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Simplifying JavaScript

Writing Modern JavaScript with ES5, ES6, and Beyond

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Introduction

Ever get the feeling you've woken up and everything's different? If you've looked at modern JavaScript, you may feel like you woke up in a new world where nothing's the same.

Yesterday, you were tweaking a simple jQuery accordion. Today, you look at some JavaScript code and the ubiquitous jQuery $ operator is gone. In its place are lots of strange dots (...) and strange symbols (=>) (the spread operator and arrow functions, as you'll soon learn). Sure, some things look familiar, such as class, but even that seems to be unpredictable (where are the private methods?).

Are you perplexed? Maybe a little excited? Well, I have good news for you: Everything has changed for the better.

When the ECMAScript 6 spec was released—ES6 for short—JavaScript code changed dramatically. The changes were so substantial that after reading this book you'll be able to tell at a glance which code was written with pre-ES6 syntax and which code was written with post-ES6 syntax. JavaScript now is different. Modern JavaScript is any code composed with post-ES6 syntax.

Modern JavaScript is a pleasure to write. I'm a long-time unrepentant Java-Script fan, but I'll admit that I found the old syntax a little clunky at times, and it was pretty hard to defend. Modern JavaScript is better. But it's changed significantly, and catching up can be hard.

How To Use This Book

In this book, you'll learn to write modern JavaScript from the ground up. But I'm not going to throw a bunch of syntax at you. I want you to learn to think in terms of contemporary JavaScript. You'll see every piece of syntax with a recommendation for not just *how* to use it, but *when* to use it.

Also, I'm not going to run through every minor syntax change. I know your time is valuable, so I'll only show you syntax that has high impact and that's

something you'll use over and over again. You can deal with edge cases when they arise. This book will give you the best features and nothing else.

Throughout the book, you'll see why the syntax changes aren't random—they follow a simple set of principles designed to make the language easier to read and write. Modern JavaScript is simple, predictable, readable, and flexible. And every new piece of syntax should be evaluated in those terms, including syntax that isn't yet part of the spec.

And because modern JavaScript has as many paradigm changes as there are syntax changes, you'll spend some time reviewing older JavaScript concepts to see how you can use them in a modern context. This is important because JavaScript was previously written primarily using libraries (jQuery above all else), and it was easy to plug in just enough code to get something working without understanding the underlying concepts. As more code projects incorporate JavaScript as part of major features, and not just a handful of plugins, you'll need to understand concepts you may have glossed over before.

For example, you might have safely ignored syntax changes in ES5. You could use array methods such as `map()` and `reduce()` for several years, but you might have ignored them because browsers weren't fully compatible and because transpilers weren't yet mature. Array methods are now essential parts of good code. It's worth taking a step back to review them.

Still, I know you have plenty to do every day—that's why this book follows a tips format that allows you to jump in and out at will. You don't need to read this straight through. I'll reference syntax from previous and future tips so that you can jump around as you need to. Keep a copy at your desk and skim it during a break, or load it up on your phone so you can get a quick tip in while waiting at the dentist office.

When learning new syntax, the most important thing you can do is read code. And the best code is real code. You won't see `foo-bar` examples or lots of math expressions in this book. Instead, you'll work with strings, objects, currency, email addresses, and the like. In other words, the code samples you see will be close to life. This adds a little complexity to the examples, but it will ultimately make it much easier for you to internalize the ideas so that you can bring them into your code quickly and easily.

Finally, every sample is available in a repo for this book. The code has nearly 100 percent test coverage, so jump in and try ideas out. To get things working, you'll need at least Node.js version 8.5 installed. You'll also occasionally want to try code in a browser. Be sure to use a modern browser such as Chrome, Edge, or Internet Explorer 11+.

Whom This Book Is For

This book is for anyone who has a little programming experience. It helps to have some JavaScript experience, but that's not strictly necessary. I'll assume that you know some basic programming concepts, such as loops, conditionals, functions, and classes. In short, if you've seen modern JavaScript and you're excited to learn more, then this book is for you.

You may feel like you woke up in a strange new world. That's not a bad thing. In fact, this new world is awesome—the coffee's brewing, and the aroma of fresh-baked danishes makes this new world a place you want to wake up to. JavaScript is better than ever—it's time to enjoy it.

Online Resources

You can also find the code on github[1] or on the book's Pragmatic Bookshelf website.[2] The website also includes a handy community forum if you'd like to reach out for help along the way. Thanks in advance for reporting any issues that you find in the book code or text via the errata form, also conveniently found on the book website.

To stay up-to-date on new syntax changes, you can follow me on twitter—@joesmorgan[3]—or online at thejoemorgan.com.[4]

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1. https://github.com/jsmapr1/simplifying-js
2. https://pragprog.com/book/es6tips/simplifying-javascript
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