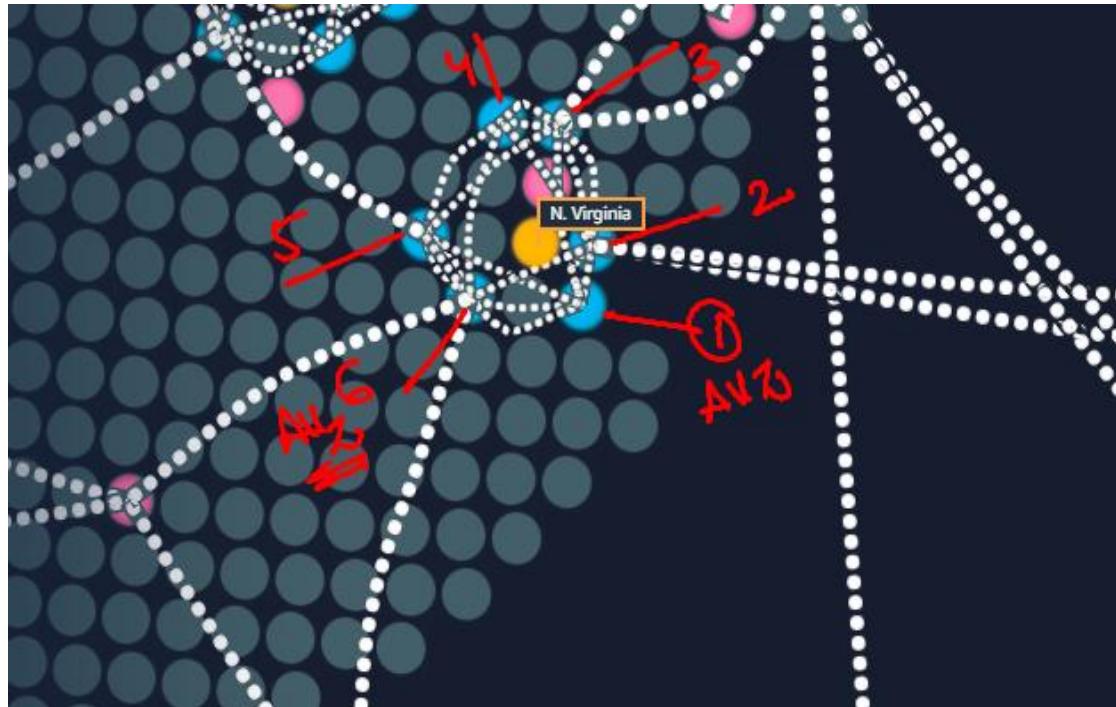


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1. Availability Zones

<https://www.infrastructure.aws/>



2. Working with EC2

A screenshot of the AWS Management Console homepage. The top navigation bar shows the AWS logo, 'Services' dropdown, 'Resource Groups' dropdown, 'S3' icon, 'EC2' icon, and a user profile. Below the navigation is a search bar with the placeholder 'You can enter names, keywords or acronyms.' A red box highlights the search bar with the text 'ec2' typed into it. A red arrow points from the text 'Find Services' to the search bar. Below the search bar is a dropdown menu with 'EC2 Virtual Servers in the Cloud' selected. Other options listed include 'EC2 Image Builder', 'AWS Compute Optimizer', 'AWS Firewall Manager', 'EFS Managed File Storage for EC2', and 'Plastic Container Service'. To the right of the search bar is a sidebar with the heading 'Stay connected to your AWS resources the-go' and a link to download the AWS Console Mobile App for iOS or Android. Another sidebar below it is titled 'Explore AWS' with a section about 'Get Up to 40% Better Price Performance EC2'.

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The screenshot shows the AWS EC2 Dashboard. On the left, there's a sidebar with navigation links like EC2 Dashboard, Instances, and Actions. The main area displays a grid of resources with counts: Running instances (0), Dedicated Hosts (0), Volumes (0), Key pairs (0), Placement groups (0), Elastic IPs (0), Snapshots (0), Load balancers (0), and Security groups (1). A red arrow points to the "Running instances" link. A blue callout box at the bottom provides information about Microsoft SQL Server Always On availability groups.

The screenshot shows the AWS EC2 Instances page. The sidebar includes links for EC2 Dashboard, Instances, and Actions. The main content area has a search bar and a message stating "You do not have any running instances in this region." It also includes links for "Getting Started Guide" and "Launch Instance". A red arrow points to the "Launch Instance" button. A large orange "DVS" watermark is overlaid on the left side of the page.

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review Cancel and Exit

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace, or you can select one of your own AMIs.

Search for an AMI by entering a search term e.g. "Windows"

Quick Start

My AMIs

AWS Marketplace

Community AMIs

Free tier only

Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-05655c267c89566dd
Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras.
Root device type: ebs Virtualization type: hvm ENA Enabled: Yes
Select

Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-006b56b3f14ff4617
The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.
Root device type: ebs Virtualization type: hvm ENA Enabled: Yes
Select

aws.amazon.com/ec2/instance-types/

<https://aws.amazon.com/ec2/instance-types/>

Types of EC2 hardware :

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: All instance types ▾ Current generation ▾ Show/Hide Columns

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro <small>Free tier eligible</small>	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes

Cancel Previous Review and Launch Next: Configure Instance Details

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Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of Instances: 1

Purchasing option: Request Spot instances

Network: vpc-f5639c93 (default)

Subnet: No preference (default subnet in any Availability Zone)

Auto-assign Public IP: Use subnet setting (Enable)

Placement group: Add instance to placement group

Capacity Reservation: Open

IAM role: None

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/xvda	snap-0dabc79426130e2d4	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key	(128 characters maximum)	Value	(256 characters maximum)	Instances	Volumes
This resource currently has no tags					
Choose the Add tag button or click to add a Name tag. Make sure your IAM policy includes permissions to create tags.					
Add Tag (Up to 50 tags maximum)					

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Security Group](#)

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: Create a new security group Select an existing security group

Security group name: opentoworld
Description: launch-wizard-1 created 2020-08-04T19:13:36.717+04:00

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom	0.0.0.0/0

[Add Rule](#)

Warning
Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

[Cancel](#) [Previous](#) [Review and Launch](#)

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Step 7: Review Instance Launch

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

I2.micro	Variable	1	1	EBS only	-	Low to Moderate
----------	----------	---	---	----------	---	-----------------

Security Groups

Security group name: opentoworld
Description: launch-wizard-1 created 2020-08-04T19:13:36.717+04:00

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	0.0.0.0/0	

Instance Details

Storage

Tags

Cancel Previous Launch

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Step 7: Review Instance Launch

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

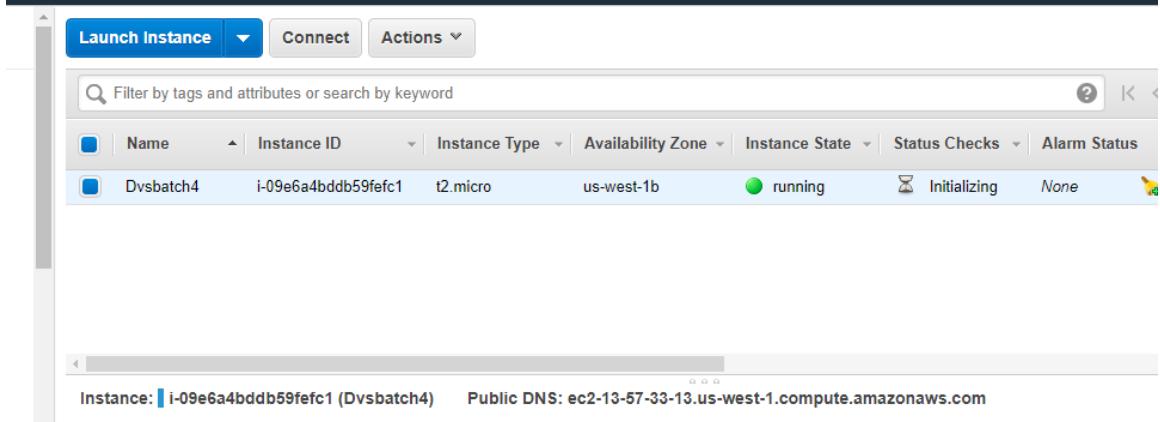
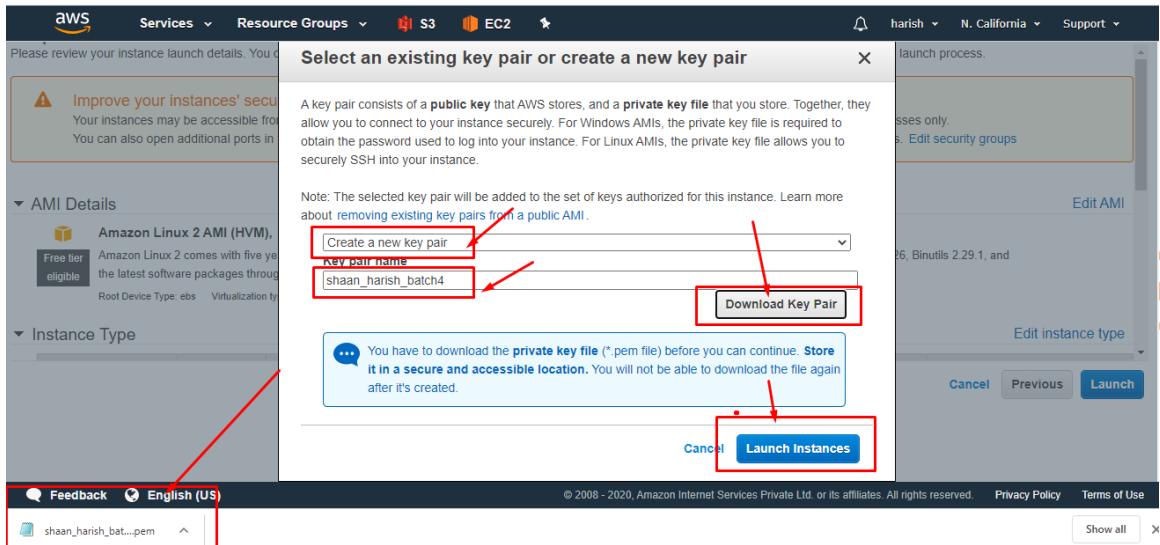
Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Choose an existing key pair
Create a new key pair
Proceed without a key pair

No key pairs found
You don't have any key pairs. Please create a new key pair by selecting the [Create a new key pair](#) option above to continue.

Cancel Launch Instances

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3. Logging in to EC2

Download below packages from putty.org

- 1.** Putty
- 2.** Puttygen
- 3.** Pageant

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 [putty.org](#)

Download PuTTY

PuTTY is an SSH and telnet client, developed originally by Simon Tatham for the Windows software that is available with source code and is developed and supported by a group of volunteers.

You can download PuTTY [here](#).

Below suggestions are independent of the authors of PuTTY. They are *not* to be seen as endorsements!

Bitvise SSH Client



chiark.greenend.org.uk/~sgtatham/putty/latest.html

putty.exe (the SSH and Telnet client itself)

32-bit:	putty.exe	(or by FTP)	(signature)
64-bit:	putty.exe	(or by FTP)	(signature)

pscp.exe (an SCP client, i.e. command-line secure file copy)

32-bit:	pscp.exe	(or by FTP)	(signature)
64-bit:	pscp.exe	(or by FTP)	(signature)

psftp.exe (an SFTP client, i.e. general file transfer sessions much like FTP)

32-bit:	psftp.exe	(or by FTP)	(signature)
---------	---------------------------	------------------------------	-------------------------------

plink.exe

32-bit:	plink.exe	(or by FTP)	(signature)
64-bit:	plink.exe	(or by FTP)	(signature)

pageant.exe (an SSH authentication agent for PuTTY, PSCP, PSFTP, and Plink)

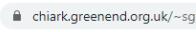
32-bit:	pageant.exe	(or by FTP)	(signature)
64-bit:	pageant.exe	(or by FTP)	(signature)

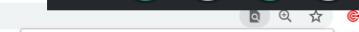
puttygen.exe (a RSA and DSA key generation utility)

32-bit:	puttygen.exe	(or by FTP)	(signature)
64-bit:	puttygen.exe	(or by FTP)	(signature)

putty.zip (a .ZIP archive of all the above)

32-bit:	putty.zip	(or by FTP)	(signature)
---------	---------------------------	------------------------------	-------------------------------

 [putty](#)

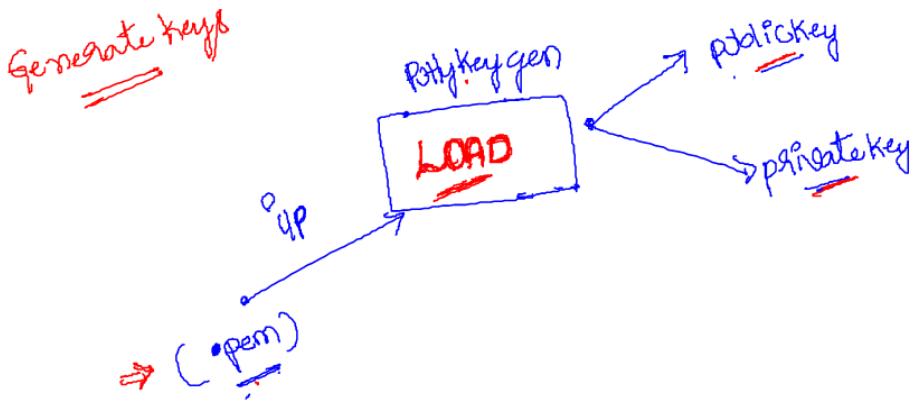
 [pageant](#)

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chirck.greenend.org.uk/~sgtatham/putty/latest.html

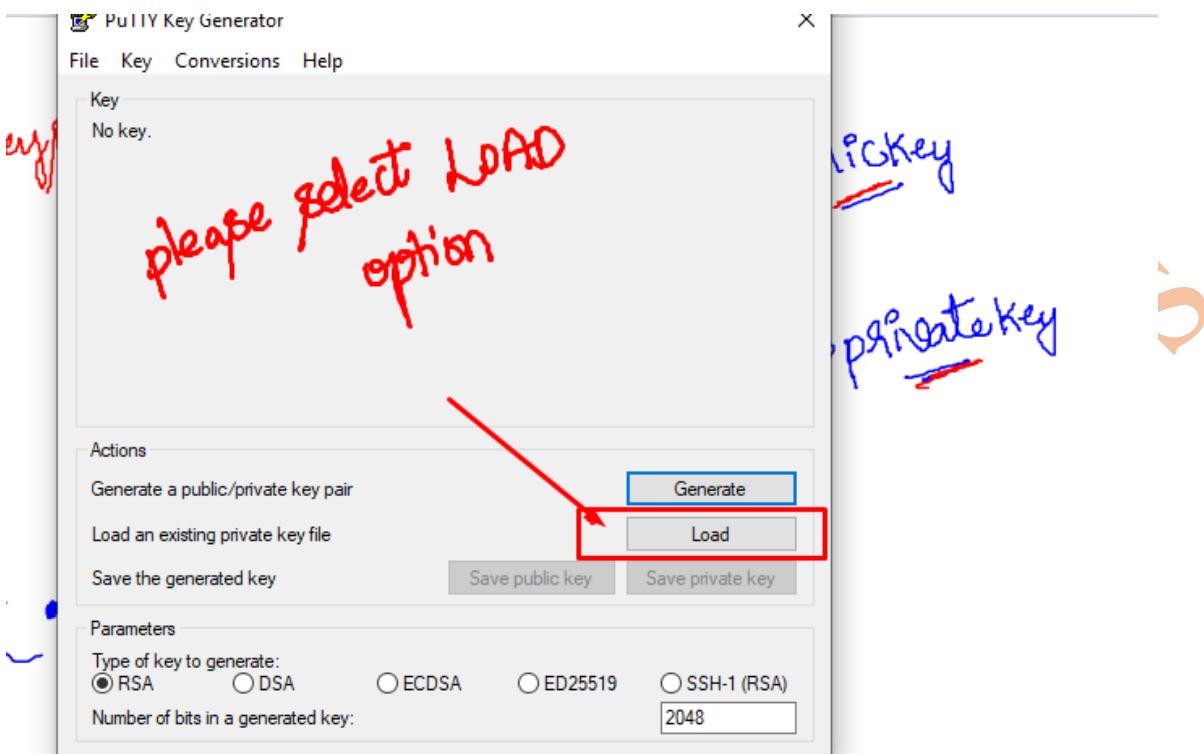
32-bit	64-bit	(or by FTP)	(signature)
puttygen.exe (a RSA and DSA key generation utility)	pageant.exe	(or by FTP)	(signature)
32-bit:	puttygen.exe	(or by FTP)	(signature)
64-bit:	puttygen.exe	(or by FTP)	(signature)
putty.zip (a .ZIP archive of all the above)			
32-bit:	putty.zip	(or by FTP)	(signature)
64-bit:	putty.zip	(or by FTP)	(signature)

Documentation

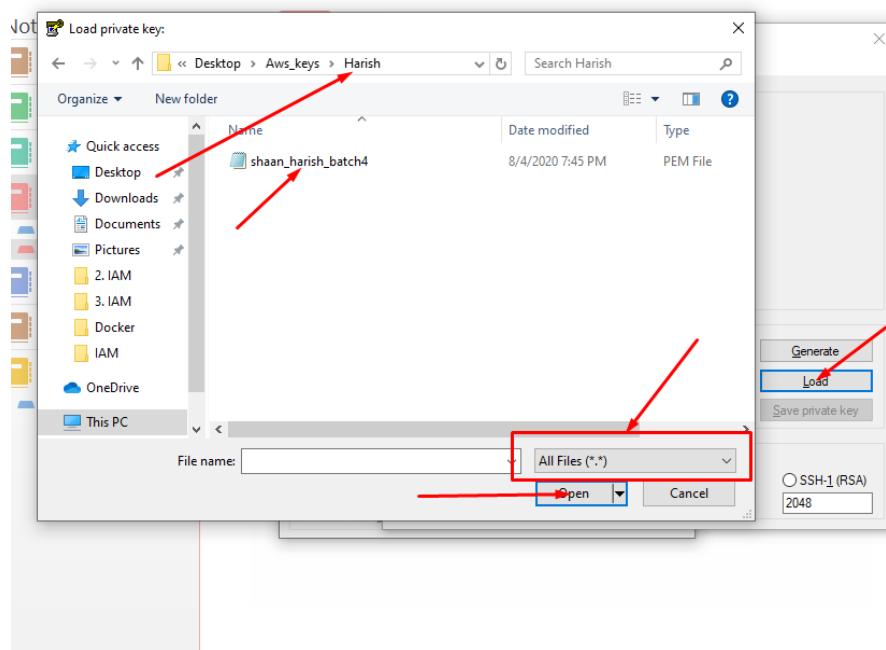


10/10

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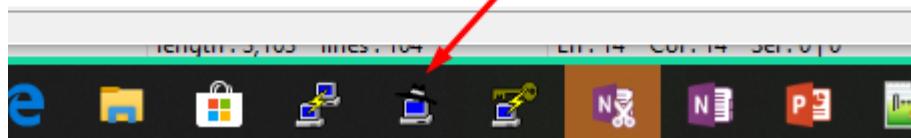
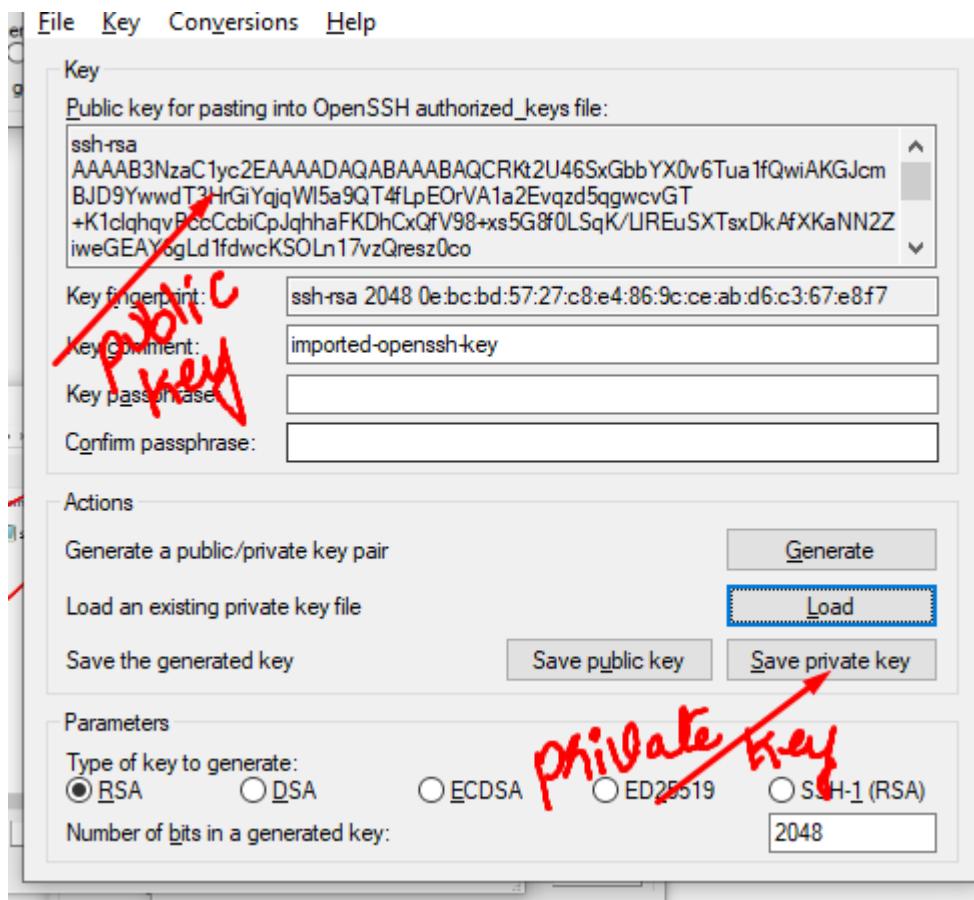


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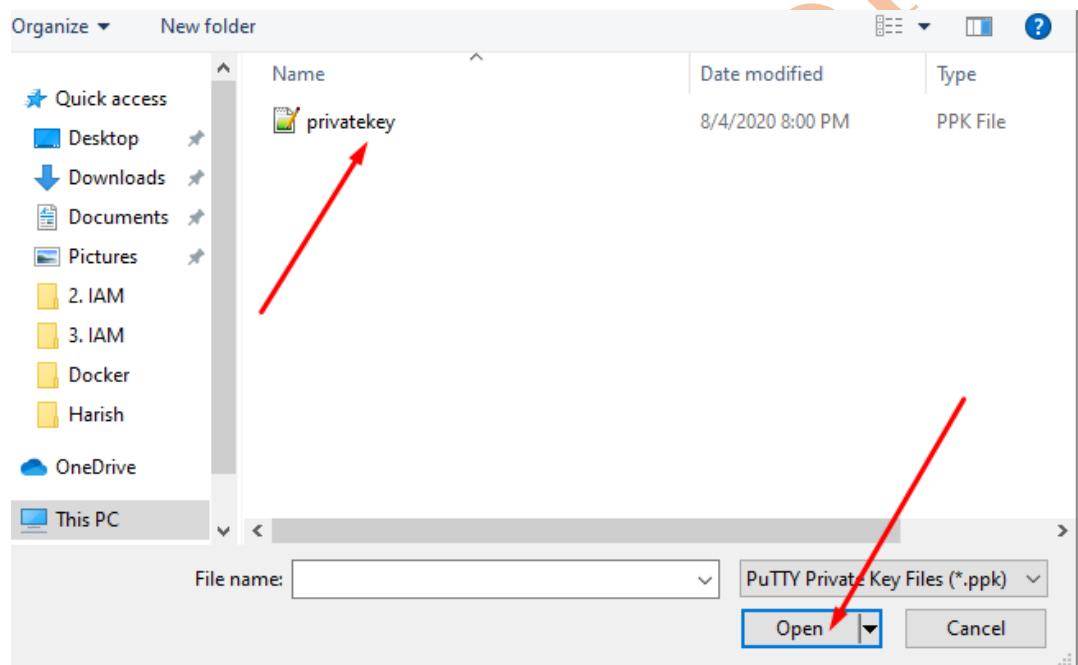
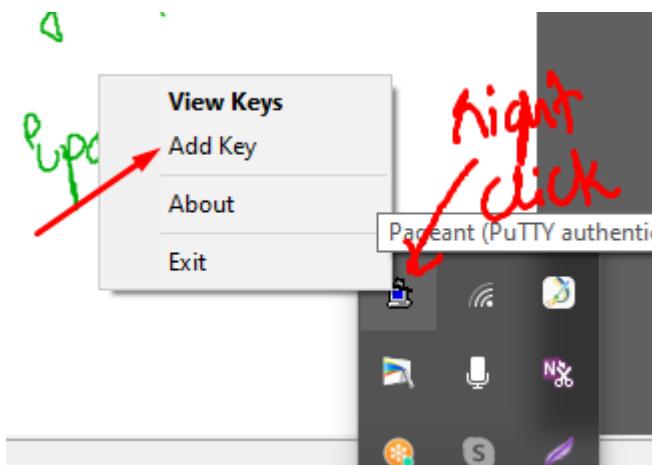


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The screenshot shows the AWS EC2 Instances page. A red arrow points to the 'Public DNS (IPv4)' field, which contains 'ec2-13-57-33-13.us-west-1.compute.amazonaws.com'. Below it, another red box highlights the 'IPv4 Public IP' field, which contains '13.57.33.13'.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
Dvsbatch4	i-09e6a4bddb59fefc1	t2.micro	us-west-1b	running	2/2 checks ...	None	ec2-13-57-33-13.us-west-1.compute.amazonaws.com

The screenshot shows the PuTTY Configuration dialog box. A red box highlights the 'Host Name (or IP address)' field, which contains 'ec2-user@13.57.33.13'. The 'Connection type' is set to SSH. The background shows the AWS EC2 instance details, including the Public DNS and Public IP.

PuTTY Configuration

Category:

- Session
 - Logging
- Terminal
 - Keyboard
 - Bell
 - Features
- Window
 - Appearance
 - Behaviour
 - Translation
 - Selection
 - Colours
- Connection
 - Data
 - Proxy
 - Telnet
 - Rlogin
 - + SSH
 - Serial

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address): **ec2-user@13.57.33.13** Port: 22

Connection type: SSH Raw Telnet Rlogin Serial

Load, save or delete a stored session

Saved Sessions

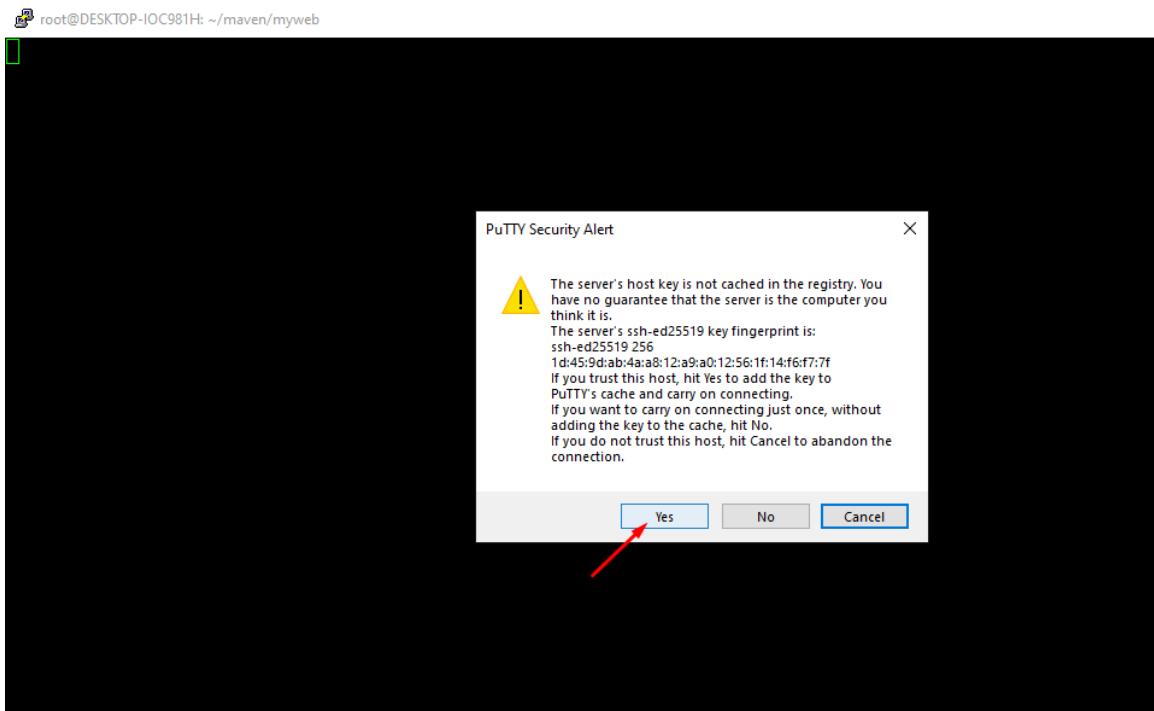
- Default Settings
- Hadoop
- mahendra_nvirginia
- shan_nvirginia
- shan_senthil_california
- shan_senthil_mumbai
- shan_senthil_nvirginia

Load Save Delete

Close window on exit:
 Always Never Only on clean exit

Open Cancel

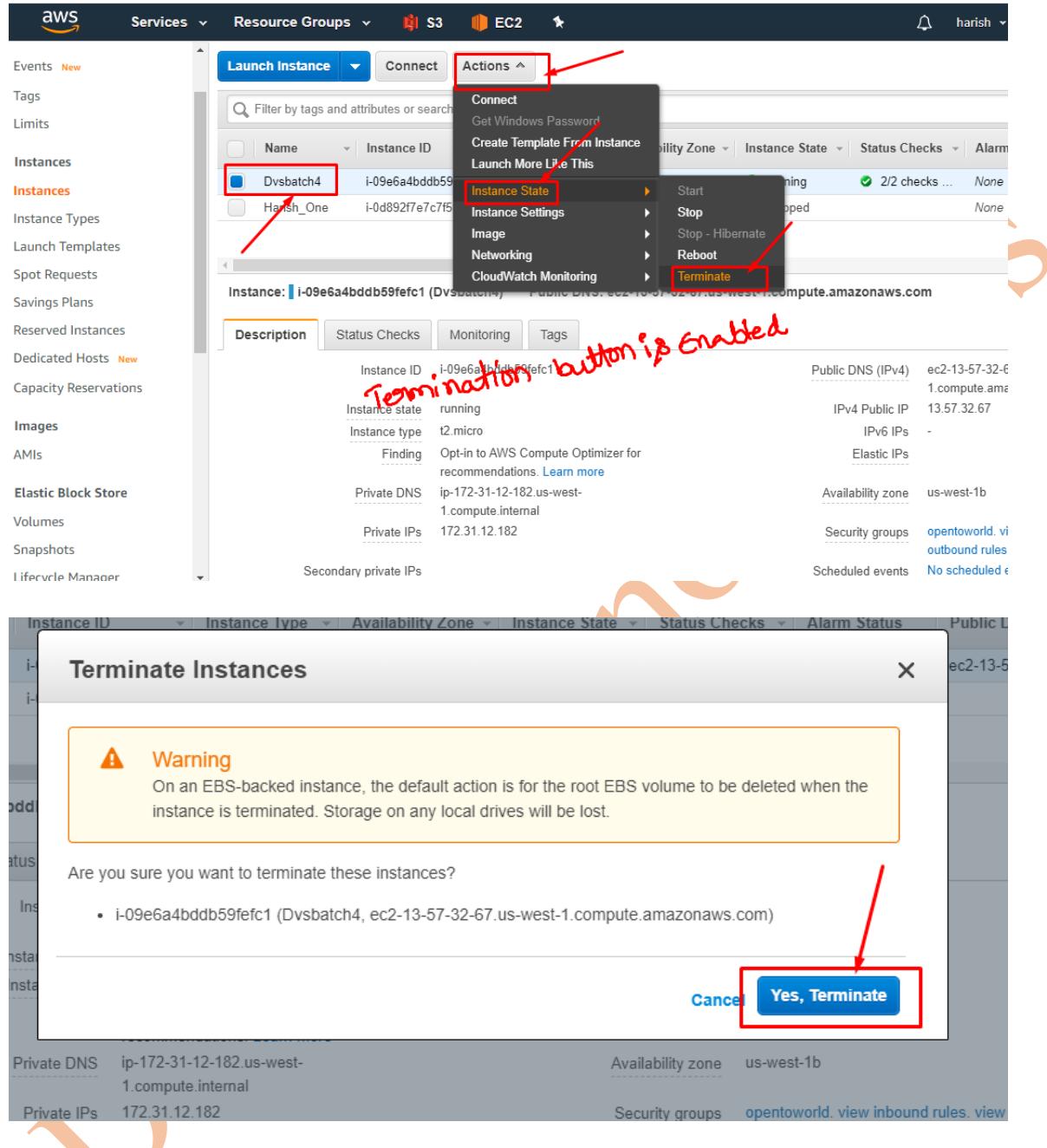
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4. Accidental termination ec2:

How to avoid accidental termination of ec2

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The screenshot shows the AWS CloudWatch Metrics console. At the top, there are two tabs: "CloudWatch Metrics" and "CloudWatch Metrics Insights". Below the tabs, there is a search bar and a filter section with dropdowns for "Metric Name", "Dimensions", "Time Range", and "Statistical Period". The main area displays two metrics:

Metric	Value	Unit	Period	Approximate Value
CloudWatch Metrics	1	Count	1 minute	1
CloudWatch Metrics Insights	1	Count	1 minute	1

Below the metrics, there is a section titled "CloudWatch Metrics Insights Metrics" with a table:

Metric	Value	Unit	Period	Approximate Value
CloudWatch Metrics Insights Metrics	1	Count	1 minute	1

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Step 1: Choose an Amazon Machine Image (AMI)

1 AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, the AWS Marketplace; or you can select one of your own AMIs.

Cancel and Exit

Search for an AMI by entering a search term e.g. "Windows"

Quick Start

My AMIs

Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-05655c267c8956dd Select

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

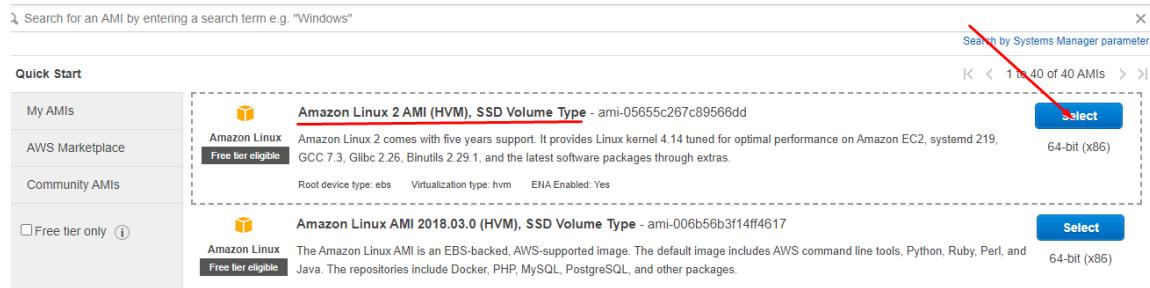
64-bit (x86)

Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-006b56b3f14ff4617 Select

Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.

Free tier eligible

Free tier only



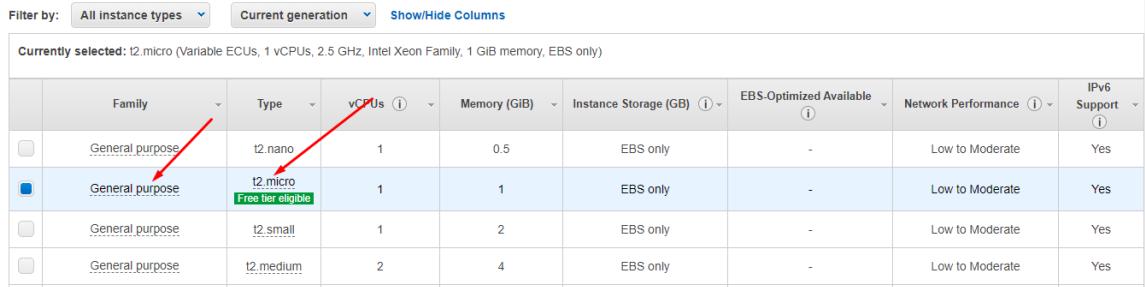
Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: All instance types Current generation Show/Hide Columns

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes



Step 3: Configure Instance Details

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 3: Configure Instance Details

Shutdown behavior: Stop

Stop - Hibernate behavior: Enable hibernation as an additional stop behavior

Enable termination protection: Protect against accidental termination

Monitoring: Enable CloudWatch detailed monitoring
Additional charges apply.

Tenancy: Shared - Run a shared hardware instance
Additional charges may apply when launching Dedicated instances.

T2/T3 Unlimited: Enable
Additional charges may apply

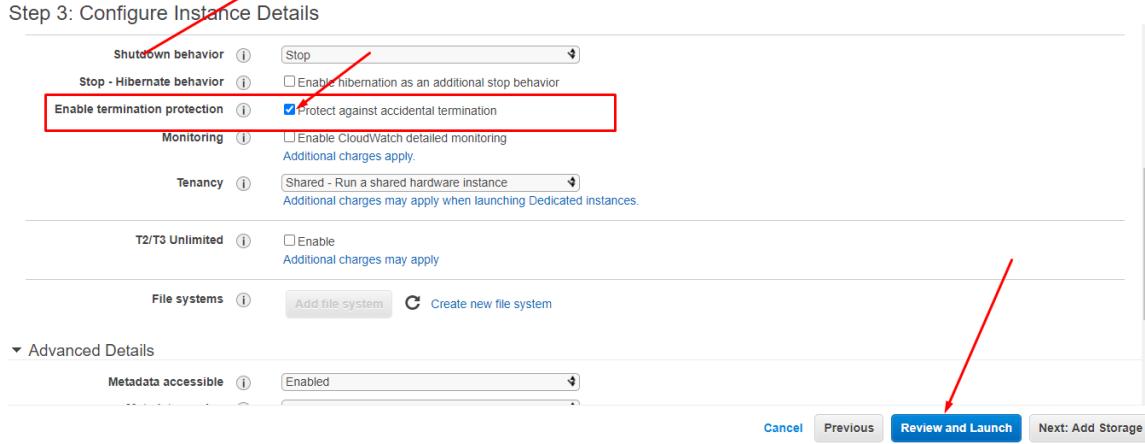
File systems: Add file system Create new file system

Advanced Details

Metadata accessible: Enabled

Review and Launch

Cancel Previous Next: Add Storage



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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: Create a new security group Select an existing security group

Security Group ID	Name	Description	Actions
sg-cd4391b8	default	default VPC security group	Copy to new
sg-07b6af0e323dec37e	opentoworld	launch-wizard-1 created 2020-08-04T19:45:05.553+04:00	Copy to new
sg-085d9ef0fc27a5dc	publicgroup	launch-wizard-1 created 2020-08-05T16:00:29.388+05:30	Copy to new

Inbound rules for sg-07b6af0e323dec37e (Selected security groups: sg-07b6af0e323dec37e)

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	0.0.0.0/0	

[Cancel](#) [Previous](#) [Review and Launch](#)

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

⚠ Improve your instances' security. Your security group, opentoworld, is open to the world.
Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only.
You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details [Edit AMI](#)

Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-05655c267c89566dd
Free tier eligible

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras.

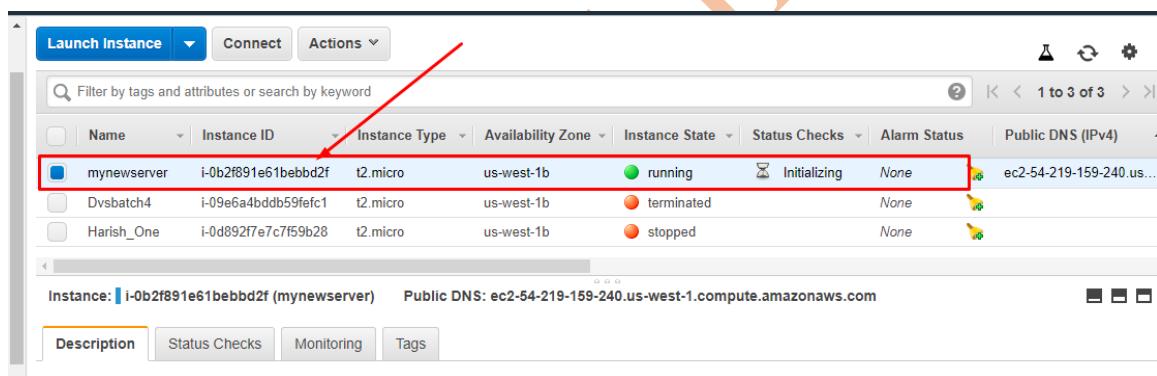
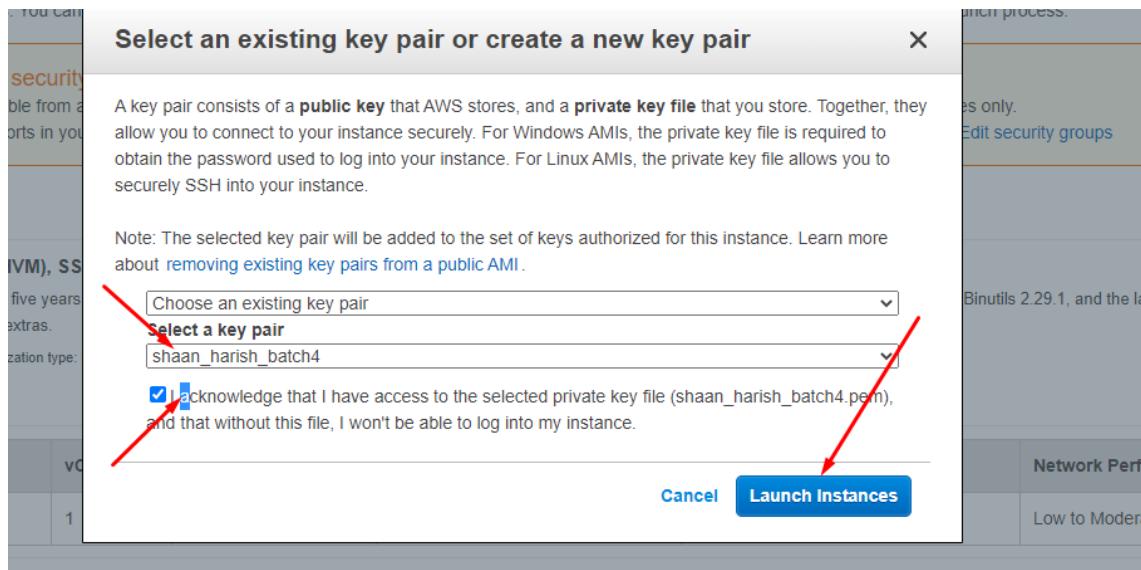
Root Device Type: ebs Virtualization type: hvm

Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

[Cancel](#) [Previous](#) [Launch](#)

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Verification:

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The screenshot shows the AWS EC2 Instances page. A context menu is open over an instance named "mynewserver". The menu options include "Connect", "Get Windows Password", "Create Template From Instance", "Launch More Like This", "Instance State" (with sub-options "Start", "Stop", "Stop - Hibernate", "Reboot", and "Terminate"), "Instance Settings", "Image", "Networking", and "CloudWatch Monitoring". A red arrow points from the "Terminate" option in the menu to the "Terminate" button in the confirmation dialog.

The screenshot shows the "Terminate Instances" dialog box. It contains a warning message: "On an EBS-backed instance, the default action is for the root EBS volume to be deleted when the instance is terminated. Storage on any local drives will be lost." Below this, a question asks, "Are you sure you want to terminate these instances?". A red box highlights the text: "These instances have Termination Protection and will not be terminated. Use the Change Termination Protection option from the Instances screen Actions menu to allow termination of these instances." At the bottom right are "Cancel" and "Yes, Terminate" buttons, with "Yes, Terminate" being highlighted by a red arrow. The background shows the EC2 Instances list with "mynewserver" selected.

Changing the termination protection:

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The screenshot shows the AWS EC2 Instances page. A red box highlights the 'Actions' dropdown menu for the selected instance 'mynewserver'. The 'Instance Settings' option is also highlighted with a red box. A red arrow points from the 'Instance Settings' option to the 'Change Termination Protection' option in the dropdown menu. Another red arrow points from the 'Change Termination Protection' option to the confirmation dialog box.

EC2 Instances - mynewserver

Actions ▾

Instance Settings

Change Termination Protection

Disable Termination Protection

Are you sure that you would like to disable termination protection for the instance with the following details:
Instance ID: i-0b2f891e61bebcd2
Current Setting: Enabled

Cancel Yes, Disable

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
mynewserver	i-0b2f891e61bebcd2	t2.micro	us-west-1b	running	2/2 checks ...	None	ec2-54-219-159-240.us...
rsbatch4	i-0...						
Irish_One	i-0...						

Finding Opt-in to AWS Compute Optimizer for recommendations. [Learn more](#)

Private DNS ip-172-31-2-177.us-west-1.compute.internal

Private IPs 172.31.2.177

Secondary private IPs

Elastic IPs

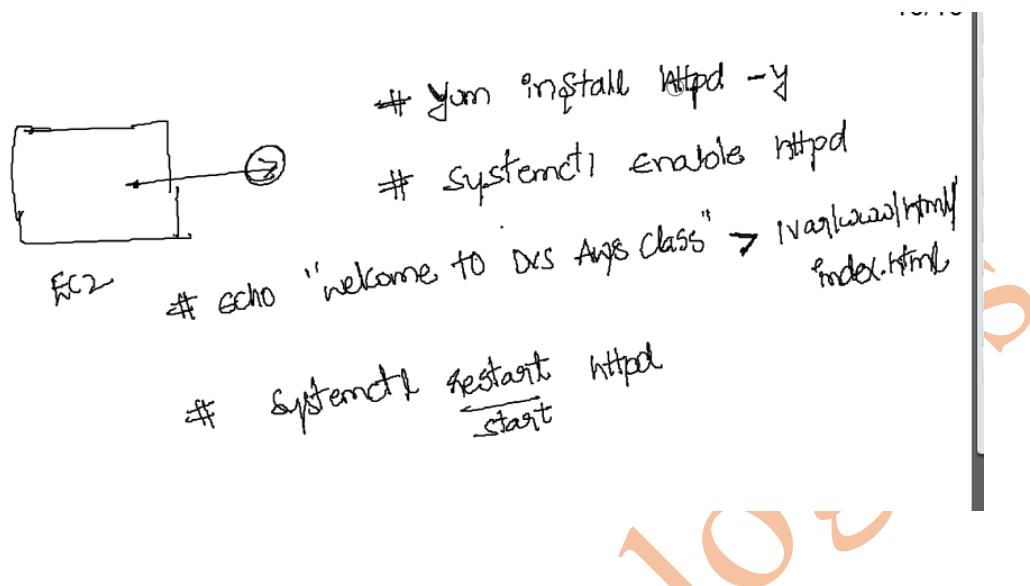
Availability zone us-west-1b

Security groups opentoworld, view inbound rules, view outbound rules

Scheduled events No scheduled events

5. BootStrap -- UserData

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Putty Configuration

Category: Session

Host Name (or IP address): ec2-user@54.219.159.240

Port: 22

Connection type: SSH

Default Settings:

- Hadoop
- mahendra_nvirginia
- shan_nvirginia
- shan_senthil_california
- shan_senthil_mumbai
- shan_senthil_nvirginia

Close window on exit: Only on clean exit

Open

CloudWatch Metrics

Status Checks: 2/2 checks ... None

Alarm Status: None

Compute.amazonaws.com

Public DNS (IPv4): ec2-54-219-159-240.us-west-1.compute.amazonaws.com

IPv4 Public IP: 54.219.159.240

IPv6 IPs: -

Elastic IPs: -

Availability Zone: us-west-1b

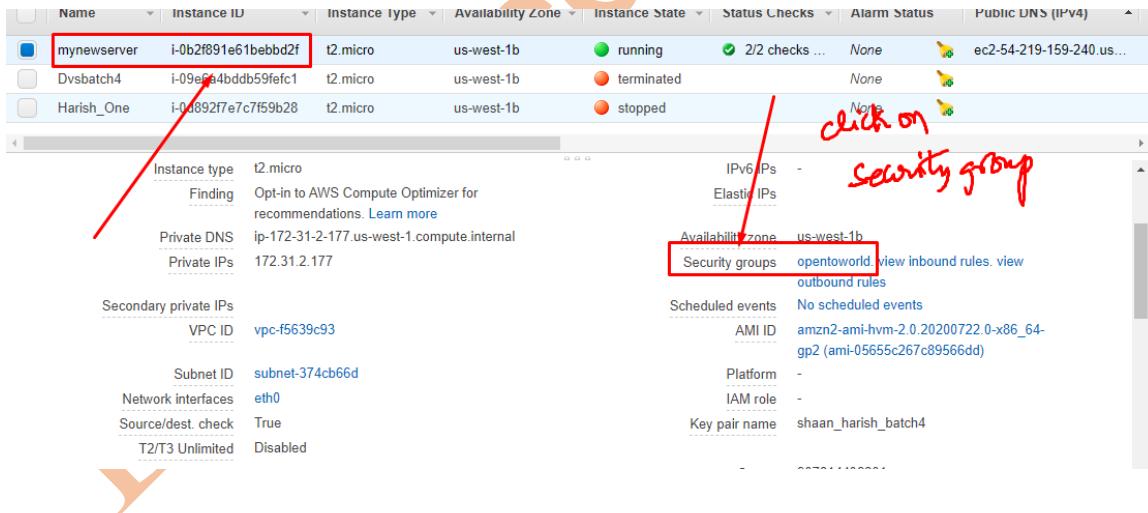
Security Groups: opentoworld, view inbound, outbound rules

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```
[root@ip-172-31-2-177 ~]# yum install httpd -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
Resolving Dependencies
--> Running transaction check
--> Package httpd.x86_64 0:2.4.43-1.amzn2 will be installed
--> Processing Dependency: httpd-tools = 2.4.43-1.amzn2 for package: httpd-2.4.43-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem = 2.4.43-1.amzn2 for package: httpd-2.4.43-1.amzn2.x86_64
--> Processing Dependency: system-logos-httpd for package: httpd-2.4.43-1.amzn2.x86_64
```

```
[root@ip-172-31-2-177 ~]#
[root@ip-172-31-2-177 ~]# systemctl enable httpd
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.
[root@ip-172-31-2-177 ~]# echo "Hi Team welcome to Dvs Aws Classes" > /var/www/html/index.html
[root@ip-172-31-2-177 ~]# systemctl restart httpd
[root@ip-172-31-2-177 ~]#
```

Enable httpd port at security group level



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EC2 > Security Groups

Security Groups (1/1) Info

Filter security groups

Security group ID: sg-07b6af0e323dec37e X

Clear filters

Name Security group ID Security group name VPC ID Description

sg-07b6af0e323dec37e - opentoworld

Details Inbound rules Outbound rules Tags

EC2 > Security Groups > sg-07b6af0e323dec37e - opentoworld > Edit inbound rules

Edit inbound rules Info

Inbound rules Info

Type Info Protocol Info Port range Info Source Info Description - optional Info

SSH TCP 22 Custom 0.0.0.0/0 Delete

Add rule

⚠ NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to

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Inbound rules [Info](#)

Type Info	Protocol Info	Port range Info	Source Info	Description - optional Info
SSH	TCP	22	Custom ▼ <input type="text" value="0.0.0.0/0"/> X	<input type="text" value=""/> Delete
HTTP	TCP	80	Custom ▼ <input type="text" value="0.0.0.0/0"/> X	<input type="text" value=""/> Delete

[Add rule](#)

⚠ NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Cancel [Preview changes](#) [Save rules](#)

EC2 > Security Groups > sg-07b6af0e323dec37e - opentoworld

sg-07b6af0e323dec37e - opentoworld

Delete security group [Copy to new security group](#)

Details				
Security group name	Security group ID	Description	VPC ID	
opentoworld	sg-07b6af0e323dec37e	launch-wizard-1 created 2020-08-04T19:45:05.553+04:00	vpc-f5639c93	
Owner	Inbound rules count	Outbound rules count		
907814406801	2 Permission entries	1 Permission entry		

[Inbound rules](#) [Outbound rules](#) [Tags](#)

Inbound rules

Type	Protocol	Port range	Source	Description - optional
HTTP	TCP	80	0.0.0.0/0	-
SSH	TCP	22	0.0.0.0/0	-

[Edit inbound rules](#)

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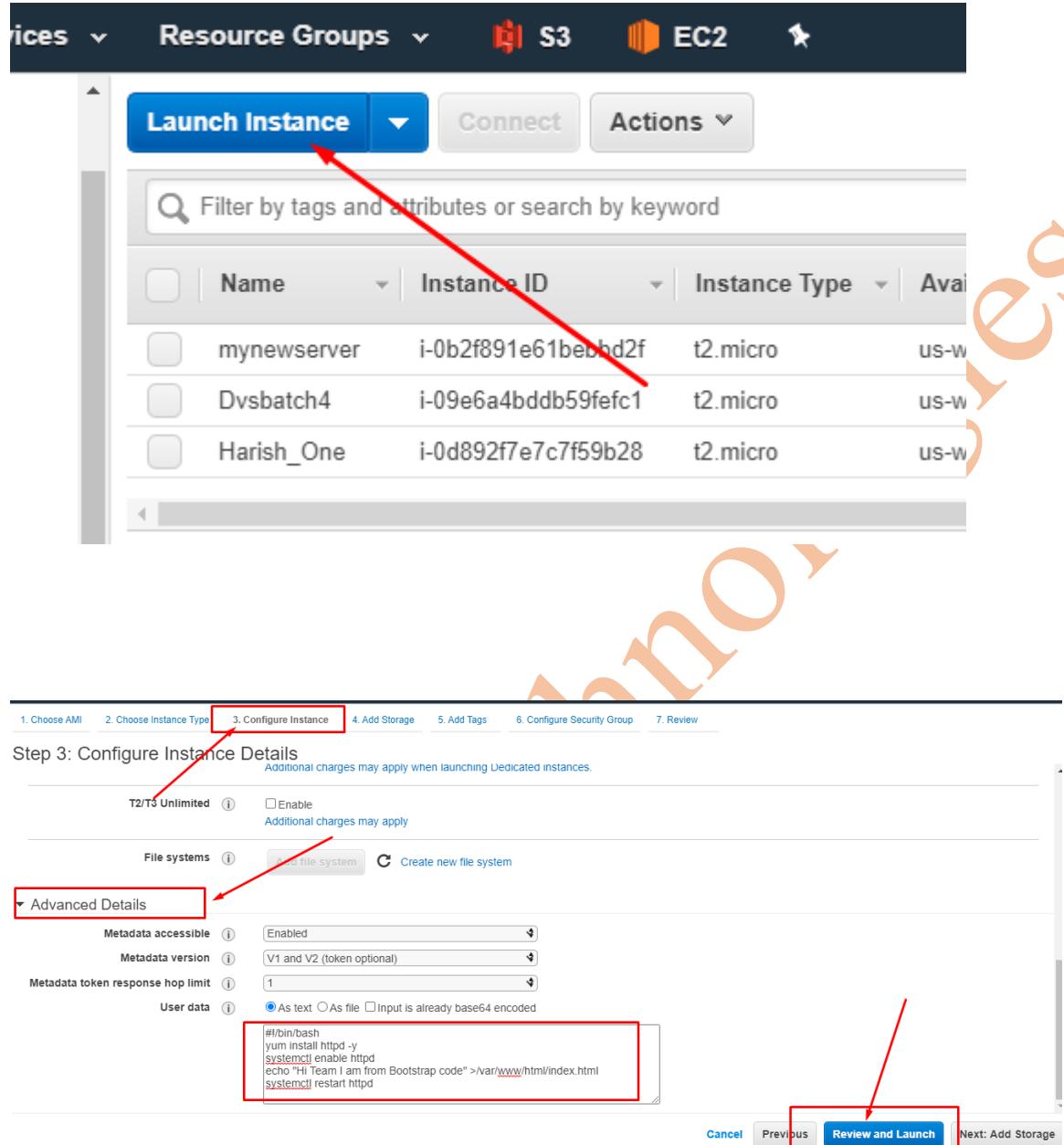
← → ⌂ ⓘ Not secure | 54.219.159.240

Hi Team welcome to Dvs Aws Classes

USERDATA:

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: Create a new security group Select an existing security group

Security Group ID	Name	Description	Actions
sg-cd4391b8	default	default VPC security group	Copy to new
sg-07b6af0e323dec37e	opentoworld	launch-wizard-1 created 2020-08-04T19:45:05.553+04:00	Copy to new
sg-085d9ef0ffc27a5dc	publicgroup	launch-wizard-1 created 2020-08-05T16:00:29.388+05:30	Copy to new

Inbound rules for sg-07b6af0e323dec37e (Selected security groups: sg-07b6af0e323dec37e)

Type	Protocol	Port Range	Source	Description
HTTP	TCP	80	0.0.0.0/0	
SSH	TCP	22	0.0.0.0/0	

[Cancel](#) [Previous](#) [Review and Launch](#)

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

⚠ Improve your instances' security. Your security group, opentoworld, is open to the world.

Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details [Edit AMI](#)

Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-05655c267c89566dd
Free tier eligible

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras.

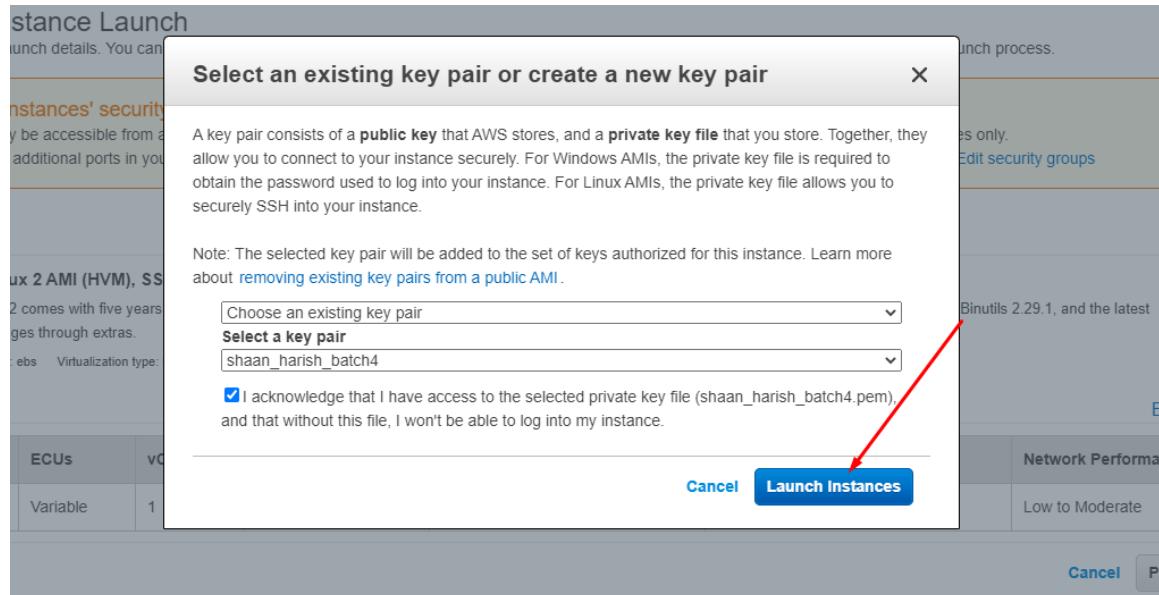
Root Device Type: ebs Virtualization type: hvm

Instance Type [Edit instance type](#)

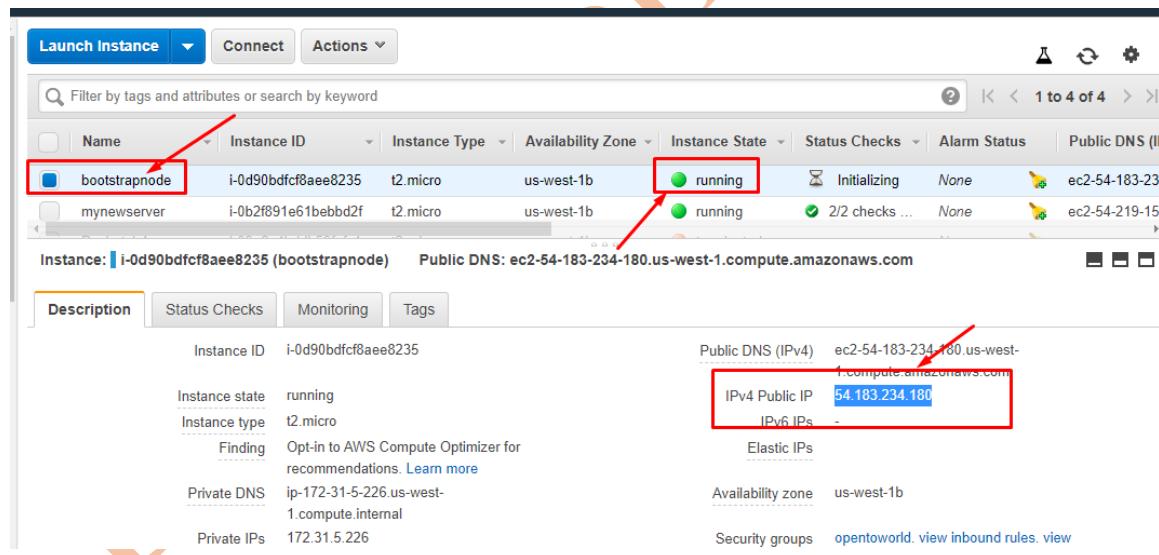
Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

[Cancel](#) [Previous](#) [Launch](#)

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Verification:



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Hi Team I am from bootstrap process

6. Working with EBS

The screenshot shows the AWS EC2 Instances page. On the left, there's a sidebar with options like New EC2 Experience, EC2 Dashboard, Events, Tags, Limits, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, and Images. The main area has tabs for Launch Instance, Connect, and Actions. Below that is a search bar and a table with columns: Name, Instance ID, Instance Type, Availability Zone, Instance State, Status Checks, and Al. One row is selected, showing 'EBSServer' as the Name, 'i-0ff81bcc2aaa40cda' as the Instance ID, 't2.micro' as the Instance Type, 'us-west-1b' as the Availability Zone, 'running' as the Instance State, and 'Initializing' as the Status Checks. A red box highlights both the 'EBSServer' name and the 'us-west-1b' availability zone. Below the table, there's a detailed view for the selected instance, showing fields like Instance ID, Instance state, Instance type, Finding, Private DNS, Public DNS (IPv4), IPv4 Public IP, IPv6 IPs, Elastic IPs, and Availability zone.

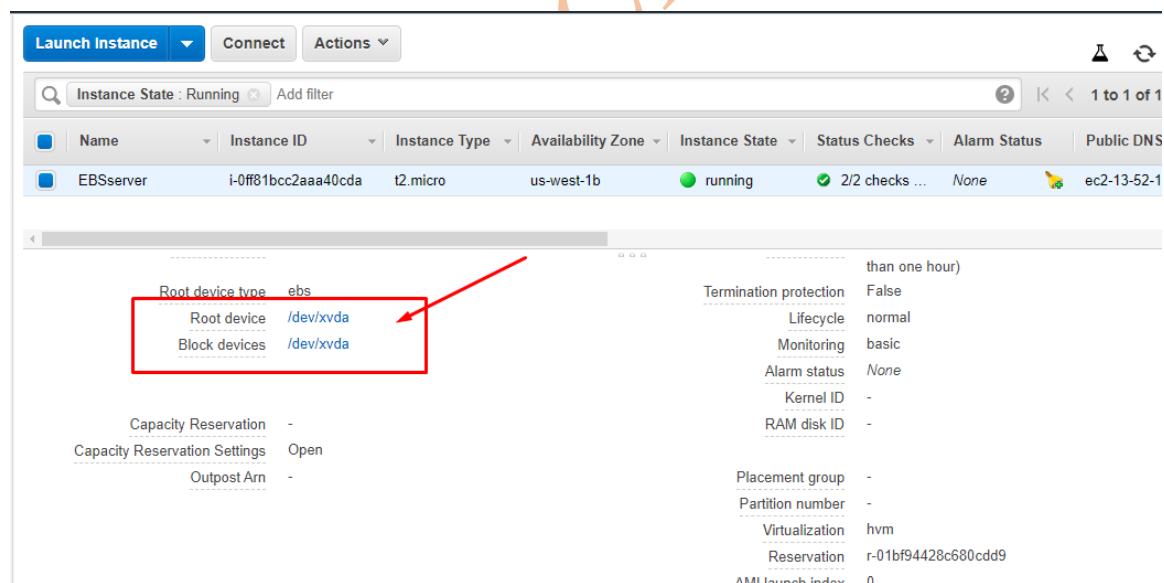
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```
[root@ip-172-31-5-157 ~]# hostnamectl set-hostname ebsserver
[root@ip-172-31-5-157 ~]# bash
[root@ebsserver ~]# lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda    202:0    0 8G  0 disk
└─xvda1 202:1    0 8G  0 part /
[root@ebsserver ~]# fdisk -l
Disk /dev/xvda: 8 GiB, 8589934592 bytes, 16777216 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: 55BAE540-16DE-4A92-90DF-3330D51DF457

Device      Start     End   Sectors Size Type
/dev/xvda1  4096 16777182 16773087  8G Linux filesystem
/dev/xvda28  2048    4095    2048  1M BIOS boot

Partition table entries are not in disk order.
[root@ebsserver ~]#
```

From Console:



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The screenshot shows the AWS Management Console interface for managing EBS volumes. The left sidebar lists various services: Capacity Reservations, Images (AMIs), Elastic Block Store (with 'Volumes' highlighted by a red box and a red arrow pointing to it), Snapshots, Lifecycle Manager, Network & Security (Security Groups, Elastic IPs, Placement Groups, Key Pairs, Network Interfaces), and Load Balancing. The main content area displays a list of existing volumes, with one volume ('vol-018cb8b4ec8193aee') selected. The selected volume's details are shown in a modal dialog at the bottom. The modal has tabs for Description, Status Checks, Monitoring, and Tags. The selected volume's details are: Volume ID: vol-018cb8b4ec8193aee, Alarm status: None, Snapshot: snap-0dabc79426130e2d4, Availability Zone: us-west-1b, Encryption: Not Encrypted. The 'Create Volume' button is visible in both the main navigation bar and the modal's navigation bar.

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The screenshot shows the 'Create Volume' step in the AWS Management Console. The configuration is as follows:

- Volume Type:** General Purpose SSD (gp2)
- Size (GiB):** 5 (Min: 1 GiB, Max: 16384 GiB)
- IOPS:** 100 / 3000 (Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS)
- Availability Zone***: us-west-1b (highlighted with a red box and a handwritten note "Save as env")
- Throughput (MB/s):** Not applicable
- Snapshot ID:** Select a snapshot
- Encryption:** Encrypt this volume

Below the configuration, there is a section for tags:

Key	(128 characters maximum)	Value	(256 characters maximum)
This resource currently has no tags Choose the Add tag button or click to add a Name tag			

Buttons at the bottom right include **Add Tag**, **50 remaining (Up to 50 tags maximum)**, **Cancel**, and a prominent **Create Volume** button.

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The screenshot shows the AWS EBS console interface. At the top, there is a 'Create Volume' button and an 'Actions' dropdown menu. The 'Actions' menu is open, and the 'Attach Volume' option is highlighted with a red arrow. Below the menu, a table lists volumes, with one row selected for 'ebsvolume1'. The 'Description' tab is selected in the volume details section. The volume details include:

Volume ID	vol-0f21251fb5fad3763	Outposts /
Alarm status	None	Creation time
Snapshot	-	Attachment information
Availability Zone	us-west-1b	
Encryption	Not Encrypted	

A large orange watermark 'DVS Technologies' is overlaid across the middle of the screen.

Attach Volume

Volume: vol-0f21251fb5fad3763 (ebsvolume1) in us-west-1b

Instance: Search instance ID or Name tag in us-west-1b

Device: i-0ff81bcc2aaa406da (EBSserver) (running)

Cancel Attach

Snapshot: - Created: August 6, 2020 at 6:58:04 PM

Availability Zone: us-west-1b State: available

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Volume

Volume (i) vol-0f21251fb5fad3763 (ebsvolume1) in us-west-1b

Instance (i) i-0ff81bcc2aaa40cda in us-west-1b

Device (i) /dev/sdf

Linux Devices: /dev/sdf through /dev/sdp

Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (shown in the details) is /dev/sdf through /dev/sdp.

IOPS 100

Cancel Attach

Create Volume Actions

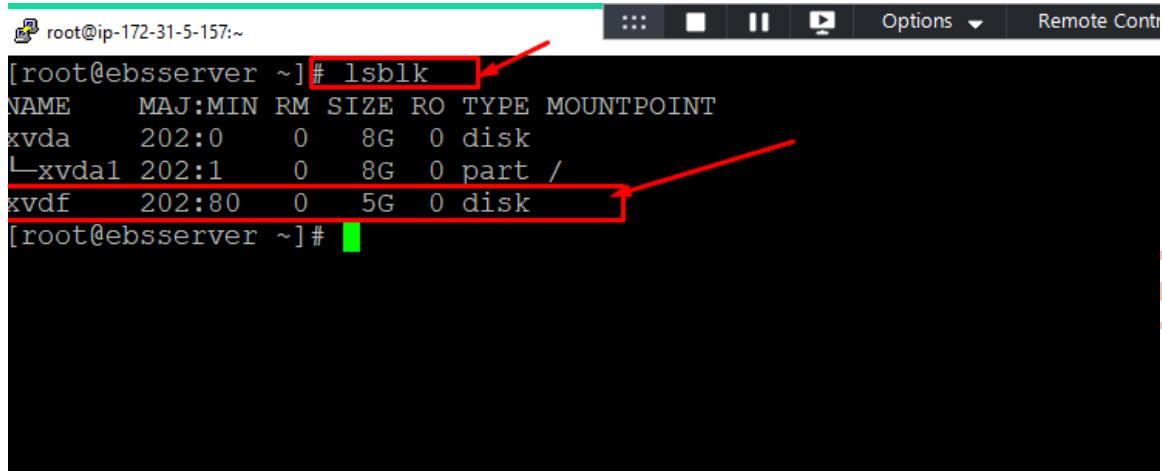
Name	Volume ID	Size	Volume Type	IOPS	Snapshot	Created	Availability Zone	State
ebsvolume1	vol-0f21251fb5fad3763	5 GiB	gp2	100		August 6, 2020 at 6:...	us-west-1b	in-use
	vol-018cb8b...	8 GiB	gp2	100	snap-0dabc79...	August 6, 2020 at 6:...	us-west-1b	in-use

Volumes: vol-0f21251fb5fad3763 (ebsvolume1)

Description Status Checks Monitoring Tags

Volume ID: vol-0f21251fb5fad3763
Alarm status: None
Outposts ARN: -
Size: 5 GiB

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```
[root@ebsserver ~]# lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda    202:0    0  8G  0 disk 
└─xvda1  202:1    0  8G  0 part /
xvdf    202:80   0  5G  0 disk
[root@ebsserver ~]#
```

Increasing Volume Size:

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S New

ups New

Create Volume Actions

Filter by tags a

Name ebsvolume1

Modify Volume

Create Snapshot

Delete Volume

Attach Volume

Detach Volume

Force Detach Volume

Change Auto-Enable IO Setting

Add/Edit Tags

Volumes: vol-0f21251fb5fad3763 (ebsvolume1)

Description Status Checks Monitoring Tags

Volume ID vol-0f21251fb5fad3763

Alarm status None

Modify Volume

Volume ID vol-0f21251fb5fad3763

Volume Type General Purpose SSD (gp2)

Size 10 (Min: 1 GiB, Max: 16384 GiB)

IOPS 100 / 3000 (Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS)

Cancel Modify

Snapshot -

Availability Zone us-west-1b

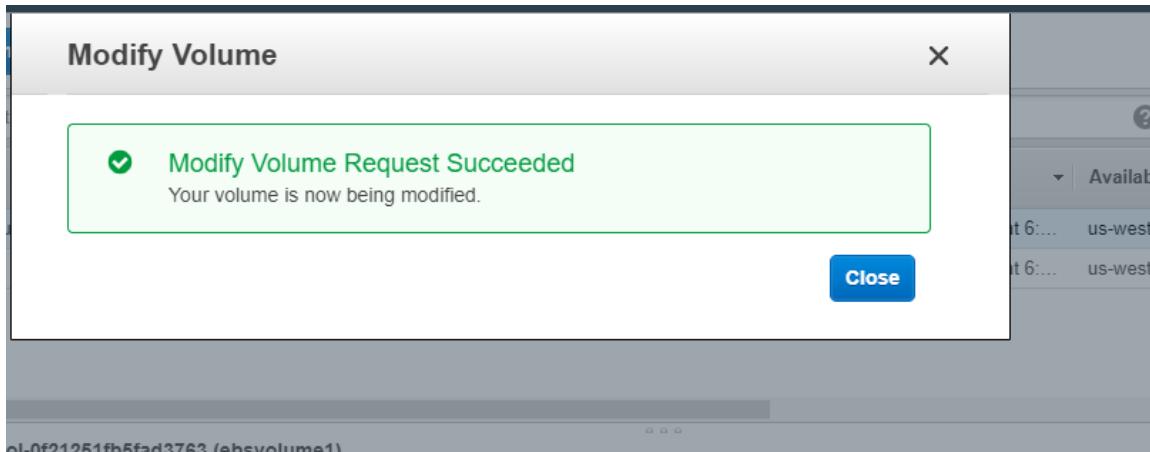
Encryption Not Encrypted

Created August 6, 2020 at 6:58

State in-use

Attachment information i-0ff81bcc2aaa40cda

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A terminal window showing the output of the `lsblk` command. The output lists disk and partition information:

```
xvda    202:0    0  8G  0 disk
[root@ebsserver ~]# lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda   202:0    0  8G  0 disk
└─xvda1 202:1    0  8G  0 part /
xvdf   202:80   0 10G  0 disk
[root@ebsserver ~]#
```

The line for `xvdf` is highlighted with a red box and a red arrow points to it from the left.

7. Attaching EBS from one ec2 to other

1. Make sure that you are creating one server called SERVER1

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The screenshot shows two consecutive pages from the AWS Management Console.

EC2 Instances Page:

- Header: Launch Instance, Connect, Actions.
- Search bar: Instance State: Running.
- Table headers: Name, Instance ID, Instance Type, Availability Zone, Instance State, Status Checks, Alarm Status.
- Data row: EBSserver (Instance ID: i-0ff81bcc2aaa40cda, Instance Type: t2.micro, Availability Zone: us-west-1b, Instance State: running, Status Checks: 2/2 checks ... None, Alarm Status: None) and server1 (Instance ID: i-00eb8c59a14fa7bee, Instance Type: t2.micro, Availability Zone: us-west-1b, Instance State: running, Status Checks: Initializing, Alarm Status: None).

EBS Volumes Page:

- Header: Create Volume, Actions.
- Search bar: Filter by tags and attributes or search by keyword.
- Table headers: Name, Volume ID, Size, Volume Type, IOPS, Snapshot, Create Date.
- Data rows:
 - vol-0aca48a... (Size: 8 GiB, Volume Type: gp2, IOPS: 100, Snapshot: snap-0dabc79..., Create Date: August 2023)
 - ebsvolume1 (Size: 10 GiB, Volume Type: gp2, IOPS: 100, Snapshot: snap-0dabc79..., Create Date: August 2023)
 - vol-018cb8b... (Size: 8 GiB, Volume Type: gp2, IOPS: 100, Snapshot: snap-0dabc79..., Create Date: August 2023)
- Text at bottom: Select a volume above.

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The screenshot shows the AWS Create Volume wizard and the resulting volume details page.

Create Volume Wizard:

- Volume Type:** General Purpose SSD (gp2)
- Size (GiB):** 5 (Min: 1 GiB, Max: 16384 GiB)
- IOPS:** 100 / 3000 (Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS)
- Availability Zone:** us-west-1b
- Throughput (MB/s):** Not applicable
- Snapshot ID:** Select a snapshot
- Encryption:** Encrypt this volume

Tags: Key (128 characters maximum) | Value (256 characters maximum)
This resource currently has no tags
Choose the Add tag button or click to add a Name tag

Add Tag 50 remaining (Up to 50 tags maximum)

Create Volume (blue button)

Volume Details Page:

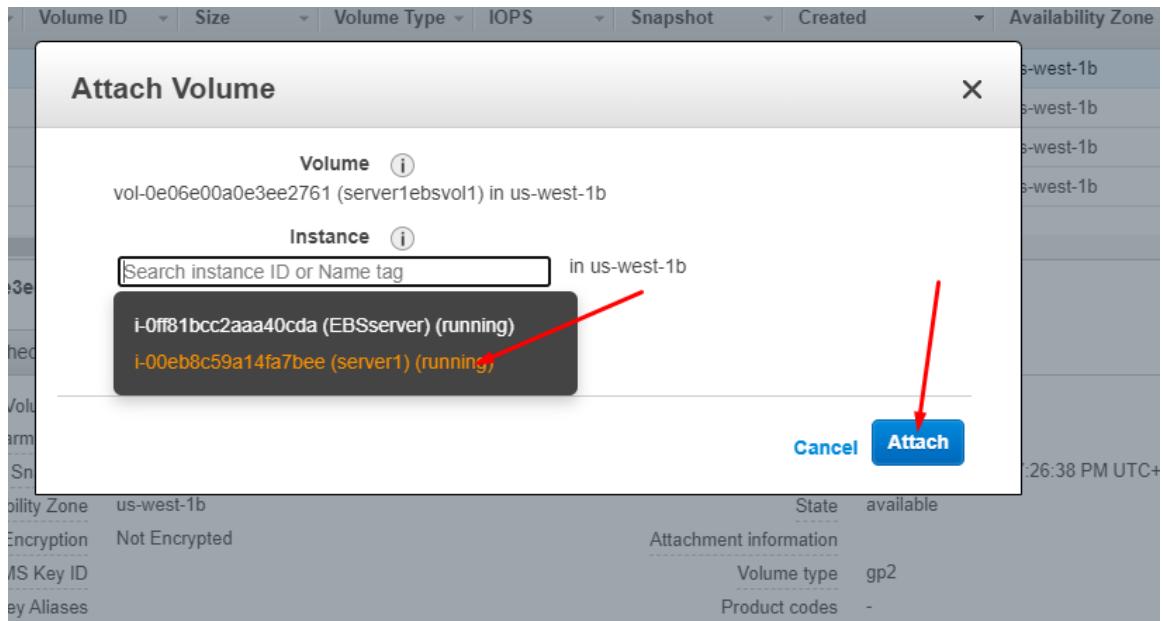
Name	Volume ID	Size	Type	IOPS	Snapshot	Created	Availability Zone	State
server1ebsvol1	vol-0e06e00a0e3ee2761	5 GiB	gp2	100	snap-0dabc79...	August 6, 2020 at 7:26:38 PM UTC+4	us-west-1b	available
ebsvolume1	vol-0f21251f...	10 GiB	gp2	100	snap-0dabc79...	August 6, 2020 at 6:59:54 PM UTC+4	us-west-1b	in-use
	vol-018cb8b...	8 GiB	gp2	100	snap-0dabc79...	August 6, 2020 at 6:59:54 PM UTC+4	us-west-1b	in-use

Volume: vol-0e06e00a0e3ee2761 (server1ebsvol1)

Description:

Volume ID	vol-0e06e00a0e3ee2761	Outposts ARN	-
Alarm status	None	Size	5 GiB
Snapshot	-	Created	August 6, 2020 at 7:26:38 PM UTC+4
Availability Zone	us-west-1b	State	available
Encryption	Not Encrypted	Attachment information	
KMS Key ID		Volume type	gp2

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Volume List							
	Name	Volume ID	Size	Volume Type	IOPS	Snapshot	Created
	Actions						
<input checked="" type="checkbox"/>	server1ebsvol1	vol-0e06e00a0e3ee2761	5 GiB	gp2	100		August 6, 2020 at 7:26:38 PM UTC+05:30
<input type="checkbox"/>	ebsvolume1	vol-0f21251f...	10 GiB	gp2	100		August 6, 2020 at 6:26:38 PM UTC+05:30
<input type="checkbox"/>							

Let's write some data to the disk:

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```
[root@ip-172-31-3-248 ~]# hostnamectl set-hostname server1
[root@ip-172-31-3-248 ~]# bash
[root@server1 ~]# lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda   202:0    0 8G  0 disk
└─xvdal 202:1    0 8G  0 part /
xvdf   202:80   0 5G  0 disk
[root@server1 ~]#
```

```
[root@server1 ~]# lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda   202:0    0 8G  0 disk
└─xvdal 202:1    0 8G  0 part /
xvdf   202:80   0 5G  0 disk
[root@server1 ~]# mkfs.ext4 /dev/xvdf
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
327680 inodes, 1310720 blocks
65536 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=1342177280
40 block groups
32768 blocks per group, 32768 fragments per group
8192 inodes per group
Superblock backups stored on blocks:
      32768, 98304, 163840, 229376, 294912, 819200, 884736

Allocating group tables: done
Writing inode tables: done
Creating journal (32768 blocks): done
Writing superblocks and filesystem accounting information: done

[root@server1 ~]# lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda   202:0    0 8G  0 disk
└─xvdal 202:1    0 8G  0 part /
xvdf   202:80   0 5G  0 disk
[root@server1 ~]#
```

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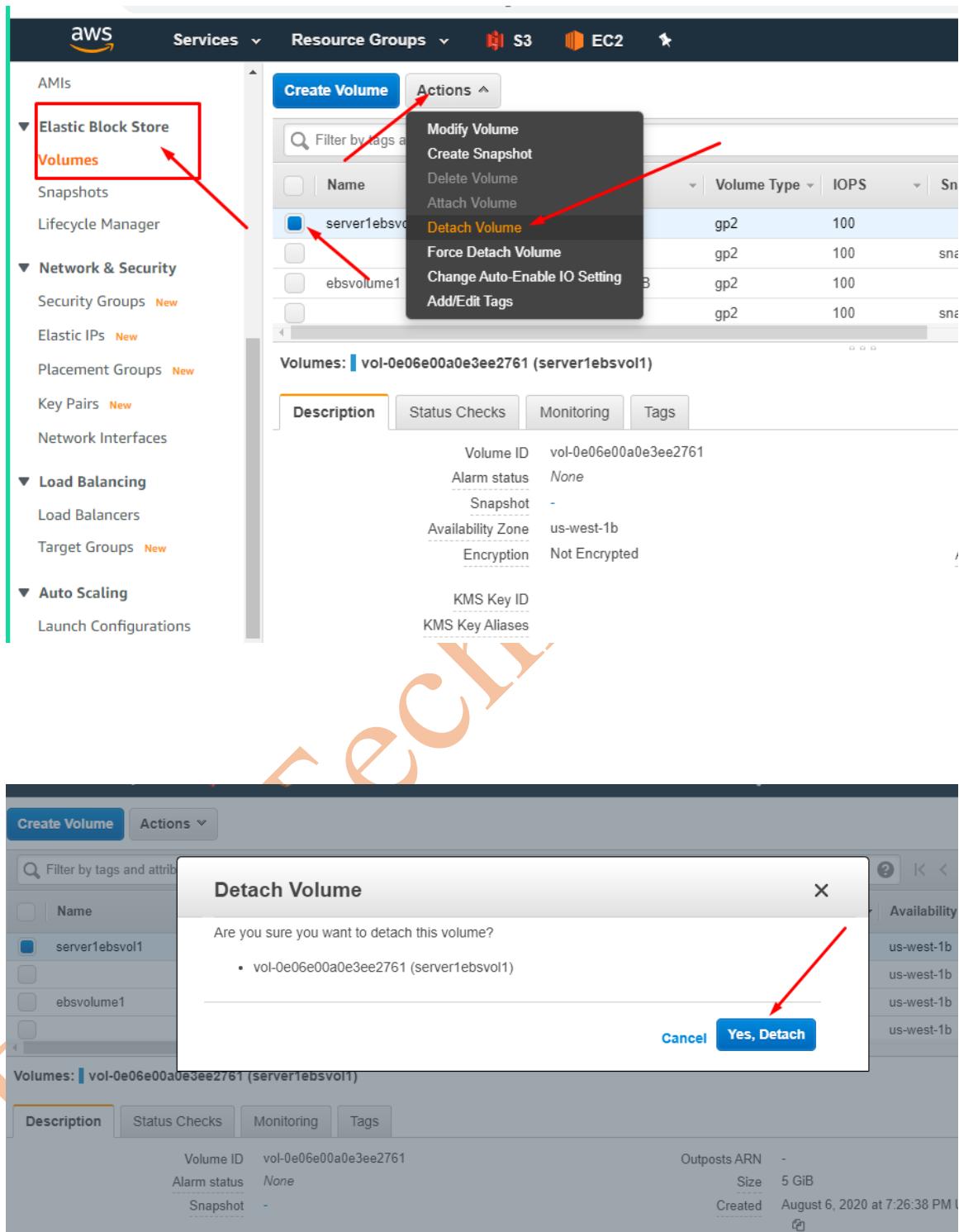
```
[root@server1 ~]# mkdir /app
[root@server1 ~]# df -hT /app
Filesystem      Type  Size  Used  Avail Use% Mounted on
/dev/xvda1      xfs   8.0G  1.3G  6.8G  17% /
[root@server1 ~]# mount -t ext4 /dev/xvdf /app
[root@server1 ~]# df -hT /app
Filesystem      Type  Size  Used  Avail Use% Mounted on
/dev/xvdf       ext4  4.8G  20M   4.6G  1% /app
[root@server1 ~]# df -hT
Filesystem      Type  Size  Used  Avail Use% Mounted on
devtmpfs        devtmpfs 474M   0   474M  0% /dev
tmpfs           tmpfs    492M   0   492M  0% /dev/shm
tmpfs           tmpfs    492M  404K  492M  1% /run
tmpfs           tmpfs    492M   0   492M  0% /sys/fs/cgroup
/dev/xvda1      xfs   8.0G  1.3G  6.8G  17% /
tmpfs           tmpfs    99M   0   99M  0% /run/user/1000
/dev/xvdf       ext4  4.8G  20M   4.6G  1% /app
[root@server1 ~]#
```

```
[root@server1 ~]#
[root@server1 ~]# echo "Hi Team Welcome to Dvs Aws Classes" > /app/test.txt
[root@server1 ~]# cat /app/test.txt
Hi Team Welcome to Dvs Aws Classes
[root@server1 ~]#
```

```
[root@server1 ~]# cd
[root@server1 ~]# umount /app
[root@server1 ~]# df -hT /app
Filesystem      Type  Size  Used  Avail Use% Mounted on
/dev/xvda1      xfs   8.0G  1.3G  6.8G  17% /
[root@server1 ~]#
```

Unmounting disk

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Make sure that you are creating SERVER2

Note: Create the server in same AVZ as of SERVER1 check the below picture

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances: 1

Purchasing option: Request Spot instances

Network:

- Subnet: subnet-374cb664 | Default in us-west-1b
- No preference (default subnet in any Availability Zone)
- Create new subnet

Auto-assign Public IP: subnet-374cb664 | Default in us-west-1c

Placement group: Add instance to placement group

Capacity Reservation: Open

IAM role: None

Shutdown behavior: Stop

Cancel Previous Review and Launch Next: Add Storage

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The screenshot shows the AWS EC2 console interface. At the top, there are navigation links for 'Resource Groups' (with a dropdown arrow), 'S3', 'EC2' (highlighted with a blue background), and a star icon. Below the navigation bar are three buttons: 'Launch Instance' (blue), 'Connect', and 'Actions'. A search bar displays 'Instance State : Running' with an 'Add filter' link. The main area lists instances in a table:

Name	Instance ID	Instance Type	Status
server2	i-07db6d1223feb83fe	t2.micro	Running
EBSserver	i-0ff81bcc2aaa40cda	t2.micro	Running
server1	i-00eb8c59a14fa7bee	t2.micro	Running

A red arrow points to the 'server2' row. In the bottom right corner of the screenshot, there is a large, semi-transparent watermark that reads 'DVS' vertically and 'yes' diagonally.

Instance: i-07db6d1223feb83fe (server2) Public DNS: ec2-3-101...

Description Status Checks Monitoring Tags

Instance ID: i-07db6d1223feb83fe

Instance state: running

Instance type: t2.micro

Finding: Opt-in to AWS Compute Optimizer for

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The screenshot shows the AWS EBS console interface. At the top, there's a navigation bar with 'Resource Groups', 'S3', 'EC2', and user information ('harish'). Below the navigation is a search bar labeled 'Filter by tags and name' and a 'Create Volume' button. To the right of the search bar is an 'Actions' dropdown menu with options: 'Modify Volume', 'Create Snapshot', 'Delete Volume', 'Attach Volume' (which is highlighted with a red arrow), 'Detach Volume', 'Force Detach Volume', 'Change Auto-Enable IO Setting', and 'Add/Edit Tags'. A red arrow also points to the 'server1ebsvol1' volume listed in the main table.

The main table displays several volumes, including:

	Volume Type	IOPS	Snapshot	Created
gp2	100	snap-0dabc79...	August 6, 2020 at 8:...	
gp2	100	snap-0dabc79...	August 6, 2020 at 7:...	
gp2	100	snap-0dabc79...	August 6, 2020 at 7:...	
gp2	100	-	August 6, 2020 at 6:...	

Below the table, a message says 'Volumes: vol-0e06e00a0e3ee2761 (server1ebsvol1)'. There are tabs for 'Description', 'Status Checks', 'Monitoring', and 'Tags'. Under 'Description', details are shown:

Volume ID	vol-0e06e00a0e3ee2761	Outposts ARN	-
Alarm status	None	Size	5 GiB
Snapshot	-	Created	August 6, 2020 at 6:...

A large orange watermark 'DVS TECHNOLOGIES' is overlaid on the bottom left of the screenshot.

The 'Attach Volume' dialog box is open in the foreground. It shows the selected volume 'vol-0e06e00a0e3ee2761 (server1ebsvol1)' and the target instance 'i-0ff81bcc2aaa40cda (EBServer) (running)'. The 'Attach' button is highlighted with a red arrow. The dialog also includes fields for 'Encryption' (Not Encrypted), 'KMS Key ID', 'KMS Key Aliases', and 'KMS Key ARN'. On the right, 'Attachment information' is listed: Volume type gp2, Product codes -, IOPS 100. The dialog has a timestamp '26:38 PM UTC+4' and a close button 'X'.

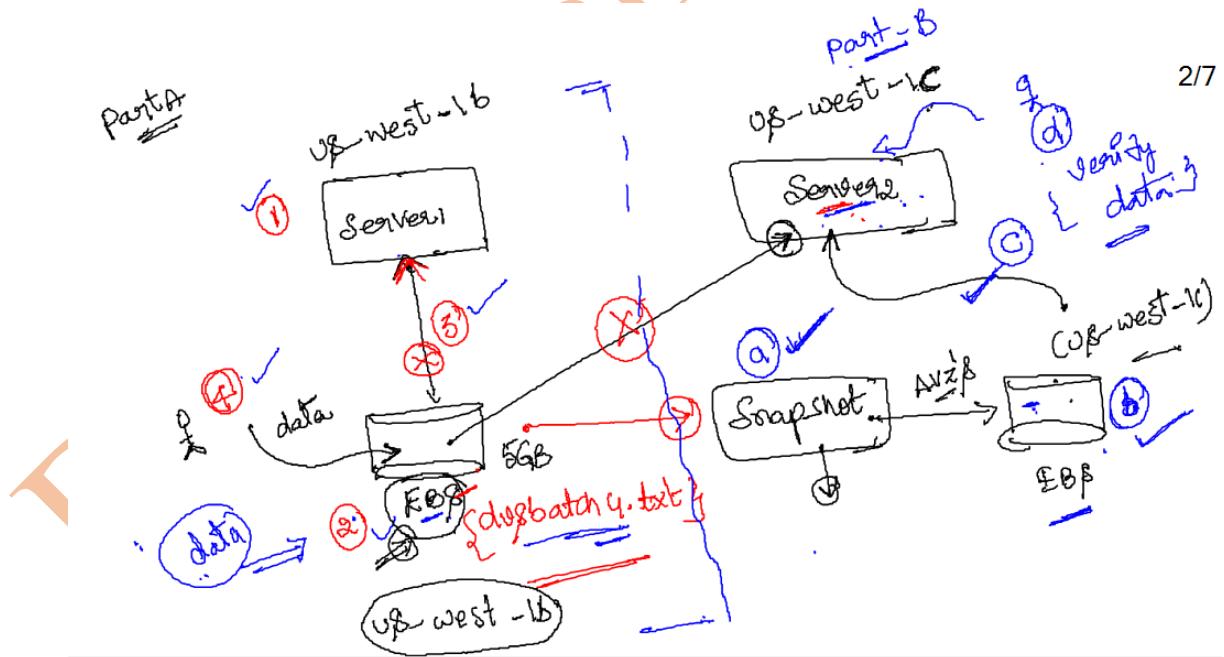
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```
https://aws.amazon.com/amazon-linux-2/
Tags        4 package(s) needed for security, out of 8 available
Limit      Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-3-139 ~]$ sudo su -
Insta[root@ip-172-31-3-139 ~]# hostnamectl set-hostname server2
Insta[root@ip-172-31-3-139 ~]# bash
[root@server2 ~]# lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda   202:0    0  8G  0 disk
└─xvda1 202:1    0  8G  0 part /
xvdf   202:80   0  5G  0 disk
Saving [root@server2 ~]# mkdir /app
Rese[root@server2 ~]# mount -t ext4 /dev/xvdf /app
[root@server2 ~]# cat /app/test.txt
DediHi Team Welcome to Dvs Aws Classes
Capa[root@server2 ~]# 
Image
AMIs
```

verifying my Server's EBS data in servers

8. Migrating EBS across AZ's

1. Make sure that you are creating one EC2 server with name "SERVER1"



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Instance: i-02cd924d36c024628 (server1) Public DNS: ec2-52-53-207-108.us-west-1.compute.amazonaws.com

2. Verifying disk details

```
https://aws.amazon.com/amazon-linux-2/
4 package(s) needed for security, out of 8 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-7-252 ~]$ sudo su -
[root@ip-172-31-7-252 ~]# hostnamectl set-hostname server1
[root@ip-172-31-7-252 ~]# bash
[root@server1 ~]# lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda   202:0    0  8G  0 disk
└─xvda1 202:1    0  8G  0 part /
[root@server1 ~]#
```

3. Make sure that you are having EBS volume of 5GB and attach it to the SERVER1

Name	Volume ID	Size	Type	IOPS	Snapshot	Created	Availability Zone
server1-ebs	vol-0d9fcc04e3ddf6c10	5 GiB	gp2	100		August 7, 2020 at 6:51:54 PM UTC+4	us-west-1b
	vol-017c603...	8 GiB	gp2	100	snap-0dabc79...	August 7, 2020 at 6:51:54 PM UTC+4	us-west-1b

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4. Post attaching disk Verify the disk details in the SERVER1

```
[root@server1 ~]# lsblk  
NAME      MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT  
xvda     202:0    0   8G  0 disk  
└─xvda1  202:1    0   8G  0 part /  
xvdf     202:80   0   5G  0 disk  
[root@server1 ~]#
```

5. Writing some data to the disk

```
[root@server1 ~]# lsblk  
NAME      MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT  
xvda     202:0    0   8G  0 disk  
└─xvda1  202:1    0   8G  0 part /  
xvdf     202:80   0   5G  0 disk  
[root@server1 ~]# mkfs.ext4 /dev/xvdf  
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  
327680 inodes, 1310720 blocks  
65536 blocks (5.00%) reserved for the super user  
First data block=0  
Maximum filesystem blocks=1342177280  
40 block groups  
32768 blocks per group, 32768 fragments per group  
8192 inodes per group  
Superblock backups stored on blocks:  
    32768, 98304, 163840, 229376, 294912, 819200, 884736  
  
Allocating group tables: done  
Writing inode tables: done  
Creating journal (32768 blocks): done  
Writing superblocks and filesystem accounting information: done  
  
[root@server1 ~]# mkdir /app  
[root@server1 ~]# mount -t ext4 /dev/xvdf /app  
[root@server1 ~]#
```

```
[root@server1 ~]# df -hT /app  
Filesystem      Type  Size  Used Avail Use% Mounted on  
/dev/xvdf       ext4  4.8G  20M  4.6G  1% /app  
[root@server1 ~]# echo "Hi Team welcome TO Dvs Aws Classess" > /app/dvbatch4.txt  
[root@server1 ~]# cat /app/dvbatch4.txt  
Hi Team welcome TO Dvs Aws Classess  
[root@server1 ~]#
```

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6. Let's create our SERVER2 in other AVZ

The screenshot shows the AWS EC2 instance creation wizard and the EC2 Instances page.

Step 3: Configure Instance Details

The "Configure Instance" step is highlighted with a red box. A red arrow points from this box to the "Subnet" dropdown, which is also highlighted with a red box. Another red arrow points from the "Subnet" dropdown to the "Review and Launch" button at the bottom right.

EC2 Instances Page

A blue arrow points from the "Launch Instance" button on the left to the instance list table. Another blue arrow points from the "Availability Zone" column header to the "us-west-1c" entry for server2. A third blue arrow points from the "Availability Zone" column header to the "us-west-1b" entry for server1.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public
server2	i-00564b3c510210f46	t2.micro	us-west-1c	running	Initializing	None	ec2-13-56-149-63.us-west-1.compute.amazonaws.com
server1	i-02cd924d36c024628	t2.micro	us-west-1b	running	2/2 checks ...	None	ec2-52-

Instance Details

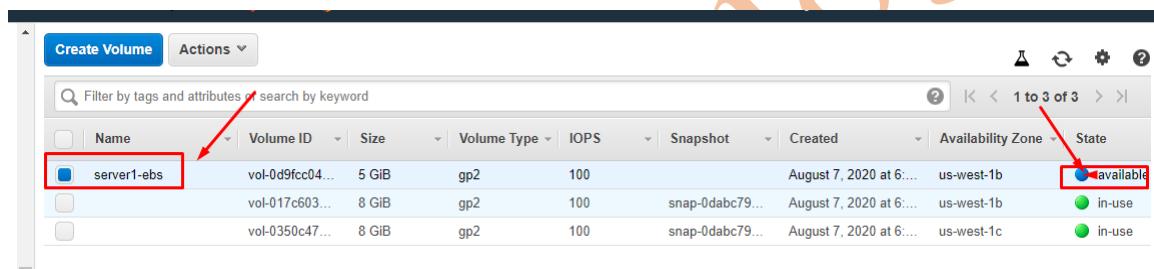
For instance i-00564b3c510210f46 (server2):

Description	Status Checks	Monitoring	Tags
Instance ID: i-00564b3c510210f46	Public DNS (IPv4): ec2-13-56-149-63.us-west-1.compute.amazonaws.com	IPv4 Public IP: 13.56.149.63	
Instance state: running	IPv6 IPs: -	Elastic IPs: -	
Instance type: t2.micro	Finding: Opt-in to AWS Compute Optimizer for recommendations. Learn more	Availability zone: us-west-1c	
Private DNS: ip-172-31-18-210.us-west-			

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7. Unmount the ebs from SERVER1 and from console

```
Hi Team welcome TO Dvs Aws Classess
[root@server1 ~]# cd
[root@server1 ~]# umount /app
[root@server1 ~]# df -hT /app
Filesystem      Type  Size  Used  Avail Use% Mounted on
/dev/xvda1      xfs   8.0G  1.3G  6.8G  17% /
[root@server1 ~]#
```



8. Take snapshot

A screenshot of the AWS Cloud9 terminal showing the creation of an EBS snapshot. The command "aws ec2 create-snapshot --volume-id vol-0d9fcc04e3ddf6c10" is being typed, with a red box highlighting the command. The output shows the snapshot has been created.

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Volumes > Create Snapshot

Create Snapshot

Volume: vol-0d9fcc04e3ddfc10 ⓘ

Description: ⓘ

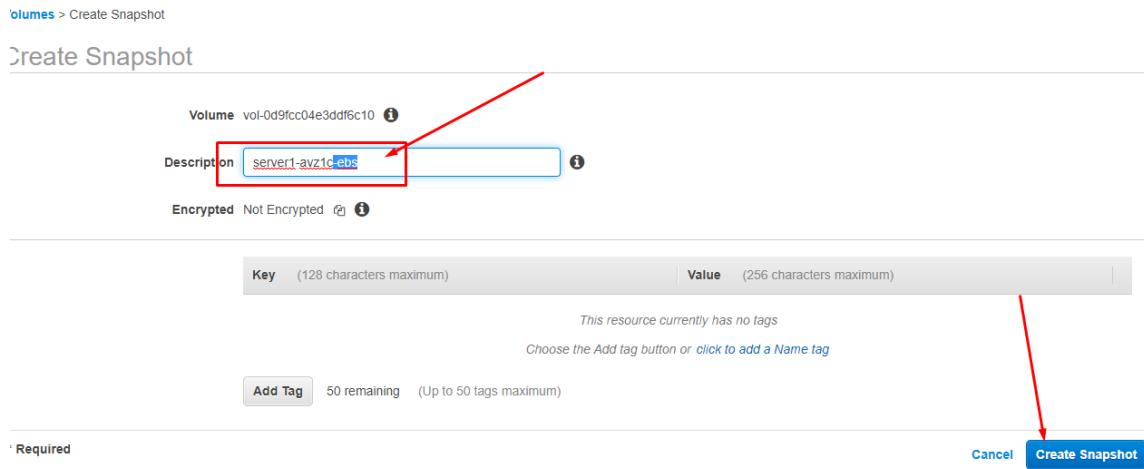
Encrypted: Not Encrypted ⓘ

Tags:

Key	(128 characters maximum)	Value	(256 characters maximum)
This resource currently has no tags Choose the Add tag button or click to add a Name tag			

Add Tag 50 remaining (Up to 50 tags maximum)

Required Cancel **Create Snapshot**



AWS Services Resource Groups S3 EC2

Capacity Reservations

Images AMIs **Elastic Block Store**

Volumes **Snapshots**

Lifecycle Manager

Network & Security Security Groups New

Elastic IPs New

Placement Groups New

Key Pairs New

Network Interfaces

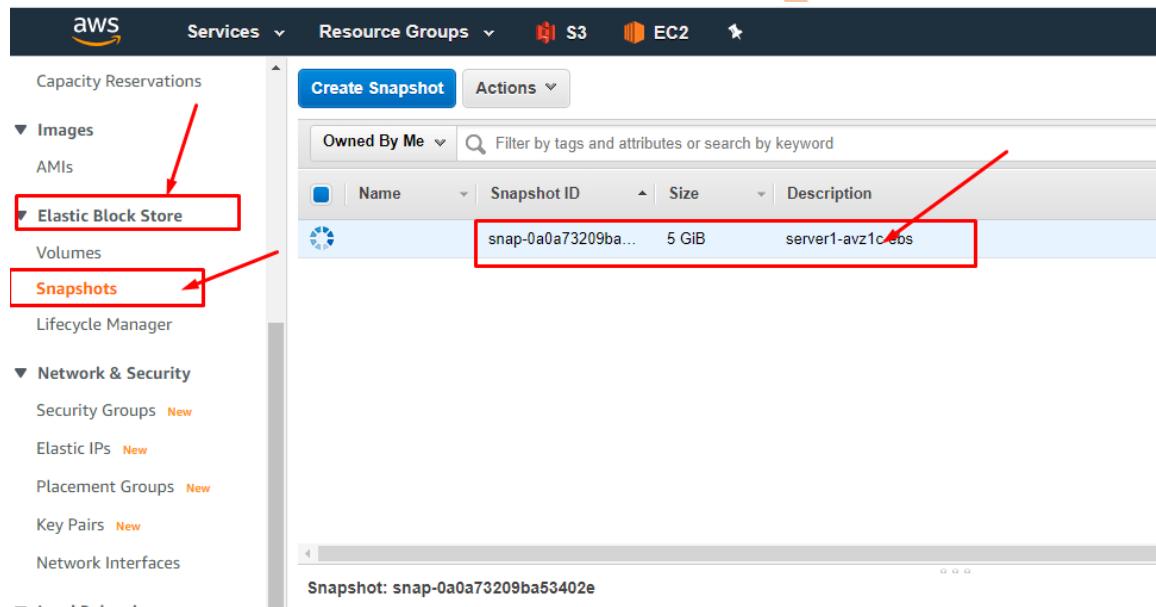
Load Balancing

Create Snapshot Actions

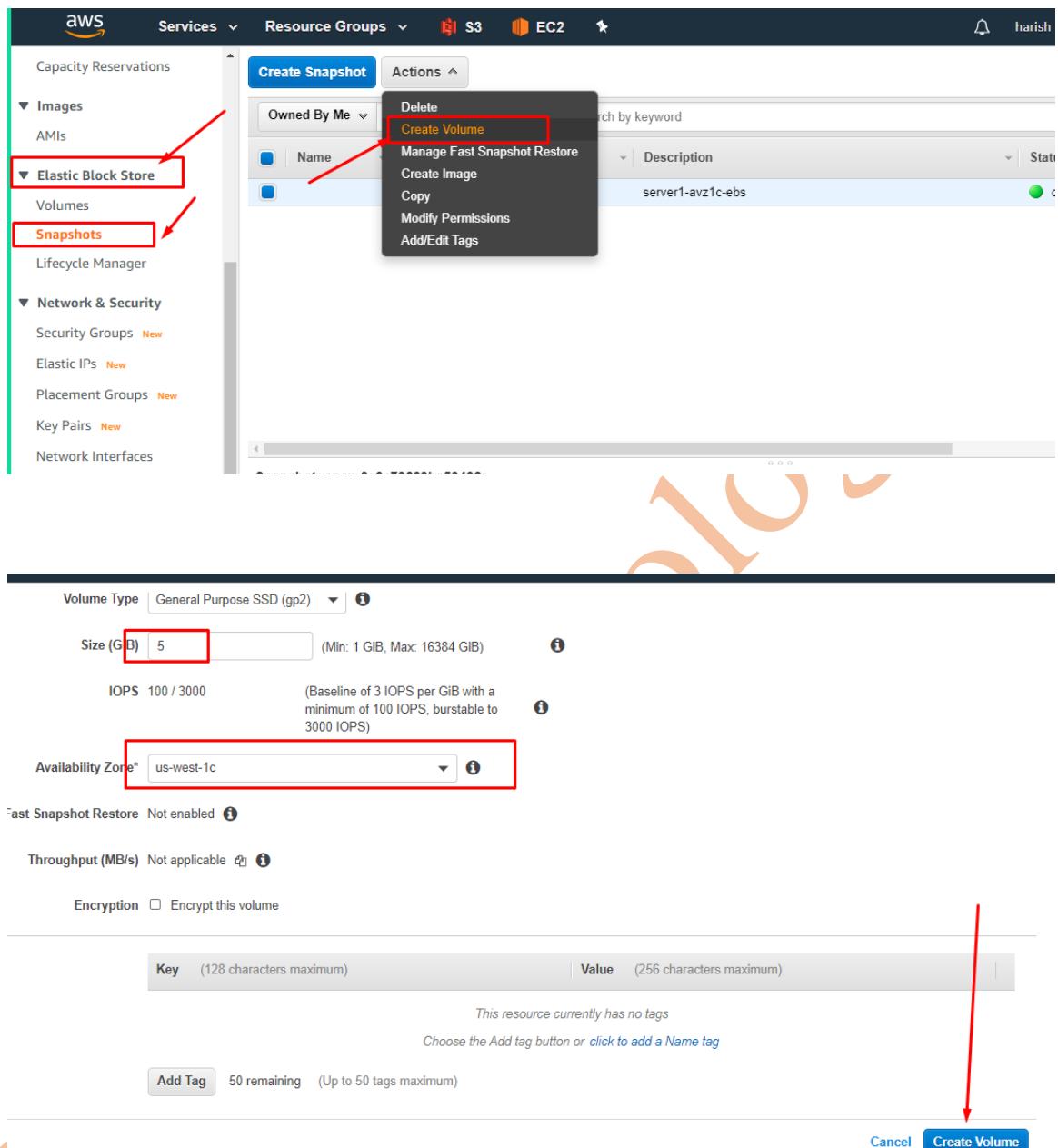
Owned By Me Filter by tags and attributes or search by keyword

Name	Snapshot ID	Size	Description
snap-0a0a73209ba...	5 GiB	server1-avz1c-ebs	

Snapshot: snap-0a0a73209ba53402e



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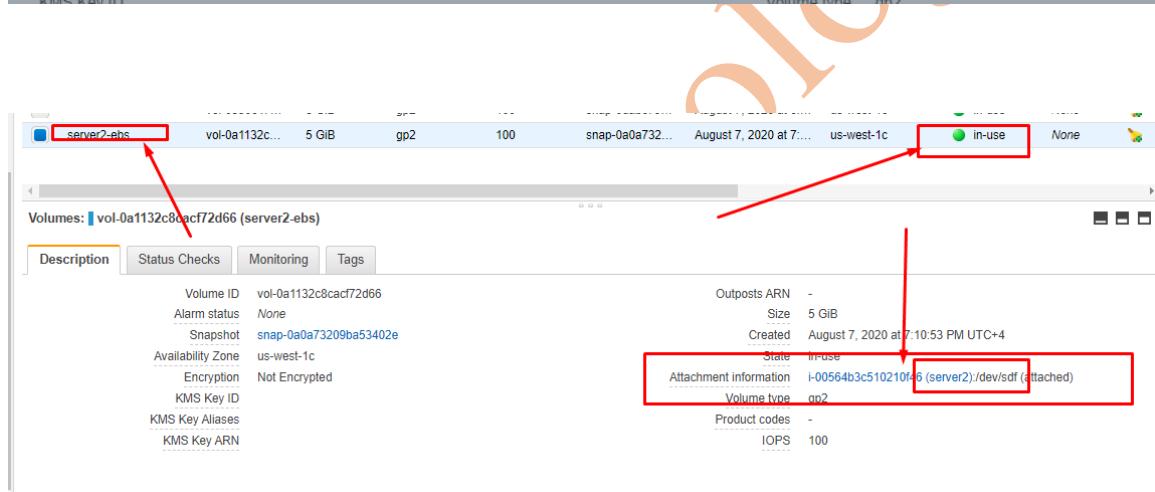
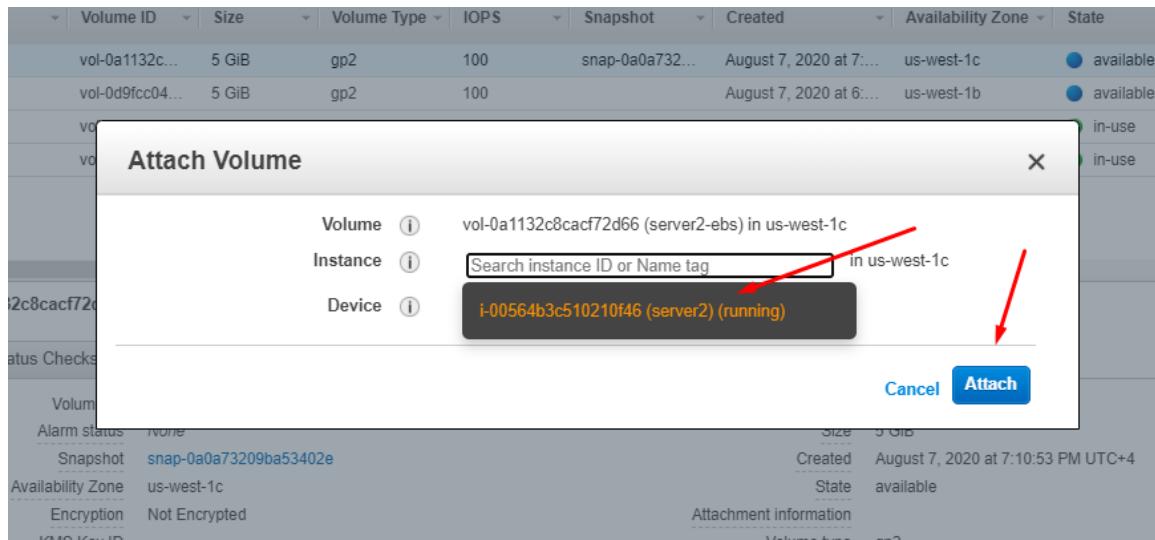
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The screenshot shows the AWS EBS console. On the left, there's a navigation sidebar with sections like 'Images', 'AMIs', 'Elastic Block Store', 'Snapshots', 'Lifecycle Manager', 'Network & Security', 'Security Groups', 'Elastic IPs', 'Placement Groups', 'Key Pairs', 'Network Interfaces', 'Load Balancing', 'Target Groups', 'Auto Scaling', 'Launch Configurations', and 'Auto Scaling Groups'. The 'Elastic Block Store' section is expanded, and 'Volumes' is selected. A red box highlights this selection. The main area shows a table of volumes. One row for 'server2-ebs' is selected, indicated by a blue checkbox. Another red box highlights this row. The table columns include Name, Volume ID, Size, Volume Type, IOPS, Snapshot, Created, Availability Zone, State, and Alarm Status. The 'server2-ebs' row shows the following details: Volume ID: vol-0a1132c8cacf72d66, Size: 5 GiB, Volume Type: gp2, IOPS: 100, Snapshot: snap-0a0a732..., Created: August 7, 2020 at 7:10:53 PM UTC+4, Availability Zone: us-west-1c, State: available, and Alarm Status: None. Below the table, a modal window titled 'Volumes: vol-0a1132c8cacf72d66 (server2-ebs)' displays the volume's description, status checks, monitoring, and tags.

9. Attach the volume

This screenshot shows the same AWS EBS console interface as the previous one, but with a different focus. A red arrow points to the 'Actions' button in the top right corner of the main content area. A secondary red arrow points to the 'Attach Volume' option in the dropdown menu that appears when the 'Actions' button is clicked. The dropdown also includes other options like 'Modify Volume', 'Create Snapshot', 'Delete Volume', 'Detach Volume', 'Force Detach Volume', 'Change Auto-Enable IO Setting', and 'Add/Edit Tags'. The rest of the interface remains consistent with the first screenshot, showing the list of volumes and the detailed view for 'server2-ebs'.

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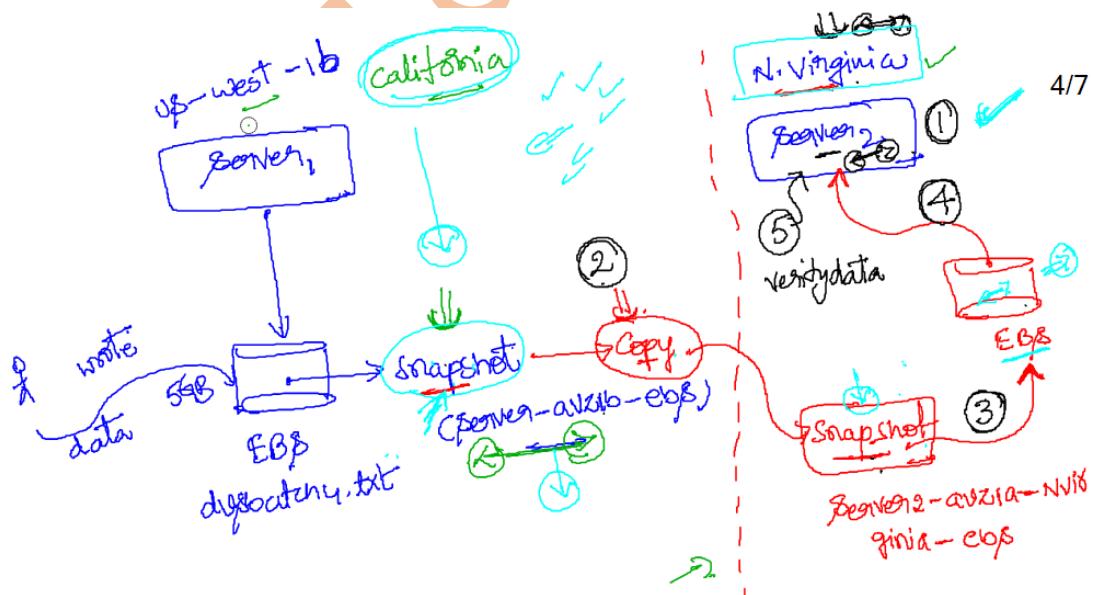
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10. Login to the server2

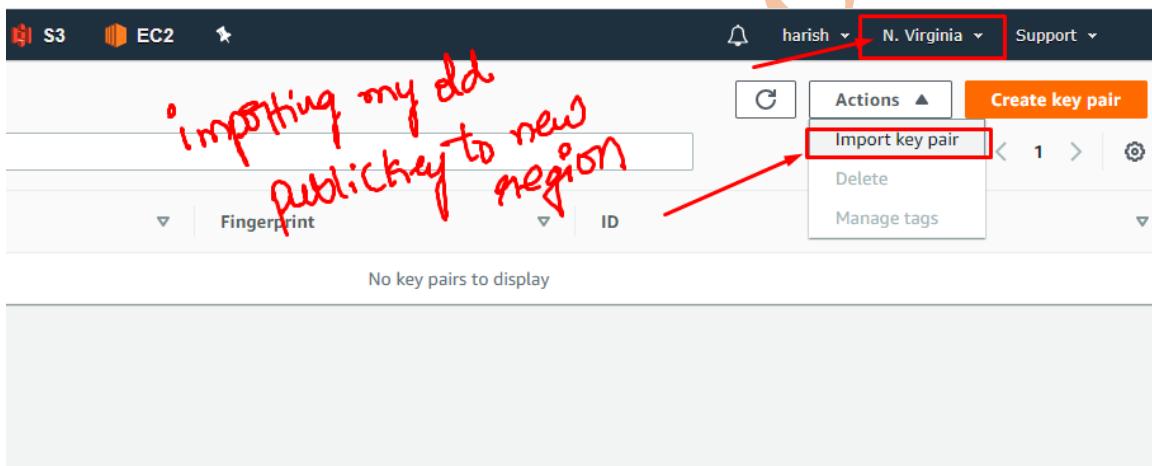
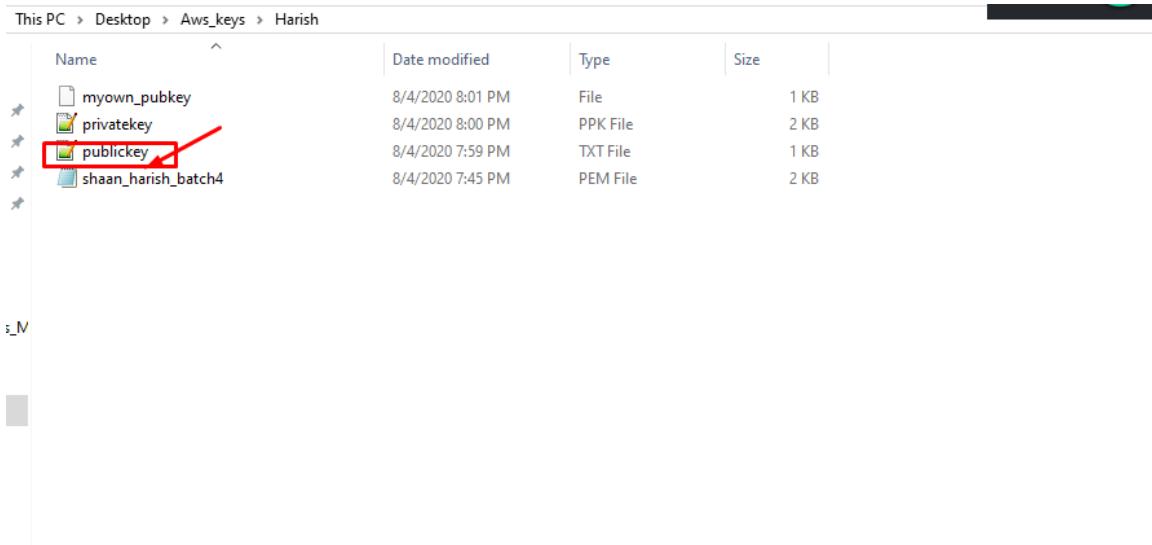
```
[root@ip-172-31-18-210 ~]# hostnamectl set-hostname server2
[root@ip-172-31-18-210 ~]# lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda    202:0    0  8G  0 disk
└─xvda1 202:1    0  8G  0 part /
xvdf    202:80   0  5G  0 disk
[root@ip-172-31-18-210 ~]# bash
[root@server2 ~]# mkdir -p /app
[root@server2 ~]# mount -t /dev/xvdf /app
mount: /app: can't find in /etc/fstab.
[root@server2 ~]# mount -t ext4 /dev/xvdf /app
[root@server2 ~]# df -hT /app
Filesystem      Type  Size  Used  Avail Use% Mounted on
/dev/xvdf       ext4  4.8G  20M  4.6G  1% /app
[root@server2 ~]# cat /app/dvsbatch4.txt
Hi Team welcome TO Dvs Aws Classess
[root@server2 ~]#
```

9. Migrating EBS across Regions

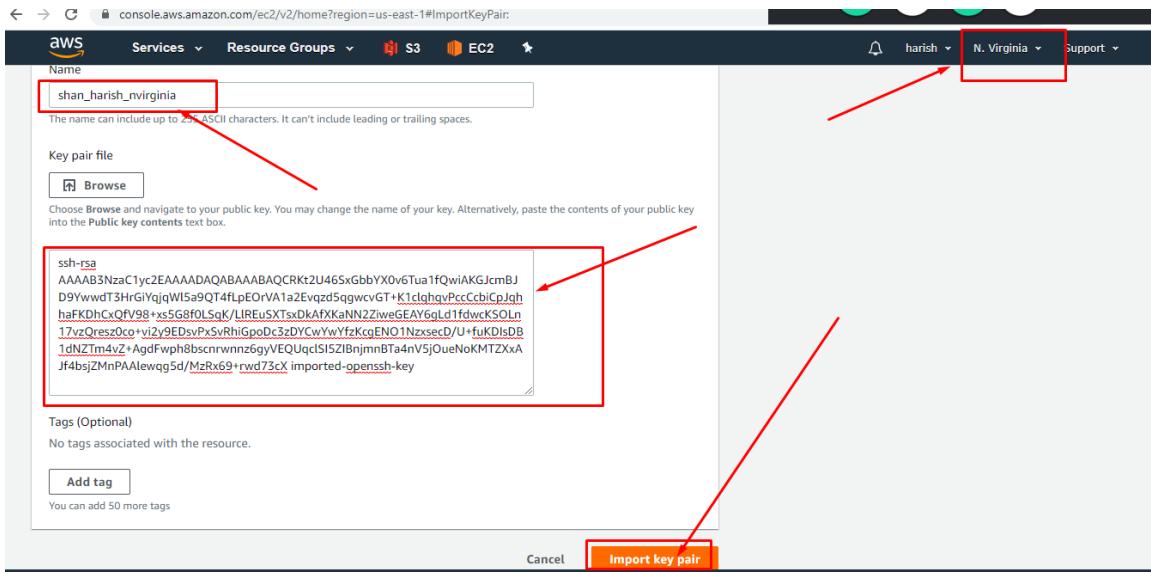
Importing my old pub key to new region



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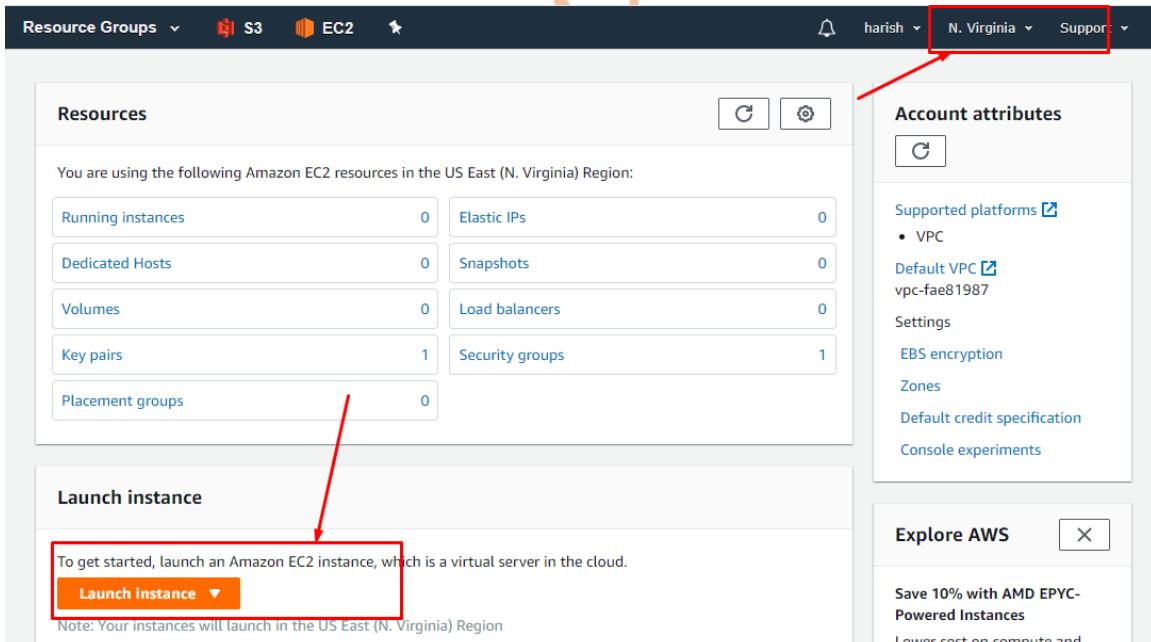


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NOTE: "ASSUMING WE HAVE A SNAPSHOT IN N.California and we are trying to migrate the snapshot to N.Virginia location:"

Create a server called "server2-Nviro"



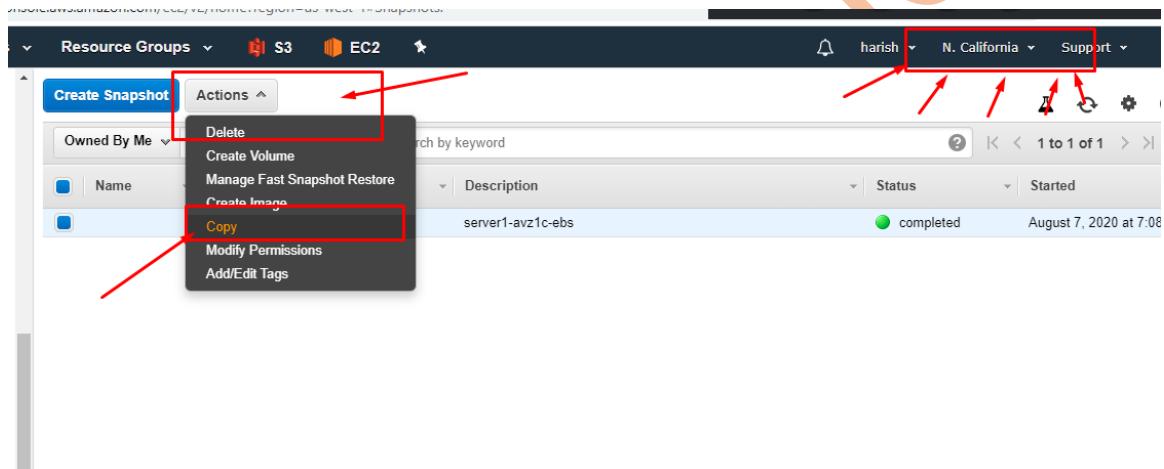
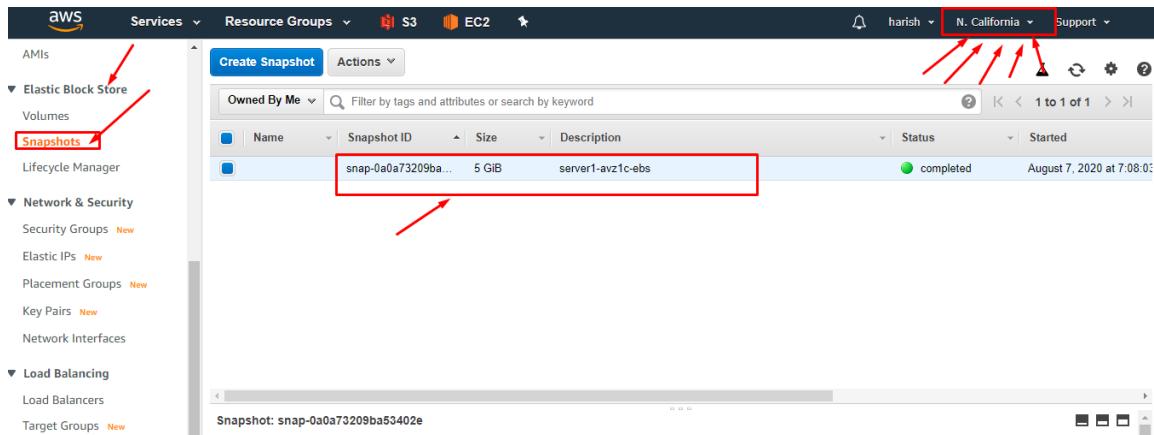
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The screenshot shows the AWS EC2 Instances page. At the top, there are navigation links for Resource Groups, S3, EC2, and a user dropdown for 'harish'. A red box highlights the user dropdown, and a red arrow points from it to the 'N. Virginia' dropdown in the second screenshot below. The main table lists one instance:

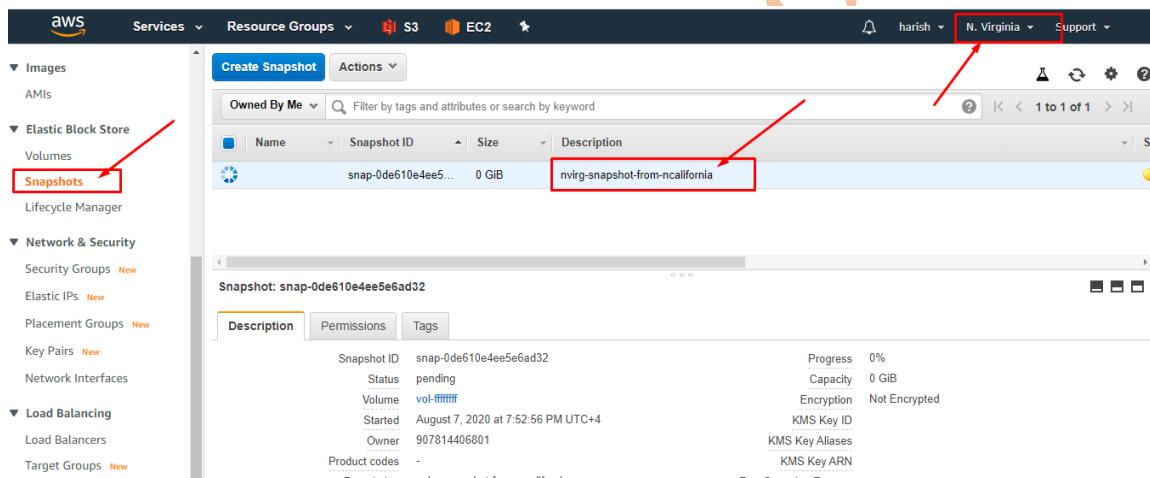
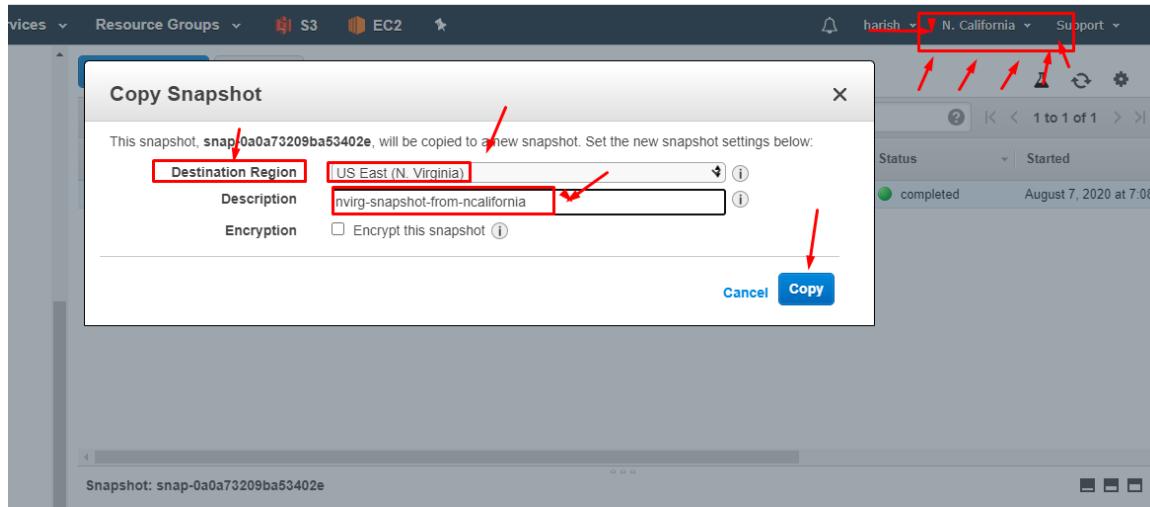
Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS
server2-nvrg	i-06d706ae815df048b	t2.micro	us-east-1e	running	Initializing	None	ec2-54-165-112-114.compute-1.amazonaws.com

The screenshot shows the AWS EBS Snapshots page. At the top, there are navigation links for Services, Resource Groups, S3, EC2, and a user dropdown for 'harish'. A red box highlights the user dropdown, and a red arrow points from it to the 'N. Virginia' dropdown in the first screenshot above. The left sidebar has a 'Snapshots' link under the 'Elastic Block Store' section, which is highlighted with a red box and an arrow. The main content area displays a message: 'You do not have any snapshots in this region.' and 'Click the Create Snapshot button to create your first snapshot.' A blue 'Create Snapshot' button is visible. A large orange 'DVS' watermark is overlaid on the left side of the page.

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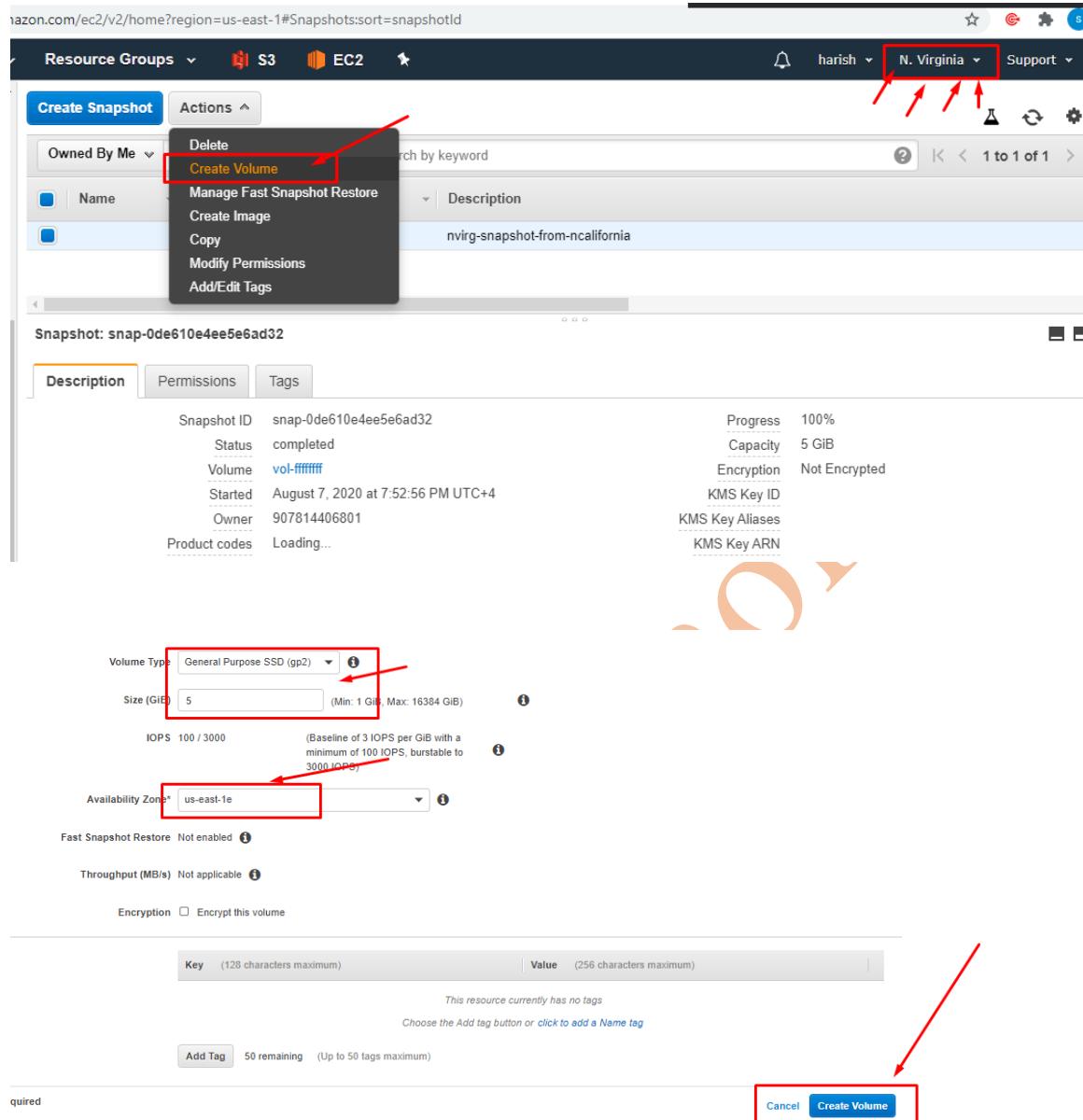
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The screenshot shows the AWS EC2 console interface. At the top, there are navigation links for Resource Groups, S3, EC2, and a user profile for 'harish'. A red box highlights the 'N. Virginia' region selection. Below the header is a search bar and a table of instances. A red box highlights the 'Name' column for the first instance, which is labeled 'server2-nvrg'. Another red box highlights the 'Availability Zone' column, which shows 'us-east-1e'. The instance details pane below shows the instance ID 'i-06d706ae815df048b', state 'running', public DNS 'ec2-54-165-112-114.compute-1.amazonaws.com', and private IP '172.31.51.74'. A large orange watermark 'DVS' is visible across the bottom left of the screenshot.

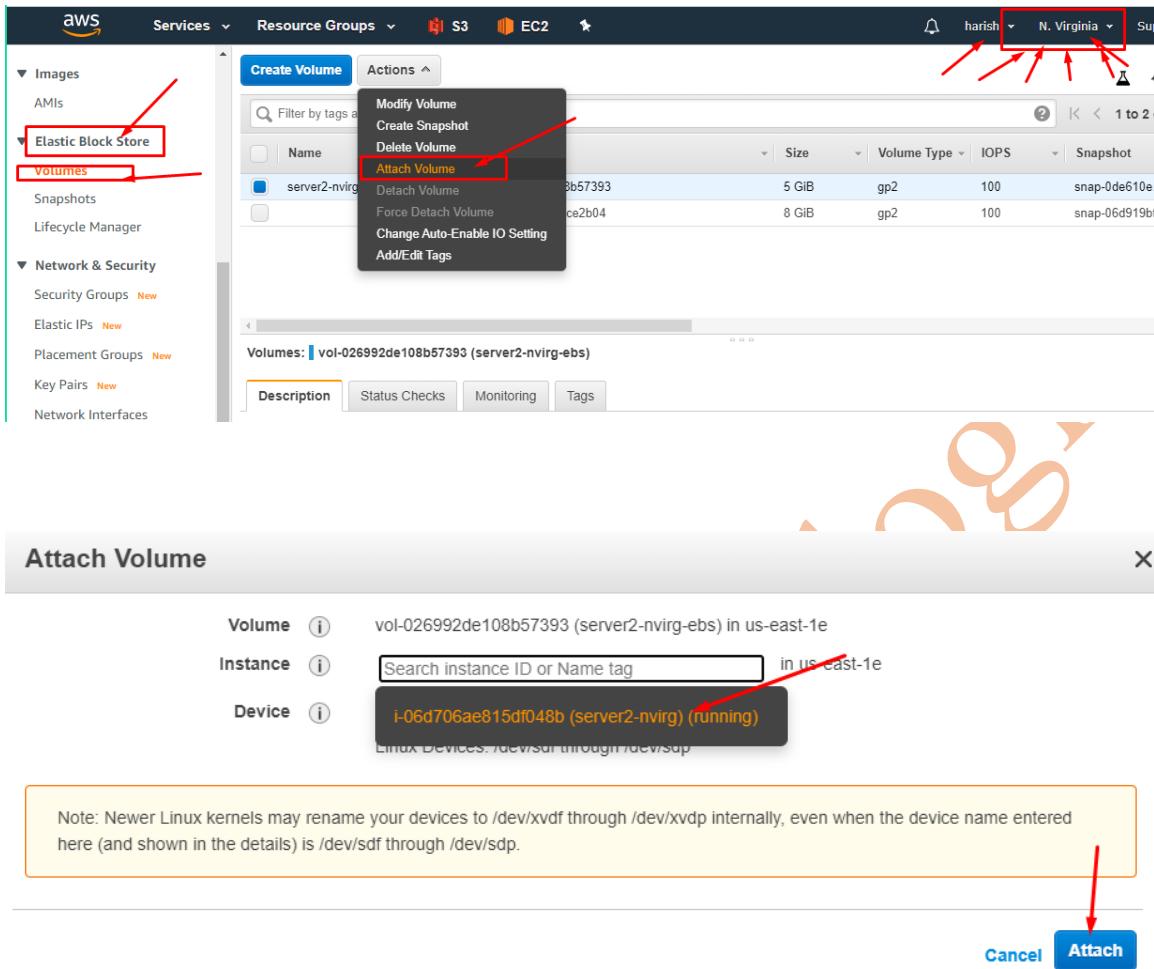
The screenshot shows a terminal session on an EC2 instance. The user is root, connected via SSH from IP 172.31.51.74. The command history shows the user changing the host name:

```
[ec2-user@ip-172-31-51-74 ~]$ sudo su -
[root@ip-172-31-51-74 ~]# hostnamectl set-hostname server2-nvrg
[root@ip-172-31-51-74 ~]# bash
[root@server2-nvrg ~]# lsblk
NAME      MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
xvda       202:0    0   8G  0 disk
└─xvda1    202:1    0   8G  0 part /
[root@server2-nvrg ~]#
```

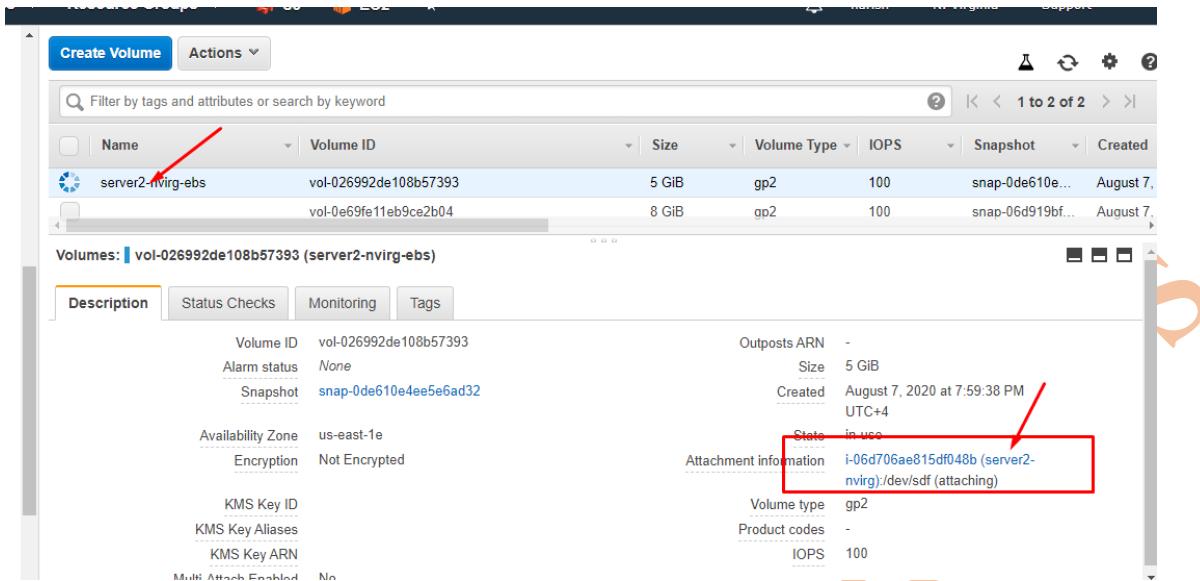
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DVS Technologies Aws & Devops

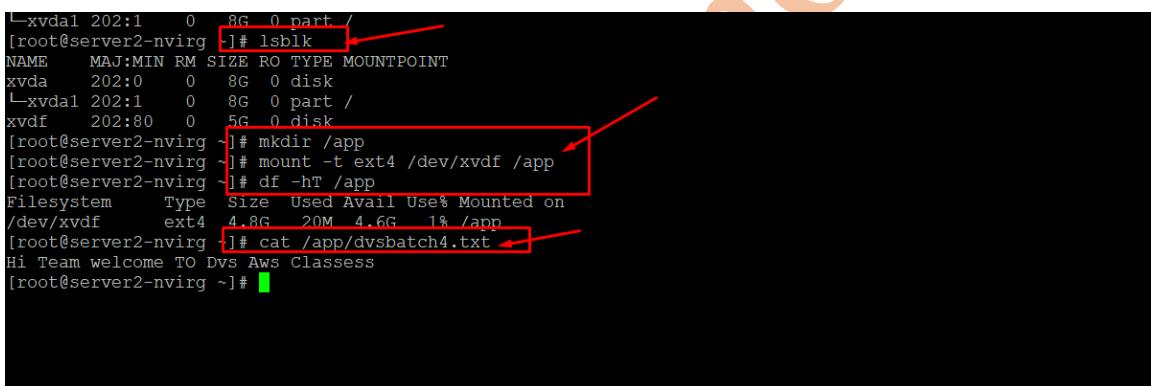


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The screenshot shows the AWS CloudWatch Metrics interface. A single metric is displayed with the following details:

Metric Name	Value
AWS Lambda Function Invocations	1



The screenshot shows the AWS Lambda function configuration page. The function name is 'DVS-Batch-Function'. The Handler is set to 'lambda_function.lambda_handler' and the Role is 'arn:aws:lambda:us-east-1:919854211224:layer:DVS-Batch-Layer:1'. Other settings include 'Memory Size' at 128 MB and 'Timeout' at 10 seconds.

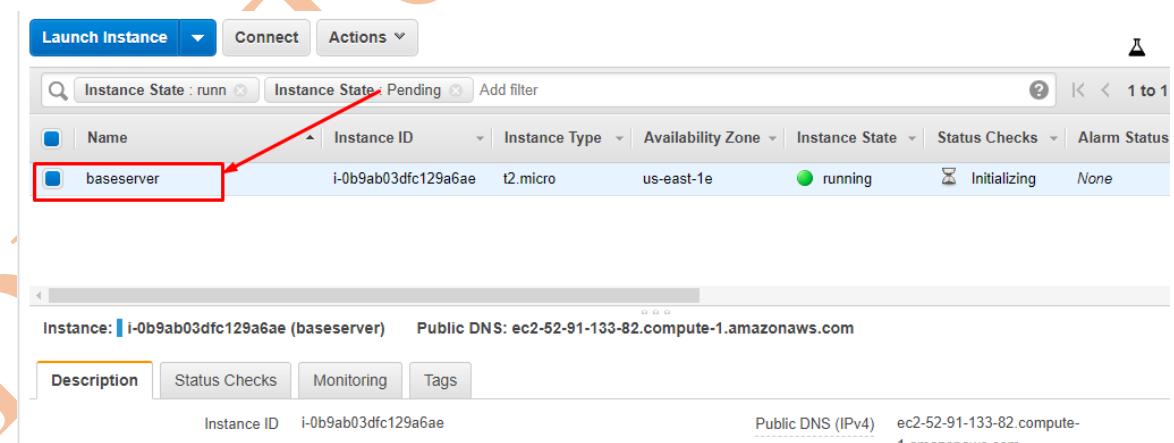
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10. Metadata

```
[root@server2-nvирg ~]# curl http://169.254.169.254/latest/meta-data
ami-id
ami-launch-index
ami-manifest-path
block-device-mapping/
events/
hostname
identity-credentials/
instance-action
instance-id
instance-life-cycle
instance-type
local-hostname
local-ipv4
mac
metrics/
network/
placement/
profile
public-hostname
public-ipv4
public-keys/
reservation-id
security-groups
services/[root@server2-nvирg ~]# curl http://169.254.169.254/latest/meta-data/public-hostname
ec2-54-165-112-114.compute-1.amazonaws.com[root@server2-nvирg ~]# curl http://169.254.169.254/latest/meta-data/public-ipv4
54.165.112.114[root@server2-nvирg ~]#
```

11. Working with AMI's

1. Make sure that you are creating one ec2 server and name it as base server



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```
[ec2-user@ip-172-31-53-35 ~]$ sudo su -  
[root@ip-172-31-53-35 ~]# yum install httpd -y  
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd  
Resolving Dependencies  
--> Running transaction check  
--> Package httpd.x86_64 0:2.4.43-1.amzn2 will be installed  
--> Processing Dependency: httpd-tools = 2.4.43-1.amzn2 for package: httpd-2.4.43-1.amzn2.x86_64  
--> Processing Dependency: httpd-filesystem = 2.4.43-1.amzn2 for package: httpd-2.4.43-1.amzn2.x86_64  
--> Processing Dependency: system-logos-httd for package: httpd-2.4.43-1.amzn2.x86_64  
--> Processing Dependency: mod_http2 for package: httpd-2.4.43-1.amzn2.x86_64  
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.43-1.amzn2.x86_64
```

```
complete!  
[root@ip-172-31-53-35 ~]# systemctl enable httpd  
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.  
[root@ip-172-31-53-35 ~]# echo "Hi Team I am from my Base Server" >/var/www/html/index.html  
[root@ip-172-31-53-35 ~]# systemctl restart httpd  
[root@ip-172-31-53-35 ~]#
```

VERIFICATION:

← → C ⓘ Not secure | 52.91.133.82

Hi Team I am from my Base Server

Creating Image from the EC2:

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The screenshot shows the AWS EC2 console interface. A red arrow points to the 'Actions' dropdown menu for the selected instance 'baseserver'. Another red arrow highlights the 'Create Image' option within this menu. A third red arrow points to the 'Image name' field in the 'Create Image' dialog, which contains the value 'myapacheimage'. A fourth red arrow points to the 'No reboot' checkbox, which is checked. A fifth red arrow points to the 'Create Image' button at the bottom right of the dialog. The background shows the EC2 dashboard with the instance details: Instance ID i-0b9ab03dfc129a6ae, Public DNS ec2-52-91-133-82.compute-1.amazonaws.com, Instance state running, Instance type t2.micro, and Public IP 52.91.133.82.

Create Image

Instance ID: i-0b9ab03dfc129a6ae

Image name: myapacheimage

Image description: myapacheimage

No reboot:

Instance Volumes

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted
Root	/dev/xvda	snap-06d919bfeced8496a	8	General Purpose S	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Add New Volume

Total size of EBS Volumes: 8 GiB
When you create an EBS image, an EBS snapshot will also be created for each of the above volumes.

outbound rules: Secondary private IPs
Scheduled events: No scheduled events

Cancel Create Image

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The screenshot shows the AWS EC2 console interface. On the left, a sidebar lists various services: Reserved Instances, Dedicated Hosts, Scheduled Instances, Capacity Reservations, Images (highlighted with a red box), AMIs (highlighted with a red box), Elastic Block Store, Network & Security, and more. The main pane displays a table titled 'Owned by me' with columns for Name, AMI Name, AMI ID, Source, Owner, and Visibility. A row for 'myapacheimage' is selected, showing its details: AMI ID is ami-0edb0c57c0682558c, Source is 907814406801/myapacheimage, Owner is 907814406801, and Visibility is Private. Below the table, a modal window shows the details of the selected AMI.

This screenshot shows the same EC2 console interface as above, but the table now indicates that the AMI 'myapacheimage' is available. The 'Status' column for the row is highlighted with a red box and shows the value 'available'. The rest of the table structure remains the same.

Launching Instance from custom image:

The screenshot shows the AWS EC2 console with the 'Instances' section selected in the sidebar. The main pane displays a table of existing instances, including one named 'baseserver' which is currently running. Below the table, a detailed view of the 'baseserver' instance is shown, including its Public DNS, Instance ID, Instance State, Instance Type, Availability Zone, and other metadata. A large orange arrow points from the 'myapacheimage' row in the first screenshot to the 'baseserver' instance in this screenshot, indicating the connection between creating the AMI and launching the instance.

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Search for an AMI by entering a search term e.g. "Windows"

Quick Start

My AMIs

AWS Marketplace

Community AMIs

Ownership

Owned by me

Shared with me

Architecture

myapacheimage - ami-0edb0c57c0682558c

myapacheimage

Root device type: ebs Virtualization type: hvm Owner: 907814406801 ENA Enabled: Yes

Select

Cancel and Exit

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group:

Create a new security group

Select an existing security group

Security Group ID	Name	Description	Actions
<input type="checkbox"/> sg-68a47653	default	default VPC security group	Copy to new
<input checked="" type="checkbox"/> sg-08e5509c258dc09a2	opentoworld	launch-wizard-1 created 2020-08-07T19:47:10.516+04:00	Copy to new

Inbound rules for sg-08e5509c258dc09a2 (Selected security groups: sg-08e5509c258dc09a2)

Type	Protocol	Port Range	Source	Description
All traffic	All	All	0.0.0.0/0	

[Cancel](#) [Previous](#) [Review and Launch](#)

[Feedback](#) [English \(US\)](#) © 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#)

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Step 7: Review Instance Launch

Security Groups

Security Group ID	Name	Description
sg-08e5509c258dc09a2	opentoworld	launch-wizard-1 created 2020-08-07T19:47:10.516+04:00

All selected security groups inbound rules

Type	Protocol	Port Range	Source	Description
All traffic	All	All	0.0.0.0/0	

Instance Details | Storage | Tags

Edit instance details | Edit storage | Edit tags

Cancel | Previous | Launch

Launch Instance | Connect | Actions

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status
baseserver	i-0b9ab03dfc129a6ae	t2.micro	us-east-1e	running	2/2 checks ...	None
EC2fromcustomimage	i-0ca1c0b2b0c38ae37	t2.micro	us-east-1e	running	2/2 checks ...	None

Instance: i-0ca1c0b2b0c38ae37 (EC2fromcustomimage) Public DNS: ec2-54-237-27-254.compute-1.amazonaws.com

Description | Status Checks | Monitoring | Tags

Instance ID	i-0ca1c0b2b0c38ae37	Public DNS (IPv4)	ec2-54-237-27-254.compute-1.amazonaws.com
Instance state	running	IPv4 Public IP	54.237.27.254
Instance type	t2.micro	IPv6 IPs	-
Finding	Opt-in to AWS Compute Optimizer for recommendations. Learn more	Elastic IPs	
Private DNS	ip-172-31-60-241.ec2.internal	Availability zone	us-east-1e
Drivets IDs	172.31.60.241	Security groups	opentoworld view inbound rules view

Not secure | 54.237.27.254

Hi Team I am from my Base Server

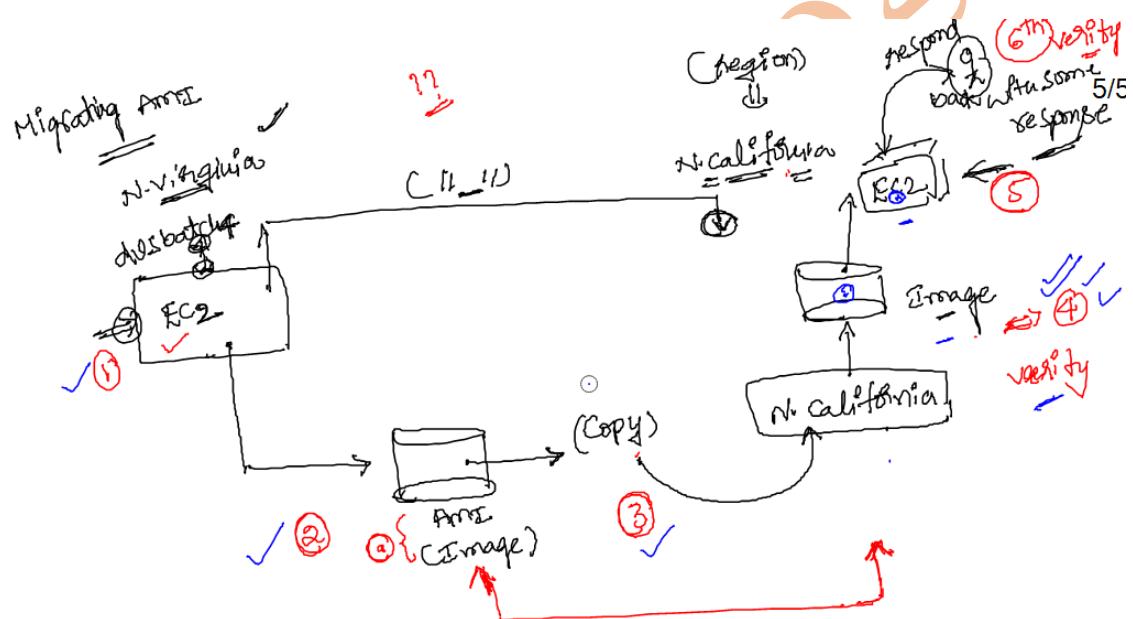
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12. Migrating AMI from one region to other

- Assuming that we already have customized image in N.Virginia region I am planning to migrate the image to N.California & try to spin up the server from this customized image

Source --> N.Virginia

Dest --> N.California

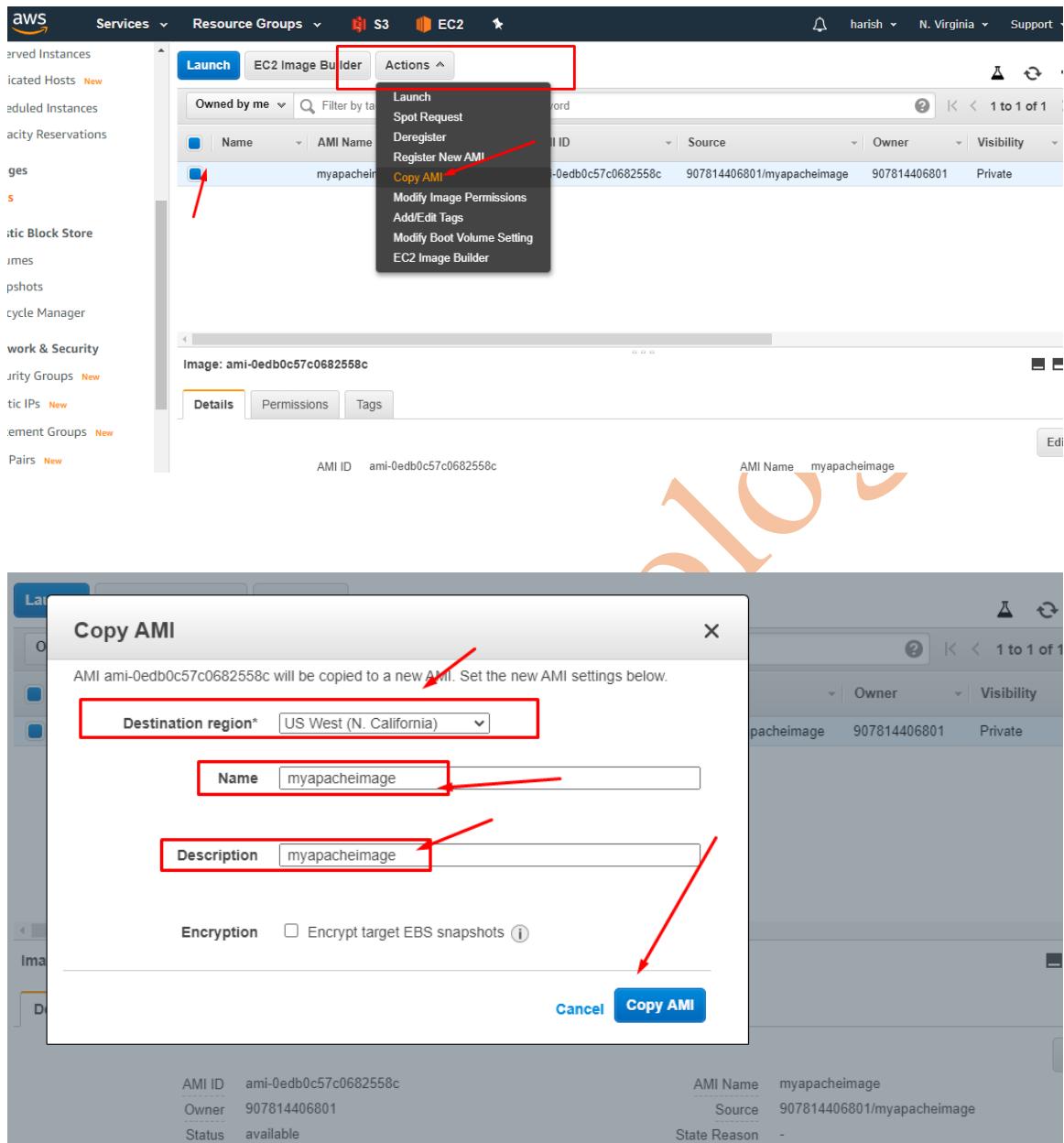


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The screenshot shows the AWS EC2 console with the 'AMI' section selected in the left sidebar. The main pane displays a table of AMIs, with one entry highlighted: 'myapacheimage'. A red box highlights the 'Source' column for this entry, and a red arrow points from it to the 'Source' link in the top right corner of the table header. The top right corner also shows the user 'harish' and the region 'N. Virginia'. The table includes columns for Name, AMI Name, AMI ID, Source, Owner, Visibility, and Status.

The screenshot shows the AWS EC2 console with the 'AMI' section selected in the left sidebar. The main pane displays a message stating 'You do not own any Images matching your filter criteria.' A red box highlights the 'Source' link in the top right corner of the table header. The top right corner shows the user 'harish' and the region 'N. California'. The table header includes 'Owned by me', a search bar, and filter controls.

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The screenshot shows the AWS EC2 console with the 'Launch' tab selected. A red box highlights the 'N. California' region dropdown. Below it, a table lists a single AMI entry:

Name	AMI Name	AMI ID	Source	Owner	Visibility	Status	Creation Date
	myapacheimage	ami-0d6604d656c3aca69	907814406801...	907814406801...	Private	Pending	August 10, 2020 at 7:20:00

Launching Instance from Customized Image:

The screenshot shows the AWS EC2 instance launch wizard at Step 7: Review Instance Launch. A red box highlights the 'Launch' button in the top navigation bar. Another red box highlights the 'available' status of the AMI in the table below.

Step 7: Review Instance Launch
Please review your instance launch details. You can always change them later.

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

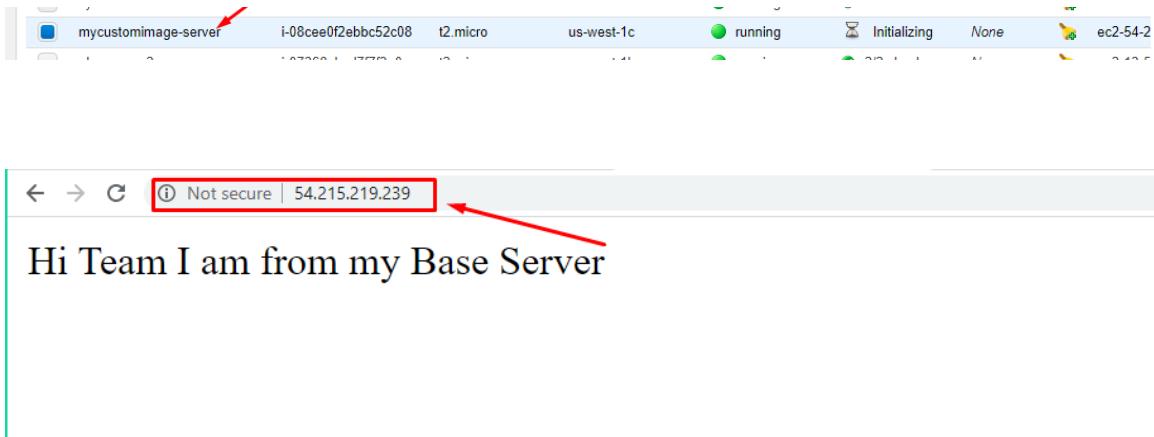
Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Choose an existing key pair: **Select a key pair** (highlighted with a red arrow)

I acknowledge that I have access to the selected private key file (Harish_aws_keypair.pem), and that without this file, I won't be able to log into my instance.

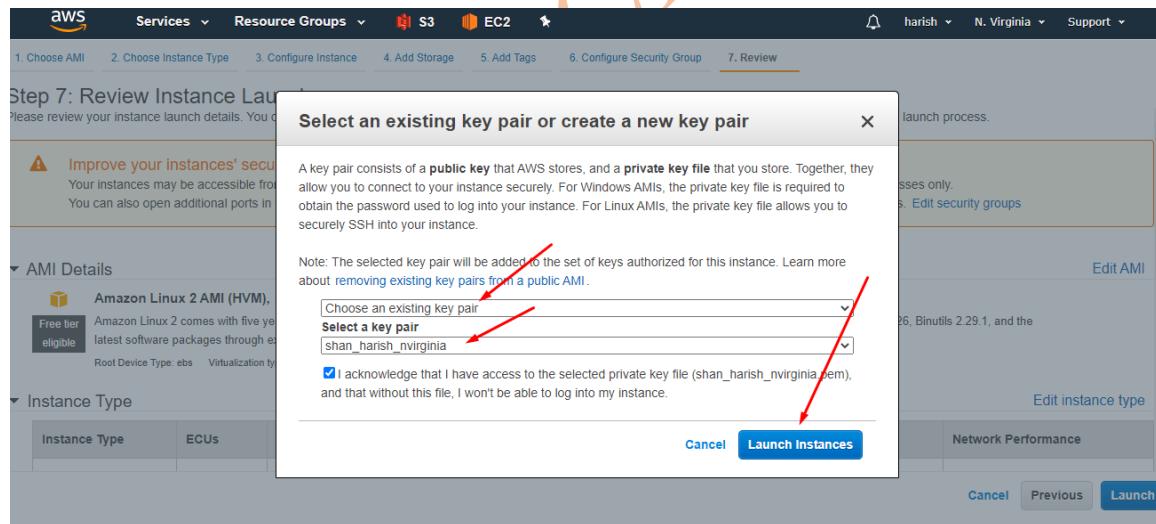
Cancel **Launch Instances** (highlighted with a red arrow)

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13. Working with Elastic Ipaddress

Create one ec2 server & observe its public and private ipaddress



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Instance: i-0e286dbef6d16dd0f (elasticipaddress) Public DNS: ec2-100-24-242-121.compute-1.amazonaws.com

Description	Status Checks	Monitoring	Tags
Instance ID: i-0e286dbef6d16dd0f	Public DNS (IPv4): ec2-100-24-242-121.compute-1.amazonaws.com	IPv4 Public IP: 100.24.242.121	
Instance state: running	IPv6 IPs: -	Elastic IPs: -	
Instance type: t2.micro			
Finding: Opt-in to AWS Compute Optimizer for recommendations. Learn more			
Private DNS: ip-172-31-56-128.ec2.internal			
Private IPs: 172.31.56.128			
Secondary private IPs: -			
VPC ID: vpc-fae81987			
Availability zone: us-east-1			
Security groups: opentoworld, view inbound rules, view outbound rules			
Scheduled events: No scheduled events			
AMI ID: amzn2-ami-hvm-2.0.20200722.0-			


```
[ec2-user@ip-172-31-56-128 ~]$
```

Stop ec2 & check public ipaddress:

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The screenshots illustrate the process of managing a stopped EC2 instance named 'elasticipaddress'.

Top Screenshot: Shows the instance details for 'elasticipaddress'. The instance ID is i-0e286dbef6d16dd0f, it is a t2.micro type in us-east-1e, and its state is stopped. The private IP is 172.31.56.128. The 'Private DNS' field (ip-172-31-56-128.ec2.internal) and the 'Private IPs' field (172.31.56.128) are highlighted with a red box.

Bottom Screenshot: Shows a modal dialog titled 'Start Instances' asking 'Are you sure you want to start these instances?'. It lists the instance 'i-0e286dbef6d16dd0f (elasticipaddress)'. The 'Yes, Start' button is highlighted with a red arrow.

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The screenshot shows the AWS EC2 Instances page. A red box highlights the instance row for 'elasticipaddress'. The instance details are as follows:

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Pub
elasticipaddress	i-0e286dbef6d16dd0f	t2.micro	us-east-1e	running	Initializing	None	ec2-

Below the table, it says 'Instance: i-0e286dbef6d16dd0f (elasticipaddress) Public DNS: ec2-54-237-121-168.compute-1.amazonaws.com'. A red arrow points from the 'Public DNS' text to the 'IPv4 Public IP' field.

The 'Description' tab is selected. The 'Private IPs' field (172.31.56.128) is highlighted with a red box. Other fields include:

- Instance ID: i-0e286dbef6d16dd0f
- Instance state: running
- Instance type: t2.micro
- Finding: Opt-in to AWS Compute Optimizer for recommendations. [Learn more](#)
- Private DNS: ip-172-31-56-128.ec2.internal
- Private IPs: 172.31.56.128
- Public DNS (IPv4): ec2-54-237-121-168.compute-1.amazonaws.com
- IPv6 IPs: -
- Elastic IPs: -
- Availability zone: us-east-1e
- Security groups: openToWorld, view inbound rules, view outbound rules
- Scheduled events: No scheduled events

The screenshot shows the AWS EC2 Elastic IP addresses page. A red box highlights the 'Elastic IPs' link in the left sidebar. The main table is empty, showing 'No Elastic IP'. A red box highlights the 'Allocate Elastic IP address' button at the top right of the table area.

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The screenshot shows two sequential steps in the AWS Elastic IP address allocation process:

- Step 1: Elastic IP address settings**

A Network Border Group is selected (us-east-1). The "Allocate" button is highlighted with a red arrow.
- Step 2: Allocation confirmation**

The message "Elastic IP address allocated successfully. Elastic IP address 54.83.182.86" is displayed. The "Associate this Elastic IP address" button is highlighted with a red arrow. The "Associate Elastic IP address" option in the Actions menu is also highlighted with a red box.

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Resource type
Choose the type of resource with which to associate the Elastic IP address.

Instance Instance

Network interface

⚠ If you associate an Elastic IP address to an instance that already has an Elastic IP address associated, this previously associated Elastic IP address will be disassociated but still allocated to your account. [Learn more](#)

Instance

Choose an instance choose an instance

i-0e286dbef6d16dd0f (elasticipaddress) - running

Private IP address
The private IP address with which to associate the Elastic IP address.

Choose a private IP address

Reassociation
Specify whether the Elastic IP address can be reassigned with a different resource if it already associated with a resource.

Allow this Elastic IP address to be reassigned

Cancel Associate

Launch Instance Connect Actions ▾

Instance State : runn Pending Instance State : sto Add filter ? < 1 to 1 of 1 > >>

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Pub
elasticipaddress	i-0e286dbef6d16dd0f	t2.micro	us-east-1e	running	Initializing	None	ec2-

Instance: i-0e286dbef6d16dd0f (elasticipaddress) Elastic IP: 54.83.182.86

Description Status Checks Monitoring Tags

Instance ID: i-0e286dbef6d16dd0f Public DNS (IPv4) ec2-54-83-182-86.compute-1.amazonaws.com IPv4 Public IP 54.83.182.86 IPv6 IPs - Elastic IPs 54.83.182.86*

Instance state: running Private DNS ip-172-31-56-128.ec2.internal Private IPs 172.31.56.128

Instance type: t2.micro Finding Opt-in to AWS Compute Optimizer for recommendations. [Learn more](#)

Availability zone: us-east-1e Security groups opentoworld, view inbound rules, view outbound rules

Dis allocate publicip to the ec2:

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The screenshot shows the AWS Elastic IP addresses management interface. In the main list, there is one entry for an Elastic IP address with the value 54.83.182.86. A red box highlights this IP address. To the right of the list, there is an 'Actions' menu with several options: 'View details', 'Release Elastic IP addresses', 'Associate Elastic IP address', and 'Disassociate Elastic IP address'. A red box highlights the 'Disassociate Elastic IP address' option. Below this, a modal dialog titled 'Dissociate Elastic IP address' is displayed. It contains a message about dissociation, fields for 'Elastic IP address' (54.83.182.86), 'Instance ID' (i-0e286dbef6d16dd0f), and 'Network interface ID' (eni-0762365f15129b8e1). At the bottom of the dialog are 'Cancel' and 'Disassociate' buttons, with a red arrow pointing to the 'Disassociate' button.

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The screenshot shows two screenshots of the AWS Management Console. The top screenshot displays the EC2 Instances page, showing a single running t2.micro instance named 'elasticiipaddress' with Instance ID i-0e286dbef6d16dd0f. The Public DNS is listed as ec2-54-90-17-154.compute-1.amazonaws.com, and the IPv4 Public IP is 54.90.17.154. A red arrow points to this IP address. The bottom screenshot shows the Elastic IP addresses page, listing one allocated IPv4 address: 54.83.182.86. A red arrow points to the 'Actions' menu for this IP, which includes options like 'View details', 'Release Elastic IP addresses', 'Associate Elastic IP address', and 'Disassociate Elastic IP address'. A large orange 'D' watermark is visible across both screenshots.

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14. Working with Aws-Cli

Let's generates aws cli keys/tokens/access

The top screenshot shows the AWS Management Console with the IAM service selected. A red arrow points to the 'IAM' link in the search bar. The bottom screenshot shows the 'Identity and Access Management (IAM)' service, specifically the 'Users' section. A red arrow points to the 'Add user' button.

User Name	Groups	Access Key Age	Password Age	Last Used
dbadmin	None	None	Yesterday	Yes
dvsbatch4	None	None	10 days	7 d
rajesh		None	11 days	No
ramesh	None	None	12 days	12
somesh		None	11 days	No
suresh		None	11 days	No
sysadmin	None	None	Yesterday	Yes

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Set user details

You can add multiple users at once with the same access type and permissions. [Learn more](#)

User name* automation

+ Add another user

Select AWS access type

Select how these users will access AWS. Access keys and autogenerated passwords are provided in the last step. [Learn more](#)

Access type* Programmatic access
Enables an **access key ID** and **secret access key** for the AWS API, CLI, SDK, and other development tools.

AWS Management Console access
Enables a **password** that allows users to sign-in to the AWS Management Console.

* Required

Cancel **Next: Permissions**

Note:-
not mandatory to choose admin

▼ Set permissions

Add user to group Copy permissions from existing user Attach existing policies directly

Create policy

Filter policies

Showing 29 results

Policy name	Type	Used as
AdministratorAccess	Job function	None
AmazonAPIGatewayAdministrator	AWS managed	None
AmazonWorkSpacesAdmin	AWS managed	None
AmazonWorkSpacesApplicationManagerAdminAccess	AWS managed	None
AWSAppSyncAdministrator	AWS managed	None

Cancel Previous **Next: Tags**

Download .csv

User	Access key ID	Secret access key
automation	AKIA5GXPURKITWYJDLT5	***** Show

Close



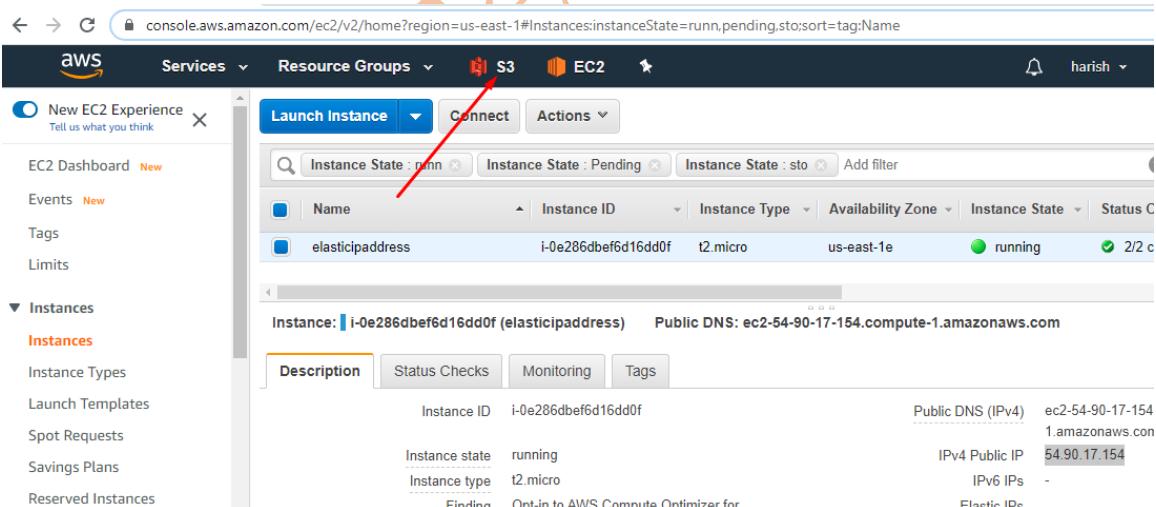
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Before:

```
[root@ip-172-31-56-128 ~]# aws s3 ls  
Unable to locate credentials. You can configure credentials by running "aws configure".  
[root@ip-172-31-56-128 ~]#
```

After:

```
[root@ip-172-31-56-128 ~]# aws configure  
AWS Access Key ID [None]: AKIA5GXPURKITWYJDLT5  
AWS Secret Access Key [None]: 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  
Default region name [None]: us-east-1  
Default output format [None]: json  
[root@ip-172-31-56-128 ~]# aws s3 ls  
2020-08-09 05:41:03 dbadmin-blr-1488  
2020-07-31 14:54:30 dvs-blr10  
2020-07-31 14:53:24 dvs-hyd10  
2020-08-09 05:41:31 sysadmin-blr-1488  
[root@ip-172-31-56-128 ~]#
```



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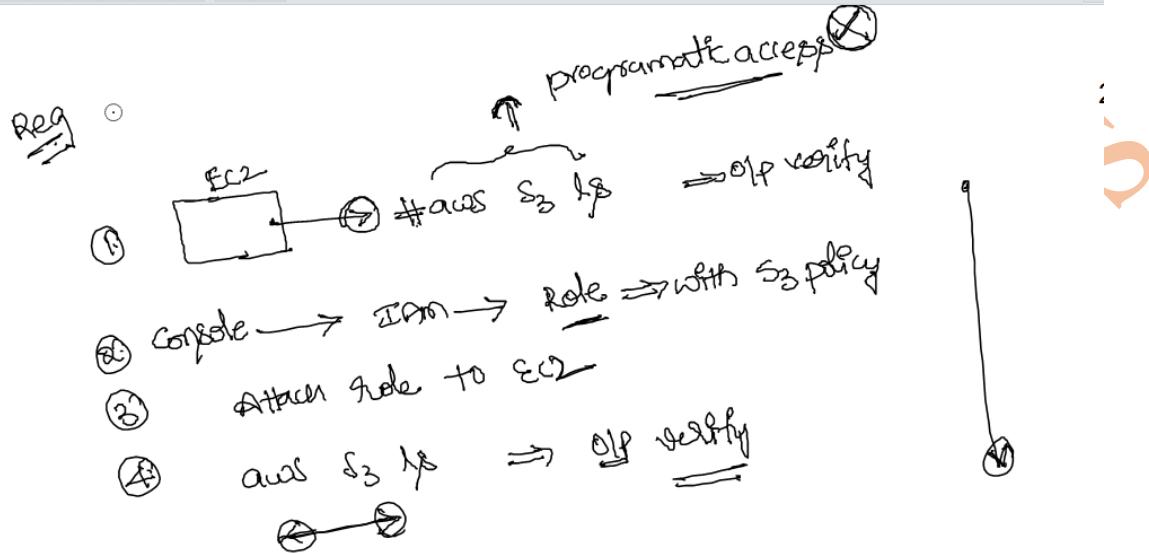
The screenshot shows the AWS S3 console interface. On the left, there's a sidebar with options like 'Buckets', 'Batch operations', 'Access analyzer for S3', 'Block public access (account settings)', and 'Feature spotlight'. The main area displays a list of buckets. At the top right, there are buttons for 'Edit public access settings', 'Empty', and 'Delete'. Below these are filters for 'Access', 'Region', and 'Date created'. The list shows four buckets:

Bucket Name	Region	Date Created
dbadmin-blr-1488	US West (N. California)	Aug 9, 2020 9:41:03 AM GMT+0400
dvs-blr10	US East (N. Virginia)	Jul 31, 2020 6:54:30 PM GMT+0400
dvs-hyd10	US East (N. Virginia)	Jul 31, 2020 6:53:24 PM GMT+0400
sysadmin-blr-1488	US West (N. California)	Aug 9, 2020 9:41:31 AM GMT+0400

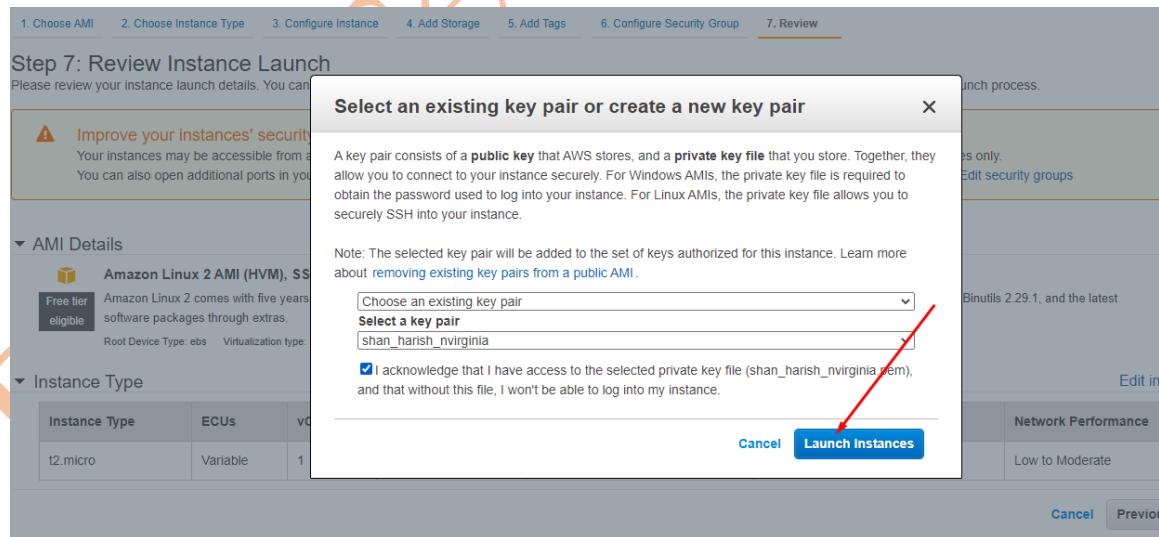
```
2020-08-05 05:41:31 By Sathish [root@ip-172-31-56-128 ~]# cat ~/.aws/credentials
[default]
aws_access_key_id = AKIA5GXPUKITWYJDLT5
aws_secret_access_key = ji2r9iD2ShQHvKfTWifTnM2j9Pafknk6a2Sn9eVH
[root@ip-172-31-56-128 ~]# cat ~/.aws/config
[default]
output = json
region = us-east-1
[root@ip-172-31-56-128 ~]#
```

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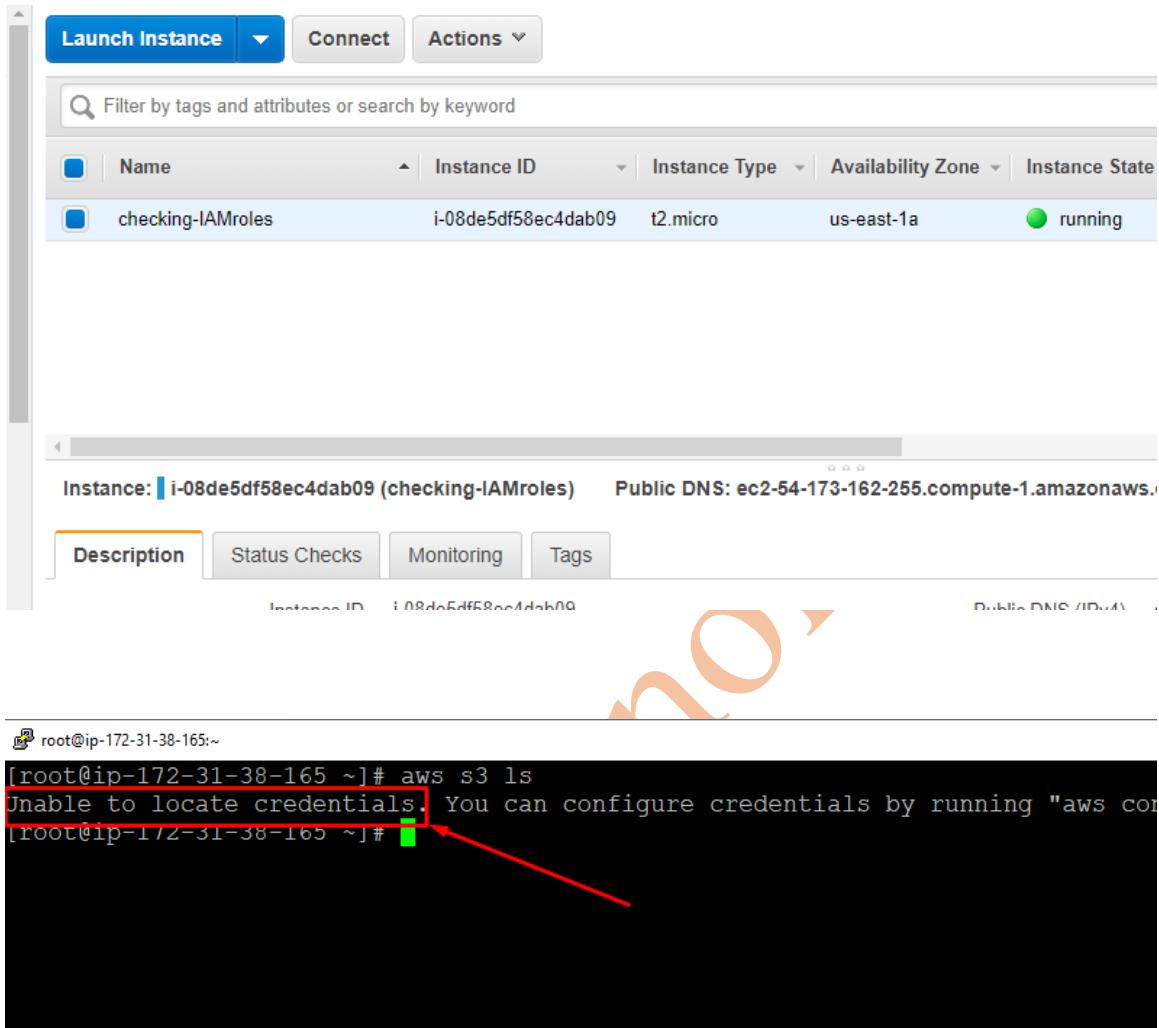
15. Working with Roles



Launch EC2 Server



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The screenshot shows the AWS Identity and Access Management (IAM) service interface. In the top navigation bar, the 'Services' dropdown is open, and 'IAM' is selected. A red arrow points from the search bar to the 'IAM' service entry. The main content area displays the 'Roles' section under the 'Identity and Access Management (IAM)' heading. A large red arrow points from the 'Create role' button at the bottom of the page towards the 'Create role' button on the right side of the 'Roles' page. The 'Create role' button on the page has a blue background and white text.

History
EC2
Console Home
IAM
S3
CloudFormation
AWS Backup

iam

IAM Manage access to AWS resources

EC2 Amazon Managed Blockchain Athena
Lightsail EMR EMR
Lambda CloudSea
Batch Elasticsea
Elastic Beanstalk Kinesis
Serverless Application Repository QuickSigh
AWS Outposts Data Pipel
EC2 Image Builder Amazon Braket
Satellite Ground Station
Quantum Technologies AWS Data
Amazon Braket AWS Glue
Storage AWS Lake
AWS Lambda MSK

Identity and Access Management (IAM)

Dashboard

Access management

Groups

Users

Roles

Policies

Identity providers

Account settings

Access reports

Search IAM

What are IAM roles?

IAM roles are a secure way to grant permissions to entities that you trust. Examples of entities include the following:

- IAM user in another account
- Application code running on an EC2 instance that needs to perform actions on AWS resources
- An AWS service that needs to act on resources in your account to provide its features
- Users from a corporate directory who use identity federation with SAML

IAM roles issue keys that are valid for short durations, making them a more secure way to grant access.

Additional resources:

- IAM Roles FAQ
- IAM Roles Documentation
- Tutorial: Setting Up Cross Account Access
- Common Scenarios for Roles

Create role Delete role

AWS account ID: 907814406801

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Select type of trusted entity

AWS service EC2, Lambda and others **Another AWS account** Belonging to you or 3rd party **Web identity** Cognito or any OpenID provider **SAML 2.0 federation** Your corporate directory

Allows AWS services to perform actions on your behalf. [Learn more](#)

Choose a use case

Common use cases

EC2
Allows EC2 instances to call AWS services on your behalf.

Lambda
Allows Lambda functions to call AWS services on your behalf.

Or select a service to view its use cases

API Gateway CodeGuru ElastiCache Kinesis RoboMaker
AWS Backup CodeStar Notifications Elastic Beanstalk Lake Formation S3

* Required Cancel **Next: Permissions**

Choose one or more policies to attach to your new role.

Create policy Filter policies ▾ Showing 8 results [Create policy](#)

Policy name ▾ Used as

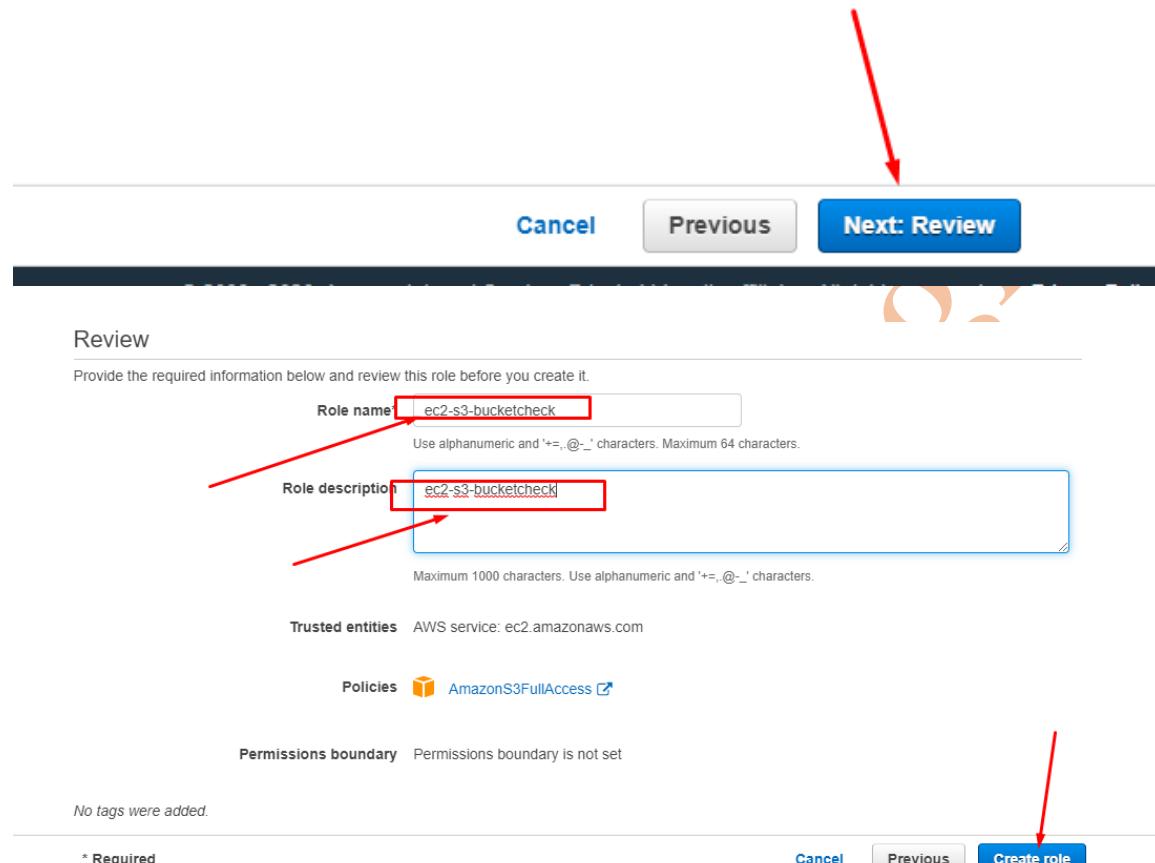
Policy name	Used as
AmazonDMSRedshiftS3Role	None
<input checked="" type="checkbox"/> AmazonS3FullAccess	Permissions policy (1)
AmazonS3ReadOnlyAccess	None
dvsbatch4news3Policy	Permissions policy (1)
dvsbatch4s3policy	None
QuickSightAccessForS3StorageManagementAnalyticsReadOnly	None
S3_dbadmin_policy	Permissions policy (1)
S3_sysadmin_policy	Permissions policy (1)

Filter policies ▾

Set permissions boundary

* Required Cancel Previous **Next: Tags**

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A screenshot of the AWS IAM Role Creation Review step. The page title is "Review". It shows the following fields:

- Role name:** ec2-s3-bucketcheck (highlighted with a red box)
- Role description:** ec2-s3-bucketcheck (highlighted with a red box)
- Trusted entities:** AWS service: ec2.amazonaws.com
- Policies:** AmazonS3FullAccess (highlighted with a red box)
- Permissions boundary:** Permissions boundary is not set
- No tags were added.**

At the bottom right, there are "Cancel", "Previous", and "Next: Review" buttons. A large red arrow points from the top of the image down to the "Next: Review" button.

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Screenshot of the AWS IAM Roles page. The table shows four roles:

Role name	Trusted entities	Last activity
AWSServiceRoleForServiceQuotas	AWS service: servicequotas (Service-Linked role)	14 days
AWSServiceRoleForSupport	AWS service: support (Service-Linked role)	None
AWSServiceRoleForTrustedAdvisor	AWS service: trustedadvisor (Service-Linked role)	None
ec2-s3-bucketcheck	AWS service: ec2	None

Screenshot of the AWS EC2 Instances page. The instance 'i-08de5df58ec4dab09' is selected. The Actions menu is open, showing various options like Connect, Create Template From Instance, Launch More Like This, Instance State, Instance Settings, Image, Networking, CloudWatch Monitoring, Add/Edit Tags, Attach to Auto Scaling Group, and **Attach/Replace IAM Role**.

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Instances > Attach/Replace IAM Role

Attach/Replace IAM Role

Select an IAM role to attach to your instance. If you don't have any IAM roles, choose Create new IAM role to create a role in the IAM console. If an IAM role is already attached to your instance, the IAM role you choose will replace the existing role.

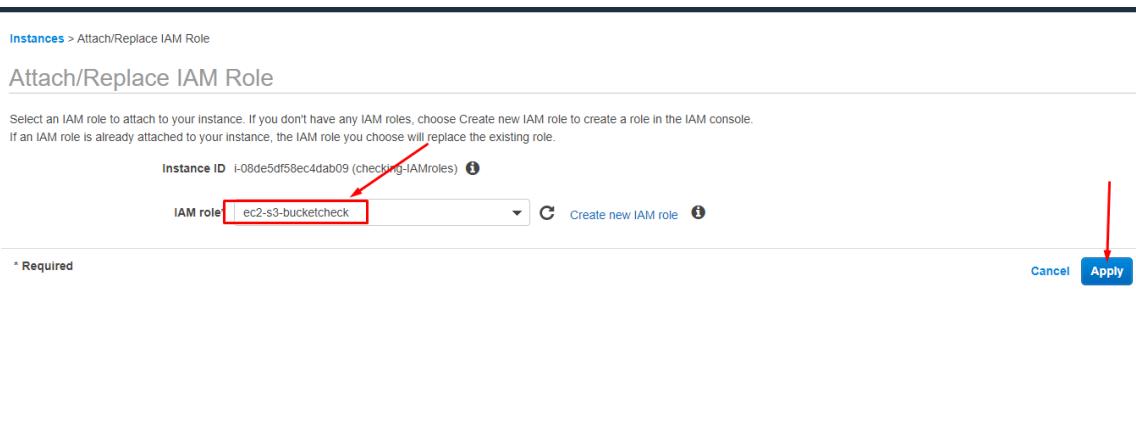
Instance ID: i-08de5df58ec4dab09 (checking-IAMroles) (i)

IAM role: (Required) (i)

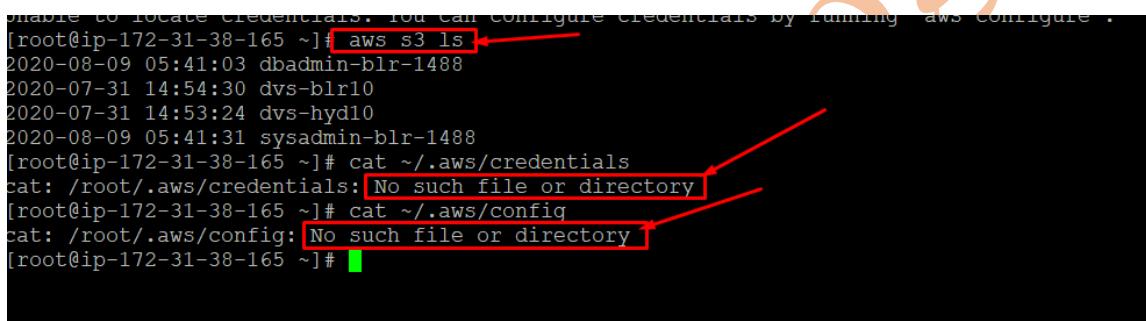
Create new IAM role (i)

* Required

Cancel Apply



```
unable to locate credentials. You can configure credentials by running aws configure.  
[root@ip-172-31-38-165 ~]# aws s3 ls  
2020-08-09 05:41:03 dbadmin-blr-1488  
2020-07-31 14:54:30 dvs-blr10  
2020-07-31 14:53:24 dvs-hyd10  
2020-08-09 05:41:31 sysadmin-blr-1488  
[root@ip-172-31-38-165 ~]# cat ~/.aws/credentials  
cat: /root/.aws/credentials: No such file or directory  
[root@ip-172-31-38-165 ~]# cat ~/.aws/config  
cat: /root/.aws/config: No such file or directory  
[root@ip-172-31-38-165 ~]#
```



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