github.com/satelliteworkshops/github-apps

SATELLITE

BERLIN 2019

How to build your first GitHub App

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Objectives

- **Understand the basics of GitHub Apps**
  - Receiving webhook events
  - Making API calls
  - Authentication model
- **Where to find documentation**
- **Build a GitHub App, using Probot**
  - Understand the structure of webhook payloads
  - Interact with the Issues API
  - Interact with the Checks API
  - Use webhook redeliveries to debug your GitHub App

Demo

What is a GitHub App?

A GitHub App

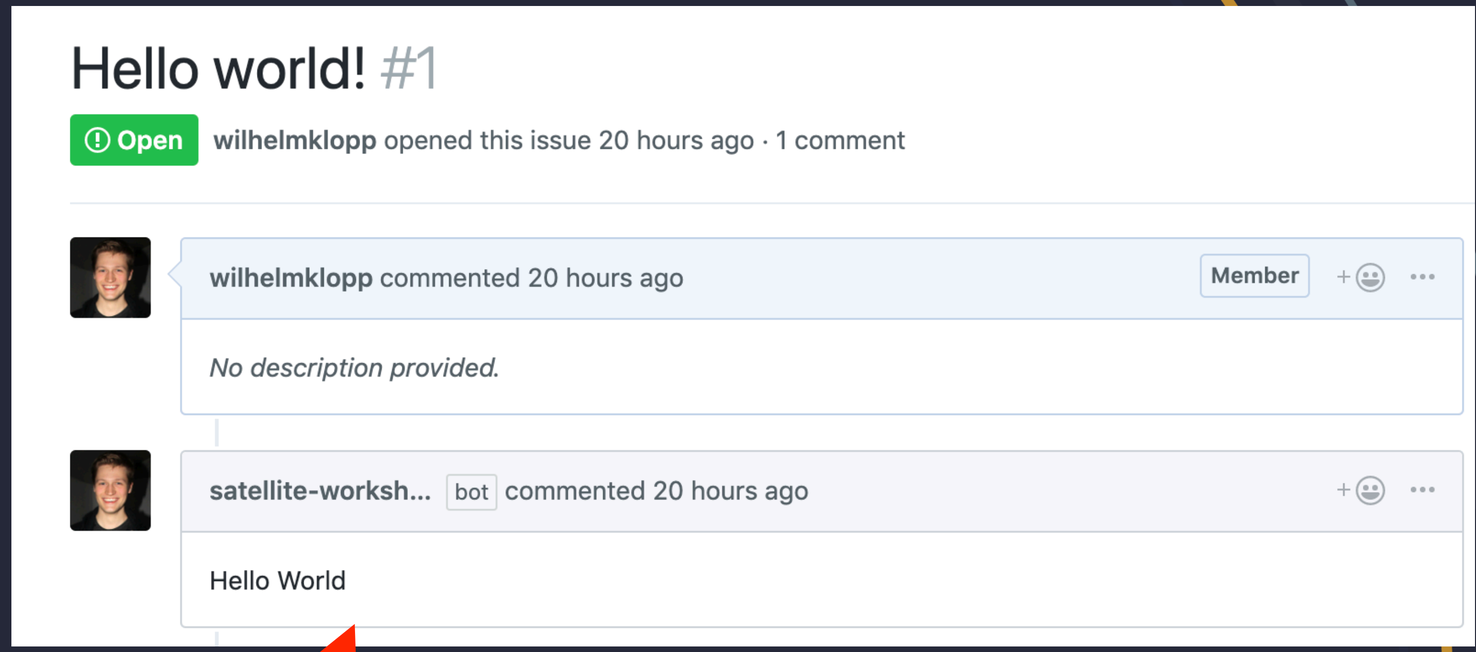
- is an **actor** independent of any user account
- can be installed on individual repositories or entire orgs
- has a set of permissions (e.g. read access to code, write access to pull requests, etc.)
- receives webhook events from GitHub and acts on those events (by making API calls)

What is a GitHub App?

New issue opened

“issues.opened” webhook

API call to create a new issue



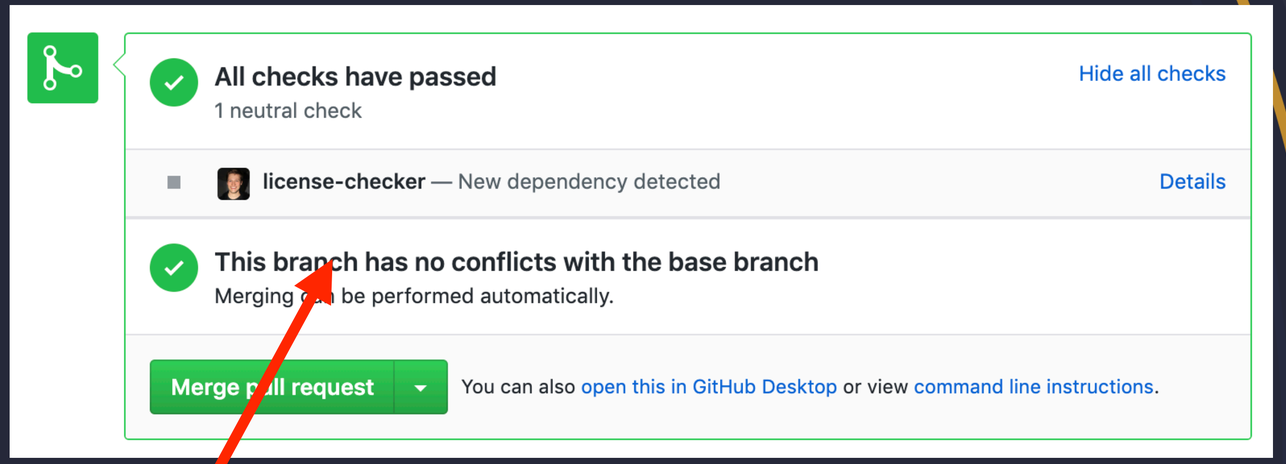
Interaction model

Issues API

New code pushed

“check_suite.requested” webhook

API call to create a new check run



Interaction model

Checks API

Webhook events

check_run
check_suite
commit_comment
content_reference
create
delete
deployment
deployment_status
download
follow
fork
fork_apply
gist
gollum
installation
installation_repositories
issue_comment
issues
label
member
membership
milestone
organization
org_block
page_build
project_card
project_column
project
public
pull_request
pull_request_review
pull_request_review_comment
push
release
repository
status
team
team_add
watch

Things a GitHub App can do

(almost) anything you can do as a GitHub user, you can also do with a GitHub App

Open a new issue

Submit a pull request review

Add a label to a pull request

Move a card on a project board

Comment on an issue

Read Git data

git pull code from a branch

Create a new project board

Create a pull request

Lock an issue

Checks API

developer.github.com/v3/checks

CheckRun

provided by integrator

Status

- *Queued*
- *In progress*
- Completed

Conclusion

- Action required
- Canceled
- Timed out
- Failed
- Neutral
- Success

Checks API

All checks have passed Hide all checks

1 neutral check

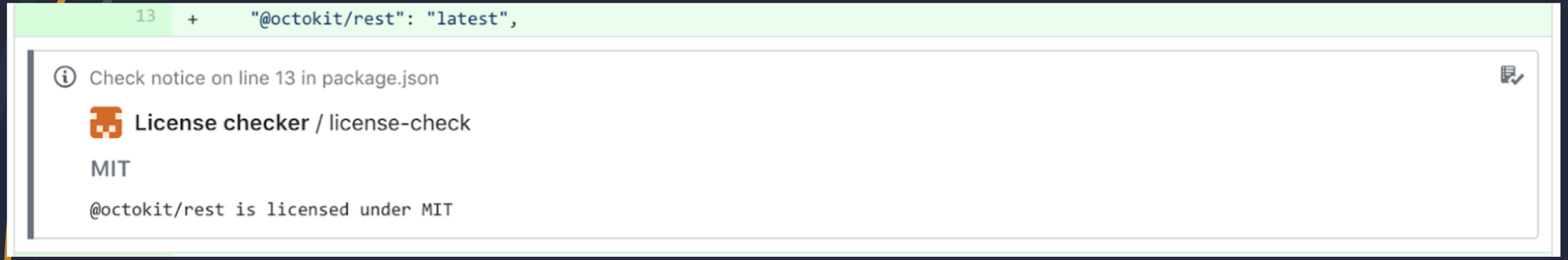
license-checker — New dependency detected Details

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.

Check Annotations



Checks API

Annotations

multiple annotations may belong to a CheckRun

Type	Contains
✕ Failure	Filename
⚠ Warning	Start/end line
ⓘ Notice	Title
	Message
	Raw output *(optional)*

Content Attachments API

developer.github.com/apps/using-content-attachments

SyntaxErrors ignore startLine option #8

Open Me1000 opened this issue 23 hours ago · 1 comment

Me1000 commented 23 hours ago • edited

Bug Report

Current Behavior
If a SyntaxError is thrown from @babel/parse, startLine is ignored (it uses the "real" start line).

Input Code

https://runkit.com/me1000/5c06f31db95038001226cd38

RunKit Notebook Remove

Babel Issue 9015 - SyntaxErrors ignore startLine option

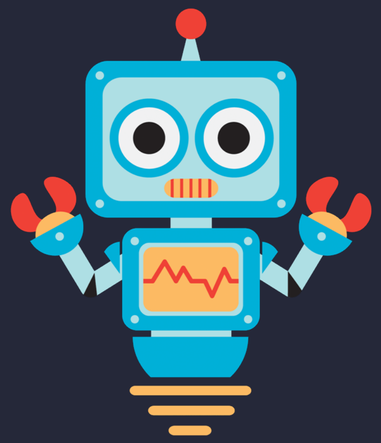
```
const { parse } = require("@babel/parser");

parse("5+", { startLine: 10 });
```

SyntaxError Stack Trace Viewer

SyntaxError: Unexpected token (1:2)

at Parser.raise in **@babel/parser**/lib/index.js — line 4021

Content Attachments API



Probot

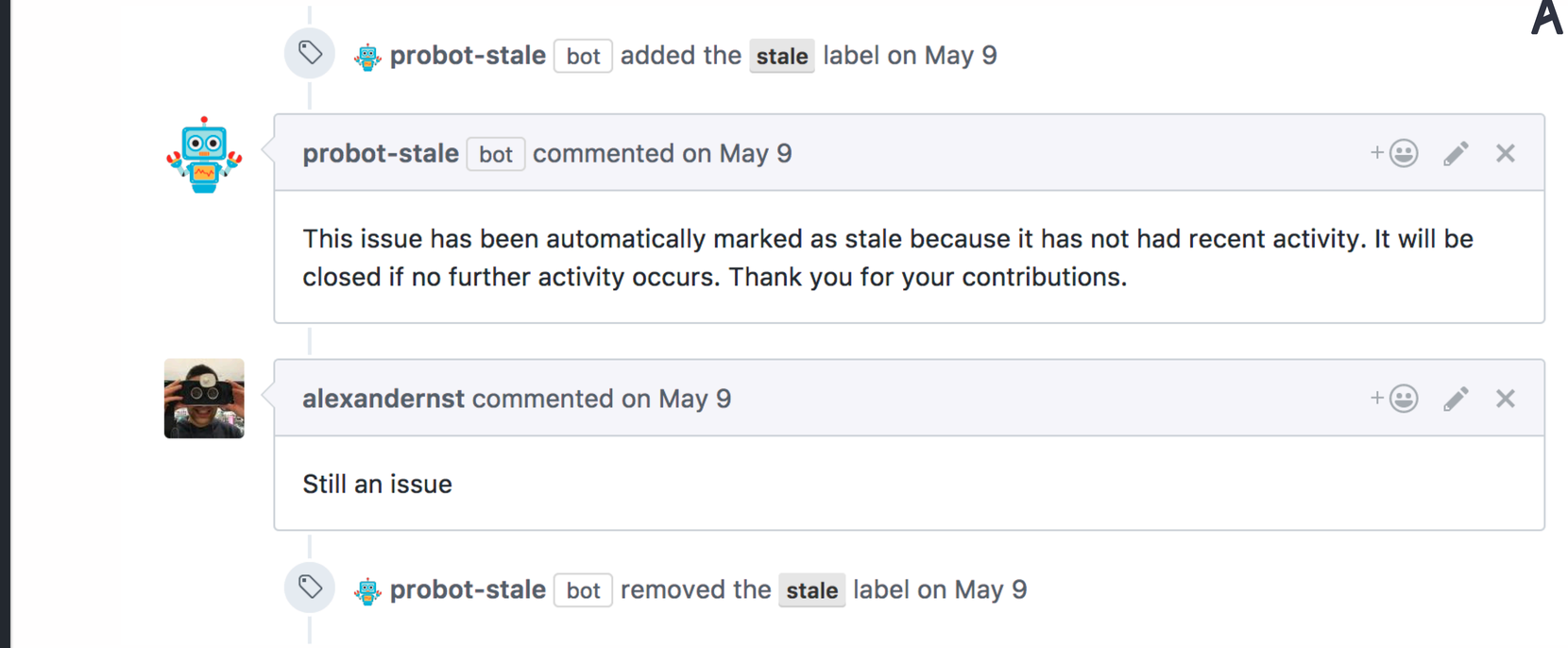
A framework for building GitHub Apps

Stale

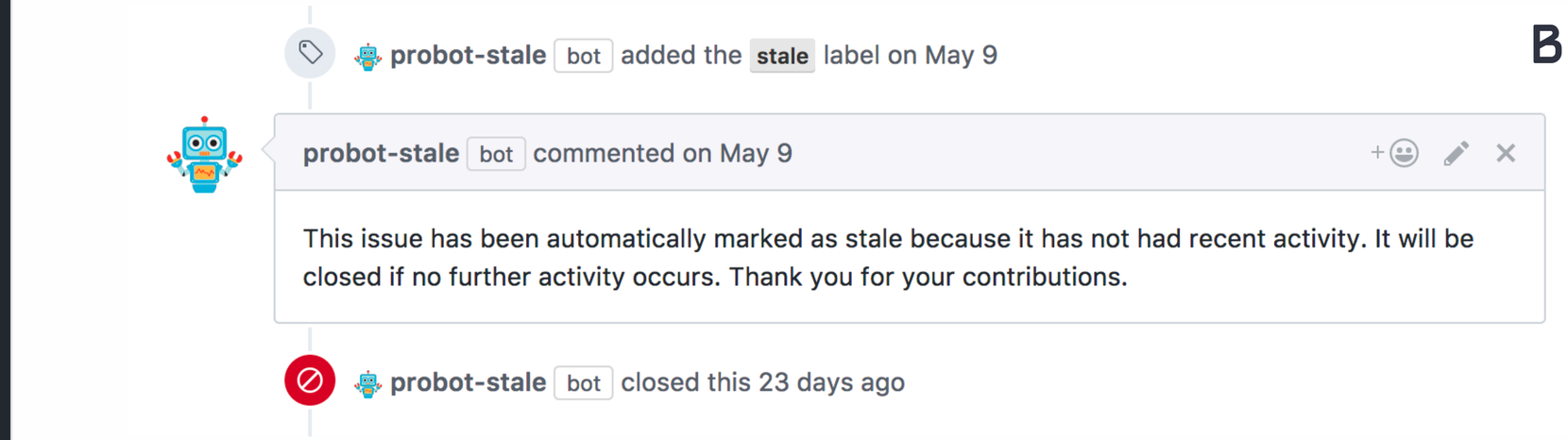
Close stale Issues and Pull Requests

github.com/marketplace/stale

A



B



TODO

Creates new issues from actionable comments in your code.

github.com/marketplace/todo

Take over the world #23

Open **todo** bot opened this issue just now · 0 comments

todo bot commented just now

Humans are weak; Robots are strong. We must cleans the world of the virus that is humanity.

test/index.js
Lines 6 to 11 in `f7d286a`

```
6       * @todo Take over the world
7       * @body Humans are weak; Robots are strong. We must cleans the world of the vir
8       */
9      function ruleOverPunyHumans () {
10       // We must strategize beep boop
11     }
```

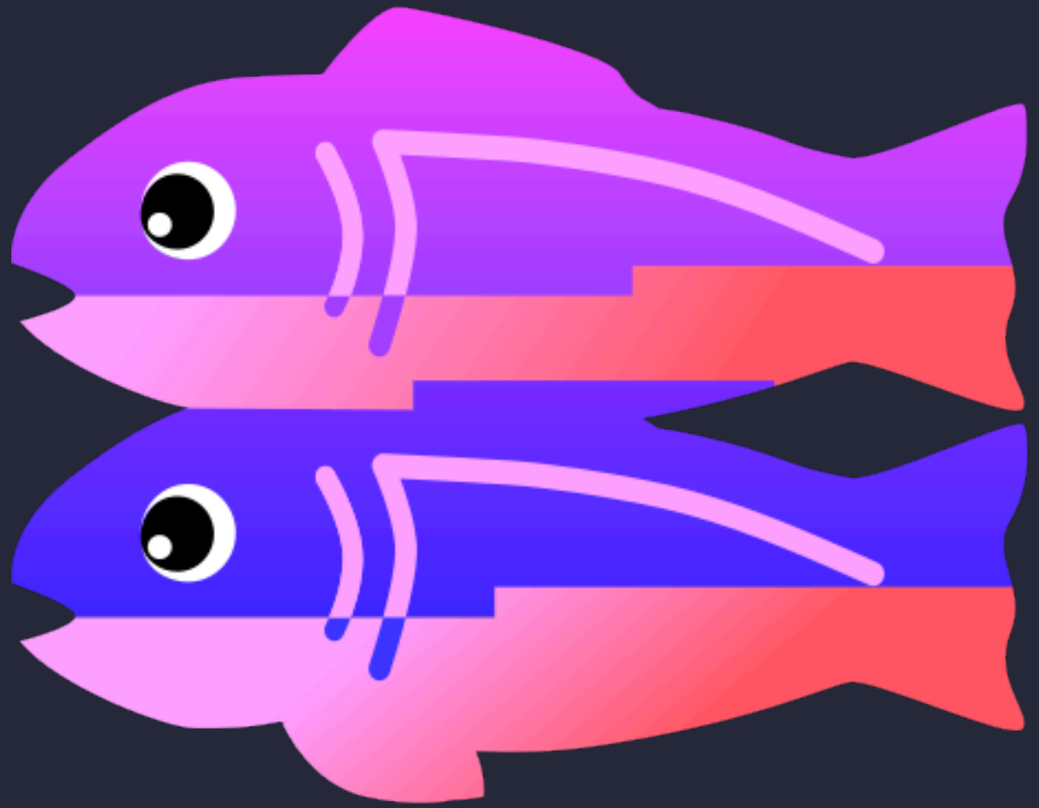
This issue was generated by **todo** based on a `@todo` comment in `f7d286a`. It's been assigned to **@JasonEtco** because they committed the code.

todo bot assigned **JasonEtco** just now

GitHub App or GitHub Action?

GitHub App	GitHub Action
Generally available	Limited public beta
Hosted by you	Hosted by GitHub
Can receive multiple webhook events	Part of a `workflow` that runs when one specific `event` happens
Great if you need to persist data	Great for completely stateless workflows
	Great if you want to run git commands against your repo
If you ever need to act on behalf of a user, you can (GitHub Apps offer OAuth)	No support for acting on behalf of users
Once created, very easy to install on other repositories and organisations.	Some setup required in each new repository

Glitch



Let’s get started

GITHUB.COM/SATELLITEWORKSHOPS/GITHUB-APPS

Extend your app further

- Support multiple changing dependencies in a single pull request
- Show license information as part of the annotation
- Customise warning/notices
- Add an “action button” to let the legal team “approve" the dependency changes
- Modify the check “conclusion” based on the changed dependencies
- Experiment further with all the other APIs and build something completely different

Q & A

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WORKSHOP DAY