

MindSphere Integrated Data Lake

Benefits

- Collect data across industrial assets and backend systems
- Collect and aggregate different types of data – structured, semi-structured, unstructured
- Work with preferred big-data tools from cloud service providers
- Secure access to data and configurable access for users
- Seamlessly integrate with existing cloud solutions and MindSphere offerings

Features

- Store a variety of data types
- Data pooling for analytical applications
- Manage and organize data lake
- Data privacy and secured sharing controls
- Ability to tag items in data lakes

Gain insights and efficiency from broader sets of data

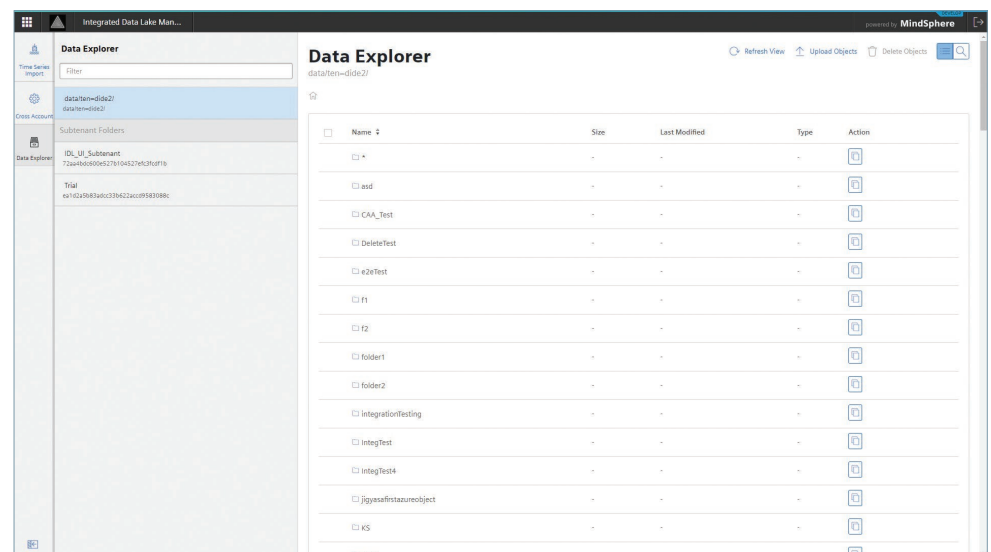
Summary

Integrated Data Lake is a MindSphere® Industrial IoT as a service solution that makes it easy to set up data collection in the cloud for your industrial assets and backend systems. It enables the user to get value out of their industrial data faster. MindSphere is designed to use advanced analytics and artificial intelligence (AI) to power Internet of Things (IoT) solutions from the edge to the cloud.

Current challenges

Industrial data is often siloed across systems throughout an enterprise. This frequently leads to missing information and potential insights that can slow down or impede complex processes. To overcome this, customers typically need to devote resources to managing and integrating infrastructure rather than focusing on their core business.

As a result, businesses face delays, complex technology stacks and high total cost of ownership. Using Integrated Data Lake removes complexity and barriers by enabling businesses to realize the full



MindSphere Integrated Data Lake

benefits of digitalization with flexibility. Import and store the preferred type of data as objects. Break down data silos and consolidate structured, semi-structured and unstructured (for example, videos, images) data in Integrated Data Lake.

Perform object and metadata operations

Integrated Data Lake provides you with an interface to generate signed URLs, which you can use to upload and download objects with a maximum of five gigabytes (GB). A user may upload a single object using a signed URL or an array of a maximum of 30 objects. It also provides an interface to delete the objects.

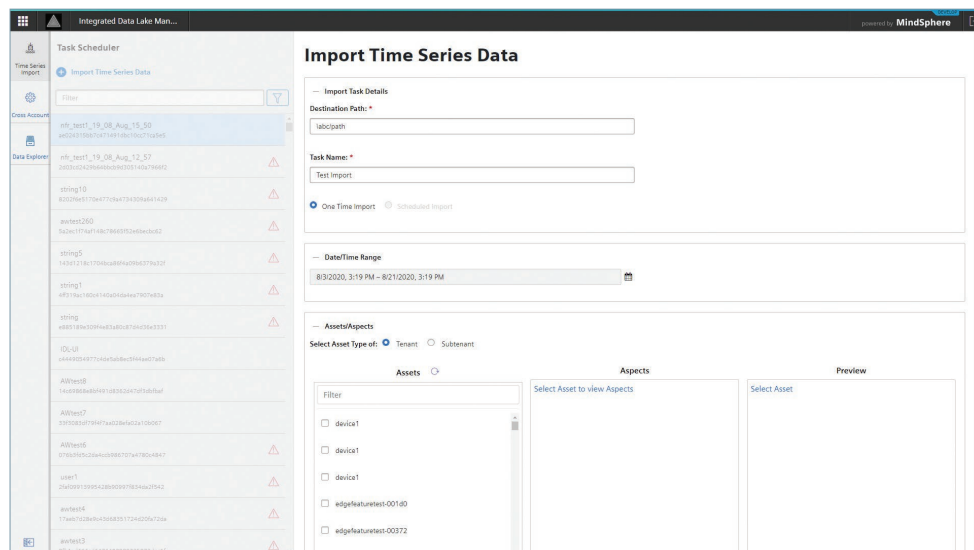
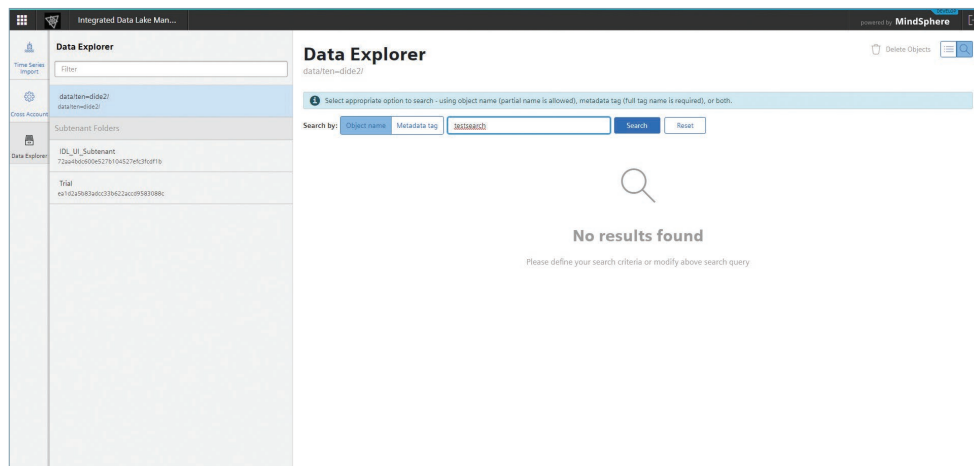
Associate metadata tags to objects with the Integrated Data Lake interface. A single object can have up to eight tags. These tags can be added or updated when required. A user can also get the metadata associated with the object using a single application programming interface (API) call.

Subscribe to notifications

Tenants can choose to be notified about events in case they add, update or delete the objects stored in Integrated Data Lake. It provides you with an interface to create, list, update and delete event subscriptions.

Import, parse and manage data

Perform seamless operations like upload, download and delete objects via Data Explorer. Track status of objects being uploaded and copy the path of stored objects with a single click. Support is provided for viewing business and operational metadata.



Easily locate your data within the Integrated Data Lake with in-built support for searching data using object name or metadata associated with the object.

The time series import feature allows users to import their time series data into

the Integrated Data Lake. Upon completing a request, the data stored in time series cold storage is moved to the bucket in the data lake. This allows users to analyze the time series data alongside their enterprise data.

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Integrated Data Lake

Integrated Data Lake	Essential	Standard	Enterprise
Maximum volume of data read (per month)	10 GB	50 GB	100 GB
Maximum volume of data write (per month)	10 GB	50 GB	100 GB
Maximum number of read operations (per month)	100,000	300,000	500,000
Maximum number of write operations (per month)	100,000	300,000	500,000
Maximum volume of data search operations (per month)	10,000	50,000	100,000
Total number of objects stored (one time)	1,200,000	3,600,000	6,000,000
Maximum data storage (one time)	120 GB	600 GB	1,200 GB

MindSphere

MindSphere, which is part of Xcelerator, the comprehensive and integrated portfolio of software and services from Siemens Digital Industries Software, is a leading industrial IoT as a service solution. MindSphere powers IoT solutions from the edge to the cloud with advanced analytics and AI to connect and analyze

data from connected products, plants and systems to optimize operations, create better products and enable new business models. MindSphere is built on Mendix and enables the Siemens organization, its global partner ecosystem and customers to quickly build and integrate personalized IoT applications.

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