

动态扩展AWS云服务器硬盘空间

自从我们Harmony启动了主网以来，越来越多的投资者表示了强烈的兴趣来运行节点。随着加入主网的节点数目增加，我们以前推荐的30G的硬盘空间已经有些捉襟见肘了。这份简短的文档告诉大家怎样手手来动态扩展AWS云服务器硬盘空间。

第一步：登录AWS控制面板，找到运行节点的服务器。

The screenshot shows the AWS Management Console interface. On the left is a navigation menu with categories like EC2 Dashboard, INSTANCES, IMAGES, ELASTIC BLOCK STORE, NETWORK & SECURITY, LOAD BALANCING, and AUTO SCALING. The main content area displays a table of EC2 instances. One instance, 'Andy_H4' with ID 'i-00a09fd8f8f749603', is in the 'running' state. Below the table, the details for this instance are shown in a tabbed view. The 'Description' tab is active, displaying various instance attributes in a key-value format.

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	ec2-54-193-58-206.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	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		

第二步：点击位于屏幕右下区域的链接(/dev/xvda)，浏览器会显示硬盘的具体信息。

The screenshot displays the AWS Management Console interface for an EC2 instance. The left sidebar contains navigation links for various AWS services and EC2-specific features like 'Instances', 'Launch Templates', and 'Spot Requests'. The main content area shows a table of instances, with 'Andy_H4' selected. Below the table, the 'Description' tab is active, showing instance details such as ID, state, type, and availability zone. A modal window titled 'Block Device /dev/xvda' is overlaid on the details, providing information about the attached EBS volume, including its ID, type, attachment time, status, and deletion policy.

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	ec2-54-193-58-206.us-...

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

Description | Status Checks | Monitoring | Tags

Property	Value
Instance ID	i-00a09fd8f8f749603
Instance state	running
Instance type	m5d.large
Elastic IPs	
Availability zone	us-west-1b
Security groups	launch-wizard-19 , view inbound rules , view outbound rules
Scheduled events	No scheduled events
AMI ID	amzn2-ami-hvm-2.0.20190501.x86_64-gp2 (ami-015954d5e5548d10)
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
Lifecycle	normal
Monitoring	basic
Alarm status	None

Block Device /dev/xvda

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

Root device [/dev/xvda](#)
Block devices [/dev/xvda](#)

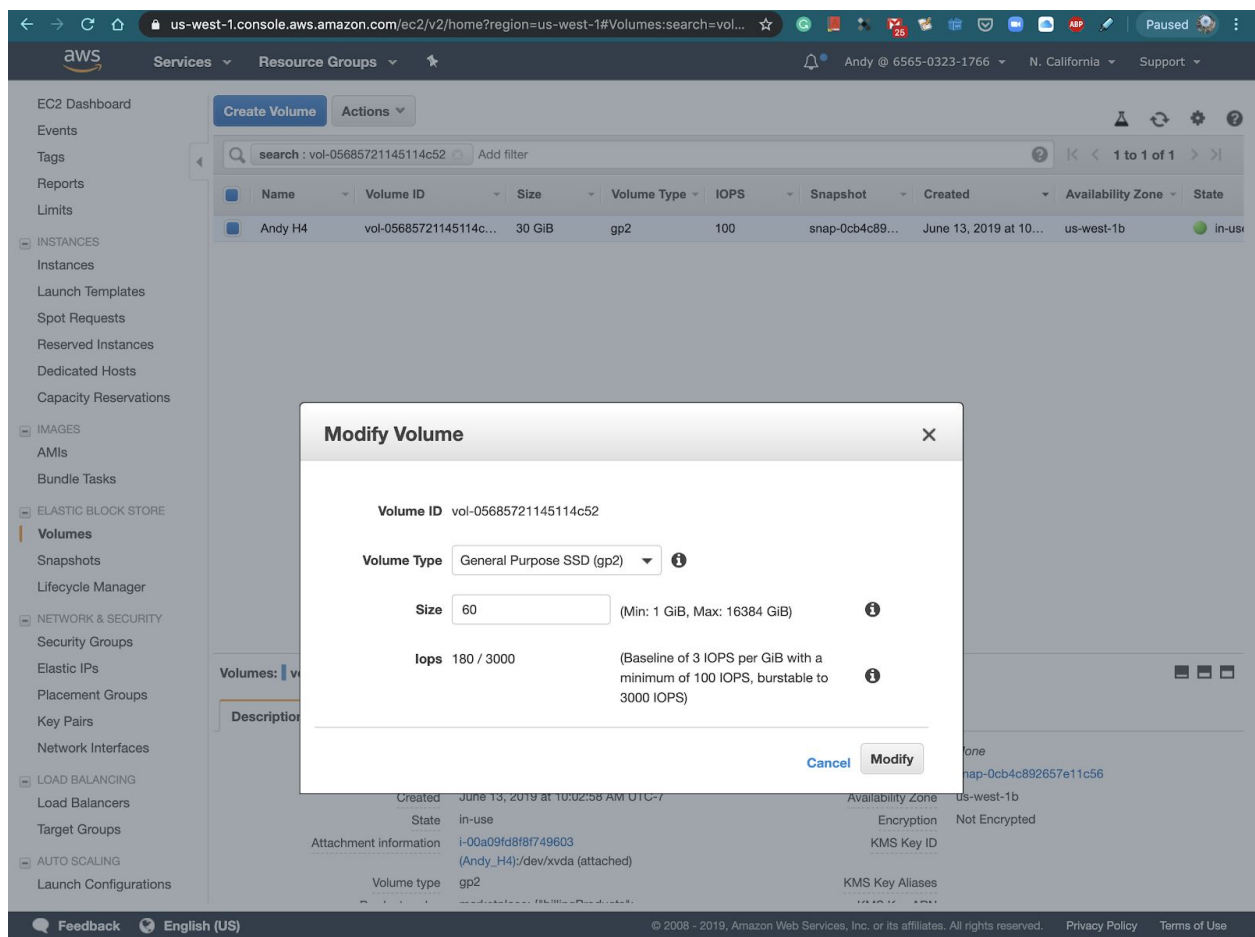
第三步：点击 EBS ID 右边的链接（在我们的演示是 [vol-05685721145114c52](#)，你的硬盘可能显示的是不同的名字），然后会跳转到硬盘的显示页面。

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' (labeled '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 such as Volume ID, Size (30 GiB), Created date, State (in-use), Attachment information, Volume type (gp2), Alarm status (None), Snapshot ID, Availability Zone (us-west-1b), Encryption (Not Encrypted), and KMS Key ID.

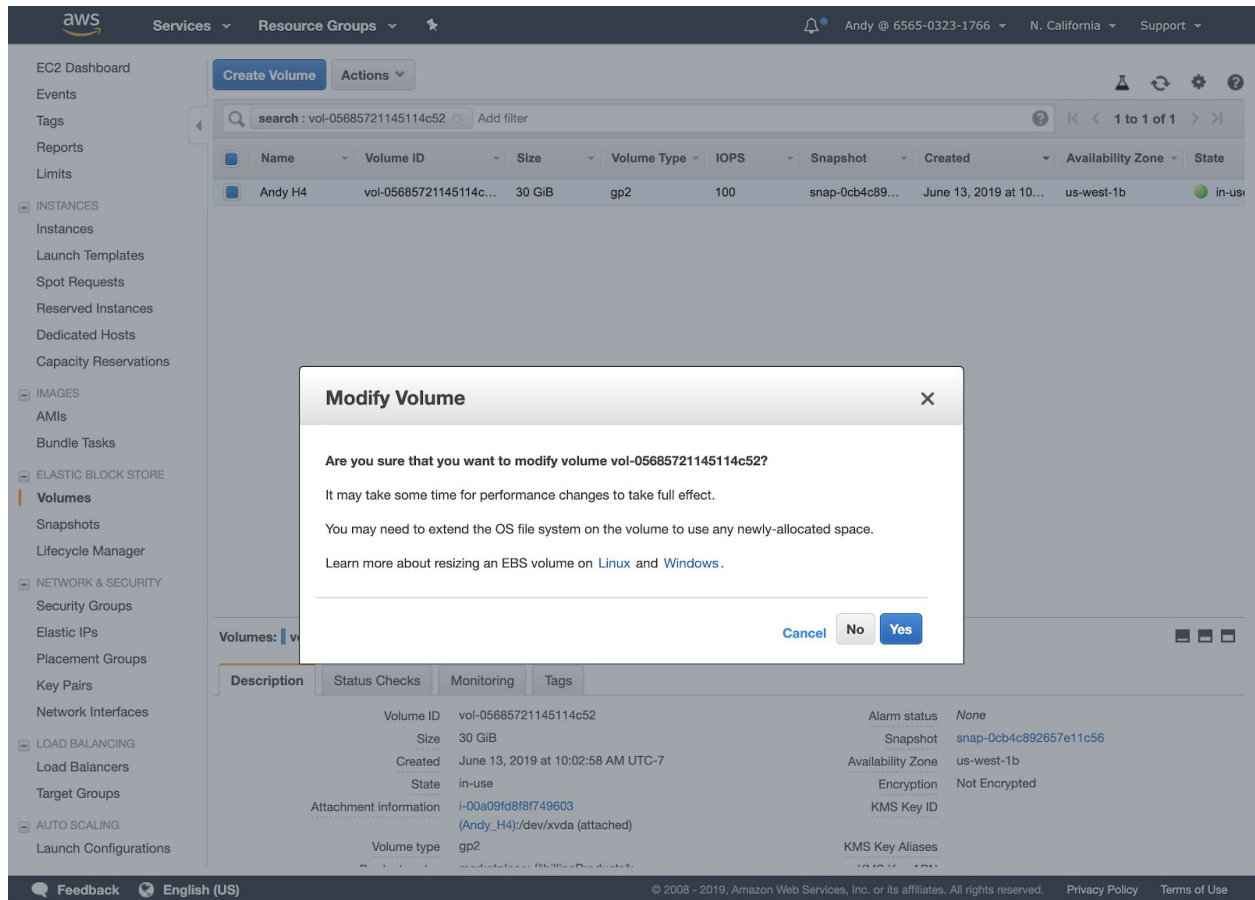
Name	Volume Type	IOPS	Snapshot	Created	Availability Zone	State
Andy H4	gp2	100	snap-0cb4c89...	June 13, 2019 at 10...	us-west-1b	in-use

Volumes: vol-05685721145114c52 (Andy H4)			
Description	Status Checks	Monitoring	Tags
Volume ID	vol-05685721145114c52	Alarm status	None
Size	30 GiB	Snapshot	snap-0cb4c892657e11c56
Created	June 13, 2019 at 10:02:58 AM UTC-7	Availability Zone	us-west-1b
State	in-use	Encryption	Not Encrypted
Attachment information	i-00a09fd8f8f749603 (Andy_H4)/dev/xvda (attached)	KMS Key ID	
Volume type	gp2	KMS Key Aliases	

第四步：点击“Actions”按钮，然后选择“Modify Volume”选项。我们推荐扩展硬盘到100G，但是在这个演示里，我们把硬盘空间扩展到60G。点击“Modify”。



第五步：点击“Yes”确认扩展硬盘空间。



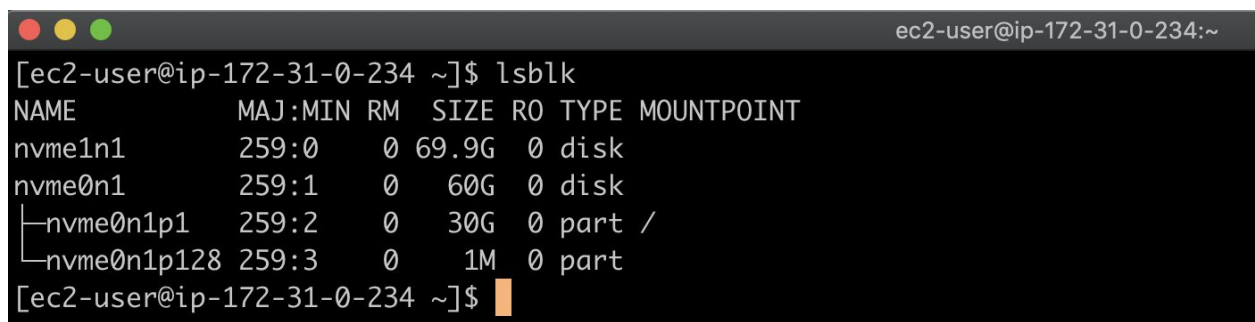
第六步：硬盘扩容可能需要20到30分钟的时间。当扩容结束以后，你会看到状态栏会从黄色的圆球变成绿色的圆球。

第七步：SSH登录到服务器，查看磁盘基本信息。

运行以下命令

```
$lsblk
```

预期的结果



运行以下命令

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

预期的结果

```
[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
```

运行以下命令

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

预期的结果

```
[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
```

第八步：结果确认。运行以下命令，如果你看到/dev/nvme0n1p1的大小已经从30G变成了60G，恭喜你！AWS云服务器硬盘空间成功！

运行以下命令

```
$df -h
```

预期的结果

```
[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
```

如果关于这个项目你需要更多的技术方面支持，可以和我们的技术工程师(Andy@harmony.one)联系。你可以在Discord, 或者微信上面找到他。