Building the GitHub workspace app

Brandon Keepers – GitHub
Your ultimate productivity pair

With two of your most important workspaces connected, you’ll get updates about what’s happening on GitHub—without leaving Slack.
Compatible Platforms
+ Similar Audience
Built on open platforms & public APIs

Showcase the potential of integrating the two platforms

GitHub Apps + Slack Workspace apps
Overview

Benefits

Challenges

Next
Overview
Stay up to date

Use /github subscribe [repository name] in Slack to start receiving updates about activities like:

- New commits
- New pull requests
- New issues
- Code reviews
- Deployment statuses

GitHub APP 10:30 AM
/github subscribe https://github.com/github/fetch

GitHub APP 11:35 AM
Pull request opened by bkeepers

#521 Add additional fallbacks
This extends the solution in #253 for React Native compatibility.

- codecov/project: 97.04% (-0.1) compared to b8b2627
- codecov/patch: 0% of diff hit (target 97.14%)
- 3 other checks have passed
  3/5 successful checks
I figured out where it's being parsed, but where is the hex coming from? [github.com/atom/atom/blob/master/src/color.js#L116-L119](http://github.com/atom/atom/blob/master/src/color.js#L116-L119)

```javascript
function parseColor(colorString) {
    const color = parseInt(colorString, 10)
    return isNaN(color) ? 0 : Math.min(Math.max(color, 0), 255)
}
```

See the details
Give your team more information in Slack when you share links to GitHub activities and properties like:

- Pull requests
- Issues
- Linked comments
- Code snippets
- Developer profiles
Authenticating Workspaces
Your ultimate productivity pair

With two of your most important workspaces connected, you’ll get updates about what’s happening on GitHub—without leaving Slack.

Add to Slack

Using an older version of GitHub + Slack? Installing the new app will allow you to migrate subscriptions from legacy versions. By installing or using the app, you agree to the Terms and Conditions.
app.get('/slack/oauth/login', (req, res) => {
  const scope = [
    'links:read',
    'links:write',
    'commands',
    'chat:write',
    'team:read',
  ].join(',');

  const state = getRandomState();
  req.session.slackOAuthState = state;

  const params = qs.stringify({state, scope, client_id})
  res.redirect(`https://slack.com/oauth/authorize?${params}`);
});
On GitHub, GitHub would like to:

- View and display previews for some links
- View your workspace or organization's name, email domain, and icon
- Direct message members who use GitHub

[Cancel]  [Continue]
GitHub would like to do the following in the selected channels:

Add slash commands

Post messages as the app

Select channels

- **All Public Channels**
  Any channel accessible to full members of your team.

- Specific channels
  Search for channels
// Slack redirects here after the user installs the app
app.get('/slack/oauth/callback', (req, res) => {
  // error handling
  // ...

  // Verify state
  // ...

  // Exchange req.query.code for an access token
  // ...

  // Redirect to Slack app
  // ...
});
// Slack redirects here after the user installs the app
app.get('/slack/oauth/callback', (req, res) => {
    // error handling

    // Verify state
    const actualState = req.query.state;
    const expectedState = req.session.slackOAuthState;

    if (actualState !== expectedState) {
        return res.redirect('/slack/oauth/login');
    }

    // Exchange req.query.code for an access token

    // Redirect to Slack app
});
// Slack redirects here after the user installs the app
app.get('/slack/oauth/callback', (req, res) => {
  // error handling

  // Verify state
  // Exchange req.query.code for an access token
  // client is an WebClient instance from @slack/client
  const { access_token } = await client.oauth.access({
    client_id: process.env.SLACK_CLIENT_ID,
    client_secret: process.env.SLACK_CLIENT_SECRET,
    code: req.query.code,
  });

  await SlackWorkspace.create(access_token, /* ... */);

  // Redirect to Slack app
// Slack redirects here after the user installs the app
app.get('/slack/oauth/callback', (req, res) => {
    // error handling

    // Verify state
    // Exchange req.query.code for an access token

    // Redirect to Slack app
    const params = qs.stringify({ app, team });
    res.redirect(`https://slack.com/app_redirect?${params}`);
});
Have you tried turning it off and on again?

- terrorobe
// Wherever we need to make an API request
const { accessToken } = await SlackWorkspace.find('T0001');

const { WebClient } = require('@slack/client');
const client = new WebClient(accessToken);

client.chat.postMessage({channel: 'C0001', text: 'Hello World'});
Authenticating Users
sophshep  10:30 AM
/github subscribe https://github.com/github/fetch
sophshep 10:30 AM
/github subscribe https://github.com/github/fetch

GitHub APP 12:50 PM
Finish connecting your GitHub account

Connect GitHub account
app.get('/slack/command', (req, res) => {
    await PendingCommand.save(req.body);
    const state = new SignedParams(req.body.trigger_id);

    return res.json(
        {
            response_type: 'ephemeral',
            attachments: [
                {
                    text: 'Finish connecting your GitHub account',
                    actions: [
                        {
                            type: 'button',
                            text: 'Connect GitHub account',
                            style: 'primary',
                            url: `${host}/github/oauth/login?state=${state} `,
                        },
                    ],
                },
            ],
        }
    );
});
app.get('/github/oauth/login', (req, res) => {
    const params = qs.stringify(
        state: req.query.state,
        client_id: process.env.GITHUB_CLIENT_ID,
    );
    res.redirect(`https://github.com/login/oauth/authorize?${params}`);
});
Slack would like to verify your identity on GitHub

Slack by github
would like access to:

Your account (bkeepers)
Verify your GitHub account

Resources
Determine what resources both you and Slack can access

Actions
Enable you to trigger actions on GitHub from within Slack

Slack has been installed on 22 accounts you have access to: The224, at0dd, atom, campus-experts, chiefy, education, github, github-interviews, github-legal, hubotia, integrations, lee-dohm, nickvansw, octokit, pablotrinidad, probot, project-moonstar, robotland, sideol, snyk, thoughtbot, and todogroup.

Learn more about Slack
app.get('/github/oauth/callback', async (req, res) => {
    // Complete OAuth dance with GitHub
    const githubUser = github0auth(req.query)

    // Connect GitHub identity and Slack identity
    const { trigger_id } = await SignedParams.load(req.query.state);
    const command = await PendingCommand.find(trigger_id)
    await User.connect(githubUser.id, command.user_id)

    // Redirect to Slack app
    const params = qs.stringify(
        {team: command.team_id, channel: command.channel_id}
    );
    res.redirect(`https://slack.com/app_redirect?${params}`);
});
Benefits
For our users

• Smooth installation
• Better, progressive permissions
• Invite GitHub app to specific channels
For us as implementers

• Just as easy as user and bot tokens
• A single token to persist and use
• Everything happens in Slack or GitHub
Challenges
Simplifying setup
Simplifying setup
Simplifying setup
Simplifying setup
Simplifying setup
Simplifying setup

Your ultimate productivity pair

[Images of setup process]

Have you tried turning it off and on again?
Identity & Access

GitHub User 1

Slack User 1
Identity & Access

Organization A

GitHub User 1  GitHub User 2

Slack User 1  Slack User 2

Workspace A
Identity & Access

Organization A

GitHub User 1
GitHub User 2

Repository A

Channel A

Slack User 1
Slack User 2

Workspace A
Identity & Access

- Organization A
  - GitHub User 1
  - GitHub User 2
  - Repository A
  - Channel A
  - Workspace A
  - Slack User 1
  - Slack User 2

- Organization B
  - GitHub User 3
  - Repository B
  - Slack User 3
  - Slack User 4
  - Workspace B
Identity & Access

Organization A

- GitHub User 1
- Repository A
  - Channel A
    - Workspace A

Organization B

- GitHub User 2
- Repository B
  - Slack User 3
  - Workspace B

- GitHub User 3
- Repository B
  - Slack User 4
Identity & Access

Organization A
- GitHub User 1
- Repository A
  - Channel A
  - Workspace A
- Slack User 1

Organization B
- GitHub User 3
- Repository B
  - Channel B
  - Workspace B
- Slack User 4

Slack User 2

Repository A

Repository B
Identity & Access

Organization A
- GitHub User 1
- Repository A
  - Channel A
    - Slack User 1
  - Workspace A

Organization B
- GitHub User 3
- Repository B
  - Channel B
    - Slack User 3
  - Workspace B

Repository C
- Slack User 2
  - Channel A
  - Workspace A
Identity & Access

Organization A
  - GitHub User 1
  - Repository A
    - Channel A
      - Workspace A
  - Slack User 1

Organization B
  - GitHub User 3
  - Repository C
    - Channel B
      - Workspace B
  - Slack User 2
  - Slack User 3
  - Slack User 4

Repository B

Repository C
Create an explicit relationship between work artifacts.

Delegate access control for work artifacts to Slack.
Next
Recent Improvements

Take Action from Slack with Slash commands
Experimental API

```bash
$ curl -i -H "Authorization: token $token" -X POST \
https://slack.github.com/repos/myorg/myrepo -d @- <<EOF
{
  "pretext": "@wilhelmklopp, you're up to deploy!",
  "color": "#36a64f",
  "title": "#554: Open Issue from slack",
  "title_link": "https://github.com/myorg/myrepo/pull/554",
  "actions": [
    { "name": "action", "text": "Unqueue", "type": "button" },
    { "name": "action", "text": "Deploy", "style": "danger", "type": "button" }
  ]
}
EOF
```

@wilhelmklopp, you're up to deploy!

#554: Open Issue from slack

- [Unqueue](#)
- [Deploy](#)
Bi-directional integration

Connect your code back to the conversation that influenced it.

Hello! This cleans up selectors.

Saved reply form group fix

tcem started a Slack discussion about this issue in #platform-iam 2 hours ago
It’s all open source!

Contribute on GitHub
github.com/integrations/slack

Built on Probot, a framework for building GitHub Apps
probot.github.io
Thank you!
@bkeepers