

Practical - 1

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EC2 Key Pair Lost

The screenshot shows the AWS EC2 'Launch an instance' wizard. The top navigation bar includes the AWS logo, search bar, and account information (Account ID: 7725-4885-8659, Europe (Stockholm)). The main page title is 'Launch an instance' with an 'Info' link. A sub-header states: '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.' The configuration steps are as follows:

- Name and tags**: A field labeled 'Name' contains 'Old web server'. An 'Add additional tags' button is present.
- Application and OS Images (Amazon Machine Image)**: A search bar says 'Search our full catalog including 1000s of application and OS images'. Below it, tabs include 'Recents', 'My AMIs', and 'Quick Start'. Under 'Quick Start', there are icons for Amazon Linux (selected), macOS, Ubuntu, Windows, Red Hat, SUSE Linux, and Debian. A 'Browse more AMIs' button is available.
- Summary**: Shows 'Number of instances' set to 1. Other summary details include:
 - Software Image (AMI)**: Amazon Linux 2023 AMI 2023.8.2... (read more, ami-043339e831b48099)
 - Virtual server type (instance type)**: t3.micro
 - Firewall (security group)**: New security group
 - Storage (volumes)**: 1 volume(s) - 8 GiB
- Buttons**: 'Cancel', 'Launch instance' (highlighted in orange), and 'Preview code'.

The screenshot shows the AWS EC2 Instances page. The left sidebar is collapsed, and the main content area displays a table of instances. One instance is listed:

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
<input type="checkbox"/>	Old web server	i-0436e0c01f4ea7426	Running	t3.micro	Initializing	View alarms +	eu-north-1b	ec2-16-1...

Below the table, a dropdown menu titled "Select an instance" is open, showing the following options:

- Old web server
- Old web server (with a checkmark)
- Old web server (with a checkmark) (disabled)

Connected via ssh

```
ec2-user@ip-172-31-43-39:~ deshm@LAPTOP-GUBJ3GL3 MINGW64 ~/downloads
$ ssh -i "key-pair-1.pem" ec2-user@ec2-16-171-32-127.eu-north-1.compute.amazonaws.com
,      #
~\_\_ #####_          Amazon Linux 2023
~~ \_\_#####\
~~ \#\#\#
~~     \#/ , __-> https://aws.amazon.com/linux/amazon-linux-2023
~~~   /
~~_. /_/
~/m/ |_
Last login: Tue Sep 30 16:09:08 2025 from 104.28.252.198
[ec2-user@ip-172-31-43-39 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-43-39 ~]$ touch sakshi
[ec2-user@ip-172-31-43-39 ~]$ ls
sakshi
[ec2-user@ip-172-31-43-39 ~]$ |
```

Deleted key pair

```
MINGW64:/c/Users/deshm/downloads
deshm@LAPTOP-GUBJ3GL3 MINGW64 ~/downloads
$ ssh -i "key-pair-1.pem" ec2-user@ec2-16-171-32-127.eu-north-1.compute.amazonaws.com
      #_
      ~\_ ####_ Amazon Linux 2023
      ~~\_\####\_
      ~~ \###|
      ~~ \|/, __ https://aws.amazon.com/linux/amazon-linux-2023
      ~~ V~, ' ->
      ~~ ._. / /
      ~~ /' / /
      _/m'_

Last login: Tue Sep 30 16:09:08 2025 from 104.28.252.198
[ec2-user@ip-172-31-43-39 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-43-39 ~]$ touch sakshi
[ec2-user@ip-172-31-43-39 ~]$ ls
sakshi
[ec2-user@ip-172-31-43-39 ~]$ logout
Connection to ec2-16-171-32-127.eu-north-1.compute.amazonaws.com closed.

deshm@LAPTOP-GUBJ3GL3 MINGW64 ~/downloads
$ rm key-pair-1.pem

deshm@LAPTOP-GUBJ3GL3 MINGW64 ~/downloads
$
```

Launching new instance

The screenshot shows the AWS EC2 'Launch an instance' wizard. The top navigation bar includes the AWS logo, a search bar, and account information (Account ID: 7725-4885-8659, Region: Europe (Stockholm)). The main steps are 'EC2 > Instances > Launch an instance'. The current step is 'Launch an instance'.

Name and tags: A section where the user can enter a name for the instance ('New web server') and add tags. There is also a link to 'Info'.

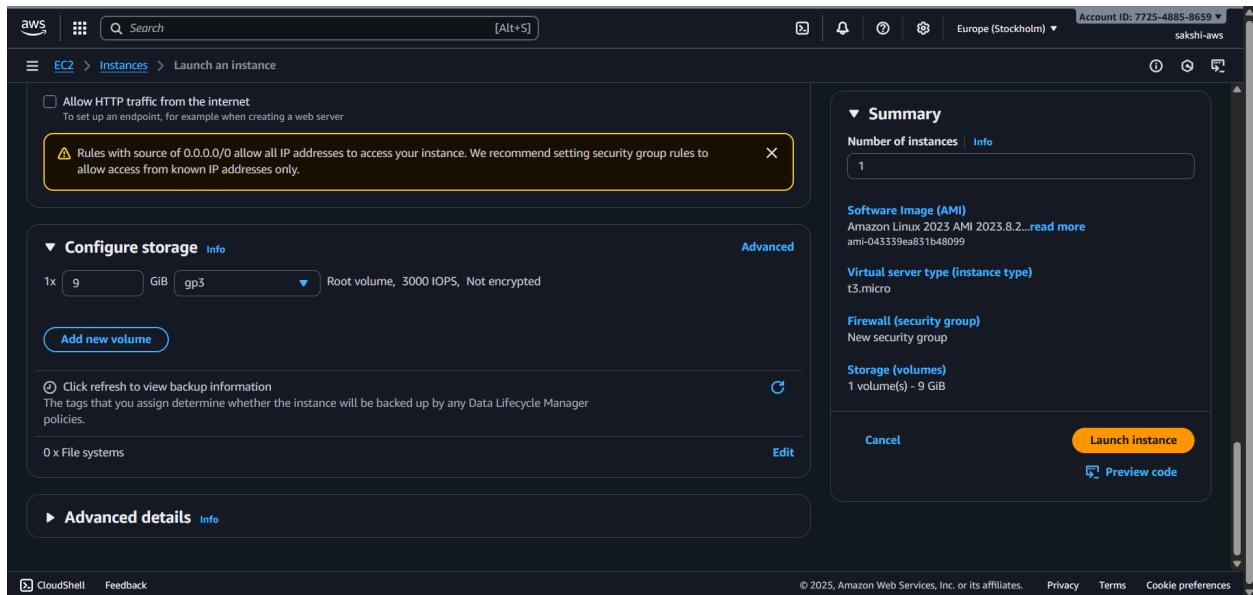
Application and OS Images (Amazon Machine Image): A section where users can search for AMIs. It shows recent AMIs (Amazon Linux, macOS, Ubuntu, Windows, Red Hat, SUSE Linux, Debian) and a 'Quick Start' tab. A search bar says 'Search our full catalog including 1000s of application and OS images'.

Summary: A summary panel on the right showing the following details:

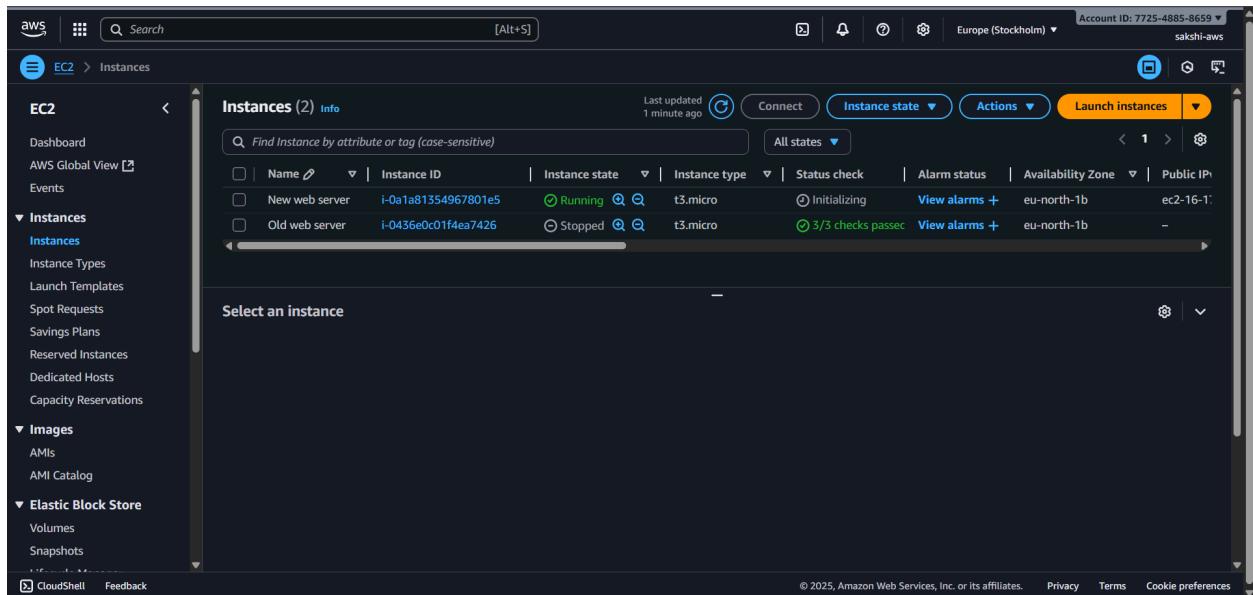
- Number of instances**: 1
- Software Image (AMI)**: Amazon Linux 2023 AMI 2023.8.2... (read more, ami-043339ea831b48099)
- Virtual server type (instance type)**: t3.micro
- Firewall (security group)**: New security group
- Storage (volumes)**: 1 volume(s) - 9 GiB

At the bottom right are 'Cancel', 'Launch instance' (highlighted in orange), and 'Preview code' buttons.

Changing to 9GB



Stopped old instance



Detached volume of older instance

The screenshot shows the AWS EBS console interface. A green success message at the top center reads "Successfully detached volume." Below it, the "Volumes" table displays two volumes. The first volume, "vol-0e90bb12378ccaae3", is a gp3 type, 8 GiB in size, with 3000 IOPS and 125 throughput. It was created on 2025/09/30 21:35 GMT+5:30 and has a snapshot ID of "snap-0b6d7ef...". The second volume, "vol-07ce9e3ddf44f679e", is also a gp3 type, 9 GiB in size, with 3000 IOPS and 125 throughput. It was created on 2025/09/30 22:00 GMT+5:30 and has a snapshot ID of "snap-0b6d7ef...". The left sidebar shows navigation links for Instances, Images, and Elastic Block Store.

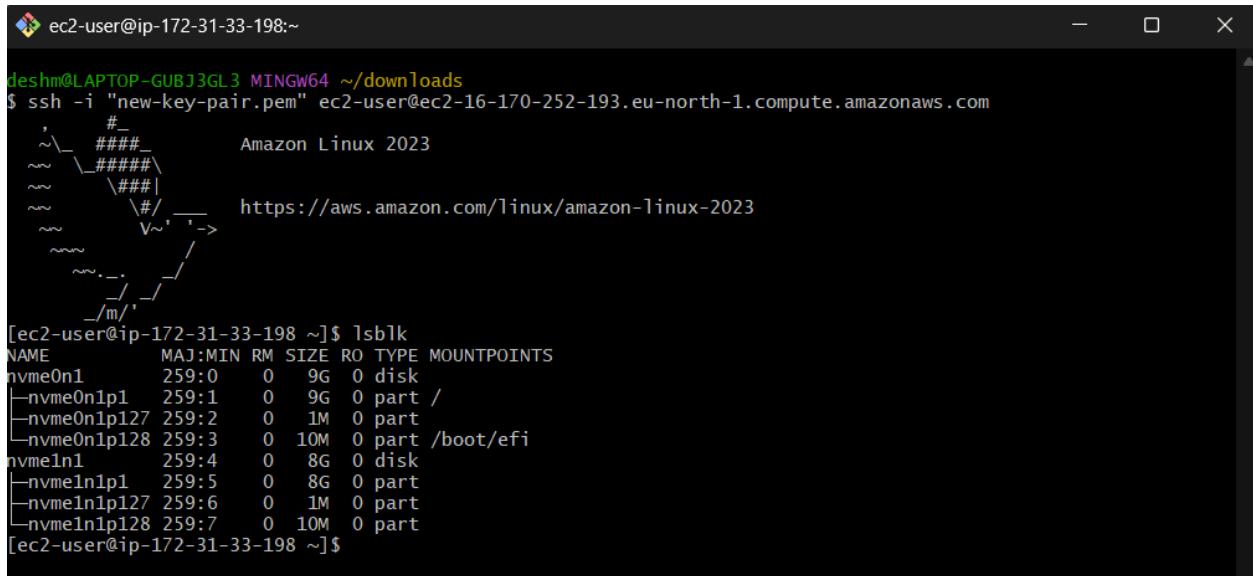
Name	Type	Size	IOPS	Throughput	Snapshot ID	Created
vol-0e90bb12378ccaae3	gp3	8 GiB	3000	125	snap-0b6d7ef...	2025/09/30 21:35 GMT+5:30
vol-07ce9e3ddf44f679e	gp3	9 GiB	3000	125	snap-0b6d7ef...	2025/09/30 22:00 GMT+5:30

Attaching older volume to newer instance

The screenshot shows the AWS EBS console interface. A green success message at the top center reads "Successfully attached volume vol-0e90bb12378ccaae3 to instance i-01a81354967801e5." Below it, the "Volumes" table displays the same two volumes as the previous screenshot. The left sidebar shows navigation links for Instances, Images, and Elastic Block Store.

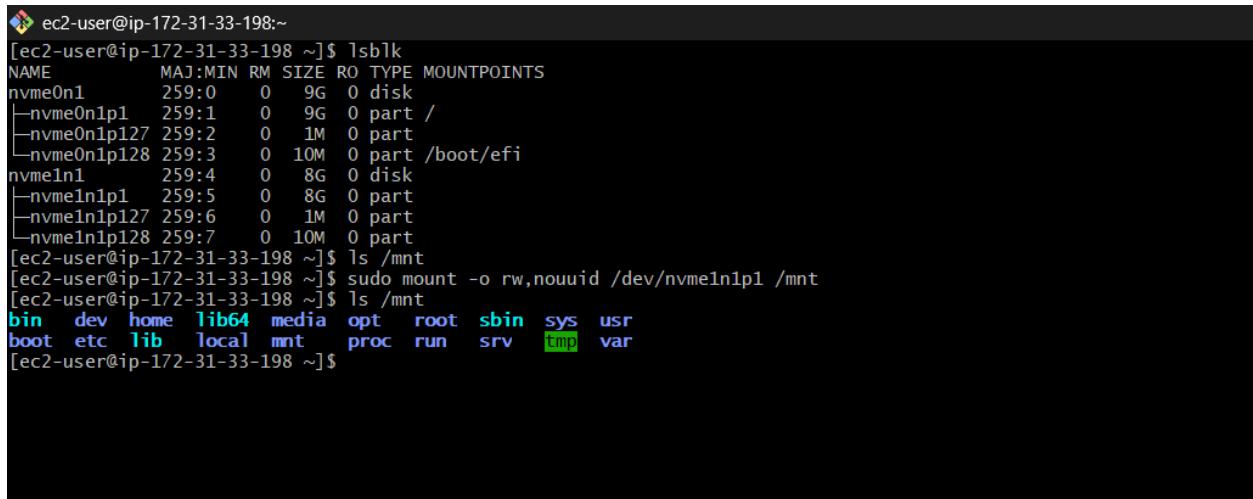
Name	Type	Size	IOPS	Throughput	Snapshot ID	Created
vol-0e90bb12378ccaae3	gp3	8 GiB	3000	125	snap-0b6d7ef...	2025/09/30 21:35 GMT+5:30
vol-07ce9e3ddf44f679e	gp3	9 GiB	3000	125	snap-0b6d7ef...	2025/09/30 22:00 GMT+5:30

Connecting to newer instance



```
deshm@LAPTOP-GUBJ3GL3 MINGW64 ~/downloads
$ ssh -i "new-key-pair.pem" ec2-user@ec2-16-170-252-193.eu-north-1.compute.amazonaws.com
,
  _#
  ~\_\####_      Amazon Linux 2023
  ~\_\####\_
  ~\_\#\#\|
  ~\_\#/,_-->
  ~\_\V~,_-->
  ~\_\/_/,_-->
  ~\_\/_/,_-->
[ec2-user@ip-172-31-33-198 ~]$ lsblk
NAME    MAJ:MIN RM SIZE RO TYPE MOUNTPOINTS
nvme0n1 259:0   0 9G  0 disk
└─nvme0n1p1 259:1 0 9G  0 part /
└─nvme0n1p127 259:2 0 1M  0 part
└─nvme0n1p128 259:3 0 10M 0 part /boot/efi
nvme1n1 259:4   0 8G  0 disk
└─nvme1n1p1 259:5 0 8G  0 part
└─nvme1n1p127 259:6 0 1M  0 part
└─nvme1n1p128 259:7 0 10M 0 part
[ec2-user@ip-172-31-33-198 ~]$
```

Mounting Volume



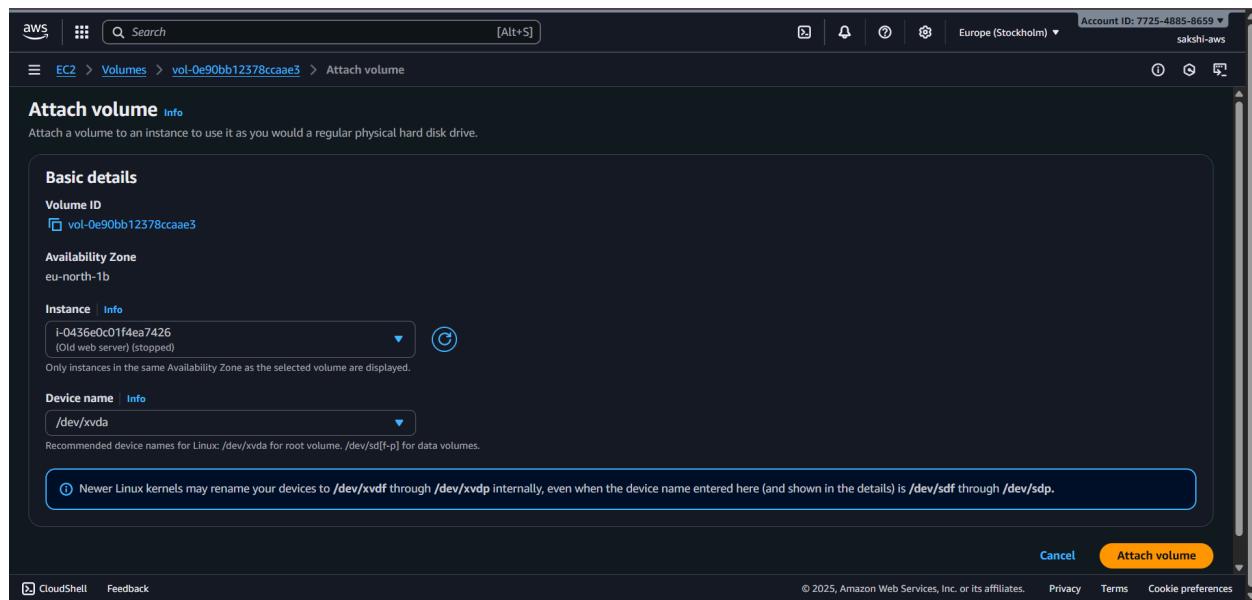
```
[ec2-user@ip-172-31-33-198 ~]$ lsblk
NAME    MAJ:MIN RM SIZE RO TYPE MOUNTPOINTS
nvme0n1 259:0   0 9G  0 disk
└─nvme0n1p1 259:1 0 9G  0 part /
└─nvme0n1p127 259:2 0 1M  0 part
└─nvme0n1p128 259:3 0 10M 0 part /boot/efi
nvme1n1 259:4   0 8G  0 disk
└─nvme1n1p1 259:5 0 8G  0 part
└─nvme1n1p127 259:6 0 1M  0 part
└─nvme1n1p128 259:7 0 10M 0 part
[ec2-user@ip-172-31-33-198 ~]$ ls /mnt
[ec2-user@ip-172-31-33-198 ~]$ sudo mount -o rw,nouuid /dev/nvme1n1p1 /mnt
[ec2-user@ip-172-31-33-198 ~]$ ls /mnt
bin  dev  home  lib64  media  opt  root  sbin  sys  usr
boot etc  lib  local  mnt  proc  run  srv  tmp  var
[ec2-user@ip-172-31-33-198 ~]$
```

Copying newer instances ssh keys to older instances volumes

```
deshm@LAPTOP-GUBJ3GL3 MINGW64 ~/downloads
$ ssh -i "new-key-pair.pem" ec2-user@ec2-13-60-55-204.eu-north-1.compute.amazonaws.com
      #
      #####
      Amazon Linux 2023
      #####
      \###|
      \##|
      \|/ ,__>
      V~, _/-
      /|/
      /_/
      /m/
Last login: Tue Sep 30 17:32:15 2025 from 104.28.252.197
[ec2-user@ip-172-31-33-198 ~]$ ls /mnt
bin  dev  home  lib64  media  opt  root  sbin  sys  usr
boot  etc  lib  local  mnt  proc  run  srv  tmp  var
[ec2-user@ip-172-31-33-198 ~]$ cat /home/ec2-user/.ssh/authorized_keys >> /mnt/home/ec2-user/.ssh/authorized_keys
cat: /home/ec2-user/.ssh/authorized_keys: input file is output file
[ec2-user@ip-172-31-33-198 ~]$ umount /mnt
umount: /mnt: must be superuser to umount.
[ec2-user@ip-172-31-33-198 ~]$ sudo umount /mnt
[ec2-user@ip-172-31-33-198 ~]$ logout
Connection to ec2-13-60-55-204.eu-north-1.compute.amazonaws.com closed.

deshm@LAPTOP-GUBJ3GL3 MINGW64 ~/downloads
$
```

Attaching volume back to older instance



Starting older instance

Successfully initiated starting of i-0436e0c01f4ea7426

Instances (1/2) Info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
New web server	i-0a1a81354967801e5	Stopped	t3.micro	3/3 checks passed	View alarms +	eu-north-1b	-
Old web server	i-0436e0c01f4ea7426	Running	t3.micro	Initializing	View alarms +	eu-north-1b	ec2-13-49-

CloudShell Feedback

Used newer instance ssh key to connect to older instance

```
ec2-user@ip-172-31-43-39:~  
  
deshm@LAPTOP-GUBJ3GL3 MINGW64 ~/downloads  
$ ssh -i "new-key-pair.pem" ec2-user@13.60.230.90  
The authenticity of host '13.60.230.90 (13.60.230.90)' can't be established.  
ED25519 key fingerprint is SHA256:T0/BxWamFftN08eyfrHyMtxxERHl5hnBvT1+RGmxRP4.  
This host key is known by the following other names/addresses:  
    ~/.ssh/known_hosts:12: ec2-13-60-55-204.eu-north-1.compute.amazonaws.com  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  
Warning: Permanently added '13.60.230.90' (ED25519) to the list of known hosts.  
      ,      #_  
      ~\_\ #####_          Amazon Linux 2023  
      ~~ \####\|  
      ~~ \|##|  
      ~~ \|#/ ,__-> https://aws.amazon.com/linux/amazon-linux-2023  
      ~~ ._. /  
      ~~ /_ /  
      ~~ /m/'  
  
Last login: Tue Sep 30 17:35:37 2025 from 103.199.139.12  
[ec2-user@ip-172-31-43-39 ~]$ ls  
sakshi  
[ec2-user@ip-172-31-43-39 ~]$ |
```