

GitHub Actions



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Contenidos

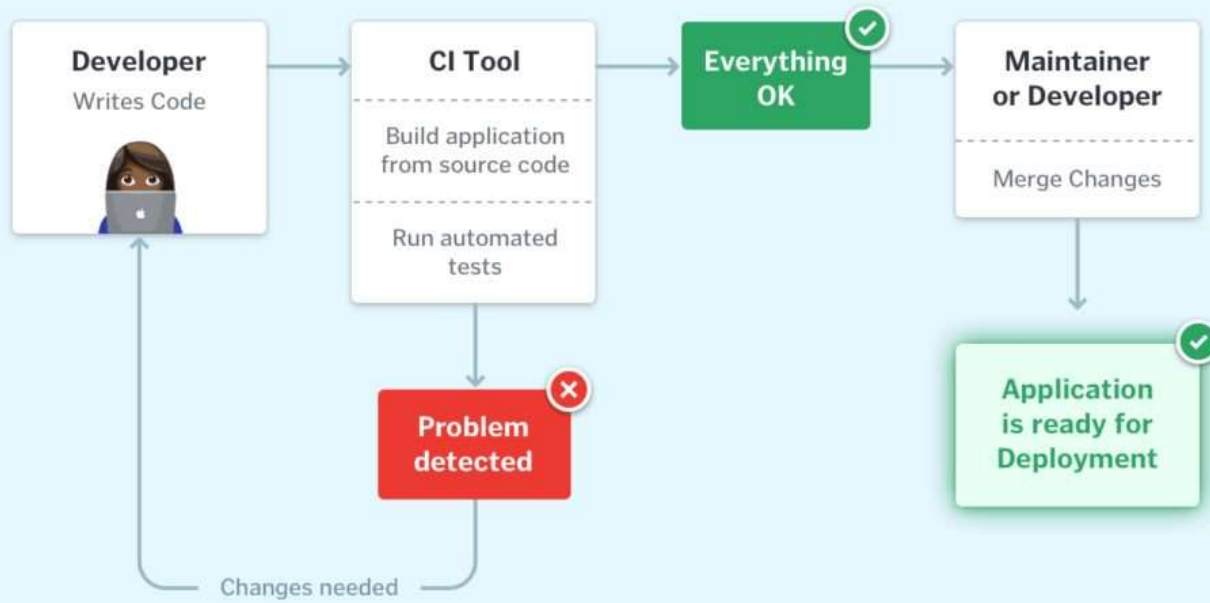
- **Continuous Integration**
- **Continuous Deployment**
- **Github Actions**
- **Dependabot**

- **Workflows**
- **Actions en un fork**
- **Contenedores GitHub Actions**

- **Git scraping**
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Continuous Integration Workflow

semaphore

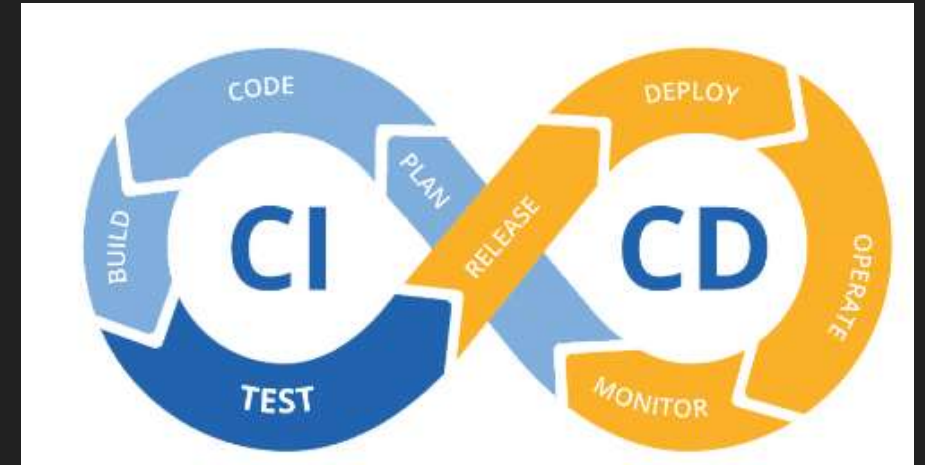
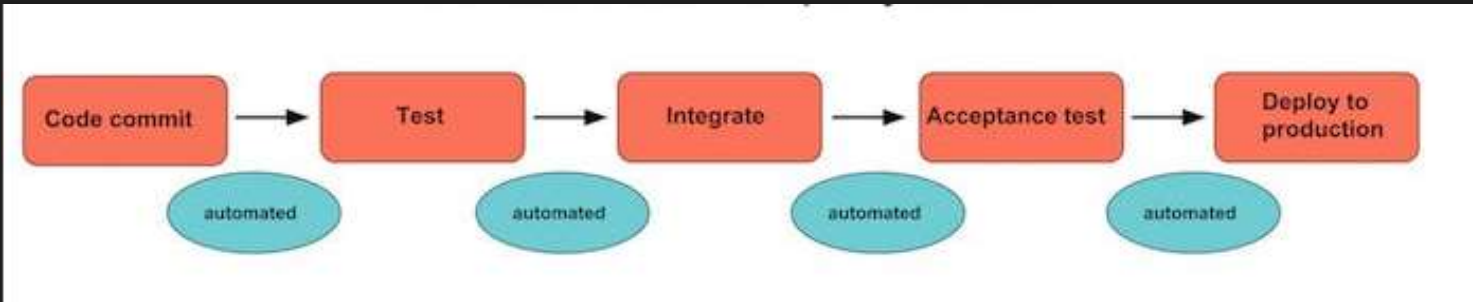


Continuous integration

- Automatización para medir la calidad.
 - Complejidad del código.
 - Cobertura de las pruebas.

wiq_es3b

Deploy on release **passing** quality gate **passed** coverage 87.9%

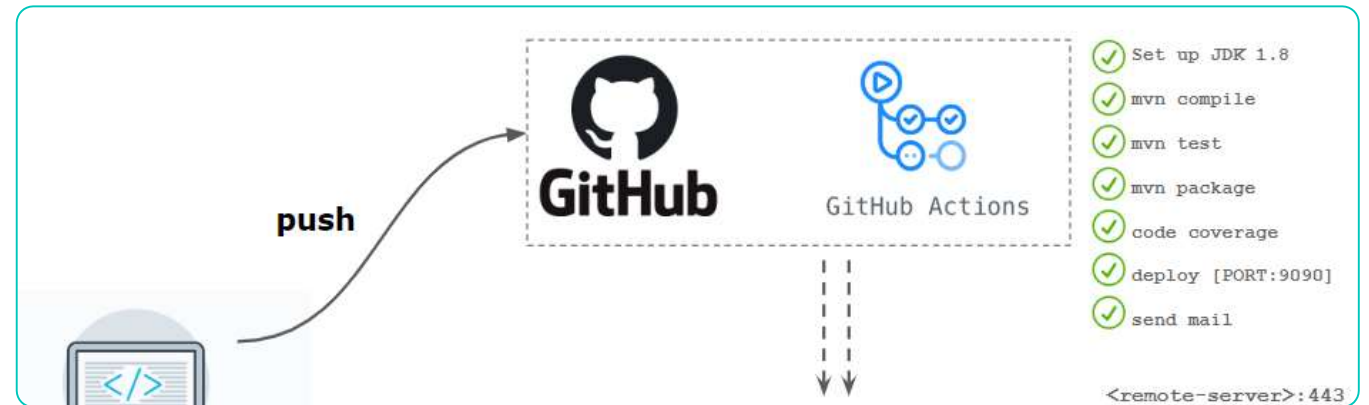


Continuous deployment

- ❑ Paso siguiente a CI.
- ❑ Llevar automáticamente a producción
- ❑ Facilitar y automatizar el despliegue en un entorno de producción.

Github actions

- Creado en el 2018
- Respuesta de GitHub al CI/CD
- Flujos de trabajo
- Definido en .github (YAML)
- Arquitectura basada en eventos:
- Pull-requests
- Releases
- En momentos específicos (cron jobs)
- Botón en la interfaz
- Mediante solicitudes HTTP (webhook)





Dependabot

Name	Last commit message	Last commit date
..		
workflows	Update Java version to support some libraries used	3 months ago
dependabot.yml	sample code	5 months ago

- GitHub Action de GitHub
- Comprueba dependencias de aplicación y seguridad
- Solicita pull-request

Workflows

Implementación de GH Actions

Tareas automatizadas
Respuesta a un evento
Commits, Pull Requests,
etiquetado de versiones...

Code

Blame

28 lines (28 loc) · 869 Bytes

Parámetros

```
1  name: Build
2  on:
3    push:
4      branches:
5        - master
6    pull_request:
7      types: [opened, synchronize, reopened]
8  jobs:
9    unit-tests:
10     runs-on: ubuntu-latest
11     steps:
12     - uses: actions/checkout@v4
13     - uses: actions/setup-node@v4
14       with:
15         node-version: 20
16     - run: npm --prefix users/authservice ci
17     - run: npm --prefix users/userservice ci
18     - run: npm --prefix gateway-service ci
19     - run: npm --prefix webapp ci
20     - run: npm --prefix users/authservice test -- --coverage
21     - run: npm --prefix users/userservice test -- --coverage
22     - run: npm --prefix gateway-service test -- --coverage
23     - run: npm --prefix webapp test -- --coverage
24     - name: Analyze with SonarCloud
25       uses: sonarsource/sonarcloud-github-action@master
26     env:
27       GITHUB_TOKEN: ${ secrets.GITHUB_TOKEN }
28       SONAR_TOKEN: ${ secrets.SONAR_TOKEN }
```

Actions en un fork



Utilidad:

- Ejecutar automatizaciones (pruebas)
- Verificar integridad del código

Antes de una Pull Request al original

Limitaciones en un fork:

- Configuración de seguridad
- Uso de recursos
- Acceso a secretos

A screenshot of the GitHub interface showing the 'Repository secrets' page. On the left is a sidebar with navigation options: Security, Code security and analysis, Deploy keys, Secrets and variables (selected), Actions, Codespaces, and Dependabot. Below the sidebar is the 'Integrations' section. The main content area is titled 'Repository secrets' and includes a 'New repository secret' button. Below the title is a table with columns for 'Name', 'Last updated', and action icons (edit and delete). The table lists four secrets: DEPLOY_HOST, DEPLOY_KEY, DEPLOY_USER, and SONAR_TOKEN.

Name	Last updated		
DEPLOY_HOST	2 weeks ago		
DEPLOY_KEY	2 weeks ago		
DEPLOY_USER	2 weeks ago		
SONAR_TOKEN	last month		

Contenedores GitHub Actions



"Sabores" de contenedores:

Entornos de ejecución aislados

Características de los contenedores:

- **Reutilizables**
- **Portabilidad** (Ejecutar workflows en cualquier entorno)
- **Escalabilidad** (Automático frente a volúmenes grandes de trabajo)
- **Configurables** (Adaptar el entorno de ejecución)
- **Ejecución en Paralelo**





GitHub Actions

Free Automated Web Scraping Using GitHub Actions

Git Scraping

- Combinar CVS (Github) + Github Actions + Scraping Web para la extracción y seguimiento de datos en línea.

Github Artifacts

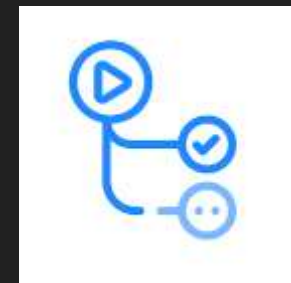
```
name: Share data between jobs
on: [push]
jobs:
  job_1:
    name: Add 3 and 7
    runs-on: ubuntu-latest
    steps:
      - shell: bash
        run: |
          expr 3 + 7 > math-homework.txt
      - name: Upload math result for job 1
        uses: actions/upload-artifact@v4
        with:
          name: homework_pre
          path: math-homework.txt
```

```
job_2:
  name: Multiply by 9
  needs: job_1
  runs-on: windows-latest
  steps:
    - name: Download math result for job 1
      uses: actions/download-artifact@v4
      with:
        name: homework_pre
    - shell: bash
      run: |
        value=`cat math-homework.txt`
        expr $value \* 9 > math-homework.txt
    - name: Upload math result for job 2
      uses: actions/upload-artifact@v4
      with:
        name: homework_final
        path: math-homework.txt
```

```
job_3:
  name: Display results
  needs: job_2
  runs-on: macOS-latest
  steps:
    - name: Download math result for job 2
      uses: actions/download-artifact@v4
      with:
        name: homework_final
    - name: Print the final result
      shell: bash
      run: |
        value=`cat math-homework.txt`
```

Github Actions Importer

- Planificar y migrar de forma automática workflows de CI/CD a Github Actions
- Desde plataformas como:
 - Jenkins
 - Azure DevOps
 - Travis CI



Q&A

The image features three large, white, 3D-rendered characters—'Q', '&', and 'A'—suspended by thin white vertical lines from the top. The characters are set against a solid teal background. The 'Q' is on the left, the ampersand is in the middle, and the 'A' is on the right. Each character has a slight shadow beneath it, giving them a three-dimensional appearance. The 'Q' has a circular top and a tail that curves to the right. The ampersand is a standard, bold font. The 'A' is a tall, blocky letter with a small triangle cutout in its upper right section and a horizontal bar across its middle.