

Server-Side Includes (SSI)

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Server-Side Include

Server-Side Include (SSI) is a standard command that allows a web server to generate data and dynamically send it to an HTML document. It is commonly used to automate tasks, such as embedding information in a document as it is requested.

An SSI command begins with an HTML comment as follows:

```
<!--This is the format for a comment-->
```

A Server-Side Include command is embedded in the comment format with the following general syntax:

```
<!--#command tag="value"-->
```

This reference is not to an HTML tag, but rather to a tag that carries information used by the server to process the command. Each SSI command begins with a pound sign (#). Each tag, or parameter of a command, is followed by an equal sign (=) and an assigned value. The following example returns the date and the time that a file was last modified:

```
<!--#echo var="LAST_MODIFIED"-->
```

The syntax and meaning of each SSI command is shown below.

#echo

Returns the value of a variable. The five variables are:

```
DOCUMENT_NAME  
DOCUMENT_URI  
DATE_LOCAL  
DATE_GMT  
QUERY_STRING_UNESCAPED
```

Example:

```
Last modified: <EM><!--#echo var="LAST_MODIFIED"--></EM>
```

Yields the following:

```
Last modified: Tuesday, 24-Mar-20 16:41:36 EST
```

#include

Used to embed the contents of one file in another file.

Example:

```
<!--#include file="address.txt"-->
</BODY>
</HTML>
```

This script places the text of any file identified in the HTML document that requests it. All that is needed is a reference to the appropriate file instead of retyping that file's contents in a given location.

Another tag that may be used with #include is virtual=. The file= tag requires that the file must be in the same directory as the document. The virtual= tag allows access to any document that the server can find by relative reference.

Example:

```
<!--#include virtual="/directory/address.txt"-->
```

In this case, the address file can be placed in the site's root directory, and can be accessed from any file, even if it is located at another level in the directory tree.

#exec

May take either of two tags:

```
cmd=
cgi=
```

The command named in the cmd= tag will be executed using /bin/sh. If the tag is cgi=, the server looks in the specified cgi-bin directory. If the result of the script is a location tag, the server constructs a link to it. Otherwise, the result of the script is merged with the HTML file.

Administrators may disable #exec to prevent it from being used to compromise the security of a site.

#config

These tags may be used:

- errmsg= Determines what message is sent back to the client if an error occurs while parsing the document.
- #sizefmt= Specifies the formatting to be used when the size of a file is displayed. The options are bytes= or abbrev=.
- #fsize= Takes either the file= or the virtual= tags, and returns the size of the specified file as formatted by #config.
- timefmt= Specifies the format to use when the server provides a date. The formatting string comes from Unix's strftime. The options are shown here:

%a	The abbreviated weekday
%A	The full weekday
%b	The abbreviated month name
%B	The full month name
%d	The day of the month as a decimal number
%D	The date in mm/dd/yy format
%e	The day of the month in two digits
%H	The hour of the 24-hour clock in two digits
%I	The hour of the 12-hour clock in two digits
%j	The day of the year as a decimal number
%m	The month of the year in two digits
%M	The minutes of the hour in two digits
%p	The local AM or PM string
%r	The 12-hour clock time in local HH:MM:SS AM/PM format
%S	The seconds of the minute in two digits
%T	The 24-hour clock time in HH:MM:SS format
%U	The week of the year in two digits (Sunday first)
%w	The day of the week in one digit
%W	The week of the year in two digits (Monday first)
%y	The year of the century in two digits
%Y	Year as a decimal number
%Z	The time zone name

Variables

Six environment variables are available (exclusive of the CGI variables):

LAST_MODIFIED	Reports the last time the current file was changed
DOCUMENT_NAME	Reports the document name
DOCUMENT_URI	Reports the full path relative to the document root
DATE_LOCAL	Reports the current local date and time
DATE_GMT	Reports the current Greenwich mean time in timefmt= format
QUERY_STRING_UNESCAPED	Reports the query string sent by the client, if any

Using Server-Side Includes

The SSIs must be enabled at the server level. They may be enabled for an entire site or for individual directories. They may be activated for all files or only for files with a special file extension, such as “shtml.”

When the server receives a GET request from a client, it checks to see if the requested file ends in shtml. If it does, the server examines the file for SSIs because of the file extension. Directives are found and processed, and the entire document is sent back with content-type set to text/html if the following line was placed in the srm.conf file:

```
AddType text/html shtml
```

The server will parse a file only if the correct file extension is used.

Testing SSI

The following HTML document, named test.shtml, will test whether SSI is enabled on a server:

```
<HTML>
<HEAD>
<TITLE>Test for Server-Side Includes</TITLE>
</HEAD>
<BODY>
<P>
The date last modified<BR>
<!--#echo var="LAST_MODIFIED"-->
</BODY>
</HTML>
```

When accessed, the test.shtml page should produce the following output, depending on how the time format is configured:

```
The date last modified
Mon January 25 08:15:47 2020
```

SSIs are useful for implementing standard features on a site. Most sites have the same background on all pages, a copyright notice, and a link to the webmaster. The #include SSI can automate placing this type of information on every page.

Create the following template in a text editor for pages with included body and footer:

```
<HTML>
<HEAD>
<TITLE>Template</TITLE>
</HEAD>
<!--#include virtual="body.inc"-->
<H1>Header</H1>
<P>
</P>
<!--#include virtual="footer.inc"-->
</BODY>
</HTML>
```

Save this file as template.shtml, or with the appropriate file extension for your server. Note that included files are named with the extension "inc" rather than "html." The included files contain HTML, but they are not complete legal documents. This is simply a way to reference the contents of the file.

The body.inc file might contain the following:

```
<BODY BACKGROUND="wallpaper.gif">  
<A HREF="AboutUs.shtml"><IMG SRC="Images/logo.gif"  
ALT="Logo" HEIGHT= 100 WIDTH=60>
```

The footer might contain copyright information and a link to the webmaster's email address. If that information changes, it only needs to be changed once in the "footer.inc" file. Server-Side Includes are effectively used to automate a site and to provide information on the fly for visitors.