

Assignment 1B

Name : Omkar Deshpande

Roll No: 43212

Problem statement - To develop any distributed application through implementing client-server communication programs based on JAVA RMI.

WRITEUP:

Page: 6
Date: / /

Assignment no 1.b

Roll no. 43212

Title:- Distributed application using java sockets and RMI.

P.S:- To develop any distributed application through implementing client server communication programs based on java sockets.

Objectives:- To use the java sockets and RMI.

s/w & H/w requirements: OS: Ubuntu 16.04.
Tool: Eclipse, java socket API, rmi registry.

Theory:-

- Socket: In distributed computing, network communication is one of the essential parts of any communication system and sockets is endpoint of every instance of network communication.
- A socket is handle that a local program can pass to the networking API to connect to another PC.
- The TCP layer can easily identify the application location and access information through the port assigned to respective sockets.
- During an instance of communication, a client program creates a socket at its end and then server and client communication established.

• Socket programming for TCP.

Client programming.

1. Establish a socket connection `java.net.Socket` class represents a socket.

2. Communication to communicate over a socket connection, streams are used to both input & output data.
3. Closing the connection closed explicitly when message to server is sent.

* Server programming.

1. Establish a socket connection: two sockets are needed. A server socket which waits for the client requests. A plain socket to use for communication with client.
2. Communication: `getOutputStream()` method is used to send output through the socket.
3. Closing connection: close the connection as well as input output streams.

* Compilation and execution.

1. Compile both of them on two different terminal.
2. Run the server program first.
3. Run client program.
4. send message from client to server.
5. Close the connection.

Conclusion:- In this assignment, we learnt about client server communication through different protocols and sockets, also learnt java support through the socket API for TCP and UDP programming.