



A Guide to Help You Prepare for Your Software Development Engineer Interview at Flipkart

SDE is an acronym for Software Development Engineer. At Flipkart, SDE-1s/SDE-2s are engineers who create features based on product requirements. You're expected to design and code in multiple tech components related to your functional area. You're required to learn the best practices and design principles and patterns to make the code base maintainable and extensible. You must also develop a deep understanding of non-functional requirements, such as reliability and availability, scale, horizontal scalability, etc., over time and make tech stack decisions accordingly.

Interview Process

Phase 1

- Exploratory Discussion
- Phone Screening - Product Thinking

Phase 2

- Machine Coding
- Problem Solving & Data Structure
- Design
- Team Fitment
- Culture Fitment

PHASE 1: Exploratory and Phone Screening Rounds

ROUND 1.1: EXPLORATORY DISCUSSION (30 MINUTES)

This is the stage when you'll be interacting with your potential Hiring Manager. As soon as your CV is shortlisted, your recruiter will set up an exploratory discussion based on your availability. The intent of this round is to understand your past experience, expectations and aspirations for the future.

This round is typically conducted over phone/Hangouts. Please ensure that you're comfortably settled in a quiet space for a fruitful discussion. You will be expected to introduce yourself, your past work experience, strengths and aspirations in this round - be concise, clear and prepared.

Take this opportunity to ask as many questions as you want in order to get a holistic picture of the role. Make sure that you clearly understand the charter, scope, kind of work involved in the role offered by us. Have a constructive and open discussion on your eligibility, aspirations and other concerns that you possibly have.

ROUND 1.2: TECHNICAL PHONE SCREENING (60 MINUTES)

Before you come for an onsite interview, you'll have a discussion with one of your potential peers. This is a technical screening round which is primarily focused on past work experience, role-eligibility and a few problem-solving questions relevant to the role you're being interviewed for.

This is a telephonic/Hangout discussion. You can expect questions about your past experience, major projects that you've worked on depending on the role you're being evaluated for. The interviewer may deep dive into one of your projects that you have executed in the past to understand your strengths and weaknesses.

Please ensure that you are available for the call in a quiet place. Be well-versed with everything mentioned in your resume. Have a brief introduction of your experience ready. Go in-depth if interviewers ask you details about anything specific.

Note: You may or may not have this round depending on a case-to-case basis. You may have more than one technical phone screen round if need be. Your recruiter will walk you through the detailed hiring process.

PHASE 2: Onsite Interview

ROUND 2.1: MACHINE CODING (120 MINUTES)

There are three stages in this round - Pre-coding, Coding and Post-coding.

PRE-CODING (15 MINUTES):

The interviewer will describe the question in detail. Feel free to ask as many questions as you need to clarify the scope and requirements with respect to the problem statement.

CODING (90 MINUTES):

You will be expected to write executable codes. In between, your interviewer might have 1 or 2 checkpoints. At the end of this stage, you are expected to send your code to the interviewer. Note that this stage can be for a lesser duration in certain cases.

POST-CODING (15 MINUTES):

You will be expected to show a detailed demo of your program. Interviewer will key in multiple test-cases and your program is supposed to provide the expected output.

HOW TO PREPARE FOR THE ROUND:

Ask as many questions as you need in order to understand the problem clearly

Design your solution and think about the code structure before starting coding

Ensure that the code is executable, functionally correct, modular and readable

Separation of concern should be addressed

Ensure that the code can also accommodate new requirements with minimum changes

Learn object-oriented programming, how to write readable code and PRACTICE

SUGGESTED LEARNING RESOURCES:

How to prepare for the machine coding round? →

Practice a few design problems →

ROUND 2.2: PROBLEM SOLVING & DATA STRUCTURE (60 MINUTES)

This round involves solving a few problems related to problem solving, data structures and algorithms. The intent of the discussion is to test your problem-solving skills based on how you approach the problem.

You can expect 1 to 3 problems on common data structures and algorithms. The most common data structures that you're expected to know are [Array](#), [Linked List](#), [Stack](#), [Queue](#), [HashMap](#), [Tree](#), [Graph](#) and [Heap](#). The most common types of algorithms that we expect you to solve are [String Manipulation](#), [Two Pointers](#), [Searching](#), [Sorting](#), [Backtracking](#), [Bit Manipulation](#), and [Dynamic Programming](#).

HOW TO PREPARE FOR THE ROUND:

Get comfortable with coding, learn data structures and algorithms and practice

Make the interview interactive through discussion so that the interviewer can understand your solution approach better

Ask as many clarifying questions as you can think of so as to make the requirements clear and remove any ambiguity or misinterpretation

Make sure to clarify the input constraints

Write a few test cases with both input and output including side cases, and dry run your solution before and after coding

SUGGESTED LEARNING RESOURCES:

How to prepare for the PS/DS round? →

How to ace the PS/DS round? →

ROUND 2.3: DESIGN (60 MINUTES)

This round involves discussing and solving a non-trivial design problem. There are two types of design interviews: Systems Design and Object Oriented Design (OOD). You may be asked to solve a broad design problem like 'Design Twitter' (System Design) or 'Design a Parking Lot' (OOD).

You are expected to create a scalable system with the trade-offs required to achieve that. There is no specific answer expected in this round, and it is more about the interviewer and the interviewee discussing the trade-offs and requirements and coming up with a solution.

In an OOD interview, you're expected to design a real-world problem taking care of design principles and patterns such that the solution is maintainable and extensible.

The problem will be very generic and so start with gathering all the specific requirements from the interviewer. This is the most important thing to do in the design interview. For OOD, make sure to decide upon the structure of the design before drawing the class diagram. Make the interview as interactive as possible as the design round is all about discussing different approaches at different stages and zeroing in on one.

HOW TO PREPARE FOR THE ROUND:

Read engineering blogs to get a good idea on how companies design their systems. Netflix Tech-Blog and High Scalability are some of the best engg blogs.

Learn about the different systems involved in a distributed system and the trade-offs involved. System Design Resources is a good place to start.

For OOD, try to understand the different design patterns and principles, and where to use one over the other.

ROUND 2.4: TEAM FITMENT (60 MINUTES)

The intent of this round is to evaluate your team fitment based on your experience, interests and strengths demonstrated across other rounds. In this round, you'll be interacting with your potential team leader/hiring manager who will try to get to know you better in order to make an informed choice that we hire the right person for the right job.

The interviewer will try to understand your aspirations, inspirations and motivations, self-awareness, leadership ability, stakeholder management, strengths and weaknesses, etc.

You can also expect questions around some of the competencies which you would have been evaluated for in previous rounds. Think of this round as a summary of all the discussions that you have had during the day.

ROUND 2.5: CULTURE FITMENT ROUND (60 MINUTES)

We are a proud community of Flipsters. All our decisions are deeply rooted in our values, and they have made us into what we are today - successful and confident. Our core values define our identity and form the basis of our actions and reflect in everything that we do at Flipkart. These values enable us to shape the desired organization culture in which each Flipster can thrive and be at their best.

In this round, you are being evaluated for your cultural fitment at Flipkart. The round is meant to assess whether you would be a good fit in the world of Flipsters or not. There are no right or wrong answers. Be honest and think thoroughly before you answer. There may be questions around your past experiences, career aspirations, hypothetical scenarios, your strengths and weaknesses, etc. We highly recommend that you invest some time in preparing yourself for the interview.

- Read up about our values and what makes you a great fit for us
- Be honest about your success and failures
- Invest some time in preparing yourself for the interview
- Be candid and help us understand you better

TOPICS TO BRUSH UP ON BEFORE YOUR INTERVIEW:

- **Supervised Learning:** Topics include linear regression, logistic regression, Naive Bayes, support vector machines, decision trees, random forests, gradient boosted trees, Bayesian models, evaluation metrics for classification and regression tasks.

- **Programming Languages:** You should be familiar with any programming language, preferably, a high level programming language like Java, C++, C#, Python, etc. It is best to use the programming language you're most comfortable with. You're expected to be proficient in the language that you use during the interview.

- **Coding:** Most of the interviews at Flipkart require you to be proficient in coding. You'll be expected to code on your laptop during the machine coding round and on paper/whiteboard during the PS/DS round. To do well in these rounds, you should be extremely comfortable with coding. During the interview, you are supposed to write a bug-free code in a short time. It'd be a good idea to practice coding on online coding platforms before the interview.

- **Data Structures and Algorithms:** The PS/DS round is centered around data structures and algorithms, and that is something you should learn well. Try to understand the basic concepts related to different data structures and algorithms. You should be able to solve most of the questions that you will likely encounter during the interview if you work on the basic concepts.

You should learn to compute the time and space complexity of your solution, and should understand the trade-offs while optimizing for one over the other.

- **Design Patterns and Principle:** There are many ways to solve problems while creating features/products, but the only solutions that are long-lived are the ones with a good design. Good design is essential for the code to be extensible and maintainable. One of the most widely accepted paradigms of programming is the object-oriented programming paradigm which we at Flipkart also widely use. It would be a good idea to learn how to write code in an object-oriented way. There are some widely known best design practices, also known as the Design Patterns and Principles which may help create better solutions and perform well in the Machine Coding and the Object Oriented Design rounds.

- **System Architecture and its components:** The design round is centered around system architecture, and having a thorough understanding of the basics may help you perform well in the design round. You are expected to know about different types of data stores and when to choose one over the other. You must be aware of how distributed systems work and what are the different nuances in them.

Having a clear understanding of CAP theorem, scaling, cache and queue systems, and knowing the basics of the Internet as well as OS topics are essential for the system design round.

NERVOUS? DON'T BE.

HERE ARE SOME TIPS FOR A SMOOTH INTERVIEW:

Be prepared:

Needless to say, we want to hire the best talent. Prepare well, understand what we do as a business, the position you are interviewing for, learn how your role will contribute in achieving our vision and brush up your basics as much as possible. At Flipkart, we strongly believe that our highest leveraged time should be applied to hiring and helping onboard the absolute best talent that we can scout around the world.

Pique our interest:

Tell us something about yourself that prompts us to know more about you. Flipkart is a great mix of people with various talents and skill sets and so, we'd like to know how and why you stand out from the rest.

Think things through:

We don't necessarily look for absolute solutions. Instead, we'd like to know how you approach a problem. Therefore, make sure you think through your answers. It's okay if you need a few minutes to collate your thoughts. You can help the interviewers understand your thought process by thinking out loud.

Be authentic and candid:

Nobody is perfect. It's okay to openly admit past failures - if any. At Flipkart, we place intent and commitment over success. And, being honest about yourself will help us identify those traits in you.

Show your passion:

It's not an interrogation, it's a discussion. Blend in a lot of passion and energy in your interactions. Ours is a fast-paced and challenging workplace and therefore, there's no room for someone who takes it slow.

Ask questions:

We are open to all kinds of questions. It's the easiest way to get to know each other better. So, ask away!

Understand how we work:

Tell us yourself about our values: Audacity, Bias for Action, Customer First and Integrity. Our values are deeply rooted in all our major decisions at Flipkart.

Audacity:

We challenge established standards and keep pushing the boundaries. We innovate continuously and find disruptive solutions. We are fearless in trying anything new.

Bias for Action:

We strongly believe in taking initiative and driving results with impact. We make speedy decisions and believe in failing fast.

Customer First:

We continuously strive to understand our customers' needs. We validate our success through customer actions. We go deep into customer issues and resolve the root cause.

Integrity:

We strive to do the right thing, in the right way, at all times. We do not compromise on our values

If you are someone who believes in these values, and you're able to exhibit these values, you are a great fit for us. Reflect on your past experiences and prepare yourself well before the interview. Spend some time on identifying instances from the past when you exhibited these values.