Software Architect

Find the detailed version of this roadmap along with resources, progress tracking and other resources.

https:// roadmap.sh

Understand the Basics
- What is Software Architecture
- What is a Software Architect
- Levels of Architecture
- Application Architecture
- Solution Architecture
- Enterprise Architecture

Software Architecture
Describes how an application is built including its components, how they interact with eachother, environment in which they operate and so on.

Software Architect
A software expert who makes high level design choices, including technical standards, tools, design principles, platforms to be used, etc

- Design and Architecture
- Decision Making
- Simplifying things
- How to Code
- Documentation

Important Skills to Learn
Technical Skills

Responsibilities
- Tech decisions
- Design & Architecture decisions
- Requirements Elicitation
- Documentation
- Enforcing standards
- Collaborate with Others
- Consult & Coach Developers

- Communication
- Estimate and Evaluate
- Balance
- Consult and Coach
- Marketing Skills

Programming Languages
- Java / Kotlin / Scala
- Python
- Ruby
- Go
- JavaScript / TypeScript
- .NET framework based

Architectures
- Serverless
- Microservices
- Client/Server
- Layered
- Distributed Systems
- Service Oriented

Tools
- Atlassian Tools
- Trello
- Slack
- Git

Security
- Hashing Algorithms
- PKI
- OWASP
- Auth Strategies

Patterns and Design Principles
- OOP
- MVC, MVP, MVVM
- CQRS, Eventual Consistency
- Actors
- ACID, CAP Theorem
- SOLID
- Test Driven Development
- Domain Driven Design

Analytics
- Apache Spark
- Hadoop
- Datawarehouses Principles

Working with Data
- Hadoop, Spark, MapReduce
- ETL, Datawarehouses
- SQL Databases
- NoSQL Databases

APIs and Integrations
- GRPC
- ESB, SOAP
- GraphQL
- REST
- BPM, BPEL
- Messaging Queues

Web, Mobile
- Reactive, Functional Programming
- React, Vue, Angular
- SPA, SSR, SSG
- PWA
- Microfrontends
- W3C and WHATWG Standards

- Infrastructure as Code
- Cloud Providers
- Serverless Concepts
- Linux / Unix
- Service Mesh
- CI / CD
- Containers
- Cloud Design Patterns

Operations Knowledge
Visit DevOps Roadmap

Networks
- OSI, TCP/IP Model
- HTTP, HTTPS
- Proxies
- Firewalls

Certifications
- PMI, ITIL, Prince2, RUP

Management
- Agile, Scrum
- LeSS
- SaFE

Frameworks
- BABOK
- IAF
- UML
- TOGAF

Enterprise Software
- MS Dynamics
- SAP EPR, HANA, Business Objects
- EMC DMS
- IBM BPM
- Salesforce

Keep learning