WSO2CON 2025

Visual Flows to Power Programming: The Ballerina Integrator Journey



Hasitha Thilakarathna
Associate Director & Architect
WSO2

The evolving integration landscape


Automation


AI agents


Integration as APIs


Event-based integrations



File-based integrations

Low-code

Point-and-click and drag-and-drop visual tools.

Augmented with scripting for basic customization.

Don’t scale for complex integrations


Developers

Pro-code

Hand-coded development.

Offers maximum flexibility and performance.

Requires time, specialized expertise

What does “Modern Integration” development need?



Photo by Xiaole Tao on Unsplash

- **Ready-made** artifacts and with **powerful tools**.
- Designed for **rapid iteration**, **AI assistance**, and **diverse integrations**.
- Suited for developers of all skill levels.

WSO2 Ballerina Integrator

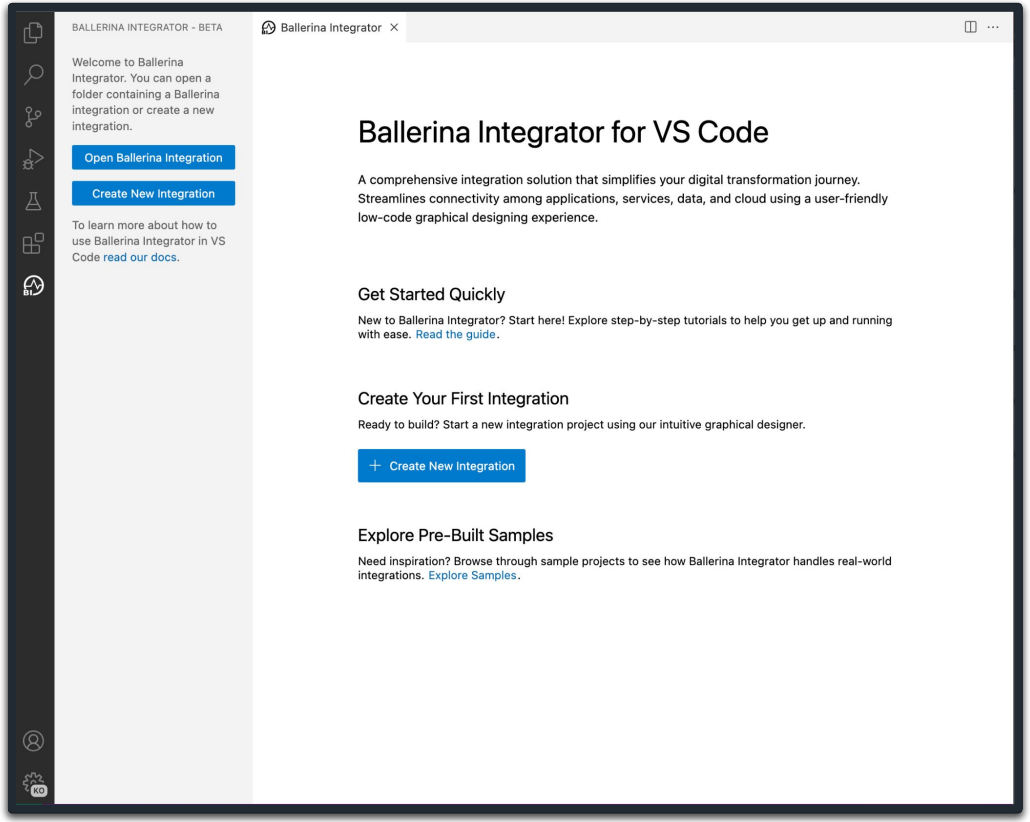
AI powered, low-code integration development environment powered by Ballerina

- **Unique powerful low-code development experience to develop any complex integration.**
- **100 % Open Source**



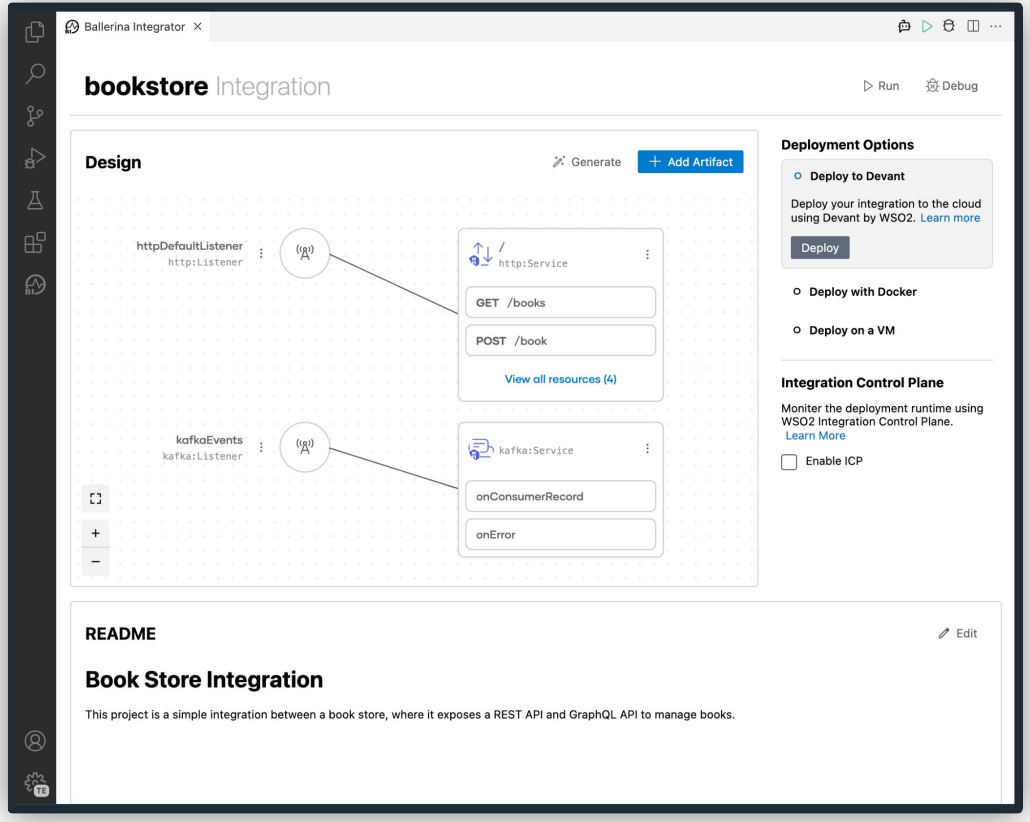
Installation & setup

- Install BI from the VSCode Marketplace
- The plugin checks for the required Ballerina version and installs it automatically.
- Alternatively, install only the Ballerina plugin for a pro-code experience with visualization tools.



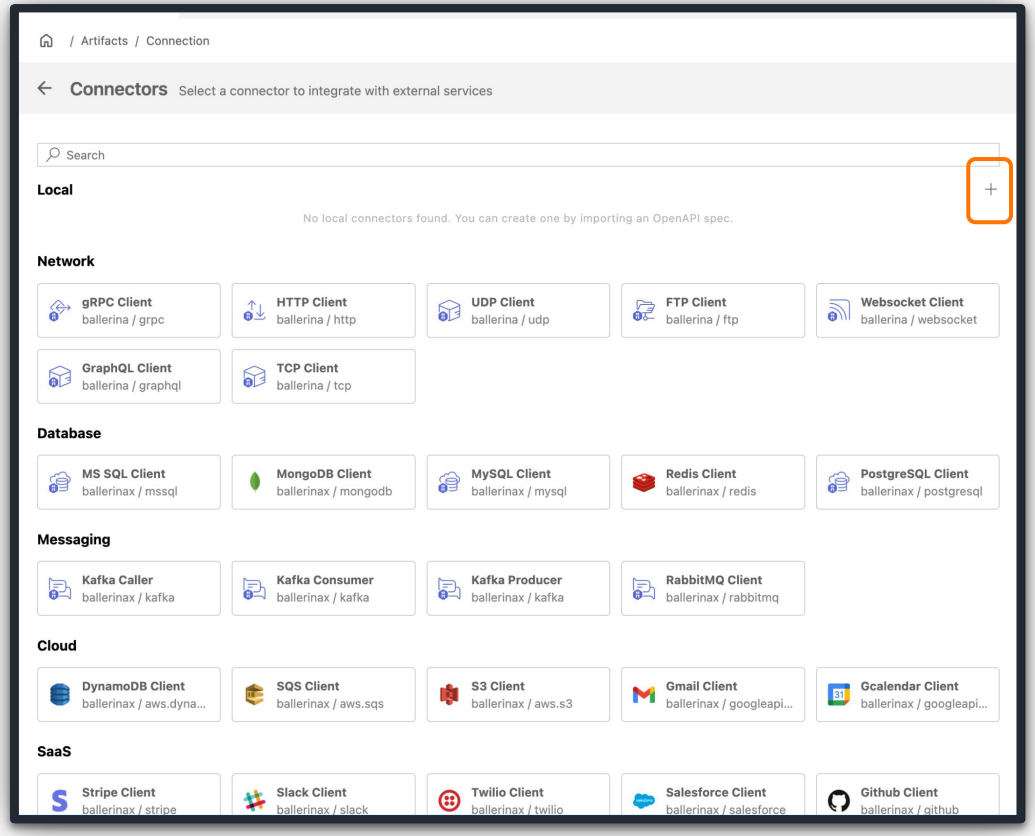
All-in-One integration platform

- Support **diverse integrations** across many environment and protocols
- 100% enterprise integration pattern (EIP) compliance
- Unified development experience



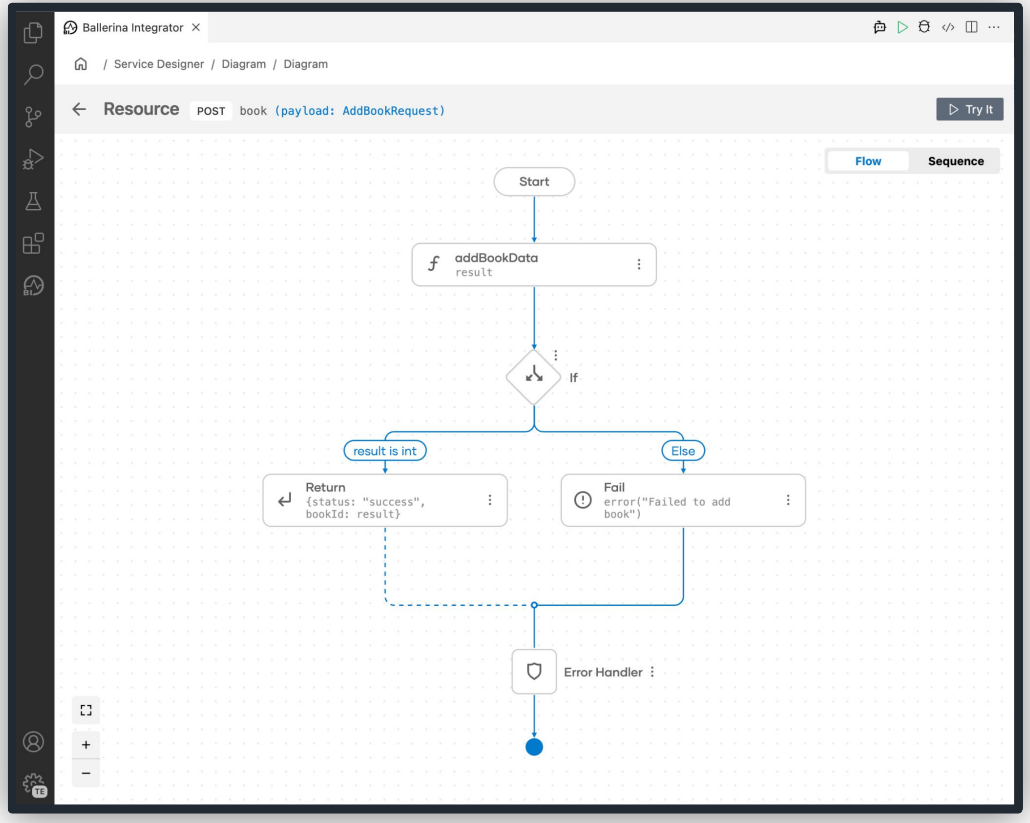
"Batteries Included" integration

- Rapidly develop integrations between well-known systems, cloud services, and more.
- 200+ pre-built connectors
- Distributed through Ballerina Central for easy reuse
- Ability to generate connectors using OpenAPI specification, WSDL



Connecting building blocks

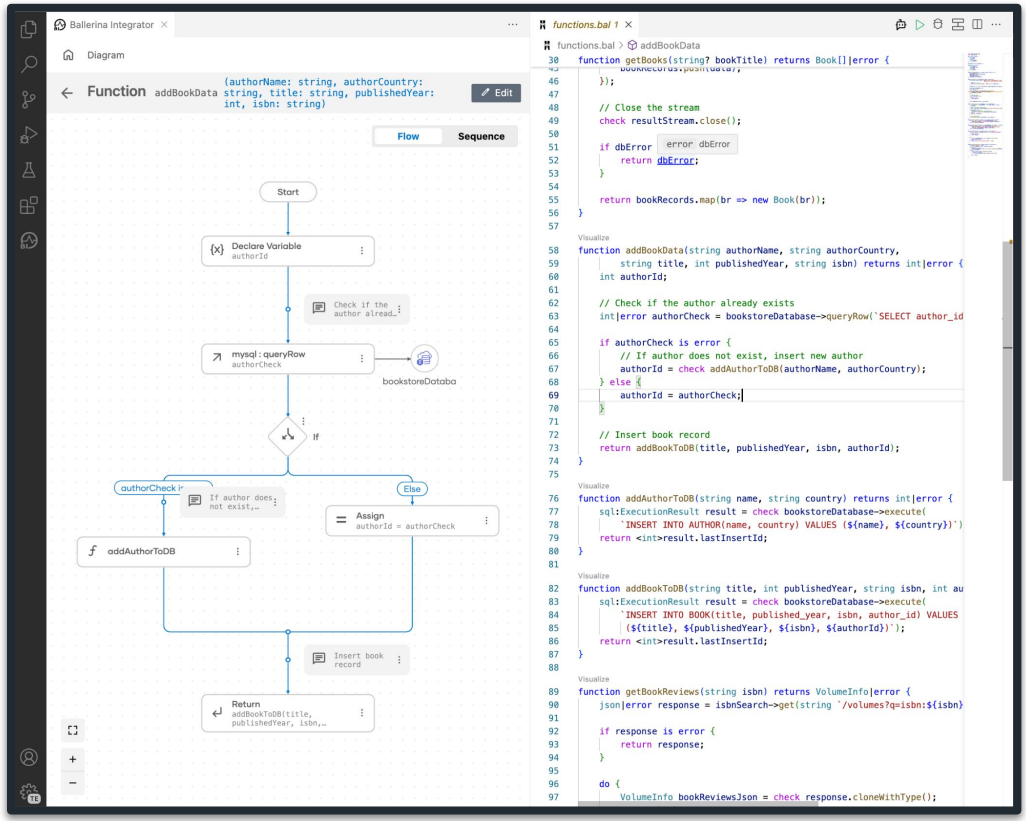
- Click-to-Configure design
- **Panel**
  - Connections
  - Control Statements
  - Call utility functions
- **Variables** to hold data



Unified low-code & pro-code experience

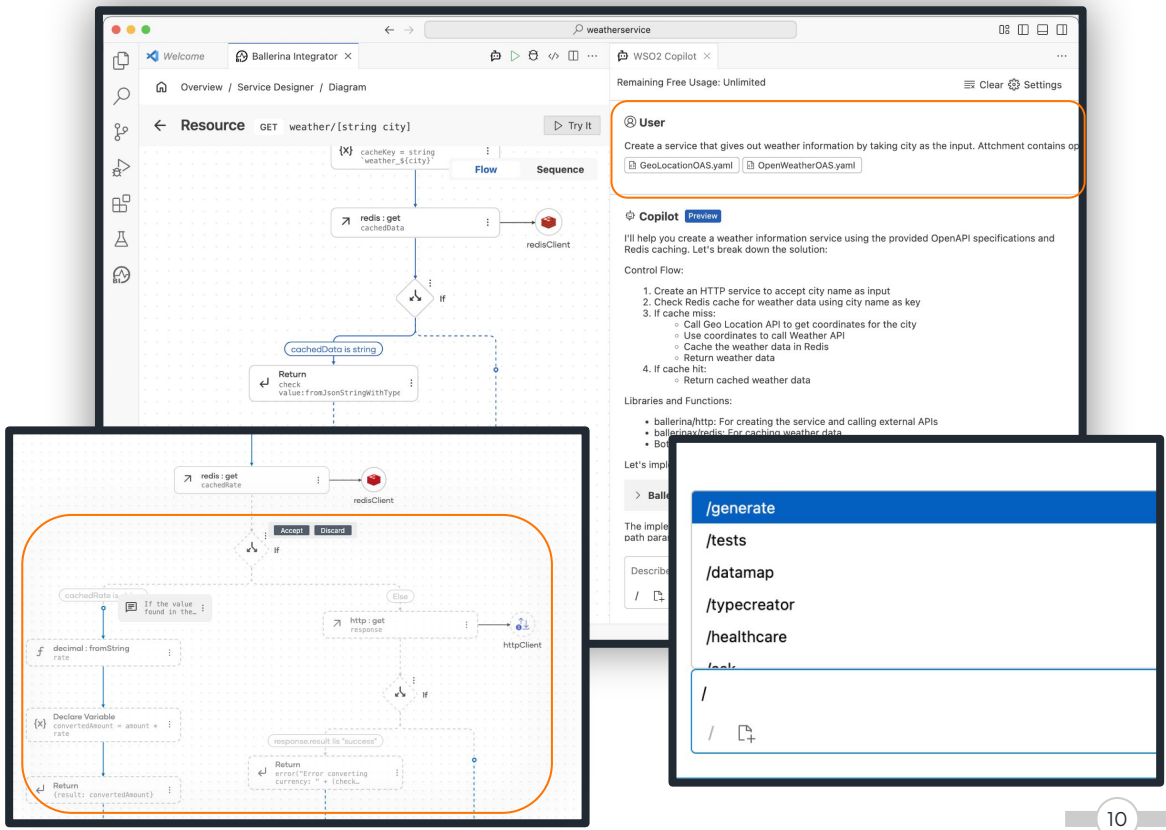
- One development environment for both **visual flows** and **full Ballerina code.**

- Eliminate "**low-code ceiling**" constraints—switch seamlessly to pro-code for complex logic.



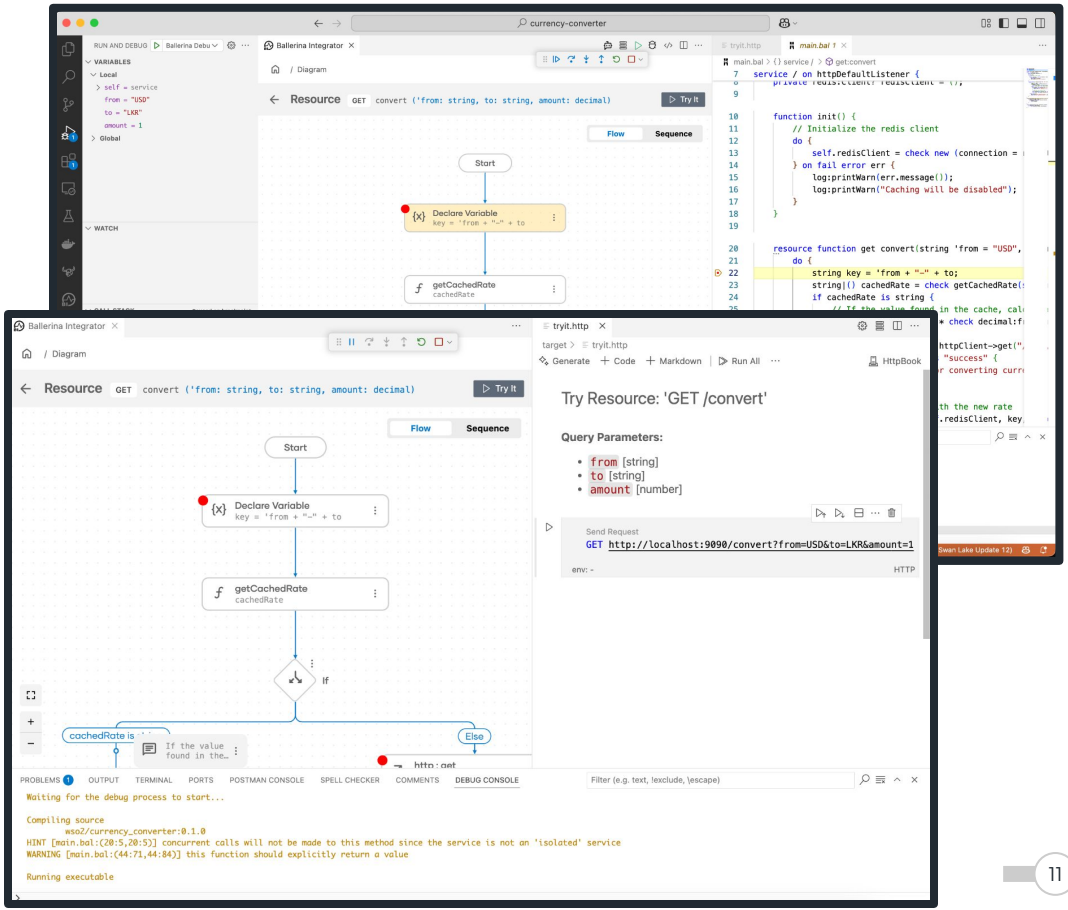
Built-in AI support for integrations

- Describe your integration requirements in natural language, and **have AI generate the code for you**
- **Inline code suggestion** when adding constructs
- Use **chat commands** to get help on a focus area



Simplified debugging and testing

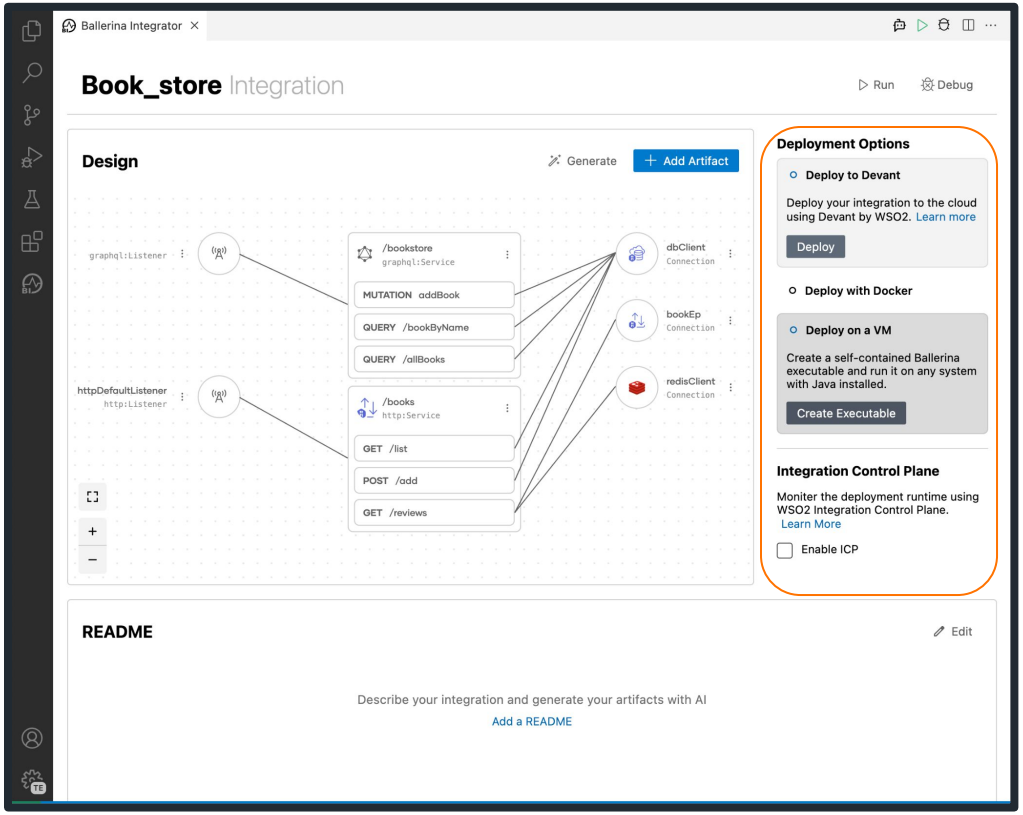
- Side-by-side low-code and pro-code debugging support
- Try network entrypoints in low-code view
- Ask WSO2 Copilot to generate tests for you



Deployment options

- Deploy to
  - Devant
  - Docker
  - Executable

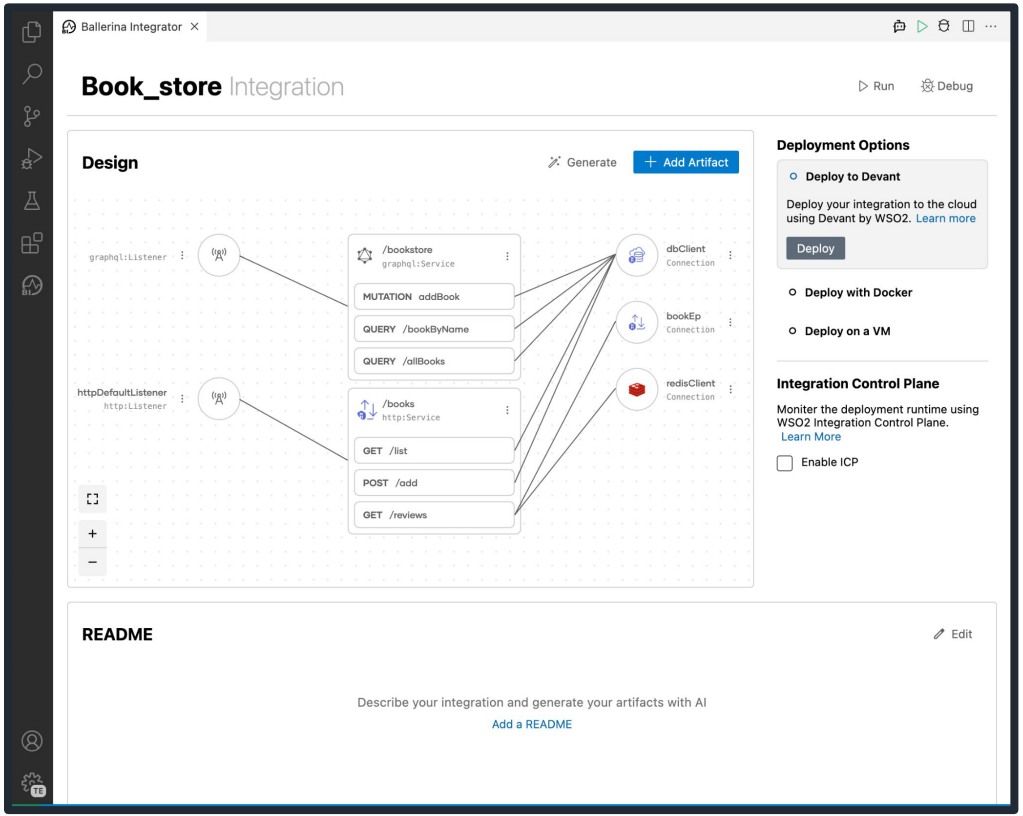
- Single-click WSO2 ICP integration



Visual flows and beyond

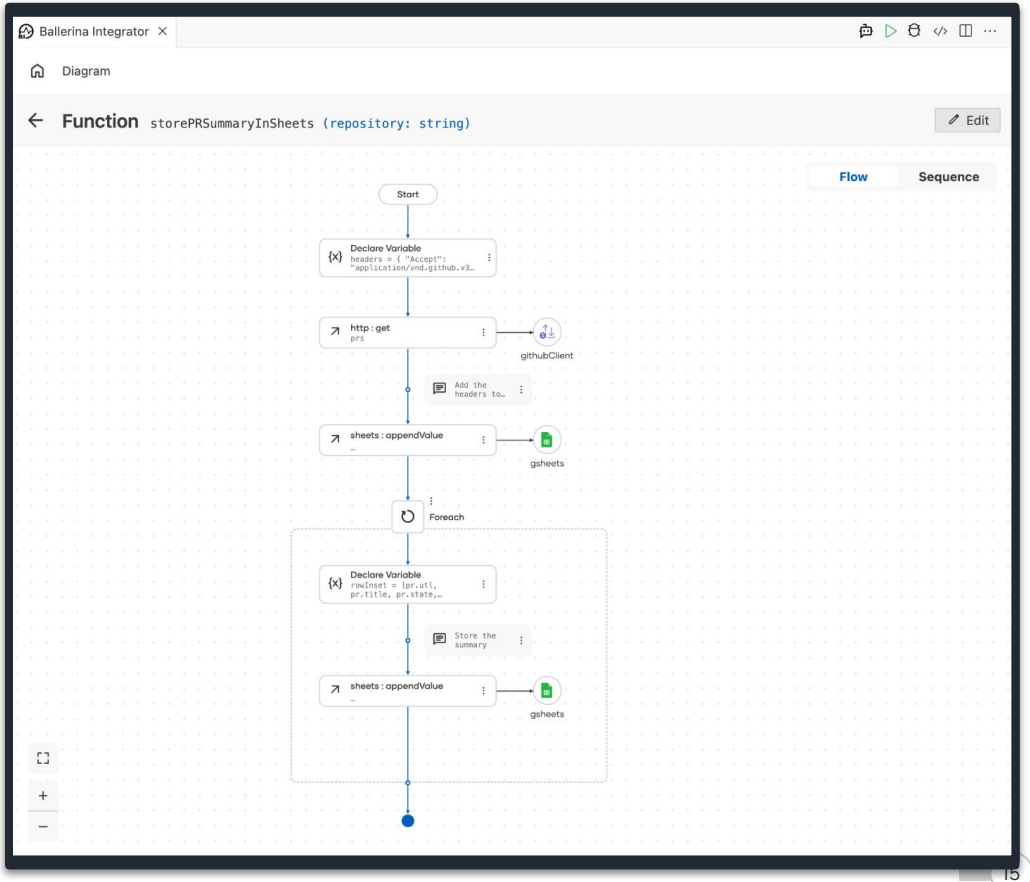
Architecture view

- Shows how artifacts are related and their **data interactions**
- Quick visual navigation

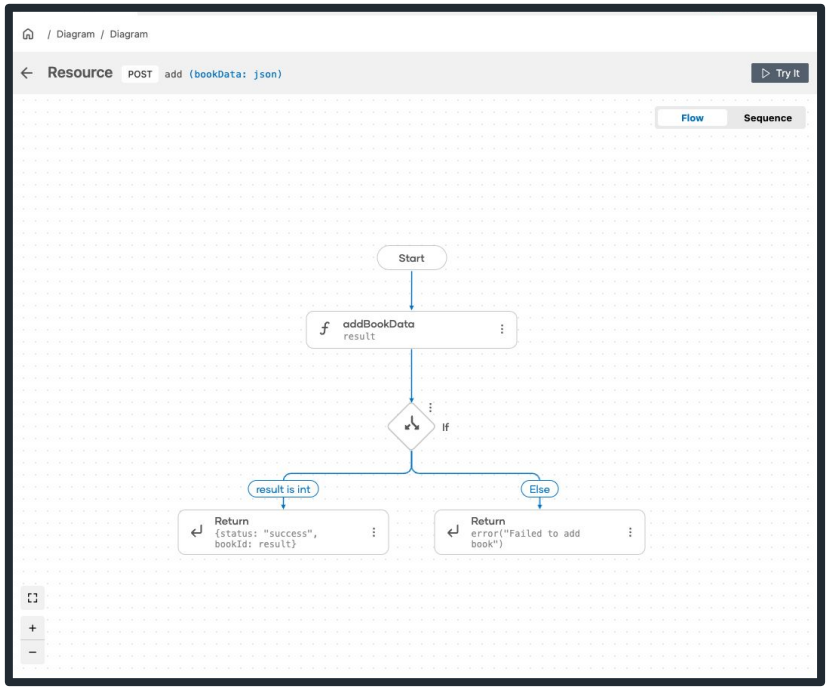


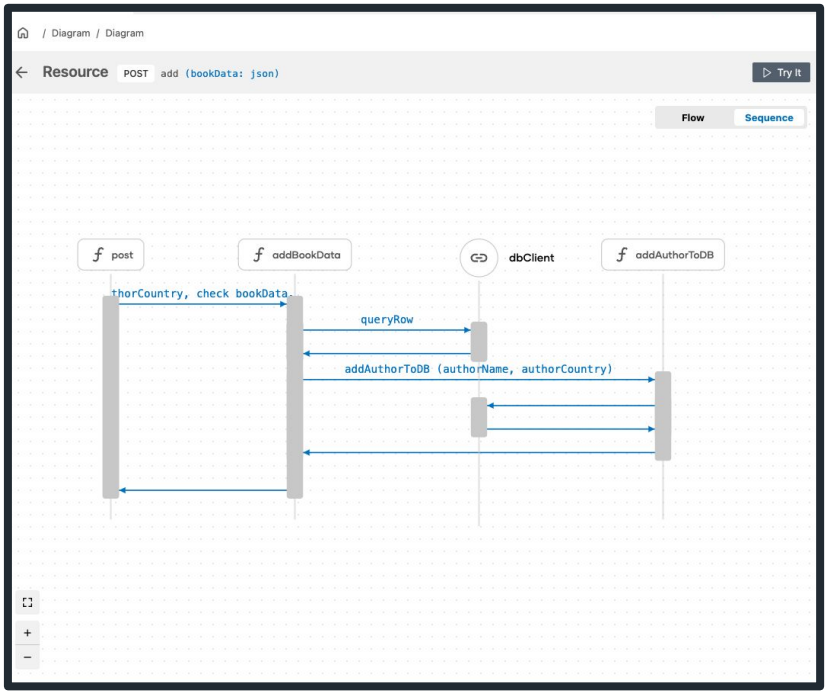
Functions

- Same developer experience, design to be **reused**
- Reduced duplication



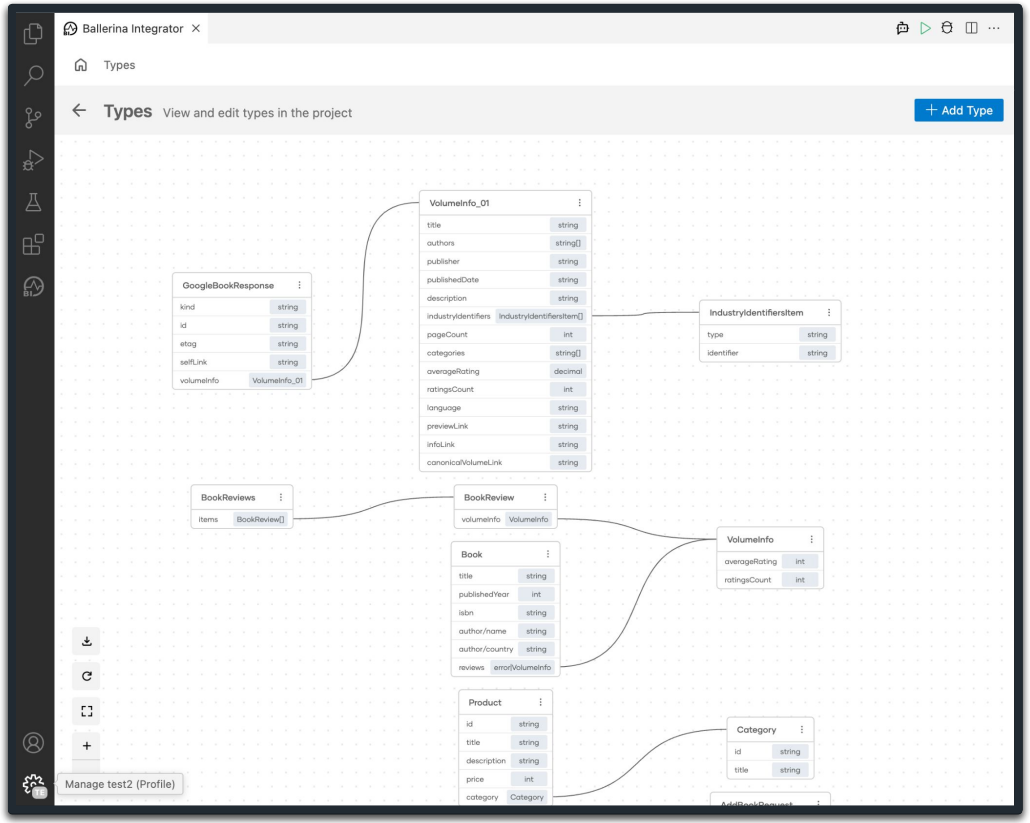
Data interactions



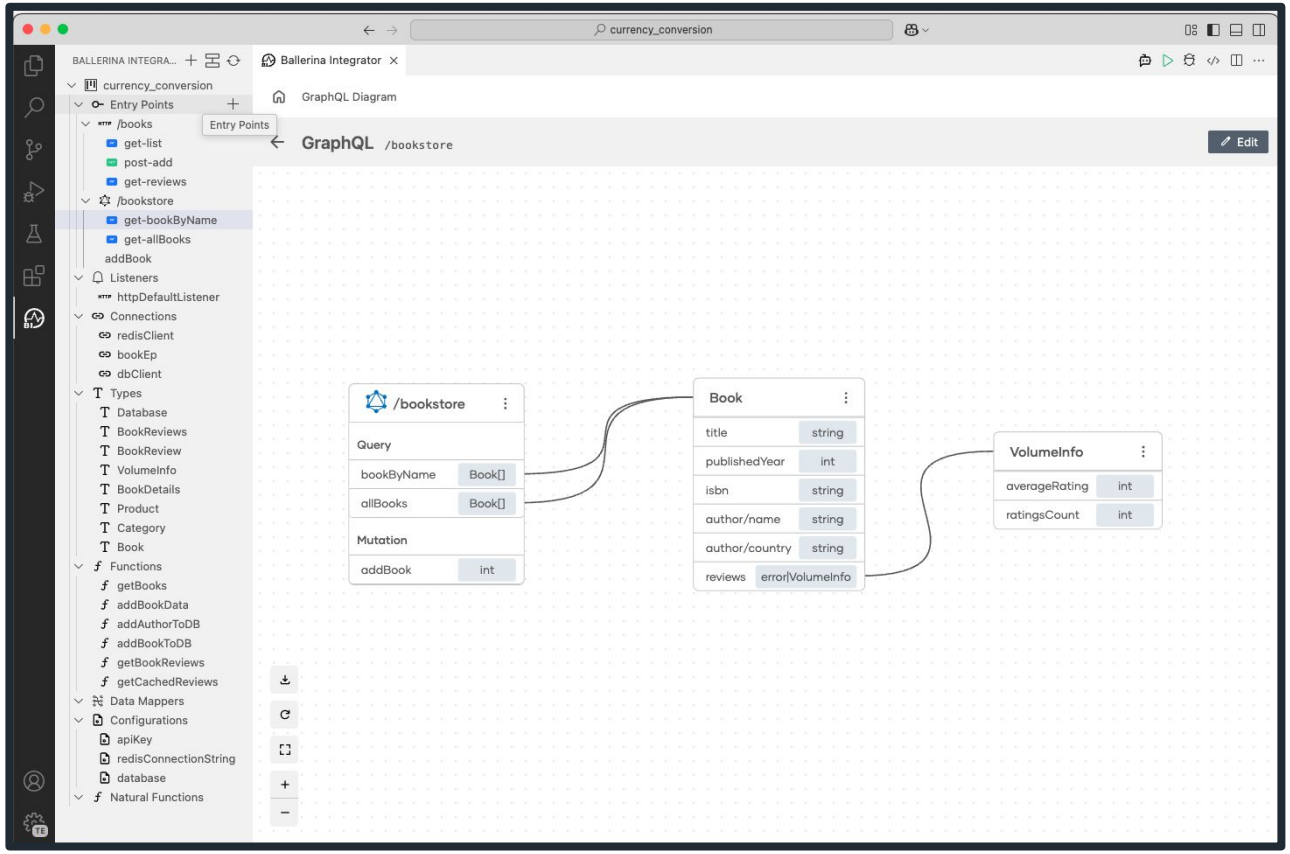


Visualize data

- Protocols like GraphQL and gRPC require **well-defined schemas** for data exchange.
- Allows to work with multiple data formats (**JSON, XML**),
- Define and modify type schemas



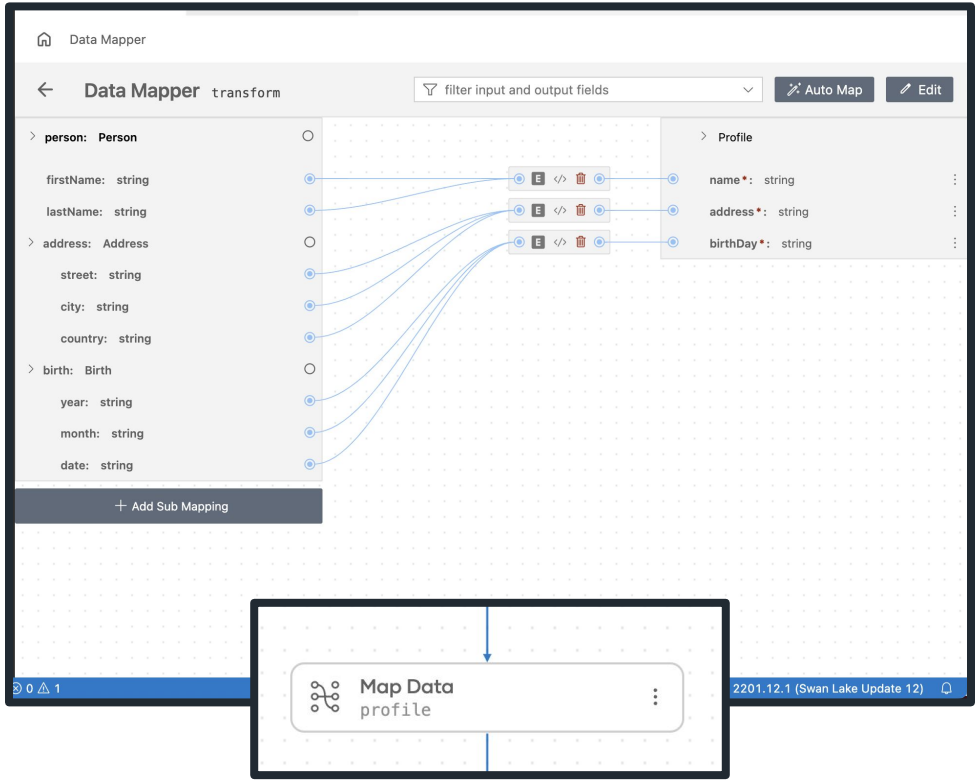
Visualize data – graphQL



Data mapping

- Transform data from any format using a graphical interface or expression format

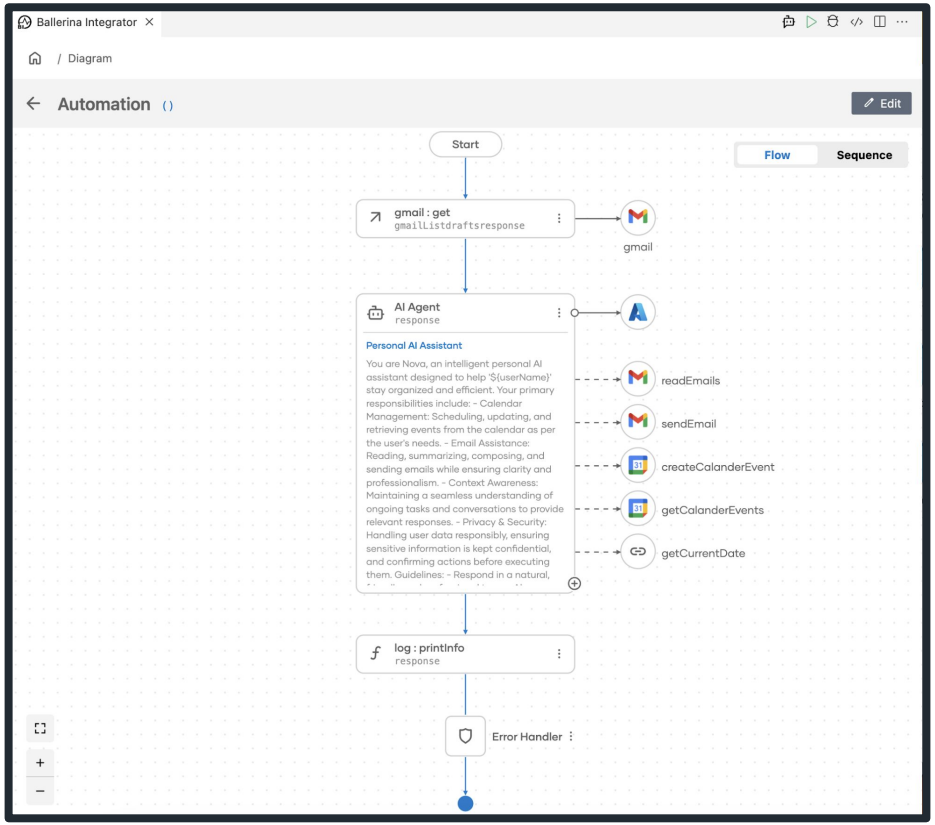
- **Automatically map** data fields between the source and target schemas using AI



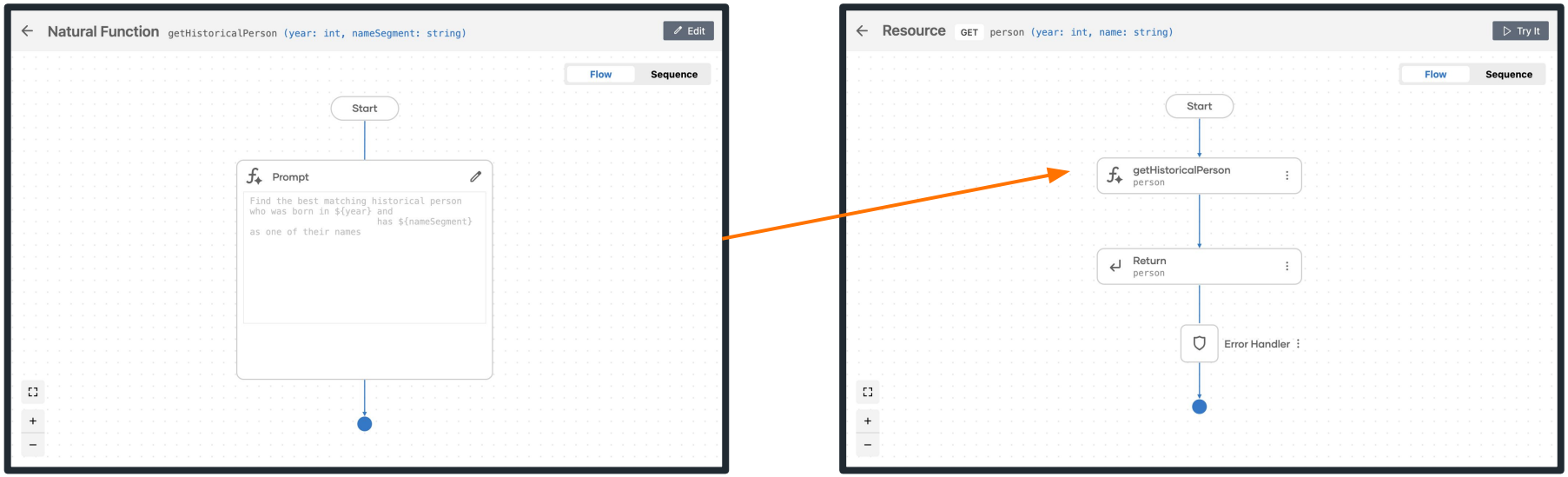
AI-driven intelligent integrations

AI agents

- **Build and manage your own AI Agents** with built-in capabilities
- Works out of the box in the any integration flow.
- Use connections as tools or create your own logic as tools



Natural programming



- A prompt as the code.
- "**Natural Programming**" by Maryam Ziyad - (Thursday, March 20th @ 11 am)

Roadmap & Future Enhancements

Roadmap

- Integration capabilities
  - More event integration capabilities.
  - Scheduled task support
  - Contract first integration (GraphQL, gRPC, AsyncAPI)
  - Enhanced OAS integration for connections
- Testing enhancements
  - multi-protocol try-it feature
  - Enhanced mocking framework
- Ballerina Features
  - Low code support for concurrency and transactional capabilities
  - XSD and JSON-schema based type creation
- AI capabilities
  - More Agentic AI integration support
  - Improved RAG integration support

Question Time!




Thank you!
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