

# COMSE6156 - Topics in SW Engineering: Cloud Computing

## Sprint 0 Status Report

### Overview

Sprint is a concept from [Agile SW development](#). Project teams will follow a simplified version of agile development to build their projects. A core concept in agile development is a *sprint*.



### Agile Development: Sprints

Sprint-0 is an individual sprint that focus on setting up their environments. All students must complete the sprint individually. This document is the template for submitting a status report on Sprint-0. Completing the report is simply taking screenshots and including them in the relevant sections of the Markdown document. You will submit a PDF version of the Markdown to GradeScope. We will post submission instructions on Ed for submitting the report.

### Clone and Modify the Starter Project

- Place a screen capture of your directory below. Display the structure in a terminal window, PyCharm, file explorer or any other mechanism.

The screenshot shows the PyCharm IDE interface with the following details:

- Project Structure:** The project is named "e6156-microservice-1". It contains a main.py file and other files like README.md, requirements.txt, and students.json.
- Code Editor:** The main.py file is open, displaying Python code for a FastAPI application. The code includes routes for "/hello", "/hello/{name}", "/hello{text}/{name}", and "/students". It uses the Uvicorn server to run the application on port 8012.
- Toolbars and Status:** The top bar shows system status (8.40 GB RAM, battery level, signal strength, etc.). The bottom bar shows tabs for TODO, Version Control, Terminal, and Python Console, along with a file status indicator ("PyCharm 2023.2.1 available! Update...").
- Bottom Dock:** A dock at the bottom contains icons for various applications like Finder, Mail, and Safari.

## Cloned Project

# Execute the Starter Project

You can choose any formats for the screen capture as long as it shows your project executing. My simple example shows and execution window and browser side-by-side.

The screenshot shows the PyCharm IDE interface with two panes. The left pane displays the Python code for a microservice named 'e6156-microservice-1'. The code defines an application object with various routes for 'GET' requests. It includes endpoints for a root path ('/'), a path with a placeholder '{name}' ('/hello/{name}'), and a path for 'students' ('/students'). The 'say\_hello' endpoint returns a JSON message. The main block at the bottom runs the application using 'unicorn' on port 8012. The right pane shows a web browser window titled 'Not Secure | 0.0.0.0:8012/hello/John'. The page content is a JSON object with the key 'message' and the value 'Awesome cloud developer jag2402 says hello John'. Below the browser are several system status icons.

```
app.get("/")
async def root():
    return {"message": "Hello World"}

app.get("/hello/{name}")
async def say_hello(name: str):
    return {"message": f"Awesome cloud developer jag2402 says hello {name}"}

app.get("/hello_text/{name}")
async def say_hello_text(name: str):
    the_message = f"Awesome cloud developer jag2402 says Hello {name}"
    resp = Response(content=the_message, media_type="text/plain")
    return resp

app.get("students")
async def get_students():
    result = students_resource.get_students()
    return result

if __name__ == "__main__":
    unicorn.run(app, host="0.0.0.0", port=8012)
```

Run: main x

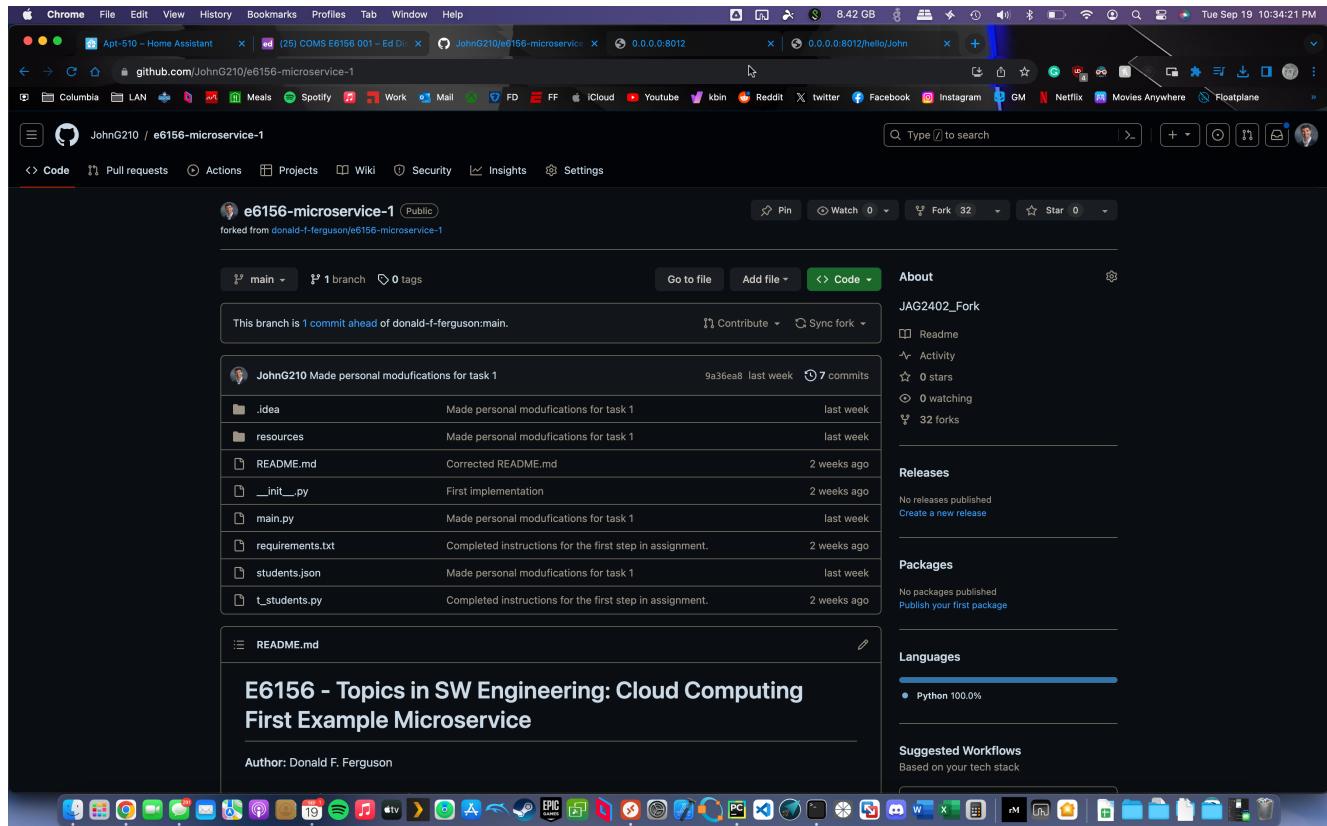
```
/Users/johnathangaliano/opt/anaconda3/envs/microservice-1/bin/python /Users/johnathangaliano/Documents/Grad_School/e6156-microservice-1/main.py
```

INFO: Started server process [33779]  
INFO: Waiting for application startup.  
INFO: Application startup complete.  
INFO: Uvicorn running on http://0.0.0.0:8012 (Press CTRL+C to quit)  
INFO: 127.0.0.1:49225 - "GET / HTTP/1.1" 200 OK  
INFO: 127.0.0.1:49226 - "GET / HTTP/1.1" 200 OK  
INFO: 127.0.0.1:49226 - "GET /favicon.ico HTTP/1.1" 404 Not Found  
INFO: 127.0.0.1:49234 - "GET /hello/John HTTP/1.1" 200 OK

## Project Execution

### Create Your Own GitHub Project

Make a copy of the project and create a project in GitHub. Show the project.



### Project on GitHub

### Deploy and Test Project on AWS

Show the information about your VM through the console.

Instance summary for i-08167802189201934 (microservice-1) [Info](#)

Updated less than a minute ago

Instance ID <a href="#">i-08167802189201934 (microservice-1)</a>	Public IPv4 address <a href="#">3.141.41.69 [open address]</a>	Private IPv4 addresses <a href="#">172.31.5.79</a>									
IPv6 address -	Instance state <a href="#">Running</a>	Public IPv4 DNS <a href="#">ec2-3-141-41-69.us-east-2.compute.amazonaws.com [open address]</a>									
Hostname type IP name: ip-172-31-5-79.us-east-2.compute.internal	Private IP DNS name (IPv4 only) <a href="#">ip-172-31-5-79.us-east-2.compute.internal</a>	Elastic IP addresses -									
Answer private resource DNS name IPv4 (A)	Instance type t2.micro	AWS Compute Optimizer finding -									
Auto-assigned IP address <a href="#">3.141.41.69 [Public IP]</a>	VPC ID <a href="#">vpc-0ec38e05ff545c279</a>	Subnet ID <a href="#">subnet-0b5ccb4a2d21a518a</a>									
IAM Role -	AMI ID <a href="#">ami-00a9282ce5b5ddfb1</a>	Auto Scaling Group name -									
IMDv2 Required	AMI name -	Monitoring disabled									
<a href="#">Details</a> <a href="#">Security</a> <a href="#">Networking</a> <a href="#">Storage</a> <a href="#">Status checks</a> <a href="#">Monitoring</a> <a href="#">Tags</a>											
<b>Instance details</b> <a href="#">Info</a> <table border="1"> <tbody> <tr> <td>Platform -</td> <td>AMI ID <a href="#">ami-00a9282ce5b5ddfb1</a></td> <td>Monitoring disabled</td> </tr> <tr> <td>Platform details <a href="#">Linux/UNIX</a></td> <td>AMI name -</td> <td>Termination protection Disabled</td> </tr> <tr> <td>Stop protection Disabled</td> <td>Launch time <a href="#">Tue Sep 19 2023 22:35:52 GMT-0400 (Eastern Daylight Time) (less than a minute)</a></td> <td>AMI location -</td> </tr> </tbody> </table>			Platform -	AMI ID <a href="#">ami-00a9282ce5b5ddfb1</a>	Monitoring disabled	Platform details <a href="#">Linux/UNIX</a>	AMI name -	Termination protection Disabled	Stop protection Disabled	Launch time <a href="#">Tue Sep 19 2023 22:35:52 GMT-0400 (Eastern Daylight Time) (less than a minute)</a>	AMI location -
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Waiting for us-east-2.prod.pr.analytics.console.aws.a2z.com... © 2023, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)

## AWS Console

Show the application running in the EC2 terminal and browser.

```

A newer release of "Amazon Linux" is available.
Version 2023.1.20230912:
Run "/usr/bin/dnf check-release-update" for full release and version update info
[ec2-user@ip-172-31-5-79 ~]$ ls
[ec2-user@ip-172-31-5-79 ~]$ cd e6156-microservice-1
[ec2-user@ip-172-31-5-79 ~]$ cd e6156-microservice-1/
[ec2-user@ip-172-31-5-79 e6156-microservice-1]$ python3 ./main.py
INFO: Started server process [5537]
INFO: Waiting for application startup.
INFO: Application startup complete.
INFO: Uvicorn running on http://0.0.0.0:8012 (Press CTRL+C to quit)
WARNING: Invalid HTTP request received.
INFO: 100.8.207.215:49961 - "GET /hello/john HTTP/1.1" 200 OK
INFO: 100.8.207.215:49961 - "GET /favicon.ico HTTP/1.1" 404 Not Found

```

i-08167802189201934 (microservice-1)

Public IPs: 3.141.41.69 Private IPs: 172.31.5.79

CloudShell Feedback Privacy Terms Cookie preferences

## Service Running