

Hi there!

Thank you for your interest in applying for the Full Stack Developer position at IIT Bombay, and welcome to the second round of the interview process. Here we're looking to understand the candidate's thought process, coding skills, documentation quality and problem-solving skills.

You have 7 days (168 hours) from the receipt of this document to submit your deliverables via this form:

https://docs.google.com/forms/d/e/1FAIpQLSfca6WnXwCLYRhQFYyJxqIBzHEqxJhJnsp_3UHahcAM7YQTNA/viewform

Please Note: Contents of this document are confidential. You are not allowed to share this document with the outside world.

Problem Statement

Build a Personal Budget Tracker application where users can track their income, expenses, and overall budget.

The application will allow users to:

- Add categories, income and expense entries.
- View their financial summary (total income, total expenses, and balance).
- Categorize income and expenses (e.g., salary, groceries, entertainment).
- Set a monthly budget and compare it against the actual expenses.

This application should consist of:

- Backend - Django + Django REST Framework – Handle the financial data, authentication, and provide API endpoints to interact with the frontend.
- Frontend - React – Create a user interface to allow users to manage their finances, track their budget, and visualize their financial data.

Authentication:

- Implement Django Rest Framework authentication so users can log in and manage their financial data securely.
- Only authenticated users can add transactions and set/view budgets.
- Other actions like user registration, forgot password, profile management, etc., are not required.

UI should have

- Login Page
- Dashboard where users can see a summary of their finances (D3.js Chart required)
- Transaction Management - Forms to add, edit and delete transactions
- Transaction Overview - Display a list of all transactions (add pagination). Allow users to filter transactions by date or category or amount.

- Budget Management - Display the user's budget for the current month and compare it to their actual expenses. (D3.js Chart required)

Instructions

- Feel free to use any UI designs you can think of.
- The codebase should be hosted in a public Git repo.
- Kindly submit the deliverables within the mentioned timeframe.
- You're welcome to use LLMs to assist with your coding, but make sure to clearly attribute their contributions in your documentation. It's crucial that you fully understand everything you include in your codebase. If you're shortlisted for further interview rounds, be prepared for in-depth questioning on every part of it.
- You may use any publicly available libraries to finish the task as long as you acknowledge them in the documentation.
- Please mention the credentials to access the platform in the documentation file, else we would not be able to review the submission.
- You're welcome to make reasonable feature assumptions as needed to develop the application, just be sure to document them in the accompanying documentation file.

Deliverables

- Link to the static hosted page. Please use any free platforms like vercel, github to host your page.
- Link to the DRFBrowsable API Page. Please use any free platform to host.
- Link to the public Git repo (Frontend + Backend) of the codebase.
- Documentation file detailing the design approach and choices used in the code design process, along with **the user login credentials for the app and the backend**. The PDF filename should follow the format: *Documentation_<YourFullName>.pdf*

Kindly use the form to upload the deliverables. Please feel free to email us in case of any other queries.

Selected candidates from this round will be intimated after all submissions have been reviewed. As we typically receive a high volume of entries, this may take some time. Rest assured, we will get back to you with the outcome, regardless of the result.

We take plagiarism very seriously and hence please don't directly copy-paste code from somewhere else without linking it to the source or giving the source due credit. We will run the codebase through an internal plagiarism code checker during code evaluation.

Good Luck!