

Automating Tasks with GitHub Actions



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Overview



Understanding GitHub Actions

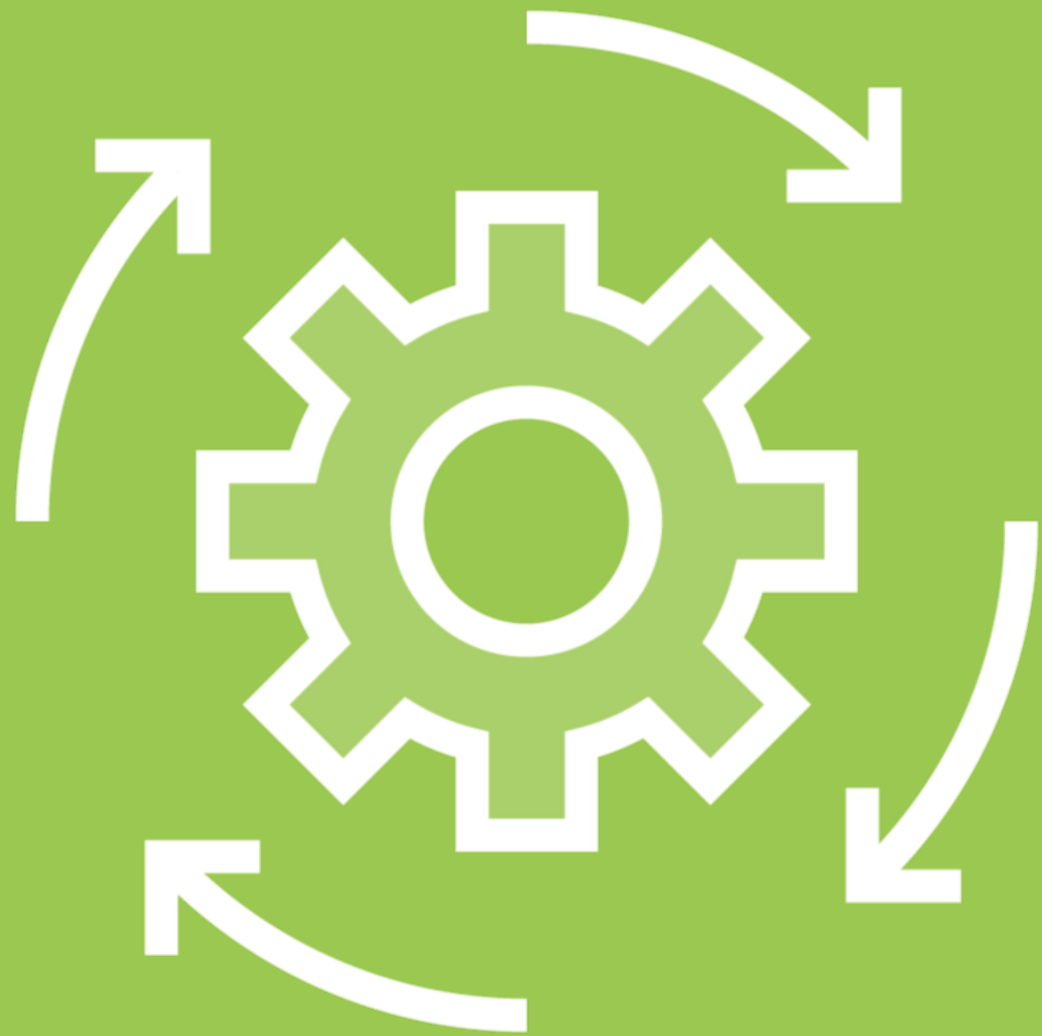
Automating tasks

Setting up continuous integration



Understanding GitHub Actions





Introducing GitHub Actions

We can use GitHub for many parts of
the SDLC

Software Development Life Cycle

Tasks can be automated



Introducing GitHub Actions



Automate different tasks



Event-driven, will trigger tasks



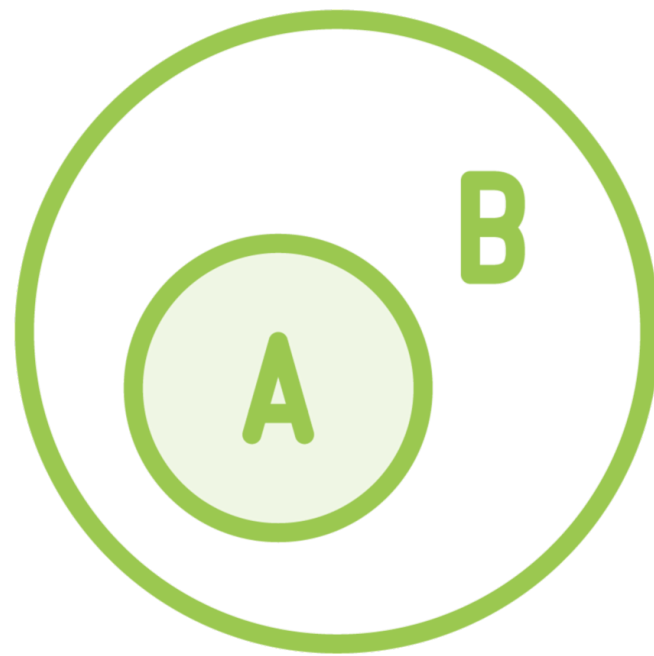
Live in the repository



Based on YAML syntax



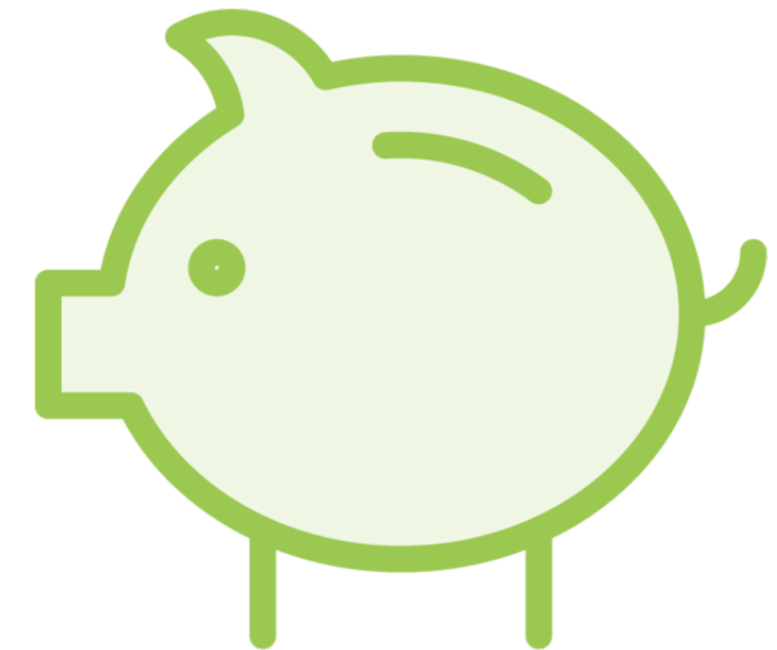
Introducing GitHub Actions



Part of GitHub



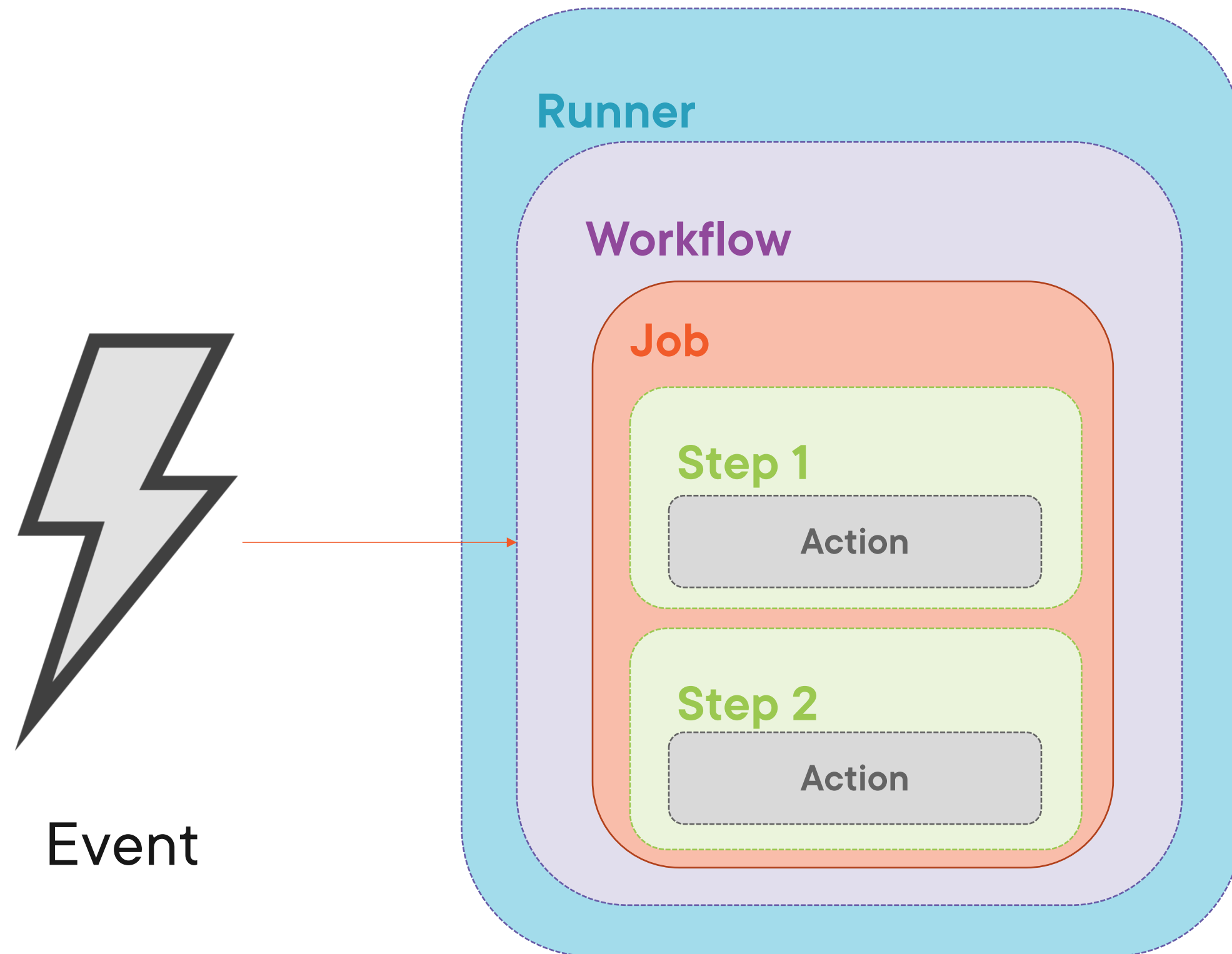
Templates



Available in free plan



Components of GitHub Actions




Creating an Action in YAML




```
name: first-github-action
on: [push]
jobs:
  check-bats-version:
    runs-on: ubuntu-latest
    steps:
      - uses: actions/checkout@v2
      - uses: actions/setup-node@v1
      - run: npm install -g bats
      - run: bats -v
```



Creating Actions on GitHub



[Pull requests](#) [Issues](#) [Marketplace](#) [Explore](#)

[GillCleeren / refactored-telegram](#) Private

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[Code](#) [Issues 7](#) [Pull requests 1](#) [Actions](#) [Projects 1](#) [Wiki](#) [Security](#) [Insights](#) [Settings](#)

Workflows

New workflow

All workflows

Label issues

install-netlify-package

sample-workflow

All workflows

Showing runs from all workflows

6 workflow runs		Event	Status	Branch	Actor	
✓	label tester Label issues #2: Issue #21 opened by GillCleeren				12 hours ago 18s	...
✓	Create label-issues.yml sample-workflow #3: Commit 737aea0 pushed by GillCleeren			main	12 hours ago 13s	...
✓	Create label-issues.yml install-netlify-package #2: Commit 737aea0 pushed by GillCleeren			main	12 hours ago 1m 8s	...
✓	Create netlify.yml sample-workflow #2: Commit 0f78c95 pushed by GillCleeren			main	12 hours ago 19s	...
✓	Create netlify.yml install-netlify-package #1: Commit 0f78c95 pushed by GillCleeren			main	12 hours ago 52s	...
✓	Create sample-workflow.yml sample-workflow #1: Commit c35700a pushed by GillCleeren			main	12 hours ago 14s	...



Exploring the Results of the Flow Execution

The screenshot shows the GitHub Actions interface for a workflow named 'sample-workflow #1' in the repository 'GillCleeren / refactored-telegram'. The workflow is in a 'Completed' state, indicated by a green checkmark. The left sidebar shows the 'Summary' and 'Jobs' sections. The 'Jobs' section lists the job 'explore-first-github-workflow' with a green checkmark. The main content area displays the job details for 'explore-first-github-workflow', which succeeded 12 hours ago in 5s. The job steps are listed with their status and duration:

- > ✓ Set up job (3s)
- > ✓ Run echo "🔔 The job was automatically triggered by a push event." (0s)
- > ✓ Run echo "🌐 This job is now running on a Linux server hosted by GitHub!" (0s)
- > ✓ Run echo "💡 The name of your branch is refs/heads/main and your repository is GillCleeren/refactored-telegram." (0s)
- > ✓ Check out repository code (1s)
- > ✓ Run echo "💡 The GillCleeren/refactored-telegram repository has been cloned to the runner." (0s)
- > ✓ Run echo "💻 The workflow is now ready to test your code on the runner." (0s)
- > ✓ List files in the repository (0s)
- > ✓ Run echo "🍏 This job's status is success." (0s)
- > ✓ Post Check out repository code (1s)
- > ✓ Complete job (0s)



Demo



Creating a simple workflow

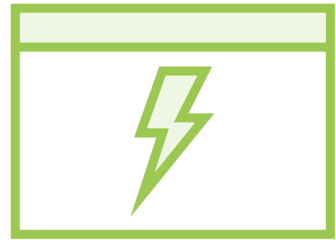
Exploring the results of the flow



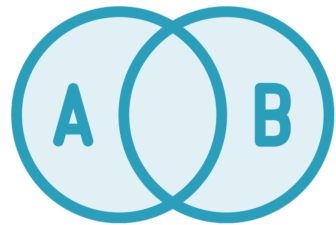
Automating Tasks



Types of Events



Event within GitHub



Combination

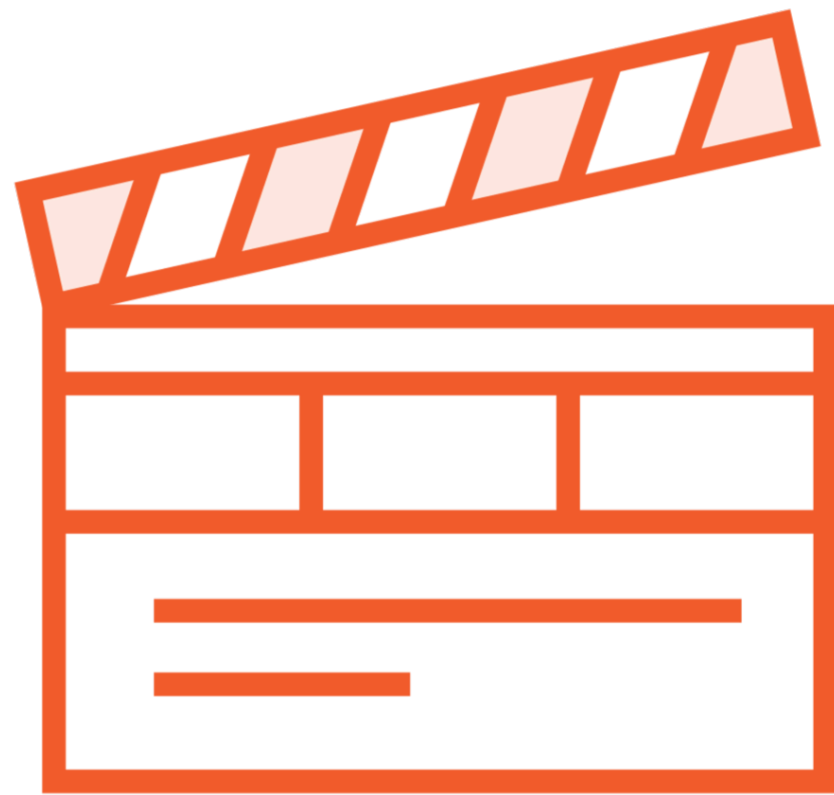


Scheduled



Webhook events



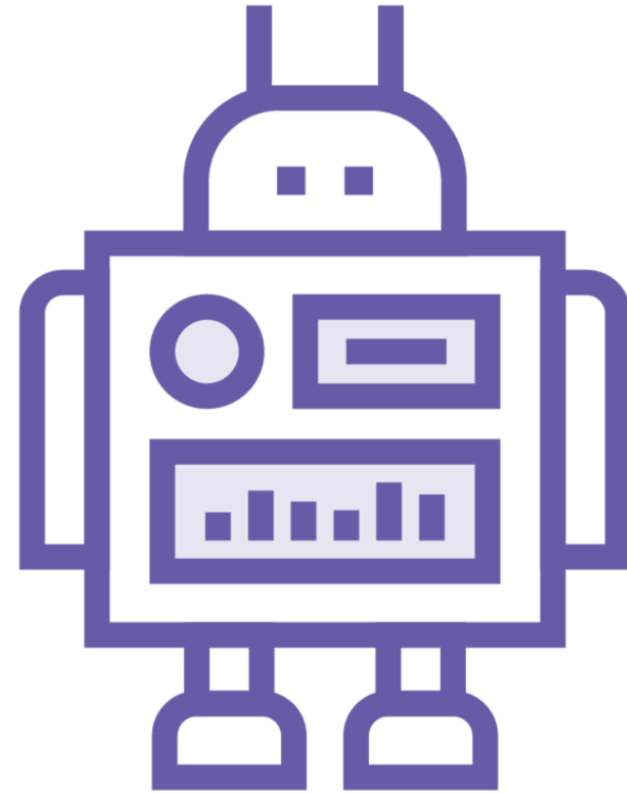


Actions

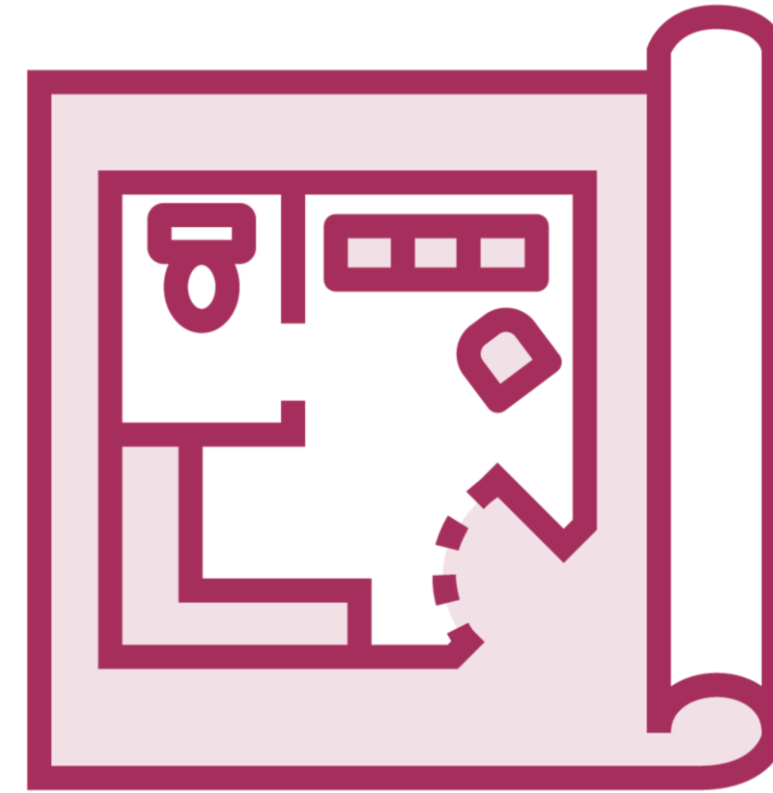
- Can create own actions
- Use community
 - Marketplace for actions



Types of Workflows



Automation



CI/CD



Understanding CI/CD

Continuous integration

Continuous deployment



Demo



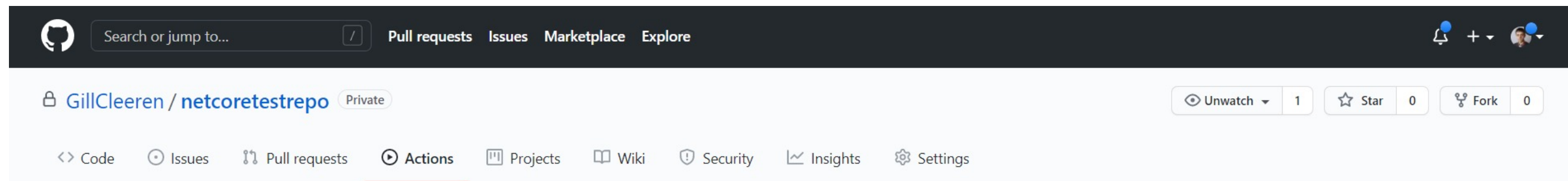
Adding a label using a flow to an issue



Setting Up Continuous Integration



Using Templates



Choose a workflow template

Build, test, and deploy your code. Make code reviews, branch management, and issue triaging work the way you want. Select a workflow template to get started.

Skip this and [set up a workflow yourself](#) →

Workflows made for your C# repository Suggested

.NET

By GitHub Actions

Build and test a .NET or ASP.NET Core project.

[Set up this workflow](#)

```
dotnet restore
dotnet build --no-restore
dotnet test --no-build --verbosity normal
```

actions/starter-workflows

C#

.NET Desktop

By GitHub Actions

Build, test, sign and publish a desktop application built on .NET.

[Set up this workflow](#)

```
dotnet test
msbuild $env:Solution_Name /t:Restore /p:Configuration=$env:Configuration
$px_cert_byte = [System.Convert]::FromBase64String("${ secrets.Base64_Encoded_Pfx }")
```

actions/starter-workflows

C#



Demo



Setting up a build for .NET Core



Summary



Actions can be used to automate tasks within GitHub

Used often for setting up CI/CD





Up next:
Creating a wiki for the repo

