
Microsoft ASP.NET Ajax

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Introduction

- **ASP.NET AJAX is a free framework for quickly creating efficient and interactive Web applications that work across all popular browsers.**
 - **ASP.NET AJAX is built-into ASP.NET 3.5. It is also available as a separate download for ASP.NET 2.0.**
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With ASP.NET AJAX you can:

- Create next-generation interfaces with reusable AJAX components.
 - Enhance existing pages using powerful AJAX controls with support for all modern browsers.
 - Access remote services and data from the browser without tons of complicated script.
 - Take advantage of the improved efficiency and ease of use in Visual Studio 2008, with its built-in support for ASP.NET AJAX, improved JavaScript support, and a new Web page designer interface.
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Client and Server side support

- Client-script libraries that incorporate cross-browser ECMAScript (JavaScript) and dynamic HTML (DHTML) technologies.
 - Integration with the ASP.NET server-based development platform.
 - By using AJAX features, you can improve the user experience and the efficiency of your Web applications.
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Why Use ASP.NET AJAX Features?

- AJAX features in ASP.NET enable you to build rich Web applications that have many advantages over Web applications that are completely server-based.
 - Improved efficiency, because significant parts of a Web page's processing are performed in the browser.
 - Familiar UI elements such as progress indicators, tooltips, and pop-up windows.
 - Partial-page updates that refresh only the parts of the Web page that have changed.
 - Client integration with ASP.NET application services for forms authentication, roles, and user profiles.
 - Auto-generated proxy classes that simplify calling Web service methods from client script.
 - A framework that lets you customize of server controls to include client capabilities.
 - Support for the most popular and generally used browsers, which includes Microsoft Internet Explorer, Mozilla Firefox, and Apple Safari.
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Architecture of AJAX Features in ASP.NET

- The architecture of AJAX features in ASP.NET consists of two pieces: client-script libraries and server components. These pieces are integrated to provide a robust development framework.
 - In addition to the AJAX features in ASP.NET, you can use the ASP.NET AJAX Control Toolkit, which is community supported.
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ASP.NET AJAX client and server architecture



Client

Microsoft AJAX Library

Components

Non-visual Components,
Behaviors, Controls

Browser Compatibility

Support for Microsoft
Internet Explorer, Mozilla
Firefox, Apple Safari

Networking

Asynchronous Requests,
XML & JSON Serialization,
Web & Application Services

Core Services

JavaScript Base Class
Extensions, Type System,
Debugging, ErrorHandling,
Globalization



Server

AJAX Features for ASP.NET

Script Support

Registration, Localization,
Debug/Release Mode

Web Services

Proxy Generation, Page
Methods, XML & JSON
Serialization

Application Services

Authentication,
Profile, & Roles

Server Controls

ScriptManager, UpdatePanel,
UpdateProgress, Timer

Server Controls

- ScriptManager

- Manages script resources for client components, partial-page rendering, localization, globalization, and custom user scripts. The ScriptManager control is required in order to use the UpdatePanel, UpdateProgress, and Timer controls.

- UpdatePanel

- Enables you to refresh selected parts of the page, instead of refreshing the whole page by using a synchronous postback.

- UpdateProgress

- Provides status information about partial-page updates in UpdatePanel controls.

- Timer

- Performs postbacks at defined intervals. You can use the Timer control to post the whole page, or use it together with the UpdatePanel control to perform partial-page updates at a defined interval.
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AJAX Control Toolkit

- The ASP.NET AJAX Control Toolkit is a collection of samples and components that show you some of the experiences you can create with ASP.NET AJAX controls and extenders. The Control Toolkit provides samples and a powerful SDK to make it simple to create and reuse custom controls and extenders. The ASP.NET AJAX Control Toolkit is community supported.
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