

# Create a tool that allows users to shorten URLs

## Requirements

- Create a React project written in TypeScript. [required] (2 points)
- Create an Express.js API written in TypeScript. [required] (2 points)
- Use React Query to maintain server state [required in frontend] (2 points)
- Use Axios to fetch data from the server [required in frontend] (2 points)
- Use MySQL, Postgres, or any SQL database of your choice [SQL is required] (2 points)
- Use any ORM such as TypeORM, Bookshelf, or query builder such as Knex of your choice [Usage of ORM or query builder is required] (2 points)
- Use a UI library such as Bootstrap, Material UI, TailWind CSS, or any library of your choice. [Usage of a UI library is required] (2 points)
- Use Joi to validate the request body [required] (2 points)
- Authentication is **not necessary**.
- Design the database schema. Save it in an SQL file during submission. (2 points)
- Create a screen called “Edit Link” that allows users to create and edit short links. (2 points)
- Create a screen called “View Links” that allows users to view all the short links created by them. (2 points)
- Make sure the short links created are always unique. (2 points)
- When a user tries to access a short link via browser, the link should hit your API server which will resolve to the target link, and redirect the browser to the destination. (2 points)
- Track how many users have clicked the link and show it in a dashboard. (2 points)
- Try accessing the same short link 5 times in the same browser window, and check if the count increased by 5. The count may not increase correctly. Fix this. (2 points)
- Create a QR code for the short link created (2 points)
- Create a download button for the QR code (2 points)
- Track how many users have scanned the QR code and show it in the dashboard. (2 points)
- Aesthetic UI/UX (2 points)

## Submission

- Record the final output demonstrating each requirement.
- Upload the video to YouTube (unlisted) or Google Drive (accessible to anyone with link).
- Upload your code to GitHub. Keep the repository public.
- Share your submission to [tech@houseofx.in](mailto:tech@houseofx.in) when you are finished.

# Essentials

- The interview is four hours long. However, if you finish early, you can submit and leave the call.
- Screen presentation and camera should be on throughout the interview.
- Searching for documentation via search engines and reviewing other resources during the interview are allowed.
- Usage of ChatGPT, GitHub Copilot, or other such LLMs will not be allowed.
- Forking repositories from GitHub will not be allowed. The project has to be scaffolded from scratch.
- Ensure a stable network connection.
- Candidates are allowed to take short breaks for personal reasons.