**Echo.java – Remote Interface**

java

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import java.rmi.Remote;

import java.rmi.RemoteException;

public interface Echo extends Remote {

String sayHello(String name) throws RemoteException;

}

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

java

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import java.rmi.server.UnicastRemoteObject;

import java.rmi.RemoteException;

public class EchoImpl extends UnicastRemoteObject implements Echo {

public EchoImpl() throws RemoteException {

super();

}

public String sayHello(String name) throws RemoteException {

return "Hello " + name;

}

}

**3️⃣ EchoServer.java – Server Code**

java

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import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

public class EchoServer {

public static void main(String[] args) {

try {

EchoImpl echo = new EchoImpl();

Registry registry = LocateRegistry.createRegistry(1099);

registry.rebind("EchoService", echo);

System.out.println("Echo Server is running...");

} catch (Exception e) {

e.printStackTrace();

}

}

}

**4️⃣ EchoClient.java – Multi-threaded Client**

java

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import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

public class EchoClient implements Runnable {

private final String name;

public EchoClient(String name) {

this.name = name;

}

public void run() {

try {

// Replace "localhost" with server IP if needed

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

Echo stub = (Echo) registry.lookup("EchoService");

String response = stub.sayHello(name);

System.out.println(Thread.currentThread().getName() + ": " + response);

} catch (Exception e) {

e.printStackTrace();

}

}

public static void main(String[] args) {

String[] names = {"Alice", "Bob", "Charlie", "Sejal", "Rahul"};

for (String name : names) {

new Thread(new EchoClient(name)).start();

}

}

}

**⚙️ How to Run (Steps)**

**1. ✅ Compile**

bash

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javac \*.java

**2. 🔁 Start RMI Registry**

Open a **new terminal** in the same directory:

bash

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rmiregistry

**3. 🚀 Run Server**

bash

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java EchoServer

**4. 💻 Run Client**

bash

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java EchoClient

For **2 different machines**, update the IP address in the EchoClient:

java

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Registry registry = LocateRegistry.getRegistry("192.168.1.5", 1099);