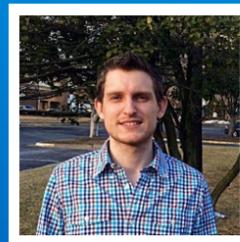


Tools for the Modern Web Developer

esriurl.com/ModernTools2017

Josh Peterson
twitter.com/jm_peterson
github.com/jpeterson



Gavin Rehkemper
twitter.com/gavinrehkemper
github.com/gavinr

Our 10^{*ish} Favorite Tools

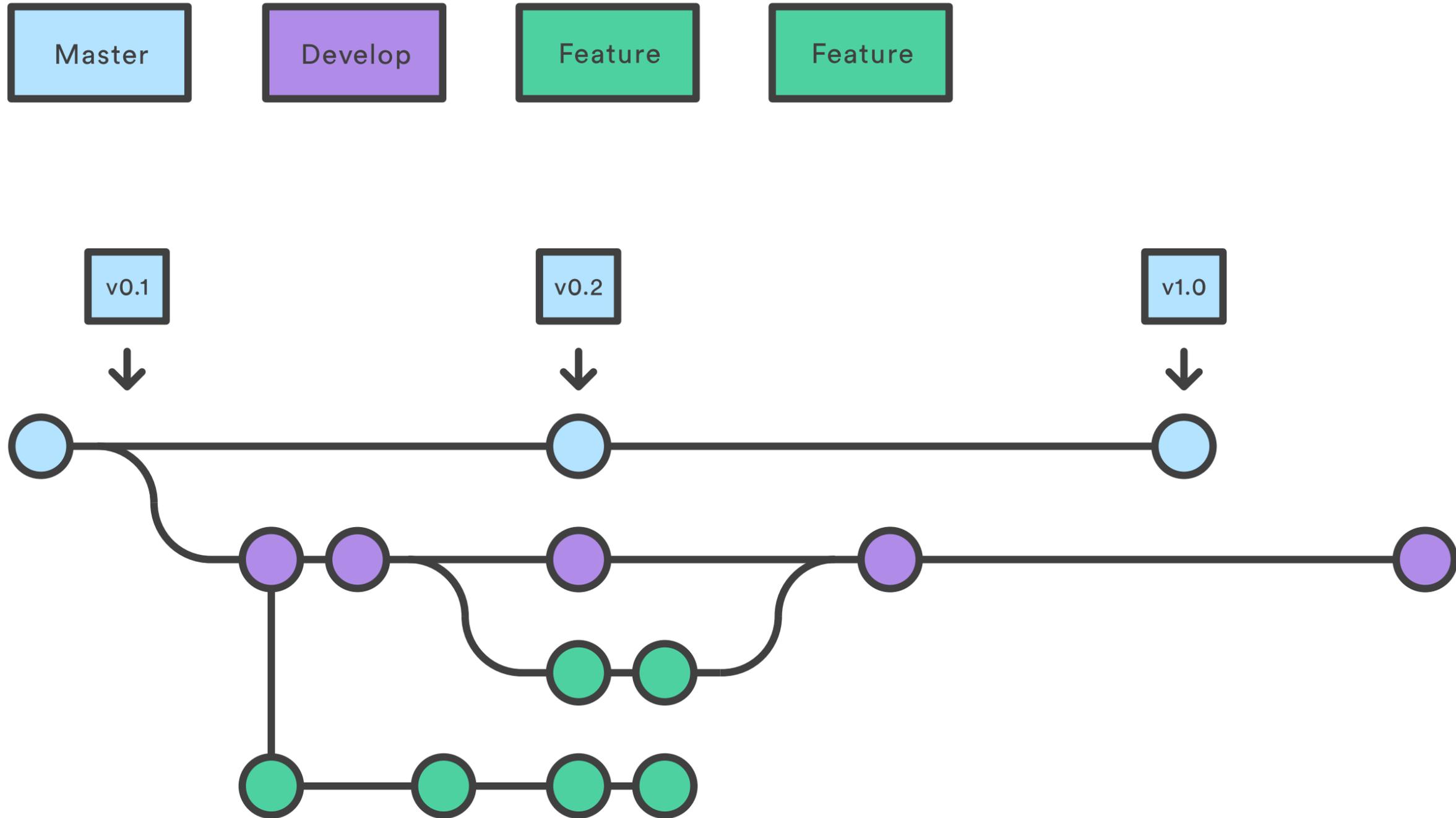
(for the modern web developer)

Source Code Management



GitHub

Git Flow



Start here:

<https://guides.github.com/>

GitHub Guides

Video Guides

GitHub Help

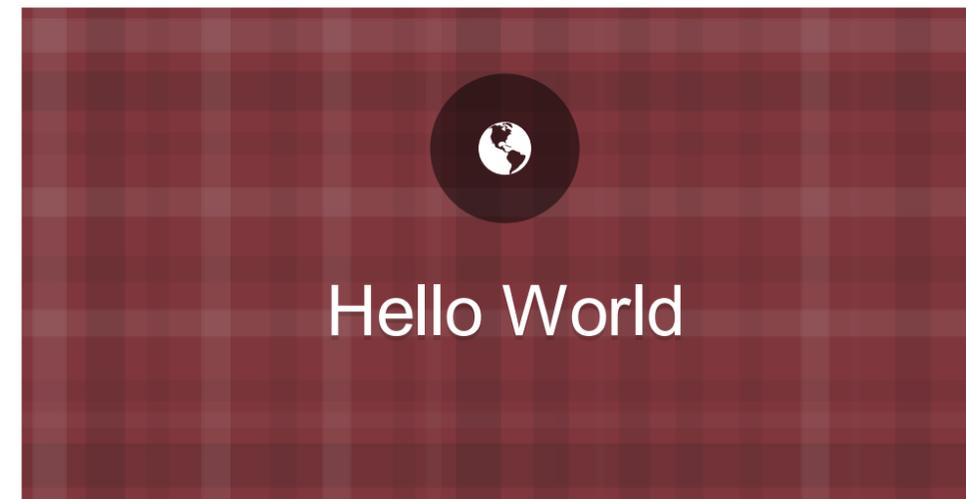
GitHub.com



Understanding the GitHub Flow

GitHub Flow is a lightweight, branch-based workflow that supports teams and projects where deployments are made regularly. This guide explains how and why GitHub Flow works.

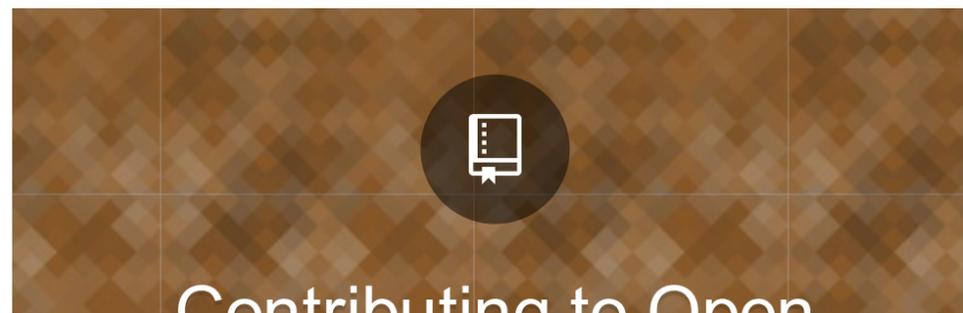
🕒 5 minute read



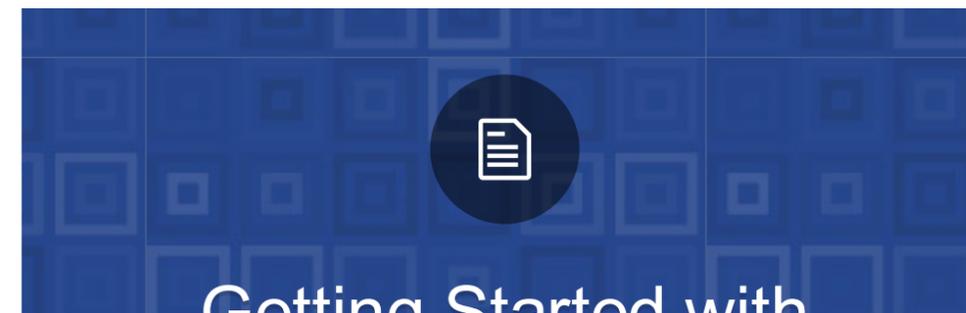
Hello World

The easiest way to get started with GitHub. In this guide you'll complete a time honored "Hello World" exercise, and learn GitHub essentials.

🕒 10 minute read



Contributing to Open



Getting Started with

SourceTree

Commit Pull Push Branch Merge Shelve Show in Finder Terminal Settings

WORKSPACE
File status
History
Search
BRANCHES
BOOKMARKS
TAGS
REMOTES
SHELVED
SUBREPOSITORIES

All Branches Show Remote Branches Ancestor Order Jump to:

Graph	Commit	Author	Description	Date
	b7358c7	Rahul Chha...	master origin/master origin/HEAD Removing ol...	Mar 3, 2016, 11:...
	bdb8bef	Rahul Chhab...	Merged in update-google-verification (pull request #14)	Feb 18, 2016, 1:3...
	dfe975d	Tyler Tadej...	origin/update-google-verification Update google verificati...	Feb 11, 2016, 2:2...
	3bc3290	Tyler Tadej...	Replace outdated Atlassian logo in footer with base-64 en...	Feb 11, 2016, 2:1...
	dba47f9	Tyler Tadej...	Add gitignore	Feb 11, 2016, 1:3...
	ff67b45	Mike Minns...	Updated Mac min-spec to 10.10	Feb 15, 2016, 11:...
	72d32a8	Michael Min...	Merged in hero_images (pull request #13)	Feb 15, 2016, 10:...
	246c4ff	Joel Unger...	origin/hero_images hero_images Used Tinypng to c...	Feb 11, 2016, 3:3...
	9d9438c	Joel Unger...	Replacing hero images with new version of SourceTree	Feb 9, 2016, 2:59...
	ce75b63	Michael Min...	Merged in bug/date-https (pull request #12)	Feb 15, 2016, 10:...
	85367bb	Patrick Tho...	origin/bug/date-https fixed date and https errors	Jan 7, 2016, 12:2...
	4f9b557	Joel Unger...	New Favicon	Feb 8, 2016, 3:55...
	384e6d5	Rahul Chhab...	origin/search-console-access search console google ver...	Feb 3, 2016, 2:09...
	6fa47a9	Mike Minns...	updated to move supported version to OSX 10.9+	Dec 15, 2015, 2:0...
	8dd87bb	Mike Minns...	remove extra , when a line is skipped due to empty server	Nov 23, 2015, 2:2...
	faa195e	Mike Minns...	Skip records with empty server/user id as gas rejects them	Nov 23, 2015, 2:1...
	0cdf96	Mike Minns...	corrected paths after merge	Nov 23, 2015, 2:0...
	051ab1b	Mike Minns...	corrected column counting	Nov 23, 2015, 1:5...
	a723bc2	Mike Minns...	Merge branch 'au2gex'	Nov 23, 2015, 1:5...
	65fd580	Mike Minns...	deal with invalid instanceids	Nov 23, 2015, 1:5...
	500a892	Michael Min...	Merged in au2gex (pull request #11)	Nov 23, 2015, 1:0...

Podcasts

Sitepen Podcast



The SitePen Podcast

for developers who can't JavaScript good and
want to learn to do other stuff good too

Check out these episodes



Webpack 2

CSS in JS



Chris Dhanaraj
and
Una Kravets

System Tools

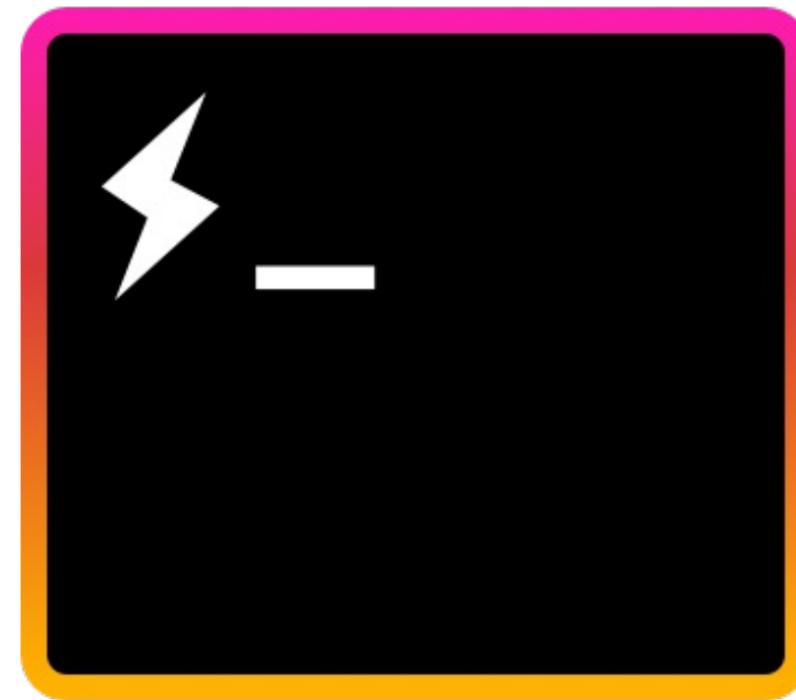
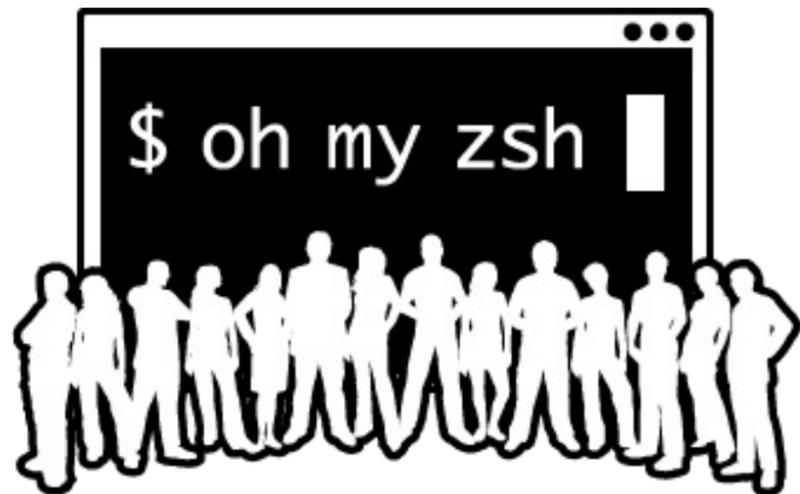
Solved by ES6

Terminals

Love thy Terminal.

Josh's shell setup

- [zsh](#)
- [Oh My Zsh](#)
- [Pure Prompt](#)
- [Hyper](#)
- [hyper-snazzy](#)
- dotfiles (Paul Irish!)



Why he loves it

- Aesthetics!
- cd/git autocomplete
- Better path expansion
- Spelling correction
- Syntax highlighting

Administrator: C:\windows\system32\cmd.exe

Microsoft Windows [Version 6.1.7601]

Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\gavi6895>Why are you using me?

λ cmdr

```
Microsoft Windows [Version 6.2.9200]
(c) 2012 Microsoft Corporation. All rights reserved.

C:\Users\Samuel
λ cd Desktop\web_projects\cmdr\
.git\ bin\ config\ test\ vendor\
C:\Users\Samuel
λ cd Desktop\web_projects\cmdr\

C:\Users\Samuel\Desktop\web_projects\cmdr
λ gl
* c2c0e1c (HEAD, origin/master, master) wrong slash
* ec5f8f9 Git initiation
* aefb0f2 Ignoring the .history file
* 2cceaee Icon
* 2c0a6d0 Changes for startup
* e38aded meh
* 5bb4808 (tag: v1.0.0-beta) Alias fix
* 02978ce Shortcut for PowerShell
* adad76e Better running, moved XML file
* 7cdc039 Batch file instead of link
* 8c34d36 Newline
* a41e50f Better explained
* 7a6cc21 Alias explanation
* 9d86358 License
* 7f63672 Typos
* 36cd80e Release link
```

cmdr.net

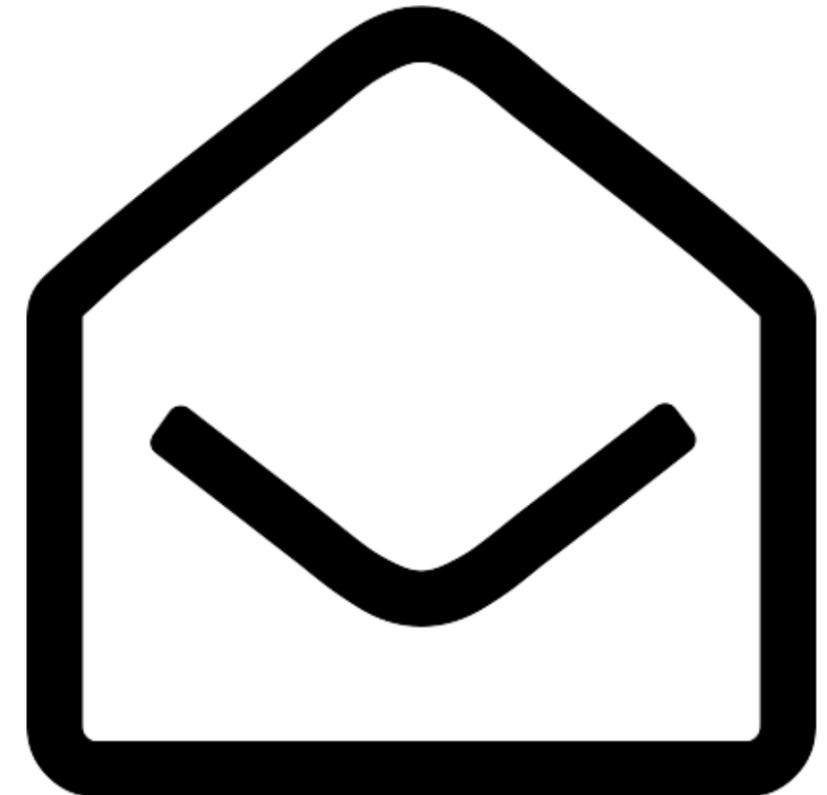
Social Media



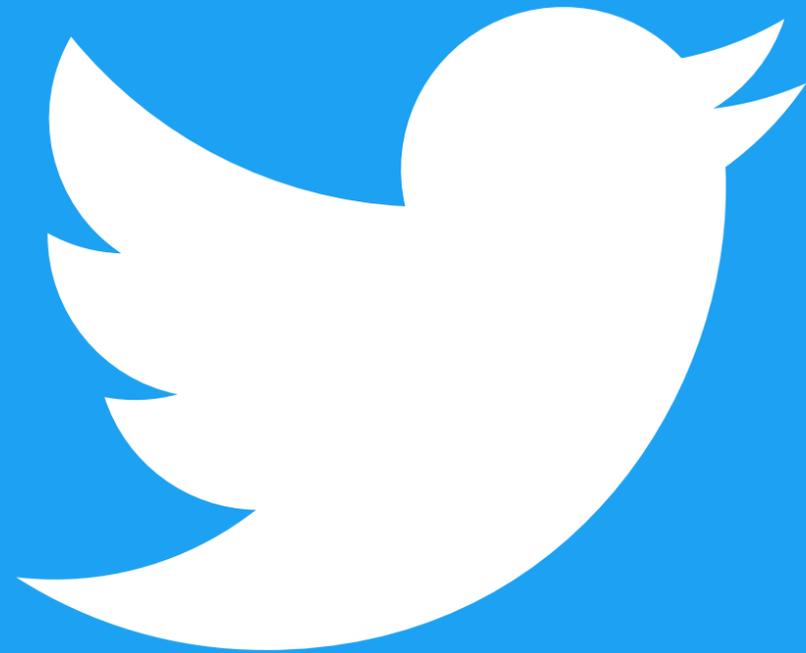
- David Walsh - @davidwalshblog
- Brendan Eich - @BrendanEich
- Troy Hunt - @troyhunt



javascript.reddit.com



javascriptweekly.com



- Addy Osmani - @addyosmani
- Paul Irish - @paul_irish
- Una Kravets - @una
- Dan Abramov - @dan_abramov
- Wes Bos - @wesbos



WES
BOS

ABOUT

COURSES

WORK

SPEAKING & TRAINING

BLOG & TUTORIALS

CONTACT

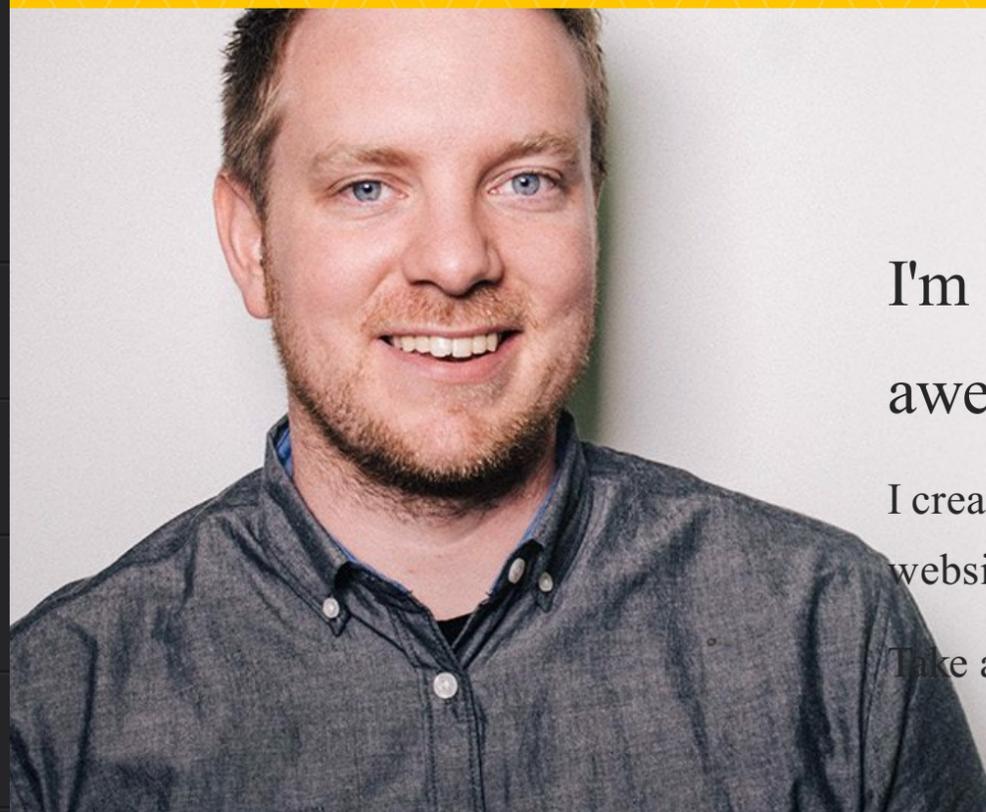
Follow @wesbos 93.8K followers

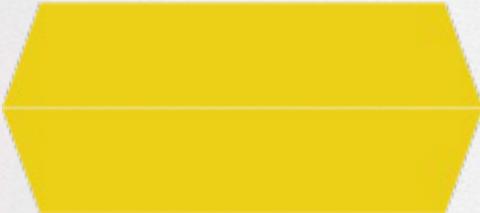
ES6

FOR EVERYONE

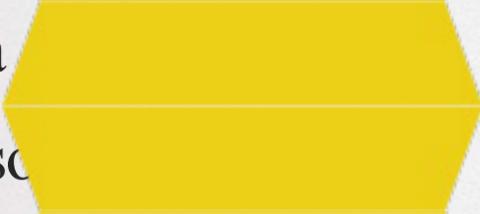
I just launched a new course on ES6! Use the code [WESBOS](#) for \$10 off.

Strengthen your core JavaScript skills and master all that ES6 has to offer. [Start Now](#) →



I'm a  making the web an

aweso

I create  web applications. Hire me to build you a website, teach you to code or speak at your event.

Take a look at my [work](#), [read my blog](#) or [get in touch!](#)

Fresh Articles, Videos and Tutorials [see them all](#) 

An Intro to

Debugging Tools



- [Documentation](#)
- [Discover Dev Tools](#)



POSTMAN



Communication



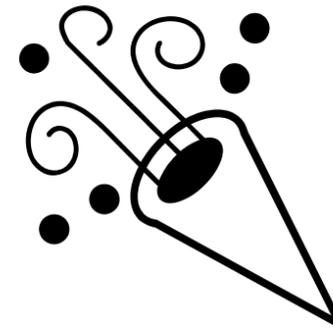
Persistent chat rooms.

Communication is as important as code.

Actually does reduce email.



3 Sweet Features



Code



josh 11:44 AM

ugh i used `array.find()` and broke IE in prod 😞

Inline with backticks



josh 11:54 AM

use an es6 template string there:

```
var name = "Bob", time = "today";  
`Hello ${name}, how are you ${time}?`
```

Multi-line with triple backticks



josh 11:56 AM

added this JavaScript/JSON snippet: [Promise example](#)

```
1 function timeout(duration = 0) {  
2     return new Promise((resolve, reject) => {  
3         setTimeout(resolve, duration);  
4     })  
5 }  
6  
7 var p = timeout(1000).then(() => {  
8     return timeout(2000);  
9 }).then(() => {  
10    throw new Error("hmm");  
11 }).catch(err => {  
12    return Promise.all([timeout(100), timeout(200)]);  
13 })
```

Syntax-highlighted snippets

Slackbot



slackbot 12:12 PM

You asked me to remind you to “work on your dev summit slides”.

Mark as complete or remind me later: *15 mins* · *1 hr* · *Tomorrow* · *Monday*

Reminders



kathryn 2:03 PM

What's the wifi password?



slackbot Custom Response 2:03 PM

Hey there! The password for the Acme WiFi network is **AcmeSites2016**.



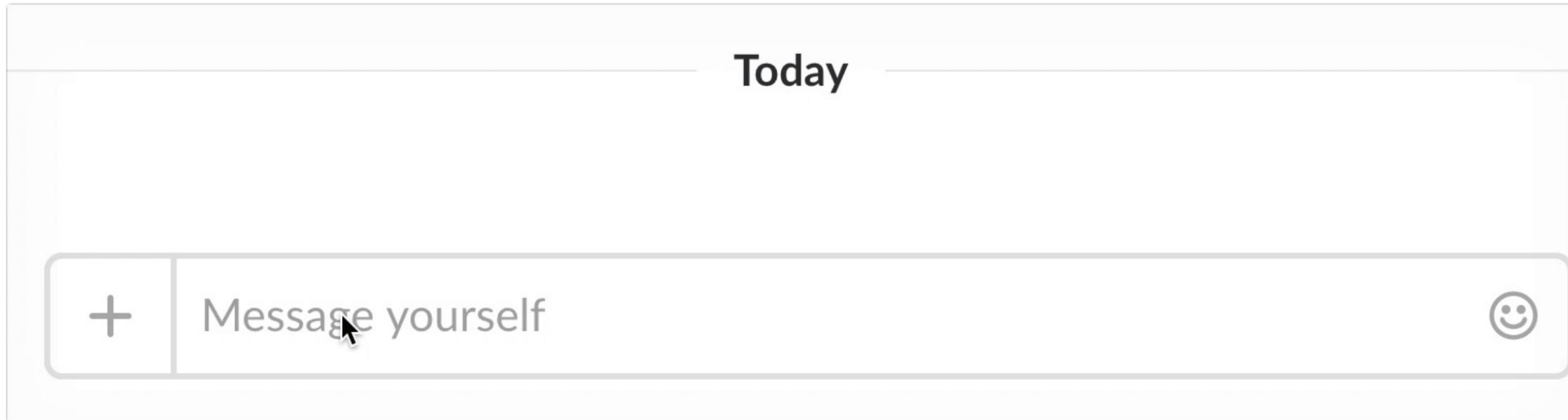
kathryn 2:03 PM

Thank you, Slackbot!

Custom responses



- _ (ツ) _ / -



Because sometimes, there are no words.



slack





jenkins-bayer-dev APP 11:25 AM

Main DEV Build - #839 Started by user Jenkins Manager ([Open](#))

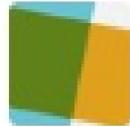
Main DEV Build - #839 Started by changes from rt .g (8 file(s) changed) ([Open](#))

Main DEV Build - #839 Failure after 14 sec ([Open](#))



merbes 11:25 AM

@here ^^



mtangtro 11:26 AM



merbes 11:27 AM

added this Plain Text snippet ▾

```
1 82:11 error Expected space or tab after '//' in comment spaced-comment
2 83:11 error Expected indentation of 8 space characters but found 10 indent
```



merbes 11:28 AM

/var/lib/jenkins/workspace/Main DEV Build/src/web/app/widgets/LegendLayersWidget/LayerWidget.js



mtangtro 11:30 AM

yeah, it seems that that the formatting was the issue here



6:46 AM

A website that simulates the Jurassic Park security system. <http://jurassicystems.com/> You are welcome.



Gif Keyboard APP 10:07 AM

@ : /gifs [newman!](#) (67KB) ▼



Make Slack even better.

All the tools you use for work, in one place.

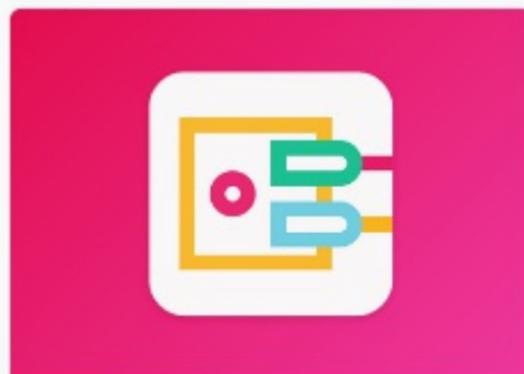
Find a new app, or a service you already use

Featured

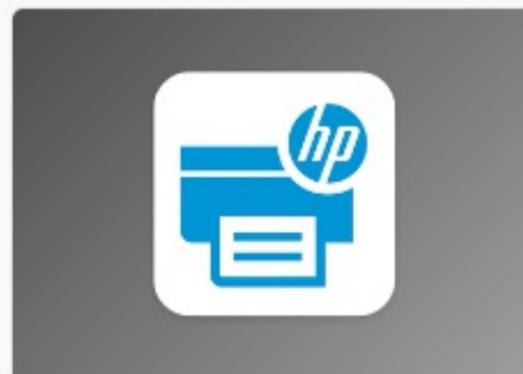
- Top Apps
- New & Noteworthy
- Plug into the Grid
- Brilliant Bots

Categories

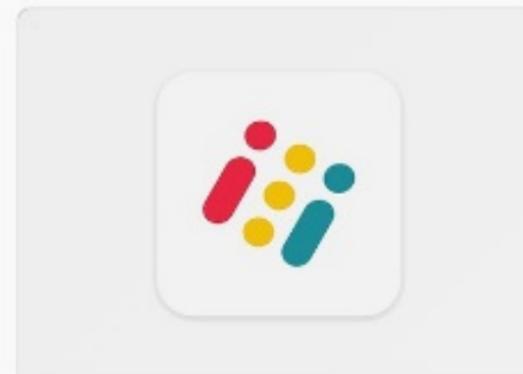
- Bots
- Analytics
- Communication
- Customer Support
- Design
- Developer Tools



Reacji Channeler
Communication



HP Print Bot
File Management



Ottspott
Customer Support

New & Noteworthy

[See all](#)



Alto for Slack
File Management



BoltMail
File Management



Pixibot
File Management

Code Editors

ATOM

```
JS esriColors.js
37
38 // Calcite Core Colors
39 export const Calcite_Blue_100 = '#d2e9f9';
40 export const Calcite_Blue_150 = '#bcdaed';
41 export const Calcite_Blue_200 = '#6cb4e2';
42 export const Calcite_Blue_250 = '#56a5d8';
43 export const Calcite_Blue_a100 = '#49b0f2';
44 export const Calcite_Blue_a150 = '#419ed9';
45 export const Calcite_Blue_a200 = '#3b8fc4';
46 export const Calcite_Blue_a250 = '#196fa6';
47 export const Calcite_Yellow_100 = '#f3edc7'; // previously Esri_Yellow1
48 export const Calcite_Yellow_150 = '#efe397'; // previously Esri_Yellow2
49 export const Calcite_Yellow_200 = '#e4d154'; // previously Esri_Yellow3
50 export const Calcite_Yellow_250 = '#d8c34b'; // previously Esri_Yellow4
51 export const Calcite_Yellow_a100 = '#f2d530';
52 export const Calcite_Yellow_a150 = '#d9bf2b';
53 export const Calcite_Yellow_a200 = '#bda726';
54 export const Calcite_Yellow_a250 = '#a68d00';
55 export const Calcite_Orange_100 = '#fbe1c2'; // previously Esri_Orange1
56 export const Calcite_Orange_150 = '#f6ca92'; // previously Esri_Orange2
57 export const Calcite_Orange_200 = '#eda959'; // previously Esri_Orange3
58 export const Calcite_Orange_250 = '#e79c47'; // previously Esri_Orange4
59 export const Calcite_Orange_a100 = '#ff9f33';
60 export const Calcite_Orange_a150 = '#e8912e';
61 export const Calcite_Orange_a200 = '#d17e21';
62 export const Calcite_Orange_a250 = '#ad6511';
63 export const Calcite_Green_100 = '#ddeedb'; // replaces Esri_Green1. Use in
64 export const Calcite_Green_150 = '#9bc19c'; // previously Esri_Green2
65 export const Calcite_Green_200 = '#67a966'; // previously Esri_Green3
66 export const Calcite_Green_250 = '#5a9359'; // previously Esri_Green4
67
```

- Free
- Open Source
- Large Community
- Git/GitHub built-in

"Open on GitHub"

Open On GitHub: File	⌘ G O
Open On GitHub: Blame	⌘ G B
Open On GitHub: Issues	⌘ G I
Open On GitHub: History	⌘ G H
Open On GitHub: Copy Url	⌘ G C
Open On GitHub: Repository	⌘ G G
Open On GitHub: Branch Compare	⌘ G R

Package Community

🔥 Trending this month

linter A Base Linter with Cow Powers steelbrain 2,677,449 3275	file-icons Assign file extension icons and colours for improve... file-icons 2,341,057 3980
minimap A preview of the full source code. #minimap #overview atom-minimap 3,088,166 4382	atom-beautify Beautify HTML, CSS, JavaScript, PHP, Python, Ru... #beautify #beautifier #js-beautify #format #pretty Glavin001 2,456,965 3587

Toggle Quotes

```
JS main.js
1  define([↵
2  »  'dojo/_base/array',↵
3  »  'dojo/_base/declare',↵
4  »  "dojo/_base/lang",↵
5  »  'dojo/on',↵
6  »  'dojo/promise/all',↵
7  »  'dojo/request/xhr',↵
8  »  "dojo/Deferred",↵
9  ↵
```

Minimap

```
main.js
1 define([
2   './widget-locations',
3   ↵
4   './dgrid/extensions/DijitRegistry',
5   './dgrid/OnDemandGrid',
6   ↵
7   './dijit/form/TextBox',
8   './dijit/layout/BorderContainer',
9   './dijit/layout/ContentPane',
10  ↵
11  './dojo/_base/array',
12  './dojo/_base/declare',
13  './dojo/_base/lang',
14  './dojo/on',
15  './dojo/promise/all',
16  './dojo/request/xhr',
```

Pigments

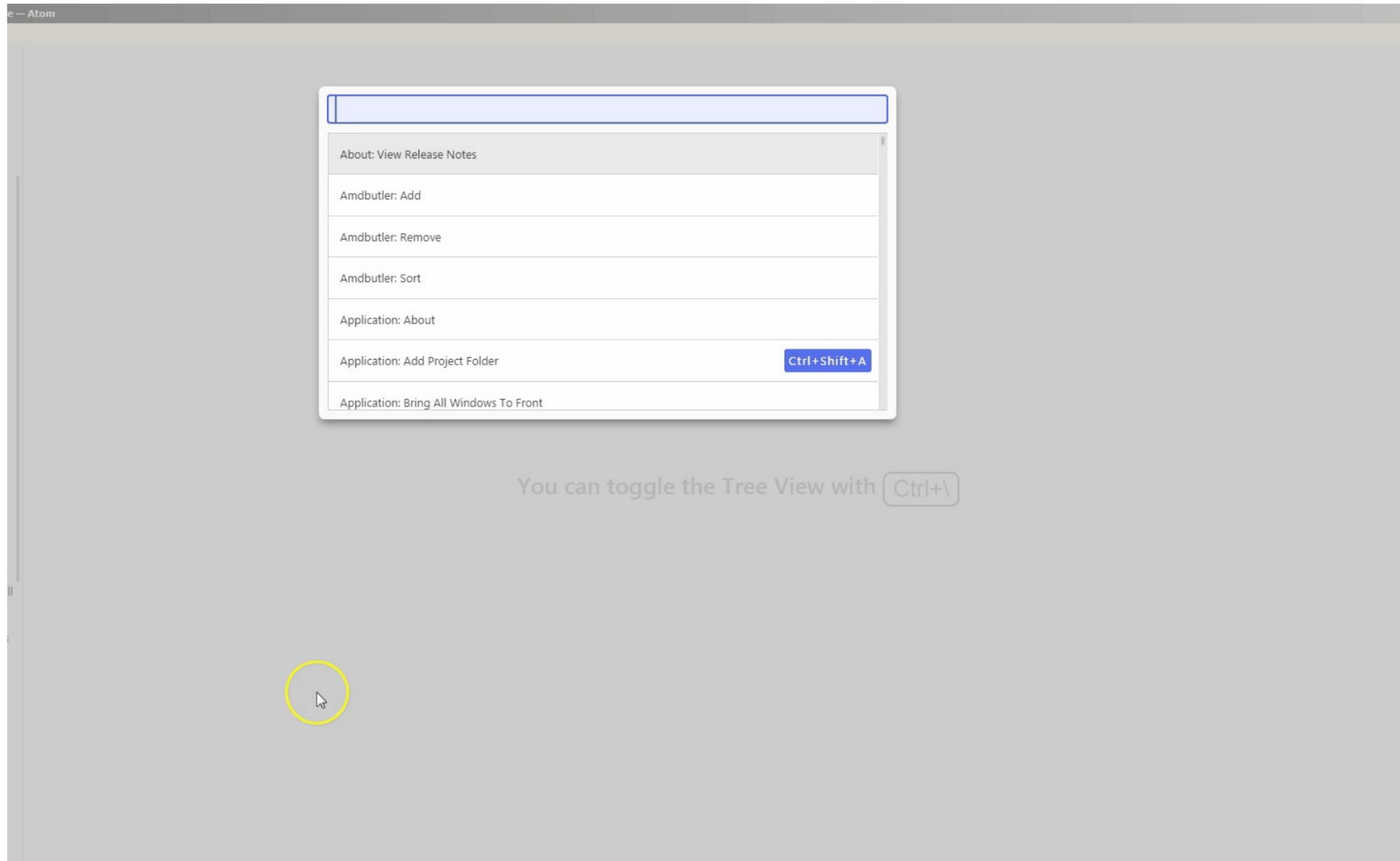
```
3  |  
4  // Esri Brand Colors  
5  export const Brand_Blue_100 = '#b9e0f7'; // previously blue 14  
6  export const Brand_Blue_150 = '#00b9f2'; // previously blue 13  
7  export const Brand_Blue_200 = '#007ac2'; // "Esri Blue", previo  
8  export const Brand_Blue_250 = .....  
9  |  
10 • export const Brand_Yellow_100 = '#ffec4f'; // previously yellow 22  
11 |  
12 export const Brand_Orange_100 = '#f89927'; // previously orange 21  
13 export const Brand_Orange_150 = '#f36f20'; // previously orange 20  
14 export const Brand_Orange_200 = '#da4d1e'; // previously orange 19
```

Pigments

main.css

```
1  html, body {  
2    >> height: 100%;  
3    >> margin: 0;  
4    ··background-color: green;  
5  }  
6  .dijitBorderContainer .dgrid {  
7    >> height: 100%;  
8  }
```

Pigments



Git Time Machine

```
text-editor.coffee - /Users/bwilkerson/projects/atom/atom - Atom
Settings
55 module.exports =
56 class TextEditor extends Model
57   buffer: null
58   languageMode: null
59   cursors: null
60   selections: null
61   suppressSelectionMerging: false
62   selectionFlashDuration: 500
63   gutterContainer: null
64
65 @deserialize: (state, atomEnvironment) ->
66   try
67     displayBuffer = DisplayBuffer.deserialize(state.displayBuffer, atomEnvironment)
68   catch error
69     if error.syscall is 'read'
70       return # Error reading the file, don't deserialize an editor for it
71     else
72       throw error
73
74   state.displayBuffer = displayBuffer
75   state.selectionsMarkerLayer = displayBuffer.getMarkerLayer(state.selectionsMarkerLayerId)
76   state.config = atomEnvironment.config
77   state.notificationManager = atomEnvironment.notifications
78   state.packageManager = atomEnvironment.packages
79   state.clipboard = atomEnvironment.clipboard
80   state.viewRegistry = atomEnvironment.views
81   state.grammarRegistry = atomEnvironment.grammars
82   state.project = atomEnvironment.project
83   state.assert = atomEnvironment.assert.bind(atomEnvironment)
84   state.applicationDelegate = atomEnvironment.applicationDelegate
85   new this(state)
86
```

Atom Terminal

```
main.js - C:\inetpub\wwwroot\github\crowdsourc-reporter - Atom
File Edit View Selection Find Packages Help

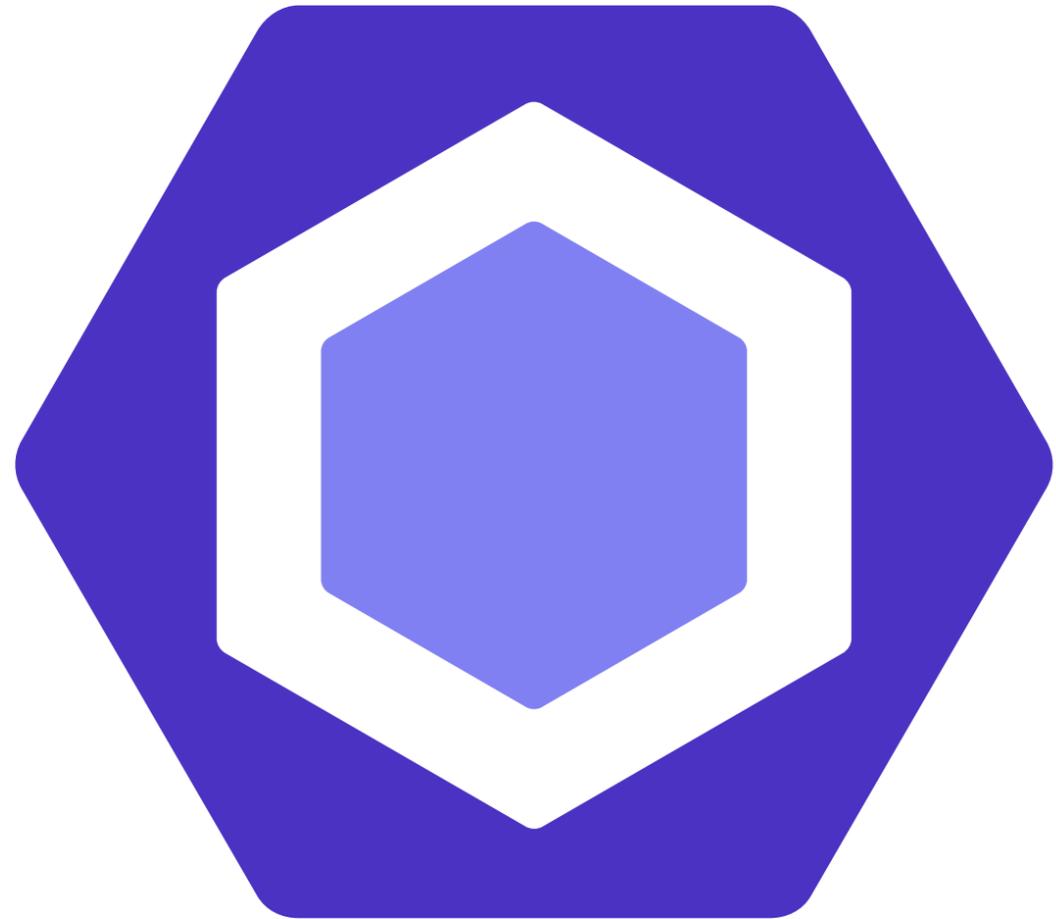
crowdsourc-reporter
├── .git
├── config
├── css
├── dist
├── images
├── js
│   ├── nls
│   ├── utils
│   ├── vendor
│   ├── widgets
│   ├── appBoilerplateSource
│   ├── bootstrapper.js
│   ├── dojo-configuration.js
│   ├── main.js
│   └── template.js
├── node_modules
├── resources
├── .eslintrc
├── .eslintrc.js
├── .gitattributes
├── .gitignore
├── CONTRIBUTING.md
├── crowdsourc-reporter.js
├── index.html
├── LICENSE.txt
├── oauth-callback-twitter.js
├── oauth-callback.html
├── package.json
├── README.md
├── webpack.config.js
└── webpack.production.config.js

DS
├── modern-tools
└── wab-customizing-and-

main.js
1  /*
2  |  Copyright 2014 Esri
3  |
4  |  Licensed under the Apache License, Version 2.0 (the "License");
5  |  you may not use this file except in compliance with the License.
6  |  You may obtain a copy of the License at
7  |
8  |  http://www.apache.org/licenses/LICENSE-2.0
9  |
10 |  Unless required by applicable law or agreed to in writing, software
11 |  distributed under the License is distributed on an "AS IS" BASIS,
12 |  WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
13 |  See the License for the specific language governing permissions and
14 |  limitations under the License.
15 */
16 import declare from 'dojo/_base/declare';
17 import lang from 'dojo/_base/lang';
18 import array from 'dojo/_base/array';
19 import dom from 'dojo/dom';
20 import domConstruct from 'dojo/dom-construct';
21 import domStyle from 'dojo/dom-style';
```

... or "platformio-ide-terminal" for Power Shell on Windows

Bonus Levels!



ESLint

eslint.org

Write your code.

app.js

```
import bar from './bar';  
  
bar();
```

bar.js

```
export default function bar() {  
  //  
}
```

Bundle with webpack.

webpack.config.js

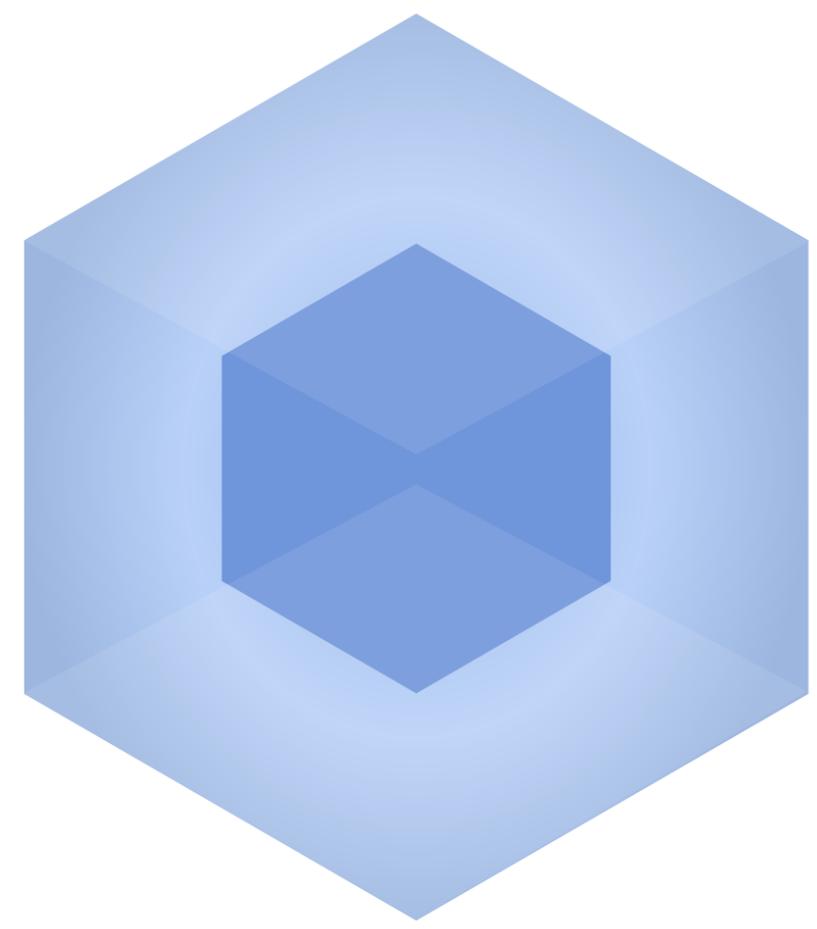
```
module.exports = {
```

page.html

```
<html>
```

> 2 > 1

< true



What about my task runner!?

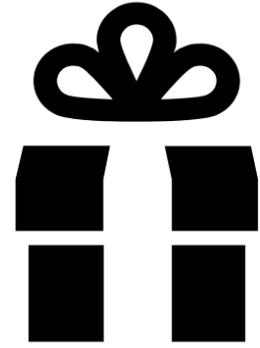


What about my task runner!?



Grunt
Forever





**new*

3 Sweet Features



Tree Shaking



© Caters News Agency

Daily Mail

Performance Budgets

```
~/projects/budgeting-app

WARNING in entrypoint size limit: The following entrypoint(s) combined asset size
exceeds the recommended limit (300 kB). This can impact web performance.
Entrypoints:
  js (2.16 MB)
    vendor.bundle.js
    js.bundle.js

  fo (1.9 MB)
    vendor.bundle.js
    fo.bundle.js

  vendor (369 kB)
    vendor.bundle.js

WARNING in webpack performance recommendations:
You can limit the size of your bundles by using import() or require.ensure to lazy
load some parts of your application.
For more info visit https://webpack.js.org/guides/code-splitting/

~/projects/budgeting-app master*
> █
```

Those docs tho! 🥰🥰🥰

[EDIT THIS PAGE](#) ↗

Concepts

webpack is a *module bundler* for modern JavaScript applications. It is [incredibly configurable](#), however, there are **Four Core Concepts** we feel you should understand before you get started!

As part of your webpack learning journey, we wrote this document aimed to give you a **high-level** overview of these concepts, while still providing links to concept specific use-cases.

Entry

webpack creates a graph of all of your application's dependencies. The starting point of this graph is known as an *entry point*. The *entry point* tells webpack *where to start* and follows the graph of dependencies to know *what to bundle*. You can think of your application's *entry point* as the **contextual root** or the **first file to kick off your app**.

In webpack we define *entry points* using the `entry` property in our [webpack configuration object](#).

The simplest example is seen below:

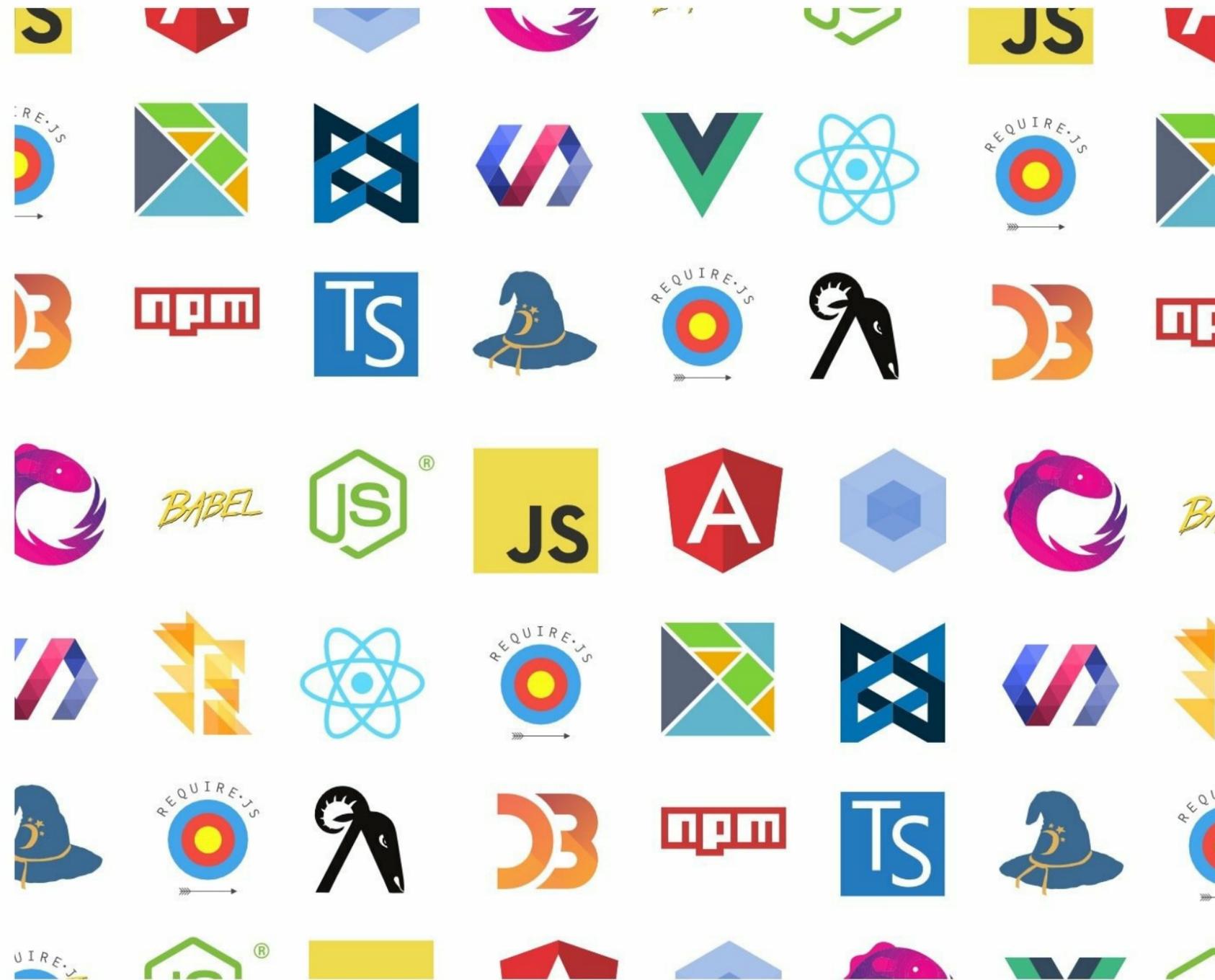
webpack.config.js

```
module.exports = {  
  entry: './path/to/my/entry/file.js'  
};
```

There are multiple ways to declare your `entry` property that are specific to your application's needs.

[Learn more!](#)

How it feels to learn JavaScript in 2016



<https://hackernoon.com/how-it-feels-to-learn-javascript-in-2016-d3a717dd577f#.5iqanlst7>

*“ I encourage folks to adopt this approach to keeping up with the JavaScript ecosystem:
first do it, then do it right, then do it better.
- Addy Osmani*

<https://medium.com/@addyosmani/totally-get-your-frustration-ea11adf237e3#.y61v3cybj>

If **just one** of these tools becomes integral to your workflow by next Dev Summit - this hour was worthwhile

But wait, there's more!

How to Tame your Web App

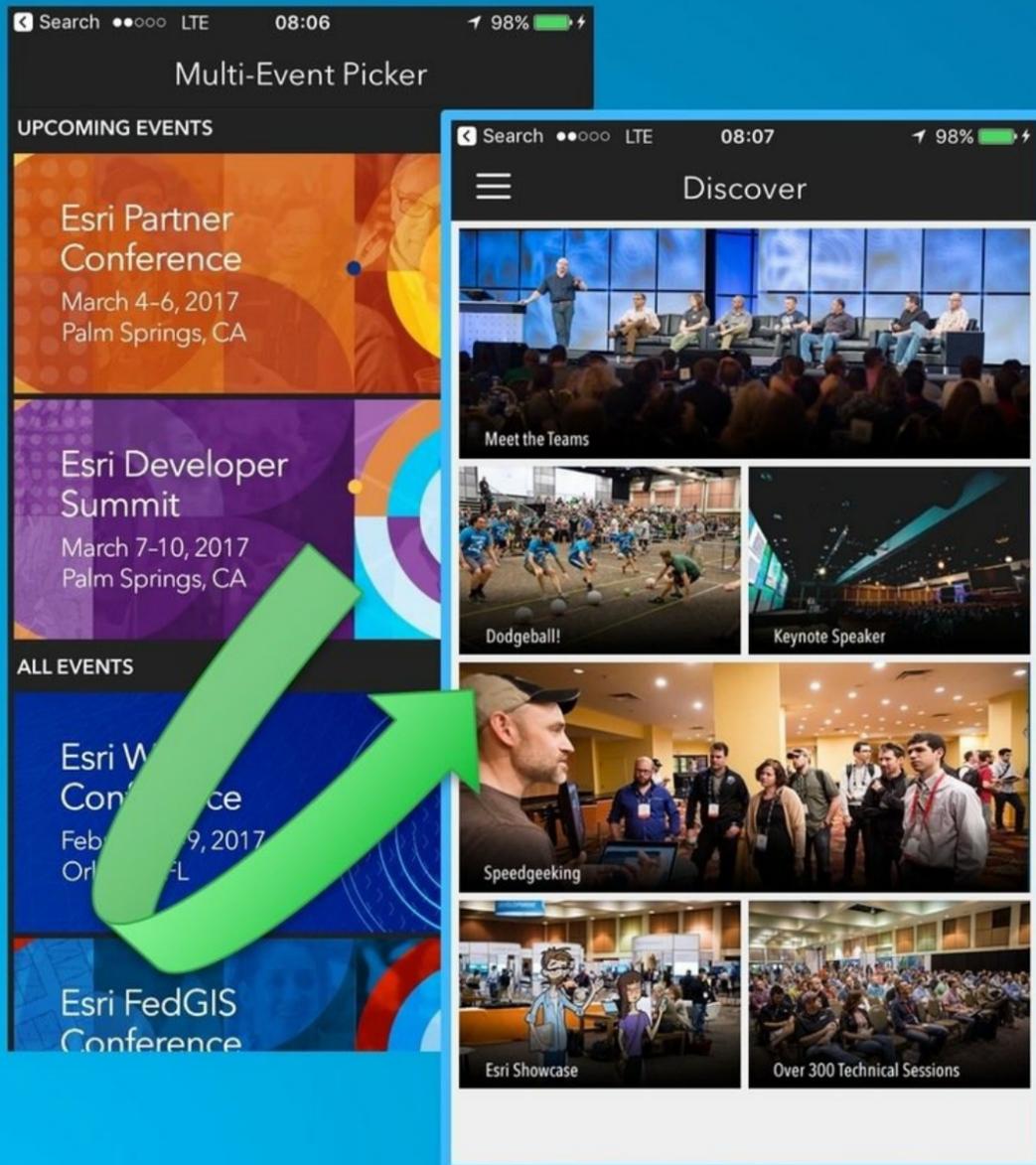
- ES5 to ES6
- AMD to ES6 Modules
- Webpack!
 - Bundling 101
 - Style/Asset Bundles
 - Vendor Bundles
 - Linting
 - Dev/Prod Optimizations
 - Legacy Support



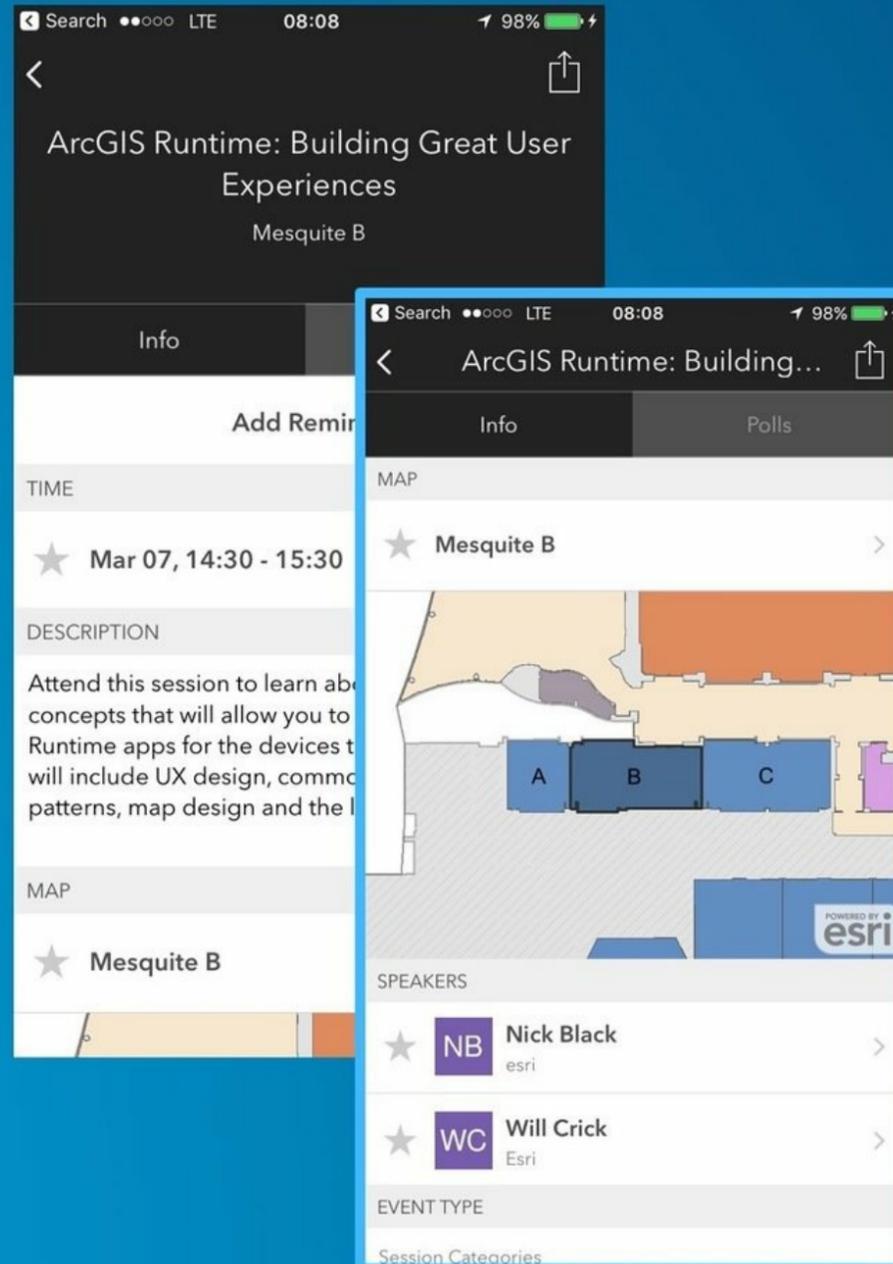
ES6

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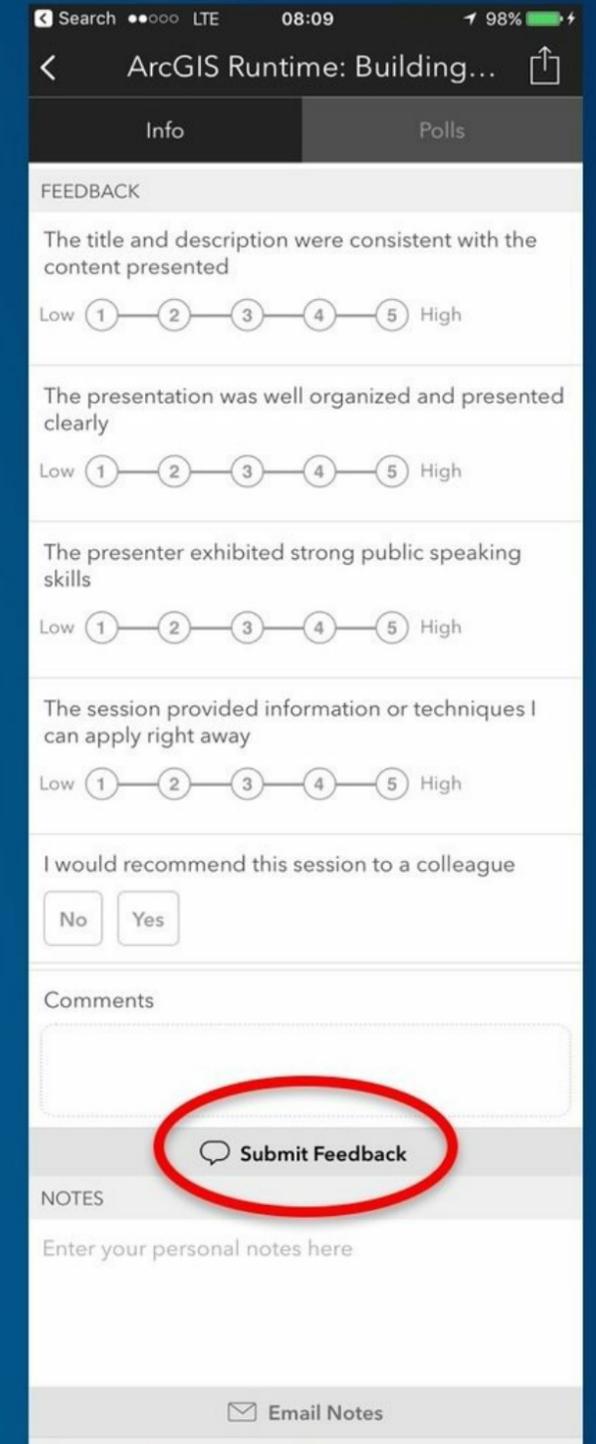


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How to Tame your Web App

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