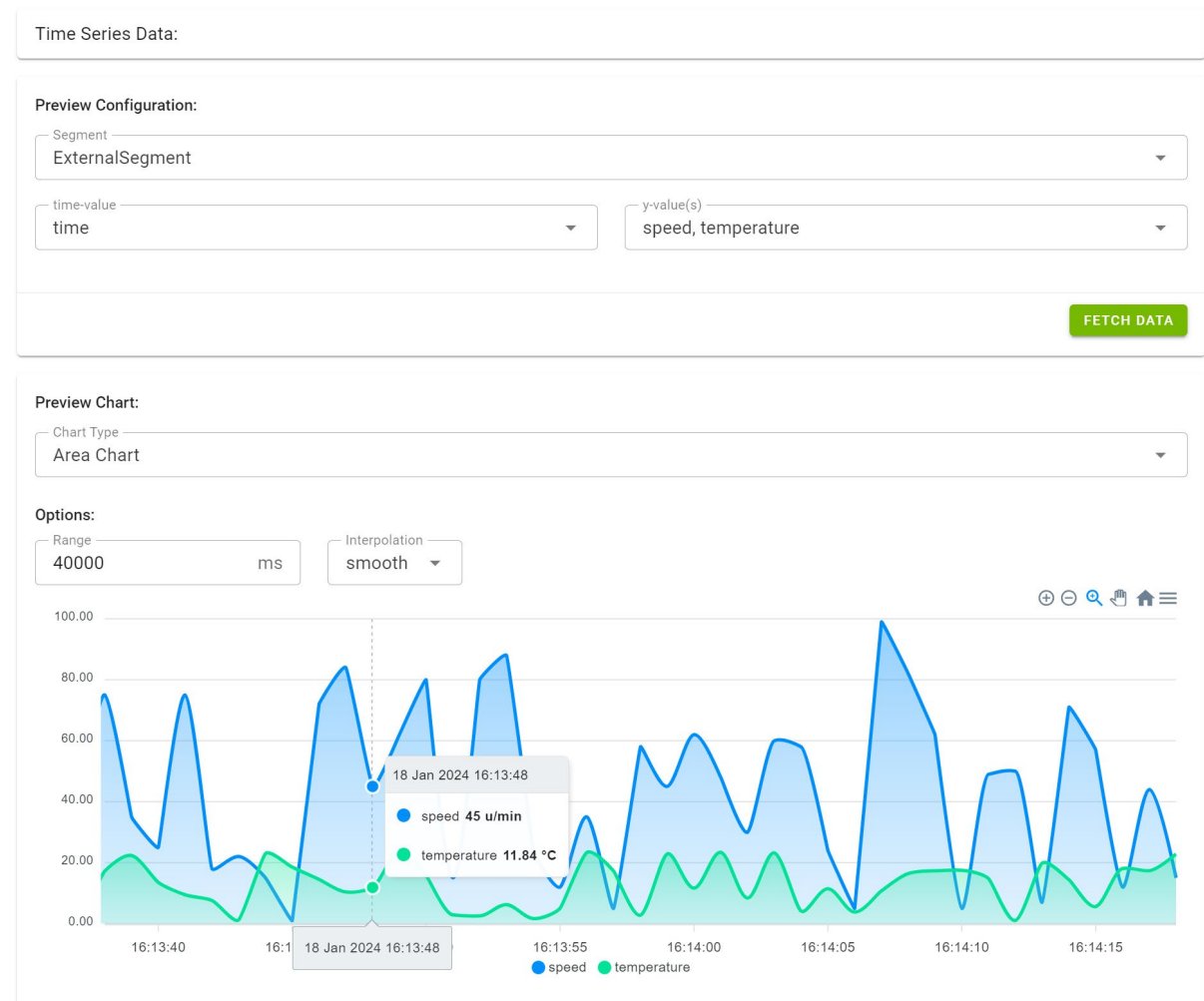# Changelog BaSyx AAS Web UI (25.01.2024)

1. Plugin for Time Series Data Submodel

The BaSyx AAS Web UI now has a brand-new plugin to visualize time series data following the specification for the submodel template provided by the IDTA. This includes the following time series data sources:

- InternalSegment: Time series data saved in the AAS itself.
- ExternalSegment: Time series data from an external csv file provided through the AAS.
- LinkedSegment: Time series data from a time series database (InfluxDB).

There are multiple chart options to choose from:
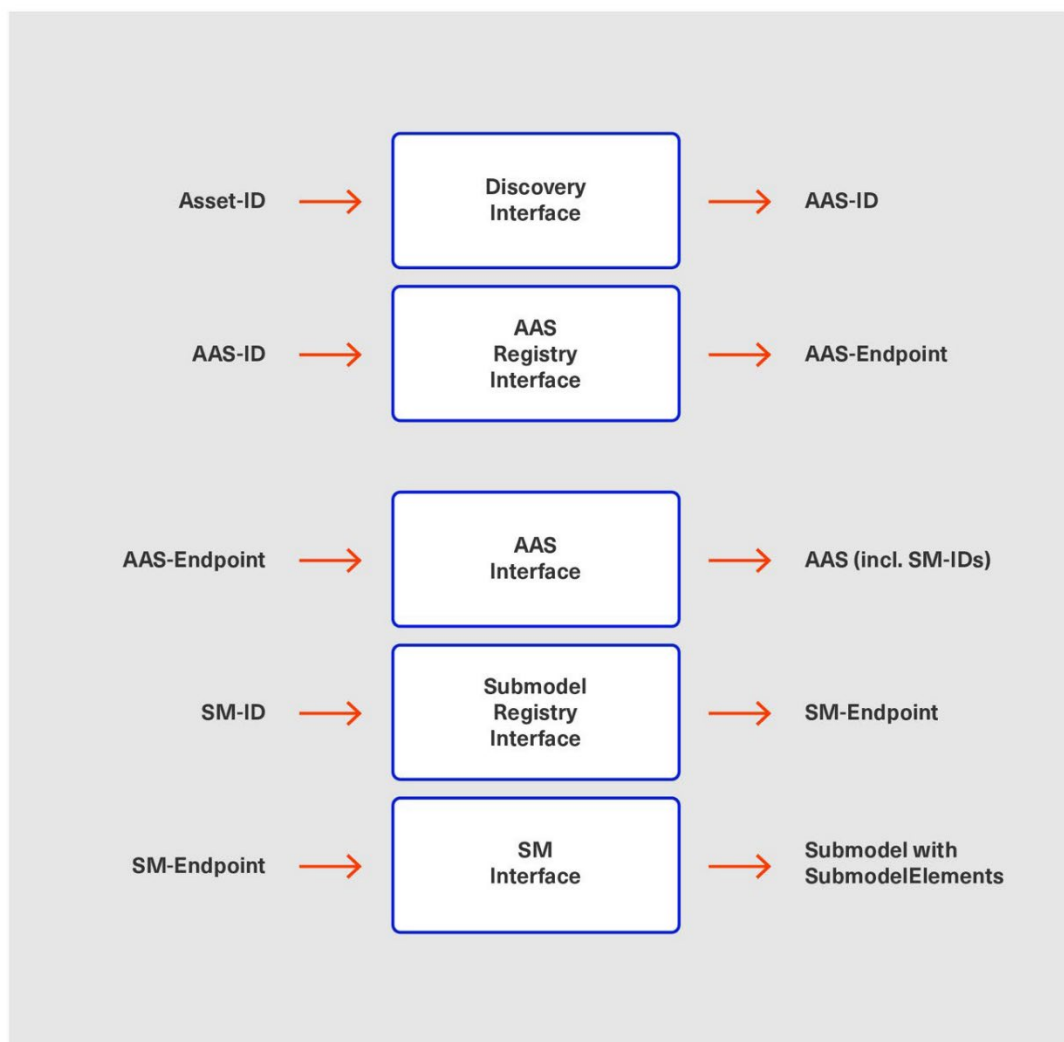
- Line
- Area
- Scatter
- Histogram
- Gauge

A comprehensive example for the use of this plugin can be found here: https://github.com/eclipse-basyx/basyx-applications/tree/main/aas-gui/examples/TimeSeriesData

2. Improved Operation SubmodelElement

The Operation SubmodelElement now supports all SubmodelElements as OperationVariables. This includes dedicated components for viewing and editing Property-OperationVariables and ReferenceElement-OperationVariables. All Other SubmodelElement-OperationVariables are currently visualized as JSON-String and can be altered through an input field.

3. Integration of the Submodel Registry

The AAS Web UI now also integrates the Submodel Registry. This means that Submodels can now be fetched from decentralized Submodel Repositories and Submodel Services. The implementation follows the flow provided by the IDTA (excluding the AAS Discovery Service for now).

Input	Interface	Output
Asset-ID →	Discovery Interface	→ AAS-ID
AAS-ID →	AAS Registry Interface	→ AAS-Endpoint
AAS-Endpoint →	AAS Interface	→ AAS (incl. SM-IDs)
SM-ID →	Submodel Registry Interface	→ SM-Endpoint
SM-Endpoint →	SM Interface	→ Submodel with SubmodelElements

4. Bug fixes and minor updates

- Improved component imports for better deployment in cloud architectures
- Improved code redundancies be centralizing some common methods
- Updated some dependencies to newer versions