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## A Scripter's Notes I

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# Hugo Modules: Importing a Theme

Thu May 26, 2022

*A brief guide on how to install Hugo themes using Hugo Modules.*

This is a post in the “**Hugo Modules**” series.

2022-05-26 [Hugo Modules: Importing a Theme](#)

2022-02-24 [Hugo Modules: Getting Started](#)

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Hello! You are reading this post because you are probably interested in the Hugo Modules feature and are considering to import a Hugo Module as a theme.



**Step 0** for that approach is to make your site repo a Hugo Module. If your site already is, then it would have a `go.mod` file in the repo root. If you don't have the `go.mod` file, check out the previous post [Hugo Modules: Getting Started](#) first !!

If you don't have a `go.mod` file for your site repo, and you still decide to continue with the next steps, don't complain if you see errors like *module "foo" not found; either add it as a Hugo Module or store it in "<your site repo>/themes": module does not exist.* — [speaking from experience](#) 😊.

With that out of the way, here are the next steps ..

## ★ 1. Clean up the old way of setting a theme #

If you are upgrading your Hugo site to switch from the legacy method of using themes (i.e using the `theme` variable in the site config<sup>1</sup>), you

1. In my posts, you may have seen me use the *Site Config* term or `config.toml` — They mean the same thing.

need to clean that up.

1. Remove the `theme` variable from your site config.
2. Remove the `themes` directory, or move it out of your Hugo site repo.
  - If you were cloning a theme developed by someone else in there, you can just remove this directory.
  - If you are maintaining your own theme in that directory, move it out of your site repo and [convert it to a Hugo Module](#).

## ★ 2. Import the “theme” module #



The *theme* is quoted in this title, because the concept of a Hugo “theme” is a bit old now (<2022-05-26 Thu>) and that has been superseded with the concept of “modules”.



The main difference between a theme and a generic *Hugo Module* is that the former will allow you to build your site entirely, while the latter might implement only some modular features like enabling the ATOM feed, or adding a search to your website.

I am mentioning this again for convenience, from the previous post in this series:

*A module can be your main project or a smaller module providing one or more of the 7 component types defined in Hugo: **static**, **content**, **layouts**, **data**, **assets**, **i18n**, and **archetypes**. You can combine modules in any combination you like, and even mount directories from non-Hugo projects, forming a big, virtual union file system.*

A theme will need to have the “layout” component. Additionally, it might have the “assets”, “static”, and other components too.

Importing a module as a theme will typically look like this in your site config:

---

TOML

```
[module]
  [[module.imports]]
    path = "URL of the theme's git remote *without* the 'https://' part"
```

---

The **path** here would be something like `github.com/USER/THEME-REPO-NAME` or `gitlab.com/USER/THEME-REPO-NAME`.

## Note

It's possible to take any Hugo theme git repo and import that as a Hugo Module even if that repo isn't actually one i.e. doesn't have a `go.mod`. But it's recommended that the theme be a proper Hugo



Module so that you have better dependency tracking between your site and the theme.



## **\*\* Quick Example #**

Follow these steps if you want to try out how this Hugo Module based theme importing

As a reminder, you need to have Go installed on your system.

1. Create a temporary directory somewhere and cd to it.
2. Initialize your site as a Hugo Module: `hugo mod init foo` (yeah, type that out literally — it will work)
3. Create a `config.toml` file with the below content. It imports the hugo-mwe-theme<sup>2</sup> theme.

2. `hugo-mwe-theme` is a minimal Hugo theme that I use to quickly try out some new feature in Hugo or to create a *minimal working example* to reproduce a bug.

---

TOML

```
[module]
[[module.imports]]
  path = "gitlab.com/kaushalmodi/hugo-mwe-theme"
```

---

*Code Snippet 1: Example of importing a Hugo module as a theme in config.toml*

4. Create `content/hello.md`. This step is optional and is only so that your test site has some content.

---

Markdown

```
+++
title = "Hello"
+++
Hey!
```

---

That's it! Now run the Hugo server (`hugo server`) and look at your site running on localhost .. while thinking in disbelief.. *just how easy all of this*



was! 😊.

- Did you need to manually clone any theme? **No**
- Would you need to deal with the `.gitmodules` file? **No**



### ★ 3. hugo mod tidy #

Finally, run `hugo mod tidy` to clean up the `go.mod` and update/generate the `go.sum` file. These files will track the module dependencies for your site.

- The `go.mod` contains the direct module dependencies for your site.
- The `go.sum` contains the versions and hashes of all the direct **and indirect** dependencies <sup>3</sup> for your site.

3. Just as you added a theme as a Hugo Module to your site, it's possible that that theme is depending on other Hugo Modules (like the ones I mentioned earlier: ATOM feeds, search, etc.).

You would need to commit the `go.mod` and `go.sum`<sup>1</sup> files if you build and deploy your website on a remote server or a CI/CD system.

If you ran the Quick Example, you will see this (as of **<2022-05-26 Thu>**) in your `go.mod`:

---

```
module foo
```

```
go 1.18
```

```
require gitlab.com/kaushalmodi/hugo-mwe-theme v0.1.1 // indirect
```

---

.. and this in your `go.sum`:

---

```
gitlab.com/kaushalmodi/hugo-mwe-theme v0.1.1 h1:FyTp43CJRpBfoHyWnwQFv//cipg
gitlab.com/kaushalmodi/hugo-mwe-theme v0.1.1/go.mod h1:vvq0r/SfKMbiPbyqL4Yc
```



## ★ 4. Updating the theme #



Here are some common ways to update the theme module going forward:

| Command                            | Description                                                          |
|------------------------------------|----------------------------------------------------------------------|
| <code>hugo mod get -u</code>       | Update only the modules that your site directly depends on.          |
| <code>hugo mod get -u ./...</code> | Update the modules that your site depends on in a recursive fashion. |

Additionally, you might or might not need these, but I am documenting them here for completeness:

| Command                                                       | Description                                                                                                                                      |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>hugo mod get -u &lt;module path&gt;</code>              | Update only the specified module <sup>2</sup> to the latest version. Example: <code>hugo mod get -u gitlab.com/kaushalmodi/hugo-mwe-theme</code> |
| <code>hugo mod get &lt;module path&gt;@&lt;git ref&gt;</code> | Update a module to the specified git tag or commit. Example: <code>hugo mod get gitlab.com/kaushalmodi/hugo-mwe-theme@v0.1.1</code>              |

## ★ Dependency Graph #

If you have a theme added as a Hugo Module, which depends on other Hugo Modules, it's often helpful to know the dependency graph. You can do that by running:

---

```
hugo mod graph
```

Shell

---

For the above Quick Example, you will see just this one line because that theme does not depend on other modules:





## ★ Building your Hugo site on a server #

Alright, so you are able to build your site locally after switching to using themes as modules, great!

Now, if you build and deploy your site on a remote server like Netlify or Vercel, you need to ensure that you have a recent version of Go installed in their environment too.

I deploy this website using Netlify, and so I know how to do that there — Set the `GO_VERSION` environment variable to a recent version like **1.18** in the Environment variables section in Netlify *Build & deploy* settings.

## ★ In a nutshell #

1. **First** convert your Hugo site to a Hugo module.
2. Then replace the theme in your site config with a module import.

Enjoy! 🍾

## ★ References #

- Hugo Modules documentation
- Hugo Modules: Everything you need to know!

---

[1] It is recommended to *git commit* the `go.sum` along with your site's `go.mod`. From the Go Modules documentation: *Ensure your `go.sum` file is committed along with your `go.mod` file. See FAQ below for more details and rationale.* ↩



[2] Trust me.. once you get a hang of the Hugo Module system, your site will have more than one! ↩



## Backlinks #

- [Hugo Modules: Getting Started](#)

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VERSIONS USED: hugo v0.99.1

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