

# Chart your own path with Amazon



## Software Development Engineer

### Assessment preparation pack

#### Overview of the position

We're looking for talented, motivated software development engineering graduates who can help offer a great customer experience. If you have an interest in building large-scale, high-performance, customer-centric products, and can think end-to-end, this may be the job you've been looking for.

**Training:** As a new member, you will go through induction training before joining your team. You will drive your own learning and development with guidance and coaching from your manager, buddy, and teammates. Your manager will have an Embark Launch Plan to help you get settled and familiarize yourself with the broader company as well as your team and project.

**Responsibilities:** As a software development engineer at Amazon, you will work as part of a team and will help to create complex tools in several different programming languages that will help improve the quality of Amazon's catalogue. You'll create professional quality software by applying software engineering best practices, while being exposed to cutting edge technologies. Since we have a wide variety of projects and technologies, we are looking for different profiles from engineers interested in front-end development (for our hybrid mobile applications and website) to back-end engineers (focused in solving complex multi-objective resource allocation problems), full stack, as well as machine learning engineers for our recommendation or fraud detection systems.

#### Recruiting process

**Onsite or virtual Interviews:** You will have a minimum of three 60-minute interviews (in South Africa, you will meet two Amazonians each for 60 minutes). If you applied for an internship, the number of interviews you will have may vary.

Part of the interview will focus on behavioural or competency-based interview questions, so prepare some examples about your past experiences and real life scenarios. The remainder of the interview will be testing your technical skills. As you think about examples from your experience, we suggest following the **STAR** method. This method will help you organize your thoughts and prepare a structured response to the interviewer's questions by discussing the specific **situation**, **task**, **action**, and **result** of the situation you are describing.

**Offer stage:** The interview is the final stage of the process. After this interview your recruiter will share the outcome within five days. If your application was not successful this time around please don't be discouraged, we welcome your application again, six months from the date you received your outcome, you may apply again.

NOTE: Amazon does not provide interview feedback as a matter of company policy.

Visit [interviewing at Amazon](#) for more information. Good luck!

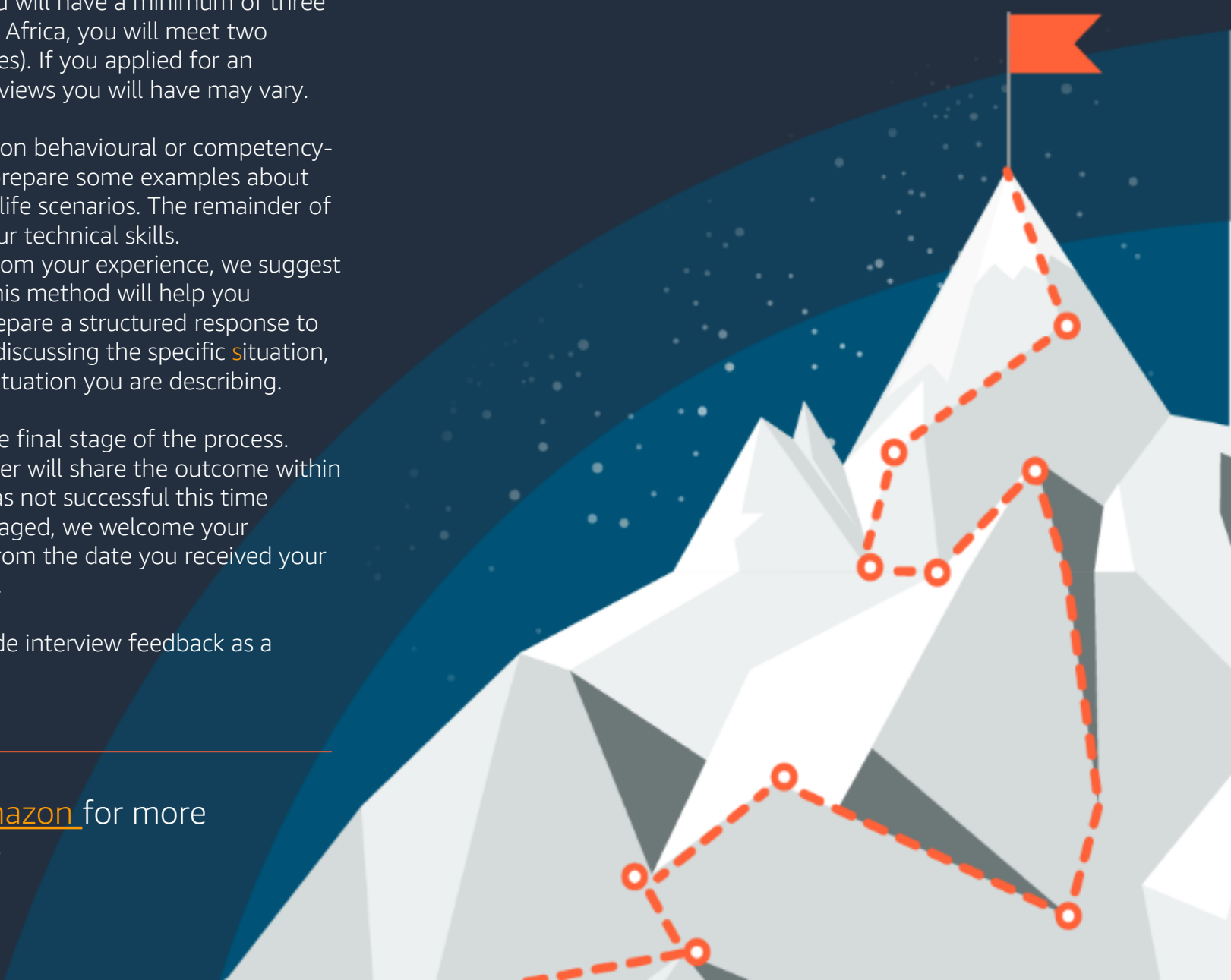
#### Technical Interview Topics

Our engineers tackle some of the most complex challenges in large-scale computing. Software development engineers, technical program managers, test engineers, and user-interface experts work in small teams across the company to contribute to the e-commerce platform that's used by millions of people all over the world. With that in mind, we require applicants to demonstrate their technical skills in a number of areas.

**Programming:** We do not require that you know any specific programming language before interviewing for a technical position with Amazon, but familiarity with a prominent language is generally a prerequisite for success. Not only should you be familiar with the syntax of a language like Java, Python, C#, C/C++, or Ruby, you should be familiar with some of the languages' nuances, such as how memory management works, or the most commonly used collections or libraries, etc.

**Data Structures:** Most of the work we do involves storing and providing access to data in efficient ways. 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 runtimes for common operations as well as how they use memory. The below mentioned are in no particular order:

- Array Linked List
- Tree (Tree, Binary Tree, Binary Search Tree, Red-Black Tree, etc.)
- Heap Hash Table Stack Queue
- Trie
- Graph (both directed and undirected)



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#### Technical Interview topics cont..

**Algorithms:** It's also important to know efficient ways to manipulate data. One great way of doing this is brushing up on some common algorithms. We'll expect that you can apply and discuss the trade offs between some commonly used algorithms:

- Sorting
- Bubble Sort Merge Sort Quick Sort Radix/Bucket Sort
- Traversals (On multiple data structures) Depth First Search
- Breadth First Search

**Coding:** Expect to be asked to write syntactically correct code. If you feel a bit rusty coding without an IDE or coding in a specific language, it's probably a good idea to refresh and get comfortable coding with a pen and paper. **Optimal Solutions:** During the technical interview, you are going to be evaluated on how optimal your coded solutions are. Your interviewers are not interested in seeing pseudo code or brute force solutions. They will be looking for clean and maintainable code that is as close to production-ready as possible. Be sure to call out edge cases and check for bugs. Exception: There may be scenarios in which, due to time constraints, brute force is the only means of delivering a workable solution. In such a case, simply explain to the interviewer this is the approach you have taken due to time constraints.

**Ambiguity:** Interviewers will often purposefully give you a problem or set of instructions that seem vague or lacking important information. It is your responsibility to deal with such ambiguity by gathering additional requirements and asking clarifying questions before diving headfirst into coding.

**Coachability:** Whether you find yourself struggling with a particular problem or you have come up with a workable solution that the interviewer deems sub-optimal, he/she may offer you guidance. Take their feedback and work with it. Amazon engineers spend their workdays dealing with technical challenges of mind-boggling scale so if they offer you guidance that takes you in a direction you are unaccustomed to or that feels counterintuitive, have a go at it as they have every intention of setting you up for success.

*"I applied for an internship role at Amazon in 2017 as I had heard from a few friends about how the internship has been a great learning experience for them. I had a great time during my two-month internship. I loved my project and the peers I worked with were very helpful. After I was offered a full-time position, I decided that Amazon is the place for me."*

Niall – '17 intern and '18 graduate

#### General interview guidance

**Personal Experience:** We really want to get an understanding of how you think, how you solve problems so as much as possible, try to talk things out and think out loud.

**Leadership Principles:** Spend time familiarizing yourself with the Amazon Leadership Principles, and use them as a guide to choose the stories and anecdotes from your career that you decide to share during your interview. We are aware that you may not have work experiences examples to speak to; however, you're free to provide examples from your experiences at university, team projects, extracurricular activities, past internships, or even life in general. Examples that speak to tech are also advantageous but not mandatory.

**Data Driven:** Amazon is a very data-driven company, so try to provide examples using metrics/data. There's nothing better than supporting a success story with a great data point.

**Customer Focus:** Above all, think about customer impact. We are truly obsessed with our customers. We would like you to be able to take customer wants and needs into account when making and providing any products or services.

**Motivation:** Be prepared to speak about your motivation for the role and why you are interested in Amazon.

Practice resource: <https://leetcode.com/>