

Step-by-Step Guide to Increase Disk Space in AWS

Since the launch of the mainnet, more and more people subscribed to become a node runner. The previously recommended 30G disk space is not enough for the future needs. This brief tutorial provides a step-by-step instruction on how to increase the disk space of an EC2 instance in AWS.

Step 1: After logging in to your AWS console, find the EC2 instance running the Harmony node.

The screenshot shows the AWS Management Console interface. On the left, there is a navigation menu with categories like INSTANCES, IMAGES, ELASTIC BLOCK STORE, NETWORK & SECURITY, LOAD BALANCING, and AUTO SCALING. The 'INSTANCES' section is selected, and the 'Instances' link is highlighted. The main content area displays a list of instances. The instance 'Andy_H4' with ID 'i-00a09fd8f8f749603' is shown in a 'running' state. Below the list, the details for this instance are expanded, showing various attributes such as Instance ID, Instance state, Instance type, Availability zone, Security groups, Scheduled events, AMI ID, Platform, IAM role, Key pair name, Owner, Launch time, Termination protection, Lifecycle, Monitoring, Alarm status, Public DNS (IPv4), IPv4 Public IP, IPv6 IPs, Private DNS, Private IPs, Secondary private IPs, VPC ID, Subnet ID, Network interfaces, Source/dest. check, T2/T3 Unlimited, EBS-optimized, Root device type, Root device, and Block devices. The 'Root device' is shown as '/dev/xvda'.

| Instance: i-00a09fd8f8f749603 (Andy_H4) | | Public DNS: ec2-54-193-58-206.us-west-1.compute.amazonaws.com | |
|---|---|---|---|
| Description | Status Checks | Monitoring | Tags |
| Instance ID | i-00a09fd8f8f749603 | Public DNS (IPv4) | ec2-54-193-58-206.us-west-1.compute.amazonaws.com |
| Instance state | running | IPv4 Public IP | 54.193.58.206 |
| Instance type | m5d.large | IPv6 IPs | - |
| Elastic IPs | | Private DNS | ip-172-31-0-234.us-west-1.compute.internal |
| Availability zone | us-west-1b | Private IPs | 172.31.0.234 |
| Security groups | launch-wizard-19, view inbound rules, view outbound rules | Secondary private IPs | |
| Scheduled events | No scheduled events | VPC ID | vpc-bb770fdc |
| AMI ID | amzn2-ami-hvm-2.0.20190508-x86_64-gp2 (ami-015954d5e5548d13b) | Subnet ID | subnet-551f560e |
| Platform | - | Network interfaces | eth0 |
| IAM role | ssm_demo_role | Source/dest. check | True |
| Key pair name | Andy_June_13 | T2/T3 Unlimited | - |
| Owner | 656503231766 | EBS-optimized | True |
| Launch time | June 13, 2019 at 10:02:57 AM UTC-7 (1780 hours) | Root device type | ebs |
| Termination protection | False | Root device | /dev/xvda |
| Lifecycle | normal | Block devices | /dev/xvda |
| Monitoring | basic | | |
| Alarm status | None | | |

Step 2: Click the link ([/dev/xvda](#)) located in the bottom right area to show the information of the root device.

aws Services Resource Groups

Andy @ 6565-0323-1766 N. California Support

EC2 Dashboard

Events

Tags

Reports

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INSTANCES

Instances

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

Capacity Reservations

IMAGES

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Bundle Tasks

ELASTIC BLOCK STORE

Volumes

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NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Target Groups

AUTO SCALING

Launch Configurations

Launch Instance Connect Actions

search : andy_H4 Add filter

| Name | Instance ID | Instance Type | Availability Zone | Instance State | Status Checks | Alarm Status | Public DNS (IPv4) |
|---------|---------------------|---------------|-------------------|----------------|----------------|--------------|-----------------------|
| Andy_H4 | i-00a09fd8f8f749603 | m5d.large | us-west-1b | running | 2/2 checks ... | None | ec2-193-58-206.us-... |

Instance: i-00a09fd8f8f749603 (Andy_H4) Public DNS: ec2-54-193-58-206.us-west-1.compute.amazonaws.com

Description Status Checks Monitoring Tags

| | | | |
|------------------------|--|-----------------------|---|
| Instance ID | i-00a09fd8f8f749603 | Public DNS (IPv4) | ec2-54-193-58-206.us-west-1.compute.amazonaws.com |
| Instance state | running | IPv4 Public IP | 54.193.58.206 |
| Instance type | m5d.large | IPv6 IPs | - |
| Elastic IPs | | Private DNS | ip-172-31-0-234.us-west-1.compute.internal |
| Availability zone | us-west-1b | Private IPs | 172.31.0.234 |
| Security groups | launch-wizard-19, view inbound rules, view outbound rules | Secondary private IPs | |
| Scheduled events | No scheduled events | | |
| AMI ID | amzn2-ami-hvm-2.0.20190501.x86_64-gp2 (ami-015954d5e5548d1c) | | |
| Platform | - | | |
| IAM role | ssm_demo_role | | |
| Key pair name | Andy_June_13 | | |
| Owner | 656503231766 | | |
| Launch time | June 13, 2019 at 10:02:57 AM (1780 hours) | | |
| Termination protection | False | Root device | /dev/xvda |
| Lifecycle | normal | Block devices | /dev/xvda |
| Monitoring | basic | | |
| Alarm status | None | | |

Block Device /dev/xvda

| | |
|-----------------------|--------------------------|
| EBS ID | vol-05685721145114c52 |
| Root device type | EBS |
| Attachment time | 2019-06-13T17:02:58.000Z |
| Block device status | attached |
| Delete on termination | True |

Feedback English (US)

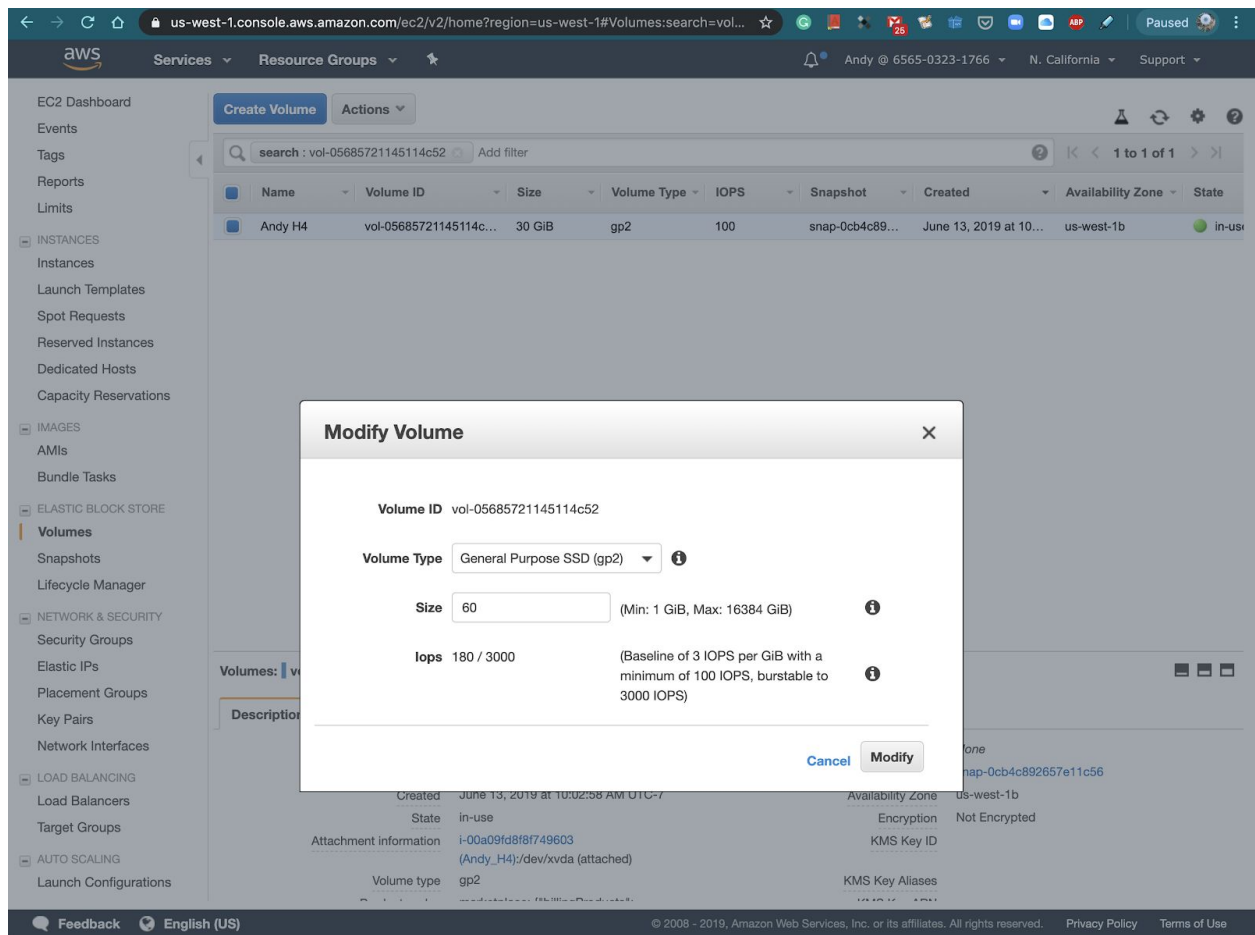
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Step 3: Click the EBS ID link ([vol-05685721145114c52](#) for this demo, your volume might have a different identifier), this will jump to a webpage to modify volume size.

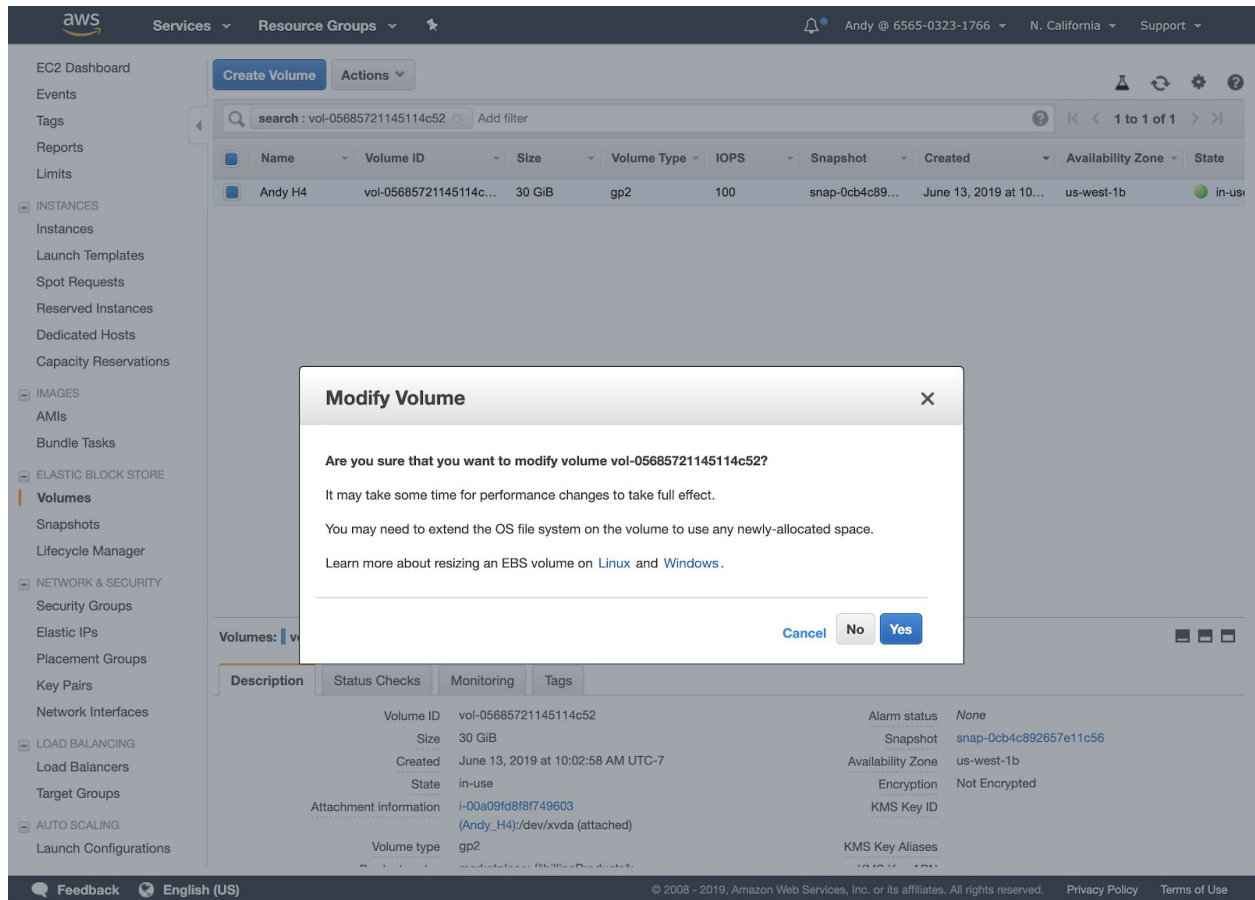
The screenshot shows the AWS Management Console interface. On the left is a navigation sidebar with categories like INSTANCES, IMAGES, ELASTIC BLOCK STORE, NETWORK & SECURITY, LOAD BALANCING, and AUTO SCALING. The 'Volumes' link under ELASTIC BLOCK STORE is selected. The main content area shows a table of volumes. One volume, 'vol-05685721145114c52 (Andy H4)', is selected. An 'Actions' dropdown menu is open over this volume, listing options: Modify Volume, Create Snapshot, Delete Volume, Attach Volume, Detach Volume, Force Detach Volume, Change Auto-Enable IO Setting, and Add/Edit Tags. The 'Modify Volume' option is highlighted. Below the table, the details for the selected volume are shown in a tabbed interface. The 'Description' tab is active, displaying metadata for the volume.

| Volume ID | Size | Created | State | Attachment information | Volume type | Alarm status | Snapshot | Availability Zone | Encryption | KMS Key ID | KMS Key Aliases |
|-----------------------|--------|------------------------------------|--------|---|-------------|--------------|------------------------|-------------------|---------------|------------|-----------------|
| vol-05685721145114c52 | 30 GiB | June 13, 2019 at 10:02:58 AM UTC-7 | in-use | i-00a09fd8f8f749603 (Andy_H4)/dev/xvda (attached) | gp2 | None | snap-0cb4c892657e11c56 | us-west-1b | Not Encrypted | | |

Step 4: Click the Actions dropdown button, and then select “Modify Volume” option. We suggest extending to the size to 100 GiB, but we use 60 GiB for this demo. Then click “Modify”.



Step 5: Click “Yes” to confirm this action.



Step 6: it may take 20 to 30 mins to resize the disk space. The action is done until the state change from “in-use modifying...” yellow circle to “in use” green circle.

Step 7: Then the next step is to ssh to the node. Check the basic information about the block devices.

```
$lsblk
```

```
ec2-user@ip-172-31-0-234:~$ lsblk
[ec2-user@ip-172-31-0-234 ~]$ lsblk
NAME                MAJ:MIN RM   SIZE RO TYPE MOUNTPOINT
nvme1n1             259:0    0  69.9G  0 disk
nvme0n1             259:1    0   60G   0 disk
├─nvme0n1p1         259:2    0    30G   0 part /
└─nvme0n1p128       259:3    0     1M   0 part
[ec2-user@ip-172-31-0-234 ~]$
```

```
$sudo growpart /dev/nvme0n1 1
```

Expected result:

```
[ec2-user@ip-172-31-0-234 ~]$ sudo growpart /dev/nvme0n1 1  
CHANGED: partition=1 start=4096 old: size=62910431 end=62914527 new: size=125824991,end=125829087
```

```
$sudo xfs_growfs /dev/nvme0n1p1
```

Expected result:

```
[ec2-user@ip-172-31-0-234 ~]$ sudo xfs_growfs /dev/nvme0n1p1  
meta-data=/dev/nvme0n1p1      isize=512    agcount=16, agsize=524159 blks  
        =                       sectsz=512    attr=2, projid32bit=1  
        =                       crc=1        finobt=1 spinodes=0  
data      =                       bsize=4096   blocks=7863803, imaxpct=25  
        =                       sunit=0      swidth=0 blks  
naming    =version 2           bsize=4096   ascii-ci=0 ftype=1  
log       =internal           bsize=4096   blocks=2560, version=2  
        =                       sectsz=512    sunit=0 blks, lazy-count=1  
realtime  =none               extsz=4096   blocks=0, rtextents=0  
data blocks changed from 7863803 to 15728123
```

Step 8: verification - if you see the size of /dev/nvme0n1p1 has been increased to the specified size (60G in our demo), you are good to go.

```
$df -h
```

```
[ec2-user@ip-172-31-0-234 ~]$ df -h  
Filesystem      Size  Used Avail Use% Mounted on  
devtmpfs        3.8G   0  3.8G   0% /dev  
tmpfs           3.8G   0  3.8G   0% /dev/shm  
tmpfs           3.8G 412K  3.8G   1% /run  
tmpfs           3.8G   0  3.8G   0% /sys/fs/cgroup  
/dev/nvme0n1p1  60G   22G   39G  36% /  
tmpfs           769M   0  769M   0% /run/user/1000
```

In case you need some extra help for this task, feel free to reach out to our engineer (Andy@harmony.one) on Discord, Wechat, and email.