

Run the project by using my EC2:

Start the server:

1. Use AWS User to start my EC2 Instance. You have the authority to start, stop and connect to the ec2 instance (just one).

Login link	https://675649352655.signin.aws.amazon.com/console
Username	EC2_USER_FOR_AS2
Password	test123!

<input type="checkbox"/>	Name ▾	Instance ID	Instance state ▾
<input type="checkbox"/>	-	i-084ec560a7fd2fb2d	✓ Running 🔍

2. Connect to the instance: click connect button on the top. In next page, also click connect button.

	Connect	Instance state ▾	Actions ▾	Launch Instances ▾
< 1 > ⚙				
Elastic IP ▾	IPv6 IPs ▾	Monitoring ▾	Security group name ▾	Key i
-	-	disabled	launch-wizard-2	ec2-v

3. In the ec2 terminal, navigate to the server code directory:

```
cd WordCountInstall/
```

```
[ec2-user@ip-10-0-0-9 ~]$ cd WordCountInstall/
[ec2-user@ip-10-0-0-9 WordCountInstall]$
```

- Using the following command to start the server:

```
docker-compose up -d
```

```
[ec2-user@ip-10-0-0-9 WordCountInstall]$ docker-compose up -d
Starting wordcountinstall_midserver_1 ... done
Starting wordcountinstall_server3_1    ... done
Starting wordcountinstall_server4_1    ... done
Starting wordcountinstall_server2_1    ... done
Starting wordcountinstall_server1_1    ... done
[ec2-user@ip-10-0-0-9 WordCountInstall]$
```

Run the client app:

- Open local terminal and navigate to client code directory.

```
cd <Your Directory>/wordcountclient
```

- Use the following command to build the project.

```
mvn package
```

- Use the following command to run the application.

```
mvn exec:java -Dexec.mainClass="com.example.App"
```

The app is started:

```
*****
* Please Enter The HostName of The Webservice:
*   -If your Server at local. Enter [localhost]
*   -If your Server at EC2. Enter <Public IPv4 DNS>
*****
>>
```

- Copy "Public IPv4 DNS" of the EC2 Instance

Public IPv4 address
54.215.141.220 | [open address](#)

Public IPv4 DNS
ec2-54-215-141-220.us-west-1.compute.amazonaws.com | [open address](#)

5. Use "Public IPv4 DNS" as HostName:

```
*****
* Please Enter The HostName of The WebService:
*   -If your Server at local. Enter [localhost]
*   -If your Server at EC2. Enter <Public IPv4 DNS>
*****
>>ec2-54-215-141-220.us-west-1.compute.amazonaws.com
Your WebService URL is :
http://ec2-54-215-141-220.us-west-1.compute.amazonaws.com:3000/ws/midservice?wsdl
Plase Enter File Path (\ will be replaced):
>>
```

6. Enter file path. My app will auto remove "\" in the path

```
Plase Enter File Path (\ will be replaced):
>>/Users/miaoyao/Desktop/NEU/CSYE 6225\ Cloud\ and\ Distributed\ Systems/Alice.txt
/Users/miaoyao/Desktop/NEU/CSYE 6225 Cloud and Distributed Systems/Alice.txt is analyzing.....
=====
The file have 174693 bytes
Client connected cluster:
Cluster Sever: 172.20.0.2, 172.20.0.3, 172.20.0.4, 172.20.0.5,
Leader Elected: server-172.20.0.3
server-172.20.0.3: 43415 bytes
server-172.20.0.2: 43996 bytes
server-172.20.0.4: 44188 bytes
server-172.20.0.5: 43094 bytes
Results provided by server-172.20.0.3:
Words Found Most:
the: 1837, and: 945, to: 811, a: 695, of: 637, it: 607, she: 549, i: 524, you: 472, said: 460, ...
Words Found Least:
zip: 1, zigzag: 1, zealand: 1, yelp: 1, yelled: 1, ye: 1, yards: 1, yard: 1, writhing: 1, wriggling: 1, ...
=====
Do you Want to Run Again? (Y/N)
>>
```

7. If you want to analyze another file, enter Y. Enter N to exit.

Run the project by using your own EC2

Prerequisites:

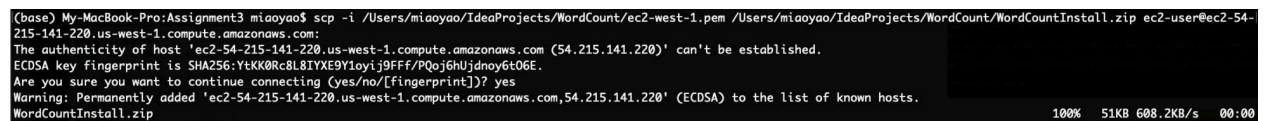
1. Launch a EC2 instance.
2. Install docker, docker-compose, unzip on EC2 instance
3. Can use ssh to connect to the EC2 instance.

Deploy Server to EC2 Instance:

1. Open local Terminal and use scp to upload `WordCountInstall.zip` to the EC2 instance.

```
scp -i /directory/to/abc.pem /your/local/file/to/copy ec2-user@ec2-xx-xx-xxx-xxx.compute-1.amazonaws.com:path/to/file
```

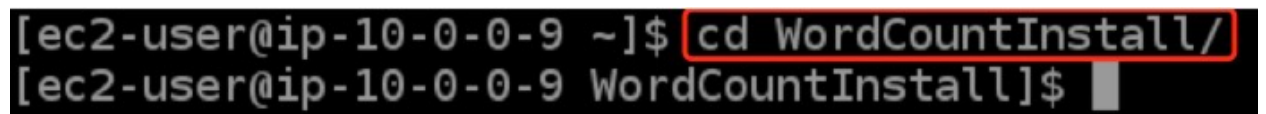
Like this:



```
(base) My-MacBook-Pro:Assignment3 miaoyao$ scp -i /Users/miaoyao/IdeaProjects/WordCount/ec2-west-1.pem /Users/miaoyao/IdeaProjects/WordCount/WordCountInstall.zip ec2-user@ec2-54-215-141-220.us-west-1.compute.amazonaws.com:
The authenticity of host 'ec2-54-215-141-220.us-west-1.compute.amazonaws.com (54.215.141.220)' can't be established.
ECDSA key fingerprint is SHA256:YtKK0Rc8L8IYXE9Y1oyij9FFF/PQoj6HUjdnoy6t06E.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-54-215-141-220.us-west-1.compute.amazonaws.com,54.215.141.220' (ECDSA) to the list of known hosts.
WordCountInstall.zip 100% 51KB 608.2KB/s 00:00
```

2. Use ssh connect to EC2 instance and unzip `WordCountInstall.zip`
3. In the ec2 terminal, navigate to the server code directory:

```
cd WordCountInstall/
```



```
[ec2-user@ip-10-0-0-9 ~]$ cd WordCountInstall/
[ec2-user@ip-10-0-0-9 WordCountInstall]$
```

4. Using the following command to start the server:

```
docker-compose up -d
```

The first-time start will build a subnet, 5 images and 5 containers.

I define the docker subnet to use 172.20.0.0/16 range. If you have network use the same range, please remove it.

Run the client app:

The same way as before said but remember to use “Public IPv4 DNS” of your own ec2 instance.

Why I use this way?

The main reason is to avoid unexpected charge. I don't want my ec2 instance always be running. So it is a little complicated to start the server