

RZT aiOS Development Environment

RZT aiOS offers an intuitive AI development environment that lets you explore data, visually build models, create processing pipelines, provision and troubleshoot engines, run experiments, and view analytics and explanations—without advanced software engineering skills.

The RZT aiOS removes impediments to end-to-end **AI lifecycle management**, and provides you a simple and elegant IDE and SDK to manage all aspects of the lifecycle. RZT aiOS includes the following components:



A Full-Fledged IDE

The IDE includes the following capabilities and features:

- Baked-in pipeline scaling and productionizing on the elastic compute so that you can be a true **Data Scientist**—not a software engineer
 - Support for reusable and repeatable data science blocks of code to maintain standards across your team members within a project or organization
 - Built-in data management for transparency and availability across team members
 - Collaborative, managed Jupyter Notebooks integrated with all proprietary SDKs of RZT aiOS
- [more...](#)



Comprehensive Python SDK

The RZT aiOS Software Development Kit (SDK) is a comprehensive set of tools and frameworks that provide capabilities ranging from creating distributed Pipelines to managing projects and execution Engines. The comprehensive Python SDK is accessible from a built-in Jupyter notebook that provides all the functionality that the IDE provides.

Blocks and Pipelines are a high-level framework for composing complex computation flows capable of executing in a scalable, distributed manner:

- A single pipeline that can contain blocks as diverse as ones that execute on a Spark cluster to ones that perform DL training on GPUs
 - Live visualization of pipelines and DL models during development and execution
 - Live performance monitoring and reporting
 - No restrictions on usage of existing open source libraries (Spark, Tensorflow, Keras, PyTorch, Pandas)
- [more...](#)



Robust Engine

The RazorThink engines are capable of running workloads initiated by the IDE or through external sources:

- The engine is a smart system that manages a group of slaves or hardware resources of your choice
- Engine integrated to your IDE is responsible for executing all your pipelines
- Engine supports scheduling of pipelines based on user requirements
- Engine is smart and automated, and manages the following for you:
 - Effective use of resources for pipeline execution without intervention
 - Auto-scaling of pipeline runs based on available resources and the need of each block
 - Auto-calculation of approximate time and resources required to run blocks and pipelines
 - Management of queue of all pipelines with various priorities submitted for execution
 - Transparent and live reporting of usage and pipeline or block failures
- The convenience of a deployed pipeline as a ready-to-use REST API to integrate into your required application

RZT aiOS Modular Architecture

Unification is one of the reasons why RZT aiOS is among the best artificial intelligence software on the market today. This operating system keeps all of your artificial intelligence technology, processes, and infrastructure in one place. Our convenient modular architecture makes it easy for you to find what you're looking for at every stage of development. The components of our operating system include:



Model Lifecycle Manager

The RZT Model Lifecycle Manager (MLM) is a repository to store all your trained ML and DL models. The MLM is integrated with the Engine, Log, and Metric servers, ensuring it captures all the necessary meta-information such as input/output data to the model, model parameters, model metrics, and logs. [more...](#)



Metrics Server

The Metrics Server is a central store for all metrics coming out of executed pipelines, and is built to scale based on expected load. The Metrics Server includes pre-built graphs and charts to visualize (for example) the model metrics, and all pre-built visualizations can be directly used by a user in a block. Adding new visualizations is straightforward when a simple template is followed. [more...](#)



Log Server

The Log Server is a central store for all logs generated on RZT aiOS and is built to scale based on expected load. It captures a wide variety of logs to monitor the following:

- Engine and slave resources health
- Pipeline and Block execution
- RZT aiOS system health
- All the way to custom debug statements in a custom Block create by you

The Log Server comes pre-built with different log tags such as Debug, Info, and Warning, which users can use in their Block code.

The RZT aiOS Development Lifecycle

Creating value with the RZT aiOS

RazorThink guides you through each stage of the AI development lifecycle.

