**Docu-Serve 1st Sprint**

Continuous Integration & Continuous Delivery 2 – Team Project

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**Reflection Summary**

Features Completed

* Implemented a user authentication system in FastAPI, including registration, login, and JWT-based token authentication.
* Added password hashing and verification using Argon2 through the passlib library to ensure secure user data handling.
* Created endpoints for registering new users, logging in, and getting user details.
* Tested API endpoints using Swagger UI to confirm functionality and error handling.

Problems Faced

* Encountered a 500 Internal Server Error during user registration when initially trying to use bcrypt, due to compatibility issues with Python 3.13 and the bcrypt library, I switched to Argon2.
* The JWT decoding function initially failed due to incorrect parameter used when decoding the token.
* Some dependencies were missing or not recognized in the virtual environment (uvicorn: command not found), I re-installed these dependencies and it worked.

Solutions Implemented

* Switched from bcrypt to Argon2 to avoid compatibility issues and ensure secure hashing.
* Corrected the JWT decode syntax (jwt.decode(token, SECRET\_KEY, algorithms=[ALGORITHM])).
* Reinstalled required packages within the virtual environment and verified all dependencies in requirements.txt.
* Ensured passwords are securely hashed and verified without length issues.

Next Sprint Plans

* Store registered users in a Mongo database instead of an in-memory list.
* Add role-based access control for admin and standard users.
* Begin writing unit tests to automate API testing.