**Conversion.java – Remote Interface**

java

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import java.rmi.Remote;

import java.rmi.RemoteException;

public interface Conversion extends Remote {

double celsiusToFahrenheit(double celsius) throws RemoteException;

}

**2️⃣ ConversionImpl.java – Remote Implementation**

java

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import java.rmi.server.UnicastRemoteObject;

import java.rmi.RemoteException;

public class ConversionImpl extends UnicastRemoteObject implements Conversion {

public ConversionImpl() throws RemoteException {

super();

}

public double celsiusToFahrenheit(double celsius) throws RemoteException {

return (celsius \* 9.0 / 5.0) + 32;

}

}

**3️⃣ ConversionServer.java – Server Code**

java

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import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

public class ConversionServer {

public static void main(String[] args) {

try {

ConversionImpl service = new ConversionImpl();

Registry registry = LocateRegistry.createRegistry(1099);

registry.rebind("CToFService", service);

System.out.println("Celsius to Fahrenheit Server Ready...");

} catch (Exception e) {

e.printStackTrace();

}

}

}

**4️⃣ ConversionClient.java – Multithreaded Client**

java

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import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

public class ConversionClient implements Runnable {

private final double celsius;

public ConversionClient(double celsius) {

this.celsius = celsius;

}

public void run() {

try {

// Use the server's IP in a real distributed setup

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

Conversion stub = (Conversion) registry.lookup("CToFService");

double fahrenheit = stub.celsiusToFahrenheit(celsius);

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

": " + celsius + "°C = " + fahrenheit + "°F");

} catch (Exception e) {

e.printStackTrace();

}

}

public static void main(String[] args) {

double[] temps = {0, 25, 37, 100, -10};

for (double temp : temps) {

new Thread(new ConversionClient(temp)).start();

}

}

}

**🧪 How to Compile & Run**

**🔧 Compile**

bash

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javac \*.java

**🔁 Start RMI Registry**

bash

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start rmiregistry

Or open a new terminal in the same directory and run:

bash

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rmiregistry

**🚀 Run Server**

bash

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java ConversionServer

**🖥️ Run Client (on same or different machine)**

bash

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java ConversionClient

On a **different machine**, in ConversionClient.java, replace "localhost" with server IP:

java

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LocateRegistry.getRegistry("192.168.1.X", 1099);