

# AJAX

# AJAX Documentation

- Now in the MSDN library.
- This is the URL  
<http://msdn.microsoft.com/en-us/library/ee341002.aspx>
- 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.