

## CT414 Assignment 1: Java RMI

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### How to Run

#### RMI Registry

First, we run this command to start the RMI registry. For each command, we need to specify the working directory of the compiled code files.

```
Microsoft Windows [Version 10.0.19041.804]
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C:\CT414Assignment1src>rmiregistry -J-Djava.rmi.server.codebase=file:c:/CT414Assignment1src/
```

#### Start the Server

Next we start the server in a new command window by running the command below. The server prints to show that it is running. It also prints the user's session ID after a successful login.

```
C:\CT414Assignment1src>javac *.java

C:\CT414Assignment1src>java -cp c:\CT414Assignment1src -Djava.rmi.server.codebase=file:c:/CT414Assignment1src/ -Djava.security.policy=server.policy Bank
Security manager set
Instance of Bank Server created
Name rebind completed
Server ready for requests!
Successful login for: user1 Session 872371 is valid for 5 mins.
```

## Run the Client

Next, we can run the client by running the commands shown below. This command also takes in arguments for the following operations: Login, withdraw, deposit, balance, and statement.

The login operation takes in the username and password and returns a randomly generated 6-digit session ID if successful.

The arguments for the transactions are always the Account number, the randomly generated session ID, and the amount being deposited/withdrawn.

The statement operation takes in the start and end dates for the period as the arguments and filters the transactions accordingly.

The output from the console below shows the program running successfully for all of the operations.

```
C:\CT414Assignment1src>java -cp c:\CT414Assignment1src -Djava.rmi.server.codebase=file:/c:/CT414Assignment1src/
-Djava.security.policy=server.policy ATM login user1 password1
Successful login for: user1 Session 872371 is valid for 5 mins.

C:\CT414Assignment1src>java -cp c:\CT414Assignment1src -Djava.rmi.server.codebase=file:/c:/CT414Assignment1src/
-Djava.security.policy=server.policy ATM balance 123456 872371
balance for 123456 is: 1000

C:\CT414Assignment1src>java -cp c:\CT414Assignment1src -Djava.rmi.server.codebase=file:/c:/CT414Assignment1src/
-Djava.security.policy=server.policy ATM deposit 123456 872371 200
Successfully deposited 200 to Account: 123456

C:\CT414Assignment1src>java -cp c:\CT414Assignment1src -Djava.rmi.server.codebase=file:/c:/CT414Assignment1src/
-Djava.security.policy=server.policy ATM withdraw 123456 872371 50
Successfully withdrew 50 from Account: 123456

C:\CT414Assignment1src>java -cp c:\CT414Assignment1src -Djava.rmi.server.codebase=file:/c:/CT414Assignment1src/
-Djava.security.policy=server.policy ATM balance 123456 872371
balance for 123456 is: 1150

C:\CT414Assignment1src>java -cp c:\CT414Assignment1src -Djava.rmi.server.codebase=file:/c:/CT414Assignment1src/
-Djava.security.policy=server.policy ATM statement 123456 872371 08/03/2021 10/03/2021
Statement for 123456 from 08/03/2021 to 10/03/2021
Transaction{date=Tue Mar 09 15:24:36 GMT 2021, description=Deposit, amount=200}
Transaction{date=Tue Mar 09 15:24:50 GMT 2021, description=Withdraw, amount=50}

C:\CT414Assignment1src>
```