

DEVOPS MASTERCLASS

WEEK 3 – TWO TIER INFRASTRUCTURE SETUP

Task Outline

Create a 2 Tier infrastructure as shown in the diagram below

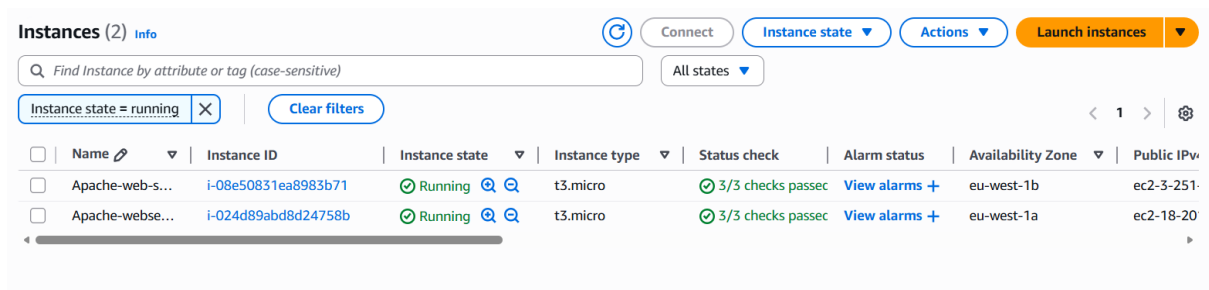
- A frontend /Tier 1 system running HTTPD (or Apache Web Server)
- A backend /Tier2 system running Python 3 and Java 11 (or Java 17)

Key Info

1. Each tier should run two nodes – in different AZ for redundancy.
2. Ensure you have a template to expedite VM creation.
3. Create a repository in GitHub to store scripts used for nodes.

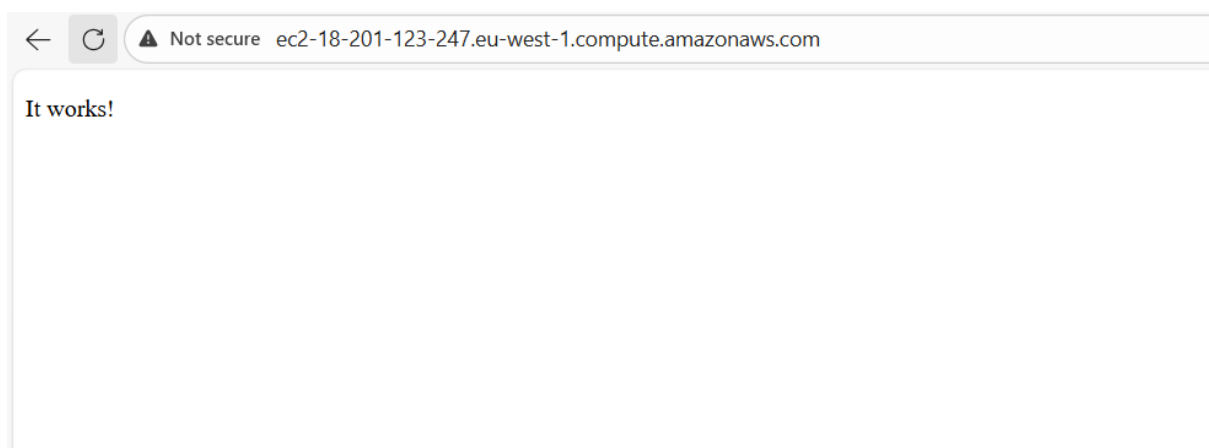
EC2 Instances

Tier 1- Presentation Layer – HTTPD



The screenshot shows the AWS Management Console 'Instances' page. It displays two EC2 instances, both in a 'Running' state. The first instance is named 'Apache-web-s...' with ID 'i-08e50831ea8983b71' and is located in 'eu-west-1b'. The second instance is named 'Apache-webse...' with ID 'i-024d89abd8d24758b' and is located in 'eu-west-1a'. Both instances are of type 't3.micro' and have '3/3 checks passed'. The table includes columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, and Public IP.

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
<input type="checkbox"/>	Apache-web-s...	i-08e50831ea8983b71	Running	t3.micro	3/3 checks passed	View alarms +	eu-west-1b	ec2-3-251...
<input type="checkbox"/>	Apache-webse...	i-024d89abd8d24758b	Running	t3.micro	3/3 checks passed	View alarms +	eu-west-1a	ec2-18-20...



Tier 2- Application Layer / Logic/ Backend – Python 3/ Java

Instances (4) Info

Last updated
2 minutes ago

Connect

Instance state ▾

Actions ▾

Launch instances

Find Instance by attribute or tag (case-sensitive)










All states ▾

Instance state = running

Clear filters

< 1 >

⚙

<input type="checkbox"/>	Name  ▾	Instance ID	Instance state ▾	Instance type ▾	Status check	Alarm status	Availability Zone ▾	Public IPv
<input type="checkbox"/>	Apache-web-s...	i-08e50831ea8983b71	 Running 🔗 🔗	t3.micro	 3/3 checks passed View alarms +	eu-west-1b	ec2-3-251	
<input type="checkbox"/>	python-backend	i-0061999dea5cff38d	 Running 🔗 🔗	t3.micro	 3/3 checks passed View alarms +	eu-west-1b	ec2-108-1	
<input type="checkbox"/>	Apache-webse...	i-024d89abd8d24758b	 Running 🔗 🔗	t3.micro	 3/3 checks passed View alarms +	eu-west-1a	ec2-18-20	
<input type="checkbox"/>	webserver-node	i-0001108940ea805a7	 Running 🔗 🔗	t3.micro	 3/3 checks passed View alarms +	eu-west-1a	ec2-108-1	

Select an instance

⚙

▾

Java installed

```
[ec2-user@ip-172-31-42-130 ~]$ java --version
openjdk 17.0.17 2025-10-21 LTS
OpenJDK Runtime Environment Corretto-17.0.17.10.1 (build 17.0.17+10-LTS)
OpenJDK 64-Bit Server VM Corretto-17.0.17.10.1 (build 17.0.17+10-LTS, mixed mode, sharing)
[ec2-user@ip-172-31-42-130 ~]$
```

Git installed

```
#_
~\####_ Amazon Linux 2023
~~\_#####\_
~~\_###|
~~\_#/ https://aws.amazon.com/linux/amazon-linux-2023
~~V~' '~>
~~~~/_/\
~~._.\_/\/
~/m/' '\
```

[ec2-user@ip-172-31-42-130 ~]\$ git --version
git version 2.50.1

Template


Amazon Machine Images (AMIs) (1) [Info](#)

[Recycle Bin](#)
[EC2 Image Builder](#)
[Actions](#)
[Launch instance from AMI](#)

Owned by me

<input type="checkbox"/>	Name 🔗	AMI name	AMI ID	Source	Owner	Visibility
<input type="checkbox"/>		web-template	ami-03226575211af24d9	485235461126/web-template	485235461126	Private

GitHub Repository used to store nodes

[Week3_Project](#) / [Scripts used for the nodes](#) 



[odufuwabusola](#)

Rename Web-server-code to Scripts used for the nodes

Code

Blame

23 lines (17 loc) · 369 Bytes



```
1      #frontend-code
2
3      #!/bin/bash
4      yum install httpd -y
5      systemctl start httpd
6      systemctl enable httpd
7      syste status httpd
8
9
10     #backend-code
11
12     #!/bin/bash
13     yum install git -y
14     yum install -y java-17-amazon-coreetto -y
15     yum install maven-y
16     yum install -y python3-pip
17     python3 -m pip install --upgrade pip
18     python3 -m pip install virtualenv
19
20
21     git --version
22     java --version
23     python3 --version
```