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Distributed System Lab

LAB – 8

Aim: Implement 'Java RMI' mechanism for accessing methods of remote systems.

Programs:

1. Remote Interface

```
import java.rmi.Remote;  
import java.rmi.RemoteException;  
  
public interface Hello extends Remote {  
    void printMsg() throws RemoteException;  
}
```

2. Implementation Class

```
public class ImplExample implements Hello {  
    public void printMsg() {  
        System.out.println("This is an example RMI program");  
    }  
}
```

3. Server Program

```
import java.rmi.registry.Registry;  
import java.rmi.registry.LocateRegistry;  
import java.rmi.RemoteException;  
import java.rmi.server.UnicastRemoteObject;  
  
public class Server extends ImplExample {  
    public Server() {}  
  
    public static void main(String args[]) {  
        try {
```

```

        ImplExample obj = new ImplExample();
        Hello stub = (Hello) UnicastRemoteObject.exportObject(obj,
0);

        Registry registry = LocateRegistry.getRegistry();
        registry.bind("Hello", stub);
        System.err.println("Server ready");
    } catch (Exception e) {
        System.err.println("Server exception: " + e.toString());
        e.printStackTrace();
    }
}
}

```

4. Client Program

```

import java.rmi.registry.LocateRegistry;
import java.rmi.registry.Registry;

public class Client {
    private Client() {}
    public static void main(String[] args) {
        try {

            Registry registry = LocateRegistry.getRegistry(null);
            Hello stub = (Hello) registry.lookup("Hello");
            stub.printMsg();
        } catch (Exception e) {
            System.err.println("Client exception: " + e.toString());
            e.printStackTrace();
        }
    }
}

```

Output:

RMI Registry



Client.exe

```
E:\>cd E:\Study Stuff\Distributed Systems\RMI
E:\Study Stuff\Distributed Systems\RMI>java Client
E:\Study Stuff\Distributed Systems\RMI>
```

Server.exe

```
E:\Study Stuff\Distributed Systems\RMI>javac *.java
E:\Study Stuff\Distributed Systems\RMI>start rmiregistry
E:\Study Stuff\Distributed Systems\RMI>java Server
Server ready
This is an example RMI program
```