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School of Computer Science, Engineering and Applications(SCSEA)  
B.C.A. TY (CCSA)  
Subject : Infrastructure Orchestration (P)



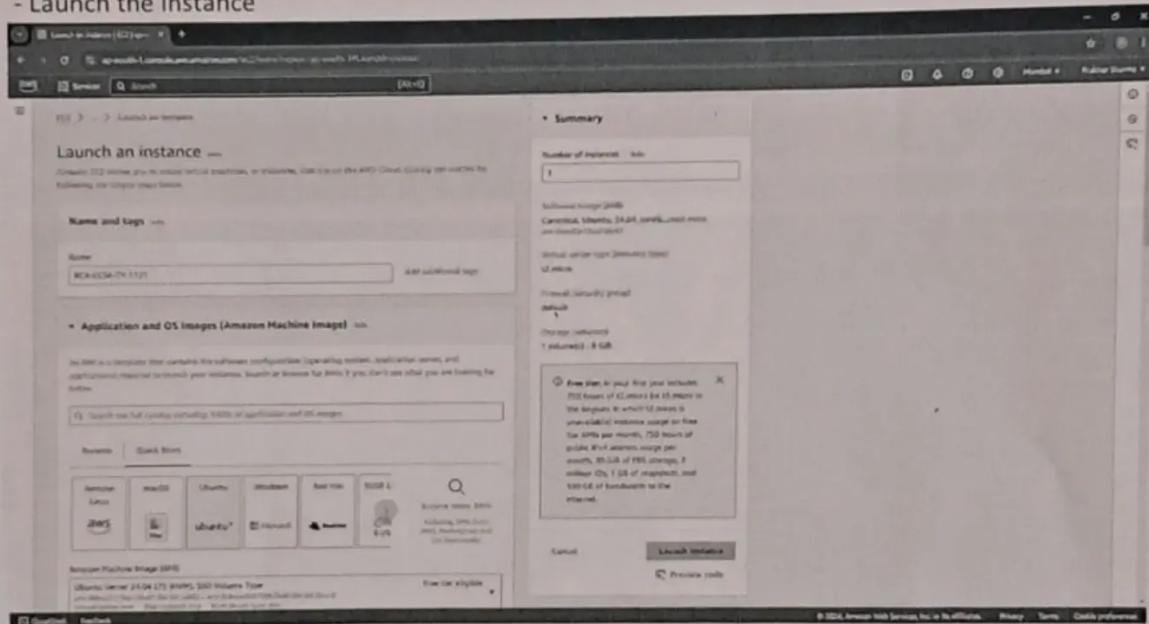
Name of the Student: Prakhar Anil Sharma

PRN: 20220801121

Title of Practical : EBS Volume

Step 1 :- On AWS Console, Search for EC2 and Click on it.

- Name of Instance :- BCA-CCSA-TY-1121
- AMI Image :- Ubuntu
- Instance type :- t2.micro
- Key Pair :- Create new key pair or select existing
- Network Setting :- Leave all Setting Default
- Security Group :- Create a new Allowing SSH & HTTP traffic or Default
- Launch the Instance



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The screenshot shows the AWS Cloud9 interface for launching an EC2 instance. The configuration steps are as follows:

- Instance type:** t2.micro (selected).
  - Family: t2
  - 1 vCPU, 1 GiB Memory
  - Current generation: true
  - On-Demand Linux base pricing: 0.0124 USD per Hour
  - On-Demand Windows base pricing: 0.0124 USD per Hour
  - On-Demand RHEL base pricing: 0.0268 USD per Hour
  - On-Demand Ubuntu Pre base pricing: 0.0142 USD per Hour
  - On-Demand SUSE base pricing: 0.0124 USD per Hour
- Key pair (login):** BCA-CCSA-TY-1121 (selected).
- Network settings:** Network: vpc-0ffe06795a9ec200; Subnet: No preference (Default subnet in any availability zone); Auto-assign public IP: Enabled.
- Summary:** Number of instances: 1; Software Image (AMI): Canonical, Ubuntu, 24.04, amd64; Virtual server type (instance type): t2.micro; Firewall (security group): default; Storage (volumes): 1 volume(s) - 8 GiB.
- Free tier information:** A callout box details the free tier benefits for t2.micro instances.
- Launch Instance:** The "Launch Instance" button is highlighted in orange.

The screenshot continues the AWS Cloud9 interface for launching an EC2 instance, focusing on network and storage configurations:

- Network settings:** Network: vpc-0ffe06795a9ec200; Subnet: No preference (Default subnet in any availability zone); Auto-assign public IP: Enabled.
- Summary:** Number of instances: 1; Software Image (AMI): Canonical, Ubuntu, 24.04, amd64; Virtual server type (instance type): t2.micro; Firewall (security group): default; Storage (volumes): 1 volume(s) - 8 GiB.
- Create security group:** Create security group (radio button selected).
- Configure storage:** Root volume: 8 GiB gp3 (selected).
  - A message indicates that free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage.
  - An "Add new volume" button is present.
- Free tier information:** A callout box details the free tier benefits for t2.micro instances.
- Launch Instance:** The "Launch Instance" button is highlighted in orange.



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The screenshot shows the AWS Management Console with the EC2 Instances page open. A single instance named 'BCA-CCSA-TY...' is listed, showing it is running and assigned to the t2.micro instance type. The instance has a Public IPv4 address of ec2-15-206-212-188.ap-south-1.amazonaws.com and an Elastic IP of 15.206.212.188.

Step 2 :- Now connect the instance using SSH client in terminal.

```
ubuntu@ip-172-31-1-20: ~ % + 
Microsoft Windows [Version 10.0.22631.4317]
(c) Microsoft Corporation. All rights reserved.

C:\Users\prakh>cd downloads

C:\Users\prakh>scp -i "BCA-CCSA-TY-1121.pem" ubuntu@ec2-15-206-212-188.ap-south-1.compute.amazonaws.com:
The authenticity of host 'ec2-15-206-212-188.ap-south-1.compute.amazonaws.com (15.206.212.188)' can't be established.
ED25519 key fingerprint is SHA256:9W/QbFS9wtJ5F1I3qFTNDmJ2M937jSLw2Rdkptass.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-15-206-212-188.ap-south-1.compute.amazonaws.com' (ED25519) to the list of known hosts.

Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1016-aws x86_64)

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

System information as of Mon Nov 11 15:45:18 UTC 2024

System Load: 0.05 Processes: 106
Usage of /: 22.8% of 6.71GB Users logged in: 0
Memory usage: 21% IPv4 address for enX0: 172.31.1.20
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

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

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-172-31-1-20:~$ sudo apt-get update -y
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease [126 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu public-updates InRelease [126 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
```

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- Now you have successfully connect to your Instance

3. Install Wget , Unzip, Zip, Apache2 WebServer - sudo apt install zip unzip apache2 wget curl -y

```
ubuntu@ip-172-31-1-20:~$ sudo apt-get install zip unzip apache2 curl wget -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
curl is already the newest version (8.5.0-2ubuntu10.4).
curl set to manually installed.
wget is already the newest version (1.21.4-1ubuntu4.1).
wget set to manually installed.
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64 liblua5.4-0 ssl-cert
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 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64 liblua5.4-0 ssl-cert zip
Upgrading 12 newly installed, 0 to remove and 38 not upgraded.
Need to get 2434 kB of archives.
After this operation, 9827 kB of additional disk space will be used.
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 libaprutil1d0 amd64 1.7.2-3.1ubuntu0.1 [188 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1t64 amd64 1.6.3-1.1ubuntu7 [91.9 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-ldap amd64 1.6.3-1.1ubuntu7 [11.2 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 liblua5.4-0 amd64 5.4.6-3ub10.2 [16 kB]
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 apache2-bin amd64 2.4.58-1ubuntu8.4 [1329 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-data all 2.4.58-1ubuntu8.4 [163 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-utils amd64 2.4.58-1ubuntu8.4 [97.1 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2 amd64 2.4.58-1ubuntu8.4 [90.2 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 ssl-cert all 1.1.2ubuntu1 [17.8 kB]
Fetched 38.6 MB in 8s (3739 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-1-20:~$
```

. Again, Run sudo systemctl status apache2 ( to check the status )

```
ubuntu@ip-172-31-1-20:~/carvilla-v1.0/assets/images$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
   Active: active (running) since Mon 2024-11-11 15:48:28 UTC; 15min ago
     Docs: https://httpd.apache.org/docs/2.4/
   Main PID: 2078 (apache2)
      Tasks: 55 (limit: 1130)
     Memory: 5.5M (peak: 5.7M)
        CPU: 83ms
       Cgroup: /system.slice/apache2.service
           └─2078 /usr/sbin/apache2 -k start
              ├─2081 /usr/sbin/apache2 -k start
              ├─2082 /usr/sbin/apache2 -k start

Nov 11 15:48:28 ip-172-31-1-20 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Nov 11 15:48:28 ip-172-31-1-20 systemd[1]: Started apache2.service - The Apache HTTP Server.
```



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5. now type wget (and the free template link from google ,It will downloads the zip of the website template from source )

- wget (website link)

6. Unzip the Website Template file - unzip carvilla.zip

```
root@ip-172-31-1-20:~ X + ~
ubuntu@ip-172-31-1-20:~$ wget https://www.free-css.com/assets/files/free-css-templates/download/page296/carvilla.zip
--2024-11-11 16:01:36-- https://www.free-css.com/assets/files/free-css-templates/download/page296/carvilla.zip
Resolving www.free-css.com (www.free-css.com)... 217.169.0.242, 2001:8d8:100f:f000:2:2ff
Connecting to www.free-css.com (www.free-css.com)|217.169.0.242|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2284128 (2.1M) [application/zip]
Saving to: 'carvilla.zip'

carvilla.zip          100%[=====] 2.10M  256KB/s   in 8.4s

2024-11-11 16:01:45 (256 KB/s) - 'carvilla.zip' saved [2284128/2284128]

ubuntu@ip-172-31-1-20:~$ unzip carvilla.zip
Archive: carvilla.zip
  creating: carvilla-v1.0/assets/
  creating: carvilla-v1.0/assets/css/
  inflating: carvilla-v1.0/assets/css/animate.css
  inflating: carvilla-v1.0/assets/css/bootstrap.css
  inflating: carvilla-v1.0/assets/css/FlatIcon.css
  inflating: carvilla-v1.0/assets/css/font-awesome.min.css
  inflating: carvilla-v1.0/assets/css/linearicons.css
  inflating: carvilla-v1.0/assets/css/owl.carousel.min.css
  inflating: carvilla-v1.0/assets/css/owl.theme.default.min.css
  inflating: carvilla-v1.0/assets/css/responsive.css
  inflating: carvilla-v1.0/assets/css/style.css
  creating: carvilla-v1.0/assets/fonts/
  inflating: carvilla-v1.0/assets/fonts/FlatIcon.eot
  inflating: carvilla-v1.0/assets/fonts/FlatIcon.svg
  inflating: carvilla-v1.0/assets/fonts/FlatIcon.ttf
  inflating: carvilla-v1.0/assets/fonts/FlatIcon.woff
  inflating: carvilla-v1.0/assets/fonts/FontAwesome.otf
  inflating: carvilla-v1.0/assets/fonts/fontawesome-webfont.eot
  inflating: carvilla-v1.0/assets/fonts/fontawesome-webfont.svg
  inflating: carvilla-v1.0/assets/fonts/fontawesome-webfont.ttf
  inflating: carvilla-v1.0/assets/fonts/fontawesome-webfont.woff
  inflating: carvilla-v1.0/assets/fonts/fontawesome-webfont.woff2
  inflating: carvilla-v1.0/assets/fonts/glyphicons-halflings-regular.eot
  inflating: carvilla-v1.0/assets/fonts/glyphicons-halflings-regular.svg
  inflating: carvilla-v1.0/assets/fonts/glyphicons-halflings-regular.ttf
  inflating: carvilla-v1.0/assets/fonts/glyphicons-halflings-regular.woff
  inflating: carvilla-v1.0/assets/fonts/glyphicons-halflings-regular.woff2
  inflating: carvilla-v1.0/assets/fonts/Linearicons-Free.eot
  inflating: carvilla-v1.0/assets/fonts/Linearicons-Free.svg
  inflating: carvilla-v1.0/assets/fonts/Linearicons-Free.ttf
  inflating: carvilla-v1.0/assets/fonts/Linearicons-Free.woff
  inflating: carvilla-v1.0/assets/fonts/Linearicons-Free.woff2
  creating: carvilla-v1.0/assets/images/
  creating: carvilla-v1.0/assets/images/brand/
  extracting: carvilla-v1.0/assets/images/brand/br1.png
  extracting: carvilla-v1.0/assets/images/brand/br2.png
```

7. Go to extracted file

- cd carvilla-v1.0/

-cd assets/images

- ls (will show all the files available in that file)



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```
root@ip-172-31-1-20:~ X + v
inflating: carvilla-v1.0/readme.txt
ubuntu@ip-172-31-1-20:~$ ls
carvilla-v1.0 carvilla.zip
ubuntu@ip-172-31-1-20:~$ cd carvilla-v1.0/
ubuntu@ip-172-31-1-20:~/carvilla-v1.0$ ls
assets index.html readme.txt
ubuntu@ip-172-31-1-20:~/carvilla-v1.0$ cd assets/images
ubuntu@ip-172-31-1-20:~/carvilla-v1.0/assets/images$ ls
brand clients featured-cars new-cars-model welcome-hero
```

Move all files inside carvilla-html folder to /var/www/html

- sudo mv \* /var/www/html

```
ubuntu@ip-172-31-1-20:~/carvilla-v1.0/assets/images$ cd ..
ubuntu@ip-172-31-1-20:~/carvilla-v1.0/assets$ cd ..
ubuntu@ip-172-31-1-20:~/carvilla-v1.0$ ls
assets index.html readme.txt
ubuntu@ip-172-31-1-20:~/carvilla-v1.0$ sudo mv * /var/www/html
ubuntu@ip-172-31-1-20:~/carvilla-v1.0$ cd /var/www/html
ubuntu@ip-172-31-1-20:/var/www/html$ ls
assets index.html readme.txt
ubuntu@ip-172-31-1-20:/var/www/html$ cd assets/images
ubuntu@ip-172-31-1-20:/var/www/html/assets/images$ ls
brand clients featured-cars new-cars-model welcome-hero
```

9. Copy the Public Instance Id to the browser to see the Website is working or not,

Note :- After this , delete the images inside the /var/www/html/images

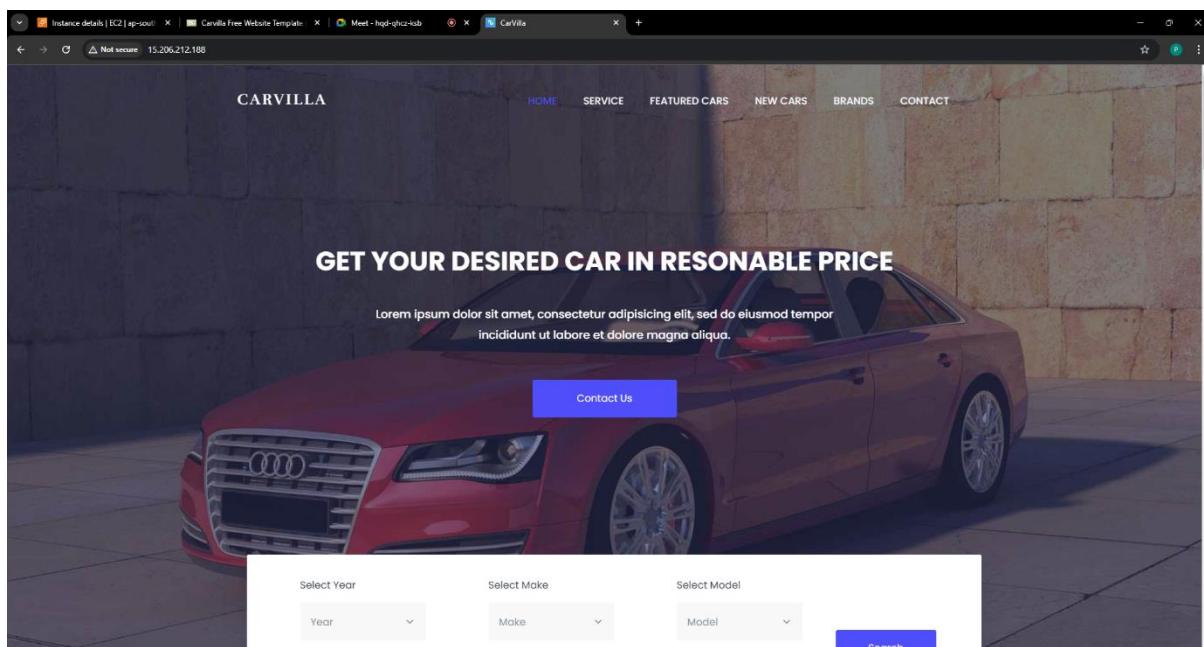


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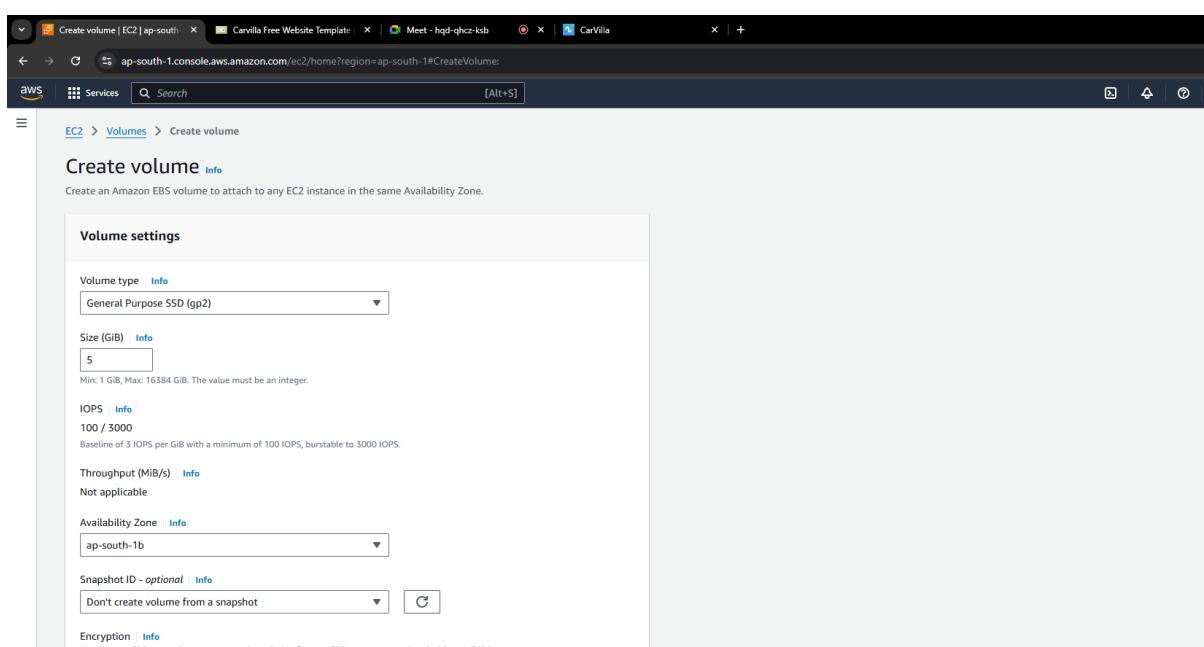
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Step 4 :- Create a new Volume & attach it to your Ec2 Instance 1. Select Gp2 type , 5 gb size & Your availability Zone & create it.



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**Title of Practical :** EBS Volume

- after successfully created volume.

2. Attach this volume to your ec2 Instance

The screenshot shows the AWS CloudShell interface. The user is navigating through the AWS Management Console to attach an EBS volume to an EC2 instance. The path taken is: Services > EC2 > Volumes > vol-05f43eb262e2a3bc0 > Attach volume. The 'Attach volume' dialog box is open, showing the 'Basic details' section. It lists the Volume ID as 'vol-05f43eb262e2a3bc0 (1121-New Volume)', the Availability Zone as 'ap-south-1b', and the Instance as 'i-02a21c3fb4b77657'. The Device name is set to '/dev/sdf'. A note in the dialog states: 'Never Linux kernels may rename your devices to /dev/xvdf through /dev/kvdf internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.' At the bottom of the dialog are 'Cancel' and 'Attach volume' buttons. The status bar at the bottom of the CloudShell window indicates: CloudShell Feedback © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences.

Now ,delete the images inside the /var/www/html/images by below following commands.

```
ubuntu@ip-172-31-1-20:~/var/www/html$ cd assets/images
ubuntu@ip-172-31-1-20:~/var/www/html/assets/images$ ls
brand clients featured cars new-cars-model welcome-hero
ubuntu@ip-172-31-1-20:~/var/www/html/assets/images$ sudo rm -rf *
ubuntu@ip-172-31-1-20:~/var/www/html/assets/images$ ls
ubuntu@ip-172-31-1-20:~/var/www/html/assets/images$ sudo -i
root@ip-172-31-1-20:~# fdisk -l
Disk /dev/loop0: 25.24 MiB, 26464256 bytes, 51688 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/loop1: 55.66 MiB, 58363904 bytes, 113992 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

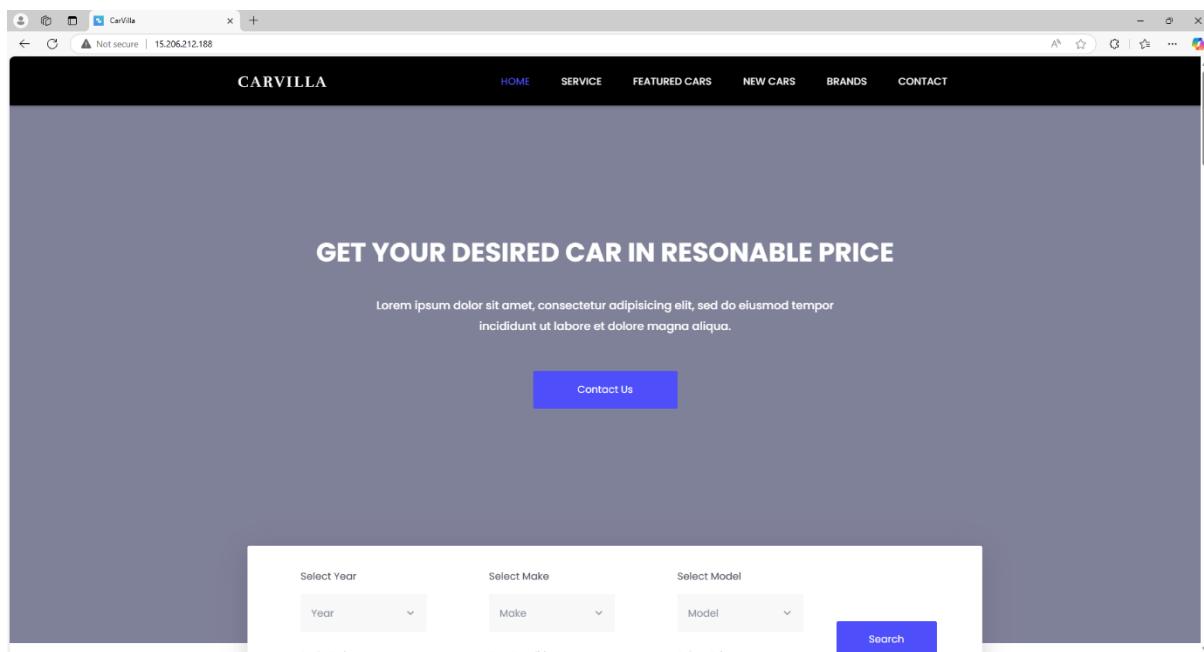


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- Now from Terminal we have to make partition of it & permanently mount it.

Step 5 :- Permanently Mount the EBS Volume

1) sudo -i (Switch to root user) && fdisk -l (you will see the new volume).

2) Make the partition of the new volume

-fdisk /dev/xvdf

- m

- n (for new partition)

- p (primary)

- First Sector :- press Enter

- Last Sector : press Enter

- p

- w (save & write out)



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```
root@ip-172-31-1-20: ~ X + v
Command (m for help): n
Help:
  DOS (MBR)
    a   toggle a bootable flag
    b   edit nested BSD disklabel
    c   toggle the dos compatibility flag

  Generic
    d   delete a partition
    f   list free unpartitioned space
    l   list known partition types
    n   add a new partition
    p   print the partition table
    t   change a partition type
    v   verify the partition table
    i   print information about a partition

  Misc
    m   print this menu
    u   change display/entry units
    x   extra functionality (experts only)

  Script
    I   load disk layout from sfdisk script file
    O   dump disk layout to sfdisk script file

  Save & Exit
    w   write table to disk and exit
    q   quit without saving changes

  Create a new label
    g   create a new empty GPT partition table
    G   create a new empty SGI (IRIX) partition table
    o   create a new empty MBR (DOS) partition table
    s   create a new empty Sun partition table

Command (m for help): n
Partition type
  p   primary (8 primary, 0 extended, 4 free)
  e   extended (container for logical partitions)
Select (default p): p
Partition number (1-4, default 1):
First sector (2048-10485759, default 2048):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2048-10485759, default 10485759):
Created a new partition 1 of type 'Linux' and of size 5 GiB.
```

```
root@ip-172-31-1-20: ~ X + v
Command (m for help): p
Disk /dev/xvdf: 5 GiB, 5368709120 bytes, 10485760 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
DiskLabel type: dos
Disk identifier: 0x0c07062

Device     Boot Start      End  Sectors Size Id Type
/dev/xvdf1        2048 10485759 10483712  5G 83 Linux

Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.
```

3) After Partition is done - fdisk -l (you will see partitioned disk)

4) Now , make file system



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- mkfs.ext4 /dev/xvdf1

```
root@ip-172-31-1-20:~# mkfs.ext4 /dev/xvdf1
mke2fs 1.47.0 (5-Feb-2023)
Creating filesystem with 1310464 4k blocks and 327680 inodes
Filesystem UUID: 168668b3-6039-4398-8da1-be54c03460a0
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 319200, 384736

Allocating group tables: done
Writing inode tables: done
Creating journal (16384 blocks): done
Writing superblocks and filesystem accounting information: done
```

5) Permanently mount

- vi /etc/fstab (Editor will open)

- Press I for insert mode in Vi editor

- Enter the path in editor as shown in following image

- Save file & exit (Esc + :wq)

- mount -a

- df -h ( to see the volume is successfully mounted or not

```
root@ip-172-31-1-20:~# vi /etc/fstab
root@ip-172-31-1-20:~# mount -a
mount: (hint) your fstab has been modified, but systemd still uses
      the old version; use 'systemctl daemon-reload' to reload.
root@ip-172-31-1-20:~# ls
```



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```
root@ip-172-31-1-20:~# cat /etc/fstab
LABEL=cloudimg-rootfs / ext4 discard,commit=30,errors=remount-ro 0 1
LABEL=BOOT /boot ext4 defaults 0 2
LABEL=UEFI /boot/efi vfat umask=0077 0 1

/dev/xvdf1 /var/www/html/assets/images ext4 defaults 0 0

root@ip-172-31-1-20:~# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/root       6.8G  1.8G  5.0G  27% /
tmpfs          479M   479M    0% /dev/shm
tmpfs          192M  883K  191M   1% /run
tmpfs           5.0M    0  5.0M   0% /run/lock
/dev/xvda16     881M  76M  744M  10% /boot
/dev/xvda15     105M  6.1M  99M   6% /boot/efi
tmpfs          96M  12K  96M   1% /run/user/1000
/dev/xvdf1      4.9G  1.2M  4.6G  1% /var/www/html/assets/images

root@ip-172-31-1-20:~# mount -a
mount: (hint) your fstab has been modified, but systemd still uses
        the old version; use 'systemctl daemon-reload' to reload.

root@ip-172-31-1-20:~# ls
```

```
root@ip-172-31-1-20:~# vi /etc/fstab
root@ip-172-31-1-20:~# mount -a
mount: (hint) your fstab has been modified, but systemd still uses
        the old version; use 'systemctl daemon-reload' to reload.

root@ip-172-31-1-20:~# ls

root@ip-172-31-1-20:~# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/root       6.8G  1.8G  5.0G  27% /
tmpfs          479M   479M    0% /dev/shm
tmpfs          192M  883K  191M   1% /run
tmpfs           5.0M    0  5.0M   0% /run/lock
/dev/xvda16     881M  76M  744M  10% /boot
/dev/xvda15     105M  6.1M  99M   6% /boot/efi
tmpfs          96M  12K  96M   1% /run/user/1000
/dev/xvdf1      4.9G  1.2M  4.6G  1% /var/www/html/assets/images
```



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6) It has been Successfully Mounted and also lost+found folder also appears.

```
root@ip-172-31-1-20:~# ls
snap
root@ip-172-31-1-20:~# ls /var/www/html/assets/images
lost+found
root@ip-172-31-1-20:~# cd
root@ip-172-31-1-20:~# ls
snap
```

7) Again Unzip the carvilla.zip folder to copy the images.

- unzip car villa.zip
- mv \* /var/www/html (it will move all folders to /var/www/html)
- You will see all the images are successfully move to the /var/www/html/images folder with other files also.

```
ubuntu@ip-172-31-1-20:~$ wget https://www.free-css.com/assets/files/free-css-templates/download/page296/carvilla.zip
--2024-11-11 16:29:58-- https://www.free-css.com/assets/files/free-css-templates/download/page296/carvilla.zip
Resolving www.free-css.com (www.free-css.com)... 217.168.0.242, 2001:8d8:100f:f000:28f
Connecting to www.free-css.com (www.free-css.com)|217.168.0.242|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2204128 (2.1M) [application/zip]
Saving to: 'carvilla.zip.1'
```

```
ubuntu@ip-172-31-1-20:~$ ls
carvilla-v1.0 carvilla.zip carvilla.zip.1
ubuntu@ip-172-31-1-20:~$ cd carvilla-v1.0/
ubuntu@ip-172-31-1-20:~/carvilla-v1.0$ ls
```



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```
ubuntu@ip-172-31-1-20:~$ unzip carvilla.zip
Archive: carvilla.zip
  creating: carvilla-v1.0/assets/
  creating: carvilla-v1.0/assets/css/
  inflating: carvilla-v1.0/assets/css/animate.css
  inflating: carvilla-v1.0/assets/css/bootstrap.min.css
  inflating: carvilla-v1.0/assets/css/flaticon.css
  inflating: carvilla-v1.0/assets/css/font-awesome.min.css
  inflating: carvilla-v1.0/assets/css/linearicons.css
  inflating: carvilla-v1.0/assets/css/owl.carousel.min.css
  inflating: carvilla-v1.0/assets/css/owl.theme.default.min.css
  inflating: carvilla-v1.0/assets/css/responsive.css
  inflating: carvilla-v1.0/assets/css/style.css
  creating: carvilla-v1.0/assets/fonts/
  inflating: carvilla-v1.0/assets/fonts/Elaticon.eot
```

```
root@ip-172-31-1-20:~      X  +  v
inflating: carvilla-v1.0/index.html
inflating: carvilla-v1.0/readme.txt
ubuntu@ip-172-31-1-20:~$ ls
carvilla-v1.0  carvilla.zip  carvilla.zip.1
ubuntu@ip-172-31-1-20:~$ cd carvilla-v1.0/assets/images
ubuntu@ip-172-31-1-20:~/carvilla-v1.0/assets/images$ ls
brand  clients  featured-cars  new-cars-model  welcome-hero
ubuntu@ip-172-31-1-20:~/carvilla-v1.0/assets/images$ sudo mv * /var/www/html/assets/images
ubuntu@ip-172-31-1-20:~/carvilla-v1.0/assets/images$ cd
ubuntu@ip-172-31-1-20:~$ ls
carvilla-v1.0  carvilla.zip  carvilla.zip.1
ubuntu@ip-172-31-1-20:~$ ls /var/www/html/assets/images
brand  clients  featured-cars  lost+found  new-cars-model  welcome-hero
```

Step 6 :- Take the Snapshot of Volume

- 1) Go to Actions , click on create Snapshot,
- 2) Create Snapshot.



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The screenshot shows the AWS Cloud9 IDE interface with the 'Create snapshot' wizard open. The wizard has three main sections: 'Source', 'Snapshot details', and 'Tags'. In the 'Source' section, 'Volume' is selected as the resource type, and a specific volume ID is chosen. In the 'Snapshot details' section, there is a 'Description' field and an 'Encryption' field indicating 'Not encrypted'. The 'Tags' section is collapsed. At the bottom, there are buttons for 'CloseShell' and 'Feedback', along with copyright and privacy information.

3) Unmount our disk

4) Detach the Created Volume

5) Delete the Volume:

- Now Volume has been successfully deleted.

Step 7 :- Create Volume of the Snapshot

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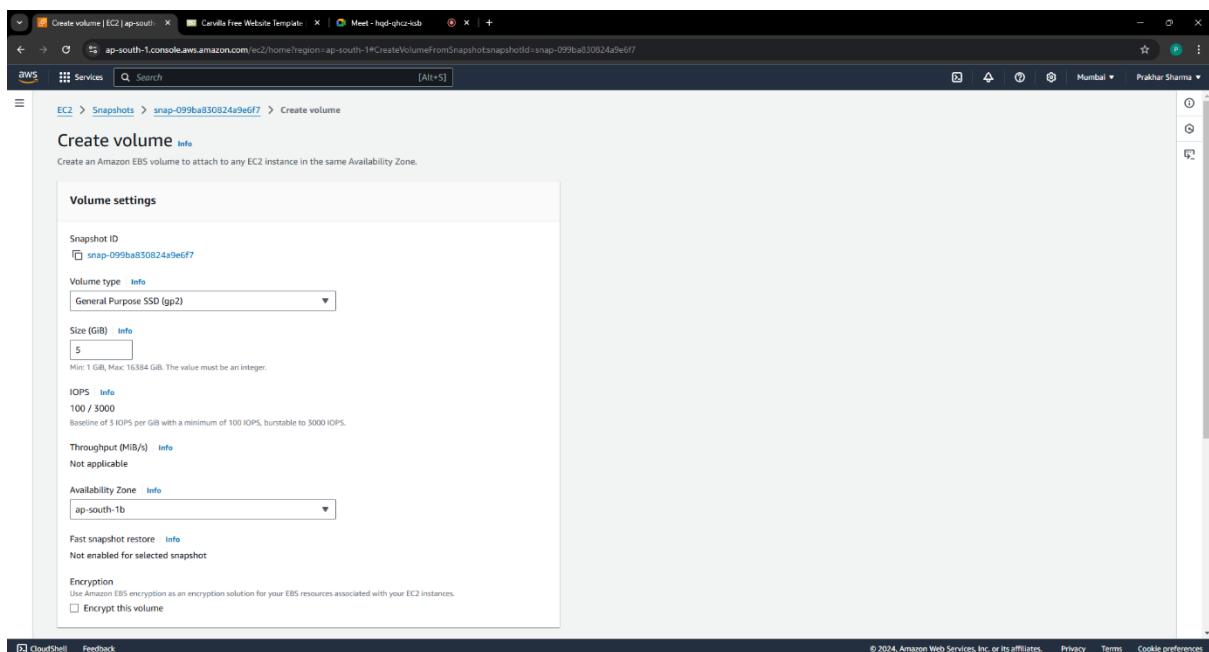


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The screenshot shows the AWS Cloud9 IDE interface. The user is in the 'Create volume' wizard for an EBS volume. The 'Volume settings' section includes:

- Snapshot ID:** snap-099ba830824a9e6f7
- Volume type:** General Purpose SSD (gp2)
- Size (GiB):** 5
- IOPS:** 100 / 3000
- Throughput (MiB/s):** Not applicable
- Availability Zone:** ap-south-1b
- Encryption:** Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.

At the bottom of the wizard, there is a checkbox for "Encrypt this volume".

You will see new volume has been created.

- Attached this backup volume to our ec2 Instance as Step 4.
- fdisk -l ( you will see the partition has been already done as it is a Snapshot.)
- ls -l ( to check is if our disk is empty)



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**Title of Practical :** EBS Volume

```
ubuntu@ip-172-31-1-20:~$ sudo -i
root@ip-172-31-1-20:~# fdisk -l
Disk /dev/loop0: 25.24 MiB, 26464256 bytes, 51688 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/loop1: 55.66 MiB, 58363904 bytes, 113992 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/loop2: 38.83 MiB, 40714240 bytes, 79520 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/xvda: 8 GiB, 8589934592 bytes, 16777216 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: DDC17177-DA52-4732-9EDF-387DAE1A6BDF

Device      Start      End  Sectors  Size Type
/dev/xvda1  2099200  16777182 14677983   7G Linux filesystem
/dev/xvda14    2048     10239     8192   4M BIOS boot
/dev/xvda15  10240   227327  217088 108M EFI System
/dev/xvda16  227328  2097152 1869825 913M Linux extended boot
```

- Go to Terminal & mount the backup disk
- mount /dev/xvdf1 /var/www/html/images



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**Title of Practical :** EBS Volume

```
root@ip-172-31-1-20:~# ls -l
total 4
drwxr--r-- 3 root root 4096 Nov 11 15:42 snap
root@ip-172-31-1-20:~# mount /dev/xvdfl /var/www/html/assets/images
mount: /var/www/html/assets/images: /dev/xvdfl already mounted on /var/www/html/assets/images.
      dmesg(1) may have more information after failed mount system call.
mount: (hint) your fstab has been modified, but systemd still uses
      the old version; use 'systemctl daemon-reload' to reload.
root@ip-172-31-1-20:~# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/root       6.8G  5.0G  274M  73% /
tmpfs          479M   0  479M   0% /dev/shm
tmpfs          192M  888K  191M   1% /run
tmpfs          5.0M   0  5.0M   0% /run/lock
/dev/xvda16     881M  76M  744M  10% /boot
/dev/xvda15     165M  6.1M  99M   6% /boot/efi
tmpfs          96M  12K  96M   1% /run/user/1000
/dev/xvdfl     4.9G  1.2M  4.6G  1% /var/www/html/assets/images
root@ip-172-31-1-20:~# ls -l
total 4
drwxr--r-- 3 root root 4096 Nov 11 15:42 snap
root@ip-172-31-1-20:~#
```

- Now copy the IP of your Instance & paste it to your new browser & you will see the website will run successfully with Images because the Volume we created by Snapshot contains the Images .



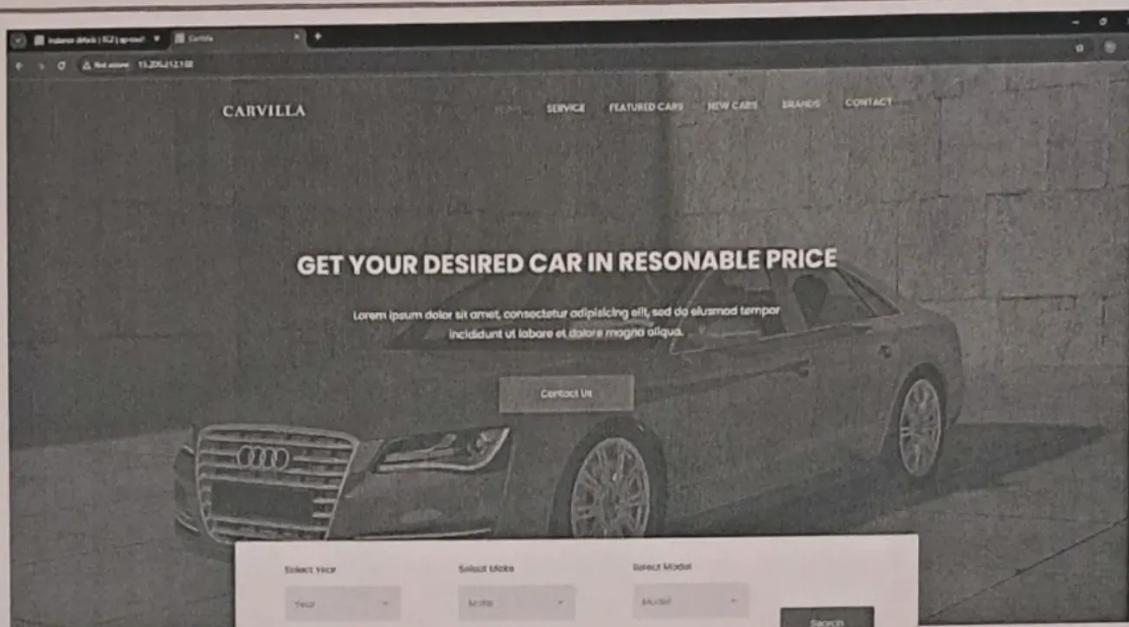
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After completing this, Delete all the resources you created :-

1. Delete Snapshot
2. Delete Volume
3. Delete Ec2 Instance

*Surf.  
13/11/23*

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