

Foundation

Foundation Javascript, async nature of JS

Node.js and its runtime

Databases (NoSQL/SQL)

Mongo and Postgres deep dive

Typescript beginner to advance

Backend

Backend communication protocols

Express basic to advance

ORMs

Middlewares, routes, status codes, global catches

Zod

MonoRepos, turborepo

Serverless Backends

OpenAPI Spec

Autogenerated clients

Authentication using external libraries

Scaling Node.js, performance benchmarks

Deploying npm packages

Frontend

Reconcilers and Frontend frameworks

React beginner to advance

Internals of state, Context API

State management using recoil

CSS you need to know of, Flexbox, basic styling

Frontend UI frameworks, Deep dive into Tailwind

Containerization, Docker

Next.js

Custom hooks

In house auth using next auth

Basic Devops

Docker end to end

Deploying to AWS servers

Newer clouds like fly/Remix

Nginx and reverse proxies

Projects

GSoC Project setting up and issue solving

Building Paytm/Wallet End to End

Advanced Backend, System Design

Advanced backend communication

Message queues and PubSubs

Proxies, Load balancers

Redis Deep dive

Kafka Deep dive

Common Design Patterns in JS

Advanced DB concepts (Indexing, normalization)

Rate limiting

Captchas and DDoS protection

Sharding, Replication, Resiliency

Horizontal and vertical scaling

Polling and websockets

Grpc

Capacity Estimation

Load Balancers

CAP Theorem

Testing Node.js Apps in 2023

Real time communication, basics of WebRTC

Advanced Devops

Docker Deep dive

Container orchestration, Docker Swarm

Kubernetes

CI/CD

Monitoring systems basics to advance

Prometheus, Grafana

Newrelic as a paid service

Serverless Deep dive

AWS Constructs (EC2, S3, CDNs, LB, EKS)

Projects

Zerodha end to end

Zapier end to end

Real world open source projects