

Introduction

Who Is This Book For?

This book was written for someone who is already familiar with building websites using Extensible Hypertext Markup Language (XHTML) and Cascading Style Sheets (CSS), but is new to ExpressionEngine.

If you aren't comfortable editing CSS selectors, using `<div>` tags, or don't know how to use the W3C CSS and XHTML validators then this book may not be for you (yet, anyway). A good share of the issues I've worked through with people using this series are straight HTML or CSS related - missing `</div>` tags, extra spaces in CSS files, etc. The more comfortable and experienced you are at solving these problems, the easier it will be to make the jump to ExpressionEngine.

And, of course, the more you've already explored the existing ExpressionEngine resources such as the support forums, the knowledge base, and the wiki, etc., the easier time you'll have grokking the code and build approach described in this book.

What's the Plan?

In this book we'll take a free CSS site template and work through the process of bringing it into ExpressionEngine from start to finish. I'm planning on a typical, genericized small-business site architecture of:

- Home
- About
- Products
- Services
- Weblog
- Contact
- Search

Please do not use any of the default templates that install with ExpressionEngine as your basis for the templates in this book. The default templates include some advanced features that make them more difficult for beginners to use. I also think the practice of using a static, non-EE template is closer to how many EE sites get

developed, so starting with fresh, non-EE code makes for a better learning experience.

This book is not (and was never meant to be) a complete ExpressionEngine reference covering every possible use of every parameter and every tag for every module. Frankly this task is too daunting for me to take on by myself. One day someone will find the resources to pull that off. In the meantime here are a number of additional ExpressionEngine learning resources:

- Learning more about EE 2:
<http://expressionengine.com/overview/>
- Looking through the EE User Guide, starting with the Overview:
http://expressionengine.com/user_guide/overview/index.html
- Spending time in the support forums:
<http://expressionengine.com/forums/>
- Perusing the EE Wiki:
<http://expressionengine.com/wiki/>
- Reading the EE Blog:
<http://expressionengine.com/blog/>
- Purchasing other Train-ee Products:
<http://train-ee.com>
- Reading the Train-ee Free Tutorials:
<http://www.train-ee.com/courseware/free-tutorials/>
- Attending an ExpressionEngine Conference:
<http://eeciconf.com/>
- Finding other EE Resources via:
<http://www.eehash.com/>

Conventions

- Each code template appears in the following format:

```
Template Name (in the format of template group  
name/template name)
```

```
Sample code
```

```
Sample code
```

```
Sample code
```

```
Name and location of template in Companion Files  
(if available)
```

- If you are using a digital version of the book, the Name and Location of the template in the Companion Files will be linked to a text version of that specific template on Train-ee.com.
- ExpressionEngine Objects (Control Panel, Template Manager, Template, etc) will be capitalized when referring to them - unless it's within a block of template code.
- If you are using a PDF version of this book I'd suggest using the Companion Files as the source for any copy/pasting you do into EE, as the chance of getting any odd characters is reduced.

Errata

We've taken great care to ensure the accuracy of the contents of this book. However, we are human and mistakes do happen. If you find evidence of our humanity we'd be grateful if you would report them to us. Once verified we will compile the corrections into new revisions of the book (which the self-publish/print on demand model easily allows). To report errata please use the Train-ee Contact form at <http://www.train-ee.com/courseware/contact/>.

Why So Little 3rd Party Code?

I took a very deliberate approach with this book: My aim is to demonstrate the power and flexibility of ExpressionEngine as it comes "out of the box". If the

example site were an actual client project there are probably a few things I'd do differently depending on the specific client and specific set of requirements for the site. Some of those changes would involve using some 3rd party add-ons.

However, the primary task at hand isn't to make a client happy, it's to teach you ExpressionEngine.

I firmly believe that having a solid understanding of EE's native abilities is the best foundation for knowing when to (and when not to) look to the 3rd party market for extending EE. As a result, with the exception of the bonus chapter covering Matrix from Pixel & Tonic, the build approach covered is first-party-centric.

Why Did You Do It *That* Way?

3rd party code aside, the EE integration approach used in this book should be viewed as "one way to do it" and not necessarily the "only" way or even any sort of "best practice" (I don't believe in so-called "best practices", but that's not a topic for this book). ExpressionEngine is incredibly flexible, and there are always at least a couple of different ways to implement the same thing. What I tried to do in this book was demonstrate a good way to build out a small business website using a simple and clean approach favoring native EE functionality. The techniques covered are based on my years of working with EE on dozens (hundreds?) of sites and show what I feel are good foundational coding practices that will set you up well for learning more advanced techniques later on.

Make sense? Cool.

Let's get to it.

Getting Setup

License Type

This book assumes you are using a Non-Commercial or Commercial License of ExpressionEngine 2:

http://expressionengine.com/user_guide/license.html

If you own the Freelancer license most of the content will still work, but based on the License Options the chapter covering configuring the site for client access won't apply.

Where to Install

For the purposes of this book you can either install ExpressionEngine locally or on publicly available web server/hosted account. As I worked through creating the site that is built as part of this book, I worked locally using a WAMP setup (for a Windows-based PC):

<http://www.wampserver.com/en/>

The default installation of WAMP has worked fine for me.

If you are Mac user you can use the similar MAMP install:

<http://www.mamp.info/en/index.html>

If you're on Linux you know what to do.

There is also no reason you couldn't work through this book building the example site on a remote web server.

Installing ExpressionEngine

EllisLab provides installation instructions as part of the EE User Guide:

http://expressionengine.com/user_guide/installation/installation.html

If you encounter issues while installing, remember that as part of your license purchase you get tech support:

<http://expressionengine.com/forums/viewforum/105/>

Book-Specific Installation Configuration

During the installation process, you'll be asked if you want to install the default Agile Records templates, and also which Optional Modules you want. For the purposes of this book, choose "None-Empty Installation" and only install the modules shown as checked:

Choose your default template design

None - Empty Installation ▾

Optional Modules

Modules that you would like automatically installed for you.

<input checked="" type="checkbox"/> BlacklistWhitelist	<input type="checkbox"/> Blogger API	<input checked="" type="checkbox"/> Comment
<input checked="" type="checkbox"/> Email	<input type="checkbox"/> Emoticon	<input type="checkbox"/> IP to Nation
<input checked="" type="checkbox"/> JQuery	<input type="checkbox"/> Mailing List	<input type="checkbox"/> Metaweblog API
<input type="checkbox"/> Moblog	<input type="checkbox"/> Pages	<input type="checkbox"/> Query
<input checked="" type="checkbox"/> RSS	<input type="checkbox"/> Referrer	<input checked="" type="checkbox"/> Search
<input type="checkbox"/> Simple Commerce	<input type="checkbox"/> Updated Sites	<input type="checkbox"/> Wiki

* Modules required by the selected template design

Figure 1: Modules Needed for the Small Business Site

Editing Templates

In order to neutralize any OS/toolset differences, this book assumes you are editing template code via the EE Control Panel and not using a text editor outside of ExpressionEngine. EE is capable of letting you use a text editor - see the EE User Guide for getting that setup:

http://expressionengine.com/user_guide/templates/templates_as_files.html

Companion Files

All of the code mentioned in this book (plus the CSS and HTML that comprise the Design Template) is available in simple text format for ease of copying and pasting.

If you purchased a digital version of this book, links are provided by each template as it's covered in the text.

If you purchased the print version of this book (or want to be able to work off-line), the complete Companion Files are available in a .ZIP archive. You can download the Companion Files here:

http://train-ee.com/companion_files/sb/small_business.zip

If you are going to download the archive it's best to do that right now - and store it on your local drive for easy access. Got it? Good. With our pre-work done, let's move on.

1

Loading a Static Template and Stylesheet

In this first chapter, we load HTML and CSS into ExpressionEngine, getting EE to serve up the static template.

The Design Template we'll be working with is simply a generic "open-source" design and was not specifically designed for this book. I chose the template for its licensing model, relative simplicity and flexibility. It's certainly not perfectly optimized, semantic or accessible markup, but don't let that be an obstacle for you in learning ExpressionEngine. One of EE's great strengths is the fact that it doesn't generate much markup, instead working with HTML/CSS that you provide.

This template demonstrates my opinion that all web design templates are usable with EE - counter to the popular notion that there aren't many EE template sources on the web.

Implementing a template that you find on the web isn't a "one-click" process but it's very straightforward. You can use the process covered in this book as the basic skeleton.

The Design Template files are located in the Companion Files at `chapter_1/design_template`. Open that directory on your local machine or download the Design Template here:

http://train-ee.com/companion_files/sb/chapter_1/design_template.zip

Upload the Template Images

The template uses a number of images in both the CSS and HTML. We need to put the template images where the web server can access them. ExpressionEngine has no requirements in this area so, if you have a standard naming and placement schema, you can still use it.

For this book (and most of my client sites), I've created a new subdirectory in the default EE images directory and placed my images within it. The path is:

`site root/images/interface/`

The following steps assume the images will be located in that directory.

Working within your EE installation location, create an `/images/interface/` directory:

Name	Date modified	Type	Size
avatars	3/28/2010 10:03 AM	File folder	
captchas	3/28/2010 10:03 AM	File folder	
interface	3/28/2010 10:56 AM	File folder	
member_photos	3/28/2010 10:03 AM	File folder	
pm_attachments	3/28/2010 10:03 AM	File folder	
signature_attachments	3/28/2010 10:03 AM	File folder	
smileys	3/28/2010 10:03 AM	File folder	
uploads	3/28/2010 10:03 AM	File folder	
index.html	11/13/2008 4:19 PM	Firefox Document	

Figure 2: New Interface Directory under Images

I uploaded all nine images from the Companion Files: chapter_1/design_template/images folder there.

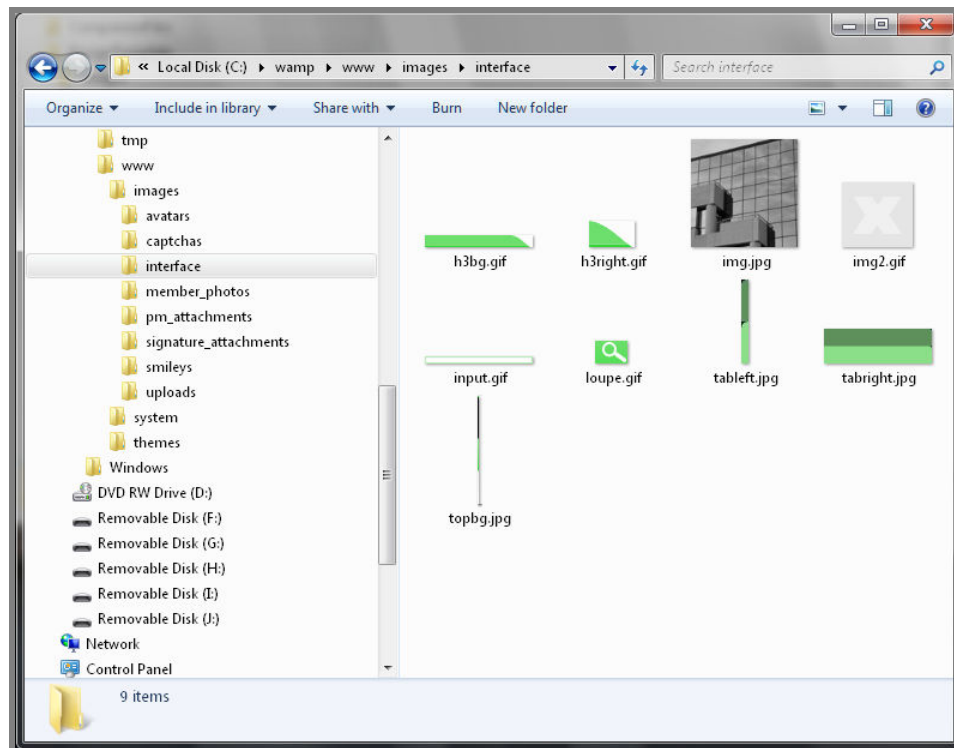


Figure 3: Design Template Images Loaded into New Directory

Edit CSS to Add the Site URL Variable

Now, let's take a look at the stylesheet that accompanies the design template, found in the downloaded archive (/chapter_1/design_template/stylesheet.css)

This file has the CSS formatted with the settings for a given selector all on one line. I find CSS formatted like this tough to scan and modify. I also like to use tabs to add spacing to

show some relationship between higher-level selectors and more specific selectors. To make this file easier for me to work with, I went through it and put in carriage returns and tabs using a text editor. There are more automated ways to do this, but I like doing it manually as it helps me get familiar with the CSS. This method also lets me look for any potential trouble spots (like where the content will be variable length but the design has a fixed size).

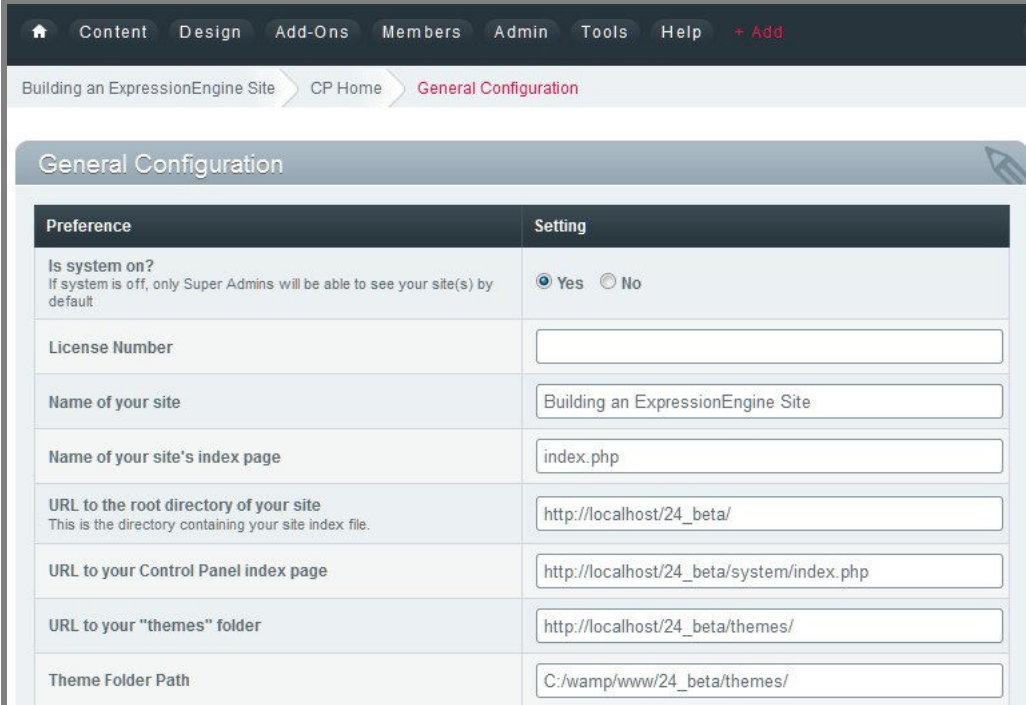
Regardless of how you like your CSS formatted, you have changed the name and location of the folder where the design images reside so you will need to edit the CSS paths to them. We'll edit the stylesheet locally and then bring it into ExpressionEngine in a later step.

There are two choices here: full paths or relative paths. Full paths are more reliable, but require editing when moving the site to a production server or changing the domain from a temporary one to a permanent one.

Relative paths allow a site to be moved more easily, but due to the way ExpressionEngine creates virtual directories (past its index.php file everything you see in the URL exists in EE and not as a file/folder on the web server), relative paths aren't always as reliable.

Here's your first taste of the power of ExpressionEngine. By using one of its standard Global Variables, we can achieve both the reliability of a full path in the CSS file with the ease of updating that a relative path offers.

The variable we'll use here is `{site_url}`. This variable takes its value from the Control Panel setting: Admin > General Configuration > URL to the root directory of your site.



Preference	Setting
Is system on? If system is off, only Super Admins will be able to see your site(s) by default.	<input checked="" type="radio"/> Yes <input type="radio"/> No
License Number	<input type="text"/>
Name of your site	<input type="text" value="Building an ExpressionEngine Site"/>
Name of your site's index page	<input type="text" value="index.php"/>
URL to the root directory of your site This is the directory containing your site index file.	<input type="text" value="http://localhost/24_beta/"/>
URL to your Control Panel index page	<input type="text" value="http://localhost/24_beta/system/index.php"/>
URL to your "themes" folder	<input type="text" value="http://localhost/24_beta/themes/"/>
Theme Folder Path	<input type="text" value="C:/wamp/www/24_beta/themes/"/>

Figure 4: General Configuration Screen Where `{site_url}` Is Set

Now, when ExpressionEngine serves up the stylesheet it will replace the `{site_url}` variable with the full path found in the Control Panel - creating a full image path that's also easily updated.

The `{site_url}` variable can be found in the EE User Guide here:

http://expressionengine.com/user_guide/templates/globals/single_variables.html#site-url

It's always a good idea to check the EE User Guide on an EE variable or tag before using it - just to be sure it's going to do what you are expecting it to.

I use the Find and Replace function in a text editor and change all image paths in `stylesheet.css` from:

```
images/topbg.jpg
```

to

```
{site_url}images/interface/topbg.jpg
```

Three things to note here:

- `{site_url}` variable is the only Global Variable that you can use in a ExpressionEngine CSS Template.
- This approach only works if you store your CSS in ExpressionEngine, and not as an external .css file. If you prefer, you can keep your .css external to EE (some sites see a performance gain by doing so). If you go the external CSS route you'll just need to hardcode all paths in lieu of using `{site_url}`.
- `{site_url}` includes the trailing slash so don't put another one after the variable or you'll have double-slashes when the template is rendered.

There is a fully updated stylesheet in the Companion Files archive at `chapter_1/updated_stylesheet.css` or you can download it from:

http://train-ee.com/companion_files/sb/chapter_1/updated_stylesheet.css

With the stylesheet changes done, we can now start the process of bringing the design template's code into ExpressionEngine.

Template Organization

ExpressionEngine uses Template Groups to organize templates. Template group names and template names can also become part of your URL structure and this is why it's important to structure your groups and name your templates with care.

In general, EE's URLs have the following structure:

`http://domainname.com/index.php/template_group/template_name/`

If I have only one stylesheet I'll keep it in a "site" Template Group along with the site's master index template. If there are multiple stylesheets to handle browser-specific issues or print/mobile versions then I'll create a dedicated stylesheets Template Group. Since this design template has just the one stylesheet I'll store it in the site Template Group.

We'll talk more about backend organization in Chapter 4.

Create a Template Group

In ExpressionEngine 2 the Control Panel home page is designed to be task-oriented with sections for Create, Modify, or View.

1. Since we are in creation mode, find Template Group in the Create section and click it:

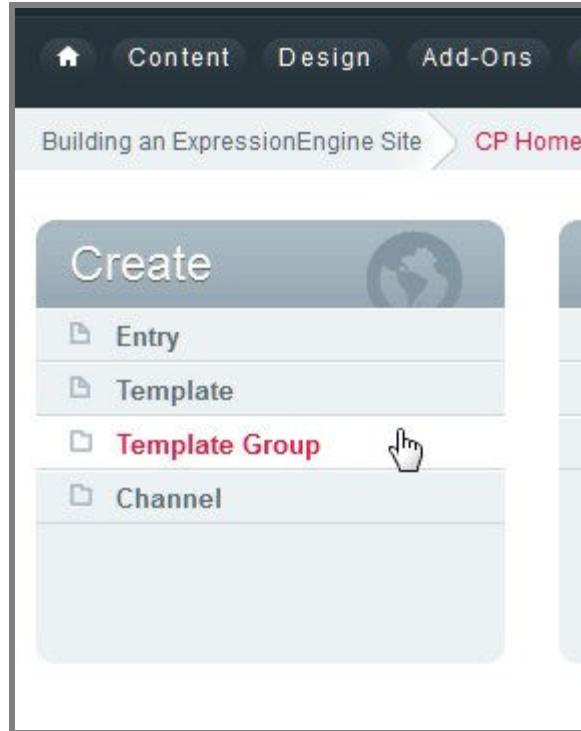


Figure 5: Create New Template Option on Control Panel Home Page

2. On the Create a New Template Group screen:

 A screenshot of a form titled 'Create a New Template Group'. The form is divided into two columns: 'Preference' and 'Setting'.

Preference	Setting
Template Group Name <small>The name must be a single word with no spaces (underscores and dashes are allowed)</small>	<input type="text" value="site"/>
Duplicate an Existing Template Group?	Do not duplicate a group ▾
Make the index template in this group your site's home page?	<input checked="" type="checkbox"/>

 At the bottom left of the form is a red 'Submit' button.

Figure 6: Creating the Site Template Group

3. Name the new Template Group "site".
4. Do not duplicate an existing Template Group (there shouldn't be any to duplicate anyway).
5. Check the box for *Make the index template in this group your site's home page?*
6. Click Submit.

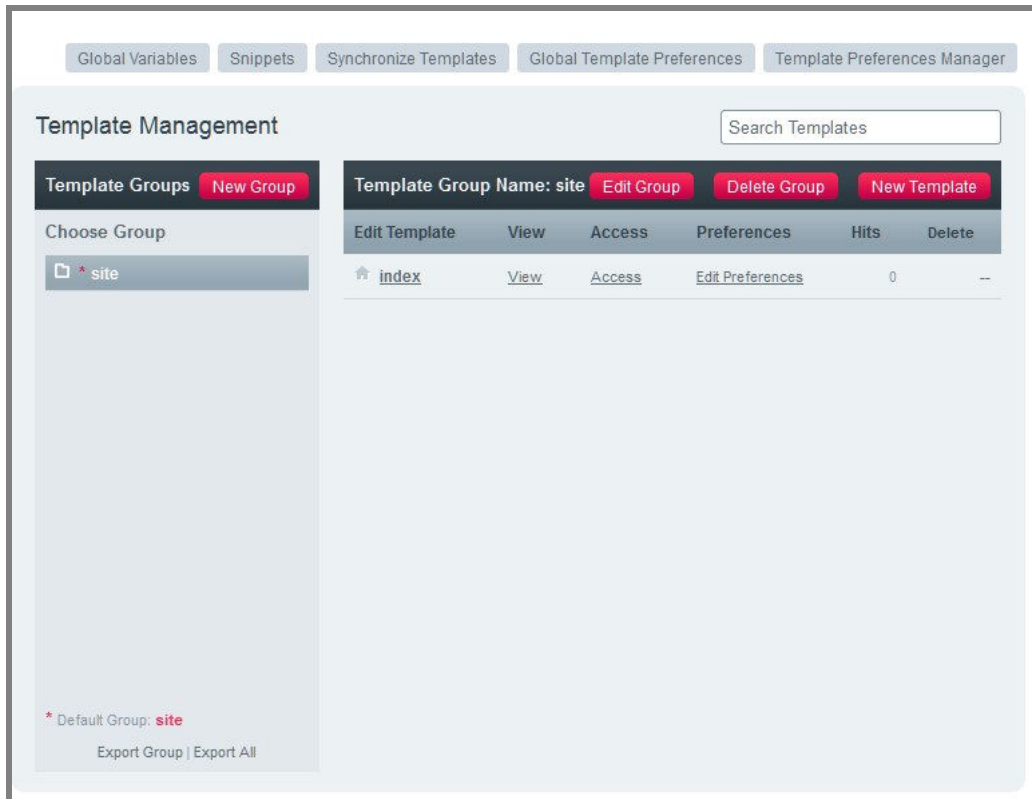


Figure 7: The ExpressionEngine Template Manager

Create a CSS Template

We can now start to load the site Template Group with templates. The first one we'll put there is the stylesheet.

1. If you aren't in the Template Manager, navigate there: Design > Templates > Template Manager.
2. From the Template Manager, click the New Template button.
3. Give it a name (I've called mine "stylesheet").
4. Set the Template Type to CSS.
5. Click Create and Edit.

Figure 8: Creating the Stylesheet Template

Copy/Paste in the CSS Code

Now you'll have a new empty template. Copy and paste in the CSS code that you edited earlier. Save the template by clicking Update and Finished.

Turn on Template Revision History

EE will save revisions of your templates as you make changes. This is a great feature that will save your backside at some point (it's not a question of if, it's a question of when). This feature is not enabled by default, so let's get it turned on:

1. Make sure you are in the Template Manager: Design > Templates > Template Manager.
2. Click Global Template Preferences.
3. Change Save Template Revisions to **Yes**.

Template Groups	Template Group Name: site		Access	Preferences	Hits	Delete
Choose Group	View	Access	Edit Preferences	0	--	
* site	View	Access	Edit Preferences	0	Delete	

Figure 9: Finding the Global Template Preference

4. Choose the number of revisions you want to keep (I usually keep **10**)

5. Click Update.

Building an ExpressionEngine Site > CP Home > Design > Template Manager > Global Template Preferences

Global Template Preferences

Preference	Setting
Enable Strict URLs This feature enforces stricter rules for your URLs, and interacts with the 404 feature below. Please see user guide for info.	No ▾
404 Page Determines which template should be displayed when someone tries to access an invalid URL. Note: If you choose 'None', your default channel will be shown when an invalid URL is requested.	None ▾
Save Template Revisions Note: Saving your revisions can use up a lot of database space so you are encouraged to set limits below.	No ▾ No Yes
Maximum Number of Revisions to Keep The maximum number of revisions that should be kept for EACH template. For example, if you set this to 5, only the most recent 5 revisions will be saved for any given template.	5
Allow Templates to be Saved as Files? When saving your templates you can optionally save them as files on your server. Please consult the user guide for more info regarding this feature.	No ▾
Basepath to Template File Directory Server path to the directory in which the template files should be saved.	C:\wamp\www\24_beta\system\expressionengine\template

[Update](#)

Figure 10: Turning on Template Revisions

With revision history turned on, you should be able to retrieve a previous version by loading a template in edit mode, and selecting the Revision History drop-down. EE date/time stamps the revisions and also shows the Screen Name of the person who last saved it:

Edit Template: site/stylesheet

From Database (Last Edit: 01/18/12 05:35 pm by Boink) View Revision History ▾ View

```

/*
    Free Green-business design - cc2.5 license
    http://www.free-css-templates.com
*/
* { padding:0; margin: 0 }

```

View Revision History
View Revision History
2012-01-18 05:35 PM (Boink)
Clear Revision History

Figure 11: Drop-down Showing Available Template Revisions

Selecting a previous revision will open a new tab in your browser with a textarea field where you can copy all or part of your previous code and drop it back into the active template.

Edit Image Paths in HTML

With the CSS loaded and revisions turned on, it's time to work with the HTML. You'll need to edit the image paths in the design template's `index.html` file to reflect the folder structure we've created for EE in order to specify them using the `{site_url}` variable.

They'll need to change from this form:

```
images/img2.gif
```

to this form:

```
{site_url}images/interface/img2.gif
```

Again, this is where a text editor comes in handy where you can use the find and replace option. You should find a total of four paths to change.

Loading the HTML into EE

Once you have the images paths edited and saved in your design template's HTML file, it is now ready to bring into EE as a new template.

Since EE will create a blank "index" template anytime you create a new Template Group, we can just use the existing index template in the new site Template Group.

Use the Template Manager to navigate to the site Template Group, click the index template title to edit it, then copy/paste in the `index.html` from your edited HTML file. Click Update.

Edit the CSS Link in the HTML File

There is one more thing to do in order to have EE serving up our static HTML and CSS - and that's to edit the link to the CSS file in the HTML. We need to do this because we've changed the locations of these files by pulling them into ExpressionEngine.

In the HTML, the default link is:

```
<link rel="stylesheet" href="stylesheet.css"
type="text/css" />
```

This needs to change to the EE stylesheet link:

```
<link rel='stylesheet' type='text/css' media='screen'
href="{stylesheet='site/stylesheet'}" />
```

Note the EE variable in that code, starting with `{stylesheet=`. What comes after this variable is the name and address of the stylesheet template. Site is the Template Group name and stylesheet is the Template name. If you used a different name for either the Template Group or the Template, you'll need to make sure the name and address used in the variable reflect those differences (and then, slap yourself on your wrist for being such a nonconformist).

Once you've recoded the link, click Update to save the template.

If you need it, there is an updated HTML file available in the Companion Files, `chapter_1/updated_index.html` or you can download it from:

http://train-ee.com/companion_files/sb/chapter_1/updated_index.html

The Results

If you're still in the template editing screen, you can now click View Rendered Template. You should get the static HTML and CSS as served up by EE.

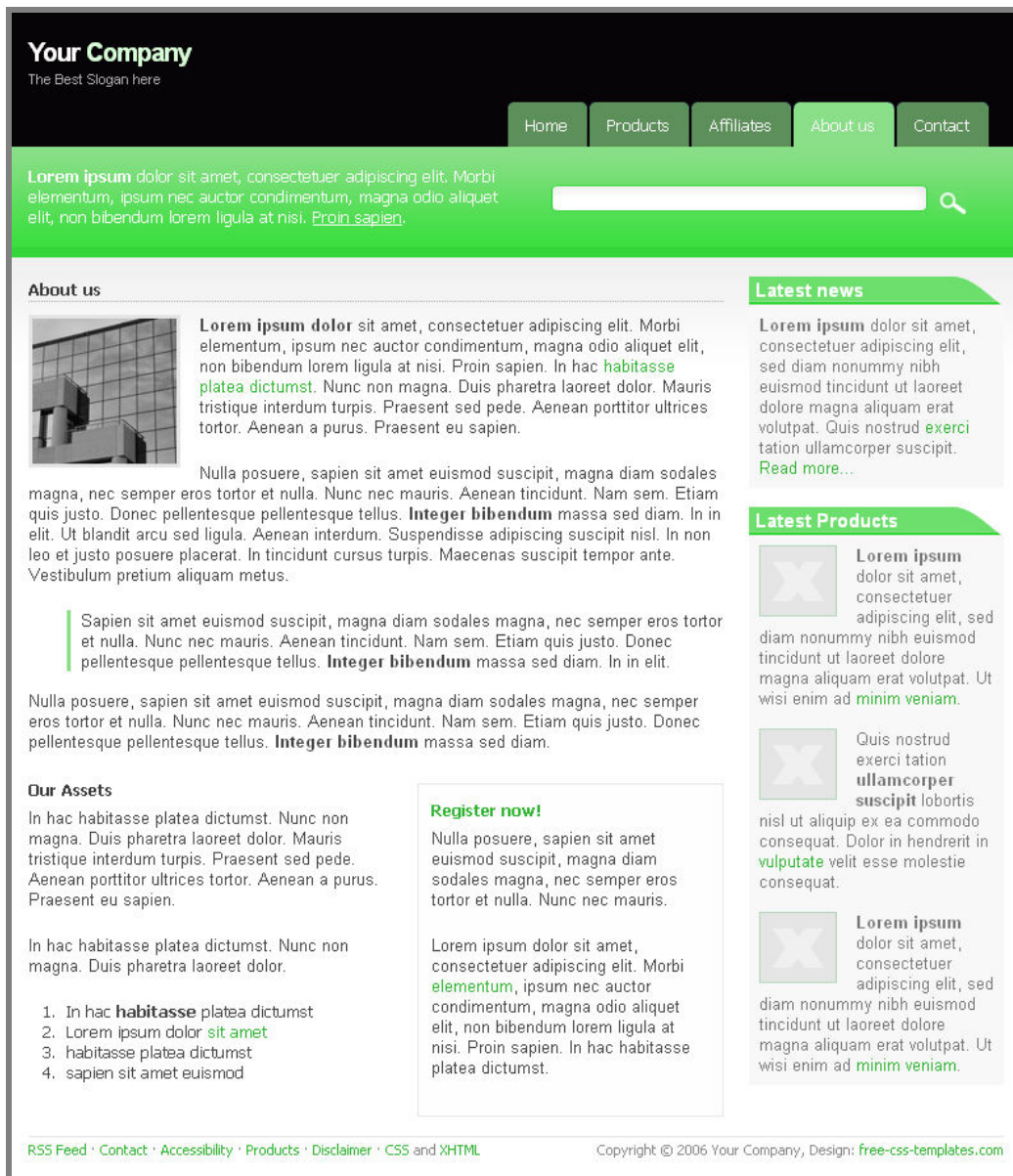


Figure 12: Design Template Rendered by ExpressionEngine

Not Working?

If you aren't getting images or aren't getting a styled Home page, check the following:

- Make sure you saved the stylesheet as a CSS template (and not a Web Page).
- Make sure you have the proper names of your Template Group and template specified. Double check that you named them what you thought you named them.
- Look for plurals where there should be singulars and vice-versa: stylesheet vs. stylesheets, etc.
- View the rendered version of your CSS template and double check your image paths. Copy and paste a complete path and file name back into the browser address bar to see if just the image loads. If it doesn't, your variable and path code in the stylesheet has an issue.
- Try double quotes rather than single quotes in the stylesheet linking variable.
- Make sure you have used braces around EE variable names and not parenthesis.