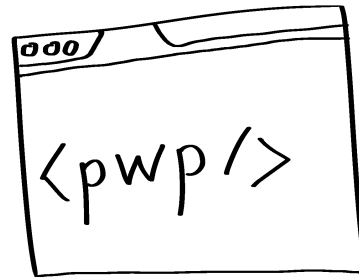


Practical Course: Web Development

Task Runner

Winter Semester 2016/17

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Today's Agenda

- Taks Runner : Grunt vs. Gulp
 - Gulp installation

Grunt & Gulp

- Both are Javascript TaskRunner
- Create tasks that fit specific needs
- Grunt
 - Writes temporary files
 - Config each plugin seperately

Gulp

- Streaming building system
- Pipe and pass data manipulated or used by plugins
- Code over configuration
- Tasks are written in code → Feels like a build framework
- Uses node.js streams
- No need for temporary files → Everything done in Memory

Gulp

- Plugins
 - Intended to do only one job each
 - Common to pass a file through multiple plugins
- 4 top level functions
 - Gulp.task defines the tasks
 - Gulp.src which files to use
 - Gulp.dest output folder where final files go
 - Gulp.watch which files to watch

Gulp tasks

- Defines tasks

```
gulp.task('mytask', function(){  
  //do stuff  
});  
  
gulp.task('dependenttask', ['mytask'], function(){  
  //do stuff after 'mytask' is done.  
});
```

Task Name (points to 'mytask' in the first task)

Dep Array (points to ['mytask'] in the second task)

Install Gulp

1. Install Gulp globally
 - `npm install -g gulp` (maybe „sudo“ needed)
2. Install Gulp as devDependencies in any project you want
 - `npm install --save-dev gulp`
3. Create gulpfile.js in project root (manually)
4. Install some Plugins
 - To test if Gulp is working → „gulp utils“
 - `npm install --save-dev gulp-util`
5. Create tasks (see right)
6. Run it:
 - `gulp`

```
//grab our gulp package
var gulp = require('gulp'),
    gutil = require('gulp-util');

//create a default task and just log a message
gulp.task('default', function(){
  return gutil.log('gulp is running!')
});
```

Add Further Task Options

- HTML
 - Minify (gulp-minify-html)
- CSS
 - Minify (gulp-cssnano oder gulp-minify-css)
- JS
 - Check JS data (gulp-jshint)
 - Concat JS (gulp-concat)
 - Minify JS (gulp-uglify)
- Copy Data
 - In new Folder for upload
- Notify on changes
 - Check Data(gulp-notify)

- Single tasks can be run by their name
 - „gulp default“
- CheatSheet
 - <https://raw.githubusercontent.com/osscafe/gulp-cheatsheet/master/images/en-js-p1.png>

single dest & watch



```
var gulp = require('gulp');
var coffee = require('gulp-coffee');
var uglify = require('gulp-uglify');

gulp.task('js', function(){
  return gulp.src('./src/*.coffee')
    .pipe(coffee())
    .pipe(uglify())
    .pipe(gulp.dest('./js'));
});
gulp.task('watch', function(){
  gulp.watch('./src/*.coffee', ['js']);
});
```

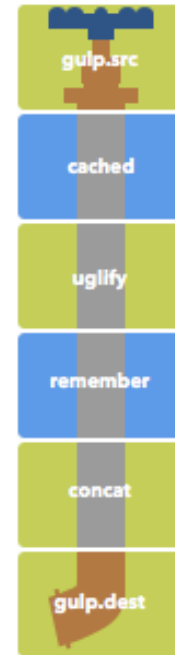
multi dest

```
var gulp = require('gulp');
var autoprefixer = require('gulp-autoprefixer');
var minifyCss = require('gulp-minify-css');
var rename = require('gulp-rename');

gulp.task('css', function(){
  return gulp.src('./css/src/style.css')
    .pipe(autoprefixer('last 2 versions'))
    .pipe(gulp.dest('./css'))
    .pipe(minifyCss())
    .pipe(rename({extname: '.min.css'}))
    .pipe(gulp.dest('./css'));
});
```



incremental rebuilding



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

gulp.task('script', function(){
  return gulp.src('./src/*.js')
    .pipe(cached())
    .pipe(uglify())
    .pipe(remember())
    .pipe(concat('app.js'))
    .pipe(gulp.dest('./js'));
});
```

task dependency

```
gulp.task('css', ['font', 'less'], function(){
  // do something after font and less
});
```

\$ npm install -g gulp install global

\$ npm install --save-dev gulp install local
 \$ npm install --save-dev gulp-other-plugins

\$ gulp task_name run task

\$ gulp task_name other_task run multi tasks



only changed

```
var gulp = require('gulp');
var changed = require('gulp-changed');
var uglify = require('gulp-uglify');

gulp.task('css', function(){
  return gulp.src('./src/*.js')
    .pipe(changed('./dist'))
    .pipe(uglify())
    .pipe(gulp.dest('./dist'));
});
```

gulp.js cheatsheet
The streaming waterworks

this sheet is made in **OpenSource Cafe**

Use Further Plugins

1. Install some Plugins with one command
 - `npm install --save-dev gulp-concat`
 - `...gulp-minify-html gulp-jshint gulp-uglify gulp-minify-css`
2. Add plugin(s) to gulpfile.js
3. Create tasks (for concat)
4. Create Pipes & Watchers
5. Add tasks to ,default' task
6. Run:
 - `gulp`
7. Add minify & clean-css
 - `npm install --save-dev gulp-clean-css gulp-minify`
8. Add plugin to pipe