



Community Experience Distilled

Node.js By Example

Learn to use Node.js by creating a fully functional social network

Krasimir Tsonev

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Node.js By Example

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First published: May 2015

Production reference: 1190515

Published by Packt Publishing Ltd.

Livery Place

35 Livery Street

Birmingham B3 2PB, UK.

ISBN 978-1-78439-571-1

www.packtpub.com

Credits

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Krasimir Tsonev

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Shantanu N. Zagade

About the Author

Krasimir Tsonev is a coder with over 10 years of experience in web development. The author of *Node.js Blueprints*, Packt Publishing, he works with a strong focus on quality and usability. Krasimir is interested in delivering cutting-edge applications. He enjoys working in the software industry and has a passion for creating and discovering new and effective digital experiences. Right now, he is working with technologies such as HTML5/CSS3, JavaScript, PHP, and Node.js, but he originally started out as a graphic designer. Later, being a Flash developer, he spent several years using ActionScript3 and frameworks such as RobotLegs. After that, as a freelancer, he continued to deliver full-stack web services for his clients, taking care of the graphic design and frontend and backend programming. Right now, with the rise of mobile application development, Krasimir is enthusiastic about working on responsive applications that target various devices. He currently lives and works in Bulgaria. He graduated from the Technical University of Varna with both a bachelor's and a master's degree in computer science. He loves blogging, writing books, and giving talks on the latest trends in web development.

He has authored *Node.js Blueprints*, Packt Publishing (<https://www.packtpub.com/web-development/nodejs-blueprints>).

I want to thank my family, who supported me in the last several months.

About the Reviewers

Danny Allen is a full-stack web developer who focuses on usability, user experience, localization, and accessibility issues as the founder and director of the international user experience development consultancy Wonderscore Ltd.

Skilled in a wide range of backend and frontend technologies including Python, Django, JavaScript, Node.js, as well as HTML5/CSS3, his recent work has involved the design and implementation of e-learning and government projects in the United Kingdom.

His portfolio and contact details can be found at <http://dannya.uk>.

Alex (Shurf) Frenkel has worked in the field of web application development since 1998 (the beginning of PHP 3.X) and has extensive experience in system analysis and project management. Alex is a PHP 5.3 Zend Certified Engineer and is considered to be one of the most prominent LAMP developers in Israel. He is also a food blogger at <http://www.foodstuff.guru>.

In the past, Alex was the CTO of ReutNet, one of the leading Israeli web technology-based companies. He also worked as the CEO/CTO of OpenView LTD—a company built around the innovative idea of breaching the IBM mainframe business with PHP applications. He was also the CTO and the chief architect of a start-up, GBooking. He also provided expert consulting services to different companies in various aspects of web-related technology.

Frenkel-Online is a project-based company that works with a number of professional freelance consultants in Israel and abroad. Currently, their permanent staff comprises several consultants in Israel and abroad for the company's PHP projects and a number of specialists in other programming languages for the rest of the projects.

Foodstuff.Guru is a pet project that brings not only high-style food, but also every day food to the Web that can be reviewed by people for people. The blog is multilingual and you can visit it at <http://www.foodstuff.guru>.

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Preface

Node.js is one of the present day's most popular technologies. Its growing community is known to produce a large number of modules every day. These modules can be used as building blocks for server-side applications. The fact that we use the same language (JavaScript) on both the server- and client-side make development fluent.

This book contains 11 chapters that contain a step-by-step guide to building a social network. Systems such as Facebook and Twitter are complex and challenging to develop. It is nice that we will learn what Node.js is capable of, but it is going to be much more interesting if we do that within a concrete context. The book covers basic phases such as the architecture and management of the assets' pipeline, and it discusses features such as users' friendship and real-time communication.

What this book covers

[Chapter 1](#), *Node.js Fundamentals*, teaches the basics of Node.js, what stands behind the technology, and its module management system and package manager.

[Chapter 2](#), *Architecting the Project*, reveals the power of build systems such as Gulp. Before starting with our social network, we will plan the project. We will talk about test-driven development and the Model-View-Controller pattern. The chapter will cover the Node.js modules that are needed to bootstrap the project.

[Chapter 3](#), *Managing Assets*, covers the building of a web application. So, we have to deal with HTML, CSS, JavaScript, and images. In this chapter, we will go through the processes behind the serving of assets.

[Chapter 4](#), *Developing the Model-View-Controller Layers*, is about the basic structure of our application. We will create classes for views, models, and controllers. In the next few chapters, we will use these classes as a base.

[Chapter 5](#), *Managing Users*, is about implementing user registration, authorization, and profile management.

[Chapter 6](#), *Adding Friendship Capabilities*, explains one of the main concepts behind modern social networks—friendship. The ability to find friends and follow their walls is an important part. This chapter is dedicated to the development of this relationship between users.

[Chapter 7](#), *Posting Content*, states that the backbone of every social network is the content that users add into the system. In this chapter, we will implement the process of post making.

[Chapter 8](#), *Creating Pages and Events*, states that providing the ability to users to create pages and events will make our social network more interesting. Users can add as many pages as they want. Other users will be able to join the newly created places in our network. We will also add code to collect statistics.

[Chapter 9](#), *Tagging, Sharing, and Liking*, explains that besides posting and reviewing content, the users of a social network should be able to tag, share, and like posts. This chapter is dedicated to the development of these functions.

[Chapter 10](#), *Adding Real-time Chat*, talks about the expectations of users, in today's world, to see everything that is happening right away. They want to communicate faster with each other. In this chapter, we will develop a real-time chat so that the users can send messages instantly.

[Chapter 11](#), *Testing the User Interface*, explains that it is important to get the job done, but it is also important to cover working functionalities with tests. In this chapter, we

will see how to test a user interface.

What you need for this book

The book is based on Node.js version 0.10.36. We will also use MongoDB (<http://www.mongodb.org/>) as a database and Ractive.js (<http://www.ractivejs.org/>) as a client-side framework.

Who this book is for

If you have knowledge of JavaScript and want to see how you can use it in the backend, this book is for you. It will lead you through the creation of a fairly complex social network. You will learn how to work with a database and create real-time communication channels.

Conventions

In this book, you will find a number of styles of text that distinguish between different kinds of information. Here are some examples of these styles, and an explanation of their meaning.

Code words in text, database table names, folder names, filenames, file extensions, pathnames, dummy URLs, user input, and Twitter handles are shown as follows: "If the Ractive component has a `friends` property, then we will render a list of users."

A block of code is set as follows:

```
<li class="right"><a on-click="goto:logout">Logout</a></li>
<li class="right"><a on-click="goto:profile">Profile</a></li>
<li class="right"><a on-click="goto:find-friends">Find
friends</a></li>
```

Any command-line input or output is written as follows:

```
sudo apt-get update
sudo apt-get install nodejs
sudo apt-get install npm
```

New terms and **important words** are shown in bold. Words that you see on the screen, in menus or dialog boxes for example, appear in the text like this: "It shows their name and a **Add as a friend** button."

Tip

Tips and tricks appear like this.

Reader feedback

Feedback from our readers is always welcome. Let us know what you think about this book—what you liked or may have disliked. Reader feedback is important for us to develop titles that you really get the most out of.

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