







WEB DEVELOPMENT AUTOMATION

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SET UP A NEW WEBSITE:

1.  **Download:** frameworks & libraries
2.  **Copy:** Set up folder structure; copy files into place
3.  **View:** Load in browser
4.  **Edit:** make changes
5.  **Compile:** Sass/Less, ES6, etc.
6.  **Test:** Reload browser

SOME WEB DEVELOPMENT TASKS WE CAN AUTOMATE:

- Dependency installation
- File copying
- JS/CSS concatenation
- JS/CSS minifying
- Browser reloading

TYPES OF TOOLS

PACKAGE MANAGERS

Node Package Manager (NPM)

Bower

TYPES OF TOOLS

MODULE BUNDLERS

Webpack

Browserify

TYPES OF TOOLS

TASK RUNNERS

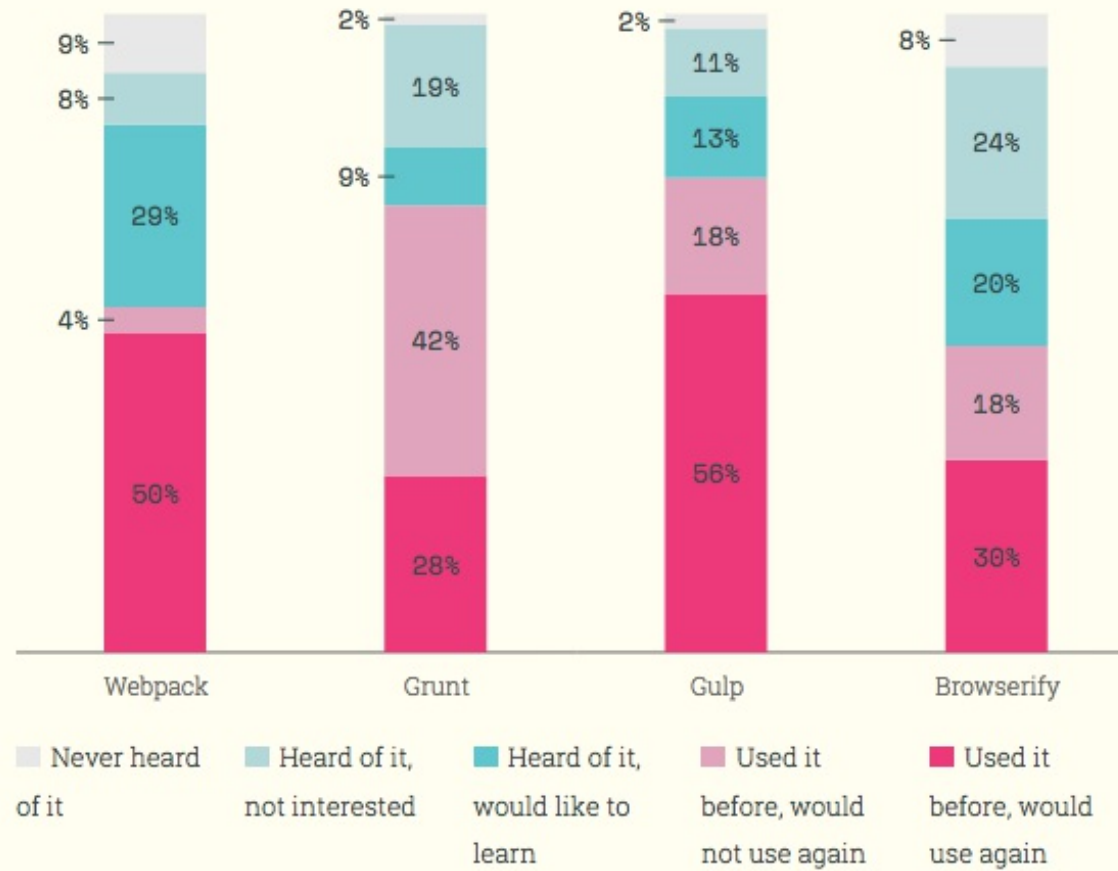
Grunt

Gulp



TYPES OF TOOLS

stateofjs.com (2016 survey)





Let's get to it!

>_ INSTALLING THE TOOLS WE NEED:

- NPM (installers for Windows, Mac, Linux)
- Gulp

```
npm install --global gulp
```

```
npm install --save-dev gulp
```

✓ GULP.TASK('COPY')

Download jQuery

```
npm install --save jquery
```

✓ GULP.TASK('COPY')

Copy it to our js folder

Make a gulpfile.js

```
var gulp = require('gulp');  
  
gulp.task('copy', function() {  
  gulp.src('node_modules/jquery/dist/jquery.min.js')  
    .pipe(gulp.dest('js'));  
});
```

Then, run the task with

```
gulp copy
```

Done!

✓ GULP.TASK('CONCATENATE')

Download gulp-concat

```
npm install --save-dev gulp-concat
```

✓ GULP.TASK('CONCATENATE')

Copy it to our js folder

```
var gulp = require('gulp');
var concat = require('gulp-concat');

gulp.task('concatenate', function() {
  gulp.src([
    'lib/js/head.min.js',
    'js/reveal.js',
    'js/jquery.min.js',
    'js/custom.js'
  ])
  .pipe(concat('all.js'))
  .pipe(gulp.dest('js'));
});
```

Then, run the task with

```
gulp concatenate
```

GULP.TASK('MINIFY')

Download gulp-uglify

```
npm install --save-dev gulp-uglify
```

✓ GULP.TASK('MINIFY')

Define the task

```
var gulp = require('gulp');  
var minify = require('gulp-uglify');  
  
gulp.task('minify', function() {  
  gulp.src('js/all.js')  
    .pipe(minify())  
    .pipe(gulp.dest('js'));  
});
```

Then, run the task with

```
gulp minify
```


☑ + ☑ GULP.TASK('CONCATIFY')

Gulp is a "stream" task runner.

You can pipe multiple tasks in together.

✓ + ✓ GULP.TASK('CONCATIFY')

```
var gulp = require('gulp');
var concat = require('gulp-concat');
var minify = require('gulp-uglify');

gulp.task('concatify', function() {
  gulp.src([
    'lib/js/head.min.js',
    'js/reveal.js',
    'js/jquery.min.js',
    'js/custom.js'
  ])
  .pipe(concat('all.js'))
  .pipe(minify())
  .pipe(gulp.dest('js'));
});
```

gulp concatify

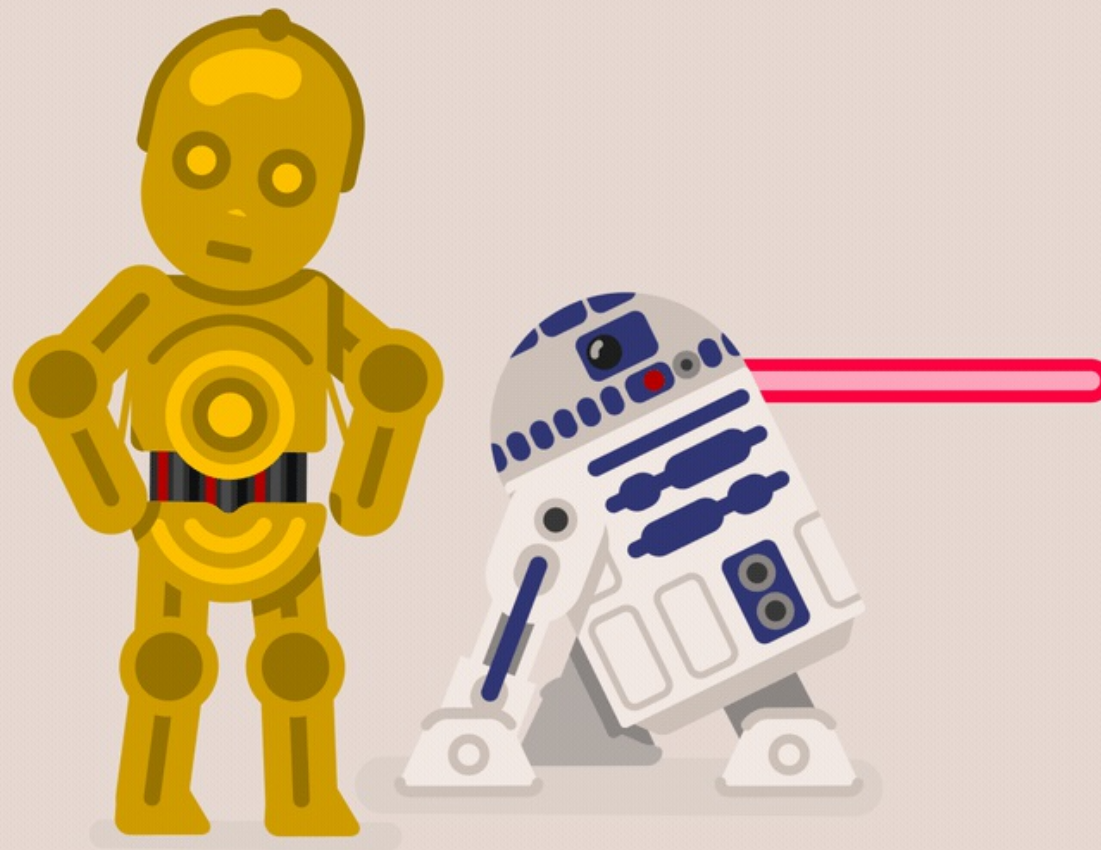
☑ + ☑ GULP.TASK('CONCATIFY')

Or, define a composite task:

```
gulp.task('concatify2', ['concatenate', 'minify']);
```

NEED MORE AUTOMATIC!

(Make the droids do the work)



GULP.WATCH()

Watch for file changes and automatically run a task

GULP.WATCH()

Define the task

```
gulp.task('watch', function() {  
  gulp.watch(['js/**/*.js', '!js/all.js'], ['concatify']);  
});
```

Then, run the task with

```
gulp watch
```

RELOAD & NOTIFY

Download gulp-notify

```
npm install --save-dev gulp-notify
```

Download browser-sync

```
npm install --save-dev browser-sync
```

RELOAD & NOTIFY

Send a system notification when the task completes

```
var notify = require('gulp-notify');

gulp.task('concatify', function() {
  gulp.src([
    'lib/js/head.min.js',
    'js/reveal.js',
    'js/jquery.min.js',
    'js/custom.js'
  ])
  .pipe(concat('all.js'))
  .pipe(minify())
  .pipe(gulp.dest('js'))
  .pipe(notify('JS Concatified!'));
});
```


RELOAD & NOTIFY

Serve the site & auto-reload the browser when files change

```
gulp.task('browsersync', function() {  
  browserSync.init({  
    server: {baseDir: "./"}  
  });  
});  
  
gulp.task('serve', ['browsersync'], function () {  
  gulp.watch(['js/**/*.js', '!js/all.js'], ['concatify']);  
  gulp.watch([  
    'js/**/*.js', '!js/all.js',  
    '**/*.html', 'css/**/*.css',  
  ]).on('change', browserSync.reload);  
});
```

SOME OTHER WEB DEVELOPMENT TASKS WE CAN AUTOMATE:

- CSS pre-processing (LESS, SASS)
- JS pre-processing (ES6, TypeScript)
- CSS vendor auto-prefixer (-webkit-, -moz-)
- Linting
- Image optimizing
- HTML template compilation
- Asset loading



Contact

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