**Security Policy Exception:**

[hint to the solution found in: <https://community.oracle.com/thread/1177999?start=0&tstart=0>]

ComputeEngine exception:

java.security.AccessControlException: access denied (java.net.SocketPermission 127.0.0.1:1099 connect,resolve)

at java.security.AccessControlContext.checkPermission(AccessControlContext.java:376)

at java.security.AccessController.checkPermission(AccessController.java:549)

at java.lang.SecurityManager.checkPermission(SecurityManager.java:532)

at java.lang.SecurityManager.checkConnect(SecurityManager.java:1034)

at java.net.Socket.connect(Socket.java:522)

at java.net.Socket.connect(Socket.java:476)

at java.net.Socket.<init>(Socket.java:373)

at java.net.Socket.<init>(Socket.java:187)

at sun.rmi.transport.proxy.RMIDirectSocketFactory.createSocket(RMIDirectSocketFactory.java:22)

at sun.rmi.transport.proxy.RMIMasterSocketFactory.createSocket(RMIMasterSocketFactory.java:128)

at sun.rmi.transport.tcp.TCPEndpoint.newSocket(TCPEndpoint.java:595)

at sun.rmi.transport.tcp.TCPChannel.createConnection(TCPChannel.java:198)

at sun.rmi.transport.tcp.TCPChannel.newConnection(TCPChannel.java:184)

at sun.rmi.server.UnicastRef.newCall(UnicastRef.java:322)

at sun.rmi.registry.RegistryImpl\_Stub.rebind(Unknown Source)

at engine.ComputeEngine.main(ComputeEngine.java:30)

**CodebaseOnly setting Exception (no clear mention on Oracle tutorial website resulting in tutorial being out-of-date):**

[hint to the solution found in: <https://community.oracle.com/thread/2580182>]

A brief mention on Oracle’s site: <http://docs.oracle.com/javase/7/docs/technotes/guides/rmi/enhancements-7.html>

ComputeEngine exception:

java.rmi.ServerException: RemoteException occurred in server thread; nested exception is:

java.rmi.UnmarshalException: error unmarshalling arguments; nested exception is:

java.lang.ClassNotFoundException: compute.Compute

at sun.rmi.server.UnicastServerRef.oldDispatch(UnicastServerRef.java:419)

at sun.rmi.server.UnicastServerRef.dispatch(UnicastServerRef.java:267)

at sun.rmi.transport.Transport$1.run(Transport.java:177)

at sun.rmi.transport.Transport$1.run(Transport.java:174)

at java.security.AccessController.doPrivileged(Native Method)

at sun.rmi.transport.Transport.serviceCall(Transport.java:173)

at sun.rmi.transport.tcp.TCPTransport.handleMessages(TCPTransport.java:556)

at sun.rmi.transport.tcp.TCPTransport$ConnectionHandler.run0(TCPTransport.java:811)

at sun.rmi.transport.tcp.TCPTransport$ConnectionHandler.run(TCPTransport.java:670)

at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1145)

at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:615)

at java.lang.Thread.run(Thread.java:744)

at sun.rmi.transport.StreamRemoteCall.exceptionReceivedFromServer(StreamRemoteCall.java:275)

at sun.rmi.transport.StreamRemoteCall.executeCall(StreamRemoteCall.java:252)

at sun.rmi.server.UnicastRef.invoke(UnicastRef.java:378)

at sun.rmi.registry.RegistryImpl\_Stub.rebind(Unknown Source)

at engine.ComputeEngineStarter.main(ComputeEngineStarter.java:40)

Caused by: java.rmi.UnmarshalException: error unmarshalling arguments; nested exception is:

java.lang.ClassNotFoundException: compute.Compute

at sun.rmi.registry.RegistryImpl\_Skel.dispatch(Unknown Source)

at sun.rmi.server.UnicastServerRef.oldDispatch(UnicastServerRef.java:409)

at sun.rmi.server.UnicastServerRef.dispatch(UnicastServerRef.java:267)

at sun.rmi.transport.Transport$1.run(Transport.java:177)

at sun.rmi.transport.Transport$1.run(Transport.java:174)

at java.security.AccessController.doPrivileged(Native Method)

at sun.rmi.transport.Transport.serviceCall(Transport.java:173)

at sun.rmi.transport.tcp.TCPTransport.handleMessages(TCPTransport.java:556)

at sun.rmi.transport.tcp.TCPTransport$ConnectionHandler.run0(TCPTransport.java:811)

at sun.rmi.transport.tcp.TCPTransport$ConnectionHandler.run(TCPTransport.java:670)

at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1145)

at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:615)

at java.lang.Thread.run(Thread.java:744)

Caused by: java.lang.ClassNotFoundException: compute.Compute

at java.net.URLClassLoader$1.run(URLClassLoader.java:366)

at java.net.URLClassLoader$1.run(URLClassLoader.java:355)

at java.security.AccessController.doPrivileged(Native Method)

at java.net.URLClassLoader.findClass(URLClassLoader.java:354)

at java.lang.ClassLoader.loadClass(ClassLoader.java:425)

at sun.rmi.server.LoaderHandler$Loader.loadClass(LoaderHandler.java:1206)

at java.lang.ClassLoader.loadClass(ClassLoader.java:358)

at java.lang.Class.forName0(Native Method)

at java.lang.Class.forName(Class.java:270)

at sun.rmi.server.LoaderHandler.loadClassForName(LoaderHandler.java:1219)

at sun.rmi.server.LoaderHandler.loadProxyInterfaces(LoaderHandler.java:729)

at sun.rmi.server.LoaderHandler.loadProxyClass(LoaderHandler.java:673)

at sun.rmi.server.LoaderHandler.loadProxyClass(LoaderHandler.java:610)

at java.rmi.server.RMIClassLoader$2.loadProxyClass(RMIClassLoader.java:646)

at java.rmi.server.RMIClassLoader.loadProxyClass(RMIClassLoader.java:311)

at sun.rmi.server.MarshalInputStream.resolveProxyClass(MarshalInputStream.java:255)

at java.io.ObjectInputStream.readProxyDesc(ObjectInputStream.java:1558)

at java.io.ObjectInputStream.readClassDesc(ObjectInputStream.java:1514)

at java.io.ObjectInputStream.readOrdinaryObject(ObjectInputStream.java:1771)

at java.io.ObjectInputStream.readObject0(ObjectInputStream.java:1350)

at java.io.ObjectInputStream.readObject(ObjectInputStream.java:370)

... 13 more

**Code base Exception:**

[hint to the solution found in: <http://stackoverflow.com/questions/10752288/java-rmi-simple-hello-world-program-throwing-remoteexception>]

reason: rmiregistry didn’t have the necessary classes in its classpath, and should be started with the classpath on commanline or should be created in the java code of the server class.

ComputeEngine exception:

java.rmi.UnmarshalException: Error unmarshaling return; nested exception is:

java.net.MalformedURLException: no protocol: (file:/Users/tanvir/Documents/Developments/Workspace/RMITutorialFromOracle/RMISecurityInvestigation2ServerSide/thirdParty/compute.jar

at sun.rmi.transport.StreamRemoteCall.executeCall(StreamRemoteCall.java:246)

at sun.rmi.server.UnicastRef.invoke(UnicastRef.java:378)

at sun.rmi.registry.RegistryImpl\_Stub.rebind(Unknown Source)

at engine.ComputeEngineStarter.main(ComputeEngineStarter.java:40)

Caused by: java.net.MalformedURLException: no protocol: (file:/Users/tanvir/Documents/Developments/Workspace/RMITutorialFromOracle/RMISecurityInvestigation2ServerSide/thirdParty/compute.jar

at java.net.URL.<init>(URL.java:585)

at java.net.URL.<init>(URL.java:482)

at java.net.URL.<init>(URL.java:431)

at sun.rmi.server.LoaderHandler.pathToURLs(LoaderHandler.java:769)

at sun.rmi.server.LoaderHandler.getDefaultCodebaseURLs(LoaderHandler.java:140)

at sun.rmi.server.LoaderHandler.loadClass(LoaderHandler.java:169)

at java.rmi.server.RMIClassLoader$2.loadClass(RMIClassLoader.java:637)

at java.rmi.server.RMIClassLoader.loadClass(RMIClassLoader.java:264)

at sun.rmi.server.MarshalInputStream.resolveClass(MarshalInputStream.java:214)

at java.io.ObjectInputStream.readNonProxyDesc(ObjectInputStream.java:1612)

at java.io.ObjectInputStream.readClassDesc(ObjectInputStream.java:1517)

at java.io.ObjectInputStream.readOrdinaryObject(ObjectInputStream.java:1771)

at java.io.ObjectInputStream.readObject0(ObjectInputStream.java:1350)

at java.io.ObjectInputStream.readObject(ObjectInputStream.java:370)

at sun.rmi.transport.StreamRemoteCall.executeCall(StreamRemoteCall.java:244)

... 3 more

Then the same error occurred when the client application was attempted to start despite having all necessary classes in the classpath of the server class:

ComputePi exception:

java.rmi.UnmarshalException: error unmarshalling return; nested exception is:

java.net.MalformedURLException: no protocol: (file:/Users/tanvir/Documents/Developments/Workspace/RMITutorialFromOracle/RMISecurityInvestigation2ServerSide/thirdParty/compute.jar

at sun.rmi.registry.RegistryImpl\_Stub.lookup(Unknown Source)

at client.ComputePi.main(ComputePi.java:34)

Caused by: java.net.MalformedURLException: no protocol: (file:/Users/tanvir/Documents/Developments/Workspace/RMITutorialFromOracle/RMISecurityInvestigation2ServerSide/thirdParty/compute.jar

at java.net.URL.<init>(URL.java:585)

at java.net.URL.<init>(URL.java:482)

at java.net.URL.<init>(URL.java:431)

at sun.rmi.server.LoaderHandler.pathToURLs(LoaderHandler.java:769)

at sun.rmi.server.LoaderHandler.loadProxyClass(LoaderHandler.java:527)

at java.rmi.server.RMIClassLoader$2.loadProxyClass(RMIClassLoader.java:646)

at java.rmi.server.RMIClassLoader.loadProxyClass(RMIClassLoader.java:311)

at sun.rmi.server.MarshalInputStream.resolveProxyClass(MarshalInputStream.java:255)

at java.io.ObjectInputStream.readProxyDesc(ObjectInputStream.java:1558)

at java.io.ObjectInputStream.readClassDesc(ObjectInputStream.java:1514)

at java.io.ObjectInputStream.readOrdinaryObject(ObjectInputStream.java:1771)

at java.io.ObjectInputStream.readObject0(ObjectInputStream.java:1350)

at java.io.ObjectInputStream.readObject(ObjectInputStream.java:370)

... 2 more

This turned out to have caused due to setting the CodeBaseOnly configuration (same as on the server side) on the client side which is still unexplained and took a huge amount of time to resolve.