

6 System Design Articles and Case Studies for Developers

My favorite system design articles and case studies



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Hello guys, welcome to this free issue of Javarevisited Newsletter. From last few episodes we are talking about Java interview questions like

- [How ConcurrentHashMap work in Java?](#)
- [Why String is Immutable](#)
- [why wait\(\) and notify\(\) is called from synchronized context](#)
- [What is the difference between List, List<Object> ,](#)
- [CyclicBarrier vs CountdownLatch,](#)
- [10 Coding questions for interviews](#)

in today's free post, I am going to share with you a couple of great articles on System design and Software architecture which you can read this weekend.

These are quite in-depth articles and you will learn a lot about how real world system works, how common problems are solved and how to build Software which are robust, scalable and can withstand test of time in production. Some articles will also help you to prepare for System design interviews.

So, without any further ado, let's jump into some awesome System design case studies and articles

1. 8 Reasons Why WhatsApp Was Able to Support 50 Billion Messages a Day With Only 32 Engineers

This post outlines the incredible story of WhatsApp co-founder Jan Koum. And the engineering techniques used to scale WhatsApp. You should definitely read this post by [Neo Kim](#) and if you want to keep yourself updated, you can also subscribe his [System Design Newsletter](#) .



System Design Newsletter

8 Reasons Why WhatsApp Was Able to Support 50 Billion Messages a Day With Only 32 Engineers

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8 months ago · 351 likes · 12 comments · Neo Kim

2. HeartBeats: How Distributed Systems Stay Alive by Ashish Pratap Singh

Heartbeats are one of the oldest way to check if things are ok or not but how does they work, you will find in this article



Dev Design Digest

HeartBeats: How Distributed Systems Stay Alive

In a distributed system, things fail. Hardware malfunctions, software crashes, or network connections drop. Whether you're watching your favorite show online, making an online purchase, or checking your bank balance, you're relying on a complex network of interconnected services...

[Read more](#)

17 days ago · 41 likes · 6 comments · Ashish Pratap Singh

3. 10 System Design Topics You Must Prepare for Tech Interviews

This another great article where you will learn about key system design topics for interviews like

1. Caching
2. Sharding
3. load-balancing
4. replication
5. fault-tolerance

6. high-availability

7. Performance

8. scalability

9. Performance

10. Indexing



Soma's Substack

10 Must Know Topics for System Design Interviews

Hello friends, if you have attended technical interviews then you may know that System Design part is one of the toughest to crack. I think why so? and the answer I found was that most of the developers are not really familiar with essential System design topics or concepts...

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24 days ago · 2 likes · Soma

4. How PayPal Was Able to Support a Billion Transactions per Day With Only 8 Virtual Machines

This post outlines how PayPal scaled to a billion daily transactions with only 8 virtual machines.



System Design Newsletter

How PayPal Was Able to Support a Billion Transactions per Day With Only 8 Virtual Machines

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4 months ago · 134 likes · 13 comments · Neo Kim

5. How to Answer a System Design Interview Problem

This is another great article by [Ashish Pratap Singh](#) where you will learn how to answer any System design problem on interviews. It is filled great tips and method which you can follow. If you are preparing for System design interview, you can also subscribe to his [Dev Design Digest](#) newsletter, its free.



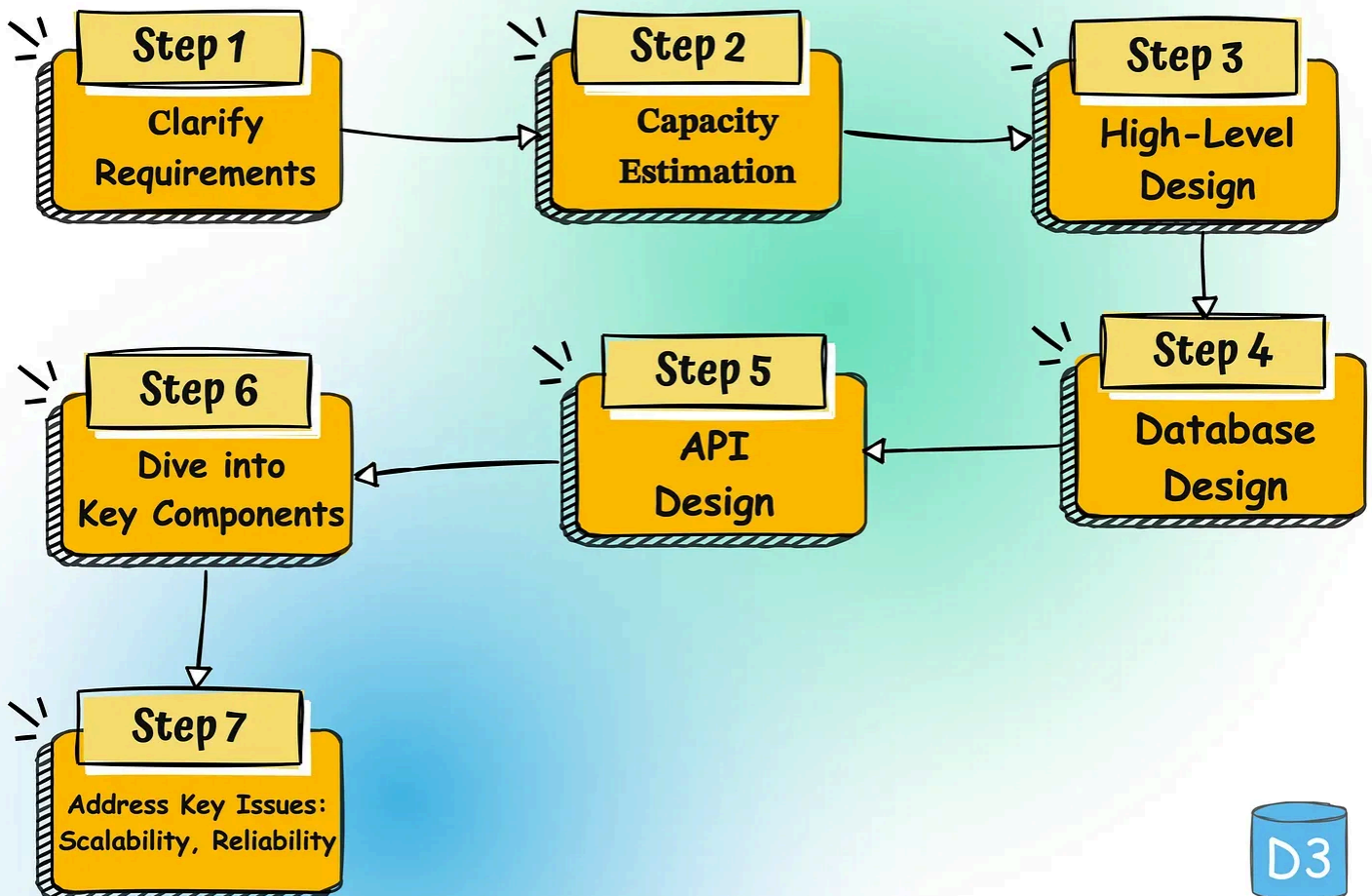
Dev Design Digest

How to Answer a System Design Interview Problem

System design interviews can be one of the most challenging but with a structured approach, you can navigate these interviews more effectively. In this article, we will explore detailed step-by-step approach to tackle system design problems effectively in an interview setting...

[Read more](#)

a month ago · 106 likes · 2 comments · Ashish Pratap Singh

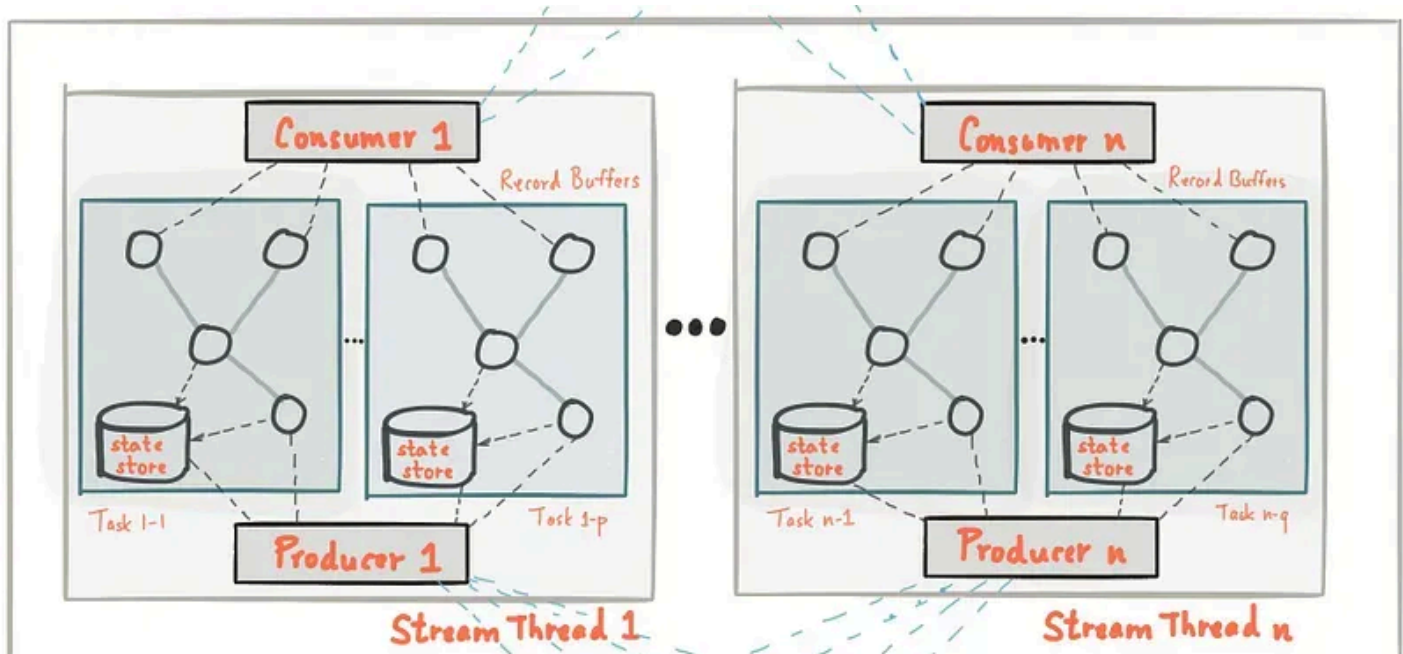


6. What is Kafka? Architecture Deep Dive

This is my latest article, in case you haven't read, A deep dive into Apache Kafka architecture and inner working

What is Kafka? Architecture Deep Dive

JAVINPAUL AND SOMA • 3 MAY



Hello guys, in last few years, Apache Kafka has emerged as a robust and scalable messaging platform in event driven architecture and Microservices. With its ability to handle high volumes of data in real-time, Kafka has become a popular choice for building data pipelines, stream processing applications, and event-driven architectures.

[Read full story →](#)

7. Creating Software Diagrams using Mermaid Charts

In this video, we have shared another AI powered tool Mermaid Charts to create software diagrams. Mermaid Charts combines the power of ChatGPT and Mermaid.js for turbo charging your diagraming capability.

Creating Software Architecture and System Diagrams using Mermaid Charts



That's all guys, 6 articles and 1 video is I guess enough for a weak. You an read these articles to learn about System design at scale. You can also use AI powered tools like Mermaid Charts to build software diagrams for better communication.

I will share more if you like it let me know in comments.

All the best



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