**Converter.java – Remote Interface**

java

CopyEdit

import java.rmi.Remote;

import java.rmi.RemoteException;

public interface Converter extends Remote {

double milesToKm(double miles) throws RemoteException;

}

**2️⃣ ConverterImpl.java – Remote Object Implementation**

java

CopyEdit

import java.rmi.server.UnicastRemoteObject;

import java.rmi.RemoteException;

public class ConverterImpl extends UnicastRemoteObject implements Converter {

public ConverterImpl() throws RemoteException {

super();

}

public double milesToKm(double miles) throws RemoteException {

return miles \* 1.60934;

}

}

**3️⃣ ConverterServer.java – Server Code**

java

CopyEdit

import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

public class ConverterServer {

public static void main(String[] args) {

try {

ConverterImpl service = new ConverterImpl();

Registry registry = LocateRegistry.createRegistry(1099);

registry.rebind("MilesToKmService", service);

System.out.println("Miles to Kilometer Server is running...");

} catch (Exception e) {

e.printStackTrace();

}

}

}

**4️⃣ ConverterClient.java – Multithreaded Client**

java

CopyEdit

import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

public class ConverterClient implements Runnable {

private final double miles;

public ConverterClient(double miles) {

this.miles = miles;

}

public void run() {

try {

// Use server's IP if running on a different machine

Registry registry = LocateRegistry.getRegistry("localhost", 1099);

Converter stub = (Converter) registry.lookup("MilesToKmService");

double kilometers = stub.milesToKm(miles);

System.out.println(Thread.currentThread().getName() +

": " + miles + " miles = " + kilometers + " km");

} catch (Exception e) {

e.printStackTrace();

}

}

public static void main(String[] args) {

double[] inputs = {1.0, 5.5, 10.0, 26.2, 100.0};

for (double miles : inputs) {

new Thread(new ConverterClient(miles)).start();

}

}

}

**⚙️ Compilation & Execution**

**🔧 Compile All**

bash

CopyEdit

javac \*.java

**🧩 Start RMI Registry**

Open a new terminal in the same directory and run:

bash

CopyEdit

rmiregistry

**🚀 Run the Server**

bash

CopyEdit

java ConverterServer

**💻 Run the Client**

bash

CopyEdit

java ConverterClient

✅ To run across **two different machines**, replace "localhost" in the client code with the server machine’s **IP address**:

java

CopyEdit

Registry registry = LocateRegistry.getRegistry("192.168.1.100", 1099);