

Task 3: Simulated Multi-Cloud Architecture

✓ Objective

Simulate a multi-cloud architecture where data is fetched across two cloud platforms using **AWS EC2** and a **GitHub-hosted file**.

AWS EC2 (App Host)

- Deployed a Flask app on EC2
- Pulled external data from GitHub using Python `requests`

GitHub (File Host)

- Public file hosted on GitHub simulates a second cloud service
 - Used raw URL to access the file directly
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Demonstrated Interoperability

- EC2 (AWS) * GitHub (Public cloud data source)
 - Communication via HTTP GET requests
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Screenshots

The screenshot shows an AWS CloudShell terminal window. The top bar indicates the user is connected to an EC2 instance in the Asia Pacific (Mumbai) region. The terminal shows the user editing a file named `app.py` using the `nano` editor. The code in `app.py` is a Flask application that fetches data from a GitHub repository and displays it as HTML. Below the editor, a toolbar with various shortcuts is visible. At the bottom, a notification box shows the instance ID `i-0ce907d46038badb0` and its public and private IP addresses. The footer of the CloudShell window includes the 'CloudShell' logo, a 'Feedback' link, and copyright information for Amazon Web Services.

```
GNU nano 8.3 app.py
from flask import Flask
import requests
app = Flask(__name__)

@app.route('/')
def fetch_data():
    url = "https://raw.githubusercontent.com/abdulsalamakramani/multi-cloud-data/main/simple.txt"
    response = requests.get(url)
    return f"<h2>Multi-Cloud Simulation</h2><pre>{response.text}</pre>"

if __name__ == '__main__':
    app.run(host='0.0.0.0', port=5000)
```

i-0ce907d46038badb0 (flask1-instance)
PublicIPs: 13.126.202.108 PrivateIPs: 172.31.5.173

The screenshot shows a terminal window where a Flask application is being run. The user navigates to the `flask-app` directory and runs `python3 app.py`. The output shows the application is serving on `0.0.0.0` and `172.31.5.173` at port `5000`. A warning message is displayed, advising that this is a development server and should not be used in production.

```
[ec2-user@ip-172-31-5-173 ~]$ cd flask-app
[ec2-user@ip-172-31-5-173 flask-app]$ python3 app.py
* Serving Flask app 'app'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.31.5.173:5000
Press CTRL+C to quit
```



✓ Task Completed

📅 Date: [18th July 2025]

🏠 Cloud Providers Simulated: AWS + GitHub