



Ep2: GitHub Actions 소개

여러분들이 오늘 알게 될 것들 :



CI/CD가 무엇인지 이해할 수 있다.



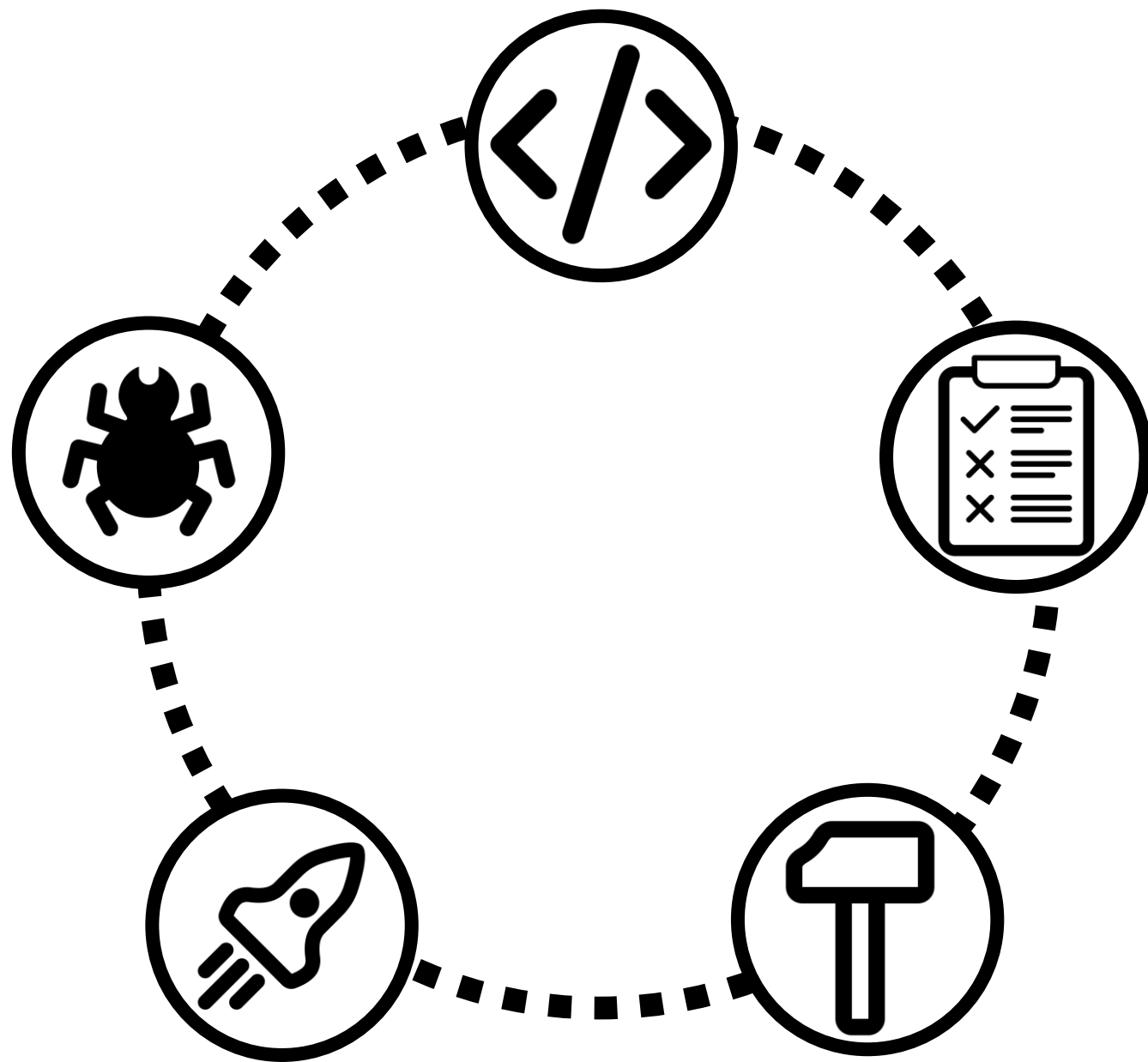
GitHub Actions으로 troubleshooting!



GitHub Actions 템플릿을 사용할 수 있다.

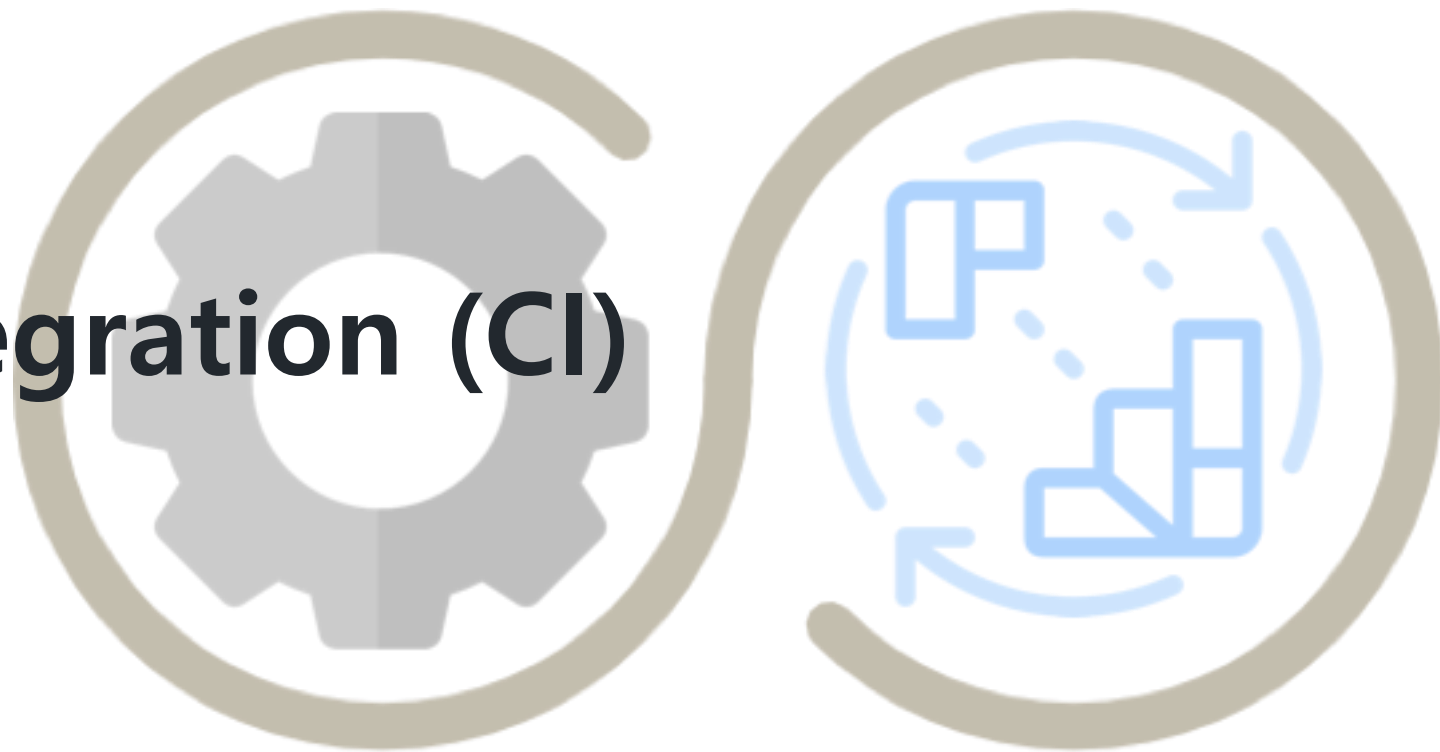


CI/CD가 무엇인가요?



Continuous Integration (CI)

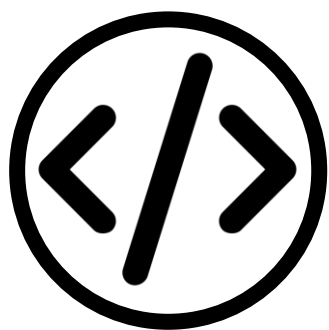
지속적인 통합



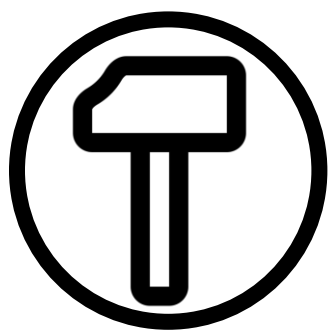
Continuous Delivery / Deployment (CD)

지속적인 제공 / 배포





코드



빌드



테스트



배포

개발 환경 → 운영 환경

Continuous Delivery 지속적인 제공



코드



빌드



테스트



배포

개발 환경 → 운영 환경

Continuous Deployment 지속적인 배포



코드



빌드

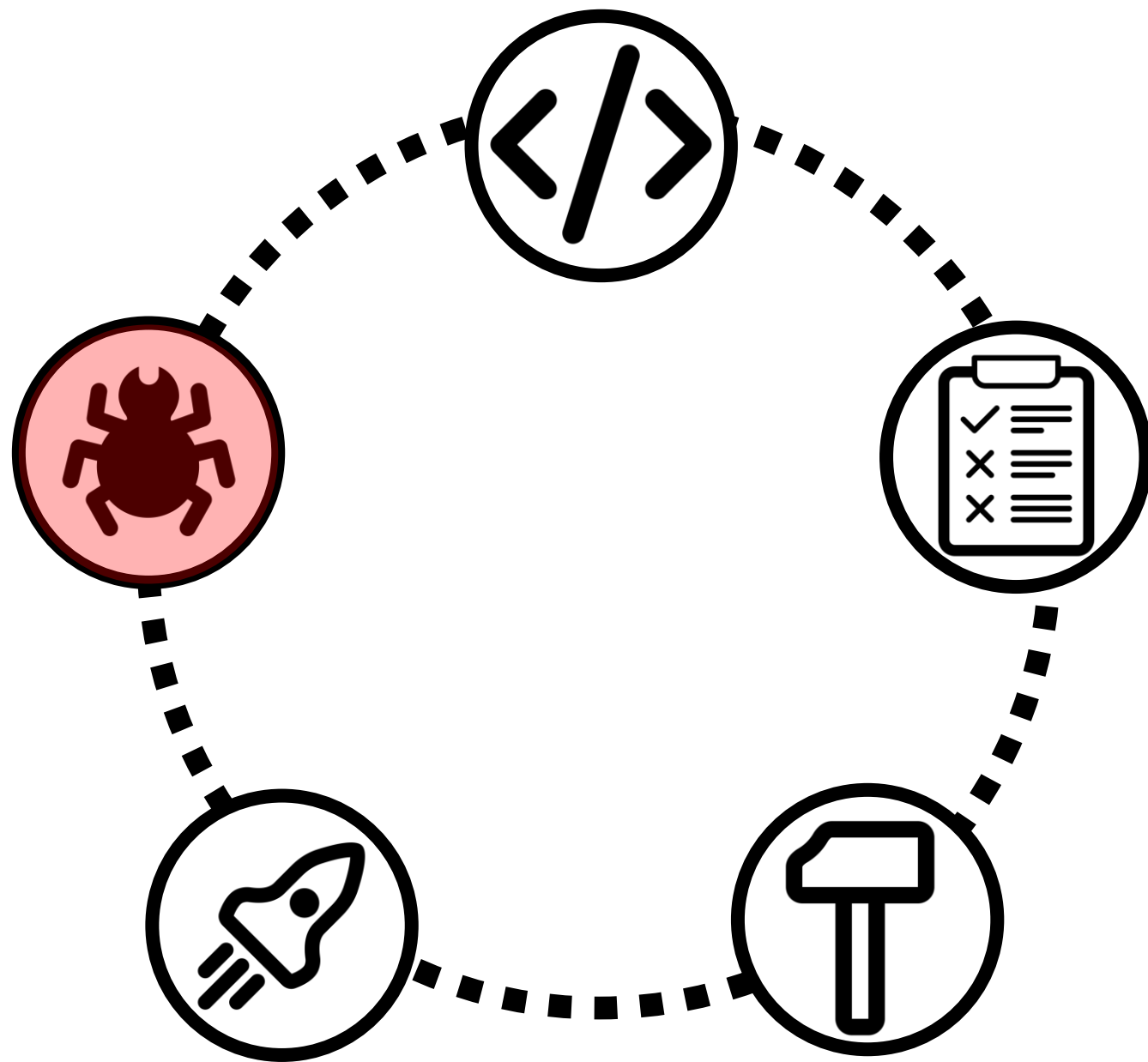


테스트



배포

개발 환경 → 운영 환경





GitHub Actions으로 Troubleshooting!



GitHub Actions 템플릿을 사용할 수
있다.

Workflows > Actions



```
name: Example workflow
```

```
on: push
```

```
jobs:
```

```
  build:
```

```
    runs-on:
```

```
      steps:
```

```
        - uses: actions/checkout@v2
```

```
        ...
```

Workflow



Job



Step



Action

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 JavaScript repository Suggested

Publish Node.js Package

By GitHub Actions

Publishes a Node.js package to npm and GitHub Packages.



Set up this workflow

```
npm ci
npm test
```

Node.js

By GitHub Actions

Build and test a Node.js project with npm.



Set up this workflow

```
npm ci
npm run build --if-present
```

템플릿 기본 구조 설명: 'on:'

▼ 29 ■■■■■ .github/workflows/node.js.yml 📄

... @@ -0,0 +1,29 @@

```
1 + # This workflow will do a clean install of node dependencies, build the source code and run tests
2 + # For more information see: https://help.github.com/actions/language-and-framework-guides/using-nodejs
3 +
4 + name: Node.js CI
5 +
6 + on:
```

This conversation was marked as resolved by wisdeom

⚙ Show conversation

```
7 +   push:
8 +     branches: [ master ]
9 +   pull_request:
10 +     branches: [ master ]
11 +
12 + jobs:
```


템플릿 기본 구조 설명: 'on:'



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GitHub Actions

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[Workflow syntax](#)

Events that trigger workflows

Context and expression syntax

Workflow commands

on

Required The name of the GitHub event that triggers the workflow. You can provide a single event string, array of events, array of event types, or an event configuration map that schedules a workflow or restricts the execution of a workflow to specific files, tags, or branch changes. For a list of available events, see "[Events that trigger workflows](#)."

Example using a single event

```
# Trigger on push
on: push
```

Example using a list of events


```
# Trigger the workflow on push or pull request
on: [push, pull_request]
```

Example using multiple events with activity types or configuration

If you need to specify activity types or configuration for an event, you must configure each event separately. You must append a colon (:) to all events, including events without configuration.

```
on:
  # Trigger the workflow on push or pull request
```

템플릿 트리거 기본 구조 설명: 이벤트

 GitHub Docs

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Software installed on GitHub-

English ▾

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Events that trigger workflows



You can configure your workflows to run when specific activity on GitHub happens, at a scheduled time, or when an event outside of GitHub occurs.

GitHub Actions is available with GitHub Free, GitHub Pro, GitHub Free for organizations, GitHub Team, GitHub Enterprise Cloud, and GitHub One. GitHub Actions is not available for private repositories owned by accounts using legacy per-repository plans. For more information, see "[GitHub's products](#)."

About workflow events

You can configure your workflow to run when webhook events are created from activity on GitHub. Workflows can use more than one webhook event to trigger a workflow run. For more information, see "[Webhooks](#)." For more information about the `on` syntax, see "[Workflow syntax for GitHub Actions](#)."

The following steps occur to trigger a workflow run:

템플릿 기본 구조 설명: 'jobs' 필드 'runs-on' 설명

12 + jobs:

This conversation was marked as resolved by wisdeom



13 + build:

14 +

15 + runs-on: ubuntu-latest

16 +

17 + strategy:

18 + matrix:

19 + node-version: [10.x, 12.x, 14.x]


20 +

21 + steps:

템플릿 기본 구조 설명: 'jobs' 필드 'runs-on' 설명

Job 을 더 잘 쓰는 방법 예시 데모

: https://docs.github.com/en/actions/reference/workflow-syntax-for-github-actions#jobsjob_idsteps

 GitHub Docs

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`jobs.<job_id>.steps`

A job contains a sequence of tasks called `steps`. Steps can run commands, run setup tasks, or run an action in your repository, a public repository, or an action published in a Docker registry. Not all steps run actions, but all actions run as a step. Each step runs in its own process in the runner environment and has access to the workspace and filesystem. Because steps run in their own process, changes to environment variables are not preserved between steps. GitHub provides built-in steps to set up and complete a job.

You can run an unlimited number of steps as long as you are within the workflow usage limits. For more information, see "[Usage limits](#)."

Example

```
name: Greeting from Mona

on: push

jobs:
  my-job:
    name: My Job
    runs-on: ubuntu-latest
    steps:
      - name: Print a greeting
        env:
          MY_VAR: Hi there! My name is
          FIRST_NAME: Mona
          MIDDLE_NAME: The
          LAST_NAME: Octocat
        run: |
          echo $MY_VAR $FIRST_NAME $MIDDLE_NAME $LAST_NAME.
```

`jobs.<job_id>.steps.id`

템플릿 기본 구조 설명: checkout

```
21 + steps:
```

this conversation was marked as resolved by wisdeom

```
22 +   - uses: actions/checkout@v2
23 +   - name: Use Node.js ${ matrix.node-version }
24 +     uses: actions/setup-node@v1
25 +     with:
26 +       node-version: ${ matrix.node-version }
27 +   - run: npm ci
```

템플릿 기본 구조 설명: checkout

actions / checkout

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Use this GitHub Action with your project
Add this Action to an existing workflow or create a new one.

View on Marketplace

main

30 branches

14 tags

Go to file

Add file

Code



thboop Add `Licensed` To Help Verify Prod Licenses (#326)

21dc310 12 days ago 80 commits

.github/workflows	Add `Licensed` To Help Verify Prod Licenses (#326)	12 days ago
.licenses/npm	Add `Licensed` To Help Verify Prod Licenses (#326)	12 days ago
__test__	update default branch (#305)	2 months ago
adrs	update default branch (#305)	2 months ago
dist	Add `Licensed` To Help Verify Prod Licenses (#326)	12 days ago
src	update default branch (#305)	2 months ago
.eslintignore	Convert checkout to a regular action (#70)	10 months ago
.eslintrc.json	Convert checkout to a regular action (#70)	10 months ago
.gitattributes	Add `Licensed` To Help Verify Prod Licenses (#326)	12 days ago
.gitignore	more unit tests and corresponding refactoring (#174)	7 months ago
.licensed.yml	Add `Licensed` To Help Verify Prod Licenses (#326)	12 days ago

About

Action for checking out a repo

github.com/features/actions

Readme

MIT License

Releases 14

v2.3.2 Latest
on Aug 7

+ 13 releases

Packages

No packages published

Used by 33



템플릿 기본 구조 설명: run

```
22 +   - uses: actions/checkout@v2
23 +   - name: Use Node.js ${{ matrix.node-version }}
24 +     uses: actions/setup-node@v1
25 +     with:
26 +       node-version: ${{ matrix.node-version }}
27 +   - run: npm ci
```

This conversation was marked as resolved by wisdeom

 Show conversation

```
28 +   - run: npm run build --if-present
29 +   - run: npm test
```

템플릿 기본 구조 설명: run



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`jobs.<job_id>.steps.run`

Runs command-line programs using the operating system's shell. If you do not provide a `name`, the step name will default to the text specified in the `run` command.

Commands run using non-login shells by default. You can choose a different shell and customize the shell used to run commands. For more information, see "[Using a specific shell](#)."

Each `run` keyword represents a new process and shell in the runner environment. When you provide multi-line commands, each line runs in the same shell. For example:

- A single-line command:

```
- name: Install Dependencies
  run: npm install
```

- A multi-line command:

```
- name: Clean install dependencies and build
  run: |
    npm ci
    npm run build
```

Using the `working-directory` keyword, you can specify the working directory of where to run the

여러분들이 오늘 알게 된 것들 :



CI/CD가 무엇인지 이해할 수 있다.



GitHub Actions으로 troubleshooting!



GitHub Actions 템플릿을 사용할 수 있다.

다음 시간에는 :



GitHub Actions 워크플로우를

내 입맛에 맞게 작성할 수 있다.

<요구 사항 3가지 해결하기 >



OS 종류와 **Node** 버전이 다양해요.



빌드할 때마다 **테스트**를 실행해서
불편해요.



다른 job에서 **빌드 아티팩트** 접근이
안돼요.