

NAME : UDDHAV BAPU GUND | Designation: Jr.AWS Developer

TASK : EC2 Backup & Restore

- Take an AMI snapshot of an EC2 instance.
- Launch a new EC2 from the AMI.
- Verify data/apps are preserved.

Step 1: Launch Source EC2 Instance

Description: Create a new EC2 instance to act as the source for backup.

Go to EC2 → Instances → Launch instances.

Fill in details:

Name: **Source-Instance**.

Application and OS Image (AMI): Choose Amazon Linux 2.

Instance type: t2.micro (Free Tier eligible).

Network settings :----> VPC: default VPC.

Subnet: pick default.

Security group: allow SSH (port 22).

Storage: Keep default 8 GiB (enough for practice).

Click Launch instance.

Wait until Instance state = Running and Status checks = Passed.

The screenshot shows the AWS EC2 Instances page. On the left, there's a navigation sidebar with options like Dashboard, EC2 Global View, Events, Instances (selected), Images, Elastic Block Store, Network & Security, and more. The main content area displays a table of instances. One instance is listed: **i-0d393e3c0c1ecab6d (Source-Instance)**. The instance is shown as **Running** with **2/2 checks passed**. Below the table, there's a detailed view for the selected instance, showing tabs for Details, Status and alarms, Monitoring, Security, Networking, Storage, and Tags. Under the Details tab, it shows the Instance ID as i-0d393e3c0c1ecab6d and the Public IPv4 address as 54.158.14.129. At the bottom of the page, there are links for CloudShell and Feedback, along with standard footer links for Privacy, Terms, and Cookie preferences.

Step 2: Add Test Data (Optional)

Open Instance Connect:

1. Go to **EC2 → Instances**.
2. Select your running instance.
3. Click **Connect** (top-right).
4. Choose the **EC2 Instance Connect tab**.
5. Click **Connect** → it opens a browser-based terminal.

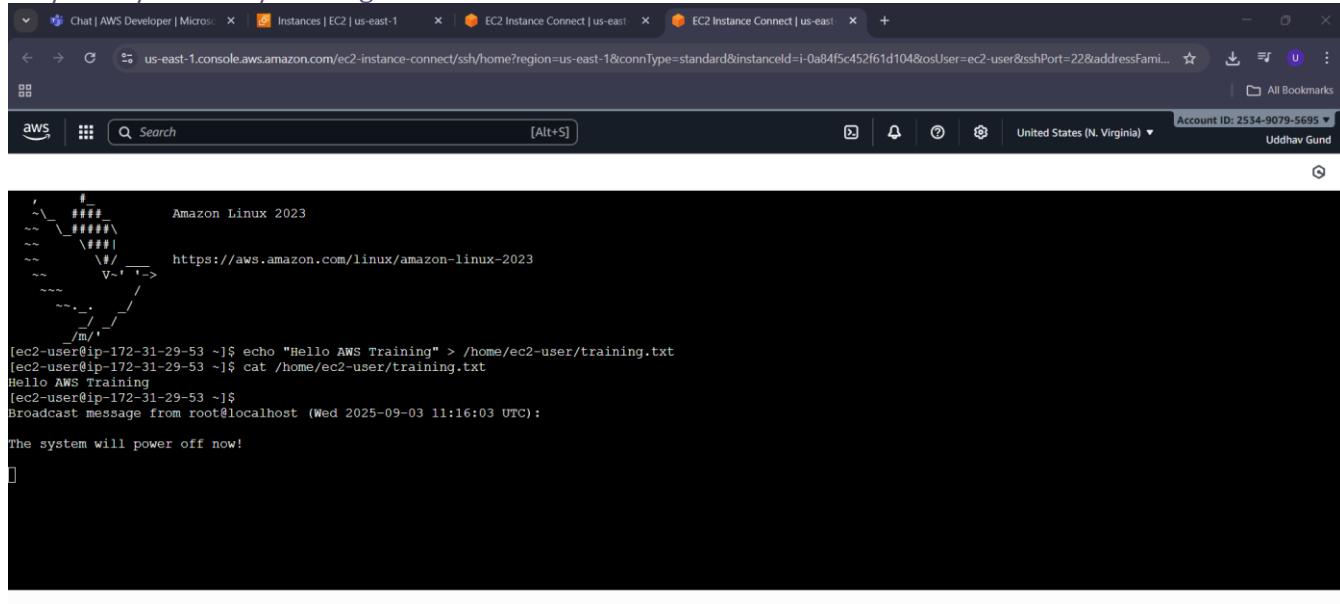
Description: Add some sample data to verify after restore.

Run commands inside EC2(on browser):

```
echo "This is my training file" > /home/ec2-user/training.txt
```

#VERIFICATION

```
cat /home/ec2-user/training.txt
```



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

[ec2-user@ip-172-31-29-53 ~]$ echo "Hello AWS Training" > /home/ec2-user/training.txt
[ec2-user@ip-172-31-29-53 ~]$ cat /home/ec2-user/training.txt
Hello AWS Training
[ec2-user@ip-172-31-29-53 ~]$ 
Broadcast message from root@localhost (Wed 2025-09-03 11:16:03 UTC):
The system will power off now!
```

i-0a84f5c452f61d104 (Source-Instance)

PublicIPs: 52.86.14.173 PrivateIPs: 172.31.29.53

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Step 3: Create AMI (Backup)

In EC2 Console → Instances, select your **source-instance**.

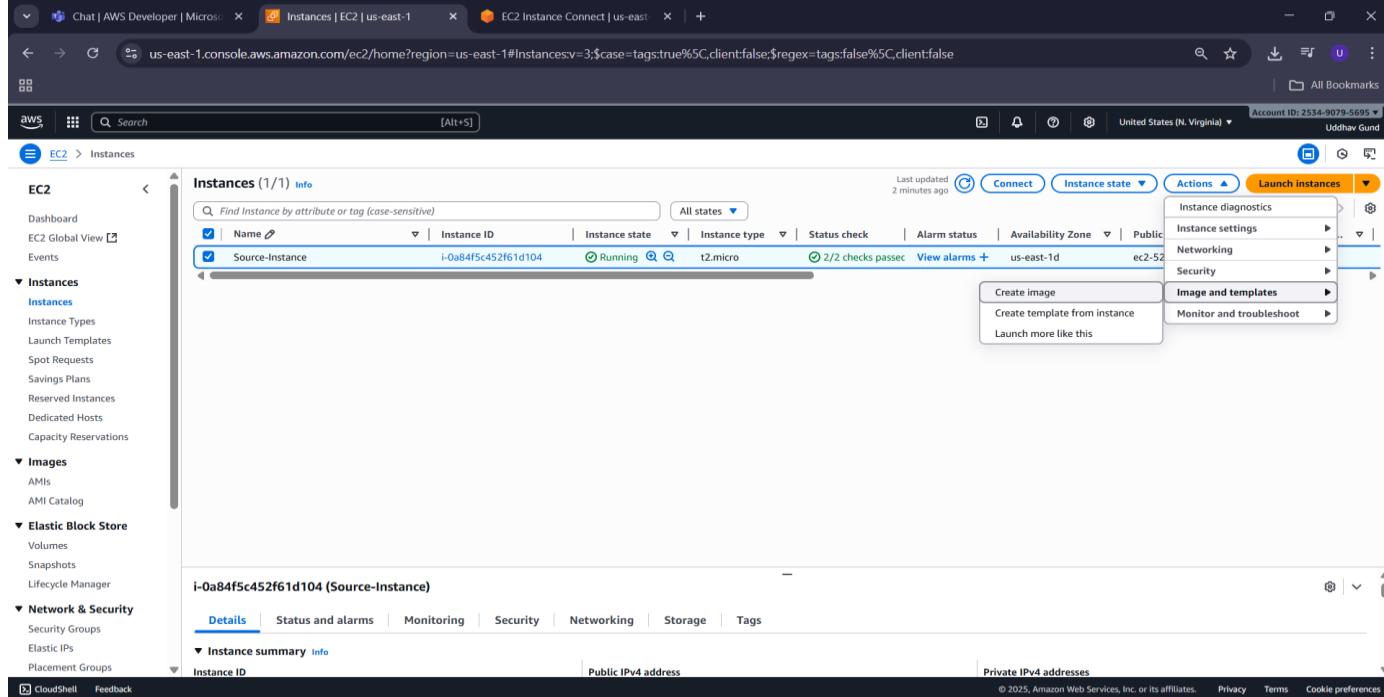
Go to Actions → Image and templates → Create image.

Enter details:

- **Image name: Source-Instance-AMI.**
- **Reboot:** leave checked (or unchecked if instance is already stopped).

Click **Create image**.

Go to EC2 → AMIs, wait until status = Available.



The screenshot shows the AWS EC2 Instances page. On the left, there's a navigation sidebar with options like EC2, Dashboard, EC2 Global View, Events, Instances, Images, and Network & Security. The main area displays a table titled 'Instances (1/1) Info' with one row selected: 'Source-Instance' (i-0a84f5c452f61d104). To the right of the table, there's a context menu with options like 'Create image', 'Create template from instance', and 'Launch more like this'. Below the table, there's a detailed view for the selected instance, showing its ID, state (Running), type (t2.micro), and other details. At the bottom, there are tabs for Details, Status and alarms, Monitoring, Security, Networking, Storage, and Tags.

The screenshot shows the AWS EC2 AMI Management interface. On the left, a sidebar navigation includes EC2, Instances, Images (selected), and Network & Security. The main content area displays the 'Amazon Machine Images (AMIs) (1/1)' page. A table lists one item: 'Source-Instance-AMI' with AMI ID 'ami-01b9f69b90d5676e9'. The table includes columns for Name, AMI ID, Owner, Visibility, Status, and Creation date. Below the table, a detailed view for the selected AMI shows its ID as 'ami-01b9f69b90d5676e9', type as 'machine', platform as 'Linux/UNIX', and root device type as 'EBS'. The details tab is active.

SNAPSHOT ALSO GENERATED!

The screenshot shows the AWS EC2 Snapshots interface. The sidebar navigation includes Images (selected), AMI Catalog, and Network & Security. The main content area displays the 'snap-07697f5b739f967a7' snapshot details. The snapshot ID is 'snap-07697f5b739f967a7', owner is '253490795695', and it was started on 'Wed Sep 03 2025 16:46:33 GMT+0530 (India Standard Time)'. The full snapshot size is '1.54 GiB' and progress is '100%'. The status is 'Completed' and the fast snapshot restore is '-'.

Step 4: Launch New EC2 from AMI (Restore)

Description: Launch a new EC2 instance using the created AMI.

- Instance Name: **Restored-Instance**
- AMI Used: Source-Instance-AMI
- Instance Type: t2.micro
- Network / Security Group: Default VPC, SSH (22) allowed.

Chat | AWS Developer | Microsoft Edge | Launch an instance | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:ami=ami-01b9f69b90d5676e9

All Bookmarks

CloudShell Feedback

EC2 Instances Launch an instance

Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name: Restored-Instance Add additional tags

Application and OS Images (Amazon Machine Image) Info

An AMI contains the operating system, application server, and applications for your instance. If you don't see a suitable AMI below, use the search field or choose Browse more AMIs.

Search our full catalog including 1000s of application and OS images

AMI from catalog Recents My AMIs Quick Start

Name: Source-Instance-AMI

Description: Source Instance AMI image

Image ID: ami-01b9f69b90d5676e9

Username: root (Check with the AMI provider)

Published: 2025-09-03T11:15:03.000Z Architecture: x86_64 Virtualization: hvm Root device type: ebs ENA Enabled: Yes

Boot mode: uefi-preferred

Instance type Info Get advice

Summary Number of instances: 1

Software Image (AMI) Source Instance AMI image ami-01b9f69b90d5676e9

Virtual server type (instance type) t2.micro

Firewall (security group) AMI-SG

Storage (volumes) 1 volume(s) - 8 GiB

Free tier: In your first year of opening an AWS account, you get 750 hours per month of t2.micro instance usage (or t5.micro where t2.micro isn't available) when used with free tier AMIs. 750 hours per month of public IPv4 address usage, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of bandwidth to the internet. Data transfer charges are not included as part of the free tier allowance.

Cancel Launch instance Preview code

© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Chat | AWS Developer | Microsoft Edge | Launch an instance | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:ami=ami-01b9f69b90d5676e9

All Bookmarks

CloudShell Feedback

EC2 Instances Launch an instance

Boot mode: uefi-preferred

Instance type Info Get advice

Instance type: t2.micro

Family: t2 1 vCPU 1 GiB Memory Current generation: true On-Demand Windows base pricing: 0.0162 USD per Hour Free tier eligible On-Demand Ubuntu Pro base pricing: 0.0134 USD per Hour On-Demand SUSE base pricing: 0.0116 USD per Hour On-Demand RHEL base pricing: 0.026 USD per Hour On-Demand Linux base pricing: 0.0116 USD per Hour

All generations Compare instance types

Additional costs apply for AMIs with pre-installed software

Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required: AMIInstance Create new key pair

Network settings Info

VPC - required: Info

vpc-0610f9fedfd36a33 (default) Subnet: Info

subnet-021f7341603804494 VPC: vpc-0610f9fedfd36a33 Owner: 253490795695 Availability Zone: us-east-1d (use1-az2) Zone type: Availability Zone IP addresses available: 4090 CIDR: 172.31.16.0/20

Create new subnet

Auto-assign public IP: Info

Enable Additional charges apply when outside of free tier allowance

Firewall (security groups): Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Create security group Select existing security group

Summary Number of instances: 1

Software Image (AMI) Source Instance AMI image ami-01b9f69b90d5676e9

Virtual server type (instance type) t2.micro

Firewall (security group) AMI-SG

Storage (volumes) 1 volume(s) - 8 GiB

Free tier: In your first year of opening an AWS account, you get 750 hours per month of t2.micro instance usage (or t5.micro where t2.micro isn't available) when used with free tier AMIs. 750 hours per month of public IPv4 address usage, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of bandwidth to the internet. Data transfer charges are not included as part of the free tier allowance.

Cancel Launch instance Preview code

© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Chat | AWS Developer | Microsoft | Launch an instance | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:ami=ami-01b9f69b90d5676e9

All Bookmarks | Account ID: 253490795695 | United States (N. Virginia) | Uddhav Gund

EC2 Instances Launch an instance

VPC: vpc-0610fd9fedfd36a33 Owner: 253490795695 Availability Zone: us-east-1 (use1-az1) Zone type: Availability Zone IP addresses available: 4090 CDR: 172.31.16.0/20 Create new subnet

Auto-assign public IP: Info

Enable Additional charges apply when outside of free tier allowance

Firewall (security groups): Info A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Create security group Select existing security group

Common security groups: Info Select security groups

AM-SG sg-0b5704ef243b7753 VPC: vpc-0610fd9fedfd36a33 Security groups that you add or remove here will be added to or removed from all your network interfaces.

Compare security group rules

Advanced network configuration

Configure storage: Info Advanced

1x 8 GiB gp3 Root volume, 3000 IOPS, Not encrypted

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

Add new volume

Click refresh to view backup information The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems Edit

Advanced details: Info

Summary Number of instances: 1

Software Image (AMI) Source Instance AMI image ami-01b9f69b90d5676e9

Virtual server type (instance type) t2.micro

Firewall (security group) AM-SG

Storage (volumes) 1 volume(s) - 8 GiB

Free tier: In your first year of opening an AWS account, you get 750 hours per month of t2.micro instance usage (or 300 hours per month of t1.micro instances) along with free tier AMIs, 750 hours per month of public IPv4 address usage, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of bandwidth to the internet. Data transfer charges are not included as part of the free tier allowance.

Cancel Launch instance Preview code

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Chat | AWS Developer | Microsoft | Instance details | EC2 | us-east-1 | EC2 Instance Connect | us-east-1 | +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#InstanceDetails:instanceId=i-09527dc7783fb55b1

All Bookmarks | Account ID: 253490795695 | United States (N. Virginia) | Uddhav Gund

EC2 Instances > i-09527dc7783fb55b1

Instance summary for i-09527dc7783fb55b1 (Restored-Instance) Info Updated less than a minute ago

Instance ID: i-09527dc7783fb55b1

IPv6 address: -

Hostname type: IP name: ip-172-31-22-106.ec2.internal

Answer private resource DNS name: -

Auto-assigned IP address: 18.234.215.27 [Public IP]

IAM Role: -

IMDsv2: Required

Operator: -

Public IPv4 address: 18.234.215.27 [open address]

Instance state: Running

Private IP DNS name (IPv4 only): ip-172-31-22-106.ec2.internal

Instance type: t2.micro

VPC ID: vpc-0610fd9fedfd36a33

Subnet ID: subnet-021f7341603804494

Instance ARN: arn:aws:ec2:us-east-1:253490795695:instance/i-09527dc7783fb55b1

Private IPv4 addresses: 172.31.22.106

Public DNS: ec2-18-234-215-27.compute-1.amazonaws.com [open address]

Elastic IP addresses: -

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

Auto Scaling Group name: -

Managed: false

Details Status and alarms Monitoring Security Networking Storage Tags

Instance details: AMI ID: ami-01b9f69b90d5676e9 AMI name: Source-Instance-AMI Stop protection: Disabled Monitoring: disabled Allowed image: - Launch time: Wed Sep 03 2025 16:55:00 GMT+0530 (India Standard Time) (4 minutes)

Platform details: Linux/UNIX Termination protection: Disabled AMI location: 253490795695/Source-Instance-AMI

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Instances (2) Info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
Source-Instance	i-0a84ff5c452f61d104	Running	t2.micro	2/2 checks passed	View alarms	us-east-1d	ec2-52-86-14-173.com...	52.86.14.173
Restored-Instance	i-09527dc7783fb55b1	Running	t2.micro	2/2 checks passed	View alarms	us-east-1d	ec2-18-234-215-27.co...	18.234.215.27

Select an instance

Step 5: Verify Data / Application

- Select your **Restored-instance**.
- Click **Connect** → **EC2 Instance Connect** → **Connect**.

-Run:

```
cat /home/ec2-user/training.txt
```

You should see the same text (Hello AWS Training).

```
'~\ #####
~~ \#####
~~ \#####
~~ \#/
~~ V-.->
~~ .-
~/
[root@ip-172-31-22-106 ~]# cat /home/ec2-user/training.txt
Hello AWS Training
[root@ip-172-31-22-106 ~]# 
```

i-09527dc7783fb55b1 (Restored-Instance)

PublicIPs: 18.234.215.27 PrivateIPs: 172.31.22.106

That confirms our **backup & restore** worked successfully. 🎉

Conclusion: The EC2 Backup & Restore process using AMI was executed successfully. Data and application state were preserved in the restored instance.