- Launching an ec2 instance and setting up the webserver

In command prompt by using the command

Command :

aws ec2 run-instances --image-id ami-0e306788ff2473ccb --instance-type t2.micro --count 1 --security-group-ids --subnet-id subnet-3388825b --key-name tasks.pem

```
:\Users\muvva>aws ec2 run-instances --image-id ami-0e306788ff2473ccb --instance-type t2.micro --count 1 --security-gr
up-ids --subnet-id subnet-3388825b --key-name tasks

    "Groups": [],
    "Instances": [
        {
            "AmiLaunchIndex": 0,
            "ImageId": "ami-0e306788ff2473ccb",
            "InstanceId": "i-0452e12eb1fe460ed",
            "InstanceType": "t2.micro",
            "KeyName": "tasks",
            "LaunchTime": "2021-05-30T05:21:41+00:00",
            "Monitoring": {
                "State": "disabled"
            },
            "Placement": {
                "AvailabilityZone": "ap-south-1a",
                "GroupName": "",
                "Tenancy": "default"
            },
            "PrivateDnsName": "ip-172-31-47-81.ap-south-1.compute.internal",
            "PrivateIpAddress": "172.31.47.81",
            "ProductCodes": [],
            "PublicDnsName": "",
            "State": {
                "Code": 0.
```

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
–	i-0452e12eb1fe460ed	⊘ Running ⊕⊖	t2.micro	⊘ 2/2 checks passed	No alarms +	ap-south-1a	ec2-13-232-178-40

```
C:\Users\muvva\Downloads>ssh -i  "tasks.pem"  ec2-user@13.232.178.40
The authenticity of host '13.232.178.40 (13.232.178.40)' can't be established.
ECDSA key fingerprint is SHA256:lQIMJCPgX+QS52aT+qCnbgM54/4Qa/kYuDO1sfm5VQg.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '13.232.178.40' (ECDSA) to the list of known hosts.


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

https://aws.amazon.com/amazon-linux-2/
37 package(s) needed for security, out of 80 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-47-81 ~]$
```

- Creating the volume

Command:

 create-volume --availability-zone ap-south-1c --size 1 --volume-type gp2

```
:\Users\muvva\Downloads>aws ec2 create-volume --availability-zone ap-south-1c --size 1 --volume-type gp2
{
    "AvailabilityZone": "ap-south-1c",
    "CreateTime": "2021-05-30T05:35:26+00:00",
    "Encrypted": false,
    "Size": 1,
    "SnapshotId": "",
    "State": "creating",
    "VolumeId": "vol-08fad0fa8b305c253",
    "Iops": 100,
    "Tags": [],
    "VolumeType": "gp2",
    "MultiAttachEnabled": false
}
```

- Attaching the created volume

Command:

attach-volume -- device /dev/sdh --instance-id i-09b654a72e58332c2 --volume-id vol-011e299a5326135db

```
:\Users\muvva\Downloads>aws ec2 attach-volume  --device  /dev/sdh --instance-id  i-0f6ade50053fea4ae  --volume-id vo
-0d5da42324b6e538a

    "AttachTime": "2021-05-30T05:45:54.231000+00:00",
    "Device": "/dev/sdh",
    "InstanceId": "i-0f6ade50053fea4ae",
    "State": "attaching",
    "VolumeId": "vol-0d5da42324b6e538a"
```

```
[ec2-user@ip-172-31-2-46 ~]$ sudo su
[root@ip-172-31-2-46 ec2-user]# yum install httpd -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                                                      | 3.7 kB  00:00:00
Resolving Dependencies
--> Running transaction check
---> Package httpd.x86_64 0:2.4.46-1.amzn2 will be installed
--> Processing Dependency: httpd-tools = 2.4.46-1.amzn2 for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem = 2.4.46-1.amzn2 for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: system-logos-httpd for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: mod_http2 for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: /etc/mime.types for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.46-1.amzn2.x86_64
--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.46-1.amzn2.x86_64
--> Running transaction check
---> Package apr.x86_64 0:1.6.3-5.amzn2.0.2 will be installed
---> Package apr-util.x86_64 0:1.6.1-5.amzn2.0.2 will be installed                tanuja
--> Processing Dependency: apr-util-bdb(x86-64) = 1.6.1-5.amzn2.0.2 for package: apr-util-1.6.1-5.amzn2.0.2.x86_64
---> Package generic-logos-httpd.noarch 0:18.0.0-4.amzn2 will be installed
```

After attaching we need to format and mount it on the folder

For formatting : mkfs.ext4/dev/xvdh

```
[root@ip-172-31-2-46 ec2-user]# mkfs.ext4 /dev/xvdh
mke2fs 1.42.9 (28-Dec-2013)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
65536 inodes, 262144 blocks
13107 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=268435456
8 block groups
32768 blocks per group, 32768 fragments per group
8192 inodes per group
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376

Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done
```

Then mount the folder:

Mount/dev/xvdh /var/www/html

```
root@ip-172-31-2-46 ec2-user]# mount /dev/xvdh /var/www/html
root@ip-172-31-2-46 ec2-user]# df -h
ilesystem       Size  Used Avail Use% Mounted on
levtmpfs        482M     0  482M   0% /dev
mpfs            492M     0  492M   0% /dev/shm
mpfs            492M  404K  492M   1% /run
mpfs            492M     0  492M   0% /sys/fs/cgroup
dev/xvda1       8.0G  1.5G  6.6G  18% /
mpfs             99M     0   99M   0% /run/user/1000
dev/xvdh        976M  2.6M  907M   1% /var/www/html
```

```
[root@ip-172-31-2-46 ec2-user]# systemctl start httpd
[root@ip-172-31-2-46 ec2-user]# systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
   Active: active (running) since Sun 2021-05-30 05:59:55 UTC; 10s ago
     Docs: man:httpd.service(8)
 Main PID: 3578 (httpd)
   Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes served/sec:   0 B/sec"
   CGroup: /system.slice/httpd.service
           ─3578 /usr/sbin/httpd -DFOREGROUND
           ─3579 /usr/sbin/httpd -DFOREGROUND
           ─3580 /usr/sbin/httpd -DFOREGROUND
           ─3581 /usr/sbin/httpd -DFOREGROUND
           ─3582 /usr/sbin/httpd -DFOREGROUND
           ─3583 /usr/sbin/httpd -DFOREGROUND
```

On then testing we will get

- Creating a s3 bucket to upload the data files in it by changing the acess to public

Read the S3 resources page for documentation and technical content.   Learn more

Amazon S3

▶ **Account snapshot**
Storage lens provides visibility into storage usage and activity trends. Learn more   View Storage Lens dashboard

Buckets (1)   Copy ARN   Empty   Delete   **Create bucket**
Buckets are containers for data stored in S3. Learn more

Find buckets by name   < 1 >

Name	AWS Region	Access	Creation date
myawscdf	Asia Pacific (Mumbai) ap-south-1	Objects can be public	May 30, 2021, 11:37:42 (UTC+05:30)

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- Then we need to set up the cloud front to deliver the conent or data

Command:

 aws cloudfront create-distribution –origin-domain-name
webserver-cloudfront.s3.amazonaws.com

Create Distribution
Origin Settings

Origin Domain Name	myawscdf.s3.amazonaws.com
Origin Path	/s3
Enable Origin Shield	○ Yes ● No
Origin ID	S3-myawscdf/s3
Restrict Bucket Access	○ Yes ● No
Origin Connection Attempts	3
Origin Connection Timeout	10
Origin Custom Headers	Header Name Value

Distributions
Policies
Functions NEW
What's new ✷

▼ Telemetry
Monitoring
Alarms
Logs NEW

▼ Reports & analytics

Handle redirects for end users with Lambda@Edge. Learn more ✕

Important: On March 23, 2021, CloudFront will begin migrating the Certificate Authority for the *.cloudfront.net certificate. For more information, refer to the AWS Knowledge Center.

CloudFront Distributions

Create Distribution | Distribution Settings | Delete | Enable | Disable

Viewing : Any Delivery Method ▾ | Any State ▾ | | ≪ ‹ **Viewing 1 to 1 of 1 Items** › ≫

	Delivery Method	ID ▾	Domain Name	Comment	Origin	CNAMEs	Status	State	Last Modified
☐	🌐 Web	E3UG8XIXB5FCBE	d1mqs5mnd708j4.clc	-	myawscdf.s3	-	⟳In Progress	Enabled	2021-05-30 13:34 UT(

≪ ‹ **Viewing 1 to 1 of 1 Items** › ≫

```
[root@ip-172-31-2-46 html]# vi index.html
[root@ip-172-31-2-46 html]# systemctl restart httpd
[root@ip-172-31-2-46 html]# vi index.html
[root@ip-172-31-2-46 html]# systemctl restart httpd
[root@ip-172-31-2-46 html]# aws cloudfrontclient_loop: send disconne

C:\Users\muvva\Downloads>ssh -i "tasks.pem" ec2-user@13.233.158.234
Last login: Sun May 30 05:50:09 2021 from 160.238.74.241

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

https://aws.amazon.com/amazon-linux-2/
6 package(s) needed for security, out of 17 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-2-46 ~]$ sudo su
[root@ip-172-31-2-46 ec2-user]# cd /var/www/html
[root@ip-172-31-2-46 html]# ls
index.html   lost+found
[root@ip-172-31-2-46 html]# vi index.html
[root@ip-172-31-2-46 html]# systemctl restart httpd
```

Now replace the domain named link with the original image