

The 2024 FullStack Web Developer RoadMap [UPDATED]

An illustrated guide to becoming a Web Developer in 2024 with links to relevant courses



javinpaul · [Follow](#)

Published in Javarevisited · 13 min read · Apr 11, 2019

6K

19



...

Required for any path

- Git - Version Control
- Basic Terminal Usage
- Data Structures & Algorithms
- SOLID, KISS, YAGNI
- GitHub
- Licenses
- Semantic Versioning
- SSH
- HTTP/HTTPS and APIs
- Design Patterns
- Character Encodings

Web Developer

Choose your path

Front-end

Back-end

Legends

- Personal Recommendation!
- Available Options

DevOps

Hello Guys, if you want to learn to code or to become a Web Developer in 2024 then you have come to the right place. Earlier, I have shared [20 websites](#)

to learn coding and the best web development courses and today I have something special to share with you, the **complete 2024 Full-stack Web Developer RoadMap**.

This is an excellent illustration of *how to become a full-stack web developer in 2024* and guide you on how you can learn and master Web Development in 2024.

It's a collection of different paths to learning front-end, back-end, and full-stack, including all other things a Web developer should know. You will not just know about web development but about essential programming stuff which is important for all kinds of programmers.

The RoadMap is also divided into 3 sections, the first section is about essential skills which every web developer should know, while the second and third section is about **front-end** and **back-end** development, two main areas of web development.

You can either learn Front-end or Back-end or both, depending upon your choice. If you want to become a FullStack Web developer then you have to learn both front-end and back-end, there is no escaping there.

In Frontend also you can choose to learn the framework you want like React, Angular or Vue.js, you don't need to learn them all but learn the one you like. If you ask for my recommendation, Vue.js is a better choice in 2024 than the other two but again those are more used than Vue.js yet.

Btw, you might have seen this RoadMap before. This awesome visual guide to becoming a web developer was created by Kamranahmedse and posted on his GitHub repository here. It's one of my favorite places and I have

bookmarked it for a repeated visit.

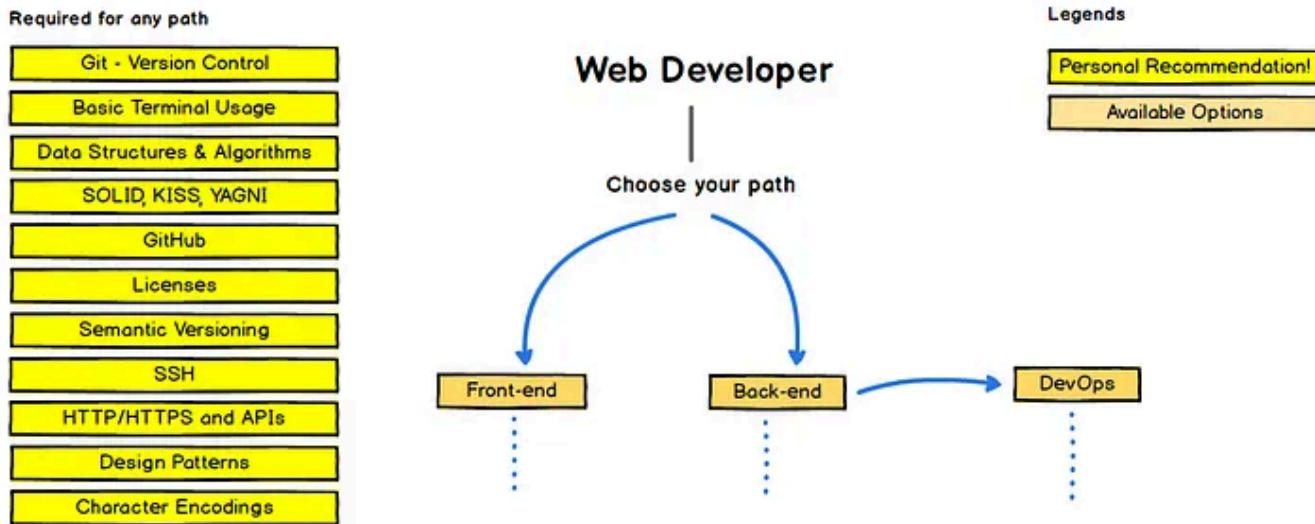
Last year, while doing some internet surfing I stumble upon this excellent page. I first found the [DevOps RoadMap](#) and [React Developer RoadMap](#) there and become an instant fan of Kamran Ahmed. In fact, I have these RoadMap printed and stuck to my Desk for regular reference.

Btw, the Roadmap tells you what to learn but doesn't tell you how to learn and where you can learn those skills. I have tried to supplement that part by providing links to some useful [courses](#) and [books](#) you can take to learn the [technologies](#), [programming languages](#), [frameworks](#), and [libraries](#) required to become a web developer and mentioned in this RoadMap.

How to Become a Full Stack Web Developer in 2024?

Anyway, Here's where you'll start. As I have said before, You can choose either the Front-end or Back-end path below, depending upon your interest.

Regardless, there are eight recommendations in yellow that you must learn for either path, these are the common things every programmer should know.



<https://github.com/kamranahmedse/developer-roadmap>

Recommended learning for either path

Here are some essential skills you will need to become either a frontend developer or a server-side backend developer.

1. Git

One of the most popular version control systems. It's just not possible to live without Git anymore. You can check out [The Git Complete Guide](#) on Udemy to start with.

Git Complete Full Course: The Definitive Guide to Git

Git Complete This course is designed to be a comprehensive approach to Git, which means no prior knowledge or...

[udemy.com](https://www.udemy.com/course/git-complete-full-course/)

2. SSH

It allows you to remote login to another host, another popular networking concept which every web developer should know.

3. HTTP / HTTPS

The HTTP protocol is the backbone of the web and a good knowledge of both HTTP and HTTPS is mandatory for a web developer. Since REST is based upon HTTP concepts it becomes even more important to learn HTTP for any Web Developer. If you want to learn more about HTTP you can also checkout this ["Getting started with HTTP"](#) course on Udemy

4. Basic Terminal Usage Linux Command line Basics

Not just a web developer but for any programmer, the Linux command line is very very important and I strongly recommend you to spend some time learning them.

The [Linux command line basics](#) course on Udemy is a good place to start with and if you like free courses, you can use these [free Linux courses](#) to start learning Linux.

Linux Command Line Basics

This is an introductory course to the Linux command Line. It's great for both Linux beginners and advanced Linux users.

[udemy.com](https://www.udemy.com/course/linux-command-line-basics/)

5. Data Structures and Algorithms

These are the building blocks of any program and better knowledge of Algorithms and Data Structure is key for your next job or doing well on your current job.

If you are interested in learning algorithms and data structure, I suggest you choose the course which is in the programming language you understand.

For example for Java developers [Data Structures and Algorithms: Deep Dive Using Java](#) is a good one to start with.

Data Structures and Algorithms: Deep Dive Using Java

So you've worked with the basics of data structures and algorithms in Java (or another OO programming language) but...

[udemy.com](https://www.udemy.com/course/data-structures-and-algorithms-in-java/)

Similarly for JavaScript Developers Colt Steele's [JavaScript Algorithms and Data Structures Masterclass](#) is a good one.

JavaScript (JS) Algorithms and Data Structures Masterclass

This course crams months of computer science and interview prep material into 20 hours of video. The content is based...

[udemy.com](https://www.udemy.com/course/javascript-algorithms-and-data-structures-masterclass/)

And, if you use Python then [Algorithms and Data Structures in Python](#) is a nice one.

Algorithms and Data Structures in Python

This course is about data structures and algorithms. We are going to implement the problems in Python. I highly...

[udemy.com](https://www.udemy.com/course/algorithms-and-data-structures-in-python/)

And, if you don't mind learning from resources then you can also use this list of free algorithms courses to start with.

7. Character Encodings

If you are creating global applications that show information in many different languages across the world then you should have a good knowledge of character encodings. It basically tells your browser how to show your data.

8. GitHub

There is no doubt that every programmer should know Git and Github as they are the standard in terms of version control and code repository. If you want to learn and master Git and Github, you can check these free Git courses.

The 2024 Frontend Developer RoadMap

If you want to become a front-end developer in 2024 then you should follow the below Front-end Developer RoadMap. You should focus on yellow boxes that highlight important things to learn and follow from there. Below the RoadMap, you will find additional resources like books and courses to aid your learning.

Open in app ↗



Search



Write



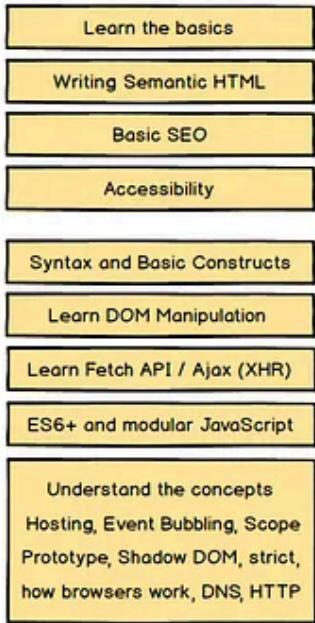
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 [kamranahmedse/developer-roadmap](https://github.com/kamranahmedse/developer-roadmap)
 [@kamranahmedse](https://twitter.com/kamranahmedse)

Front-end

Learn the Basics



HTML

HTML

CSS

CSS

Basics of JavaScript

Basics of JavaScript

Learn the basics

Making Layouts

Media Queries

Learn CSS 3

- Floats
- Positioning
- Display
- Box Model
- CSS Grid
- Flex Box

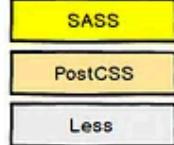
npm

yarn

npm improved a lot, post v5+, but is still behind yarn in some features; nothing serious though. Pick any!

PostCSS is not a pre-processor but can be used as one. Go for SASS and revisit PostCSS later. There is still some Less in the market but I won't go for it if I was starting in 2019.

Package Managers



CSS Pre-processors

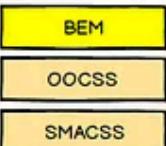
CSS Frameworks

Bootstrap

Materialize CSS

Bulma

Semantic UI



CSS Architecture

With modern front-end frameworks, there is more push towards CSS in JS methodologies with which you are not going to need these. However, you should still learn BEM at-least, which would prove helpful in the long run

Build Tools

Task Runners

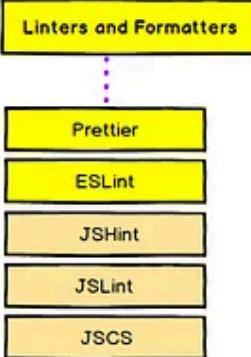
npm scripts

gulp

Redux

MobX

These are not specific to React though, you can use them in any framework or app



Module Bundlers

Webpack

Parcel

Rollup

React.js

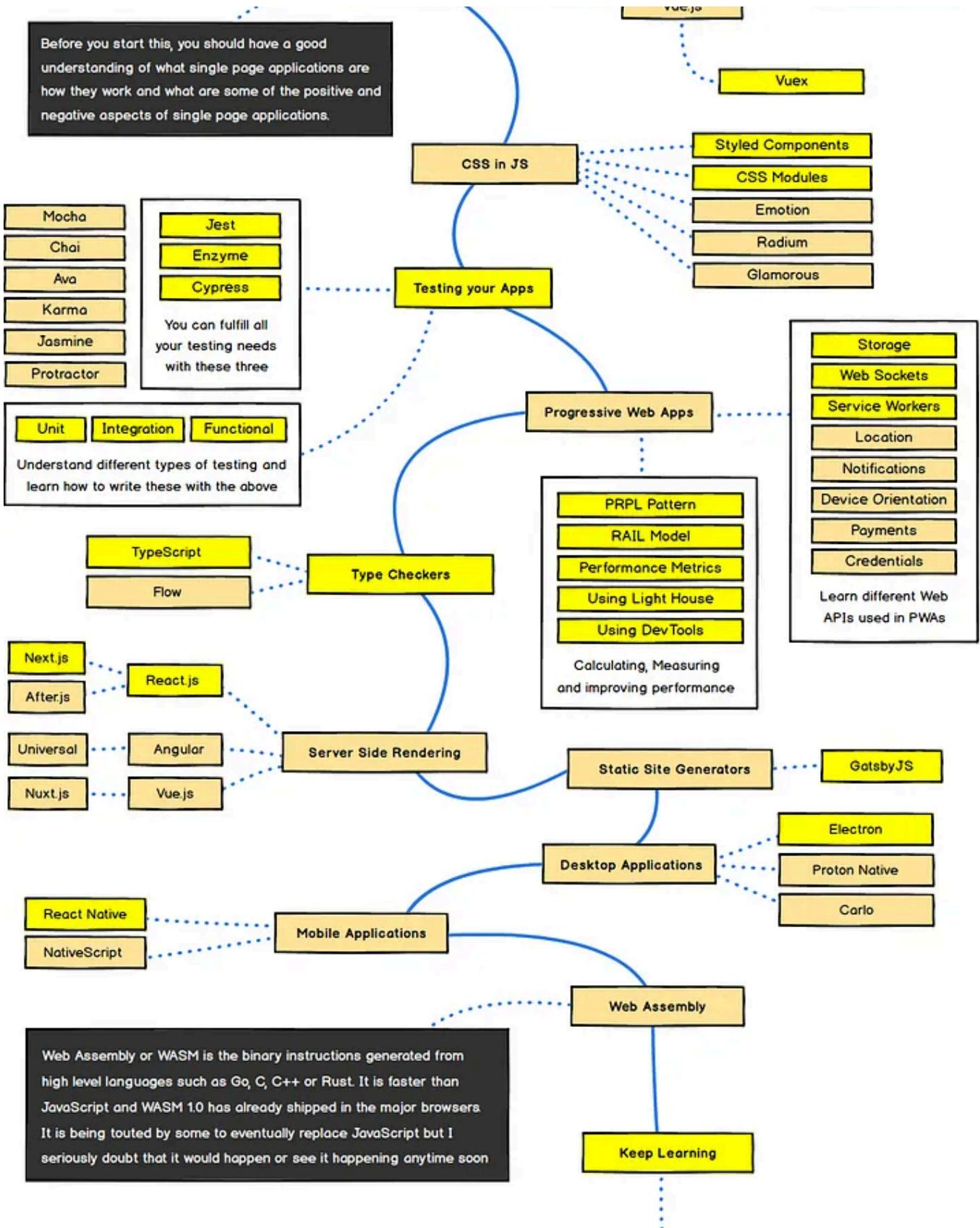
Angular

Vue.js

RxJS

ngrx

Pick a Framework



<https://github.com/kamranahmedse/developer-roadmap/blob/master/images/frontend.png>

1. Web Development Basics

It's pretty obvious that if you want to become a Web Developer then you should know the basics of the internet, web applications, protocols like HTTP, and web development in general. Thankfully there are a lot of courses where you can not only learn these but much more than that.

I recommend the following resources for all programmers who want to learn Web Development:

1. [The Web Developer BootCamp by Colt Steel](#)
2. [The 2024 Complete Web Developer Bootcamp by Angela Yu](#)
3. [The Advanced Web Developer Bootcamp](#)

The Advanced Web Developer Bootcamp

Hi! Welcome to the Advanced Web Developer Bootcamp, the complete course that will help you learn the latest...

[udemy.com](https://www.udemy.com/the-advanced-web-developer-bootcamp/)

2. HTML and CSS

HTML and CSS are the backbones of any website. HTML provides the structure while CSS provides the style and helps them to look better and more visually appealing.

If you want to become a serious frontend developer then you must master these two and to start with, you can check these [free HTML and CSS courses](#) to learn online.

My favorite free courses to learn HTML and CSS in 2024

HTML and CSS are two pillars of web development, they are used to create web pages you see every day. HTML provides the...

medium.com

3. JavaScript

Just like the four pillars of object-oriented programming, I mean Abstraction, Encapsulation, Polymorphism, and Inheritance, there are three main pillars of web development, namely – HTML, CSS, and JavaScript.

The first two provide structure and style but it's the JavaScript that makes them alive by adding interactivity. It's extremely important for a modern Java developer to learn JavaScript and thankfully there are many courses which you can look to learn both beginner and advanced JavaScript, here are some recommendations:

1. [The Complete JavaScript Course 2024](#)
2. [A Beginner's Guide to Advanced JavaScript and ES6](#)

A Beginners Guide to Advanced JavaScript & ES6 - ES2017

Are you ready to finally understand JavaScript? JavaScript is the world's most popular language and if you want to be...

udemy.com

4. TypeScript

Just like we have C and C++, TypeScript can be considered as JavaScript++ though it's not as popular as C++.

The good part of TypeScript is that it adds type-safety in JavaScript code which means you can catch nasty JavaScript type-related errors in the development phase.

It also makes developing object-oriented code easy for JavaScript. If you want to learn TypeScript, Understanding TypeScript is a great course to start with, and if you need more choices or free alternatives, here is another list of some free TypeScript courses to start with.

7 Best Courses to learn TypeScript for Beginners and Experienced Web Developers

Learn TypeScript to become a better Web Developer

medium.com

5. Angular

Gone are the days when people build websites using plain HTML, CSS, and JavaScript. Nowadays most of the work is done by a framework like Angular, React JS, or Vue.js.

They not only provide a structure for storing your code but also makes it easy to develop a web application in a quick time.

Angular is backed by Google, hence learning Angular is a good choice for any modern Web Developer. If you want to learn Angular there is no better course than Max's [Angular – The Complete Guide](#) on Udemy.



7. React JS

Similar to [Angular](#), [React](#) is also a popular library for developing web applications. It allows you to write reusable components which you can then use to create modern-looking interactive web pages.

Like Angular is backed by Google, React is backed by Facebook and hence quite popular. If you want to learn React then you either join Stephen Grider's [Modern React with Redux](#) or Max's [React – The Complete Guide](#) on Udemy. Both are excellent courses to learn to React online.

Here are the links:

1. [Modern React with Redux](#)
2. [React – The Complete Guide](#)

React 16: The Complete Course (incl. React Router 4 & Redux)

This course is fully up-to-date with the latest version of React and includes React Hooks! Of course, it will be kept...

udemy.com

8. Vue.js

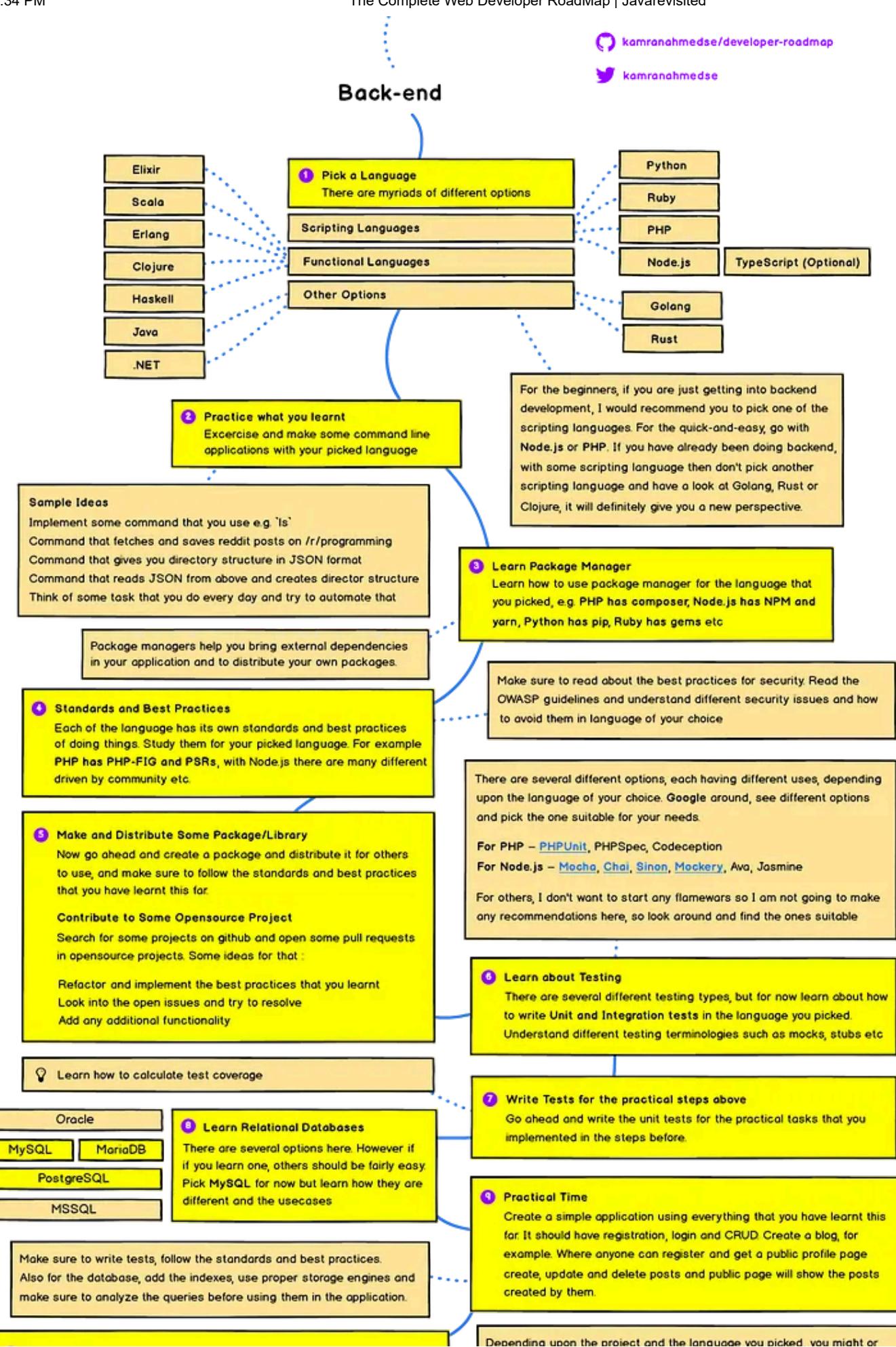
The Vue or [Vue JS](#) has really picked up speed last year and more and more people are recommending and using Vue.js. I am still a beginner on Vue and probably take some time to learn and migrate into Vue-based applications. But, if you have already made a decision you can start with the [Vue.js Essentials](#) course on Udemy.

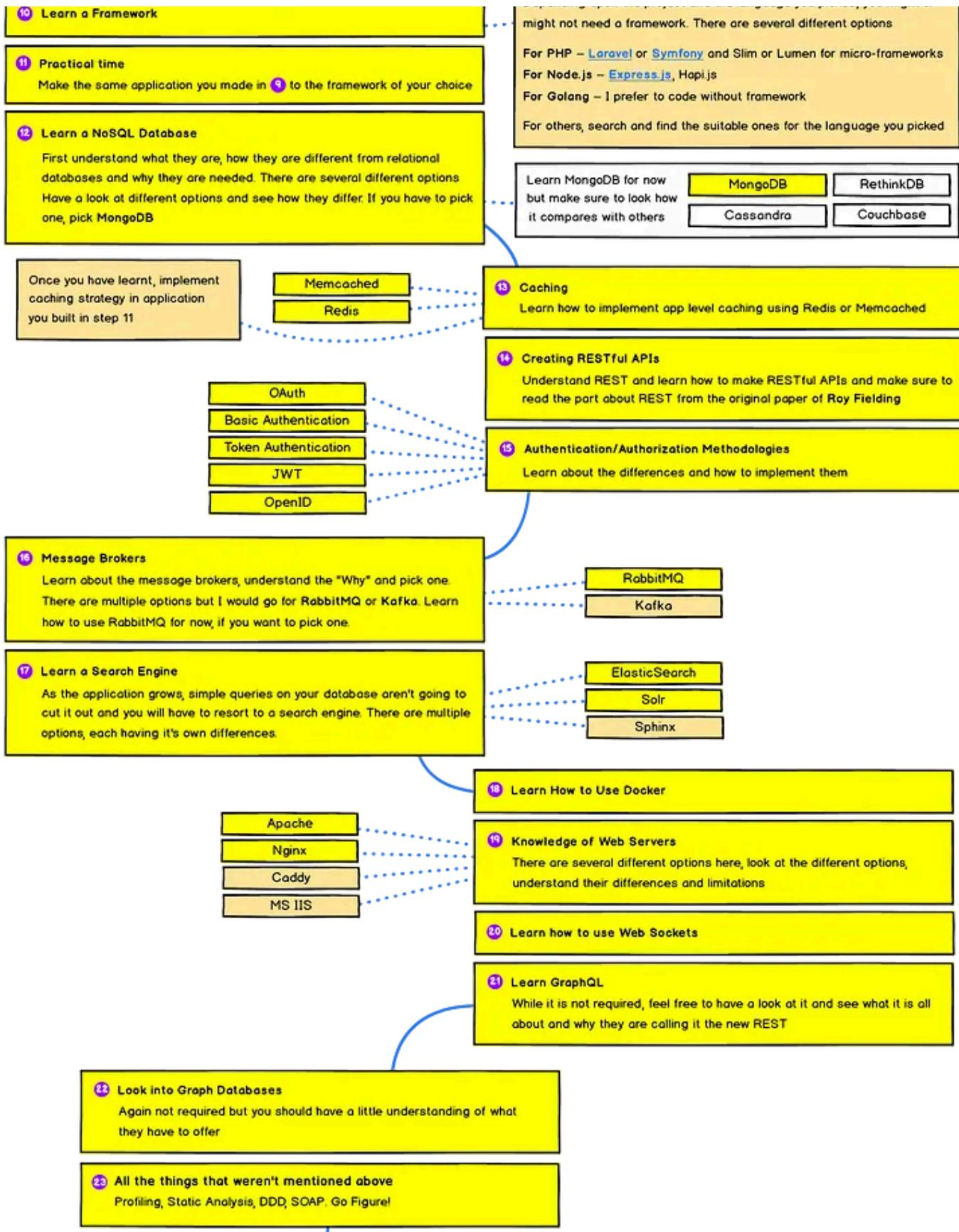


The 2024 Backend Developer RoadMap

If you want to become a back-end developer in 2024 then you can follow this Back-end Developer RoadMap. Again, you can start with yellow boxes that highlight key technologies you need to learn and then grow from there.

Below in the RoadMap, you will find some supplementary material and links to courses and books to aid your learning. I will also earn some commission if you end up buying any non-free courses.





Keep Exploring

<https://github.com/kamranahmedse/developer-roadmap/blob/master/images/backend.png>

1. Node.js

There are many choices to develop your web application's backend like you can use Java and Spring or maybe Python + Django but in recent years Node.js has come up as the preferred option.

The best thing about NodeJS is that it allows you to develop a complete web application using just one programming language — JavaScript.

If you want to go the Node route, then [The Complete Node.js Developer course](#) by Rob Percival and Andrew Mead is best to start with.

Top 5 Node.js and Express JS online courses for Web Developers

There is no doubt that JavaScript is the #1 Programming language in the world and Node.js is one of the biggest reason...

javarevisited.blogspot.sg

2. Java

I am primarily a Java developer who has learned Web Development and other programming languages, hence when it comes to developing backend my preferred choice is Java.

You can either use Core Java or Java + Spring Boot to write a cutting edge, high-performance backend. If you want to go to Java and Spring route, here are a couple of courses you can join to get up-to-speed.

1. [The Complete Java Masterclass](#)

2. [Spring Framework 6: Beginner to Guru](#)

Spring Framework 6: Beginner to Guru Tutorial

Learn Spring with the most modern and comprehensive course available for Spring Framework 6 and Spring Boot 3. You will...

[udemy.com](https://www.udemy.com/course/spring-framework-6-beginner-to-guru-tutorial/)

3. Python

Python is another awesome language, full of powerful frameworks and libraries. If you want to develop the backend using Python then you can use Django, a full-stack web development framework for Python programmers.

To start with here are a couple of courses to learn Python and Django:

1. [The Complete Python Bootcamp](#)
2. [Python and Django Full Stack Web Developer Bootcamp](#)

Python and Django Full Stack Web Developer Bootcamp

Welcome to the Python and Django Full Stack Web Developer Bootcamp! In this course we cover everything you need to know...

[udemy.com](https://www.udemy.com/course/python-and-django-full-stack-web-developer-bootcamp/)

4. Ruby

Ruby is another powerful language perfect for web development. It has got a great framework called Rails which makes creating Web applications really easy and fast.

While Ruby is not Python or Java but If you want to start with Ruby you can check out [The Complete Ruby on Rails Developer Course](#) on Udemy.



It's one of the best resources and if you need more choices and don't mind learning from free resources, you can also take a look at these [free Ruby and Rails courses](#).

5. PHP and MySQL

Forget about whatever negative things people say about [PHP](#). It is still the easiest way to write the server-side code and many, almost 50% of the internet runs on PHP and MySQL stack.

If you are interested in learning PHP, you can check out the [PHP for Beginners](#) course on Udemy. If you need more choices and free resources, you can also check my list of [free PHP and MySQL courses](#) to start with.



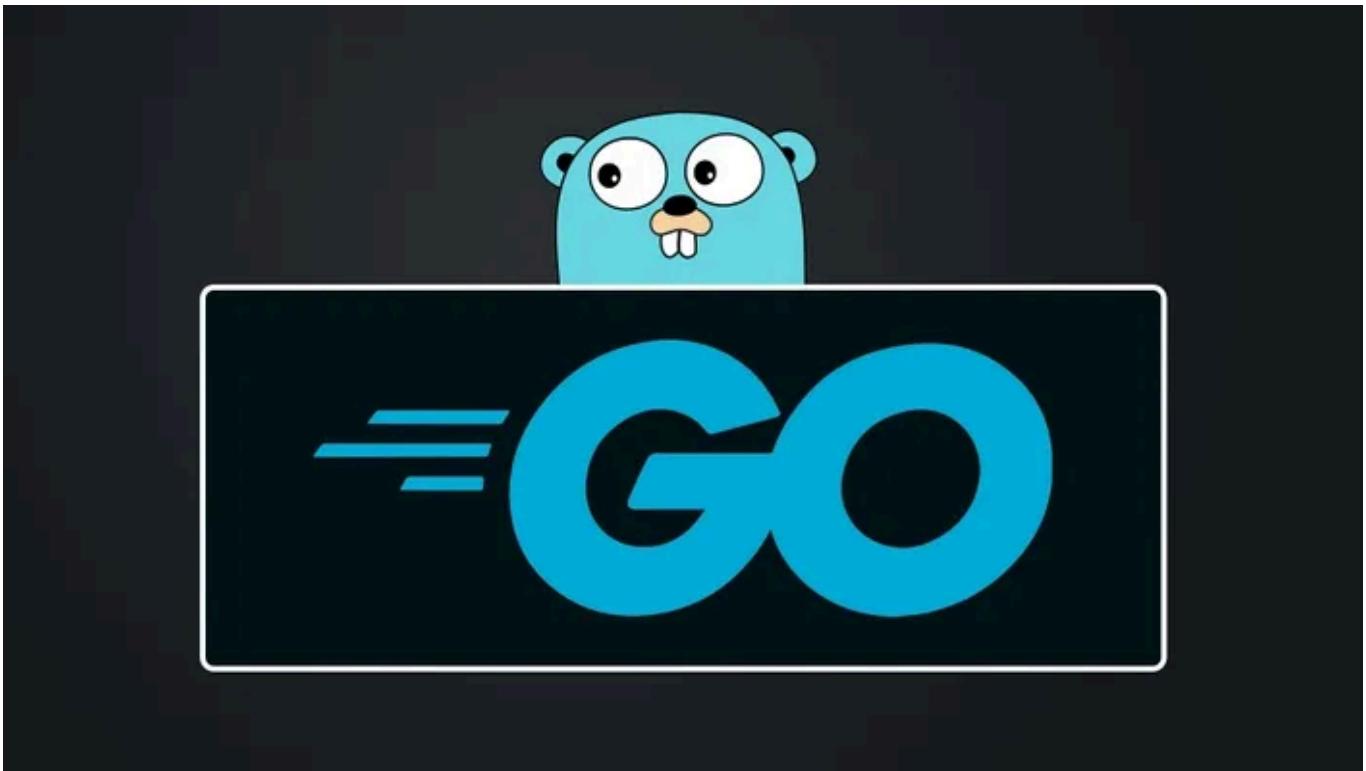
6. Golang

This is another new programming language which is getting popular for developing backends. Created by Google to improve performance and developer productivity Golang has everything which needs in a modern backend programming language.

Just like Java, Golang also have in-build support for concurrency and multithreading with support of goroutines, and channels. You can use Golang to create highly concurrent backend applications which can handle millions of request per second.

Unlike Java and much like C++, Golang also compiles down to native code which means better performance. It's designed to be lightweight but at the same time handle a large number of concurrent requests simultaneously.

If you want to learn Golang and need resource, then [Go- The Complete Guide course](#) by Maximillian Schwarzmuller is a great one to start with.



That's all about **how to become a Web Developer in 2024**. This is an excellent resource to start with as it highlights several paths to becoming the Web developer you always wanted to be.

Though, if you are stuck somewhere and if there is any confusion, you can always ask here and we'll try to answer your queries as best as possible.

If you are new to the programming world, don't let this illustration and a lot of technologies scare you. It's just a guideline and you can take a different path to learn Web Development and become a Web Developer, you can choose the path you like and stick to that.

Other Programming Articles you may like

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[10 Best Python Courses for Beginners](#)

[15 Best JavaScript Courses for Web Developers](#)

[7 Best Data Structure and Algorithms Courses for Beginners](#)

Closing Notes

Thanks for reading this article so far. You might be thinking that there is so much stuff to learn, so many courses to join, but you don't need to worry.

There is a good chance that you may already know most of the stuff, and there are also a lot of useful [free resources](#) which you can use, I have also linked them here and there along with the best resources, which are certainly not free, but worth of money.

I am a particular fan of [Udemy](#) courses, not because I will get paid if you end up buying any course but because they are very affordable and provides a lot of value in a very small amount, but you are free to choose the course you want.

At the end of the day, you should have enough knowledge and experience about the things mentioned here.

Good luck with your Web Development journey! It's certainly **not going to be easy**, but by following this roadmap and guide, you are one step closer to

becoming the Web Developer, you always wanted to be

If you like this article then please consider following me on medium ([javinpaul](#)). if you'd like to be notified of every new post and don't forget to follow [javarevisited](#) on Twitter!

All the best for your Web Development Journey and a Big thanks to [Kamran Ahmed](#) for producing such awesome content.

And, if you want to translate, or republish this article on your blog, website, or publication, please drop me a note on my email savingfunda@gmail.com, I usually say yes.

Other articles on [Medium](#) you may like:

The Complete React JS Developer RoadMap

An illustrated guide to becoming a React Developer with links to relevant courses

[medium.com](#)

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[medium.com](#)

Top 15 Online Courses to Learn Docker, Kubernetes, and AWS for Fullstack Developers and DevOps...

Hello all, You've probably heard the buzz around Docker and Kubernetes. They have fundamentally changed the development...

medium.com

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A humble place to learn Java and Programming better.



Written by javinpaul

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I am Java programmer, blogger, working on Java, J2EE, UNIX, FIX Protocol. I share Java tips on <http://javarevisited.blogspot.com> and <http://java67.com>

Responses (19)



What are your thoughts?

Respond



Paul Tesar
over 5 years ago

...

Great write up. I would include C# and GoLang in backend options.

👏 77 🎧 1 reply

Reply



Marcus Morba
over 5 years ago

...

Unfortunately most code I review, get's me to the conclusion: most so called Fullstack Frontend Developers have skipped the essentials. HTML is more than DIV and SPAN.

👏 32 🎧 1 reply

Reply



Soma
over 5 years ago

...

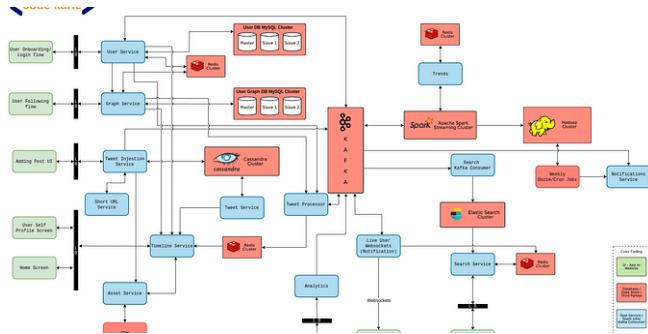
Which Programming language is better for Web Developers? JavaScript, Python or Ruby? I know Java, but I am thinking to learn one of these three language for front-end development.

👏 15 🎧 2 replies

Reply

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```

if (operation.equals("add")) {
    result = a + b;
} else if (operation.equals("subtract")) {
    result = a - b;
} else if (operation.equals("multiply")) {
    result = a * b;
} else if (operation.equals("divide")) {
    result = a / b;
} else {
    throw new UnsupportedOperationException("Invalid operation");
}

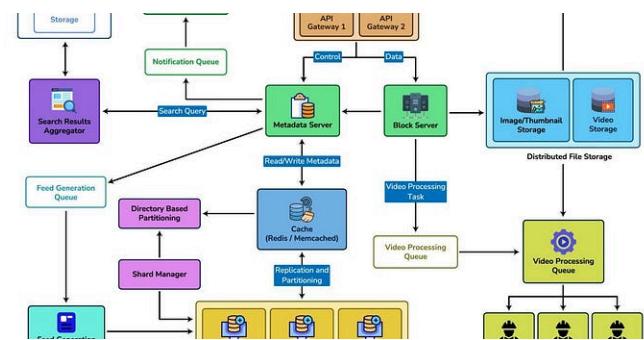
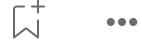
```

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Re-write This Java If-else Code Block Or I'll Reject Your Pull...

Functional Interfaces to the rescue!

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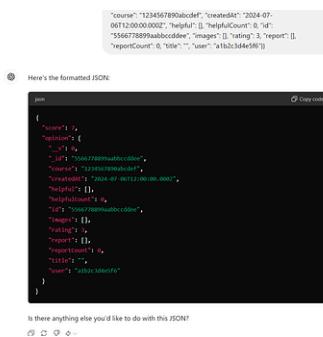
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 Aritra Sen

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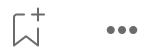


 Himanshu Singour

If you want to start—System Design (START FROM HERE...)

To all the beginners in system design, starting from here means: Whether you're a beginner...

Jul 16  18



[See more recommendations](#)

