

Introduction to ASP

Introduction

Are you sick of static HTML pages? Do you want to create dynamic web pages? Do you want to enable your web pages with database access? If your answer is “Yes”, ASP might be a solution for you. In May 2000, Microsoft estimated that there are over 800,000 ASP developers in the world (1). You may come up with a question what the heck ASP is. Don't worry. After reading this paper, you will know what it is, how it works and what it can do for you. Are you ready? Let's get to know ASP together.

What is ASP?

ASP stands for Active Server Pages. Microsoft introduced Active Server Pages in December 1996, beginning with Version 3.0. Microsoft officially defines ASP as: “Active Server Pages is an open, compile-free application environment in which you can combine HTML, scripts, and reusable ActiveX server components to create dynamic and powerful Web-based business solutions. Active Server pages enables server side scripting for IIS with native support for both VBScript and Jscript.” (2). In other words, ASP is a Microsoft technology that enables you to create dynamic web sites with the help of server side script, such as VBScript and Jscript. ASP technology is supported on all Microsoft Web servers that are freely available. If you have Window NT 4.0 Server installed, you can download IIS (Internet Information Server) 3.0 or 4.0. If you are using Window 2000, IIS 5.0 comes with it as a free component. If you have Window 95/98, you can download Personal Web Server (PWS), which is a smaller version of IIS, from Window 95/98 CD. You can also download these products for free from Microsoft's web site.

Well, you have learned what the ASP technology is. Next, you will learn about an ASP file. Is it the same as HTML file? Let's explore it.

What is an ASP file?

An ASP file is quite like an HTML file. It contains text, HTML tags and scripts, which are executed on the server. The two widely used scripting languages for an ASP page are VBScript and JScript. VBScript is pretty much like Visual Basic, whereas Jscript is the Microsoft's version of JavaScript. However, VBScript is the default scripting language for ASP (3). Besides these two scripting languages, you can use other scripting language with ASP as long as you have an ActiveX scripting engine for the language installed, such as PerlScript.

The difference between an HTML file and an ASP file is that an ASP file has the ".asp" extension. Furthermore, script delimiters for HTML tags and ASP code are also different. A script delimiter is a character that marks the starting and ending of a unit. HTML tags begins with lesser than (<) and greater than (>) brackets, whereas ASP script typically starts with <% and ends with %>. In between the delimiters are the server-side scripts.

To write an ASP script, you don't need any additional software because it can be written with any HTML editor, such as Notepad. Nonetheless, if you feel bored with the plain text and would like to use some special software, you can use Microsoft visual InterDev, which helps you to easily create an ASP page by giving you nice highlights and debugging dialogue boxes (4).

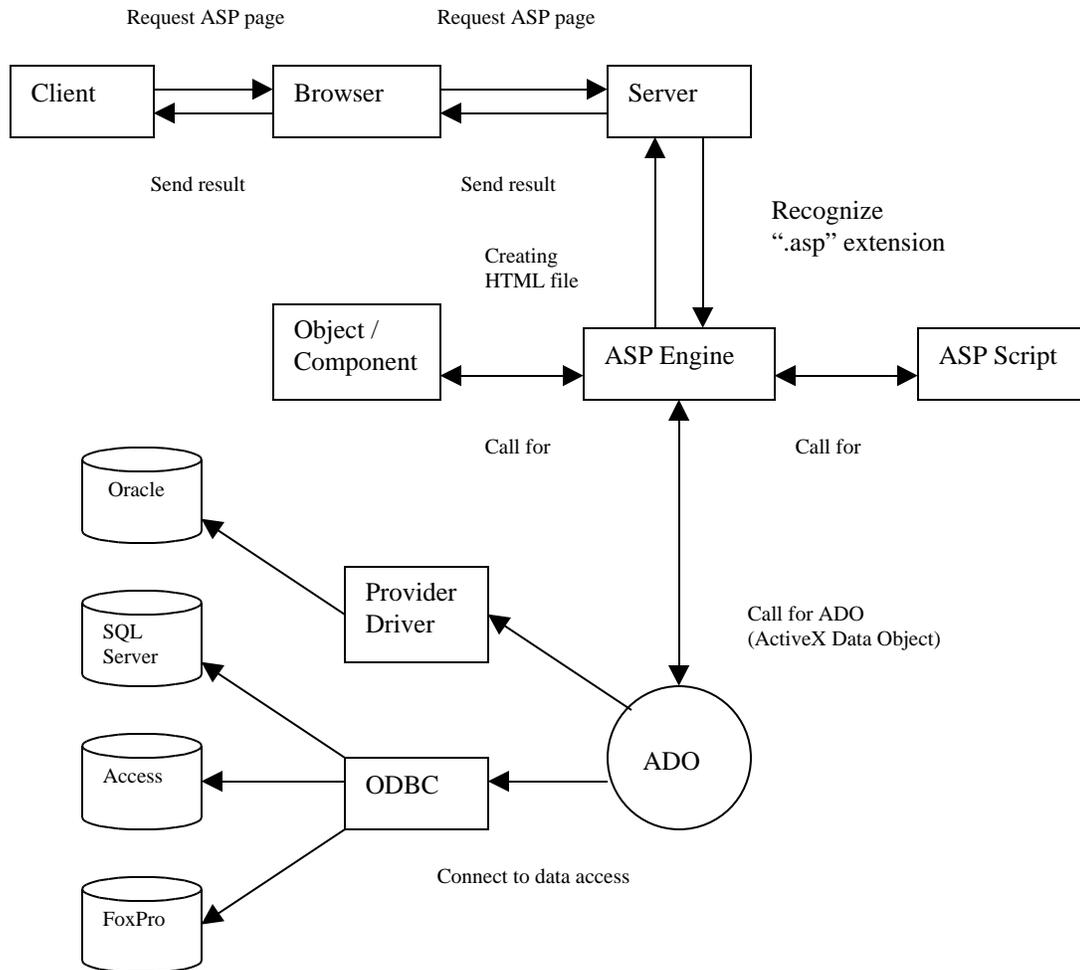
I hope that you already have an idea of what an ASP file is and how it is different from an HTML file. In the next step, you will learn how ASP works. Let's go.

How does it work?

As you have learned, scripts in an ASP file are server-side scripts, which means that the scripts are processed on the server and then the result of the scripts will be converted to HTML before sending to the web browser. To illustrate, let's take a look at this table to compare the process of retrieving an HTML page and an ASP page (5).

HTML process	ASP process
<ol style="list-style-type: none"><li data-bbox="285 653 789 831">1. A user requests a web page (i.e., http://www.utexas.edu/index.html) in the web browser.<li data-bbox="285 869 789 1050">2. The browser finds the appropriate web server, and asks for the required page.<li data-bbox="285 1087 789 1268">3. The web server locates the required page and sends it back to the browser as HTML text.<li data-bbox="285 1600 789 1852">4. The browser executes the client side scripting (like JavaScripts) determining how to display the results	<ol style="list-style-type: none"><li data-bbox="870 653 1373 831">1. A user requests a web page (i.e., http://www.devasp.com/test.asp) in the web browser.<li data-bbox="870 869 1373 1050">2. The browser finds the appropriate web server (like IIS or PWS), and asks for the required page.<li data-bbox="870 1087 1373 1558">3. The web server locates the required page, and parses out the ASP code within the ASP script delimiters (<%...%>), produces a standard HTML page. The server sends that HTML page back to the browser, so the user cannot see ASP code.<li data-bbox="870 1600 1373 1852">4. The browser executes the client side scripting (like JavaScripts) determining how to display the results

As you can see, the whole process of the two is quite similar. Since ASP is a server-side technology, the required page is executed on the server before the HTML is created and served to the client. To make it clearer, Figure1 shows the processing behind a browser request to an ASP page (6).



For example, a client types in a URL into your browser. The browser requests the ASP page from the web server. The server proceeds the file with “.asp” extension to ASP Engine in which Objects or ActiveX Components can be used to extend the web server with application-specific functionality. In addition, ASP will use ADO to connect to a

database (SQL, Access, Oracle, etc.) to pull out the relevant data, such as the current weather in a specific area. Thus, a different page is generated according to the area specified and time that the page is accessed. Then, the server generates HTML tags before sending it back to the client. Therefore, when you view the source of an ASP file, you will not see any different from a standard HTML file.

ASP includes five build-in objects (7):

- Request – to get information from the user that is passed along with an HTTP request
- Response – to output data to the requesting client
- Server – to control the Internet Information Server
- Session – to store variables associated with a given user session
- Application – to store information that remain active for the lifetime of an application, such as a page counter.

You have already known how ASP technology works. Isn't it fascinating? You probably want to know how to make it work and what you need to make it work. In the next section, you will find the way to do it.

How to make it work?

First of all, you need to set up an environment where you can execute your scripts; that is you need to set up your web server (IIS or PWS). If you have an NT Server, IIS is already installed for you. If you Window 95/98, you can install PWS from the add-ons directory on the Win 98 CD. If you are using UNIX, you can Chili!Soft (www.chilisoft.com) instead of Microsoft web server. Next, you will need to install some

database software, such as MS Access, Microsoft SQL Server (in case you want to connect to database).

Last but not least, you need an ASP editor. It can be any text editor, like NotePad or Microsoft Visual InterDev. To create an ASP file, you may need to know a scripting language, such as VBScript or JScript. If you want to deal with a database, you also need to have some knowledge about database, such as creating a Data Source Name (DSN), creating a recordset. You can learn more about database access from this web site:

<http://www.builder.com/Programming/ASPIntro/ss06.html>

What are its advantages?

While learning about ASP technology in previous sections, you might ask yourself all the time what it can do for you. Certainly, ASP must have some strength; otherwise, it won't be popular as such. Let's count on its strong points and functionality.

1. Dynamic web page – Since ASP supports scripting languages, which run on the web server, your web page can be dynamically created. For example, you can create your web page so as to greeting each user when they log into your page differently.
2. Browser independent – ASP is browser independent because all the scripting code runs on the server. The browser only gets the results from the server in a standard HTML page.
3. Database Access – One of the greatest assets of ASP is database connectivity. ASP enables you to easily build rich database functionality into your web site, such as form processing.

4. Building-in objects – The five built-in objects that come with ASP facilitate Web application development. For example, you can use Request object to retrieve browser request information.
5. Free availability – Yes, it's free. You can download web server (IIS or PWS) for free from Microsoft's web site. You don't even have to have any special tool to write an ASP file. In other words, you can simply use any text editor, like NotePad.

Conclusion

ASP technology is a server-side programming developed to enable dynamic web pages. With its build-in objects and ActiveX components, ASP developers can create a dynamic web page and make use of database access. Now that you have basic knowledge about ASP, it is better to have a hands-on experience, which is the best way to learn to learn how to write an ASP file. There are tons of ASP tutorials out there on the Web. You can also find some tutorials included at the end of this paper. Enjoy and good luck!

Reference

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*This paper is written by Jantrathip Sae-Chin for the course EDC385G Interactive Multimedia Design & Production as the University of Texas - Austin