

Deployment of a Static Web-Application

Contents to check while deployment :

- Properties of application.
- Port No. to which the web-application is assigned for deployment.

Requirements for Deployment:

- OS.
- Server.
- Region to reduce latency/Response time.
- We have to install Web-server, unzip, net-tools to our server.

Steps to deploy a static web-application:

1. Create a EC2 server using AWS account.

Name
Deployment_Trailer [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

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Quick Start

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Amazon Machine Image (AMI)

▼ **Summary**

Number of instances [Info](#)
1

Software Image (AMI)
Canonical, Ubuntu, 24.04 LTS, ...[read more](#)
ami-0f58b397bc5c1f2e8

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

[Cancel](#) [Launch Instance](#) [Review commands](#)

▼ **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*
vardhan [Create new key pair](#)

▼ **Network settings** [Info](#) [Edit](#)

Network [Info](#)
vpc-00cf8b9bd86401aa0

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 or restrict traffic to and from your instance.](#)

▼ **Summary**

Number of instances [Info](#)
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Software Image (AMI)
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ami-0f58b397bc5c1f2e8

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2. Login to the server using SSH. Here we are using MobaXterm.

```
25/05/2024 11:54.44 /home/mobaxterm ssh -i "vardhan.pem" ubuntu@ec2-65-2-129-250.ap-south-1.c
compute.amazonaws.com ~y
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1008-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sat May 25 06:37:30 UTC 2024

System load:  0.08      Processes:      127
Usage of /:   26.6% of 6.71GB   Users logged in: 1
Memory usage: 34%      IPv4 address for enX0: 172.31.47.70
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

7 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

*** System restart required ***
Last login: Sat May 25 05:55:05 2024 from 106.221.191.13
ubuntu@ip-172-31-47-70:~$
```

3. Update your server using 'apt update' command.

```
root@ip-172-31-47-70:~# apt update
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease [256 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [89.7 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [89.7 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 Packages [1401 kB]
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main Translation-en [513 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:7 http://security.ubuntu.com/ubuntu noble-security InRelease [89.7 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:11 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/restricted amd64 Packages [93.9 kB]
Get:12 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/restricted Translation-en [18.7 kB]
Get:13 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:14 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:15 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:16 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328]
Get:17 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [77.1 kB]
Get:18 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [20.9 kB]
Get:19 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [35.7]
Get:20 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [12.6]
Get:21 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata
Get:22 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata
Get:23 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 c-n-f Metadata [1]
Get:24 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [581]
```

4. Install Web-server using

apt install apache2 --> for Ubuntu Linux.

yum install httpd --> for Amazon Linux.

In Ubuntu the webserver will be initially in running/ active state.

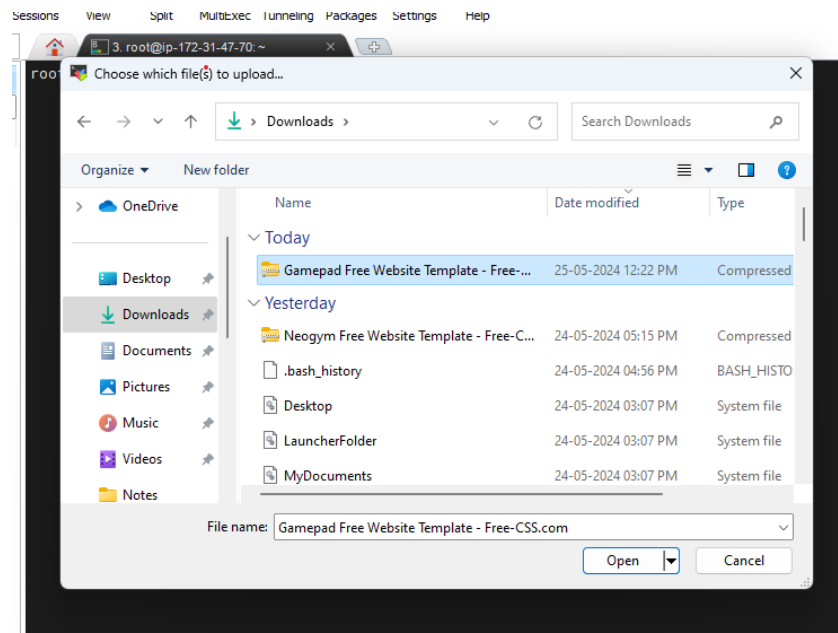
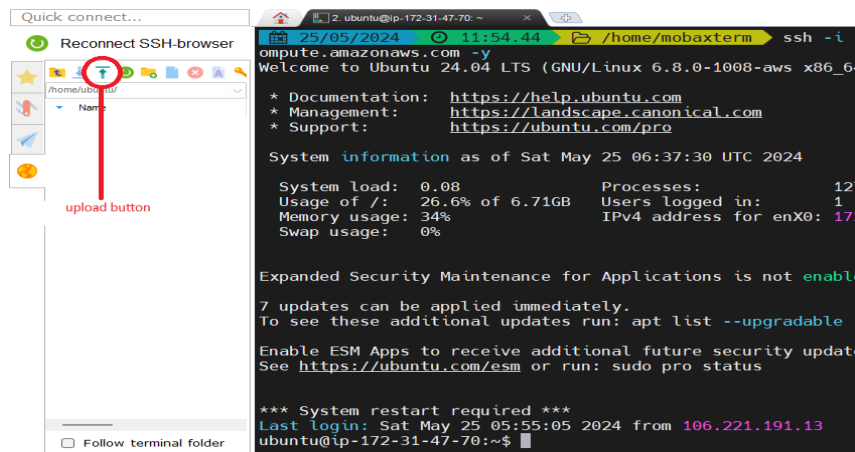
In Amazon Linux the webserver initially in dead/ inactive state. In order to active our webserver in Amazon Linux we have to restart and enable the webserver using 'systemctl' commands.

systemctl restart <webserver> --> To restart the webserver.

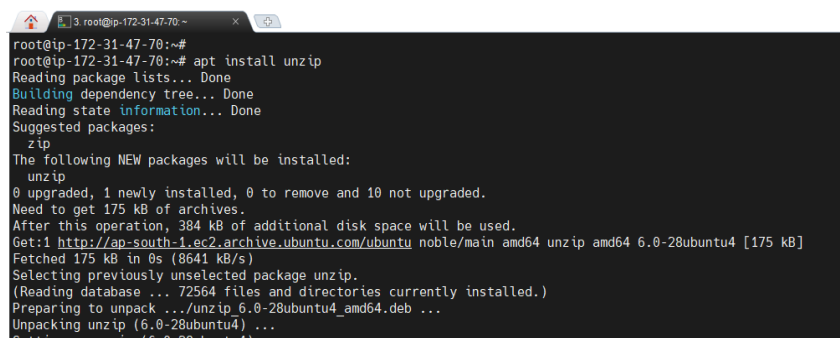
systemctl enable <webserver> --> To enable the webserver

```
root@ip-172-31-47-70:~# apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libapr
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-lda
ssl-cert
0 upgraded, 10 newly installed, 0 to remove and 32 not upgraded.
Need to get 2080 kB of archives.
After this operation, 8091 kB of additional disk space will be used.
```

5. Import your web application in zip format using MobaXterm upload button present in menu left side.



6. In order to unzip the imported file, we need to install unzip to our server using 'apt install unzip' command.



7. Unzip the file using 'unzip <filepath>'.

```
root@ip-172-31-47-70:~# unzip "/home/ubuntu/Gamepad Free Website Template - Free-CSS.com.zip"
Archive: /home/ubuntu/Gamepad Free Website Template - Free-CSS.com.zip
  inflating: html/about.html
  inflating: html/contact.html
  creating: html/css/
  inflating: html/css/DS_Store
  inflating: html/css/animate.min.css
  inflating: html/css/bootstrap.css
  inflating: html/css/bootstrap.css.map
  inflating: html/css/bootstrap.min.css
  inflating: html/css/bootstrap.min.css.map
  inflating: html/css/bootstrap-grid.css
  inflating: html/css/bootstrap-grid.css.map
  inflating: html/css/bootstrap-grid.min.css
  inflating: html/css/bootstrap-grid.min.css.map
  inflating: html/css/bootstrap-reboot.css
  inflating: html/css/bootstrap-reboot.css.map
  inflating: html/css/bootstrap-reboot.min.css
  inflating: html/css/bootstrap-reboot.min.css.map
  inflating: html/css/default-skin.css
  inflating: html/css/font-awesome.min.css
  inflating: html/css/icomoon.css
  inflating: html/css/jquery.fancybox.min.css
  inflating: html/css/jquery.mCustomScrollbar.min.css
  inflating: html/css/jquery-ui.css
  inflating: html/css/meanmenu.css
  inflating: html/css/nice-select.css
  inflating: html/css/normalize.css
```

8. Now remove the zip file.

command --> rm <zip file>

```
root@ip-172-31-0-6:/home/ubuntu# ls
'Gamepad Free Website Template - Free-CSS.com.zip'  html
root@ip-172-31-0-6:/home/ubuntu# rm 'Gamepad Free Website Template - Free-CSS.com.zip'
root@ip-172-31-0-6:/home/ubuntu# ls
html
root@ip-172-31-0-6:/home/ubuntu#
```

9. Now copy the unzipped files to the default location of web server.

i.e, /var/www/html

command --> cp -rf /home/ubuntu/html/* /var/www/html

```
root@ip-172-31-47-70:/home/ubuntu# cp -rf /home/ubuntu/html/* /var/www/html
root@ip-172-31-47-70:/home/ubuntu# ls /var/www/html
about.html  contact.html  css  images  index.html  js  product.html  remot.html  video.html
root@ip-172-31-47-70:/home/ubuntu#
```

10. Check whether the webserver port is actively listening or not using both netstat and telnet commands.

```
root@ip-172-31-47-70:/home/ubuntu# netstat -tnulp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 127.0.0.1:6010          0.0.0.0:*               LISTEN      8275/systemd-resolv
tcp        0      0 127.0.0.1:6011          0.0.0.0:*               LISTEN      1891/sshd: ubuntu@
tcp        0      0 127.0.0.1:6012          0.0.0.0:*               LISTEN      1609/sshd: ubuntu@
tcp        0      0 127.0.0.1:6013          0.0.0.0:*               LISTEN      9290/sshd: ubuntu@
tcp        0      0 127.0.0.1:6014          0.0.0.0:*               LISTEN      9449/sshd: ubuntu@
tcp        0      0 127.0.0.1:6015          0.0.0.0:*               LISTEN      9595/sshd: ubuntu@
tcp        0      0 127.0.0.1:6016          0.0.0.0:*               LISTEN      8275/systemd-resolv
tcp6       0      0 :::22                   :::*                    LISTEN      1/systemd
tcp6       0      0 :::80                   :::*                    LISTEN      8317/apache2
tcp6       0      0 :::1:6014               :::*                    LISTEN      9595/sshd: ubuntu@
tcp6       0      0 :::1:6013               :::*                    LISTEN      9449/sshd: ubuntu@
tcp6       0      0 :::1:6012               :::*                    LISTEN      9290/sshd: ubuntu@
tcp6       0      0 :::1:6011               :::*                    LISTEN      1609/sshd: ubuntu@
tcp6       0      0 :::1:6010               :::*                    LISTEN      1891/sshd: ubuntu@
udp        0      0 127.0.0.1:54:53         0.0.0.0:*               LISTEN      8275/systemd-resolv
udp        0      0 127.0.0.1:53:53         0.0.0.0:*               LISTEN      8275/systemd-resolv
udp        0      0 172.31.47.70:68         0.0.0.0:*               LISTEN      8262/systemd-networ
udp        0      0 127.0.0.1:323           0.0.0.0:*               LISTEN      8309/chronyd
udp6       0      0 :::1:323                :::*                    LISTEN      8309/chronyd
root@ip-172-31-47-70:/home/ubuntu# telnet 65.2.129.250 80
Trying 65.2.129.250...
```

11. If webserver port is not actively listening allow it in security groups inbound rules and then check whether the web-server port is listening.

Details

Status and alarms New

Monitoring

Security

Networking

Storage

Tags

▼ Security details

IAM Role

Owner ID

Launch time

382611603325

Sat May 25 2024 11:12:49 GMT+0530 (India Standard Time)

Security groups

sg-047a9e1403015560b (launch-wizard-11)

▼ Inbound rules

Filter rules

< 1 >

Name	Security group rule ID	Port range	Protocol	Source
-	sgr-074cbcf73f6b40b34	22	TCP	0.0.0.0/0

Inbound rules Info

Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info	Description - optional Info
sgr-074cbcf73f6b40b34	SSH	TCP	22	Cus...	0.0.0.0/0 X
-	HTTP	TCP	80	Any...	0.0.0.0/0 X

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

```
root@ip-172-31-47-70:/home/ubuntu# telnet 65.2.129.250 80
Trying 65.2.129.250...
Connected to 65.2.129.250.
Escape character is '^]'.
Connection closed by foreign host.
root@ip-172-31-47-70:/home/ubuntu#
```

By this step the deployment is completed.

In order to check whether the deployment is success or not you have to enter the public IP of your server in URL of any browser.

Instance summary for i-0d32fac89491cfb25 (Deployment_Trailer) [Info](#)

[Refresh](#) [Connect](#) [Instance state](#) [Actions](#)

Updated 2 minutes ago

Instance ID i-0d32fac89491cfb25 (Deployment_Trailer)	Public IPv4 address 65.2.129.250 open address	Private IPv4 addresses 172.31.47.70
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-65-2-129-250.ap-south-1.compute.amazonaws.com

← ↻ ⚠ Not secure | 65.2.129.250

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VIDEO GAMES CONTROLLER

There are many variations of passages of Lorem Ipsum available, but the majority have suffered alteration in some form, by injected humour, or randomised words which don't look even slightly believable

