

# Program Test

## Java RMI

OODP 2020

Java RMI

# Compile and run the given example RMI program.

1. `javac RemoteDateImpl.java`
2. `rmic RemoteDateImpl`
3. `rmiregistry`
4. `java RemoteDateImpl`
5. `javac RMIClient.java`
6. `java RMIClient`

```
Windows PowerShell
PS D:\WOODP2018_BU\SocketRM\Communication\RM\ExPosted2018> rmic RemoteDateImpl
Warning: generation and use of skeletons and static stubs for JRMP
is deprecated. Skeletons are unnecessary, and static stubs have
been superseded by dynamically generated stubs. Users are
encouraged to migrate away from using rmic to generate skeletons and static
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.
PS D:\WOODP2018_BU\SocketRM\Communication\RM\ExPosted2018> rmiregistry
```

```
Windows PowerShell
PS D:\WOODP2018_BU\SocketRM\Communication\RM\ExPosted2018> java RemoteDateImpl
DateServer bound in registry
```

```
Windows PowerShell
PS D:\WOODP2018_BU\SocketRM\Communication\RM\ExPosted2018> java RMIClient
Thu Apr 23 21:05:25 KST 2020
PS D:\WOODP2018_BU\SocketRM\Communication\RM\ExPosted2018>
```

```
public class RemoteDateImpl extends UnicastRemoteObject implements RemoteDate
{
    public RemoteDateImpl() throws RemoteException { }
    public Date getDate() throws RemoteException {
        return new Date();
    }
    public static void main(String[] args) {
        try {
            RemoteDate dateServer = new RemoteDateImpl();
            // Bind this object instance to the name "DateServer"
            Naming.rebind("DateServer", dateServer);
            System.out.println("DateServer bound in registry");
        }
        catch (Exception e) {
            System.err.println(e);
        }
    }
}
```

```
public interface RemoteDate extends Remote
{
    public abstract Date getDate() throws RemoteException;
}
```

```
public class RMIClient
{
    public static void main(String args[]) {
        try {
            String host = "rmi://127.0.0.1/DateServer";
            RemoteDate dateServer =
                (RemoteDate)Naming.lookup(host);
            System.out.println(dateServer.getDate());
        }
        catch (Exception e) {
            System.err.println(e);
        }
    }
}
```

Modify and expand the RMI example program and to a peer to peer communication.

For this program, there is no distinction between a server and a client.



The output below shows that "DateServer" displays the date sent from "DateClientServer".

```
PS F:\#00DP2015Spr\#SocketRMICommunication\#RMI_Bi_Direction> java RemoteDateImpl2
DateServer bound in registry
Tue Apr 21 03:11:00 KST 2020
```

The output below shows that "DateClientServer" displays the date sent from "DateServer".

```
PS F:\#00DP2015Spr\#SocketRMICommunication\#RMI_Bi_Direction> java RMIClientImpl2
DateClientServer bound in registry
Tue Apr 21 03:10:50 KST 2020
```