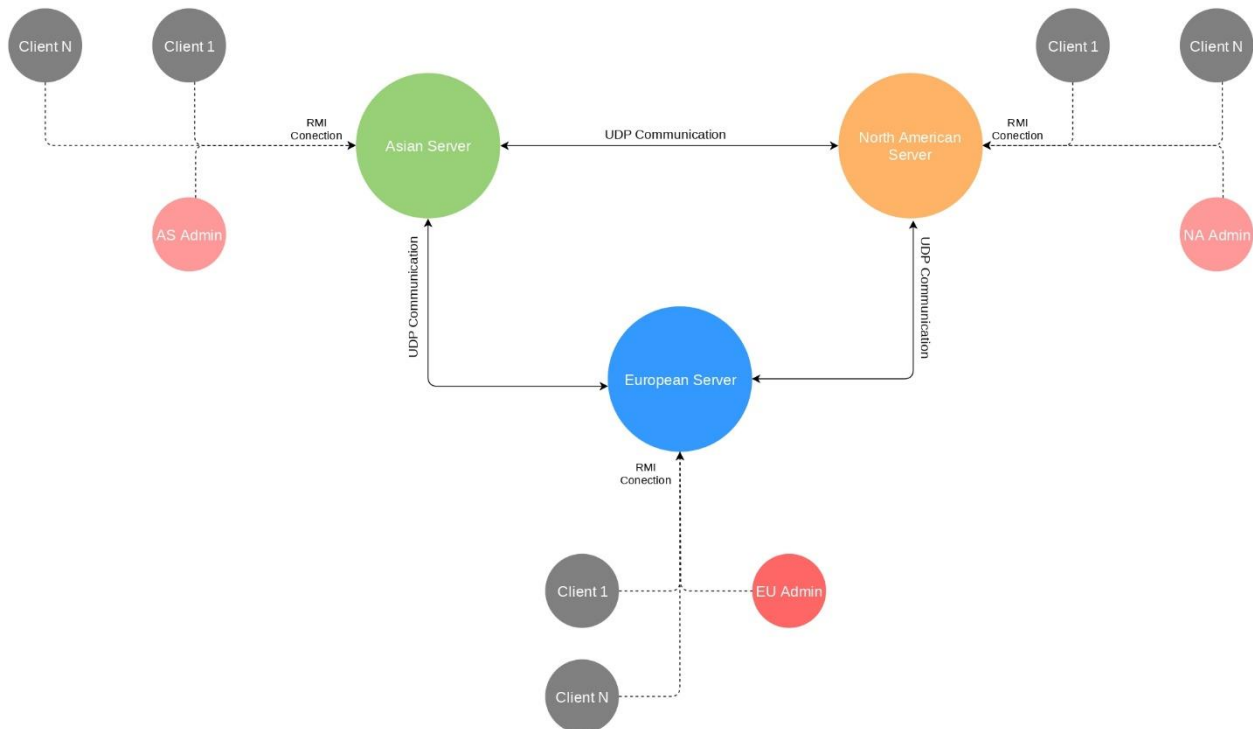


COMP 6231 - Distributed System Design Assignment 1

By Vasu Ratanpara (Student ID: 40135264)

❖ Distributed System Architecture



❖ RMI Registry Ports

1. AS_REGISTRY_PORT = 52575
2. EU_REGISTRY_PORT = 52576
3. NA_REGISTRY_PORT = 52577

❖ UDP Server Ports

1. NA_PORT = 5001
2. EU_PORT = 5002
3. AS_PORT = 5003

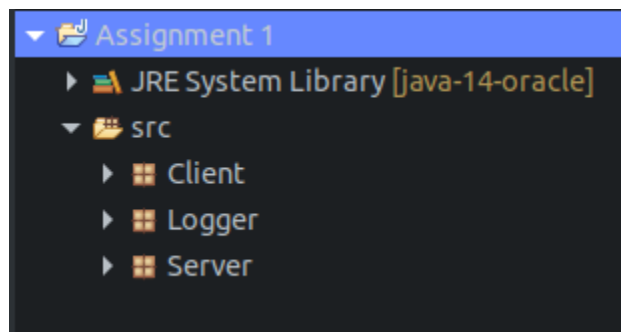
Note: Please kill all services which are running on above port and after that run the project.

❖ How to run project?

The project was created using Oracle's Java 14.

Unzip project submission. There will be 1 file and 1 folder namely "Readme.pdf" and "Assignment 1" folder. Put "Assignment 1" folder in your Eclipse workspace and open the project in your Eclipse.

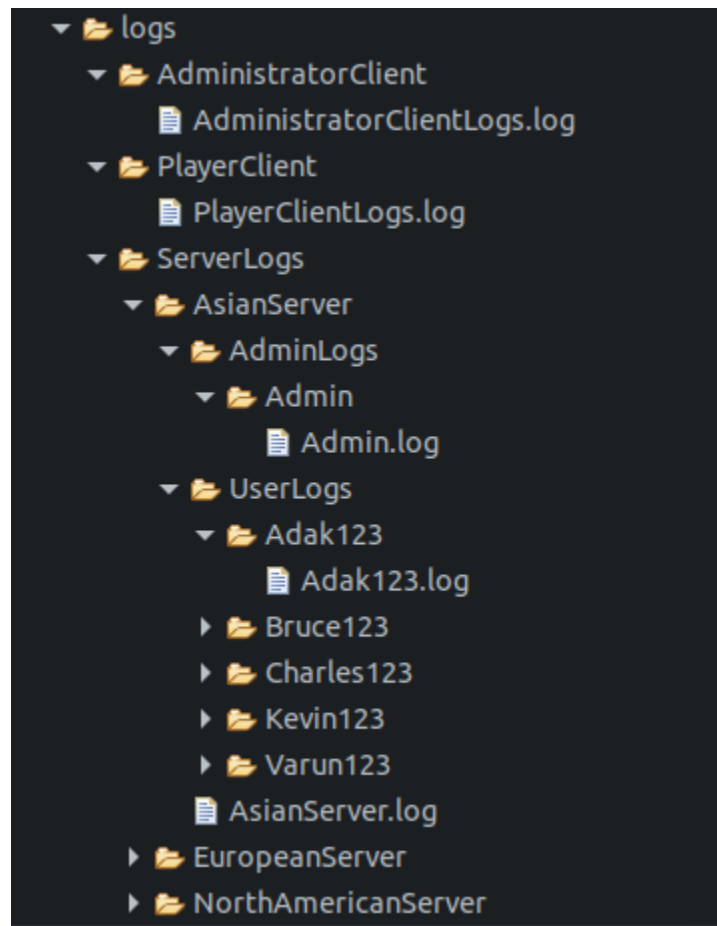
There are 3 packages in the folder namely Client, Server and Logger.



❖ src folder

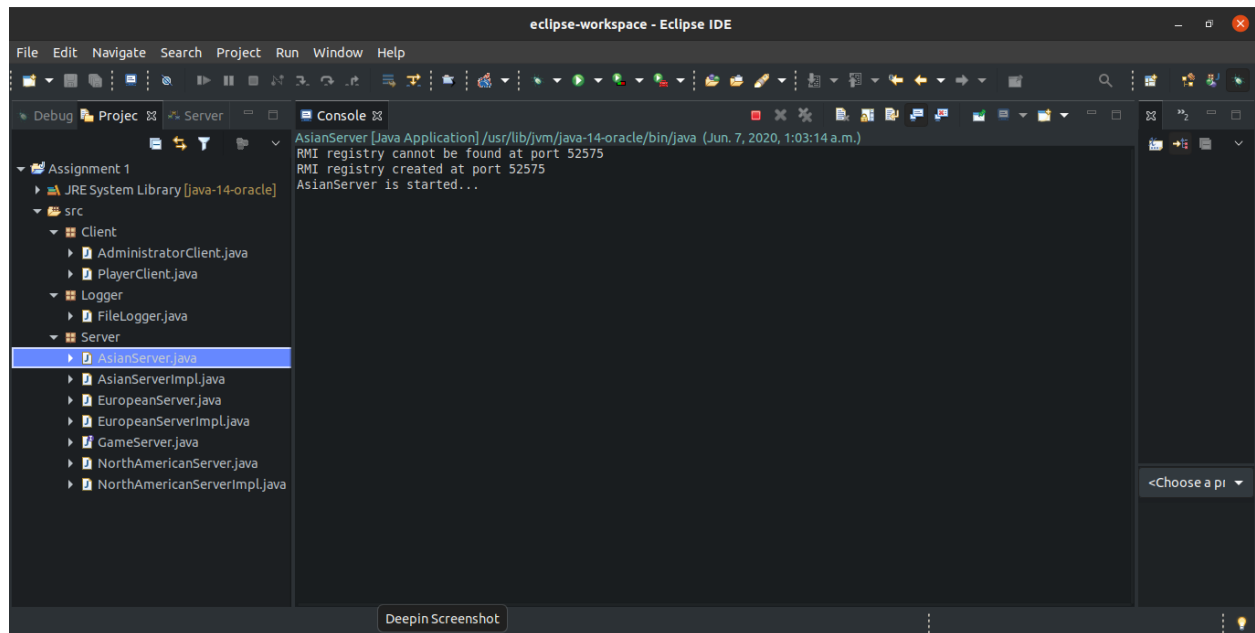
1. Client package
 - AdministratorClient.java
 - PlayerClient.java
2. Server package
 - GameServer.java (RMI Interface)
 - AsianServer.java (Asian Server)
 - AsianServerImpl.java
 - EuropeanServer.java (European Server)
 - EuropeanServerImpl.java
 - NorthAmericanServer.java (NorthAmerican Server)
 - NorthAmericanServerImpl.java
3. Logger package
 - FileLogger.java

❖ logs folder

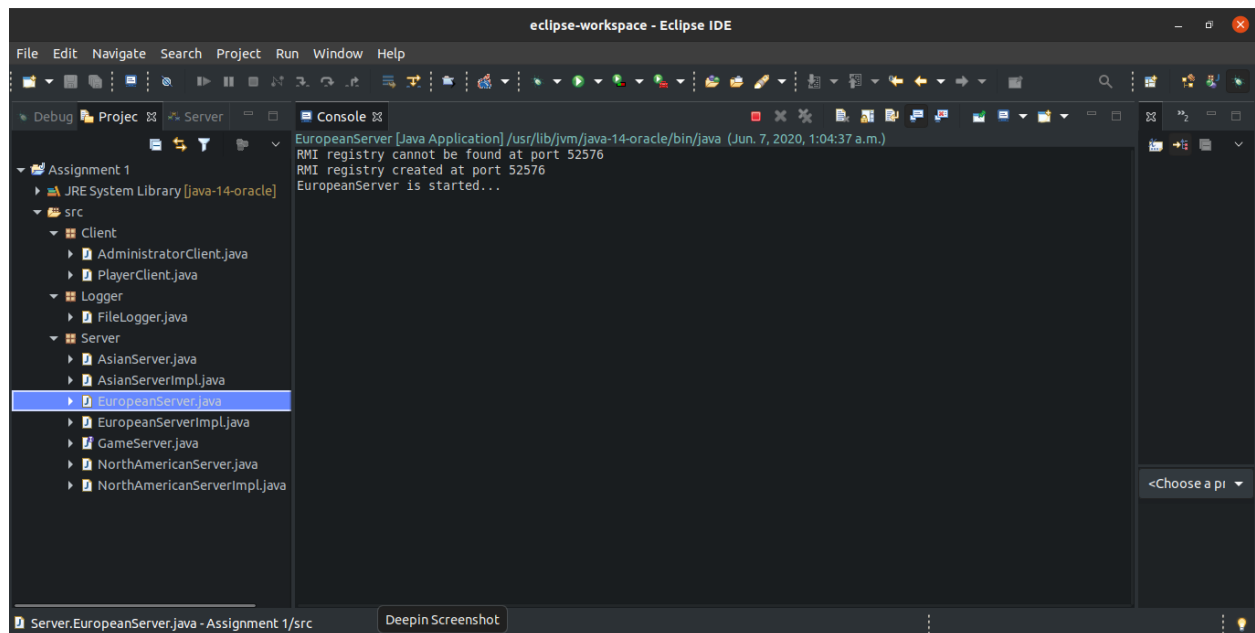


1. PlayerClient
 - PlayerClientLogs.log
2. AdministratorClient
 - AdministratorClientLogs.log
3. ServerLogs
 - NorthAmericanServer
 1. NorthAmericanServer.log
 2. UserLogs (It has all North American users' log files)
 - EuropeanServer
 1. EuropeanServer.log
 2. UserLogs (It has all European users' log files)
 - AsianServer
 1. AsianServer.log
 2. UserLogs (It has all Asian users' log files)

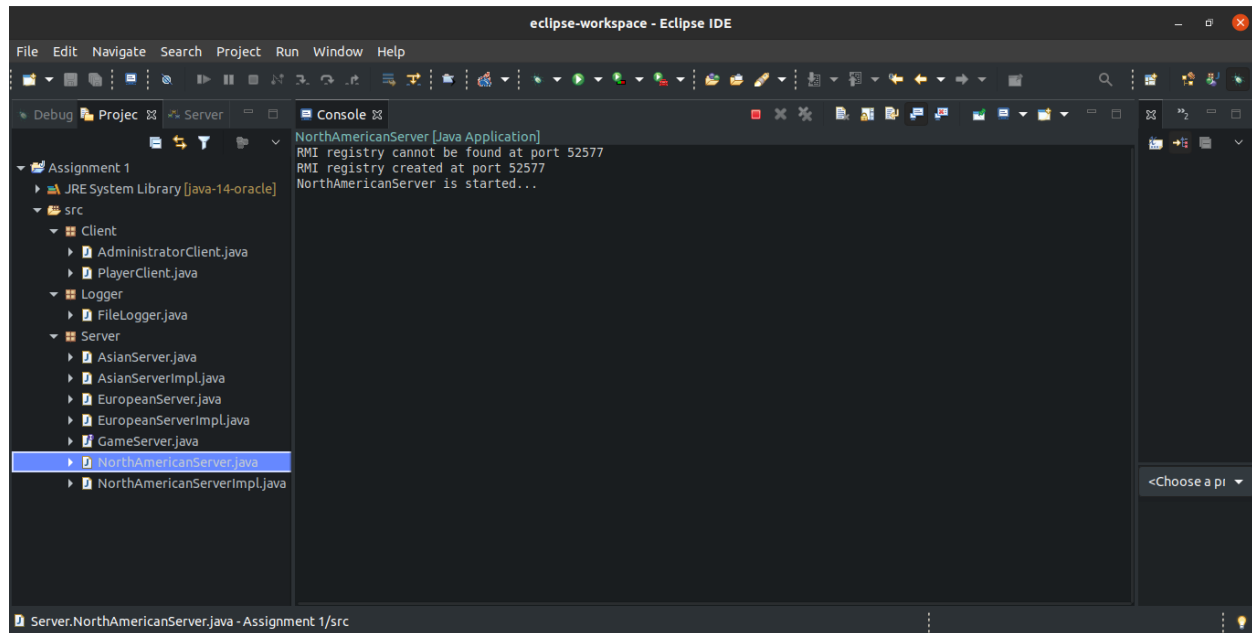
❖ Staring Asian Server



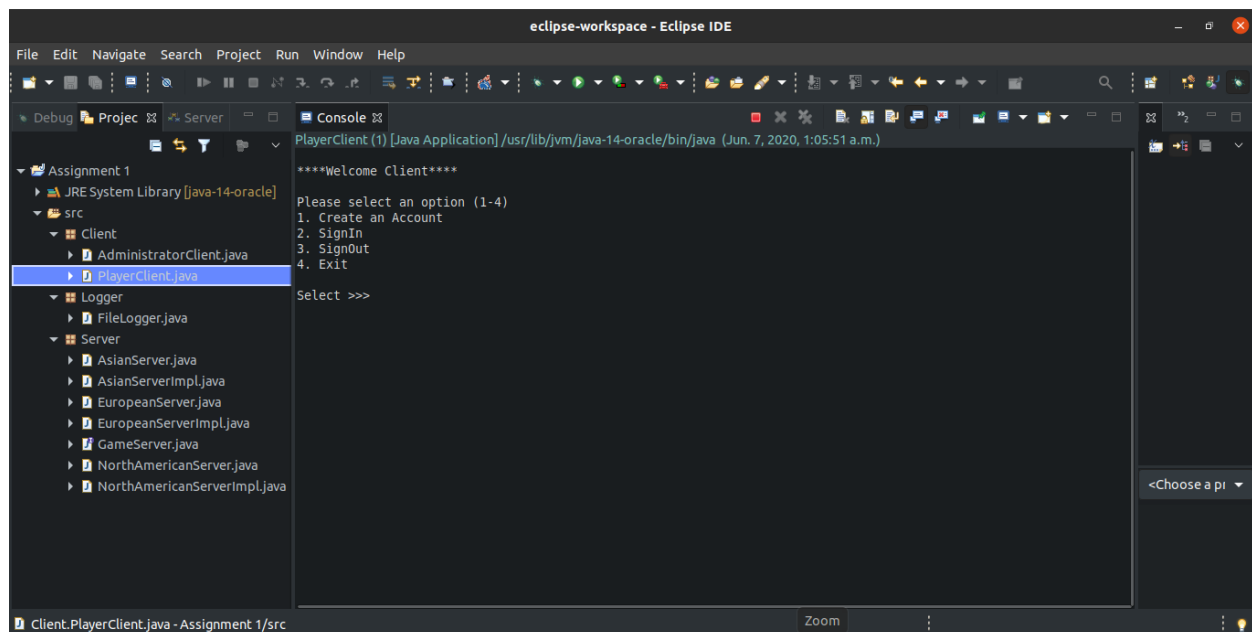
❖ Starting European Server



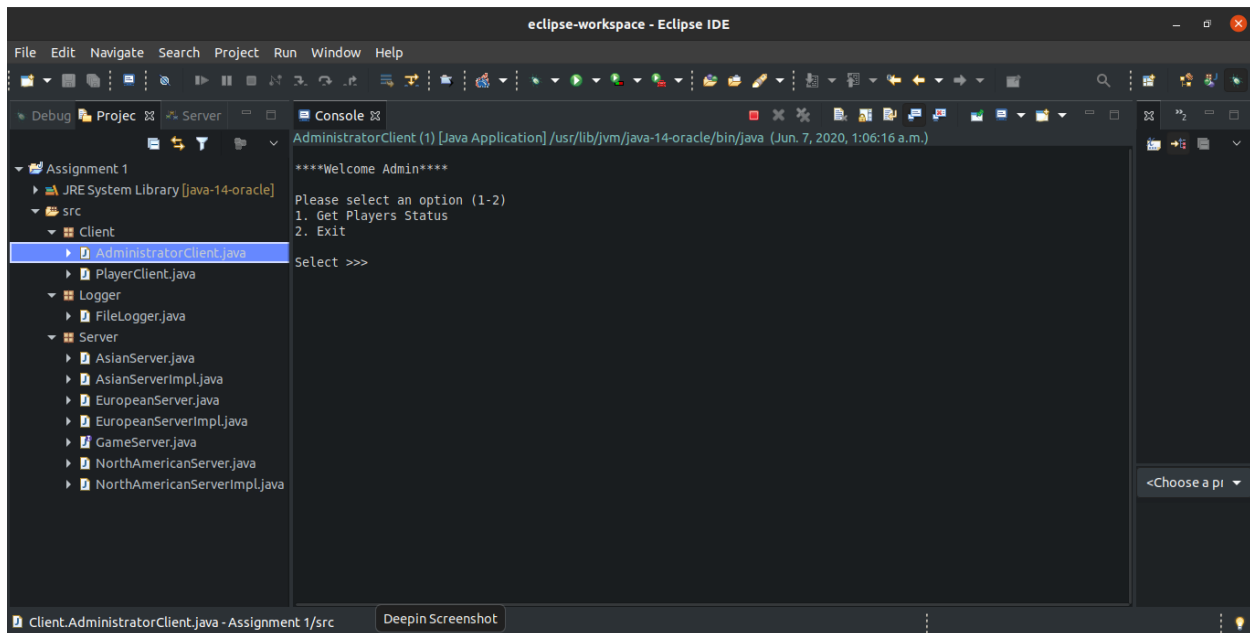
❖ Starting North American Server



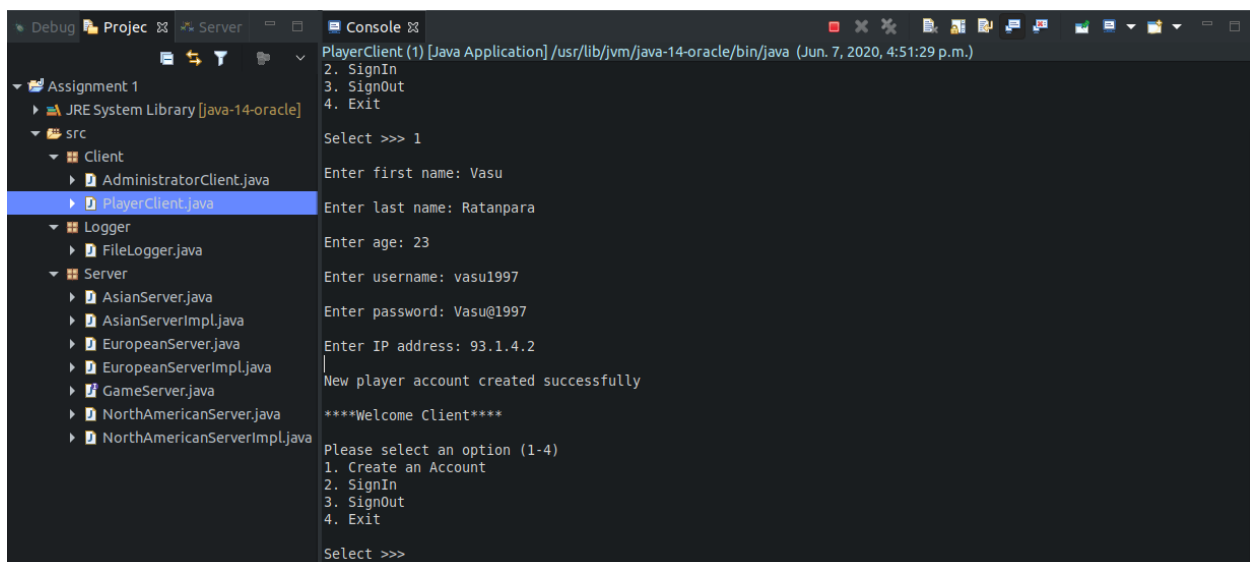
❖ Starting PlayerClient



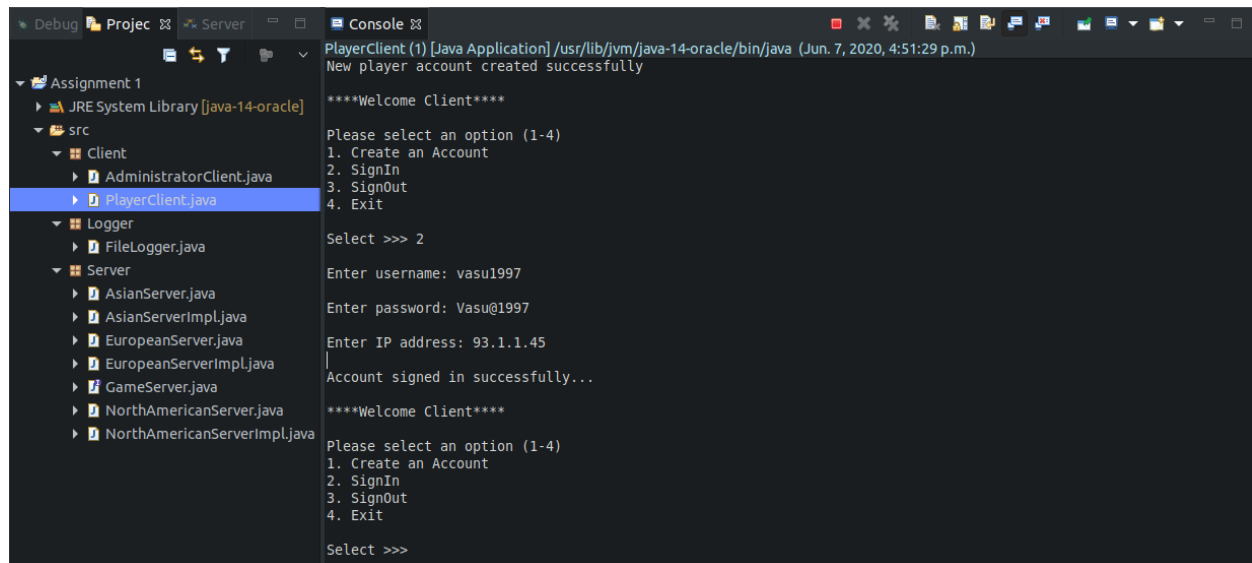
❖ Staring AdministratorClient



❖ Creating New User Account



❖ Signing in User Account



The screenshot shows an IDE with a project named 'Assignment 1'. The 'src' directory contains a 'Client' package with 'AdministratorClient.java' and 'PlayerClient.java' (selected), a 'Logger' package with 'FileLogger.java', and a 'Server' package with several server implementation files. The 'Console' window shows the output of the 'PlayerClient' application. It starts with a welcome message, a menu, and a selection of option 2. The user enters 'vasu1997' as the username and 'Vasu@1997' as the password. The IP address '93.1.1.45' is entered, and the account is signed in successfully. The application then displays the same menu again.

```
PlayerClient (1) [Java Application] /usr/lib/jvm/java-14-oracle/bin/java (Jun. 7, 2020, 4:51:29 p.m.)
New player account created successfully

****Welcome Client****

Please select an option (1-4)
1. Create an Account
2. SignIn
3. SignOut
4. Exit

Select >>> 2

Enter username: vasu1997

Enter password: Vasu@1997

Enter IP address: 93.1.1.45

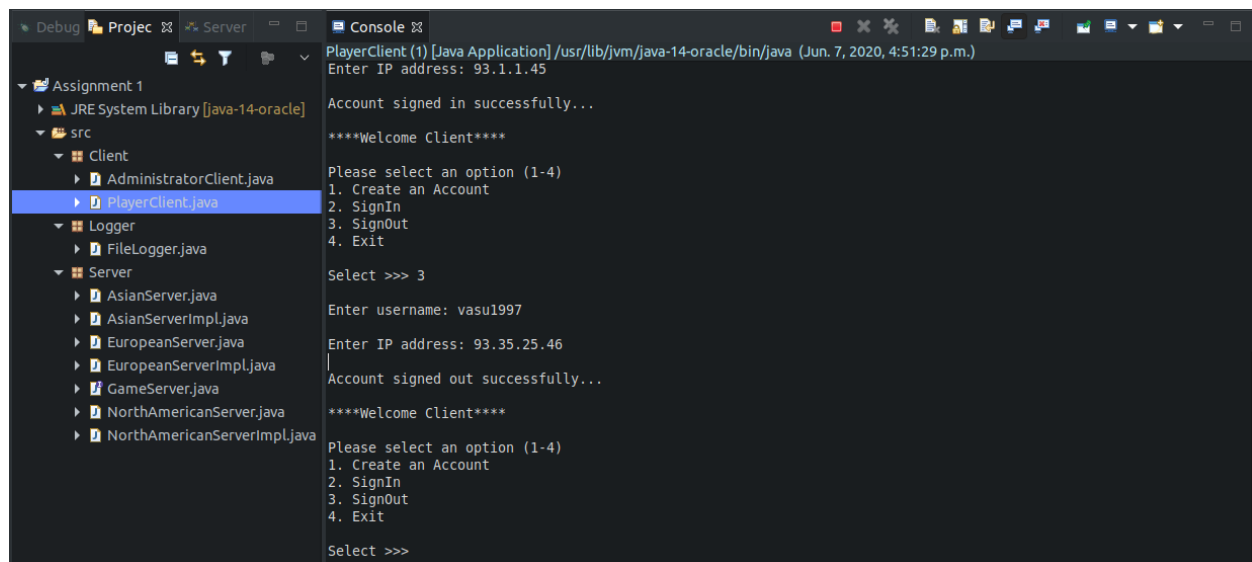
Account signed in successfully...

****Welcome Client****

Please select an option (1-4)
1. Create an Account
2. SignIn
3. SignOut
4. Exit

Select >>>
```

❖ Signing out User Account



The screenshot shows the same IDE as before, but the 'Console' window now shows the user selecting option 3 (SignOut). The user enters the same username 'vasu1997' and IP address '93.35.25.46'. The account is signed out successfully. The application then displays the same menu again.

```
PlayerClient (1) [Java Application] /usr/lib/jvm/java-14-oracle/bin/java (Jun. 7, 2020, 4:51:29 p.m.)
Enter IP address: 93.1.1.45

Account signed in successfully...

****Welcome Client****

Please select an option (1-4)
1. Create an Account
2. SignIn
3. SignOut
4. Exit

Select >>> 3

Enter username: vasu1997

Enter IP address: 93.35.25.46

Account signed out successfully...

****Welcome Client****

Please select an option (1-4)
1. Create an Account
2. SignIn
3. SignOut
4. Exit

Select >>>
```


❖ Get Player Status (by Admin)

```

Debug  Projec  Server  Console  NorthAmericanServerImpl.java
AdministratorClient (1) [Java Application] /usr/lib/jvm/java-14-oracle/bin/java (Jun. 7, 2020, 4:55:39 p.m.)
Enter password: Admin
Enter IP address: 132.5.8.3
NA: 5 online, 1 offline, EU: 1 online, 5 offline, AS: 1 online, 4 offline.
****Welcome Admin****
Please select an option (1-2)
1. Get Players Status
2. Exit
Select >>> 1
Enter username: Admin
Enter password: Admin
Enter IP address: 182.56.3.7
AS: 1 online, 4 offline, EU: 3 online, 3 offline, NA: 5 online, 1 offline.
****Welcome Admin****
Please select an option (1-2)
1. Get Players Status
2. Exit
Select >>>

```

❖ Validations

➤ IP Validation

```

****Welcome Admin****

Please select an option (1-2)
1. Get Players Status
2. Exit

Select >>> 1

Enter username: Admin

Enter password: Admin

Enter IP address: 45.2.12.1

1. 132.xxx.xxx.xxx : a North-American geo-location.
2. 93.xxx.xxx.xxx : an European geo-location.
3. 182.xxx.xxx.xxx : an Asian geo-location.

Invalid IP address

Enter IP address:

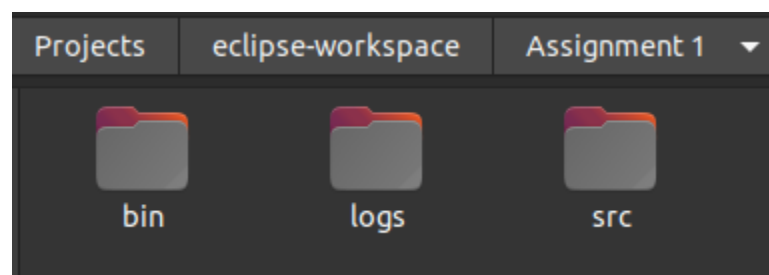
```

➤ Age, Username and Password validations

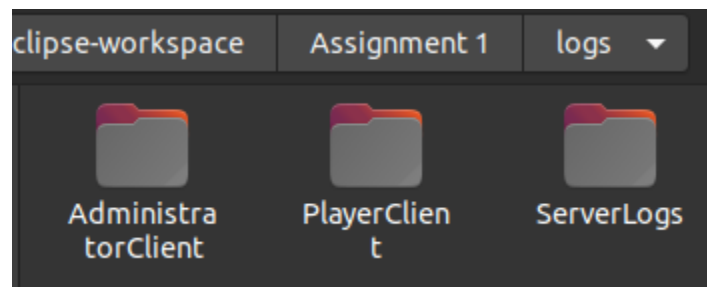
```
****Welcome Client****  
  
Please select an option (1-4)  
1. Create an Account  
2. SignIn  
3. SignOut  
4. Exit  
  
Select >>> 1  
  
Enter first name: Vasu  
Enter last name: Patel  
Enter age: dfds  
  
Please input Integer only  
Enter age: 23  
Enter username: vasu  
  
A username must have at least 6 characters  
Enter username: vasupatel  
Enter password: sc  
  
A password must have at least six characters
```

❖ **Logs**

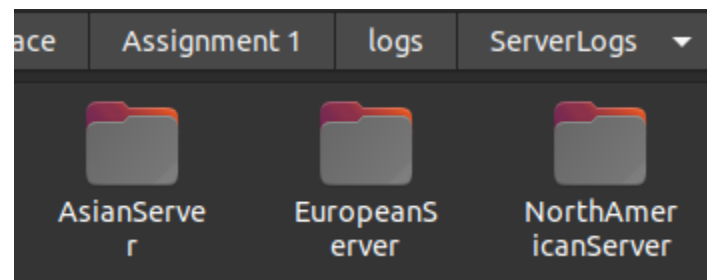
Logs folder will be created in the eclipse project folder
Here you can see “logs” folder with “src” and “bin” folder



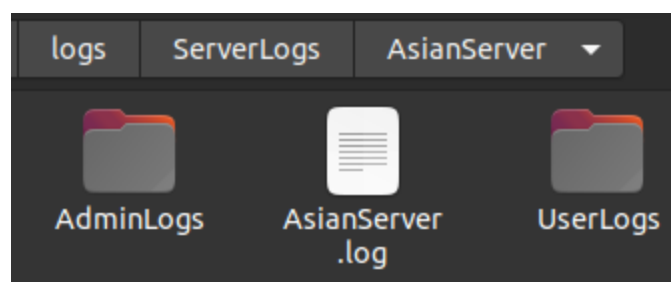
There are 3 folders inside “logs” folder



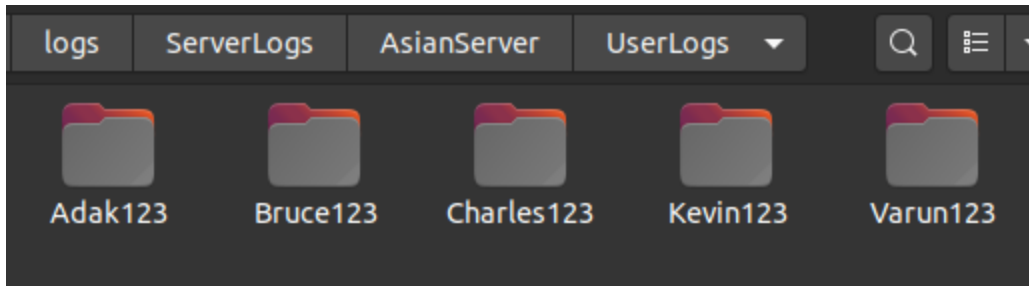
Inside “ServerLogs” folder there is separate folder for each servers which contains the logs for individual servers and their users.



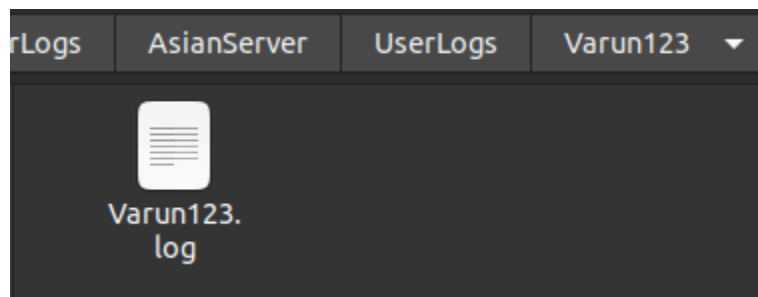
Server's log file will be stored outside and Admin's log are stored in "AdminLogs" folder and users' logs will be stored in "UserLogs" folder



Here, As you can see there are 5 folders for 5 different user (by username) each folder contains individual log files for each user



User log for player with username "Varun123".



❖ Exiting Program

```
****Welcome Client****  
  
Please select an option (1-4)  
1. Create an Account  
2. SignIn  
3. SignOut  
4. Exit  
  
Select >>> 4  
|  
Good Bye.
```

- Feel free to contact me if you do not understand anything or you have any questions. My email address is vasu.ratanpara@mail.concordia.ca

Thank You