



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

SDE is an acronym for Software Development Engineer. At Flipkart, SDE-3s/SDE-4s are senior engineers who own a functional area - from product conception to its delivery to customers. You are expected to design and code independently in multiple tech components related to your functional area. 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. You are expected to actively mentor junior engineers. You own the code base quality.

## Interview Process

### Phase 1:

#### Pre-onsite Interview

- Exploratory Discussion
- Technical Phone Screening

### Phase 2:

#### Onsite Interview

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

## PHASE 1:

### Exploratory and Phone Screening Rounds

# 1

#### 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

# 2

#### 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, during which he/she might quickly check on your current coding status. At the end of this stage, you are expected to send your code to the interviewer. Note that this stage can be for 60 minutes for smaller questions.

##### POST-CODING (15 MINUTES):

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

In this round, we will focus purely on your coding competency. You'll be given a problem statement to which you're expected to write fully working code as a solution on your laptop. We will pick well-scoped problem statements for which expectations are explicitly set. You are free to code in any programming language that has good libraries for concurrency/parallelism. Note that there is no 'expected code' or 'expected solution', as the same objective can be achieved in multiple ways.

We recommend that you bring your own laptop since model options may be limited, IDE/compiler of your choice may or may not be available in the laptop provided by us.

You should focus on code hygiene (readability, modular, and testability), functional correctness and completeness, language proficiency (use the appropriate language constructs wherever applicable) and error handling (identify the failure scenarios and necessary validations, and come up with the right error-handling mechanism).

Please note that the questions in this round usually focus on your understanding around concepts like OO design principles, parallelism, concurrency control, design patterns and principles like SOLID and DRY.

#### How to prepare for the round:

- Pick real-world problems and take a stab at them
- Clarify the problem statement and do not assume solutions
- Ask enough questions to identify corner cases
- Be prepared to address further complexities initially introduced in the problem statement
- Go structurally. Fix requirements and scenarios before you proceed to the solution. Identify components and interfaces, look for any unnecessary coupling, and validate the data flow
- Do not get biased by tech choices in your solutioning

#### TIPS:

To approach this problem statement, identify the core entities at play, come up with the right roles and responsibilities for each entity/class, have the right abstractions around the various component interactions (e.g., for the scope of this problem, you may want to store the messages in some in-memory data-structure. Also, you're expected to abstract this storage component).

- Error Handling - Identify the failure scenarios, necessary validations and come up with the right error-handling mechanism (custom or appropriate exceptions, error codes, details, etc.).
- Language Proficiency - You're free to choose the language of your choice, But use the appropriate language constructs wherever applicable.
- Functional Correctness and Completeness - Identify the crux of the problem, and ensure that you're able to code for it. In this given problem, the crux is build a capability to parallelly push the messages to multiple subscribers.
- Code Hygiene - Your code should be readable, modular, and testable.

#### ROUND 2.2: PROBLEM SOLVING & DATA STRUCTURE (120 MINUTES)

You'll be given 2 or 3 problems. For each problem, you are expected to break down the problem into multiple sub-problems and solve them using your expertise in data structures and algorithms. For some parts of a problem, you will be asked to provide pseudo-codes. These problems are 'close to real-world' in nature with multiple acceptable solutions, hence, there is no 'single expected answer'.

Good knowledge of data structures is a must. The interviewer will assess you on your skill in applying multiple data structures (including Queues, Heaps, Graphs, Trees, Hash Tables, etc.) to solve the problem. You'll also be assessed on your ability to bring clarity to a problem statement by asking the right questions, and also whether you can proceed with the solution of the discussed problem by applying the right data structures wherever possible. You may be asked questions related to the internal implementation of these data structures.

#### SUGGESTED LEARNING RESOURCES:

LeetCode →

Hacker Rank →

#### ROUND 2.3: DESIGN & ARCHITECTURE (90 MINUTES)

In this round, 1 or 2 real-world problems would be discussed with you with a strong focus on design and architecture. You are expected to provide a solution with multiple components and provide class design, REST/RPC interface design and software architecture (logical view and deployment view).

Your solution is expected to work in a distributed environment, leverage parallelism wherever possible and handle concurrency.

You can use a white board with markers or equally papers with a pen to explain/draw your design/architecture. Both approaches are equally acceptable. In this round, you're strongly encouraged to come up with multiple possible approaches, weigh pros and cons and take an opinionated view.

#### SUGGESTED LEARNING RESOURCES:

Highscalability →

Please note that you'll be evaluated on the following pivots in this round:

- Requirements Gathering
- Scope Identification

Spend some time gathering the requirements in detail and try to scope it to the level which is enough for this discussion.

#### LOW LEVEL DESIGN

For the above-discussed problem space and previously agreed business flows, come up with a logical view which comprises the below sections:

##### Logical View

- Domain Entity Identification: Identify the key domain entities and their value objects.
- Roles and Responsibilities: Assign roles and responsibilities to each of the identified entities.
- Relationship and Association: Identify the relationship between entities and association between entities.

#### Some tips that will come in handy:

- Use the board, preferably, to draw UML diagrams for the identified entities and their relationships.
- Keep out the implementation.

##### Process View

- API Design: Come up with APIs which will be exposed for consumption (need not be RESTful)
- Sample Prototyping: Give prototype for some of the identified APIs  
 <ReturnTypes> <Name>(Params ...) <Exceptions/Errors>  
 E.g.: List<User> getUsers(userId, userType, QueryParams<>) throws UserNotFoundException
- Conventions: Talk about your conventions on prototyping and API Design values

#### HIGH LEVEL DESIGN

Identify the components by their functionality, characterize the components from their NFR point-of-view (i.e., function of components like Low Latent Key-Value Store, etc.), talk about their interactions (e.g., WebService, DataStore, Cache, Queue, etc.) and preferred approaches for interactions (Sync, Async, Job, etc.).

##### Tip:

Use the board to draw functional components with appropriate shapes and their interactions.

#### ROUND 2.5: 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.

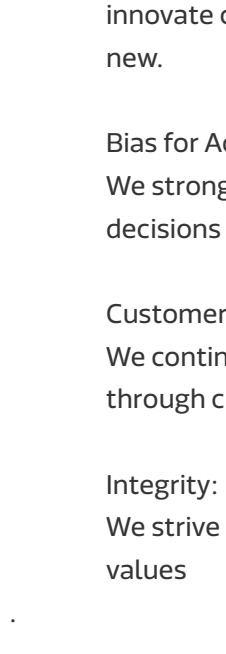
You can also expect questions around some of the competencies which you would have been evaluated for in previous rounds. Think of this round as a summary of all the discussions that you have had during the day.

#### ROUND 2.6: 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



**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:

Get yourself acquainted with 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.