

Technology	Topics covered	Min Duration	
HTML		80 Hrs	
	HTML Structure		
	HTML Elements		
	Block-level Elements		
	Inline Elements		
	HTML Lists		
	Void Elements		
	HTML Forms		
	HTML Attributes		
	Multiple class names as an HTML attribute value		
	Navigation within the webpage		
	Getting URLs for our own Images		
	Linking HTML and CSS Files		
CSS		80 Hrs	
	CSS Properties		
	CSS Box Model		
	CSS Flexbox		
	CSS Media Queries		
	CSS Selectors		
	CSS Inheritance		
	CSS Colors		
	CSS Specificity & Cascade		
	CSS Units - percentage, px, vh/vw		
	CSS Gradients		
	Inline Styles		
	Reusability of CSS Rulesets		
Bootstrap		80 Hrs	
	How to use Bootstrap		
	Predefined Styles in Bootstrap		

Technology	Topics covered	Min Duration	
	Flexbox Properties		
	Bootstrap Components		
	Bootstrap Utilities		
	Bootstrap Grid System		
	Bootstrap Spacing Utilities		
	Bootstrap Background Color Utilities		
	Bootstrap Sizing Utilities		
	Bootstrap Icons		
SQLite		52 Hrs	
	Data		
	Database		
	Database Management System(DBMS)		
	Advantages		
	Types of Databases		
	Relational Database		
	Non-Relational Database		
	SQL Querying		
	Comparison Operators - =,>, <, >=, <=		
	String Operations - LIKE		
	Logical Operators - AND, OR, NOT		
	IN, BETWEEN Operator		
	ORDER BY, DISTINCT		
	Pagination - LIMIT, OFFSET clauses		
	Aggregations - COUNT, SUM, MIN, MAX, AVG		
	Alias		
	Group By, Group By with Having		
	Expressions		
	SQL Functions		
	CASE Clause		

Technology	Topics covered	Min Duration	
	Set Operators		
	Modelling Databases		
	Views		
	Subqueries		
	Transactions - ACID Properties		
	Indexes		
JavaScript		148 Hrs	
	DOM and Event Fundamentals		
	Variables		
	Document Object Model (DOM)		
	Methods		
	Properties		
	Events		
	Primitive Types & Conditionals		
	Conversions		
	String Manipulations		
	Conditional Statements		
	Comparison Operator		
	Input Element and Math Functions		
	Math.random()		
	Math.ceil()		
	HTML Input Element		
	DOM Properties		
	DOM Manipulations		
	More DOM Manipulations		
	Creating an HTML Element		
	Accessing HTML element using id attribute		
	Appending to an HTML Element		
	Adding Event Listeners Dynamically		

Technology	Topics covered	Min Duration	
	Providing Class Names Dynamically		
	Removing Class Names Dynamically		
	Data Structures		
	Arrays		
	Functions		
	Objects		
	Object Destructuring		
	Object Methods		
	Todos Application		
	JavaScript Built-in Functions		
	Storage Mechanisms		
	JavaScript Object Notation (JSON)		
	JS Object vs JSON Object		
	JSON Methods		
	Array Methods		
	Callbacks & Schedulers		
	Event Listeners		
	Hypertext Transfer Protocol (HTTP)		
	HTTP Methods		
	HTTP Version		
	HTTP Responses		
	Making HTTP Requests using Fetch		
	HTTP Response Object Properties and Methods		
	Modern JS Concepts		
	Spread Operator		
	Rest Parameter		
	Functions		
	Template Literal		
	Ternary Operator		

Technology	Topics covered	Min Duration	
	Switch Statement		
	Arrow Functions		
	Factory Function		
	Constructor Property		
	Built-in Constructor Function		
	Instance Methods		
	this		
	Immutable and Mutable Values		
	Variables		
	Prototypal Inheritance		
	Built-in Constructor Functions		
	Built-in Array Constructor Function		
	Prototype Property		
	Built-in Function Constructor Function		
	Instance Specific and Prototype Properties		
	JS Classes		
	Class		
	Inheritance in JS Classes		
	this in classes		
	JS Promises		
	Synchronous and Asynchronous Execution		
	JS Promises		
	Async/Await		
Python		174 Hrs	
	Variables and Data Types		
	Inputs and Outputs Basics		
	Type Conversion		
	String Slicing		
	Operators		

Technology	Topics covered	Min Duration	
	Relational		
	Logical		
	Arithmetic		
	Conditional Statements		
	Nested Conditional Statements		
	Loops		
	Nested Loops		
	Loop Control Statements		
	Patterns		
	String Methods		
	Comparing Strings & Naming Variables		
	Rounding Numbers		
	Floating Point Approximation		
	Floating Point Errors		
	Comments		
	Lists, Tuple, Set, Dictionaries		
	Tuples and Sequences		
	List Slicing		
	Nested Lists & String Formatting		
	Functions		
	Extended Slicing		
	Arbitrary Function Arguments		
	Built-in Functions		
	abs()		
	all()		
	any()		
	reversed()		
	enumerate()		
	List Methods		

Technology	Topics covered	Min Duration	
	copy()		
	reverse()		
	Introduction to OOP		
	Objects		
	Classes		
	Attributes & Methods		
	Inheritance		
	Super Class & Sub Class		
	Composition		
	Overriding Methods		
	Python Standard Library		
	Built-in Functions		
	Modules		
	Map, Filter and Reduce		
	Scope & Namespaces		
	Errors & Exceptions		
	Working With Dates & Times		
	Problem Solving		
React JS		176 Hrs	
	Components & Props		
	Component		
	Properties (Props)		
	Component is Reusable		
	Component is Composable		
	Third-party Packages		
	create-react-app		
	Pre-Configured tools		
	Lists & Keys		
	Keys		

Technology	Topics covered	Min Duration	
	Keys as Props		
	Users List Application		
	Class Component and State		
	Components		
	Functional Components		
	Class Components		
	React Events		
	State		
	Updating State		
	State Updates are Merged		
	Functional Components vs Class Components		
	Conditional Rendering		
	Conditional Rendering		
	Using an If...Else Statement		
	Using Element Variables		
	Using Ternary Operators		
	Using Logical && Operator		
	Default Props		
	Class Component and State		
	setState() Object Syntax		
	Sending Function as Callback		
	Input Element		
	Third-Party Packages		
	Installing UUID		
	Importing of UUID		
	Component Life Cycle		
	Component Life Cycle Phases		
	Mounting Phase		
	Updating Phase		

Technology	Topics covered	Min Duration	
	Unmounting Phase		
	Routing using React Router		
	Web Apps		
	React Routes		
	API Calls		
	Introduction to React JS		
	React JS		
	Why React JS?		
	Advantages of React JS		
	Running JavaScript in HTML		
	Creating Elements using React JS		
	React CDN		
	React.createElement()		
	ReactDOM.render()		
	JSX		
	Babel		
	Embedding Variables and Expressions in JSX		
	Nesting JSX elements		
	Fetch		
	Route Props		
	Match		
	Authentication & Authorization		
	Client-Server Communication		
	Authentication		
	Authorization		
	Authentication Flow		
	Route Parameters		
	History		
	Authentication & Authorization - Part 2		

Technology	Topics covered	Min Duration	
	JWT Token		
	Storage Mechanisms		
	Cookies		
	Why Cookies?		
	Cookies vs Local Storage		
	Third Party Package js-cookie		
	Redirect Component		
	withRouter		
	Authentication & Authorization - Part 3		
	Router Switch		
	Wrapper Component		
	Protected Route		
	Authentication & Authorisation - Part 4		
	Integrating APIs		
	API Call Possible Views		
	Success View		
	Failure View		
	Loading View		
	Best Practices		
	State Variable-isLoading		
	State Variable-apiStatus		
	Adding Initial State		
	React Concepts		
	Reconciliation		
	React Batch Updating		
	setState() Syntax		
	Children Prop		
	Passing Text as Children		
	Accessing Children		

Technology	Topics covered	Min Duration	
	Controlled vs Uncontrolled Input		
	Props vs State		
	State should be minimal		
	User defined functions should be in the arrow function syntax		
	Using Redirect Component in Callbacks or Event Listeners		
	Using history.replace() in render() instead of Redirect Component		
	Missing withRouter() to have history prop		
	When request object keys are incorrect		
	Not Updating the State when required		
	setState() Callback Function		
	React Icons		
	Installing React Icons		
	Searching React Icons		
	Importing React Icons		
	Third-Party Packages		
	Third-Party Packages		
	Advantages		
	Selecting a Third-Party Package		
	Third-Party Package		
	React Player		
	Recharts		
	React Chrono		
	React Slick		
	React Popup		
	React Context		
	Prop Drilling		
	React Context		
	Creating Context		
	Context Properties		

Technology	Topics covered	Min Duration	
	How to Access the Value?		
	Consumer Component		
	Understanding Syntax		
	Provider		
	Syntax		
	Context Flow For Windows App		
	Best Practice		
	Context		
	Using Context in methods		
	Styled Components		
	Styling React Components		
	Using CSS		
	CSS-in-JS		
	Styled Components		
	Advantages of Styled Components		
	Extending Styles		
	The "as" prop		
	Boolean Attribute		
	Common Mistakes		
	Missing Export Statement		
	Missing Import Statement		
	Missing Extending the React Component Class		
	class vs className		
	onclick vs onClick		
	Event Listeners inside Class Component		
	Passing Event Handler		
	Modifying the State Directly		
	Calling setState() from render()		
	Invoking Event Handler		

Technology	Topics covered	Min Duration	
	setState() is Asynchronous		
	React Component should return a single JSX element		
	Fragments		
	Props are Read-only		
	Rendering Promise Object		
	Using Link and Route Components without BrowserRouter		
	Providing Wrong Route Path		
	Missing exact keyword		
	Missing Switch		
	Placing Common component inside Switch		
	Providing the same PATH for multiple Routes		
	Missing Colon(:) while providing Path Parameters		
	Accessing Promise Object		
	Ordering of Routes inside Switch		
	Best Practice		
	Updating a Property of an Item inside List		
	Debugging using Developer tools		
	Debugging		
	Browser Developer Tools		
	React Developer Tools		
	Hooks		
	useState Hook		
	useEffect Hook		
	Making API calls with Hooks		
	Schedulers with Hooks and Race condition		
Node JS		42 Hrs	
	Introduction to Node JS		
	MERN Stack		
	Node JS		

Technology	Topics covered	Min Duration	
	Running JavaScript Using Node JS		
	Node REPL (Read-Eval-Print-Loop)		
	Node CLI		
	Module		
	Common JS Module Exports		
	Default Exports		
	Named Exports		
	Modern JS Module Exports		
	Default Exports		
	Named Exports		
	Core Modules		
	Path		
	Package		
	Node Package Manager (NPM)		
	Steps to create a Node JS Project		
	Third-Party Packages		
	date-fns		
	Introduction to Express JS		
	HTTP Server		
	Server-side Web Frameworks		
	Express JS		
	Network Call using Express JS		
	Handling HTTP Request		
	Testing Network calls		
	Network Call to get a Today's Date		
	Network Call to get HTML content as an HTTP Response		
	Sending file as an HTTP Response		
	Application Programming Interface (API)		
	Database		

Technology	Topics covered	Min Duration	
	SQLite		
	SQLite CLI		
	SQLite Methods		
	Open		
	Executing SQL Queries		
	SQL Third-party packages		
	Connecting SQLite Database from Node JS to get the books from Goodreads Website		
	SQLite Database Initialization		
	Goodreads Get Books API		
	SQLite Methods		
	get()		
	run()		
	Node JS Third-party packages		
	Nodemon		
	GoodReads API		
	Get Book		
	Add Book		
	Update Book		
	Delete Book		
	Get Author Books		
	REST APIs		
	Get Books API		
	Filtering Books		
	REST APIs		
	Why Rest Principles?		
	REST API Principles		
	Debugging Common Errors		
	Importing Unknown Modules		
	Starting Server in Multiple Terminals		

Technology	Topics covered	Min Duration	
	Starting Server outside the directory		
	Accessing Wrong URL		
	Missing Function Call		
	Importing Unknown File		
	Request Methods		
	Missing colon(:)		
	Accessing Path Parameters		
	Query Formatting		
	Replacing SQLite Methods		
	HTTP Request URL		
	Missing '?'		
	Missing '&' between Query Parameters		
	Replacing '&' with ',' in Query Parameters		
	Accessing Unknown Database		
	Accessing Wrong Port Number		
	Authentication		
	Installing Third-party package bcrypt		
	Goodreads APIs for Specified Users		
	Register User API		
	Login User API		
	Authentication Mechanisms		
	Token Authentication mechanism		
	Access Token		
	How Token Authentication works?		
	JWT		
	How JWT works?		
	JWT Package		
	Login User API by generating the JWT Token		
	How to pass JWT Token?		

Technology	Topics covered	Min Duration	
	Get Books API with Token Authentication		
	Middleware functions		
	Multiple Middleware functions		
	Logger Middleware Implementation		
	Defining a Middleware Function		
	Logger Middleware Function		
	Get Books API with Logger Middleware		
	Authenticate Token Middleware		
	Get Books API with Authenticate Token Middleware		
	Passing data from Authenticate Token Middleware		
	Get User Profile API with Authenticate Token Middleware		
Java		163 Hrs	
	What is Java?		
	Hello World Program in Java		
	Arithmetic Operations in Java		
	Addition		
	Subtraction		
	Multiplication		
	Division		
	Modulo Operation		
	Variables		
	Declaring a Variable		
	Initializing a Variable		
	Defining a Variable		
	Type of the variable		
	Reassigning the Variables		
	The Final Keyword		
	Expression		
	Statements		

Technology	Topics covered	Min Duration	
	Block of Code		
	Comments		
	Primitive Data Types		
	Non-Primitive Data Types		
	Packages		
	Importing a Package		
	Importing a Class		
	Input and Output		
	Reading User Input using Scanner Class		
	Printing Output		
	Checking the Data Type		
	Non-primitives		
	Primitives		
	Type Conversion and Type Casting		
	Implicit Type Conversion		
	Explicit Type Conversion (Type Casting)		
	Type Conversion using Methods		
	String Class		
	String Concatenation		
	Using concat() method		
	Using + Operator		
	Length of String		
	String Indexing		
	String Slicing		
	Slicing to End		
	String Repetition		
	Relational Operators		
	Comparing Numbers		
	Comparing Integers and Floats		

Technology	Topics covered	Min Duration	
	Comparing Strings		
	Comparable Types		
	Logical AND Operator		
	Logical OR Operator		
	Logical NOT Operator		
	If...Else Statement		
	Else If Statement		
	Nested Conditions		
	Optional Else Statement		
	Ternary Operator		
	Nested Ternary Operators		
	Switch Statement		
	Break in Switch...Case		
	While Loop		
	Do-While Loop		
	For Loop		
	trim()		
	toLowerCase()		
	toUpperCase()		
	startsWith()		
	endsWith()		
	replace() & replaceFirst()		
	isLetter()		
	isDigit()		
	isWhitespace()		
	isUpperCase()		
	isLowerCase()		
	toUpperCase()		
	toLowerCase()		

Technology	Topics covered	Min Duration	
	toString()		
	Nested Loops		
	Nested Loops Examples		
	Break		
	Continue		
	Characters and Unicodes		
	Getting Unicode Value of a Character		
	Using Implicit Type Conversion		
	Using Explicit Type Conversion		
	Getting Character Representation of a Unicode Value		
	Naming Variables		
	Keywords		
	Creating Strings		
	Using String Literals		
	Using new Keyword		
	Comparing Strings using Equality (==) Operator		
	String Comparison Methods		
	equals()		
	equalsIgnoreCase()		
	compareTo()		
	compareToIgnoreCase()		
	Comparing Characters		
	Math Class		
	pow()		
	round()		
	DecimalFormat Class		
	Floating Point Errors		
	Compound Assignment Operators		
	Unary Operators		

Technology	Topics covered	Min Duration	
	Increment Operator		
	Decrement Operator		
	Escape Sequences		
	BigInteger		
	Declaring a BigInteger		
	Initialization		
	BigInteger Methods		
	Addition		
	Subtraction		
	Multiplication		
	Division		
	Exponentiation		
	Absolute value		
	Type Conversions with BigIntegers		
	Converting Integers to BigInteger		
	Converting BigInteger to Integers or String		
	BigInteger Constants		
	Declaration of Array		
	Creating and Initializing an Array		
	Accessing Array Elements		
	Printing an Array		
	Modifying Array Elements		
	Creating an Array using new Keyword		
	Length of an Array		
	Iterating Over an Array		
	Using for Loop		
	Using for-each Loop		
	Read & Store User Input in an Array		
	Array Concatenation		

Technology	Topics covered	Min Duration	
	Array Slicing		
	Multi-dimensional Array		
	Two-dimensional Array		
	Creating & Initializing a Two-dimensional Array		
	Accessing Two-dimensional Array Elements		
	Printing a Two-dimensional Array		
	Creating a Two-dimensional Array using new Keyword		
	Iterating Over a Two-dimensional Array		
	Read & Store User Inputs in a Two-dimensional Array		
	ArrayList		
	Adding Elements to ArrayList		
	Accessing ArrayList Elements		
	Printing an ArrayList		
	Modifying an ArrayList		
	Adding Primitive Data Types to ArrayLists		
	Autoboxing and Unboxing		
	Removing ArrayList Elements		
	Size of an ArrayList		
	Iterating over an ArrayList		
	ArrayList Concatenation		
	ArrayList Slicing		
	Converting Array to ArrayList		
	Converting ArrayList to Array		
	Comparison between ArrayList and Array		
	Finding Index of an Element		
	Finding Frequency of an Element		
	Sorting an ArrayList		
	Ascending Order		
	Descending Order		

Technology	Topics covered	Min Duration	
	Modifying Array & ArrayList 1		
	Modifying Array & ArrayList 2		
	Modifying Array & ArrayList 3		
	Modifying Array & ArrayList 4		
	Splitting Strings		
	Whitespace as Separator		
	String as Separator		
	Splitting Strings using Regex		
	Splitting Strings using Regex Special Characters		
	Joining Strings		
	Joining Strings		
	Joining String Arrays		
	Joining String ArrayLists		
	Sorting Arrays		
	Ascending Order		
	Descending Order		
	Reversing Sequences		
	Reversing Strings		
	Reversing Arrays		
	Reversing ArrayLists		
	HashMap		
	Creating a HashMap		
	Adding Elements		
	Accessing Values		
	Modifying Values		
	Removing Elements		
	Getting All Keys		
	Getting All Values		
	Getting All Elements		

Technology	Topics covered	Min Duration	
	Iterating		
	HashMap References		
	Copying HashMaps		
	Size of a HashMap		
	HashMap Key Check		
	HashMap Value Check		
	String Formatting		
	Format Specifiers		
	String.format() Method		
	Formatting Decimal Numbers		
	Numbering Format Specifiers		
	String Formatting with printf() Method		
	Method Declaration		
	Calling a Method		
	Returning a Value		
	Method with Parameters		
	Method Arguments		
	Method Overloading		
	Passing Mutable Objects		
	Passing Immutable Objects		
	Recursion		
	Math Methods		
	Classes		
	Attributes & Methods		
	Constructor		
	Instance of Class		
	Accessing Attributes & Methods with Objects		
	Updating Attributes		
	Type of an Object		

Technology	Topics covered	Min Duration	
	Class Attributes		
	Class Methods		
	Accessibility Among Instance and Class Attributes and Methods		
	Instance vs Class Attributes		
	Instance vs Class Methods		
	Static Blocks		
	Inheritance		
	Final Class		
	Composition		
	Method Overriding		
	Method Overriding		
	The Super Keyword		
	Accessing Attributes		
	Invoking Methods		
	Invoking Constructors		
	Types of Inheritance		
	Single Inheritance		
	Multilevel Inheritance		
	Hierarchical Inheritance		
	Upcasting		
	Access Modifiers with Attributes		
	Access Modifiers with Methods and Constructors		
	Access Modifiers with Classes		
	More Method Overriding Rules		
	Polymorphism		
	Execution of a Java Code		
	Encapsulation		
	Getters and Setters		
	Abstraction		

Technology	Topics covered	Min Duration	
	Abstract Classes and Methods		
	Implementing Abstract Classes and Methods		
	Abstraction vs Encapsulation		
	Interface		
	Default Methods in Interfaces		
	Inheritance among Interfaces		
	Multiple Inheritance		
	Abstract Classes vs Interfaces		
	Type Parameters		
	Generics		
	Generic Classes		
	Generic Methods		
	Generic Interfaces		
	Bounded Types		
	Errors & Exceptions		
	Handling Exceptions		
	Raising Exceptions		
	Representing Date		
	Representing Time		
	Representing Date & Time		
	Formatting Date & Time		
	Difference between Dates & Times		
	Functional Interface		
	Lambda Expression		
	Lambda Expression with Parameters		
	Types of Lambda Body		
	Stream		
	Working with Streams		
	Intermediate Operations		

Technology	Topics covered	Min Duration	
	filter()		
	map()		
	sorted()		
	distinct()		
	Terminal Operations		
	forEach()		
	count()		
	collect()		
	anyMatch()		
	allMatch()		
	noneMatch()		
	Optional Class		
	Creating Optionals		
	Optional Methods		
	isPresent()		
	get()		
	orElse()		
	orElseGet()		
	ifPresent()		
	map()		
	filter()		
	More Terminal Operations on Streams		
	findFirst()		
	findAny()		
	reduce()		
	min()		
	max()		
	Paths		
	BufferedWriter		

Technology	Topics covered	Min Duration	
	BufferedReader		
	Java Development Kit (JDK)		
	JRE and JVM		
	Java Archive		
	Execution of Java Programs		
	Classpath		
	Java Version Release History		
SpringBoot		13 hrs	
	Java Frameworks		
	Introduction to Spring Boot		
	Spring and Spring Boot Versions		
	Setting up Spring Boot Project Locally		
	REST APIs		
	API Testing Tools: POSTMAN		
	Hands-on with Go REST API		
	GET		
	Authentication & Authorization		
	POST		
	GET by ID		
	PUT		
	DELETE		
	Creating a Model Class		
	Creating Service and Controller Classes		
	Get Books API		
	Get Book API		
	Handling Exceptions		
	Add Book API		
	Update Book API		
	Delete Book API		

Technology	Topics covered	Min Duration	
	Working with Databases		
	H2 Database		
	JDBC		
	Configuring H2 Database		
	Adding Dependencies		
	Providing Configuration Details		
	H2 Web Console		
	Creating Table and Adding Data		
	Project Restructuring		
	Folder Restructure		
	Updating Packages and Imports		
	Accessing Data from H2 Database		
	REST APIs		
	RowMapper Interface		
	Get Books API		
	Get Book API		
	Add Book API		
	Update Book API		
	Delete Book API		
	ORM		
	JPA		
	Hibernate		
	Accessing Database		
	Entity Class		
	JpaRepository		
	REST APIs		
	Get Books API		
	Get Book API		
	Add Book API		

Technology	Topics covered	Min Duration	
	Update Book API		
	Delete Book API		
	JPA vs JDBC		
	Multiple Entities with Relationships		
	Entities Relationships		
	One-to-One Relationship		
	One-to-Many Relationship		
	Many-to-One Relationship		
	Many-to-Many Relationship		
	Modelling Many-to-One Relationship		
	Uni-directional Relationship		
	Bi-directional Relationship		
	Many-to-Many Relationship		
	Writing APIs for Book and Author Entities		
	Get Book Authors		
	Get Author Books		
	Goodreads APIs		
	Add Book API		
	Update Book API		
	Add Author API		
	Update Author API		
	Delete Author API		
	Delete Publisher API		
	Overview of Spring Framework		
	Spring Batch Processing		
	AOP(Aspect Oriented Programming) with Spring		