

Project 3: Attaching and Partitioning an EBS Volume on AWS EC2

1. Launch an EC2 Instance

The screenshot displays the AWS Management Console for the 'ap-south-1' region. The 'Instances' page shows a single EC2 instance named 'Server-1' with ID 'i-0b6fe7482d8dd4908', which is in a 'Running' state. The instance is a 't2.micro' type, located in the 'ap-south-1b' availability zone, and has a public IPv4 address of 'ec2-13-127'. The console also shows the 'Details' tab for this instance, including its summary information: Instance ID, Public IPv4 address (13.127.38.37), Private IPv4 addresses (172.31.4.88), and Instance state (Running).

Instances (1/1) Info Last updated less than a minute ago

Find Instance by attribute or tag (case-sensitive) All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
Server-1	i-0b6fe7482d8dd4908	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1b	ec2-13-127

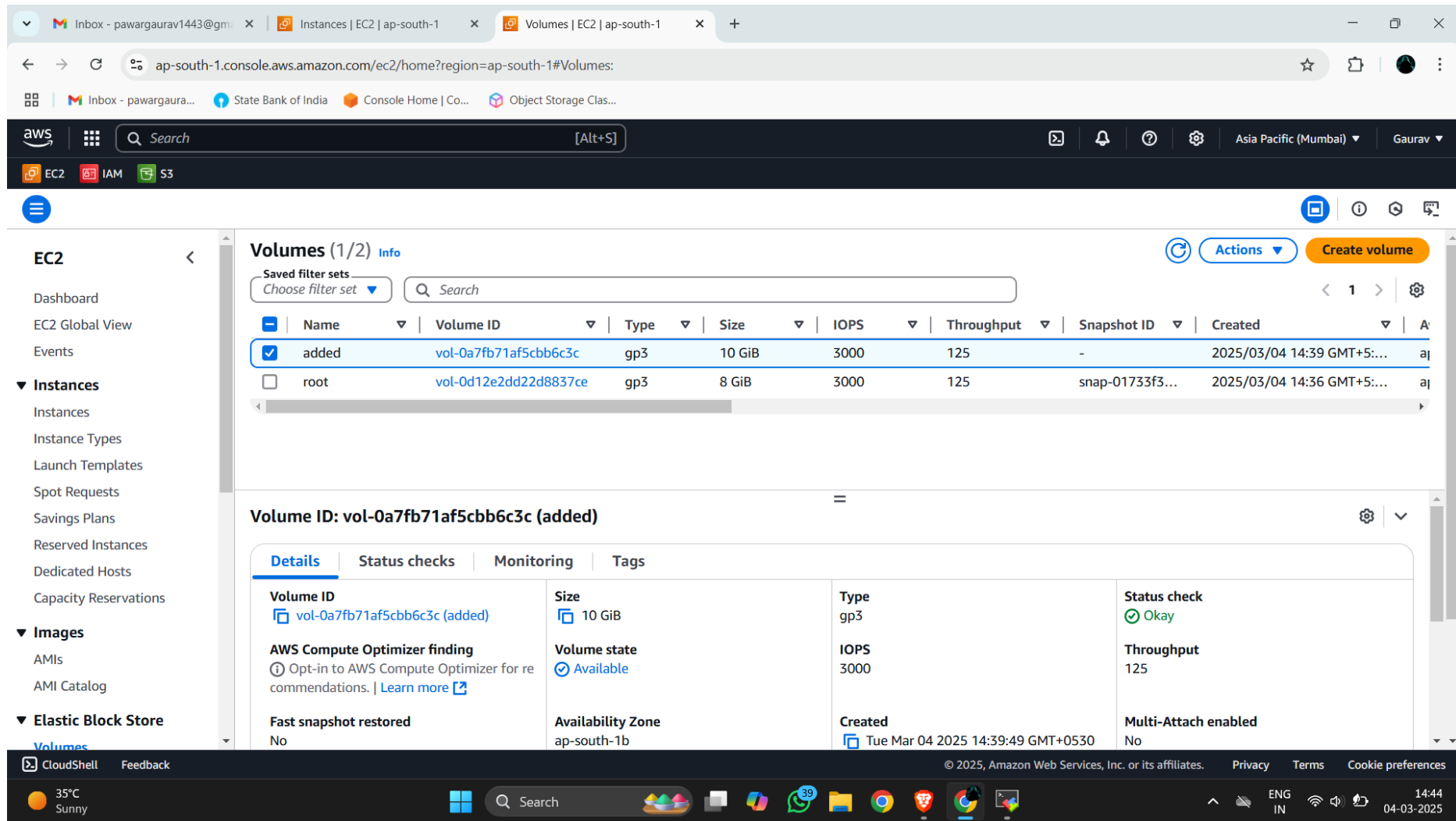
i-0b6fe7482d8dd4908 (Server-1)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary Info

Instance ID i-0b6fe7482d8dd4908	Public IPv4 address 13.127.38.37 open address	Private IPv4 addresses 172.31.4.88
IPv6 address -	Instance state Running	Public IPv4 DNS

2. Create and Attach the EBS Volume



The screenshot shows the AWS Management Console interface for the 'Volumes' page in the 'ap-south-1' region. The left sidebar contains navigation links for EC2, Instances, Images, and Elastic Block Store. The main content area displays a table of volumes, with one volume 'added' (vol-0a7fb71af5cbb6c3c) selected. Below the table, the details for this volume are shown, including its size (10 GiB), type (gp3), and status (Available). The console also shows the AWS Compute Optimizer finding and the availability zone (ap-south-1b).

Volumes (1/2) Info

Saved filter sets: Choose filter set

Search

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created
added	vol-0a7fb71af5cbb6c3c	gp3	10 GiB	3000	125	-	2025/03/04 14:39 GMT+5:...
root	vol-0d12e2dd22d8837ce	gp3	8 GiB	3000	125	snap-01733f3...	2025/03/04 14:36 GMT+5:...

Volume ID: vol-0a7fb71af5cbb6c3c (added)

Details | Status checks | Monitoring | Tags

Volume ID	Size	Type	Status check
vol-0a7fb71af5cbb6c3c (added)	10 GiB	gp3	Okay

AWS Compute Optimizer finding

Opt-in to AWS Compute Optimizer for recommendations. | Learn more

Volume state

Available

Throughput

125

Fast snapshot restored

No

Availability Zone

ap-south-1b

Created

Tue Mar 04 2025 14:39:49 GMT+0530

Multi-Attach enabled

No

CloudShell Feedback

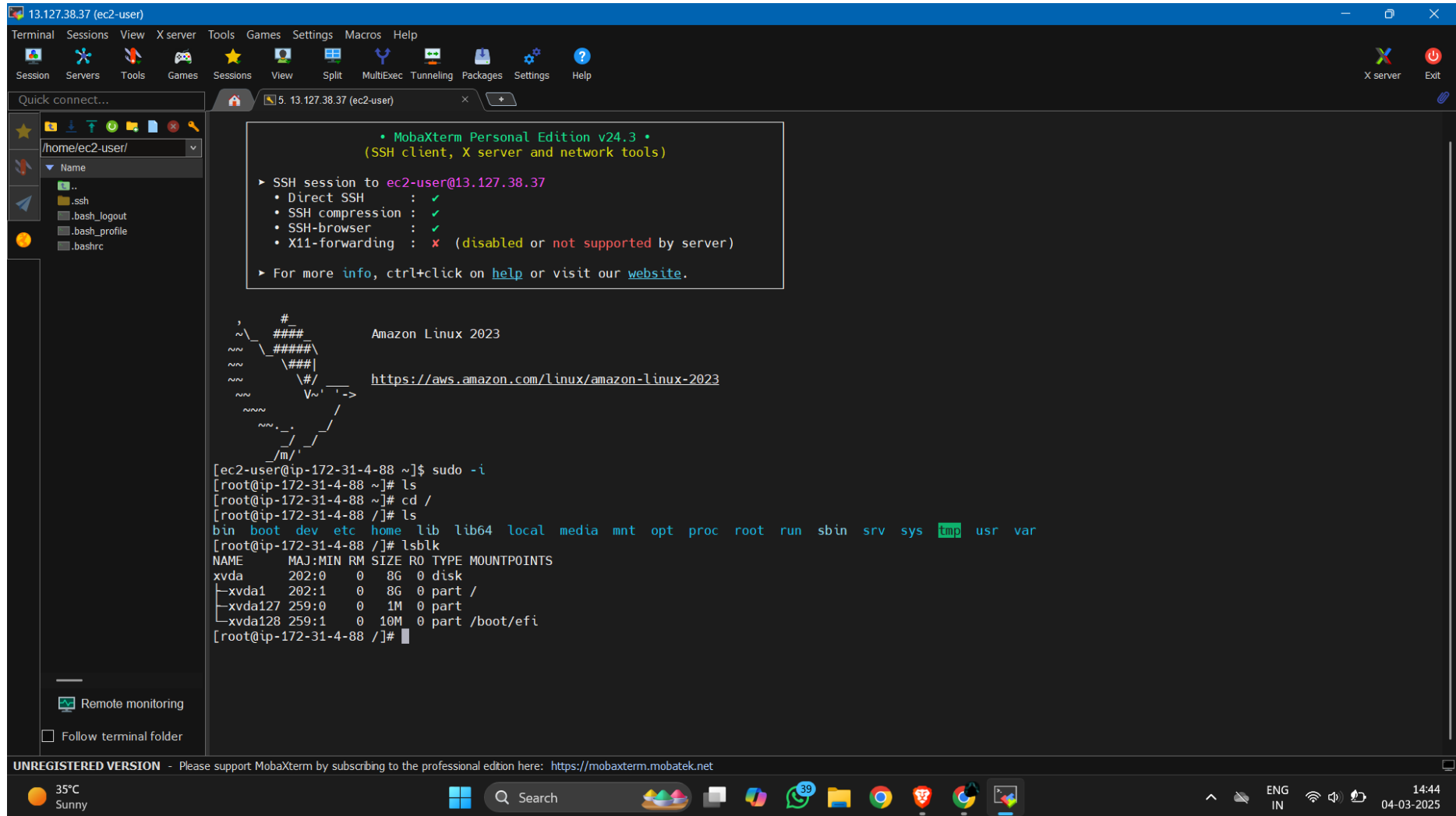
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Search

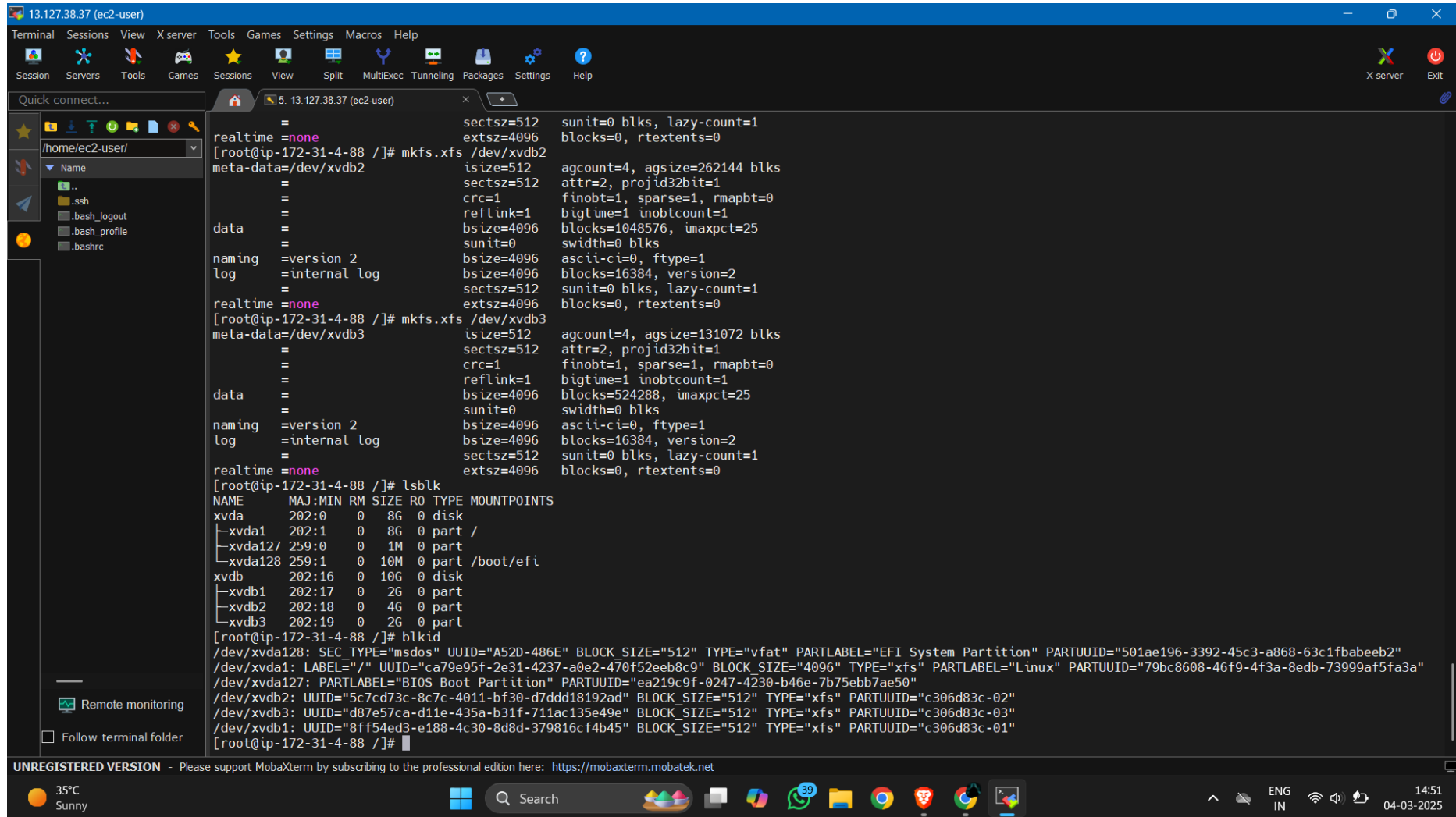
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5. Create Partitions on the EBS Volume

6. Format the New Partition



The screenshot shows a MobaXterm terminal window with a blue title bar and a dark theme. The terminal is connected to an EC2 instance at 13.127.38.37. The user is root. The terminal displays the output of the `mkfs.xfs` command for two partitions, `/dev/xvdb2` and `/dev/xvdb3`, and the output of the `lsblk` command. The `lsblk` output shows the disk layout with partitions `xvda1`, `xvda127`, `xvda128`, `xvdb1`, `xvdb2`, and `xvdb3`. The bottom of the window shows the MobaXterm interface with a taskbar and system tray.

```
13.127.38.37 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

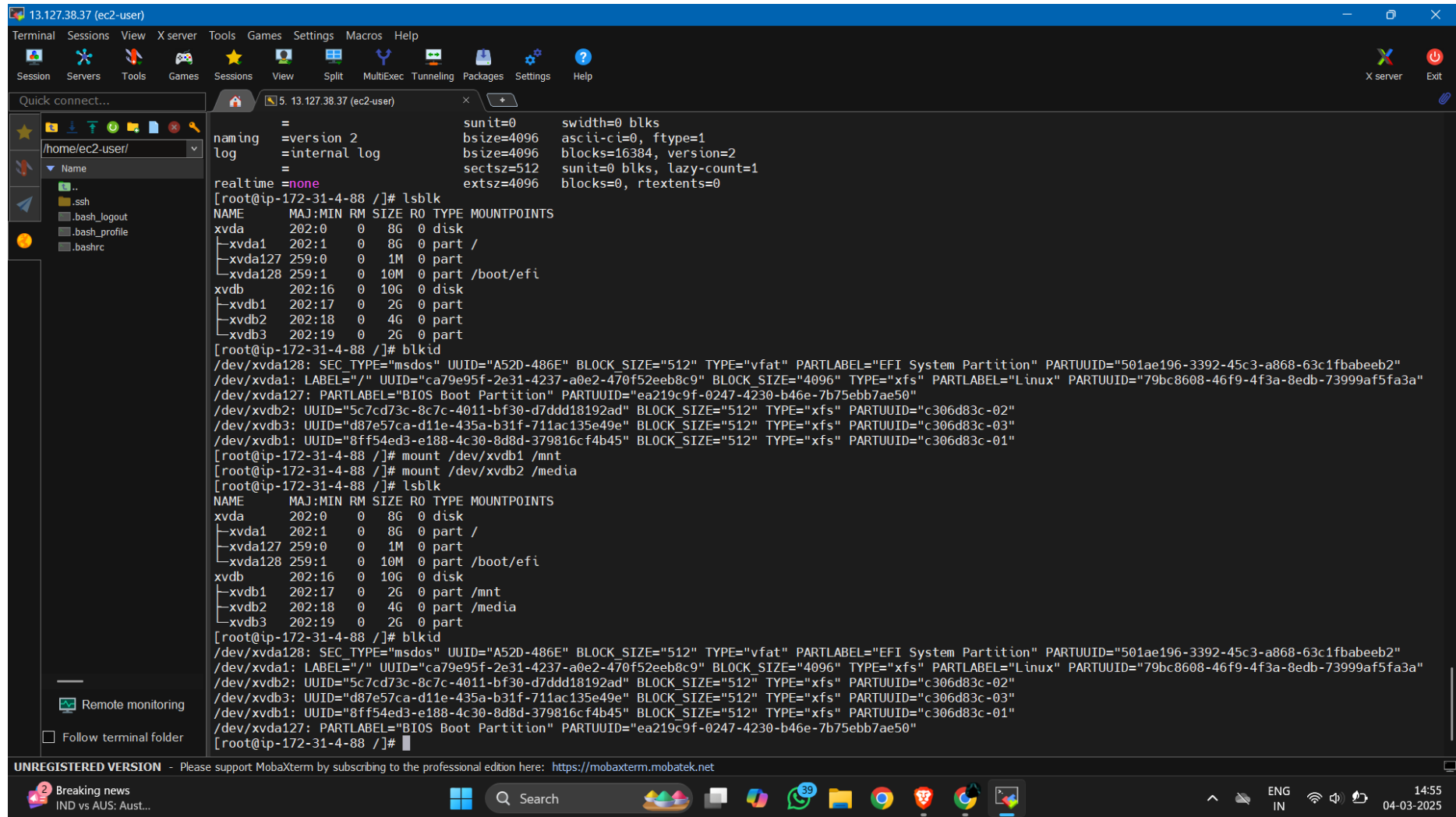
Quick connect...
5. 13.127.38.37 (ec2-user)
/home/ec2-user/
Name
ssh
.ssh
.ssh_logout
.ssh_profile
.sshrc

[ec2-user@ip-172-31-4-88 ~]$ mkfs.xfs /dev/xvdb2
meta-data=/dev/xvdb2
            sectsz=512   sunit=0 blks, lazy-count=1
            extsz=4096   blocks=0, rtextents=0
            isize=512    attr=2, projid32bit=1
            crc=1        finobt=1, sparse=1, rmapbt=0
            reflink=1     bigtime=1 inobtcount=1
            bsize=4096   blocks=1048576, imaxpct=25
            sunit=0      swidth=0 blks
            naming       =version 2   ascii-ci=0, ftype=1
            log          =internal log blocks=16384, version=2
                        sectsz=512    sunit=0 blks, lazy-count=1
            realtime     =none        blocks=0, rtextents=0
[ec2-user@ip-172-31-4-88 ~]$ mkfs.xfs /dev/xvdb3
meta-data=/dev/xvdb3
            sectsz=512   sunit=0 blks, lazy-count=1
            extsz=4096   blocks=0, rtextents=0
            isize=512    attr=2, projid32bit=1
            crc=1        finobt=1, sparse=1, rmapbt=0
            reflink=1     bigtime=1 inobtcount=1
            bsize=4096   blocks=524288, imaxpct=25
            sunit=0      swidth=0 blks
            naming       =version 2   ascii-ci=0, ftype=1
            log          =internal log blocks=16384, version=2
                        sectsz=512    sunit=0 blks, lazy-count=1
            realtime     =none        blocks=0, rtextents=0
[ec2-user@ip-172-31-4-88 ~]$ 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 /boot/efi
xvdb         202:16   0   10G  0 disk
├─xvdb1      202:17   0    2G  0 part
├─xvdb2      202:18   0    4G  0 part
└─xvdb3      202:19   0    2G  0 part
[ec2-user@ip-172-31-4-88 ~]$ blkid
/dev/xvda128: SEC_TYPE="msdos" UUID="A52D-486E" BLOCK_SIZE="512" TYPE="vfat" PARTLABEL="EFI System Partition" PARTUUID="501ae196-3392-45c3-a868-63c1fbabeb2"
/dev/xvda1: LABEL="/" UUID="ca79e95f-2e31-4237-a0e2-470f52eeb8c9" BLOCK_SIZE="4096" TYPE="xfs" PARTLABEL="Linux" PARTUUID="79bc8608-46f9-4f3a-8edb-73999af5fa3a"
/dev/xvda127: PARTLABEL="BIOS Boot Partition" PARTUUID="ea219c9f-0247-4230-b46e-7b75ebb7ae50"
/dev/xvdb2: UUID="5c7cd73c-8c7c-4011-bf30-d7ddd18192ad" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="c306d83c-02"
/dev/xvdb3: UUID="d87e57ca-d11e-435a-b31f-711ac135e49e" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="c306d83c-03"
/dev/xvdb1: UUID="8ff54ed3-e188-4c30-8d8d-379816cf4b45" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="c306d83c-01"
[ec2-user@ip-172-31-4-88 ~]$
```

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7. Mount the New Partitions



The screenshot shows a MobaXterm terminal window with a blue title bar and a menu bar. The terminal is connected to a remote host at 13.127.38.37 (ec2-user). The left sidebar shows a file explorer with the path /home/ec2-user/. The terminal output shows the following commands and results:

```
[root@ip-172-31-4-88 ~]# 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 /boot/efi
xvdb        202:16    0  10G  0 disk
├─xvdb1     202:17    0   2G  0 part
├─xvdb2     202:18    0   4G  0 part
└─xvdb3     202:19    0   2G  0 part

[root@ip-172-31-4-88 ~]# blkid
/dev/xvda128: SEC_TYPE="msdos" UUID="A52D-486E" BLOCK_SIZE="512" TYPE="vfat" PARTLABEL="EFI System Partition" PARTUUID="501ae196-3392-45c3-a868-63c1fbabeb2"
/dev/xvda1: LABEL="/" UUID="ca79e95f-2e31-4237-a0e2-470f52eeb8c9" BLOCK_SIZE="4096" TYPE="xfs" PARTLABEL="Linux" PARTUUID="79bc8608-46f9-4f3a-8edb-73999af5fa3a"
/dev/xvda127: PARTLABEL="BIOS Boot Partition" PARTUUID="ea219c9f-0247-4230-b46e-7b75ebb7ae50"
/dev/xvdb2: UUID="5c7cd73c-8c7c-4011-bf30-d7dd18192ad" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="c306d83c-02"
/dev/xvdb3: UUID="d87e57ca-d11e-435a-b31f-711ac135e49e" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="c306d83c-03"
/dev/xvdb1: UUID="8ff54ed3-e188-4c30-8d8d-379816cf4b45" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="c306d83c-01"

[root@ip-172-31-4-88 ~]# mount /dev/xvdb1 /mnt
[root@ip-172-31-4-88 ~]# mount /dev/xvdb2 /media

[root@ip-172-31-4-88 ~]# 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 /boot/efi
xvdb        202:16    0  10G  0 disk
├─xvdb1     202:17    0   2G  0 part /mnt
├─xvdb2     202:18    0   4G  0 part /media
└─xvdb3     202:19    0   2G  0 part

[root@ip-172-31-4-88 ~]# blkid
/dev/xvda128: SEC_TYPE="msdos" UUID="A52D-486E" BLOCK_SIZE="512" TYPE="vfat" PARTLABEL="EFI System Partition" PARTUUID="501ae196-3392-45c3-a868-63c1fbabeb2"
/dev/xvda1: LABEL="/" UUID="ca79e95f-2e31-4237-a0e2-470f52eeb8c9" BLOCK_SIZE="4096" TYPE="xfs" PARTLABEL="Linux" PARTUUID="79bc8608-46f9-4f3a-8edb-73999af5fa3a"
/dev/xvdb2: UUID="5c7cd73c-8c7c-4011-bf30-d7dd18192ad" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="c306d83c-02"
/dev/xvdb3: UUID="d87e57ca-d11e-435a-b31f-711ac135e49e" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="c306d83c-03"
/dev/xvdb1: UUID="8ff54ed3-e188-4c30-8d8d-379816cf4b45" BLOCK_SIZE="512" TYPE="xfs" PARTUUID="c306d83c-01"
/dev/xvda127: PARTLABEL="BIOS Boot Partition" PARTUUID="ea219c9f-0247-4230-b46e-7b75ebb7ae50"

[root@ip-172-31-4-88 ~]#
```

The terminal window also shows a status bar at the bottom with the text "UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>".