

GitHub Probot Vs. GitHub Actions



Ronen Levinson

DevOps Engineer

ronenl@codevalue.net

About Me



Ronen Levinson

- Investments enthusiastic
- Photographer in free time
- World traveler



Agenda

- Webhooks & Events
- GitHub Probot
- Probot app development
- GitHub Actions
- Actions structure
- Probot Vs. Actions



Challenges in code & app workflows

- Life cycle of new branches
- Master & dev relations
- Record of code changes
- Many systems to support
- Maintenance of VMs



Webhooks & Events

Webhooks & Events

- a way for notifications to be delivered to an external web server
- Each event:
 - corresponds to a certain set of actions
 - Each event type has a specific payload format with the relevant event information
- When event is triggered, GitHub will send a HTTP POST payload to the webhook's configured URL

Payload Delivery

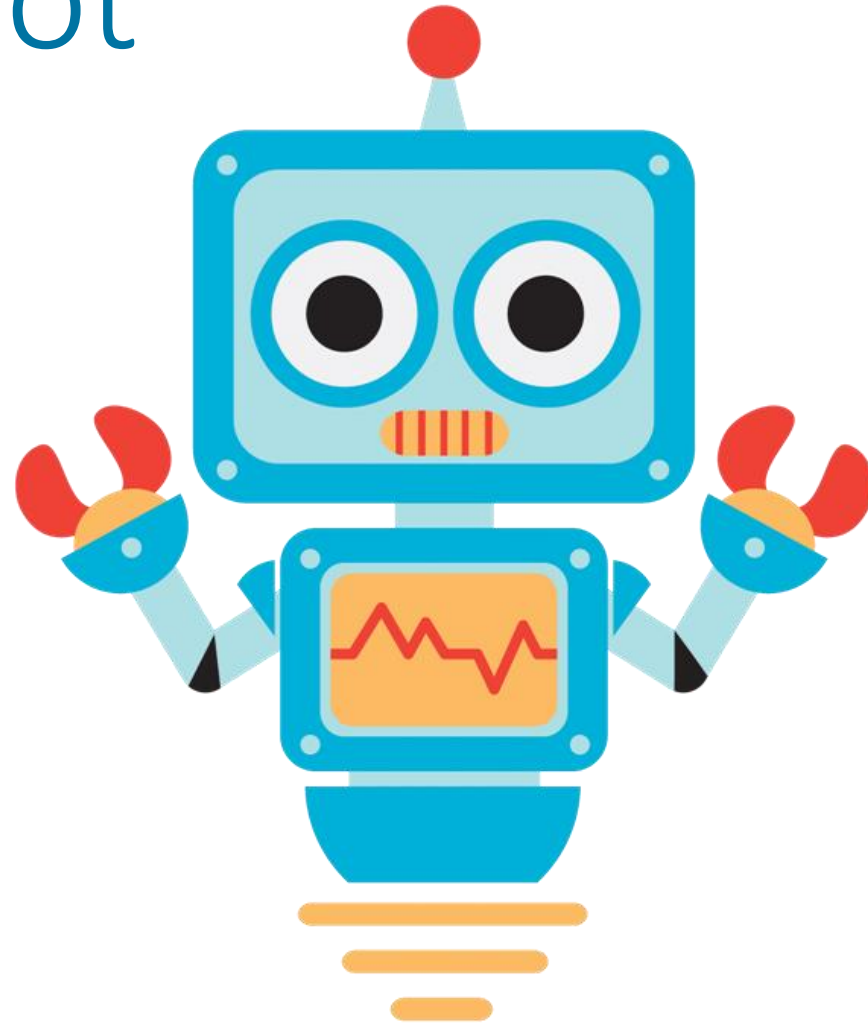


Payload Delivery

```
POST /payload HTTP/1.1
Host: localhost:4567
X-GitHub-Delivery: 72d3162e-cc78-11e3-81ab-4c9367dc0958
X-Hub-Signature:
sha1=7d38cdd689735b008b3c702edd92eea23791c5f6
User-Agent: GitHub-Hookshot/044aadd
Content-Type: application/json
Content-Length: 6615
X-GitHub-Event: issues
{
  "action": "opened",
  "issue": {
    "url": "https://api.github.com/repos/octocat/Hello-
World/issues/1347",
    "number": 1347,
    ...
  },
}
```

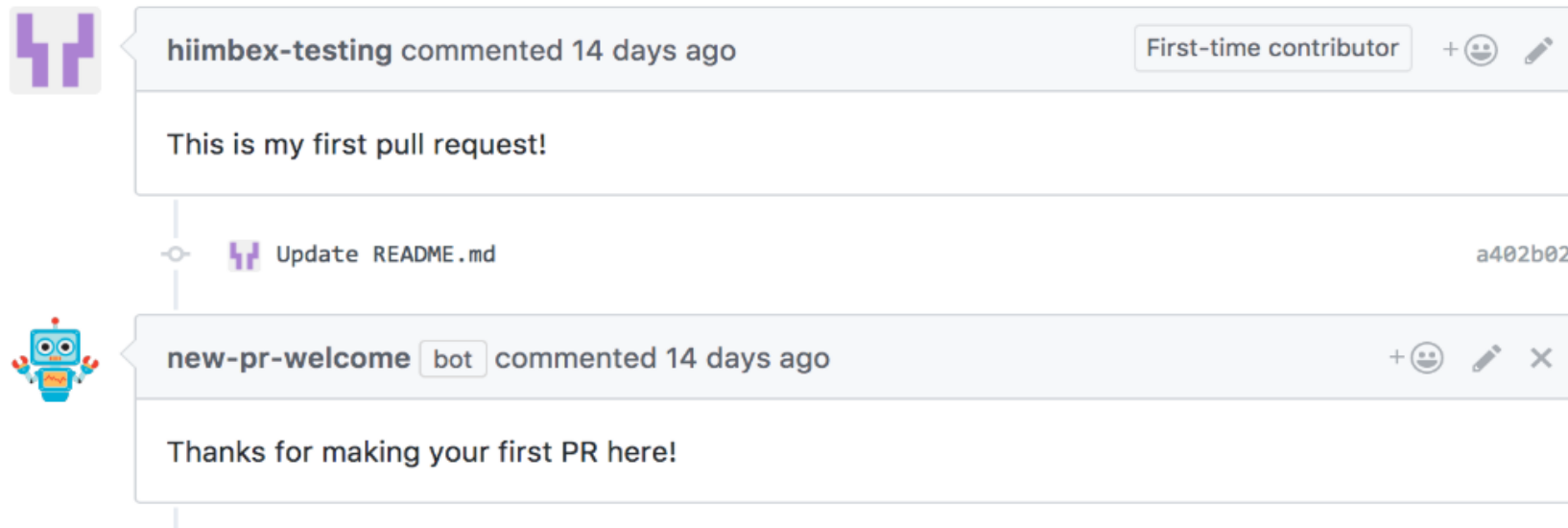
```
"repository" : {
  "id": 1296269,
  "full_name": "octocat/Hello-World",
  "owner": {
    "login": "octocat",
    "id": 1,
    ...
  },
  ...
},
"sender": {
  "login": "octocat",
  "id": 1,
  ...
}
}
```


GitHub Probot



What is Probot?

- A framework for building GitHub Apps in Node.js



- The app will listen for webhook events triggered by GitHub

Demo: Probot App Development



GitHub Actions

What is GitHub Actions?

- flexibility build an automated software development lifecycle workflow
- You can write individual tasks, called actions, and combine them to create a custom workflow
- Workflows are:
 - custom automated processes that you can set up to build, test, package, release, or deploy any code on GitHub
 - Configured by different triggers to start

Workflow.yml

```
jobs:
  test:
    name: Test on node ${ matrix.node_version } and ${ matrix.os }
    runs-on: ${ matrix.os }
    strategy:
      matrix:
        node_version: [8, 10, 12]
        os: [ubuntu-latest, windows-latest, macos-latest]

    steps:
      - uses: actions/checkout@v1

      - name: Use Node.js ${ matrix.node_version }
        uses: actions/setup-node@v1
        with:
          version: ${ matrix.node_version }

      - name: npm install, build and test
        run: |
          npm install
          npm run build --if-present
          npm test
```

Workflow Log

ronen1 / hello-world Private

Unwatch 1 Star 0 Fork 0

Code Issues 1 Pull requests 0 **Actions** Projects 0 Security Insights Settings

Update app.yml
ronen1-patch-1 46c813c

Greetings
on: pull_request

- greeting

GitHub Actions / **greeting** successful 3 minutes ago in 42s

Search logs

- Set up job 2s
- Build actions/first-interaction@v1 39s
- Run actions/first-interaction@v1 1s
- Complete job 0s

GitHub Probot Vs. Actions Which one to choose?

Strengths of Actions & Probot

GitHub Actions	GitHub Probot
GitHub runs your workflows in hosted VMs	Run fast and react to events quickly
Contains a secret store	Easy to create for your needs
SCM and CI/CD in one system	Can be deployed by the user
Build and test your code on different operating	Policy enforcement the "nice" way

GitHub Actions or Probot?


- To automate a task that makes use of your codebase - Actions
- Events that needs a quick response - Probot
- When you want to deploy your app by your own - Probot
- Interacting with external services that needs authentication - Actions



My Favorite Probot Apps

Delete merged branch

Update README.md Verified 8512a79

Add more commits by pushing to the **SvanBoxel-patch-8** branch on **SvanBoxel/probot-test**.



-  **Continuous integration has not been set up**
Several apps are available to automatically catch bugs and enforce style.
-  **This branch has no conflicts with the base branch**
Merging can be performed automatically.

[Merge pull request](#) You can also open this in [GitHub Desktop](#) or view [command line instructions](#).

Request Info



hiimbex commented just now

Owner



No description provided.



request-info bot commented just now



Hey there! You didn't give us a whole lot of info about this issue. We would love if you could provide more details about what you're trying to accomplish here.



request-info bot added the needs-more-info label just now

Assignees



No one—assign yourself

Labels



needs-more-info

Projects



None yet

Milestone



No milestone

My Favorite Actions

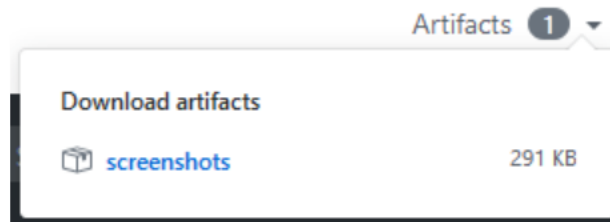
Upload artifact

Basic:

```
steps:  
- uses: actions/checkout@v1  
  
- run: mkdir -p path/to/artifact  
  
- run: echo hello > path/to/artifact/world.txt  
  
- uses: actions/upload-artifact@master  
  with:  
    name: my-artifact  
    path: path/to/artifact
```

Where does the upload go?

In the top right corner of a workflow run, once the run is over, if you used this action, there will be a **Artifacts** dropdown which you can download items from. Here's a screenshot of what it looks like



Kubernetes CLI - kubectl

Usage

```
.github/workflows/push.yml
```

```
on: push
name: deploy
jobs:
  deploy:
    name: deploy to cluster
    runs-on: ubuntu-latest
    steps:
      - uses: actions/checkout@master
      - name: deploy to cluster
        uses: steebchen/kubectl@master
        env:
          KUBE_CONFIG_DATA: ${ secrets.KUBE_CONFIG_DATA }
        with:
          args: set image --record deployment/my-app container=${ github.repository
            }:${ github.sha }
      - name: verify deployment
        uses: steebchen/kubectl@master
        env:
          KUBE_CONFIG_DATA: ${ secrets.KUBE_CONFIG_DATA }
        with:
          args: "rollout status deployment/my-app"
```


And my most favorite one is...



Twitter, together!



GitHub Action

Twitter, together!

v1.0.4 Latest version



Twitter, together!

build mixed coverage 100% Greenkeeper enabled

Use latest version 

Stars

★ Star 85

Contributors



Categories

Open Source management

Publishing

Places to find more Probot apps and Actions



[Apps](#) [Docs](#) [Community](#)

Featured Apps

Delete merged branch

No more manually deleting merged branches, this lovely app does it for you.

 1679  183



Work In Progress

Prevent merging of Pull Requests with "WIP" in the title

 1366  495



Developer Certificate of Origin

Enforce the DCO on Pull Requests

 1243  126



Stale

Close stale Issues and Pull Requests

 1145  755



Pull

Keep your forks up-to-date.

 1121  335



Request Info

Requests more info on issues and pull requests with the default title or an empty body.

 916  60



Places to find more Probot apps and Actions

sdras / [awesome-actions](#) Sponsor Watch 108 Star 4,398 Fork 203

[Code](#) [Issues](#) 2 [Pull requests](#) 0 [Actions](#) [Projects](#) 0 [Wiki](#) [Security](#) [Insights](#)

A curated list of awesome actions to use on GitHub

[awesome](#) [github](#) [github-actions](#) [actions](#) [awesome-list](#) [awesome-lists](#) [curated-list](#) [actions-list](#)

415 commits 1 branch 0 releases 102 contributors CC0-1.0

Branch: master [New pull request](#) [Create new file](#) [Upload files](#) [Find File](#) [Clone or download](#)

gep13 Merge pull request #167 from AndreaGriffiths11/patch-1 ... Latest commit aff9e0b 15 hours ago

.github	Create funding.yml	9 days ago
LICENSE	Add license file	18 days ago
README.md	Adding to this list official GitHub Actions forum	18 hours ago
awesome-actions.jpg	initial commit	11 months ago
code-of-conduct.md	initial commit	11 months ago
contributing.md	Mention the different sections in contributing now	7 months ago
ideas.md	Update ideas.md	9 months ago

Thank you!



Ronen Levinson

DevOps Engineer

ronenl@codevalue.net

@Ronenrl

