

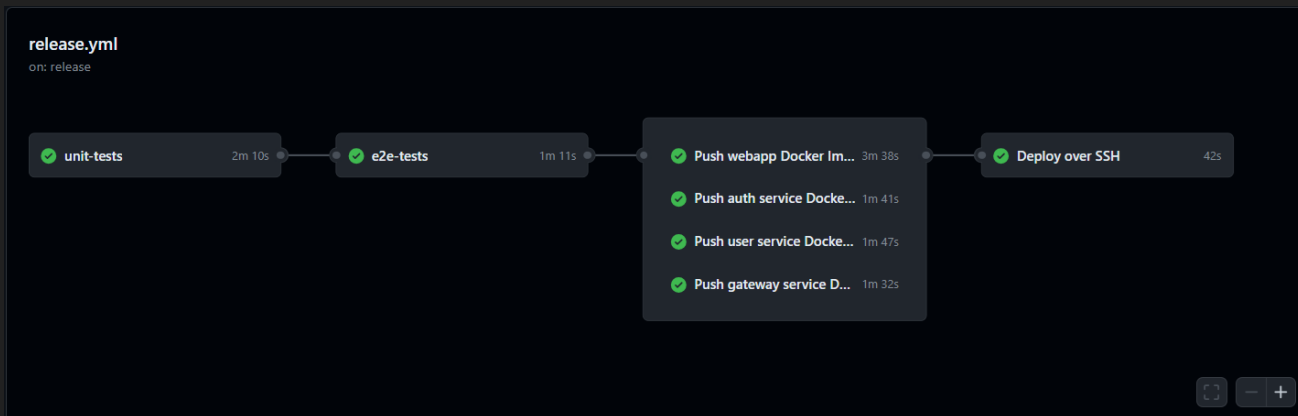
Github Actions



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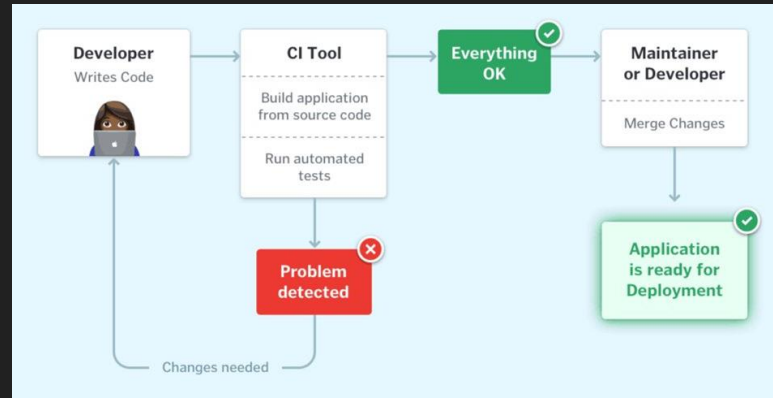
What are Github Actions?

- Customizable workflows that allow you to automate tasks within your GitHub repository
- GitHub Actions serves as an ideal solution for CI and CD.
- Configure workflows to automatically run tasks triggered by some events.
- Automate unit tests, integration tests, artifact building, and more for seamless integration of code changes.



Continuous Integration

- CI is essential for efficient software development.
- Without CI, code changes can lead to fragmentation and conflicts.
- CI, enabled via GitHub Actions, automates workflows triggered by events.
- Tasks include running tests and deploying the application.
- Early bug detection reduces time and effort for fixes.
- CI promotes collaboration and trust through automated testing.
- Recommending the use of dependabot



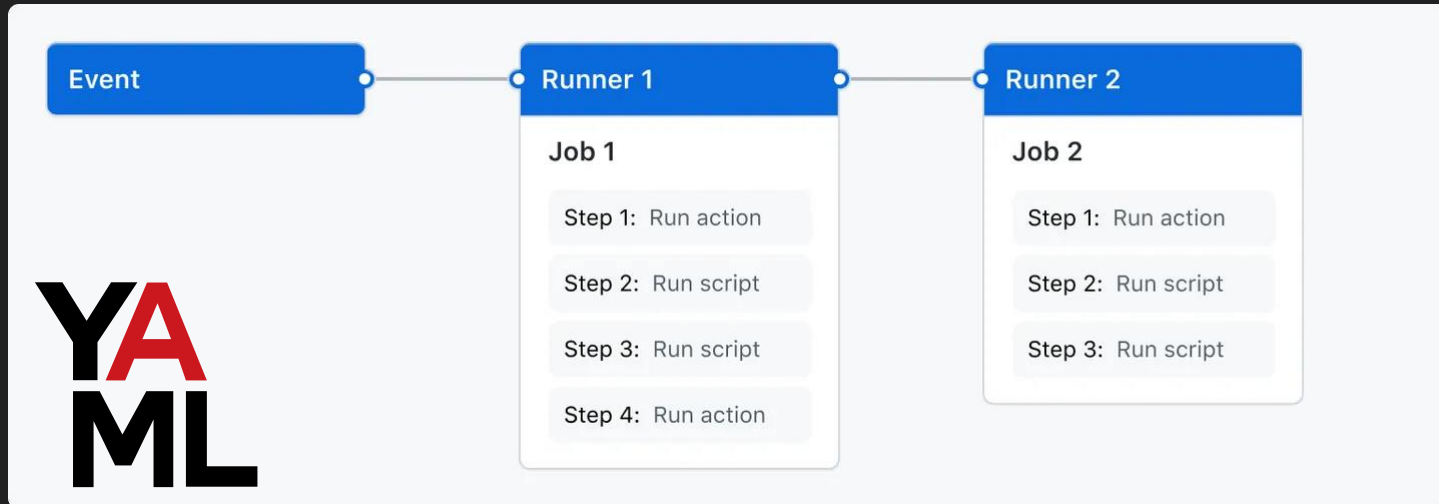
Continuous Deployment

Workflows:

Automated process that will run one or more jobs.

Jobs:

Set of steps in a workflow that is executed on the same runner



Continuous Deployment

Events:

A specific activity in a repository that triggers a workflow run.

- Pull request
- Pushing a commit
- Opening an issue

Basically, anything that can happen in the repo



YAML

Ok, but why should I care about this?
(and how do I use it in my projects)

A practical example

The image shows a dark-themed user interface. On the left, a website header has a profile icon and navigation links for 'Projects' and 'Hobbies'. Below this, a large dark box contains the text 'welcome!' and a smaller line of text: 'so hmm this is Dario Gutierrez Mori's website, full of a variety of random stuff :)'. A second dark box below contains a paragraph: 'I assume if you are here it is because you found my CV or you just wanna see my portfolio. Check around for things that I have made!'. On the right, a Spotify interface is shown. It features the Spotify logo, the name 'dario' with a 'Follow' button, and a profile picture. The 'Currently listening to:' section shows the album 'Like a dream come true' by アトラスサウンドチーム with a progress bar at 00:28/03:43. Below this is a 'Recent listens' section with a dropdown arrow, listing three items: 'Horizon' by Ian Taylor, 'The Shire' by Howard Shore, and '夜のとばり' by 西浦賢仁. At the bottom of the Spotify interface, there is a small white bar with the text '今聞中'.

Projects Hobbies

welcome!

so hmm this is Dario Gutierrez Mori's website, full of a variety of random stuff :)

I assume if you are here it is because you found my CV or you just wanna see my portfolio. Check around for things that I have made!

Spotify

dario Follow

Currently listening to:

Like a dream come true
アトラスサウンドチーム
00:28/03:43

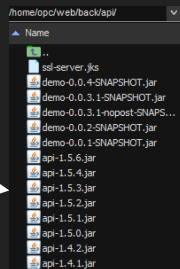
Recent listens

- Horizon
Ian Taylor
- The Shire
Howard Shore
- 夜のとばり
西浦賢仁

今聞中

What I had (and still have) to do:

api-1.4.1.jar	02/02/2024 00:01	Archivo ORIGINAL
api-1.5.2.jar	01/02/2024 23:52	Executable Jar File
api-1.5.3.jar	01/02/2024 23:59	Executable Jar File
api-1.5.4.jar	02/02/2024 00:01	Executable Jar File
api-1.5.6.jar	02/02/2024 19:55	Executable Jar File
api-1.5.6.jar.original	02/02/2024 19:55	Archivo ORIGINAL
demo-0.0.1-SNAPSHOT.jar	30/09/2023 19:44	Executable Jar File
demo-0.0.1-SNAPSHOT.jar.original	30/09/2023 19:44	Archivo ORIGINAL
demo-0.0.4-SNAPSHOT.jar	28/09/2023 13:13	Executable Jar File



```
(SSH client, X server and network tools)
> SSH session to opc@...
• Direct SSH : ✓
• SSH compression : ✓
• SSH-browser : ✓
• X11-forwarding : ✗ (disabled or not supported by server)
> For more info, ctrl+click on help or visit our website.
```

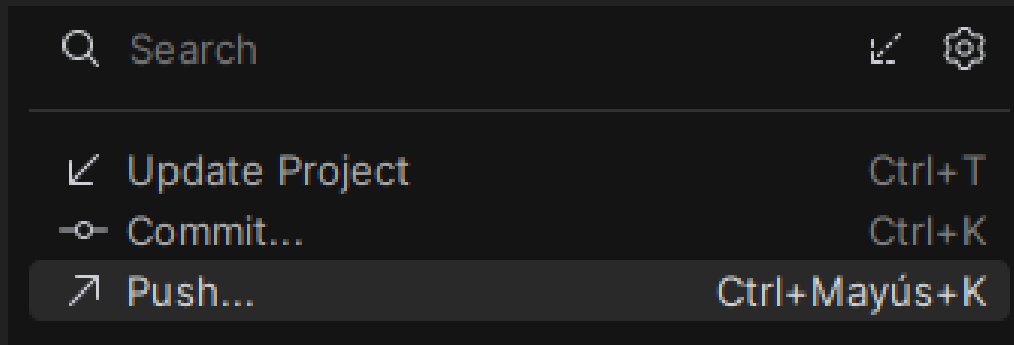
Activate the web console with: `systemctl enable --now cockpit.socket`
Last login: Fri Feb 2 18:44:31 2024 from ...
[opc@instance-20221019-1839 ~]\$

```
src/main/resources/cred.properties (No such file or directory)
src/main/resources/cred.properties (No such file or directory)
Refreshing token
src/main/resources/cred.properties (No such file or directory)
src/main/resources/cred.properties (No such file or directory)
Refreshing token
src/main/resources/cred.properties (No such file or directory)
src/main/resources/cred.properties (No such file or directory)
Refreshing token
src/main/resources/cred.properties (No such file or directory)
src/main/resources/cred.properties (No such file or directory)
Refreshing token
src/main/resources/cred.properties (No such file or directory)
*2024-02-29 08:02:15.627 INFO 4090359 --- [localhost:8080] --- [LocalContainerEntityManagerFactoryBean : Closing JPA EntityManagerFactory for persistence unit 'default'
2024-02-29 08:02:15.646 INFO 4090359 --- [localhost:8080] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Shutdown initiated...
2024-02-29 08:02:15.678 INFO 4090359 --- [localhost:8080] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Shutdown completed.
[opc@instance-20221019-1839 ap1]$
```

```
[opc@instance-20221019-1839 ap1]$ java -jar api-1.5.6.jar
Spring Boot 3.2.6
2024-02-29 08:02:15.627 INFO 4090359 --- [main] com.as.api.SteamApp : Starting SteamApp v1.5.6 using Java 18.0.2.1 on instance-20221019-1839 with PID 4090359 (/home/opc/web/back/api)
2024-02-29 08:02:15.632 INFO 4090359 --- [main] com.as.api.SteamApp : No active profile set, falling back to 1 default profile: "default"
2024-02-29 08:02:17.626 INFO 4090359 --- [main] org.springframework.data.jpa.repository.support.JpaRepositoryDelegate : Bootstrapping Spring data JPA repositories in DEFAULT mode.
2024-02-29 08:02:17.644 INFO 4090359 --- [main] org.springframework.data.jpa.repository.support.JpaRepositoryDelegate : Finished Spring data repository scanning in 200 ms. Found 13 JPA repository interfaces.
2024-02-29 08:02:19.098 INFO 4090359 --- [main] org.springframework.boot.tomcat.FastHttpAdapter : Tomcat initialized with ports [844 (http)]
2024-02-29 08:02:19.113 INFO 4090359 --- [main] org.apache.catalina.core.StandardService : Starting service Tomcat
2024-02-29 08:02:19.124 INFO 4090359 --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.63]
2024-02-29 08:02:19.254 INFO 4090359 --- [main] org.springframework.boot.autoconfigure.web.WebApplicationInitializer : Initializing Spring embedded WebApplicationContext
2024-02-29 08:02:19.274 INFO 4090359 --- [main] org.springframework.boot.web.servlet.context.AnnotationConfigServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 3490 ms
2024-02-29 08:02:19.981 INFO 4090359 --- [main] org.hibernate.jpa.internal.util.LogHelper : HHH000204: Processing PersistenceUnitInfo [name: default]
2024-02-29 08:02:20.053 INFO 4090359 --- [main] org.hibernate.orm.core.version.S.6.2.Final : HHH000021: Hibernate ORM core version 5.6.2.Final
2024-02-29 08:02:20.140 INFO 4090359 --- [main] org.hibernate.annotations.common.Version : HCANN000001: Hibernate Commons Annotations 5.1.2.Final
2024-02-29 08:02:20.340 INFO 4090359 --- [main] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start completed.
2024-02-29 08:02:20.474 INFO 4090359 --- [main] org.hibernate.dialect.Dialect : HHH000400: Using dialect org.hibernate.dialect.PostgreSQLDialect
2024-02-29 08:02:23.264 INFO 4090359 --- [main] org.hibernate.engine.transaction.jta.platform.internal.N... : HHH000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.N...
2024-02-29 08:02:23.276 INFO 4090359 --- [main] org.springframework.boot.autoconfigure.orm.jpa.HibernateJpaAutoConfiguration : Initialized JPA EntityManagerFactory for persistence unit 'default'
2024-02-29 08:02:24.209 INFO 4090359 --- [main] org.springframework.boot.autoconfigure.jdbc.DataSourceConfiguration : Spring-Jpa-Open-View is enabled by default. Therefore, database queries may be performed during view rendering. Explicitly configure spring.jpa.open-in-view to disable this warning.
2024-02-29 08:02:26.093 INFO 4090359 --- [main] org.springframework.boot.web.servlet.context.AnnotationConfigServletWebServerApplicationContext : Tomcat started on port(s) 844 (https) with context path /
2024-02-29 08:02:26.098 INFO 4090359 --- [main] com.as.api.SteamApp : Started SteamApp in 11.415 seconds (JVM running for 12.457)
```



But if I had Github actions setup...



All workflows

Showing runs from all workflows

Filter workflow runs

66 workflow runs

Event ▾ Status ▾ Branch ▾ Actor ▾

✓ Added tests for the Authentication endpoints

test/login

📅 13 hours ago

🕒 2m 14s

...

(and I would have tests!)



Ok but, where is the catch?


















(here it is :/)

Plan	Storage	Minutos (por mes)
GitHub Free	500 MB	2.000
GitHub Pro	1 GB	3.000
GitHub Free para organizaciones	500 MB	2.000
GitHub Team	2 GB	3.000
GitHub Enterprise Cloud	50 GB	50.000

Tasas por minuto [🔗](#)

Sistema operativo	vCPU	Tasa por minuto (USD)
Linux	2	0,008 USD

you have around 50 hours so don't worry!

 chore: sudo to docker compose Deploy on release #9: Commit a04a835 pushed by Toto-hitori	chore/actions-fixing	 2 days ago  4m 13s	...
 chore: env variables thing Deploy on release #8: Commit 49449e7 pushed by Toto-hitori	chore/actions-fixing	 2 days ago  21s	...
 chore: removed docker thing Deploy on release #7: Commit df5829a pushed by Toto-hitori	chore/actions-fixing	 2 days ago  4m 28s	...
 chore: added docker to deploy Deploy on release #6: Commit 7f52b3c pushed by Toto-hitori	chore/actions-fixing	 2 days ago  4m 16s	...
 Merge remote-tracking branch 'origin/chore/actions-fixing' into chore... Deploy on release #5: Commit 23041b8 pushed by Toto-hitori	chore/actions-fixing	 2 days ago  21s	...

Where could I deploy my applications?

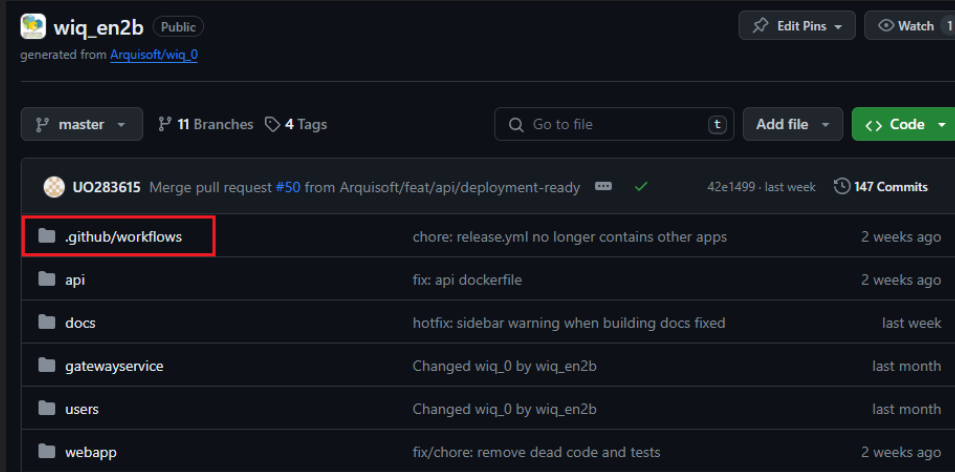


OR



ORACLE®

How are actions defined?



The screenshot shows the GitHub repository page for 'wiq_en2b'. At the top, it indicates the repository is 'Public' and generated from 'Arquisoft/wiq_0'. Below the repository name, there are options for 'Edit Pins' and 'Watch'. The main content area shows a list of files and folders. The folder '.github/workflows' is highlighted with a red box. Other folders listed include 'api', 'docs', 'gatewayservice', 'users', and 'webapp'. Each folder entry includes a brief description of the change and the time it was last updated.

File/Folder	Description	Last Updated
.github/workflows	chore: release.yml no longer contains other apps	2 weeks ago
api	fix: api dockerfile	2 weeks ago
docs	hotfix: sidebar warning when building docs fixed	last week
gatewayservice	Changed wiq_0 by wiq_en2b	last month
users	Changed wiq_0 by wiq_en2b	last month
webapp	fix/chore: remove dead code and tests	2 weeks ago

build.yml

```
name: Build
on:
  push:
    branches:
      - master
  pull_request:
    types: [opened, synchronize, reopened]
jobs:
  unit-tests:
    runs-on: ubuntu-latest
    steps:
      - uses: actions/checkout@v4
        with:
          fetch-depth: 0
      - uses: actions/setup-node@v4
        with:
          node-version: 20
      - run: npm --prefix users/authservice ci
      - run: npm --prefix users/authservice test --
        --coverage
      - name: Analyze with SonarCloud
        uses: sonarsource/sonarcloud-github-
action@master
    env:
      GITHUB_TOKEN: ${{ secrets.GITHUB_TOKEN }}
      SONAR_TOKEN: ${{ secrets.SONAR_TOKEN }}
```

Some keywords

name: The identifier for your action

inputs: Data that will be used in runtime

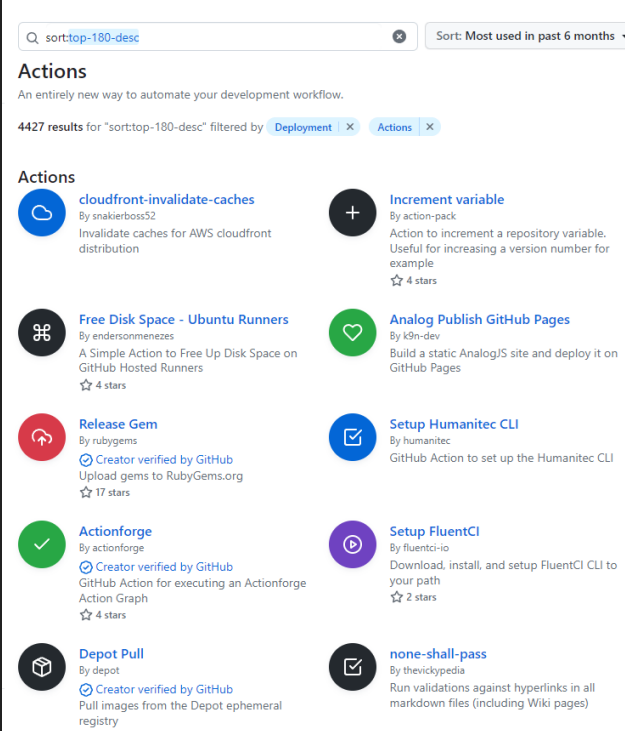
outputs: Data that an actions sets. **Can be used by following actions**

runs: Specifies if it is a JavaScript, Docker or composite action.

jobs: What will be done

Actions Marketplace

Someone has *probably* done that before



The screenshot displays the GitHub Actions Marketplace interface. At the top, there is a search bar containing the text "sort:top-180-desc" and a "Sort: Most used in past 6 months" dropdown menu. Below the search bar, the heading "Actions" is followed by the subtitle "An entirely new way to automate your development workflow." A filter bar indicates "4427 results for 'sort:top-180-desc' filtered by Deployment x Actions x". The main content area is titled "Actions" and lists ten individual actions in a grid. Each action entry includes a circular icon, the action name, the creator's name, a brief description, a "Creator verified by GitHub" badge, and the number of stars.

Action Name	Creator	Description	Stars
cloudfront-invalidate-caches	By snakierboss52	Invalidate caches for AWS cloudfront distribution	
Increment variable	By action-pack	Action to increment a repository variable. Useful for increasing a version number for example	4 stars
Free Disk Space - Ubuntu Runners	By endersonmeneses	A Simple Action to Free Up Disk Space on GitHub Hosted Runners	4 stars
Analog Publish GitHub Pages	By k3n-dev	Build a static AnalogJS site and deploy it on GitHub Pages	
Release Gem	By rubygems	Upload gems to RubyGems.org	17 stars
Setup Humanitec CLI	By humanitec	GitHub Action to set up the Humanitec CLI	
Actionforge	By actionforge	GitHub Action for executing an Actionforge Action Graph	4 stars
Setup FluentCI	By fluentci-io	Download, install, and setup FluentCI CLI to your path	2 stars
Depot Pull	By depot	Pull images from the Depot ephemeral registry	
none-shall-pass	By thevickypedia	Run validations against hyperlinks in all markdown files (including Wiki pages)	

Thanks

