

# GitHub Actions Hacks: Tips and Tricks for Smarter Workflows

Sören Klein / Syndesi



# Content

**Basic Elements of GitHub Action**

**Scheduled Workflows**

**Creating Issues Automatically**

**Creating Commits Automatically**

**Further Examples**

# Basic Elements of GitHub Action

# Basic Elements of GitHub Action

**Workflow:** A single .YML-file in the folder `.github/workflows`, which contains at least one job. Mostly independant of other workflows.

**Event:** Something that can trigger a workflow. Usually some sort of git activity (push, merge, ...), GitHub integration (issues, ...), scheduled (“cron”), manual or remote via API.

# Basic Elements of GitHub Action

**Job:** Set of **steps**, which themselves are either **commands** or **GitHub Actions** - commands which are managed by other people.

**Runner:** The machine on which the workflow is executed. Usually provided by GitHub. Other providers and self hosted variants are possible.

# Scheduled Workflows

# Scheduled Workflows

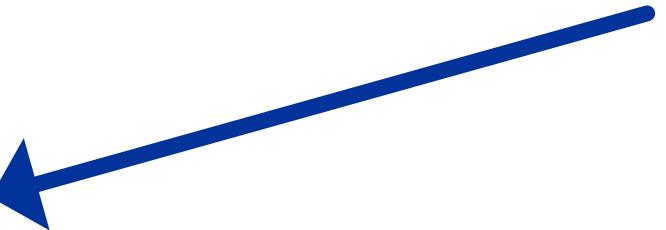
## What?

Schedules trigger workflows regularly, e.g. daily.

## Why?

I am ~~lazy and forgetful~~. I prioritize more important tasks.

# Scheduled Workflows

```
# .github/workflows/workflow.yml
name: "Workflow name"
on:
  schedule:
    - cron: "10 2 * * *"
      
      daily on 02:10
jobs:
  job-name:
    runs-on: ubuntu-latest
    steps:
      - name: Checkout repo (step)
        uses: actions/checkout@v3
```

## Actions

New workflow

All workflows

Check upstream dependency...

Check upstream dependenc...

Markdown lint

pages-build-deployment

Release package

YML lint

Management

Caches

Deployments

### Check upstream dependency - PHP

[ci-check-upstream-dependency-php.yml](#)

36 workflow runs

all ok

executed on

Event ▾	Status ▾	Branch ▾	Actor ▾		
<input checked="" type="checkbox"/> Check upstream dependency - PHP	all ok			 12 hours ago	...
<input checked="" type="checkbox"/> Check upstream dependency - PHP	all ok			 2 days ago	...
<input checked="" type="checkbox"/> Check upstream dependency - PHP	all ok			 3 days ago	...
<input checked="" type="checkbox"/> Check upstream dependency - PHP	all ok			 4 days ago	...

# Creating Issues Automatically

# Creating Issues Automatically

## What?

Issues are better for long term issue tracking than emails™.

## Why?

I am lazy and inconsistent. I want to give bots a job! :D

# Creating Issues Automatically

```
- name: Checkout repo  
  uses: actions/checkout@v3  
  
- name: Create new GitHub issue  
  uses: JasonEtco/create-an-issue@v2  
  env:  
    GITHUB_TOKEN: ${{ secrets.RELEASE_TOKEN }}  
  with:  
    filename: .github/ISSUE_TEMPLATE.md  
    update_existing: false  
    search_existing: all
```

loading repo

using GitHub Action

don't create too much work

# Upstream dependency got updated - PHP with version 8.2.6 #6

[Edit](#)[New issue](#)[Closed](#)[4 tasks done](#)

ember-nexus-bot opened this issue 2 weeks ago · 1 comment



ember-nexus-bot commented 2 weeks ago • edited by Syndesi

Member

...

Open tasks:

- Compare Dockerfile of [latest PHP alpine CLI](#) with `./docker/Dockerfile` on intermediate build `php_embed`.
  - If there are updates:
    - Update local Dockerfile.
    - Add changelog entry.
    - Release new patch or minor release, depending on PHP version upgrade.



work

Assignees



Syndesi



Labels

[update dependency](#)

Projects



None yet

Milestone



No milestone

Development



ember-nexus-bot added the

[update dependency](#)

label 2 weeks ago



# Creating Commits Automatically

# Creating Commits Automatically

## What?

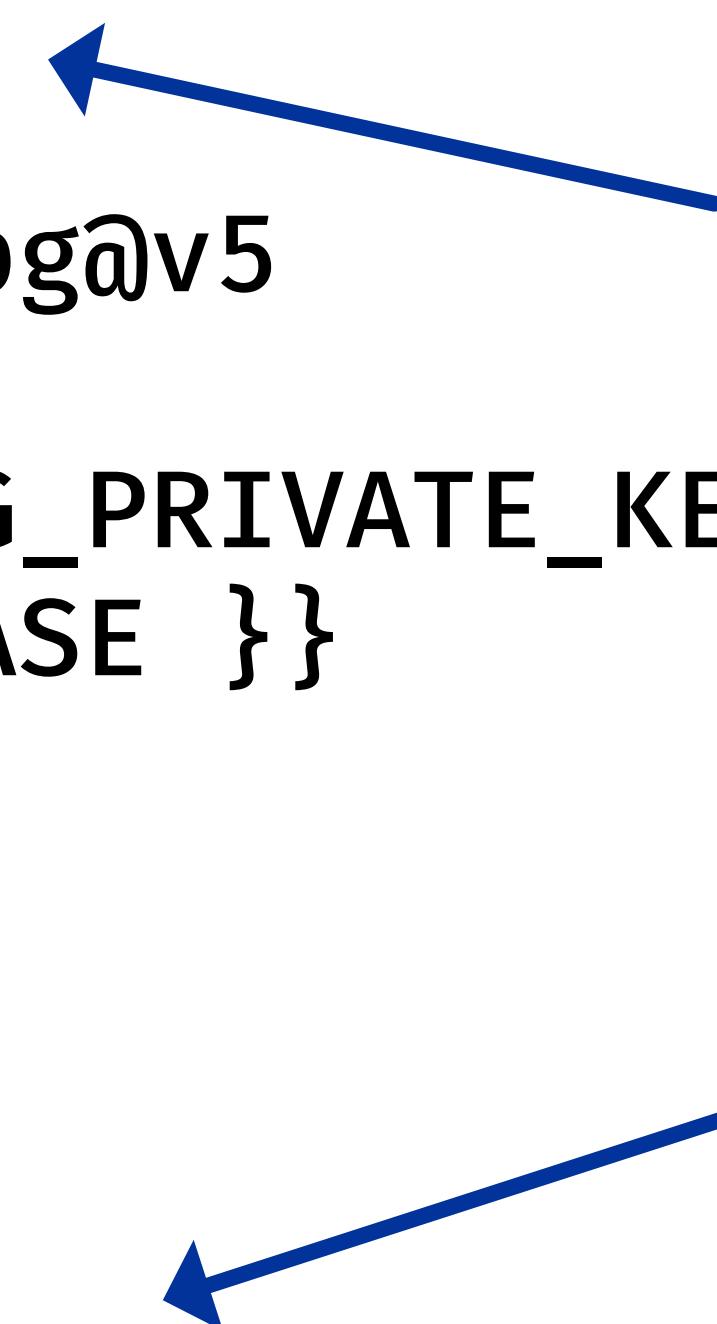
Some files in a repository need to be updated during a release.  
This should not be a manual task.

## Why?

I am ~~lazy and inconsistent~~. I create a bot economy! :D

# Creating Commits Automatically

1/3

```
# see also https://github.com/Nautilus-Cyberneering/pygithub
- name: Import GPG key
  id: import-gpg
  uses: crazy-max/ghaction-import-gpg@v5
  with:
    gpg_private_key: ${{ secrets.GPG_PRIVATE_KEY }}
    passphrase: ${{ secrets.PASSPHRASE }}
    git_user_signingkey: true
    git_commit_gpgsign: true
  
- name: Git configuration
  run:
    git config --global user.email "${{ steps.import-gpg.outputs.email }}"
    git config --global user.name "${{ steps.import-gpg.outputs.name }}"
```

# Creating Commits Automatically

2/3

- name: Commit changes and create tag  
run: |  
  git add "composer.json"  
  git add "CHANGELOG.md"  
  git commit -m "chore: release \${{ env.NEW\_VERSION }}"  
  git tag \${{ env.NEW\_VERSION }}
  - name: Push repository changes  
env:  
  GITHUB\_TOKEN: \${{ secrets.GITHUB\_TOKEN }}  
run: |  
  git push origin && git push --tags
- committing stuff**
- pushing changes**

## Security

Code security and analysis

Deploy keys

**Secrets and variables**

Actions

Codespaces

Dependabot

# secrets

Integrations

GitHub Apps

Email notifications

### Repository secrets

3/3

There are no secrets for this repository.

### Organization secrets

Manage organization secrets

 DOCKERHUB\_TOKEN

Updated on Apr 22

 DOCKERHUB\_USERNAME

Updated on Apr 21

 GPG\_PRIVATE\_KEY

Updated on Apr 7

 ORIGINSTAMP\_AUTH\_TOKEN

Updated on Apr 6

 PASSPHRASE

Updated on Apr 7

**requirements for  
secure bot work**

✓ chore: release 0.0.7

main

0.0.7

ember-nexus-bot committed last week

Verified

1 parent 23f59c4 commit a9600a4

not me

signed

[Browse files](#)

Showing 2 changed files with 3 additions and 1 deletion.

[Split](#) [Unified](#)

Filter changed files

> ↗ 2 ████ CHANGELOG.md

[<>](#) [📄](#) [...](#)

CHANGELOG.md



composer.json



> ↗ 2 ████ composer.json

[<>](#) [📄](#) [...](#)

... ... @@ -1,6 +1,6 @@

```
1   1   {  
2   2   "type": "project",  
3   -   "version": "0.0.6",  
3   +   "version": "0.0.7",  
4   4   "license": "proprietary",  
5   5   "minimum-stability": "dev",  
6   6   "prefer-stable": true,
```

# Creating Commits Automatically

**Note:** Do not publish changes before every job ran successfully.  
Publish at the end of the workflow.

# Further Examples

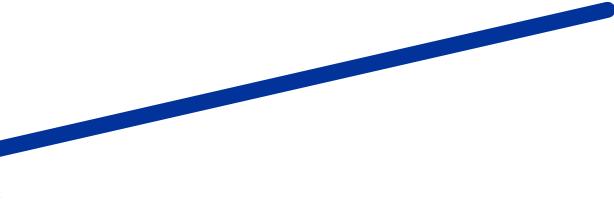
last week  
 ember-nexus-  
bot  
 0.7  
 a9600a4 

Compare ▾

0.0.7 

0.0.7 - 2023-05-18

releases & changelog  
can be automated



## Added

- Rework PostIndexController, DeleteElementController, PatchElementController and PutElementController.
- Update PHP dependencies.
- Add endpoint feature tests, prefixed with `e`.

## ▼ Assets 2

 [Source code \(zip\)](#)

last week

 [Source code \(tar.gz\)](#)

last week





# embernexus/api ☆

Pulls 8

By [embernexus](#) • Updated 6 days ago

Flexible graph based API for the modern web

Image

Overview

Tags

**description can be automated**



## Ember Nexus: A Powerful API for the Modern Web

Ember Nexus API is a dynamic and versatile REST-API that leverages the power of graphs to provide flexible and secure data storage and retrieval for modern web applications.

Docker Pull Command

`docker pull embernexus/api`

Quick Links

# Sources

# Sources

[docs.github.com](https://docs.github.com)

[github.com/JasonEtco/create-an-issue](https://github.com/JasonEtco/create-an-issue)

[github.com/Nautilus-Cyberneering/pygithub](https://github.com/Nautilus-Cyberneering/pygithub)

End

Disclaimer: No bot got hurt.