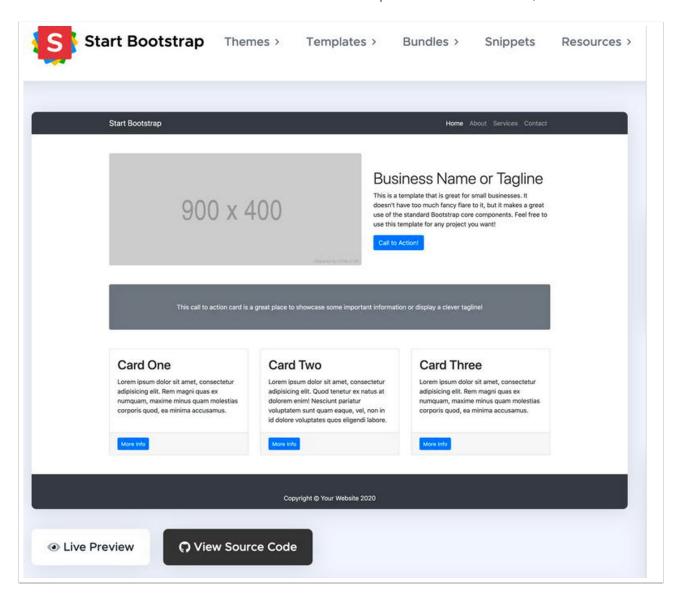
Create with Fred

Creating a theme for Fred

The Theme

For this tutorial, we'll be using a free StartBootstrap theme called <u>Small Business</u>. It's a simple landing page that has several features that will show off Fred's capabilities. Even better, it's free.



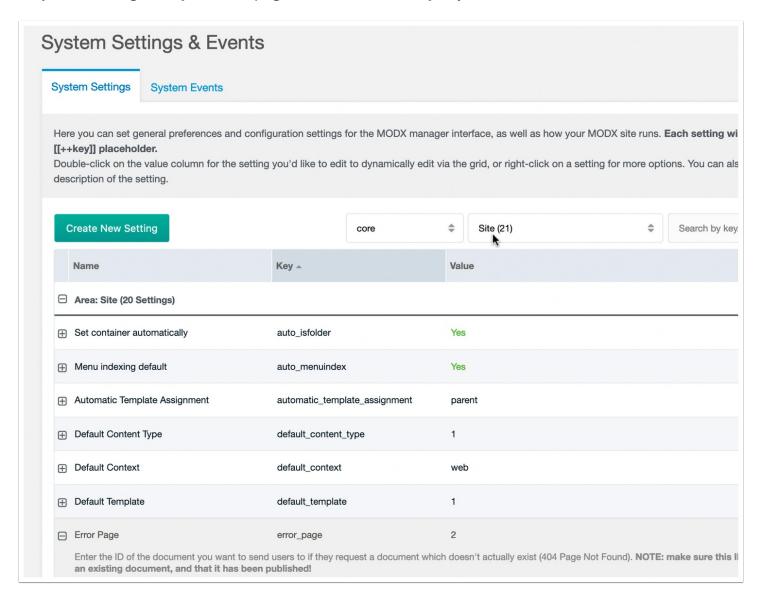
MODX System Settings

To begin with, you'll need an installation of MODX. This tutorial presumes at least some experience in working with MODX in general.

In System Settings, set your site name, enable friendly URLs, and any other settings you prefer.

Go now and quick-create a new Resource to be your Not Found page. If this is a new site, it should be resource #2.

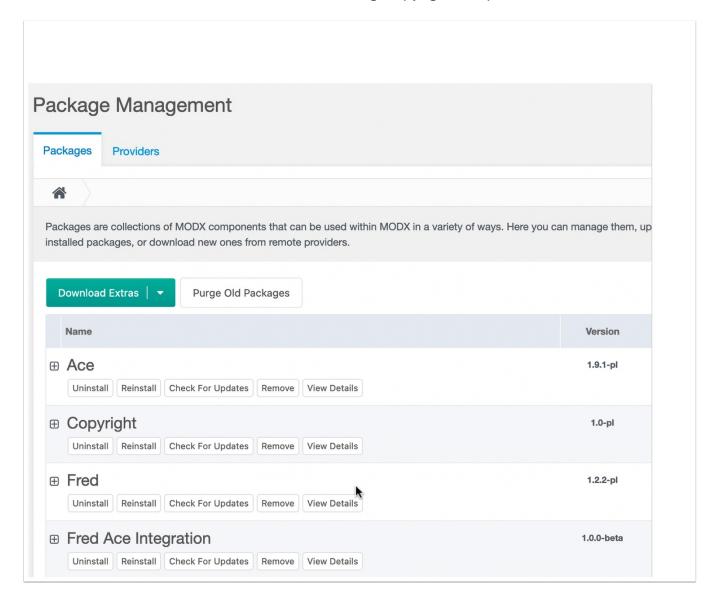
In System Settings, set your error page to be the resource you just created.



Install Fred

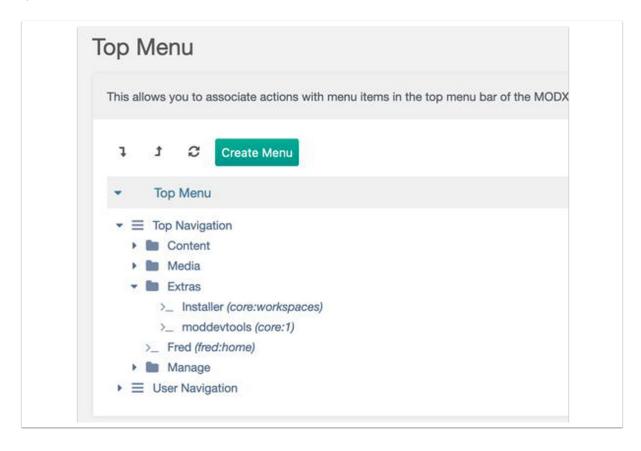
Install Fred and its companion extras. You will also need to install Ace and pThumb.

A few other extras will be used in this tutorial, including Copyright and pdoTools.



Move Fred Menu to the Top

Since we'll be accessing Fred a lot, it's more convenient to move it out of the Extras menu and onto the main menu bar. You can open Menus from the Tools icon, and simply drag Fred from its place under Extras up to where you would like it to appear in the main menu. You'll also need to update it to remove the Description, since that will be added to the menu title in the main menu bar.

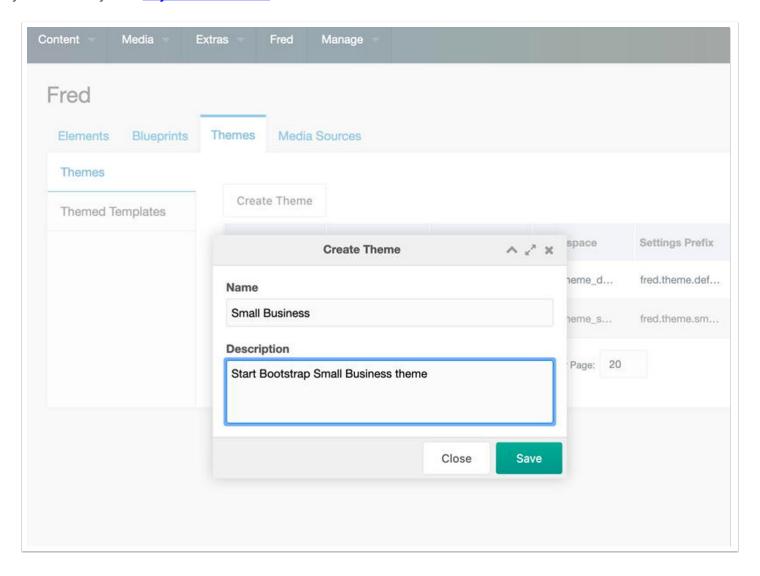


Create a New Fred Theme

The first thing we want to do is to create a new Theme. This will automatically create a number of settings, as well as create the file structure we'll need when we store our supporting files.

Open Fred, and select the Themes tab, make sure the Themes side tab is open, and you'll see the Default theme already there. Click the Create Theme button, and give it a name and a description. Fred will do the rest.

Fred creates a setting "fred.theme.smallbusiness.theme_dir" but that's as bad as typing the whole path yourself. Maybe a keyboard shortcut...

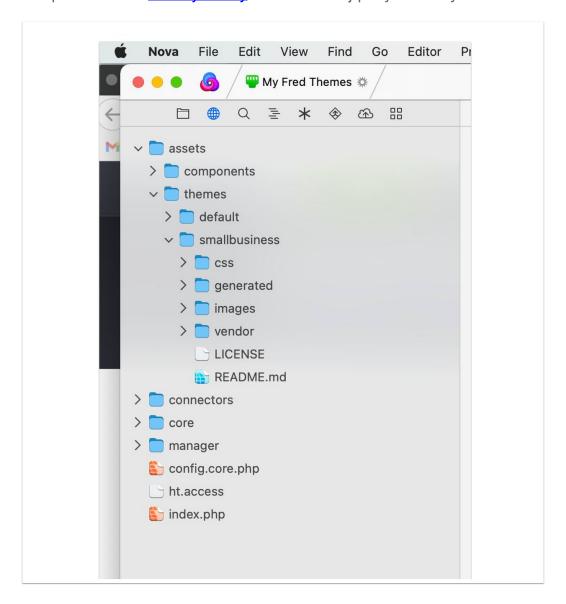


Upload the Theme's Files

Now we can upload the theme's files to the directory Fred created for us. All we need from the Start Bootstrap theme are the css and vendor directories and their contents. We'll want to organize our theme-specific images, so we'll create an images directory, and Fred will create the generated directory when it needs to store images and such that it automatically generates. As you can see, Fred already created the structure for its default theme.

It's also only polite to include the Start Bootstrap's LICENSE and README.md file, especially if you intend to package this theme for distribution.

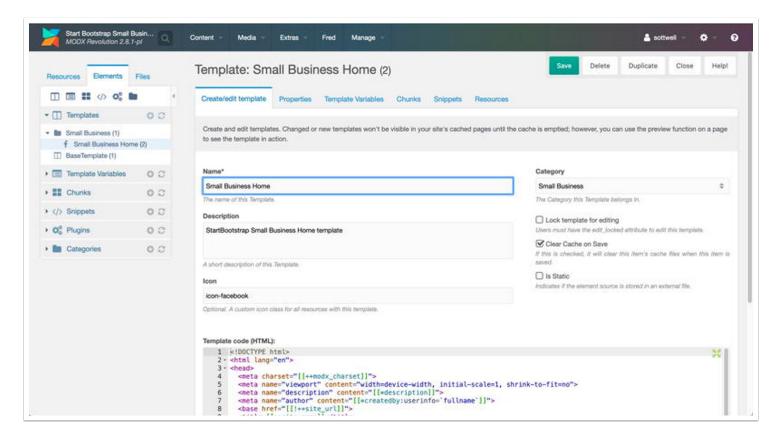
If you like, you can put the latest <u>JQuery library</u> in the vendor/jquery directory.



Creating a MODX Template

A Fred template is simply a MODX template with some Fred attributes added to the HTML tags. To create a MODX template from the Start Bootstrap theme, open the theme's index.html file in an editor and copy/paste it into a new MODX template. We'll also create a new Small Business category in which to keep all of our MODX elements for the theme.

Just for fun, I use the icon-facebook icon for Fred themes. That way I can tell at a glance at the Tree which templates and which resources are Fred-enabled.



Edit the Template for MODX

The first thing we need to do is get this template working properly for MODX. That means editing paths and replacing dynamic content such as menus with MODX tags and snippets. I've used pdoTools and its pdoMenu snippet for this theme, but you can use Wayfinder or any other snippets you prefer. You can also break out any parts you like into chunks, such as the navigation or the footer sections.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="[[++modx charset]]">
 <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
  <meta name="description" content="[[*description]]">
  <meta name="author" content="[[*createdby:userinfo=`fullname`]]">
 <base href="[[!++site url]]">
  <title>[[++site name]]</title>
 <!-- Bootstrap core CSS -->
 <link href="[[++fred.theme.smallbusiness.theme dir]]vendor/bootstrap/css/bootstrap.min.</pre>
css" rel="stylesheet">
 <!-- Custom styles for this template -->
 <link href="[[++fred.theme.smallbusiness.theme dir]]css/small-business.css"</pre>
rel="stylesheet">
 <!-- Custom overrides for Fred styles -->
  <link href="[[++fred.theme.smallbusiness.theme dir]]css/custom.css" rel="stylesheet">
</head>
<body>
 <!-- Navigation -->
  <nav class="navbar navbar-expand-lq navbar-dark bq-dark fixed-top">
    <div class="container">
      <a class="navbar-brand" href="#">Start Bootstrap</a>
      <button class="navbar-toggler" type="button" data-toggle="collapse" data-</pre>
target="#navbarResponsive" aria-controls="navbarResponsive" aria-expanded="false" aria-
label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
      </button>
      <div class="collapse navbar-collapse" id="navbarResponsive">
          &checkPermissions=`load,list,view`
          &startId=`0`
          &level=`1`
          &outerClass=`navbar-nav ml-auto`
          &rowClass=`nav-link`
```

```
&tpl=`@INLINE <li[[+classes]]><a class="nav-link" href="[[+link]]"</pre>
[[+attributes]]>[[+menutitle]]</a>[[+wrapper]]`
       11
     </div>
   </div>
 </nav>
 <!-- End Navigation -->
 <!-- Page Content -->
 <div class="container" data-fred-dropzone="content" data-fred-min-height="500px">
   [[*content]]
 </div>
 <!-- End Page Content -->
 <!-- Footer -->
 <footer class="py-5 bg-dark">
   <div class="container">
     Copyright © [[++site name]] [[!Copyright?
&startYear=`2021`]]
   </div>
 </footer>
 <!-- End Footer -->
 <!-- Bootstrap core JavaScript -->
 <script src="[[++fred.theme.smallbusiness.theme dir]]vendor/jquery/jquery.min.</pre>
js"></script>
 <script src="[[++fred.theme.smallbusiness.theme dir]]vendor/bootstrap/js/bootstrap.</pre>
bundle.min.js"></script>
</body>
</html>
```

The Fred part

While there are many ways to structure a Fred template, I've found it easiest to make the entire main part of the page be one Fred dropzone. Only the things that don't get changed much will remain in the template. In this case, we leave the navigation bar and the footer. If your theme had a more detailed footer, you might want that to be included in the main dropzone, or you might want to make it a <u>second drop zone</u>.

In this case, however, for such a simple template, we just replaced the main content section with its heading, its CTA well, and its row of cards, with the [[*content]] tags and added Fred attributes to the container HTML element. As the Fred documentation says, giving your dropzone a minimum height makes it easier to know where to drop your Fred elements.

Are we confused yet? There are MODX elements, of which Templates is one kind. Then there are HTML elements, like divs and images and links. Now we add Fred elements, which are the blocks of content we'll be dropping into our dropzone.

You need to give your dropzones a name so that Fred can organize all of the elements that get dropped into them. Since all of this is stored as JSON, you might want to avoid spaces and hyphens and other special characters, sticking to the Javascript-safe methods of joining multiple-word names.

```
<!-- Page Content -->

<div class="container" data-fred-dropzone="content" data-fred-min-height="500px">

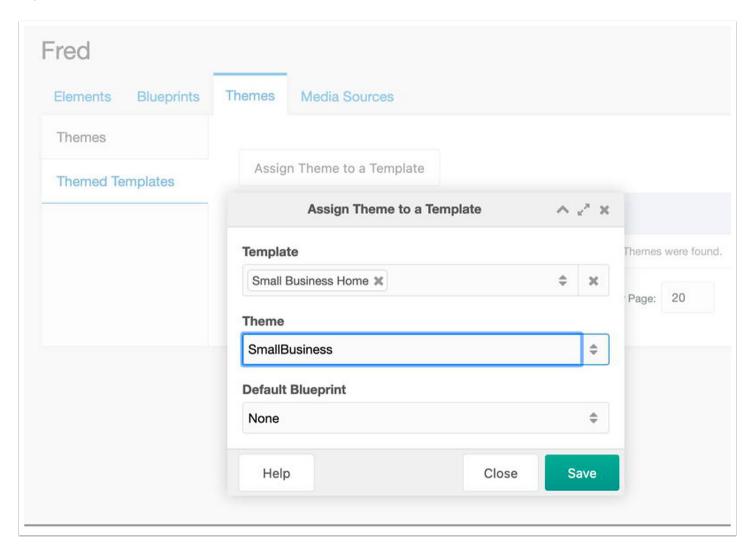
[[*content]]

</div>

<!-- End Page Content -->
```

Register the Theme With Fred

Now we need to tell Fred that this is a Fred template. You may have noticed when we created our Fred theme that there is a second tab on the left, Themed Templates. This is where we go to register our template. Click the Assign Theme to a Template button and select the Template and Theme from the drop-downs.

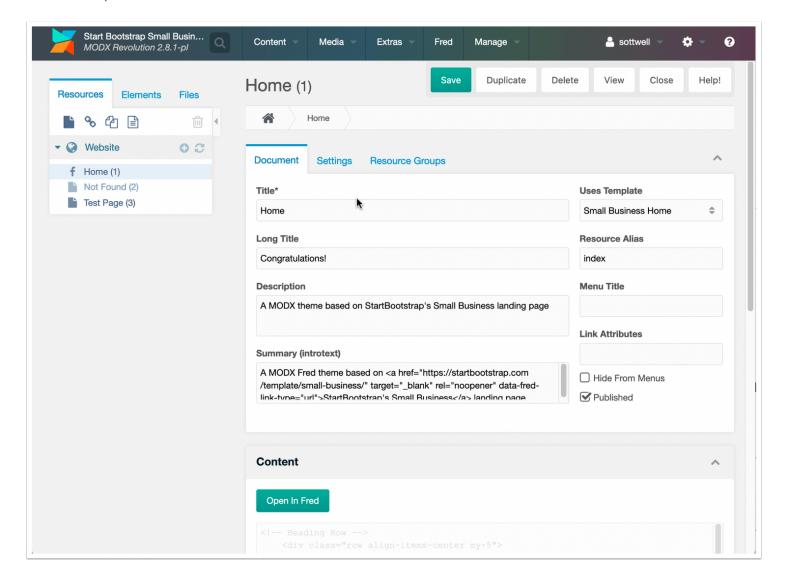


Assign a Resource to the Fred Template

The next step is to assign a resource to the Fred template. Make sure to Save the resource after the template is changed. You will immediately see that you can no longer edit the resource's content from the Manager.

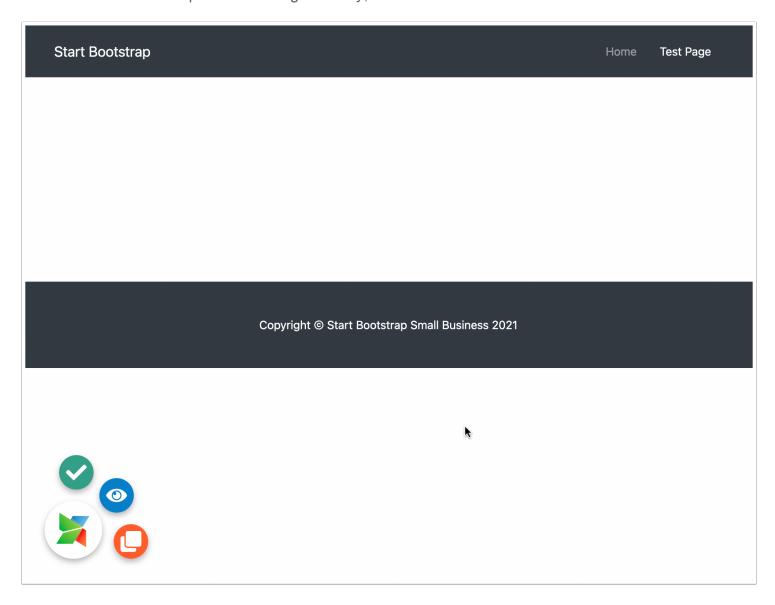
Notice the Long Title and the Summary. We will see those again shortly.

Click the Open in Fred button and see Fred at work.



Fred At Work

We definitely need to have something to put in between the menu bar and the footer. But at least we can see that our MODX template is working correctly, with a functional menu and a footer.

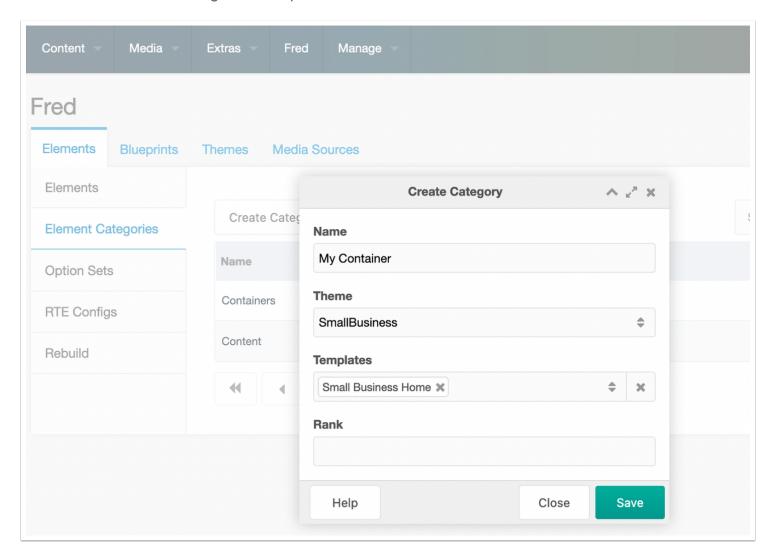


Creating Element Categories

Before we can create elements to drop into our dropzone, we need to create some categories. In our case, we'll only need two, one for Containers, elements which themselves will not have editable content, but will be dropzones and act as containers for other elements that do have editable content, and a second Category for Content, elements that will have editable content.

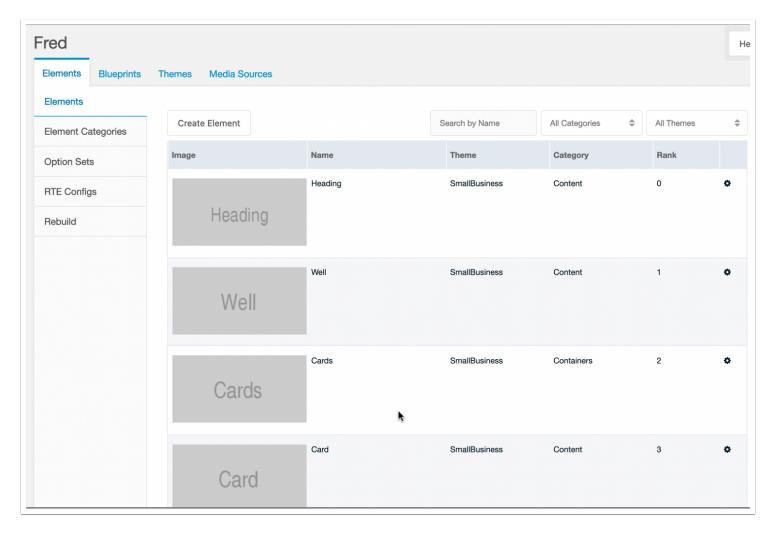
Give your new category a name, then select your theme, then any MODX templates that will be using these categories of Fred elements.

You can organize your elements in any way you like. You'll see your Categories when you open the Elements tab to drag elements into drop zones. That way you don't get a long, long list of elements to have to choose from to drag into a dropzone.



Creating Elements

Now we can get to creating some Fred elemets. Our simple theme only needs four, three with editable content and one that is a dropzone container, that has no editable content, for others with editable content. You can assigne the elements a Rank, and I prefer to have mine in the order in which they are used. There are various ways to sort this list, which is just as well, because they are not separated and all of your theme's elements will be in one long list.

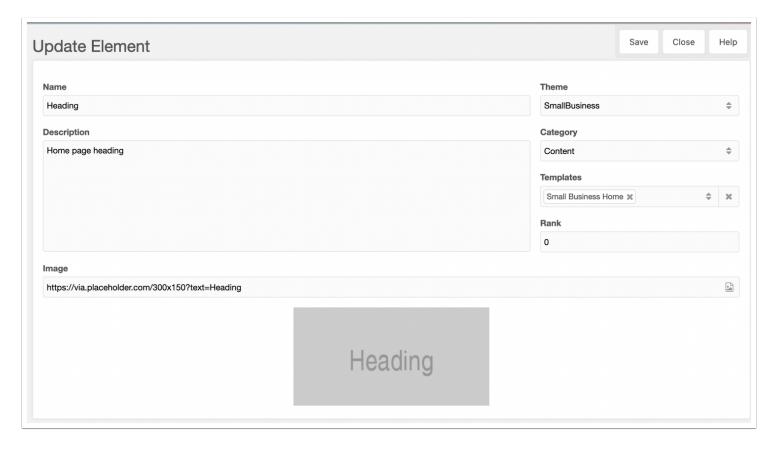


Element Settings

Let's start with the Heading element, since it's the first one we'll want at the top of our page content. There are a few things you need to configure for every setting.

First, give your element a name and a description. Then from the dropdowns on the right, select the Theme, the Category, and all MODX templates that will use this element. Be aware that the Templates will not save the first time you save a new Element, but all subsequent saves will save the Templates. Here you can also specify the rank, which will be the order in which it will be in the list of Elements.

You can also select an image that will be used as a thumbail to represent the Element in the editing menu. Fred will default to using <u>placeholder.com</u> to provide a default image, using the element's Name as the text property.



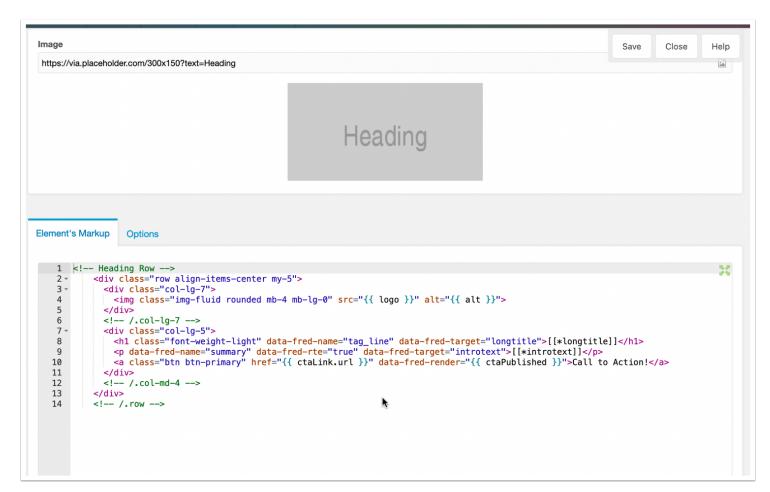
Element Markup

Note that two of the HTML elements have a <u>data-fred-target</u> attribute. This means that Fred will save the content to the speified resource setting, in this case one is saved to the longtitle and the other is saved to the introtext (summary). You can also save to TVs.

In a large way, Fred Elements are a lot like the chunks we use as tpls for listing snippets like pdoResources or getResources. They add some Fred attributes to the HTML elements, and the biggest difference is that they use Twig placeholders instead of MODX placeholders.

You can see here that we have {{ logo }} and {{ alt }} Twig placheolder for the heading's image, and {{ ctaLink.url }} and {{ ctaPublished }} placeholders for the heading's Call to Action button.

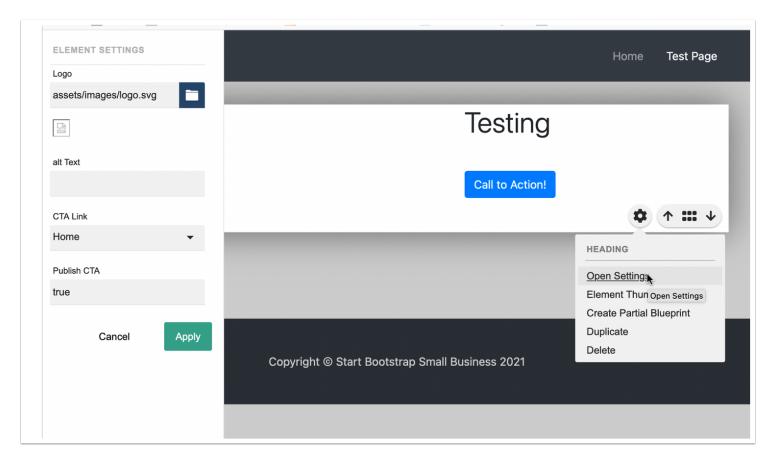
That last one warrants another look, and is one of the really nice features of Fred. You can specify if you want a certain part of the HTML to be included in the final rendered page or not. That data-fred-render="{{ ctaPublished }}" attributed will be either "true" or "false", and Fred will render the HTML element or not accordingly. Where, you may ask, do these placeholders get their values? Read on...



Option Sets

The Twig values come from Option Sets. These are JSON structures that define the fields that will be provided in each Fred element's context menu. While content can be edited directly on the page, HTML tags and their attributes cannot. So in order to be able to edit those attributes, Fred provides Options and uses Twig to insert them into place.

Here you can see the fields for the image's path and its alt text, and the CTA button's link and its published status.



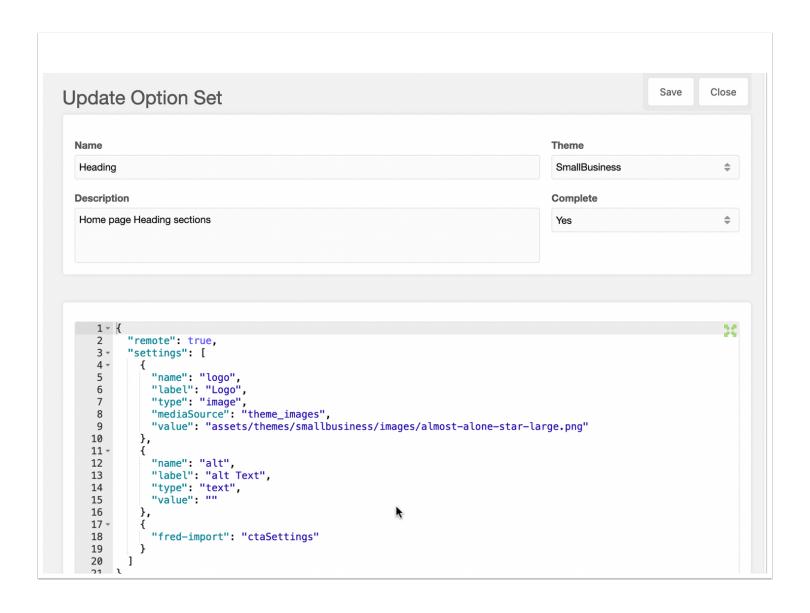
Creating Option Sets

Option sets are in JSON format, and since they are processed by Twig the usual Javascript rules apply, use underscores, CamelCase or camelCase for the "name" value. It's best to choose one method and stick with it to avoid confusion. The name of a partial Option Set needs to follow the same rules, so they can be imported into other sets.

Option sets need to have their own settings, a name, a description, what theme they belong to, and whether or not they are complete sets. More on that later.

This Option Set for the heading is a complete set, but it imports a partial set. The partial set is used in two of our Option Sets, making life so much easier without having to maintain the same options in every set that uses them. Kind of like chunks used for common parts of a MODX template. Since there are several CTA buttons with the same attributes, we can import a partial set, "ctaSettings".

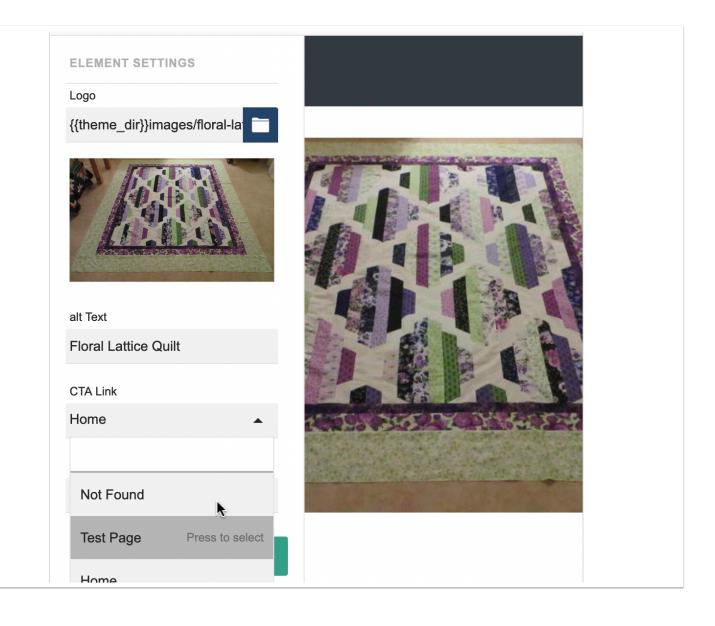
The <u>Fred documentation</u> explains this structure and the different types you can use. It is a good idea to keep a browser tab open to the docs.



A Partial Option Set

Now let's take a look at that partial option set, ctaSettings. It will provide the settings for all of the CTA buttons. Again, the Fred documentation explains how these types can be configured. This partial set uses MODX tags, and since it is only used by including it in other full sets their "remote = true" setting will cause Fred to allow MODX to process them as usual, in this case generating a URL from a resource ID.

```
[
    "name": "ctaLink",
    "label": "CTA Link",
    "type": "page",
    "value": {
        "id": 1,
        "url": "[[~1]]"
    }
},
    {
        "name": "ctaPublished",
        "label": "Publish CTA",
        "type": "text",
        "value": true
}
```



The CTA Well

The second element placed in our main Fred container dropzone is a well that could be used for location information or anything else that seems appropriate. It's very simple, just a few lines of HTML and Fred attributes.ou may notice, however, that I've added <div>...<div> tags around the ... tags. This is to give TinyMCE something to work with, since if the ... tags were the container with the Fred attributes, TinyMCE wouldn't be able to use any of its formatting tools - you can't have paragraph or heading tags inside of a paragraph.

Since the Bootstrap class has been moved. outside of the tags, we'll use the custom.css file to make it apply to the p element after the element with the m-0 class.

Start Bootstrap Home Test Page



Congratulations:

A MODX Fred theme based on StartBootstrap's Small Business landing page.

This call to action well is a great place to showcase some important information or display a clever tagline!

Card One

Lorem ipsum dolor sit amet, consectetur

Card Two

Lorem ipsum dolor sit amet, consectetur

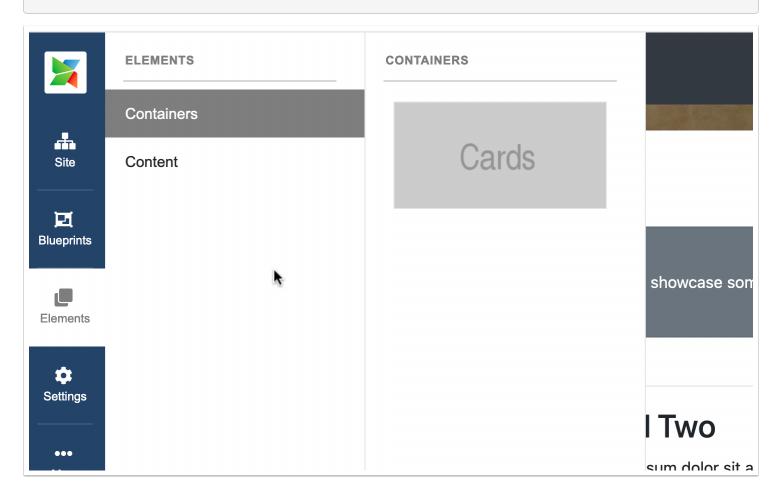
Card Three

Lorem ipsum dolor sit amet, consectetur

The Cards Container

The next section is a set of three cards, although you can add as many as you like. The container is itself a dropzone, and has no content.

<div class="row" data-fred-dropzone="cards" data-fred-min-height="300px">
</div>



The Cards

The Card element is intended to be dropped into the Cards container. There are three, but you can drop as many as you want. Again, the tag in the default content is enclosed with <div> tags to accommodate TinyMCE.

The <u>data-fred-block-class</u> is one of the more clever features of Fred. When Fred sets up the page for editing, it adds a lot of <div> containers of its own. They will, by default, take up the whole width of the containing dropzone. This makes for a very ugly editing page in the case of horizontal rows of elements like these card blocks. What that data-fred-block-class does is tell Fred to give those classes to its own <div> container, so it will get the same styling that the blocks have without the Fred editor. When Fred saves the actual blocks, it restores those classes to the original <div>.

The cards have their own Option Set, but it doesn't really do much by itself. Really, all it does is include the partial set for the CTA buttons.

```
"remote": true,
"settings": [
    {
       "fred-import": "ctaSettings"
    }
```

}

RTE Configuration

The Fred TinyMCE has a built-in configuration that may not suit you. I don't like it at all. Fortunately, Fred takes that into consideration. You can create your own RTE configuration, and you can even have different configurations for different elements.

If you name your configuration "TinyMCE", it will override Fred's default for the whole page. Or you can specify the configuration you want to use for a specific HTML element with the "data-fred-rte-config" attribute.

Since I don't want to be having to drag-and-drop paragraph elements for every paragraph, I've configured TinyMCE to add the "formatselect" dropdown, although with a custom set of select options. The Fred docs <u>give some examples</u>, including the default, that are a good starting place. Beyond that, the <u>TinyMCE documentation</u> is the place to go.

```
"theme": "inlite",
"inline": true,
"plugins": "modxlink image imagetools media lists code codesample paste",
"insert toolbar": "image media quicktable modxlink codesample",
"codesample languages": [
   "text": "HTML/XML",
   "value": "markup"
  },
   "text": "JavaScript",
   "value": "javascript"
   "text": "CSS",
   "value": "css"
   "text": "PHP",
   "value": "php"
  },
   "text": "Twig",
   "value": "twig"
],
"block formats": "Paragraph=p; Heading 3=h3; Heading 4=h4; Preformatted=pre;
```

```
Address=address; Code=code",
    "selection_toolbar": "bold italic underline | formatselect | alignleft aligncenter
    alignright | bullist numlist | modxlink blockquote | code",
    "image_advtab": true,
    "imagetools_toolbar": "alignleft aligncenter alignright | rotateleft rotateright | flipv
    fliph | editimage imageoptions",
    "auto_focus": false,
    "branding": false,
    "relative_urls": false,
    "image_dimensions": false
}
```

The section of "codesample_languages" comes from a <u>forum post</u> by matdave. While this will allow for very pretty code samples, it won't deal with MODX tags. And the way Fred loads and saves your work, the FixedPre plugin won't work with Fred. So for now, you won't be able to show any code that includes MODX tags.

The "insert_toolbar" is activated if there is a line with no content. It will give you the options of inserting images, videos, tables, internal links, and code blocks. If you want a paragraph in that spot, just start typing your text, and TinyMCE will automatically put it in tags.



Blueprints

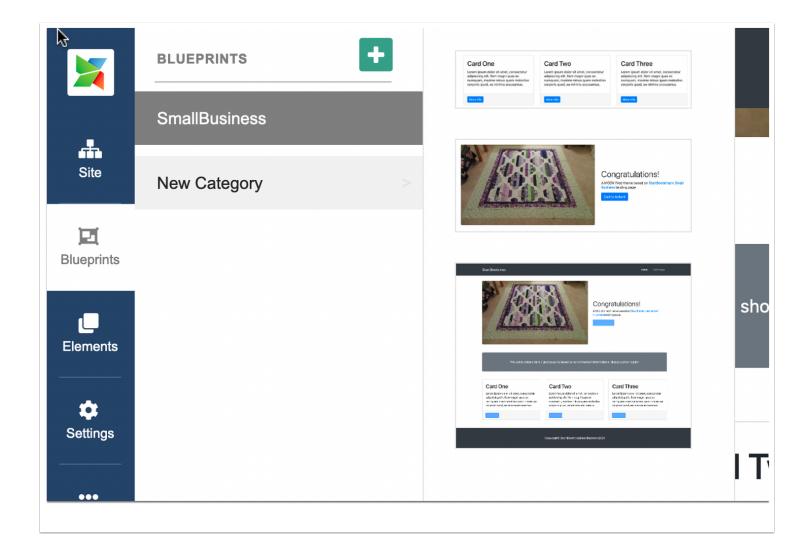
When you first open a page for editing using this template, all you get is the menu bar and the footer. You have to start dragging and dropping elements to form your page and its content. Every time you open a new page using this template you have to do it again...and again. Wouldn't it be nice if there were some way to just get it all in place at one time? Yes, it is very nice, because that's exactly what Blueprints are for.

For each element you can create a partial blueprint, you can create a blueprint for a container and all of its contents, and you can create a full blueprint of the whole Fred area that will drop in everything at once.

For a full blueprint, Fred will automatically generate an image of the page. For partial blueprints, you'll need to use your own images.

Partial bluprints are created from each element's menu, while the full blueprint is created from the green + at the top of the Blueprints panel.

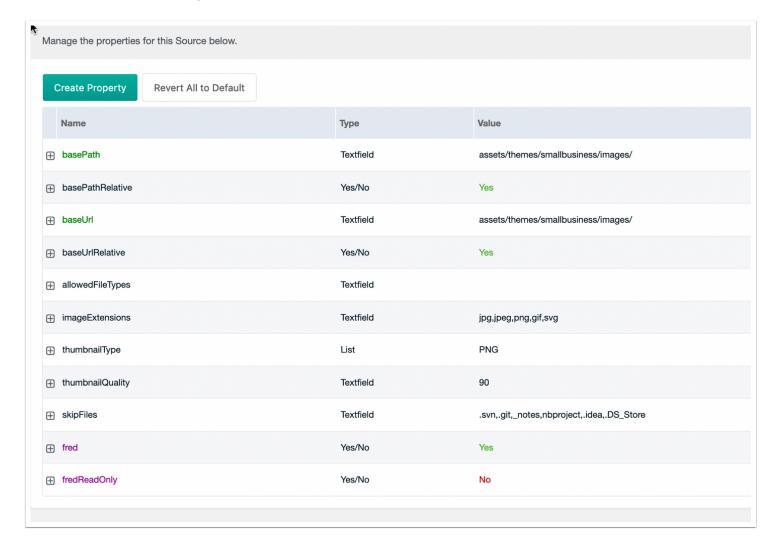
For this simple theme, we only need three blueprints, one for a filled heading, one for the cards row with its cards, and one full blueprint.



Media Sources

Fred automatically creates an Assets media source that is Fred-enabled. You'll probably want to creat your own media source for managing your site's images. Since I was creating this theme to package and publish, I put all of the images I used in the assets/themes/smallbusiness/images/ directory so that Fred would include them in its theme package.

To make a media source Fred-enabled, you need to add two properties, "fred" which has to be set to Yes, and "fredReadOnly" which you'll probably want to set to No. The Fred documentation describes how your media sources can be used, with the data-fred-media-source and the data-fred-image-media-source attributes, or in Option Sets.



Building the Theme

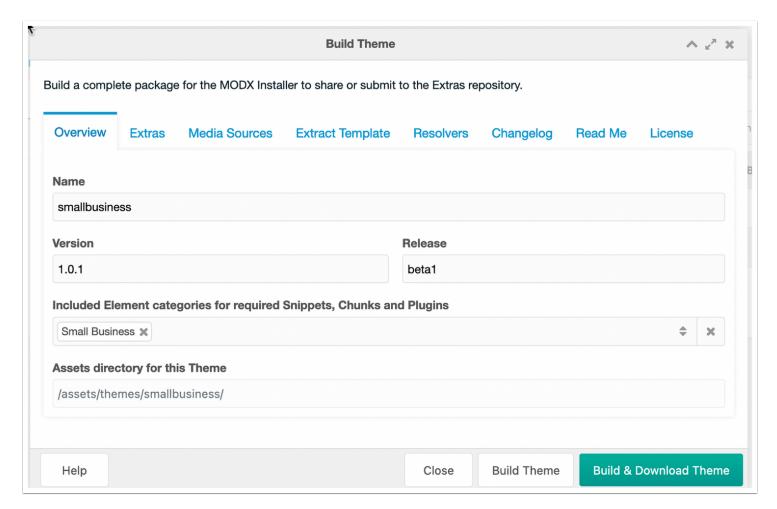
Once the theme is finished, it's time to build it into an installable package. Select your theme, and select Built Theme from its menu.

On the Overview tab, give it a name, and set the version numbers. Select the MODX category you used for the template and any other MODX elements you want added to the package.

The dependencies don't work as of this writing, so just ignore the Extras tab. Fred will automatically add the Fred extra, and provide for downloading and installing it if you try to install the theme before Fred. is installed. Unfortunately, the same can't be said for any other extras your theme may need.

Add your media sources, then skip the Extract Template and Resolvers tabs, and fill out the last three. In the Read Me, make sure to list the extras that the user will need to install to have the theme work. Actually, you will still be able to use Fred without the Ace integration or the TinyMCE, but it's not very nice.

Once you've finished with the forms, build the theme. You can either have it automatically download, or you'll be able to download it from the link in the Latest Build column.



Create, Build and Share

Now you should be able to create your own Fred themes, either adapting a third-party theme as we did here, or developing your own. Build them and share them. The MODX community will thank you.

