# Hugo: Deploy Static Site using GitHub Actions

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If you are using Hugo to generate static pages, you are familiar with CLI commands which are to build the static pages in your local machine and make push to your `<username>.github.io` repository. When it comes to using Hugo for blogging, compared to platforms like Medium or WordPress, it is very painful because you do not have any web interface to make changes whenever you want or wherever you want.

But thanks to GitHub Actions, you can almost overcome this problem, just
other platforms, but use GitHub's UI to
see how you can do that and without
s!!

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## What is GitHub Actions

GitHub Actions is a CI/CD tool to automate test, build and deployment process in GitHub. It is kind of equivalent to GitLab CI/CD or BitBucket Pipelines. GitHub actions will make it easy to automate all your software workflows.

## Steps to deploy Hugo with GitHub actions

We are going to deploy our site in GitHub Static Pages for this article. Let us go step by step from setting up Hugo to create actions for deployment. Also, in the first few steps you need to use CLI from your local machine, but just bear with me and you will be rewarded handsomely at the end 😄.

> **FYI:** If you already have a *Hugo based setup in GitHub*, you can skip *the first three steps*.

### Step 1: Setting up repo named `<username>.github.io` in GitHub

You need to create a repository named `<your GitHub username>.github.io` . Contents on that page will be accessible via url same name as the repo.

### Step 2: Install and create a Hugo project

You need to install Hugo in your local machine and use that to create a **site**. Please take a look at the official documentation on how to do that.



### itHub

that Hugo site, and push to master branch. Just follow this steps:

```
git init
git remote add origin git@github.com:<username>/<repo-name>
git add --all
git commit -m "Commit MSG"
git push origin master
```

If you have added a theme, then consider adding it as submodule(also stated in the hugo documentation):

```
git submodule add https://github.com/budparr/gohugo-theme-ananke.g
```

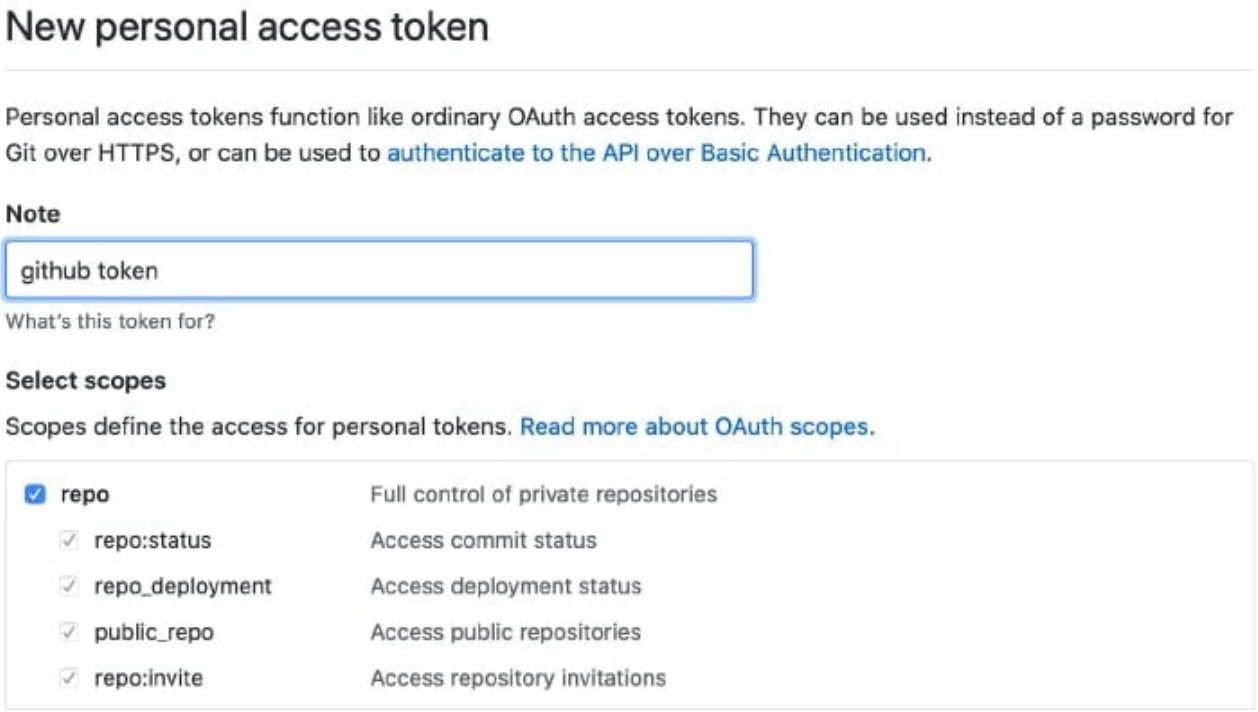
Better if you update the submodule to get latest theme changes before pushing the code:

```
git submodule update --init --recursive
git push origin master
```

Or you can always update the latest theme in the actions. Example has been shared in create github action section.

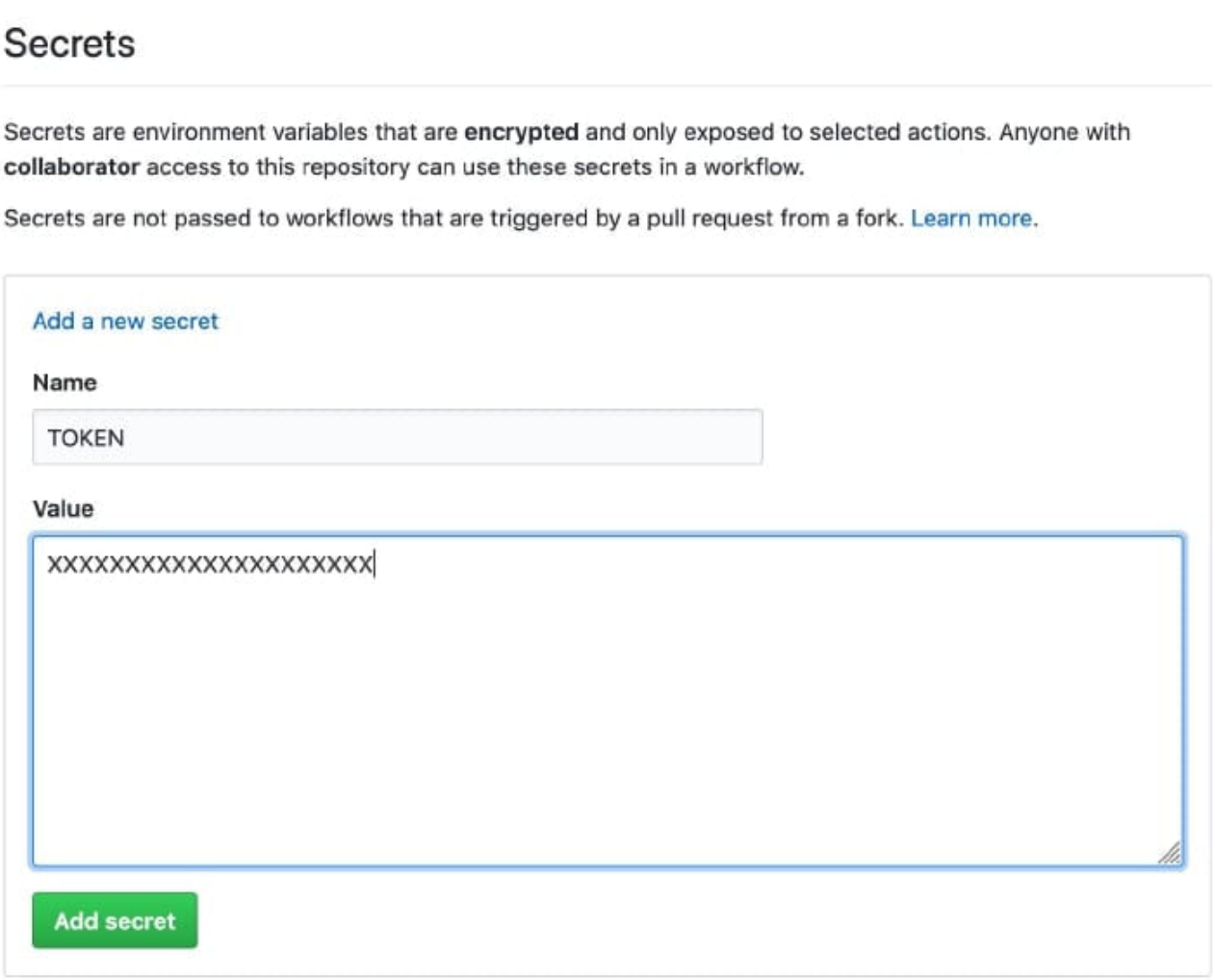
## Step 4: Create GitHub token

Now you need to generate a token with repo access from the GitHub's tokens page. You will get a 40 character long token by generating the token. Store it somewhere securely.




## Step 5: Add token as secret in GitHub

The token last step, you can store it in the `Secrets` setting of the repo. It can be accessible from `https://github.com/<username>/<repo-name>/settings/secrets`. Store it like this:




## Step 6: Create A GitHub Action

Now it is time to do the fun stuff. Let us create an action in `.github/workflows/` folder inside the repo(hugo site repo) and name it `main.yml` .

```
name: CI
on: push
jobs:
  deploy:
```



```
    - name: Update theme
```

```
      # (Optional)If you have the theme added as submodule, you
      run: git submodule update --init --recursive

    - name: Setup hugo
      uses: peaceiris/actions-hugo@v2
      with:
        hugo-version: "0.64.0"

    - name: Build
      # remove --minify tag if you do not need it
      # docs: https://gohugo.io/hugo-pipes/minification/
      run: hugo --minify

    - name: Deploy
      uses: peaceiris/actions-gh-pages@v3
      with:
        personal_token: ${{ secrets.TOKEN }}
        external_repository: <username>/<username>.github.io
        publish_dir: ./public
        #   keep_files: true
        user_name: <username>
        user_email: <username@email.com>
        publish_branch: master
      #   cname: example.com
```

As mentioned from `main.yml` file, it is named **CI** and this is going to be triggered when something is pushed to the repo. It will be using an `ubuntu-18.04` based VPS to run the pipeline. Now let us go through steps to understand how it works:

1. In the **`Git checkout`** step, we are going to fetch the latest code of our repository which contains Hugo site.

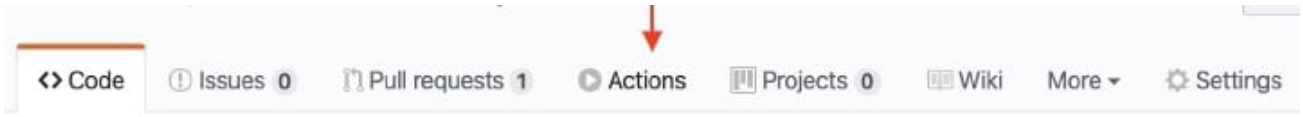
2. In the **`Setup hugo`** step we are going to use peaceiris/actions-hugo to [illegible] which hugo version you want to use. [illegible] hugo version of your local [illegible]).

3. In the **`Build`** step, we are going to build the static contents using `hugo --minify` command. By using `--minify`, we are going to minify the assets in the site. For more information, checkout the hugo documentation.

4. Finally, the **`Deploy`** step. Now we are going to deploy the static contents from the last step. And we are going to use peaceiris/actions-gh-pages actions to run the deployment. Here, we used `external_repository: <username>/<username>.github.io` because otherwise the static contents would be pushed in the same repo(in a different branch). As we specified the external repository, the static contents will be pushed to `<username>.github.io`. For this step, we will use the personal token which we specified in Step 5. If you uncomment `keep_files: true`, then the deployment will keep old files from `<username>.github.io`, otherwise it will replace everything. Finally, if you have a custom domain, then configuring `cname` is necessary. For more information, please check documentation in GitHub marketplace.

## Step 7: Push to GitHub

Now push to your Hugo site repository and voila, your action will start automatically. You can check its progress in the `actions` tab.






ı the static contents to your static page

Step 8: Never use CI again!

Now you have everything in GitHub, so you do not need to come back to your local machine and use CLI to push changes. Use the web interface, and GitHub actions will take care of the rest.

## In conclusion

Although you need to create a Hugo site in your local machine and push it manually to GitHub at least for the first time and consequent changes can be done from the web(but you can do that from your local machine as well). Just create a **markdown** file in repo and boom! It is on the internet.

Thank you for reading. If you have any questions or a better solution, let us talk in the comment section below. Cheers!!

**Last updated**: Mar 19, 2021



evious
base Inside Docker Container

DISCLAIMER: This is not the recommended process. Ideally you should have the database running in a …

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Ahmedur



e action failed to deploy the hugo site

```
Check failure on line 1 in .github

@github-actions
github-actions
/ deploy

.github#L1
Process completed with exit code 127.
```

Then I changed the `deploy` part as following:

```
      - name: Setup hugo
        uses: peaceiris/actions-hugo@v2
        with:
          hugo-version: "0.56.3"

      - name: Build
        run: hugo
```

Now the action runs fine and my hugo site is being deployed successfully.

Yay! I do not need to run any more shell script to deploy the public directory content to *username.github.io* repository!!

**Thank you for this great tutorial.**

Ruddra MODERATOR
Thursday, Mar 12, 2020

I am glad that, this post helped you with automating your deployment 😄

wangshushuo
Friday, Mar 27, 2020

Also, if you have theme, don't forget to add somewhere:

```
git submodule update --init --recursive
```

Arnab Kumar Shil MODERATOR
Tuesday, Apr 21, 2020

Yep, you are right. I will update the post. Thanks :)

Ahmedur Rahman Shovon
Friday, May 01, 2020

Here is the action script that updates submodule:

```
name: CI
on: push
jobs:
  deploy:
    runs-on: ubuntu-18.04
    steps:
      - name: Git checkout
        uses: actions/checkout@v2

      - name: Setup hugo
        uses: peaceiris/actions-hugo@v2
        with:
          hugo-version: "0.64.0"

      - name: Update theme
        run: git submodule update --init --recursive

      - name: Build
        run: hugo

      - name: Deploy
        uses: peaceiris/actions-gh-pages@v3
        with:
          personal_token: ${{ secrets.TOKEN }}
                                          RNAL_REPOSITORY
                                          :
```

Arnab Kumar Shil MODERATOR
Thursday, May 14, 2020

Okay, I will update the script with this. Thanks

Alexander C. Alexander C.
Monday, May 18, 2020

Thanks a lot, this is very useful, works as described even with Hugo 0.70+ and saves so much time and even money for not having to use external providers for hosting, etc.

Arnab Kumar Shil MODERATOR
Tuesday, Jun 23, 2020

You're welcome. 😄

Peter ONeill Peter ONeill
Tuesday, Aug 4, 2020

Thanks for the write up!

Martin Jahr Martin Jahr
Sunday, Aug 23, 2020

I like the automation, but still need the local quick preview. So I keep my local hugo. It is started once via a powershell script, polls the local git repo clone, and publishes to a tmp file outside the git scope, so I won't get any changes into the web site repo from the local tests. In the browser I create a preview bookmark that points to localhost:1313. With the automated refresh feature from hugo, I get a near-life update of the web page. When I am satisfied with the work, I commit with github Desktop. for non.techies ;)



Monday, Aug 24, 2020

> I would say this is just tip of the iceberg. You can so much more than just automation. I build my search indexes for lunr search, send newsletters, compress images, build service worker for progressive web app in the GitHub actions. 😄