

Web Application Deployment Using EC2 Instance

Cloud 03

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The goal of this project is to deploy a web application on an Amazon EC2 instance using an appropriate programming language and web framework. The project involves setting up an EC2 instance, installing necessary software, configuring security groups, and deploying the web application code. Additionally, the project requires the use of Elastic IP for a static IP address and Elastic Load Balancer for load balancing, if required.

Screenshots

Name

Web Server

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

aws

macOS

Mac

Ubuntu

ubuntu

Windows

Microsoft

Red Hat

Red Hat

SUSE Li

SUSE

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Key pair name - required

Project

Create new key pair

▼ Network settings Info

Edit

Network Info

vpc-046d342ec795c0ddd

Subnet Info

No preference (Default subnet in any availability zone)

Auto-assign public IP Info

Enable

Additional charges apply when outside of free tier allowance

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-8' 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

▼ Summary

Number of instances Info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.4.2...read more

ami-0c0e147c706360bd7

Virtual server type (instance type)

t3.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

Cancel

Launch instance

▼ Summary

Number of instances Info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.4.2...read more

ami-0c0e147c706360bd7

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Cancel

Launch instance


▼ Configure storage [Info](#)

[Advanced](#)

1x GiB ▼ Root volume (Not encrypted)

 Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage 

Add new volume

 Click refresh to view backup information

The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.



0 x File systems

[Edit](#)

EC2 Instance Connect

Session Manager

SSH client

EC2 serial console

Instance ID

 i-0184edf3d4f06d456 (Web Server)

Connection Type

☒ Connect using EC2 Instance Connect

Connect using the EC2 Instance Connect browser-based client, with a public IPv4 address.

☐ Connect using EC2 Instance Connect Endpoint

Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.


Public IP address

 13.48.192.124

Username

Enter the username defined in the AMI used to launch the instance. If you didn't define a custom username, use the default username, ec2-user.

 ec2-user 

 **Note:** In most cases, the default username, ec2-user, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

Cancel

Connect


```
Verifying      : mod_http2-2.0.27-1.amzn2023.0.2.x86_64
Verifying      : mod_lua-2.4.59-2.amzn2023.x86_64
```

Installed:

```
apr-1.7.2-2.amzn2023.0.2.x86_64          apr-util-1.6
generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch  httpd-2.4.59
httpd-filesystem-2.4.59-2.amzn2023.noarch          httpd-tools-
mailcap-2.1.49-3.amzn2023.0.3.noarch             mod_http2-2.
```

Complete!

```
[root@ip-172-31-42-96 ~]# systemctl status httpd
```

i-0184edf3d4f06d456 (Web Server)

PublicIPs: 16.171.200.171 PrivateIPs: 172.31.42.96

```
Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; preset: disabled)
```

```
Active: inactive (dead)
```

```
Docs: man:httpd.service(8)
```

```
[root@ip-172-31-42-96 ~]# mkdir temp
```

i-0184edf3d4f06d456 (Web Server)

PublicIPs: 16.171.200.171 PrivateIPs: 172.31.42.96

```
Active: inactive (dead)
```

```
Docs: man:httpd.service(8)
```

```
root@ip-172-31-42-96 ~]# mkdir temp
```

```
root@ip-172-31-42-96 ~]# cd temp/
```

```
root@ip-172-31-42-96 temp]#
```

i-0184edf3d4f06d456 (Web Server)

PublicIPs: 16.171.200.171 PrivateIPs: 172.31.42.96

```
Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; preset: disabled)
```

```
Active: inactive (dead)
```

```
Docs: man:httpd.service(8)
```

```
[root@ip-172-31-42-96 ~]# mkdir temp
```

```
[root@ip-172-31-42-96 ~]# cd temp/
```

```
[root@ip-172-31-42-96 temp]# wget https://www.free-css.com/assets/files/free-css-
-templates/download/page296/mediplus-lite.zip
```

i-0184edf3d4f06d456 (Web Server)

PublicIPs: 16.171.200.171 PrivateIPs: 172.31.42.96

```

root@ip-172-31-42-96: /
Docs: man:httpd.service(8)
[root@ip-172-31-42-96 ~]# mkdir temp
[root@ip-172-31-42-96 ~]# cd temp/
[root@ip-172-31-42-96 temp]# wget https://www.free-css.com/assets/files/free-css-templates/download/page296/mediplus-lite.zip
--2024-06-20 11:30:20-- https://www.free-css.com/assets/files/free-css-templates/download/page296/mediplus-lite.zip
Resolving www.free-css.com (www.free-css.com)... 217.160.0.242, 2001:8d8:100f:f000::28f
Connecting to www.free-css.com (www.free-css.com)[217.160.0.242]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 5175899 (4.9M) [application/zip]
Saving to: 'mediplus-lite.zip'

mediplus-lite.zip          100%[=====>]  4.94M  19.6MB/s   in 0.3s

2024-06-20 11:30:21 (19.6 MB/s) - 'mediplus-lite.zip' saved [5175899/5175899]

[root@ip-172-31-42-96 temp]#
```

i-0184edf3d4f06d456 (Web Server)
PublicIPs: 16.171.200.171 PrivateIPs: 172.31.42.96

```

2024-06-20 11:30:21 (19.6 MB/s) - 'mediplus-lite.zip' saved [5175899/5175899]

[root@ip-172-31-42-96 temp]# ls -lrt
total 5056
-rw-r--r--. 1 root root 5175899 Oct 12  2020 mediplus-lite.zip
[root@ip-172-31-42-96 temp]#
```

i-0184edf3d4f06d456 (Web Server)
PublicIPs: 16.171.200.171 PrivateIPs: 172.31.42.96

```

[root@ip-172-31-42-96 temp]# unzip mediplus-lite.zip
unzip: cannot find or open mediplus-lite.zip, mediplus-lite.zip.zip or mediplus-lite.zip.ZIP.
[root@ip-172-31-42-96 temp]# unzip mediplus-lite.zip
Archive:  mediplus-lite.zip
  inflating: mediplus-lite/404.html
  inflating: mediplus-lite/blog-single.html
  inflating: mediplus-lite/contact.html
  creating: mediplus-lite/css/
  inflating: mediplus-lite/css/animate.min.css
  inflating: mediplus-lite/css/bootstrap.min.css
  inflating: mediplus-lite/css/daterangepicker.css
  inflating: mediplus-lite/css/font-awesome.min.css
  inflating: mediplus-lite/css/icomoon.css
  inflating: mediplus-lite/css/magnific-popup.css
  inflating: mediplus-lite/css/nice-select.css
  inflating: mediplus-lite/css/normalize.css
  inflating: mediplus-lite/css/owl-carousel.css
  inflating: mediplus-lite/css/responsive.css
  inflating: mediplus-lite/css/slicknav.min.css
  creating: mediplus-lite/fonts/
  inflating: mediplus-lite/fonts/fontawesome-webfont.eot
  inflating: mediplus-lite/fonts/fontawesome-webfont.svg
  inflating: mediplus-lite/fonts/fontawesome-webfont.ttf
  inflating: mediplus-lite/fonts/fontawesome-webfont.woff
  inflating: mediplus-lite/fonts/fontawesome-webfont.woff2
  inflating: mediplus-lite/fonts/icomoon.eot
  inflating: mediplus-lite/fonts/icomoon.svg
```

i-0184edf3d4f06d456 (Web Server)
PublicIPs: 16.171.200.171 PrivateIPs: 172.31.42.96

```

  inflating: mediplus-lite/js/stellar.js
  inflating: mediplus-lite/js/tilt.jquery.min.js
  inflating: mediplus-lite/js/wow.min.js
  creating: mediplus-lite/mail/
  inflating: mediplus-lite/mail/mail.php
  inflating: mediplus-lite/portfolio-details.html
  inflating: mediplus-lite/style.css
[root@ip-172-31-42-96 temp]# ls -lrt
total 5056
-rw-r--r--. 1 root root 5175899 Oct 12  2020 mediplus-lite.zip
drwxr-xr-x. 7 root root    188 Jun 20 11:37 mediplus-lite
[root@ip-172-31-42-96 temp]#
```

i-0184edf3d4f06d456 (Web Server)
PublicIPs: 16.171.200.171 PrivateIPs: 172.31.42.96

```

inriating: mediplus-lite/style.css
[root@ip-172-31-42-96 temp]# ls -lrt
total 5056
-rw-r--r--. 1 root root 5175899 Oct 12 2020 mediplus-lite.zip
drwxr-xr-x. 7 root root 188 Jun 20 11:37 mediplus-lite
[root@ip-172-31-42-96 temp]# cd mediplus-lite
[root@ip-172-31-42-96 mediplus-lite]# ls -lrt
total 256
-rw-r--r--. 1 root root 81593 Jun 12 2020 style.css
-rw-r--r--. 1 root root 38017 Jun 12 2020 index.html
-rw-r--r--. 1 root root 12159 Jun 12 2020 404.html
-rw-r--r--. 1 root root 24600 Jun 12 2020 blog-single.html
-rw-r--r--. 1 root root 14930 Jun 12 2020 contact.html
-rw-r--r--. 1 root root 14449 Jun 12 2020 portfolio-details.html
drwxr-xr-x. 2 root root 16384 Jun 13 2020 img
drwxr-xr-x. 2 root root 16384 Jun 13 2020 fonts
drwxr-xr-x. 2 root root 16384 Jun 13 2020 css
drwxr-xr-x. 2 root root 22 Jun 13 2020 mail
drwxr-xr-x. 2 root root 16384 Jun 13 2020 js
[root@ip-172-31-42-96 mediplus-lite]#

```

i-0184edf3d4f06d456 (Web Server)

PublicIPs: 16.171.200.171 PrivateIPs: 172.31.42.96

```

-rw-r--r--. 1 root root 12159 Jun 12 2020 404.html
-rw-r--r--. 1 root root 24600 Jun 12 2020 blog-single.html
-rw-r--r--. 1 root root 14930 Jun 12 2020 contact.html
-rw-r--r--. 1 root root 14449 Jun 12 2020 portfolio-details.html
drwxr-xr-x. 2 root root 16384 Jun 13 2020 img
drwxr-xr-x. 2 root root 16384 Jun 13 2020 fonts
drwxr-xr-x. 2 root root 16384 Jun 13 2020 css
drwxr-xr-x. 2 root root 22 Jun 13 2020 mail
drwxr-xr-x. 2 root root 16384 Jun 13 2020 js
[root@ip-172-31-42-96 mediplus-lite]# mv * /var/www/html/
[root@ip-172-31-42-96 mediplus-lite]# cd /var/www/html/
[root@ip-172-31-42-96 html]#

```

i-0184edf3d4f06d456 (Web Server)

PublicIPs: 16.171.200.171 PrivateIPs: 172.31.42.96

```

drwxr-xr-x. 2 root root 22 Jun 13 2020 mail
drwxr-xr-x. 2 root root 16384 Jun 13 2020 js
[root@ip-172-31-42-96 mediplus-lite]# mv * /var/www/html/
[root@ip-172-31-42-96 mediplus-lite]# cd /var/www/html/
[root@ip-172-31-42-96 html]# ls -lrt
total 256
-rw-r--r--. 1 root root 81593 Jun 12 2020 style.css
-rw-r--r--. 1 root root 38017 Jun 12 2020 index.html
-rw-r--r--. 1 root root 12159 Jun 12 2020 404.html
-rw-r--r--. 1 root root 24600 Jun 12 2020 blog-single.html
-rw-r--r--. 1 root root 14930 Jun 12 2020 contact.html
-rw-r--r--. 1 root root 14449 Jun 12 2020 portfolio-details.html
drwxr-xr-x. 2 root root 16384 Jun 13 2020 img
drwxr-xr-x. 2 root root 16384 Jun 13 2020 fonts
drwxr-xr-x. 2 root root 16384 Jun 13 2020 css
drwxr-xr-x. 2 root root 22 Jun 13 2020 mail
drwxr-xr-x. 2 root root 16384 Jun 13 2020 js
[root@ip-172-31-42-96 html]#

```

i-0184edf3d4f06d456 (Web Server)

PublicIPs: 16.171.200.171 PrivateIPs: 172.31.42.96

Owner
058264346062

Inbound rules count
1 Permission entry

Outbound rules count
1 Permission entry

Inbound rules

Outbound rules

Tags

Inbound rules (1)

Manage tags

Edit inbound rules

Search

< 1 > ⚙

<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port range
<input type="checkbox"/>	-	sgr-07b5d4b419c60e0...	IPv4	SSH	TCP	22

Inbound rules

Info

Security group rule ID	Type	Info	Protocol	Info	Port range	Source	Info	Description - optional	Info
sgr-07b5d4b419c60e0c6	SSH		TCP		22	Custom			
-	HTTP		TCP		80	Anyw...	0.0.0.0/0	web-port	
-	HTTPS		TCP		443	Anyw...	0.0.0.0/0	web-port	

Add rule

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

Cancel

Preview changes

Save rules

Inbound rules

Outbound rules

Tags

Inbound rules (3)

Manage tags

Edit inbound rules

Search

< 1 > ⚙

<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port range
<input type="checkbox"/>	-	sgr-00c2b7fd5ac919e70	IPv4	HTTP	TCP	80
<input type="checkbox"/>	-	sgr-023f5b00f42a2e5b4	IPv4	HTTPS	TCP	443
<input type="checkbox"/>	-	sgr-07b5d4b419c60e0...	IPv4	SSH	TCP	22

Commands Used

```
sudo su -
```

```
yum update -y
```

```
yum install -y httpd
```

```
systemctl status httpd
```

```
mkdir temp
```



```
cd temp
```

```
wget https://www.free-css.com/assets/files/free-css-templates/download/page296/mediplus-lite.zip
```

```
unzip mediplus-lite.zip
```

```
cd complex
```

```
ls -lrt
```

```
mv * /var/www/html
```

```
systemctl enable httpd
```

```
systemctl start httpd
```