

Kod Projek :	BITU 3973
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FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

PROJEK SARJANA MUDA 1 (BITU3973) PROPOSAL

A	TITLE OF PROPOSED PROJECT: Lembaga Hasil Dalam Negeri (LHDN) Data Intergration using Application Programming Interface (API)
B	DETAILS OF STUDENT
	Name: MUHAMMAD NUR SYAHMIE AMIRULLAH BIN NOR AZAR KAMAL Matric No: B032210380 Program Pengajian: BITD Handphone No.: 011-1300 9796 E-mail Address: syahmieamirullah188@gmail.com Semester/Session: Sem.2,2024/2025
C	PROJECT INFORMATION
C(i)	Executive Summary of Project Proposal (maximum 300 words) <p>As digital transformation accelerates, Lembaga Hasil Dalam Negeri (LHDN) must modernize its tax administration processes to improve efficiency, accuracy, and security. Currently, LHDN relies on outdated systems and manual data exchange, leading to inefficiencies, delays in decision-making, and potential security risks. The absence of real-time data access further hampers compliance monitoring and service delivery.</p> <p>This project proposes an API-based data integration system to streamline tax-related information exchange between LHDN and external stakeholders such as government agencies, financial institutions, and taxpayers. The implementation of Application Programming Interface (API) technology will enhance automation, interoperability, and security while enabling real-time data access.</p>
C(ii)	Detailed proposal of project: (a) Project background including Introduction / Problem Statements. <p>Introduction – Lembaga Hasil Dalam Negeri (LHDN) plays a crucial role in managing Malaysia's taxation system. As digital transformation continues to shape various industries, tax administration must also evolve to improve efficiency, accuracy, and security. The increasing complexity of tax regulations and the growing volume of financial transactions necessitate a modernized data integration approach. Application Programming Interface (API) technology offers a robust solution to streamline data exchange, enhance operational performance, and ensure compliance with tax laws. This project aims to integrate LHDN's data systems with external stakeholders through API technology, enabling seamless, real-time, and secure information sharing.</p>

Problem statements –

1. LHDN relies on outdated systems and manual data exchange processes, causing inefficiencies.
2. Lack of real-time data access hampers decision-making, compliance monitoring, and service delivery.
3. Absence of a standardized and secure data exchange method increases risks of data breaches.
4. Need for an API-driven solution to enhance automation, security, and real-time data flow.

(b) Objective (s) of the Project

This project embarks on the following objectives:

1. Enhance data integration and interoperability within Lembaga Hasil Dalam Negeri (LHDN) using API technology.
2. Streamline data exchange processes for improved efficiency.
3. Improve operational performance through automation and seamless integration.
4. Strengthen data security and accuracy to mitigate risks.
5. Facilitate real-time data access for better decision-making and service delivery.

(c) Scope of the Project

Target user :

- LHDN.
- Government agencies requiring tax-related data integration.
- Tax payer.

Modules :

1. Login & Registration Module – enable staff/taxpayer to securely register and login the account.
2. Income & Tax Submission Module – Allows taxpayers or businesses to submit income and tax filings electronically.
3. Tax Management Module – Manages tax calculations, filings, payments, and compliance with banks and government agencies.
4. Sosial Class Module – Classifies taxpayers based on income and status to help with tax policies and social benefits.
5. Reporting & Analytics Module – Generates reports on taxpayer activities, submissions, and compliance status.
6. Third-party System Integration Module – Connects LHDN with financial institutions, payroll systems, and government agencies.
7. API Gateway & Management Module – SManages API connections, security, and data flow efficiently.

Software :

- Node.js
- Postman
- Microsoft Azure


(d) Expected Outcome/ Proposed Solution**Expected Outcome :**



- A fully functional and secure API-based data integration system.
- Improved efficiency in tax data processing and reporting.
- Real-time data exchange between LHDN and external stakeholders.

Proposed Solution :

- The system will be a web-based API platform integrated with existing LHDN infrastructure.
- It will support cloud-based deployment for scalability, security, and high availability.
- APIs will enable seamless communication between LHDN, government agencies, financial institutions, and businesses.
- The solution will feature a centralized API management system with authentication and access control mechanisms.

D	REFERENCES
	<ol style="list-style-type: none"> 1. Au-Yeung, J., & Donovan, R. (2020, March 2). Best practices for REST API design. Stack Overflow. https://stackoverflow.blog/2020/03/02/best-practices-for-rest-api-design/ 2. Doglio, F. (2018). REST API Development with Node.js: Manage and Understand the Full Capabilities of Successful REST Development. Germany: Apress. 3. Gough, J., Bryant, D., Auburn, M. (2021). Mastering API Architecture: Design, Operate, and Evolve API-Based Systems. Spain: O'Reilly Media. 4. Richardson, L., Amundsen, M., Ruby, S. (2013). RESTful Web APIs: Services for a Changing World. United States: O'Reilly Media. 5. Subramanian, H., Raj, P. (2019). Hands-On RESTful API Design Patterns and Best Practices: Design, Develop, and Deploy Highly Adaptable, Scalable, and Secure RESTful Web APIs. Germany: Packt Publishing.

E (i)	Declaration by student / <i>Akuan pelajar</i>
	<div> <div> Date : <i>Tarikh :</i> 4 March 2025 </div> <div> Student's Signature : <i>Tandatangan Pelajar :</i>  </div> </div>

E (ii)	Recommendation by the Supervisor <i>Perakuan oleh Penyelia</i>	Recommendation by the Committee <i>Perakuan oleh Jawatankuasa</i>
	<p>Select: Recommended / Not Recommended</p> <p>Comments: Good proposal with clear scope.</p> <p>Supervisor's Name: ROSLEEN BINTI ABDUL SAMAD</p> <p>Signature and Stamp:</p> <div style="text-align: center;">   </div> <p>Date: 14/3/2025 <i>Tarikh:</i></p>	<p>Select : Accepted / Not Accepted</p> <p>Comments:</p> <p>Committee's Name:</p> <p>Signature and Stamp:</p> <p>Date: <i>Tarikh:</i></p>