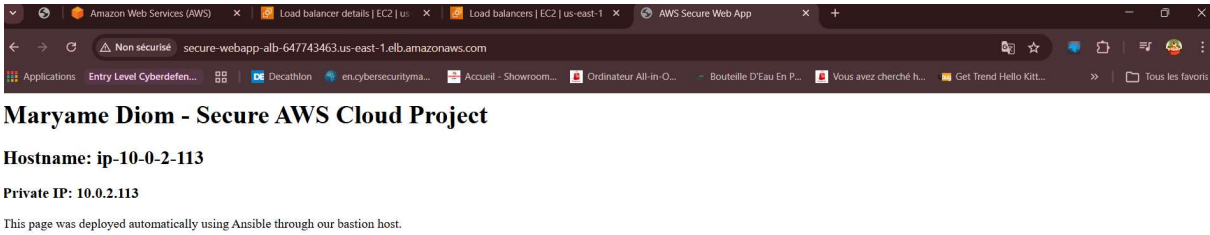
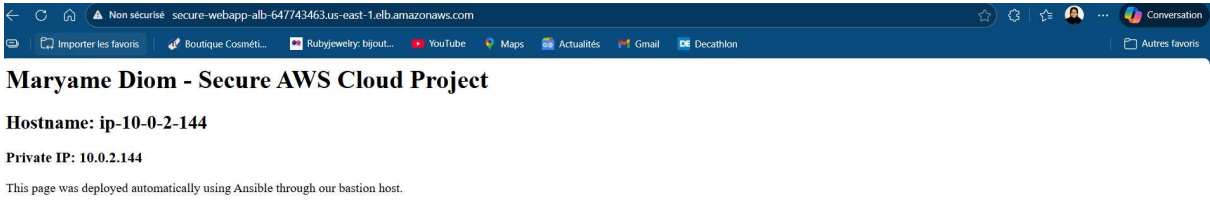


Semester 2 exam project report:

Browser accessing the ALB DNS name



ALB target group showing healthy instances on the AWS console

aws  [Alt+S] United States (N. Virginia) Maryame221 (9750-5004-1392)

EC2 > Target groups

Reserved Instances  
Dedicated Hosts  
Capacity Reservations  
Capacity Manager [New](#)

▼ 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  
**Target Groups**  
Trust Stores

▼ Auto Scaling  
Auto Scaling Groups

Settings

### Target groups (1/1) [Info](#) [What's new?](#)

<input checked="" type="checkbox"/>	Name	ARN	Port	Protocol	Target type	Load balancer	VPC ID
<input checked="" type="checkbox"/>	web-target-group	arn:aws:elasticloadbalancing:us-east-1:97505004:targetgroup/web-target-group/8a7c13ef100ada7b6277c13ef1	80	HTTP	Instance	secure-webapp-alb	vpc-0675f5e1

#### Target group: web-target-group

IP address type: IPv4 Load balancer: [secure-webapp-alb](#)

2	2 Healthy	0 Unhealthy	0 Unused	0 Initial	0 Draining
Total targets					
	0 Anomalous				

► **Distribution of targets by Availability Zone (AZ)**  
Select values in this table to see corresponding filters applied to the Registered targets table below.

Targets Monitoring Health checks Attributes Tags

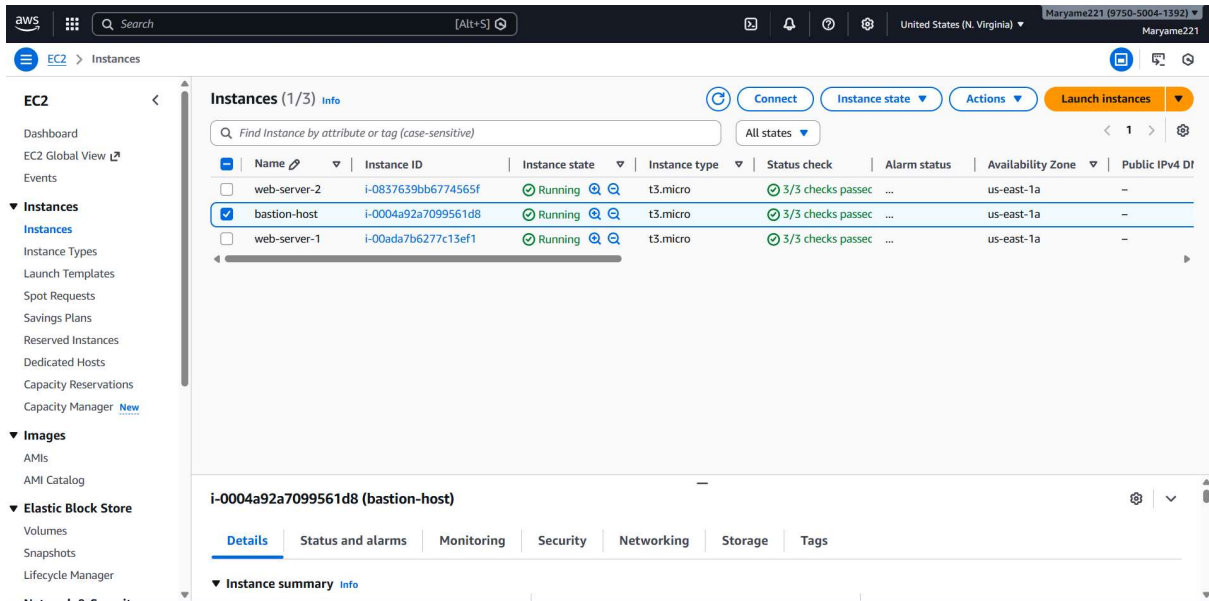
### Registered targets (2) [Info](#)

Anomaly mitigation: [Not applicable](#) [Deregister](#) [Register targets](#)

Target groups route requests to individual registered targets using the protocol and port number specified. Health checks are performed on all registered targets according to the target group's health check settings. Anomaly detection is automatically applied to HTTP/HTTPS target groups with at least 3 healthy targets.

<input type="checkbox"/>	Instance ID	Name	Port	Zone	Health status	Health status details	Admini...	Overri...
<input type="checkbox"/>	<a href="#">i-0837639bb6774565f</a>	web-server-2	80	us-east-1a (us-east-1)	Healthy	-	No override	No over
<input type="checkbox"/>	<a href="#">i-00ada7b6277c13ef1</a>	web-server-1	80	us-east-1a (us-east-1)	Healthy	-	No override	No over

EC2 console showing all 3 instances



## Ansible playbook

```

maryame@DESKTOP-457DK6Q: ~/secure-webapp
GNU nano 2.2.1 setup_web.yml
name: Configure web servers
hosts: webservers
become: yes

tasks:
  - name: Update apt cache
    apt:
      update_cache: yes

  - name: Install NGINX
    apt:
      name: nginx
      state: present

  - name: Ensure NGINX is running
    service:
      name: nginx
      state: started
      enabled: yes

  - name: Deploy custom index.html
    copy:
      dest: /var/www/html/index.html
      content: |
        <html>
        <head>
        <title>AWS Secure Web App</title>
        </head>
        <body>
        <h1>Maryame Diom - Secure AWS Cloud Project</h1>
        <h2>Hostname: {{ ansible_hostname }}</h2>
        <h3>Private IP: {{ ansible_default_ipv4.address }}</h3>
        <p>This page was deployed automatically using Ansible through our bastion host.</p>
        </body>
        </html>
  
```

## SSH from Bastion to webserver

```
ubuntu@ip-10-0-2-144: ~$ ssh -i secure-webapp-key.pem ubuntu@10.0.2.144
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1018-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Fri Feb 13 02:04:19 UTC 2026

System load:  0.0      Temperature:   -273.1 C
Usage of /:   31.8% of 6.71GB   Processes:    112
Memory usage: 25%      Users logged in: 0
Swap usage:   0%         IPv4 address for ens5: 10.0.1.182

 * Ubuntu Pro delivers the most comprehensive open source security and
   compliance features.

   https://ubuntu.com/aws/pro

Expanded Security Maintenance for Applications is not enabled.

83 updates can be applied immediately.
38 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Fri Feb 13 01:55:24 2026 from 196.207.222.55
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-10-0-1-182:~$ chmod 400 secure-webapp-key.pem
ubuntu@ip-10-0-1-182:~$ ssh -i secure-webapp-key.pem ubuntu@10.0.2.144
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1018-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Fri Feb 13 02:04:40 UTC 2026

System load:  0.0      Temperature:   -273.1 C
Usage of /:   30.0% of 6.71GB   Processes:    113
Memory usage: 25%      Users logged in: 0
Swap usage:   0%         IPv4 address for ens5: 10.0.2.144

Expanded Security Maintenance for Applications is not enabled.

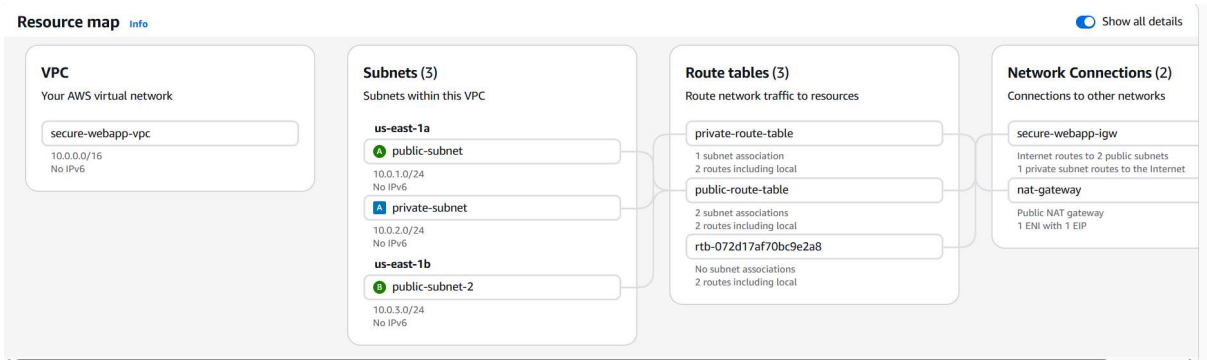
83 updates can be applied immediately.
38 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Failed to connect to https://changelogs.ubuntu.com/meta-release-lts. Check your Internet connection or proxy settings

Last login: Fri Feb 13 01:03:37 2026 from 10.0.1.182
ubuntu@ip-10-0-2-144:~$ hostname -I
10.0.2.144
ubuntu@ip-10-0-2-144:~$
```

## Project Ressource map



Link to Medium Article:

[Medium article](#)