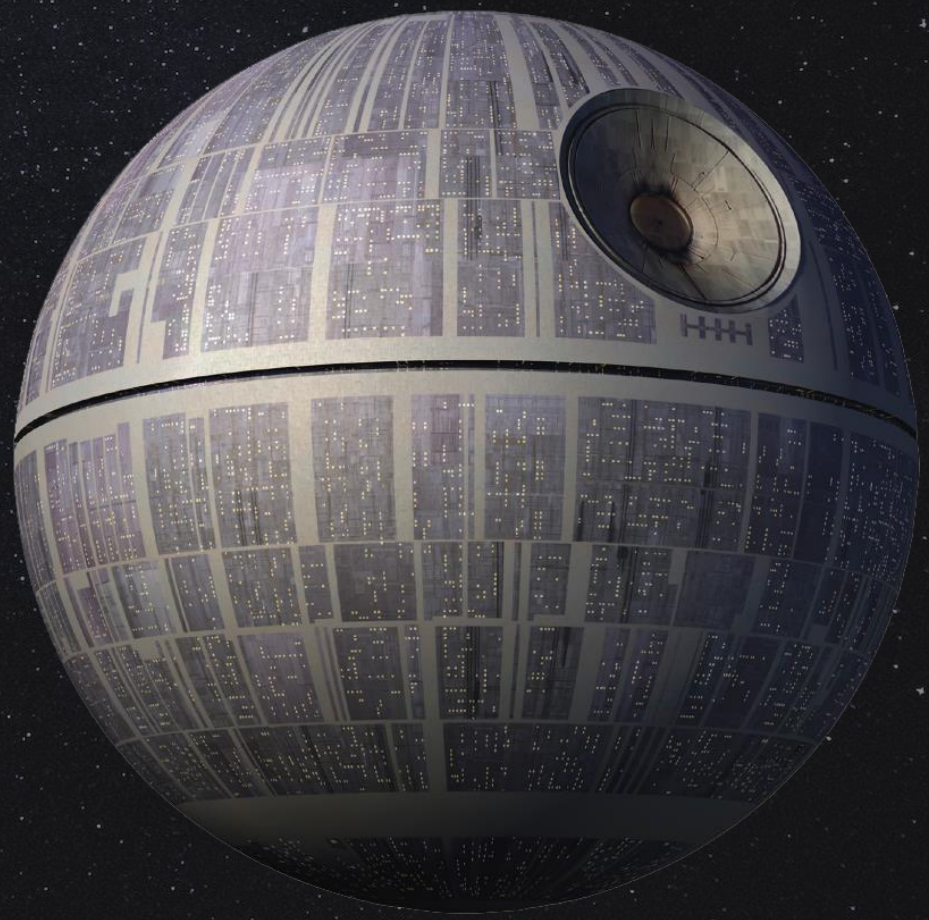
LIGHTS! CAMERA! GITHUB ACTIONS!

CODEMASH 10000

Mark Ramsey

1/13/2023



MARK RAMSEY

Senior Consultant, Software Engineer

Nationwide Insurance

THE PHANTOM MENACE

IMPERIAL DEVELOPERS

“Your code won’t compile on my machine! Set for stun…”

“ Did anyone test these Walkers? Seems a little unstable!”

“Found a Security Vulnerability near the Detention Level….no authn/authz on the central computer port!

“Lord Vader is most displeased with the quality of your code. Prepare for annihilation!

CONTINUOUS INTEGRATION

"Continuous integration (CI) is the practice of automating the integration of code changes from multiple contributors into a single software project."

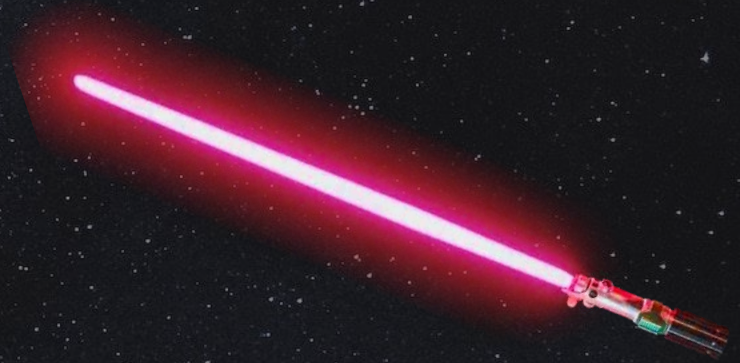
- Atlassian What is Continuous Integration | Atlassian

"Use CI always, you must!"

- Yoda

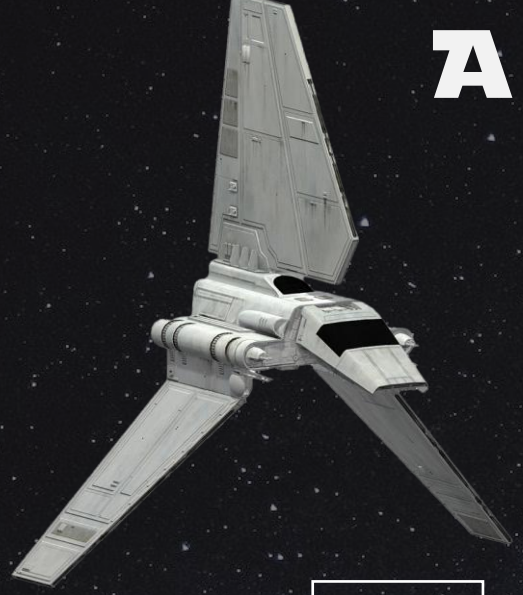
TOOLS OF THE TRADE

cruisecontrol



Hudson

A DISTURBANCE IN THE FORCE



Cloud Adoption

Container First

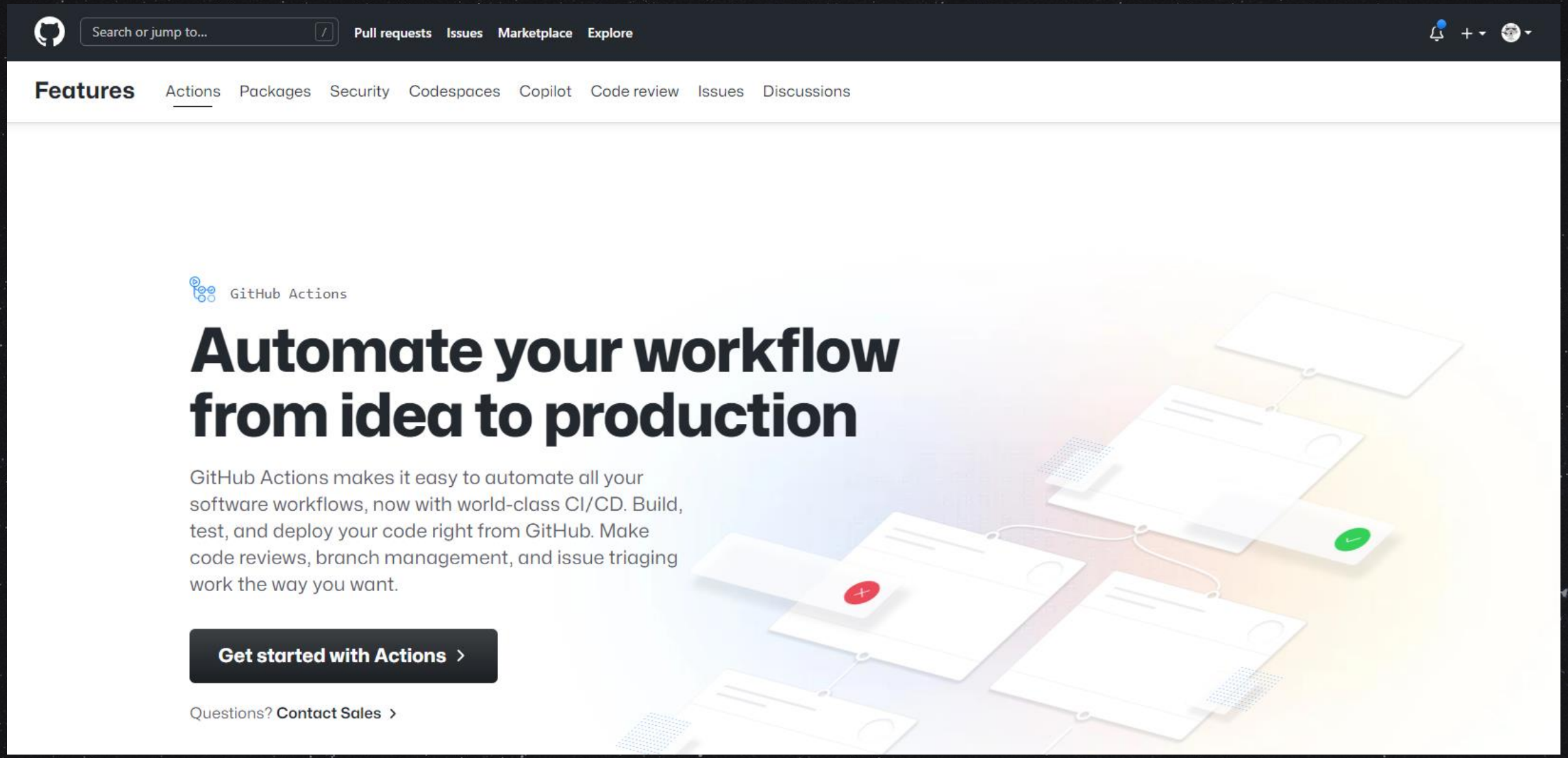
Supply Chain Concerns

Need to Respond Quickly

New Tools in the Industry

A NEW HOPE

INTRODUCING GITHUB ACTIONS



https://github.com/features/actions

Github.com

Linux Runner

actions-runner

```
runs-on: ubuntu-latest
```

Windows Runner

actions-runner

```
runs-on: windows-latest
```

Mac Runner

actions-runner

```
runs-on: mac-latest
```

Logs
Artifacts

Linux Runner

actions-runner

```
runs-on: [self-hosted, Linux, X64]
```

FIRE WHEN READY

THE DEVELOPER AWAKENS

ACTION CONCEPTS

EVENTS

- ❑ Triggers a workflow
- ❑ Can be single or an array
- ❑ Internal, external, or time based

STEPS

- ❑ Single unit of execution
- ❑ Defines a script OR an action
- ❑ Input and Env vars can be defined

WORKFLOW

- ❑ 1 or more jobs, that are triggered by an event
- ❑ Defined in ***.github/workflows*** folder

ACTIONS

- ❑ Reusable units of code
- ❑ Built in, community, or custom
- ❑ Must be included in a step

JOB

- ❑ Consists of 1 or more steps
- ❑ Can run in parallel or sequentially

TECHNICAL READOUT

- ❑ Pull Request to main
- ❑ Push to main

- ❑ Git checkout

- ❑ Set up Java
- ❑ JDK 17

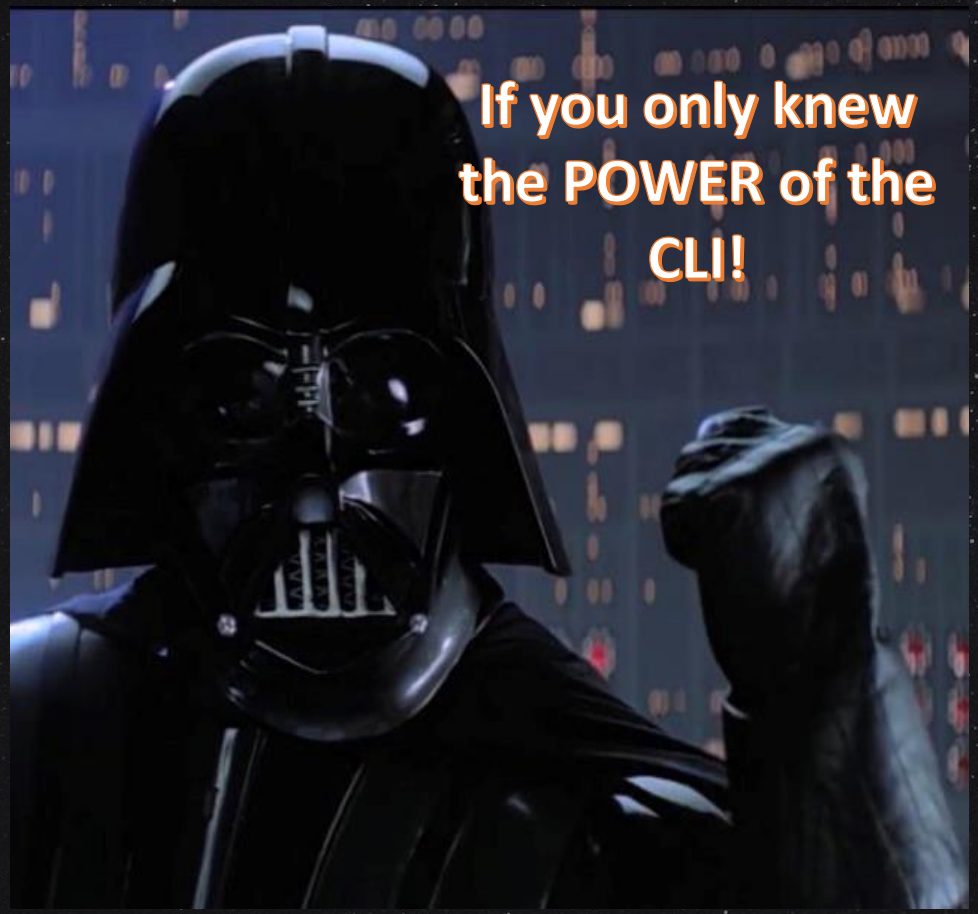
- ❑ Run mvn package

- ❑ Upload temp artifact

IMPRESSIVE...MOST IMPRESSIVE

THE RISE OF AUTOMATION

EMBRACE THE CLI



Terminal

File Edit View Search Terminal Help

```
Interacting with workflow runs
gh run list:      List recent workflow runs
gh run view:      View details for a workflow run or one of its jobs
gh run watch:     Watch a workflow run while it executes
gh run rerun:     Rerun a failed workflow run
gh run download:  Download artifacts generated by runs

To see more help, run 'gh help run <subcommand>'

Interacting with workflow files
gh workflow list:     List all the workflow files in your repository
gh workflow view:     View details for a workflow file
gh workflow enable:   Enable a workflow file
gh workflow disable:  Disable a workflow file
gh workflow run:      Trigger a workflow_dispatch run for a workflow file

To see more help, run 'gh help workflow <subcommand>'


USAGE
  gh actions [flags]

INHERITED FLAGS
  --help   Show help for command

LEARN MORE
  Use 'gh <command> <subcommand> --help' for more information about a command.
  Read the manual at https://cli.github.com/manual
```

NWIE\ramseym4 ~ in bash at 11:25:25

CUSTOM ACTIONS

1419 results filtered by Code quality × Actions ×

Actions

action-git-diff-suggestions
By getsentry
This GitHub Action will take the current git changes and apply them as GitHub code review suggestions
☆ 11 stars

Run Parasoft dotTEST
By parasoft
A GitHub Action for running Parasoft dotTEST analysis

Run Parasoft C/C++test
By parasoft
A GitHub Action for running Parasoft C/C++test to ensure code quality and compliance with MISRA, AUTOSAR, CERT, and more
☆ 3 stars

Velocity deploy action
By codeclimate
A GitHub Action for sending deployment information to Velocity
☆ 34 stars

Coveralls GitHub Action
By coverallsapp
Send test coverage data to Coveralls.io for analysis, change tracking, and notifications
☆ 251 stars

Psalm – Static Analysis for PHP
By psalm
Run Psalm via GitHub Actions
☆ 38 stars

RETURN OF THE CI JEDI

A DAY LONG REMEMBERED

Embraced by the OSS Community

Continuously improving

Large and growing ecosystem

Scalable

Customizable

Strong Support and Roadmap

QUESTIONS

RESOURCES

mramsey24/gha-starwars: Java implementation of the StarWars API (github.com)

mramsey24/auto-release-milestone: Drafts a GitHub release for a milestone - Pluralsight example

https://app.pluralsight.com/library/courses/github-actions-getting-started/table-of-contents

https://app.pluralsight.com/library/courses/building-custom-github-actions/table-of-contents

@mramsey24

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