AJAX
AJAX Documentation

• Now in the MSDN library.
• This is the URL
• Lots of examples
What is AJAX

- AJAX stands for Asynchronous Javascript and XML.
- It is a paradigm rather than a specific vendor technology.
- There are numerous implementations.
- We will use the one from Microsoft that supports ASP.NET
The Old Way

• Use forms to provide input to the server.
• Post back a new page based on the form data.
• Round trip delay and rendering time are a distraction for the interactive user.
• Usually only a small portion of a page is updated and the rest stays the same.
• No provision to update just a portion of the web page.
The AJAX Way

• Use script on the browser and the document object model (DOM) to update only the elements that change.
• Use “Out of Band” communication to obtain the update information.
• Requires both an AJAX capable browser and AJAX extension of the web server.
• Both are now pretty much standard, e.g. IIS7 and IE8 or newer.
The XMLHttpRequest Object

- An AJAX capable browser must support this object.
- Virtually all current browsers do.
- The implementations vary and W3C is standardizing the interface.
- Javascript uses this object to communicate with the server without making a request for a new page or a post back.
The Server Side

• The server side Ajax extensions are included with current IIS servers including IIS Express.
• Visit http://asp.net/ajax/ for other information and downloads.
• AJAX development tools are built into VS2013.
• This does not include the popular Ajax Toolkit. (discussed later)
Enabling AJAX on a Web Application

• Controlled by web.config for older versions of VS and .net.
• VS 2008 sets them up if you create a new web site.
• VS2010 or later if using .NET 4.0 or later requires nothing special.
• You can retrofit an older web site by adding the appropriate configuration data or just upgrade to .NET 4.0 or later.
ASP.NET AJAX Controls

• ScriptManager
  – A non-visible control that adds the client side Javascript necessary to handle AJAX.
  – Numerous client side code library features to extend Javascript

• UpdatePanel
  – A container similar to a panel that allows a partial page rendering of its content.
  – The main workhorse control of ASP.NET AJAX.

• Timer
  – A non-visible control that causes a partial page refresh at an interval specified.
  – Any server side code can be executed in the event handler.
ASP.NET AJAX Controls

• UpdateProgress
  – Used to display a message while the page is being updated.
  – Can have one for all update panels or individual controls for each update panel.

• ScriptManagerProxy
  – Used with master pages.
Examples

• I will go over three examples from the MSDN documentation.
• Chat program I wrote.
• All examples are available in a .zip file under slides/code examples on the course web site.