

# SESSION 1 - FOUNDATION

Part 4 - React Tools

## Part 4 - React Tools

Requirement

Editor/Build Tools Chain

- Online Editors

- Git, Nodejs

- VS Code

- Create-react-app

- npm start/build/test

- Yarn

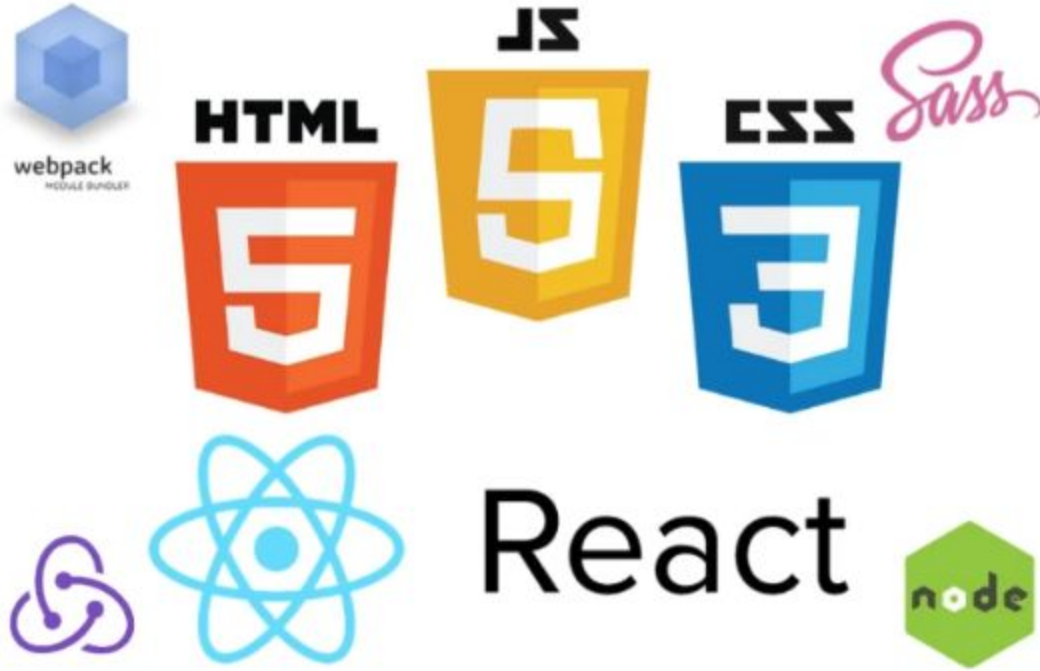
- WebPack

- Babel

- React Developer Tool

# Requirement

HTML5, CSS 3, Javascript is absolute requirement



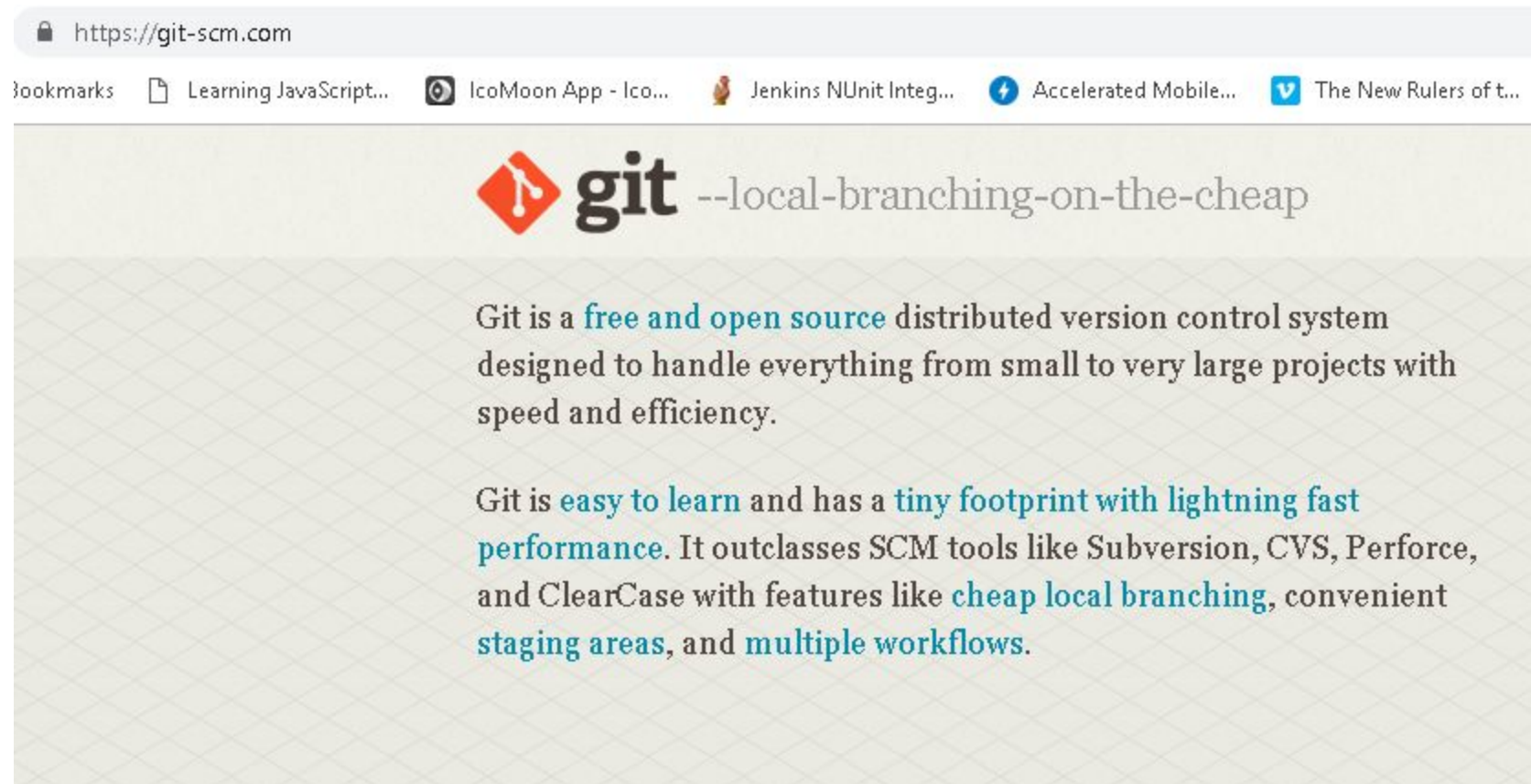
# Online Editors

<https://stackblitz.com/>

<https://repl.it/languages/>

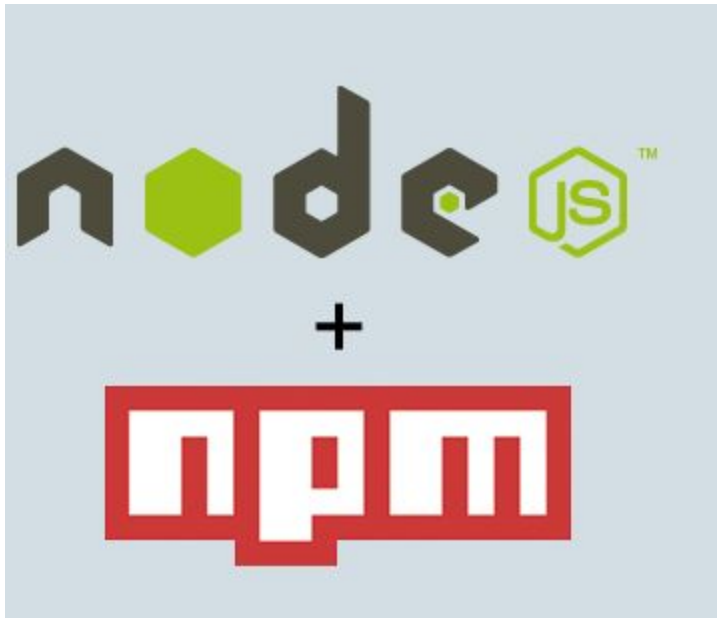


# Git



```
git --version  
git version 1.7.7.3
```

# Nodejs/ npm



```
node --version
*v8.9.4
npm --version
*v5.6.0
```

NPM short for **Node.js package manager**

**npm** is written entirely in JavaScript and was developed by Isaac Z. Schlueter as a result of having "seen module packaging done terribly" and with inspiration from other similar projects such as [PEAR](#) ([PHP](#)) and [CPAN](#) ([Perl](#)).<sup>[3]</sup>

**PEAR - PHP Extension and Application Repository**

**CPAN - Comprehensive Perl Archive Network**



**Over 477,000 packages are available on the main npm registry.<sup>[15]</sup>**  
**The registry has no vetting process for submission, which means that packages found there can be low quality, insecure, or malicious**





🔍 axios

Search

Join

Log In

878 packages found

1

2

3

...

44

»

Popularity

Quality

Maintenance

**axios**

Promise based HTTP client for the browser and node.js

xhr http ajax promise node

 **emilyemorehouse** published 0.18.0 • a year ago



**axios-retry**

Axios plugin that intercepts failed requests and retries them whenever possible.

 **softonic** published 3.1.2 • 2 months ago



**@nuxtjs/axios**

Secure and easy axios integration with Nuxt.js

 **pi0** published 5.4.1 • 20 days ago



Install package globally. Global packages are usually for executable commands.

```
1 $ npm install <package name> -g
2 # example
3 $ npm install express -g
4 # now we can use express to generate a new app
```

Install package locally. Local packages are for the use of `require` in the app.

```
1 $ cd /path/to/the/project
2 $ npm install <package name>
3 # example
4 $ npm install express
5 # now you can use `var express`
```

## Uninstall global package.

```
1 $ npm uninstall <package name> -g
2 # example
3 $ npm uninstall express -g
```

## Uninstall local package.

```
1 $ cd /path/to/the/project
2 $ npm uninstall <package name>
3 # example
4 $ npm uninstall express
```

List global packages.

```
1 $ npm ls -g
```

List local packages.

```
1 $ cd /path/to/the/project  
2 $ npm ls -l
```

Update global packages.

```
1 $ npm update -g
```

Update local packages.

```
1 $ cd /path/to/the/project  
2 $ npm update
```

## package.json

```
01  {  
02    "name": "your app name"  
03    , "version": "0.0.1"  
04    , "private": true  
05    , "dependencies": {  
06      "express": ">=2.5.0"  
07      , "jade": ">= 0.16.4"  
08      , "mongoose": ">=2.3.10"  
09    }  
10  }
```

# VS Code

**Visual Studio Code is a source-code editor developed by Microsoft for Windows, Linux and macOS.**

**It includes support for debugging, embedded Git control, syntax highlighting, intelligent code completion, snippets, and code refactoring.**



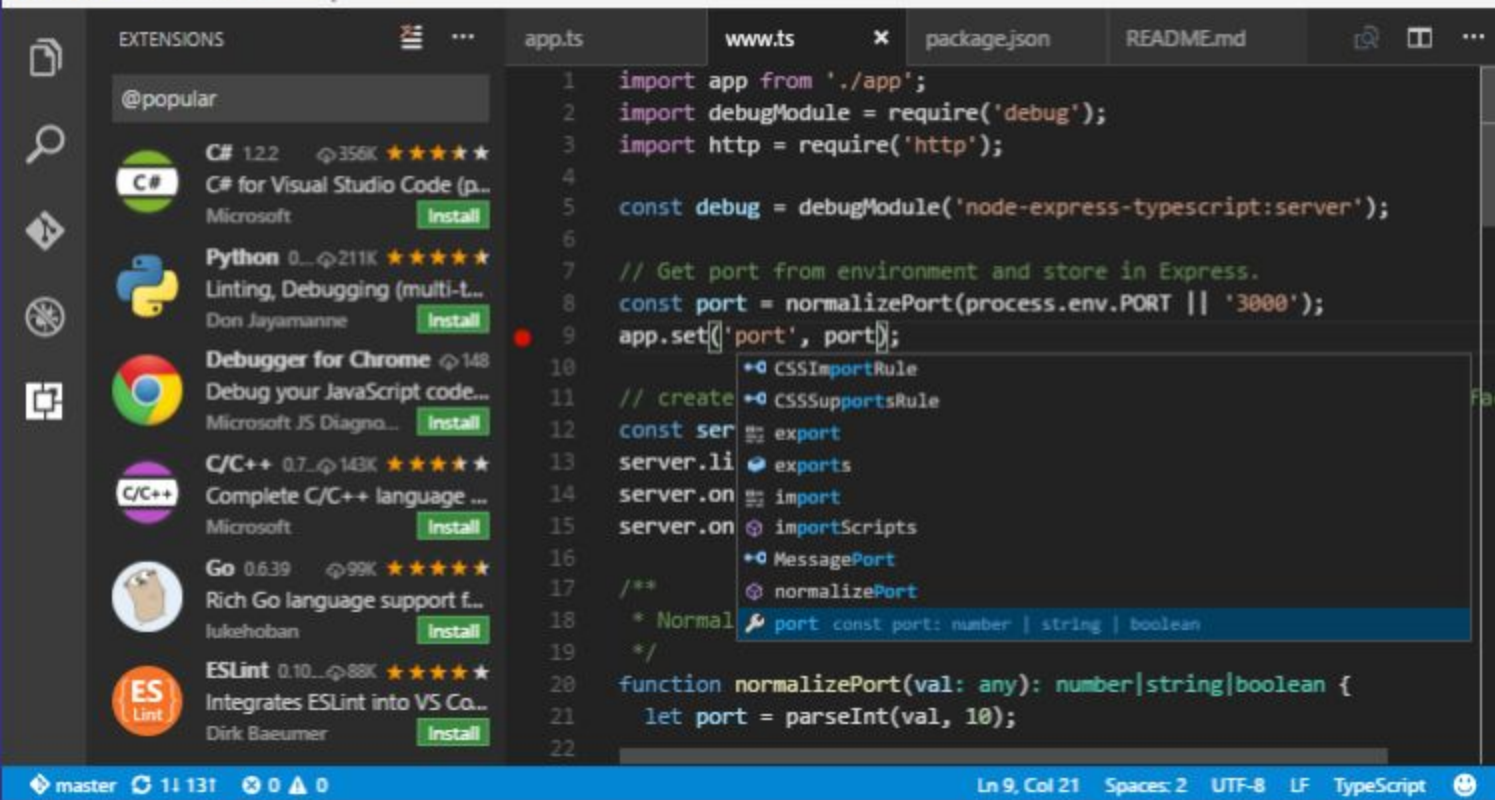
Atom



Visual  
Studio Code



Sublime Text



EXTENSIONS

@popular

- C#** 1.2.2 356K ★★★★★  
C# for Visual Studio Code (p...  
Microsoft [Install](#)
- Python** 0.21.1 211K ★★★★★  
Linting, Debugging (multi-l...  
Don Jayamanne [Install](#)
- Debugger for Chrome** 148  
Debug your JavaScript code...  
Microsoft JS Diagno... [Install](#)
- C/C++** 0.7.1 143K ★★★★★  
Complete C/C++ language ...  
Microsoft [Install](#)
- Go** 0.6.39 99K ★★★★★  
Rich Go language support f...  
lukehoban [Install](#)
- ESLint** 0.10.0 88K ★★★★★  
Integrates ESLint into VS Co...  
Dirk Baeumer [Install](#)

app.ts

```
1 import app from './app';
2 import debugModule = require('debug');
3 import http = require('http');
4
5 const debug = debugModule('node-express-typescript:server');
6
7 // Get port from environment and store in Express.
8 const port = normalizePort(process.env.PORT || '3000');
9 app.set('port', port);
10
11 // create
12 const server = app.listen(port);
13 server.listen(port);
14 server.on('error', (err) => {
15   if (err.syscall !== 'listen') {
16     throw err;
17   }
18   const bind = typeof port === 'string'
19     ? ` ${port} `
20     : ` ${port} `;
21   let errMessage = `error listening ${bind}: ${err.message}`;
22   if (err.code === 'EADDRINUSE') {
23     errMessage = `address ${bind} already in use`;
24   }
25   console.error(errMessage);
26   process.exit(1);
27 }
28
29 function normalizePort(val: any): number | string | boolean {
30   let port = parseInt(val, 10);
31   if (isNaN(port)) {
32     // invalid port
33     return val;
34   }
35   if (port < 0) {
36     return false;
37   }
38   if (port < 1024) {
39     // port is a valid unix port
40     return true;
41   }
42
43   // port is a valid http port
44   return port;
45 }
```

Ln 9, Col 21 Spaces: 2 UTF-8 LF TypeScript



# Create-react-app

Set up a modern web app by running one command.

```
npm install -g create-react-app
```

```
create-react-app --version  
*v1.5.1
```

```
create-react-app my-app
```

```
my-app
├── README.md
├── node_modules
├── package.json
├── .gitignore
├── public
│   ├── favicon.ico
│   ├── index.html
│   └── manifest.json
└── src
    ├── App.css
    ├── App.js
    ├── App.test.js
    ├── index.css
    ├── index.js
    ├── logo.svg
    └── serviceWorker.js
```

```
cd my-app  
npm start
```

**npm start** or **yarn start**

Runs the app in development mode. Open <http://localhost:3000> to view it in the browser.

↳ **npm test** or **yarn test**

Runs the test watcher in an interactive mode. By default, runs tests related to files changed since the last commit.

**npm run build** or **yarn build**

Builds the app for production to the **build** folder. It correctly bundles React in production mode and optimizes the build for the best performance.

# Yarn

**Yarn** is a new **package manager** that replaces the existing workflow for the npm client or other **package managers** while remaining compatible with the npm registry.

## npm 5 / yarn 1

### Cheat Sheet - Basics

`npm install`

Install the dependencies in the local node\_modules folder

`yarn`

`npm install qs`

Saves qs package into dependencies and install it

`yarn add qs`

`npm uninstall qs`

Removes qs package from dependencies and uninstall it

`yarn remove qs`

`npm update`

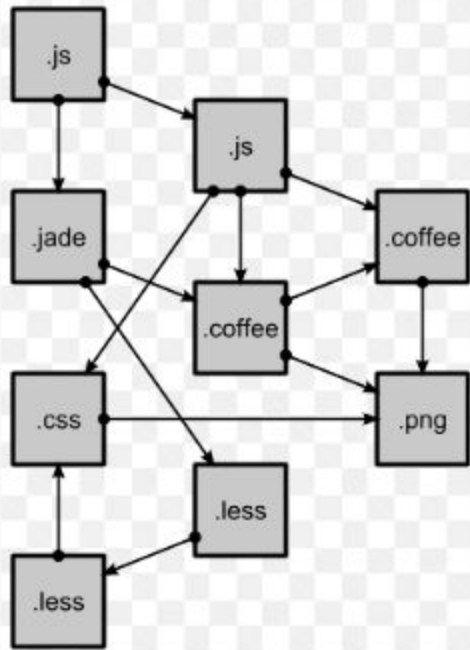
Update all the packages listed to the latest version

`yarn upgrade`

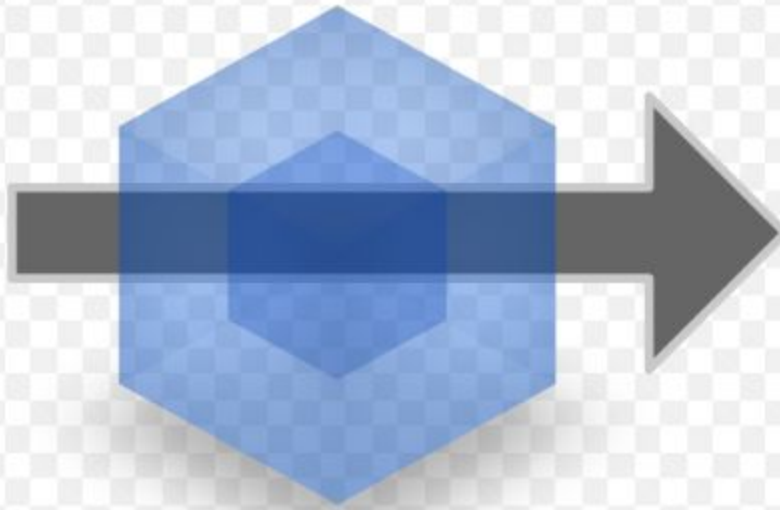
# Webpack

module bundler and task runner

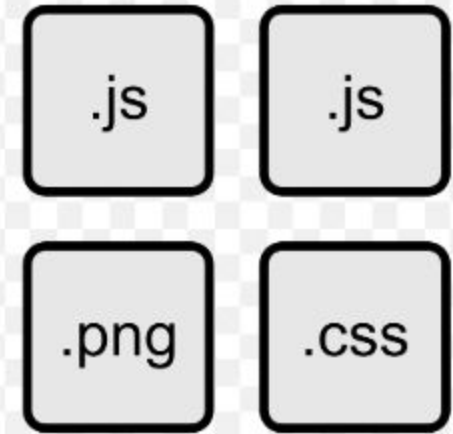
It takes JavaScript modules, understands their dependencies, and then concatenates them together in the most efficient way possible, spitting out a single JS file at the end.



modules  
with dependencies



**webpack**  
MODULE BUNDLER



static  
assets

# Babel

## Babel is a JavaScript compiler.

Use next generation JavaScript, today.

**Babel 7 is out!** Please read our [announcement](#) and [upgrade guide](#) for more information.

Put in next-gen JavaScript

```
var [a,,b] = [1,2,3];
```

Get browser-compatible JavaScript out

```
var _ref = [1, 2, 3],  
    a = _ref[0],  
    b = _ref[2];
```



### Put in next-gen JavaScript

```
const x = [1, 2, 3];  
foo([...x]);
```

### Get browser-compatible JavaScript out

```
var x = [1, 2, 3];  
foo([].concat(x));
```

### Put in next-gen JavaScript

```
var obj = {  
  shorthand,  
  method() {  
    return "😬";  
  }  
};
```

### Get browser-compatible JavaScript out

```
var obj = {  
  shorthand: shorthand,  
  method: function method() {  
    return "😬";  
  }  
};
```

# React Developer Tool

It is an Chrome Extension.

It allows you to inspect the React component hierarchies in the Chrome Developer Tools.

ADDED



## React Developer Tools

Offered by: Facebook

Adds React debugging tools to the Chrome Developer Tools.

★★★★★ 1,095 Developer Tools

Rate it



## React-Sight

Offered by: [www.reactsight.com](http://www.reactsight.com)

Extends the Developer Tools, adding a sidebar that displays React Comp

★★★★★ 29 Developer Tools

Add to Chrome



## Show me the React!

Offered by: Cymen Vig

Highlight React components on the page.

★★★★★ 13 Developer Tools

Add to Chrome

