

AWS EC2 with Custom AMI, EBS, and User Data

Task 1 :

1. Launched an Instance

Instances (1) [Info](#)

Connect

Instance state ▼

Actions ▼

Launch instances ▼

Find instance by attribute or tag (case-sensitive)

< 1 >

<input type="checkbox"/>	Name ▼	Instance ID	Instance state ▼	Instance type ▼	Status check	Alarm status	Availability Zone ▼	Public IPv4 DNS
<input type="checkbox"/>	ec2WS1	i-0d6f750879a672f5a	Running	t2.micro	2/2 checks passed	No alarms +	ap-south-1b	ec2-15-206-163-146

Task 2 :

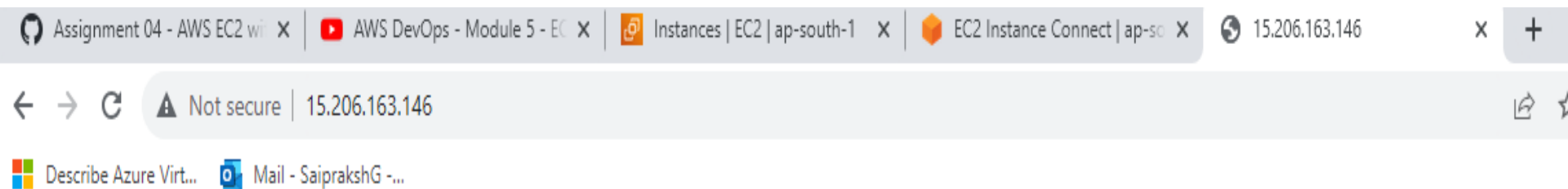
2. Installed Apache webserver (httpd)

```
[ec2-user@ip-172-31-4-135 ~]$ sudo su
[root@ip-172-31-4-135 ~]# cd
[root@ip-172-31-4-135 ~]# yum -y install httpd
Last metadata expiration check: 0:12:16 ago on Fri Sep 15 09:09:15 2023.
Dependencies resolved.
```

Package	Architecture	Version	Repository	Size
Installing:				
httpd	x86_64	2.4.56-1.amzn2023	amazonlinux	48
Installing dependencies:				
apr	x86_64	1.7.2-2.amzn2023.0.2	amazonlinux	129
apr-util	x86_64	1.6.3-1.amzn2023.0.1	amazonlinux	98
generic-logos-httpd	noarch	18.0.0-12.amzn2023.0.3	amazonlinux	19
httpd-core	x86_64	2.4.56-1.amzn2023	amazonlinux	1.4
httpd-filesystem	noarch	2.4.56-1.amzn2023	amazonlinux	15
httpd-tools	x86_64	2.4.56-1.amzn2023	amazonlinux	82
libbrotli	x86_64	1.0.9-4.amzn2023.0.2	amazonlinux	315
mailcap	noarch	2.1.49-3.amzn2023.0.3	amazonlinux	33
Installing weak dependencies:				
apr-util-openssl	x86_64	1.6.3-1.amzn2023.0.1	amazonlinux	17
mod_http2	x86_64	2.0.11-2.amzn2023	amazonlinux	150
mod_lua	x86_64	2.4.56-1.amzn2023	amazonlinux	62

Transaction Summary

Created a Simple HTML page and displayed in public address by adding security rules and using systemctl commands



Hello World !

3. Created an AMI using ec2WS1 Instance.

Amazon Machine Images (AMIs) (1/1) [Info](#)

Recycle Bin

EC2 Image Builder

Actions ▾

Launch instance from AMI

Owned by me ▾

< 1 >

<input checked="" type="checkbox"/>	Name	AMI ID ▾	AMI name ▾	Source ▾	Owner ▾	Visibility
<input checked="" type="checkbox"/>		ami-0f36f1bf58a92ce7a	ec2WS1Image	437116586449/ec2WS1Image	437116586449	Private

AMI ID: ami-0f36f1bf58a92ce7a

Details

Permissions

Storage

Tags

AMI ID	Image type	Platform details	Root device type
ami-0f36f1bf58a92ce7a	machine	Linux/UNIX	EBS
AMI name	Owner account ID	Architecture	Usage operation
ec2WS1Image	437116586449	x86_64	RunInstances
Root device name	Status	Source	Virtualization type
/dev/xvda	Available	437116586449/ec2WS1Image	hvm <div>Activate Windows Go to Settings to activate Windows.</div>

Task 3: Create and Attach an Elastic Block Storage (EBS) Volume

- 4. EBS volume is created of size 8GiB
- 5. Attached to ec2WS1 instance.

Volumes (1/1) [Info](#)

< 1 >

⚙

<input checked="" type="checkbox"/>	Name ▾	Volume ID ▾	Type ▾	Size ▾	IOPS ▾	Throughput ▾	Snapshot ▾	Created ▾	A ▾
<input checked="" type="checkbox"/>	ec2WS1vol	vol-07ec96c16c3fa929d	gp2	8 GiB	100	-	snap-02f82ed...	2023/09/15 14:38 GMT+5:...	ap

Volume ID: vol-07ec96c16c3fa929d (ec2WS1vol) ⚙ ✕

Details

Status checks

Monitoring

Tags

Volume ID	Size	Type	Volume status
vol-07ec96c16c3fa929d (ec2WS1vol)	8 GiB	gp2	Okay
AWS Compute Optimizer finding	Volume state	IOPS	Throughput
Opt in to AWS Compute Optimizer for...	In use	100	

6. Formatting the EBS volume

```
[root@ip-172-31-4-135 html]# cd ~
[root@ip-172-31-4-135 ~]# lsblk
bash: lsblk: command not found
[root@ip-172-31-4-135 ~]# ls lbk
ls: cannot access 'lbk': No such file or directory
[root@ip-172-31-4-135 ~]# lsblk
NAME                MAJ:MIN RM   SIZE RO TYPE MOUNTPOINTS
xvda                 202:0    0     8G  0 disk 
├─xvda1              202:1    0     8G  0 part /
├─xvda127            259:0    0      1M  0 part 
└─xvda128            259:1    0    10M  0 part 
[root@ip-172-31-4-135 ~]# sudo file -s /dev/xvdf
/dev/xvdf: cannot open `/dev/xvdf' (No such file or directory)
[root@ip-172-31-4-135 ~]# sudo file -s /dev/xvda1
/dev/xvda1: SGI XFS filesystem data (blksz 4096, inosz 512, v2 dirs)
[root@ip-172-31-4-135 ~]# sudo lsblk -f
NAME                FSTYPE FSVER LABEL UUID                                 FSAVAIL FSUSE% MOUNTPOINTS
xvda
├─xvda1             xfs                      /          425e98fd-a883-4fcd-b198-f7f1be92d02f       6.4G      19% /
├─xvda127
└─xvda128           vfat      FAT16                  BF44-0AE6
[root@ip-172-31-4-135 ~]# sudo mkfs -t xfs /dev/xvda1
mkfs.xfs: /dev/xvda1 contains a mounted filesystem
Usage: mkfs.xfs
/* blocksize */               [-b size=num]
/* config file */             [-c options=xxx]
/* metadata */                [-m crc=0|1,finobt=0|1,uuid=xxx,rmapbt=0|1,reflink=0|1,
                               inobtcount=0|1,bigtime=0|1]
/* data subvol */             [-d agcount=n,agsize=n,file,name=xxx,size=num,
```

Task 4 : User Data

```
#!/bin/bash  
yum -y install httpd  
systemctl enable httpd  
systemctl start httpd  
mv /var/www/html/index.html ~/var/www/html/index.html
```

Task 5: Launch EC2 Instances with User Data

8. Launched 2 instances using AMI

9. Configured user data

Instances (1/2) [Info](#)

	Name ▾	Instance ID	Instance state ▾	Instance type ▾
<input checked="" type="checkbox"/>	ec2WS1AMI	i-05970cb19b449c005	Running	t2.micro
<input type="checkbox"/>	ec2WS1	i-0d6f750879a672f5a	Running	t2.micro

```
#!/bin/bash
yum -y install httpd
systemctl enable httpd
systemctl start httpd
mv /var/www/html/index.html ~/var/www/html/index.html
```


10. Accessed the AMI web server

```

      #_
    ~\  #####_
  ~ ~\  #####\
  ~ ~  \####|
  ~ ~   \#/
  ~ ~    V~' '->
    ~~~
      ~ ~. _ .
        _/ _/
      _/m/' -/

Amazon Linux 2023

https://aws.amazon.com/linux/amazon-linux-2023

Last login: Fri Sep 15 09:37:45 2023
[root@ip-172-31-46-199 ~]# ls
[root@ip-172-31-46-199 ~]# cd /var/www/html
[root@ip-172-31-46-199 html]# ls
index.html
[root@ip-172-31-46-199 html]# cat index.html
<html>
    <h1>Hello World !</h1>
</html>
[root@ip-172-31-46-199 html]#
```