



System Design Interview at Facebook

One of the goals of this interview is to design a Facebook-scale system. Interviewers will be evaluating your ability to determine what you should be building, and ability to solve large problems.

What we ask

Some example questions are:

- Architect a world-wide video distribution system
- Build Facebook chat
- Design a mobile image search client
- Build an API to power a crowd sourced address book

If you have deep, specialized knowledge (in fields like kernels, file systems, networking systems, JavaScript), the question might be rooted in that area. You'll be asked to design something you've never built before, and it will be of large enough scope that you won't be able to cover everything in perfect detail.

What we look for

As you're designing the system, among the things we're looking for is to see if you can:

- Ask clarifying questions to determine what the goals and requirements of the system are.
- Determine which parts of the problem are important and will affect the overall design.
- Describe the system at a high level, explaining the overall architecture. Explain and focus which pieces of the system are most interesting or difficult to design.
- Draw diagrams that clearly describe the relationship among different system components.
- Identify trade-offs in your design (such as consistency, availability, partitioning, performance), and describe how you make a decision around them.
- Calculate back-of-the-envelope and physical resources necessary.
- Adjust the design of your system when requirements or constraints change.
- Determine how your system will perform at Facebook's scale, and identify any bottlenecks and limitations in your design.
- Explain how your system handles both success and failure cases.

How to prepare

To get ready for architecture interviews, prepare and practice to familiarize yourself with the format.

Take any well-known app and imagine you're going to be building the primary feature. For example, you're going to be building video distribution for Facebook Video, or group chat for WhatsApp. Now figure out how you would build the various pieces out:

- How would you build your backend storage? How does that scale to Facebook's size?
- How would you lay out the application server layer? What are the responsibilities of the various services?
- How would you design your mobile API? What are the hard problems in representing the data being sent from server to client?
- How would you structure your mobile client? How do low-end devices and poor network conditions affect your design?

As you're designing these systems, run through the list of things we're looking for, and make sure for each piece of each app, you're able to answer all of them.