MOTORQ

IIIT Sri City · SDE(T) Assignment
September 2023

This document will have basic requirements for the assignment task. ***Feel free to use any tools or libraries that you are familiar with. There are no constraints on languages, libraries, or frameworks. Your focus should be on building a product that fits the requirement. ChatGPT and/or GitHub CoPilot is your friend.***

Requirement

Develop a REST API for a document sharing platform where users can upload their documents and share it with other users. Following endpoints are required for your system

User Signup

- **POST /signup**
  - Users can sign up using their mobile number and a password
    - Mobile numbers should be 10 digit and unique for a user in the system
    - Passwords should be at least 8 characters, containing at least one alphabet, number and one special character
  - User input should be validated and error must be returned if validation fails
  - On passing of validations create a new user in the system

Users Listing

- **GET /users**
  - List all the users in the system (Only their mobile number)

Document Management [Authenticated Endpoint - For Document Owner]

- **POST /document**
  - Users can upload a single document in this endpoint
  - A mandatory name must be given to the document. Name can be maximum 50 characters containing only alphanumeric and space characters
  - Each document in the system must have a unique id generated by the server
  - The document is specified by a non-empty JSON object specified in the request
  - The authenticated user is owner of this document
  - If document addition is successful, return its unique id to the user
- **GET /document**
  - Lists all the documents owned by authenticated user (Only Name and ID)
- **DELETE /document/<document-id>**
  - Deletes the document associated with the id
  - Only owner of the document should be able to delete the document

<u>Document Sharing Management [Authenticated Endpoint - For Document Owner]</u>

- **GET /document/<document-id>/shared**
  - Returns mobile numbers of user that have access to this document (except owner's mobile number)
- **POST /document/<document-id>/shared**
  - Accepts an array of mobile numbers
  - Grants access to this document to all mobile numbers listed here. Removes access for users who previously had access and are not listed here now
  - If any mobile number in list is invalid throw error
- **GET /documents/shared**
  - Returns all the documents accessible by the authenticated user (Not including the documents that he owns (Name, ID and Owner Mobile Number)

<u>View Document Endpoint [Authenticated]</u>

- **GET /document/<document-id>**
  - Accessible by the document owner and user having access to this document
  - Returns the document identified by this id
  - The Return Body is the whole JSON that specifies this document without any other key or subkeys

Must Do's

- All the APIs should accept and return JSON responses
- All the user input in the APIs must be validated
- Errors (Auth errors, Validation Errors, Logical Errors and System Errors) must be handled properly and communicated back to user)
- Use proper HTTP codes for all API. Check this link for common API Codes and their usage: https://www.torocloud.com/blog/http-status-codes-101-a-guide-implementing-status-codes-in-rest-apis)
- Implement User Authentication
  - Use Basic Authentication: https://www.twilio.com/docs/glossary/what-is-basic-authentication
  - Or, Use Token Based Authentication
- Use a persistent database to store and retrieve data
- Host you code on GitHub with a proper ReadMe
- Your GitHub Repo should contain instructions required for running the application
- Record and Share a demo video showing the working of your APIs

Important: *The functionalities and expectations listed in "Must Do's" should be completed by you first before moving to any Bonus Tasks. If your submission doesn't meet the criteria listed above you won't be eligible for any bonus points.*

Bonus Tasks (Choose one or multiple)

- Implement Pagination for APIs where it makes sense (Search Internet if you don't know what it means)
- Add support for creating shareable links for documents
  - Owners should be able to create/delete such links
  - Owners should be able to see who has accessed the documents (and when) using those links
  - Design and implement APIs to make above possible
- Host your API to be accessible through internet (Tip: Only attempt this if you have a lot of free time on your hand and rest all things including video demo are done)
  - Deploy your application
    - You can check the following: https://vercel.com/, https://www.heroku.com/, https://www.netlify.com/ or anything else of your choice
  - Host your database online (Choose any solution you can, below are some options)
    - Free Postgres Hosting: https://neon.tech/
    - Free MongoDB hosting: https://www.mongodb.com/atlas/database

Guidelines for Assignment Round

- Work on completing basic requirements before moving to Bonus Tasks
- You should be able to explain your solution and code
- Try to stick to common sense software development principles
- Focus on meeting product requirements before doing any optimizations
- Clarify your doubts immediately if you are stuck
- Use Internet/ChatGPT/CoPilot or anything else that helps you do your task faster
- Copying code from Internet is allowed as long as you understand it
- Honesty is important. Any kind of plagiarism will not be entertained
- Make sure that your application is in a running state before making final submission (Its okay even if its incomplete as long as we are able to run it on our systems)
- Video Demo is very important and must at least cover the basic endpoints of your application. Without it your submission might get rejected