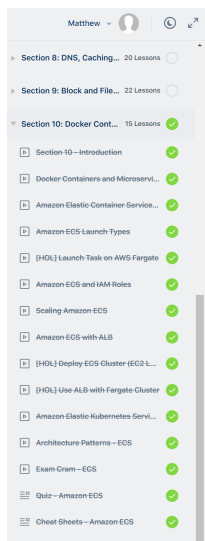


Assignment 4

1. AWS Training #10



2. Done

3. 4 Docker Configurations

a. Server and client in same docker container

```
root@936e80337d1c: /  
root@936e80337d1c:/# curl localhost:3000/v1/weather  
{  
  "coord": {  
    "lon": -123.262,  
    "lat": 44.5646  
  },  
  "weather": [ {  
    "id": 804,  
    "main": "Clouds",  
    "description": "overcast clouds",  
    "icon": "04n"  
  } ],  
  "base": {  
    "stations": {  
      "main": {  
        "temp": 45.77,  
        "feels_like": 43.84,  
        "temp_min": 39.9,  
        "temp_max": 47.91,  
        "pressure": 1026,  
        "humidity": 88  
      },  
      "visibility": 10000,  
      "wind": {  
        "speed": 0,  
        "deg": 0  
      },  
      "clouds": {  
        "all": 100  
      },  
      "dt": 1642217300,  
      "sys": {  
        "type": 2,  
        "id": 2012991,  
        "country": "US",  
        "sunrise": 1642175199  
      }  
    }  
  }  
}  
root@936e80337d1c: /#  
  
root@936e80337d1c: /code/assignment4  
root@936e80337d1c:/code/assignment4# node app.js  
Node.js Express server is running on port 3000...
```

b. Server in docker, client on host

```
Windows PowerShell
PS C:\lab1> curl http://localhost:3000/v1/weather

StatusCode      : 200
StatusDescription : OK
Content         : {"coord":{"lon":-123.262,"lat":44.5646},"weather":[{"id":804,"main":"Clouds","description":"overcast clouds","icon":"04n"}],"base":"stations","main":{"temp":45.77,"feels_like":43.84,"temp_min":39.9,"t...
RawContent      : HTTP/1.1 200 OK
                  Connection: keep-alive
                  Content-Length: 475
                  Content-Type: application/json; charset=utf-8
                  Date: Thu, 27 Jan 2022 04:21:17 GMT
                  ETag: W/"1db-v0KZynfab6XNYpgAbFksFRr5g5w"
                  X-Powered-B...
Forms           : {}
Headers         : {[Connection, keep-alive], [Content-Length, 475], [Content-Type, application/json; charset=utf-8], [Date, Thu, 27 Jan 2022 04:21:17 GMT]...}
Images          : {}
InputFields     : {}
Links           : {}
ParsedHtml      : System.__ComObject
RawContentLength : 475

PS C:\lab1>
```

```
root@344f11283f3d: /code/assignment4# node app.js
Node.js Express server is running on port 3000...
```

c. Server on host, client in docker

```
Windows PowerShell
PS C:\lab1\assignment4> node .\app.js
Node.js Express server is running on port 3000...
```

```
root@81d96068b7ca: /
root@81d96068b7ca:/# # server not running
root@81d96068b7ca:/# curl host.docker.internal:3000/v1/weather
curl: (7) Failed to connect to host.docker.internal port 3000: Connection refused
root@81d96068b7ca:/# # server started on host machine
root@81d96068b7ca:/# curl host.docker.internal:3000/v1/weather
{"coord":{"lon":-123.262,"lat":44.5646},"weather":[{"id":804,"main":"Clouds","description":"overcast clouds","icon":"04n"}],"base":"stations","main":{"temp":45.77,"feels_like":43.84,"temp_min":39.9,"temp_max":47.91,"pressure":1026,"humidity":88,"visibility":10000,"wind":{"speed":0,"deg":0},"clouds":{"all":100},"dt":1642217300,"sys":{"type":2,"id":2012991,"country":"US","sunrise":1642175199,"sunset":1642208235},"timezone":-28800,"id":5720727,"name":"Corvallis","cod":200}root@81d96068b7ca:/#
```

- d. Server in docker, client in another docker container

```
Windows PowerShell
PS C:\lab1> docker ps | grep my
ec2665a80070 swiftlang/swift:nightly-focal "bash" 2 minutes ago Up 2 minutes myclient
e353223d5a22 swiftlang/swift:nightly-focal "bash" 11 minutes ago Up 11 minutes myserver
PS C:\lab1> docker inspect myserver | grep IPAddress
"SecondaryIPAddresses": null,
"IPAddress": "",
"IPAddress": "172.20.0.5",
PS C:\lab1> docker inspect myclient | grep IPAddress
"SecondaryIPAddresses": null,
"IPAddress": "",
"IPAddress": "172.20.0.6",
PS C:\lab1>

Select root@ec353223d5a22: /code/assignment4
root@ec353223d5a22:/code/assignment4# node app.js
Node.js Express server is running on port 3000...

root@ec2665a80070:/code
root@ec2665a80070:/code# curl 172.20.0.5:3000/v1/weather
{"coord":{"lon":-123.262,"lat":44.5646},"weather":[{"id":804,"main":"Clouds","description":"overcast clouds","icon":"04n"}],"base":{"stations":{"main":{"temp":45.77,"feels_like":43.84,"temp_min":39.9,"temp_max":47.91,"pressure":1026,"humidity":88},"visibility":10000,"wind":{"speed":0,"deg":0},"clouds":{"all":100},"dt":1642217300,"sys":{"type":2,"id":2012991,"country":"US","sunrise":1642175199,"sunset":1642208235},"timezone":-28800,"id":5720727,"name":"Corvallis","cod":200}}root@ec2665a80070:/code#
```

4. <https://github.com/osu-mp/cs561-assignments/blob/main/4/swagger.yaml>
5. **Weather**

Both curl (blue window) and hoppscotch (black) had mostly the same headers: content-length, content-type, date, and etag. The one addition hoppscotch had was x-powered-by. This x-powered-by field was not shown in the Windows curl output, but was visible when running the git/mingw64 curl (see auth screenshot below).

The screenshot shows the Hoppscotch interface on the left and a Windows PowerShell terminal on the right. The Hoppscotch interface displays a GET request to `http://localhost:3000/v1/weather` with a status of 200 OK. The 'Headers' tab is selected, showing the following headers: `content-length`, `content-type`, `date`, `etag`, and `x-powered-by`. The PowerShell terminal shows the output of a `curl` command, which includes the status code, headers, and the JSON response body. The headers in the PowerShell output are: `Content-Length: 475`, `Content-Type: application/json; charset=utf-8`, `Date: Sun, 30 Jan 2022 05:49:09 GMT`, and `Etag: w/"1db-v0KZynfab0XNygAbkfRr5g5w"`. The JSON response body is also visible in the PowerShell output.

Hello

The screenshot shows an HTTP client interface with a GET request to `http://localhost:3000/v1/hello`. The response status is 200 OK, with a time of 99 ms and a size of 27 B. The response headers are listed below the status bar.

Header	Value
content-length	27
content-type	application/json; charset=utf-8
date	Sun, 30 Jan 2022 05:51:43 GMT
etag	W/"1b-xziU+dB06vYiaIdwTPZMUwICM"
x-powered-by	Express

A Windows PowerShell terminal window is overlaid on the right, showing the command `curl -v http://localhost:3000/v1/hello` and its output, which matches the headers shown in the HTTP client.

Auth

Using an expanded view during auth, it looks like the x-powered by is present in the curl command (just needed to use the git/mingw64 curl instead of the Windows curl).

The screenshot shows an HTTP client interface with a POST request to `http://localhost:3000/v1/auth`. The request body contains `user: joe` and `password: favepetname`. The response status is 200 OK, with a time of 36 ms and a size of 223 B. The response headers are listed below the status bar.

Header	Value
connection	keep-alive
content-length	223
content-type	application/json; charset=utf-8
date	Sun, 30 Jan 2022 06:36:18 GMT
etag	W/"df-gQwqNgTXCI+BB8t5v1BAByTR0o"
keep-alive	timeout=5
x-powered-by	Express

A Windows PowerShell terminal window is overlaid on the right, showing the command `curl -v http://localhost:3000/v1/auth` and its output, which matches the headers shown in the HTTP client.

6. Unix commands practice

```
root@e353223d5a22: /code/assignment4
/code/assignment4
root@e353223d5a22:/code/assignment4# ls -ltr
total 20
-rw-r--r-- 1 root root 14362 Jan 22 00:08 package-lock.json
-rwxrwxrwx 1 root root  985 Jan 26 23:40 app.js
root@e353223d5a22:/code/assignment4# grep weather app.js
app.get('/v1/weather/', get_weather)
function get_weather(request, response){
  response.json({"coord":{"lon":-123.262,"lat":44.5646},"weather":[{"id":804,"main":"Clouds","description":"overcast clouds","ic
on":"04n"}],"base":"stations","main":{"temp":45.77,"feels like":43.84,"temp_min":39.9,"temp_max":47.91,"pressure":1026,"humidity":
88},"visibility":10000,"wind":{"speed":0,"deg":0},"clouds":{"all":100},"dt":1642217300,"sys":{"type":2,"id":2012991,"country":"US"
,"sunrise":1642175199,"sunset":1642208235},"timezone":-28800,"id":5720727,"name":"Corvallis","cod":200})
root@e353223d5a22:/code/assignment4# echo "foo" > bar
root@e353223d5a22:/code/assignment4# cat bar
foo
root@e353223d5a22:/code/assignment4# mv bar bar_new
root@e353223d5a22:/code/assignment4# ls -ltr
total 20
-rw-r--r-- 1 root root 14362 Jan 22 00:08 package-lock.json
-rwxrwxrwx 1 root root  985 Jan 26 23:40 app.js
-rw-r--r-- 1 root root    4 Jan 27 05:40 bar_new
root@e353223d5a22:/code/assignment4# whoami
root
root@e353223d5a22:/code/assignment4# echo "new contents" > bar_new
root@e353223d5a22:/code/assignment4# echo "\nmore contents" >> bar_new
root@e353223d5a22:/code/assignment4# cat bar_new
new contents
\nmore contents
root@e353223d5a22:/code/assignment4#
```

7. Cracking Hack-Along

The orange-and-black terminal window below will probably not show up on a smartphone. (Have not tried on a tablet.) So you might have to use a laptop (e.g. your macbook) or desktop for this one.

```
Welcome to Ava Lovelace College's Computer Science FreeBSD server.
username: sasha
password:
Congratulations! You have successfully logged in.
$ ls
Haha take it easy. This is just a prop.
```

Jira Board

C5MP Sprint 4

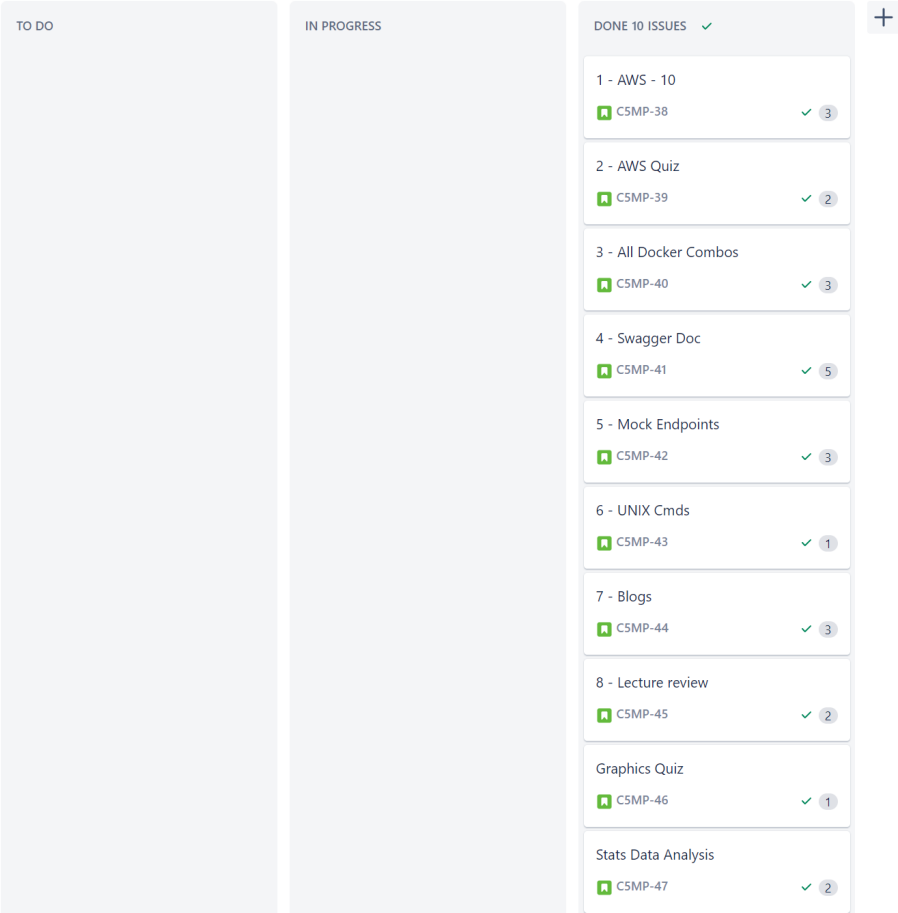
Sprint 4 (Week of Jan. 24)

⚡ ☆ ⌚ 0 days remaining

MP

Epic ▾

GROUP BY ▾



Burndown

Date - January 26, 2022 - January 30, 2022

Sprint goal - Sprint 4 (Week of Jan. 24)

