

# Node.js and Gulp Basics Needed for Angular Single Page App SPA

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**Peter Kellner**

MICROSOFT MVP, CONSULTANT AND AUTHOR

@pkellner PeterKellner.net



# Why 30 Minutes on Node.js

## SRC tag madness eliminated

### Without Node.js

```
<!DOCTYPE html>
<html>
  <head lang="en">
    <meta charset="UTF-8">
    <title>SVCC in AngularJS</title>

    <!-- Style sheets -->
    <link href="css/toastr.css" rel="stylesheet"/>
    <link href="css/app.css" rel="stylesheet"/>

    <link href="Content/Styles/site-svcc-relative.css" rel="stylesheet"/>

    <!-- Library Scripts -->
    <script src="js/jquery.js"></script>
    <script src="js/angular.js"></script>
    <script src="js/angular-resource.js"></script>
    <script src="js/angular-mocks.js"></script>
    <script src="js/angular-ui-router.js"></script>
    <script src="js/ui-utils.js"></script>

    <!-- Application Script -->
    <script src="app/app.js"></script>

    <!-- Services -->
    <script src="common/services/common.services.js"></script>

    <!-- Session Services -->
    <script src="common/services/sessionResource.js"></script>
    <script src="common/services/sessionResourceMock.js"></script>
    <script src="common/services/sessionService.js"></script>

    <!-- SessionsByPresenter Services -->
    <script src="common/services/sessionsByPresenterResource.js"></script>
    <script src="common/services/sessionsByPresenterResourceMock.js"></script>

    <!-- Presenter Services -->
    <script src="common/services/presenterResource.js"></script>
    <script src="common/services/presenterResourceMock.js"></script>
    <script src="common/services/presenterService.js"></script>

    <!-- Session Controllers -->
    <script src="app/sessions/sessionListCtrl.js"></script>
    <script src="app/sessions/sessionDetailCtrl.js"></script>

    <!-- Presenter Controllers -->
    <script src="app/presenters/presenterListCtrl.js"></script>

  </head>
  <body ng-app="svCodeCamp">
```

### With Node.js

```
<!DOCTYPE html>
<html>
  <head lang="en">
    <meta charset="UTF-8">
    <title>SVCC in AngularJS</title>

    <link href="Content/Styles/site-svcc-relative.css" rel="stylesheet"/>

    <!-- Application Script -->
    <script src="app/app.js"></script>
  </head>
  <body ng-app="svCodeCamp">
```

Why 30  
Minutes on  
Node.js

SRC tag madness eliminated

Building for local testing

Code Sanity



★ gulp pure  
The streaming build system



The streaming build system



# JSON Files

```
{
  {
    "allowHtml": false,
    "id": 5443,
    "username": "markca1",
    "firstName": "Mark",
    "lastName": "Abramson",
    "company": "PrintForm Corporation",
    "bio": "Mark Abramson is Founder & CEO of PrintForm Corporation; co-found",
    "bioShort": "Mark is a globally recognized expert on industrial digital p",
    "webSite": "twitter.com/mark__a",
    "shirtSize": "",
    "twitterHandle": "@mark__a",
    "linkedInId": "abramsonmark",
    "twitterUrl": "http://twitter.com/mark__a",
    "facebookUrl": "",
    "linkedInUrl": "http://www.linkedin.com/in/abramsonmark",
    "googlePlusUrl": "",
    "phoneNumber": "",
    "allowAttendeeToEmailMe": true,
    "canSpeakSaturday": true,
    "canSpeakSunday": false,
    "limit": 0,
    "presentationLimit": 0,
    "imageUrl": "/attendeeimage/20130102000000-5443.jpg",
    "allowPartialSessionEdit": false,
    "allowFullSessionEditThrough": "2014-11-01T00:00:00Z",
    "allowFullSessionEdit": true,
    "isProctor": false,
    "presenterIsValid": false,
    "presenterValidationErrors": "Phone Number Is Required;Shirt Selection Is
  },
  {
    "allowHtml": false,
    "id": 3073,
    "username": "rahulaga",
    "firstName": "Rahul",
    "lastName": "Agarwal",
    "company": "",
    "bio": "Developer with experience in Java, OSGi, Spring, Hibernate, highl",
    "bioShort": "Java based backend services engineer with an interest in ran",
    "webSite": "irahul.com",
  }
}
```



# What You Will Learn in This Node.js Module

**Node.js interpreter REPL**

**CommonJS (require and export)**

**Gulp streaming build server**

**BrowserSync web server**

**Browserify and Watchify**



# Understanding Node.js Basics and Why We Care

**What is Node.js?**

**REPL defined**

**The REPL interface and examples**

**Dependency management in Node.js**

**Node.js Require and Export (CommonJS)**

**Node.js as a development web server**



ng - [C:\temp\\_c\demos-m6\demos-m6\demos-aspnet-multi-tenant-app-...

File Edit View Navigate Code Refactor Run Tools VCS Window Help

ng svcc main.js

Project Structure

- ng (C:\temp\\_c\demos-m6\demos-m6\demos-aspnet-multi-tenant-app-...
- dist
  - app.js
  - index.html
  - miscfiles
  - node\_modules (library)
  - svcc
    - calcAge.js
    - main.js
    - gulpfile.js
    - myAdder.js
    - package.json
    - External Libraries

```
1 var calcAge = require('./calcAge.js');
2
3 document.getElementsByTagName('body')[0].innerHTML =
4     document.body.innerHTML +
5     'The answer is: ' + calcAge(60, 24, 30, 27, 34, 0, 26, 0, 35);
6
7
8
9
10
11
```

Terminal

```
[BS] 1 file changed (app.js)
[17:22:39] [ 'C:\\temp\\_c\\demos-m6\\demo
s-m6\\demos-aspnet-multi-tenant-app-mvc-ex
tjs-angular\\m6\\after\\M6\\WebApp\\ng\\sv
cc\\main.js' ]
[BS] 1 file changed (app.js)
```

6: TODO Terminal Event Log

5:13 CRLF UTF-8

Run From Browser x Run From Browser x Run From Browser x

localhost:3000


The answer is:60.24302734026035

```
graph TD
    EDIT --> COMPILE[COMPILE and LINK]
    COMPILE --> RUN
    RUN --> EDIT
```

Diagram illustrating the development cycle:

- EDIT
- COMPILE and LINK
- RUN





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# Node.js


From Wikipedia, the free encyclopedia

**This article has multiple issues.** Please help [improve it](#) or discuss these issues on the [talk page](#).

- This article **relies too much on references to primary sources**. *(September 2015)*
- This article **may contain an excessive amount of intricate detail that may only interest a specific audience**. *(August 2015)*

**Node.js** is an open-source, cross-platform runtime environment for developing server-side Web applications. Node.js is not a JavaScript framework,<sup>[3]</sup> but its applications are written in JavaScript and can be run within the Node.js runtime on a wide variety of platforms, including FreeBSD, IBM AIX, IBM i, IBM System z, Linux, Microsoft Windows, NonStop and OS X<sup>[4]</sup> Its work is hosted and supported by the Node.js Foundation<sup>[5]</sup> a collaborative

**Node.js**



*Original author(s): Ryan Dahl*





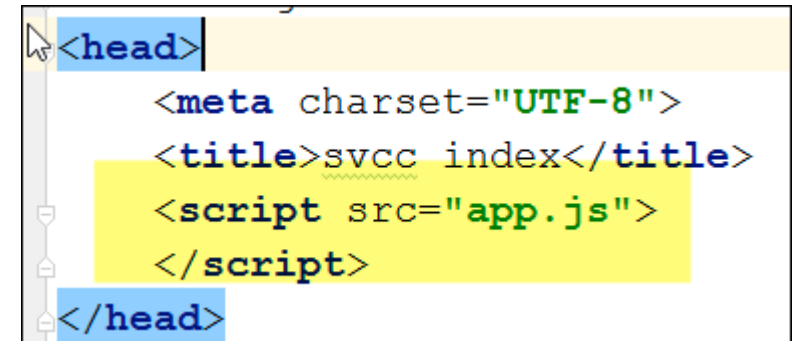
# Learning CommonJS Basics with Require and Export

## The conundrum

CommonJS

Require

Export



```
<head>  
  <meta charset="UTF-8">  
  <title>svcc index</title>  
  <script src="app.js">  
  </script>  
</head>
```



# Introducing the Gulp Streaming Build System That Uses CommonJS

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★ gulp public  
The streaming build system



The streaming build system

gulp   
verb | ˈɡʊlp\

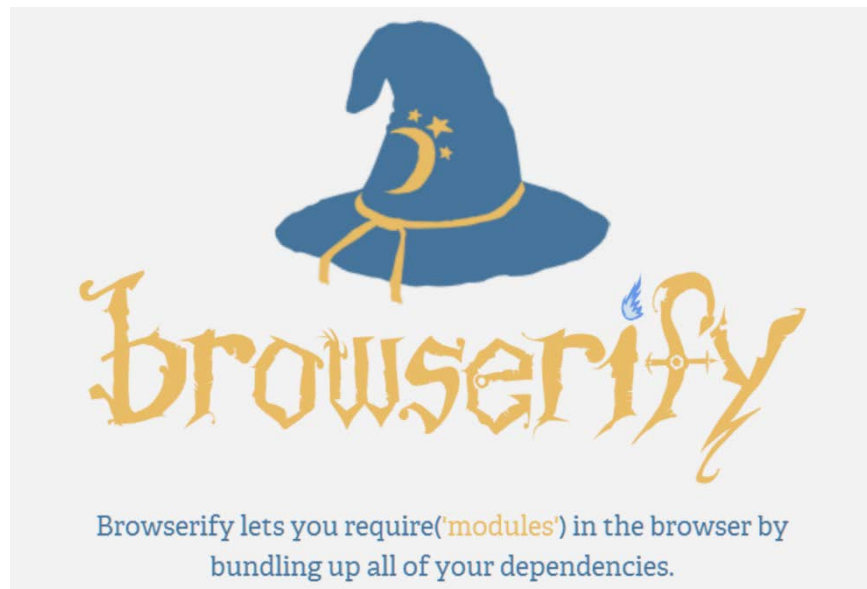
## Simple Definition of GULP

- : to eat or swallow (something) quickly or in large amounts
- : to take (air) into your lungs quickly
- : to swallow because of strong emotion (such as fear or shock)




# Browserify

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# The IIFE



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## Immediately-invoked function expression

From Wikipedia, the free encyclopedia

An **immediately-invoked function expression** (or **IIFE**, pronounced "iffy"<sup>[1]</sup>) is a [JavaScript](#) design pattern which produces a [lexical scope](#) using JavaScript's [function scoping](#). Immediately-invoked function expressions can be used to avoid [variable hoisting](#) from within blocks, protect against polluting the [global environment](#) and simultaneously allow public access to methods while retaining privacy for variables defined within the function. This pattern has been referred to as a **self-executing anonymous function**,<sup>[2]</sup> but Ben Alman introduced the term IIFE as a more semantically accurate term for the pattern, shortly after its discussion arose on [comp.lang.javascript](#).<sup>[1][3] [4]</sup>



# Summary



Why Node.js so important to SPA

Node.js interpreter REPL

CommonJS (require and export)

Gulp streaming build server

BrowserSync web server

Browserify and Watchify

