

Soar Assingment Execution Flow:

Step1:

First the app.js is called whenever the code execution is started.

The Redis, Cortex and ManagerLoaders are initiated at first for initial configurations.

UserServer process executed (UserServer.manager.js).

Step2:

After all imports, initializations and middleware configurations, The **RateLimiter** is initialized for security feature to restrict ddos attacks.

Swagger UI endpoint is instantiated (for ease of testing and API documentation).

APIs are called for different operations on tables (**CRUD**). As the **api.all** was only supporting the one type of requests (get or post), I created the same format but for multiple requests.

A middleware always checks if any other request than /login is arrived, the bearer token should be **authenticated** and according to the access (which is managed through middleware **__rbam.mw.js** for SuperUser and AdminUser considering **role based access control** can be achieved), the API request is **authorized**.

Step3:

The request to API goes to managers/api/ApiManager.js where the APIs are written using dynamic mapping. (However there are some improvements possible like Consolidate Redundant Code and dynamic dispatch)

All APIs are pushed in 2d array of MethodMatrix and then a middleware calls them dynamically whenever needed.

The flow then takes us to the controllers of the APIs. The controllers contain the logic for the execution of code and return the data after required process request.

The data then returned to the response of API request as a json object with proper status code.

Important Notes:

The default superUser is created and pushed in database as per consideration that we will only have one superUser who can add admins as needed. You can find his credentials in mongo.js.

The SuperUser can access any api but the AdminUser of a school cannot access the APIs of schools and the Users (Can be managed through middleware easily).

The superUser is not assigned to any school so school id is not present. SuperUser can hit the api to create the classroom but cannot create as he is not assigned to school.

Recommendation for testing:

Create a school first, then create an admin user with school id of entered school (admin for that school), then you can create classrooms else not.