Cloud Computing
Programming Assignment - 1

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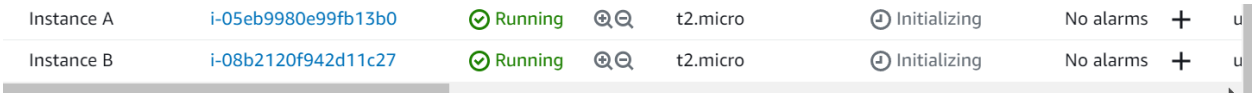
Procedure

- Obtain AWS Credentials from the Learner lab
- Add the credentials to the credentials file in the .aws on your local machine

```
aws_access_key_id=ASIAYZNIMNT5F2TLM34S
aws_secret_access_key=X+A6pTTF74/C+vI2jtVbyawbfP/jg9blmA6PLzUq
aws_session_token=FwoGZXIvYXdzEHMaDDbZAXUlagDcYsx4LiK/AecfY7Q4ev5PQATYNNThdd6i5QI
```

- Create 2 instances using the AWS management console in your aws account



- Goto EC2 Instance connect and select SSH Client
- Open Putty and connect to two instances separately in two terminals using the same key pair we got while creating instances
- Installing java to run our application on the instance
- Upload jar files to run our application through WinSCP

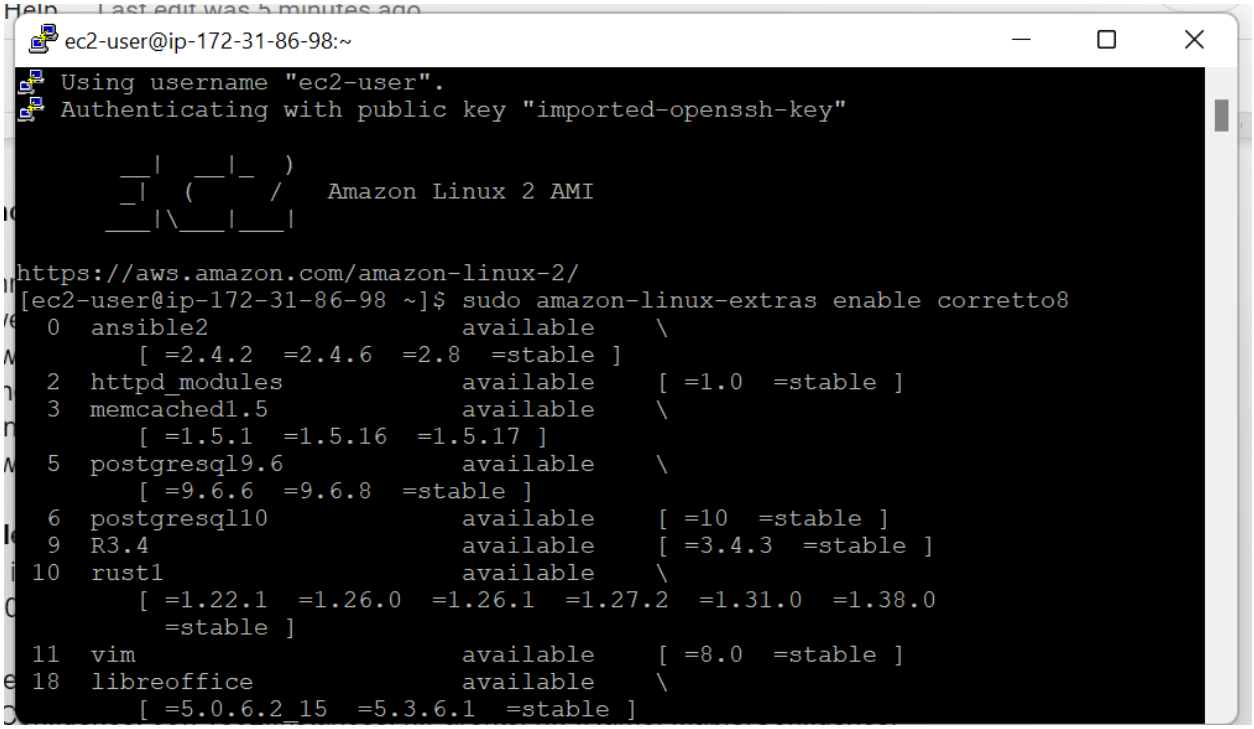
Instance 1 (instance1-1.0-SNAPSHOT.jar)

- To connect to any of the supported services we must provide aws credentials
- First we create Amazon client using our personal aws credentials
- Then we create clients for s3 and rekognition to access the objects from the bucket
- With the help of Rekognition we can detect labels for each object and select only those that has car confidence > 90%
- Then we push these objects that satisfied the condition in to the queue

Sample Label Data
Below is the label data for one picture where we try to find the object with car confidence more than 90%

[{Name: Tree,Confidence: 99.71852,Instances: [],Parents: [{Name: Plant}]}, {Name: Plant,Confidence: 99.71852,Instances: [],Parents: []}, {Name: Maple,Confidence: 99.12696,Instances: [],Parents: [{Name: Tree}, {Name: Plant}]}, {Name: Person,Confidence: 85.01738,Instances: [{BoundingBox: {Width: 0.037219938,Height: 0.09637587,Left: 0.39905182,Top: 0.90006566},Confidence: 85.01738}, {BoundingBox: {Width:

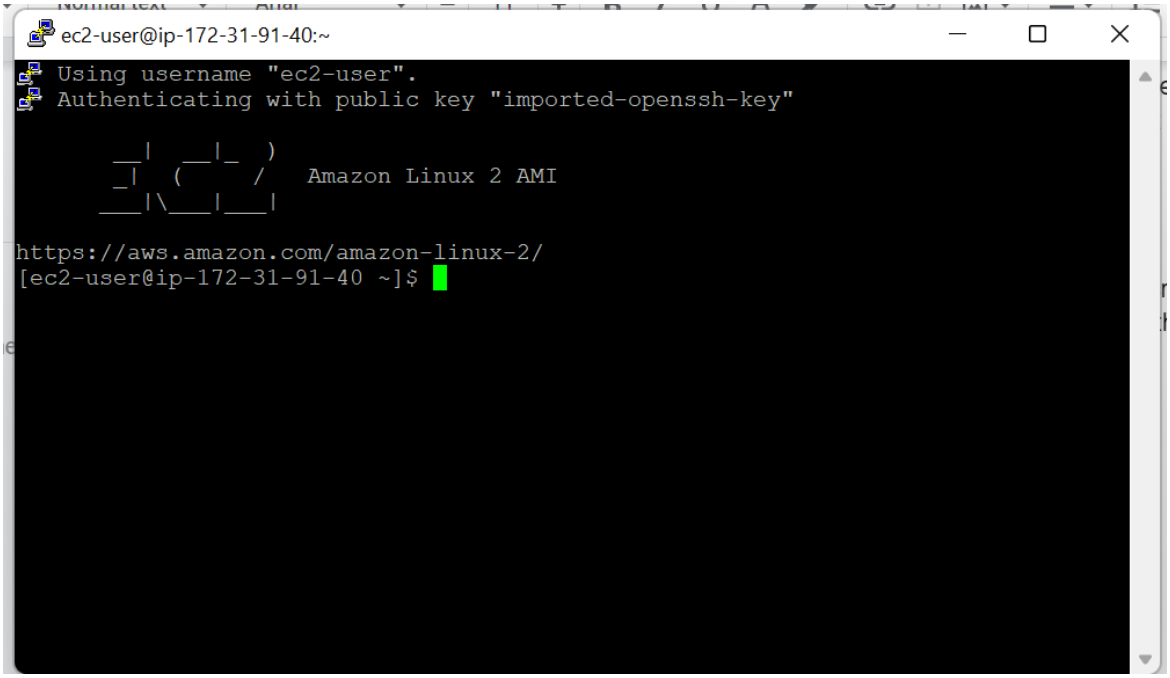
0.07753067,Height: 0.09008111,Left: 0.8497802,Top: 0.90631783},Confidence: 51.15055}],Parents: []}, {Name: Human,Confidence: 85.01738,Instances: [],Parents: []}]



Instance 2 (instance2-1.0-SNAPSHOT.jar)

- First we have to connect to the Queue the messages from the queue are received
- The keys that are returned from the queue will be fetched from the s3 bucket and then passed to detect text using Rekognition
- After detecting text the output is printed and the message is deleted from the queue after processing

These both instances work in parallel running their own codes. As we have created a FIFO queue , it assures that there won't be any duplications and the messages in the queue are in an ordered manner.


ec2-user@ip-172-31-91-40:~
Using username "ec2-user".
Authenticating with public key "imported-openssh-key"
__| __|_)
_| (/   Amazon Linux 2 AMI
___|___|___|
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-91-40 ~]$