

RserveCLI

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Unhandled WebException

Wiki Link: [discussion:258224]

<div>lawsonmcw</div> <div>May 19, 2011 at 1:47 PM</div>	<p>Hi Oliver,</p> <p>I had to cut out early of RFinance to catch a flight and was sorry to have missed your presentation on RserveCLI, but happy to have found it here. I downloaded and installed yesterday and after one or two hiccups was able to get things working. Now I am attempting to use it to do some "real" work, but I have been getting an unhandled webexception "expected x bytes, but received y bytes" in RserveCLI.Qap1. It's kinda weird since it works fine but arbitrary craps out not always at the same point in the data. Here's how I'm calling it:</p> <pre>var df = Sexp.MakeDataFrame(); df["y"] = Sexp.Make(m_fdom); df["change.1d"] = Sexp.Make(m_1Day); df["change.7d"] = Sexp.Make(m_7Day); df["change.6m"] = Sexp.Make(m_6Month); m_r["d"] = df; var lm = m_r["summary(lm(y ~ change.1d + change.7d + change.6m, d))"]; var coefs = lm["coefficients"];</pre> <p>I am building a dataframe of lists of doubles. The linear regression is called after new data is added. It works fine a few dozen times and then dies on the call to lm(). I copied the exception details below. Any ideas on what the problem might be?</p> <p>Many thanks, Lawson</p> <pre>System.Net.WebException was unhandled Message=Expected 2972 bytes of data, but received 2916. Source=RserveCli StackTrace: at RserveCli.Qap1.Command(Int32 cmd, IList`1 data) in C:\Users\Lawson\Documents\Visual Studio 2010\Projects\RserveCLI\RserveCLI\Qap1.cs:line 540 at RserveCli.RConnection.Eval(String s) in C:\Users\Lawson\Documents\Visual Studio 2010\Projects\RserveCLI\RserveCLI\RConnection.cs:line 267 at RserveCli.RConnection.get_Item(String s) in C:\Users\Lawson\Documents\Visual Studio 2010\Projects\RserveCLI\RserveCLI\RConnection.cs:line 229 at Metolius.SnP.FDOMVariable.OnFill(Order order) in C:\Users\Lawson\Documents\Visual Studio 2010\Projects\Backtester\Metolius\SnP\FDOMVariable.cs:line 111 at Balsam.Common.Strategy.SubmitOrder(Order order) in C:\Users\Lawson\Documents\Visual Studio 2010\Projects\Backtester\Backtester\Common\Strategy.cs:line 1168 at Balsam.Common.Strategy.BuyClose(BarSeries series, Double quantity, String signalName) in C:\Users\Lawson\Documents\Visual Studio 2010\Projects\Backtester\Backtester\Common\Strategy.cs:line 1768 at Balsam.Common.Strategy.BuyClose() in C:\Users\Lawson\Documents\Visual Studio 2010\Projects\Backtester\Backtester\Common\Strategy.cs:line 1712 at Metolius.SnP.FDOMVariable.OnBar() in C:\Users\Lawson\Documents\Visual Studio 2010\Projects\Backtester\Metolius\SnP\FDOMVariable.cs:line 80 at Balsam.Common.Strategy.Simulate() in C:\Users\Lawson\Documents\Visual Studio 2010\Projects\Backtester\Backtester\Common\Strategy.cs:line 896 at Balsam.Common.Strategy.RunSimulation() in C:\Users\Lawson\Documents\Visual Studio 2010\Projects\Backtester\Backtester\Common\Strategy.cs:line 949 at Metolius.Program.Main(String[] args) in C:\Users\Lawson\Documents\Visual Studio 2010\Projects\Backtester\Metolius\Program.cs:line 47 at System.AppDomain._ExecuteAssembly(RuntimeAssembly assembly, String[] args) at System.AppDomain.ExecuteAssembly(String assemblyFile, Evidence assemblySecurity, String[] args) at Microsoft.VisualStudio.HostingProcess.HostProc.RunUsersAssembly() at System.Threading.ThreadHelper.ThreadStart_Context(Object state)</pre>
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```

        at System.Threading.ExecutionContext.Run(ExecutionContext executionContext, ContextCallback
callback, Object state, Boolean ignoreSyncCtx)
        at System.Threading.ExecutionContext.Run(ExecutionContext executionContext, ContextCallback
callback, Object state)
        at System.Threading.ThreadHelper.ThreadStart()
    InnerException:

```

lawsonmcw

Jun 4, 2011 at 8:21 PM

Found a solution here: <http://rdotnet.codeplex.com/>

yinz

Nov 10, 2011 at 6:34 AM

Hi ,

I have encountered the same error when I need to get a 1000000 by 2 matrix from R serve. The error I get is very similar to yours:

```

System.Net.WebException: Expected 16000028 bytes of data, but received 1943256.
    at RserveCli.Qap1.Command(Int32 cmd, IList`1 data) in C:\Users\yin\Desktop\rservecli-
2614\RserveCLI\trunk\RserveCLI\Qap1.cs:line 540
    at RserveCli.RConnection.Eval(String s) in C:\Users\yin\Desktop\rservecli-
2614\RserveCLI\trunk\RserveCLI\RConnection.cs:line 259
    at RserveCli.RConnection.get_Item(String s) in C:\Users\yin\Desktop\rservecli-
2614\RserveCLI\trunk\RserveCLI\RConnection.cs:line 221
    at <StartupCode$FSI_0014>.$FSI_0014.main@() in C:\Users\yin\Desktop\rservecli-
2614\RserveCLI\trunk\FSharpExample\Script1.fsx:line 47

```

But the R Serve project claims that there is no such a limit on the object size:

<http://www.rforge.net/Rserve/faq.html>

[On default, 16MB for data sent to R Serve, and unlimited for data sent out]

R Serve has a Java client too. I will try that to see if the same problem exists there. If not, then probably I can try to solve the bug in the RServeCLI.

Best,

Yin

yinz

Nov 11, 2011 at 2:26 AM

The Java client works correct. I also solved the bug in the code, actually there are two bugs, both in Qap1.cs:

1. When the data object is large, the this.socket.Recieve(buf) cannot get all the data at once, we need to keep receiving data.
2. The first 4 bytes are headers, which indicate the data type and length. The length formula is only correct for small objects, and wrong for large objects, say > 40MB.

I corrected both bugs, please see the following modified code:

```

public List<object> Command(int cmd, IList<object> data)
{
    int toConsume = this.SubmitCommand(cmd, data);
    var res = new List<object>();
    while (toConsume > 0)
    {
        var dhbuf = new byte[4];
        if (this.socket.Receive(dhbuf) != 4)
        {
            throw new WebException("Didn't receive a header.");
        }
    }
}

```

```

r
byte typ = dhbuf[0];

// ReSharper disable RedundantCast
// this formulae is wrong! only correct for small objects
int dlength = dhbuf[1] + (((int)dhbuf[2]) << 8) + (((int)dhbuf[3]) << 16);

dlength = toConsume - 4;
// ReSharper restore RedundantCast
var dvbuf = new byte[dlength];
var tempbuf = new byte[dlength];
var curr = 0;

//System.Threading.Thread.Sleep(500);
var received = this.socket.Receive(dvbuf);

while (curr + received < dlength )
{
    Console.WriteLine(curr.ToString() + " + " + received.ToString() + " = " + (curr +
received).ToString() + " to " + dlength.ToString());
    curr += received;
    received = this.socket.Receive(tempbuf);
    Array.Copy(tempbuf, 0, dvbuf, curr, received);
}

/*
if (received != dvbuf.Length)
{
    var tempR = this.socket.Receive(dvbuf);
    throw new WebException("Expected " + dvbuf.Length + " bytes of data, but received "
+ received + ".");
}
*/

switch (typ & 15) // only the lower 4 bits

```

yinz
Nov 11, 2011 at 2:31
AM

To see what's been changed, here is the original code:

```

public List<object> Command(int cmd, IList<object> data)
{
    int toConsume = this.SubmitCommand(cmd, data);
    var res = new List<object>();
    while (toConsume > 0)
    {
        var dhbuf = new byte[4];
        if (this.socket.Receive(dhbuf) != 4)
        {
            throw new WebException("Didn't receive a header.");
        }

        byte typ = dhbuf[0];

        // ReSharper disable RedundantCast
        int dlength = dhbuf[1] + (((int)dhbuf[2]) << 8) + (((int)dhbuf[3]) << 16);

        // ReSharper restore RedundantCast
        var dvbuf = new byte[dlength];
        var received = this.socket.Receive(dvbuf);
        if (received != dvbuf.Length)
        {
            throw new WebException("Expected " + dvbuf.Length + " bytes of data, but received "
+ received + ".");
        }

        switch (typ)
    }
}

```

FrankyHollywoo
d
Mar 21, 2012 at
11:22 AM

thank you, works as it should!

<div><div><div>ohaynold</div><div>Coordinator</div><div>Jun 17, 2012 at 6:21 AM</div></div></div>	I submitted that fix to the Subversion repository. I'll wait a week or so for other feedback and if all is well I'll release a new version then.
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