

Group A- Assignment

WEEK 4 – Two Tier Infrastructure Deployment

Fork/Copy this repo to your GitHub account:

https://github.com/techbleat/fruits-veg_market

The screenshot shows the GitHub repository page for 'fruits-veg_market'. The repository was forked from 'techbleat/fruits-veg_market'. The main branch is 'main' with 2 branches and 0 tags. The repository has 22 commits. The commit history includes:

- techbleat Add parameters for Python and Web nodes in Jenkinsfile (a239456 - last month)
- java (updated - 2 months ago)
- python (Add Jenkinsfile for deployment pipeline setup - last month)
- web (Add parameters for Python and Web nodes in Jenkinsfile - last month)
- .gitignore (added veg list and updated fruit list - 2 months ago)
- 2tierDeployment.png (added new files and update - 2 months ago)
- README.md (Fix formatting of run app command in README - 2 months ago)

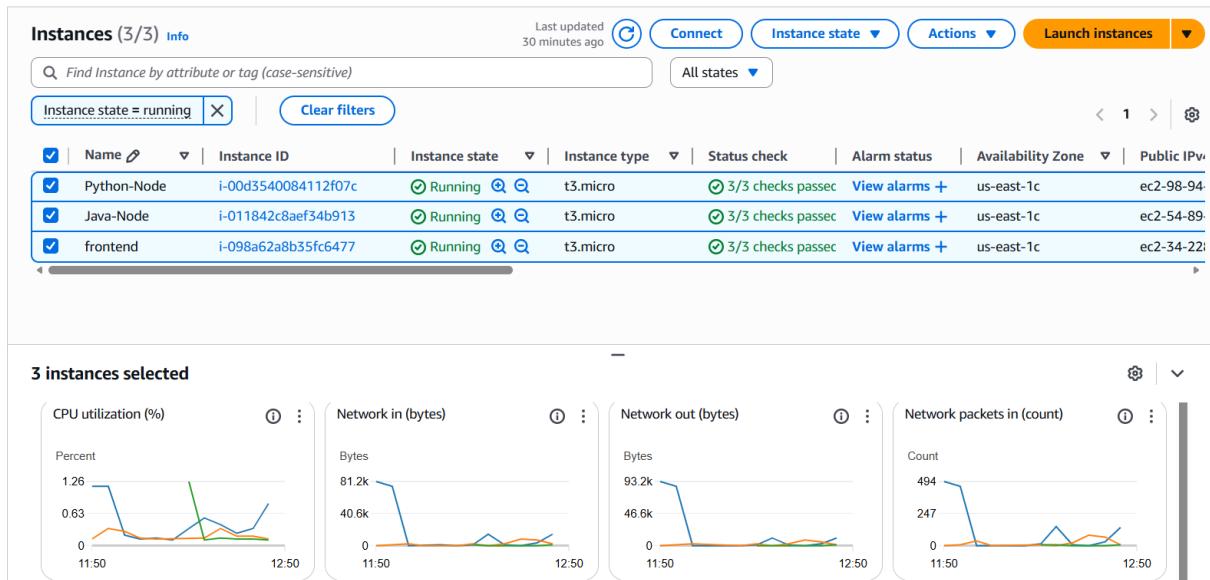
The repository has 0 stars, 0 forks, and 0 watching. It also has 0 releases published and 0 packages published.

Requirements

Replicate Week 4 Class using 3 nodes

- Node 1: A frontend/Tier 1 system running NGINX
- Node 2: A backend/Tier 2 system running Python 3 o should run on port 9090
- Node 3: A backend/Tier 2 system running Java 11 (or Java 17) o should run on port 9998

EC2 Instances Running for the Three Nodes



Node 1- Frontend System

“curl localhost” initiated to confirm the codes and the port number for both python and java

```
<table id="fruitTable">
  <thead><tr><th>Fruit</th><th>Price ($)</th></tr></thead>
  <tbody></tbody>
</table>

<div class="section">
  <h2>Vegetables (Java)</h2>
  <table id="vegTable">
    <thead><tr><th>Vegetable</th><th>Price ($)</th></tr></thead>
    <tbody></tbody>
  </table>
</div>

<script>
const FRUITS_API = "http://ec2-98-94-1-11.compute-1.amazonaws.com:9090/fruits"; // FastAPI
const VEGETABLES_API = "http://ec2-54-89-77-40.compute-1.amazonaws.com:9998/vegetables"; // Java Spring
const out = document.getElementById("output");

async function load(url, tableSelector, key) {
  out.textContent = "Loading...";
  try {
    const res = await fetch(url);
    if (!res.ok) throw new Error(`HTTP ${res.status}`);
    const data = await res.json();

    const items = data[key] || [];
    const tbody = document.querySelector(`#${tableSelector} tbody`);
    tbody.innerHTML = "";
    for (const item of items) {
      const row = document.createElement("tr");
      row.innerHTML = ` ${item.name} | $${item.price} |`;
      tbody.appendChild(row);
    }
  } catch (err) {
    out.textContent = `Error: ${err.message}`;
  }
}

load(FRUITS_API, "#fruitTable", "fruits");
load(VEGETABLES_API, "#vegTable", "vegetables");
</script>
```

i-098a62a8b35fc6477 (frontend)

Frontend system running on NGINX

```
}

document.getElementById("loadFruits").onclick = () =>
  load(FRUGHTS_API, "#fruitTable", "fruits");

document.getElementById("loadVegetables").onclick = () =>
  load(VEGETABLES_API, "#vegTable", "vegetables");
</script>
</body>
</html>
[ec2-user@ip-172-31-30-228 web]$ cd ..
[ec2-user@ip-172-31-30-228 fruits-veg_market]$ git pull
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 4 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (4/4), 1009 bytes | 1009.00 KiB/s, done.
From https://github.com/odufuwabusola/fruits-veg_market
  5dc085d..75af6d0 main      -> origin/main
Updating 5dc085d..75af6d0
Fast-forward
 web/index.html | 2 ++
 1 file changed, 1 insertion(+), 1 deletion(-)
[ec2-user@ip-172-31-30-228 fruits-veg_market]$ ls
2tierDeployment.png README.md java python web
[ec2-user@ip-172-31-30-228 fruits-veg_market]$ cd web
[ec2-user@ip-172-31-30-228 web]$ ls
Jenkinsfile index.html
[ec2-user@ip-172-31-30-228 web]$ sudo cp index.html /usr/share/nginx/html/
i-098a62a8b35fc6477 (frontend)
```

Frontend Load Balancer

← ⌂ Not secure 34.228.23.140

Produce List

Load Fruits Load Vegetables

Fruits (FastAPI)

Fruit	Price (\$)
-------	------------

Vegetables (Java)

Vegetable	Price (\$)
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Node 2- Python (Backend) running on port:9090 (uvicorn)

```
Requirement already satisfied: pydantic>=2.7.0 in ./venv/lib/python3.9/site-packages (from fastapi->-r requirements.txt (line 1)) (2.12.5)
Requirement already satisfied: typing-extensions>=4.8.0 in ./venv/lib/python3.9/site-packages (from fastapi->-r requirements.txt (line 1)) (4.15.0)
Requirement already satisfied: annotated-doc>=0.0.2 in ./venv/lib/python3.9/site-packages (from fastapi->-r requirements.txt (line 1)) (0.0.4)
Requirement already satisfied: anyio<5,>=3.6.2 in ./venv/lib/python3.9/site-packages (from fastapi->-r requirements.txt (line 1)) (4.12.1)
Requirement already satisfied: exceptiongroup>=1.0.2 in ./venv/lib/python3.9/site-packages (from anyio<5,>=3.6.2->starlette<0.51.0,>=0.40.0->fastapi->-r requirements.txt (line 1)) (1.3.1)
Requirement already satisfied: idna>=2.8 in ./venv/lib/python3.9/site-packages (from anyio<5,>=3.6.2->starlette<0.51.0,>=0.40.0->fastapi->-r requirements.txt (line 1)) (3.11)
Requirement already satisfied: click>=7.0 in ./venv/lib/python3.9/site-packages (from uvicorn[standard]->-r requirements.txt (line 2)) (8.1.8)
Requirement already satisfied: h11>=0.8 in ./venv/lib/python3.9/site-packages (from uvicorn[standard]->-r requirements.txt (line 2)) (0.16.0)
Requirement already satisfied: httptools>=0.6.3 in ./venv/lib/python3.9/site-packages (from uvicorn[standard]->-r requirements.txt (line 2)) (0.7.1)
Requirement already satisfied: pyhttpd-env>=0.13 in ./venv/lib/python3.9/site-packages (from uvicorn[standard]->-r requirements.txt (line 2)) (1.2.1)
Requirement already satisfied: pyyaml>=6.0 in ./venv/lib/python3.9/site-packages (from uvicorn[standard]->-r requirements.txt (line 2)) (6.0.3)
Requirement already satisfied: uvloop>=0.15.1 in ./venv/lib/python3.9/site-packages (from uvicorn[standard]->-r requirements.txt (line 2)) (0.22.1)
Requirement already satisfied: websockets>=10.0 in ./venv/lib/python3.9/site-packages (from uvicorn[standard]->-r requirements.txt (line 2)) (15.0.1)
Requirement already satisfied: annotated-types>=0.6.0 in ./venv/lib/python3.9/site-packages (from pydantic>=2.7.0->fastapi->-r requirements.txt (line 1)) (0.7.0)
Requirement already satisfied: pydantic-core>=2.41.5 in ./venv/lib/python3.9/site-packages (from pydantic>=2.7.0->fastapi->-r requirements.txt (line 1)) (2.41.5)
Requirement already satisfied: typing-inspection>=0.4.2 in ./venv/lib/python3.9/site-packages (from pydantic>=2.7.0->fastapi->-r requirements.txt (line 1)) (0.4.2)
(.venv) [ec2-user@ip-172-31-31-183 python] uvicorn main:app --host 0.0.0.0 --port 9090 --reload
INFO:     Will watch for changes in these directories: ['/home/ec2-user/fruits-veg_market/python']
INFO:     Uvicorn running on http://0.0.0.0:9090 (Press CTRL+C to quit)
INFO:     Started reloader process [36920] using Watchfiles
INFO:     Started server process [36930]
INFO:     Waiting for application startup.
INFO:     Application startup complete.
INFO:    78.147.123.231:47699 - "GET /fruits HTTP/1.1" 200 OK
INFO:    78.147.123.231:17494 - "GET /fruits HTTP/1.1" 200 OK
```

i-00d3540084112f07c (Python-Node)

```
← C ▲ Not secure ec2-98-94-1-11.compute-1.amazonaws.com:9090/fruits
Pretty-print □
{"fruits": [{"name": "Apple", "price": 1.2}, {"name": "Banana", "price": 0.8}, {"name": "Pineapple", "price": 2.2}, {"name": "Cherry", "price": 3.5}, {"name": "Orange", "price": 1.8}, {"name": "Blueberry", "price": 2.5}, {"name": "Lime", "price": 5.5}, {"name": "Mango", "price": 2.4}, {"name": "Kiwi", "price": 6.5}, {"name": "Organinc Cucumber", "price": 2.0}, {"name": "Lemon", "price": 2.0}, {"name": "Grapes", "price": 2.2}]}  
☆ ⓘ 🔍
```

← C ▲ Not secure ec2-34-228-23-140.compute-1.amazonaws.com

Produce List

Load Fruits

Load Vegetables

Loaded ✓

Fruits (FastAPI)

Fruit	Price (\$)
Apple	1.20
Banana	0.80
Pineapple	2.20
Cherry	3.50
Orange	1.80
Blueberry	2.50
Lime	5.50
Mango	2.40
Kiwi	6.50
Organinc Cucumber	2.00
Lemon	2.00
Grapes	2.20

Node 3- Java 17 (Backend) running on port:9998

i-011842c8aef34b913 (Java-Node)

i-011842c8aef34b913 (Java-Node)





Not secure ec2-34-228-23-140.compute-1.amazonaws.com

Produce List

[Load Fruits](#)[Load Vegetables](#)

Loaded ✓

Fruits (FastAPI)

Fruit	Price (\$)

Vegetables (Java)

Vegetable	Price (\$)
Carrot	0.60
Broccoli	1.40
Tomato	0.90
Spinach	1.10
Potato	0.50