

# COMSE6156 - Topics in SW Engineering: Cloud Computing

## Sprint 0 Status Report

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### 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*.

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 a VS Code editor with a project named 'cloud-computingCU'. The Explorer sidebar on the left shows the file structure with folders 'images' and 'resources', and files like 'main.py', 'README.md', 'Report1.jpeg', 'Report1.png', 'requirements.txt', and 't\_students.py'. The main editor displays the code in 'main.py':

```

1 from fastapi import FastAPI
2
3 app = FastAPI()
4
5 students_resource = StudentsResource()
6
7 # RITWIK GOEL
8 # rg3546- Columbia University
9
10 @app.get("/")
11 async def root():
12     return {"message": "Hello World"}
13
14 @app.get("/hello/{name}")
15 async def say_hello(name: str):
16     return {"message": f"Awesome cloud developer (RITWIK) says hello {name}"}
17
18 @app.get("/hello_text/{name}")
19 async def say_hello_text(name: str):
20     the_message = f"Awesome cloud developer dff9 says Hello {name}"
21     rsp = Response(content=the_message, media_type="text/plain")
22     return rsp

```

The bottom panel shows the TERMINAL output:

```

cloud-computingCU git:(main) python3 main.py
INFO: Started server process [63203]
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: 127.0.0.1:58552 - "GET /hello/t HTTP/1.1" 200 OK
INFO: 127.0.0.1:58553 - "GET /hello/ritwik HTTP/1.1" 200 OK
^CINFO: Shutting down
INFO: Waiting for application shutdown.
INFO: Application shutdown complete.
INFO: Finished server process [63203]
cloud-computingCU git:(main) git add .
cloud-computingCU git:(main) git commit -m "Fix: port routing"
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
cloud-computingCU git:(main) #Ritwik Goel rg3546
cloud-computingCU git:(main) x

```

## Cloned Project

### Execute the Starter Project

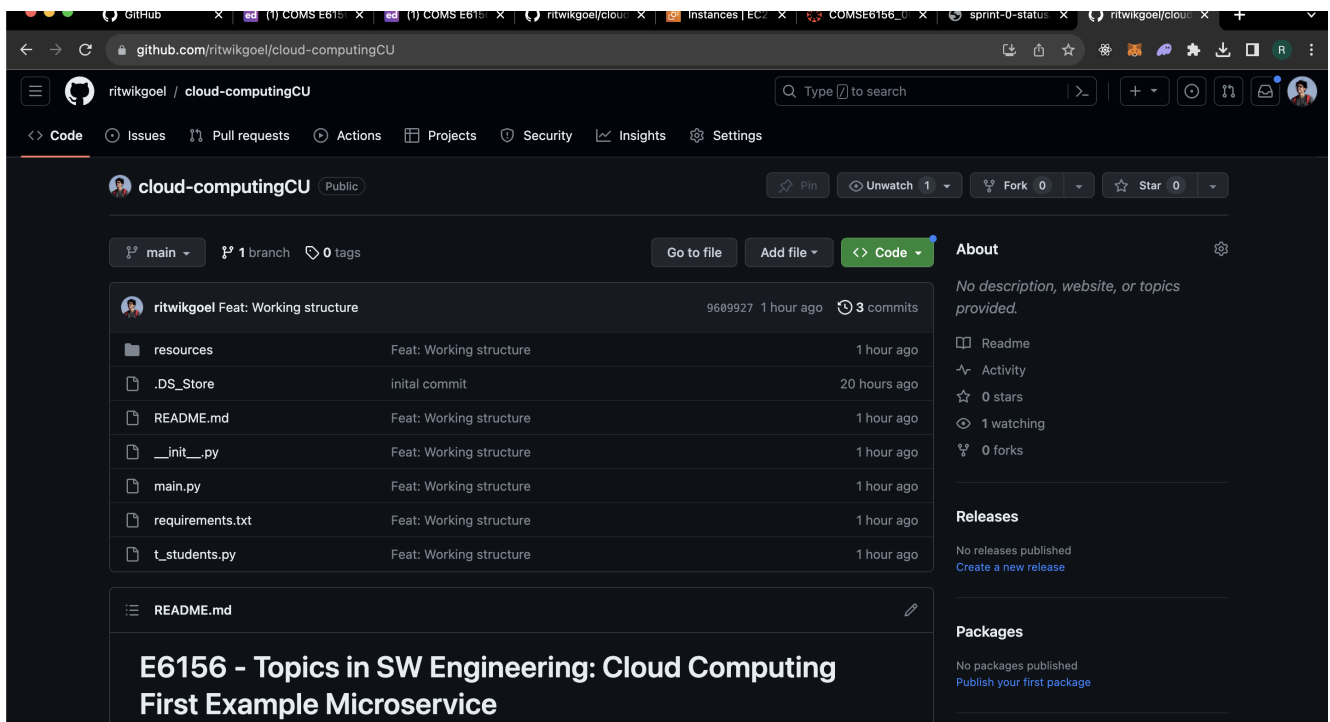
You can choose any formats for the screen capture as long as it shows your project executing. My simple example shows and execution window and browser side-by-side.

The screenshot shows a VS Code editor with a Python FastAPI application named `cloud-computingCU`. The code in `main.py` defines a FastAPI app with two endpoints: a root endpoint returning "Hello World" and a `/hello/{name}` endpoint returning a personalized message. The terminal output shows the application being started with `python3 main.py`, which successfully starts the Uvicorn server on `http://0.0.0.0:8012`. A web browser window is open at `0.0.0.0:8012/hello/RITWIK`, displaying the response: `{ "message": "Awesome cloud developer (RITWIK) says hello RITWIK" }`.

## 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

Services

[Option+S]

New EC2 Experience  
Tell us what you think

EC2 Dashboard

EC2 Global View

Events

Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

Images

AMIs

AMI Catalog

Elastic Block Store

Volumes

Snapshots

Feedback

EC2 > Instances > i-0c603b8789094c59d

Instance summary for i-0c603b8789094c59d (Cloud-instance1) [Info](#)

Updated less than a minute ago

Refresh

Connect

Instance state ▾

Actions ▾

<div>Instance ID</div> <div>  i-0c603b8789094c59d (Cloud-instance1) </div>	<div>Public IPv4 address</div> <div>  54.173.91.89 <a href="#">open address</a> </div>	<div>Private IPv4 addresses</div> <div>  172.31.39.197 </div>
<div>IPv6 address</div> <div>—</div>	<div>Instance state</div> <div>  Running </div>	<div>Public IPv4 DNS</div> <div>  ec2-54-173-91-89.compute-1.amazonaws.com <a href="#">open address</a> </div>
<div>Hostname type</div> <div>IP name: ip-172-31-39-197.ec2.internal</div>	<div>Private IP DNS name (IPv4 only)</div> <div>  ip-172-31-39-197.ec2.internal </div>	<div>Elastic IP addresses</div> <div>—</div>
<div>Answer private resource DNS name</div> <div>IPv4 (A)</div>	<div>Instance type</div> <div>t2.micro</div>	<div>AWS Compute Optimizer finding</div> <div>  Opt-in to AWS Compute Optimizer for recommendations. <a href="#">Learn more</a> </div>
<div>Auto-assigned IP address</div> <div>  54.173.91.89 [Public IP] </div>	<div>VPC ID</div> <div>  vpc-044710de50966e3e7 <a href="#">open address</a> </div>	<div>Auto Scaling Group name</div> <div>—</div>
<div>IAM Role</div> <div>—</div>	<div>Subnet ID</div> <div>  subnet-076d5d9e4ab543e77 <a href="#">open address</a> </div>	
<div>IMDSv2</div> <div>Required</div>		

Details

Security

Networking

Storage

Status checks

Monitoring

Tags

Show the application running in the EC2 terminal and browser.

The image shows a web browser window with two tabs. The left tab is titled 'EC2 Instance Connect | us-east-1' and shows the AWS console for 'us-east-1'. The right tab is titled 'ec2-54-90-139-148.compute-1' and shows a JSON response from an API call: {'message': 'Awesome cloud developer dff9 says hello RitwikGoel'}. Below the browser window, there is a terminal window titled 'i-0c603b8789094c59d (Cloud-instance1)'. The terminal shows the output of a Python script running on an Amazon Linux 2023 instance. The script outputs a message: 'Awesome cloud developer dff9 says hello RitwikGoel'.

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