INTERVIEW PREP

Software Development Engineer in Test

WHAT DOES A SOFTWARE DEVELOPMENT ENGINEER IN TEST (SDET) DO AT AMAZON?

SDET's are Software Development Engineers (SDE) who lead the design and implementation of test frameworks, test case automation and/or test tools automation for large components, applications, device software, or services.
Their focus is on designing, developing and effectively applying automated tools to improve software testability, test coverage, product quality and guiding best practices (e.g., unit testing, continuous deployment, etc.). They heavily influence the architecture and design, and develop tools and services that are efficient and scalable.

They define test and quality metrics to improve the test process. They take a long term view of how to drive quality, anticipate software failures and prevent them from occurring by proactively fixing deficiencies in test frameworks and tools.

Want to become an SDET at Amazon? Let's walk through some helpful tips for the interview process.

amazon

How to prepare for an SDET interview

Prepare to write code on a whiteboard or on a Livecode/text editor link on a laptop without access to an IDE/ Compiler. You can use any coding language - Python, Java, C++/C, C# etc. but recommend using the language which you are most familiar with. Focus on writing syntactically correct code – no pseudo code and use logical and maintainable code. Practice coding exercises on a text editor or whiteboard.

Prepare to discuss your experience designing and building automated tests, test automation frameworks, tools and/ or services to support software testing.

You should be able to demonstrate ability to design scalable systems, test design and test planning.

To further help you prepare and get an idea what you could expect in regards to technical assessment, here are some links -

Practice on Geeks for Geeks

Top algorithms and data structures for competitive programming

Data structures algorithms

Interview questions on Quora

Use sites like Interview Cake, www.topcoder.com, www.codechef.com or similar coding prep sites.

White boarding

Be prepared to whiteboard on coding, system/ automation design and test planning. The questions can either on a hypothetical scenario or from an example that you provide.

There are no trick questions but questions may be intentionally vague to assess your innovation and thought process in dealing with ambiguous situations.

Ask clarifying questions and gather all the requirements first before you start putting down your design or code.

Engage with your interviewer and think out loud as you come up with your solution or code.

Ensure the code is optimized and workable, test the code looking for boundary cases.

Technical tips

Coding

For the coding exercise, use the language that you are most familiar with, Java, Python C++/C , C# etc., and have a good understanding of syntax and some of the language nuances, such as how memory management works, or the most commonly used collections or libraries, etc.

Expect to be asked to write syntactically correct code—no pseudo code. If you feel a bit rusty coding without an IDE or coding in a specific language, it's probably a good idea to dust off the cobwebs and get comfortable coding with a pen and paper, on a text editor or on a whiteboard.

The most important thing a SDET does at Amazon is write scalable, robust, and well - tested code. These are the main criteria by which your code will be evaluated. A few missed commas or typos here and there aren't that big of a deal, but the goal is to write code that's as close to production ready as possible. This is your chance to show off your coding ability.

Data structures

A strong background in data structures is required for SDETs. You'll be expected to understand the inner workings of common data structures and be able to compare and contrast their usage in various applications. You will be expected to know the run times for common operations as well as how they use memory.

Algorithms

Your interview with Amazon will not be focused on rote memorization of algorithms; however, having a good understanding of the most common algorithms will likely make solving some of the questions a lot easier. Consider reviewing traversals, divide and conquer, and any other common algorithms you feel might be worth brushing up on. For example, it might be good to know how and when to use a breadth-first search versus a depth-first search, and what the trade-offs are. Knowing the runtimes, theoretical limitations, and basic implementation strategies of different classes of algorithms is more important than memorizing the specific details of any given algorithm.

Automation frameworks and test design

You should have a software testing and problem-solving mindset.

Expect to discuss your experience building and designing test automation frameworks, and your ability to collaborate with Software Development and QA teams in identifying bottlenecks, predicting integration problems etc.

Be prepared to talk about a test framework design that you have built or you might be asked a hypothetical design question.

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