Glossary

A

ACID properties An acronym that describes the four essential properties of a transaction: atomicity, consistency, isolation, and durability.

adaptive rendering The act of displaying a control differently based on the browser that requests the Web page.

AJAX Asynchronous JavaScript and XML; an ECMA-Script-compliant technology for creating code that runs in a browser and can also communicate back to the server.

application caching A technique for programmatically storing objects in the *Cache* object for later retrieval directly from memory.

application state Global storage mechanism for Web site data that is accessible from all pages in the site.

asynchronous Asynchronous execution allows you to execute a request on a different thread than that of the main one processing user requests. This prevents the main thread from blocking additional requests while a long-running task is executing.

asynchronous PostBack Represents a PostBack to the server that originates from client code. The code running in the client triggers the PostBack and handles the response. This feature of AJAX allows for partial-page updates where a portion of the page updates independent from the rest of the page refreshing.

authentication The process of identifying users based on their credentials. Typically, the credentials are user names and passwords.

authorization The process of determining whether an authenticated user is allowed to access a specific resource. Even though a user is authenticated, he or she might not be authorized to open a file or Web page.

C

cache dependency An object that determines when an object is removed from a cache. Dependencies can be set to files or another item in the cache.

caching A technique for storing frequently accessed data in memory, where it can be directly retrieved faster than it could be rendered or retrieved from a file or database.

child node A node that is contained within another node.

composite control A control that contains constituent controls; the constituent controls are added to the composite control via code in the class file that defines the control. The class file is compiled to a .dll file that can be shared among applications and can optionally be installed in the global assembly cache (GAC).

connection pooling The process of reusing existing active connections instead of creating new connections when a request is made to the database.

constraint Preserves data integrity by limiting the data that is considered acceptable.

content page Represents a page that implements a master page. The content page is where you define page-specific content to be embedded inside a master page.

control state Used to store control-specific data within a custom control. Control state data cannot be disabled (as view state can).

cookie Data that a Web server pushes for storage on the client machine. Web clients transmit cookies back to the server with every page request. This enables the server to track a user as he or she visits different pages on a site.

cross-page posting A control that is configured to PostBack to a Web page that is different from the Web page on which the control was defined.

culture Regional language and formatting differences of a Web page.

custom Web control A control that inherits from a Web control or another ASP.NET control. A custom Web control requires code to render the control. A custom Web control can be shared as a .dll file and participate in the Toolbox.

D

device-specific rendering The ability to specify rendering for a control based on a specific device type.

DiffGram An XML document that contains all of the data from your *DataSet* object, including the original *DataRow* object information.

Distributed Authoring and Versioning (DAV) A set of extensions to HTTP/1.1 that simplify Web site development when developers are working in team scenarios.

Document Object Model (DOM) Delineates the standards provided by W3C that define the structure and provide a standard programming interface that can be used in a wide variety of environments and applications for XML documents.

dynamic compilation Refers to delayed compilation of Web pages that does not take place until the user requests the Web page.

E

explicit localization The process of manually associating controls with global resources. You use explicit localization when you want to display (and share) a single resource value on multiple pages.

expression column Strings or other objects that can be accessed from any page in an application. In the context of globalization, global resources provide centralized storage for phrases that have been translated into multiple languages.

G

global resources Strings or other objects that can be accessed from any page in an application.

H

hidden field Data stored within a Web form that is not visible to the user as he or she views a page in a Web browser. However, the data is embedded in the page as plaintext.

HTML server control Uses the HTML tags in the page's source but also contains the *runat="server"* attribute. This allows the control to provide a server-side object that you can programmatically access. HTML server controls render as their defined HTML element.

HTTP handler Code that you write to execute on HTTP handler behalf of a specific HTTP request for a specific resource type such as a .jpg file. ASP.NET has HTTP handlers for .aspx and .asmx files, for example.

HTTP method or verb Indicates the action (typically GET or POST) to be performed by the Web server using the URL that follows the method.

Hypertext Transfer Protocol (HTTP) A text-based communication protocol that is used to request Web pages from the Web server and send responses back to the Web browser.

I

impersonation The process of using the end user's credentials to access resources. For example, if a Web application needs to read a table in a database and only members of the Managers group have permission to read the table, the Web application needs to impersonate the authenticated user to access the table.

implicit localization ASP.NET's ability to automatically associate controls with local resources; the best way to provide page-by-page globalization for controls.

IsPostBack A property contained on an ASP.NET Web page that is used to determine if data is being sent back to the Web server or if the Web page is simply being requested.

J

JSON JavaScript Object Notation. It represents a method for Web browsers to communicate with a server without causing a page refresh. JSON is used heavily in AJAX applications.

L

leaf node A node that contains no children.

LINQ Language-integrated query (LINQ) is a technology built into Visual Basic, C#, and the .NET Framework that allows rich programming against data stored in collections.

local resources Strings and other resources that are defined to be specific to a single page in your Web site. A local resource file is created per page and per language your site supports.

M

master page Used to define the common elements of a site or area within a site. This includes things like navigation, logos, footer text, and more. Master pages are used by content pages. The two are combined into a single output when run by a user.

Microsoft AJAX Library A code library written in JavaScript that provides object-oriented capabilities to the JavaScript language such as the ability to define interfaces and use inheritance.

Multipurpose Internet Mail Extensions (MIME) type An indicator of the type of resource that is being sent to the Web browser; has a two-part designator "type/subtype," where the first part is the resource type and the second part is the resource subtype.

N

naming container Defines a unique namespace for control names. All controls within a naming container must be uniquely identifiable.

neutral culture Describes a culture setting that specifies only a language. Unlike specific cultures, neutral cultures do not specify currency or number formatting. Neutral cultures have two-letter abbreviations, such as "es" for Spanish, "fr" for French, and "en" for English.

P

page output caching A feature of ASP.NET that stores copies of rendered ASP.NET pages so that they do not have to be dynamically generated for future requests.

parent node A node that contains other nodes.

PostBack Sends data back to the server. Although its name comes from the POST method, it is possible to perform a PostBack using the GET method as well.

precompiling A feature of the Publish Web Site tool that compiles an ASP.NET Web application before the first request, reducing the delay that otherwise occurs when a user first requests an application Web page.

primary key Consists of one or more columns in which the data provides a unique identity for each data row.

provider classes Classes that you can use to transfer data between a data store and the client application.

Q

query string A collection of key-value pairs, separated by ampersand (&) characters and appended to a URL using a question mark (?). These pairs define parameters for a Web page.

R

request Handles the communication from the Web browser to the Web server. Is also represented in ASP.NET as the Request object.

response Handles communication from the Web server to the Web browser. Is also represented in ASP.NET as the Response object.

REST A REST (representational state transfer) service is a Web service that responds to HTTP requests. The response is returned as a text document (as the server would send for any HTTP request). REST-based services do not use SOAP and therefore if security is a requirement, the only real option is HTTPS.

root node A node that is not contained by any other node and is an ancestor of all other nodes.

S

server control A control that is programmable by writing server-side code to respond to events from the control.

session state Stored within the *Session* object. It is user-specific data and accessible from all pages viewed by a user during a specific visit to a site.

skin A file that contains ASP.NET control definitions that are common to a theme. These definitions include style elements like color, font, size, borders, margins, and more.

site map An XML file that contains the overall structure and hierarchy of the pages within your Web site.

specific culture Defines a culture that specifies both language- and culture-specific formatting requirements. Each specific culture has a two-letter language abbreviation and a two-letter culture abbreviation. For example, "en-US" represents the English language for United States residents and "en-GB" represents the English language for Great Britain residents.

style sheet (CSS) A style sheet contains the styles for both HTML elements and named style classes that you apply to your site.

T

templated control A control that allows the separation of the user interface (presentation) from the control data and code. Templated controls do not natively provide a user interface. Instead, the user interface is supplied by a page developer through inline templates.

theme Groups styles (.css file), ASP.NET control attribute definitions (.skin files), and images inside a theme folder. You can apply a theme to your entire site or to a single page. You can also dynamically switch themes at run time.

transaction An atomic unit of work that must be completed in its entirety. The transaction succeeds if it is committed and it fails if it is aborted.

U

user control A control that provides extra behavior to a group of ASP.NET controls. User controls have the .ascx extension.

V

ViewState The mechanism by which Web page object and child control object data can be maintained between page requests. The *ViewState* is packaged up in the page and sent back to the user. The *ViewState* is then sent back to the server when the user makes a new request. The server unpacks the *ViewState* on the server and re-creates the objects and their data accordingly.

W

WCF address The location where messages are sent. Location is defined as a Universal Resource Identifier (URI).

WCF binding How an endpoint communicates with clients. This includes transports like HTTP, TCP, and the like. It also includes encoding like binary and text.

WCF endpoint An endpoint defines how communication happens in a WCF service. This includes the location (or address) of the communication, the binding information that indicates how messages should be sent (TCP, HTTP), and the service contract itself.

WCF service A set of service operations exposed at endpoints.

Web browser Provides a platform-independent means of displaying Web pages that are written with HTML.

Web Form A Web page that can contain HTML markup, client-side code, or server-side code, and can be composed of a single file when using the inline programming model, or a pair of files when using the code-behind programming model.

Web Part A control (custom, user, or ASP.NET control) that is managed by the ASP.NET Web Part Framework to enable personalization and user customization.

Web server Receives and handles requests from a browser using HTTP.

Web server control A control that offers more functionality and a more consistent programming model than that of HTML server controls. Web server controls can also render as many HTML tags and can also include client-side JavaScript code.