       =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime =none              extsz=4096  blocks=0, rtextents=0
[ec2-user@ip-172-31-32-119 ~]$ sudo mkdir /data
[ec2-user@ip-172-31-32-119 ~]$ sudo mount /dev/xvdf /data
[ec2-user@ip-172-31-32-119 ~]$ lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
xvda        202:0    0   8G  0 disk
└─xvda1    202:1    0   8G  0 part /
xvdf        202:80   0   8G  0 disk /data
[ec2-user@ip-172-31-32-119 ~]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        474M   0  474M   0% /dev
tmpfs           483M   0  483M   0% /dev/shm
tmpfs           483M 412K  482M   1% /run
tmpfs           483M   0  483M   0% /sys/fs/cgroup
/dev/xvda1      8.0G  1.6G  6.5G  20% /
tmpfs           97M   0   97M   0% /run/user/1000
/dev/xvdf       8.0G   41M  8.0G   1% /data
[ec2-user@ip-172-31-32-119 ~]$
```

i-0a562c63f9dffa94f (Vijay)

PublicIPs: 35.178.20.128 PrivateIPs: 172.31.32.119

3. Snapshot

EC2 > Snapshots > Create snapshot

Create snapshot [Info](#)

Create a point-in-time snapshot of an EBS volume and use it as a baseline for new volumes or for data backup. You can create snapshots from an individual volume, or you can create multi-volume snapshots from all of the volumes attached to an instance.

Snapshot settings

Resource type [Info](#)

Volume

Create a snapshot from a specific volume.

Instance

Create multi-volume snapshots from an instance.

Instance ID

The instance from which to create multi-volume snapshots.

i-0a562c63f9dffa94f



Description

Add a description for your snapshot.

mybkpSnapshot

255 characters maximum

Snapshots (1/1)

Owned by me

Search



Recycle Bin

Actions

| <input checked="" type="checkbox"/> | Name | Snapshot ID | Size | Description | Storage... | Snapshot status |
|-------------------------------------|------|------------------------|-------|---------------|------------|-----------------|
| <input checked="" type="checkbox"/> | - | snap-0241618e8cb0cb2c8 | 8 GiB | mybkpSnapshot | Standard | Completed |

EC2 > Snapshots > snap-0241618e8cb0cb2c8

snap-0241618e8cb0cb2c8



Delete

Actions

Snapshot settings

Snapshot ID

snap-0241618e8cb0cb2c8

Size

8 GiB

Progress

Available (100%)

Snapshot status

Completed

Owner

000582801741

Volume ID

vol-019e402220c5578f1

Started

Tue Oct 25 2022 18:27:52 GMT+0530
(India Standard Time)

Product codes

-

Encryption

Not encrypted

KMS key ID

-

KMS key alias

-

KMS key ARN

-

Fast snapshot restore

-

Description

mybkpSnapshot

4. AMI

The screenshot shows the AWS Management Console 'Instances' page. Two instances are listed: 'Vijay' (ID: i-0a562c63f9dffa94f) and 'Deekonda' (ID: i-03464f674c). The 'Vijay' instance is selected, and a context menu is open over it. The 'Image and templates' option is highlighted, with a sub-menu showing 'Create image', 'Create template from instance', and 'Launch more like this'. The instance details for 'Vijay' are visible, including its Instance ID, IP addresses, and state (Running).

The screenshot shows the 'Create image' wizard in the AWS console. The 'Instance ID' is set to 'i-0a562c63f9dffa94f (Vijay)'. The 'Image name' is 'vijay_image'. The 'Image description - optional' is 'Image for instance vijay'. The 'No reboot' checkbox is checked and enabled. Under 'Instance volumes', an EBS volume is configured with a size of 8 GB, 'EBS General Purpose S...' as the volume type, and 'Delete on termination' checked.

| Amazon Machine Images (AMIs) (1) Info | | | | |
|---------------------------------------|-----------------------|-------------|--------------------------|--|
| Name | AMI ID | AMI name | Source | |
| - | ami-0de6b6eb8b16861bb | vijay_image | 000582801741/vijay_image | |

5. Load Balancer

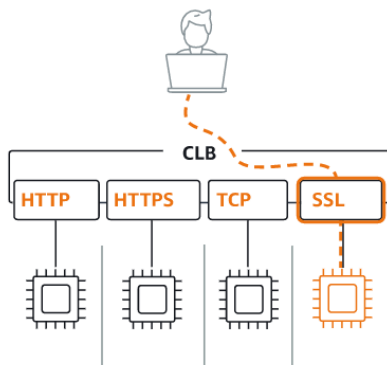
[Create Load Balancer](#) [Actions](#)

Filter by tags and attributes or search by keyword

| Name | DNS name | State | VPC ID | Availab |
|--|----------|-------|--------|---------|
| You do not have any load balancers in this region. | | | | |

▼ Classic Load Balancer - previous generation

Classic Load Balancer [Info](#)



Choose a Classic Load Balancer when you have an existing application network.

[i](#) AWS will be retiring the EC2-Classic network on August 15, 2021.

[Create](#)

Step 1: Define Load Balancer

Basic Configuration

This wizard will walk you through setting up a new load balancer. Begin by giving your new load balancer a unique name so that you can identify it from other load balancers you create. You also need to configure ports and protocols for your load balancer. Traffic from your clients can be routed from any load balancer port to any port on your EC2 instances. By default, a load balancer with a standard web server on port 80.

Load Balancer name:

Create LB Inside:

Create an internal load balancer: (what's this?)

Enable advanced VPC configuration:

Listener Configuration:

| Load Balancer Protocol | Load Balancer Port | Instance Protocol | Instance Port |
|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| <input type="text" value="HTTP"/> | <input type="text" value="80"/> | <input type="text" value="HTTP"/> | <input type="text" value="80"/> |

[Add](#)

Step 2: Assign Security Groups

You have selected the option of having your Elastic Load Balancer inside of a VPC, which allows you to assign security groups to your load balancer. Please select the security group you want to assign to your load balancer. This can be changed at any time.

Assign a security group: Create a new security group

Select an existing security group

Security group name:

Description:

| Type i | Protocol i | Port Range i | Source i |
|-----------------------------------|----------------------------------|---------------------------------|--|
| <input type="text" value="HTTP"/> | <input type="text" value="TCP"/> | <input type="text" value="80"/> | <input type="text" value="Anywhere"/> <input type="text" value="0.0.0.0/0"/> |

[Add Rule](#)

Step 3: Configure Security Settings



Improve your load balancer's security. Your load balancer is not using any secure listener.

If your traffic to the load balancer needs to be secure, use either the HTTPS or the SSL protocol for your front-end connection. You can also continue with current settings.

Step 4: Configure Health Check

Your load balancer will automatically perform health checks on your EC2 instances and only route traffic to instances that pass the health check. If an instance fails the health check, it is removed from the load balancer. Customize the health check to meet your specific needs.

Ping Protocol

Ping Port

Ping Path

Advanced Details

Response Timeout seconds

Interval seconds

Unhealthy threshold

Healthy threshold

Step 5: Add EC2 Instances

The table below lists all your running EC2 instances. Check the boxes in the Select column to add those instances to this load balancer.

VPC vpc-0ffe128cd26969d07 (172.31.0.0/16)

| <input type="checkbox"/> | Instance | Name | State | Security groups | Zone | Subnet ID | Subnet CIDR |
|-------------------------------------|---------------------|----------|---------|-----------------|------------|-------------------|----------------|
| <input checked="" type="checkbox"/> | i-0a562c63f9dffa94f | Vijay | running | launch-wizard-1 | eu-west-2b | subnet-0da489e... | 172.31.32.0/20 |
| <input type="checkbox"/> | i-03464f674e774ac5e | Deekonda | running | launch-wizard-2 | eu-west-2b | subnet-0da489e... | 172.31.32.0/20 |

Availability Zone Distribution

1 instance in eu-west-2b

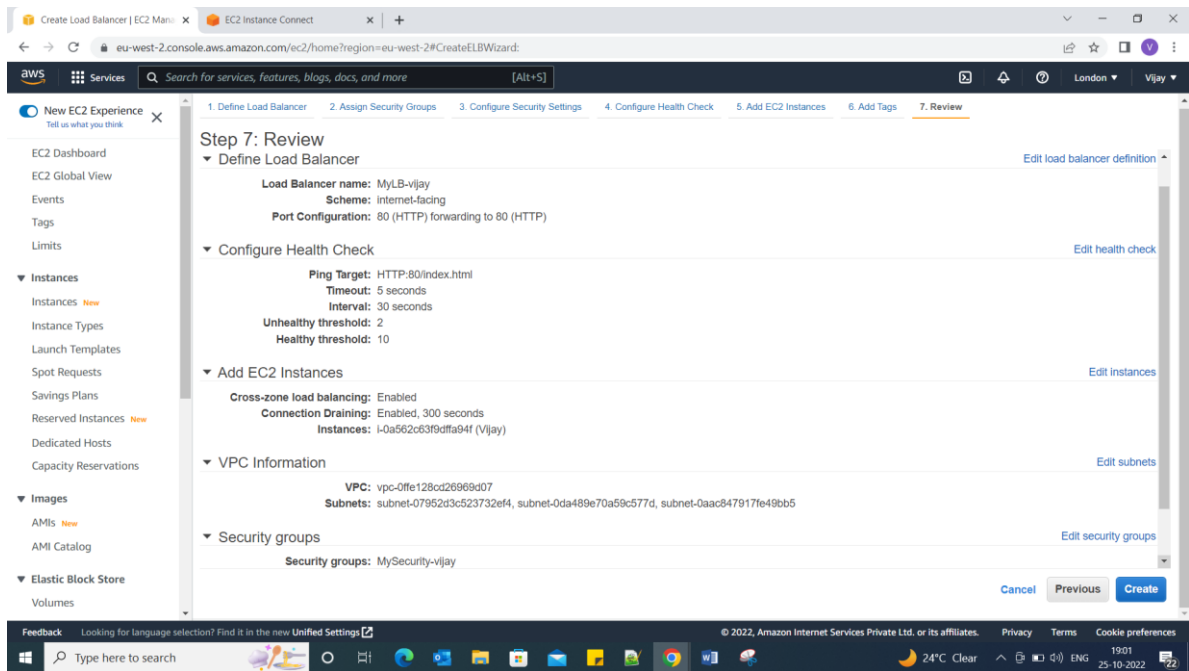
- Enable Cross-Zone Load Balancing
- Enable Connection Draining seconds

Step 6: Add Tags

Apply tags to your resources to help organize and identify them.

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. [Learn more](#)

| Key | Value |
|-----------------------------------|---|
| <input type="text" value="MyLB"/> | <input type="text" value="loadbalancer"/> |



Load Balancer Creation Status

✔ **Successfully created load balancer**
 Load balancer **MyLB-vijay** was successfully created.
 Note: It may take a few minutes for your instances to become active in the new load balancer.

