Technical Interviews

What is a Technical Interview

Technical interviews are common for employers recruiting for engineering, science, or software roles. Essentially it is an interview to assess your technical ability for the role, and the depth and breadth of your knowledge in your chosen field.

Technical interviews are also designed to assess your problem-solving skills, your communication skills, and your ability to think under pressure. The process that is used to solve a given challenge is of interest to employers, as it gives them a glimpse into how you would solve a real-world problem at work.

Formats for Technical Interviews

There are various formats for a technical interview that you may encounter. Your experience will vary depending on:

- The employer
- The type of position (full time, co-op/internship)
- The type of role (for example, software development, operations support, plant engineer, hardware design engineer)

Some types of interview formats you should be prepared for (you may experience some or all of these formats during your interview process for a particular role):

- **Pre-interview online assessment**: Some employers use an online test of basic knowledge or a coding exercise to narrow down a field of candidates. This may happen before or after an initial phone screen. Generally, it is a timed test that must be completed by a given date.

- **Phone Interview**: This may be a basic screen, with general background questions. See our resources on Types of Interviews. There may also be a technical component to the interview. For coding positions, you may be asked to type answers into a shared Google Doc, or collaborate on a shared editor like Coder Pad. Some companies may have multiple rounds of phone interviews. Make sure to clarify the format of the interview ahead of time.

**TIP:** For a coding interview, it may be helpful to use a headset, so your hands are free for typing.

- **On Site Interview**: The technical component may involve answering questions related to knowledge about a particular topic, process, or product. You may be asked to outline the solution to a problem on a whiteboard, or to make a presentation to a team. For coding interviews, be prepared to write code on a whiteboard, on a company provided computer, or engage in a pair programmer assignment. There may be multiple rounds of
onsite interviews with different teams. Make sure to clarify the format and ask with whom you will be interviewing with ahead of time.

How to prepare for a Technical Interview

- **Review major topics covered in your coursework** related to the position you are applying for. Carefully review the job description and be prepared for questions relating to required skills.

- **Research the company**—understand the types of problems they solve, or what products/services they sell.

- **Review our general resources on Interviewing**. Be prepared for some Behavioral Interview Questions as part of the Technical Interview.

- **Brainteer Questions** are "puzzle" type questions, where there is often not a clear right or wrong answer. Examples: "Why are manhole covers round?", "How many golf balls will fit inside a double decker bus?" These types of brainteer questions have been phased out by many large employers as it is believed they do not provide insight into future performance. However, you should practice a strategy to answer these types of questions should they come up during an interview. Review some of the strategies in this article by Big Interview

- **Be comfortable writing code or demonstrating a process/solution/design on a white board**. Take a look at this article on How to Use a Whiteboard during an Interview.

- **Review a few technical projects that you have worked on in school or internships/co-ops** and be prepared to discuss your role, contributions, high level overview of the projects, any issues that arose and how you dealt with them.

- Be prepared and comfortable dealing with unfamiliar scenarios. The interviewer wants to know how you can apply your knowledge in a professional setting. They are interested in your understanding of the nature of the problem, your thought process in how you formulate solutions, and how well you communicate.

- **Review past interview questions** for the role/company on Glassdoor

- If a skill is listed in your resume, be prepared to answer questions on it, or be tested on it.

Examples of Technical Interview Questions

The type of question will vary depending on your field and the type of position that you are interviewing for. Some examples of questions are:

- What is your favorite mobile app, and do you have any suggestions for improving it?
- Explain how a hybrid vehicle operates.
- Describe a difficult engineering problem you recently solved.
- Can you give an example of when you acquired a technical skill, and converted it into a practical application?
What to do During the Interview

- **Think out loud and verbalize your thought process.** Remember that you are being evaluated on this!
- **Ask clarifying questions.** Make sure that you understand the problem and have all of the information that you need. Some problems may be vague or ill-defined to assess your confidence in asking questions and gathering data.
- **Offer multiple approaches to the problem.**
- If using Google Docs during a phone interview, **make sure that you document your notes/calculations.** Even if you don’t arrive at a solution, the process you used will be documented.
- **Listen to your interviewer and to their suggestions.** If they think you are going in the wrong direction, they will often try to help. You can ask periodically if they have any questions or if you are on the right track.
- **Don’t bluff.** If you don’t know the answer, take a few minutes to think about it. Say that you have not encountered a similar scenario, but you are going to try to work through a process to solve the problem. Think out loud, ask for some direction.
- **Focus on the process, rather than the answer.** If you have no background in the topic; be honest. You can say something like, "I don't have a background in "topic X", but I would love to learn about it, and intend to do some research on it after this interview. May I demonstrate my problem-solving skills to you in a different way today?"
- **Dress Code:** For most interviews, business professional attire is expected. This is true for many engineering and technology firms. But there are exceptions, particularly in the startup/tech space, some west coast firms, and for some software focused roles. Please dress according to pre-interview guidelines provided by the company. If in doubt, ask the recruiter.
Other Resources

- How to Prepare for a Technical Interview at HubSpot
- How to Prepare for an Interview at Microsoft
- Preparing for a Software Interview at Facebook
- Interview Tips From Dow Chemical
- Preparing for an Interview with Google
- Engineer Jobs - Article on Interview and Resume Tips
- Book "Crack the Coding Interview"