Java RMI Program to Add Two Numbers

Here's a complete implementation of a Java RMI program that adds two numbers:

1. Remote Interface (AddService.java)

java

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import java.rmi.Remote;

import java.rmi.RemoteException;

public interface AddService extends Remote {

public int add(int num1, int num2) throws RemoteException;

}

2. Remote Implementation (AddServiceImpl.java)

java

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import java.rmi.RemoteException;

import java.rmi.server.UnicastRemoteObject;

public class AddServiceImpl extends UnicastRemoteObject implements AddService {

public AddServiceImpl() throws RemoteException {

super();

}

@Override

public int add(int num1, int num2) throws RemoteException {

return num1 + num2;

}

}

3. Server Program (AddServer.java)

java

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import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

public class AddServer {

public static void main(String[] args) {

try {

*// Create an instance of the remote object*

AddServiceImpl addService = new AddServiceImpl();

*// Create and start the RMI registry on port 1099*

Registry registry = LocateRegistry.createRegistry(1099);

*// Bind the remote object to the registry*

registry.rebind("AddService", addService);

System.out.println("Server is running and waiting for client requests...");

} catch (Exception e) {

System.err.println("Server exception: " + e.toString());

e.printStackTrace();

}

}

}

4. Client Program (AddClient.java)

java

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import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

public class AddClient {

public static void main(String[] args) {

try {

*// Get the registry on the server's host (localhost in this case)*

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

*// Look up the remote object*

AddService addService = (AddService) registry.lookup("AddService");

*// Call the remote method*

int num1 = 5;

int num2 = 10;

int result = addService.add(num1, num2);

System.out.println("Result of adding " + num1 + " and " + num2 + " is: " + result);

} catch (Exception e) {

System.err.println("Client exception: " + e.toString());

e.printStackTrace();

}

}

}

How to Run the Program

1. **Compile all Java files**:

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javac \*.java

1. **Start the RMI registry** (if not started automatically by the server):

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rmiregistry

1. **Run the server** in a separate terminal:

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java AddServer

1. **Run the client** in another terminal:

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java AddClient

Output

When you run the client, you should see:

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Result of adding 5 and 10 is: 15