

# Active Server Pages

Part I

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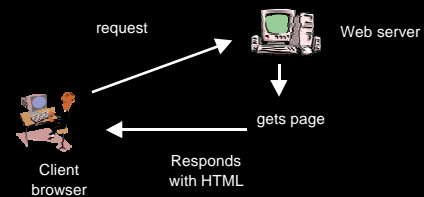
## ASP - A Technology

- Dynamic and interactive web pages
- Executes on the web server
- Microsoft - Internet Information Server or Personal Web Server

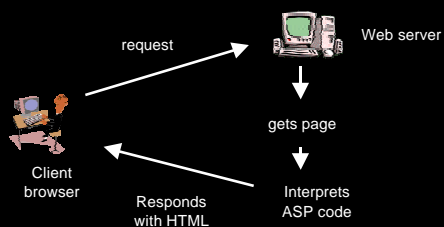
## ASP - definition

- HTML and scripting code mixed together
- No compiling
- Makes pages easier to update and maintain
- .asp extension
- Only HTML is sent to the browser, so any browser is compatible

## Traditional



## ASP



## HTML vs. ASP

- HTML is a set of instructions that tells the browser how to arrange text and images.
- Browser interprets everything.
- Contained within `< >` delimiters ie. `<title>HTML</title>`

## HTML vs. ASP

- ASP are instructions to the web server on how to create the page and send HTML.
- Server interprets the ASP code and sends it to the browser.
- Contained within <% %> delimiters.

## ASP vs. CGI

- CGI runs a program to complete it's task (creating dynamic pages)
- The results are sent back to the server from the program then to the browser (extra step)
- Must use a more complicated programming language
- Complex to learn

## ASP vs. CGI

- ASP is more simple and faster.
- It's one less step because the server processes the ASP code.
- Not a separate program, it's like a service.
- Does not use a complex programming language. It uses scripting.

## ASP - languages

- Default language = VBScript
- JScript or VBScript can be used
- "Plug-ins" for other languages like Perl are available
- We will primarily use VBScript
- VBScript is generally easier to learn

## Client-side vs Server-side

- ASP is server-side (executed on the server)
- Client-side and server-side scripts can be used in the same HTML page
- The server goes through and processes the code from the HTML then sends all HTML.
- Some scripts are faster on the browser

## Server-side Scripting

- Users are not able to see the code
- Two ways:
  1. <% %> delimiters
  2. <script language=VBScript runat=server> </script>

## "Hello World" example

```
<html>
<head></head>
<body>
<% For x = 3 To 7 %>
<font size=<% = x %>>
Hello World!<br>
<% Next %>
</body>
</html>
```

## Date/Time example

```
<html>
<head></head>
<body>
The current time is <% =time %>.<p>
The current date is <% =date %>.
</body>
</html>
```

Click to see examples!

["Hello World" example](#)

[Date/Time example](#)

## Active Server Pages

Part II

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## Variables

- Location in memory that is given a name
- "Containers" for information to be stored in
- A variable is empty until some form of information is put into it

## Variables

- Teacher = "Dr. Chuck"
- NumberOfStudents = 20
- TA = "Jason Haase"

## Variables in VBScript

- Length limit is 255 characters
- Variable names must begin with an alphabetical character
- No periods or spaces
- NOT case-sensitive unlike JScript or JavaScript
- ie. counter = CoUnTeR

## Variables in VBScript

- Known as "variants"
- A variant is a variable that can store any data type.
- Integer, strings, etc.
- Strings represented with " "
- ie. " text "

## Variable examples

- Var1 = 1
- Var2 = 2
- Var3 = Var1 + Var2 = 3
  
- Var1 = "1"
- Var2 = "2"
- Var3 = Var1 + Var2 =12

## "Option Explicit" with Variables

- With "Option Explicit" every variable must be declared before use
- <% Option Explicit %>
- Variables are created using the "Dim" command
- An error occurs if Dim is not used with Option Explicit
- Good for large applications

## Two Kinds of ASP Statements

- Action Statements
  - Complete a task; display an item
- Control Statements
  - Used to direct action statements
  
- Large Groups
  - Code Structures
  - Control Structures

## Control Statements

- 3 Types of control statements
  - Branching Structures
  - Looping Controls
  - Jumping Controls

## Branching Structures

- Some kind of test where some code is run while other code is skipped
- If...Then...Else      End If
- Comparison Operators ( >, <, = )
- Virtual University main page example
- Select...Case      End Select

```
<html>
<head><title>If Then Example</title></head>

<body>

<% If Time >= #08:00:00 AM# And _
    Time <= #05:00:00 PM# Then %>
<h1>Welcome, we are OPEN!<p></h1>
<% Else %>
<h1>Sorry, we are CLOSED!<p></h1>
<% End If %>
<h2>Thanks for visiting!</h2>

</body>
</html>
```

```
<html>
<head><title>Select...Case</title></head>
<body>

<% Number = 2 %>
<% Select Case Number %>
<% Number 1 %>
The number is one (1).
<% Number 2 %>
The number is two (2).
<% Number 3 %>
The number is three (3).
<% End Select %>

</body>
</html>
```

## Looping Controls

- Same code can run multiple times
- It repeats code instead of skips it
- For...Next (Hello World example)
- Do While...Loop

## "Hello World" example

```
<html>
<head></head>
<body>

<% For x = 3 To 7 %>
<font size=<% = x %>>
Hello World!<br>
<% Next %>

</body>
</html>
```

## Do While...Loop example

```
<html>
<head></head>
<body>

<% count = 5 %>
<% Do While count > 0 %>
Current number is <% =count %>! <p>
<% count = count - 1 %>
<% Loop %>

</body>
</html>
```

## Jumping Controls

- Pause code, jump to another piece then back again continuing where you left off
- Call - starts subprocedure, runs it, returns back
- Functions - Used to perform actions with code then return information back to the main stream of code

## Click to see examples

[If...Then example](#)

[For...Next example](#)

[Do While...Loop example](#)

## Active Server Pages

Part III

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## Objects

- Properties - Characteristics that describe an object
- Methods - The tasks or actions that an object is able to perform
- Some require parameters

## 6 Active Server Objects

- Request - Gather info sent by the client
- Response - Send info from server to client after being processed
- Server - Basic functions in web server
- Application/Session - App functions not available with basic web server
- Object Content - Microsoft Transaction Server

## "Request" Object

- Request.Form - Form collection stores values from the form elements sent to the web server via "post" method
- Request.Form("TextBoxName")

## "Request" Object

- Request.QueryString - Extra information that is passed to the web server appended to the URL
- Name/Value format after question mark
- `http://www.cal.msu.edu/egr124/url.asp?name=Chuck`

## "Request" Object

```
<html>
<head></head>
<body>
<p>
The name that is displayed in the URL for this
page is <% =Request.QueryString("name") %>
</body>
</html>
```

## "Request" Object

- Request.ServerVariables - Holds all of the HTTP headers in addition to extra information about the server and requesting client browser
- Used to be informative
- "remote\_user" and "http\_user\_agent"

## "Request" Object

```
<html>
<head></head>
<body>
<p>
<% =Request.ServerVariables("remote_user") <p>
Your browser is <%
=Request.ServerVariables("http_user_agent")
</body>
</html>
```

## "Response" Object

- Send information back to the browser
- Opposite to the Request Object
- Response.Write - allows the web server to print something like text to the browser that is still within the delimiters
- `<% =Var1 %>` is the same as
- `<% Response.Write Var1 %>`

## "Response" Object

```
<% Number = 3
If Number = 3 Then
Response.Write "The number is equal to 3."
End If %>

<% Number = 3 %>
<% If Number = 3 Then %>
The number is equal to 3.
<% End If %>
```

## "Response" Object

- Response.Buffer - A way of manually controlling the HTML output stream
- By default, buffering is turned off
- `<% Response.Buffer = true %>` turns it on
- Must be inserted in page before any HTML is written

## "Response" Object

- Response.End - Sends the output and stops the script
- Can only be used in conjunction with Response.Buffer = true
- Any instructions after it are not processed

## "Server" Object

- One method of the "server" object is "CreateObject"
- "CreateObject" - allows you to make an instance of a component
- Components are ActiveX controls that come with the web server (added features)

## "Server" Object

- Create an instance of an object using the "set" statement with Server.CreateObject
- Set ObjName = Server.CreateObject("ClassName.ComponentName")
- Set ObjAd = Server.CreateObject("MSWC.AdRotator")

## Ad Rotator Component

- Rotates ads on each page load
- Takes a list of images and it cycles through them with a given time
- Each image can have a different hyperlink

## Object examples

<http://www.cal.msu.edu/egr124/url.asp?name=Chuck>

Try changing the name at the end!

Then reload the page and see the change!

Request Example

<http://www.cal.msu.edu/egr124/browser.asp>



# Active Server Pages

Part III

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# Guest Book

- guest.html
- gfproc.asp
- gfinfo.txt
- list.asp
- list2.asp

## guest.html

```
<html>
<head><title>Guest Form</title></head>
<body>
<h1>Guest Form</h1>
<p>Hello and welcome to my guest form. Thanks
for visiting my page. Please fill out the form so I
know that you have been here!<p>
<form method="post" action="gfproc.asp">
  First Name: <input type="text" size="30"
name="first"><p>
```

## guest.html

```
Last Name: <input type="text" size="30"
name="last"><p>
Email Address: <input type="text" size="50"
name="email"><p>
<input type="submit" name="Submit" value="Submit
This Info"><p>
</form>
</body>
</html>
```

## gfproc.asp

```
<% Option Explicit %>
<% Response.Buffer = true %>
<html>
<head><title>Guest Form</title></head>
<body>
<% Dim Fileproc, Infofile
Set Fileproc =
CreateObject("Scripting.FileSystemObject")
Set Infofile =
Fileproc.OpenTextFile("c:\inetpub\wwwroot\egr124\
gfinfo.txt", 8, true)
```

## gfproc.asp

```
Infofile.WriteLine Request.Form("first")
Infofile.WriteLine Request.Form("last")
Infofile.WriteLine Request.Form("email")
Infofile.Close %>
<% =Request.Form("first") %>, the information you
submitted has been saved to file.<p>
See other <a href="list.asp"> guests</a> who have
signed in!
<p>Or <a href="list2.asp">check this</a> out!
</body>
</html>
```

## gfinfo.txt

Nicholas  
Pellegrini  
pellegr7@pilot.msu.edu  
Jason  
Haase  
haasejas@pilot.msu.edu

## list.asp

```
<% Option Explicit %>
<html>
<head><title>Guest List</title></head>
<body>

<h1>Guest List</h1><p>

Here is a listing of my guests that have already
visited here!<p>

<% Dim Fileproc, Infofile, first, last, email
Set Fileproc =
CreateObject("Scripting.FileSystemObject")
```

## list.asp

```
Set Infofile =
Fileproc.OpenTextFile("c:\inetpub\wwwroot\egr124\
gfinfo.txt, 1)

Do while not Infofile.AtEndOfStream
first = Infofile.Readline
last = Infofile.Readline
email = Infofile.Readline

Response.Write first & " "
Response.Write last & "<br>"
```

## list.asp

```
Response.Write email & "<p>"
loop
Infofile.Close
%>

</body>
</html>
```

## list2.asp

```
Do while not Infofile.AtEndOfStream
first = Infofile.Readline
last = Infofile.Readline
email = Infofile.Readline

Response.Write first & " "
Response.Write last & "<br>" & "<a href=" & "mailto:"
Response.Write email & ">"
Response.Write email & "</a>" & "<p>"
loop
Infofile.Close %>
</body>
</html>
```

## Guest Book

- [guest.html](#)
- [gfinfo.txt](#)
- [list.asp](#)
- [list2.asp](#)

## Additional Sites

- [www.activeserverpages.com](http://www.activeserverpages.com)
- [www.aspsite.com](http://www.aspsite.com)
- [www.aspalliance.com](http://www.aspalliance.com)
- [www.genusa.com/asp](http://www.genusa.com/asp)
- [www.asphole.com](http://www.asphole.com)
- [www.serverobjects.com](http://www.serverobjects.com)