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Description

The app should allow users to register, once the user is registered, it can create new trackers and log, update and delete them. Users can read, update and delete logs. Users can also import/export logs and trackers and receive daily alerts and monthly reports.

Technologies used

- Flask==2.0.1 : Framework to create the web application
- Flask-SQLAlchemy==2.5.1: For accessing and modifying database
- flask-restful : For rest api
- Flask-security-too : For authentication in the app
- Bcrypt : For encryption of data
- Redis : For caching and celery batch jobs
- Celery[redis] : For asynchronous jobs in backend
- Requests : For handling html request
- Jinja2 : For generating template for pdf report
- weasyprint==52.5 : To generate pdf report
- Python-dateutil : For handling dates
- Flask-Caching: For caching
- Bootstrap : For enhancing the UI
- VUEJS : For UI
- SQLite: For storing data

DB Schema Design

• Tracker_Type

Column Name	Column Type	Constraint
id	Integer	Primary Key, Auto-increment
name	Text	Not Null, Unique

• Role

Column Name	Column Type	Constraint
id	Integer	Primary Key
name	Text	Not Null, Unique
description	Text	

• User

Column Name	Column Type	Constraint
id	Integer	Primary Key, Auto-increment
fs-uniquifier	Text	Not Null, Unique
password	Text	Not Null
first_name	Text	Not Null
last_name	Text	
active	Integer	Default(1)
email	Text	Not Null, Unique
role	Integer	Not Null, Foreign Key("Role(id)")

• Tracker

Column Name	Column Type	Constraint
id	Integer	Primary Key, Auto-increment
name	Text	Not Null
description	Text	
type	Integer	Not Null, Foreign Key("Tracker_Type(id)")
user_id	Integer	Not Null, Foreign Key("User(id)")
last_modified	Text	Not Null, Default('Never')

Options

Column Name	Column Type	Constraint
tracker_id	Integer	Not Null, Primary Key, Foreign Key("Tracker(id)")
name	Text	Not Null, Primary Key
active	Integer	Not NUll, Default(1)

Log

Column Name	Column Type	Constraint
id	Integer	Primary Key, Auto-increment
tracker_id	Integer	Not Null, Foreign Key("Tracker(id)")
value	Text	Not Null
note	Text	
timestamp	Text	Not Null

Month_History

Column Name	Column Type	Constraint
tracker_id	Integer	Primary Key, Foreign Key("Tracker(id)")

API Design

- The api allows user to register, login and logout
- The api allows users to create, update and delete trackers. The user can read either all or a single tracker.
- The api allows users to create, update and delete logs. The user can read either all or a single log.

Architecture and Features

The application folder contains all the essential python files that have database, models, controllers,configuration and the backend jobs to be executed.

The man.py file contains the flask app that is initialised and run. It also contains the api which could not be placed in the application folder due to import loops.

The templates folder contains all the html templates that are rendered.

The static folder contains all the css and javascript files, mainly the vue apps corresponding to the html files.

The report folder contains the necessary files to generate the pdf file.

Video

https://drive.google.com/file/d/11Gytq6rZFkmfKNev8fYusAix0z0_rkLd/view?usp=sharing