

Activity 5.2: Testing and Verifying Local Deployment

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Objective:

The purpose of this activity is to ensure that the application functions correctly in the local environment by conducting systematic testing and verification.

Steps Involved:

1. Unit Testing:

- Write unit tests for individual modules using PyTest or unittest.
- Validate core functionalities like API endpoints, business logic, and database interactions.

2. Integration Testing:

- Test how components interact with each other.
- Validate the data flow from frontend to backend and database.

3. Manual Testing:

- Execute test cases manually to verify UI responsiveness and correctness.
- Check navigation, form validations, and error handling.

4. Environment Configuration:

- Ensure environment variables (e.g., ``.env``) are correctly configured.
- Test startup scripts (e.g., ``main.py``) for correctness.

5. Logging and Debugging:

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- Use logging to trace issues.
- Fix errors and re-test.

Tools Used:

- PyTest / Unittest
- FastAPI TestClient
- Browser Developer Tools for frontend testing

Diagram:

Below is a simple workflow diagram of local deployment testing.

Conclusion:

Proper testing and verification ensure the application is ready for stable release in a local setup. It helps identify and fix bugs early, enhancing reliability and performance.

