



INTERVIEW PREP

Embedded software engineer

WHAT DOES AN EMBEDDED SDE DO AT AMAZON?

Our engineers define, architect, and build innovative product experiences that customers love and use every day. Embedded SDEs are at the forefront of designing the larger system and create long-term designs. We write code, debug, and create the world's most innovative products.

We want employees who will share and shape our mission to be Earth's most customer-centric company. We hire the world's brightest minds and offer them an environment in which they can invent and innovate to improve the experience of our customers.

Want to become an Amazon embedded software development engineer? Let's walk through some helpful tips for the interview.



Topics to review

Be well versed in functional design. Our teams work predominantly with C/C++, scripting languages, and build system syntaxes to help create and test devices.

Be able to write clean, syntactically correct code with well-defined interfaces. We look for candidates who can learn new technologies and languages as needed. Spend time practicing and writing code. We advise you to test your code and consider any edge cases in your solution.

Have a deep understanding of common data structures used in embedded engineering. Be able to contrast their usage in various applications. It is helpful to know the runtimes for common operations as well as how they use memory.

Brush up on your knowledge of linked lists, hash tables, queues, stacks, and trees.

Your interview will not be focused on rote memorization of algorithms. However, have a good understanding of the most common algorithms. Knowing the runtimes, theoretical implications, and basic implementation strategies of different classes of algorithms may come in handy.

The problems we present you with have multiple successful solutions. Don't fixate on finding one ideal solution.

System design tips

Think about how you might design a new product or service from scratch and what you might need to get started. Embedded SDEs have to think about many customers when designing their systems — hardware engineers, software/ system engineers, test engineers, and actual Amazon customers.

Be comfortable reading data sheets, user manuals, and discussing architecture and design with your team. Know how to breakdown a concept into multiple pieces and define how those pieces interact with the system as a whole.

Interview tips

Prepare to discuss technologies listed on your resume. For example, if you list RTOS or U-Boot as technical competencies be ready to discuss your experience with these technologies.

Familiarize yourself with different loop and control constructs. This may help you write cleaner code, save time, and produce well-designed solutions.

Be familiar with OS topics like memory management, processes, threads, synchronization, paging, semaphores, and multithreading. Additionally, you may want to look over different types of RTOS.

We are looking for solid foundations more than specific technology. We expect that candidates with solid fundamentals can pick up new technologies throughout the process.

Follow-up if you need clarification. If you are asked a question but not given enough information to provide a solid answer, don't be shy about asking for more information. If additional context is not available, focus on how you would attempt to solve the problem given limited information.

State your assumptions to the interviewer and the rationale behind them.

We strive to make the interview a collaborative process and appreciate when a candidate has put thought into a few questions for the interviewer.

While it may seem overwhelming, your interviews will not be evaluating your ability to memorize these topics. We are looking to understand if you'll be effective on the job here on a day-to-day basis. We are interested in how you understand, think about, and approach problems. We hope this guide will help you prepare for your interview.

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