

Facebook System Design Interview Questions

Facebook consistently features on the “Best Places to Work” list. This comes as no surprise, as Facebook’s core values are at the heart of its work culture. Software developers, engineering managers, tech leads all consider Facebook to be one of the most coveted companies to work for.

Naturally, interviews at Facebook are tough and grueling. One of the many rounds of the Facebook interview process is the **system design** interview. A system design interview will require you to design a high-level architecture for a software system. In the simplest terms, the purpose of every system design will be to solve a problem.

In this article, we’ve put together all the things you need to know about Facebook’s system design interviews:

- Facebook Interview Process
- Preparing for the Facebook System Design Interview
- Commonly Asked Facebook System Design Interview Questions
- Practice Problems for Facebook System Design Interview
- Simplifying Your Approach to a System Design Problem
- 7 Tips for Nailing Your Facebook System Design Interview
- FAQs on Facebook System Design Interview

Facebook Interview Process

The Facebook interview process consists of two stages:

1. Initial Technical Screen/Phone Screen
2. Onsite Interview

[Initial Technical Screen/Phone Screen](#)

At this stage, a phone interview is conducted by a recruiter, where they will introduce you to Facebook and their interview process. Next, they will ask about your

experience and career aspirations. This lasts for around **10-15 minutes**. Finally, you will be given a [coding assignment](#) that you will have to solve on an online remote editor. The assignment is **30 minutes** long.

Onsite Interview

The onsite interview will consist of **4-5 interviews**, conducted over a day. These will be of three kinds:

- [Coding Interview](#)
- Design Interview
- [Behavioral Interview](#)

The system design interview is a part of the Design Interview round, and each interview takes around **45 minutes**.

Check out the [Facebook Interview Guide](#) for more information.

Preparing for the Facebook System Design Interview

You cannot bluff or hack your way through Facebook interviews. Every step you take needs to be well-thought-out, as you will have to justify it to your interviewer. There are no shortcuts to nailing a system design interview — you simply must work on improving your system design skills.

Facebook system design interviews do not involve complex coding — they're more interested in knowing *how you think* and how you approach a given design problem. For preparing to design from the ground up, it will be a good idea to think of how *you* would design a Facebook system that already exists. Also, reflect on and review the systems you have already built in your career so far. Think about how you can improve them.

Pro tip: *To stand out in the Facebook system design interview, make sure you discuss how you plan to implement Machine Learning in your design.*

Interview Kickstart has curated the perfect resources for your Facebook System Design interview preparation. Learn about all the finer points of cracking Facebook interviews so that you are fully prepared to face all aspects of the Facebook hiring process. You can also practice mock interviews with experienced hiring managers and tech leads from FAANG and other tier-1 tech companies. [Join our FREE webinar to learn more.](#)

Commonly Asked Facebook System Design Interview Questions – Categorized by Important System Design Concepts

The system design questions asked in Facebook interviews can be classified based on key concepts — network protocols and proxies, database management systems, and latency, throughput, and availability, to name a few. We'll cover 9 key concepts and the related interview questions in the following sections.

1. Network Protocols and Proxies

Network protocols are responsible for communication between networked computers, irrespective of their location or hardware in use. Standards forms are established over the physical infrastructure of the network to achieve this. The networking model used here can be TCP/IP or the Open Systems Interconnection model (OSI). The most common protocol used is HTTP.

Proxies provide an intermediary communication service between a client and an application server. Proxies are of two kinds – forward and backward.

Commonly asked Facebook system design interview questions on Network Protocol and Proxy:

1. Design a web crawler
2. Design a platform like Twitter
3. Design a highly scalable system

4. What is the difference between TCP and UDP?

2. Database Management Systems

A database or database management system is responsible for storing and retrieving data for an application. Databases are responsible for storing data, updating and deleting data, returning data for a query, and administering the database.

Databases need to be built to handle large volumes of data and therefore need to be reliable and efficient.

Commonly asked Facebook system design interview questions on Databases:

1. Design a file storage and sharing system like Dropbox
2. Design an image storing and sharing platform like Flickr
3. Design an online text-sharing tool like Pastebin

3. Latency, Throughput, and Availability

Latency is the amount of time taken for a message to get delivered. It is measured in milliseconds (ms). **Throughput** is the amount of data delivered successfully in a given period and is measured in bits per second (bps). **Availability** is the amount of time a system remains available. It is the ratio of Uptime and Uptime + Downtime.

Commonly asked Latency, Throughput, and Availability questions at Facebook:

1. Design a live commenting feature for Facebook
2. Design the Twitter timeline and search feature
3. Design a financial management app like Mint.com

4. Load Balancing

A load balancer can be hardware or software, and its main purpose is to increase the reliability and performance of the system by distributing the load over multiple computing nodes.

Commonly asked Facebook system design interview questions on Load Balancing:

1. Design Instagram
2. Design a scalable AWS system
3. Design Pinterest
4. Design a Cloud Gateway for Netflix
5. Design BookMyShow

5. Leader Election

A **Leader Election Algorithm** decides how a leader-less node cluster will communicate to elect the optimal leader.

Commonly asked Facebook system design interview questions on Leader Election:

1. Implement Leader Election in a cloud service like Google
2. Design and implement leader election with Kubernetes
3. Design a Distributed Message Queue

6. Caching

Caching is the process of storing copies of application data that is frequently used. As a result, Caching improves throughput, computing costs, and data retrieval time.

Some **use cases** where Caching is a significant part of the solution are:

1. Designing Facebook's newsfeed
2. Designing the Twitter timeline
3. Designing BookMyShow

4. Designing Flickr
5. Scale Stack Overflow

7. Sharding

Sharding is the process of scaling the system horizontally by breaking up the system into smaller fragments called Shards.

Commonly asked Facebook system design interview questions on Sharding:

1. Design a file storage system like Google Drive
2. Design a web crawler service

8. Polling, SSE, and WebSocket

They are protocols that improve the memory efficiency and speed of the data streams considerably.

Commonly asked Facebook system design interview questions on Polling, SSE, and WebSocket:

1. Design Twitter
2. Design Netflix
3. Design Instagram
4. Design a support service for jobs that run for long periods

9. Queues and Pub-Sub

They are mechanisms that provide an intermediary to the communication model of the system so that messages can be transmitted asynchronously.

Commonly asked Facebook system design interview questions on Queues and Pub-Sub:

1. Design a web crawler service
2. Design a file storage system like Dropbox

Practice Problems for Facebook System Design Interview

Here are some more system design questions Facebook is likely to ask in a tech interview:

1. Design a proximity server.
2. Design a client-server application that lets people play Chess on Facebook.
3. How would you design a search engine?
4. How would you design a shared drive?
5. How would you design a messaging system?
6. How would you design a vaccine rollout system?
7. Design a URL shortening service like bit.ly.
8. Design a traffic control system.
9. Design a limit order book for trading systems.
10. Design a platform like Airbnb.
11. Design a parking lot.
12. Design an autocomplete feature for a search engine.
13. Design a vending machine.
14. Design an API rate limiter.
15. Design a ticketing management system for a theatre.
16. How would you design a ride-sharing service like Uber?
17. Design a type-ahead service.
18. Design a Memories feature for Facebook.
19. Design a Fact-Check feature for Facebook.

Practice truly is the key here. Expose yourself to as many varied categories of system design problems and situations as possible to broaden your horizon. You can go through our guide for [Google System Design Interview Questions](#) for more system design questions.

Simplifying Your Approach to a System Design Problem

Most system design problems may seem daunting at first, but if you break them down into manageable and meaningful sections, you will be able to resolve them efficiently. Here are a few things you should keep in mind:

1. **Assess the problem:** Instead of making assumptions ask clarifying questions and understand the constraints of the given system problem.
2. **Begin with an abstract:** Draft an abstract design first. It should clearly show the basic components of your system and how they are related to each other.
3. **Foresee the bottlenecks:** Predict any foreseeable bottlenecks that may arise when the system scales.
4. **Resolve:** Use the principles of scalable system design to address and resolve these bottlenecks.

7 Tips for Nailing Your Facebook System Design Interview

1. Think about the complex systems you have already built and work on how you can improve them.
2. Look at Facebook and practice rethinking and redesigning Facebook features that already exist.
3. Read up on engineering articles and blogs about various approaches that FAANG companies take. See which design approaches worked for them, which ones didn't, and why.
4. Your interviewer will give you a vague system design interview question. Ask for details and specifics so that your design is as close to their expectations as possible. Ask questions about system requirements here. Determine what customer base and scale you're building for.
5. Do not get bogged down by the magnitude of the problem you are given. No one really expects you to design Twitter or an entire search engine in 45 minutes. The main idea here is to discuss the problem with you, come up with a high-level architecture that addresses the requirements of the system design problem given to you, and discuss possible bottlenecks and solutions.

6. Remember that when it comes to Facebook interview system design questions, there is no one right answer. The interviewer wants to see how you apply strategy and knowledge to solve a problem.
7. Start timing yourself when you practice system design questions. Much attention is given to how you manage your time and how efficiently you come up with the solution.

For more tips, check out:

[System Design Interview Preparation Tips](#)

[How to Get Software Engineering Jobs at Facebook](#)

Cracking the Facebook Interview Just Got Easier

Interview Kickstart is a powerhouse of expert knowledge and guidance on [nailling FAANG interviews](#). We have an expert team of instructors, [including hiring managers and tech leads from FAANG and other tier-1 companies](#).

Whether you have made several unsuccessful attempts or it's your first crack at FAANG tech interviews, Interview Kickstart will guide you and mentor you throughout the preparation process. Our prep strategy is not about "hacking" the interview process but making you a better engineer and setting you up for success at your dream job.

[Join our free webinar](#) to learn how we spin expert-approved, time-tested guidance curriculums to make dreams come true. You can also benefit from the Interview Kickstart Network to leverage connections, build deep relationships, and open up opportunities with the top tech companies and alumni.

Uplevel your tech career — [sign up now!](#)

FAQs on Facebook System Design Interview

Question 1: How long does the Facebook system design interview last?

The time duration of a Facebook system design interview is about **45 minutes**.

Question 2: Is the Facebook system design interview conducted online?

A typical Facebook system design interview is conducted **onsite on a whiteboard**, but more recently, due to COVID restrictions, Facebook has started conducting these interviews **online using an online remote editor**. Speak to your recruiter to get the latest update.

Question 3: What kind of questions are asked in Facebook's system design interviews?

Facebook system design interview questions are non-trivial. They are not created to trick you, but they are designed to be vague to encourage you to ask questions. The questions test a software engineer on concepts such as network protocols and proxies, database management systems, and latency, throughput, and availability, among others.

*Want to learn more? [Sign up for our FREE webinar](#) on *How to Nail Your Next Tech Interview*.*