Syllabus

Complete 0-1 Syllabus

Foundation
1   Foundation JavaScript, async nature of JS
2   Node.js and its runtime=
3   Databases (NoSQL/SQL)
4   Mongo and Postgres deep dive
5   Typescript beginner to advance
6   Backend
7   Backend communication protocols
8   Express basic to advance
9   ORMs
10   Middlewares, routes, status codes, global catches
11   Zod
12   MonoRepos, turborepo
13   Serverless Backends
14   OpenAPI Spec
15   Autogenerated clients
16   Authentication using external libraries
17   Scaling Node.js, performance benchmarks
18   Deploying npm packages

Frontend
1   Reconcilers and Frontend frameworks
2   React beginner to advance
3   Internals of state, Context API
4   State management using recoil
5   CSS you need to know of, Flexbox, basic styling
6   Frontend UI frameworks, Deep dive into Tailwind
7   Containerization, Docker
8   Next.js
9   Custom hooks
10   In house auth using next auth

Basic Devops
1   Docker end to end
2   Deploying to AWS servers
3   Newer clouds like fly/Remix
4   Nginx and reverse proxies

Projects
1.GSoC Project setting up and issue solving
2. Building Paytm/Wallet End to End

Complete 1-100 Syllabus

Advanced Backend, System Design
1. Advanced backend communication
2. Message queues and PubSubs
3. Proxies, Load balancers
4. Redis Deep dive
5. Kafka Deep dive
6. Common Design Patterns in JS
7. Advanced DB concepts (Indexing, normalization)
8. Rate limitting
9. Captchas and DDoS protection
10. Sharding, Replication, Resiliency
11. Horizontal and vertical scaling
12. Polling and websockets
13. Grpc
14. Capacity Estimation
15. Load Balancers
16. CAP Theorem
17. Testing Node.js Apps in 2023
18. Real time communication, basics of WebRTC

Advanced Devops
1. Container Orchestration, Docker Swarm
2. Kubernetes
3. CI/CD
4. Monitoring systems basics to advance
5. Promhetheus, Grafana
6. Newrelic as a paid service
7. Serverless Deep dive
8. AWS Constructs (EC2, S3, CDNs, LB, EKS)

Projects
1. Zerodha end to end
2. Zapier end to end
3. Real world open-source projects