

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)

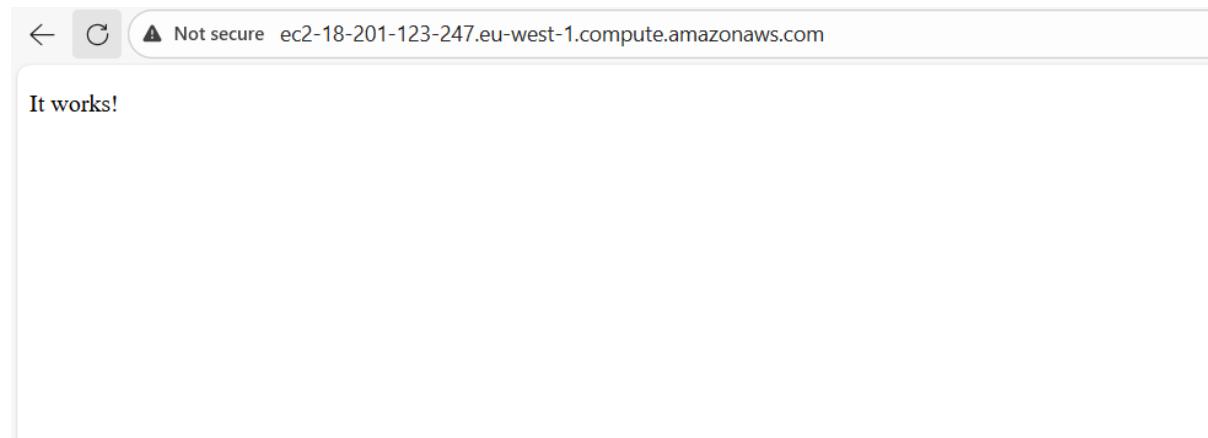
Key Info

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

Instances (2) Info		Connect	Instance state ▾	Actions ▾	Launch instances ▾
<input type="text"/> Find Instance by attribute or tag (case-sensitive)		All states ▾			
Instance state = running X		Clear filters			
□	Name ↗	Instance ID	Instance state	Instance type	Status check
<input type="checkbox"/>	Apache-web-s...	i-08e50831ea8983b71	Running Q Q	t3.micro	3/3 checks passed View alarms +
<input type="checkbox"/>	Apache-webse...	i-024d89abd8d24758b	Running Q Q	t3.micro	3/3 checks passed View alarms +



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

Instances (4) Info		Last updated 2 minutes ago	Connect	Instance state ▾	Actions ▾	Launch instances	▼	
<input type="text"/> Find Instance by attribute or tag (case-sensitive)				All states ▾				
Instance state = running X		Clear filters		◀ 1 ▶ ⚙️				
<input type="checkbox"/>	Name 🔗	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
<input type="checkbox"/>	Apache-web-s...	i-08e50831ea8983b71	Running Q Q	t3.micro	3/3 checks passed View alarms +	View alarms +	eu-west-1b	ec2-3-251-
<input type="checkbox"/>	python-backend	i-0061999dea5cff38d	Running Q Q	t3.micro	3/3 checks passed View alarms +	View alarms +	eu-west-1b	ec2-108-1-
<input type="checkbox"/>	Apache-webse...	i-024d89abd8d24758b	Running Q Q	t3.micro	3/3 checks passed View alarms +	View alarms +	eu-west-1a	ec2-18-20-
<input type="checkbox"/>	webserver-node	i-0001108940ea805a7	Running Q Q	t3.micro	3/3 checks passed View alarms +	View alarms +	eu-west-1a	ec2-108-1-

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

```
          #_#_#
 ~\ _###\_
 ~~ \###\_
 ~~ \##|_
 ~~ \#/   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	 Create	 Recycle Bin	 EC2 Image Builder	Actions ▾	Launch instance from AMI
Owned by me ▾		Find AMI by attribute or tag				< 1 >	
	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      system status httpd
8
9
10     #backend-code
11
12    #!/bin/bash
13    yum install git -y
14    yum install -y java-17-amazon-coretto -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
```