

DIY_GHA

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Core concepts

GitHub Actions is a continuous integration and continuous delivery (CI/CD) platform that allows you to automate your build, test, and deployment pipeline.

Workflows

A workflow is a configurable automated process that will run one or more jobs.

Workflows are defined in the `.github/workflows` directory in a repository,

Events

An event is a specific activity in a repository that triggers a workflow run.

<https://docs.github.com/en/actions/using-workflows/events-that-trigger-workflows>

```
on:  
  pull_request:  
    types: [opened, reopened]
```

Jobs

A job is a set of *steps* in a workflow that is executed on the same runner. Each step is either a shell script that will be executed, or an *action* that will be run.

Actions

An *action* is a custom application for the GitHub Actions platform that performs a complex but frequently repeated task.

Runners

A runner is a server that runs your workflows when they're triggered. Each runner can run a single job at a time. GitHub provides Ubuntu Linux, Microsoft Windows, and macOS runners to run your workflows;

Types of actions

You can build Docker container, JavaScript, and composite actions. Actions require a metadata file to define the inputs, outputs and main entrypoint for your action. The metadata filename must be either `action.yml` or `action.yaml`. For more information, see "[Metadata syntax for GitHub Actions](https://docs.github.com/en/actions/creating-actions/about-custom-actions)."

Type	Linux	macOS	Windows
Docker container	✓	✗	✗
JavaScript	✓	✓	✓
Composite Actions	✓	✓	✓

NOTE -> **GITHUB_TOKEN**

About the **GITHUB_TOKEN** secret

At the start of each workflow run, GitHub automatically creates a unique `GITHUB_TOKEN` secret to use in your workflow. You can use the `GITHUB_TOKEN` to authenticate in a workflow run.

NOTE -> Repo permissions

Workflow permissions

Choose the default permissions granted to the GITHUB_TOKEN when running workflows in this repository. You can specify more granular permissions in the workflow using YAML. [Learn more.](#)

☒ Read and write permissions

Workflows have read and write permissions in the repository for all scopes.

Context

The GitHub Actions (GHA) context is a set of key-value pairs that provides information about the event, the runner environment, and the repository and organization where the workflow is run.

Composite

Code Walkthrough

Using `actions/github-script@v6`

Code Walkthrough

Creating a TS action

Code Walkthrough

References:

<https://docs.github.com/en/actions/creating-actions/creating-a-composite-action>

<https://github.com/actions/toolkit>

<https://docs.github.com/en/actions>

