Introduction to Fullstack Development Self Learning

Topics

- Traditional Server Architecture
- Frontend
- Backend
- Full Stack
- Good Read – Different Types of Roles

Software Development Lifecycle | Self Learning

Topics

- Planning
- Analysis
- Design
- Development
- Testing
- Integration
- Maintenance

Mastering Java

Topics

- Introduction and Benefits
- Data Types
- Loops, Conditionals, and Other Essentials
- Java Class, Methods and Objects
- Recursion
- Enums, Interfaces and Abstract Classes
- Basics of OOPS – Polymorphism and Interface
- Arrays and Strings
- Collection Framework
- Advanced – Multi Threading/Concurrency, Lambda Functions

Git and GitHub

Topics

- Version Control
- Install and Set Up Git
- Local Git Repository
- Tracking Changes to Files
- Managing Project History
- Committing, Branching, and Merging
- GitHub
- Pull Requests
- Merging Changes
- Review and Resolve Merge Conflicts
- GitHub for Project Collaboration and Documentation
- Role of Git in a Typical Software Development Workflow

Understanding Operating System Concepts | Self-Learning

Topics

- Threads and Process, CPU Scheduling
- Process Synchronisation, Deadlock
- Memory Management
- Disk Management, Disk Scheduling

Design Patterns

Topics

- Introduction to Design Pattern

Understanding Computer Networks | Self-Learning

Topics

- What's IP, Ports and Sockets
- TCP and UDP
- OSI and TCP/IP Layers
- Security Essentials – Firewall, VPN, NAT Theory

Basic Data Structures and Algorithms

Topics

- Introduction to Data Structures (Arrays, Stacks, Linked Lists, Trees etc)
- Introduction to Basic Algorithms (Sorting, Hashing, Search)
- Time and Space Complexity

Advanced Data Structures and Algorithms

Topics

- Time and Space Complexity
- Arrays
- Binary Search
- Sorting
- Bit Manipulation
- Coding Challenge – I
- Math
- Linked List
- Stacks and Queue
- Hashing
- Tree
- Heaps
- Coding Challenge – II
- Greedy Algorithm
- Dynamic Programming
- Coding Challenge – III
- Backtracking
- Graph

- Coding Challenge – IV

System Design

Topics

- SOLID Design Principles
- LLD Examples – Parking Lot, Coffee Machine
- HLD Concepts
- Case Studies

Full stack Development

Topics

- Understanding Databases
- Relational Databases- Theory
- MySQL
- NoSql
- MongoDB
- Fitment in various architectures
- CAP theorem (Cover Eventual Consistency as well here while explaining individual terms

Backend Engineering

Topics

- Learning Spring Boot
- Software Architecture Patterns (What It Is, When and Where To Use)
- Caching
- DevOps

Frontend Engineering

Topics

- HTML5 and CSS3

- HTML 5
- CSS Frameworks (SASS and Tailwind)
- JavaScript
- React + React Router + Redux
- Module Bundlers
- Micro Frontends – Theory
- Accessibility – Theory

Interview Preparation

Topics

- Communication Skills
- Behavioural Interview Preparation
- Resume and LinkedIn Profile
- Referrals
- Art of Keeping Interviewer Engaged
- Interview Strategy
- Time Management
- Salary Negotiation