

Structure

CTFd themes are made up of 3 main components:

- [Jinja Templates](#)
- JavaScript (JS)
- Cascading Style Sheets (CSS)

Jinja Templates

The Jinja templates are rendered by [Flask](#) which is the underlying framework that CTFd is written in. Once the template is rendered to HTML, the HTML will load the appropriate JavaScript (JS) and CSS files.

Javascript and CSS

The JS and CSS files are created through the use of a [build system](#). CTFd has a build system designed around [Vite](#) which itself is based on [Rollup](#).

Folders and Files

While the only two folders which are absolutely required by a CTFd theme are `static` and `templates`, in general themes should be broken down into the following structure:

```
|-- assets/
|-- static/
|-- templates/
|-- package.json
`-- vite.config.js
```

Note that we are not including other files such as configuration files, instructions, node_modules, etc. since

[Jinja Templates](#)[Javascript and CSS](#)[Folders and Files](#)[assets](#)[static](#)[templates](#)[package.json](#)[vite.config.js](#)

they are only used to build our theme structure.

assets

The `assets` directory generally contains the uncompiled, unminified source of any JS or CSS files.

You may commonly see a structure such as:

```
assets/  
|-- js/  
`-- scss/
```

static

The `static` directory will contain the compiled and minified JS and CSS files that will be served by CTFd to the user's browser. The structure for this is roughly:

```
static/  
|-- assets  
|-- manifest.json  
`-- manifest-css.json
```

The `manifest.json` and `manifest-css.json` files should be automatically generated by the JS/CSS build system. In the following sections it is documented how to generate these files using Vite.

templates

The `templates` directory will contain the Jinja HTML templates that are rendered by CTFd and served to the user. Templates must have a very specific structure which is documented in the [templates section](#).

package.json

`package.json` is a JSON file specified by most JavaScript projects. `package.json` is documented by

`npm`. In most cases this should be generated for you when you create your project.

vite.config.js

`vite.config.js` is the configuration file for the Vite build system used. The configuration for `vite.config.js` is outlined further in the Build System section.

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