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**I.T. – 6**

**Q. To implemnet RMI.**

RMI here uses network stack and TCP/IP to communicate between the three separate JVMs

**Calculator.java**

public interface Calculator

extends java.rmi.Remote {

public long add(long a, long b)

throws java.rmi.RemoteException;

public long sub(long a, long b)

throws java.rmi.RemoteException;

public long mul(long a, long b)

throws java.rmi.RemoteException;

public long div(long a, long b)

throws java.rmi.RemoteException;

}

**CalculatorImpl.java**

public class CalculatorImpl

extends

java.rmi.server.UnicastRemoteObject

implements Calculator {

// Implementations must have an

//explicit constructor

// in order to declare the

//RemoteException exception

public CalculatorImpl()

throws java.rmi.RemoteException {

super();

}

public long add(long a, long b)

throws java.rmi.RemoteException {

return a + b;

}

public long sub(long a, long b)

throws java.rmi.RemoteException {

return a - b;

}

public long mul(long a, long b)

throws java.rmi.RemoteException {

return a \* b;

}

public long div(long a, long b)

throws java.rmi.RemoteException {

return a / b;

}

}

**CalculatorServer.java**

import java.rmi.Naming;

public class CalculatorServer {

public CalculatorServer() {

try {

Calculator c = new CalculatorImpl();

Naming.rebind("rmi://localhost:1099/CalculatorService", c);

} catch (Exception e) {

System.out.println("Trouble: " + e);

}

}

public static void main(String args[]) {

new CalculatorServer();

}

}

**CalculatorClient.java**

import java.rmi.Naming;

import java.rmi.RemoteException;

import java.net.MalformedURLException;

import java.rmi.NotBoundException;

public class CalculatorClient {

public static void main(String[] args) {

try {

Calculator c = (Calculator) Naming.lookup(

"rmi://localhost/CalculatorService");

System.out.println(c.sub(4, 3));

System.out.println(c.add(4, 5));

System.out.println(c.mul(3, 6));

System.out.println(c.div(9, 3));

} catch (MalformedURLException murle) {

System.out.println();

System.out.println(

"MalformedURLException");

System.out.println(murle);

} catch (RemoteException re) {

System.out.println();

System.out.println(

"RemoteException");

System.out.println(re);

} catch (NotBoundException nbe) {

System.out.println();

System.out.println(

"NotBoundException");

System.out.println(nbe);

} catch (java.lang.ArithmeticException ae) {

System.out.println();

System.out.println(

"java.lang.ArithmeticException");

System.out.println(ae);

}

}

}





