

Serialization

Estimated time for completion: 1 hr.

Overview:

Test the performance of XML and Binary serialization.

Goals:

* Implement Binary serialization.
* Implement XML serialization.

Lab Notes:

Enter any special setup-issues etc for the lab..

Implement Binary Serialization

The lab currently calls a method 10,000 times, passing in a Payment object and returning a PaymentResponse. It is very fast. This section measures the overhead of serialization. You will serialize an object into a MemoryStream using the BinaryFormatter.

Notes:

* Use MemoryStream.Seek(0,SeekOrigin.Begin) to move the stream pointer to the beginning.

Steps:

1. Reference System.Runtime.Serialization assembly.
   1. Add reference to System.Runtime.Serialization namespace.
   2. Add reference to System.Runtime.Serialization.Formatters.Binary namespace
2. Change the Bank.Pay method to send/receive MemoryStreams instead of classes.

public MemoryStream Pay (MemoryStream ms){ … }

1. Serialize the Payment class into the Memory stream, then call Pay.
2. Inside Bank.Pay, move the stream pointer to the beginning of the MemoryStream. Deserialize the class. Then Serialize the PaymentResponse into another MemoryStream and return it.

Implement XML Serialization

This is similar to BinarySerialization. Use XmlSerializer in System.Xml.Serialization.

Notes:

* Remember the limitations of XmlSerializer.
  + Class must be public.
  + Must have public default constructor.
  + All fields must be public, readable and writable.

Steps:

1. Create an XmlSerializer for Payment and PaymentResponse.
2. Replace BinaryFormatter with these new serializers.