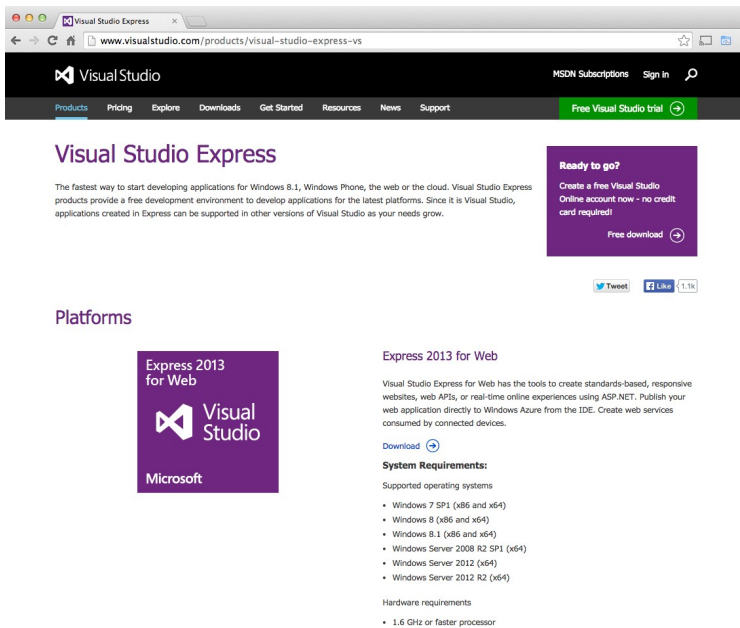
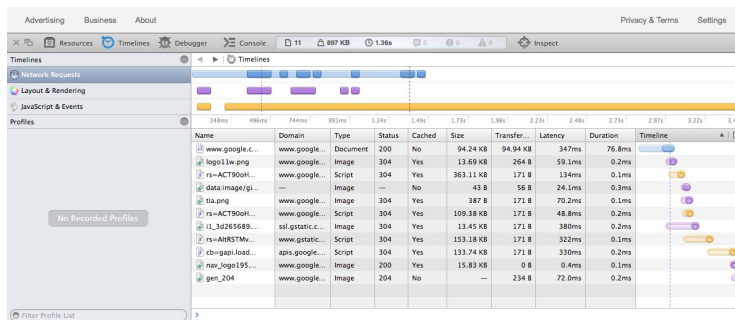
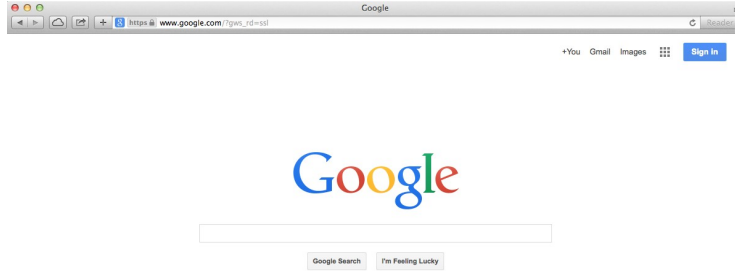


Chapter 1



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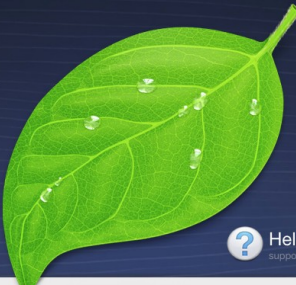
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Demonstration

```

base64.cc
31 void base64_encode(const uint8_t * data, size_t length, char * dst)
32 {
33     size_t src_idx = 0;
34     size_t dst_idx = 0;
35     for (; (src_idx + 2) < length; src_idx += 3, dst_idx += 4)
36     {
37         uint8_t s0 = data[src_idx];
38         uint8_t s1 = data[src_idx + 1];
39         uint8_t s2 = data[src_idx + 2];
40
41         dst[dst_idx + 0] = charset[(s0 & 0xfc) >> 2];
42         dst[dst_idx + 1] = charset[((s0 & 0x03) << 4) | ((s1 & 0xf0) >> 4)];
43         dst[dst_idx + 2] = charset[((s1 & 0x0f) << 2) | (s2 & 0xc0) >> 6];
44         dst[dst_idx + 3] = charset[(s2 & 0x3f)];
45     }
46
47     if (src_idx < length)
48     {
49         uint8_t s0 = data[src_idx];
50         uint8_t s1 = (src_idx + 1 < length) ? data[src_idx + 1] : 0;
51
52         dst[dst_idx++] = charset[(s0 & 0xfc) >> 2];
53         dst[dst_idx++] = charset[((s0 & 0x03) << 4) | ((s1 & 0xf0) >> 4)];
54         if (src_idx + 1 < length)
55             dst[dst_idx++] = charset[(s1 & 0x0f) << 2];
56     }

```

Line 31, Column 55 Spaces: 4 C++

Use Multiple Selections to rename variables quickly.
Here #D is used to select the next occurrence of the current word.

1 / 6

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Version 2.0.2

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Current Version: 6.6.9

News

- Notepad++ 6.6.9 released
- Notepad++ 6.6.8 released
Jul 27 2014
- Notepad++ 6.6.7 released
Jun 24 2014
- Notepad++ 666 Friday the 13th edition
Jun 12 2014
- Response and Apology for Scikit Jokes
Jun 07 2014
- Notepad++ 6.6.4 Tiananmen June Fourth Incident Edition
Jun 04 2014
- Notepad++ 6.6.3 released
May 18 2014
- Notepad++ 6.6.2 released
May 08 2014
- v6.6.1 - May the 4th be with you
May 04 2014
- Notepad++ Workers' Day Edition (v6.6)
May 01 2014

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About

Notepad++ is a free (as in "free speech" and also as in "free beer") source code editor and Notepad replacement that supports several languages. Running in the MS Windows environment, its use is governed by [GPL License](#).

Based on the powerful editing component [SciTE](#), Notepad++ is written in C++ and uses pure Win32 API and STL, which ensures a higher execution speed and smaller program size. By optimizing as many routines as possible without losing user friendliness, Notepad++ is trying to reduce the world carbon dioxide emissions. When using less CPU power, the PC can throttle down and reduce power consumption, resulting in a greener environment.

```

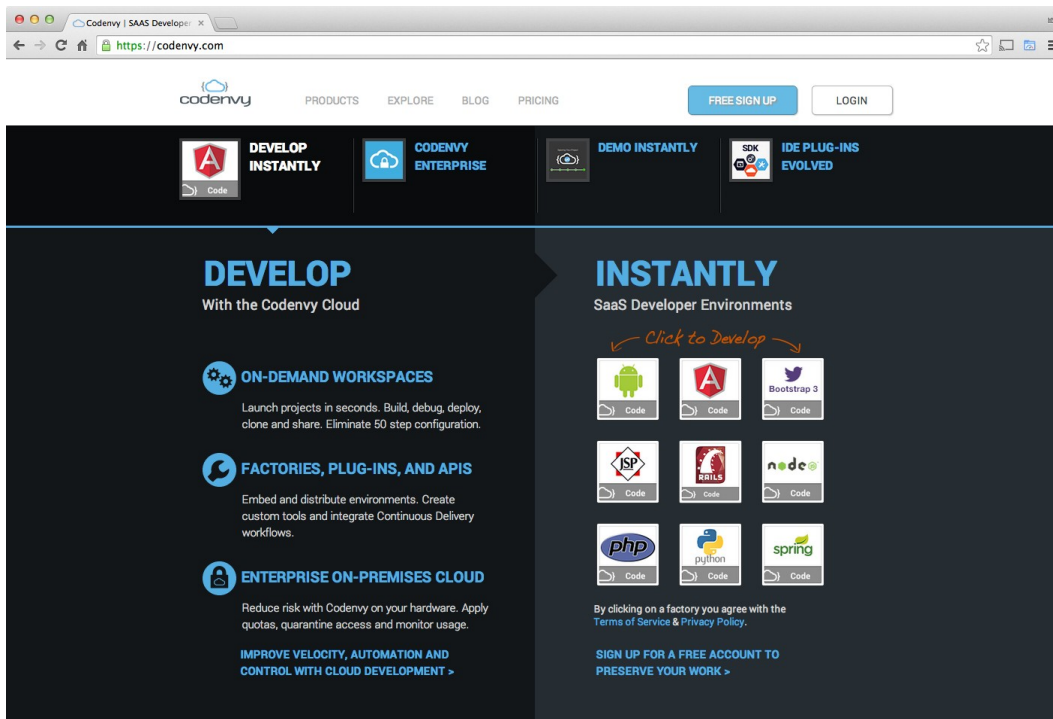
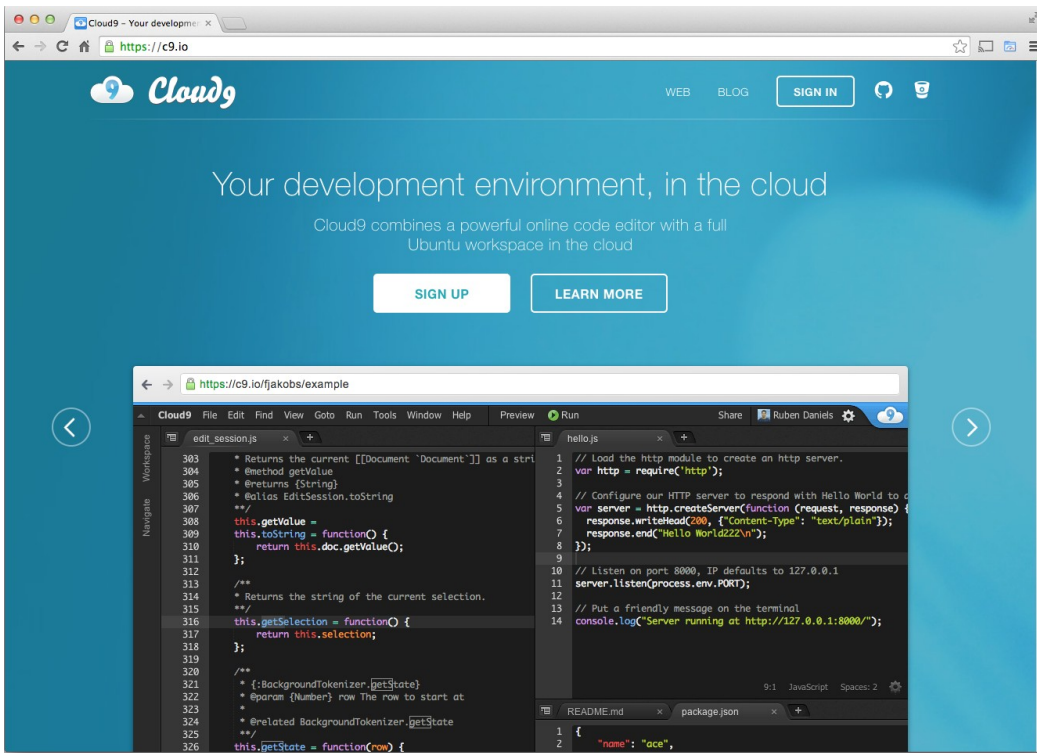
D:\source\notepad4ever.cpp - Notepad++
Notepad_plus.cpp [D] notepad4ever.cpp [X]
1 #include <GPL.h>
2 #include <free_software.h>
3
4 void notepad4ever()
5 {
6     while (true)
7     {
8         Notepad++;
9     }
10 }
11

```

You're encouraged to [translate Notepad++](#) into your native language if there's not already a translation present in the [Binary Translations page](#).

I hope you enjoy Notepad++ as much as I enjoy coding it.

Copyright © Don Ho 2014



Chapter 2

```
02_01.js
02_01.js > No Selection
1  /**
2   * Chapter 2 – JavaScript issues [01]
3   */
4
5  console.time("100 objects in For loop");
6
7  function NewObj(param) {
8      this.value = param;
9  }
10
11 for (var i = 0; i < 100; i++) {
12     /** Create new object 100 times */
13     var Obj = new NewObj([i]);
14 }
15
16 console.timeEnd("100 objects in For loop");
```

```
Developer Tools - about:blank
Elements Network Sources >> >=> ⚙️ 🖨️
<top frame>
> /**
   * Chapter 2 – JavaScript issues [01]
   */
   console.time("100 objects in For loop");
   function NewObj(param) {
       this.value = param;
   }
   for (var i = 0; i <= 100; i++) {
       /** Create new object 100 times */
       var Obj = new NewObj([i]);
   }
   console.timeEnd("100 objects in For loop");
   100 objects in For loop: 0.274ms VM104:17
< undefined
>
```

```
02_02.js
02_02.js > No Selection
1  /**
2   * Chapter 2 - JavaScript issues [02]
3   */
4
5  console.time("10 objects in For loop");
6
7  function NewObj(param) {
8      this.value = param;
9  }
10
11 for (var i = 0; i <= 10; i++) {
12     /** Create new object 10 times */
13     var Obj = new NewObj([i]);
14 }
15
16 console.timeEnd("10 objects in For loop");
```

```
Developer Tools - about:blank
Elements Network Sources >> >=> ⚙️ 🖨️
<top frame>
> /**
   * Chapter 2 - JavaScript issues [02]
   */
   console.time("10 objects in For loop");
   function NewObj(param) {
       this.value = param;
   }
   for (var i = 0; i <= 10; i++) {
       /** Create new object 10 times */
       var Obj = new NewObj([i]);
   }
   console.timeEnd("10 objects in For loop");
   10 objects in For loop: 0.099ms VM115:17
< undefined
> |
```



```
02_03.js 02_03.js - Edited
1 /**
2  * Chapter 2 - JavaScript issues [03]
3  */
4
5 my_count;
6
7 (function(params){
8   > // TODO: Test this code.
9   > console.log("Log message")
10  >
11  > var number1 = 40;
12  > var number2 = 2;
13  > my_count = number1 + number2;
14  >
15  >
16  > if (my_count == "42") console.log("my_count: is 42");
17  >
18  >
19  > })();
```


JSLint, The JavaScript Code Quality Tool

0.007 seconds.

[Read the instructions.](#)
[Set the options.](#)
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Source clear

```
/**
 * Chapter 2 - JavaScript issues [03-01]
 */
var my_count;
(function(){
  // TODO: Test this code.
  console.log("Log message")

  var number1 = 40;
  var number2 = 2;
  my_count = number1 + number2;

  if (my_count == "42") console.log("my_count: is 42");
})();
```

JSLint

Errors clear

- Unexpected character '(space)'. *line 4 character 1*
- Unexpected character '(space)'. *line 6 character 1*
- Expected exactly one space between 'function' and '('.
(function){ *line 7 character 10*
- Expected exactly one space between ')' and '{'. *line 7 character 12*

Chad

www.jslint.com

```
(function(){
  Use spaces, not tabs. line 8 character 2
    // TODO: Test this code.
  Unexpected TODO comment. line 8 character 5
    // TODO: Test this code.
  Use spaces, not tabs. line 9 character 2
    console.log("Log message")
  Missing 'use strict' statement. line 9 character 3
    console.log("Log message")
  Use spaces, not tabs. line 10 character 2

  Unexpected character ' '. line 10 character 2

  Stopping. (52% scanned). line 10 character 2

```

Function Report clear

global
my_count

'anonymous' line 7

Options clear options

<p>Assume...</p> <p><input type="checkbox"/> default a browser</p> <p><input type="checkbox"/> default CouchDB</p> <p><input type="checkbox"/> default console,alert, ...</p> <p><input type="checkbox"/> default Node.js</p> <p><input type="checkbox"/> default Rhino</p> <p><input type="checkbox"/> default Stop on first error</p>	<p>Tolerate...</p> <p><input type="checkbox"/> default assignment expressions</p> <p><input type="checkbox"/> default bitwise operators</p> <p><input type="checkbox"/> default continue</p> <p><input type="checkbox"/> default debugger statements</p> <p><input type="checkbox"/> default == and !=</p> <p><input type="checkbox"/> default eval</p>	<p>Tolerate...</p> <p><input type="checkbox"/> default unfiltered for in</p> <p><input type="checkbox"/> default uncapitalized constructors</p> <p><input type="checkbox"/> default dangling _ in identifiers</p> <p><input type="checkbox"/> default ++ and --</p> <p><input type="checkbox"/> default . and [^..] in /RegExp/</p> <p><input type="checkbox"/> default unused parameters</p>
---	---	---

Options
clear options

<p>Assume...</p> <p><input type="checkbox"/> default a browser</p> <p><input type="checkbox"/> default CouchDB</p> <p><input type="checkbox"/> default console,alert, ...</p> <p><input type="checkbox"/> default Node.js</p> <p><input type="checkbox"/> default Rhino</p> <p><input type="checkbox"/> default Stop on first error</p>	<p>Tolerate...</p> <p><input type="checkbox"/> default assignment expressions</p> <p><input type="checkbox"/> default bitwise operators</p> <p><input type="checkbox"/> default continue</p> <p><input type="checkbox"/> default debugger statements</p> <p><input type="checkbox"/> default == and !=</p> <p><input type="checkbox"/> default eval</p>
--	--

<p>Tolerate...</p> <p><input type="checkbox"/> default unfiltered for in</p> <p><input type="checkbox"/> default uncapitalized constructors</p> <p><input type="checkbox"/> default dangling _ in identifiers</p> <p><input type="checkbox"/> default ++ and --</p> <p><input type="checkbox"/> default . and [^..] in /RegExp/</p> <p><input type="checkbox"/> default unused parameters</p>	<p>Tolerate...</p> <p><input type="checkbox"/> default missing 'use strict' pragma</p> <p><input type="checkbox"/> default stupidity</p> <p><input type="checkbox"/> default inefficient subscripting</p> <p><input type="checkbox"/> default TODO comments</p> <p><input type="checkbox"/> default many var statements per function</p> <p><input checked="" type="checkbox"/> true messy white space</p>
--	---

predefine global variables here

JSLint Directive
select

```
/*jslint white: true */
```

'my_count' was used before it was defined.

```
my_count;
```

Unexpected TODO comment.

```
// TODO: Test this code.
```

Missing 'use strict' statement.

```
console.log("Log message")
```

Expected ';' and instead saw 'var'.

```
console.log("Log message")
```

Combine this with the previous 'var' statement.

```
var number2 = 2;
```

'my_count' was used before it was defined.

```
my_count = number1 + number2;
```

'my_count' was used before it was defined.

```
if (my_count == "42") console.log("my_count: is 42");
```

Expected '===' and instead saw '=='.

```
if (my_count == "42") console.log("my_count: is 42");
```

Expected '{' and instead saw 'console'.

```
if (my_count == "42") console.log("my_count: is 42");
```

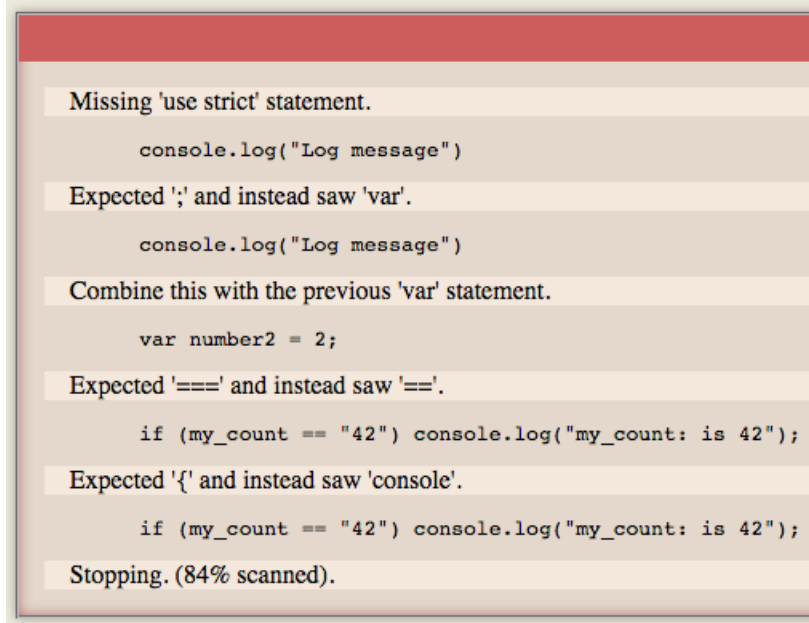
Stopping. (84% scanned).

```
02_03_01
02_03_01.js > No Selection
1  /**
2  * Chapter 2 - JavaScript issues [03-01]
3  */
4
5  var my_count;
6
7  (function(){
8      // TODO: Test this code.
9      console.log("Log message")
10
11     var number1 = 40;
12     var number2 = 2;
13     my_count = number1 + number2;
14
15
16     if (my_count == "42") console.log("my_count: is 42");
17
18
19 }());
```

Options clear options

Assume...	Tolerate...	Tolerate...	Tolerate...	
<input type="checkbox"/> default a browser	<input type="checkbox"/> default assignment expressions	<input type="checkbox"/> default eval	<input type="checkbox"/> default missing 'use strict' pragma	<input type="checkbox"/> Indentation
<input type="checkbox"/> default CouchDB	<input type="checkbox"/> default bitwise operators	<input type="checkbox"/> default unfiltered for in	<input type="checkbox"/> default stupidity	<input type="checkbox"/> Maximum line length
<input type="checkbox"/> default console.alert, ...	<input type="checkbox"/> default Google Closure	<input type="checkbox"/> default uncapitalized constructors	<input type="checkbox"/> default inefficient subscripting	<input type="checkbox"/> Maximum number of errors
<input type="checkbox"/> default Node.js	<input type="checkbox"/> default continue	<input type="checkbox"/> default dangling _ in identifiers	<input checked="" type="checkbox"/> default TODO comments	
<input type="checkbox"/> default Rhino	<input type="checkbox"/> default debugger statements	<input type="checkbox"/> default ++ and --	<input type="checkbox"/> default many var statements per function	
<input type="checkbox"/> default Stop on first error	<input type="checkbox"/> default == and !=	<input type="checkbox"/> default , and [^..] in /RegExp/	<input type="checkbox"/> true messy white space	
		<input type="checkbox"/> default unused parameters		

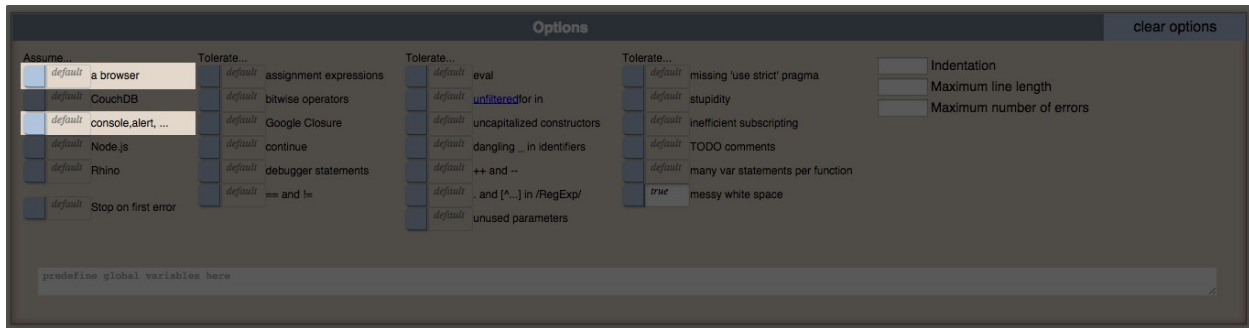
predefine global variables here



```
02_use_strict_01
02_use_strict_01.js > myFunction
1 /**
2  * Chapter 2 - 'use strict', example. [01]
3  */
4
5
6 function myFunction() {
7   'use strict';
8   return "I'm a strict function.";
9 }
```

```
02_use_strict_02
02_use_strict_02.js > No Selection
1 /**
2  * Chapter 2 - 'use strict', global example. [02]
3  */
4
5 "use strict";
6 var i_am = "I'm strict globally to this JS file.";
```

```
02_03_02
02_03_02.js > No Selection
1 /**
2  * Chapter 2 - JavaScript issues [03-02]
3  */
4
5 var my_count;
6
7 (function(){
8     // TODO: Test this code.
9     "use strict";
10    console.log("Log message");
11
12    var number1 = 40;
13    var number2 = 2;
14    my_count = number1 + number2;
15
16
17    if (my_count == "42") console.log("my_count: is 42");
18
19
20 }());
```



```
02_03_03
02_03_03.js > No Selection
1  /**
2   * Chapter 2 - JavaScript issues [03-03]
3   */
4
5  var my_count;
6
7  (function(){
8   // TODO: Test this code.
9   "use strict";
10  console.log("Log message");
11
12  my_count = 42;
13
14  if (my_count === "42") {
15  console.log("my_count: is 42");
16  }
17
18  }());
```


JSLint

[Read the instructions.](#)
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The [JavaScript](#) Code Quality Tool

0 seconds.

Source

clear

```
/**
 * Chapter 2 - JavaScript issues [03-04]
 */
var my_count;
(function(){
  // TODO: Test this code.
  "use strict";
  console.log("Log message");

  my_count = 42;

  if (my_count === "42") {
    console.log("my_count: is 42");
  }
})();
```

JSLint

Function Report

clear

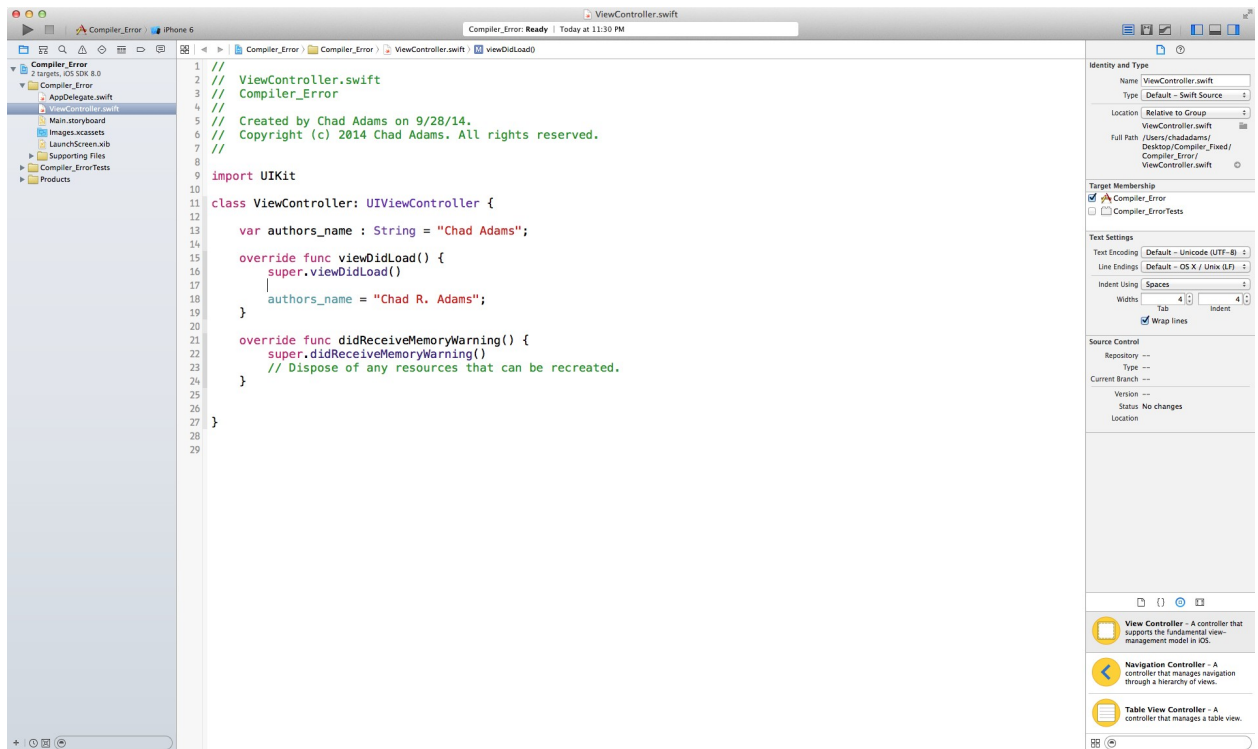
```
global
  console, my_count
```

```
'anonymous'
  global
  console, my_count
```

line 7

Chapter 3

```
1 //
2 // ViewController.swift
3 // Compiler_Error
4 //
5 // Created by Chad Adams on 9/28/14.
6 // Copyright (c) 2014 Chad Adams. All rights reserved.
7 //
8
9 import UIKit
10
11 class ViewController: UIViewController {
12
13     //Assign a name to a constant variable, (which cannot be changed).
14     let authors_name : String = "Chad Adams";
15
16     override func viewDidLoad() {
17         super.viewDidLoad()
18
19         //Here we have an error, our compiler complains that we can't change the name of "authors_name"
20         authors_name = "Chad R. Adams";
21     }
22
23     override func didReceiveMemoryWarning() {
24         super.didReceiveMemoryWarning()
25         // Dispose of any resources that can be recreated.
26     }
27
28 }
29
30
31
```





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Current Version: v0.10.36

[INSTALL](#)

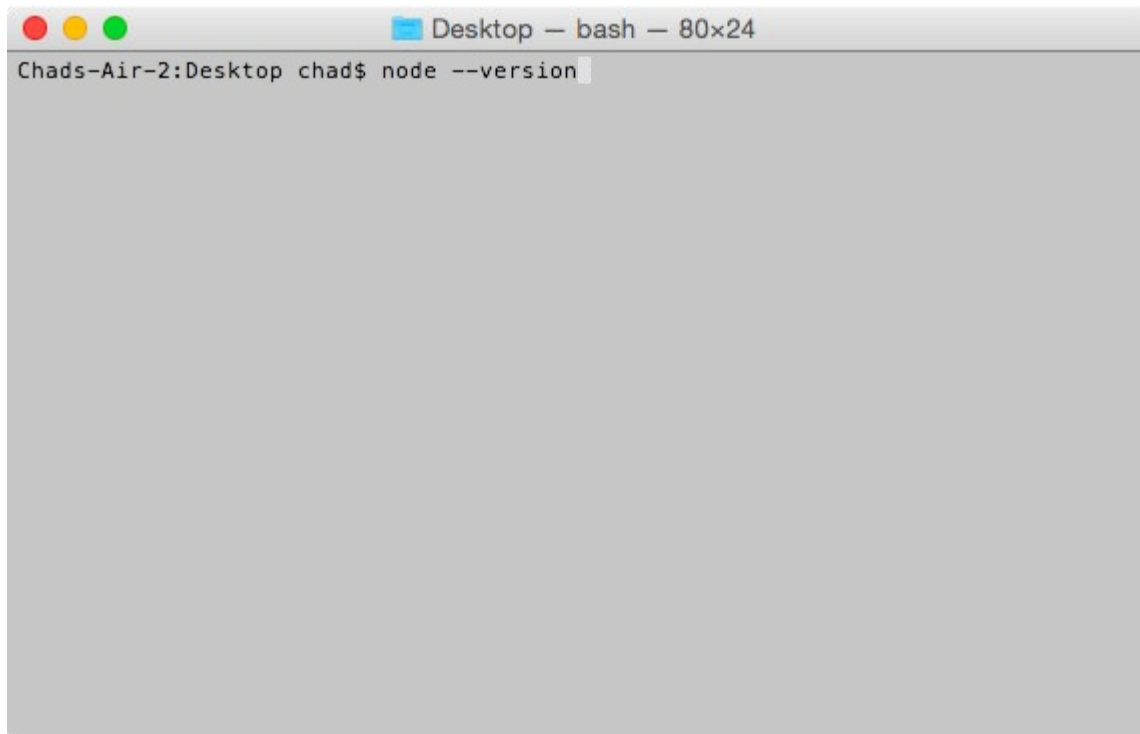
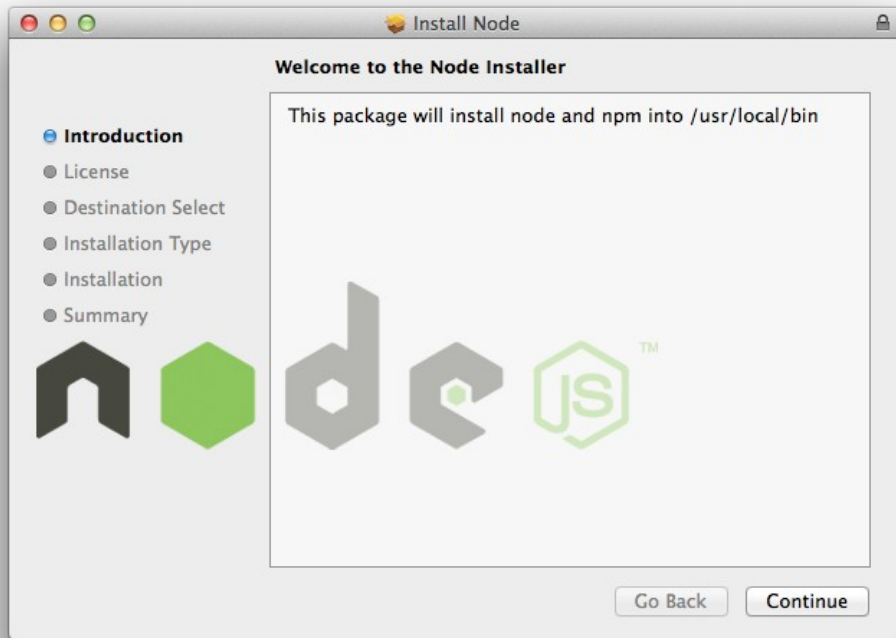
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```
Desktop — bash — 80x24
Chads-Air-2:Desktop chad$ node --version
v0.10.32
Chads-Air-2:Desktop chad$
```

The screenshot shows the npm website homepage in a browser window. The address bar displays 'npm, Inc.'. On the left, there is a navigation menu with links for HOME, API, BLOG, NODEJS, and JOBS. Below this, there is a 'WHO'S HIRING' section featuring 'UBER' and '+ 13 MORE...'. The main content area features the npm logo, a search bar labeled 'Search Packages', and a 'Create Account | Login' button. The main heading is 'Node Packaged Modules', followed by 'Total Packages: 97 191'. Below this, there are statistics for downloads: 8 935 745 in the last day, 129 991 895 in the last week, and 493 606 828 in the last month. A section titled 'Patches welcome!' states that any package can be installed using 'npm install' and can be added to the index using 'npm publish'. At the bottom, there are two columns: 'Recently Updated' and 'Most Depended Upon', each listing several packages with their respective download counts.

npm, Inc.

HOME
API
BLOG
NODEJS
JOBS

WHO'S HIRING
UBER
+ 13 MORE...

npm Enterprise
Try the on-premises solution for private npm.

npm Search Packages Create Account | Login

Node Packaged Modules

Total Packages: 97 191

8 935 745 downloads in the last day
129 991 895 downloads in the last week
493 606 828 downloads in the last month

Patches welcome!

Any package can be installed by using `npm install`.

Add your programs to this index by using `npm publish`.

Recently Updated

- 3m data-collection
- 3m cli-system
- 6m wamp-tessel
- 7m author-regex
- 9m docker-stream-cleanser
- 9m cli-mid-logger
- 10m gulp-sharp

Most Depended Upon

- 7178 underscore
- 6618 async
- 5757 request
- 5179 lodash
- 3726 commander
- 3639 express
- 2724 optimist

```
Desktop — bash — 80x47

star, stars, start, stop, submodule, t, tag, test, tst, un,
uninstall, unlink, unpublish, unstar, up, update, v,
version, view, whoami

npm <cmd> -h      quick help on <cmd>
npm -l           display full usage info
npm faq          commonly asked questions
npm help <term>  search for help on <term>
npm help npm     involved overview

Specify configs in the ini-formatted file:
  /Users/chad/.npmrc
or on the command line via: npm <command> --key value
Config info can be viewed via: npm help config

npm@1.4.28 /usr/local/lib/node_modules/npm
Chads-Air-2:Desktop chad$ clear

Chads-Air-2:Desktop chad$ npm

Usage: npm <command>

where <command> is one of:
  add-user, adduser, apihelp, author, bin, bugs, c, cache,
  completion, config, ddp, dedupe, deprecate, docs, edit,
  explore, faq, find, find-dupes, get, help, help-search,
  home, i, info, init, install, isntall, issues, la, link,
  list, ll, ln, login, ls, outdated, owner, pack, prefix,
  prune, publish, r, rb, rebuild, remove, repo, restart, rm,
  root, run-script, s, se, search, set, show, shrinkwrap,
  star, stars, start, stop, submodule, t, tag, test, tst, un,
  uninstall, unlink, unpublish, unstar, up, update, v,
  version, view, whoami

npm <cmd> -h      quick help on <cmd>
npm -l           display full usage info
npm faq          commonly asked questions
npm help <term>  search for help on <term>
npm help npm     involved overview

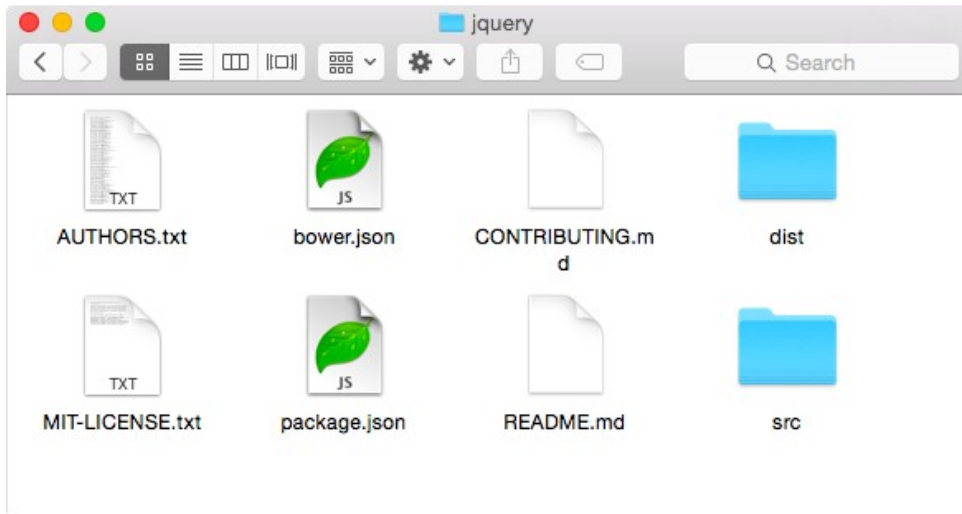
Specify configs in the ini-formatted file:
  /Users/chad/.npmrc
or on the command line via: npm <command> --key value
Config info can be viewed via: npm help config

npm@1.4.28 /usr/local/lib/node_modules/npm
Chads-Air-2:Desktop chad$
```

The screenshot shows the npm website for the 'jquery' package. The browser address bar displays 'https://www.npmjs.org/package/jquery'. The page features the npm logo, a search bar, and navigation links for 'HOME', 'API', 'BLOG', 'NODEJS', and 'JOBS'. The main content area displays the package name 'jquery' with a star icon, its description 'JavaScript library for DOM operations', and the command '\$ npm install jquery'. It also shows download statistics: 4,158 downloads in the last day, 24,171 in the last week, and 101,521 in the last month. The 'Last Published By' and 'Maintainers' sections list 'dmethvin', 'scott.gonzalez', 'm_gol', and 'timmywil'. The version is listed as '2.1.1' with a note 'last updated 5 months ago'.

```
npm_01 — bash — 80x10
Chads-Air-2:Desktop chad$
[Restored]
Last login: Mon Sep 29 19:50:57 on ttys000
Chads-Air-2:Desktop chad$ clear

Chads-Air-2:Desktop chad$ cd /Users/chad/Downloads/Chapter_03_72960S/Exercise_Fi
les/03/npm_01
Chads-Air-2:npm_01 chad$ npm install jquery
jquery@2.1.1 node_modules/jquery
Chads-Air-2:npm_01 chad$
```



The screenshot shows the "Plugins" page on the Grunt.js website. The page features the Grunt logo and the following text:

Plugins

This plugin listing is automatically generated from the npm module database. Officially maintained "contrib" plugins are marked with a star ★ icon.

In order for a Grunt plugin to be listed here, it must be published on npm with the `gruntplugin` keyword. Additionally, we recommend that you use the `gruntplugin grunt-init` template when creating a Grunt plugin.

Showing 1 to 100 of 3,453 entries

Search:

← 1 2 3 4 5 →

BackboneConf The conference for common sense JavaScript applications. Dec. 15 & 16 in Cambridge, MA. Unlimited Popcorn! Ask by [Boocorp](#)

Plugin	Updated	Grunt Version	Downloads <small>last 30 days</small>
★ contrib-jshint by Grunt Team Validate files with JSHint.	6 months ago	~0.4.0	517947
★ contrib-watch by Grunt Team Run predefined tasks whenever watched file patterns are added, changed or deleted.	3 months ago	~0.4.0	499286
★ contrib-uglify by Grunt Team Minify files with UglifyJS.	2 months ago	~0.4.0	436622

amd-optimize

An AMD (i.e. RequireJS) optimizer that's stream-friendly. Made for gulp. (WIP)

gulpplugin | gulpfriendly

buildbranch

Publish a folder to the given build branch (like gh-pages).

gulpfriendly | gruntfriendly | ghpages | gh-pages | build | publish | git | github

closurify

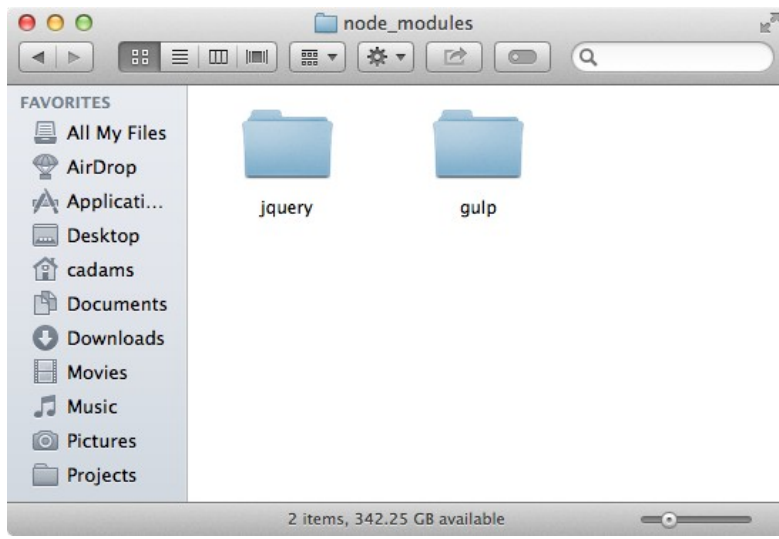
Translates AMD modules to closure compiler format

gulpplugin | amd | closure | amd-to-closure

combine-css

Combines CSS files into as few files as possible, taking size and selector limits into account

```
cadams — bash — 94x45
npm http 304 https://registry.npmjs.org/lodash._escapehtmlchar
npm http 304 https://registry.npmjs.org/lodash._reunescapehtml
npm http 304 https://registry.npmjs.org/lodash.isobject
npm http 304 https://registry.npmjs.org/lodash.isnative
npm http GET https://registry.npmjs.org/string_decoder
npm http GET https://registry.npmjs.org/core-util-is
npm http GET https://registry.npmjs.org/isarray/0.0.1
npm http GET https://registry.npmjs.org/inherits
npm http 304 https://registry.npmjs.org/lodash._objecttypes
npm http 304 https://registry.npmjs.org/globule
npm http 304 https://registry.npmjs.org/lodash._shimkeys
npm http 304 https://registry.npmjs.org/inherits
npm http GET https://registry.npmjs.org/lru-cache
npm http GET https://registry.npmjs.org/sigmund
npm http GET https://registry.npmjs.org/lodash._htmlescapes
npm http 304 https://registry.npmjs.org/string_decoder
npm http 304 https://registry.npmjs.org/core-util-is
npm http 304 https://registry.npmjs.org/lru-cache
npm http 304 https://registry.npmjs.org/lodash._htmlescapes
npm http 304 https://registry.npmjs.org/sigmund
npm http 304 https://registry.npmjs.org/isarray/0.0.1
npm http GET https://registry.npmjs.org/findup-sync
npm http GET https://registry.npmjs.org/resolve
npm http GET https://registry.npmjs.org/extend
npm http 304 https://registry.npmjs.org/findup-sync
npm http 304 https://registry.npmjs.org/extend
npm http 304 https://registry.npmjs.org/resolve
/usr/local/bin/gulp -> /usr/local/lib/node_modules/gulp/bin/gulp.js
gulp@3.8.8 /usr/local/lib/node_modules/gulp
├─┬ interpret@0.3.7
│   └─┬ pretty-hrtime@0.2.1
│     └─┬ deprecated@0.0.1
│       └─┬ archy@0.0.2
│         └─┬ minimist@1.1.0
│           └─┬ semver@3.0.1
│             └─┬ tildify@1.0.0 (user-home@1.0.0)
│               └─┬ chalk@0.5.1 (escape-string-regexp@1.0.2, ansi-styles@1.1.0, supports-color@0.2.0, strip-ansi@0.3.0, has-ansi@0.1.0)
│                 └─┬ orchestrator@0.3.7 (stream-consume@0.1.0, sequencify@0.0.7, end-of-stream@0.1.5)
│                   └─┬ gulp-util@3.0.1 (lodash._reinterpolate@2.4.1, dateformat@1.0.8, vinyl@0.4.3, lodash.template@2.4.1, through2@0.6.2, lodash@2.4.1, multipipe@0.1.1)
│                     └─┬ vinyl-fs@0.3.8 (graceful-fs@3.0.2, strip-bom@1.0.0, mkdirp@0.5.0, vinyl@0.4.3, through2@0.6.2, glob-watcher@0.0.6, lodash@2.4.1, glob-stream@3.1.15)
│                       └─┬ liftoff@0.12.1 (extend@1.3.0, minimist@0.2.0, resolve@0.7.4, findup-sync@0.1.3)
└─┬ cadams@~
└─┬ cadams$
```



A screenshot of a code editor window titled "gulpfile.js". The editor shows the following JavaScript code:

```
1 var gulp = require('gulp');
2
3 gulp.task('default', function() {
4   /* Required 'default' task. */
5   console.log('Default task ran');
6
7 });
```

A screenshot of a terminal window titled "npm_01 - bash - 94x13". The terminal shows the execution of the "gulp" command and its output.

```
chadadams:npm_01 cadams$ gulp
[16:36:18] Using gulpfile ~/Desktop/Chapter_03_72960S/Exercise_Files/03/npm_01/gulpfile.js
[16:36:18] Starting 'default'...
Default task ran
[16:36:18] Finished 'default' after 89 μs
chadadams:npm_01 cadams$
```

The screenshot shows the npm website for the `gulp-jshint` package. The page includes a navigation menu on the left with links to HOME, API, BLOG, NODEJS, and JOBS. The main content area features the package name `gulp-jshint` with a search bar and a 'Create Account | Login' button. Below the package name, there is a description: 'The classic and strict javascript lint-tool for gulp.js'. A code block shows the installation command: `$ npm install gulp-jshint`. The page also displays download statistics: 63 downloads in the last day, 313 in the last week, and 1135 in the last month. The package is published by `karimsa` and has a version of 0.1.7. Other details include the license (MIT), keywords (gulp, gulpplugin, jshint, lint, code quality), repository (github.com/karimsa/gulp-jshint.git), homepage (github.com/karimsa/gulp-jshint), bugs (github.com/karimsa/gulp-jshint/issues), dependencies (colors, event-stream, gulp-util, jshint), and stars (iofjuupasli, jcreigno, renatobalbino). A 'Read Me' button is also visible.

The screenshot shows a file explorer window titled 'node_modules'. The window displays three folders: 'jquery', 'gulp', and 'gulp-jshint'. The 'FAVORITES' sidebar on the left lists various system locations like 'All My Files', 'AirDrop', 'Applications', 'Desktop', 'Documents', 'Downloads', 'Movies', 'Music', 'Pictures', and 'Projects'. The status bar at the bottom indicates '3 items, 342.22 GB available'.

```
ExampleScript.js
ExampleScript.js > No Selection
1  /**
2  * Chapter 3 - ExampleScript.js
3  * Understanding JavaScript build systems
4  */
5
6
7  /**
8  * Toddler Class
9  */
10 console.time('test time');
11 function Toddler(FirstName) {
12     this.ToddlerName = FirstName;
13     this.says = this.ToddlerName + " says, ";
14 }
15
16 /** Function to log a Toddler crying */
17 Toddler.prototype.cry = function () {
18     console.log(this.says + "WAHHH!")
19 }
20
21 /** Function to log a Toddler giggling */
22 Toddler.prototype.giggle = function () {
23     console.log(this.says + "Hehehe!")
24 }
25
26 var Leo = new Toddler('Leo');
27
28 Leo.cry();
29 Leo.giggle();
30
31 console.timeEnd('test time');
```

```
gulpfile.js
1 var gulp = require('gulp');
2 var jslint = require('gulp-jshint');
3
4
5 gulp.task('jslint', function() {
6     return gulp.src(['./src/*.js'])
7         .pipe(jslint({
8             /* Set JSLint options */
9             browser: true,
10            todo: true,
11            devel: true,
12            white: true,
13            reporter: 'default',
14            errorsOnly: false
15        })))
16    .on('error', function (error) {
17        console.error(String(error));
18    });
19 });
20
21 /* Required 'default' task with array of tasks. */
22 gulp.task('default', ['jslint'], function() {
23
24 });
```

```
gulpfile.js
gulpfile.js > No Selection
1 var gulp = require('gulp');
2 var jslint = require('gulp-jslint');
3
4
5 gulp.task('jslint', function() {
6     return gulp.src(['./src/*.js'])
7         .pipe(jslint({
8             /* Set JSLint options */
9             browser: true,
10            todo: true,
11            devel: true,
12            white: true,
13            reporter: 'default',
14            errorsOnly: false
15        })))
16    .on('error', function (error) {
17        console.error(String(error));
18    });
19 });
20
21 /* Required 'default' task with array of tasks. */
22 gulp.task('default', ['jslint'], function() {
23
24 });
```

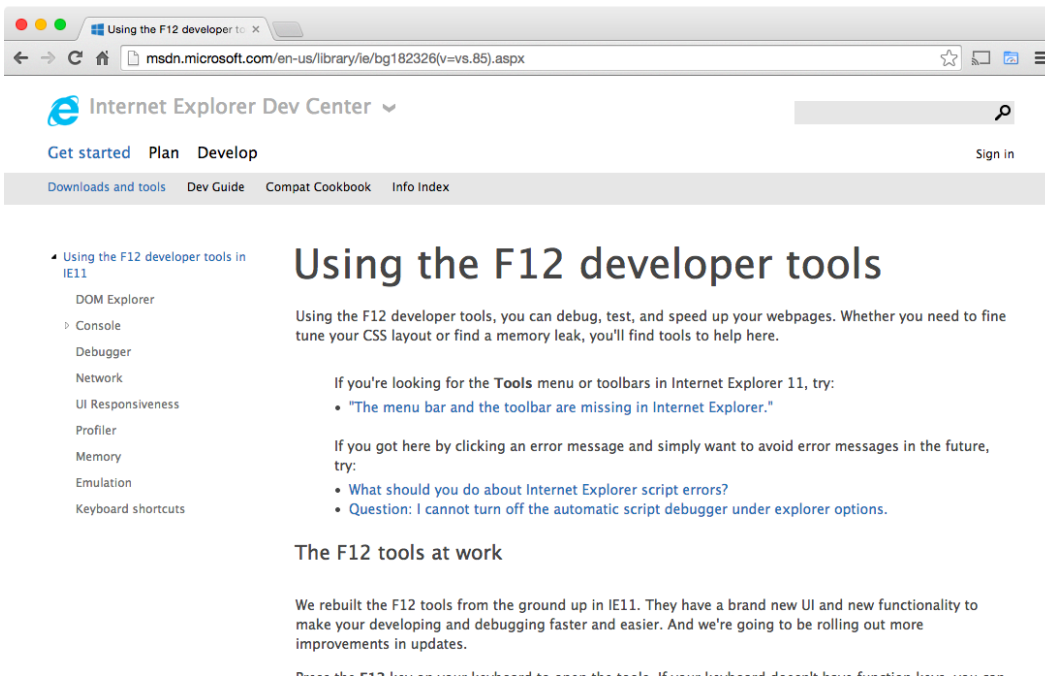
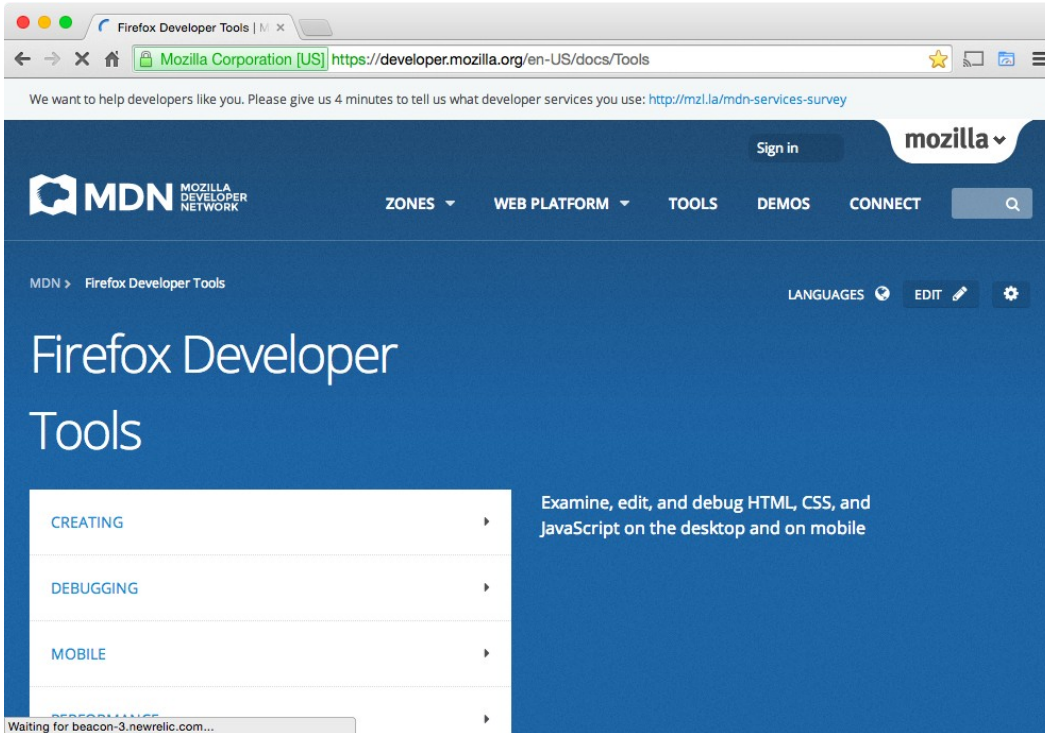
```
npm_02 — bash — 80x24
chads-imac: npm_02 chadadams$ gulp
[23:26:11] Using gulpfile ~/Desktop/Chapter_03_72960S/Exercise_Files/03/npm_02/gulpfile.js
[23:26:11] Starting 'jslint'...
[23:26:11]    src/ExampleScript.js
12:2: Missing 'use strict' statement.
18:5: Missing 'use strict' statement.
18:38: Expected ';' and instead saw '}'.
22:1: Unexpected 'Toddler'.
22:1: Stopping. (70% scanned).
Error in plugin 'gulp-jslint'
Message:
    failed to lint /Users/chadadams/Desktop/Chapter_03_72960S/Exercise_Files/03/npm_02/src/ExampleScript.js
[23:26:11] 'jslint' errored after 28 ms
[23:26:11] Error in plugin 'gulp-jslint'
Message:
    failed to lint /Users/chadadams/Desktop/Chapter_03_72960S/Exercise_Files/03/npm_02/src/ExampleScript.js
chads-imac: npm_02 chadadams$
```

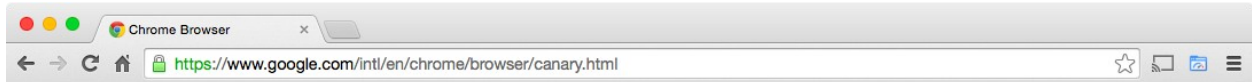
```
gulpfile.js
No Selection

1 var gulp = require('gulp');
2 var jshint = require('gulp-jshint');
3 var uglify = require('gulp-uglify');
4
5 gulp.task('minify', function() {
6     gulp.src('./src/*.js')
7         .pipe(uglify())
8         .pipe(gulp.dest('dist'))
9 });
10
11 gulp.task('jshint', function() {
12     return gulp.src(['./src/*.js'])
13         .pipe(jshint({
14             /** Set JSLint options */
15             browser: true,
16             todo: true,
17             devel: true,
18             white: true,
19             reporter: 'default',
20             errorsOnly: true
21         })))
22     .on('error', function (error) {
23         console.error(String(error));
24     });
25 });
26
27 /** Required 'default' task with array of tasks. */
28 gulp.task('default', ['minify', 'jshint'], function() {
29
30 });
```



```
npm_03 — bash — 80x24
cadams-mac:~$ cd npm_03
cadams-mac:~/npm_03$ gulp
[22:26:31] Using gulpfile ~/Desktop/03/npm_03/gulpfile.js
[22:26:31] Starting 'minify'...
[22:26:31] Finished 'minify' after 3.94 ms
[22:26:31] Starting 'jshint'...
[22:26:31] Finished 'jshint' after 36 ms
[22:26:31] Starting 'default'...
[22:26:31] Finished 'default' after 3.92 μs
cadams-mac:~/npm_03$
```



DOWNLOAD

SET UP

CHROMEBOOKS

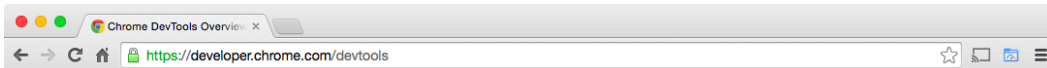
CHROMECAST

Get on the bleeding edge of the web

Google Chrome Canary has the newest of the new Chrome features. Be forewarned: it's designed for developers and early adopters, and can sometimes break down completely.

[Download Chrome Canary](#)

For Mac OS X 10.6 or later
You can also download Chrome for [Windows 32-bit](#), [Windows 64-bit](#).



DEVTOOLS

MULTI-DEVICE

PLATFORM




Chrome DevTools Overview

The Chrome Developer Tools (DevTools for short), are a set of web authoring and debugging tools built into Google Chrome. The DevTools provide web developers deep access into the internals of the browser and their web application. Use the DevTools to efficiently track down layout issues, set JavaScript breakpoints, and get insights for code optimization.

Note: If you are a web developer and want to get the latest version of DevTools, you should use [Google Chrome Canary](#).

Accessing the DevTools

To access the DevTools, open a web page or web app in Google Chrome. Either:

- Select the **Chrome menu**  at the top-right of your browser window, then select **Tools > Developer Tools**.
- Right-click on any page element and select **Inspect Element**.

The DevTools window will open at the bottom of your Chrome browser.

Contents

[Accessing the DevTools](#)

[The DevTools window](#)

[Inspecting the DOM and styles](#)

[Working with the Console](#)

[Debugging JavaScript](#)

[Improving network performance](#)

[Audits](#)

[Improving rendering performance](#)

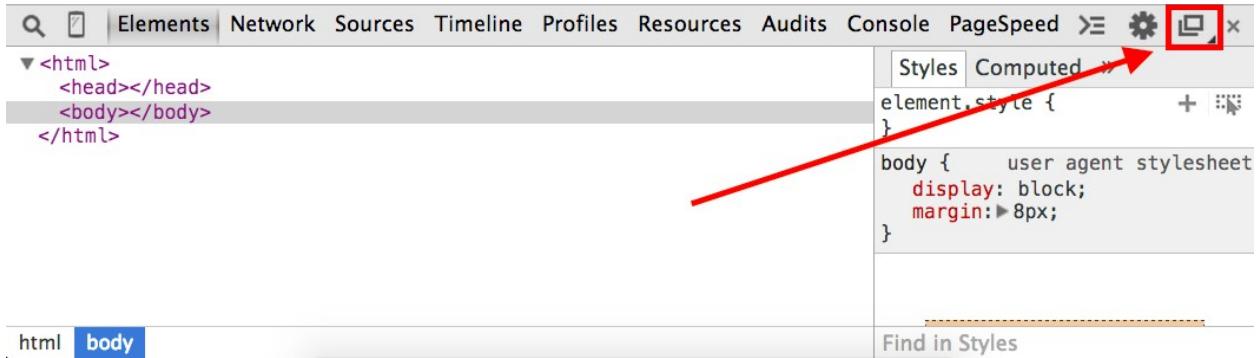
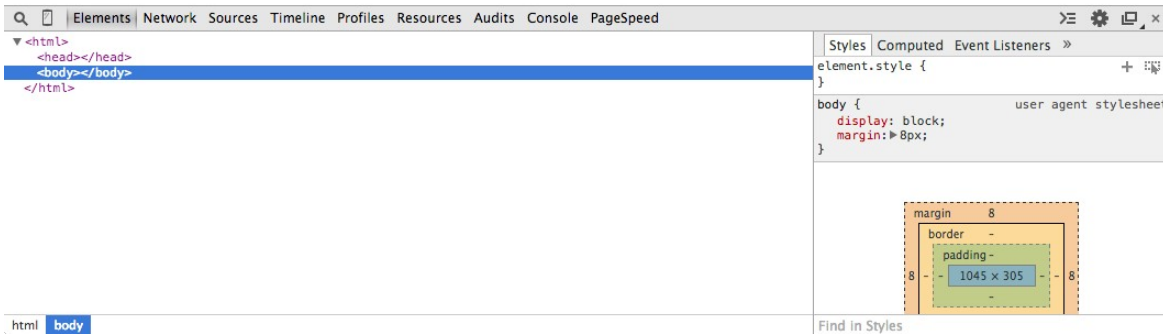
[JavaScript CSS performance](#)

[Inspecting storage](#)

[Further reading](#)

[Further resources](#)

[Send Feedback](#)



Developer Tools - about:blank

Elements | Network | Sources | Timeline | Profiles | Resources | Audits | Console »

▼ `<html>`
`<head></head>`
`<body></body>`
`</html>`

Styles | Computed »

```

element.style {
}

body {
  user agent stylesheet
  display: block;
  margin: 8px;
}

```

margin 8
border -
padding -
8 - - 8
1045 x 605
- -
8

html | body

Find in Styles

Elements | Network | Sources | Timeline | Profiles | Resources | Audits | Console | PageSpeed

● ○ ⌵ ☰ Preserve log Disable cache

Name Path	Method	Status Text	Type	Initiator	Size Content	Time Latency	Timeline
<p>⚠ No requests captured. Reload the page to see detailed information on the network activity.</p>							



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Name	Method	Status	Type	Initiator	Size	Time	Timeline
vRvZYZlUaogOuHbBTT1SnevDin1...	GET	200	applicati...	6832a7b24bc06...	21.6 KB	286 ms	
sprite-fixed.png	GET	304	image/p...	6832a7b24bc06...	286 B	511 ms	
0ihfXUL2emPh0ROJezvraLO3LdcA...	GET	200	applicati...	6832a7b24bc06...	23.5 KB	512 ms	
_aijTyevf54tkVDLy-dInLO3LdcAZY...	GET	200	applicati...	6832a7b24bc06...	21.1 KB	512 ms	
kbP_6ONYVgE-bLa9ZRbwnYhjbSp...	GET	200	applicati...	6832a7b24bc06...	21.7 KB	510 ms	
subscribe-bg.png	GET	304	image/p...	6832a7b24bc06...	416 B	75 ms	
packt-subscribe-icons-smv4.png	GET	304	image/p...	6832a7b24bc06...	418 B	75 ms	
3285OS_MEAN%20Web%20Develo...	GET	304	image/j...	www.packtpub.c...	416 B	82 ms	
0246OS_Practical%20Data%20Sci...	GET	304	image/j...	www.packtpub.c...	416 B	87 ms	
9046OT_Learning%20Example.jpg	GET	304	image/j...	www.packtpub.c...	417 B	85 ms	
9589OT_Delphi%20XE6%20Cookb...	GET	304	image/j...	www.packtpub.c...	416 B	82 ms	
icon-blog-normal.png	GET	304	image/p...	www.packtpub.c...	416 B	77 ms	
icon-blog-overlay.png	GET	304	image/p...	www.packtpub.c...	416 B	76 ms	
6924OS_Getting.jpg	GET	304	image/j...	www.packtpub.c...	417 B	81 ms	
6040OS_BeagleBone%20for%20Se...	GET	304	image/j...	www.packtpub.c...	417 B	83 ms	
7164OS_Learning%20Neo4j_Cover...	GET	304	image/j...	www.packtpub.c...	417 B	81 ms	
0086OS_AngularJS%20Essentials...	GET	304	image/j...	www.packtpub.c...	417 B	81 ms	
6270OS_Mastering%20D3.jpg	GET	304	image/j...	www.packtpub.c...	417 B	78 ms	
4818OS_%20python%20Interactiv...	GET	304	image/j...	www.packtpub.c...	416 B	75 ms	
dotd-bg2.png	GET	304	image/p...	6832a7b24bc06...	416 B	74 ms	
blog_0.png	GET	304	image/p...	6832a7b24bc06...	417 B	298 ms	
home-block-dotd.png	GET	304	image/p...	6832a7b24bc06...	417 B	297 ms	
homepage-blog-hero-block_0.png	GET	304	image/p...	6832a7b24bc06...	417 B	294 ms	
ecommerce.js	GET	304	text/jav...	analytics.js:4	50 B	244 ms	
collect?v=1&_v=j29&a=20327151...	GET	200	image/gif	www.packtpub.c...	73 B	239 ms	
collect?v=1&_v=j29&a=20327151...	GET	200	image/gif	Other	67 B	53 ms	
OsJ2DjdpjqFRVUSto6iffLO3LdcAZY...	GET	200	applicati...	6832a7b24bc06...	21.8 KB	306 ms	
hand-dotd_0.png	GET	200	image/p...	6832a7b24bc06...	(from ca...	0 ms	
blog-banner.png	GET	200	image/p...	6832a7b24bc06...	(from ca...	0 ms	

41 requests | 131 KB transferred | 15.00 s (load: 1.47 s, DOMContentLoaded: 1.17 s)



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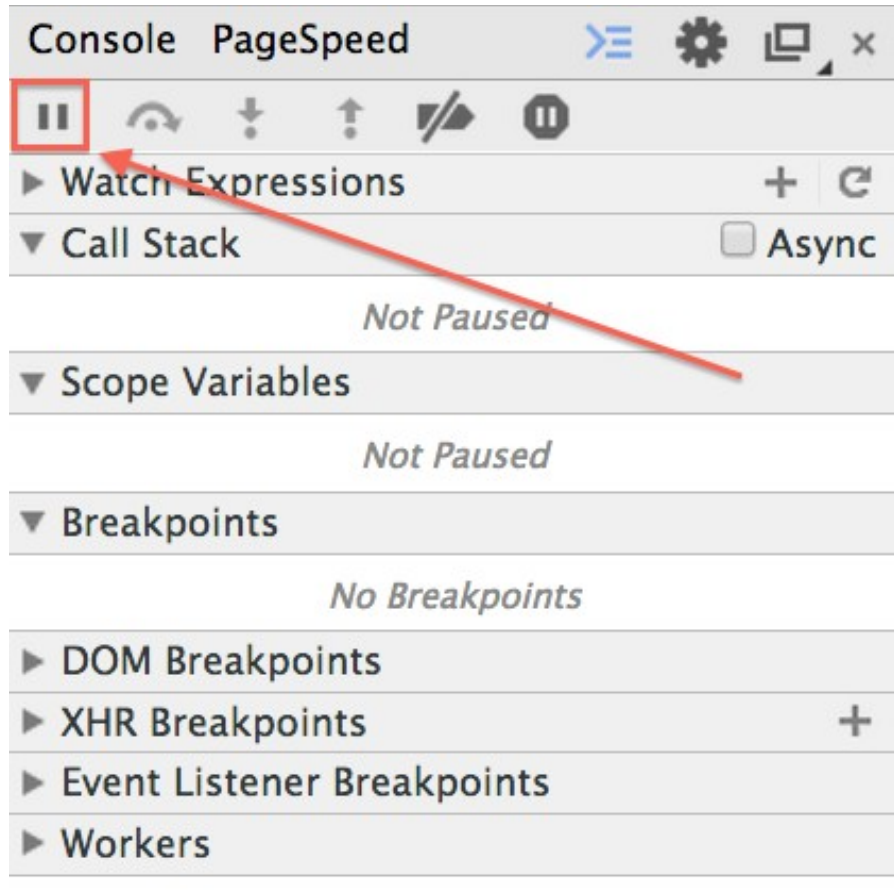
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Name	Headers	Preview	Response
www.packtpub.com			<p>Remote Address: 54.230.138.164:443</p> <p>Request URL: https://dgdsgo8mp3h.cloudfront.net/sites/default/files/blog-banner.png</p> <p>Request Method: GET</p> <p>Status Code: 200 OK (from cache)</p> <p>Request Headers view source</p> <ul style="list-style-type: none"> Accept: image/webp,*/*;q=0.8 Accept-Encoding: gzip, deflate, sdch Accept-Language: en-US,en;q=0.8 Connection: keep-alive Host: dgdsgo8mp3h.cloudfront.net Referer: https://www.packtpub.com/ User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_5) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/37.0.2062.124 Safari/537.36 <p>Response Headers view source</p> <ul style="list-style-type: none"> Accept-Ranges: bytes Age: 554428 Cache-Control: public Cache-Control: max-age=315360000 Connection: keep-alive Content-Length: 69447 Content-Type: image/png Date: Tue, 30 Sep 2014 13:00:13 GMT ETag: "53dfd216-10f47" Expires: Thu, 31 Dec 2037 23:55:55 GMT Last-Modified: Mon, 04 Aug 2014 18:33:58 GMT Server: nginx/1.4.5 Via: 1.1 107edf28374a08a9e88792cfd1fdd16b.cloudfront.net (CloudFront) X-Amz-Cf-Id: Efw5jePBp0wyQwz2k5jdhIshG003SIH0P4Nmb7rzd5ivuoF1Q1_0== X-Cache: Hit from cloudfront
ubuntu.css			
0ba280bc94594c9c84716f...			
6e295a6eb8f64cef4e07d9...			
6832a7b24bc06775d02b7...			
7347OT_cover.jpg			
flappy-bird-melonjs.png			
subscribe.png			
subscribe-over_0.png			
icon-dd-normal.png			
icon-dd-overlay.png			
analytics.js			
vRvZYtUaogOuHbBTT1SNe...			
sprite-fixed.png			
0ihfXUL2emPHOR0JezvraLO...			
_aljtYevf54tkVDLy-dlnLO3...			
kbP_6ONYVgE-bLa9ZRbvvn...			
subscribe-bg.png			
packt-subscribe-icons-sm...			
3285OS_MEAN%20Web%20...			
0246OS_Practical%20Data...			
9046OT_Learning%20Exam...			
9589OT_Delphi%20XE6%20...			
icon-blog-normal.png			
icon-blog-overlay.png			
6924OS_Getting.jpg			
6040OS_BeagleBone%20for...			
7164OS_Learning%20Neo4j...			
0086OS_AngularJS%20Esse...			
6270OS_Mastering%20D3.jpg			
4818OS_%20python%20Int...			
dotd-bg2.png			
blog_0.png			
home-block-dotd.png			
homepage-blog-hero-bloc...			
ecommerce.js			
collect?v=1&_v=j29&a=20...			
collect?v=1&_v=j29&a=20...			
OsJ2DjdpjqFRVUsto6iffLO3...			
hand-dotd_0.png			
blog-banner.png			

41 requests | 131 KB transferre...



```
1 <!DOCTYPE HTML>
2 <html>
3 <head>
4   <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5   <title>Chapter 3 - Code Example 01</title>
6   <style type="text/css">
7     body {
8       font-family: sans-serif;
9       font-size: 2em;
10    }
11  </style>
12 </head>
13 <body>
14
15
16 <script src="main.js"></script>
17 </body>
18 </html>
```

```
main
main.js No Selection
1 var my_integer = 0;
2
3 function loopingTo5k() {
4     while (my_integer < 5000){
5         my_integer += 1;
6         var paragraphTag = document.createElement("p");
7         paragraphTag.innerText = my_integer;
8         document.body.appendChild(paragraphTag);
9     }
10 }
11
12 /** Triggering loop */
13
14 window.onload = loopingTo5k;
```

Chapter 3 - Code Example

file:///Users/chadadams/Desktop/01/index.html

Paused in debugger

Elements Network Sources Timeline Profiles Resources Audits Console PageSpeed

Sources Content scripts Snippets

file://
Users/chadadams/Desktop/01
index.html
main.js

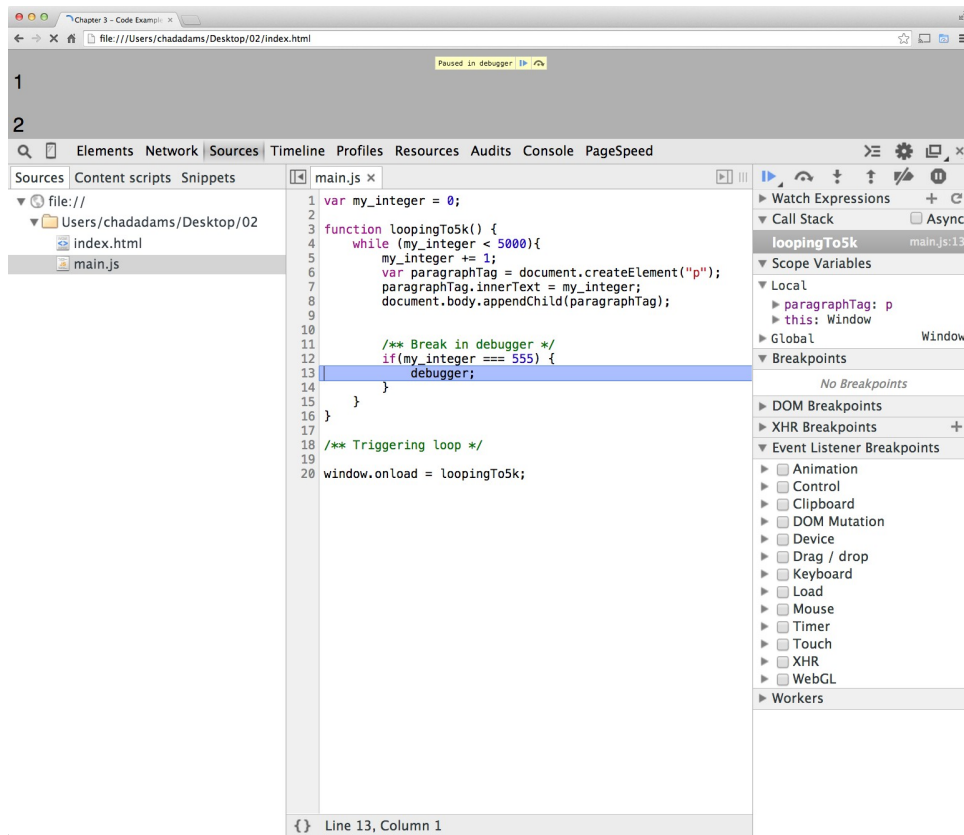
```
1 var my_integer = 0;  
2  
3 function loopingTo5k() {  
4   while (my_integer < 5000){  
5     my_integer += 1;  
6     var paragraphTag = document.createElement("p");  
7     paragraphTag.innerHTML = my_integer;  
8     document.body.appendChild(paragraphTag);  
9  
10  }  
11  
12 /**  
13  
14 wind
```

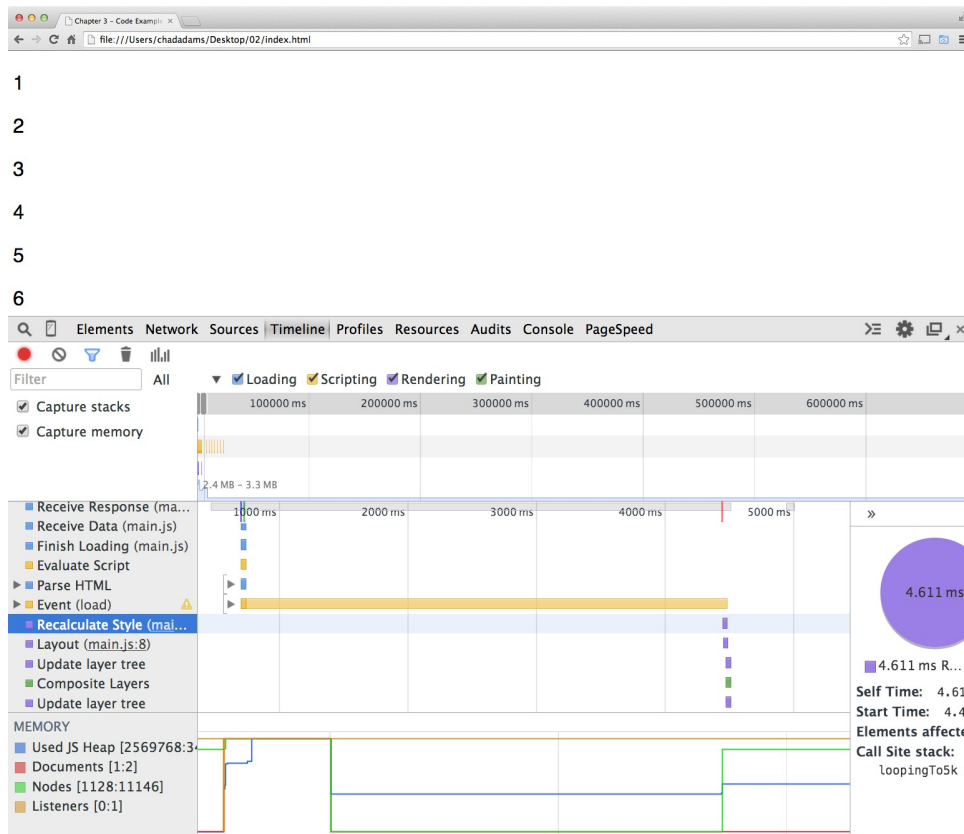
Watch Expressions +
Call Stack Async
loopingTo5k main.js:8
Paused on a JavaScript breakpoint.
Scope Variables
Local
paragraphTag: p
this: Window
Global Window
Breakpoints
main.js:8
document.body.appendChild(...)
DOM Breakpoints
XHR Breakpoints +
Event Listener Breakpoints
Animation
Control
Clipboard
DOM Mutation
Device
Drag / drop
Keyboard
Load
Mouse
Timer
Touch
XHR
WebGL
Workers

p
accessKey: ""
align: ""
attributes: NamedNodeMap
baseURI: ""
childElementCount: 0
childNodes: NodeList[1]
children: HTMLCollection[0]
classList: DOMTokenList[0]
className: ""
clientHeight: 0
clientLeft: 0
clientTop: 0
clientWidth: 0
contentEditable: "inherit"
dataset: DOMStringMap
dir: ""
draggable: false

{ } Line 8, Column 1

```
1 var my_integer = 0;
2
3 function loopingTo5k() {
4     while (my_integer < 5000){
5         my_integer += 1;
6         var paragraphTag = document.createElement("p");
7         paragraphTag.innerHTML = my_integer;
8         document.body.appendChild(paragraphTag);
9
10
11         /** Break in debugger */
12         if(my_integer === 555) {
13             debugger;
14         }
15     }
16 }
17
18 /** Triggering loop */
19
20 window.onload = loopingTo5k;
```





Elements Network Sources Timeline Profiles Resources Audits Console

Profiles

Select profiling type

- Collect JavaScript CPU Profile**
CPU profiles show where the execution time is spent in your page's JavaScript functions.
- Take Heap Snapshot**
Heap snapshot profiles show memory distribution among your page's JavaScript objects and related DOM nodes.
- Record Heap Allocations**
Record JavaScript object allocations over time. Use this profile type to isolate memory leaks.

Start Load



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www.packtpub.com/		
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https://www.packtpub....		
Session Storage		
https://www.packtpub....		
Cookies		
www.packtpub.com		
Application Cache		



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Audits

RESULTS

Select audits to run

- Select All
- Network Utilization
- Web Page Performance

- Audit Present State
- Reload Page and Audit on Load

Run Clear



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Audits

RESULTS



https://www.pa

Web Page Performance

- **Optimize the order of styles and scripts (3)**
3 inline script blocks were found in the head between an external CSS file and another resource. To allow parallel downloading, move the inline script before the external CSS file, or after the next resource.
- **Remove unused CSS rules (1477)**
1477 rules (88%) of CSS not used by the current page.
 - ▶ [0ba280bc94594c9c84716f44982ee004.css](#): 88% is not used by the current page.
 - ▶ [6e295a6eb8f64cef4e07d9b1f02d46e8.css](#): 71% is not used by the current page.
- **Use normal CSS property names instead of vendor-prefixed ones (31)**
 - ▶ [0ba280bc94594c9c84716f44982ee004.css](#)



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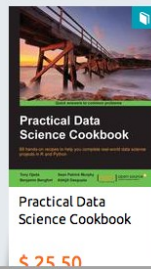
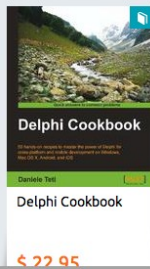
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```
> document.body.classList  
< ["with-logo"]  
>
```

Chapter 5

```
1  /**
2   * Chapter 05 - 01
3   */
4
5  var pi = 3.14159265359,
6  another_pi = 3.14159265359,
7  a_string_of_pis = "3.14159265359";
8
9  console.time("Check PI");
10 /** Anonymous Function to evaluate our pi's */
11 (function () {
12     var test = pi == another_pi;
13 }());
14 console.timeEnd("Check PI");
```

The screenshot shows a browser window with a blank page. Below it, the Chrome DevTools interface is open to the 'Sources' panel. The 'Snippets' tab is selected, showing a single snippet named '01'. The code in the snippet is as follows:

```
1 /**
2  * Chapter 05 - 01
3  */
4
5 var pi = 3.14159265359,
6 another_pi = 3.14159265359,
7 a_string_of_pis = "3.14159265359";
8
9 console.time("Check PI");
10 /** Anonymous Function to evaluate our pi's */
11 (function(){
12     var test = pi == another_pi;
13 }());
14 console.timeEnd("Check PI");
15
```

The cursor is positioned at the end of line 12, column 21. The status bar at the bottom indicates 'Line 12, Column 21'. The browser's address bar shows 'about:blank'.

This screenshot shows the same browser window and DevTools interface as the first image, but with the console open. The code in the snippet is slightly different, using '===' for comparison:

```
6 another_pi = 3.14159265359,
7 a_string_of_pis = "3.14159265359";
8
9 console.time("Check PI");
10 /** Anonymous Function to evaluate our pi's */
11 (function(){
12     var test = pi === another_pi;
13 }());
14 console.timeEnd("Check PI");
```

The cursor is now at the end of line 9, column 1. The console panel below shows the following output:

Message	Time
Check PI: 0.016ms	01:14
undefined	01:1
Check PI: 0.007ms	01:14
undefined	01:1

The console also shows a search bar, emulation, and rendering options. The status bar at the bottom indicates 'Line 9, Column 1'.

```
03.html
Chapter_05 > 03.html > <html>
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=
      UTF-8" />
5     <title>Chapter 05 - 03</title>
6   </head>
7   <body>
8
9
10  <script type="text/javascript">
11    /**
12     * Chapter 05 - 03
13     */
14
15    console.time("process time");
16    for (var i = 0; i <= 9000; i++) {
17      var ptag = document.createElement("p");
18      ptag.innerText = i;
19      document.body.appendChild(ptag);
20    }
21    console.timeEnd("process time");
22  </script>
23 </body>
24 </html>
```

The screenshot shows a web browser window with the address bar displaying `file:///Users/chadadams/Desktop/Chapter_05/04.html`. The page content consists of a vertical list of numbers from 0 to 8. Below the page content, the Chrome DevTools interface is visible, showing the 'Elements' panel with '<top frame>' selected. The 'Network' panel is active, displaying a log entry for 'process time' with a duration of 16.624ms. The console shows the log entry at line 23 of 04.html.

```
Chapter_05 | 04.html | <html>
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=
      UTF-8" />
5     <title>Chapter 05 - 04</title>
6   </head>
7   <body>
8
9
10    <script type="text/javascript">
11      /**
12       * Chapter 05 - 04
13       */
14
15
16    var i, ptag;
17    console.time("process time");
18    for (i = 0; i <= 9000; i++) {
19      ptag = document.createElement("p");
20      ptag.innerText = i;
21      document.body.appendChild(ptag);
22    }
23    console.timeEnd("process time");
24  </script>
25 </body>
26 </html>
```

The screenshot shows a web browser window with the developer console open. The console displays a log entry: `process time: 16.624ms` at `04.html:23`. The browser's address bar shows the file path: `file:///Users/chadadams/Desktop/Chapter_05/04.html`. The developer tools interface includes tabs for Elements, Network, Sources, Timeline, and Profiles, and a 'Preserve log' checkbox.

```
Chapter_05 > 05.html > <body>
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5     <title>Chapter 05 - 05</title>
6   </head>
7   <body>
8
9     <script type="text/javascript">
10      /**
11       * Chapter 05 - 05
12       */
13      var result = 0;
14      console.time("Time up");
15      for (var i = 0; i <= 9000; i++) {
16        result++;
17        /** Trigger a timeEnd, when the loop hit's 9000. */
18        if (result === 9000) {
19          console.timeEnd("Time up");
20        }
21      }
22    </script>
23  </body>
24 </html>
25
```



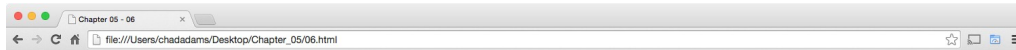
Elements Network Sources »

<top frame> Preserve log

Time up: 0.157ms 05.html:19

> |

```
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5     <title>Chapter 05 - 06</title>
6   </head>
7   <body>
8
9     <script type="text/javascript">
10      /**
11       * Chapter 05 - 06
12       */
13      var result = 0;
14      console.time("Time up");
15      for (var i = 9000; i > 0; i--) {
16        /** Trigger a timeEnd, when the loop hit's 0. */
17        result++;
18        if (result === 9000) {
19          console.timeEnd("Time up");
20        }
21      }
22    </script>
23  </body>
24 </html>
```



Elements Network Sources »

<top frame> Preserve log

Time up: 0.158ms 06.html:19

>

```
Chapter_05 > 07.html > <body>
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5     <title>Chapter 05 - 07</title>
6   </head>
7   <body>
8
9     <script type="text/javascript">
10      /**
11       * Chapter 05 - 07
12      */
13      function delay300000() {
14        console.log("delay300000()");
15        for(var i = 0; i < 300000; i++) {
16          console.info("Writing i to the console." + [i]);
17        }
18      }
19
20      function delay3000() {
21        console.log("delay3000()");
22        for(var i = 0; i < 3000; i++) {
23          console.info("Writing i to the console." + [i]);
24        }
25      }
26
27      window.onload = function() {
28        setTimeout(delay300000(), 50);
29        setTimeout(delay3000(), 150);
30      }
31    </script>
32  </body>
33 </html>
```


Elements Network Sources »	
<top frame>	Preserve log
<i>i</i> Writing i to the console.299996	<u>07.html:16</u>
<i>i</i> Writing i to the console.299997	<u>07.html:16</u>
<i>i</i> Writing i to the console.299998	<u>07.html:16</u>
<i>i</i> Writing i to the console.299999	<u>07.html:16</u>
delay3000()	<u>07.html:21</u>
<i>i</i> Writing i to the console.0	<u>07.html:23</u>
<i>i</i> Writing i to the console.1	<u>07.html:23</u>
<i>i</i> Writing i to the console.2	<u>07.html:23</u>
<i>i</i> Writing i to the console.3	<u>07.html:23</u>
<i>i</i> Writing i to the console.4	<u>07.html:23</u>

Chapter 6

```
06_01.js
Chapter_06 > 06_01.js > No Selection
1  /*
2  * Chapter 6 - 01
3  *
4  */
5
6  function AuthorName(author) {
7      "use strict";
8      return author;
9  }
10
```

```
06_02.js
Chapter_06 > 06_02.js > No Selection
1  /*
2  * Chapter 6 - 02
3  *
4  */
5
6  function AuthorName(author) {
7      "use strict";
8      return author;
9  }
10
11 console.log(AuthorName('Chad Adams'));
```

Favorites

```
/*
 * Chapter 6 - 02
 *
 */
function AuthorName(author) {
  "use strict";
  return author;
}

console.log(AuthorName('Chad Adams'));
```

JSLint

Errors clear

Missing 'new'. line 11 character 13

```
console.log(AuthorName('Chad Adams'));
```

Function Report clear

global
AuthorName, console

AuthorName line 6
parameter
author

Properties Directive select

```
/*properties
 log
*/
```

```
1 /*
2  * Chapter 6 - 03
3  *
4  */
5
6 function AuthorName(author) {
7   "use strict";
8   return author;
9 }
10
11 console.log(new AuthorName('Chad Adams'));
```

```
06_04.js
Chapter_06 > 06_04.js > No Selection
1  /*
2  * Chapter 6 - 04
3  *
4  */
5
6  function AuthorName(author) {
7      "use strict";
8      this.init = function() {
9          return author;
10     }
11 }
12
13 var author1 = new AuthorName('Chad Adams');
14
15 console.log(author1.init());
```

```
06_05.js
Chapter_06 > 06_05.js > AuthorName
1  /*
2  * Chapter 6 - 05
3  *
4  */
5
6  function AuthorName(author) {
7      "use strict";
8      this.init = function() {
9          return author;
10     }
11     this.helloInfo = function() {
12         console.info("Hello, my name is " + author + ".");
13     }
14 }
15
16 var author1 = new AuthorName('Chad Adams');
17
18 console.log(author1.init());
19
20 author1.helloInfo();
```

```
06_06.js
Chapter_06 > 06_06.js > AuthorName
1  /*
2  * Chapter 6 - 06
3  *
4  */
5
6  function AuthorName(author) {
7      "use strict";
8      this.init = function() {
9          return author;
10     }
11     this.helloInfo = function() {
12         console.info("Hello, my name is " + author + ".");
13     }
14 }
15 console.time("Create Logged Messages:");
16
17 var author1 = new AuthorName('Chad Adams');
18 console.log(author1.init());
19 author1.helloInfo();
20
21 console.timeEnd("Create Logged Messages:");
```

Developer Tools - http://jsfiddle.net/

Elements Network Sources Timeline Profiles Resources >> >=> ⚙️ 🖨️

<top frame> ▾ Preserve log

Chad Adams	(index):39
ⓘ Hello, my name is Chad Adams.	(index):33
Create Logged Messages:: 2.598ms	(index):42

>

```
06_07.js
Chapter_06 > 06_07.js > No Selection
1  /*
2  * Chapter 6 - 07
3  *
4  */
5
6  function authorName(author) {
7      "use strict";
8      return author;
9  }
10 }
11 function helloInfo() {
12     console.info("Hello, my name is " + authorName('Chad Adams') + ".");
13 }
14 console.time("Create Logged Messages:");
15
16 console.log(authorName('Chad Adams'));
17 helloInfo();
18
19 console.timeEnd("Create Logged Messages:");
```

Developer Tools - http://jsfiddle.net/

Elements Network Sources Timeline Profiles Resources >> >=> ⚙️ 🖨️

<top frame> ▾ Preserve log

Chad Adams	(index):37
ⓘ Hello, my name is Chad Adams.	(index):33
Create Logged Messages:: 4.245ms	(index):40

>

```
06_08.js
Chapter_06 > 06_08.js > No Selection
1 /*
2  * Chapter 6 - 08
3  *
4  */
5
6 function AuthorName(author) {
7     "use strict";
8     this.authorFullName = author;
9 }
10 AuthorName.prototype.init = function() {
11     return this.authorFullName;
12 }
13 AuthorName.prototype.helloInfo = function() {
14     console.info("Hello, my name is " + this.authorFullName + ".");
15 }
16 console.time("Create Logged Messages:");
17
18 var author1 = new AuthorName('Chad Adams');
19 console.log(author1.init());
20 author1.helloInfo();
21
22 console.timeEnd("Create Logged Messages:");
```

Developer Tools - http://jsfiddle.net/

Elements Network Sources Timeline Profiles >> >≡ ⚙ 🖥

🚫 🗑 <top frame> ▼ Preserve log

Chad Adams	(index):40
i Hello, my name is Chad Adams.	(index):35
Create Logged Messages:: 4.247ms	(index):43

>

```
Chapter_06 > 06_09.js > No Selection
1 /*
2  * Chapter 6 - 09
3  *
4  */
5
6 var myArray = ["key0", "key1", "key2", "key3", "key4", "key5", "key6", "key7",
  "key8", "key9", "key10", "key11", "key12", "key13", "key14", "key15", "key16",
  "key17", "key18", "key19", "key20", "key21", "key22", "key23", "key24", "key25",
  "key26", "key27", "key28", "key29", "key30", "key31", "key32", "key33", "key34",
  "key35", "key36", "key37", "key38", "key39", "key40", "key41", "key42", "key43",
  "key44", "key45", "key46", "key47", "key48", "key49", "key50", "key51", "key52",
  "key53", "key54", "key55", "key56", "key57", "key58", "key59", "key60", "key61",
  "key62", "key63", "key64", "key65", "key66", "key67", "key68", "key69", "key70",
  "key71", "key72", "key73", "key74", "key75", "key76", "key77", "key78", "key79",
  "key80", "key81", "key82", "key83", "key84", "key85", "key86", "key87", "key88",
  "key89", "key90", "key91", "key92", "key93", "key94", "key95", "key96", "key97",
  "key98", "key99", "key100", "key101", "key102", "key103", "key104", "key105",
  "key106", "key107", "key108", "key109", "key110", "key111", "key112", "key113",
  "key114", "key115", "key116", "key117", "key118", "key119", "key120", "key121",
  "key122", "key123", "key124", "key125", "key126", "key127", "key128", "key129",
  "key130", "key131", "key132", "key133", "key134", "key135", "key136", "key137",
  "key138", "key139", "key140", "key141", "key142", "key143", "key144", "key145",
  "key146", "key147", "key148", "key149", "key150", "key151", "key152", "key153",
  "key154", "key155", "key156", "key157", "key158", "key159", "key160", "key161",
  "key162", "key163", "key164", "key165", "key166", "key167", "key168", "key169",
  "key170", "key171", "key172", "key173", "key174", "key175", "key176", "key177",
  "key178", "key179", "key180", "key181", "key182", "key183", "key184", "key185",
  "key186", "key187", "key188", "key189", "key190", "key191", "key192", "key193",
  "key194", "key195", "key196", "key197", "key198", "key199", "key200", "key201",
```

```
06_10.js
Chapter_06 > 06_10.js > No Selection
"key981", "key982", "key983", "key984", "key985",
"key986", "key987", "key988", "key989", "key990",
"key991", "key992", "key993", "key994", "key995",
"key996", "key997", "key998", "key999", "key1000"];
7
8 /* End of array. */
9 //Start console timer.
10 console.time("Find Key");
11
12 //Log index of 'key541'.
13 var indexFound = myArray.indexOf("key541");
14 console.log(myArray[indexFound]);
15
16 //Stop console timer.
17 console.timeEnd("Find Key");
18
19
20
```

Developer Tools - http://jsfiddle.net/

Elements Network Sources >> >≡ ⚙️ 🖨️

🚫 🔍 <top frame> ▼ Preserve log

key541	(index):35
Find Key: 5.887ms	(index):38

>


```
06_11.js
Chapter_06 > 06_11.js > No Selection
"key976", "key977", "key978", "key979", "key980",
"key981", "key982", "key983", "key984", "key985",
"key986", "key987", "key988", "key989", "key990",
"key991", "key992", "key993", "key994", "key995",
"key996", "key997", "key998", "key999", "key1000"];
7
8 /* End of array. */
9 //Start console timer.
10 console.time("Find Key");
11
12 //Log index of '541'.
13 var indexFound = myArray[541];
14 console.log(indexFound);
15
16 //Stop console timer.
17 console.timeEnd("Find Key");
18
19
20
```

Developer Tools - file:///Users/chad/Downloads/Chapter_06_7296OS/Chapter_06/(index)

Elements Network Sources >> >=> ⚙️ 🖨️

🚫 🗑️ <top frame> ▼ Preserve log

key541	(index):22
Find Key: 4.809ms	(index):25

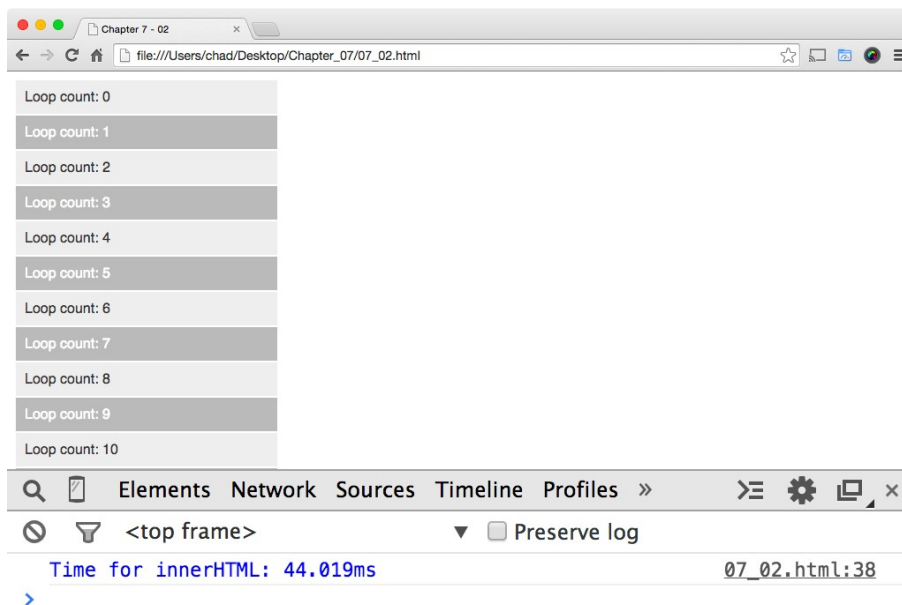
>

Chapter 7

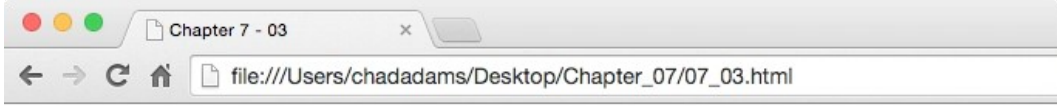
```
07_01.html 07_01.html
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5     <title>Chapter 7 - 01</title>
6
7     <style type="text/css">
8       body { font-family: sans-serif; }
9       #datainsert tr:nth-of-type(odd) td {
10        background-color: #eeeeee;
11        color: #333;
12      }
13       #datainsert tr:nth-of-type(even) td {
14        background-color: #bababa;
15        color: white;
16      }
17     </style>
18   </head>
19   <body>
20     <!-- Data goes here -->
21     <div id="datainsert"></div>
22   </body>
23   <script type="text/javascript">
24     // Anonymous function to render data.
25     (function(){
26       console.time("Time for createElements");
27       var tableElem = document.createElement("table");
28       tableElem.setAttribute("border" , 0);
29       tableElem.setAttribute("width" , 300);
30       tableElem.setAttribute("cellpadding" , 10);
31       tableElem.setAttribute("cellspacing" , 0);
32
33       for (var i = 0; i <= 10000; i++) {
34
35         var cellContent = document.createTextNode("Loop count: " + i);
36         var tableTr = document.createElement("tr");
37         var tableTd = document.createElement("td");
38
39         tableTd.appendChild(cellContent);
40         tableTr.appendChild(tableTd);
41         tableElem.appendChild(tableTr);
42
43       }
44
45       document.getElementById("datainsert").appendChild(tableElem);
46       console.timeEnd("Time for createElements");
47
48     })()
49
50
51   </script>
52 </html>
```

The image shows a web browser window with a single tab titled "Chapter 7 - 01". The address bar displays the file path: `file://localhost/Users/chad/Desktop/Chapter_07/07_01.html`. The main content area of the browser displays a vertical list of 13 items, each labeled "Loop count:" followed by a number from 0 to 12. Below the browser window, the Chrome DevTools interface is visible, with the "Timeline" tab selected. The filter is set to "<top frame>" and the "Preserve log" checkbox is checked. A single log entry is shown: `Time for createElements: 138.216ms` at `07_01.html:46`. A blue arrow points to the right below the log entry.

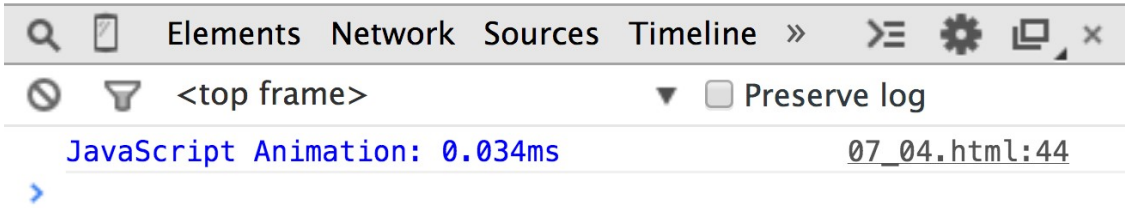
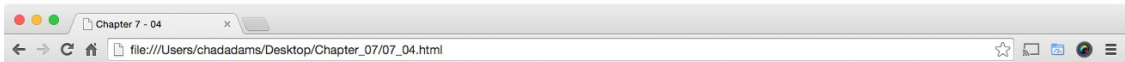
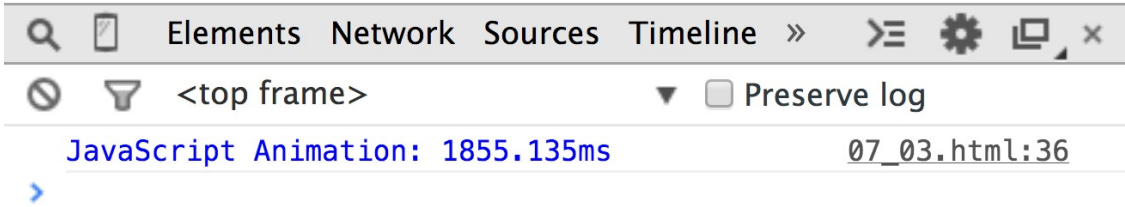
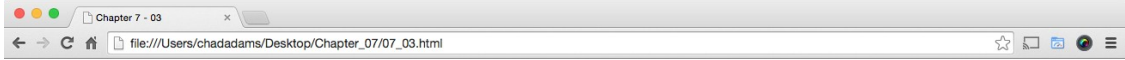
```
07_02.html 07_02.html
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5     <title>Chapter 7 - 02</title>
6
7     <style type="text/css">
8       body { font-family: sans-serif; }
9       #datainsert tr:nth-of-type(odd) td {
10        background-color: #eeeeee;
11        color: #333;
12      }
13      #datainsert tr:nth-of-type(even) td {
14        background-color: #bababa;
15        color: white;
16      }
17    </style>
18  </head>
19  <body>
20    <!-- Data goes here -->
21    <div id="datainsert"></div>
22  </body>
23  <script type="text/javascript">
24    // Anonymous function to render data.
25    (function(){
26      console.time("Time for innerHTML");
27
28      var tableContents = "<table width=\`300\` cellspacing=\`0\` cellpadding=\`10\`><tbody>";
29
30      for (var i = 0; i <= 10000; i++) {
31
32        tableContents += "<tr><td>" + "Loop count: " + i + "</tr></td>";
33
34      }
35      tableContents += "</tbody></table>";
36
37      document.getElementById("datainsert").innerHTML = tableContents;
38      console.timeEnd("Time for innerHTML");
39
40    })()
41
42  </script>
43 </html>
```



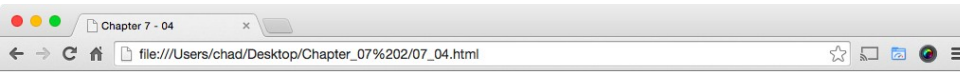
```
07_03.html 07_03.html
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5     <title>Chapter 7 - 03</title>
6
7     <style type="text/css">
8       body { font-family: sans-serif; }
9       #dot {
10         width: 100px;
11         height: 100px;
12         -webkit-border-radius: 50px;
13         background-color: #333;
14         position: absolute;
15         left: 50px;
16         top: 50px;
17       }
18     </style>
19   </head>
20   <body>
21     <!-- Data goes here -->
22     <div id="dot"></div>
23   </body>
24   <script type="text/javascript">
25     // Anonymous function to render data.
26     (function(){
27       var dot = document.getElementById("dot");
28       var i = 50;
29
30       console.time("JavaScript Animation");
31       var interval = setInterval(function(){
32         i++;
33         dot.style.left = i + "px";
34         if(i === 450) {
35           clearInterval(interval);
36           console.timeEnd("JavaScript Animation");
37         }
38       }, 1);
39
40
41     })()
42   </script>
43 </html>
```






```
07_04.html
07_04.html
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5     <title>Chapter 7 - 04</title>
6
7     <style type="text/css">
8       body { font-family: sans-serif; }
9       #dot {
10         width: 100px;
11         height: 100px;
12         -webkit-border-radius: 50px;
13         background-color: #333;
14         position: absolute;
15         left: 50px;
16         top: 50px;
17       }
18       /* CSS3 ANIMATION */
19       #dot.active {
20         -webkit-animation: moveDot 1000ms 0 ease both;
21         animation: moveDot 1000ms 0 ease both;
22       }
23       @-webkit-keyframes moveDot {
24         from { transform: translate3d(0, 0, 0); }
25         to { transform: translate3d(450px, 0, 0); }
26       }
27       @keyframes moveDot {
28         from { transform: translate3d(0, 0, 0); }
29         to { transform: translate3d(450px, 0, 0); }
30       }
31     </style>
32   </head>
33   <body>
34     <!-- Data goes here -->
35     <div id="dot"></div>
36   </body>
37   <script type="text/javascript">
38     // Anonymous function to render data.
39     (function(){
40       var dot = document.getElementById("dot");
41
42       console.time("JavaScript Animation");
43       setTimeout(dot.setAttribute("class", "active"), 1000);
44       console.timeEnd("JavaScript Animation");
45     })()
46   </script>
47 </html>
```




```
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5     <title>Chapter 7 - 05</title>
6
7     <style type="text/css">
8       body { font-family: sans-serif; }
9       #dot {
10        width: 100px;
11        height: 100px;
12        -webkit-border-radius: 50px;
13        background-color: #333;
14        position: absolute;
15        left: 50px;
16        top: 50px;
17        -webkit-transform: -webkit-translate3d(0,0,0);
18        will-change: left;
19      }
20    </style>
21  </head>
22  <body>
23    <!-- Data goes here -->
24    <div id="dot"></div>
25  </body>
26  <script type="text/javascript">
27    (function(){
28      var dot = document.getElementById("dot");
29      var i = 50;
30
31      console.time("JavaScript Animation");
32      var interval = setInterval(function(){
33        i++;
34        dot.style.left = i + "px";
35        if(i === 450) {
36          clearInterval(interval);
37          console.timeEnd("JavaScript Animation");
38        }
39      }, 1);
40
41    })()
42  </script>
43
44 </html>
```

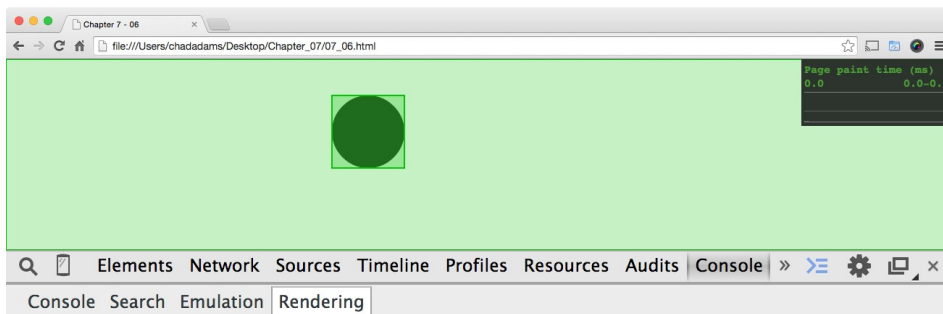


Elements Network Sources Timeline Profiles >>   

Console Search Emulation Rendering

- Show paint rectangles
- Show composited layer borders
- Show FPS meter
- Enable continuous page repainting
- Show potential scroll bottlenecks

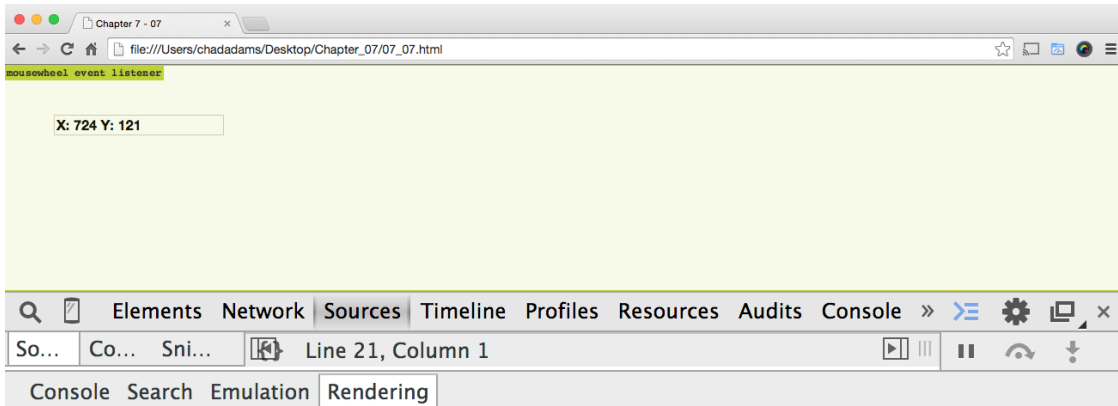
```
1 <!DOCTYPE HTML>
2 <html>
3 <head>
4   <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5   <title>Chapter 7 - 06</title>
6
7   <style type="text/css">
8     body { font-family: sans-serif; }
9     #dot {
10       width: 100px;
11       height: 100px;
12       -webkit-border-radius: 50px;
13       background-color: #333;
14       position: absolute;
15       left: 50px;
16       top: 50px;
17       -webkit-transform: -webkit-translate3d(0,0,0);
18       will-change: left;
19     }
20   </style>
21 </head>
22 <body>
23   <!-- Data goes here -->
24   <div id="dot"></div>
25 </body>
26 <script type="text/javascript">
27   (function(){
28     var dot = document.getElementById("dot");
29     var i = 50;
30     var interval = setInterval(function(){
31     >     i++;
32     >     dot.style.left = i + "px";
33     >     if(i === 450) {
34     > > >     clearInterval(interval);
35     > > > } else if (i === 250 || i === 251 || i === 252 ||
36     > > > i === 253 || i === 254 || i === 255 ||
37     > > > i === 256 || i === 257 || i === 258) {
38     > > > dot.style.left = "";
39     > > > } else {
40     > > > dot.style.left = i + "px";
41     > > > }
42     > > > }, 1);
43   }());
44 </script>
45 </html>
```

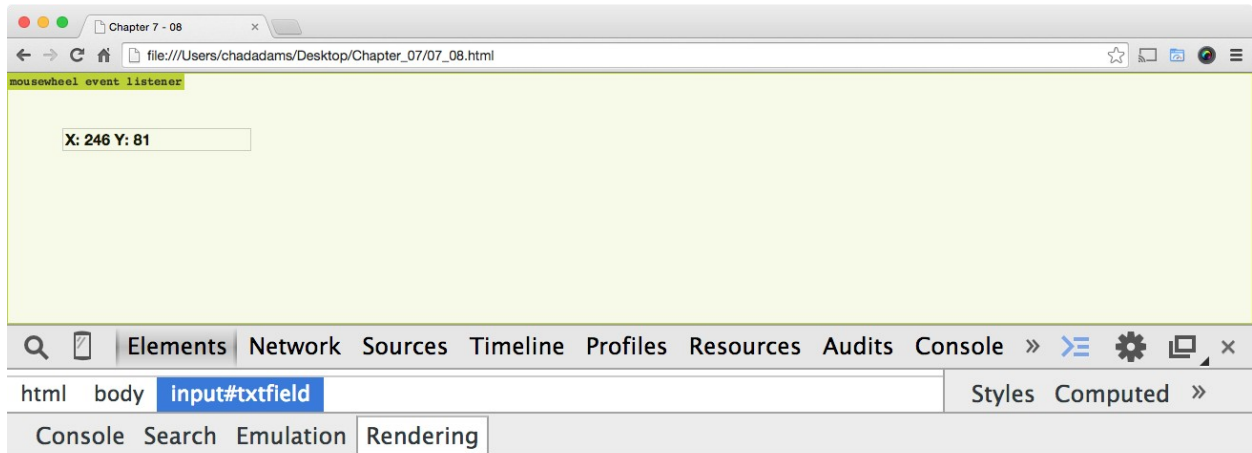


- Show paint rectangles
- Show composited layer borders
- Show FPS meter
- Enable continuous page repainting
- Show potential scroll bottlenecks

```
07_07.html
07_07.html - Edited

1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5     <title>Chapter 7 - 07</title>
6
7     <style type="text/css">
8       body { font-family: sans-serif; }
9       #txtfield {
10         font-size: 1em;
11         font-weight: bold;
12         margin: 50px;
13       }
14     </style>
15   </head>
16   <body>
17     <input id="txtfield" type="text" value="" />
18   </body>
19   <script type="text/javascript">
20     var txtfield = document.getElementById("txtfield");
21
22     (function(){
23       document.addEventListener("mousewheel", getMouseLocation, false);
24     })()
25
26     function getMouseLocation(event) {
27       txtfield.value = "X: " + event.pageX + " Y: " + event.pageY;
28     }
29   </script>
30 </html>
```

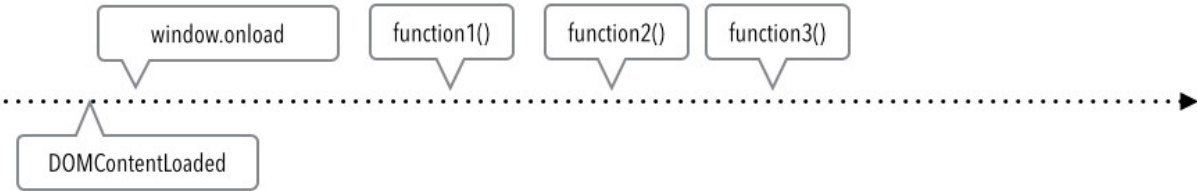




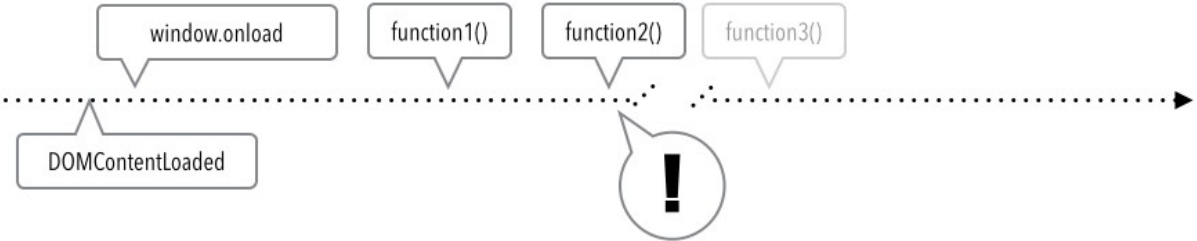
- Show paint rectangles
- Show composited layer borders
- Show FPS meter
- Enable continuous page repainting
- Show potential scroll bottlenecks

Chapter 8

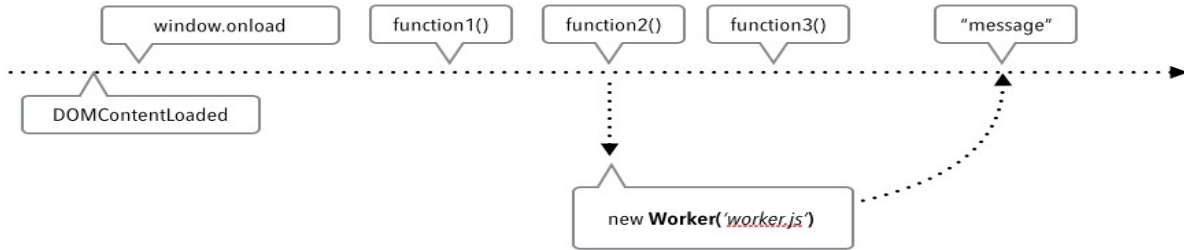
Standard single threaded JS application



Standard single threaded JS application with processing time



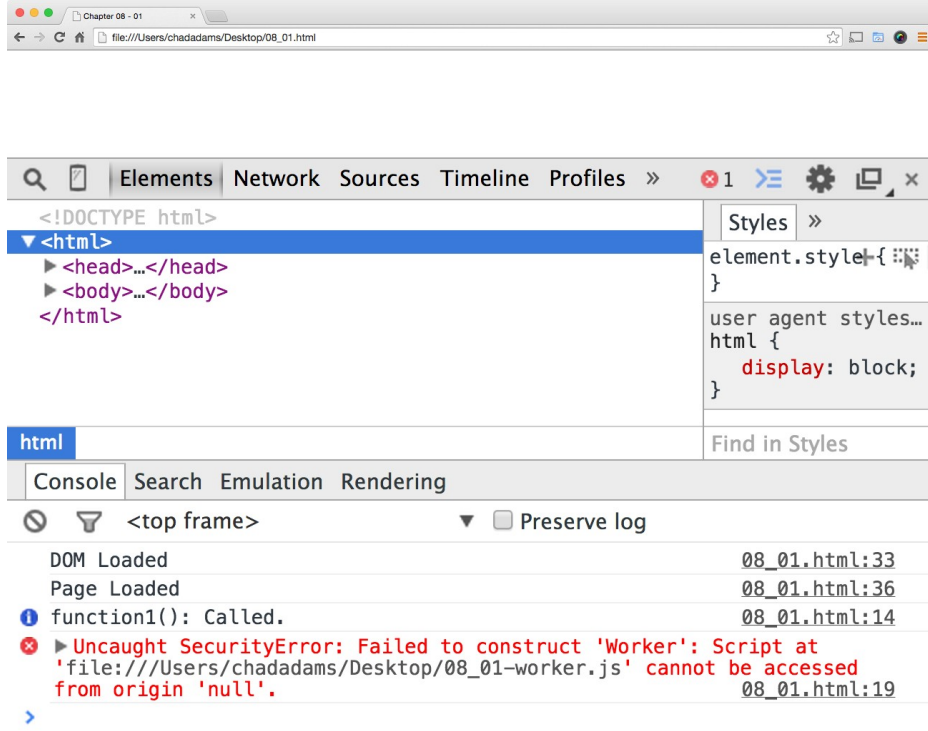
Multi-threaded JS application (Web Worker)



```
1 <!DOCTYPE HTML>
2 <html>
3 <head>
4 <meta charset="utf-8">
5 <title>Chapter 08 - 01</title>
6 </head>
7
8 <body>
9 >
10 >
11 <script type="text/javascript">
12
13 function function1() {
14 > console.info("function1(): Called.");
15 > console.time("Worker");
16 }
17
18 function function2() {
19 > var func2_Worker = new Worker("08_01-worker.js");
20 > func2_Worker.onmessage = function (oEvent) {
21 > > console.log("func2_Worker says : " + oEvent.data);
22 > };
23 >
24 > func2_Worker.postMessage("Processing a high performance JavaScript worker...");
25 }
26
27 function function3() {
28 > console.info("function3(): Called.");
29 > console.timeEnd("Worker");
30 }
31
32 window.addEventListener("DOMContentLoaded", function () {
33 > console.log("DOM Loaded");
34 }, false);
35 window.addEventListener("load", function () {
36 > console.log("Page Loaded");
37 >
38 > function1();
39 > function2();
40 > function3();
41 >
42 }, false);
43
44 </script>
45 >
46 </body>
47 </html>
```

```
08_01-worker.js
08_01 08_01-worker.js 08_02 08_02
1 onmessage = function (oEvent) {
2   for (var i = 0; i <= 1000; i++) {
3     postMessage(oEvent.data + " " + i);
4   }
5 };
```

```
18 function function2() {
19   var func2_Worker = new Worker("08_01-worker.js");
20   func2_Worker.onmessage = function (oEvent) {
21     console.log("func2_Worker says : " + oEvent.data);
22   };
23   func2_Worker.postMessage("Processing a high performance JavaScript worker...");
24 }
25
26
27 function function3() {
28   console.info("function3(): Called.");
29   console.timeEnd("Worker");
30 }
31
32 window.addEventListener("DOMContentLoaded", function () {
33   console.log("DOM Loaded");
34 }, false);
35 window.addEventListener("load", function () {
36   console.log("Page Loaded");
37   function1();
38   function2();
39   function3();
40 }, false);
41
42 </script>
43
44 </body>
45
46 </html>
```



Directory listing for /

-
- [.DS_Store](#)
 - [.localized](#)
 - [08_01-worker.js](#)
 - [08_01.html](#)
 - [Chapter_08_7296OS/](#)
-

Developer Tools - http://127.0.0.1:8000/08_01.html

Elements Network Sources Timeline Profiles Resources Audits Console » ⌵ ⚙

🚫 🔍 <top frame> ▼ Preserve log Show all messages

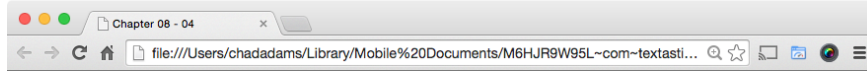
DOM Loaded	08_01.html:33
Page Loaded	08_01.html:36
i function1(): Called.	08_01.html:14
i function3(): Called.	08_01.html:28
Worker: 0.475ms	08_01.html:29
func2_Worker says : Processing a high performance JavaScript worker... 0	08_01.html:21
func2_Worker says : Processing a high performance JavaScript worker... 1	08_01.html:21
func2_Worker says : Processing a high performance JavaScript worker... 2	08_01.html:21
func2_Worker says : Processing a high performance JavaScript worker... 3	08_01.html:21
func2_Worker says : Processing a high performance JavaScript worker... 4	08_01.html:21
func2_Worker says : Processing a high performance JavaScript worker... 5	08_01.html:21
func2_Worker says : Processing a high performance JavaScript worker... 6	08_01.html:21
func2_Worker says : Processing a high performance JavaScript worker... 7	08_01.html:21
func2_Worker says : Processing a high performance JavaScript worker... 8	08_01.html:21
func2_Worker says : Processing a high performance JavaScript worker... 9	08_01.html:21
func2_Worker says : Processing a high performance JavaScript worker... 10	08_01.html:21

```
08_02
1 <!DOCTYPE HTML>
2 <html>
3 <head>
4 <meta charset="utf-8">
5 <title>Chapter 08 - 02</title>
6 </head>
7
8 <body>
9 >
10 >
11 <script type="text/javascript">
12
13 function function1() {
14 > console.info("function1(): Called.");
15 > console.time("Worker");
16 }
17
18 function function2() {
19 > for (var i = 0; i <= 1000; i++) {
20 > > console.log("func2_Worker says : Processing a slow for loop... " + i);
21 > }
22 }
23
24 function function3() {
25 > console.info("function3(): Called.");
26 > console.timeEnd("Worker");
27 }
28
29 window.addEventListener("DOMContentLoaded", function () {
30 > console.log("DOM Loaded");
31 }, false);
32 window.addEventListener("load", function () {
33 > console.log("Page Loaded");
34 >
35 > function1();
36 > function2();
37 > function3();
38 >
39 }, false);
40
41 </script>
42 >
43 </body>
44 </html>
```

```
Developer Tools - http://127.0.0.1:8000/08_02.html
Elements Network Sources Timeline Profiles Resources Audits Console >> >=> ⚙️ 🖨️
<top frame> Preserve log Show all messages
func2_Worker says : Processing a slow for loop... 988 08_02.html:20
func2_Worker says : Processing a slow for loop... 989 08_02.html:20
func2_Worker says : Processing a slow for loop... 990 08_02.html:20
func2_Worker says : Processing a slow for loop... 991 08_02.html:20
func2_Worker says : Processing a slow for loop... 992 08_02.html:20
func2_Worker says : Processing a slow for loop... 993 08_02.html:20
func2_Worker says : Processing a slow for loop... 994 08_02.html:20
func2_Worker says : Processing a slow for loop... 995 08_02.html:20
func2_Worker says : Processing a slow for loop... 996 08_02.html:20
func2_Worker says : Processing a slow for loop... 997 08_02.html:20
func2_Worker says : Processing a slow for loop... 998 08_02.html:20
func2_Worker says : Processing a slow for loop... 999 08_02.html:20
func2_Worker says : Processing a slow for loop... 1000 08_02.html:20
function3(): Called. 08_02.html:25
Worker: 66.540ms 08_02.html:26
>
```

```
08_03 08_03
1 <!DOCTYPE HTML>
2 <html>
3 <head>
4 <meta charset="utf-8">
5 <title>Chapter 08 - 03</title>
6 <style type="text/css">
7 > body { font-family: monospace; font-size: 1em; }
8 > #results { margin-top: 1em; }
9 </style>
10 </head>
11
12 <body>
13 <button onclick="makeAPromise()">Make A Promise</button>
14
15 <div id="results"></div>
16 >
17 <script type="text/javascript">
18
19 > function makeAPromise() {
20 > > var promiseCount = 0;
21 > >
22 > > var promiseNo1 = new Promise(
23 > > function(resolve) {
24 > > > for (var i = 0; i <= 1000; i++) {
25 > > > > promiseCount = i * 5;
26 > > > }
27 > > >
28 > > > /* Assign a value to our promise */
29 > > > resolve("Our final count: <strong>" + promiseCount + "</strong>")
30 > > > });
31 > >
32 > > promiseNo1.then(
33 > > > function(promiseCount) {
34 > > > > document.getElementById("results").innerHTML = promiseCount;
35 > > > > }
36 > > > )
37 > > }
38
39 </script>
40 </body>
41 </html>
```

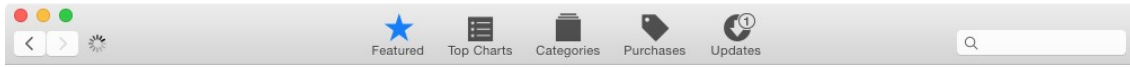
```
08_04 08_04
1 <!DOCTYPE HTML>
2 <html>
3 <head>
4 <meta charset="utf-8">
5 <title>Chapter 08 - 04</title>
6 <style type="text/css">
7   > body { font-family: monospace; font-size: 1em; }
8   > #results { margin-top: 1em; }
9 </style>
10 </head>
11
12 <body>
13 <button onclick="makeAPromise()">Make A Promise</button>
14
15 <div id="results"></div>
16 >
17 <script type="text/javascript">
18
19   > function makeAPromise() {
20   >     > var timerCount = 0;
21   >     > document.getElementById("results").innerHTML +=
22   >     > timerCount + ": <strong>First</strong> count <br />";
23   >     >
24   >     > var promiseNo1 = new Promise(
25   >     >     > function(resolve) {
26   >     >     >     > for (var i = 0; i <= 1000; i++) {
27   >     >     >     >     > timerCount = i * Math.random();
28   >     >     >     >     > }
29   >     >     >     > resolve(timerCount);
30   >     >     >     > });
31   >     >     > promiseNo1.then(
32   >     >     >     > function(response) {
33   >     >     >     >     > var totalCount = response + timerCount;
34   >     >     >     >     > window.setTimeout(function(){
35   >     >     >     >     >     > document.getElementById("results").innerHTML +=
36   >     >     >     >     >     >     > totalCount +
37   >     >     >     >     >     >     >     > ": <strong>Second</strong> count (delayed)<br />";
38   >     >     >     >     >     >     >     > }, timerCount);
39   >     >     >     >     >     >     >     > }
40   >     >     >     >     >     >     >     > ).then(
41   >     >     >     >     >     >     >     >     > function() {
42   >     >     >     >     >     >     >     >     >     > document.getElementById("results").innerHTML +=
43   >     >     >     >     >     >     >     >     >     > timerCount + ": <strong>Third</strong> count <br />";
44   >     >     >     >     >     >     >     >     >     > }
45   >     >     >     >     >     >     >     >     >     > );
46   >     >     >     >     >     >     >     >     >     > }
47   >     >     >     >     >     >     >     >     >     > });
48 </script>
49 </body>
50 </html>
```



Make A Promise

0: **First** count
791.1708613391966: **Third** count
1582.3417226783931: **Second** count (delayed)
0: **First** count
768.0629084352404: **Third** count
1536.1258168704808: **Second** count (delayed)
0: **First** count
569.6942526847124: **Third** count
1139.3885053694248: **Second** count (delayed)
0: **First** count
187.0323233306408: **Third** count
374.0646466612816: **Second** count (delayed)
0: **First** count
306.5192673821002: **Third** count
613.0385347642004: **Second** count (delayed)
0: **First** count
297.56293166428804: **Third** count
595.1258633285761: **Second** count (delayed)
0: **First** count
798.901405883953: **Third** count
1597.802811767906: **Second** count (delayed)

Chapter 9



Xcode

Create great apps for Mac, iPhone, and iPad.



Installing ▾

Xcode 4+

Essentials

Xcode provides everything developers need to create great applications for Mac, iPhone, and iPad. Xcode brings user interface design, coding, testing, and debugging all into a unified workflow. The Xcode IDE combined with the Cocoa and Cocoa Touch frameworks, and the Swift programming language make developing apps easier and more fun than ever before.

What's New in Version 6.1.1

Includes SDKs for OS X 10.10 Yosemite, OS X 10.9 Mavericks, and iOS 8.1

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Information

Category: Developer Tools

Updated: Dec 02, 2014

Version: 6.1.1

Price: Free

Size: 2.49 GB

Family Sharing: Yes

Language: English

Seller: Apple Inc.

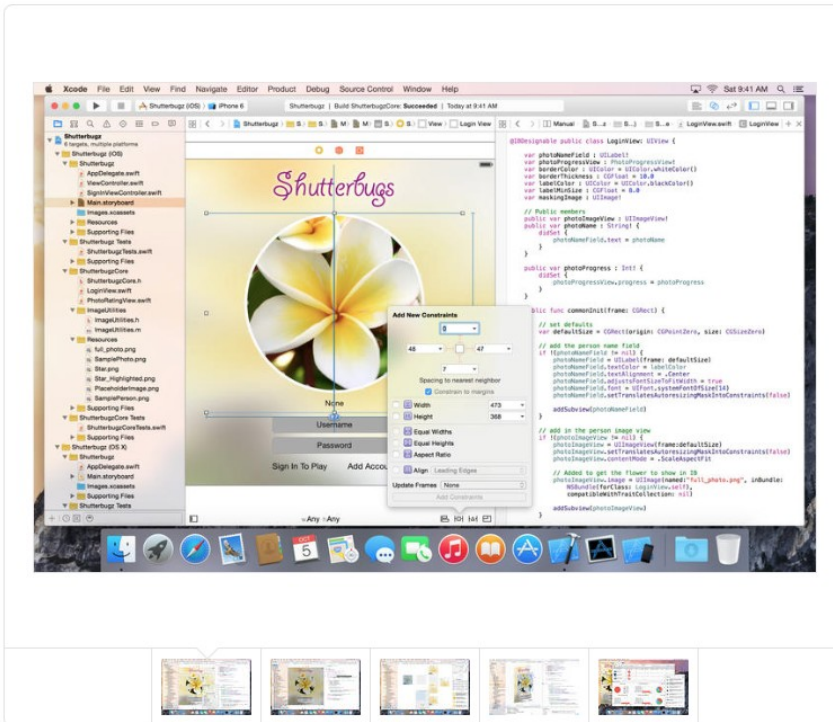
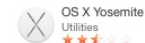
© 1999–2014 Apple Inc.

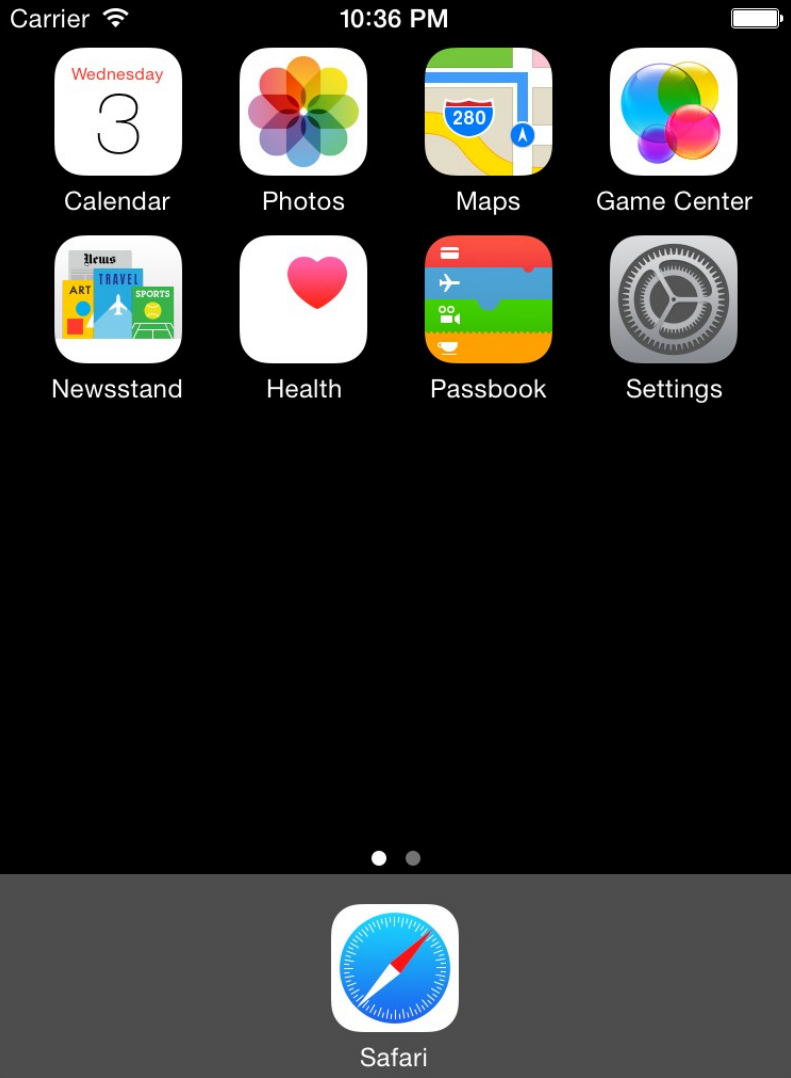
Rated 4+

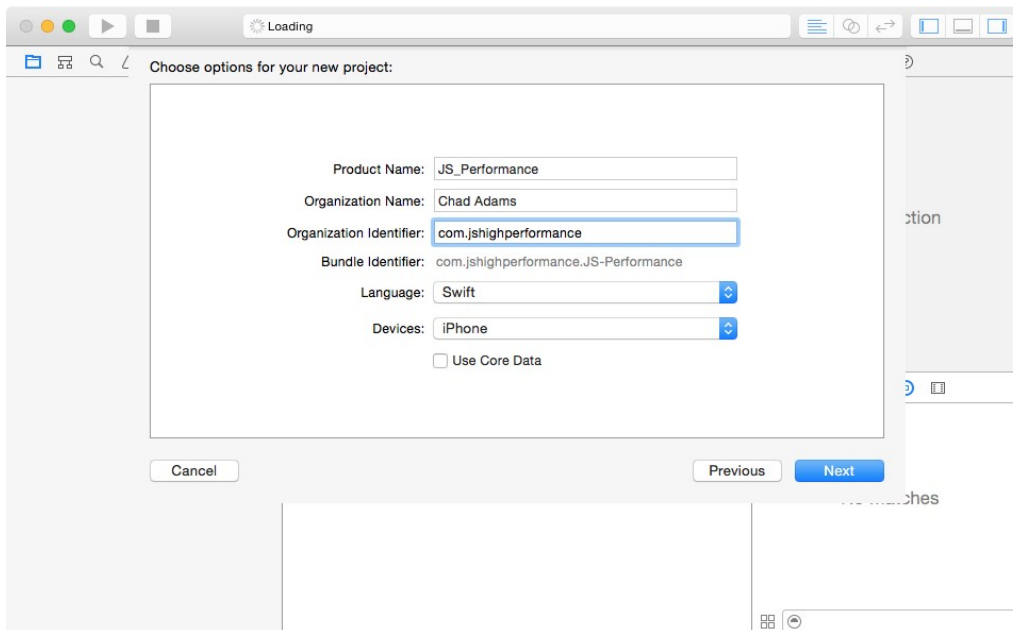
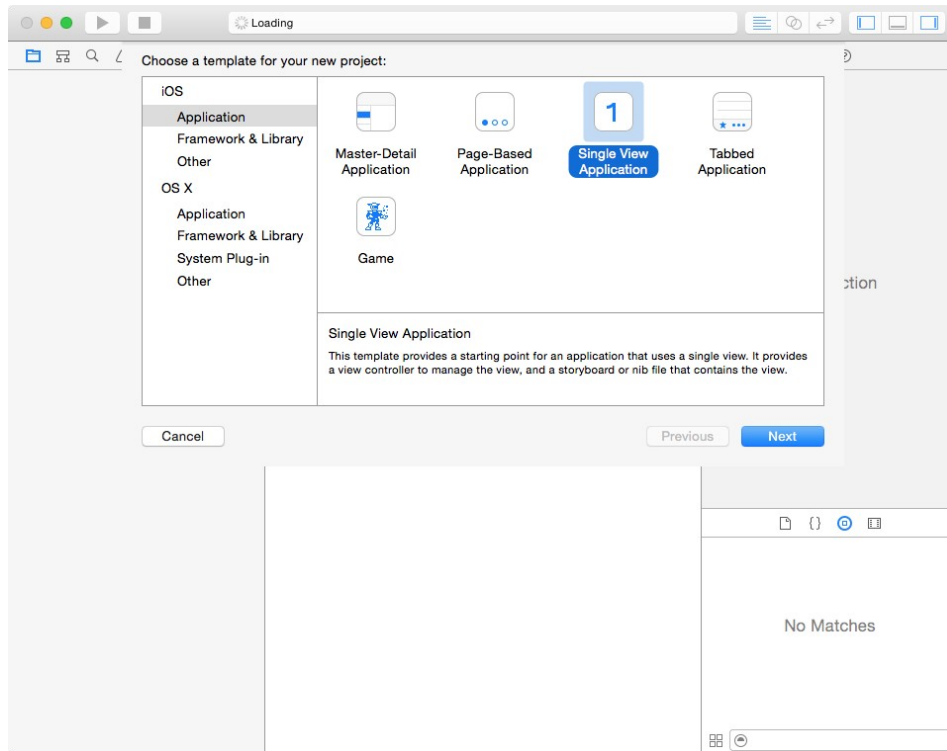
Compatibility:

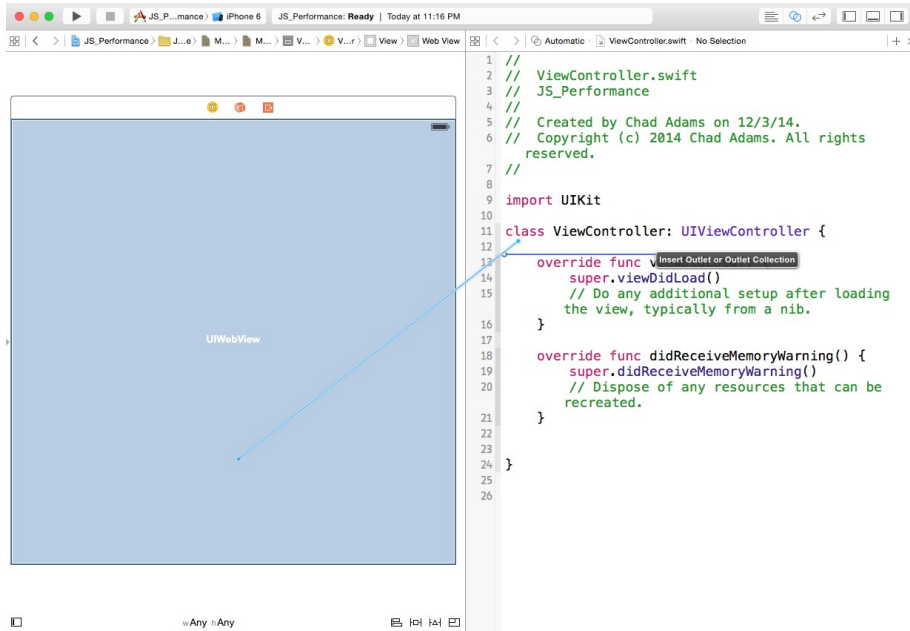
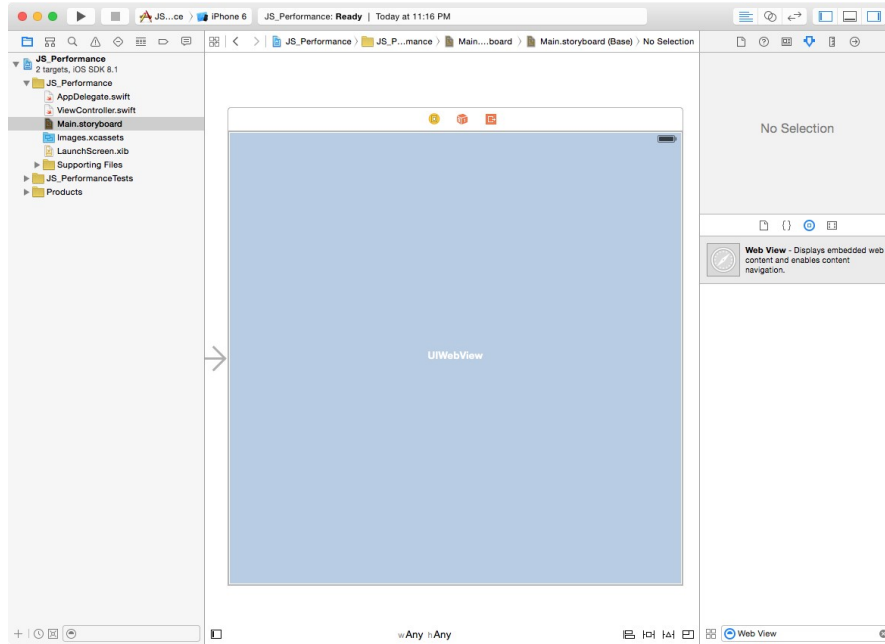
OS X 10.9.4 or later

More by Apple

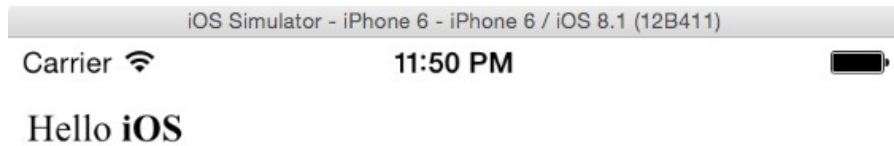




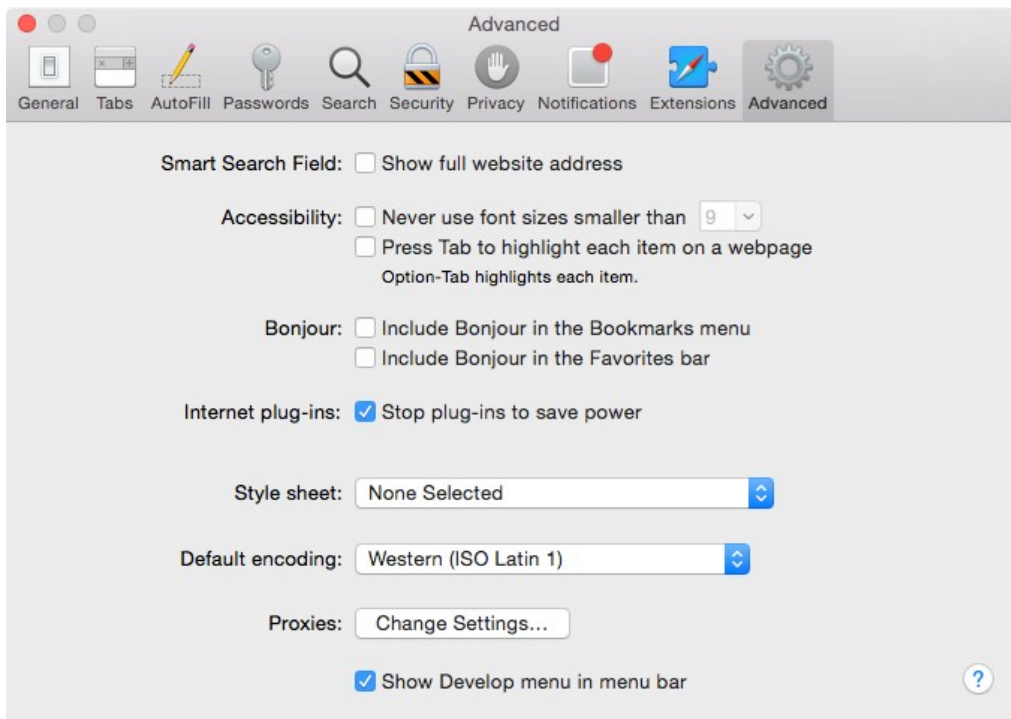


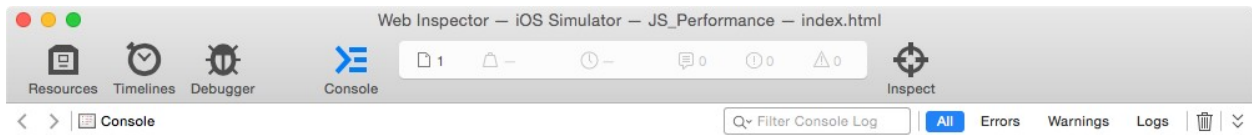
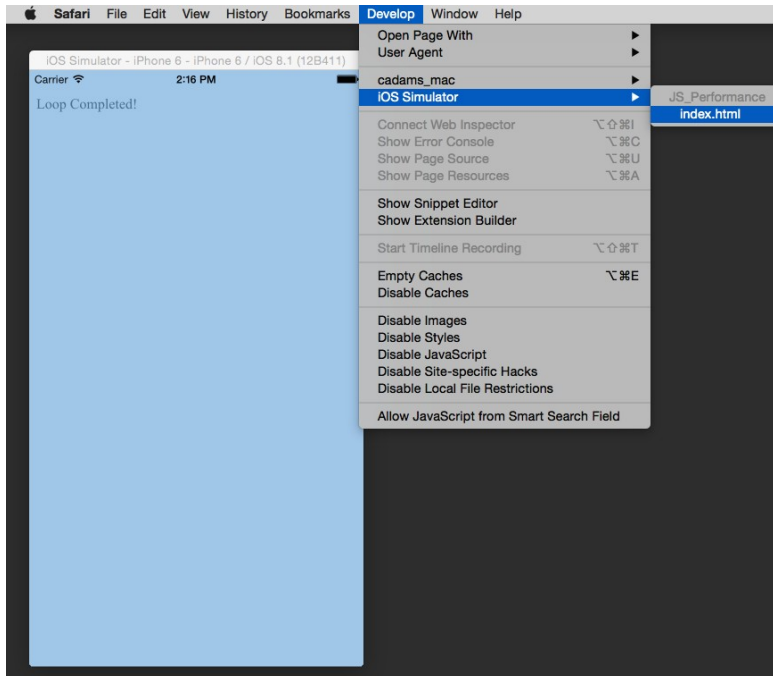


```
1 //
2 // ViewController.swift
3 // JS_Performance
4 //
5 // Created by Chad Adams on 12/3/14.
6 // Copyright (c) 2014 Chad Adams. All rights reserved.
7 //
8
9 import UIKit
10
11 class ViewController: UIViewController {
12     @IBOutlet weak var webView: UIWebView!
13
14     override func viewDidLoad() {
15         super.viewDidLoad()
16         // Do any additional setup after loading the view, typically from a nib.
17
18         let bundle = NSBundle.mainBundle()
19         let pathofhtml = bundle.pathForResource("index", ofType: "html")
20
21         webView.loadRequest(NSURLRequest(URL: NSURL(fileURLWithPath: pathofhtml!)))
22     }
23
24
25     override func didReceiveMemoryWarning() {
26         super.didReceiveMemoryWarning()
27         // Dispose of any resources that can be recreated.
28     }
29
30
31 }
32
```

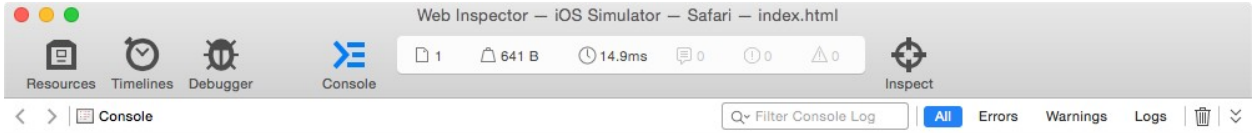


```
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5     <title>Chapter 09 - 01</title>
6   </head>
7   <body>
8     <div id="result"></div>
9     <script>
10      window.onload = function() {
11        console.time("Timer");
12        for (var i = 0; i <= 3000; i++) {
13          if (i == 3000) {
14            var timeEnd = console.timeEnd("Timer");
15            document.getElementById("result").innerHTML = "<br />Loop Completed!";
16          }
17        }
18      }
19    </script>
20  </body>
21 </html>
```

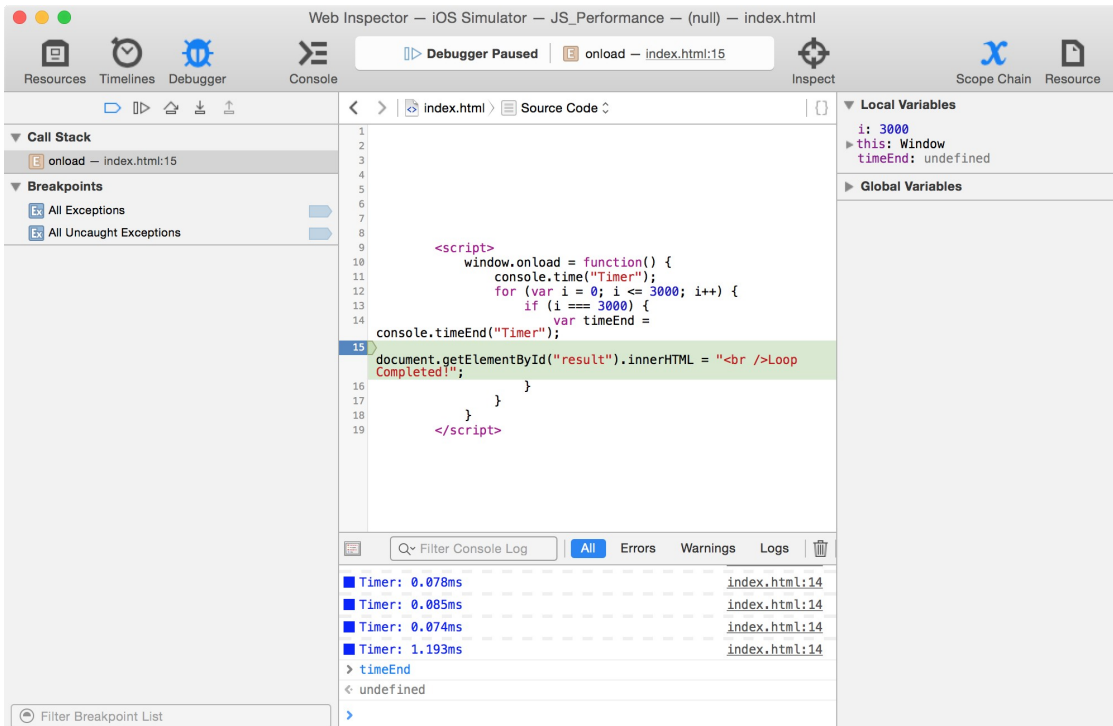


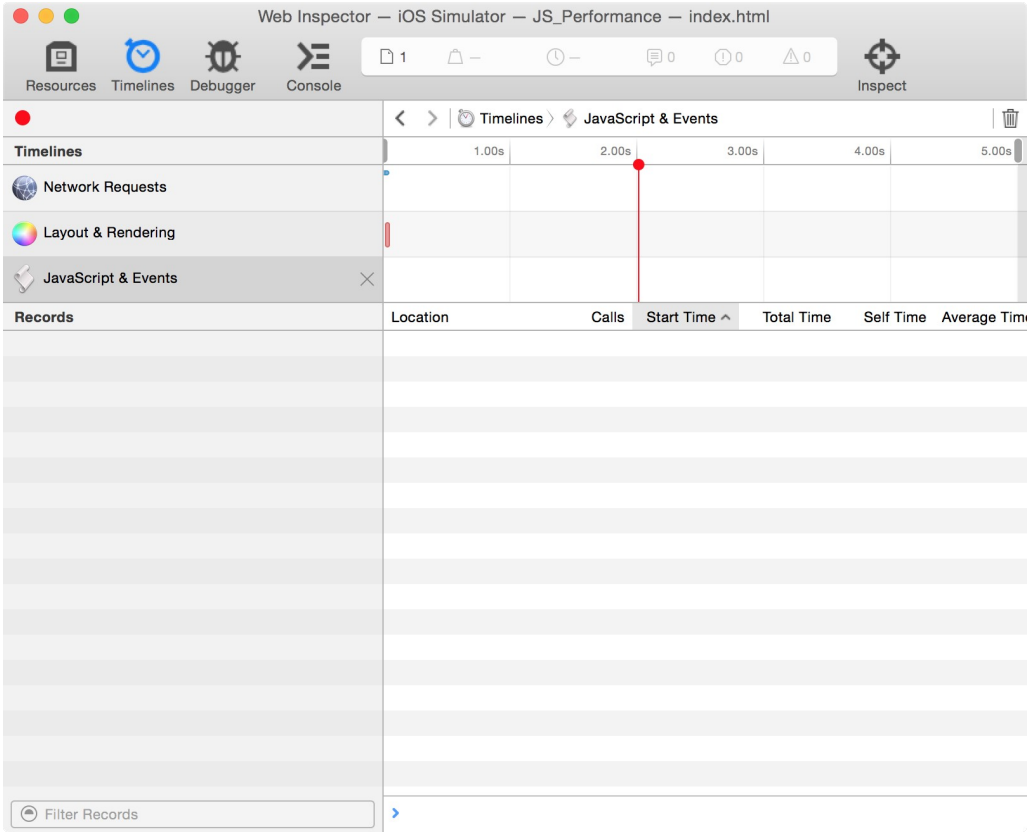


■ Timer: 0.081ms index.html:14
>



■ Timer: 0.070ms index.html:14
>





```
Finished running JS_Performance on iPhone 6
<!DOCTYPE HTML>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
    <title>Chapter 09 - 02</title>
  </head>
  <body style="text-align: center">
    <br />
    <button onclick="start()">Start animation</button>
    <div id="updateDiv" style="background: -webkit-linear-gradient(top, #959595 0%,#0d0d0d 46%,#010101 50%,#0a0a0a 53%,#4e4e4e 76%,#383838 87%,#1b1b1b 100%);"></div>
    <script>
      function start() {
        var divHeight = 1;
        document.getElementsByTagName("button")[0].innerText = "Started animation";
        document.getElementsByTagName("button")[0].disabled = "disabled";
        var interval = setInterval(function(){
          divHeight++;
          document.getElementById("updateDiv").style.webkitTransform = "translate3d(0, 0, 0)";
          document.getElementById("updateDiv").style.width = "120px";
          document.getElementById("updateDiv").style.margin = "10px auto";
          document.getElementById("updateDiv").style.height = divHeight + "px";
        }, 1);
      }
    </script>
  </body>
</html>
```

iOS Simulator - iPhone 6 - iPhone 6 / iOS 8.1 (12B411)

Carrier



3:46 PM



Started animation



Chapter 10

The screenshot shows the GitHub interface for the 'jasmine / jasmine' repository. The browser address bar shows 'GitHub, Inc.'. The repository name 'jasmine / jasmine' is displayed with 7,980 stars and 1,247 forks. The 'Releases' tab is selected, showing a list of four releases: 2.1.3 (latest), 2.1.2, 2.1.1, and 2.1.0. Each release entry includes the version number, the release date, the number of commits since the previous release, and links to download the source code in zip or tar.gz format. The 'jasmine-standalone-2.1.3.zip' link for the latest release is highlighted in green.

GitHub, Inc.

GitHub This repository Search Explore Features Enterprise Blog Sign up Sign in

jasmine / jasmine ★ Star 7,980 🍴 Fork 1,247

Releases Tags

Latest release

v2.1.3
b56c2a6

2.1.3
slacksoft released this 14 days ago · 8 commits to master since this release
Please see the [release notes](#)
jasmine-standalone-2.1.3.zip Source code (zip) Source code (tar.gz)

v2.1.2
2517ddf

2.1.2
slacksoft released this 29 days ago · 15 commits to master since this release
Please see the [release notes](#)
jasmine-standalone-2.1.2.zip Source code (zip) Source code (tar.gz)


v2.1.1
25c546a

2.1.1
slacksoft released this on Nov 14 · 17 commits to master since this release
Please see the [release notes](#)
jasmine-standalone-2.1.1.zip Source code (zip) Source code (tar.gz)

v2.1.0
216b404

2.1.0
slacksoft released this on Nov 14 · 20 commits to master since this release
Please see the [release notes](#)
jasmine-standalone-2.1.0.zip Source code (zip) Source code (tar.gz)

file:///Users/chadadams/Desktop/jasmine-standalone-2/SpecRunner.html

 **Jasmine** 2.1.3 finished in 0.002s

● ● ● ● ●

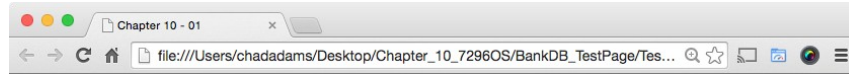
5 specs, 0 failures raise exceptions

```
Player
  should be able to play a Song
  when song has been paused
    should indicate that the song is currently paused
    should be possible to resume
  tells the current song if the user has made it a favorite
  #resume
    should throw an exception if song is already playing
```

```

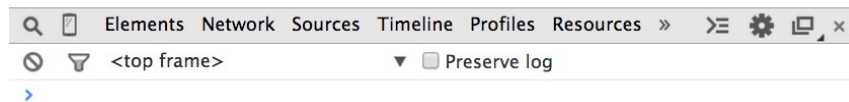
1 // Gender Enumeration
2 var Gender;
3 (function (Gender) {
4     Gender[Gender["Male"] = 0] = "Male";
5     Gender[Gender["Female"] = 1] = "Female";
6     Gender[Gender["Alien"] = 2] = "Alien";
7 })(Gender || (Gender = {}));
8
9 // @class BankDB - Client-side database class object, with common query functions.
10 var BankDB = (function () {
11     function BankDB(_customer) {
12         this.customerID = _customer.customerID;
13         this.customerBalance = _customer.customerBalance;
14         this.customerName = _customer.customerName;
15         this.customerCity = _customer.customerCity;
16         this.customerGender = _customer.customerGender;
17         this.customerMarried = _customer.customerMarried;
18     }
19
20     BankDB.prototype.requestCustomerCityName = function () {
21         return "City: " + this.customerCity;
22     };
23
24     BankDB.prototype.requestBankBalance = function () {
25         var stringBalance = "Balance: $" + this.customerBalance;
26         return stringBalance;
27     };
28
29     BankDB.prototype.requestCustomerGreeting = function () {
30         var stringBalance;
31         switch (this.customerGender) {
32             case 0:
33                 stringBalance = "Hello Mr. " + this.customerName[1] + ".";
34                 break;
35             case 1:
36                 if (this.customerMarried) {
37                     stringBalance = "Hello Mrs. " + this.customerName[1] + ".";
38                 }
39                 else {
40                     stringBalance = "Hello Miss. " + this.customerName[1] + ".";
41                 }
42                 break;
43             case 2:
44                 stringBalance = "Live long and prosper " + this.customerName[1] + ".";
45                 break;
46             default:
47                 stringBalance = "Hello " + this.customerName[1] + ".";
48                 break;
49         }
50         return stringBalance;
51     };
52     return BankDB;
53 })();
54
55 // New Customer data value
56 var newCustomer = {
57     customerID: 54323421,
58     customerName: "Leonard Adams",
59     customerBalance: "40000",
60     customerCity: "Raymore",
61     customerGender: 0 /* Male */,
62     customerMarried: 'false'
63 };
64
65 // New request to the client-side database.
66 var request = new BankDB(newCustomer);
67 document.body.style.fontFamily = "'Segoe UI', Helvetica, Arial, sans-serif";
68 document.body.style.fontSize = "2em";
69 document.body.style.textAlign = "center";
70 document.body.innerHTML += "<br />" + request.requestCustomerGreeting();
71 document.body.innerHTML += "<br />" + request.requestCustomerCityName();
72 document.body.innerHTML += "<hr /><br /><strong>" + request.requestBankBalance() + "</strong>";
73

```



Hello Mr. e.
City: Raymore

Balance: \$40000



```
Chapter_10_01Spec.js Chapter_10_01Spec.js
1
2 describe("New Customer data test: ", function() {
3
4   it("Customer's ID should be a number.", function() {
5     expect(typeof newCustomer.customerID).toEqual("number");
6   });
7
8   it("Customer's name should be in an array object, (ex ['FirstName', 'LastName'] ).",
9     function() {
10      expect(typeof newCustomer.customerName).toEqual("object");
11    });
12
13   it("Customer's bank balance should be a number.", function() {
14     expect(typeof newCustomer.customerBalance).toEqual("number");
15   });
16
17   it("Customer's city name should be a string.", function() {
18     expect(typeof newCustomer.customerCity).toEqual("string");
19   });
20
21   it("Customer's gender should be a number.", function() {
22     expect(typeof newCustomer.customerGender).toEqual("number");
23   });
24
25   it("Customer's marriage status is a boolean.", function() {
26     expect(typeof newCustomer.customerMarried).toEqual("boolean");
27   });
28 });
29
```

Jasmine 2.1.3 finished in 0.009s

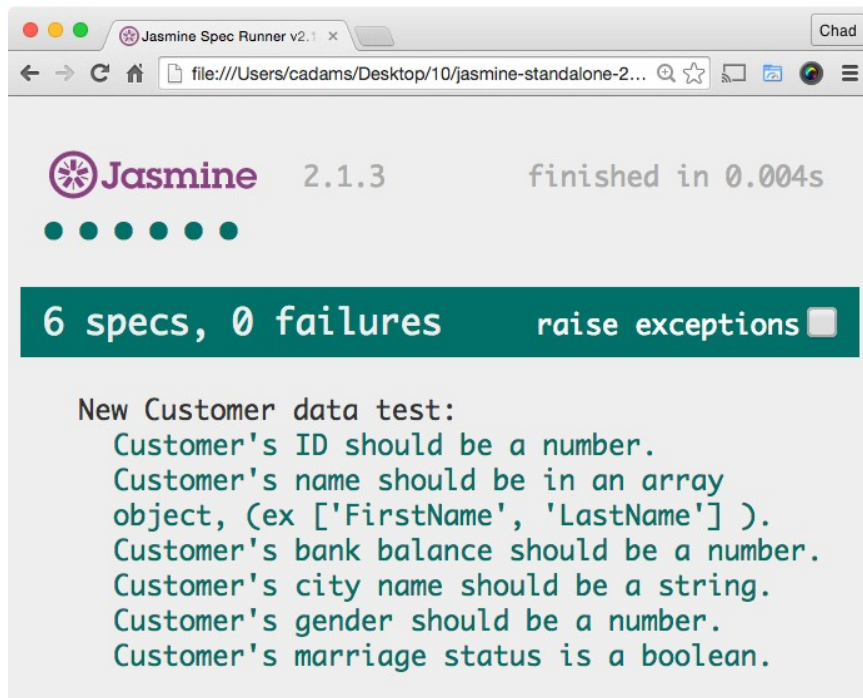
● ×× ● ● ×

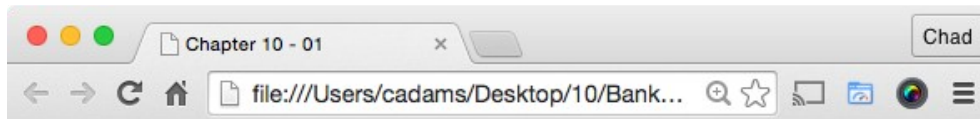
6 specs, 3 failures raise exceptions

Spec List | Failures

New Customer data test:
Customer's ID should be a number.
Customer's name should be in an array object, (ex ['FirstName', 'LastName']).
Customer's bank balance should be a number.
Customer's city name should be a string.
Customer's gender should be a number.
Customer's marriage status is a boolean.

```
Chapter_10_01
Chapter_10_01
55 // New Customer data value
56 var newCustomer = {
57     customerID: 54323421,
58     customerName: ["Leonard", "Adams"],
59     customerBalance: 40000,
60     customerCity: "Raymore",
61     customerGender: 0 /* Male */,
62     customerMarried: false
63 };
..
```





Hello Mr. Adams.
City: Raymore

Balance: \$40000

A screenshot of a web browser's developer tools. The "Elements" panel shows the HTML structure of the page. The "Styles" panel shows the CSS rules applied to the selected element. The "Computed" tab is active, showing the final styles. A box model diagram is visible at the bottom of the styles panel, showing the margin, border, padding, and content area dimensions.

```
<!DOCTYPE html>
<html>
  <head>...</head>
  <body style="font-family: 'Segoe UI', Helvetica, Arial, sans-serif; font-size: 2em; text-align: center;">
    <script type="text/javascript" src="10_01.js"></script>
    <br>
    "Hello Mr. Adams."
    <br>
    "City: Raymore"
    <hr>
    <br>
    <strong>Balance: $40000</strong>
  </body>
</html>
```

Styles Computed »

```
element.style {
  font-family: 'Segoe UI', Helvetica, Arial, sans-serif;
  font-size: 2em;
  text-align: center;
}

user agent stylesheet
body {
  display: block;
  margin: 8px;
}
```

margin 8

border -

padding -

456.800 x 193.600

8

html body Find in Styles