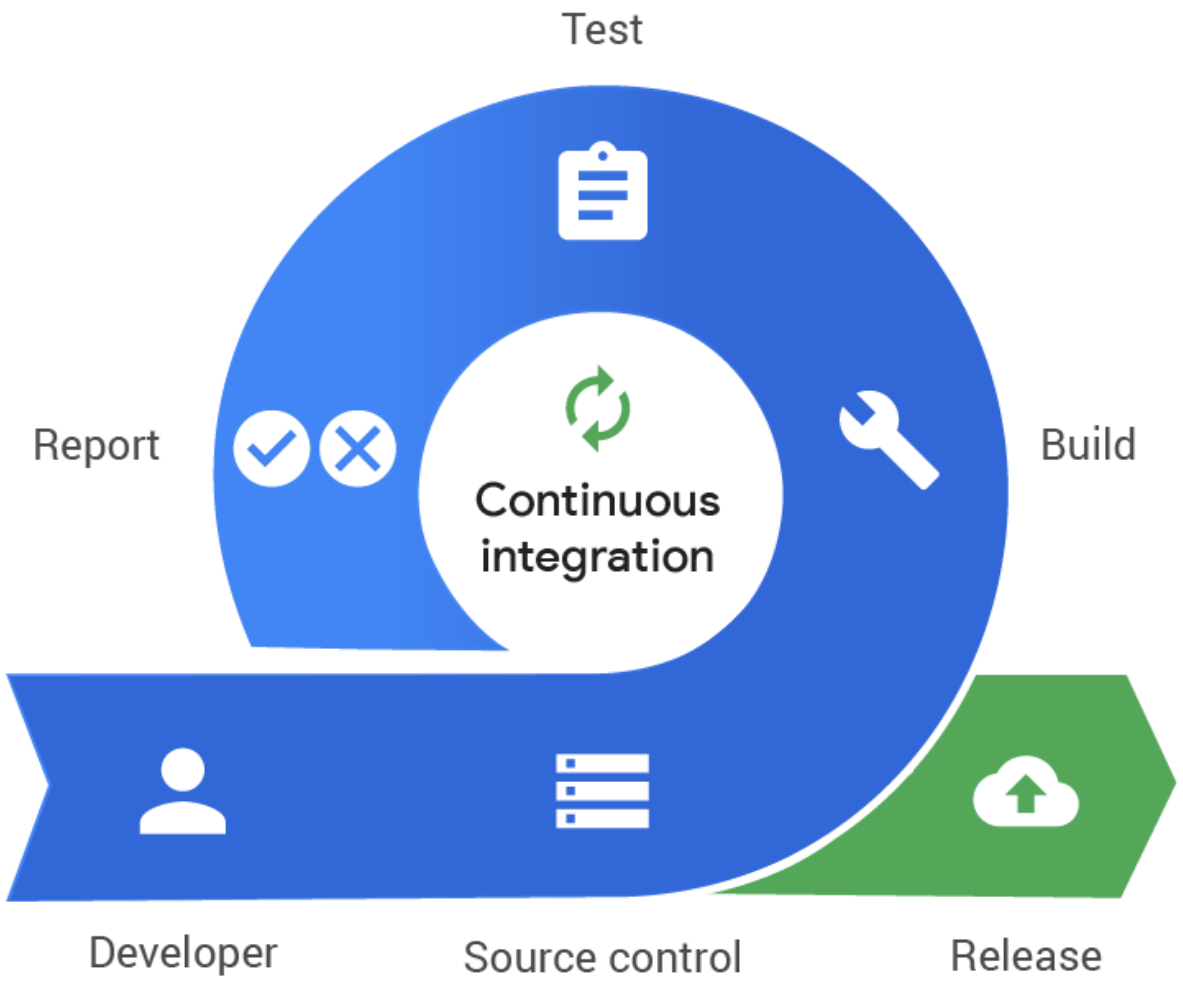


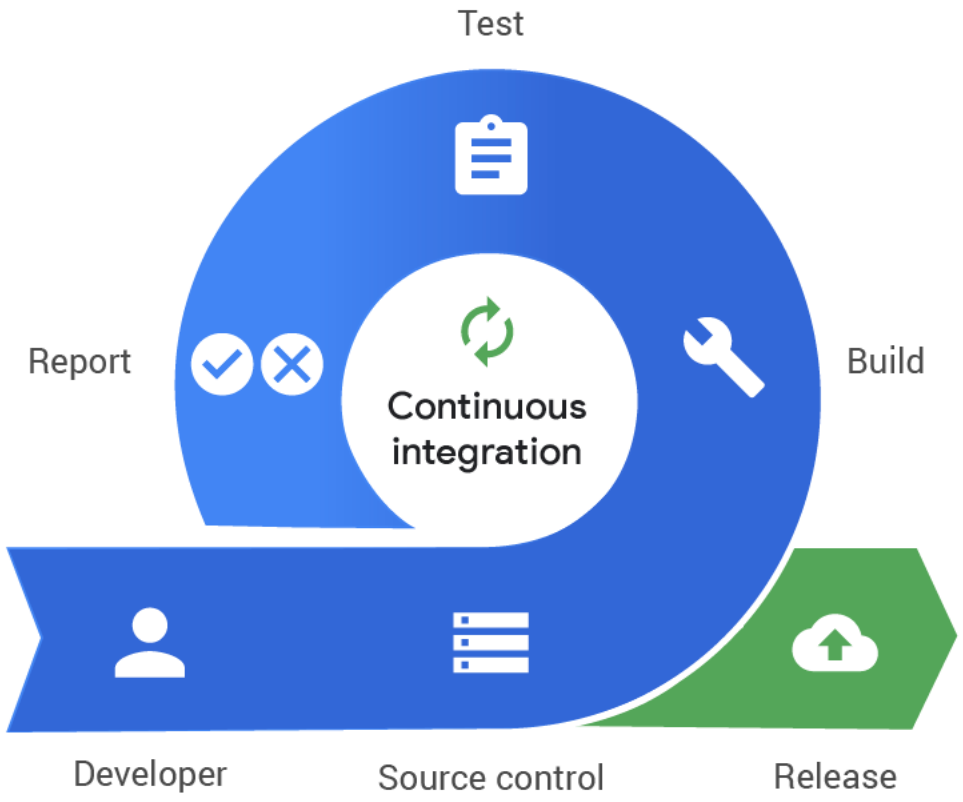
CI / CD

Using Github Actions & Heroku

NOSERYOUNG

What is Continuous Integration (CI)?

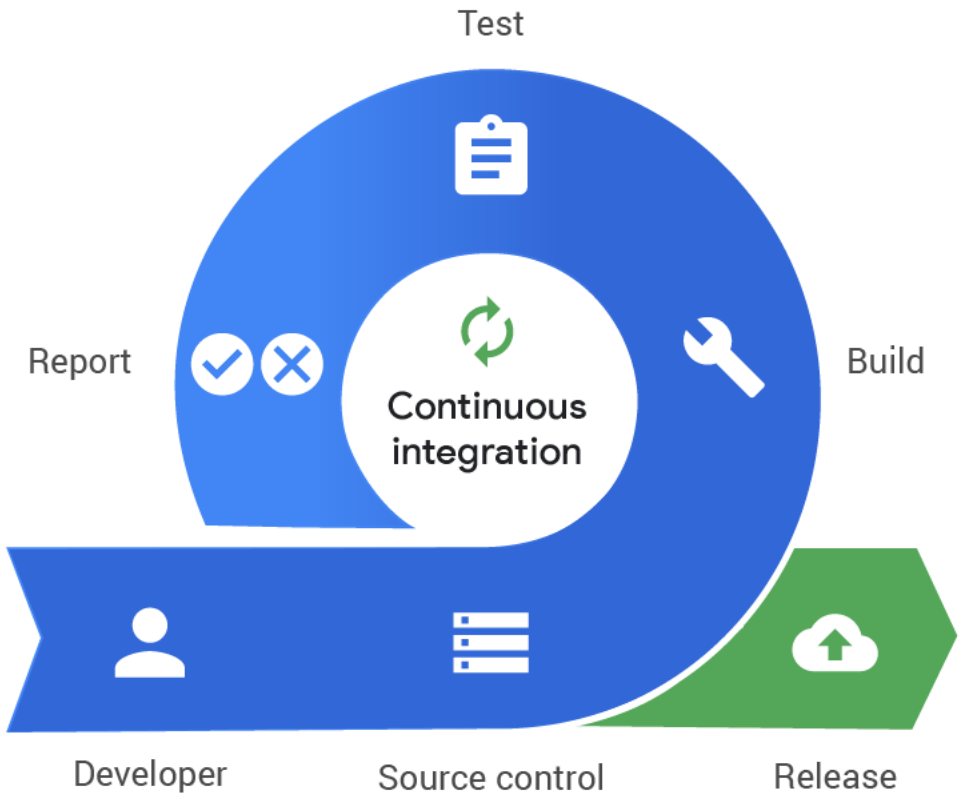
- Continuously integrate changes into a current build
  - E.g. “develop”-branch in the Git Workflow
- Emphasis on automated testing



NOSERYOUNG

What is Continuous Delivery (CD)?

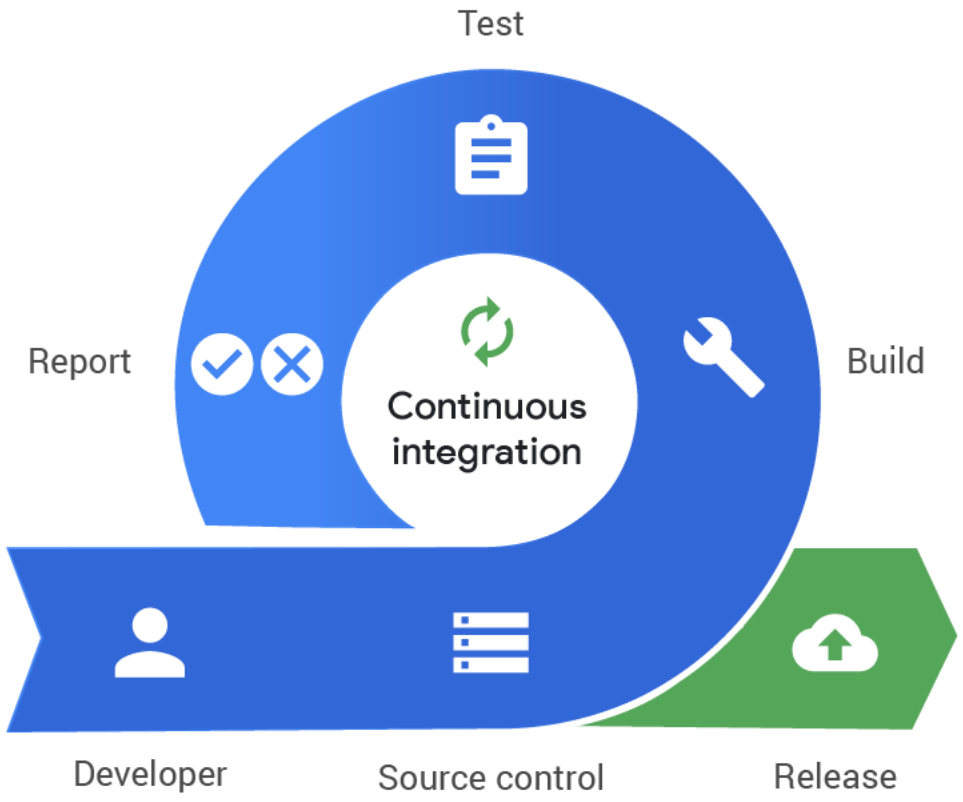
- Continuously integrate changes into a current build
- Continuously test software to ensure a functional build can be deployed at any time
  - E.g. weekly/monthly releases



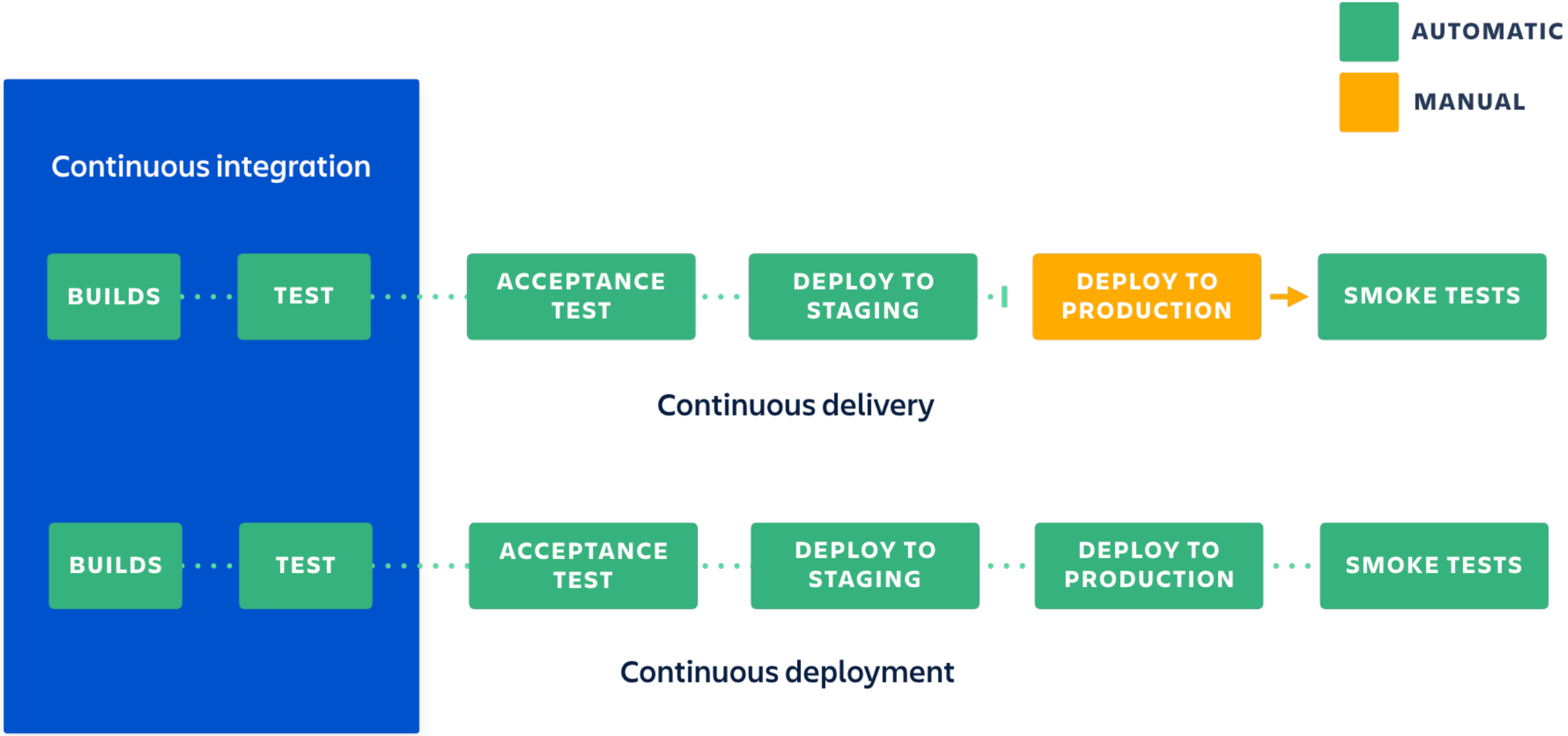
NOSERYOUNG

What is Continuous Deployment (CD)?

- Continuously integrate changes into a current build
- Continuously test software to ensure a functional build can be deployed at any time
- Continuously deploy changes to the customer



NOSERYOUNG


AUTOMATIC
MANUAL
Continuous integration
BUILDS
TEST
ACCEPTANCE TEST
DEPLOY TO STAGING
DEPLOY TO PRODUCTION
SMOKE TESTS
Continuous delivery
BUILDS
TEST
ACCEPTANCE TEST
DEPLOY TO STAGING
DEPLOY TO PRODUCTION
SMOKE TESTS
Continuous deployment

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Pros / Cons of CI/CD

PRO

- Short release cycles
- Responsive development
- Helps maintain consistent code quality
- Easier cooperation in large teams

CON

- Management of project can become complex
- Relies on complex software management tools
- Robust communication an planning necessary
- Requires robust automated tests

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Github Actions

For CI / CD

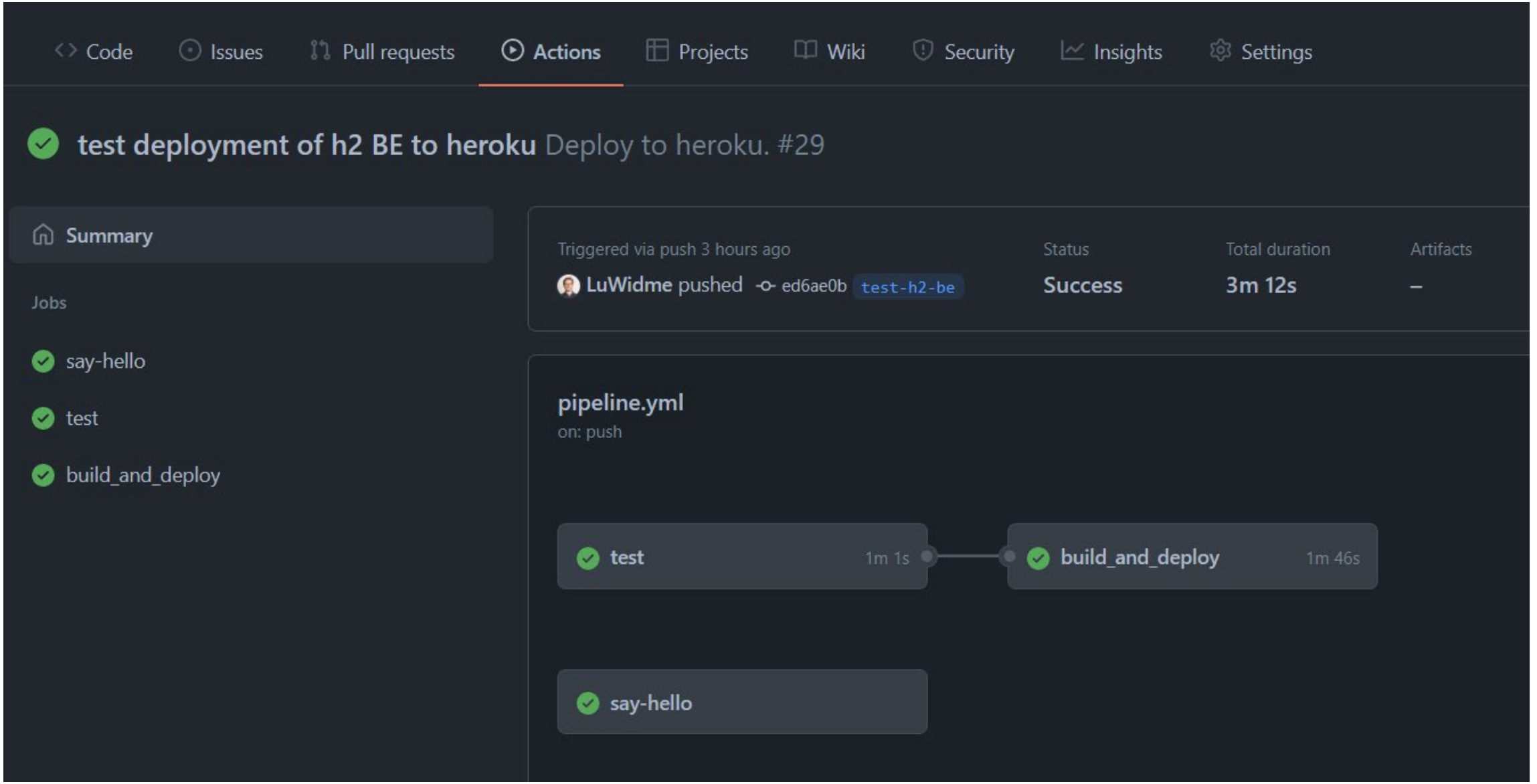
- Define a CI/CD Pipeline inyour project in: **.github/workflow/pipeline.yml**
- Define the triggers and individual steps.

```yaml
# Your workflow name.
name: Deploy to heroku.

# Run workflow on every push to master branch.
on:
  push:
    branches: [main, test-h2-be]

# Your workflows jobs.
jobs:
  say-hello:
    runs-on: ubuntu-latest
    steps:
      - name: Greet
        run: echo "Hello"

  test: ...
```


Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
test deployment of h2 BE to heroku Deploy to heroku. #29
Summary
Jobs
say-hello
test
build_and_deploy
Triggered via push 3 hours ago
LuWidme pushed ed6ae0b test-h2-be
Status
Success
Total duration
3m 12s
Artifacts
–
pipeline.yml
on: push
test 1m 1s
build_and_deploy 1m 46s
say-hello

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Example Project

Continuous Delivery of Web-App using Heroku

- Goal: Create a CI / CD Pipeline that tests, builds and deploys a Web-App automatically after each commit.
- Exercises distributed separately

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