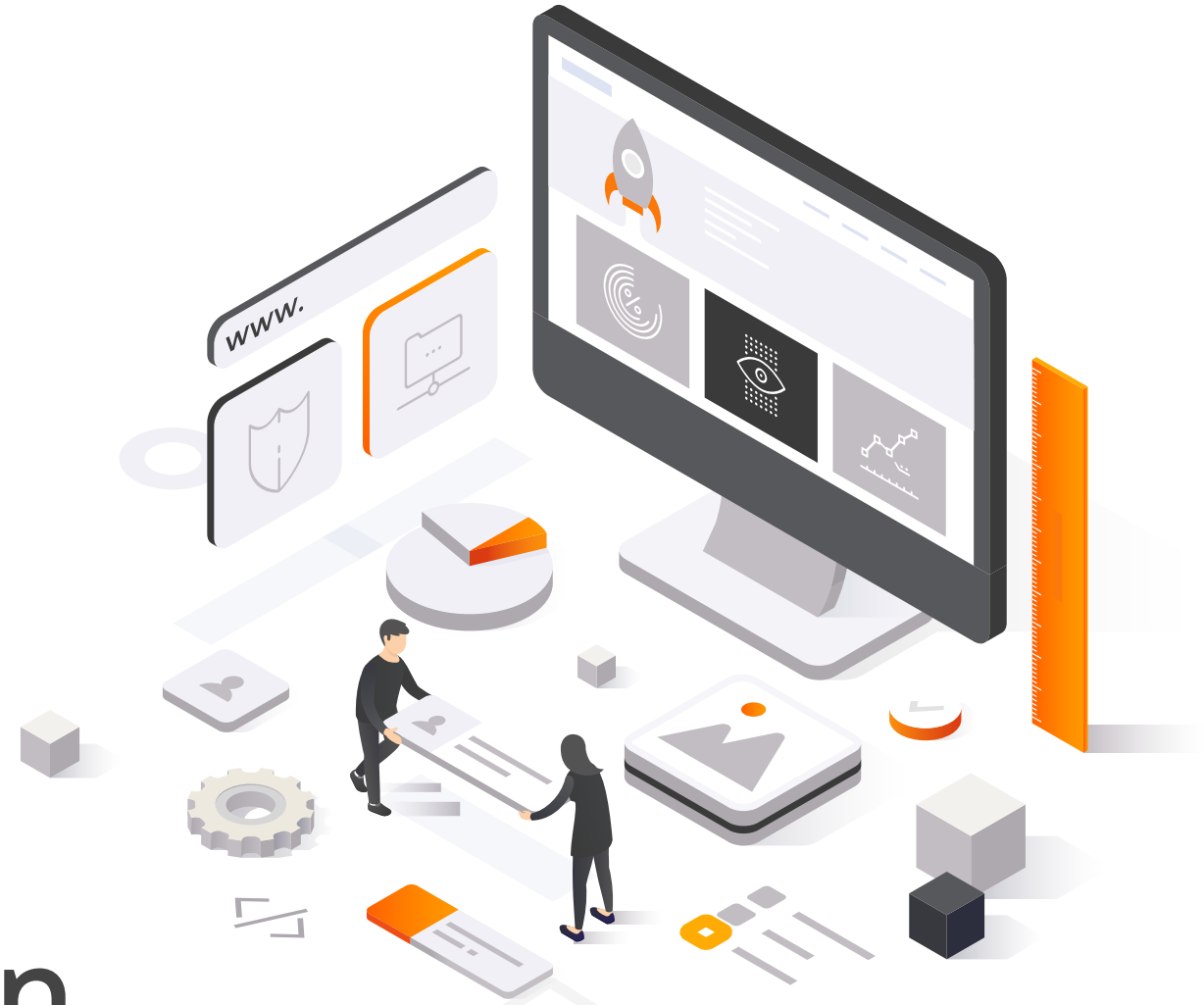
CODING NINJAS



System Design

"The design is not just what it looks like and feels like.
The design is how it works."

~Steve Jobs

About Coding Ninjas

At Coding Ninjas, our mission is to continuously innovate the best ways to train the next generation of developers and transform how tech education is delivered. Training is designed and provided by professional developers turned educators who have experience working at bigwigs like Facebook, Amazon, Google etc. and are Stanford, IIT, IIIT alumni.

Coding Ninjas teaches 17+ Programming courses in Foundation, Advanced, Data & Development courses such as Machine Learning, Data Science, Web Development, Android and more.

Doubt Support

We have developed a very scalable solution using which we are able to solve 4000+ doubts every single day with the help of 500+ doubts on the platform itself with an average rating of 4.8 out of 5.

Placement Cell

50,000+
Students taught so far

78%+
Percentage placement

2500+
Students placed in top MNCs

300+ Placement Partners | **7.6L** Average Salary
Number of placement partners and average salary of students

100+
Students received International job offers

Ankush Singla

Co-Founder & Instructor

Ankush holds a Bachelor's degree in Computer Science from India's most premier institute- IIT Delhi and a Master's degree in Computer Science from Stanford University.

He is a coding enthusiast and has worked with bigwigs like Amazon and Facebook in the past.

Live Mentor Support & Student Experience Team

Dedicated TAs and Student experience team to make sure that your doubts get resolved quickly and you don't miss your deadlines.

Want A Break? Pause Your Course

Take a short break when you need it. Pause your course for upto 60 days. Resume when you are ready

Get An Industry Recognised Certificate

Get awarded with an industry recognised certificate after you complete your programming course

Be A Part Of The Learning Community

Slack groups to meet your batchmates. Learn from your peers about resources, doubts and more!

Programme Overview

Course Overview

Learn how to create efficient large scale applications through our System Design course which covers core concepts of architectural patterns, required application characteristics, database optimization, networking, security for strong foundations. The course covers real-life use cases in detail, assignments for practical implementation of learned concepts, and gives a sneak peek of the interview process.

Features

150+	15+	5+
Questions	hours of video content	Case Studies

DURATION: 3 MONTHS

WHY
System Design

A system design course covers important concepts such as architectural patterns, application characteristics, database optimization, communication, server, security etc which are used in building large scale distributed applications. The course makes you ready to come up with innovative solutions for applications and is an essential step to achieve your goal of getting into product based companies like Google, Facebook, Amazon, for tech roles such as software engineers, technical program managers, SDE1, SDE2, etc.

Companies Hiring

facebook amazon Adobe

Google Morgan Stanley

Course Outcome

- Learn how to approach real life system design problem.
- Develop intuitive applications
- Learn how to design effective large scale systems
- Learn how to identify design/ development issues beforehand
- Learn how to ace system design interviews
- Crack job in product based companies using system design

Placement after the course

Samay Varshney

Microsoft

Rachit Gupta

brillio

Mkthapuram Raviteja

headrun

Uday Kiran Bakka

SAMSUNG

Case Studies

- Design distributed Web crawler for all the websites
- Global chat service
- Global video streaming service
- Global file storage and sharing system
- Global ride sharing service
- URL Shortener

Detailed Curriculum

Lecture Name	Description
Introduction	Covers the introduction of System design, low level and high level designs, product cycle, and why system design is important.
Architectural patterns	Covers different architectural patterns such as centralized and distributed, when to choose which pattern, their advantages and disadvantages, how to scale an application ,types of scaling.
Application characteristics I	Covers concepts such as latency, throughput, redundancy, replication, availability and fault tolerance with industry relevant examples.
Application characteristics II	Covers concepts such as consistency, types of consistency, CAP theorem, logical time in distributed systems and Lamport algorithm with industry relevant examples.
Application characteristics III	Covers concepts such as load balancers, load balancing algorithms, caching, types of caching solution, cache eviction strategies with industry relevant examples.
Database	Covers databases, types of databases, polyglot, indexing, denormalization,
Database Optimization	Covers database optimization concepts like partitioning, types of partitioning, sharding, different partitioning criteria with industry relevant examples.
Communication	Covers topics such as synchronous and asynchronous communication, message based communication

Lecture Name	Description
Web Applications	Covers web applications, client server model, REST API, service oriented architecture (SOA), microservices, tier architecture
Servers and security	Covers web servers, communication protocols, push and pull model, long polling, web sockets, server sent events, proxies, authentication, authorization protocols
Real Life Use Cases	Covers step-by-step approach to design popular applications.
Distributed web crawler	Detailed step by step process and explanation on how to design Distributed web crawler
Global chat service : Messenger	Detailed step by step process and explanation on how to design a global chat service.
Video streaming service (Youtube)	Detailed step by step process and explanation on how to design a video streaming service.
File storage and sharing system(Dropbox)	Detailed step by step process and explanation on how to design a file storage and sharing system
Global ride sharing system(Uber)	Detailed step by step process and explanation on how to design a global ride sharing system
Practice projects	Covers practice projects for the learners with their solutions.
Mock interview sessions	Covers what to expect in a System design interview, important interview questions, how to ace them, questions to ask before you start working on a given system,pointers to remember while designing a system.

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