AUTOMATING WORKFLOW
IMPROVING FRONT-END HAPPINESS WITH BETTER TOOLING

@addyosmani
Trying to develop for the web today is a little like..
Our tooling landscape is getting more complex.
Boilerplate Abstractions
Frameworks Testing Docs
Workflow Dependency management
Performance optimization Build
Continuous Integration Deployment Version control
OMG. WHAT IS THAT?
The first rule of tooling is

“Thou shalt not make @paul_irish cry”
The second is..
Choose tools you’ll use.
Time is a key factor in staying productive.
What are you doing to save time?
Automate repetitive tasks to stay effective.
Automation isn’t about being lazy. It’s about being efficient.
The right tools make the difference between an artist and a craftsman.
The average front-end workflow today
Setup

Scaffolding
Download libraries
Download templates
Download frameworks
Develop

Watch Sass / Less / Stylus
Watch CoffeeScript
Watch Jade / Haml
LiveReload
JS / CSS Linting
Code linting
Running unit tests
Compile everything
Minify and concatenate
Generate images / icons
Optimize performance
HTTP Server
Deployment

Build
Automate this workflow for simple projects
Workflow tools

bit.ly/codekit

It's like stencils for web developers.

bit.ly/codekit
Super-charge your web development with Hammer

Still using PHP includes for HTML? You're going to love Hammer.

Forget writing front-end code the old way. Hammer will save you time.

Built-in support for SASS (with Bourbon), CoffeeScript, HAML & Markdown, as well as special Hammer tags.
Preprocessing just got easier with Prepros
Enjoy the dead simple design & development workflow
Koala is a GUI application for Less, Sass, Compass and CoffeeScript compilation, to help web developers use them more efficiently. Koala can run in Windows, Linux and Mac.

Download
Version 2.0.0, 2013-10-17

koala-app.com
Please select a boilerplate

Sassaparilla
Sassaparilla is a fast way to start your responsive web design projects that harnesses the power of SASS and Compass.

Empty
A simple empty boilerplate, think of it as a fresh start

Bootstrap
Sleek, intuitive, and powerful front-end framework for faster development and better web design.
Compass is a stylesheet authoring framework that makes your stylesheets and markup easier to build and maintain. With compass, you write your stylesheets in Sass instead of plain CSS.

Compass.app is a menubar only app for Sass and Compass. It helps designers compile stylesheets easily without resorting to command line interface.

We also made Fire.app - The fast prototyping tool
So happy.
I may just cry.
Iterative improvement.
First do it.
Then do it right.
Then do it better.
better?
Automate workflow for all types of projects.
Scaffold, write less with Yo
Build, preview and test with Grunt
Manage dependencies with Bower
Flexibility to customize your setup as much as you desire.
Limit the time spent writing boilerplate.
Improve your productivity and delight during development.
Helps run repetitive tasks.
Linting
Compiling
Minification
Testing
Conversion
Documentation
Deployment
And more
Alternative to Rake/Cake/Make/Ant
Huge ecosystem.
Fantastic for developers and designers.
touch package.json Gruntfile.js
package.json
Specify Grunt plugins and metadata.

```json
{
   "name": "awesome-app",
   "version": "0.0.1",
   "devDependencies": {
      "grunt": "~0.4.1",
      "grunt-contrib-jshint": "~0.6.3",
      "grunt-contrib-uglify": "~0.2.0"
   }
}
```
Gruntfile.js
Config tasks and load plugins

```javascript
module.exports = function(grunt)
{
    grunt.initConfig({
        uglify: {
            build: {
                src: 'app.js',
                dest: 'build/app.min.js'
            },
        jshint: { all: ['**/*.js'] }
        }));

    grunt.loadNpmTasks('grunt-contrib-uglify');
    grunt.loadNpmTasks('grunt-contrib-jshint');
    grunt.registerTask('default', ['jshint', 'uglify']);
};
```
$ npm install -g grunt-cli
$ npm install
$ grunt

Running “jshint:all” (jshint) task
Running “uglify:build” (uglify) task
Done.
Not bad!
$ npm install grunt-<taskname> --save-dev
task tip

grunt-responsive-images

Create multi-resolution images from a directory for `src-set/srcN`

bit.ly/grunt-resp
task tip

grunt-contrib-imageoptim

Lower page-weight by applying optimizations to JPG/PNG/Gif

bit.ly/grunt-image
Speed up build time by concurrently running tasks like Sass and Coffee.
speed tip

grunt-newer

Run tasks on only source files modified since the last run.

bit.ly/grunt-newer
A first look at something new I’ve been hacking on
grunt-uncss

Remove unused CSS across your project at build time.

bit.ly/uncss
A few weeks ago..
"1186 rules (91%) of CSS not used by the current page."

When bootstrap is used for convenience in "overkill" mode.
Get audits for unused CSS in your page with DevTools
grunt-uncss can remove unused CSS at build time
Hello, world!

This is an example to show the potential of an offcanvas layout pattern in Bootstrap with some responsive-range viewport sizes that it in action.

Heading

Donec id elit non mi porta gravida at eget metus. Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum nibh, ut fermentum massa justo sit amet risus. Etiam porta

Heading

Donec id elit non mi porta gravida at eget metus. Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum nibh, ut fermentum massa justo sit amet risus. Etiam porta
Very early days, but **280KB down to 40KB** of CSS.
What about Bootstrap alone?
A package manager for the web.
The old way of doing things.

1. That lib is 6 months old? Better update.
2. Open up the site
3. Download the lib
4. Copy from ~/Downloads
5. Paste to app folder
6. Wire in with script tags
New hotness.
$ npm install -g bower
$ bower search
$ bower search angular

Search results:

angular  git://github.com/angular/bower-angular.git
angular-mocks  git://github.com/angular/bower-angular-mocks.git
angular-resource  git://github.com/angular/bower-angular-resource.git
angular-cookies  git://github.com/angular/bower-angular-cookies.git
angular-sanitize  git://github.com/angular/bower-angular-sanitize.git
angular-bootstrap  git://github.com/angular-ui/bootstrap-bower.git

........
$ bower install
$ bower install angular --save-dev

`bower install`    `angular#1.0.8`

`angular#1.0.8`    `app/bower_components/angular`
$ bower install

$ bower install <package>

$ bower install <package>#<version>

$ bower install <name>=<package>#<version>
$ bower list
$ bower list

**bower check-new**  Checking for new versions of the project dependencies..

testapp#0.0.0 /Users/addyo/projects/testapp

  └── angular#1.0.8 *(latest is 1.2.0-rc.3)*

  ├── bootstrap#3.0.0

  └── jquery#1.9.1 *(2.0.3 available)*

   └── jquery#1.9.1 *(latest is 2.0.3)*

       └── modernizr#2.6.2
Runs over:

- Git
- HTTP(s)
- Zip
- npm
You can even wire up deps from the command-line!
grunt-bower-install

bit.ly/grunt-bower
$ npm install grunt-bower install --save-dev
$ bOWER install jquery --save
$ grunt bower-install
No more worrying about script tags!
Bower is a package manager for the web. It offers a generic, unopinionated solution to the problem of front-end package management while exposing the package dependency model via an API that can be consumed by a more opinionated build stack. There are no wide dependencies, no dependencies are shared between different apps, and the dependency tree is flat.
Bower components
Discover Bower components

Featured components

- `srcset`: Parse and stringify the HTML `<img>` `srcset` attribute
- `detect-indent`: Detect the indentation of code
- `stringify-object`: Stringify an object using a custom indentation
- `devtools-detect`: Detect if DevTools is open

Hot components

- `eq.js`: Lightweight JavaScript powered
- `vinyl`: A vinyl transformer
- `viewport`: Viewport...
Yo is your **gateway** to this magical new new world.
It scaffolds out boilerplate.
Can prescribe helpful Grunt tasks.
Can automatically install dependencies you need.
$ npm install -g yo
This installs yo, grunt and bower for you.
$ yo

[?] What would you like to do?

› Install a generator

Run the Angular generator (0.4.0)
Run the Backbone generator (0.1.9)
Run the Blog generator (0.0.0)
Run the jQuery generator (0.1.4)
Run the Gruntfile generator (0.0.6)

(Move up and down to reveal more choices)
$ yo

[?] What would you like to do? Install a generator
[?] Search NPM for generators: jquery
[?] Here's what I found. Install one?

❯ generator-jquery-boilerplate
   generator-jquery-mobile
Search again
Return home
$ yo jquery-boilerplate

create .jshintrc
create CONTRIBUTING.md
create Gruntfile.js
create HISTORY.md
create boilerplate.jquery.json
create demo/index.html
create dist/jquery.boilerplate.js
create dist/jquery.boilerplate.min.js
create package.json
create src/jquery.boilerplate.coffee
create src/jquery.boilerplate.js
Boom. You just created a jQuery plugin.
Installing a custom generator.
$ npm install generator-bootstrap -g
$ yo bootstrap

In what format would you like the Twitter Bootstrap stylesheets? *(Use arrow keys)*

› css
  ‣ css
  ‣ sass
  ‣ less
  ‣ stylus
$ npm install generator-webapp -g
$ yo webapp

Out of the box I include H5BP and jQuery. What more would you like?

 Bootstrap for Sass
   RequireJS
   Modernizr
Boom. Just created a webapp!

**Boilerplate** - H5BP, Bootstrap, Modernizr

**Abstractions** - optionally Sass, CoffeeScript, grunt-bower-install available by default.

**Performance optimization** - optimize images, scripts, stylesheets, get lean Modernizr builds, concurrently run all of these tasks at build time.

**Testing and build process** - Mocha, Jasmine, PhantomJS
So much to learn from @yeoman's Gruntfile.js! 💖
//cc @gruntjs
$ grunt server
You can now edit and LiveReload!
'Allo, 'Allo!
Always a pleasure scaffolding your apps.

Splendid!

HTML5 Boilerplate
HTML5 Boilerplate is a professional front-end template for building fast, robust, and adaptable web apps or sites.

Bootstrap
Sleek, intuitive, and powerful mobile first front-end framework for faster and easier web development.

\* from the Yeoman team
Fantastic for getting a real-time view of application state.
Edits can also refresh all your devices. Instant real-device previews.
Cross-device live reload
What about frameworks?
$ npm install generator-angular -g
$ yo angular

Would you like to include Bootstrap? (Y/n)
$ yo angular

Would you like to include Bootstrap? (Y/n)
Would you like to use the SCSS version?
$ yo angular

Would you like to include Bootstrap? (Y/n)
Would you like to use the SCSS version?
Which modules would you like to include?
(Press <space> to select)

angular-resource.js
angular-cookies.js
angular-sanitize.js
'Allo, 'Allo!
You now have

- HTML5 Boilerplate
- AngularJS
- Karma

installed.

Enjoy coding! - Yeoman
$ yo angular:view user

create app/views/user.html
$ yo angular:controller user

create app/scripts/controllers/user.js
create test/spec/controllers/user.js
$ yo angular.directive mydirective

create app/scripts/directives/mydirective.js
create test/spec/directives/mydirective.js
$ bower install angular-local-storage

create app/scripts/directives/mydirective.js
create test/spec/directives/mydirective.js
You just created an Angular app with dependencies
$ yo express-angular

AngularJS + Express backend
Generators also available for:

- Backbone
- Ember
- Polymer
- Flight
- CanJS
- & many other frameworks.
Tell us a little about yourself.

Name: Addy Osmani
Email: addyosmani@gmail.com
GitHub username: addyosmani
Twitter username: @addyosmani

Wire tools and preprocessors.

CSS preprocessor: Sass
Use Autoprefixer? Yes
Javascript preprocessor:
  Coffeescript
None
$ yo chrome-extension

[?] What would you like to call this extension?
[?] How would you describe it?
[?] Would you like more UI Features?

❯ Options Page
    Content Scripts
    Omnibox

[?] Would you like to use permissions? (Press <space> to select)

❯ Tabs
    Bookmarks
    Cookies
    History
    Management
$ yo mobile

Bootstrap 3, TopCoat, Foundation, Pure
Generates responsive images
Generates site screenshots
Removes 300ms delay on touch
Boilerplate for Fullscreen API
Integrated BrowserStack testing
Polyfill for async localStorage
and more.

bit.ly/yomobile
Yeoman 1.0 is more than just a tool. It’s a workflow; a collection of tools and best practices working in harmony to make developing for the web even better.

Our workflow is comprised of three tools for improving your productivity and satisfaction:

- **Yo** (the scaffolding tool)
- **Grunt** (the build tool)
- **Bower** (for package management)

- Yo scaffolds out a new application, writing your Grunt configuration and pulling in relevant dependencies at your right speed for your build process.
## YEOMAN GENERATORS

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Author</th>
<th>Last Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>angular</td>
<td>AngularJS</td>
<td>yeoman</td>
<td></td>
</tr>
<tr>
<td>mobile</td>
<td>mobile-first web apps</td>
<td>yeoman</td>
<td></td>
</tr>
<tr>
<td>wordpress</td>
<td>WordPress</td>
<td>wesleytodd</td>
<td></td>
</tr>
<tr>
<td>backbone</td>
<td>Backbone.js</td>
<td>yeoman</td>
<td></td>
</tr>
<tr>
<td>webapp</td>
<td>Yeoman generator that scaffolds out a front-end web app</td>
<td>yeoman</td>
<td></td>
</tr>
<tr>
<td>chrome-extension</td>
<td>Chrome Extensions</td>
<td>yeoman</td>
<td></td>
</tr>
<tr>
<td>jekyllrb</td>
<td>Supercharge Jekyll development with Yeoman. Yo, Jekyllrb!</td>
<td>robwierzbowski</td>
<td></td>
</tr>
<tr>
<td>marionette</td>
<td>Yeoman marionette generator a la AMD</td>
<td>mrichard</td>
<td></td>
</tr>
<tr>
<td>firefox-os</td>
<td>Firefox OS apps</td>
<td>zenorocha</td>
<td></td>
</tr>
</tbody>
</table>
Demo apps built with Yeoman?

Work less. Do more. Make awesome.
How can we improve the rest of your workflow?
Learn to love the command-line
It isn’t scary. You know how to use PhotoShop’s 3000 buttons.

That’s scary!
Script common tasks

bit.ly/mydotfiles
Start up a new local server

```
python -m SimpleHTTPServer
```
$ clone
Clone a repo easily, cd into it, open up sublime
$ gitexport

Copy a local checkout without the .git stuff

```bash
function gitexport()
{
    mkdir -p "\$1"
    git archive master | tar -x -C "\$1"
}
```
Terminal Replay (iTerm 2)
TotalTerminal

A system-wide terminal available via a hot-key

[Image of Terminal with code]

---

### Installation

- [Install SIMBL](http://www.culater.net/software/SIMBL)
- Place Visor.bundle in ~/Library/Application Support/SIMBL/Plugins
- (Re)launch Terminal.app - You should now see Visor
- Configure your keyboard trigger

You can now trigger Visor with your hotkey from anywhere.

To hide Visor, you can either:

- re-trigger with your key-combo
- or you can also enable "Visor" and press the Visor key (on Esc)
- use the logout key-combo (control+alt+l+d) to close it
- type "exit" in running shell to close it

### Prerequisites:

- [SIMBL](http://www.culater.net/software/SIMBL)
- "Visor" and "RubyGems"

---

[bit.ly/totalterminal]
@climagic

Command Line Magic
@climagic

Cool Unix/Linux Command Line tricks you can use in 140 characters or less.

BASHLAND · climagic.org

6,705 TWEETS
8,969 FOLLOWING
47,331 FOLLOWERS

Followed by Kevin Roast, Dhaval Trivedi, Husani Oakley and 45 others.
Do things more quickly.
Alfred Workflows

Find apps, files

Find packages on npm

Build tasks
Alfred Workflows

bit.ly/alfredworkflows

Browser compatibility search

Find documentation on Dash

Font awesome search
Windows? Try Launchy.

Launchy
Open Source Keystroke Launcher

Introduction

Launchy is a free cross-platform utility designed to help you forget about your start menu, the icons on your desktop, and even your file manager.

Launchy indexes the programs in your start menu and can launch your documents, project files, folders, and bookmarks with just a few keystrokes!

Josh Karlin

Screenshots

Below are shown various shots of Launchy in action, opening a variety of files and programs - in just a few taps of the keyboard.

launchy.net
Automator
Point-and-click automation of repetitive tasks
Macro Recorder

Macro Recorder - the best macro program for Windows. Not just a keyboard and mouse recorder but a powerful automation tool that converts macros to EXE files and more.

DOWNLOAD  PRICING

Not just a macro recorder
BUT AUTOMATION SOFTWARE
Why limit yourself with keyboard and mouse

Easy to use
CREATE MACROS WITH NO PROGRAMMING SKILLS
Macro Recorder features an easy and

Compile to EXE
REDISTRIBUTABLE MACROS
Convert your macro to an EXE-file that runs
Next, let’s look at your editor.
Know yours inside out.
Shortcuts are incredibly powerful.

## Editing

<table>
<thead>
<tr>
<th>Command</th>
<th><strong>Apple</strong> (Mac OSX)</th>
<th><strong>Windows</strong></th>
<th><strong>Linux</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Delete Line</td>
<td>⌘ + X</td>
<td>Ctrl + X</td>
<td>Ctrl + X</td>
</tr>
<tr>
<td>Insert Line After</td>
<td>⌘ + ←</td>
<td>Ctrl + ←</td>
<td>Ctrl + ←</td>
</tr>
<tr>
<td>Insert Line Before</td>
<td>⌘ + ↑ + ←</td>
<td>Ctrl + ↑ + ←</td>
<td>Ctrl + ↑ + ←</td>
</tr>
<tr>
<td>Move Line Up</td>
<td>⌘ + ↑ + ↑</td>
<td>Ctrl + ↑ + ↑</td>
<td>Ctrl + ↑ + ↑</td>
</tr>
<tr>
<td>Move Line Down</td>
<td>⌘ + ↑ + ↓</td>
<td>Ctrl + ↑ + ↓</td>
<td>Ctrl + ↑ + ↓</td>
</tr>
<tr>
<td>Select Line</td>
<td>⌘ + L</td>
<td>Ctrl + L</td>
<td>Ctrl + L</td>
</tr>
<tr>
<td>Select Word</td>
<td>⌘ + D</td>
<td>Ctrl + D</td>
<td>Ctrl + D</td>
</tr>
<tr>
<td>Multi-Select Editing</td>
<td>^ + ⌘ + G</td>
<td>Alt + F3</td>
<td>Alt + F3</td>
</tr>
<tr>
<td>Jump to Closing Parenthesis</td>
<td>^ + M</td>
<td>Ctrl + M</td>
<td>Ctrl + M</td>
</tr>
<tr>
<td>Select Contents of Current Parentheses</td>
<td>^ + ↑ + M</td>
<td>Ctrl + ↑ + M</td>
<td>Ctrl + ↑ + M</td>
</tr>
<tr>
<td>Delete from Cursor to End of Line</td>
<td>⌘ + K, ⌘ + K</td>
<td>Ctrl + KK</td>
<td>Ctrl + KK</td>
</tr>
<tr>
<td>Delete from Cursor to Start of Line</td>
<td>⌘ + K + ⇤</td>
<td>Ctrl + K + ⇤</td>
<td>Ctrl + K + ⇤</td>
</tr>
<tr>
<td>Indent Current Line(s)</td>
<td>⌘ + ]</td>
<td>Ctrl + ]</td>
<td>Ctrl + ]</td>
</tr>
<tr>
<td>Unindent Current Line(s)</td>
<td>⌘ + [</td>
<td>Ctrl + [</td>
<td>Ctrl + [</td>
</tr>
</tbody>
</table>
Sublime Autoprefixer
Write CSS without the prefixes!

```css
p {
  transform: translate(-100%, 0);
  transition: transform 1s ease-in;
}

a:hover + p {
  transform: translate(0, 0);
}

#submenu {
  background-color: #eee;
  transition: all 1s ease-in-out;
}
```
Emmet (Zen Coding)

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8" />
  <title>Grid of Images</title>
</head>
<body>
  springv8
eaglehoodorn
blackcarside
browncahoodorn
browncartaillight
blackcarhood
redcargears
bluecartire
bluecargrille
</body>
</html>
```
STProjectMaker
Easily reuse your boilerplates

bit.ly/stprojectmaker
Sublime TernJS

Smarter code completion, contextual jump to definition.

```
requirejs.config({
    paths: {
        'jquery': '../jquery/jquery'
    },
    shim: {
        'jquery': {
            exports: '$'
        }
    },
    urlArgs: "bust=" + (new Date()).getTime()
});

require( ['jquery'], function( $ ) {
    $( "h1" ).append();
});
```
Sublime Build System
Call tools from your editor. Get feedback in the console.

bit.ly/sublime-grunt
SublimeLinter
Live linter feedback as you code

```javascript
'use strict';

angular.module('mytodoApp', ['ui', 'LocalStorageModule'])
  .config(function ($routeProvider) {
    $routeProvider
      .when('/', {
        templateUrl: 'views/main.html',
        controller: 'MainCtrl'
      })
      .otherwise({
        redirectTo: '/'
      });
  });
```
Develop and debug in the browser
Chrome DevTools
An improved find and fix workflow.

HTML5 5
PLease
Use the new and shiny responsibly.

devtools.chrome.com
Workspaces

HTML5 PLEASE
Use the new and shiny responsibly.
Look up HTML5, CSS3, etc features, know if they are ready for use, and if so find out how you should use them — with polyfills, fallbacks or as they are. tell me more

Explore features
supported by IE10+ • IE9+ • IE8+ • IE7+ • no IE
not supported by mobile devices • older mobile devices
requiring prefixes • polyfill • fallback
that you should use • use with caution • avoid

Settings
Workspace
Folders
/Users/addyo/projects/html5please

Port forwarding
Experiments

Shortcuts
New! Create New Files

HTML5 PLEASE
Use the new and shiny responsibly.
Look up HTML5, CSS3, etc features, know if they are ready for use, and if so find out how you should use them – with polyfills, fallbacks or as they are. tell me more>

Explore features
supported by IE10+ • IE9+ • IE8+ • IE7+ • no IE
not supported by mobile devices • older mobile devices
requiring prefixes • polyfill • fallback
that you should use • use with caution • avoid

Hit Cmd+O to open a file

Refresh
New File
Add Folder to Workspace
Sass Source Maps
New! Less Source Maps

Navbar example
This example is a quick exercise to illustrate how the default, static navbar and fixed to top navbar work. It includes the responsive CSS and HTML, so it also adapts to your viewport and device.

View navbar docs »
New! CSS Pretty-printing
New! Ignoring library code
New! DevTools Terminal

npm, git and all your favorite cli tools with this extension
What about better integration between tools?
Sublime Web Inspector

bit.ly/sublime-inspector
Emmet LiveStyle

Edit CSS. See changes live in Chrome *without* a browser refresh.

lifestyle.emmet.io
Getting Started with deck.js
WebStorm — The smartest JavaScript IDE

bit.ly/webstormide
<!doctype html>
<html lang="en">
<head>
<meta charset="utf-8">
<title>AngularJS Todo MVC Live!!</title>
<link rel="stylesheet" href="css/app.css">
</head>
<body>
<section id="todoapp">
<header id="header">
<h1>todos</h1>
<form id="todo-form">
  <input id="new-todo" placeholder="What needs to be done?"
        autocomplete="off" autofocus>
</form>
</header>
<section id="main">
  <input id="toggle-all">
  <label for="toggle-all">Mark all as complete</label>
  <ul id="todo-list">
    <li>
      <div class="view">
        <input class="toggle" type="checkbox">
      </div>
    </li>
    <li>
      <div class="view">
        <input class="toggle" type="checkbox">
      </div>
    </li>
  </ul>
</section>
</section>
</body>
<html>
WebStorm: Debug with Chrome
WebStorm 7

npm search!

built-in terminal

web components & more.
;; Welcome to the instarepl.
;; Anything typed into this box will immediately be evaluated
;; with the result being shown on the right hand side.
;; For example:

(+ 3 4)  
(- 10 20)

;; This allows you to very quickly see changes to all the
;; things you're working with. You'll notice that the code
;; on the right also has the variables' values filled in in
;; green, making it easy to see how information is flowing
;; through the program.

(defn my-add [a b]
  (+ a b))

(my-add 3 45)

;; If you end up stuck, you can press Ctrl+D to cancel
;; everything that is currently executing. Ctrl+R will also
;; reset the state of the GUI if you want to start over fresh.

;; Welcome to the instarepl.
;; Anything typed into this box will immediately be evaluated
;; with the result being shown on the right hand side.
;; For example:

(+ 3 4)  => 7  
(- 10 20) => -10

(defn my-add [3 45]
  (+ 3 45))

(my-add 3 45)  => 48

;; If you end up stuck, you can press Ctrl+D to cancel
;; everything that is currently executing. Ctrl+R will also
;; reset the state of the GUI if you want to start over fresh.
Sublime jsRun
Run JS in Chrome from Sublime

```javascript
console.log('JsRun is awesome!');
```

bit.ly/sublime-jsrun
Tailor
Brackets + Git for ChromeOS
Synchronized cross-device testing
Re-checking your site on mobile is a pain
How does this fit into your workflow?
Navigate all devices to the same URL
Remote Preview

A lo-fi, free option
Remote Preview

- [+] Free!
- [-] Loads page into iframe
- [-] Requires user to type url in page
- [+] Central place to change url to load into iframe after initial set-up
Synchronize navigation & get screenshots.
Adobe Edge Inspect CC

Adobe Edge Inspect
Preview & inspect web designs on devices.
Adobe EdgeInspect

- [-] One device at a time
- [-] Displays site in a WebView
- [+] Supports live reload
- [+] Extension to load any page you view in Chrome
- [-] Can’t account for localhost (i.e. switch to ip addr. of machine on local network)
- [+] Remote Inspect via Weinre

bit.ly/edgeinspect
Refresh all devices on edit
Grunt + LiveReload

- [+] Free!
- [+] Easily see how each change you save looks across devices
- [+] Works with any modern mobile browser
- [-] Requires you to use Grunt for your build process

bit.ly/gruntsync
Synchronize scrolls, clicks, interactions as well as navigation
GhostLab

Synchronized testing for web and mobile.

Download

Store

Minimum system requirements: Mac OS X Lion (10.7)
Sync desktop & mobile navigation
Sync navigation across *all* your devices
Sync clicks, scrolls and other interactions
Ghostlab

○ [+] Creates server to folder contents
○ [+] Syncs scrolls, clicks and reloads
○ [-] Needs typing into browser on each device
○ [+] Allows to match up scrolling and input
○ [-] OS X Only
○ [+] Debugging via Weinre

bit.ly/ghostapp
Mobile Debugging
DevTools Remote Debugging
New! RAW USB Debugging

---

### DevTools

#### Devices

- **Discover USB devices**

#### Devices

- **Nexus 7**
  - **Chrome (31.0.1650.11)**
  - ![Rue89](http://m.rue89.com/#/news/246310)
    - inspect
    - activate
    - reload
    - close
  - ![Le Monde.fr - Actualité à la Une pour mobiles](http://mobile.lemonde.fr/)
    - inspect
    - activate
    - reload
    - close
  - ![YouTube](http://www.youtube.com/?app=desktop&persist_app=1)
    - inspect
    - activate
    - reload
    - close
  - ![Google](http://www.google.com/)
    - inspect
    - activate
    - reload
    - close
HTML5/CSS/JAVASCRIPT DEBUGGING FOR THE ANDROID BROWSER AND WEBVIEW

Includes support for hybrid apps based on PhoneGap, IBM Worklight, Icenium and others.

Launch-ready
Start debugging the code on your Android device within minutes. Use your existing
Google Chrome, Chrome Canary, Chromium

Easy to integrate
Add the jsHybugger plugin to your mobile development environment, use it as a
library or standalone app

jshybugger.com
iOS WebKit Debug Proxy

bit.ly/webkitdebug
MIHTool

-bit.ly/mihtool-
Visual regression testing
Wraith

List of screenshots

Screenshots:
- front_page_news
- in_pictures_index
- local_page_news

front_page_news
320px
- BBC NEWS
- Top Stories
- Most Read
- Doctor Who: Peter Capaldi revealed as 12th Doctor
- 6 August 2013
- code

768px
- BBC NEWS
- Top Stories
- Most Read
- 'Tax fugitives' list faces criticism
- 46 minutes ago
- live

596553 bytes
- BBC NEWS
- Top Stories
- Most Read
- Liveblog: Doctor Who: Peter Capaldi revealed as 12th Doctor
- 4 August 2013
- diff

bit.ly/wraithapp
Huxley

Watches you browse, takes screenshots, tells you when they change.

59 commits, 1 branch, 0 releases, 6 contributors

Update CHANGELOG.md

- petehunt authored 13 days ago
- examples: Fix Selenium bugs in new firefox
- huxley: Fix Selenium bugs in new firefox
- .gitignore: Update gitignore and correct Huxley file to point to correct url.
- CHANGELOG.md: Update CHANGELOG.md
- CONTRIBUTING.md: Create CONTRIBUTING.md
- LICENSE: some cleanup
- README.md: fix small typo and update instructions
- requirements.txt: add jsonpickle
- setup.py: Fix Selenium bugs in new firefox

You can clone with HTTPS, SSH, or Subversion.

https://github.com/
Simulate real-network conditions
Charles is an HTTP proxy / HTTP monitor / Reverse Proxy that enables a developer to view all of the HTTP and SSL / HTTPS traffic between their machine and the Internet. This includes requests, responses and the HTTP headers (which contain the cookies and caching information).
Network Link Conditioner

[Image of a software interface showing network settings and preset profiles for different network conditions.]
Slow down your internet connection

Slowy is a tool which simulates custom connection’s conditions and...
Fiddler

The free web debugging proxy for any browser, system or platform
Netwem, WANEm (Linux)

WANem
The Wide Area Network Emulator

<table>
<thead>
<tr>
<th>WANalyzer</th>
<th>Basic Mode</th>
<th>Advanced Mode</th>
<th>Save/Restore</th>
</tr>
</thead>
</table>

Interface: eth0

<table>
<thead>
<tr>
<th>Packet Limit</th>
<th>1000</th>
<th>(Default=1000)</th>
</tr>
</thead>
</table>

Symmetrical Network: Yes

Other: Specify BW(Kbps) 0

**Delay**

<table>
<thead>
<tr>
<th>Loss</th>
<th>Duplication</th>
<th>Packet reordering</th>
<th>Corruption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss(%)</td>
<td>Duplicated(%)</td>
<td>Reordering(%)</td>
<td>Corruption(%)</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Correlation(%)**

<table>
<thead>
<tr>
<th>Correlation(%)</th>
<th>Gap(packets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Type**

<table>
<thead>
<tr>
<th>Connect/Disconnect Timer</th>
<th>Connect Timer</th>
<th>Disconnect Timer</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>Idle Timer</td>
<td></td>
</tr>
</tbody>
</table>

**Width**

Choose BW

- Other

<table>
<thead>
<tr>
<th>Correlation(%)</th>
<th>Gap(packets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

bit.ly/linuxnetem
Simulators & Emulators
Screenshots or live testing?

Sauce Labs

BrowserStack

Browserling
Simulators

Massive, well-maintained list of emulators & simulators available

Mobile Emulators & Simulators: The Ultimate Guide

The most useful tools for mobile web are emulators and simulators. In Chapter 4 of Programming the Mobile Web I've made an extensive description and installation guideline for creating a desktop mobile testing environment. And in Chapter 13, I've also reviewed other solutions for mobile testing, including four device remote lab solutions.

I've mixed all this information to create this ultimate guide to 37 download resources for hundreds of emulators and simulators. Enjoy!

This list includes content from Programming the Mobile Web book with frequent updated information & links.
Are emulators enough?

'Allo, 'Allo!

You now have

- HTML5 Boilerplate
- Twitter Bootstrap
- RequireJS

installed.

Enjoy coding! - Yeoman
Do I even need an emulator?

Chrome DevTools Overrides
Emulate touch events
Emulate screens
Emulate device orientation

- Override Device Orientation
  - α: 0
  - β: 0
  - γ: 0
Emulate Geolocation
To learn more checkout our DevTools docs at devtools.chrome.com
Remember

If you aren’t using automation, you are working too hard
Use tools. not rules.
Improve your developer happiness
Thank you.