

Full Stack Developer Tutorial

8681884318 | www.softlogicsys.in | enquiry@softlogicsys.in

Share on your Social Media [f](#) [x](#) [in](#) [wh](#) [p](#) [t](#)

Full Stack Developer Tutorial

Published On: September 14, 2024

Full Stack Developer Tutorial

Being able to work on both the front end and back end of a website or application makes a developer or engineer a full-stack developer. Utilize this **full-stack developer tutorial** to learn various stacks that are used in web and app development.

[Download Full Stack Developer Tutorial PDF](#)

Introduction to Full Stack Development

Developing an application from start to finish, including the front end and back end, is known as full-stack development. Full-stack developers must be able to collaborate well with others and possess a solid grasp of the tools and technology used in web development. In this full-stack developer tutorial, we cover the following:

- Overview of full-stack development
- Stages of full stack development
- Front-end Development
- Back-end Development
- Frameworks for Full Stack Development
- Popular Programming Languages for Full-Stack Development

Overview of Full-Stack Development

The full stack development process includes both front-end and back-end development. Front-end and back-end development are both included in full-stack development, which is the entire process of **developing application software**.

- The user interface, or UI, is part of the front end, whereas the back end manages the application operations and business logic that operate in the background.
- Full-stack developers are capable of working across the whole technology stack, creating solid backends, and facilitating smooth user experiences.

Stages of Full Stack Development

Let's explore the three stages in the process of developing a web application.

Presentation Layer: Also referred to as the front-end layer, this layer houses all of the components that directly interact with end users.

Presently, *HTML, JavaScript, CSS, jQuery, and other significant JavaScript libraries, AngularJS, ReactJS, Backbone, and EmberJS, are used in the development of the display layer.*

Logical Layer: The logical layer is often referred to as the back-end layer. The program development process, which excludes the user interface, is the main focus of the logic layer. All the components required for the core logic to operate are included in the logic layer.

Proficiency in programming languages such as Java, Python, Ruby, Dot Net, and PHP characterizes backend developers.

Data Layer: Sometimes referred to as a Logic Layer Sub-group. The read, create, update, and delete of data utilizing databases.

SQL, PostgreSQL, MySQL, and Oracle are the main focus of the data layer.

[Full Stack Interview Questions and Answers](#)

Front End Development

Featured Articles

Want to know more about becoming an expert in IT?

[Click Here to Get Started >>](#)

100% Placement Assurance

AUTHORISED CERTIFICATION PARTNER **IBM**

Related Courses at SLA

- ➔ Full Stack Developer Online Training
- ➔ Full Stack training in OMR
- ➔ Full Stack Developer Training in Chennai

Related Posts

Tableau Developer Salary in Chennai
Published On: October 12, 2024
Introduction A Tableau developer designs, develops, and maintains dashboards and visualizations using Tableau software.

Full Stack Developer Project Ideas
Published On: October 12, 2024
Introduction A Full Stack Developer manages both front-end and back-end web development. This includes creating...

VMware Tutorial for Cloud Computing Aspirants
Published On: October 12, 2024
VMware Tutorial for Cloud Computing Aspirants VMware software allows you to run a virtual machine...

VBA Macros Tutorial for Beginners
Published On: October 10, 2024
VBA Macros Tutorial for Beginners VBA macros are programs that automate repetitive operations in Microsoft...

The website's user interface is referred to as the front end.

- Between front-end developers and graphic designers, confusion arose.
- The person who creates the front end of a website using programs like Adobe Photoshop, Adobe Illustrator, etc. is a graphic designer.
- UI developers prioritize making a website seem good. UI developers are in charge of creating an eye-catching website design.
- The front-end developers, on the other hand, emphasize how well the website functions on the client side.

The following languages are used by front-end developers:

HTML

Tim Berners-Lee created HTML, also referred to as hypertext markup language. This forms the basis for all front-end programming.

- It is filled with hyperlinks that allow us to return to the same page or navigate between pages. Any text can be converted to an image or a link using markup.
- HTML is the first language that any novice developer learns when learning web programming.
- It offers the website's fundamental structure. **HTML5** is the most recent version.

Example

```
<!DOCTYPE html>

<html>

<head>

<title>Page Title</title>

</head>

<body>

<h1>This is a Heading</h1>

<p>This is a paragraph.</p>

</body>

</html>
```

CSS

With CSS (Cascading Style Sheets), everything may be made more captivating by adding an effect. It is CSS's creation. It enhances the page with new attributes, which draws the user in further. By keeping up with the style sheets for each orientation, it is accomplished.

Example

```
body {

  background-color: lightblue;

}

h1 {

  color: white;

  text-align: center;

}

p {

  font-family: verdana;

  font-size: 20px;

}
```

JavaScript

The most well-known language used mostly in modern times is **JavaScript**.

- It is a high-level, multi-paradigm language that is compiled just in time.
- It is the most popular programming language because of the frameworks it powers, like React, Angular, Next, and others. It applies to both the front and back ends.
- JavaScript functions primarily in the majority of browsers, although it may also be used with web views, headless browsers, and compilation input for native environments.

Syntax:

```
<script>
// JavaScript Code
</script>
```

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>
Here is the JavaScript example
</title>
</head>
<body>
</body>
<script>
console.log("SLA is the one-stop solution for all your learning needs");
</script>
</html>
```

Popular Web Browsers: Internet Explorer, Firefox, Chrome, and Safari.

Headless Browsers: Headless browsers, including Zombie, Slimmerjs, and Headless Chrome, are those without a graphical user interface (GUI) that can be operated via a command-line interface.

Web View: A native OS primarily uses them to run native web pages. A few examples are Electron, NW.js, Cordova, etc.

[Full Stack Developer Syllabus PDF](#)

Back End Development

The server side of any application is referred to as backend development. The website's user interface, created by front-end developers, is interacted with by the user.

- How we place orders, how payments are made, how we sign in, etc. are handled by backend developers, who concentrate on databases, APIs, scripting languages, etc.
- The tools made by front-end developers are given new life by back-end developers.

Back-end Languages: Any of the following languages can be utilized for back-end development:

- **Java:** A popular object-oriented language for backend programming is Java. Several frameworks, including Spring, Struts, and Hibernate, are heavily utilized in the industrial sector.
- **Ruby:** Ruby is a high-level, dynamic, and open-source language with a productivity-focused design. Because the convention is prioritized above configuration, it is increasingly common in this day of backend developers.
- **.NET:** The dot net is incredibly useful for businesses. Starting with the framework (C#, f#, etc.), base libraries, and editors for all operating systems, it contains everything developers might need.
- **Python:** Python has become the **most popular programming language** for backend development. The popular Python frameworks these days are Django, Flask, Bottle, Tornado, Hug, etc.
- **PHP:** PHP was the sole language used when backend development first began. Pages written in PHP are the safest. PHP is where any newbie in the backend begins to learn the fundamentals of the language.

Server: A solid comprehension of the following servers aids in comprehending HTTP clients:

- **IIS server:** Static pages and web applications are created using Internet information services. Moreover, it can host WCF services and function as an FTP server.
- **Nginx:** This open-source, free server is used as an HTTP cache, mail proxy, load balancer, and reverse proxy.
- **Apache:** It is a cross-platform, open-source web server that serves HTTP requests. It is well-known among developers for its convenient usage techniques.

APIs: It is helpful to be aware of the following APIs:

- **REST:** REST APIs are the most popular and fundamental kind of APIs. It makes use of the HTTP protocol to access the internet's infrastructure.
- **SOAP:** SOAP is a standard communication protocol system that enables HTTP and its XML to be used for communication between processes running on different operating systems, such as Windows and Linux.

Databases and Cache: Oracle, MySQL, MongoDB, and NoSQL are the most widely used databases that can be learned and

used by anyone. Among the databases that are frequently utilized are:

- **MySQL:** It is the most fundamental and potent database, serving as the foundation for all others. We make changes to our databases using queries.
- **Oracle:** Its extensive capabilities in the latest versions make it the most suitable database for commercial use.
- **PostgreSQL** is a relational database that is open-source and highly developed. It adheres to distributed SQL principles, and its horizontal scaling will make it even more appealing in the years to come.
- **MongoDB:** One type of NoSQL database is MongoDB. The information is schema-less and the data is set in JSON format.

Full Stack Developer Salary

Frameworks for Full Stack Development

AngularJS, Bootstrap, ReactJS, jQuery, SASS, Ember.js, Express.js, and Backbone.js are the major front-end frameworks.

AngularJS

It's a JavaScript framework that is dynamic. The Single Page Applications projects (SPAs) are where this is mainly employed.

JavaScript is a framework that can transform static HTML into dynamic HTML. Among its other intriguing features are dependency injection and dynamic binding, which remove the need for you to write any code at all.

Features of Angular:

- The Model, View, Control (MVC) paradigm
- One tool for creating single-page apps is AngularJS.
- It is now possible for everyone to utilize AngularJS for free.

Example

```
<!DOCTYPE html>

<html>

<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js">
</script>

<body>

<div ng-app="" ng-init="message='Hello World'">

<h1>{{ message }}</h1>

</div>

</body>

</html>
```

The directive for ng-model

The HTML elements of a data application can have their values bound with the help of the ng-model directive.

Example

```
<!DOCTYPE html>

<html>

<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js">
</script>

<body>

<h2>AngularJS</h2>

<div ng-app="" ng-init="firstName='Tony'">

<p>Input something in the input box:</p>
```

```

<p>Name: <input type="text" ng-model="firstName"></p>

<p>You wrote: <b>{{ firstName }}</b></p>

</div>

</body>

</html>

```

The ng-bind directive

Data and model are bound together with a ng-bind directive.

Example

```

<!DOCTYPE html>

<html>

<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js">
</script>

<body>

<h2>AngularJS</h2>

<div ng-app="" ng-init="lastName='Stark'">

<p>Input something in the input box:</p>

<p>Name: <input type="text" ng-model="lastName"></p>

<p>You wrote: <b ng-bind="lastName"></b></p>

</div>

</body>

</html>

```

ReactJS

ReactJS is a declarative, flexible, and efficient JavaScript toolkit used to create reusable user interface elements. The open-source, component-based front-end library is accountable for displaying an application's layers.

Features of ReactJS

- JSX
- License
- Unidirectional data flux and flow
- Components

jQuery

One of the most feature-rich, lightweight, and reliable JavaScript libraries is jQuery, which operates under the maxim "write less, do more."

The use of the APIs has greatly simplified tasks such as manipulating, traversing HTML documents, adding animation effects to webpages, and event handling.

Features of jQuery

- Event Handling
- DOM Manipulation
- Animation
- AJAX support
- Cross-browser support
- Lightweight

- Supports CSS3 basic XPath Syntax and CSS3 selectors.

Express.JS

The Express provides the basic interface needed to create apps. It provides the tools required to construct the apps. Since more modules can be obtained on the npm and this may be integrated straight into the Express, it is even more adaptable.

Backbone.JS

One of the small, JavaScript frameworks that makes it possible to organize and construct client-side applications for Web browsers is called Backbone.js. This provides the MVC framework, which uses the DOM for binding and views to use these two events, as well as abstract data into the models.

For creating an application with more lines of code, we can utilize JavaScript or jQuery in conjunction with Backbone.js. Additionally, you can carry out the following tasks using this application:

- Adding or removing DOM elements from the application.
- Make further demands.
- Increase the number of lines in your code.
- Show an application's animation.

Node.JS

It is an open-source, cross-platform runtime environment for JavaScript code that may be used outside of a browser. It is vital to understand that **Node.js** is not a system or a language. The majority of people mistakenly believe that it is a framework or language.

Node.js is frequently used in the development of back-end services, including web and mobile applications. Several well-known businesses, including Netflix, Paypal, Uber, and Walmart, employ Node.js.

Advantages of Node.JS

- Real-time Web Applications
- Easy to comprehend and code
- Fast Suite
- Caching
- Hosting
- Data streaming
- Corporate Support.

MongoDB

Written in C++, MongoDB is an open-source, document-oriented database system that runs on multiple platforms.

- A variety of operations, including update, insert, query, delete, projection, limit(), sort(), and construct & drop list collections, are supported by the MongoDB database.
- Generally speaking, MongoDB is the document-specific NoSQL database that is most often used for large-scale data storage.

Features of MongoDB

- Ad-hoc Queries
- Schema-Less Database
- Indexing
- Document-Oriented
- Replication
- Sharding
- GridFS
- Aggregation
- High Performance

Full Stack Developer Project Ideas

Popular Programming Languages for Full-Stack Development

Here are the widely used programming languages for full-stack development:

PHP

The server-side scripting is executed using PHP, an object-oriented, interpreted, and open-source scripting language. PHP is a tool that we may use to develop websites.

Therefore, PHP would be the finest choice to use for **designing web applications** and successfully executing them on the server side to generate dynamic content.

Features of PHP

- Embedded feature
- Familiar with Syntax
- Performance
- Database Support
- Open Source
- Error Reporting
- Platform Independent
- Web Server Support
- Easily Typed Language
- Control
- Security
- Community

Example

||

```
<?php  
  
echo "Welcome to SLA!";  
  
?>
```

Java

Sun Microsystem launched Java, a high-level programming language, in 1995. Java can operate on many operating systems, including Windows, Mac OS, and various UNIX versions.

Features of Java

- Platform Independent
- Object-Oriented
- Simple

Example

```
public class GFG {  
  
    public static void main(String args[]){  
  
        System.out.println("Full Stack Tutorial");  
  
    }  
  
}
```

Python

Python is an object-oriented, interpreted, interactive, and high-level programming language, as is common knowledge.

Python is an easy language to comprehend because it employs English terms more often than most other programming languages and because it has fewer grammatical structures and more punctuation than other languages.

Features of Python

- Python is interactive.
- Python is object-oriented.
- Python is interpreted.
- Beginners Language.

Popular Libraries and Frameworks for Python

Many frameworks and libraries are available for Python, and these are widely utilized in a variety of domains, including artificial intelligence, machine learning, and web applications.

Web development: Flask, Django, Pyramid, and CherryPy.

Machine Learning Tools: Python, TensorFlow, Scikit-learn, Matplotlib, and Scipy.

Math: Numpy and Pandas

GUI Applications: PyQt, Tk, PyGTK, and PyJs

C++

Bjarne Stroustrup developed the **C++ programming language**. C++ will function on various operating systems, including Windows, macOS, and other UNIX variants.

Features of C++

- Easy to use and uncomplicated.
- Object-based software development.
- Platform-specific.
- Programming language with structure.
- A language for mid-level programming.
- Rich textbook collection.
- Case sensitive.
- Allocating memory dynamically.

Example

```
#include <iostream>  
  
using namespace std;  
  
int main() {  
  
    cout << "Dive deep into full-stack development";  
  
}
```

```
return o;
```

```
}
```

Web Frameworks

Django

One of the well-known Python web development frameworks, Django, provides industry benchmarks for building websites more quickly and efficiently. This web framework's primary goal is to create intricate, database-driven websites.

Key Features of Django

- Speed
- Security
- Built-in packages
- Versatile
- Scalable

Laravel

An open-source PHP framework that is more reliable and understandable is called Larval. It follows the model-view-controller layout pattern methodology. The Web Application created using this approach is more organized and pragmatic.

Key Features of Laravel

- Testability and Routing
- Modularity and Configuration Management
- Query Builder & ORM
- Template Engine and Schema Builder
- E-mail and Redis Support
- Authentication and queues
- Event & Command Bus

Ruby on Rails

Compared to other frameworks or languages, this one allows users to write a lot less code. It includes all the components needed to create database-backed Web applications using the MVC architecture.

Don't Repeat Yourself (DRY) and Convention over Configuration (CoC) are the two main principles of Ruby on Rails.

Features of Ruby on Rails

- Metaprogramming
- Active Record
- Convention on Configuration
- Scaffolding
- Built-in testing
- Three default environments are available to you with Rails for development, production, and testing.

Spring

One of the most potent and lightweight application frameworks for Java Enterprise Edition is called Spring. Any technical issue can be resolved by using the Spring as the structure.

Features of Spring

- Inversion of Control (IoC)
- Aspect-Oriented Programming (AOP)
- Lightweight
- MVC Framework
- Container
- JDBC
- Exception Handling
- Transaction Management

Oracle

The object-relational database management system is called Oracle. It is one of the most well-known RDBMS suppliers worldwide. It is said that Oracle controls half of the global RDBMS market.

Essential features of the Oracle Database

- Increased Availability
- Features of manageability
- Both scalability and performance
- Backup and Recovery of Databases
- Features of Content Management Security
- Integrity and data triggers for business intelligence
- Details on the integration characteristics

SQL

The Structured Query Language, SQL, is the standard programming language and it was created primarily to store, maintain, access, and modify data that is found within Relational Database Management Systems, or RDBMSs.

Full Stack Development Training

Future of Full-Stack Developers

- Full-Stack developers with the necessary qualifications and skills are in high demand in the market these days.
- The market for web development is currently facing an extremely high demand for full-stack developers with the necessary skills.
- Whether they are well-established multinational corporations (MNCs) or booming startups, all of them are looking for highly qualified Full Stack Developer specialists who can provide the finest results for their businesses.

Conclusion

Full-Stack developers are among the professions with the most opportunities in the market today. Anyone who chooses to use this platform will undoubtedly have a prosperous career. Gain expertise with this full-stack developer tutorial and kick-start your career by enrolling in our [full-stack developer training in Chennai](#).

Share on your Social Media



Softlogic Academy

Softlogic Systems

KK Nagar [Corporate Office]

No.10, PT Rajan Salai, K.K. Nagar, Chennai – 600 078.

Landmark: Karnataka Bank Building

Phone: [+91 86818 84318](tel:+918681884318)

Email: enquiry@softlogicsys.in

Map: [Google Maps Link](#)

OMR

No. EI-A10, RTS Food Street 92, Rajiv Gandhi Salai (OMR), Navalur, Chennai – 600 130.

Landmark: Adj. to AGS Cinemas

Phone: [+91 89256 88858](tel:+918925688858)

Email: info@softlogicsys.in

Map: [Google Maps Link](#)

Navigation

- [About Us](#)
- [Blog Posts](#)
- [Careers](#)
- [Contact](#)
- [Placement Training](#)
- [Corporate Training](#)
- [Hire With Us](#)
- [Job Seekers](#)
- [SLA's Recently Placed Students](#)
- [Reviews](#)
- [Sitemap](#)

Important Links

- [Disclaimer](#)
- [Privacy Policy](#)
- [Terms and Conditions](#)

Courses

- [Python](#)
- [Software Testing](#)
- [Full Stack Developer](#)
- [Java](#)
- [Power BI](#)
- [Clinical SAS](#)
- [Data Science](#)
- [Embedded](#)
- [Cloud Computing](#)
- [Hardware and Networking](#)
- [VBA Macros](#)
- [Mobile App Development](#)
- [DevOps](#)

Social Media Links



Review Sources

- [Google](#)
- [Trustpilot](#)
- [Glassdoor](#)
- [Mouthshut](#)
- [Sulekha](#)
- [Justdial](#)
- [Ambitionbox](#)
- [Indeed](#)
- [Software Suggest](#)
- [Sitejabber](#)