

Megaverse Live

The 6-Month Backend Engineering Roadmap

A focused plan to crack SDE-2 / SDE-3 interviews at top product-based companies and strong startups.

9 core topics • month-by-month timeline • the major / minor study system

Follow it diligently for six months and there won't be a backend interview that goes beyond what's inside.

How to use this roadmap

This is a high-level, 6-month plan: four months of focused preparation, one month of giving interviews, and one month to fix the gaps those interviews expose. The nine topics below cover everything a backend software-engineering interview will throw at you.

01

Data Structures & Algorithms (DSA)

• 4–5 months · runs throughout

Your constant companion for the whole prep. Solve 2 questions a day on weekdays, 3–4 on weekends — adjust to your bandwidth. Keep it running in parallel with every other topic below.

02

High-Level System Design (HLD)

• 2–3 months

Asked in 2–3 rounds at top companies. Practice designing Instagram, WhatsApp, a booking system: services, user flows, REST vs. queue-based communication, and which database fits where.

03

Low-Level System Design (LLD)

• 1–2 months

Interfaces, classes, DB schemas and design patterns. Know how a request flows through the layers — data → business → presentation — and how to keep it modular.

04

Machine Coding

• Optional · LLD + coding

A mix of low-level design and clean coding under time. E.g. “write a user service” or “a booking service.” They watch your design patterns, class design, and modularity. Easy if your fundamentals are solid.

05

Databases

• ~1 month

Shows up in HLD, LLD and machine coding. Master SQL vs. NoSQL and when to pick each; NoSQL types (key-value, columnar, time-series, document); the CAP theorem; and SQL depth — indexes, keys and joins.

06

Programming Language

• ~1 month

Pick one language and know it end to end — e.g. Java: core (constructors, methods), advanced (exception handling), and frameworks (Spring Boot, Hibernate).

07

Projects

• ~1 month

Have something real to defend. College project: on GitHub, working, with a README. Work project: know its high-level design, your exact contribution, and its key constraints.

08

Tools

• ~1 month

Git and a build tool (Maven), IDEs, and how you use AI models & prompts (pros/cons).
Monitoring (Prometheus, Grafana) and logging (ELK — Elasticsearch, Kibana).

09

Cloud Systems

• ~1 month

Basic services of any one cloud (AWS / Azure / GCP) — compute/VM, managed databases, cache, storage, roles. Roughly 8–9 core services. Directly powers your HLD answers.

The Major / Minor System

Don't study one topic at a time. Each week, pick one major topic (~80% of your effort) and one or two minor topics alongside it — with DSA always running in the background.

Week	Major (~80%)	Minor
Example A	Recursion (DSA block)	2–3 LLD topics
Example B	3–4 HLD questions	1–2 array / string sets

How the 6 months break down

Months 1–4	Preparation — work the 9 topics with the major/minor system. DSA every day.
Month 5	Give interviews. Real rounds surface your true gaps — communication, weak topics, blind spots.
Month 6	Fix what broke. Write down what went wrong, act on feedback, and go again — stronger.

Break the roadmap into months, then months into weeks. Keep the DSA baseline of two questions a day and let the majors rotate. That's the whole system.

Want a mentor in your corner?

Knowing the roadmap is one thing — executing it for six months is another. That's where 1:1 mentorship helps: a personalised plan, live doubt-solving, mock interviews, and honest feedback that keeps you on track.

Single session	Unblock one specific goal, decision, or interview — fast.
Plus • 6 months	12 sessions with a roadmap, biweekly syncs, and curated resources.
Premium • 6 months	24 sessions + mock interviews, resume/LinkedIn review, and referrals.

Book a free 15-minute intro call at megaverselive.com

Based on Harshit Goyal's backend roadmap. Watch the full video: youtu.be/7YGE_xeb5ZQ