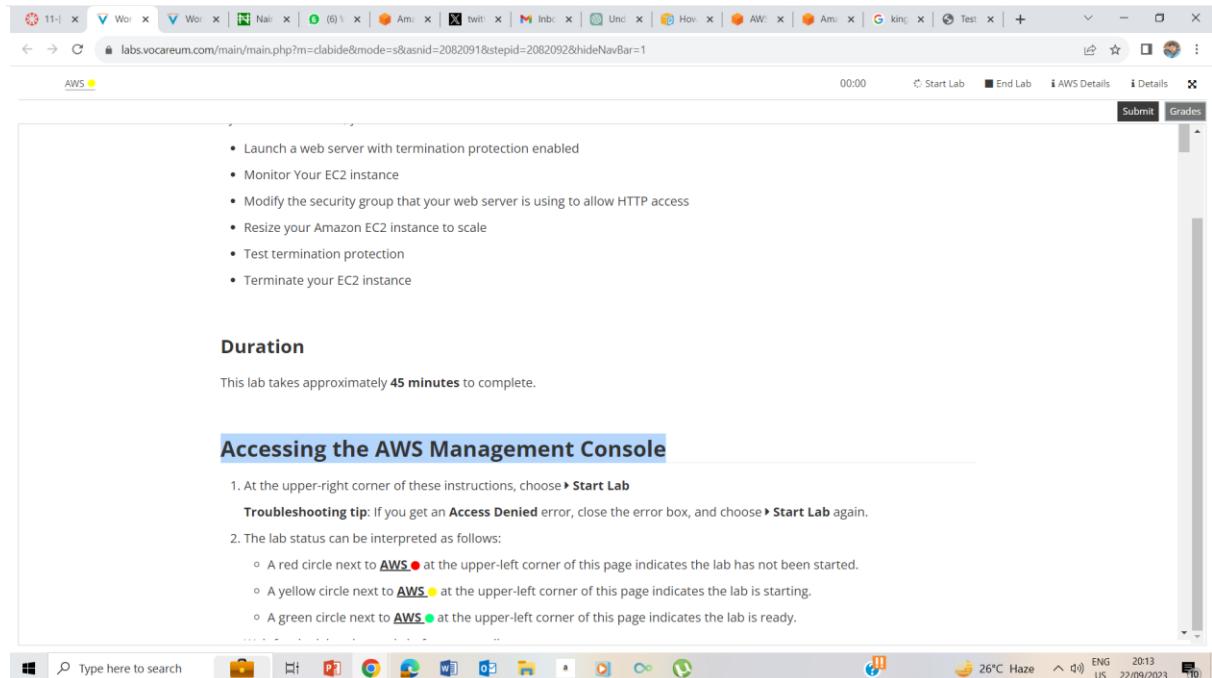


Introduction to Amazon EC2

Accessing the AWS Management Console



• Launch a web server with termination protection enabled
• Monitor Your EC2 instance
• Modify the security group that your web server is using to allow HTTP access
• Resize your Amazon EC2 instance to scale
• Test termination protection
• Terminate your EC2 instance

Duration

This lab takes approximately **45 minutes** to complete.

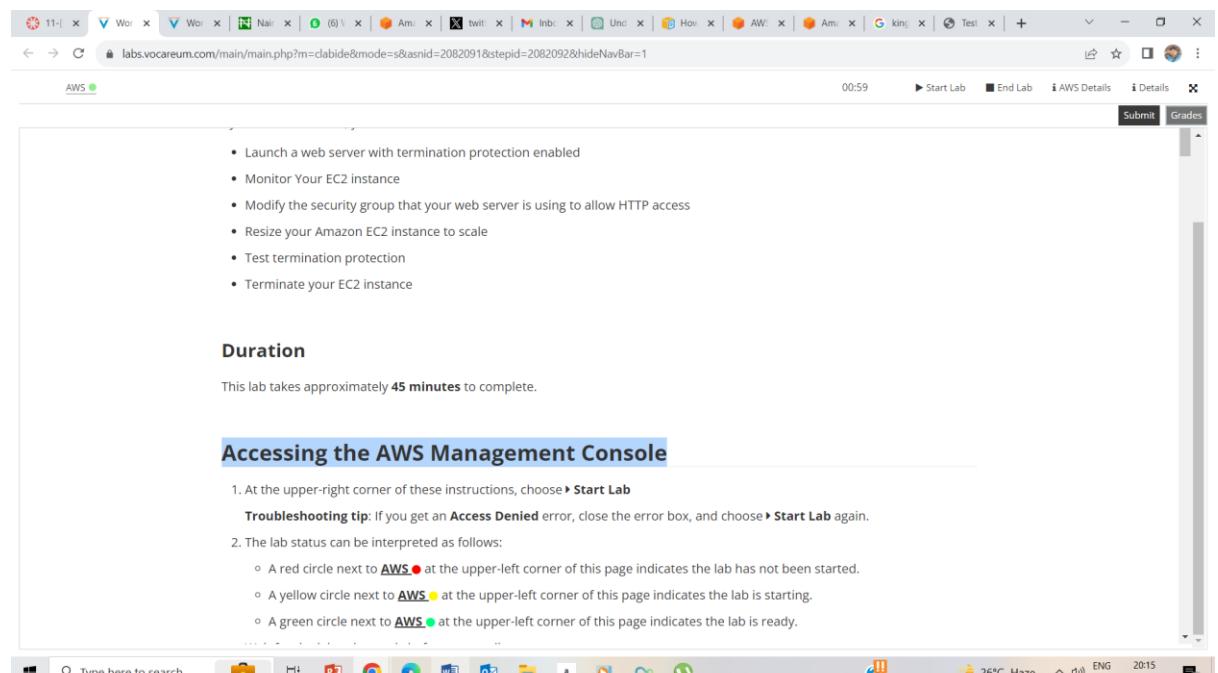
Accessing the AWS Management Console

- At the upper-right corner of these instructions, choose ▶ **Start Lab**

Troubleshooting tip: If you get an **Access Denied** error, close the error box, and choose ▶ **Start Lab** again.

- The lab status can be interpreted as follows:
 - A red circle next to **AWS** ● at the upper-left corner of this page indicates the lab has not been started.
 - A yellow circle next to **AWS** ○ at the upper-left corner of this page indicates the lab is starting.
 - A green circle next to **AWS** ● at the upper-left corner of this page indicates the lab is ready.

1. Start Lab. – The Lab is loading



• Launch a web server with termination protection enabled
• Monitor Your EC2 instance
• Modify the security group that your web server is using to allow HTTP access
• Resize your Amazon EC2 instance to scale
• Test termination protection
• Terminate your EC2 instance

Duration

This lab takes approximately **45 minutes** to complete.

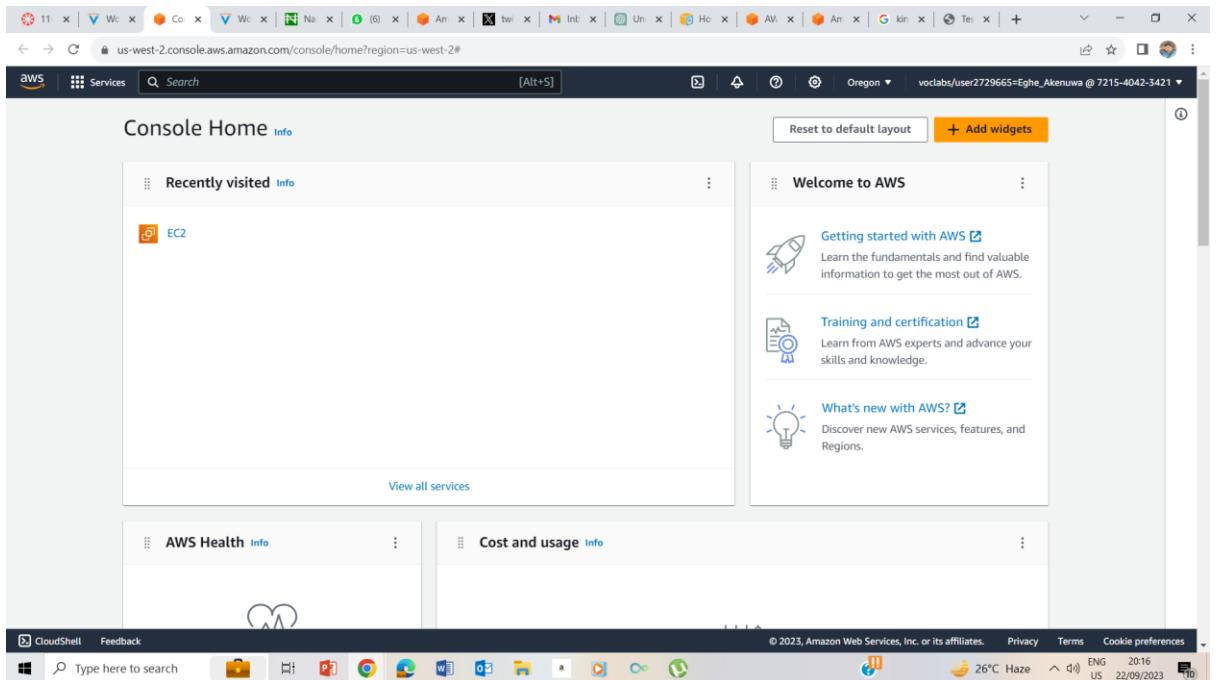
Accessing the AWS Management Console

- At the upper-right corner of these instructions, choose ▶ **Start Lab**

Troubleshooting tip: If you get an **Access Denied** error, close the error box, and choose ▶ **Start Lab** again.

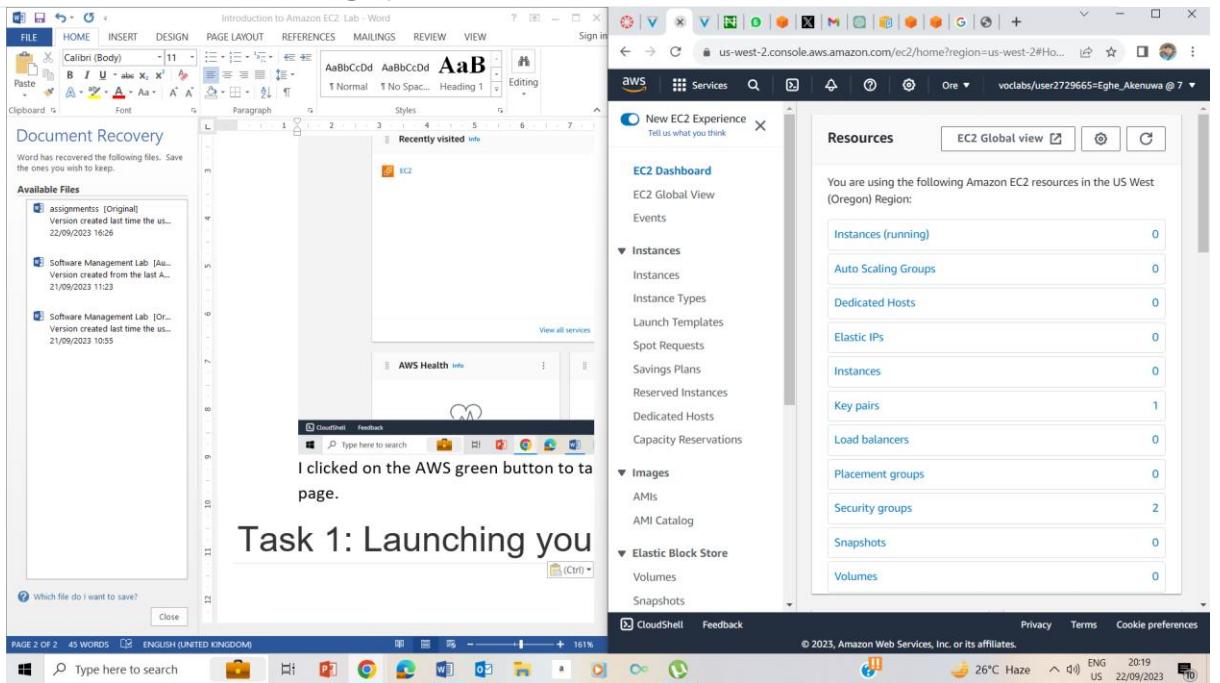
- The lab status can be interpreted as follows:
 - A red circle next to **AWS** ● at the upper-left corner of this page indicates the lab has not been started.
 - A yellow circle next to **AWS** ○ at the upper-left corner of this page indicates the lab is starting.
 - A green circle next to **AWS** ● at the upper-left corner of this page indicates the lab is ready.

The Lab is ready



I clicked on the AWS green button to take me to the AWS Management console in a new page.

Task 1: Launching your EC2 instance



On the services meny, I choosed EC2,

You are using the following Amazon EC2 resources in the US West (Oregon) Region:

Instances (running)	0	Auto Scaling Groups	0	Dedicated Hosts	0
Elastic IPs	0	Instances	0	Key pairs	1
Load balancers	0	Placement groups	0	Security groups	2
Snapshots	0	Volumes	0		

Launch instance
To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

Service health
AWS Health Dashboard

Regions
US West (Oregon)

Zones

Zone name	Zone ID
us-west-2a	usw2-az2
us-west-2b	usw2-az1

Additional information

- Getting started guide
- Documentation
- All EC2 resources
- Forums
- Pricing
- Contact us

Clicked on EC2 Dashboard, and clicked on Launch Instance.

Step 1: Naming your EC2 instance

Name and tags

Name: Web Server

Application and OS Images (Amazon Machine Image)

Instance type

t2.micro
Family: t2 - 1 vCPU | 1 GiB Memory | Current generation: true
On-Demand Linux base pricing: 0.0116 USD per Hour
On-Demand SUSE base pricing: 0.0116 USD per Hour
On-Demand Windows base pricing: 0.0162 USD per Hour
On-Demand RHEL base pricing: 0.0716 USD per Hour

Summary

Number of instances: 1

Software Image (AMI): Amazon Linux 2023 AMI 2023.2.2...read more
ami-0f3769c8d8429942f

Virtual server type (instance type): t2.micro

Firewall (security group): New security group

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

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month

Launch instance

Change the name to web server

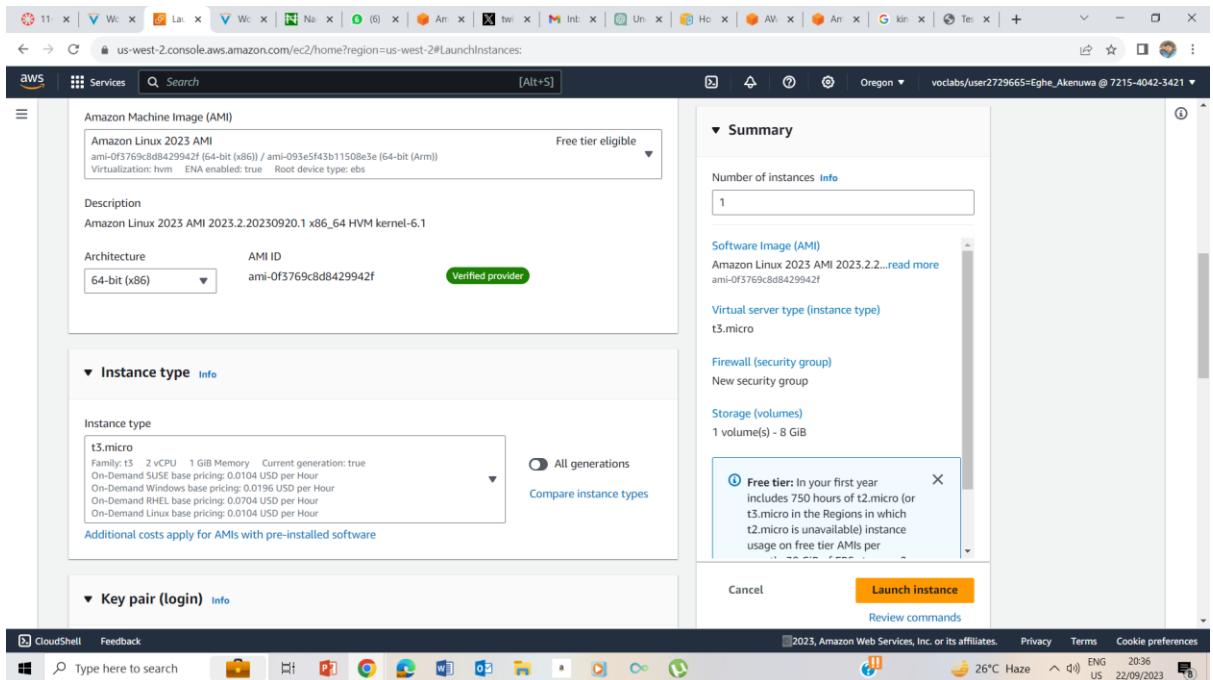
Step 2: Choosing an Amazon Machine Image (AMI)

The screenshot shows the AWS Lambda console with the URL us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#LaunchInstances. The search bar at the top contains "Selected AMI: (ami-0f3769c8d8429942f) (Quickstart AMIs)". Below the search bar, there are four tabs: "Quickstart AMIs (47)" (selected), "My AMIs (0)", "AWS Marketplace AMIs (8849)", and "Community AMIs (500)". The "Quickstart AMIs" tab is selected, showing 47 results. On the left, a sidebar titled "Refine results" includes filters for "Free tier only", "OS category", "Architecture", and "Platform". Two results are displayed: "Amazon Linux 2023 AMI" and "Amazon Linux 2 AMI (HVM - Kernel 5.10, SSD Volume Type)". Both results have a "Select" button and a radio button for "64-bit (x86)". The bottom of the screen shows the Windows taskbar and system tray.

10. Under the AMI , the Amazon Linux2 AMI is chosen by default and is left that way.

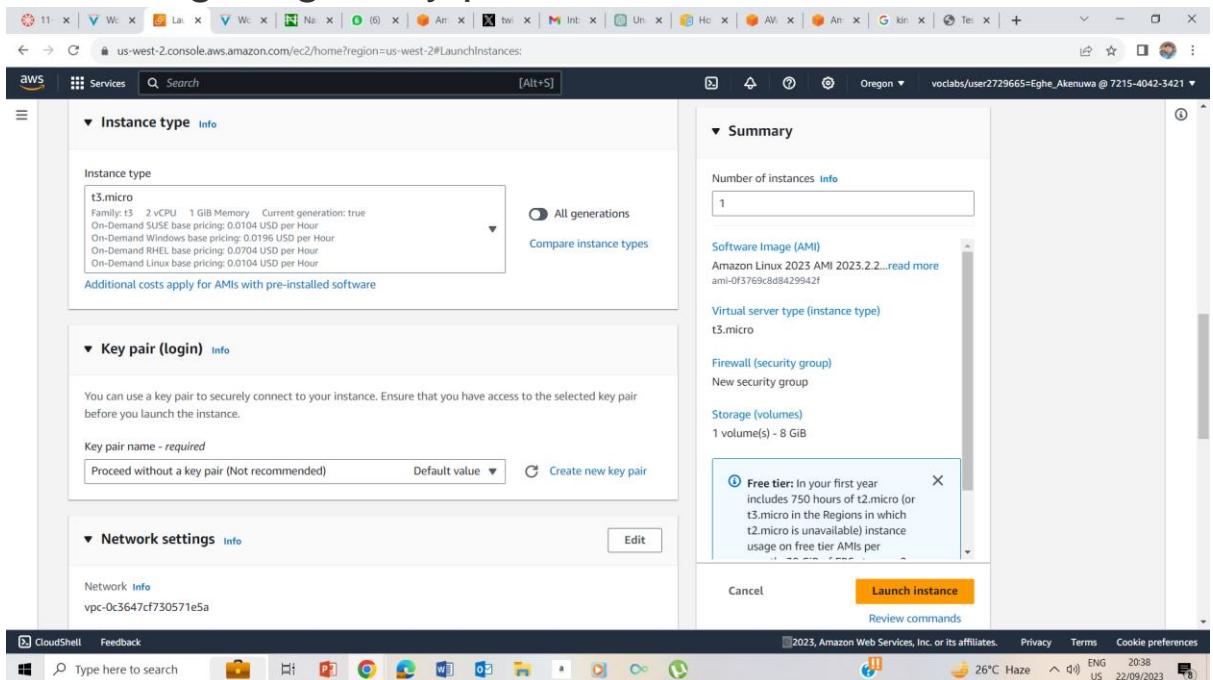
Step 3: Choosing an instance type

The screenshot shows the AWS Lambda console with the URL us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#LaunchInstances. The search bar at the top contains "Instance types (1/728+)". Below the search bar, there is a table titled "Instance types (1/728+)" with columns: Instance type, vCPUs, Architecture, Memory (GiB), Storage (GB), Storage type, and Network performance. The table lists various instance types: t1.micro, t2.nano, t2.micro, t2.small, t2.medium, t2.large, t2.xlarge, t2.2xlarge, t3.nano, t3.micro, t3.small, and t3.medium. The "t3.micro" row is highlighted with a blue background, indicating it is selected. At the bottom right of the table, there is a "Select instance type" button. The bottom of the screen shows the Windows taskbar and system tray.



11. Selected t3.micro instance

Step 4: Configuring a key pair



12. In the key pair (log in), I choose proceed without a keypair (Not recommended)

Step 5: Configuring the network settings

VPC - required

VPC: vpc-0aa9b5475a7d60c2c (Lab VPC)
10.0.0.0/16

Subnet

subnet-04211a75429edff6e0
Public Subnet 1
VPC: vpc-0aa9b5475a7d60c2c Owner: 721540423421 Availability Zone: us-west-2a IP addresses available: 251 CIDR: 10.0.1.0/24

Auto-assign public IP

Enable

Firewall (security groups)

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

Security group name - required

Web Server security group

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and _-/.@[]+=;&|]\$*

Description - required

Security group for my web server

Inbound Security Group Rules

Security group rule 1 (TCP, 22, 0.0.0.0/0)

Type	Protocol	Port range	Source	Description
ssh	TCP	22	Anywhere	e.g. SSH for admin desktop

Summary

Number of instances: 1

Software Image (AMI): Amazon Linux 2023 AMI 2023.2.2...
ami-0f3769c8d8429942f

Virtual server type (instance type): t3.micro

Firewall (security group): New security group

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

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month.

Launch instance

Security group name - required

Web Server security group

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and _-/.@[]+=;&|]\$*

Description - required

Security group for my web server

Inbound Security Group Rules

Security group rule 1 (TCP, 22, 0.0.0.0/0)

Add security group rule

Advanced network configuration

Summary

Number of instances: 1

Software Image (AMI): Amazon Linux 2023 AMI 2023.2.2...
ami-0f3769c8d8429942f

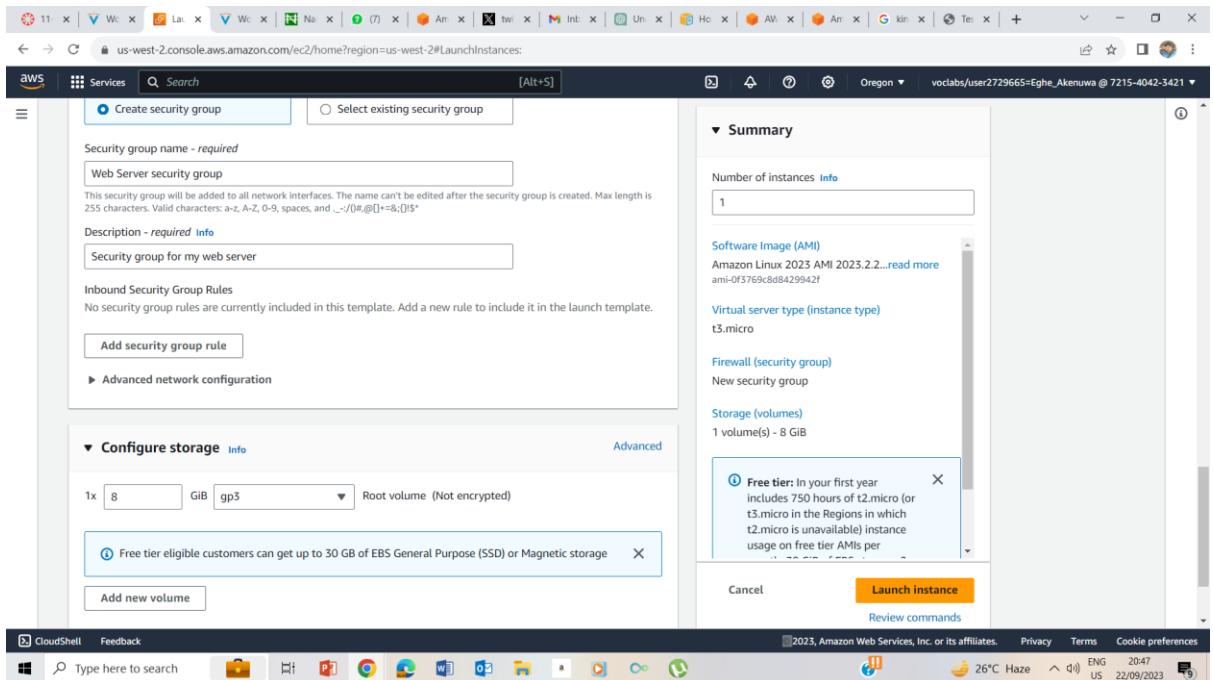
Virtual server type (instance type): t3.micro

Firewall (security group): New security group

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

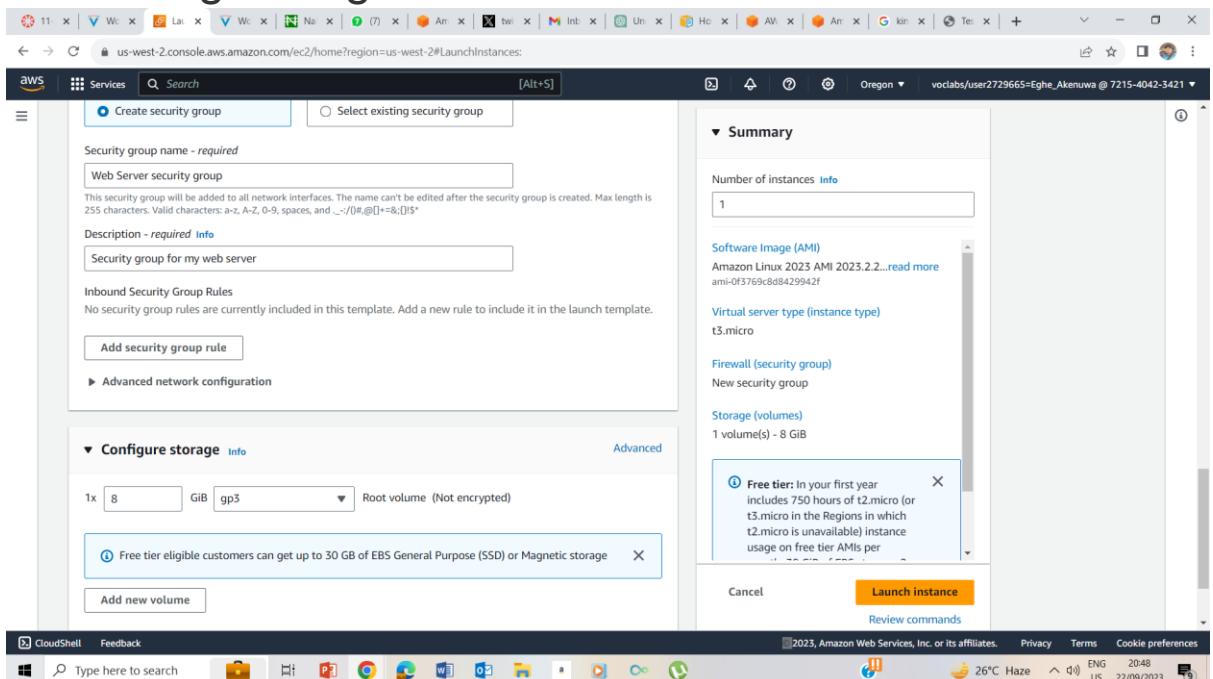
Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month.

Launch instance



In the inbound security rules, I chose Remove

Step 6: Adding storage



In the Configure Storage, I kept the default storage

Step 7: Configuring advanced details

The screenshot shows the AWS EC2 console with the 'Launch Instances' wizard. The 'Advanced details' section is expanded, revealing various configuration options. These include:

- Purchasing option: Request Spot Instances (unchecked)
- Domain join directory: Select dropdown (set to 'Select')
- IAM instance profile: Select dropdown (set to 'Select')
- Hostname type: IP name (selected)
- DNS Hostname info:
 - Enable IP name IPv4 (A record) DNS requests (checked)
 - Enable resource-based IPv4 (A record) DNS requests (unchecked)
 - Enable resource-based IPv6 (AAAA record) DNS requests (unchecked)
- Instance auto-recovery: Select dropdown (set to 'Select')

On the right side, the 'Summary' panel shows:

- Number of instances: 1
- Software Image (AMI): Amazon Linux 2023 AMI 2023.2.2... (with a 'read more' link)
- Virtual server type (instance type): t3.micro
- Firewall (security group): New security group
- Storage (volumes): 1 volume(s) - 8 GiB

A tooltip for the 'Free tier' is displayed, stating: 'Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month.'

At the bottom right are 'Cancel', 'Launch instance' (in orange), and 'Review commands' buttons.

I Expanded the Advanced Details

The screenshot shows the AWS EC2 console with the 'Advanced details' section expanded. The 'Termination protection' field is set to 'Enable'. Other fields in the section include:

- Shutdown behavior: Stop
- Stop - Hibernate behavior: Select dropdown (set to 'Select')
- Termination protection: Enable (selected)
- Stop protection: Select dropdown (set to 'Select')
- Detailed CloudWatch monitoring: Select dropdown (set to 'Select')

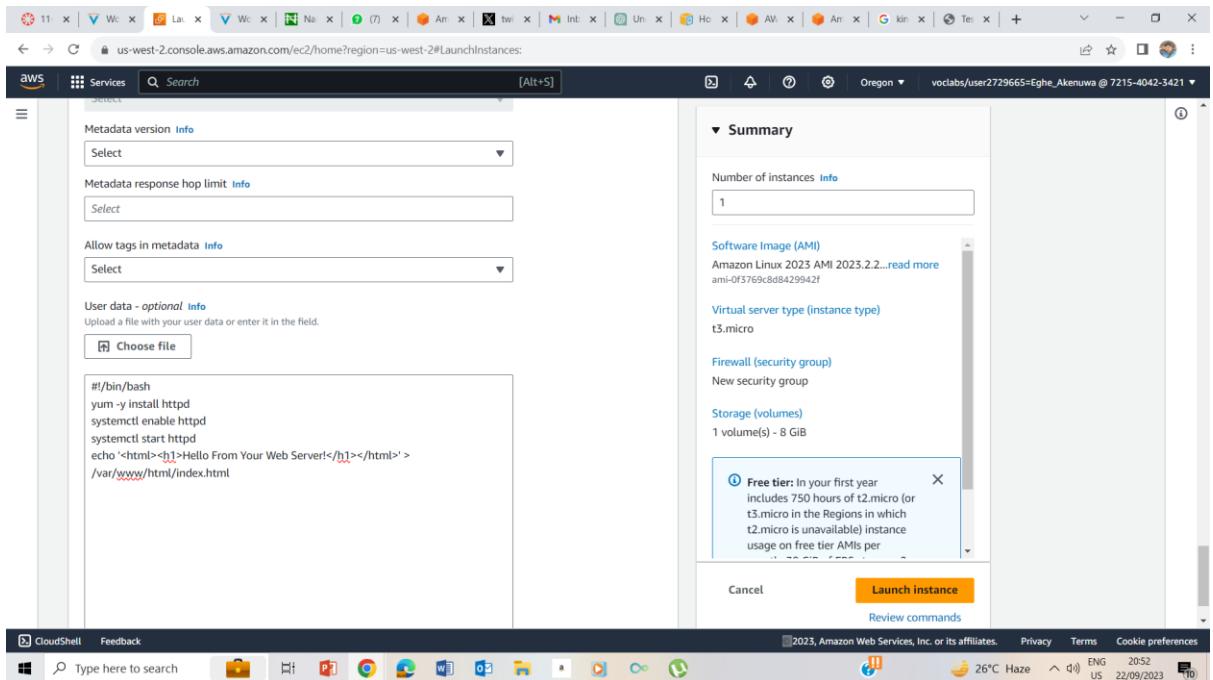
On the right side, the 'Summary' panel shows:

- Number of instances: 1
- Software Image (AMI): Amazon Linux 2023 AMI 2023.2.2... (with a 'read more' link)
- Virtual server type (instance type): t3.micro
- Firewall (security group): New security group
- Storage (volumes): 1 volume(s) - 8 GiB

A tooltip for the 'Free tier' is displayed, stating: 'Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month.'

At the bottom right are 'Cancel', 'Launch instance' (in orange), and 'Review commands' buttons.

I enabled termination Protection

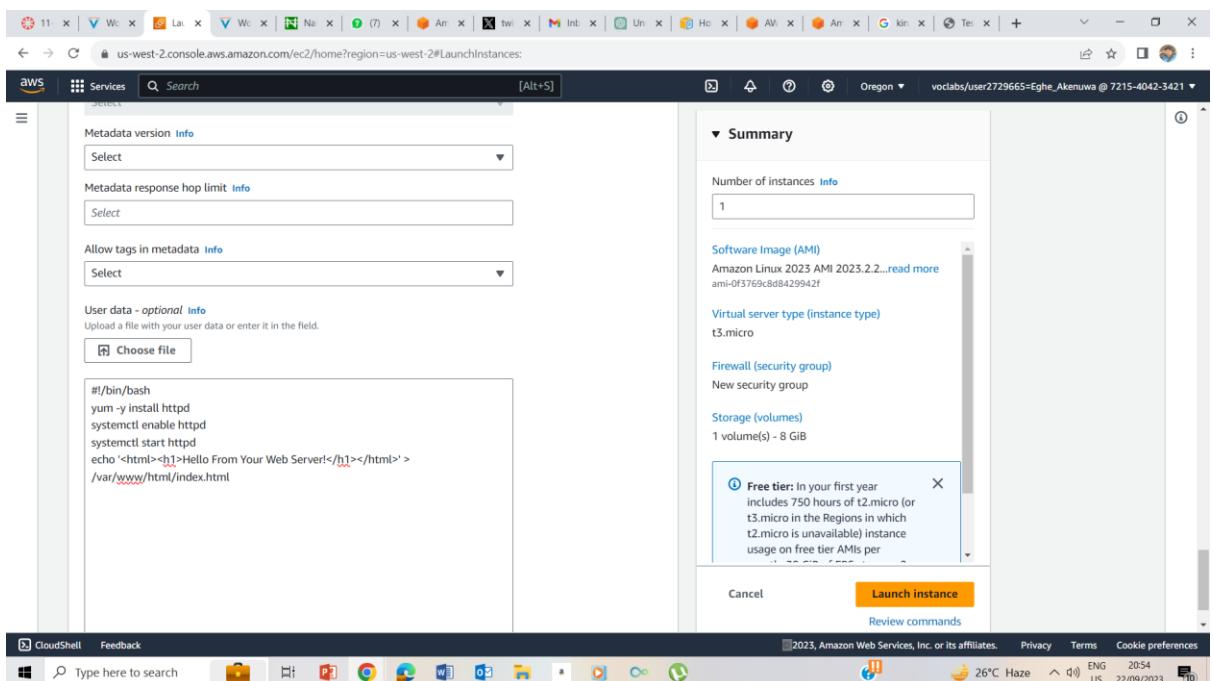


I pasted the bash script above in the user data.

The script does the following:

- Install an Apache web server (httpd)
- Configure the web server to automatically start on boot
- Activate the Web server
- Create a simple web pag

Step 8: Launching an EC2 instance



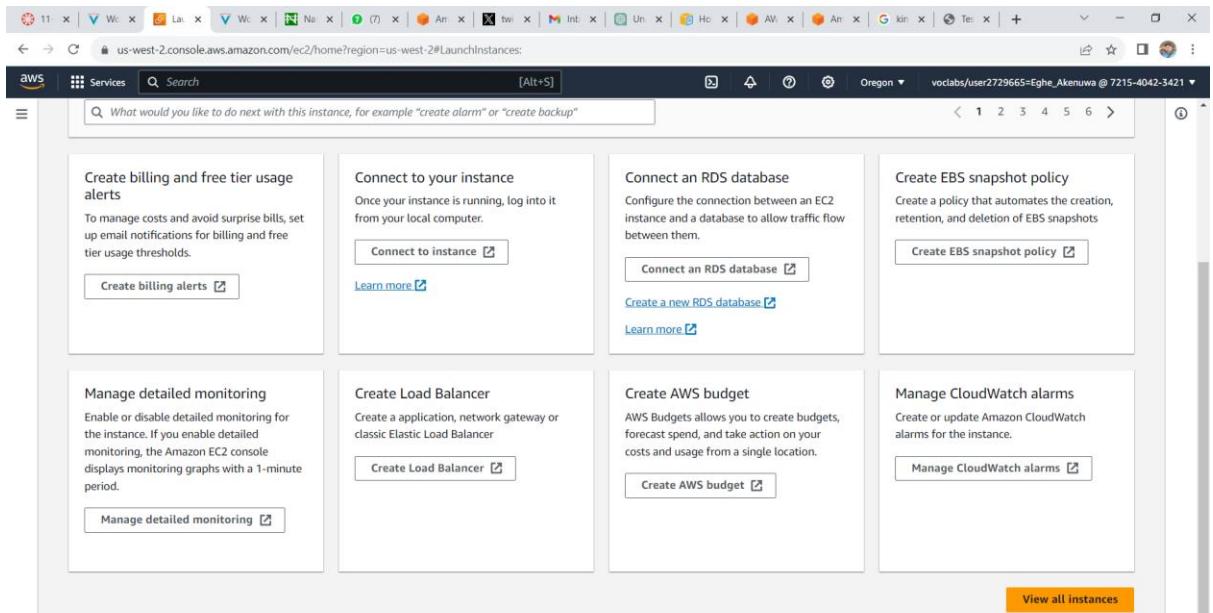
Clicked on Launch Instance

The screenshot shows the AWS EC2 Instances Launching Instance page. At the top, there's a progress bar indicating "Creating security groups" at 14%. Below the progress bar, a message says "Please wait while we launch your instance. Do not close your browser while this is loading." A tooltip from the browser's notification center is visible, showing options like "Go to Chrome notification settings", "Go to notification settings", and "Turn off all notifications for Google Chrome".

Launching Instance

The screenshot shows the AWS EC2 Instances Launching Instance page after a successful launch. A green success message box displays "Successfully initiated launch of instance (i-070a0d611eb65e9ee)". Below this, a "Next Steps" section provides links for various AWS services: Create billing and free tier usage alerts, Connect to your instance, Connect an RDS database, Create EBS snapshot policy, Manage detailed monitoring, Create Load Balancer, Create AWS budget, and Manage CloudWatch alarms.

Launched Instance



I clicked on View all Instances

The screenshot shows the AWS EC2 Instances page. On the left, there is a navigation sidebar with the following sections:

- EC2 Dashboard
- EC2 Global View
- Events
- Instances
 - Instances
 - Instance Types
 - Launch Templates
 - Spot Requests
 - Savings Plans
 - Reserved Instances
 - Dedicated Hosts
 - Capacity Reservations
- Images
 - AMIs
 - AMI Catalog
- Elastic Block Store
 - Volumes
 - Snapshots
 - Lifecycle Manager

The main area shows a table titled "Instances (1) Info" with one row of data:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
Web Server.	i-070a0d611eb65e9ee	Running	t3.micro	Initializing	No alarms	+ us-west-2a	ec2-34-219-243-

A modal window titled "Select an instance" is open at the bottom of the screen.

Instance in a running state

The screenshot shows the AWS EC2 Instances page. A single instance, named "Web Server" with the ID i-070a0d611eb65e9ee, is listed as "Running" on the t3.micro instance type. The status check section indicates "2/2 checks passed". The instance has a public IPv4 address of 34.219.243.12 and a private IP of 10.0.1.136. It is located in the us-west-2a availability zone.

The browser interface includes a search bar, navigation buttons, and a tab bar at the top. The main content area displays the instance details, including its summary, security, networking, storage, status checks, monitoring, and tags.

Below the main content, there is a smaller window or tab showing the same instance details, likely a preview or a different view of the same instance.

Instance check is running and status checks have 2/2 checks passed.

Task 2: Monitor Your Instance

The screenshot shows the AWS CloudWatch Metrics dashboard for an EC2 instance named "Web Server". The dashboard displays five metrics in a grid:

- CPU utilization (%): A line chart showing utilization over time. The Y-axis ranges from 0.00 to 2.00 Percent. Two data series are shown: one at approximately 2.08 and another at approximately 1.04.
- Status check failed (any) (Count): A line chart showing the count of failed status checks. The Y-axis ranges from 0 to No unit. The chart shows a single data point at 0.5.
- Status check failed (instance) (Count): A line chart showing the count of failed instance status checks. The Y-axis ranges from 0 to No unit. The chart shows a single data point at 0.5.
- Status check failed (system) (Count): A line chart showing the count of failed system status checks. The Y-axis ranges from 0 to No unit. The chart shows a single data point at 0.5.
- Network in (bytes): A line chart showing network input in bytes. The Y-axis ranges from 0 to Bytes. The chart shows a single data point at 17:05.
- Network out (bytes): A line chart showing network output in bytes. The Y-axis ranges from 0 to Bytes. The chart shows a single data point at 17:05.
- Network packets in (count): A line chart showing network packets received. The Y-axis ranges from 0 to Count. The chart shows a single data point at 17:05.
- Network packets out (cou...): A line chart showing network packets sent. The Y-axis ranges from 0 to Count. The chart shows a single data point at 17:05.

Below the dashboard, the text "Amazon cloudwatch metrics for the instance" is displayed.

Instances (1/1) info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
Web Server.	i-070a0d611eb65e9ee	Running	t3.micro	2/2 checks passed	No alarms

Actions ▾ Launch instances ▾

- Connect
- View details
- Manage instance state
- Instance settings
- Networking
- Security
- Image and templates
- Monitor and troubleshoot

Get system log

Get instance screenshot

Manage detailed monitoring

Manage CloudWatch alarms

EC2 serial console

Replace root volume

Fleet Manager

27. in the Actions Menu, I selected Monitor and troubleshoot-> Get instance screenshot

Get instance screenshot info

Instance screenshot

i-04f25b01cc0d6692f (Web Server) on 2023-09-24 at T01:55:38.882 +01:00

Amazon Linux 2
Kernel 5.10.192-182.736.amzn2.x86_64 on an x86_64

```
ip-10-0-1-56 login: [ 38.750744] xfs filesystem being remounted at /tmp supports timestamps until 2038 (0x7fffffff)
[ 38.763310] xfs filesystem being remounted at /var/tmp supports timestamps until 2038 (0x7fffffff)
```

For boot or networking issues, use the EC2 serial console for troubleshooting. Choose the Connect button to start a session.

CloudShell Feedback Type here to search

Instance screenshot

Task 3: Update Your Security Group and Access the Web Server

The screenshot shows the AWS Management Console with the EC2 service selected. The main pane displays a table of instances, with one row selected for a web server. The instance details are shown in a modal window below, including its public IP address (34.219.243.12), instance ID (i-070a0d611eb65e9ee), and state (Running). The instance type is t3.micro, and it has 2/2 checks passed.

Details Tab

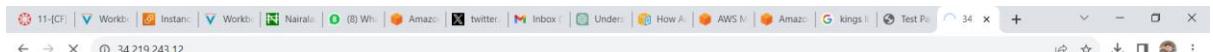
34.219.243.12 – IPV4 address

The screenshot shows a web browser window with the URL 34.219.243.12. The page displays the standard Google search interface with a search bar and various links.



The screenshot shows a Windows desktop environment with a taskbar at the bottom. Several icons are pinned to the taskbar, including 'Inbox (17,722)', 'Nairaland For...', 'Google', 'Football', 'twitter.com', 'Dashboard', 'Facebook – I...', '(10) WhatsApp', 'Cloud Comp...', and a '+' icon for adding new shortcuts.

This screenshot is identical to the one above, showing the same pinned icons on the Windows taskbar.



I could not access the web server because the security group is not permitting inbound traffic.

A screenshot of the AWS Management Console. The user is navigating through the EC2 service. In the left sidebar, under "Network & Security", the "Security Groups" option is selected. A modal dialog box is open, displaying the error message: "Failed to describe security groups" and "You are not authorized to perform this operation." Below the modal, the EC2 Instances page is visible, showing one instance named "Web Server" (i-070a0d611eb65e9ee) which is running. The instance details page is also partially visible, showing networking information like Public IPv4 address (34.219.243.12) and Private IP address (10.0.1.136).

I clicked on the security groups under Network & Security in the left pane

The screenshot shows the AWS Management Console interface for the EC2 service. The left sidebar navigation includes 'Launch Templates', 'Spot Requests', 'Savings Plans', 'Reserved Instances', 'Dedicated Hosts', 'Capacity Reservations', 'Images' (AMIs, AMI Catalog), 'Elastic Block Store' (Volumes, Snapshots, Lifecycle Manager), 'Network & Security' (Security Groups, Elastic IPs, Placement Groups, Key Pairs, Network Interfaces), 'Load Balancing' (Load Balancers), and 'CloudShell' and 'Feedback' buttons.

The main content area displays the 'Security Groups (1/3)' list. A search bar at the top allows filtering. The table has columns for Name, Security group ID, Security group name, VPC ID, Description, and Owner. The 'Web Server security group' is selected, indicated by a checked checkbox in the first column.

Name	Security group ID	Security group name	VPC ID	Description	Owner
-	sg-06bc3f81e2c664ae0	default	vpc-027976f2277afb3fe	default VPC security gr...	721540423421
<input checked="" type="checkbox"/>	sg-0b5cb15f6fd86c539	Web Server security gr...	vpc-027976f2277afb3fe	Security group for my ...	721540423421
-	sg-0ff5e7bb4e4119ff9	default	vpc-0ec7acf37a1b5669	default VPC security gr...	721540423421

Below the table, tabs for 'Details', 'Inbound rules', 'Outbound rules', and 'Tags' are present. The 'Details' tab is currently selected. The 'Inbound rules' tab is highlighted in blue, indicating it is the active tab.

I clicked on web Server security groups

This screenshot is identical to the one above, showing the 'Security Groups' list. The 'Inbound rules' tab is now selected, as indicated by the blue underline. The table below shows no results found.

Name	Security group rule...	IP version	Type	Protocol	Port range
No security group rules found					

I clicked on Inbound Rules Tab

sg-0b5cb15f6fd86c539 - Web Server security group

Details

Security group name Web Server security group	Security group ID sg-0b5cb15f6fd86c539	Description Security group for my web server	VPC ID vpc-027976f2277afb3fe
Owner 721540423421	Inbound rules count 0 Permission entries	Outbound rules count 1 Permission entry	

Inbound rules Outbound rules Tags

Inbound rules

Name	Security group rule...	IP version	Type	Protocol	Port range
No security group rules found					

I clicked on Edit Inbound Rules

Edit inbound rules

Inbound rules

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
-	HTTP	TCP	80	Anywhere	0.0.0.0/0

Add rule Cancel Preview changes Save rules

The screenshot shows the AWS Management Console with the URL us-west-2.console.aws.amazon.com/ec2/home?region=us-west-2#SecurityGroup/group-id=sg-0b5cb15f6fd86c539. The main content area displays a green success message: "Inbound security group rules successfully modified on security group (sg-0b5cb15f6fd86c539 | Web Server security group) ▶ Details". Below this, the "sg-0b5cb15f6fd86c539 - Web Server security group" details are shown, including its name, ID, owner, and VPC ID. The "Inbound rules" tab is selected, showing one rule with a Type of "HTTP" and a Source of "Anywhere (IPv4)".

I selected Type as HTTP and Source as Anywhere IPv4 selected save rules.

The screenshot shows a Microsoft Edge browser window with the URL [Not secure | 54.214.116.88](http://54.214.116.88). The page content is "Hello From Your Web Server!". The browser's taskbar at the bottom shows various pinned icons and the system tray indicates it's "Very humid" and the date/time is 02/08 US 24/09/2023.

I returned to the previous web server that didn't open and refreshed and got the message on the screenshot above.

Task 4: Resize Your Instance: Instance Type and EBS Volume

Stop Your Instance

The screenshot shows the AWS EC2 Instances page. A single instance, named "Web Server" with the ID i-04f25b01cc0d6692f, is listed as "Running" in the t3.micro instance type. The Actions menu is open, with "Stop instance" highlighted. Below the main table, the instance details for "i-04f25b01cc0d6692f (Web Server)" are displayed, including its public IPv4 address (54.214.116.88), private IP DNS name (ip-10-0-1-56.us-west-2.compute.internal), and other network information.

The screenshot shows the same EC2 Instances page as above, but with a modal dialog titled "Stop instance?" overlaid. The dialog asks for confirmation to stop the instance, listing the instance ID i-04f25b01cc0d6692f (Web Server). At the bottom of the dialog are "Cancel" and "Stop" buttons.

The screenshot shows the AWS EC2 Instances page. A modal window titled "Successfully stopped i-04f25b01cc0d6692f" is open, indicating that the instance has been successfully stopped. The main table lists one instance:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
Web Server	i-04f25b01cc0d6692f	Stopping	t3.micro	2/2 checks passed	No alarms	us-west-2a	ec2-54-214-116-

The instance details page for "i-04f25b01cc0d6692f (Web Server)" is also visible, showing the following information:

- Details:** Instance ID: i-04f25b01cc0d6692f (Web Server), Public IPv4 address: 54.214.116.88, Private IP4 addresses: 10.0.1.56, Public IPv4 DNS: ec2-54-214-116-88.us-west-2.compute.amazonaws.com.
- Security:** Not shown.
- Networking:** IPv6 address: -, Instance state: Running.
- Storage:** Not shown.
- Status checks:** 2/2 checks passed.
- Monitoring:** Not shown.
- Tags:** Not shown.

The screenshot shows the AWS EC2 Instances page. A modal window titled "Successfully stopped i-04f25b01cc0d6692f" is open, indicating that the instance has been successfully stopped. The main table lists one instance:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
Web Server	i-04f25b01cc0d6692f	Stopped	t3.micro	2/2 checks passed	No alarms	us-west-2a	-

The instance details page for "i-04f25b01cc0d6692f (Web Server)" is also visible, showing the following information:

- Details:** Instance ID: i-04f25b01cc0d6692f (Web Server), Public IPv4 address: 54.214.116.88, Private IP4 addresses: 10.0.1.56, Public IPv4 DNS: ec2-54-214-116-88.us-west-2.compute.amazonaws.com.
- Security:** Not shown.
- Networking:** IPv6 address: -, Instance state: Stopping.
- Storage:** Not shown.
- Status checks:** 2/2 checks passed.
- Monitoring:** Not shown.
- Tags:** Not shown.

Instance Stopped

Screenshot of the AWS EC2 Instances page showing a stopped instance named "Web Server". The "Actions" dropdown menu is open, and the "Change instance type" option is selected.

Instances (1/1) info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
Web Server	i-04f25b01cc0d6692f	Stopped	t3.micro	2/2 checks passed	No alarm

Instance: i-04f25b01cc0d6692f (Web Server)

Details | Security | Networking | Storage | Status checks | Monitoring |

Instance summary

Instance ID	i-04f25b01cc0d6692f (Web Server)
IPv6 address	-
Hostname type	IP name: ip-10-0-1-56.us-west-2.compute.internal
Public IPv4 address	54.214.116.88 [open address]
Instance state	Stopping
Private IP DNS name (IPv4 only)	ip-10-0-1-56.us-west-2.compute.internal

Change instance type

Change Nitro Enclaves
Change credit specification
Change resource based naming options
Modify instance placement
Modify Capacity Reservation settings
Edit user data
Allow tags in instance metadata
Manage tags
Modify instance metadata options

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Screenshot of the "Change instance type" dialog box.

Change instance type

You can change the instance type only if the current instance type and the instance type that you want are compatible.

Instance ID: i-04f25b01cc0d6692f (Web Server)

Current instance type: t3.micro

Instance type: t3.micro

EBS-optimized: EBS-optimized is enabled by default for this instance type

Cancel Apply

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The screenshot shows the 'Change instance type' dialog box. At the top, it displays the instance ID as i-04f25b01cc0d6692f (Web Server) and the current instance type as t3.micro. A dropdown menu shows 't3.small' selected. An unchecked checkbox labeled 'EBS-optimized' is present. At the bottom, there are 'Cancel' and 'Apply' buttons.



The screenshot shows the AWS EC2 Instances page. A green banner at the top indicates 'Instance type changed successfully'. The main table shows one instance named 'Web Server' with the instance ID i-04f25b01cc0d6692f, which is currently stopped. The table includes columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, and Public IPv4 DNS. Below the table, a modal window titled 'Select an instance' is open.

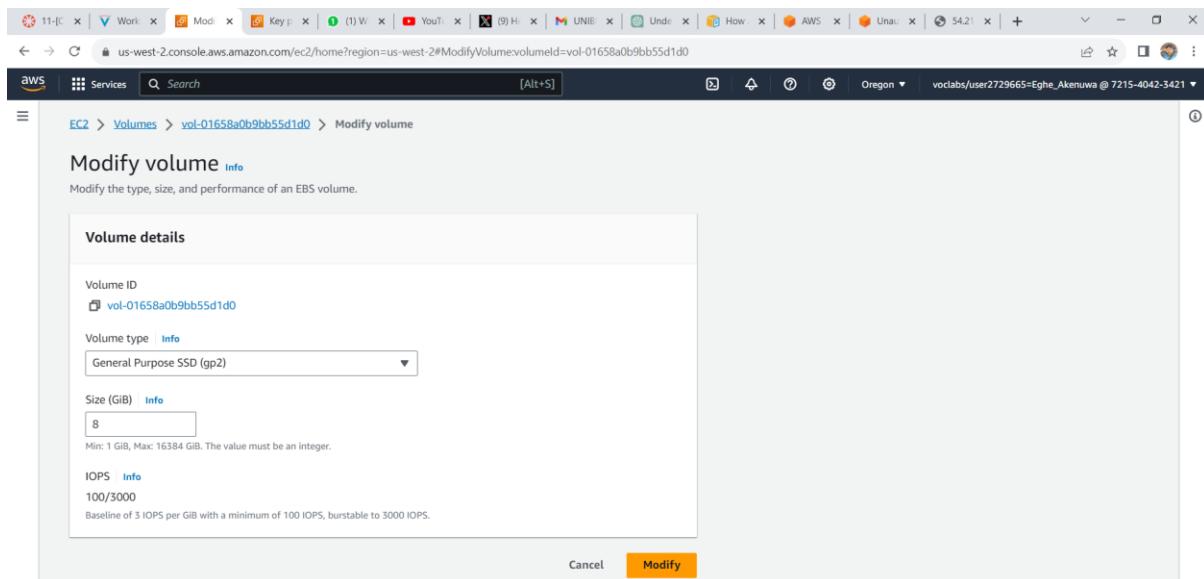
Changed the instance type from t3.micro to t3.small and selected Apply

Resize the EBS Volume

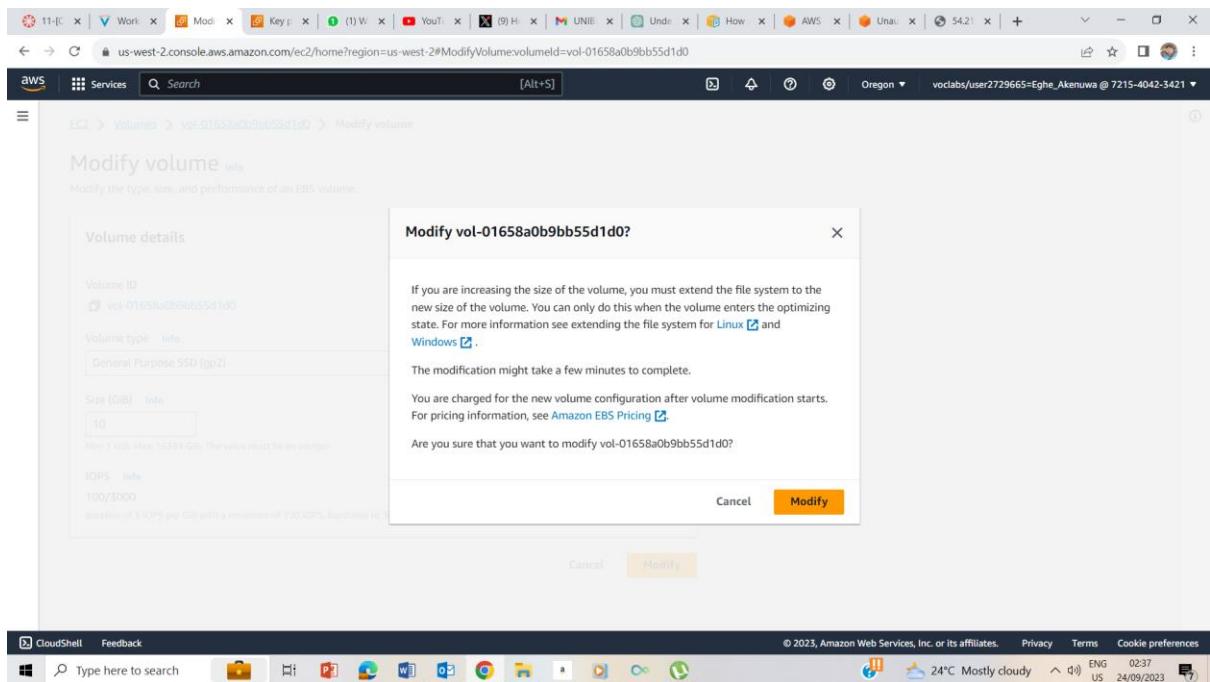
The screenshot shows the AWS EC2 Instances page. A modal window titled "Instance type changed successfully" is open, indicating that the instance type has been updated from t3.small to t3.2xlarge. The main table lists one instance named "Web Server" with the ID i-04f25b01cc0d6692f, which is currently stopped. The sidebar on the left shows navigation links for EC2 Dashboard, Global View, Events, Instances (selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images (AMIs, Catalog), and Elastic Block Store (Volumes, Snapshots, Lifecycle Manager). The bottom status bar shows the URL https://us-west-2.console.aws.amazon.com/ec2/home?region=us-west-2#Volumes:, the date 24/09/2023, and the time 02:34.

I selected volumes under the Elastic Block Store

The screenshot shows the AWS EBS Volumes page. A context menu is open over a volume named "vol-01658a0b9bb55d1d0". The "Actions" menu is expanded, showing options like Modify volume, Create snapshot, Create snapshot lifecycle policy, Delete volume, Attach volume, Detach volume, Force detach volume, Manage auto-enabled I/O, Manage tags, and Fault injection. The main table displays one volume with the following details: Name: vol-01658a0b9bb55d1d0, Volume ID: vol-01658a0b9bb55d1d0, Type: gp2, Size: 8 GiB, IOPS: 100, Throughput: -, Snapshot: snap-02a0. The sidebar on the left is identical to the previous screenshot. The bottom status bar shows the URL https://us-west-2.console.aws.amazon.com/ec2/home?region=us-west-2#Volumes:, the date 24/09/2023, and the time 02:35.

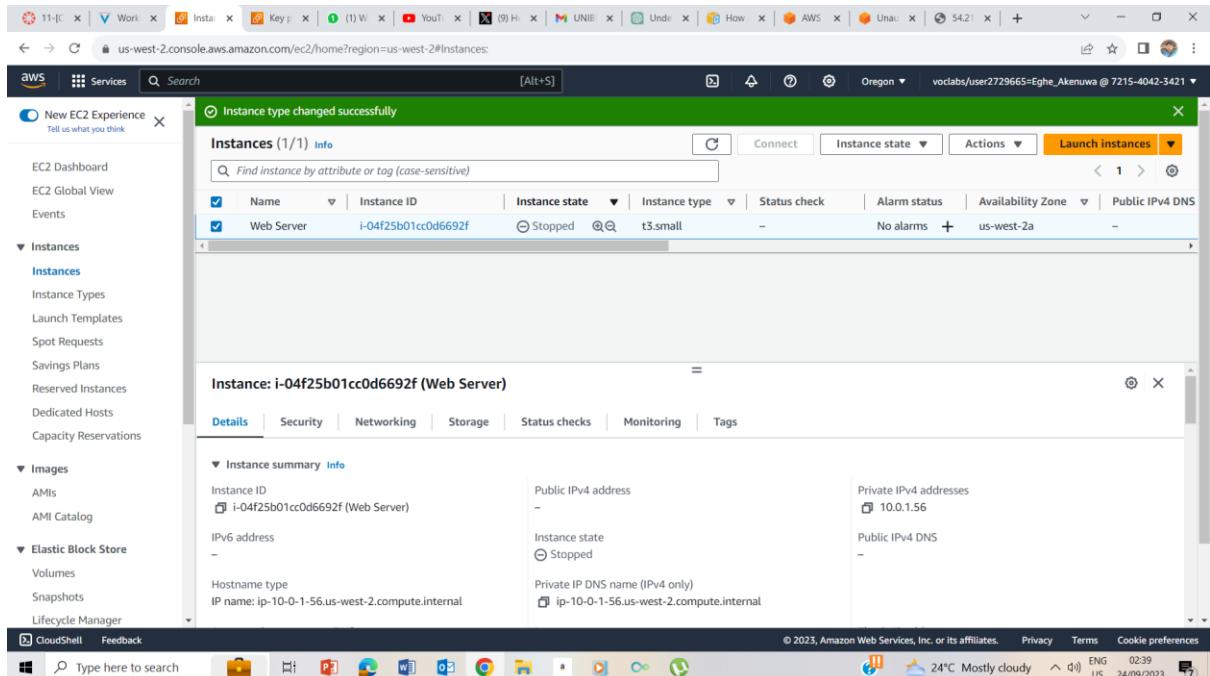


I selected Modify volumes.



I changed the volume from 8 to 10 and selected modify

Start the Resized Instance



I clicked on Instance and checked the box next to web server

The screenshot shows the AWS EC2 Instances page. A context menu is open over a single instance named "Web Server" (ID: i-04f25b01cc0d6692f). The "Actions" dropdown menu is expanded, and the "Start instance" option is highlighted with a blue selection bar. The instance details panel below shows the instance is currently "Stopped".

I clicked on the instance state drop down and selected Start Instance

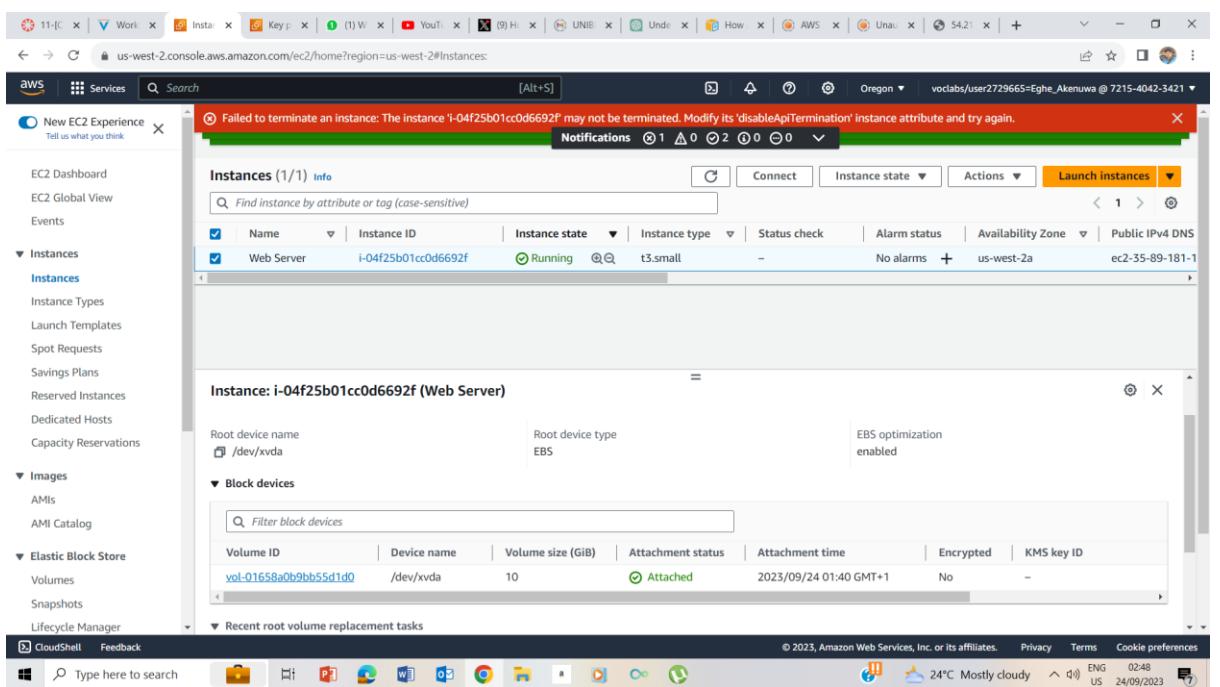
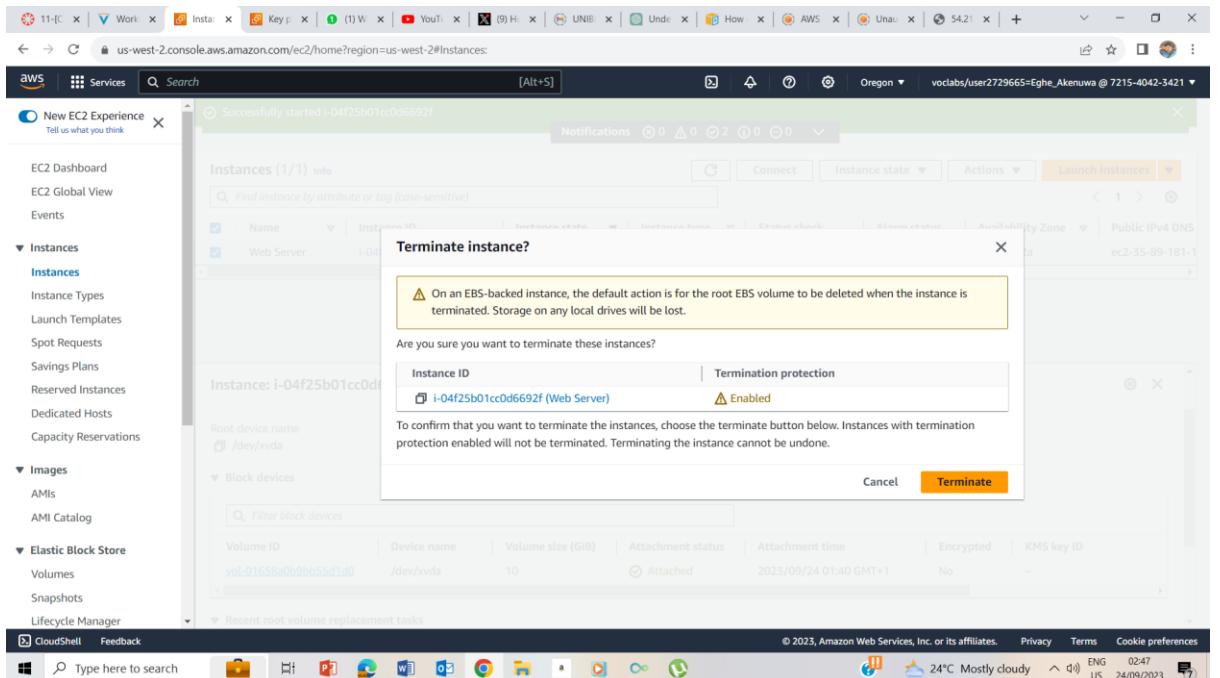
The screenshot shows the AWS EC2 Instances page after the instance has been started. The "Instance state" dropdown in the instance details panel now shows "Running". The instance summary table also indicates the instance is "Running". A notification banner at the top of the page states "Successfully started i-04f25b01cc0d6692f".

The screenshot shows the AWS CloudWatch Metrics console. A success message 'Successfully started i-04f25b01cc0d6692f' is displayed at the top. Below it, the 'Instances (1/1) Info' section shows a single instance named 'Web Server' with ID 'i-04f25b01cc0d6692f'. The instance is running on a t3.small type with 10 GiB of EBS storage. The Actions menu is open, showing options like Stop instance, Start instance, Reboot instance, Hibernate instance, and Terminate instance. The 'Terminate instance' option is highlighted with a blue border.

At the end it is confirmed that the instance type has been changed to t3.small from t3.micro and the volume has changed to 10GiB from 8GiB.

Task 5: Test Termination Protection

The screenshot shows the AWS CloudWatch Metrics console. A success message 'Successfully started i-04f25b01cc0d6692f' is displayed at the top. Below it, the 'Instances (1/1) Info' section shows a single instance named 'Web Server' with ID 'i-04f25b01cc0d6692f'. The instance is running on a t3.small type with 10 GiB of EBS storage. The Actions menu is open, showing options like Stop instance, Start instance, Reboot instance, Hibernate instance, and Terminate instance. The 'Terminate instance' option is highlighted with a blue border.



Tried to Terminate Instance, but Couldn't because Terminate Instance is Protected.

The screenshot shows the AWS EC2 Instances page. A red notification bar at the top states: "Failed to terminate an instance: The instance 'i-04f25b01cc0d6692f' may not be terminated. Modify its 'disableApiTermination' instance attribute and try again." On the left sidebar, under the "Instances" section, the "Instances" option is selected. In the main content area, there is one instance listed: "Web Server" (Instance ID: i-04f25b01cc0d6692f, Instance state: Running, Instance type: t3.small). A context menu is open over this instance, with the "Change termination protection" option highlighted. The "Actions" dropdown menu is also visible on the right.

The screenshot shows the same AWS EC2 Instances page as the previous one, but with a modal dialog titled "Change termination protection" open. The dialog contains the following text: "To prevent your instance from being accidentally terminated, you can enable termination protection for the instance. [Learn more](#)". It lists the instance details: "Instance ID: i-04f25b01cc0d6692f (Web Server)" and "Termination protection: Enable". Below the checkbox is a warning message: "⚠ Termination protection disabled. The instance is no longer protected against accidental termination. If the instance is terminated, data stored on ephemeral storage is lost." At the bottom of the dialog are "Cancel" and "Save" buttons.

I changed the termination protection settings by unchecking the enable box and saving.

Successfully removed termination protection for instance i-04f25b01cc0d6692f. The instance can be terminated.

Instances (1/1) info

Name	Instance ID	Instance state	Instance type	Status check
Web Server	i-04f25b01cc0d6692f	Running	t3.small	-

Instance: i-04f25b01cc0d6692f (Web Server)

Root device name: /dev/xvda Root device type: EBS EBS optimization enabled

Block devices

Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID
vol-01658a0b9bb55d1d0	/dev/xvda	10	Attached	2023/09/24 01:40 GMT+1	No	-

Terminate instance?

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.

Are you sure you want to terminate these instances?

Instance ID: i-04f25b01cc0d6692f (Web Server) Termination protection: Disabled

To confirm that you want to terminate the instances, choose the terminate button below. Instances with termination protection enabled will not be terminated. Terminating the instance cannot be undone.

Cancel Terminate

Successfully removed termination protection for instance i-04f25b01cc0d6692f. The instance can be terminated.

Instances (1/1) info

Name	Instance ID	Instance state	Instance type	Status check
Web Server	i-04f25b01cc0d6692f	Running	t3.small	-

Instance: i-04f25b01cc0d6692f (Web Server)

Root device name: /dev/xvda Root device type: EBS EBS optimization enabled

Block devices

Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID
vol-01658a0b9bb55d1d0	/dev/xvda	10	Attached	2023/09/24 01:40 GMT+1	No	-

Terminate instance?

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.

Are you sure you want to terminate these instances?

Instance ID: i-04f25b01cc0d6692f (Web Server) Termination protection: Disabled

To confirm that you want to terminate the instances, choose the terminate button below. Instances with termination protection enabled will not be terminated. Terminating the instance cannot be undone.

Cancel Terminate

The screenshot shows the AWS EC2 Instances page. A green notification bar at the top says "Successfully terminated i-04f25b01cc0d6692f". The main table lists one instance: "Web Server" (i-04f25b01cc0d6692f), which is "Shutting-down" and has an "t3.small" instance type. The instance is located in the "us-west-2a" availability zone with a public IPv4 DNS of "ec2-35-89-181-1". The "Root device name" is "/dev/xvda" and the "Root device type" is "EBS". An EBS volume (vol-01658a0b9bb55d1d0) is attached to it. The "Block devices" section shows this attachment. The status bar at the bottom indicates "2023, Amazon Web Services, Inc. or its affiliates." and the date "24/09/2023".

Instance is Successfully Terminated.

Lab Complete

The screenshot shows the Vocareum lab completion page. It displays a list of steps completed during the lab:

50. In left navigation pane, select **Instances**.
51. Select the **Web Server** instance by checking the box and navigate to the top and select **Instance state** menu, select **Terminate instance**.

Note: There is a message that says: *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.* It will ask if you are sure that you want to terminate the instance. You will be able to select the **Terminate** button.

Note: You will notice that the instance did not terminate and a red error message pops up at the top that says: *Failed to terminate an instance: The instance may not be terminated.* This is because it has termination protection enabled.
52. In the **Actions** menu, select **Instance settings** > **Change termination protection**.
53. Uncheck **Enable** followed by **Save**.

You can now terminate the instance.
54. In the **Actions** menu, select **Instance State** > **Terminate instance**.
55. Select **Terminate**

Congratulations! You have successfully tested termination protection and terminated your instance.

Lab Complete

56. Choose **End Lab** at the top of this page, and then select **Yes** to confirm that you want to end the lab.

A panel indicates that *DELETE has been initiated... You may close this message box now.*
57. A message *Ended AWS Lab Successfully* is briefly displayed, indicating that the lab has ended.

The status bar at the bottom indicates "2023, Amazon Web Services, Inc. or its affiliates." and the date "24/09/2023".

