

Overview of ReCAL (Responsible Credit and Lending)

Key Aspects

Introduction

ReCAL (Responsible Credit and Lending) is a Lending-as-a-Service (LaaS) entity focused on innovative lending technology. This document highlights ReCAL's IT architecture, microservices, and operational principles.

IT Architecture

ReCAL uses enterprise-grade IT architecture to ensure security, scalability, and robustness, supporting its LaaS operations.

Microservices Approach

ReCAL's microlithic/micro-services architecture segregates infrastructure, application framework (boilerplate codes), and low-code business logic (KeiKai xlsx framework) for flexibility and maintainability.

- **Segregation of Infrastructure** - Infrastructure components are separated to operate independently, enhancing stability.

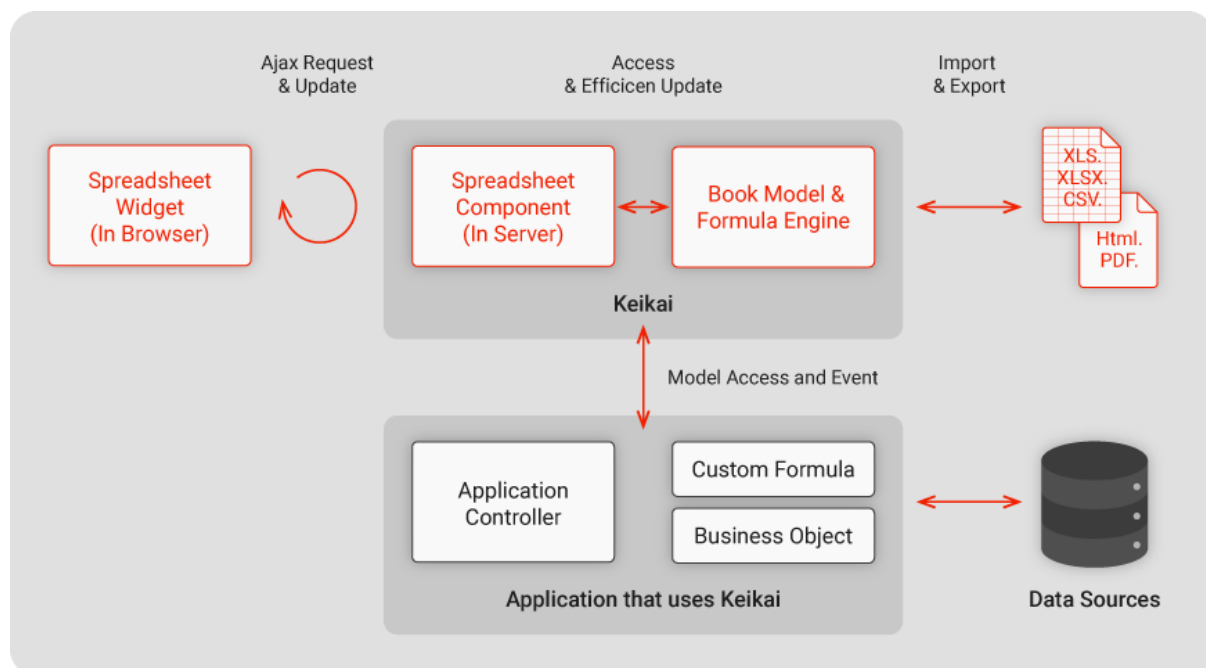
- **Application Framework**- The framework abstracts boilerplate codes for efficiency and consistent software development efforts.
- **Low-Code Business Logic** - The KeiKai xlsx framework allows rapid development with minimal coding.

Key Operational Principles

ReCAL's operations focus on robustness, observability, serviceability, and scalability.

- **Robustness** - Isolated module failures are contained to maintain overall system performance.
- **Observability** - Comprehensive monitoring tools provide real-time insights for quick problem identification.
- **Serviceability** - Structured deployment ensures rapid updates and fixes.
- **Scalability** - The architecture supports N+1 scalability (compute instances), clustering, and sharding (persistent storage e.g. RDBMS and NoSQL) for seamless expansion.

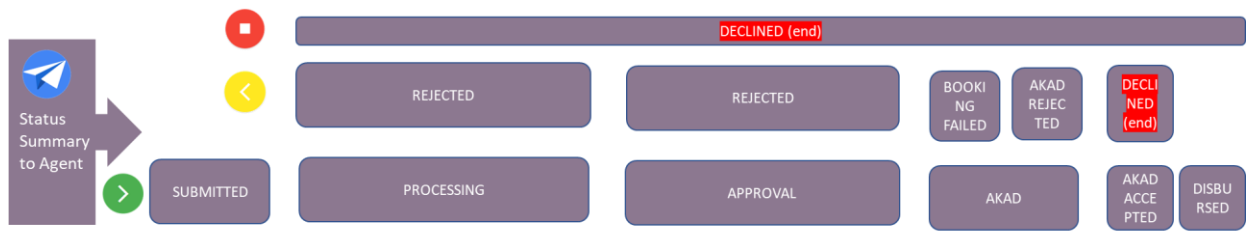
How KeiKai web-excel framework helps



Keikai spreadsheet component consists of three major parts – the client-side UI , the server-side component, and the book data model with the formula evaluation engine. The UI is a grid like widget that you can in-place edit the content of each cell. The component is a server-side Java object which your controller usually works with. The book data model stores the whole Spreadsheet's data. The formula evaluation engine is responsible for formula parsing and calculations.

src: <https://doc.keikai.io/tutorial#architecture>

ReCAL's operating flow.



When a loan gets originated, it follows the above architected value-chain, when a loan enters the “Processing” stage, a unique gets generated and is pre-populated with the various data points such as but not limited to :

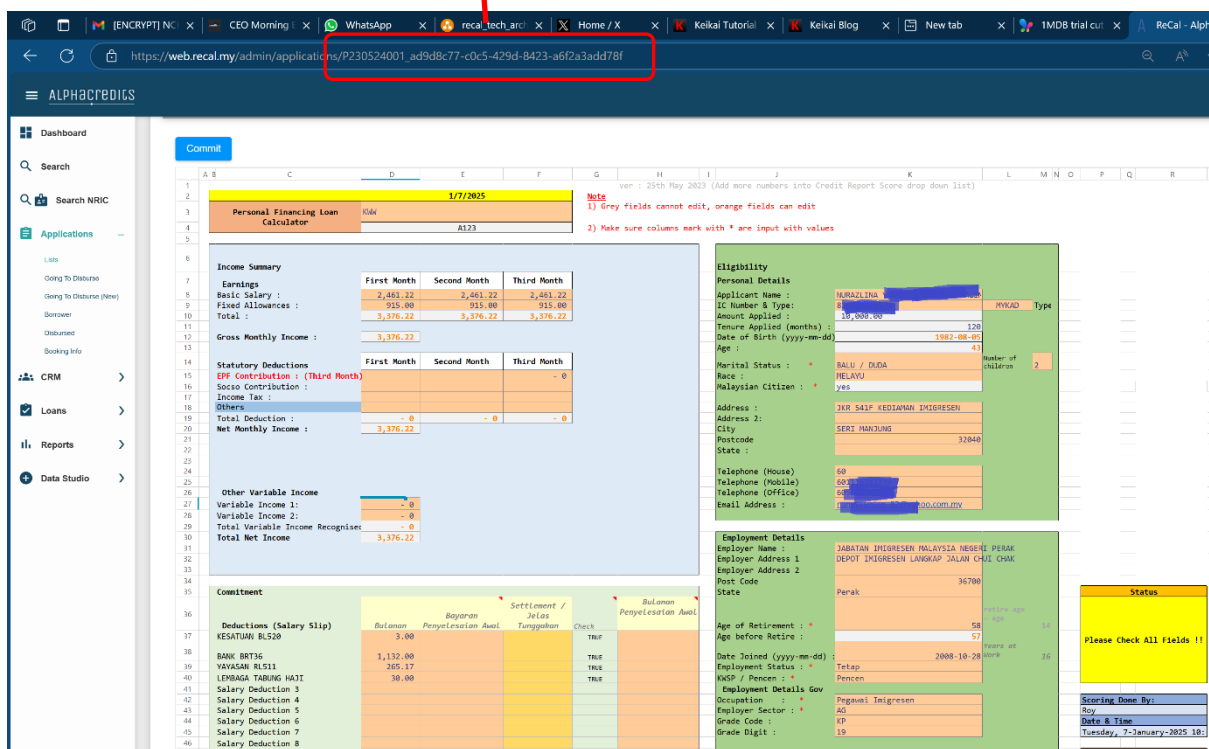
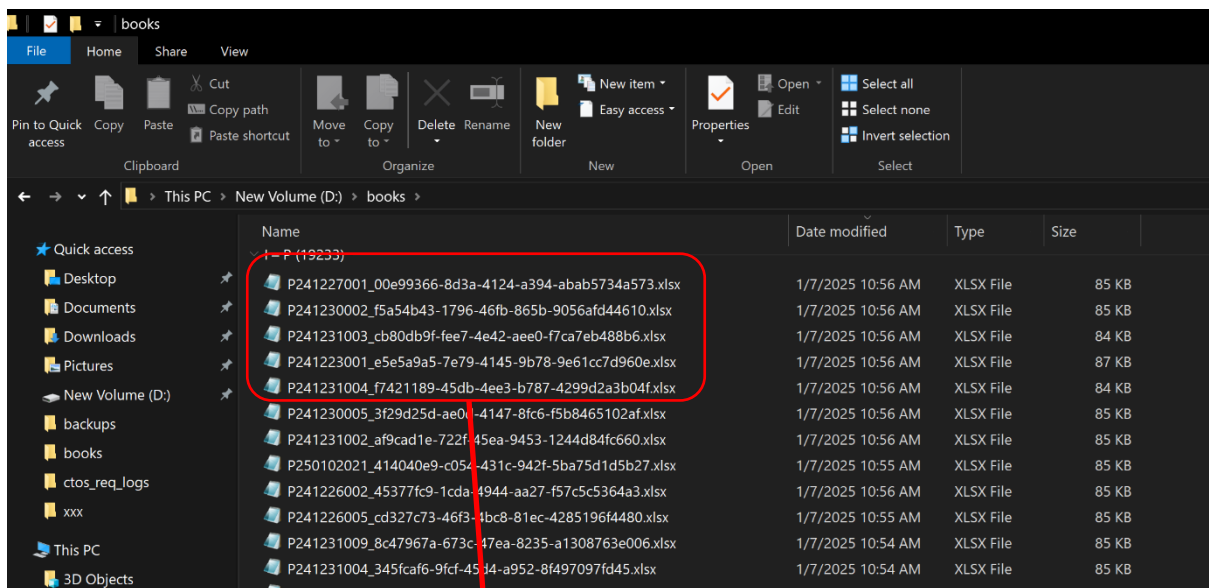
- Name
- Identification number
- Credit history (retrieved from a licensed credit bureau)
- Loan amount
- Loan tenure

Derived credit score elements such as but not limited to:

- Debt Service ratio
- Nett disposable income
- Affordability index
- Etc. etc.

This architectural design allows for the credit evaluation and risk assessment team to change the score card without having to have software engineering knowledge (democratized productization and citizen analytics).

A new loan product can be rolled out in days, simply by deploying a new excel (XLSX) template with the appropriate tagging.



The integration of document-based structured data, such as XLSX files, seamlessly facilitates ETL (Extract, Transform, Load) processes. This structured data is efficiently ingested into NoSQL or RDBMS databases, paving the way for advanced machine learning applications.

By democratizing business analytics and visualization, users without deep technical expertise can engage with data meaningfully. This empowers broader teams to extract insights, make informed decisions, and innovate swiftly, ensuring agility and responsiveness in a competitive market landscape.

Alternative solutions – less desirable vs. on-premise solution offered by KeiKai

However, while web-based Software as a Service (SaaS) platforms, such as Google Sheets, offer a practical alternative, they bring forth several compliance challenges. These include concerns around data residency, where financial data may reside in foreign jurisdictions, potentially conflicting with local regulations. Additionally, data privacy issues arise from the shared nature of these platforms, as well as potential latency problems that can affect the performance of real-time analytics and decision-making processes.

Conclusion

ReCAL leads the lending industry with its robust IT infrastructure, microservices approach, and focus on key operational principles, ensuring a reliable and scalable platform.

KeiKai is a cutting-edge web framework designed to simplify the development of high-performance applications. With its modular architecture and extensive library of pre-built components, KeiKai enables developers to create responsive and scalable web solutions efficiently. The framework emphasizes ease of use, flexibility, and maintainability, making it an ideal choice for modern web development projects.