Full Stack Architecture

One Year Full Time

Why Full Stack Architecture?

The Post Graduate Programme in Full Stack architecture is a comprehensive twelve-month programme designed for students who wish to advance their career in the IT industry by mastering a full stack of multiple technologies, acquiring an ability to architect high impact solutions, envision and design great new products, solve complex problems, and manage Cross-functional collaborations. Learning full-stack development will help you master a wide set of skills ranging from Front-End (Client-side), Back-End (Server-side), Database and Information Security.

Opportunities

Full-Stack Architects opens multi-faceted scope for growth. According to Naukri.com and Indeed, the demand rate has increased by 200% since 2019

The US Bureau of Labor Statistics (BLS) predicts about 189,200 job openings for Full Stack Developers every year till 2030

High demand in industries for key positions such as Full Stack Developer, Full Stack Architect, Back-End Developer, Front-End Developer, Software Engineer, Project Lead, Project Manager, and Managed Services Lead

As per the Glassdoor Economic Research survey, Full Stack Architects are amongst the Top 10 best jobs globally for 2021 with a high level of job satisfaction and salary

Who Can Apply?

- Candidates with BE/ B.Tech., B.Sc., M.Sc., BCA, MCA, B.Com, M.Com, BBA, MBA or equivalent degree.

- Working professionals with Bachelor's qualification and/or relevant work experience.

Programme Overview

- The most comprehensive Full Stack programme in terms of breadth, length, and depth

- The 22 modules cover every aspect of the Full Stack: Front-End, Back-End, and Database

- Only university covering all advanced Front-end development tools e.g., Julia including Security

- First University to provide Digital Labs – to practice your learning anywhere, anytime using mobile or laptop

- The curriculum includes 2 capstone industrial project. The capstone project gives you the opportunity to work with professionals and in a simulated environment to help you relate to real-world challenges

- Apply your learning with 2 months internship

- Interview Guidance & resume workshop supported with MCQs & Mock Interviews

Objectives

- Familiarize participants with Front-End and Back-End application development tools.

- Build strong expertise to develop, implement and manage Front-End (Client-Side) and Back-End (Server-Side) applications

- Develop proficiency in the latest technologies that helps in developing robust software and mobile products

- Management of information security aspects while designing and developing applications

- Apply basic design and programming principles in the construction and management of websites

Outcomes

- In-depth knowledge of Front-End & Back-End tools and technologies for the development of interactive web and mobile applications
- Equipped to design, develop, implement and effectively manage Front-End & Back-End applications, mobile applications, databases, and security of information
- Ability to develop operational applications which can be used on cross-platforms
- Develop visualization in accordance with UI/UX theories
- Ready to start a career in top IT companies and industries

Skills you will learn in Full Stack Architecture Training

- Fundamentals of web development through HTML, CSS, Bootstrap
- Understanding databases, creating and manipulating them as well as running queries
- Building interactive web pages through jQuery and JavaScript
- Building Front-End applications
- Back-End coding
- Creating and integrating APIs
- Working on real-time projects and developing software and web pages on your own

Job Positions

- Project manager
- System architect
- Software Developer
- Quality Analyst
- System Manager
- Cloud Managed Services Lead

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Typical Job Roles for a Full Stack Architecture

Project Manager
- It involves planning the deliveries, sprints, estimating the resources requirement and the related cost, prioritizing all the tasks according to specifications.

Business Analyst
- It consists of conceptualizing the operation to be built, creating precise conditions from client interview or market analysis.

System Architect
- Having expertise in Designing system architecture. 4. User Experience designer – Designing interactions between system and users and bringing it to an optimum level.

Software Developer
- Constructing the software and conducting tests, if any.

Quality Analyst
- Creating an automated or manual test suit to test for bugs rigorously.

Development Operations Engineer
- Disposing the system to production servers, maintaining the system, creating and maintaining application development and production environments, and preparing for backup and recovery.

Key Industry Verticals Full-Stack Architecture is prominent

Government and public sector services

Manufacturing and Production Industry

Information Technology, ITeS

Agriculture

Sports

Banking and Finance

Hospitality

Educational sectors

Transportation, Logistics & Supply Chain

Entertainment

Programme Outline

Front-End

- MODULE 1: Web Designing using HTML5, Bootstrap, CSS
- Understanding the web page development and client- side page development using HTML, Bootstrap and CSS & CSS3
- Apply the acquired learning with Hands-on sessions
- MODULE 2: Front-End Development with JavaScript
- Design and build new web apps that provide the user with a dynamic and interactive experience using an in-depth understanding of JavaScript
  Apply the acquired learning with Hands-on sessions

- MODULE 3:Front-End Development JavaScript Library – jQuery
- Develop a deeper understanding of jQuery, a tool which allows web developers to add new functionalities to their websites
- Apply the acquired learning with Hands-on sessions
- MODULE 4:Front-End Development JavaScript Framework with Angular JS
- Design and build large -scale, high-performance and easy -to-maintain web applications using an in-depth understanding of Angular JS
- Apply the acquired learning with Hands-on sessions
- MODULE 5:Front-End Development JavaScript Framework with React JS
- Develop interactive user interface using React JS which provides various extensions for entire application architectural support, such as Flux and React Native and beyond UI
- Apply the acquired learning with Hands-on sessions
- MODULE 6: Front-End Development JavaScript Framework with Vue JS
- Develop web interfaces and one-page applications using concepts of Vue JS, such as Binding, Rendering, and Routing
- Apply the acquired learning with Hands-on sessions
- MODULE 7: Back-End Web application Framework - Express JS
- Design and develop web applications and create APIs using an in-depth understanding of Express JS
- Apply the acquired learning with Hands-on sessions
- MODULE 8: Front-End Web Development with Typescript
- Develop JavaScript applications for the client-side by using an in-depth understanding of Typescript
- Apply the acquired learning with Hands-on sessions

Back-End

- MODULE 9: Back-End Java programming language
- Develop desktop & mobile applications using an in-depth understanding of Java
- Apply the acquired learning with Hands-on sessions
- MODULE 10: Java Framework Spring 5.0
- Develop Java applications utilizing concepts of Spring Framework 5.0 such as IoC Containers, SpEL, Spring AOP, Spring Data Access and Spring Boot
- Apply the acquired learning with Hands-on sessions
- Capstone Project-1 based on the above Learning
- MODULE 11: Tomcat: Pure Java "HTTP" Web Server
- Understanding the concepts of Tomcat, an open-source Java servlet container that implements many Java Enterprise specifications like the Website API, Java-Server Pages, etc
- Apply the acquired learning with Hands-on sessions
- MODULE 12: Front-End and Back-End Application development with Python
- Developing the skills of Python programming, along with Hands-on experience
- This knowledge is useful for developing front-end and back-end applications
- MODULE 13: Server-Side Programming with Node.js
- Create server-side and networking applications using an in-depth understanding of Node.js
- Apply the acquired learning with Hands-on sessions
- MODULE 14: PHP Web Development
- Developing the skills of PHP, along with Hands-on experience
- This knowledge will be useful for managing dynamic content, databases, session tracking and even build entire web application
- MODULE 15: Application Development with .Net Framework
- Create web-based and form-based applications using an in-depth understanding of .Net Framework
- Apply the acquired learning with Hands-on sessions

- MODULE 16: Julia Programming Language
- Developing the skills of Julia programming, along with Hands-on experience
- The knowledge gained will be useful for developing numerical analysis and computational science
- MODULE 17: GitHub - Internet hosting for software
- Understanding version control, repository and branch creation using GitHub
- Apply the acquired learning with Hands-on sessions

Data Base

- MODULE 18: Mongo DB - NoSql Database Program with Security Check list
- Understanding of Mongo DB concepts such as encryption, security DB, network hardening, IP binding etc. to add, access, and process data stored in a database
- Apply the acquired learning with Hands-on sessions
- MODULE 19: MYSQL - Relational database management system with security
- Understanding how to add, query, and process data stored in a database using SQL
- Apply the acquired learning with Hands-on session
- MODULE 20: SQL Server - Relational database management system with security
- Understanding SQL concepts such as SQL commands, SQL constraints, data types, SQL joins, and SQL Server security which will be helpful in storing, manipulating, and retrieving data from databases
- Apply the acquired learning with Hands-on sessions
- MODULE 21:AWS Cloud - Cloud Computing Platform
- Understanding concepts of AWS cloud computing platform, such as Amazon Cognito, AWS IAM, AWS SSO, AWS KMS, Amazon Guard Duty, Amazon Inspector, Amazon Detective and AWS Security Hub along with Hands-on Experience

- MODULE 22: Data Structure & Algorithms
- Understanding data structure and algorithm that provide detailed solutions to standard problems and give an insight into how efficient they are to use
- Apply the acquired learning with Hands-on sessions

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