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Automated Hugo Website Deployment to GitHub Pages

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Build and Deploy Hugo Website to GitHub Pages
Author: Jérémie Lumbroso <lumbroso@seas.upenn.edu>
Date: 2024-02-24

name: 🛠️ Build and Deploy GitHub Pages
on:
 push:
 branches:
 - main # Set a branch to deploy
jobs:
 deploy:
 runs-on: ubuntu-22.04
 steps:
 - name: 📄 Check Out Source Repository
 uses: actions/checkout@v3.5.1
 with:
 submodules: true # Fetch Hugo themes (true OR recursive)
 fetch-depth: 0 # Fetch all history for .GitInfo and .Lastmod
 - name: 🚧 Initialize Hugo Environment
 uses: peaceiris/actions-hugo@v2.6.0
 with:
 hugo-version: "0.144.1"
 extended: true
 - name: 🛠️ Compile Hugo Static Files
 run: hugo -D --gc --minify
 - name: 🚀 Publish to GitHub Pages
 uses: peaceiris/actions-gh-pages@v3.9.3
 with:
 github_token: \${{ secrets.GITHUB_TOKEN }}
 publish_branch: gh-pages
 user_name: "github-actions[bot]"
 user_email: "github-actions[bot]@users.noreply.github.com"
 ## NOTE: uncomment below if using a custom domain
 ## cname: mydomain.com

explain this yaml file line by line

Explanation of Hugo Website GitHub Pages Deployment YAML

This YAML file configures a GitHub Actions workflow that automatically builds and deploys a Hugo website to GitHub Pages. Here's a detailed line-by-line explanation:

```
yaml
#####
## Build and Deploy Hugo Website to GitHub Pages
## Author: Jérémie Lumbroso <lumbroso@seas.upenn.edu>
## Date: 2024-02-24
#####
```

These lines are comments providing metadata about the file - who created it and when.

```
yaml
name: 🛠️ Build and Deploy GitHub Pages
```

This names the GitHub Actions workflow "🛠️ Build and Deploy GitHub Pages" (with an emoji for visual identification in the GitHub interface).

```
yaml
on:
  push:
    branches:
      - main # Set a branch to deploy
```

This section configures when the workflow should run:

- on: push means it triggers whenever code is pushed
- The comment explains this is the branch to deploy from

```
yaml
jobs:
  deploy:
```

```
deploy:
  runs-on: ubuntu-22.04
```

This begins the definition of jobs in the workflow:

- `deploy` is the name of the single job defined in this workflow
- `runs-on: ubuntu-22.04` specifies this job will run on an Ubuntu 22.04 runner (virtual machine)

```
yaml
  steps:
    - name: 📦 Check Out Source Repository
      uses: actions/checkout@v3.5.1
      with:
        submodules: true # Fetch Hugo themes (true OR recursive)
        fetch-depth: 0 # Fetch all history for .GitInfo and .Lastmod
```

The first step in the job:

- Given the name "📦 Check Out Source Repository" for identification
- Uses the `actions/checkout@v3.5.1` action, which checks out your repository code
- `submodules: true` also fetches Git submodules (often used for Hugo themes)
- `fetch-depth: 0` fetches the complete Git history, needed for some Hugo features

```
yaml

      uses: peaceiris/actions-hugo@v2.6.0
      with:
        hugo-version: "0.144.1"
        extended: true
```

The second step:

- Sets up Hugo using the `peaceiris/actions-hugo@v2.6.0` action
- Specifies Hugo version 0.144.1
- `extended: true` installs the extended version of Hugo (needed for SCSS/SASS processing)

```
yaml

    - name: 🏗️ Compile Hugo Static Files
      run: hugo -D --gc --minify
```

The third step:

- Runs the Hugo command to build the website
- `-D` includes draft content
- `--gc` enables garbage collection during build for better performance
- `--minify` compresses the output HTML, CSS, JS, etc.

```
yaml

    - name: 🚀 Publish to GitHub Pages
      uses: peaceiris/actions-gh-pages@v3.9.3
      with:
        github_token: ${ secrets.GITHUB_TOKEN }
        publish_branch: gh-pages
        user_name: "github-actions[bot]"
```

The final step:

- Uses `peaceiris/actions-gh-pages@v3.9.3` to publish to GitHub Pages
- `github_token: ${ secrets.GITHUB_TOKEN }` uses the auto-generated token for authentication
- `publish_branch: gh-pages` specifies the branch where the built site will be deployed
- `user_name` and `user_email` set the Git committer identity to the GitHub Actions bot

```
yaml

      ## NOTE: uncomment below if using a custom domain
      ## cname: mydomain.com
```

These commented lines explain how to enable a custom domain:

- If you want to use a custom domain, uncomment the `cname` line and replace `mydomain.com` with your domain

In summary, this workflow checks out your Hugo website repository, sets up Hugo, builds the static files, and then deploys them to the `gh-pages` branch, which GitHub Pages will serve

static files, and then deploys them to the gh-pages branch, which GitHub Pages will serve.

ⓘ Claude does not have the ability to run the code it generates yet.



📄 👍 💬 **Retry** ⌵

Claude can make mistakes. Please double-check responses.





