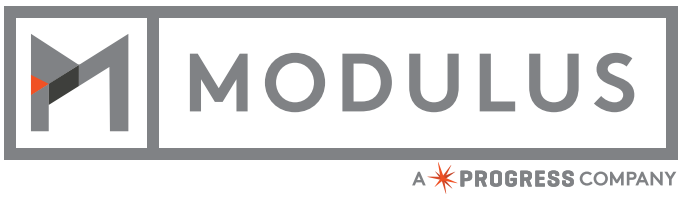

HOW NODE.JS CAN ACCELERATE DEVELOPMENT

by Dave Anderson, Differential.io

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So here you are, beginning as the tech lead of a new project. Management's given you the go-ahead; the customer's worked with you on getting the initial user stories down on paper; you've got a few web developers ready to work; you've set up your git repository... But you have an itch about your tech stack that needs scratching. You used Ruby on Rails on the last few projects, and Java a while back, and once upon a time you even wrote some PHP. But you've been hearing good things about this thing called Node. You have a little time to get the project going before the customer expects to see the first cut of the system being delivered. Is Node worth trying? Is learning Node and using it on the project going to slow everybody down? What the heck is Node anyway?

Node is a framework/ecosystem written in JavaScript that can noticeably speed application development. We live in days of ever-more-rapid development cycles, and now it's not enough to just deliver functionality quickly. You have to deliver all the bells and whistles to provide a user experience that keeps everyone coming back on a browser, phone and tablet—heck, maybe even on a watch. There's no time to lose. In today's web economy, money moves more quickly than ever and if you're late to market, you may find that you've missed the boat. Node is all about building applications quickly and staying on the leading edge.

Let's look a few ways Node can pump adrenaline into your product development and get everything moving faster.

FIRST, USING NODE GIVES YOU A BIG HEAD START

You're far from alone using Node. There are literally thousands and thousands of developers writing applications in Node already. Witness the modules and packages accessible through npm, the Node Package Manager. Third parties write and submit them, and make them freely available to the Node community at large. And large is an understatement. At the time of this writing, there are over 95,000 Node modules out there for your use. In fact, there are web sites that have been developed just to help you find the modules you need. For instance, give nipster a try.

This is a fantastic head start to anyone considering writing Node applications. Aside from specialized business logic, it would be very surprising if most of the work isn't already done for you.

NODE OFFERS YOU A SIMPLER DEVELOPMENT ENVIRONMENT

Using Node means you don't have to spend a few hours wrestling the system into submission, which includes first getting the development environment right, then making sure the required versions of all the software packages are installed, and finally putting the code in the repository to test. In addition, you invariably have to circle back and find out what got left out and figuring out why it's running on one machine but not the other. Node simplifies all of this.

In the Node world, you just download Node, pull your code in from the repository and go! The easy way to get Node is to go grab it from the web at http://nodejs.org/download. There you'll find installers for Mac, Linux, Windows, SunOS—or for those stalwart few, the source code can be downloaded and built from scratch.

As you gain proficiency in Node, you'll benefit from reading other people's code and seeing how Node is laid out architecturally, as well as learning some of the dominant patterns used to get work done. Using programs built around Node will help you effectively test and deliver systems. But Node isn't hard to get the hang of. The many developers who've gone before you have cleared a lot of brush from the trail. And besides, for you it's probably going to be all JavaScript.

JAVASCRIPT IS THE MOST POPULAR LANGUAGE IN WORLD.

There are more JavaScript developers out there than ever before. After all, it is the lingua franca of the web, and Node just makes it more accessible. JavaScript's popularity makes it easy to find willing JavaScript developers, and those developers are but a step away from Node if they haven't already joined in.

The thing about Node is that it elevates JavaScript to a real first class application development language—not just a language limited to running inside a web browser—by letting you run your JavaScript code on the server side as well as the client side. Node is basically an event loop from which you dispatch events to your code to handle. Node is single threaded and asynchronous. Perhaps you haven't seen anything like it before, but the pattern is well-established in software development and easy to get the hang of. Using JavaScript to write your logic becomes second nature very quickly. And if you're a programmer, this is the bleeding edge. Many more smart people are working in this space than you suspect.

HEY, DON'T JUST TAKE OUR WORD FOR IT...

PayPal, the 15 year old megacorp that revolutionized the way we pay merchants, charities, and even each other made the jump from Java to JavaScript and saw their development and product performance increase dramatically!

PayPal started by rewriting one of their existing Java projects in JavaScript and changing the development organization structure from specialized back-end and front-end teams to developers who could work across both client and server without skipping a beat. Using Node, they delivered in half the time with fewer people who only had to write two-thirds as much code. Additionally the Node implementation of the same Java app could service twice as many requests each with 200ms (a third) less latency, a definite win! PayPal has decided to move forward with Node on their future projects as well.

NODE RUNS EVERYWHERE

JavaScript is a sweet spot. Because it runs on browsers everywhere there's incredible pressure for all of the platforms to support Node. If a browser can run JavaScript (modern browsers are incredibly, almost horribly, complex programs), then porting a little of code that runs an event loop is, relatively, a piece of cake.

What this means is that the system you write is going to run from pretty much anywhere, whether it's on your own or a client's platform, or served from a well-established Node server equipped to scale and manage whatever your Node code needs. But you'll find out your Node needs less than you might have thought. Besides all the available Node modules, basic facilities come for free.

NODE EVEN INCLUDES ITS OWN WEB SERVER

For example, if you're writing a web app, you have much less to do than you might think. You don't need to go to Apache to brew up a web server. You can develop locally using Node's built-in web server and try everything out across the web without the need to host your application anywhere. If it's for personal use or for small groups, this may be a perfectly reasonable hosting solution. If you outgrow it though, there are other simple, low-cost solutions to save you huge amounts of work.

MANAGING NODE.JS DEPLOYMENTS IS EASY

Once you've built your Node application and it's hitting the big time, you'll want to serve your Node application more comprehensively. Modulus makes it easy to scale to demand—whether you need to run on one, two, three, or a hundred servos. And you can deploy your app with a few simple commands and be off and running. If there are any problems, Modulus is there for you, 24/7.

Browse modulus.io for much more information about how we can serve you quickly and reliably.

GO AHEAD. GIVE IT A TRY...

Implementing with Node can have a very positive impact on your project. Your developers will enjoy getting more done in less time. Your business folks will enjoy the praise of the customers and the repeat business coming down the pike. In short, trying Node may change the way you approach your projects and help you get better code delivered sooner.