Certification Program in

FULL STACK DEVELOPMENT 101

Course duration: 6 months
About Us

upGrad Campus is a video learning platform for online education, with certificate courses specially curated for college students and young adults. As an affiliate of upGrad, India's largest online higher education company, upGrad Campus aims at making every graduate job-ready, with professional skills and practical know-how for the most sought-after fields of work.

Our aim is simple: We strive to create high-impact, hands-on experiences that prepare learners for meaningful and productive careers.

Ronnie Screwvala
Co-founder and Executive Chairman, upGrad
Full Stack Development is taking the world by storm

But what is it?

When you navigate easily through a website or see those interactive designs on apps, a full stack developer is at work to make every experience easy for you. Before we learn how, let us first understand what “full-stack” means.

“Full-stack” refers to technologies and products that form the technical ecosystem needed to build and operate the application. A stack typically includes a database like MongoDB, an application framework like Express, a runtime platform like Node.js and client-side web application framework such as React.

A full stack developer must be able to handle all the components of a stack to ensure they work together efficiently. Since a full stack developer needs a variety of skills, they are in high demand and are one of the most well-paid professionals today.
Why become a **Full Stack Developer**?

- One of the highest paid jobs and most in-demand skills today
- Full stack developers with their multiple skills are cost-effective for businesses
- Chance to gain multiple skills from UI/UX to back-end development
- Opportunities available in various stages of software development

**Full Stack Developer Salary Range in India**

- **Full Stack Engineer (0-4 years)**: 7.5 LPA
- **Senior Full Stack Engineer (5-7 years)**: 12.3 LPA
- **Lead Full Stack Engineer (8+ years)**: 14 LPA

*Source: Glassdoor*

**Top Hiring Companies in India**

- Google
- Cognizant
- Tata Consultancy Services
- IBM
- Capgemini
- Accenture
Full Stack Development\textsuperscript{101} Certification Program

The most beginner-friendly, hands-on intensive program to kickstart your career in IT

Program Eligibility

Any college student or fresher who wants to learn Full Stack Development from scratch should apply for this course. You \textbf{don’t need a coding background} for this course. But a knowledge of how variables, data types, loops, conditionals and functions work in a programming language would give you a headstart.

Top skills you will learn

Object oriented programming, important algorithms, Data Structures, HTML, CSS & Javascript, MERN stack development (MongoDB, Express.js, React.js, Node.js)

State-of-the-art curriculum

Designed and imparted by \textbf{industry experts} with 250+ hours of \textbf{recorded content} for self-study and 175+ hours of interactive \textbf{live sessions}

Practical Learning

6+ Projects & Case Studies  
70+ Hours of Hands-on Assignments  
4 Bootcamps & Hackathon

Roles you can apply for after the course

Full Stack Developer, Front-end Developer, UI Developer, React Developer  
Software Developer
What sets this Full Stack Development course apart from others?

- **3 upGrad Campus Certificates** to make your resume stand out
- **Making use of ChatGPT & GenAI** in research, code generation & integration
- **Distinguished Faculty** with years of industry experience
- **Dedicated Student Support** from Teaching Assistants, Mentors and Peer groups
- **Live Classes on Weekends** to interact 1:1 with industry experts and TAs
- **Job-ready Projects** based on real world experience
- **Easy Doubt Resolution** through doubt-clearing sessions and peer support groups
- **Recorded Sessions** that you can access for up to 3 years
- **Crack Interviews** and impress recruiters with your practical skills
20+ Tools & Technologies covered

- IntelliJ
- Java
- Git
- GitHub
- Postman
- HTML5
- CSS3
- JavaScript
- Bootstrap
- React
- Babel
- Webpack
- Redux
- SQL
- MongoDB
- Mongoose
- Nodemon
- Express.js
- VSCode
- ES6
- ESLint
- Node.js
- ChatGPT
- OpenAI
Course Curriculum

Certification in Full Stack Development

01 Object Oriented Programming (OOP) in Java
- Java - Variables & Data types
- Java - Conditionals, Loops & Functions
- Abstraction, Encapsulation & Inheritance
- Polymorphism, Arrays & Linked Lists
- Course Project – UTalk – OOP

02 Decoding Mainstream Algorithms
- Algorithm Analysis with Run-time Analysis
- Implementing Searching & Sorting Algorithms
- Solving Problems using Dynamic Programming (Optional)
- Greedy Algorithm (Optional)
- Assignment – upGradBook – Searching & Sorting

03 Data Structures & Their Applications
- Stacks & Queues
- Assignment – Upzilla – Stacks & Queues
- HashTables, HashMaps and HashSets
- Binary Trees & Binary Search Trees
- Graphs & Graph Algorithms
- Priority Queues & Heaps (Optional)
- Hackathon – Data Structures & Algorithms

04 Foundations of Web Development
- Accessing APIs using Spring and POSTMAN (Optional)
- Building Web Pages Using HTML & CSS
- DOM Manipulation Using JavaScript
- Building Interactive Project Management App (Optional)
- Advanced JavaScript and (optional) ES6
- Back-End Integration Using HTTP
- Course Project – Scribbler – Dynamic Blogging Website Project
05 Advanced Frontend Using React
- Fundamentals of React.js
- React Hooks and Redux
- Capstone Project I - Upgrad E-shop - Frontend development using React

06 Server-Side Development Using MERN Stack
- Fundamentals of Node.js
- Database Management Systems with SQL
- Database Management Systems with MongoDB
- Advanced Development with Express.js
- Capstone Project II - BookMyMovie - Server-side development using Node

07 Generative AI and ChatGPT
- Using ChatGPT for Communication and Research
- Leveraging ChatGPT for Code Generation
  - Low-Code Development
  - Front-End Development
  - Back-End Development
  - Database Management
- Introduction to OpenAI and its APIs
- Understanding OpenAI’s Node.js Library
- GenAI Hands-on Masterclass
  - Build a full-fledge application with an integrated smart chatbot
7 Practical Projects

Master Full Stack Development Concepts with Hands-on Projects & Assignments.

Discussion Forum Project
Build a simpler version of the Discussion Forum of upGrad platform that can run locally on your computer.

Searching and Sorting Algorithms
Build features of a private social network created for all the students who have graduated from upGrad.

Stacks & Queues
Implement the browsing history feature, where you track the websites that the user has visited for a web browser named Upzilla similar to Mozilla Firefox.

Dynamic Blogging Website Project
In this project, learners will apply their knowledge of HTML, CSS and JavaScript to create a blogging website.

Capstone Project I – Frontend Development Project using React
Build the front end of an e-commerce platform similar to Amazon. In this project, you have to build a search box, implement login functionalities, build product and order pages etc. Also, know how the back-end interacts with the front-end.

Capstone Project II – Movie Booking Application Project
Build a BookMyShow clone that has features of a movie app such as movie booking, browsing, filtering etc.

Phone Book Application Project
Implement features such as user management, updating user information, integrate front-end and back-end components for seamless communication and data management for a Truecaller-like phone book application.
Get trained on aptitude and soft skills with Placement Plus - an add-on course designed to help you crack your interview and take you to your dream company.

Become 100% Placement-ready with this Add-on Program

- 5 Months Program
- 60+ Learner Hours
- Access to 300+ Hiring Partners
- 3 Assured Job Interviews
- Program Fee ₹18,000 only
- Get it for ₹14,000 in combo with Full Stack Development Course

5 Months of LIVE Training to Land Your Dream Job

- Resume Building
- Linkedin Profile Creation
- Quantitative Training
- Problem Solving & Logical Reasoning
- Public Speaking & Oral Communication
- Non-verbal Communication
- Mock Interviews
- Group Discussions

Get 3 Assured Job Interviews with Placement Plus
Program Details

Course starts
Please refer to the website for program start dates

Duration
6 months

Program hours
400+ Learning Hours
Live Sessions every weekend

Fee structure
₹ 60,000
₹ 40,000/- (±GST)

For admissions, contact
1800 210 7070
admissions.campus@upgrad.com