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EDIBO
European Digital Bootcamps

JavaScript Developer's Tools

GitHub

Outline

- JavaScript application developer's Tools
- Node.js
- NPM
- NVM
- Bower
- Git & GitHub
- Gulp & Grunt
- Yeoman
- Sublime
- Visual Studio Code

JavaScript application developer's Tools

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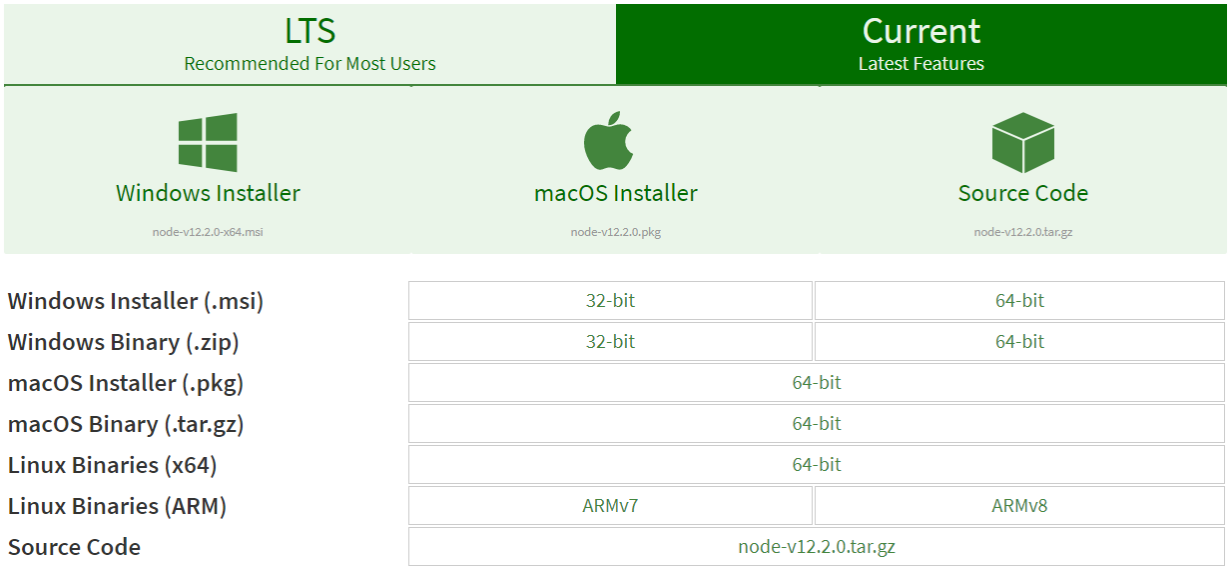
- Node.js is an interpreter of Javascript that runs on the server side, is based on the Google V8 engine and manages an event-oriented paradigm.
- It was made with the aim of creating highly scalable applications and websites.

Download



We are going to use NVM for Windows to manage Node.js program!

Node Version Manager

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Node.js evolves quickly . It is necessary to use a version manager. Node Version Manager (NVM) is a suitable solution!

Unix like LINUX MAC

curl -o- https://raw.githubusercontent.com/nvm-sh/nvm/v0.34.0/install.sh | bash

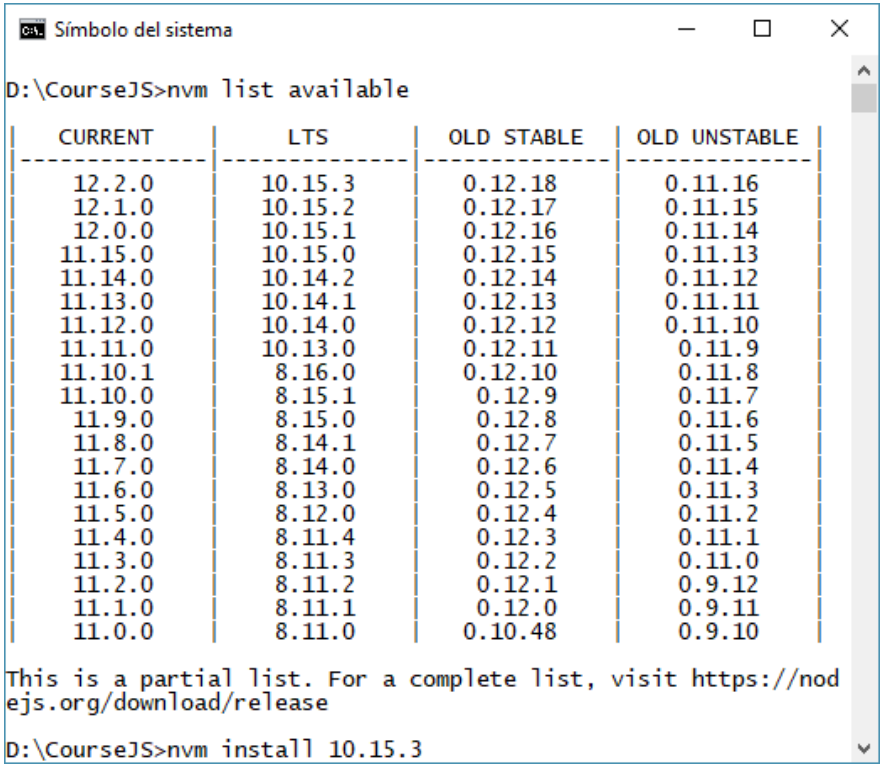
Windows version 1.1.7 Installer

Execute commands:

nvm list available

nvm install 10.15.3

nvm use 10.15.3



Node Version Manager (cont)

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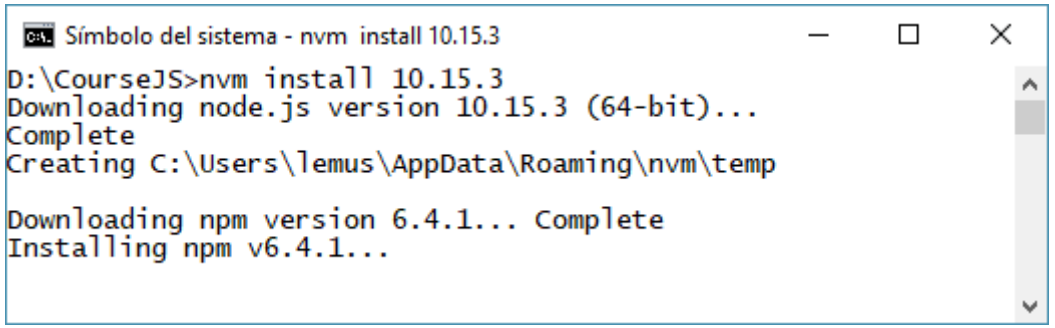
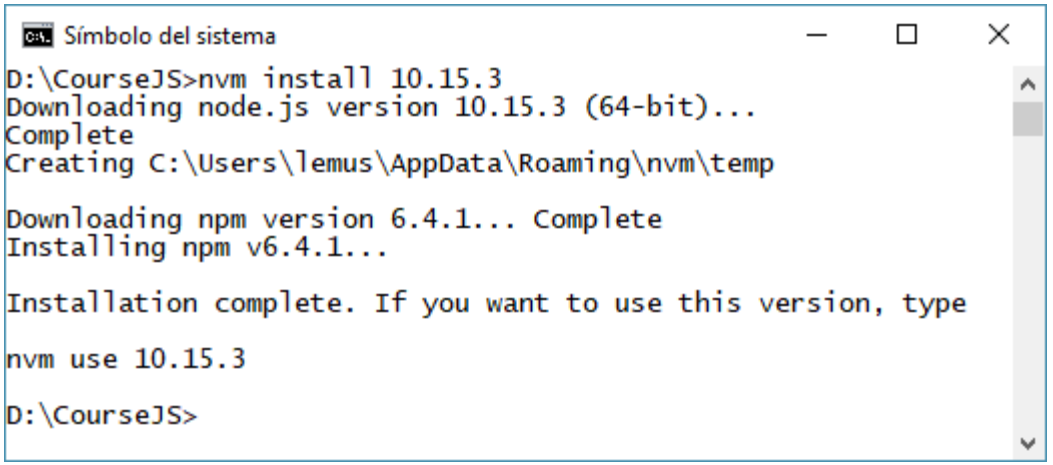
Using NVM it is possible to have several Node versions at the same time.
Executing nvm use <version> developers can switch between Node.js versions

When developing an application it is necessary to know what Node version and NPM version are user.





Node Version Manager (cont)

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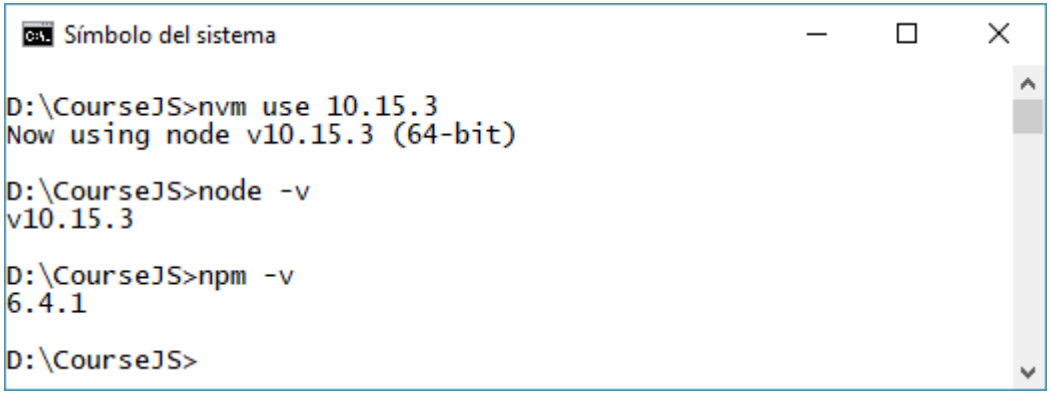
When developing an application it is necessary to know what Node version and NPM version are used.

Node.js version 10.15.3 and NPM version 6.4.1 will be used in our course!



NPM

- NPM is the acronym of "Node Package Manager“
- One of the main reasons because NPM is popular is because it provides a fast and optimal way to acquire and organize modules
- NPM is installed when installing Nde.js Web Site

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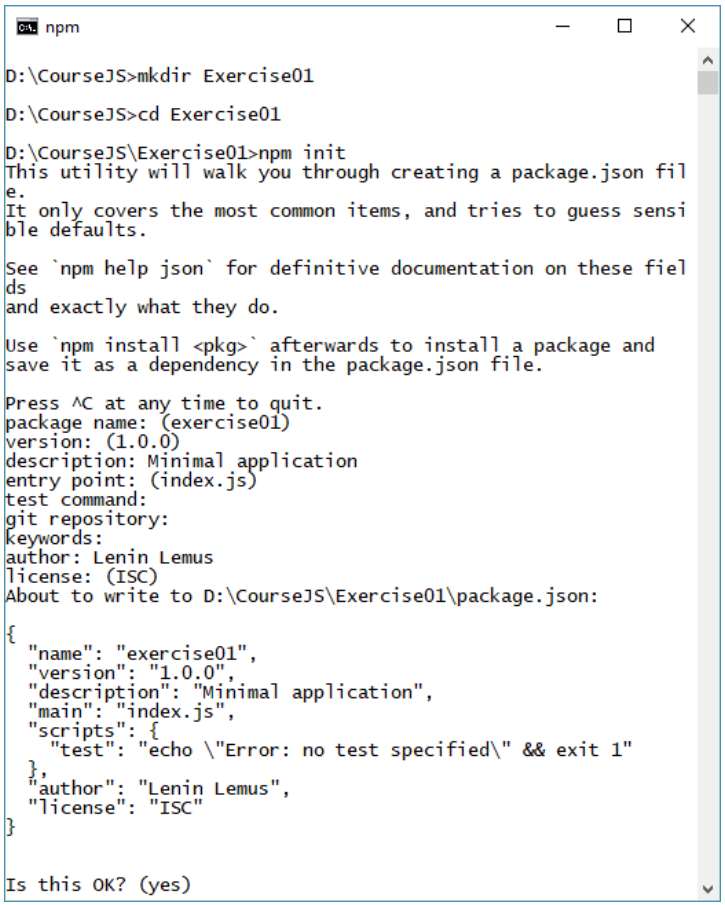
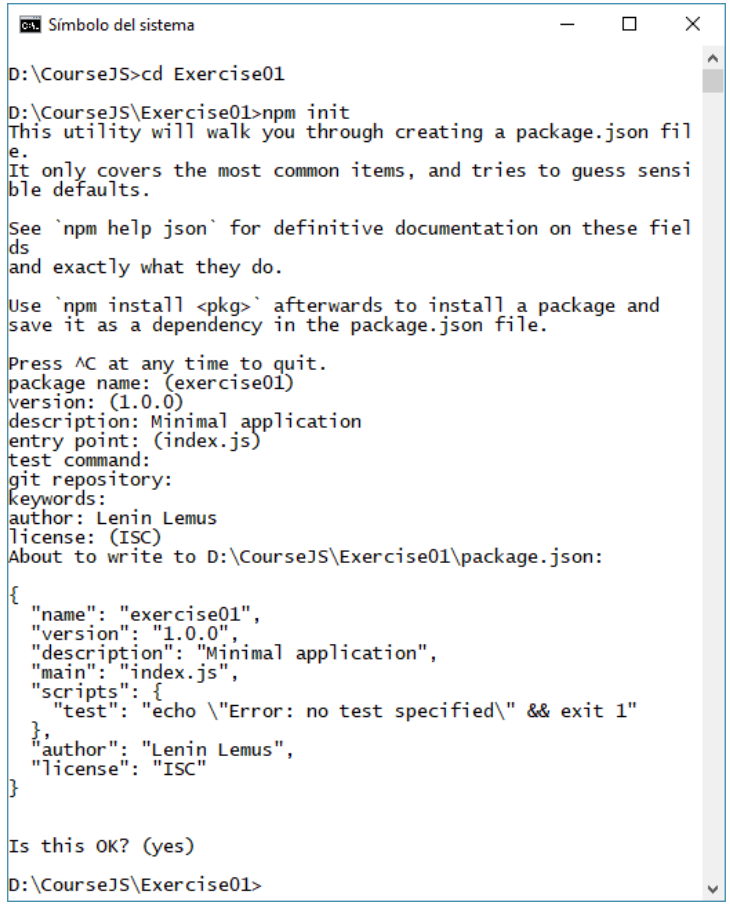
Once Node.js and NPM are installed, to start a new Node’s project: execute in Windows CLI: npm init





Classical Hello World Application using Node.js

NPM

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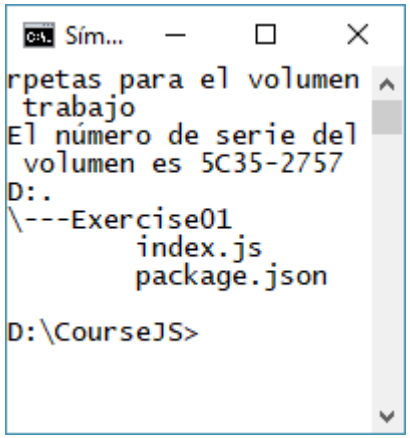
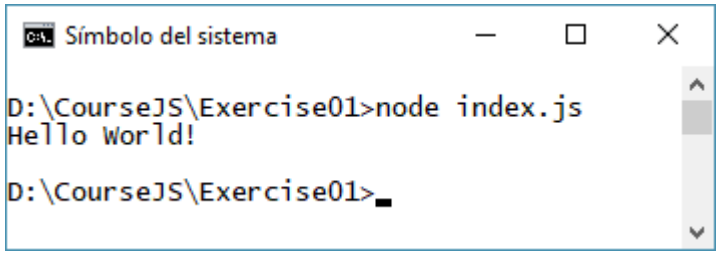
1) Open folder d:\CourseJS\Exercise01
2) Create file index.js
3) Write inside the file index.js:
   console.log('Hello World!');
4) Execute command tree /A /F d:\CourseJS
5) Execute command node index.js





NPM

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Adding modules

1) npm install --save lodash
2) npm install --save-dev chai
3) npm install --save-dev mocha
4) npm install --save-dev chai
5) npm install --save-dev grunt

package.json

```
{
  "name": "exercise01",
  "version": "1.0.0",
  "description": "Minimal application",
  "main": "index.js",
  "scripts": {
    "test": "node ./node_modules/mocha/bin/mocha"
  },
  "author": "Lenin Lemus",
  "license": "ISC",
  "dependencies": {
    "c3": "^0.7.0",
    "lodash": "^4.17.11"
  },
  "devDependencies": {
    "chai": "4.1.2",
    "grunt": "1.0.0",
    "jasmine-node": "2.0.0",
    "mocha": "6.1.0"
  }
}
```

NCU

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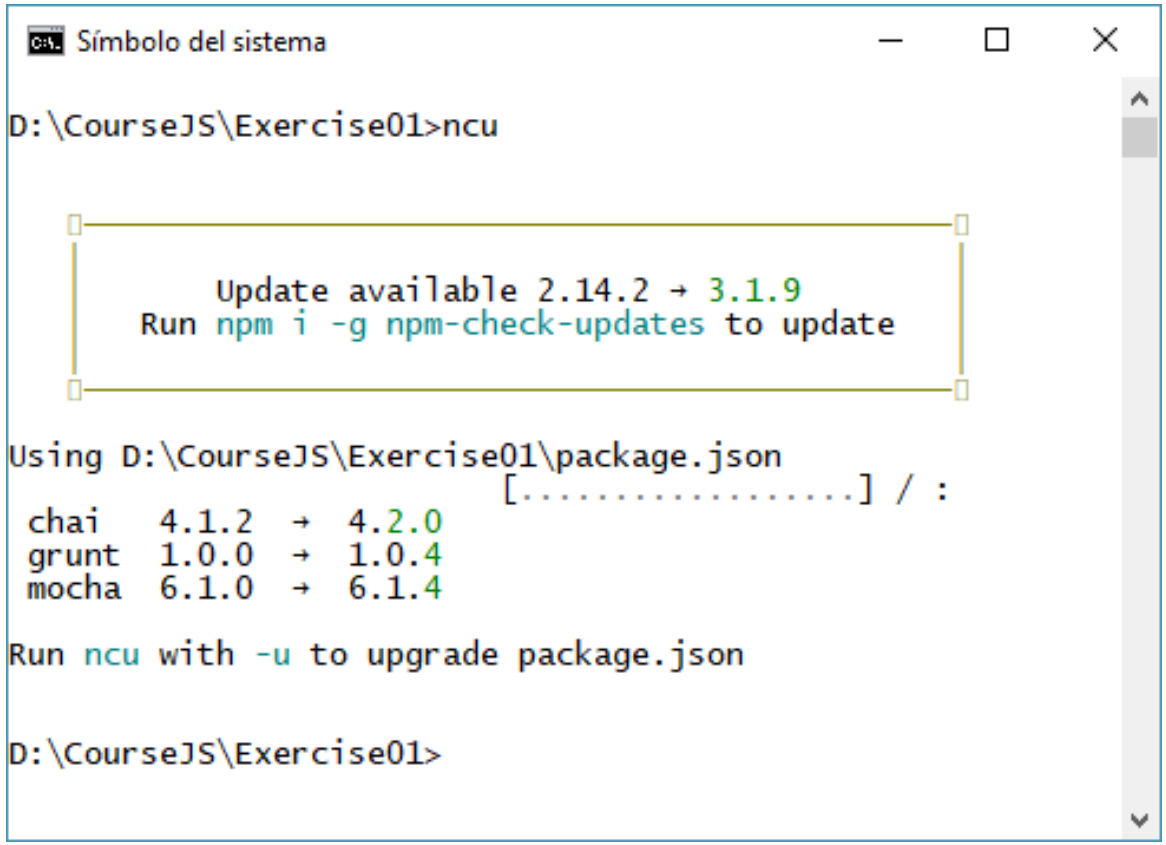
Node check Updates

npm-check-updates upgrades your package.json dependencies to the latest versions, ignoring specified versions.

Installation: npm install -g npm-check-updates



NCU

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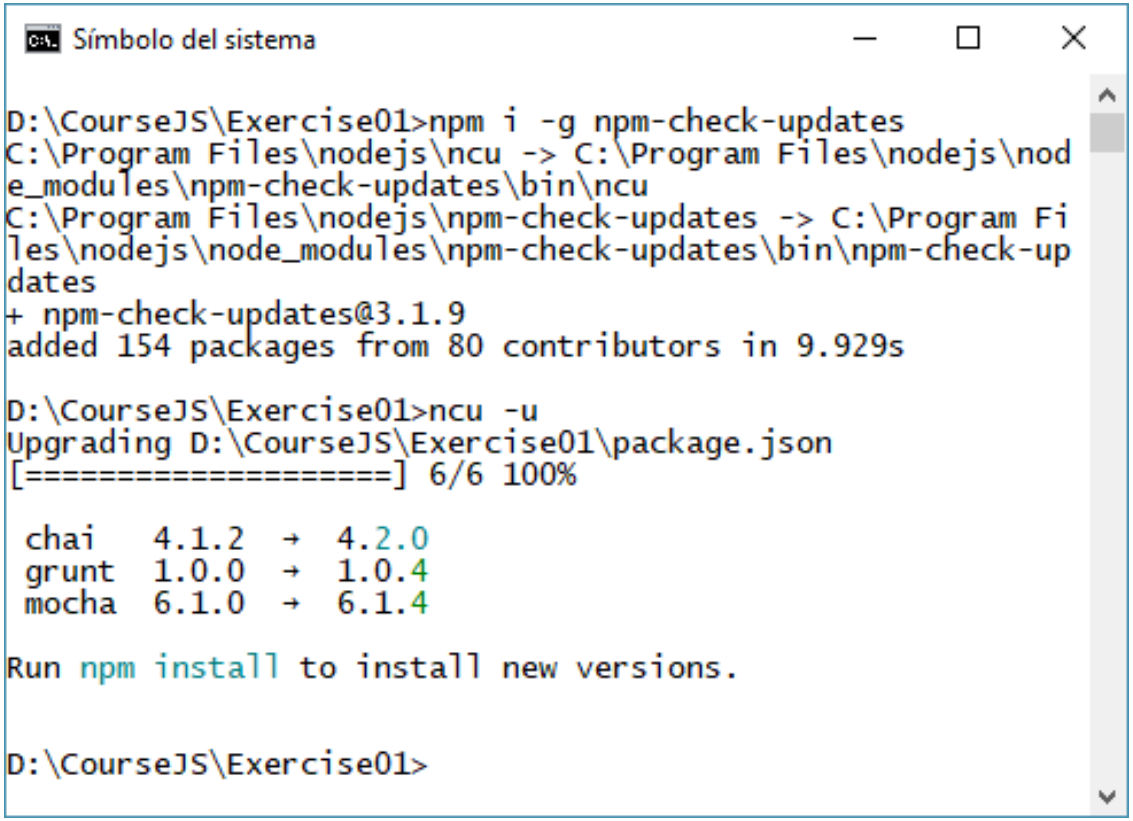
Node check Updates (ncu)

1) npm i -g npm-check-updates
2) ncu -u



Bower

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Bower: A package manager for the web

Web sites are made of lots of things — frameworks, libraries, assets, and utilities. Bower manages all these things for you. Bower is a command line utility. Install it with npm.

Installation: npm install -g bower

Bower requires node, npm and git.

Example:

```
# installs the project dependencies listed in bower.json
bower install
# registered package
bower install jquery
# GitHub shorthand
bower install desandro/masonry
# Git endpoint
bower install git://github.com/user/package.git
# URL
bower install http://example.com/script.js
```

GIT

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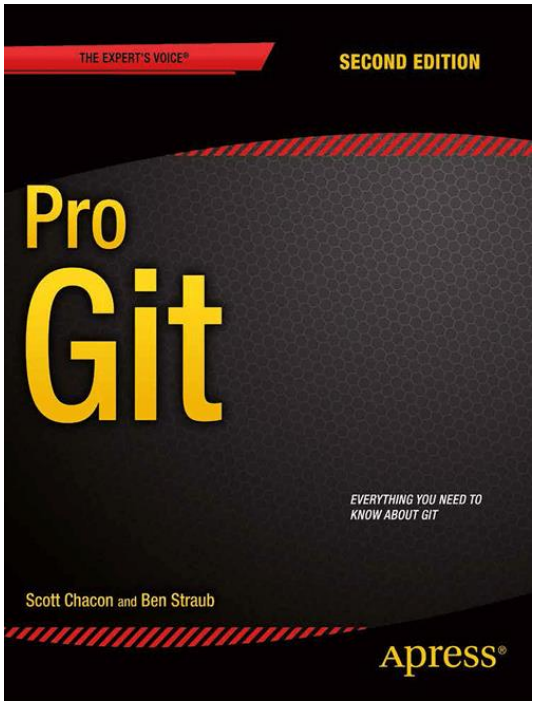
[What is version control]

[What is GIT?]

[Get Going with GIT]

[Quick Wins with Git]



1. What is GitHub?
2. ¿Que es GitHub?

GitHub

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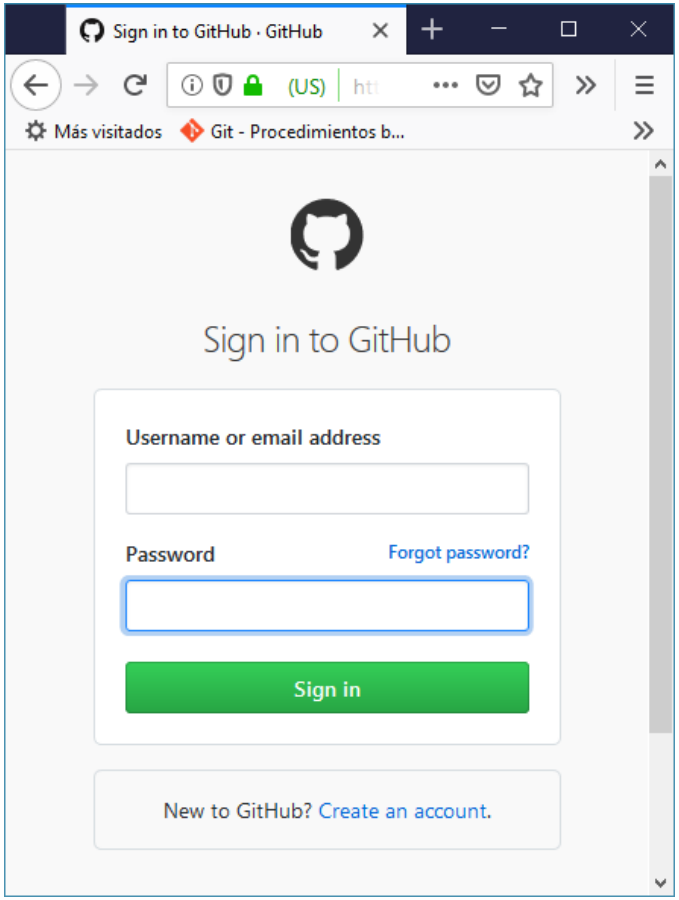
If you do not have an account create one!



GULP

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What is gulp.js and why use it?

Installation: cd myproject
npm install --save-dev gulp

There's no point in investing your time into learning a new tool if you don't even know what problem it solves.
Gulp solves the problem of repetition.
Many of the tasks that web developers find themselves doing over and over on a daily basis can be simplified by becoming automated.
Automating repetitive tasks = more time to do non repetitive tasks = more productivity.

Gulp is a javascript task runner that lets you automate tasks such as…

- Bundling and minifying libraries and stylesheets.
- Refreshing your browser when you save a file.
- Quickly running unit tests
- Running code analysis
- Less/Sass to CSS compilation
- Copying modified files to an output directory

GULP

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Creating a gulpfile

A gulpfile is a file that will act as a manifest to define our tasks.
Tasks that we want to execute will be found within this file.

Whenever we run the command `gulp hello-world` from the command line, we are telling gulp that we want to run the hello-world task within gulpfile.js.

After creating gulpfile.js within the root of your project, add a basic tasks.

gulpfile.js

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

gulp.task('hello-world',
 function(){
   console.log('hello world');
 }
);
```

Practical example:
Follow the instructions from the following link: Practical Example

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GRUNT: The JavaScript Task Runner

Why use a task runner?

In one word: automation.

The less work you have to do when performing repetitive tasks like minification, compilation, unit testing, linting, etc, the easier your job becomes.

After you've configured it through a Gruntfile, a task runner can do most of that mundane work for you—and your team—with basically zero effort.

Why use Grunt?

The Grunt ecosystem is huge and it's growing every day.

With hundreds of plugins to choose from, you can use Grunt to automate just about anything with a minimum of effort.

If someone hasn't already built what you need, authoring and publishing your own Grunt plugin to npm is a breeze.

See how to get started.

YEOMAN

YEOMAN: THE WEB'S SCAFFOLDING TOOL FOR MODERN WEBAPPS

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What's Yeoman?

Yeoman helps you to kickstart new projects, prescribing best practices and tools to help you stay productive.

Yeoman provides a generator ecosystem.

- A generator is basically a plugin that can be run with the `yo` command to scaffold complete projects or useful parts.

Through our official Generators, we promote the "Yeoman workflow".

A workflow is a robust and opinionated client-side stack, comprising tools and frameworks that can help developers quickly build beautiful web applications.

Yeoman takes care of providing everything needed to get started without any of the normal headaches associated with a manual setup.

With a modular architecture that can scale out of the box, we leverage the success and lessons learned from several open-source communities to ensure the stack developers use it as intelligent as possible.

YEOMAN's Tools

The Yeoman workflow comprises three types of tools for improving your productivity and satisfaction when building a web app: the scaffolding tool, the build tool and the package manager

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yo scaffolds out a new application, writing your build configuration (e.g Gulpfile) and pulling in relevant build tasks and package manager dependencies (e.g npm) that you might need for your build.

The **Build System** is used to build, preview and test your project.

Gulp and Grunt are two popular options.

The Package Manager is used for dependency management, so that you no longer have to manually download and manage your scripts.

npm and Bower are two popular options.

Sublime: A sophisticated text editor for code, markup and prose

Download

Among other characteristics, Sublime provides programmers with:

- Capability to make Multiple selections
- A powerful API and Package Ecosystem
- An interface that can be fully customized
- A command Palette. It holds infrequently used functionality like sorting, changing the syntax, …
- Split editing in several windows
- Capability to make an Instant Project Switch
- Versions for Mac, Windows and Linux (Cross Platform)
- A Sublime sister product: Sublime merge
  - Sublime merge is a git Client designed with the sublime style

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Visual Studio Code:

Download

Visual Studio Code is a lightweight source code editor which runs on your desktop and is available for Windows, macOS and Linux.
It comes with built-in support for JavaScript, TypeScript and Node.js and has a rich ecosystem of extensions for other languages (such as C++, C#, Java, Python, PHP, Go) and runtimes (such as .NET and Unity)

VSC Top Extensions
Enable additional languages, themes, debuggers, commands, and more.
VS Code's growing community shares their secret sauce to improve your workflow.

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