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BSIT 4E BAP



Lab Title: Deploying a Static Website on Amazon EC2



Objective:

Students will learn how to launch an EC2 instance, configure it, and deploy a static website using Apache or Nginx.



Lab Requirements:

- AWS Free Tier account
 - Basic HTML file (e.g., index.html)
 - SSH client (e.g., PuTTY or terminal)
 - Web browser
-



Lab Steps:

Step 1: Launch an EC2 Instance

1. Log in to the AWS Management Console.
2. Navigate to EC2 Dashboard.
3. Click Launch Instance.
4. Choose an Amazon Machine Image (AMI):
 - Select Amazon Linux 2023 or Ubuntu Server 22.04 LTS.
5. Choose an instance type:
 - Select t2.micro/t3.micro (Free Tier eligible).
6. Configure instance details:
 - Keep default settings.
7. Add storage:
 - Default 8 GB is sufficient.
8. Add tags (optional).
9. Configure security group:
 - Allow SSH (port 22) from your IP.

- Allow HTTP (port 80) from anywhere.
10. Review and launch.
11. Create or select a key pair and download the .pem file.
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Step 2: Connect to Your EC2 Instance

1. Open terminal or SSH client.
 2. Run:
`ssh -i "your-key.pem" ec2-user@your-ec2-public-ip`
 - For Ubuntu: use `ubuntu@your-ec2-public-ip`
-

Step 3: Install a Web Server

Choose one:

Option A: Apache (Amazon Linux)

`sudo yum update -y`

`sudo yum install httpd -y`

`sudo systemctl start httpd`

`sudo systemctl enable httpd`

Option B: Nginx (Ubuntu)

`sudo apt update`

`sudo apt install nginx -y`

`sudo systemctl start nginx`

`sudo systemctl enable nginx`

Step 4: Upload Your Static Website

1. Create a simple basic HTML file:

```
echo "<h1>Hello from “YOUR FULLNAME”/h1>" > index.html
```

2. Move it to the web server directory:
 - o Apache: sudo mv index.html /var/www/html/
 - o Nginx: sudo mv index.html /var/www/html/
-

Step 5: Test Your Website

1. Open a browser.
 2. Visit: <http://your-ec2-public-ip>
 3. You should see your static website.
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Step 6: Clean Up

1. Terminate the EC2 instance to avoid charges:
 - o Go to EC2 Dashboard → Instances → Actions → Terminate.
-

Bonus:

- Upload a full HTML/CSS website.
 - Use SFTP to transfer files.
 - Configure a custom domain using Route 53.
 - Set up HTTPS using Let's Encrypt.
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Deliverables:

- Step by step screenshot of the activity
 - Write 100-200 words reflection about this activity
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AWS | Search [Alt+S] | Account ID: 2864-5215-7213 | Asia Pacific (Sydney) | plp.garcia

EC2 > Instances > Launch an instance

Success
Successfully initiated launch of instance (i-0cca521f7dd5ba2bb)

▶ Launch log

aws | Search [Alt+S] | Account ID: 2864-5215-7213 | Asia Pacific (Sydney) | plp.garcia

EC2 > Instances

Instances (1/1) Info

Name	Instance ID	Instance state	Instanc...	Status check	Alarm status	Availability...	Public IPv4 DNS	Public IPv4 add...	Elastic IP	IPv6 IPs	Monitoring
MyWebServer	i-0cca521f7dd5ba2bb	Running	t3.micro	2/2 checks passed	View alarms +	ap-southeast...	ec2-3-25-177-108.ap-sout...	3.25.177.108	-	-	disabled

i-0cca521f7dd5ba2bb (MyWebServer)

IPv6 address -

Hostname type
IP name: ip-172-31-22-176.ap-southeast-2.compute.internal

Answer private resource DNS name
IPv4 (A)

Auto-assigned IP address
3.25.177.108 [Public IP]

IAM Role -

IMDSv2

3.25.177.108 | open address

Instance state
Running

Private IP DNS name (IPv4 only)
ip-172-31-22-176.ap-southeast-2.compute.internal

Instance type
t3.micro

VPC ID
vpc-0938cd049ce8250b2

Subnet ID
subnet-0045fb1d59c67d0f

Instance ARN

172.31.22.176

Public DNS
ec2-3-25-177-108.ap-southeast-2.compute.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

```
PS C:\Users\Admin> ssh -i "C:\Users\Admin\Downloads\rjgarcia.pem" ec2-user@3.25.177.108
_
#_
~\_ ####_          Amazon Linux 2023
~~ \#####\
~~ \###|
~~ \#/ ___ https://aws.amazon.com/linux/amazon-linux-2023
~~ \~`-->
~~ .-.
~/ -/
~/m/
[ec2-user@ip-172-31-22-176 ~]$ sudo yum update -y
```

```
ec2-user@ip-172-31-22-176:~ x + v
Verifying : httpd-core-2.4.65-1.amzn2023.0.1.x86_64 6/12
Verifying : httpd-filesystem-2.4.65-1.amzn2023.0.1.noarch 7/12
Verifying : httpd-tools-2.4.65-1.amzn2023.0.1.x86_64 8/12
Verifying : libbrotli-1.0.9-4.amzn2023.0.2.x86_64 9/12
Verifying : mailcap-2.1.49-3.amzn2023.0.3.noarch 10/12
Verifying : mod_http2-2.0.27-1.amzn2023.0.3.x86_64 11/12
Verifying : mod_lua-2.4.65-1.amzn2023.0.1.x86_64 12/12
=====
WARNING:
A newer release of "Amazon Linux" is available.

Available Versions:

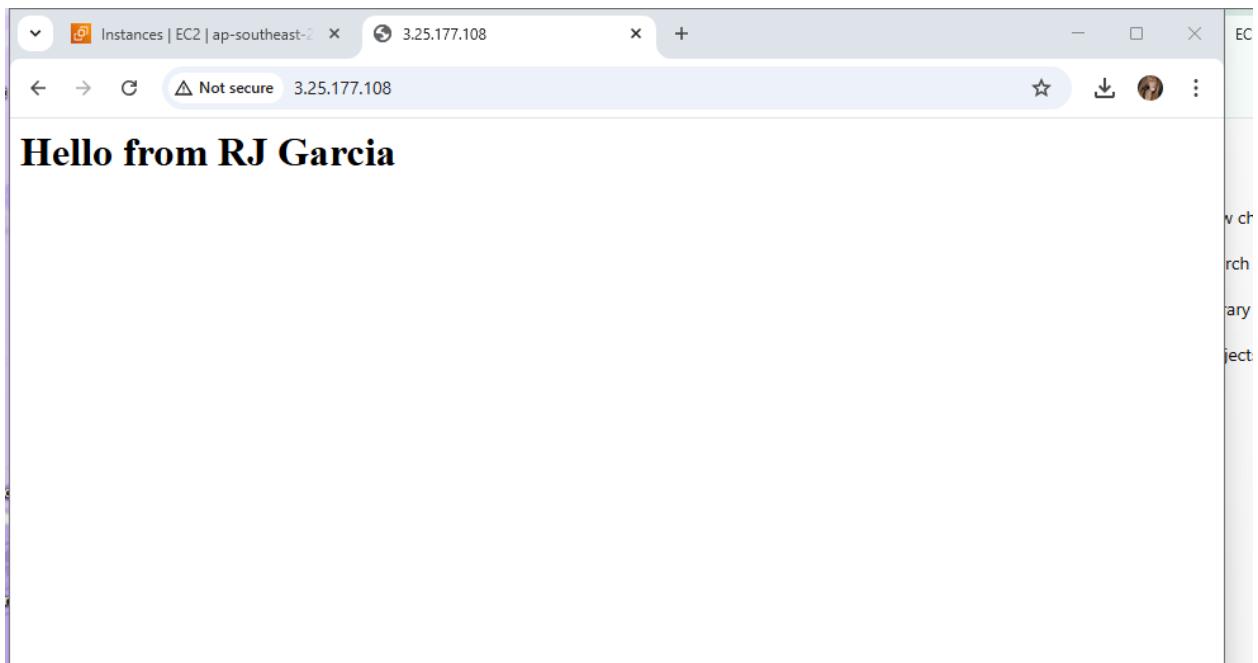
Version 2023.9.20251020:
Run the following command to upgrade to 2023.9.20251020:

dnf upgrade --releasever=2023.9.20251020

Release notes:
https://docs.aws.amazon.com/linux/al2023/release-notes/relnotes-2023.9.20251020.html
=====
Installed:
apr-1.7.5-1.amzn2023.0.4.x86_64
apr-util-1.6.3-1.amzn2023.0.1.x86_64
apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64
generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch
httpd-2.4.65-1.amzn2023.0.1.x86_64
httpd-core-2.4.65-1.amzn2023.0.1.x86_64
httpd-filesystem-2.4.65-1.amzn2023.0.1.noarch
httpd-tools-2.4.65-1.amzn2023.0.1.x86_64
libbrotli-1.0.9-4.amzn2023.0.2.x86_64
mailcap-2.1.49-3.amzn2023.0.3.noarch
mod_http2-2.0.27-1.amzn2023.0.3.x86_64
mod_lua-2.4.65-1.amzn2023.0.1.x86_64

Complete!
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
```

```
Complete!
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[ec2-user@ip-172-31-22-176 ~]$ echo "<h1>Hello from RJ Garcia</h1>" > index.html
[ec2-user@ip-172-31-22-176 ~]$ sudo mv index.html /var/www/html/
[ec2-user@ip-172-31-22-176 ~]$ ls /var/www/html/
index.html
[ec2-user@ip-172-31-22-176 ~]$
```



A screenshot of the AWS EC2 Instances page. The top navigation bar shows the region as "Asia Pacific (Sydney)" and the account ID as "2864-5215-7213". The main content area shows a green success message: "Successfully initiated termination (deletion) of i-0cca521f7dd5ba2bb". Below this, the "Instances (1/1)" table is displayed. The table has columns for Name, Instance ID, Instance state, Status check, and Alarm status. One row is selected, showing the instance named "MyWebServer" with the ID "i-0cca521f7dd5ba2bb", which is currently "Shutting-down". The status check shows "2/2 checks passed" and there are "View alarms" links.

Name	Instance ID	Instance state	Status check	Alarm status
MyWebServer	i-0cca521f7dd5ba2bb	Shutting-down	2/2 checks passed	View alarms

This activity helped me understand how to set up and host a simple website using Amazon Web Services (AWS). At first, I thought it would be difficult because cloud servers and command lines can look confusing, but following each step made it clear and manageable. I learned how to launch an EC2 instance, connect through SSH, and install Apache to serve my webpage. Seeing my own HTML file displayed online was a great experience. I also realized that using AWS EC2 is actually easier than setting up and managing virtual machines in Hyper-V, since there are fewer manual network and host connection steps. Overall, this lab gave me practical experience with cloud computing and made me feel more confident about hosting and managing websites on AWS.