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# Outline Template

# **Section I**

**Book Title –** [**JavaScript Masterclass**]

*Build production ready app that can be scaled to millions using JavaScript and NodeJS*

# **Subtitle – Understand and build end to end application using JavaScript.**

*This should be an extension of the title of the book. Something that can create a spark in the audience. Try using SEO friendly keywords. Limit – 200 Characters.*

*Understanding the fundamental of JavaScript language and build frontend and backend apps as microservices that is ready to serve millions of requests. Containerize services using Docker and deploy in VM or in Kubernetes.*

# **Tagline –** Understand Fundamental of JavaScript

*I will help you understand the language fundamental and the high-level view of JavaScript ecosystem to architect full end-to-end application.*

# **Target Audience -** [Students and Professionals]

*Who is this book for?*

*Any prerequisites for the readers? (Any tech/tool/concept they should be aware of or should know)*

*Do they need to have beginner/intermediate/advanced/no knowledge of the tool/technology to be covered in the book?*

*This book is for students and professional software engineers who like to understand the capability of JavaScript and its eco system.*

*You would require computer (Linux / Mac / Windows) with internet connection and browser (preferably Chrome).*

*Any prior knowledge of programming and/or java script would be helpful but not necessary. As an author I will provide both basic concept of JavaScript and built to advance concept of building architecture of entire app and also provide places where reader can explore more.*

# **Book Description -** [Insert Text Here]

*Divide it into three paragraphs*

*First - A couple of sentences about the technology and try to connect to the purpose of the book.*

*Second - Overview of the book. Mention key take-aways/highlight/learnings from each chapter*

*Third - Maybe a concluding sentence or two on how competent the readers will be after reading this book.*

# **Key Features -** [Insert Text Here]

*(Three Points)*

*What are you going to learn in this book?*

*Why learning this is important*

*How will you learn this?*

# **Competition Analysis**

*Please list the top two competing books*

[Insert Text Here]

[Insert Text Here]

**Tech List –** [Insert Text Here]

*Mention libraries / tools/ software / platform / programming language /tech that you would be using in the book.*

# **Author Bio -** [Insert Text Here]

# 

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# 

# 

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# **Section II**

**Table of Contents**

*Section Title – We want you to divide the book into three/four sections depending on the content.*

*For E.g. It can be Designing, Developing & Deployment. Each section can have more than one chapter. Shared an example below.*

*Chapter titles – Please make sure that you mention the concepts & tech used in that particular tech. It’s important to highlights as the table of contents is the first thing that the readers go through.*

*Page count – Please make sure that you are consistent with page counts. Try to make sure that the page count range is between* ***15- 35 pages****.*

*Chapter Delivery Date – This is when you will be delivering that particular chapter. The dates can be calculated using 2 pages/ per day as a base.*

| Section  Title | Chapter  No | Chapter  Title | Page  Count | Chapter Delivery Date |
| --- | --- | --- | --- | --- |
|  | *1.* | *JavaScript Language and Ecosystem* | *30* | *01/08/2022* |
|  | *2.* | Up and Running with JS Fundamentals | *35* | *20/08/2022* |
|  | *3.* | Upskill Frontend libraries and Frameworks | *40* | *15/09/2022* |
|  | *4* | Run JavaScript on Server with NodeJS | *40* | *25/10/2022* |
|  | *5* | *Containerise Application using Docker* | *15* | *06/11/2022* |
|  | *6* | Deploy Applications with Docker and Kubernetes | *15* | *20/11/2022* |
|  | *7* | Serverless JavaScript with  AWS Lambda and Digital  Ocean | *10* | *04/12/2022* |
|  | *8* | Automated Testing and CI/CD | *15* | *18/12/2022* |
|  | *9* | Desktop/Mobile Apps with React Native and Ionic | *20* | *08/01/2022* |
|  | *10* | *Create CLI Utility Tools* | *5* | *15/08/2022* |
|  | *11* | *Share Codes with NPM* | *20* | *29/01/2023* |
|  | *12* | *Beyond JavaScript* | *15* | *12/02/2023* |

**Chapter Details**

*Chapter titles – Please make sure that you mention the concepts & tech used in that particular tech. It’s important to highlights as the table of contents is the first thing that the readers go through.*

*Also mention libraries/tools/software/platform/programming language /tech that you would be using in the description of the chapters.*

**Chapter 1: [JavaScript Language and Ecosystem] [30]**

**Description**: **JavaScript has grown since its creation; it has been widely adopted and can be used for various application. In this chapter we will learn history of JavaScript and its evolution to current date.**

**Topics to be covered:**

· The Language

· JavaScript and Web

o Web Browsers

o V8

o Spider Monkey

· NodeJS

o NodeJS

o NPM

· ECMAScript and Typescript

· Frameworks and libraries

**Chapter 2: [Up and Running with JS Fundamentals [35]**

**Description**: **Writing an application is like writing an essay and to write an essay we need to understand the language. Similarly, JavaScript is one of many computers language that can be used to write application. In this chapter we will understand fundamental of JavaScript language.**

**Topics to be covered:**

· Variables (Primitives and Objects)

· Conditionals

· Loops

· Boolean Logic and Falsey

· Functions

· Promise

· IIFs

· ECMAScript

· Classes and OOP

· Destructor

· Closures

· Arrow Functions

· Async / Await

· Modules

**Chapter 3: [Upskill Frontend libraries and Frameworks] [40]**

**Description**: **JavaScript was initially developed to be used in Web. Since the beginning JavaScript has been used in web front to provide interactivity in the webpage. To this date, JavaScript primary choice as web frontend technology. There are alternatives to it but they are not as mature as JavaScript. In this chapter we will discuss how JavaScript is used in frontend and also understand how frontend libraries and framework works and how new languages like ECMAScript and Typescript are used in frontend.**

**Topics to be covered:**

· Vanilla JavaScript and DOM

· ECMAScript / Babel / Webpack

· Angular

· VueJS

· React and JSX

· Further esbuild, SWC, Vite

· Build Weather App

**Chapter 4: [Run JavaScript on Server with NodeJS] [40]**

**Description**: **Primarily JavaScript was built for web but everything changes with the arrival for NodeJS. Now JavaScript can run on desktop and services. In this chapter we will understand what is NodeJS and how it's different from JavaScript in browser. Also, we will understand basics of how to build webserver, connect to database and build Api. We will also build some examples projects.**

**Topics to be covered:**

· What is NodeJS?

o Event Loop

o Global Modules

o Standard Modules

o Install NodeJS

o Package.json

· Databases and ORMs

o Connecting and Querying Database SQLs to

o Using Prisma ORM

· Web Servers (

o HTTP Module

o Express

o Koa

o Fastify

· APIs

o REST API

o GraphQL

o WebSocket

· Hybrid Frameworks

o SSG (Build Simple Portfolio Site and host in GitHub pages using Gatsby)

o SSR - (Build full stack photo archive using NextJS)

o Build Simple Messaging App using WS

**Chapter 5: [Containerise Application using Docker] [15]**

**Description**: **Containerisation is concept of packing and shipping the application. We will understand how we can containerise JavaScript application and share the images to be used from CI/CD and deploy the application.**

**Topics to be covered:**

· What is Container?

· What is Docker and why use it?

· Containers for good Developer Experience

· Containers for better CI/CD practice

· Containerise React App

· Containerise Express App

· Best Practice to package node application in docker

**Chapter 6: [Deploy Applications with Docker and Kubernetes] [15]**

**Description**: **Microservice is way to abstract and decouple different module of the system where each service can be built and deployed by independently of each other. In this chapter we will understand how it can be built and how it can be deployed and how it communicates. Also discuss where Microservice architecture should be avoid.**

**Topics to be covered:**

· What is Microservices?

· Good and Bad part of Microservices

· Synchronous and Asynchronous Microservices

· Deploy service in VMs

· Deploy services using Docker Container

· What is Kubernetes? And why is it being adopted by companies?

· Gets hand on Kubernetes using Kind.

· Deploy application in Kubernetes using Kind.

· Simple monitoring system using Prometheus and Grafana

**Chapter 7: [Serverless JavaScript with AWS Lambda and Digital Ocean] [10]**

**Description**: **There raise of serverless technologies with raise cloud computing providers. Serverless technology is easy to build and scale. In this chapter we will understand how application can be build using serverless technology and how it can help start-up achieve from zero – million visitors.**

**Topics to be covered:** Please provide the list of topics to be covered through the book:

▪ What is Serverless?

▪ Serverless Framework

▪ Deploy Serverless function in Amazon Lamda

▪ Deploy Serverless functions in Digital Ocean

**Chapter 8: [Automated Testing and CI/CD] [15]**

**Description**: **Automated testing is key part of application development. It's argued as additional burden for software engineers. Testing very important concept understand and master if software engineers like to ship application is fewer bugs and issues. Topics to be covered:** Please provide the list of topics to be covered through the book:

▪ Concept of Testing

▪ TDD and BDD

▪ Mocha / Chai

▪ Jest

▪ What is CI / CD

▪ CI / CD using GitHub Actions

▪ CI / CD using CircleCI

**Chapter 9: [Desktop/Mobile Apps with React Native and Ionic] [20]**

**Description**: **JavaScript is everywhere, it can be used to create desktop applications and mobile application. We will learn how we can build desktop and mobile application with JavaScript.**

**Topics to be covered:** Please provide the list of topics to be covered through the book:

▪ Desktop Application

▪ Electron and how it works?

▪ Built Screen Recorder using Electron

▪ Mobile Applications

▪ React Native and how it works?

▪ Build Pomodoro Application using React Native

▪ Ionic and how it works?

▪ Build Quiz app using Ionic

**Chapter 10: [Create CLI Utility Tools] [5]**

**Description**: **Build CLI utility tools to automate some tasks like CRA applications. We will explore CLI application and understand how we can distribute using npm.**

**Topics to be covered:** Please provide the list of topics to be covered through the book:

▪ What is CLI?

▪ Why use CLI?

▪ Benefits CLI tools

▪ Build Todo CLI tool

**Chapter 11: [Share codes with NPM] [20]**

**Description**: **One of many reasons for adopting JavaScript to build application using JavaScript is because of speed in which software engineers can deliver the software. One of the facts that we can build faster is because of npm. There is all kind of public package that be found in npm that can speed up the development process. In this chapter we will discuss how we can share libraries using npm and also discuss some downside of npm.**

**Topics to be covered:** Please provide the list of topics to be covered through the book:

▪ NPM packages and modules

▪ Dependencies of modules

▪ Create your own NPM

▪ Build and test npm module locally

▪ Create Icon Library using NPM

▪ Create React Component Library

**Chapter 12: [Beyond JavaScript] [15]**

**Description**: **JavaScript is very capable language and almost all the companies which have presence in the web. There are downsides of JavaScript that is why language is typescript is build, transpilers like esbuild and SWC is written in go and rust. Once, there are good grasps with JavaScript, it is always better to understand and have additional tools to boost productivity. In this chapter we will discuss tools and eco system beyond just JavaScript and how it helps to be better developer.**

**Topics to be covered:** Please provide the list of topics to be covered through the book:

▪ Typescripts Why and How to use it?

▪ ESBuild and Vite was necessary better DX.

▪ GraphQL is not just a JavaScript framework but much more.

▪ Protocols are key for communication.

▪ Frameworks and community how to choose.

▪ Avoid Learning Everything but master your tool.