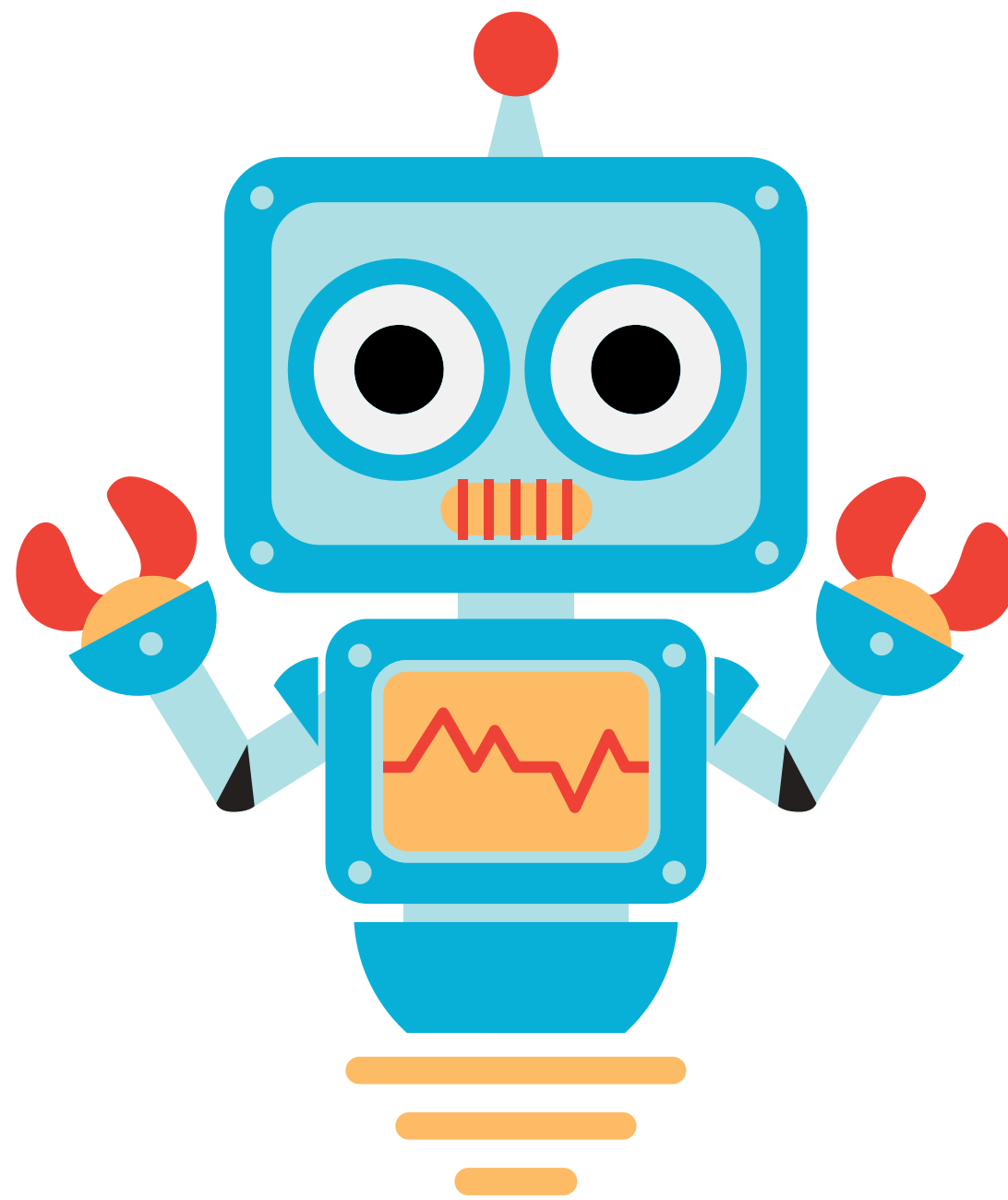


Extending GitHub Enterprise with IBM Cloud Functions

Getting Started with Probot Apps

Lee Faus, Sr. Solutions Architect
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What is Probot?



Reference Application

Explore

Check out these hosted apps that extend your project on GitHub.
They're all open source and free to use on any project.

Work In Progress

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

 1366  290



Stale

Close stale Issues and Pull Requests

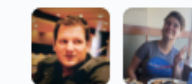
 1145  515



Developer Certificate of Origin

Enforce the DCO on Pull Requests

 320  80



Welcome

Welcomes new users

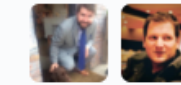
 278  49



Reminders

Set reminders on Issues and Pull Requests

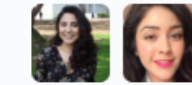
 259  38



First Timers

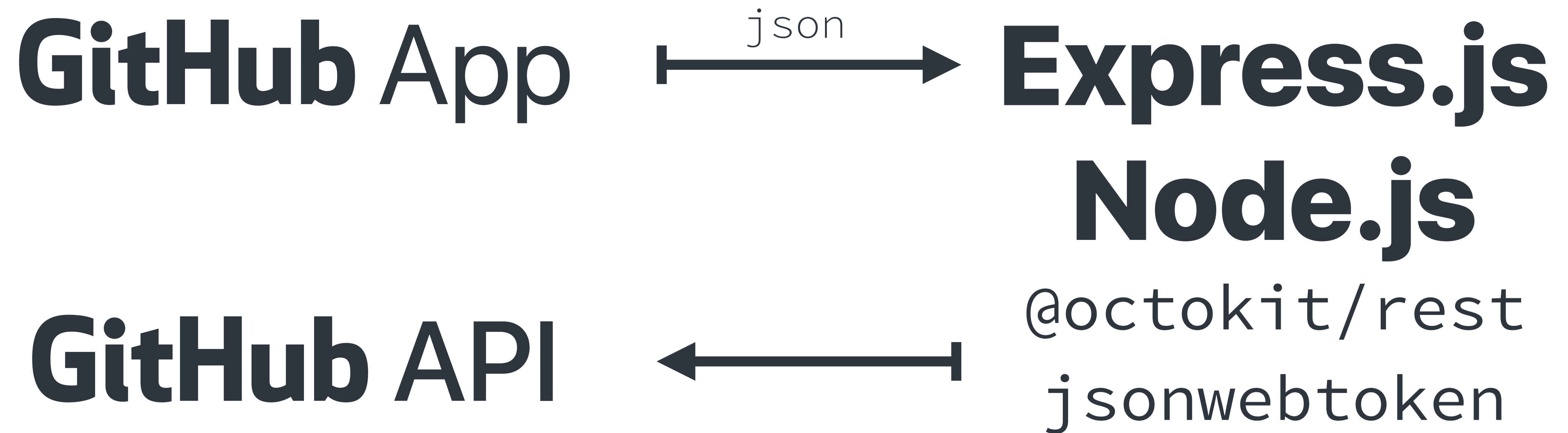
Create starter issues to help onboard new open source contributors

 238  145



Discover dozens of apps that extend GitHub and improve your workflow.

Event Driven Architecture



FaaS + Probot Value Proposition



Scale - On demand scaling



Security - Certificate based authorization



Quality - Focus on logic, not infrastructure



Agility - Faster time to market

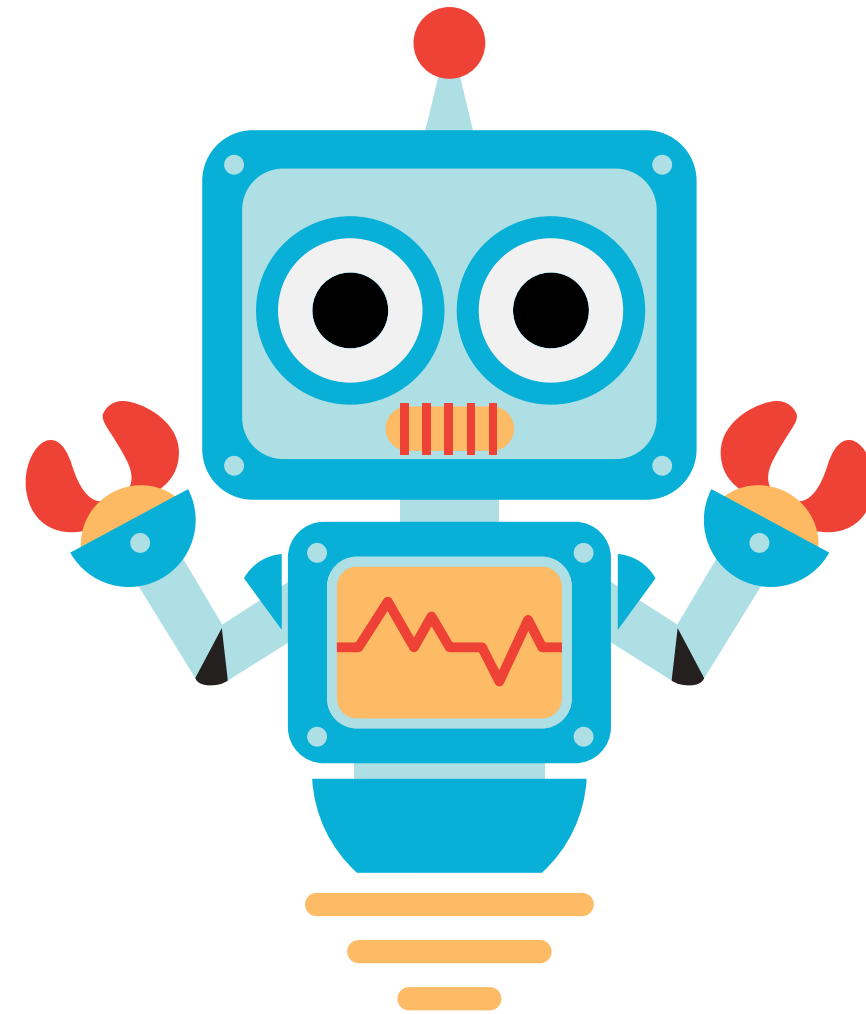
Breaking Down a Probot App

Webhook Receiver

JSON Web Token

Octokit

Custom Code



Deploying Probot to IBM Cloud Functions

1. Define a GitHub App
2. Build NodeJS v8 Application
3. Deploy to IBM Cloud
4. Install the GitHub App

Define a GitHub App

General

Permissions & webhooks

Install App

Advanced

Public page

Basic information

GitHub App name

ibm-cloud-function-comment

The name of your GitHub App.

Description (optional)

This is displayed to users of your GitHub App.

Homepage URL

https://applet.ghe.io

The full URL to your GitHub App's website.

User authorization callback URL

The full URL to redirect to after a user authorizes an installation.

Setup URL (optional)

Build a NodeJS v8 Application

The screenshot shows the GitHub interface for the repository 'ghapplelets / ibm-cloud-functions'. The top navigation bar includes links for Pull requests, Issues, Marketplace, and Explore. The repository page shows the 'comment.js' file in the 'master' branch, committed by 'leefaus'. The file content is as follows:

```
1  const octokit = require("@octokit/rest")();
2  const jsonwebtoken = require("jsonwebtoken");
3  const fs = require("fs");
4  const appId = "17334"
5  const pem = fs.readFileSync(__dirname + '/ibm-cloud-function-comment.2018-09-10.private-key.pem');
6
7  function generateJwtToken() {
8    // Sign with RSA SHA256
9    // console.log(`PEM = ${pem}`)
10   return jsonwebtoken.sign(
11     {
```

Deploy to IBM Cloud

```
1. lfaus@Lees-MacBook-Pro: ~/Projects/ghapplelets/ibm-cloud-functions/github-comment (zsh)

lfaus@Lees-MacBook-Pro ~/Projects/ghapplelets/ibm-cloud-functions/github-comment [1:16:17]
> $ npm install [±master ✓]
npm WARN ibm-cloud-function-github-comment@1.0.0 No repository field.

up to date in 1.289s

lfaus@Lees-MacBook-Pro ~/Projects/ghapplelets/ibm-cloud-functions/github-comment [1:16:47]
> $ zip -qr github-comment.zip . [±master ✓]

lfaus@Lees-MacBook-Pro ~/Projects/ghapplelets/ibm-cloud-functions/github-comment [1:16:53]
> $ ibmcloud fn action create comment github-comment.zip --kind nodejs:8 --web true
ok: created action comment

lfaus@Lees-MacBook-Pro ~/Projects/ghapplelets/ibm-cloud-functions/github-comment [1:17:09]
> $ [±master ✓]
```

Webhook Receiver

IBM Cloud

Catalog

Docs

Support

Manage

1731173 - Lee Faus's A...

Functions / Actions / comment

Region: US South Org: leefaus@github.com Space: dev

comment

Web Action

Code

Parameters

Runtime

Endpoints

Connected Triggers

Enclosing Sequences

Logs

Web Action

☒

Enable as Web Action

Allow your Cloud Functions actions to handle HTTP events. Learn more about [Web Actions](#).

☐

Raw HTTP handling

When enabled your Action receives requests in plain text instead of a JSON body

HTTP METHOD	AUTH	URL
ANY <div></div>	Public	https://openwhisk.ng.bluemix.net/api/v1/web/leefaus%40github.com_dev/default/comment.json

REST API

HTTP METHOD	AUTH	URL
POST	API-KEY	https://openwhisk.ng.bluemix.net/api/v1/namespaces/leefaus%40github.com_dev/actions/comment

Install the GitHub App

Organization settings

Profile

Member privileges

Billing

Security

Verified domains

Audit log

Webhooks

Third-party access

Installed GitHub Apps


Repository topics

Projects

Teams

Developer settings

OAuth Apps



ibm-cloud-function-comment

🕒

Installed 6 days ago by you

👤

Developed by [ghapplelets](#)

🔗

<https://applet.ghe.io>

Permissions

✖

No access to code

✔

Read access to metadata

✔

Read and write access to issues

Repository access

☐ All repositories


This applies to all current *and* future repositories.

☒ Only select repositories

📄

Select repositories ▾

See If It Worked?





Pull requests


Issues


Marketplace


Explore









 [ghapplets](#) / [serverless-testing](#)

 Watch


0


 Star


0


 Fork


0


 Code


 Issues **2**

 Pull requests **0**

 Projects **0**

 Wiki


 Insights

 Settings


Testing a New Issue #3

Edit

New issue


 Open


leefaus opened this issue 3 days ago · 1 comment




leefaus commented 3 days ago

Member







No description provided.




ibm-cloud-func... bot commented 3 days ago






Updated Function for IBM Functions demo for action opened and appld 17334.





Write


Preview


AA B i























Assignees

No one—assign yourself

Labels


None yet

Projects

None yet

Milestone

No milestone



Testing Your Function

ghapplets settings / ibm-cloud-function-comment

General

Permissions & webhooks

Install App

Advanced

Public page

Recent Deliveries



e82ae7e0-b52a-11e8-925a-fab2a6608060

2018-09-10 14:54:12



Request

Response

200

Redeliver



Completed in 0.48 seconds.

Headers

```
Access-Control-Allow-Credentials: true
Access-Control-Allow-Headers: Authorization, Content-Type
Access-Control-Allow-Methods: GET, POST, PUT, DELETE, PATCH, HEAD, OPTIONS
Access-Control-Allow-Origin: *
CF-RAY: 45841a10e9e69b3e-DFW
Connection: keep-alive
Content-Length: 49
Content-Type: application/json
Date: Mon, 10 Sep 2018 18:54:12 GMT
IBM_Cloud_Functions: OpenWhisk,OpenWhisk
Server: nginx/1.15.0
Set-Cookie: __cfduid=d8dd4c45408857cc39a4073d7172b4f361536605652; expires=Tue, 10-Sep-
X-Backside-Transport: OK OK
X-Global-Transaction-ID: 4117371231
x-openwhisk-activation-id: 67f3c902febcb47edb3c902febcc7eda7
X-Request-ID: a9ae71860c98f687527bc71c3f99e340,4ea07810ffad336b9daa5d6234cc3b25, AjdoF'
```

Next Steps

1. Integrate events with Slack
2. Sentiment Analysis with Watson
3. Automated DevOps with Sequences
4. GitHub Issue pruning

Questions

