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Silverlight Multi-part File Upload Form Post

Silverlight not actually very web friendly. It lacks of built-in support for the current HTML form post protocol. So, we have to write it our own. I have written an extension class and two serializer classes, one for normal form post (DataContractQueryStringSerializer) while the other for multipart upload form post (DataContractMultiPartSerializer).

If you only want to have the working code, just copy the code below. Detail explanation is available at Multi-Part Form Post in Shane's Shelf

public static class Extensions

public static void PostFormAsync(this HttpWebRequest request, object parameters, AsyncCallback callback) { request.Method = "POST"; request.ContentType = "applicatio n/x-www-form-urlencoded"; request.BeginGetRequestStream(new AsyncCallback(asyncResult => { Stream stream = request.EndGe tRequestStream(asyncResult); DataContractQueryStringSerial izer ser = new DataContractQueryStringSeria lizer(); ser.WriteObject(stream, param eters); stream.Close(); request.BeginGetResponse(call back, request); }), request); }

public static void PostMultiPartAsync (this HttpWebRequest request, object parame ters, AsyncCallback callback) { request.Method = "POST"; string boundary = "----------" + DateTime.Now.Ticks.ToString(); request.ContentType = "multipart/form-data; boundary=" + boundary; request.BeginGetRequestStream(new AsyncCallback(asyncResult => { Stream stream = request.EndGe tRequestStream(asyncResult);

DataContractMultiPartSerializ er ser = new DataContractMultiPartSerialize r(boundary); ser.WriteObject(stream, param eters); stream.Close(); request.BeginGetResponse(call back, request); }), request); }

public class DataContractQueryStringSeria lizer

public void WriteObject(Stream stream , object data) { StreamWriter writer = new StreamW riter(stream); if (data != null) { if (data is Dictionary<string , string>) { foreach (var entry in dat a as Dictionary<string, string>) { writer.Write("{0}={1} &", entry.Key, entry.Value); } } else { foreach (var prop in data .GetType().GetFields()) { foreach (var attribut e in prop.GetCustomAttributes(true)) { if (attribute is DataMemberAttribute) {

ribute member = attribute as DataMemberAttr ibute;

"{0}={1}&", member.Name ?? prop.Name, prop. GetValue(data)); } } } foreach (var prop in data .GetType().GetProperties()) { if (prop.CanRead) { foreach (var attr ibute in prop.GetCustomAttributes(true)) {

is DataMemberAttribute)

rAttribute member = attribute as DataMember Attribute;

ite("{0}={1}&", member.Name ?? prop.Name, p rop.GetValue(data, null));

} } } } writer.Flush(); } }

public class DataContractMultiPartSeriali

private string boundary; public DataContractMultiPartSerialize r(string boundary) { this.boundary = boundary; }

private void WriteEntry(StreamWriter writer, string key, object value) { if (value != null) { writer.Write("--"); writer.WriteLine(boundary); if (value is FileInfo) {

FileInfo f = value as Fil eInfo; writer.WriteLine(@"Conten t-Disposition: form-data; name=""{0}""; fil ename=""{1 }""", key, f.Name); writer.WriteLine("Content -Type: application/octet-stream"); writer.WriteLine("Content -Length: " + f.Length); writer.WriteLine(); writer.Flush(); Stream output = writer.Ba seStream; Stream input = f.OpenRead

byte[] buffer = new byte[4096]; for (int size = input.Rea d(buffer, 0, buffer.Length); size > 0; size = input.Read(buffer, 0, buffer.Length)) { output.Write(buffer, 0, size); } output.Flush(); writer.WriteLine(); } else { writer.WriteLine(@"Conten t-Disposition: form-data; name=""{0}""", ke

writer.WriteLine(); writer.WriteLine(value.To String()); } } }

public void WriteObject(Stream stream , object data) { StreamWriter writer = new StreamW riter(stream); if (data != null) { if (data is Dictionary<string , object>) { foreach (var entry in dat a as Dictionary<string, object>) { WriteEntry(writer, en try.Key, entry.Value); } } else { foreach (var prop in data .GetType().GetFields()) { foreach (var attribut e in prop.GetCustomAttributes(true)) { if (attribute is DataMemberAttribute) {

ribute member = attribute as DataMemberAttr ibute;

iter, member.Name ?? prop.Name, prop.GetVal ue(data)); } } } foreach (var prop in data .GetType().GetProperties()) { if (prop.CanRead) { foreach (var attr ibute in prop.GetCustomAttributes(true)) {

is DataMemberAttribute)

rAttribute member = attribute as DataMember Attribute;

y(writer, member.Name ?? prop.Name, prop.Ge tValue(data, null));

} } } } } writer.Write("--"); writer.Write(boundary); writer.WriteLine("--"); writer.Flush(); }

The usage is as follows: First a PHP file

<?php print_r($_REQUEST); $src = $_FILES['y']['tmp_name']; $dest = "C:\\Windows\\Temp\\".$_FILES['y']['name']; echo $src; echo "\r\n"; echo $dest; echo @copy($src, $dest);

Then the Page control

public partial class Page : UserControl

public Page() { InitializeComponent(); // Create a request object HttpWebRequest request = (HttpWeb Request)WebRequest.Create(new Uri("http://l ocalhost/rms/test.php")); OpenFileDialog dlg = new OpenFile Dialog(); if (dlg.ShowDialog().Value) { request.PostMultiPartAsync(ne w Dictionary<string, object> { { "x", "1" } , { "y", dlg.File } }, new AsyncCallback(as yncResult => { HttpWebResponse response = (HttpWebResponse)request.EndGetResponse(a syncResult);

Stream responseStream = r esponse.GetResponseStream(); StreamReader reader = new StreamReader(responseStream); this.Dispatcher.BeginInvo ke(delegate { // output is a TextBl

output.Text = reader. ReadToEnd(); response.Close(); })); } }

Since it is able to serialize data contract, you could actually replace

new Dictionary<string, object> { { "x", "1" }, { "y", dlg.File } }

new Point(){X=1, Y=2}

given the point class is like this:

[DataContract] public class Point

[DataMember] public int X { get; set; } [DataMember(Name="y")] public int Y { get; set; }

Shane Ng at 2:21 AM

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4 comments:

Dai Lo 3:28 AM

Cool! The multipart handling was exactly what I needed. Nice work!

Reply

Anonymous 4:53 PM

Hi, I failed in EndGetResponse(), and got security exception. What will the encoding data would like? Could you give me an example?

Thanks a lot~

Reply

Naveen 7:10 PM

Could you post the receiving part? Meaning, how to take the multipart request in the server (Jersey) and process the multipart request?

Reply

Shane Ng 1:13 AM

It's just a multi-part form

standard Java Web Container (e.g. Tomcat) will be able to process it natively.

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Shane Ng

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