Server Side Includes

Reuse HTML Across Multiple Pages

Learn by doing step by step exercises.

Includes downloadable class files that work on Mac & PC.

EDITION 1.0

noble desktop

Published by:
Noble Desktop
185 Madison Ave, 3rd Floor
New York, NY 10016
nobledesktop.com

Copyright © 2020 Noble Desktop NYC LLC
Publish Date: 11-05-2020

All rights reserved. No part of this book may be reproduced or transmitted in any form by any means, electronic, mechanical, photocopy, recording, or otherwise without express written permission from the publisher. For information on reprint rights, please contact **hello@nobledesktop.com**

The publisher makes no representations or warranties with respect to the accuracy or completeness of the contents of this work, and specifically disclaims any warranties. Noble Desktop shall not have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the instructions contained in this book or by the computer software and hardware products described in it. Further, readers should be aware that software updates can make some of the instructions obsolete, and that websites listed in this work may have changed or disappeared since publication.

Adobe, the Adobe Logo, Creative Cloud, and Adobe app names are trademarks of Adobe Systems Incorporated. Apple and macOS are trademarks of Apple Inc. registered in the U.S. and other countries. Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the U.S. and other countries. All other trademarks are the property of their respective owners.

Table of Contents

INFO & EXERCISES

SECTION 1

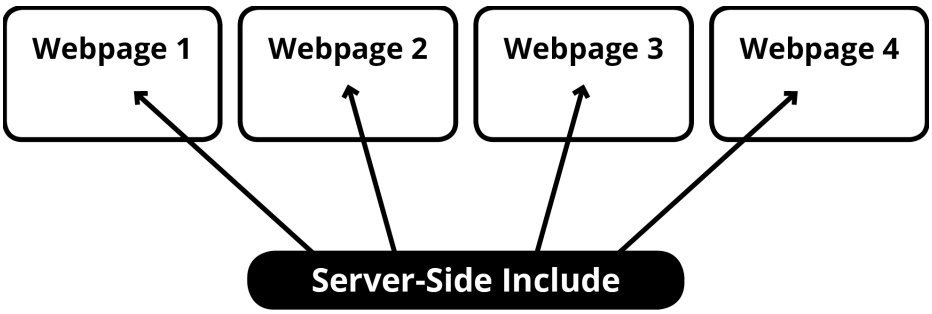
Exercise 1A: Server Side Includes (SSI) 5

Topics: Installing & Setting up MAMP
Reusing content across an entire site with SSI
Site root relative linking

REFERENCE MATERIAL

Noble's Other Workbooks 13

Exercise Preview



Exercise Overview

Shared CSS files let you globally change styling across a website, but what about sitewide content changes? What if you want to change the links in a header button or the year in a copyright? Rather than manually updating each instance across dozens—or hundreds—of pages, you can use a Server Side Include (SSI) to reuse one header or copyright snippet on every page. Any changes you make to the original code snippet will automatically be reflected across all the pages that include it. In essence, you change one file and upload that one file to the server. All pages are then instantly updated!

To get server side includes to work locally on your computer, you'll need a local web server. Luckily, there are free applications such as **MAMP** that do this.

Installing *MAMP*

1. In a browser, go to **mamp.info/downloads**
2. Download **MAMP & MAMP PRO** (they come together even though you'll only be using the regular MAMP).
3. After the download completes, run the installer (you do not need to install MAMP Pro if asked).

Mac Users: Launching the MAMP app

1. In your Desktop (the Finder), click on the **Go** menu and choose **Applications**.
2. Go into the **MAMP** folder and double-click on **MAMP.app**

Windows Users: Launching the MAMP app

1. If you have a **MAMP** icon on your desktop, double-click on that. If you don't, go into the Start menu and in the list of applications click on **MAMP** to launch it.
2. If you get security alerts about features being blocked, be sure to click **Allow access**.

Setting Up MAMP

1. The **Apache Server** and **MySQL Server** may start automatically (a green dot next to them will light up). If not, don't worry, we'll need to restart them in a bit anyway.
2. A MAMP start page may open automatically. If it does, close the window and switch back to the MAMP window.

   By default, MAMP uses the **MAMP > htdocs** folder as the root folder for the server. Rather than moving all the files we will be working with into this folder, we can specify a different root folder in the Preferences.

   NOTE: If you will be working with multiple sites, rather than changing the folder every time you switch to a different site, we recommend purchasing MAMP Pro, which allows you to create multiple Virtual Hosts.
3. Go into the **MAMP** menu and choose **Preferences**.
4. Click the **Web Server** tab at the top.
5. Next to **Document Root,** click the **Select** button.
6. Navigate to the **SSI Class Files** and select the **Hipstirred SSI** folder.
7. Click the **Select** (Mac) or **OK** (Windows) button.
8. Click **OK** again to close the Preferences window.
9. The server should restart. If it doesn't, click **Stop Servers**, then **Start Servers**.

   If your server is not running, click **Start Servers**.
10. Open any web browser:
    - Mac users: in the address bar type **localhost:8888** and hit **Return**.
    - Windows users: in the address bar type **localhost** and hit **Enter**
11. A Hipstirred webpage should load. If it does nit, make sure your MAMP server has started (try stopping it and starting it again).

Creating the Include File

1. In your code editor, open **index.html** from the **Hipstirred SSI** folder.

   NOTE: We recommend opening the whole **Hipstirred SSI** folder, if your code editor allows you to.

2. We'll to take the header code from this page and put it in a new file that we can reuse throughout the site. Select the **header** code (starting on line 12) as shown:

```
<header>
   <a href="index.html"><img src="images/logo@2x.png" class="logo" height="36"
width="105" alt="Hipstirred"></a>
   <nav>
      <ul>
         <li><a href="about/our-story.html">About Us</a></li>
         <li><a href="signup.html" class="button">Sign Up</a></li>
      </ul>
   </nav>
</header>
```

3. Cut the code.
4. Create a new file.
5. Paste the code into the new file.
6. Save the file as **header.html** into the **includes** folder in the **Hipstirred SSI** folder.

   NOTE: We created the **includes** folder for you ahead of time. This folder isn't required but is useful for keeping all the SSI files organized.

7. Switch back to **index.html.**

Adding the Header SSI to the Index Page

We must now add the header back onto the page by inserting some SSI code.

1. Below **`<div class="wrapper">`** on line 12 where our header code used to be, fill the empty line with the following bold code:

```
<div class="wrapper">
   <!--#include virtual="/includes/header.html"-->
   <div class="hero">
```

2. Double-check your code, taking special note of the following:

   - Make sure you added the **hash tag (#)** in the code. It looks very similar to a standard HTML comment, but comments that include the hash tag are interpreted by the SSI-enabled server as a command rather than as a comment.
   - Make sure the link to the include file starts with a **slash (/).** The slash indicates the root folder of the server.

   Server side includes can be used in files across numerous directories, so it's a best practice to use **site root** relative links. For more information about site root relative links, please see the sidebar at the end of the exercise.

3. Save the file.
4. Switch back to your browser and reload the webpage. If you closed the page, go to:

   - Mac: **localhost:8888**
   - Windows: **localhost**

   You should see the header (logo and navbar) are still in the page, so it worked!

Importance Of An .htaccess File

By default, most web servers will only recognize the server side include code in files that end with .shtml. Instead of renaming all our files, we can have a server recognize the server side include code in our .html files by including an .htaccess file.

We've already included that file in this site, which is why the SSI worked. Without this file the header content would have disappeared because the SSI code would not have been interpreted by the server (browsers don't render the code, only web servers do) Let's see what's in the .htaccess file.

1. Switch back to your code editor and open **.htaccess** from the **Hipstirred SSI** folder.
2. This code tells the Apache web server to turn on includes for HTML files.
3. When making the site go live on your live web server, you'll need to upload this **.htaccess** file, so keep the following in mind:

   - If you're on a Mac you can't see invisible files such as .htaccess on the Desktop, unless you hit **Cmd–Shift–Period(.)** to toggle the display of invisible files. (Hit the keystroke again to hide invisible files.)
   - FTP apps that have a two-pane view (local and remote files) often show invisible files, so you should be able to see it there. If not, you may have to enable them with a preference.
   - FTP apps that have a single-pane view (such as Cyberduck), typically have an upload feature (such as **File > Upload**). There you can usually show hidden files.

Adding the Header SSI to Other Pages in the Site

Currently only the **index** page is using the SSI version of the header. We need to add it to another page in the site.

1. Switch back to **index.html** in your code editor.
2. Select the SSI header code on line 12:

```
<!--#include virtual="/includes/header.html"-->
```

> **When to Use "Virtual" or "File"**
>
> When inserting server side includes (SSI) choosing either Virtual or File depends on what type of web server you use:
>
> If you're using an Apache server like we are in this exercise, you choose Virtual. In Apache, Virtual always works, while File only works sometimes.

3. Copy it.
4. Open **our-story.html** from the **Hipstirred SSI > about** folder.
5. Select the header code starting on line 12:

```
<header>
   <a href="../index.html"><img src="../images/logo@2x.png" class="logo"
height="36" width="105" alt="Hipstirred"></a>
   <nav>
      <ul>
         <li><a href="about/our-story.html">About Us</a></li>
         <li><a href="../signup.html" class="button">Sign Up</a></li>
      </ul>
   </nav>
</header>
```

6. Paste the SSI header code you copied, replacing the header code:

```
<div class="wrapper">
   <!--#include virtual="/includes/header.html"-->
   <div class="hero">
```

7. Save the file.
8. Switch back to your browser and reload the webpage.

9. Click on the **About Us** link in the navbar.

   While the header is there, the logo is missing, because the **document relative** image path does not work now that we're in the **about** subfolder. Server side includes can be used in files across numerous directories, so we're going to need to switch to **site root** relative paths to make our code work regardless of what folder we're in.

Fixing the Links in the Header SSI

1. Switch to your code editor.
2. Open **header.html** from the **includes** folder in the **Hipstirred SSI** folder.
3. Make all the links (href and src) site root relative by adding a **/** character in front of each link as shown below. TIP for Sublime Text users: You can place multiple cursors on each line and then type all 4 instances at once! Click into the first line, then hold **Cmd** (Mac) or **Ctrl** (Windows) and click on the other places. Then type the /.

```
<header>
   <a href="/index.html"><img src="/images/logo@2x.png" class="logo"
height="36" width="105" alt="Hipstirred"></a>
   <nav>
      <ul>
         <li><a href="/about/our-story.html">About Us</a></li>
         <li><a href="/signup.html" class="button">Sign Up</a></li>
      </ul>
   </nav>
</header>
```

4. Save the file.
5. Switch back to your browser and reload the About (Our Story) page.
   - The logo should now be working again.
   - Click the logo to go to the homepage to make sure the link works.
   - Click on **About Us** to make sure that link works too. (Sign Up does not work because we have not made that page yet.)

Making a Change to the Header

Currently the navigation link says **About Us**. Let's remove the **Us** to simplify it. Changes like this are easy after the include file has been made. Once we change the include file, the entire site will be updated!

1. Return to **header.html** in your code editor.
2. Delete **Us** from **About Us**.

3. Save the file.
4. Switch back to your browser and reload the webpage.
5. Notice the nav link now says **About**, not **About Us**.

   Go to the homepage and then back to About to see both pages have the same updated text in the navbar.

   Everything has been updated because they all reference the same include file. All you'd have to do on a live website is upload the include file and all pages currently using the include on the live site would instantly be updated. Fantastic!
6. For a bonus challenge, see if you can repeat this process for the footer. Here's a summary of what you need to do:
   - Move the footer code into it's own .html include file.
   - Update the image paths in the include file.
   - Link to the include in both pages (index.html and our-story.html).
7. When done, quit **MAMP** to stop the servers.

Links: Absolute, Document Relative, & Site Root Relative

There are 3 ways to link to webpages:

- **Absolute** paths provide the complete URL of the linked document, including the protocol to use (usually http:// for webpages). You must use this method to link to external webpages, but it's not necessary to use this type of path when linking to pages within your own site.
- **Document relative** links start from the current directory of the page. This is akin to giving directions to your house from your friends' house down the block. It's quick and easy. If your friends move, however, you have to give them new directions that will work from their new location.
- **Site root** relative links start in the root folder (/) and therefore don't care about the location of the file they are contained in. This is like giving your friends directions to your house from Grand Central Station, for instance. No matter where they are coming from, if they start at Grand Central, they'll have the correct path to your house.

Server side includes can be used in files across numerous directories, so it's a best practice to use **site root** relative links.

Check Out

Our Other Workbooks

- Web Development Level 1 & 2
- JavaScript & jQuery
- Flexbox, Grid, & Bootstrap
- WordPress
- PHP & MySQL
- HTML Email
- Photoshop for Web & UI
- Photoshop Animated GIFs
- Sketch
- Adobe XD
- Adobe After Effects
- Adobe InDesign
- Adobe Illustrator
- Adobe Photoshop
- Adobe Lightroom
- and more...

nobledesktop.com/books