Microsoft Solutions Partner

Tiger Analytics

Tiger Analytics's Assisted Data Modelling

GenAI-Powered Low-Code Data Modeling: Automate, Standardize, and Customize with Ease!

Assisted Data Pipeline Build

Overview

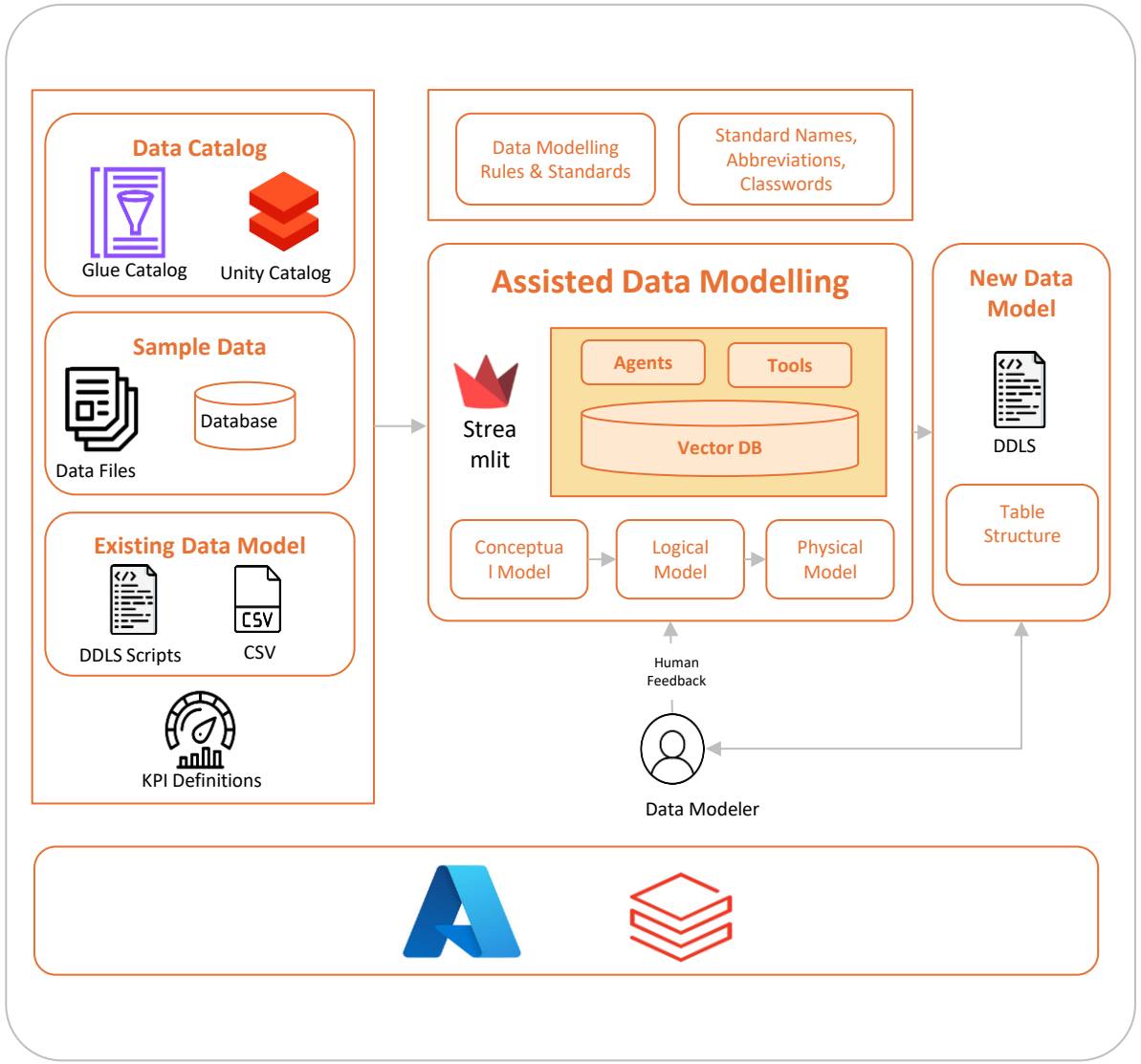
- A GenAI-powered low-code/no-code solution enhances the data modelling process, supporting standardization of existing data models and new development.
- Analyses source data feeds and data dictionaries.
- The solution autonomously develops a logic sequence to adhere to data modelling rules and standards, generating potential target data models to calculate KPIs
- Its modular codebase allows for easy customization according to enterprise-specific data modelling rules, standards, and naming conventions
- Interactive interface to co-build through Data Modelers feedback and refine at each and every step.

Features

- Silver Layer Data Model Generation
- Gold Layer Data Model Generation
- Enhance existing Data Model with new source feeds
- Follow Microsoft IDM while generating the target data model
- Supports SAP Sources

Impact

- Accelerate the data model development cycle by 2x,
- Overcoming development process bottlenecks
- Achieving over 60% productivity gains



Please click on the icon to view the demo DEMO

Assisted Data Modeling

The GenAI Data Modeler tool was leveraged to develop a comprehensive data model for Trade Architecture for one of our clients, integrating multiple data sources with a vast number of attributes. The tool facilitated intelligent schema inference and automated metadata structuring to streamline data integration and organization.

Objective:

1. Develop a **scalable and structured** data model encompassing all Trade Architecture sources.
2. Standardize metadata and attributes while maintaining business relevance.
3. Enable efficient data discovery and governance using AI-driven modeling.
4. Ensure smooth integration with existing data ingestion frameworks.

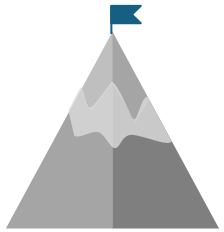
Impact

Data Modeling Stages	Key Impact of Gen-AI Data Modeler
Data Exploration	Source analysis effort is **cut down by around 60%** with automation of potential primary key identification, relationship mapping, and insights Generates column insights, descriptions, and enriched metadata
Conceptual Design	Generates a comprehensive list of conceptual entities and relationships within minutes, allowing effortless additions or removals, **reducing effort by ~60%** assuming some manual refinements by the data modeler to the results generated by the tool
Logical Schema Design	Swiftly generates an entity-wise attribute list and relationships, allowing easy modifications and **reducing effort by ~60%,** assuming some manual refinements by the data modeler
Physical Schema Design	Generates DDLs, STTMs, and partition suggestions within minutes, offering flexibility to rename and regenerate, **cutting effort by ~95%** as only minimal adjustments are needed
ER Diagram Creation	Automatically generates diagrams based on identified entities and relationships, eliminating the need for manual modifications and **reducing effort by 100%**

STTM Automation

Overview

- A GenAI-powered low-code/no-code solution to automate Source to Target mapping between Source and the Target data structure.
- Analyses source data feeds and data dictionaries to understand source data characteristics such as granularity, uniqueness, and statistics.
- Conceptualize the Entities from the source feed and map to the target data model entities and attributes through semantic matching.
- Generate the pseudo logic for the STTM generated.



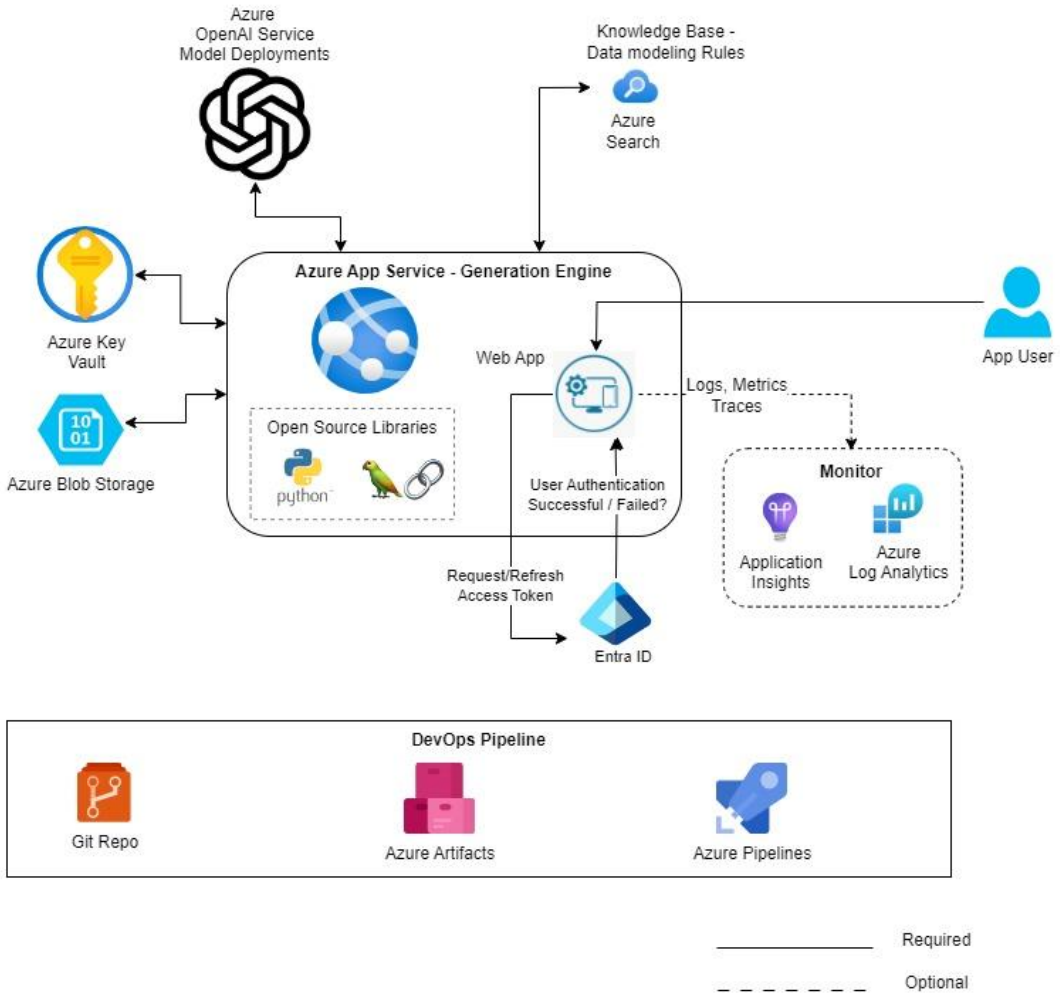
Features

- Reduce communication delays and streamlines development by delivering ready-made insights.
- Automatically create clear, concise business descriptions for all source table attributes, ensuring consistent understanding among stakeholders. Interactive interface to semantically map the source feeds to the target data model, accept human feedback through natural language and make corrections at each step during the generation process.
- Outlining the relationships and transformations between source and target attributes with pseudo logic
- SQL code generation is automated based on completed STTM, streamlining the ETL process and facilitating seamless data migration from the source to the target table.

Impact

- Successfully generated STTMs and automated ETL code, resulting in a substantial reduction in development time.
- Automated ETL Code Generation: The framework automates ETL code generation in Snowflake SQL, significantly streamlining data transformation processes.
- This modernization effort is projected to cut development time by over 60% during migration of 120 ERP site allowing teams to concentrate on higher-value tasks.
- It significantly enhances operational efficiency.

Assisted Data Model – Infra setup - Azure



Services used

- Azure Azure Entra ID provides authentication and single sign-on (SSO) services for managing user identities and access
- Azure Open AI model
- Azure embeddings model
- Azure AI Search/Cosmos DB/Pinecone can be used as vector databases to store and manage data modeling rules
- Azure Dev for CI/CD & code versioning
- Azure Blob Storage is used for storing input files and intermediate files
- Azure Application Insights provides monitoring and diagnostic capabilities for applications
- Azure App Service for hosting the Web app
- Azure Key Vault securely stores API keys and other credentials
- Azure Artifacts manages and stores dependencies for your projects
- Azure Pipelines automates the deployment of code to various environments
- Git is used for version control and storing code