

PROJECT : 5 CROSS-REGION BACKUP STRATEGY

Launch EC2 in region A

Create and copy EBS snapshot to region B

Restore EC2 in region B

Validate application availability

➤ Launch ec2 instance in region A
region A - asia pacific(Mumbai) ap-south-1

The image shows two screenshots of the AWS EC2 console. The left screenshot displays the 'Instances' page with one instance named 'webserver' listed. The right screenshot shows the 'Instance details' page for the same instance, providing a detailed summary of its configuration and network information.

Instances (1/1) Info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
webserver	i-091404a72f8b71147	Running	t2.micro	Initializing	View alarms	ap-south-1a	ec2-13-233-244-187.ap-south-1.compute.amazonaws.com

Instance summary for i-091404a72f8b71147 (webserver)

Attribute	Value
Instance ID	i-091404a72f8b71147
IPv6 address	-
Hostname type	IP name: ip-172-31-36-201.ap-south-1.compute.internal
Answer private resource DNS name	IPv4 (A)
Auto-assigned IP address	13.233.244.187 [Public IP]
IAM role	-
IMDSv2	Required
Subnet ID	subnet-0627171909643dc00
Instance ARN	arn:aws:ec2:ap-south-1:014576993102:instance/i-091404a72f8b71147
Private IP address	172.31.36.201
Public IP address	13.233.244.187 open address
Public DNS	ec2-13-233-244-187.ap-south-1.compute.amazonaws.com open address
Private DNS	ip-172-31-36-201.ap-south-1.compute.internal
VPC ID	vpc-09277edf317d80e6e
Elastic IP addresses	-
AWS Compute Optimizer finding	Opt-in to AWS Compute Optimizer for recommendations Learn more

➤ Here we connect instance and install httpd

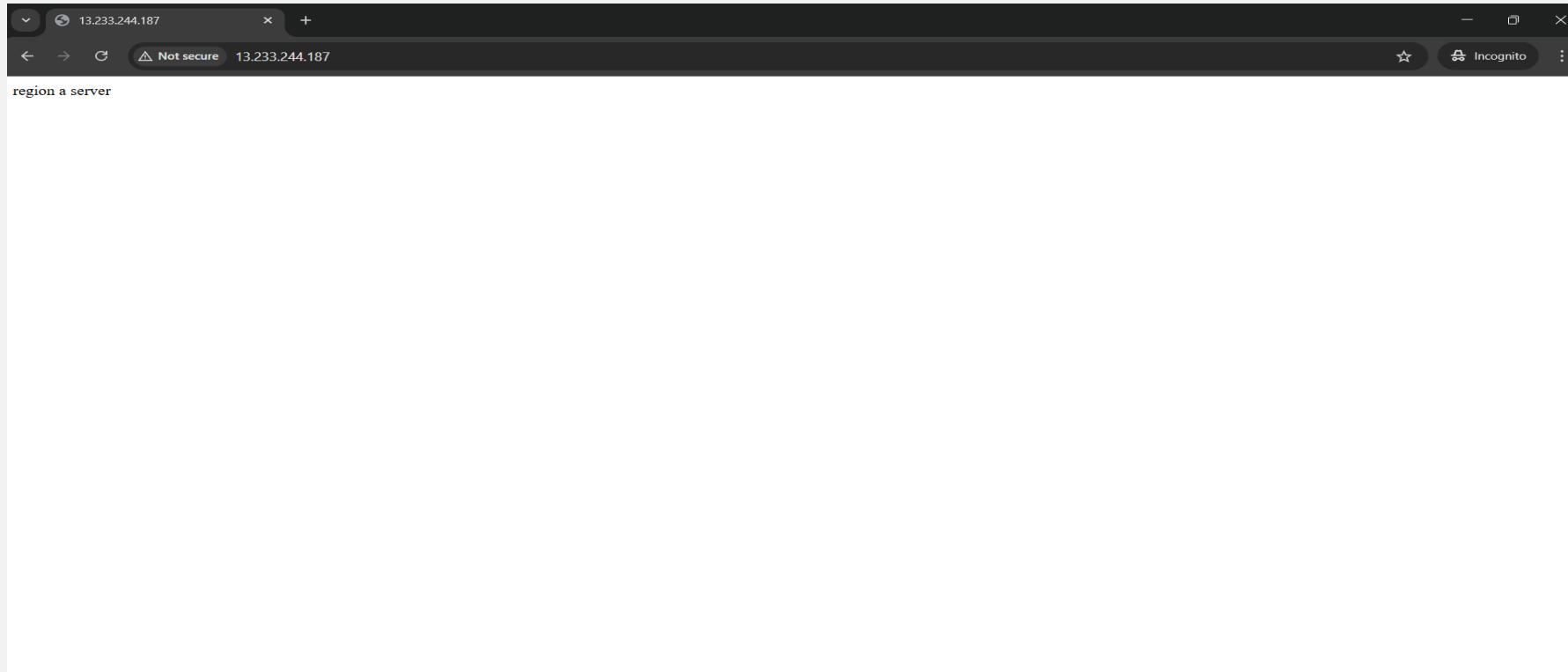
The screenshot shows a terminal session on an Amazon Linux 2023 instance. The user has run the command `sudo -i` and then `yum install httpd`. The output shows the package being installed along with its dependencies. The terminal also displays the instance ID and public/private IP addresses at the bottom.

```
Amazon Linux 2023
https://aws.amazon.com/linux/amazon-linux-2023

[ec2-user@ip-172-31-36-201 ~]$ sudo -i
[root@ip-172-31-36-201 ~]# yum install httpd
Amazon Linux 2023 Kernel Livepatch repository
Dependencies resolved.
=====
Package           Architecture Version       Repository      Size
=====
Installing:
httpd            x86_64      2.4.66-1.amzn2023.0.1  amazonlinux   47 k
Installing dependencies:
apr              x86_64      1.7.5-1.amzn2023.0.4  amazonlinux   129 k
apr-util         x86_64      1.6.3-1.amzn2023.0.2  amazonlinux   97 k
apr-util-lmdb    x86_64      1.6.3-1.amzn2023.0.2  amazonlinux   13 k
generic-logos-httpd noarch      18.0.0-12.amzn2023.0.3  amazonlinux   19 k
httpd-core       x86_64      2.4.66-1.amzn2023.0.1  amazonlinux   1.4 M
httpd-filesystem noarch      2.4.66-1.amzn2023.0.1  amazonlinux   13 k
httpd-tools       x86_64      2.4.66-1.amzn2023.0.1  amazonlinux   81 k
libbrotli        x86_64      1.0.9-4.amzn2023.0.2  amazonlinux   315 k

i-091404a72f8b71147 (webserver)
PublicIPs: 13.233.244.187 PrivateIPs: 172.31.36.201
```

- Create index.html file use public ip it will display the output



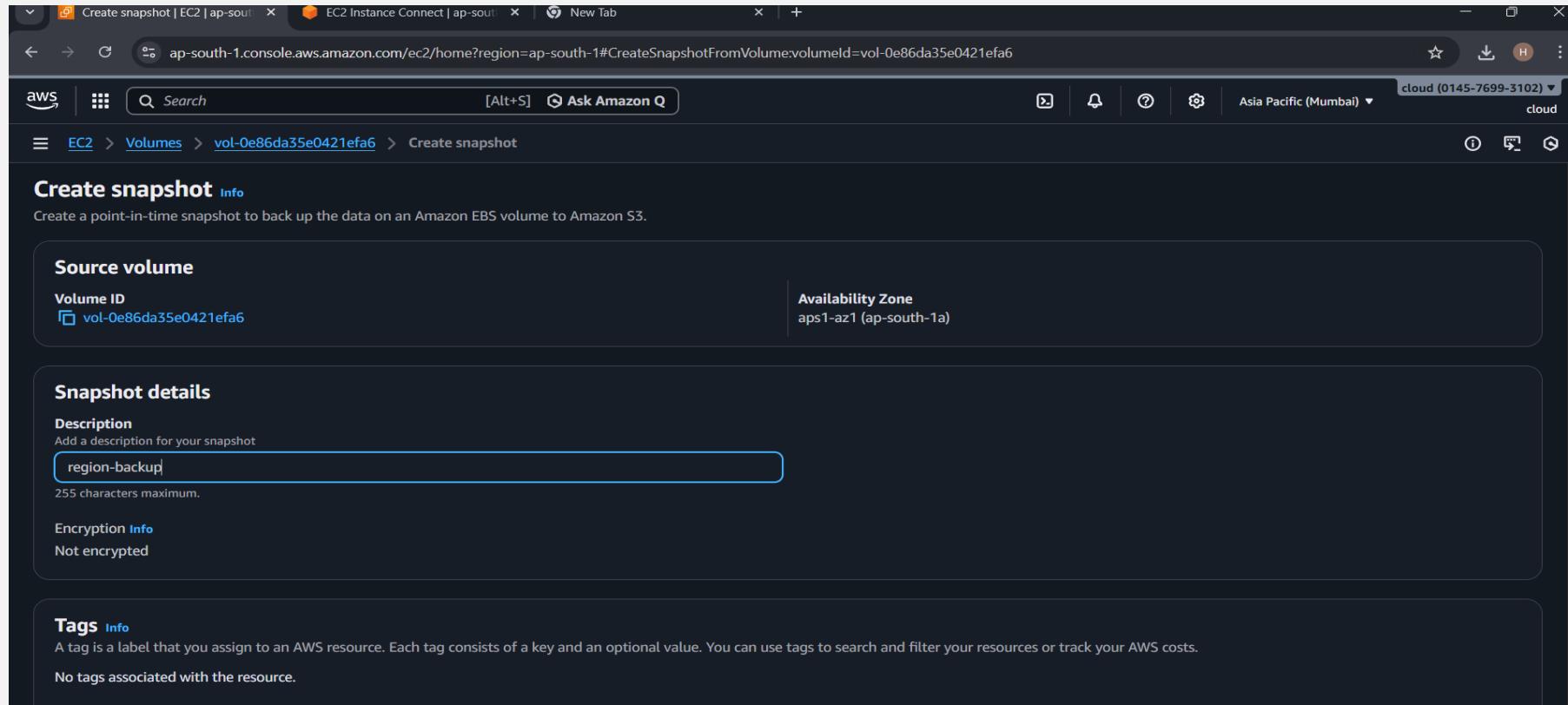
➤ Create EBS snapshot in region A
here we select the root volume attached to EC2

The screenshot shows the AWS Volumes page in the EC2 console for the ap-south-1 region. The left sidebar navigation includes 'Instances' (Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Capacity Manager), 'Images' (AMIs, AMI Catalog), 'Elastic Block Store' (selected, Volumes, Snapshots, Lifecycle Manager), and 'Network & Security' (Security Groups, Elastic IPs). The main content area displays a table titled 'Volumes (1) Info' with one row of data:

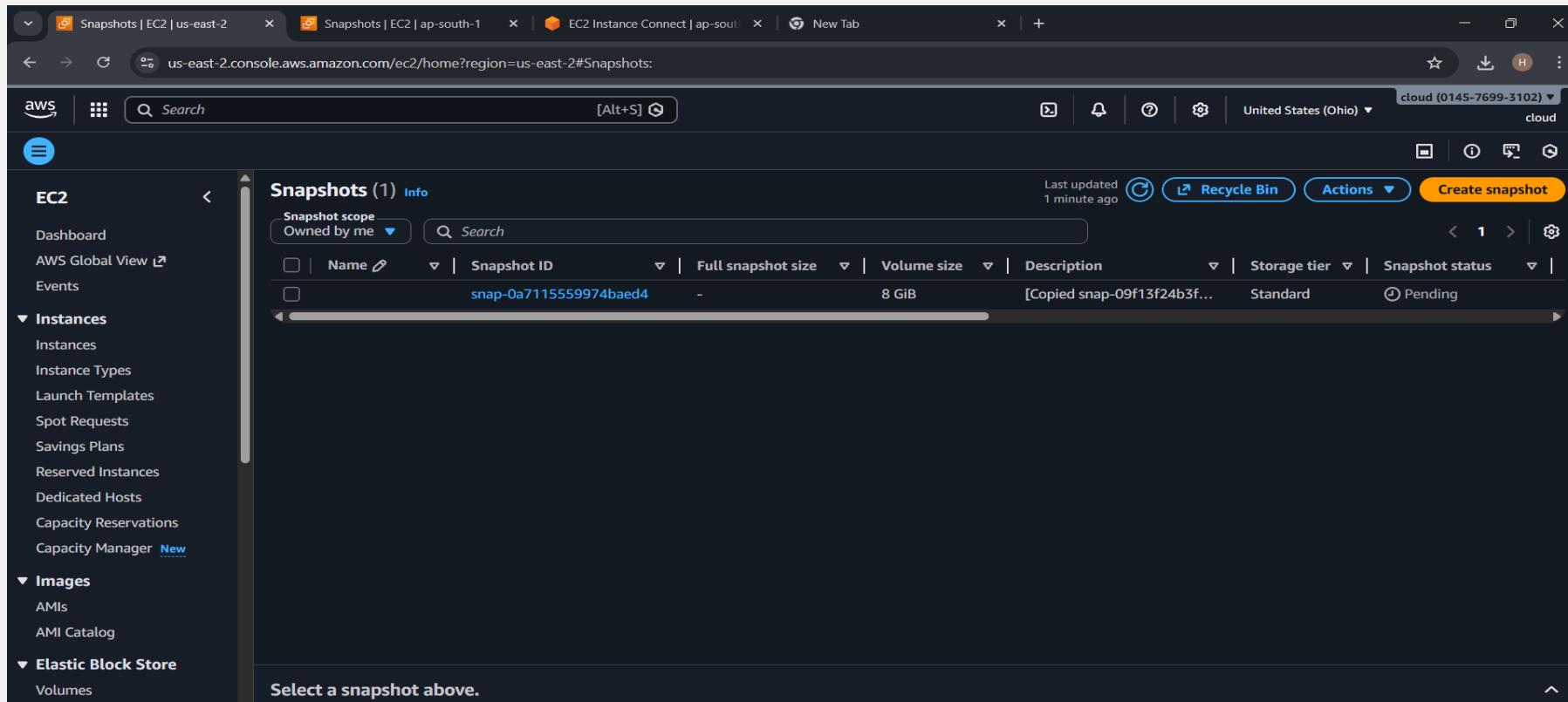
Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Source volume ID	Created
	vol-0e86da35e0421efa6	gp3	8 GiB	3000	125	snap-04558a8...	-	2026/02

Below the table, a section titled 'Fault tolerance for all volumes in this Region' shows '0 / 1' recently backed up volumes. A 'Snapshot summary' section indicates '0 / 1' total # volumes, last updated on Feb 18, 2026, and notes 'No default policy set up | Create policy'.

➤ By using root volume we create snapshot



- Copy snapshot to region b
region b -us east(ohio) us-east-2a



➤ Restore EC2 region b
by copied snapshot we will create volume in
correct availability zone

The screenshot shows the AWS EBS Volumes page in the us-east-2 region. The left sidebar navigation includes Events, Instances (Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Capacity Manager), Images (AMIs, AMI Catalog), Elastic Block Store (Volumes, Snapshots, Lifecycle Manager), and Network & Security (Security Groups). The main content area displays the 'Volumes (1) Info' section. A table lists one volume:

Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Source volume ID	Created
	vol-04514acbba02ff435	gp3	8 GiB	3000	125	snap-0a71155...	-	2026/02/18

Below the table, a message states "Fault tolerance for all volumes in this Region". The "Snapshot summary" section shows "0 / 1" recently backed up volumes / Total # volumes, last updated on Feb 18, 2026. It also mentions the "Data Lifecycle Manager default policy for EBS Snapshots status" with a note about no default policy set up.

➤ Launch EC2 instance in region B

The screenshot shows the AWS EC2 Instances page in the us-east-2 region. A green notification bar at the top indicates "Successfully initiated starting of i-025db0413e06412e4". The main table displays one instance:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
webserver1	i-025db0413e06412e4	Pending	t3.micro	Initializing	View alarms +	us-east-2b	-

The instance details page for i-025db0413e06412e4 (webserver1) is shown below. The Details tab is selected.

Details	Status and alarms	Monitoring	Security	Networking	Storage	Tags
Instance summary						
Instance ID i-025db0413e06412e4	Public IPv4 address -	Instance state Pending		Private IP DNS name (IPv4 only)	Private IPv4 addresses 172.31.27.128	Public DNS -
IPv6 address -						
Hostname type						

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➤ Detach its root volume

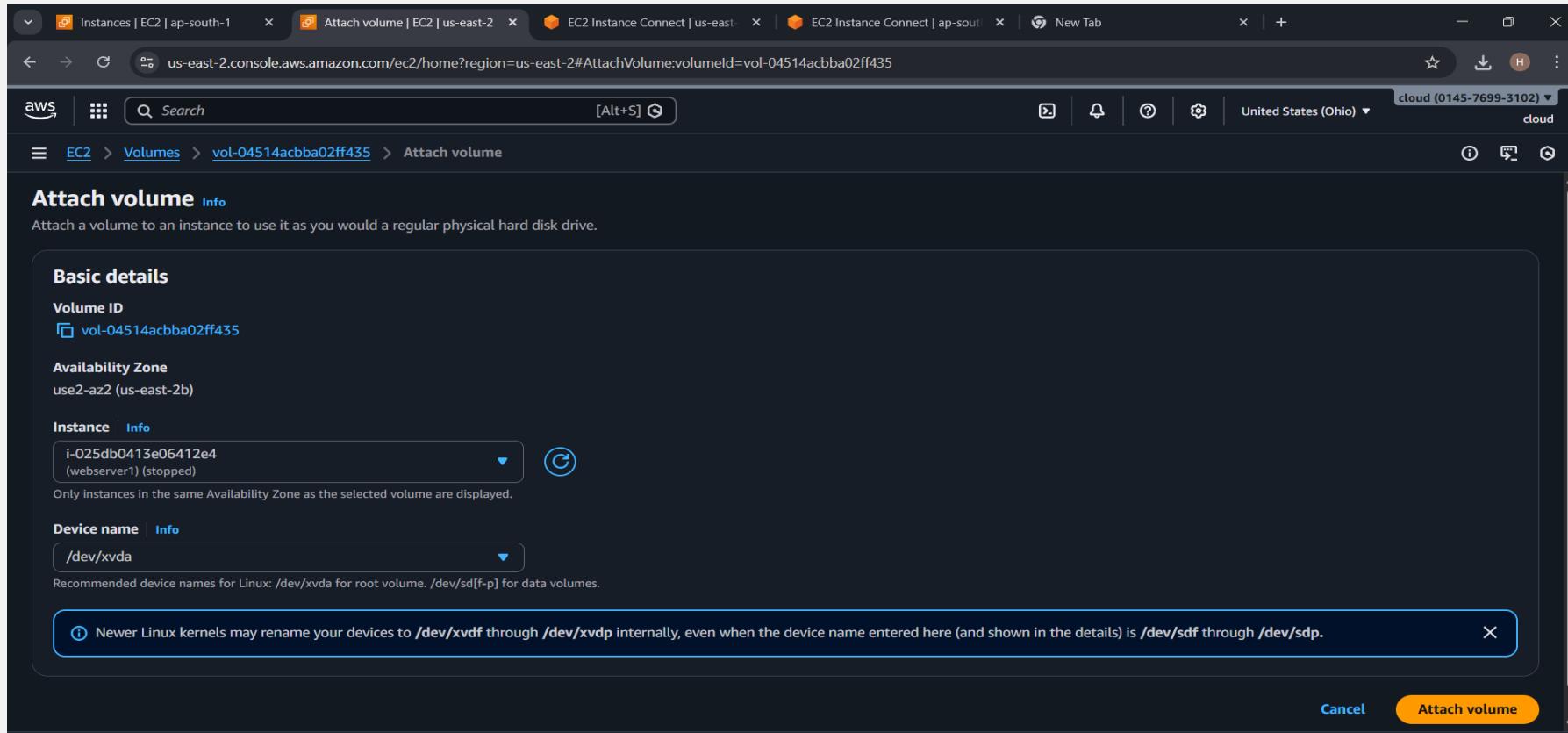
The screenshot shows the AWS Cloud9 IDE interface. The code editor displays the following Python code:

```
def lambda_handler(event, context):
    # Add your code here
    print("Hello from Lambda!")

    return {
        "statusCode": 200,
        "body": "Hello from Lambda!"
    }
```

The AWS Cloud9 interface includes a terminal window at the bottom left and various AWS service tabs at the top.

➤ Attach restored volume into instance.



➤ Connect EC2 instance and start httpd.

```
'~\_\#\#\#_          Amazon Linux 2023
~~\#\#\#\#
~~\#\#\#
~~\#/   https://aws.amazon.com/linux/amazon-linux-2023
~~V~`-->
~~`-.-
~~`/`-
/m,'

Last login: Wed Feb 18 08:34:37 2026 from 13.233.177.5
[ec2-user@ip-172-31-27-128 ~]$ sudo -i
[root@ip-172-31-27-128 ~]# systemctl start httpd
[root@ip-172-31-27-128 ~]#
```

i-025db0413e06412e4 (webserver1)

PublicIPs: 18.189.16.8 PrivateIPs: 172.31.27.128

- Our backup successfully restore in another region instance.

