



Archemy™ Showcase Solution

Heterogeneous Data Management Platform

A Solution that Enables Integrated Analysis of Relational and non-Relational Data

Business Context

IoT, Big Data analytics applications demand the ability to integrate data from multiple sources including, in many cases, data streaming into document, graph or other NoSQL databases. Filtering and joining data so that you can perform analytics on a consolidated dataset usually requires that you extract data from one repository and insert it into another, which can be a laborious, error-prone and lengthy process.

Initial State

Users have the need to connect to and operate on data coming from multiple sources in heterogeneous formats. Performing analytics on the data requires ETL processing and considerable resources to accomplish.

Archemy™ Solution

Archemy™ has created a 100% object-oriented solution that provides persistent classes into which data can be loaded and then filtered, joined and served to user interfaces or analytic processes or exported. The solution also provides a GUI through which users can establish connectivity to any data source to which they have privileges and create their own access and presentation objects.

Technology Employed

Tech Types:	TechTech - Enterprise Analytics, Enterprise and Solution Architecture
Web Frameworks:	Eclipse RAP
Modeling/Mapping:	Eclipse EMF, Teneo
ORMs:	Hibernate ORM and OGM
Database Systems:	Any SQL and NoSQL database system

End State

End users of the Heterogenous Database Management Platform are able to create connections and deploy interfaces to multiple data sources with minimal assistance from technical resources. They have a single set of join and query semantics to operate on the data even when it is not supported by the native repository from which it came. The platform also provides APIs, which can be used to support processes that bypass the GUI.

An optional ontology management component and interface has also been developed to reconcile the taxonomies used by various underlying data sources operating on similar data to help standardize access to data and facilitate data analysis.

This platform is now used by Archemy™ to power its ArchNow™ knowledge repository.

As part of a separate RetailTech project, Archemy™ is reusing the platform as a component of a blockchain-powered marketplace platform to run analyses on SQL and NoSQL data sources that lead to targeted sales.

Reusable Components

- Extensible distributed connectivity solution that can connect to any repository via Hibernate as long as compatible drivers are available.
- User-friendly interface with multiple deployment options, including Eclipse RAP, RCP and RAP Mobile
- Choice of infrastructure deployment options on private servers or Cloud (via Docker containers)