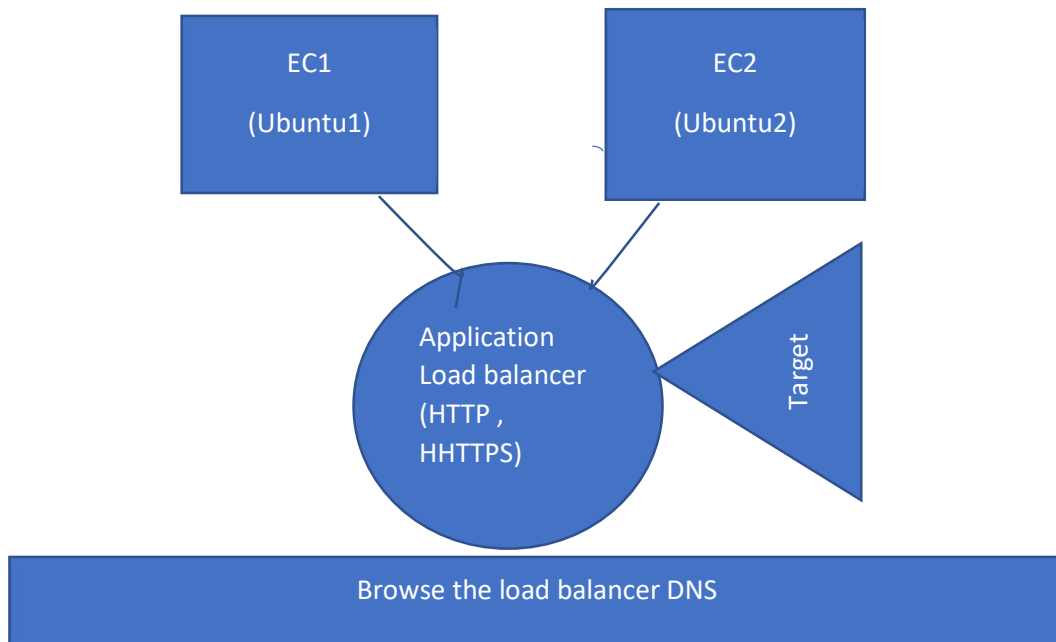


## Load Balancer: Application load balancer



## Create two EC2 (Ubuntu1 | Ubuntu2)

Name

ubuntu1

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

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

Quick Start

Amazon Linux

macOS

Ubuntu

Windows

Red Hat

SUSE Linux

Browse more AMIs

Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type  
ami-053b0d53c279acc90 (64-bit (x86)) / ami-0a0c8e6bcd6dcbdb0 (64-bit (Arm))  
Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

Description

Canonical, Ubuntu, 22.04 LTS, amd64 jammy image build on 2023-05-16

Architecture

64-bit (x86)

AMI ID

ami-053b0d53c279acc90

Verified provider

▼ Summary

Number of instances Info

1

Software Image (AMI)

Canonical, Ubuntu, 22.04 LTS, ...read more  
ami-053b0d53c279acc90

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel

Launch instance

Review commands

## Create Load balancer

EC2 > Load balancers

### Load balancers

Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.

Filter by property or value

< 1 > ⚙

Name	DNS name	State	VPC ID	Availability Zones	Type	Data
No load balancers						
You don't have any load balancers in us-east-1						

Create load balancer

## Create key pair

Key pair name

Key pairs allow you to connect to your instance securely.

key1

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

☒ RSA  
RSA encrypted private and public key pair

☐ ED25519  
ED25519 encrypted private and public key pair

Private key file format

☐ .pem  
For use with OpenSSH

☒ .ppk  
For use with PuTTY

⚠ When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** [Learn more](#)

Cancel

Create key pair

▼ Network settings

Info

Edit

Network

Info

vpc-0b3a7c0733382a3a2

Subnet

Info

No preference (Default subnet in any availability zone)

Auto-assign public IP

Info

Enable

Firewall (security groups)

Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Create security group

Select existing security group

We'll create a new security group called 'launch-wizard-1' with the following rules:

☒ Allow SSH traffic from
 

Helps you connect to your instance

Anywhere

0.0.0.0/0

☒ Allow HTTPS traffic from the internet
 

To set up an endpoint, for example when creating a web server

☒ Allow HTTP traffic from the internet
 

To set up an endpoint, for example when creating a web server

⚠ Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

×

Number of instances

Info

1

Software Image (AMI)

Canonical, Ubuntu, 22.04 LTS, ...read more

ami-053b0d53c279acc90

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

×

Cancel

Launch instance

Review commands

▼ Network settings

Info

VPC - required

Info

vpc-0b3a7c0733382a3a2

(default)

▼

172.31.0.0/16

↺

Subnet

Info

subnet-0b68d5b671842c55e

VPC: vpc-0b3a7c0733382a3a2 Owner: 731855331434

▼

Availability Zone: us-east-1a IP addresses available: 4091 CIDR: 172.31.32.0/20

↺ Create new subnet

Auto-assign public IP

Info

Enable

▼

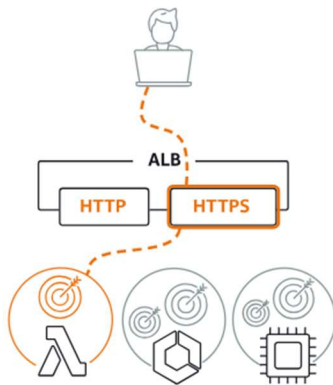
<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
<input type="checkbox"/>	ubuntu2	i-0a76281785287132f	Running	t2.micro	Initializing	No alarms	us-east-1a	ec2-54-152-63-202.co...	54.152.63.202	-
<input type="checkbox"/>	ubuntu1	i-01fe02c2b9d9e0304	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-54-166-254-57.co...	54.166.254.57	-

## Create Load balancer

Select application load balancer

## Load balancer types

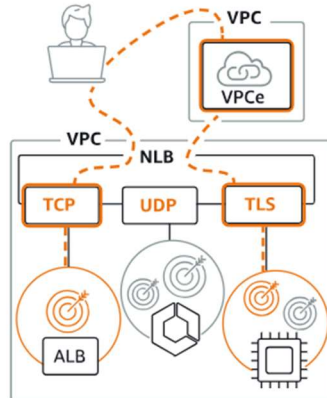
### Application Load Balancer [Info](#)



Choose an Application Load Balancer when you need a flexible feature set for your applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing and visibility features targeted at application architectures, including microservices and containers.

Create

### Network Load Balancer [Info](#)



Choose a Network Load Balancer when you need ultra-high performance, TLS offloading at scale, centralized certificate deployment, support for UDP, and static IP addresses for your applications. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second securely while maintaining ultra-low latencies.

Create

### Gateway Load Balancer [Info](#)



Choose a Gateway Load Balancer when you need to deploy and manage a fleet of third-party virtual appliances that support GENEVE. These appliances enable you to improve security, compliance, and policy controls.

Create

## Create Application Load Balancer [Info](#)

The Application Load Balancer distributes incoming HTTP and HTTPS traffic across multiple targets such as Amazon EC2 instances, microservices, and containers, based on request attributes. When the load balancer receives a connection request, it evaluates the listener rules in priority order to determine which rule to apply, and if applicable, it selects a target from the target group for the rule action.

### ► How Elastic Load Balancing works

#### Basic configuration

##### Load balancer name

Name must be unique within your AWS account and can't be changed after the load balancer is created.

Pria

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

##### Scheme [Info](#)

Scheme can't be changed after the load balancer is created.

##### ☒ Internet-facing

An internet-facing load balancer routes requests from clients over the internet to targets. Requires a public subnet. [Learn more](#)

##### ☐ Internal

An internal load balancer routes requests from clients to targets using private IP addresses.

##### IP address type [Info](#)

Select the type of IP addresses that your subnets use.

##### ☒ IPv4

Recommended for internal load balancers.

##### ☐ Dualstack

Includes IPv4 and IPv6 addresses.

## Network mapping [Info](#)

The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.

### VPC [Info](#)

Select the virtual private cloud (VPC) for your targets or you can [create a new VPC](#). Only VPCs with an internet gateway are enabled for selection. The selected VPC can't be changed after the load balancer is created. To confirm the VPC for your targets, view your [target groups](#).

-

vpc-0b3a7c0733382a3a2  
IPv4: 172.31.0.0/16

▼



### Mappings [Info](#)

Select at least two **Availability Zones** and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

☒ **us-east-1a (use1-az6)**

Subnet  
subnet-0b68d5b671842c55e  
▼

IPv4 address  
Assigned by AWS

☒ **us-east-1b (use1-az1)**

Subnet  
subnet-02b47ec2ae9a2fc01  
▼

IPv4 address  
Assigned by AWS

☒ **us-east-1c (use1-az2)**

## Security groups [Info](#)

A security group is a set of firewall rules that control the traffic to your load balancer. Select an existing security group, or you can [create a new security group](#).

### Security groups

Select up to 5 security groups

▼

↻

launch-wizard-1

×

sg-0776f767cef793bbf VPC: vpc-0b3a7c0733382a3a2

## Listeners and routing [Info](#)

A listener is a process that checks for connection requests using the port and protocol you configure. The rules that you define for a listener determine how the load balancer routes requests to its registered targets.

▼ Listener HTTP:80

Remove

Protocol

Port

Default action [Info](#)

HTTP ▼

:

80

Forward to

Select a target group ▼

↻

1-65535

Create target group [↗](#)

Listener tags - optional

Consider adding tags to your listener. Tags enable you to categorize your AWS resources so you can more easily manage them.

Add listener tag

You can add up to 50 more tags.

Add listener

To create target group

## Specify group details

Your load balancer routes requests to the targets in a target group and performs health checks on the targets.

### Basic configuration

Settings in this section can't be changed after the target group is created.

Choose a target type

☒ Instances

- Supports load balancing to instances within a specific VPC.
- Facilitates the use of [Amazon EC2 Auto Scaling](#)  to manage and scale your EC2 capacity.

☐ IP addresses

- Supports load balancing to VPC and on-premises resources.
- Facilitates routing to multiple IP addresses and network interfaces on the same instance.
- Offers flexibility with microservice based architectures, simplifying inter-application communication.
- Supports IPv6 targets, enabling end-to-end IPv6 communication, and IPv4-to-IPv6 NAT.

☐ Lambda function

- Facilitates routing to a single Lambda function.
- Accessible to Application Load Balancers only.

☐ Application Load Balancer

- Offers the flexibility for a Network Load Balancer to accept and route TCP requests within a specific VPC.
- Facilitates using static IP addresses and PrivateLink with an Application Load Balancer.

<input type="checkbox"/>	Instance ID ▾	Name ▾	State ▾	Security groups ▾	Zone ▾	Subnet ID ▾
<input type="checkbox"/>	i-0a76281785287132f	ubuntu2	✔ Running	launch-wizard-1	us-east-1a	subnet-0b68d5b671842c55e
<input type="checkbox"/>	i-01fe02c2b9d9e0304	ubuntu1	✔ Running	launch-wizard-1	us-east-1a	subnet-0b68d5b671842c55e

0 selected

Ports for the selected instances

Ports for routing traffic to the selected instances.

80

1-65535 (separate multiple ports with commas)

Include as pending below

2 selections are now pending below. Include more or register targets when ready.

Review targets

Targets (2)

Show only pending

Remove all pending

Filter resources by property or value

< 1 > ⚙

Remove	Health status ▾	Instance ID ▾	Name ▾	Port ▾	State ▾	Security groups ▾	Zone ▾	Subnet ID ▾
✕	Pending	i-0a76281785287132f	ubuntu2	80	✔ Running	launch-wizard-1	us-east-1a	subnet-0b68d5b671842c55e
✕	Pending	i-01fe02c2b9d9e0304	ubuntu1	80	✔ Running	launch-wizard-1	us-east-1a	subnet-0b68d5b671842c55e

2 pending

Cancel

Previous

Create target group

Target group name

target1

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Protocol

HTTP

Port

80

1-65535

VPC

Select the VPC with the instances that you want to include in the target group.

-  
vpc-0b3a7c0733382a3a2  
IPv4: 172.31.0.0/16

Protocol version

☒ HTTP1

Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTP/2.

☐ HTTP2

Send requests to targets using HTTP/2. Supported when the request protocol is HTTP/2 or gRPC, but gRPC-specific features are not available.

☐ gRPC

Send requests to targets using gRPC. Supported when the request protocol is gRPC.

## Health checks

The associated load balancer periodically sends requests, per the settings below, to the registered targets to test their status.

Health check protocol

HTTP

Health check path

Use the default path of "/" to ping the root, or specify a custom path if preferred.

/index.html

Up to 1024 characters allowed.

Target groups (1) [Info](#)

Search or filter target groups

Actions

Create target group

< 1 >

<input type="checkbox"/>	Name	ARN	Port	Protocol	Target type	Load balancer	VPC ID
<input type="checkbox"/>	target1	arn:aws:elasticloadbalanci...	80	HTTP	Instance	<div><div></div><div>None associated</div></div>	vpc-0b3a7c0733382a3a2

Now select target group



## Listeners and routing [Info](#)

A listener is a process that checks for connection requests using the port and protocol you configure. The rules that you define for a listener determine how the load balancer routes requests to its registered targets.

### ▼ Listener HTTP:80 Remove

Protocol	Port	Default action	<a href="#">Info</a>
HTTP ▼	80 1-65535	Forward to target1 Target type: Instance, IPv4	HTTP ▼ <span>↺</span>
<a href="#">Create target group</a> <a href="#">↗</a>			

#### Listener tags - *optional*

Consider adding tags to your listener. Tags enable you to categorize your AWS resources so you can more easily manage them.

[Add listener tag](#)

You can add up to 50 more tags.

[Add listener](#)

### ▼ Add-on services - *optional*

Additional AWS services can be integrated with this load balancer at launch. You can also add these and other services after your load balancer is created by reviewing the "Integrated Services" tab for the selected load balancer.

#### AWS Global Accelerator [Info](#)

- ☐ Create an accelerator to get static IP addresses and improve the performance and availability of your applications. [Additional charges apply](#) [↗](#)

## Load balancers (1)

Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.

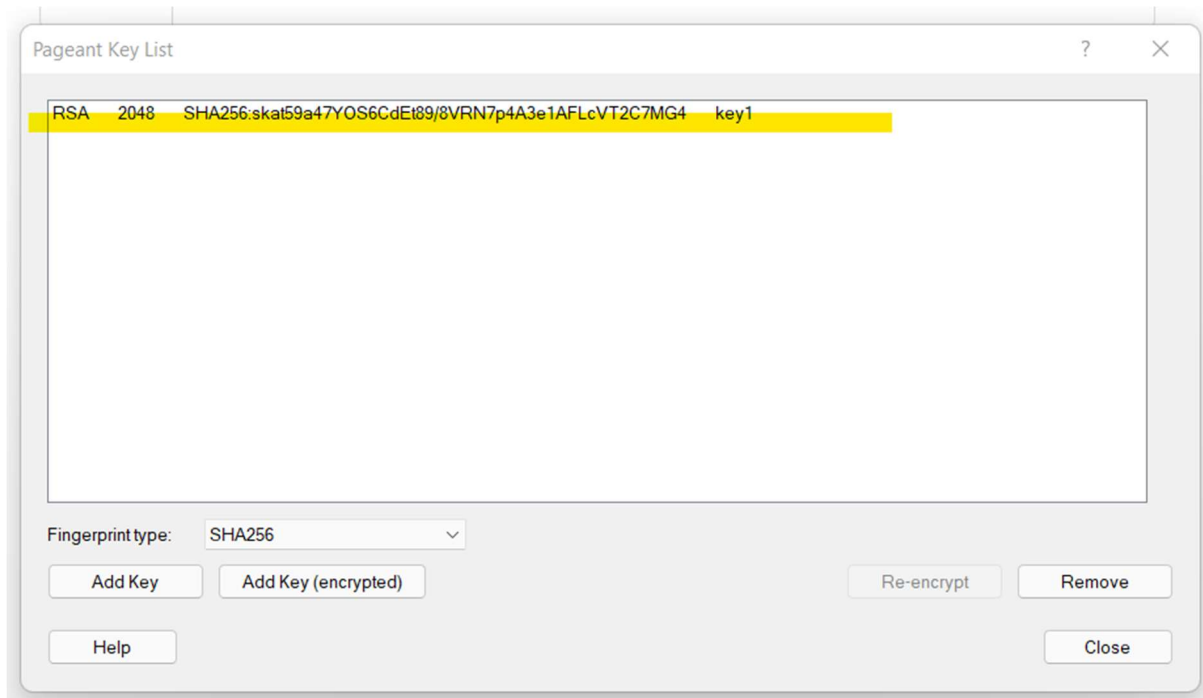
[Priya](#) [×](#)

[Clear filters](#)

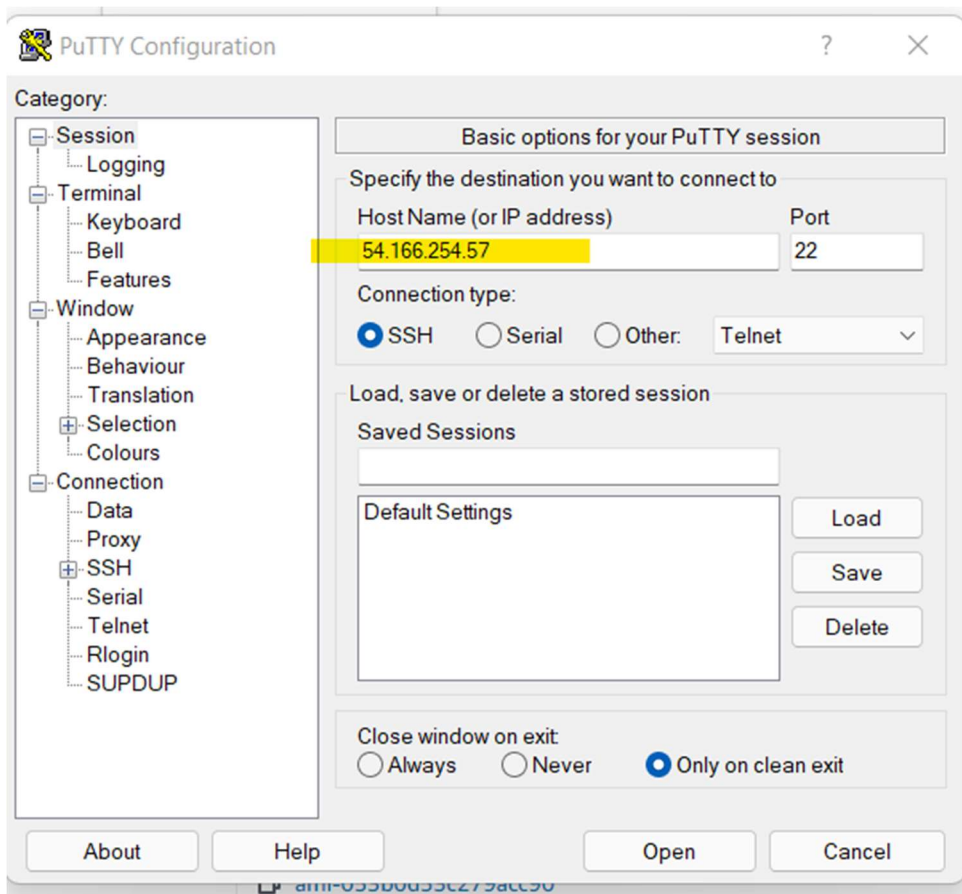
< 1 > [ⓘ](#)

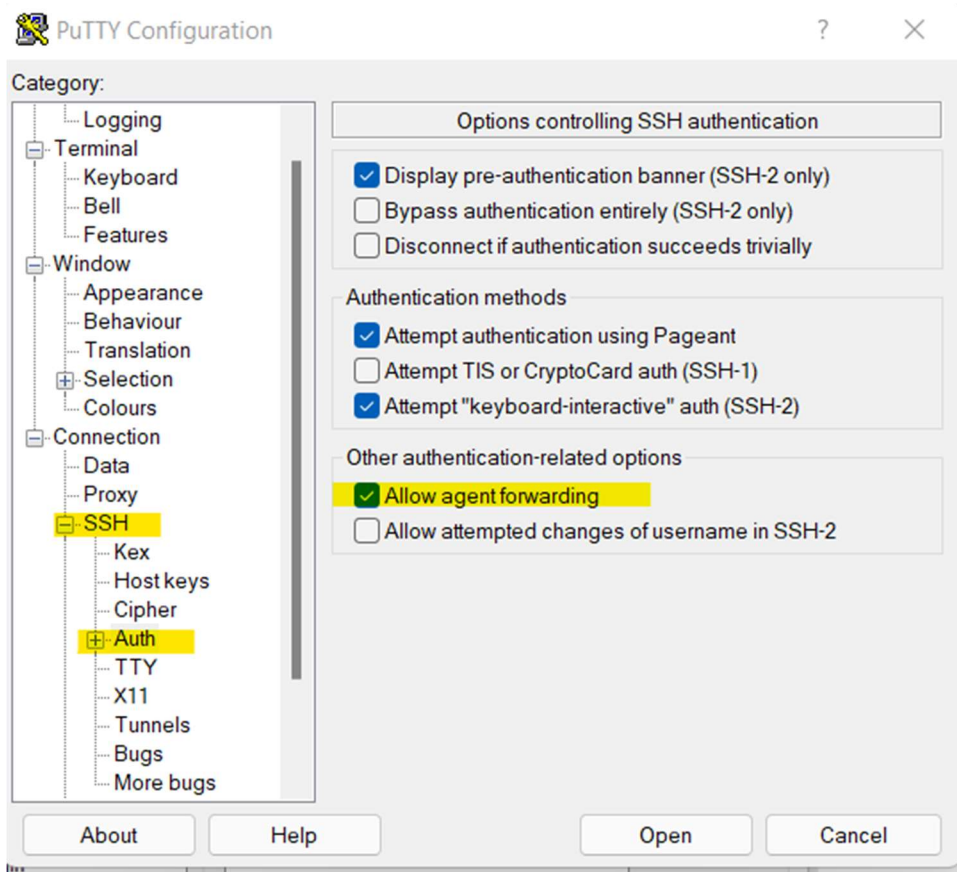
<input type="checkbox"/>	Name	DNS name	State	VPC ID	Availability Zones	Type	Date created
<input type="checkbox"/>	Priya	Priya-1919095983.us-east-1	Provisioning	vpc-0b3a7c0733382a3a2	6 Availability Zones	application	September 17, 2023, 17:55 (UTC+05:30)

Add key to Putty Pageant



Connect through Putty





Once connected

Use below commands :-

```
apt update
```

```
apt install apache2
```

```
systemctl restart apache2
```

```
systemctl enable apache2
```

```
cd /var/www/html
```

```
nano index.html
```

To remove :- `rm index.html`

```
Vi index.html
```

Enter note by clicking insert

To save : `escape, shift : ,wq , enter`

```
root@ip-172-31-44-103: /var/www/html
Enabling module auth_basic.
Enabling module access_compat.
Enabling module authn_file.
Enabling module authz_user.
Enabling module alias.
Enabling module dir.
Enabling module autoindex.
Enabling module env.
Enabling module mime.
Enabling module negotiation.
Enabling module setenvif.
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling module reqtimeout.
Enabling conf charset.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service -> /lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service -> /lib/systemd/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36.1-4build1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

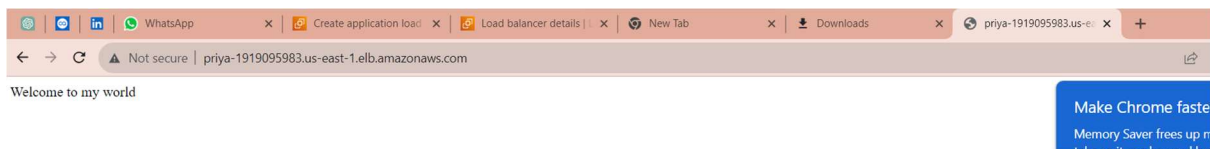
No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ip-172-31-44-103:/home/ubuntu# systemctl apache2
Unknown command verb apache2.
root@ip-172-31-44-103:/home/ubuntu# systemctl restart apache2
root@ip-172-31-44-103:/home/ubuntu# systemctl enable apache2
Synchronizing state of apache2.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable apache2
root@ip-172-31-44-103:/home/ubuntu# cd /var/www/html
root@ip-172-31-44-103:/var/www/html# nano index.html
root@ip-172-31-44-103:/var/www/html# rm index.html
root@ip-172-31-44-103:/var/www/html# vi index.html
root@ip-172-31-44-103:/var/www/html#
```

Repeat same steps for ubuntu2

Copy load balancer DNS and paste in browser



Based on health check the page will be switched