'gh' - the GitHub CLI (Command Line Interface)

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22 February 2022

why gh?

- The SciSoft team would like to consider gh as a replacement for hub

- hub is a github wrapper

- gh is a command line interface

- gh has more options

- For the short term, we expect both hub and gh to be available.

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initial setup

- The first time you use gh on a machine, you will need to authorize it.

-
```
source /cvmfs/larsoft.opensciencegrid.org/products/setup
setup gh
type gh (gh is /cvmfs/larsoft.opensciencegrid.org/
products/gh/v2_5_1a/Linux64bit+3.10-2.17/bin/gh)

gh auth login
? What account do you want to log into?  [Use arrows to
move, type to filter]
> GitHub.com
  GitHub Enterprise Server

[garren@uboonegpvm02 garren]$ gh auth login
? What account do you want to log into? GitHub.com
? What is your preferred protocol for Git operations?  [Use arrows
to move, type to filter]
  HTTPS
> SSH
```

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initial auth continued

- choose "n" at this step

```
[garren@uboonegpvm02 garren]$ gh auth login
? What account do you want to log into? GitHub.com
? What is your preferred protocol for Git operations? SSH
? Generate a new SSH key to add to your GitHub account? (Y/n)


[garren@uboonegpvm02 garren]$ gh auth login
? What account do you want to log into? GitHub.com
? What is your preferred protocol for Git operations? SSH
? Generate a new SSH key to add to your GitHub account? No
? How would you like to authenticate GitHub CLI?  [Use arrows to move, type to filter]
  Login with a web browser
> Paste an authentication token


[garren@uboonegpvm02 garren]$ gh auth login
? What account do you want to log into? GitHub.com
? What is your preferred protocol for Git operations? SSH
? Generate a new SSH key to add to your GitHub account? No
? How would you like to authenticate GitHub CLI? Paste an authentication token
Tip: you can generate a Personal Access Token here https://github.com/settings/tokens
The minimum required scopes are 'repo', 'read:org'.
? Paste your authentication token:
```

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getting the token

- go to https://github.com/settings/tokens
  - Click on the "generate new token button"
  - enter your GitHub password
  - Use the minimum suggested settings
- click on "generate token" at the bottom of the page
- You will be given an opportunity to copy the token.
  - make sure you copy the token
  - then paste into the auth login

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the form

over HTTPS, or can be used to authenticate to the API over Basic Authentication.

Note

> gh (github cli)|

What's this token for?

Expiration *

> 30 days ⇅   The token will expire on Wed, Mar 23 2022

Select scopes

Scopes define the access for personal tokens. Read more about OAuth scopes.

☑	**repo**	Full control of private repositories
	☑ repo:status	Access commit status
	☑ repo_deployment	Access deployment status
	☑ public_repo	Access public repositories
	☑ repo:invite	Access repository invitations
	☑ security_events	Read and write security events
☐	**workflow**	Update GitHub Action workflows
☐	**write:packages**	Upload packages to GitHub Package Registry
	☐ read:packages	Download packages from GitHub Package Registry
☐	**delete:packages**	Delete packages from GitHub Package Registry
☐	**admin:org**	Full control of orgs and teams, read and write org projects
	☐ write:org	Read and write org and team membership, read and write org projects
	☑ read:org	Read org and team membership, read org projects

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finishing the auth

- notice that you cannot see the token here

```
[garren@uboonegpvm02 garren]$ gh auth login
? What account do you want to log into? GitHub.com
? What is your preferred protocol for Git operations? SSH
? Generate a new SSH key to add to your GitHub account? No
? How would you like to authenticate GitHub CLI? Paste an authentication token
Tip: you can generate a Personal Access Token here https://github.com/settings/tokens
The minimum required scopes are 'repo', 'read:org'.
? Paste your authentication token: ****************************************


[garren@uboonegpvm02 garren]$ gh auth login
? What account do you want to log into? GitHub.com
? What is your preferred protocol for Git operations? SSH
? Generate a new SSH key to add to your GitHub account? No
? How would you like to authenticate GitHub CLI? Paste an authentication token
Tip: you can generate a Personal Access Token here https://github.com/settings/tokens
The minimum required scopes are 'repo', 'read:org'.
? Paste your authentication token: ****************************************
– gh config set –h github.com git_protocol ssh
✓ Configured git protocol
✓ Logged in as lgarren
```

- The token will be copied into .config/gh/hosts.yml

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using gh

- setup gh

- lots of commands are similar

- But beware!

  - hub fork --remote-name=origin

  - gh repo fork

    - notice that —remote-name=origin is the default

```
[garren@scisoftbuild01 larwirecell]$ gh repo fork
✓ Created fork lgarren/larwirecell
? Would you like to add a remote for the fork? Yes
✓ Added remote origin
[garren@scisoftbuild01 larwirecell]$ git remote -v
origin  git@github.com:lgarren/larwirecell.git (fetch)
origin  git@github.com:lgarren/larwirecell.git (push)
upstream    git@github.com:LArSoft/larwirecell.git (fetch)
upstream    git@github.com:LArSoft/larwirecell.git (push)
```

  - gh repo fork —remote

    - will add the remote fork automatically without asking questions

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informational commands

- A few interesting informational commands
  - gh auth status
  - gh repo list
- extensive help is available
  - for instance, gh repo -h
- Have fun!

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