

ABSTRACT

This research discusses the implementation of REST API on a web-based Audit Trail Management System (ATMS), using the layered architecture method. The main objective is to develop a structured, maintainable, and scalable system. The methods used include literature study, system design, implementation with Node.js and Express.js, unit testing, and code quality analysis with SonarQube. The research results show that the application of layered architecture results in good separation of responsibilities between layers, increasing system maintainability. Functional testing shows that all system features meet the Functional Requirements. SonarQube analysis gives an A rating for maintainability, with minimal technical debt. In conclusion, the developed ATMS system meets functional and non-functional requirements, and has a high level of maintainability.

Keywords: REST API, layered architecture, audit trail management system, maintainability, sonarqube, node.js