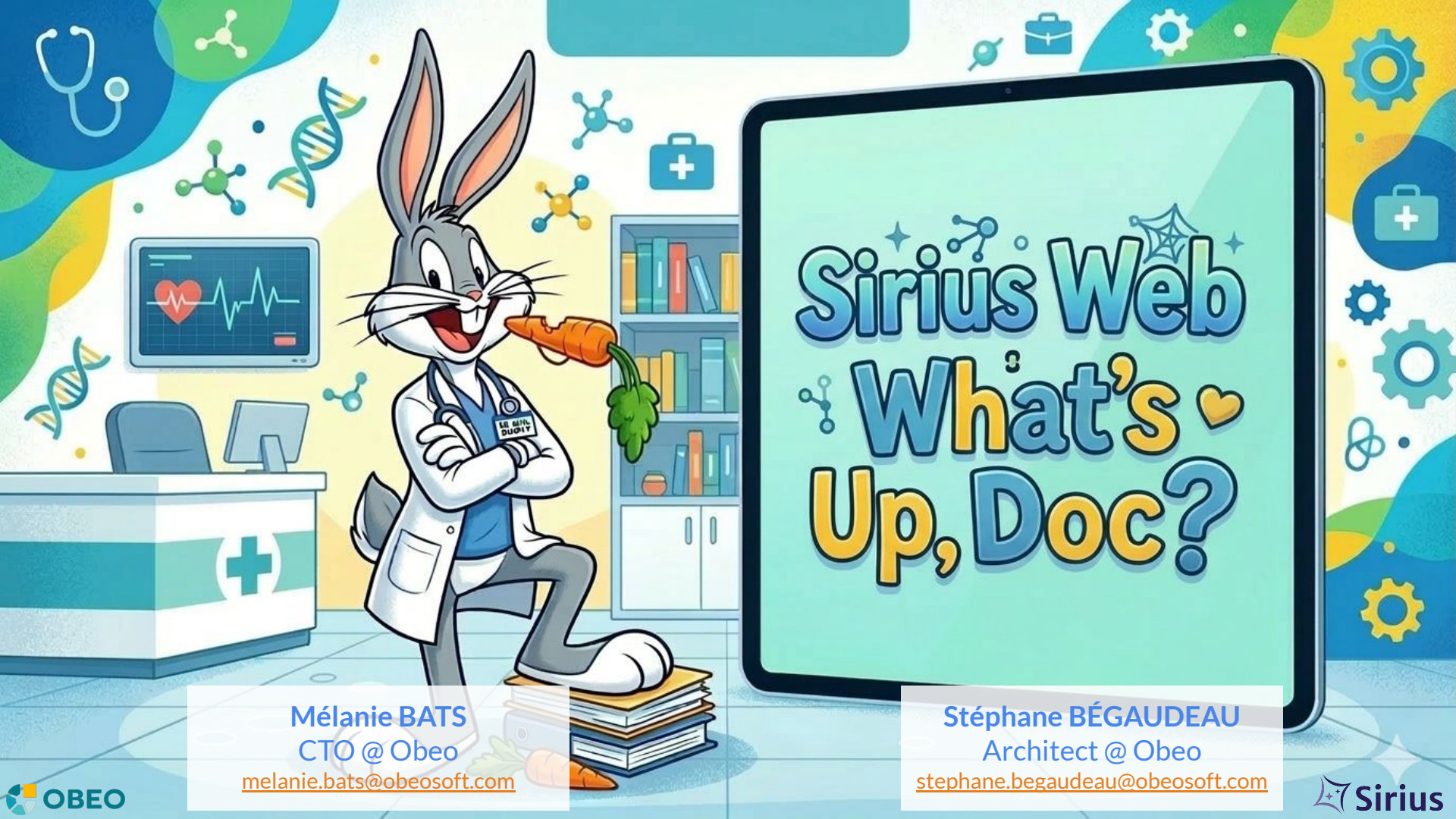

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Sirius

The Sirius Project

Open Source Framework: An Eclipse Foundation project for creating domain-specific graphical editors.

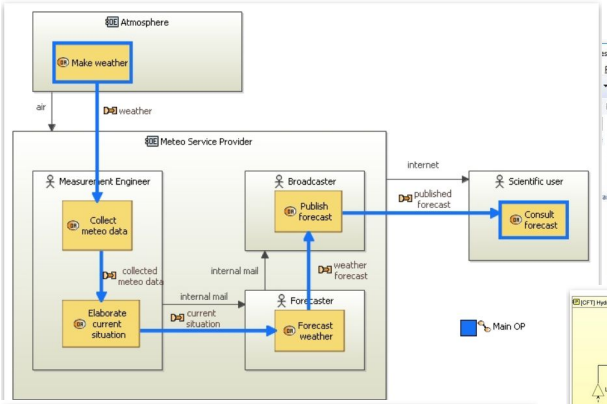
Visual: Focuses on mapping business data to visual representations.

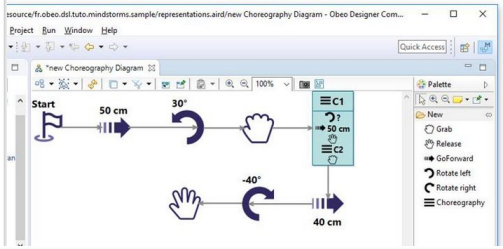
Established Foundation: Over 15 years of use in complex engineering environments.

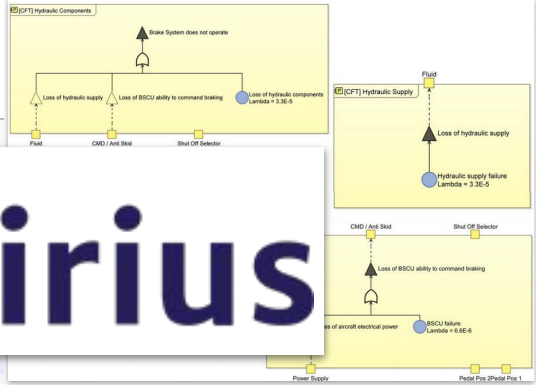
Core Principle: Allows tool creators to focus on domain logic rather than low-level graphical programming.

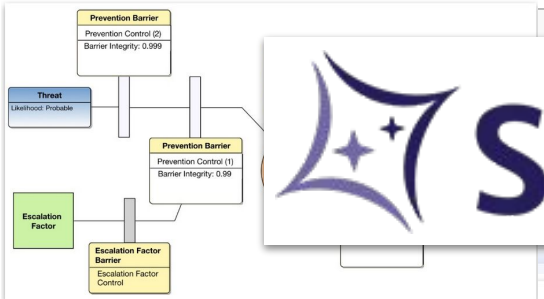
Your Model + Your Rules =

Your Workbench

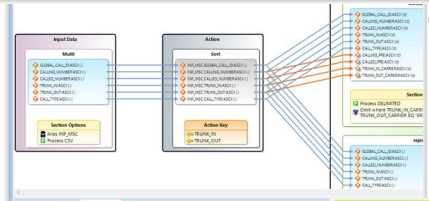


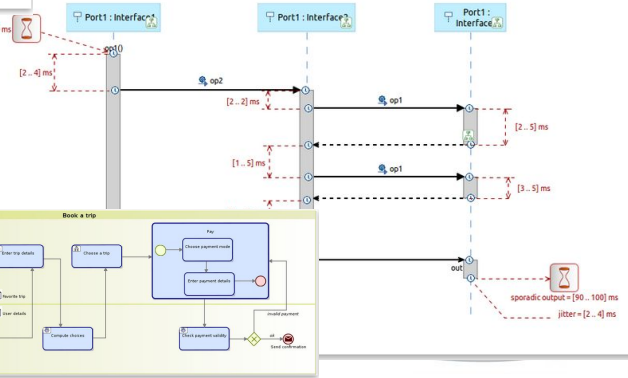


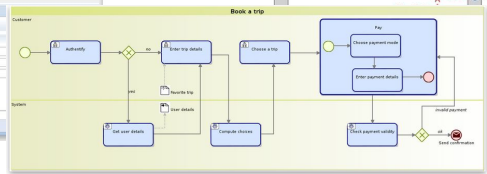




Sirius







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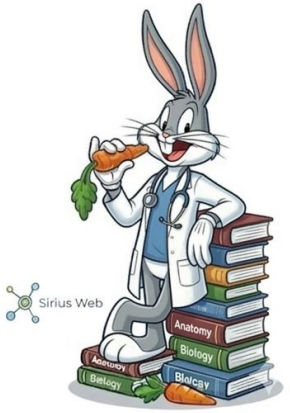
Why Sirius Web ?

Evolution to a Web-Based Environment

- **Simplified Access:** No local installation or environment configuration required for end-users.
- **Centralized Deployment:** Updates and configurations are managed on the server side.
- **Cross-Platform Compatibility:** Works via standard web browsers.
- **Ecosystem Integration:** Easier connection with modern web-based ALM, PLM, and CI/CD pipelines.

Sirius Web: Architecture and Approach

- **Tech Stack**: Java/Spring Boot backend with a React-based frontend.
- **Declarative Setup**: Tools are defined using a View DSL, reducing the need for manual UI coding.
- **Standardized Data**: Maintains compatibility with EMF (Eclipse Modeling Framework) data structures.
- **Open Foundation**: Developed as an open-source project to ensure transparency and extensibility.



A lot happened since late 2024

v2026.1.5
18 hours ago

v2026.1.4
last week

v2026.1.3
3 weeks ago

v2026.1.2
on Feb 8

v2026.1.1
on Jan 28

v2026.1.0
on Jan 27

v2025.12.6
on Jan 22

v2025.12.5
on Jan 16

v2025.12.4
on Jan 12

v2025.12.3
on Jan 11

Very active project:
+ 30 committers
~ 35 commits integrated per release
~ 1 pre-releases per week

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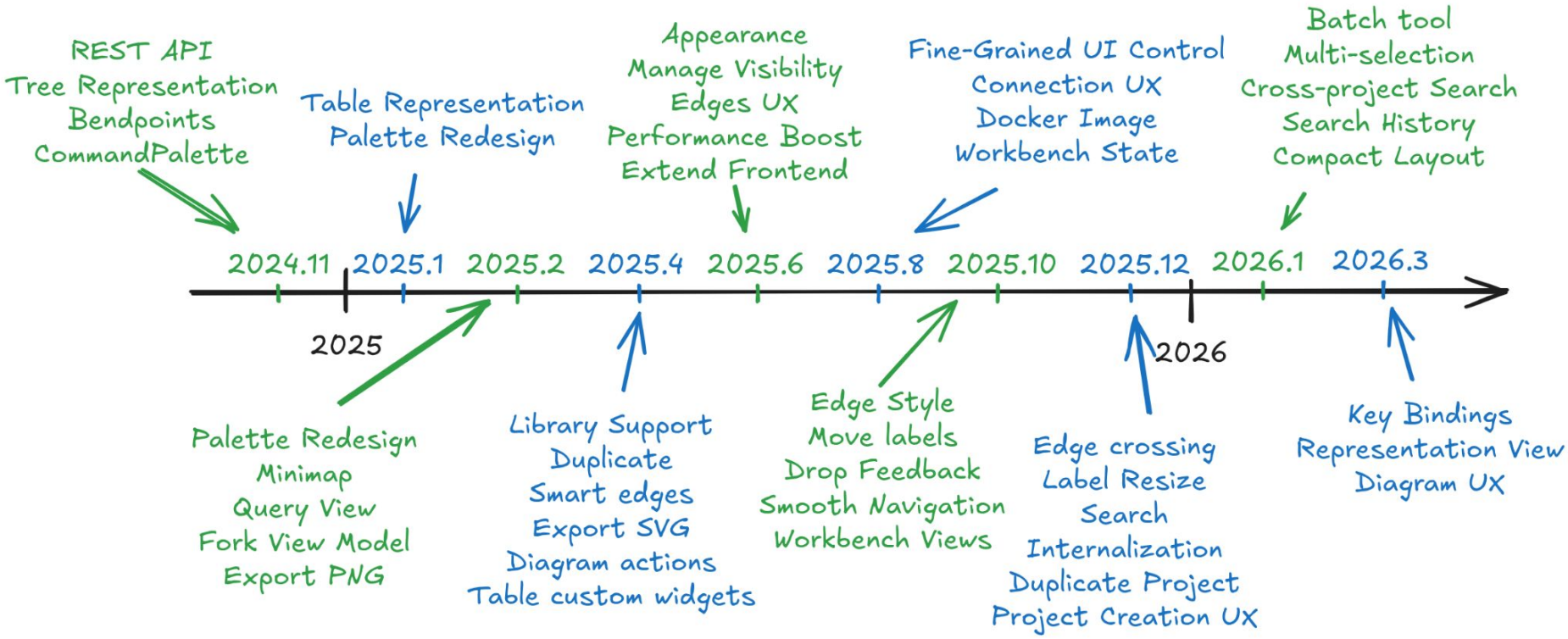
Sirius

A lot happened since late 2024



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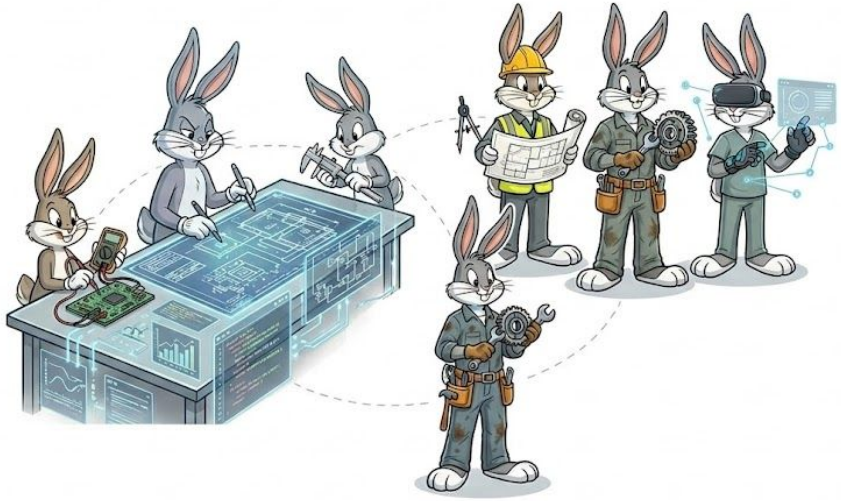
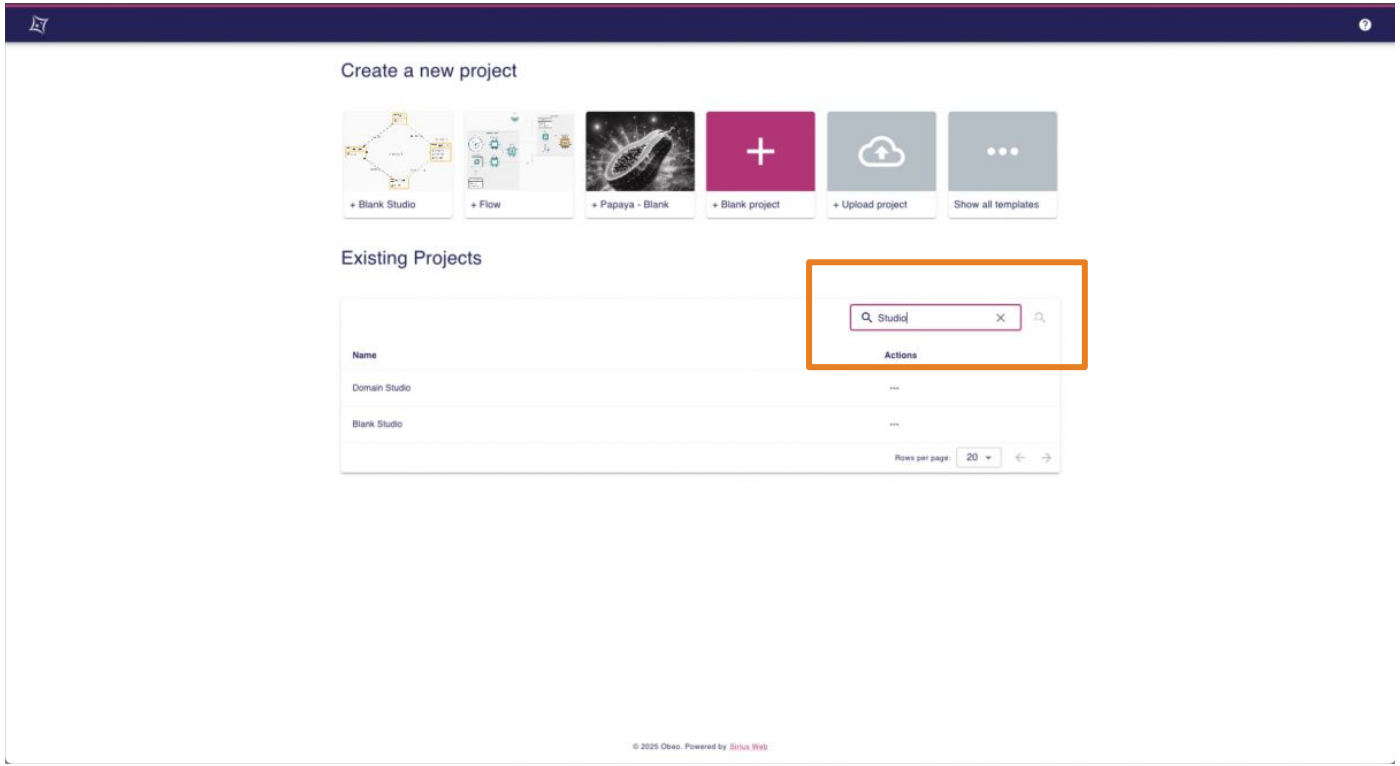
Sirius



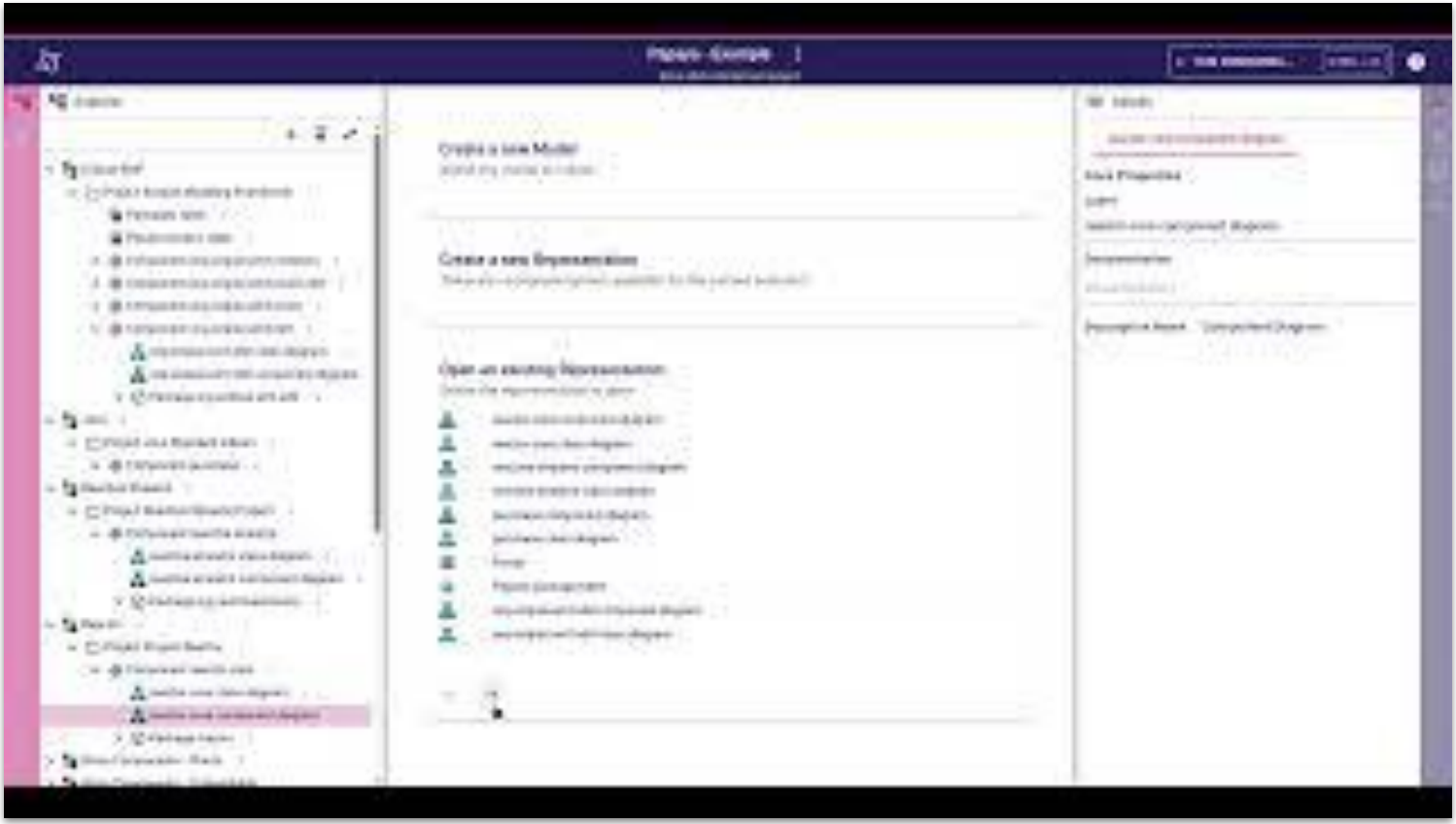
End Users


Improve
workbench

Project Browser: Smarter Filtering

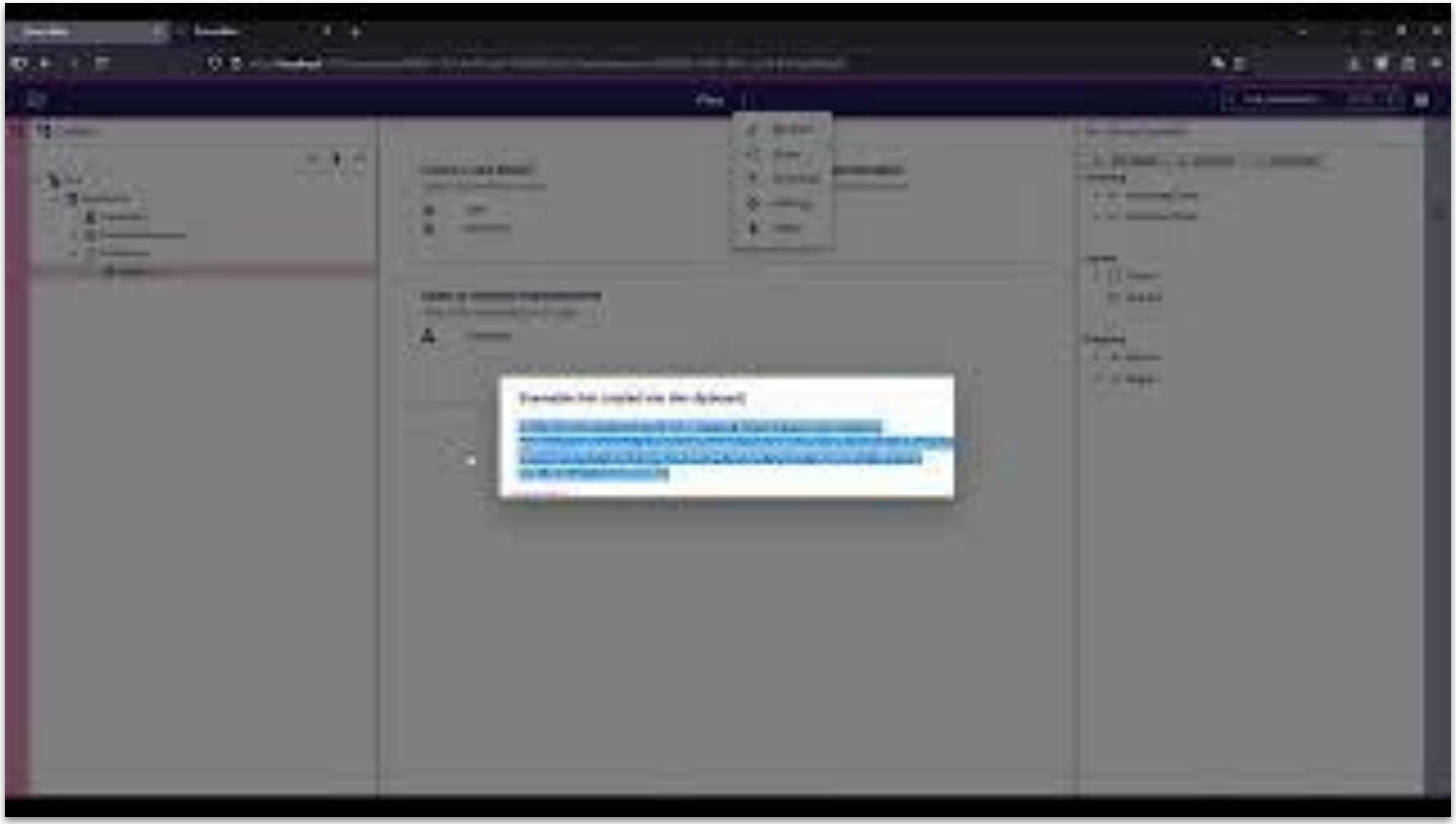


Onboard Area : Pagination

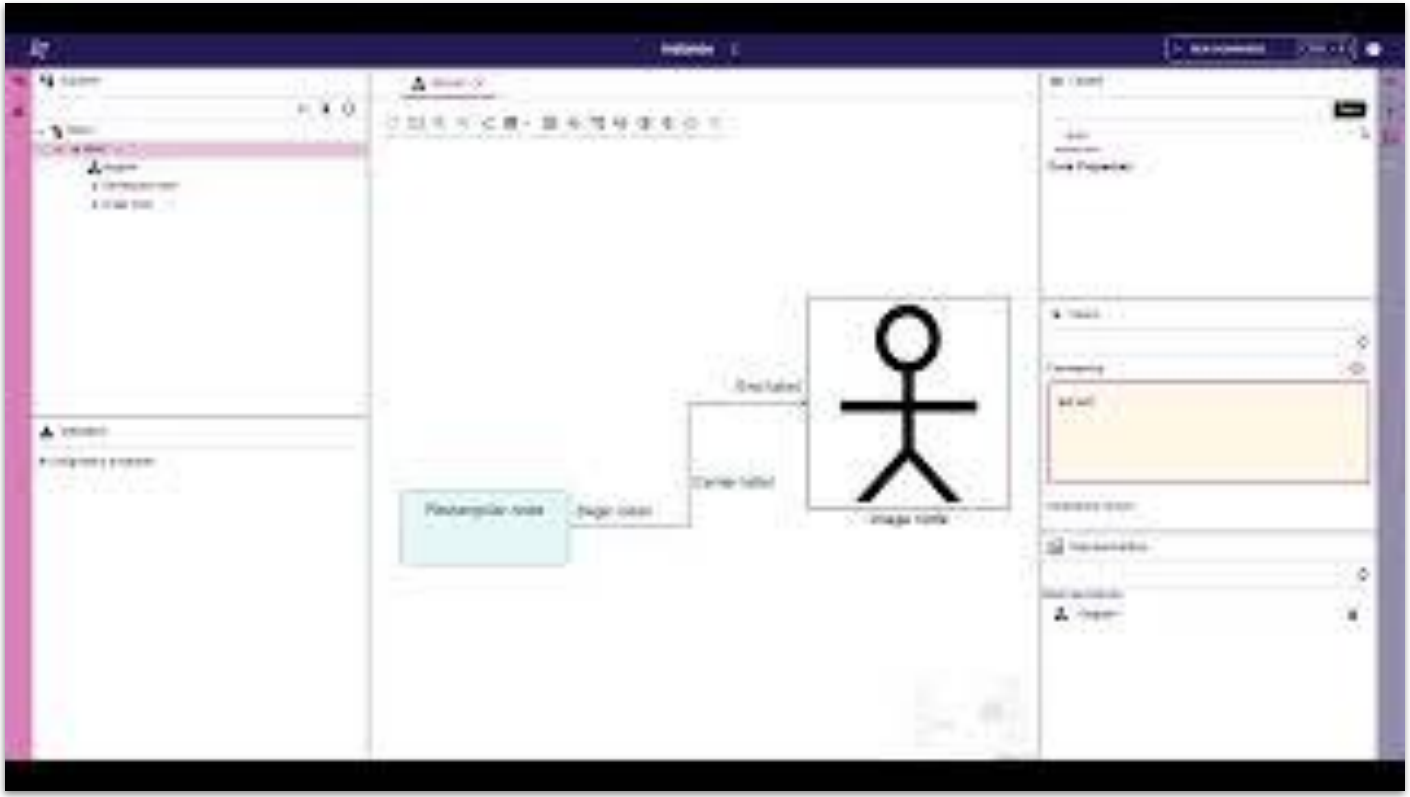


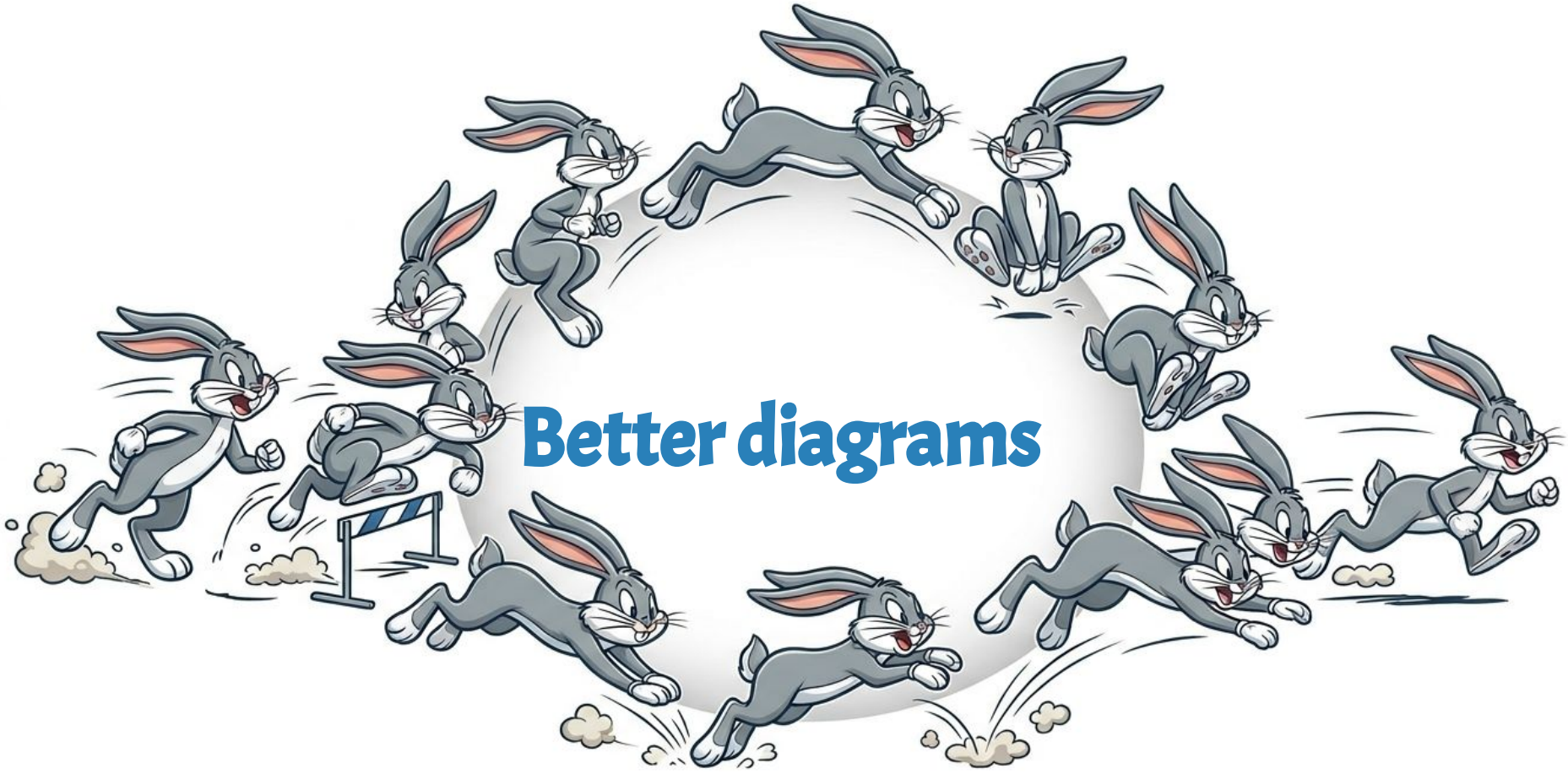
Loading indicators

Share Your Workbench State



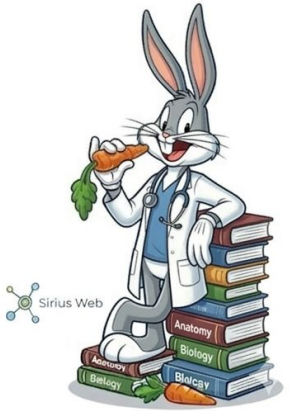
Workbench views



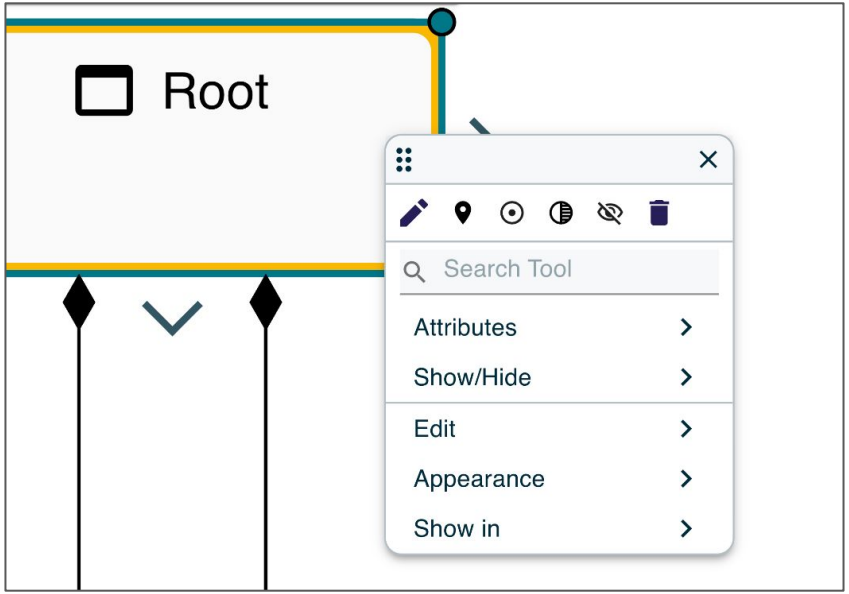

Better diagrams

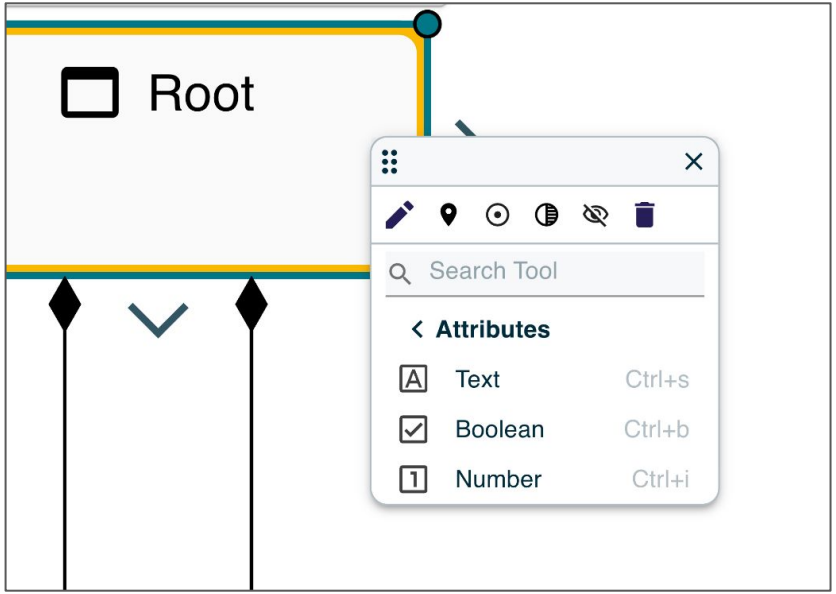
Smoother diagram editing

- **Fluid Manipulation**: Improved feedback during move and resize operations.
- **UX Refinement**: More intuitive selection handling and snap-to-grid behaviors.
- **Consistency**: A more predictable editing experience across different browsers.
- **Reduced Latency**: Significant optimizations in the frontend rendering engine.

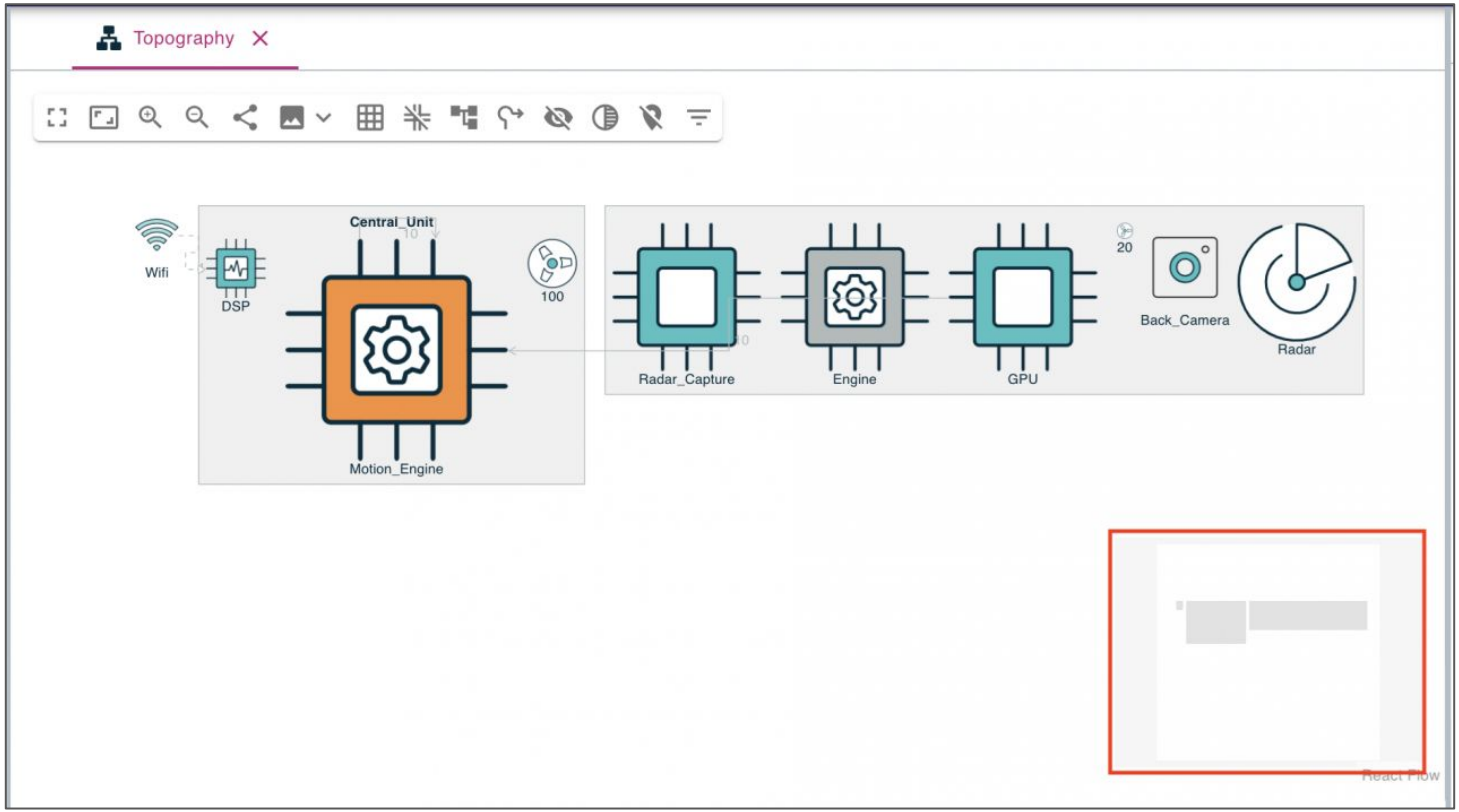


Palette Rework

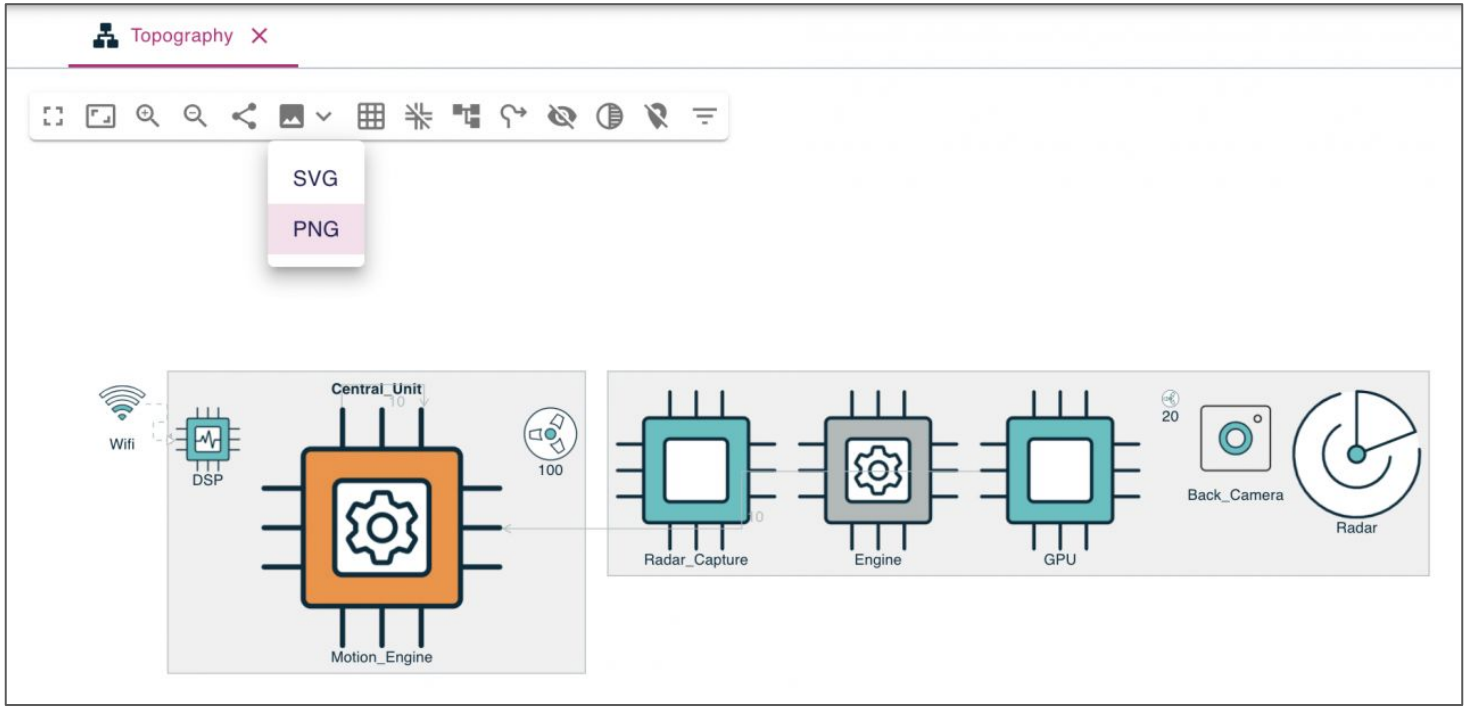




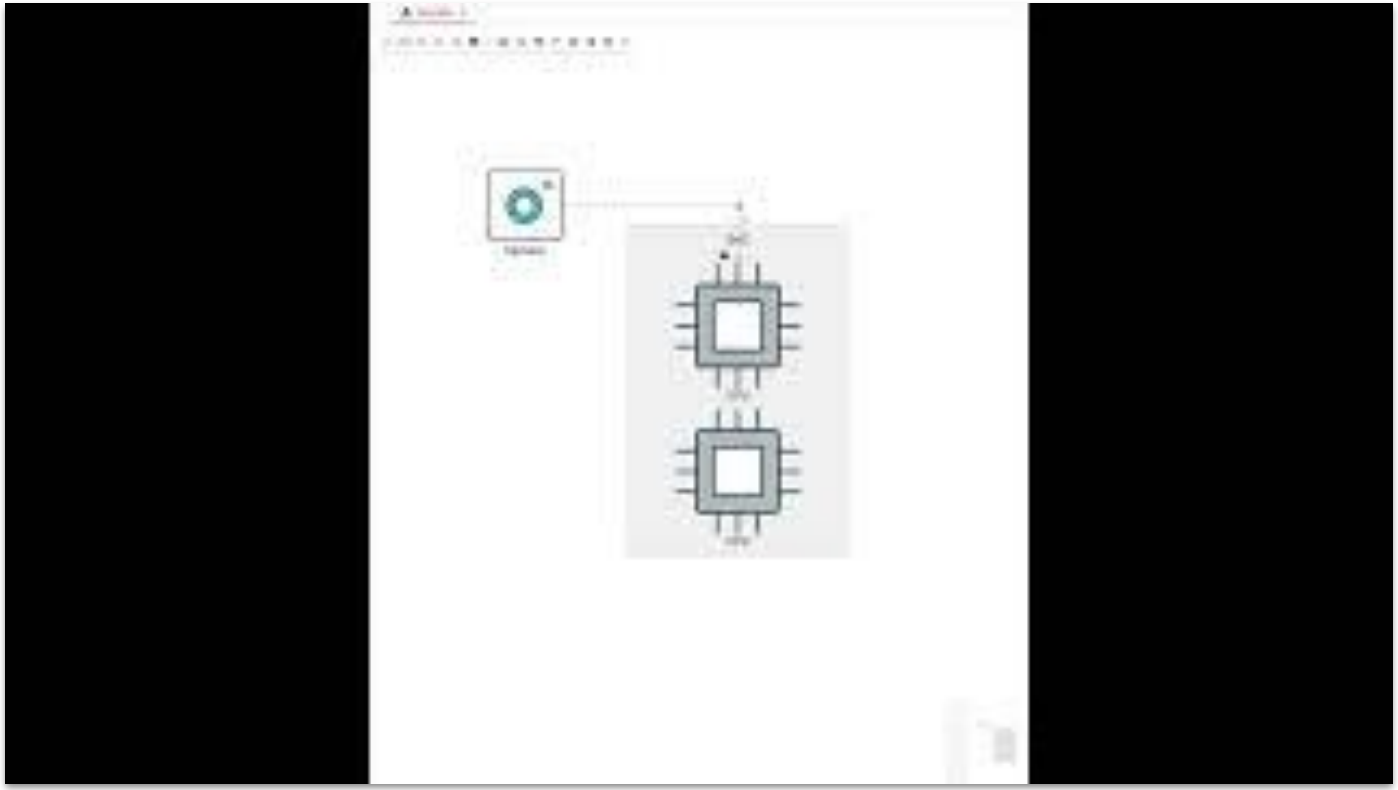
Minimap


Topography
Wifi
DSP
Central_Unit
10
100
Motion_Engine
Radar_Capture
Engine
GPU
20
Back_Camera
Radar
React Flow

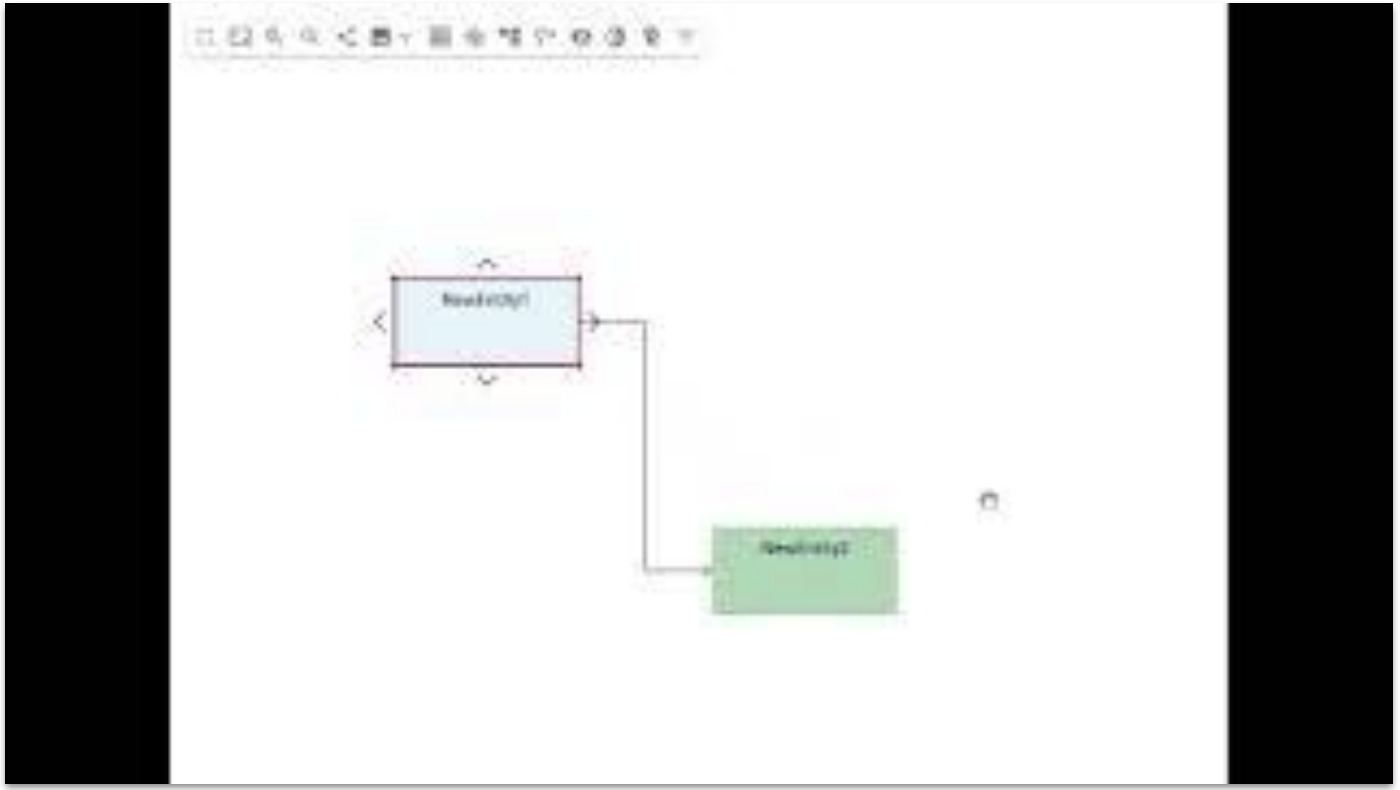
Export Diagram



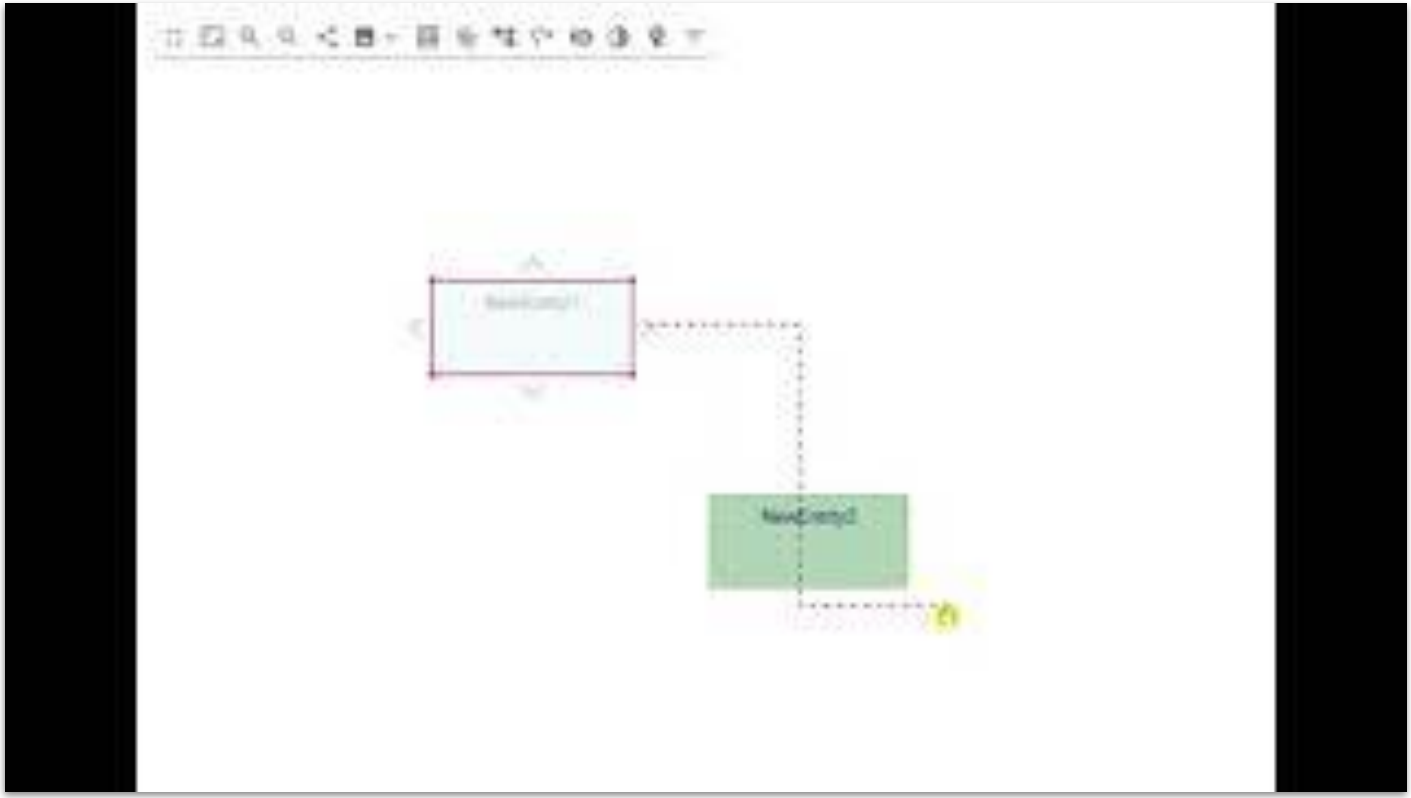
Edge creation



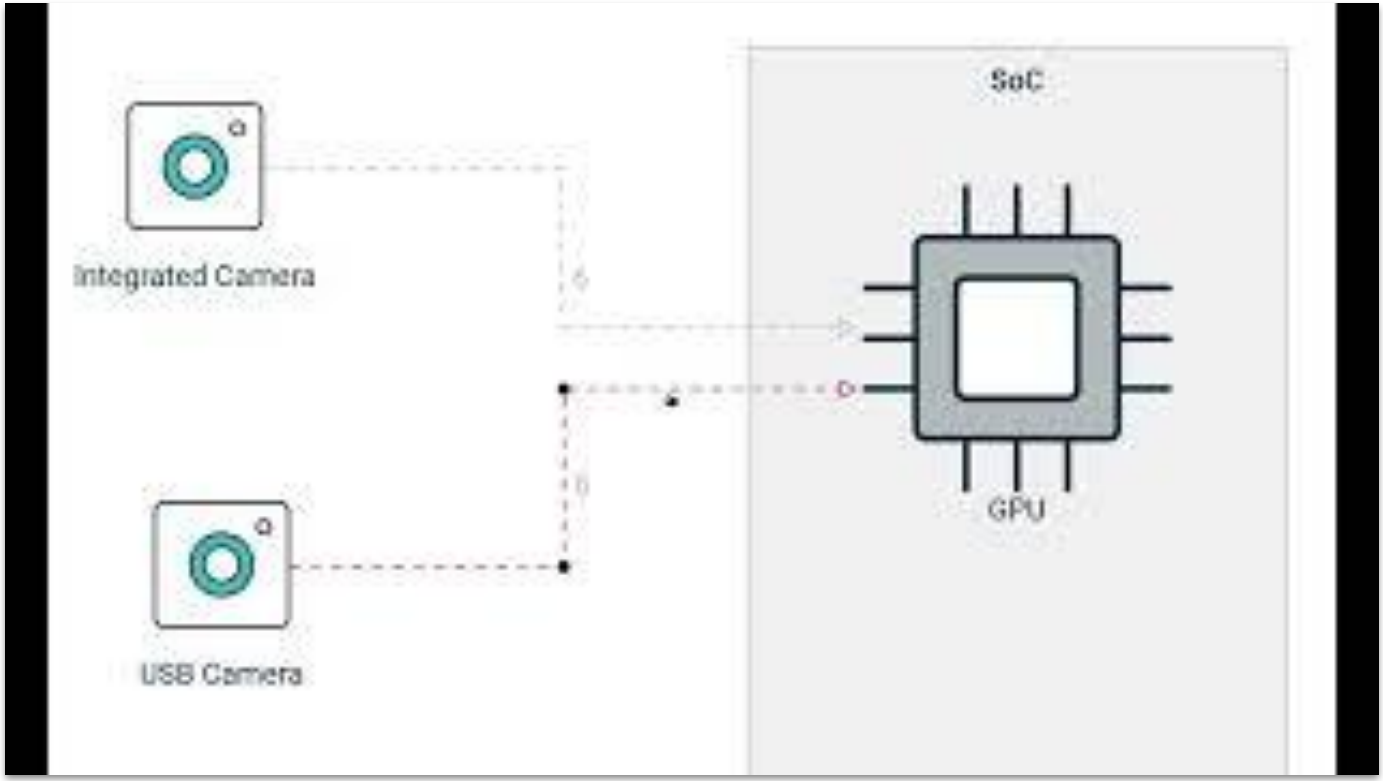
Edge connection : auto-connect



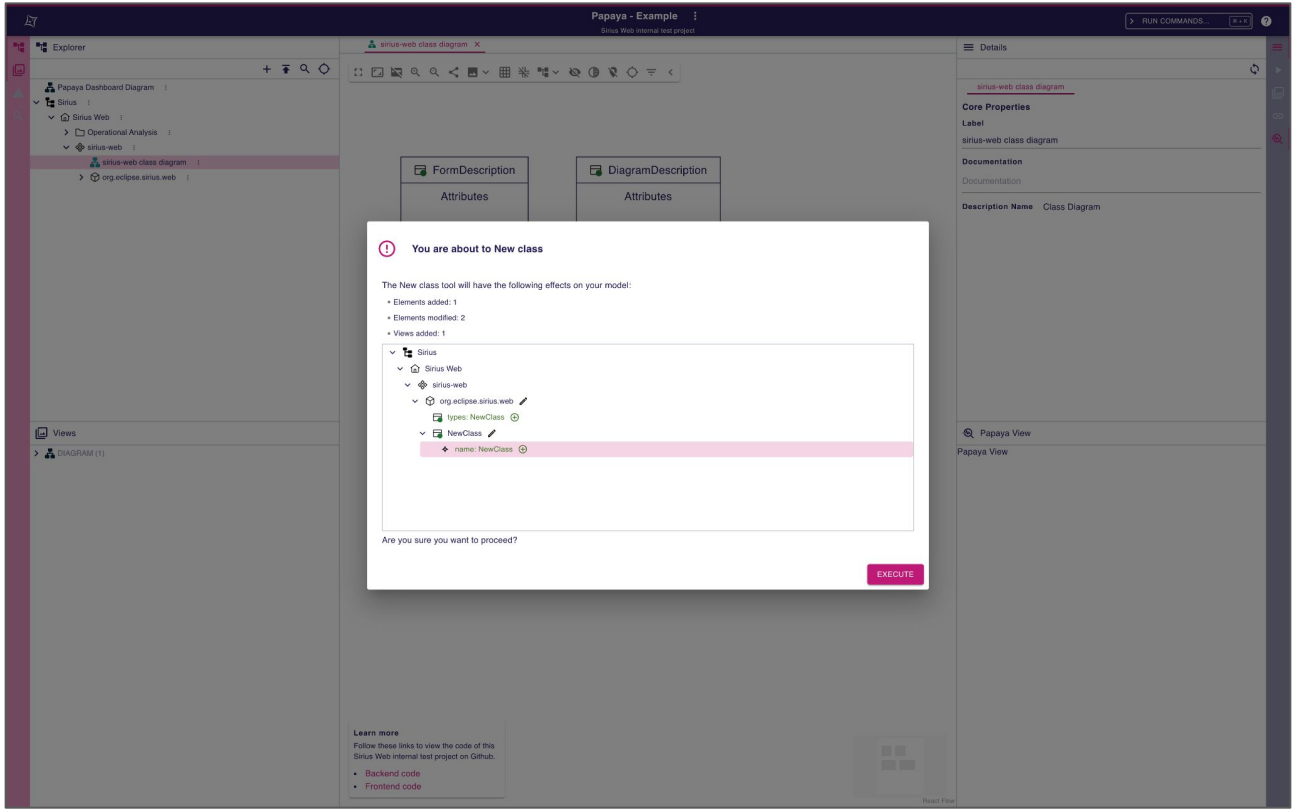
Edge connection : manual-connect



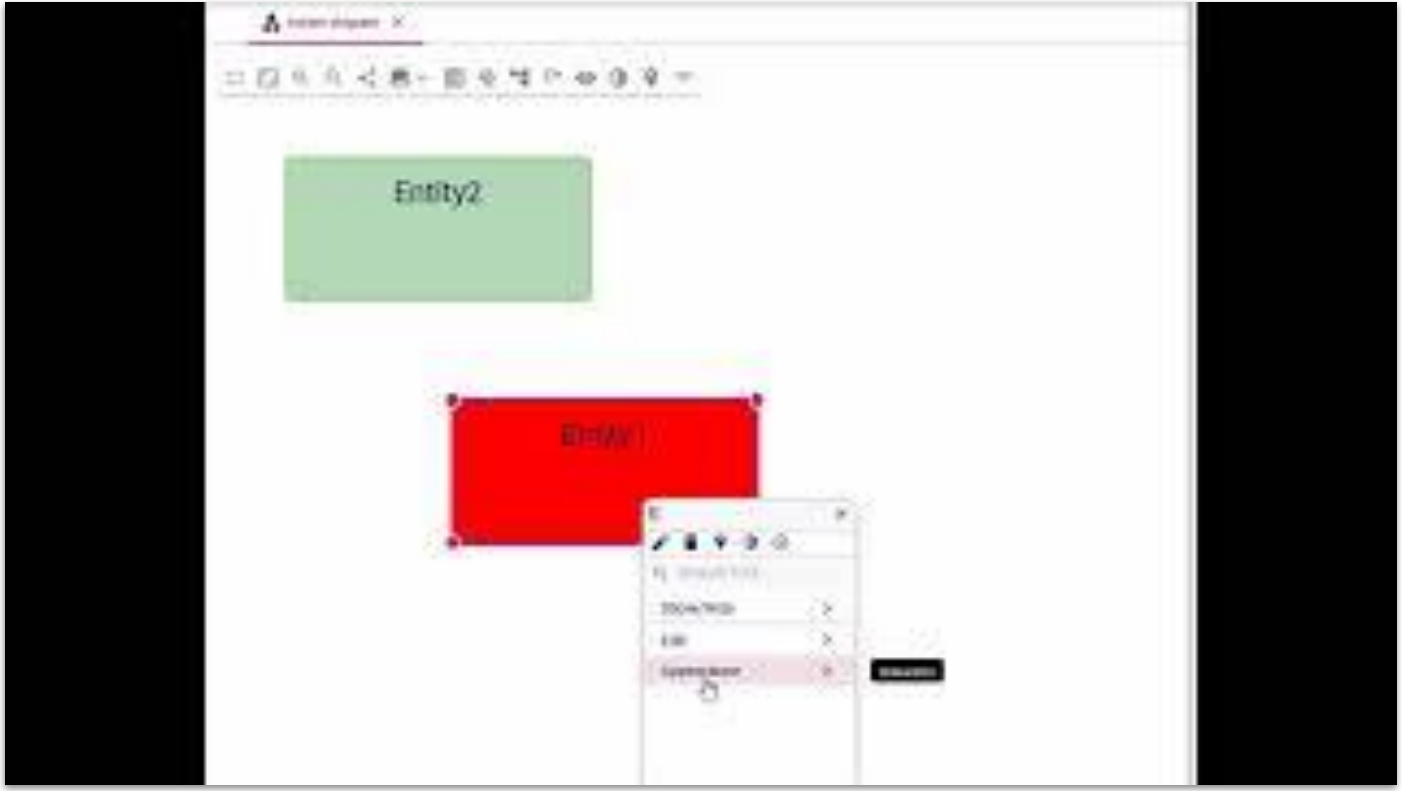
Move first and last segment of edge



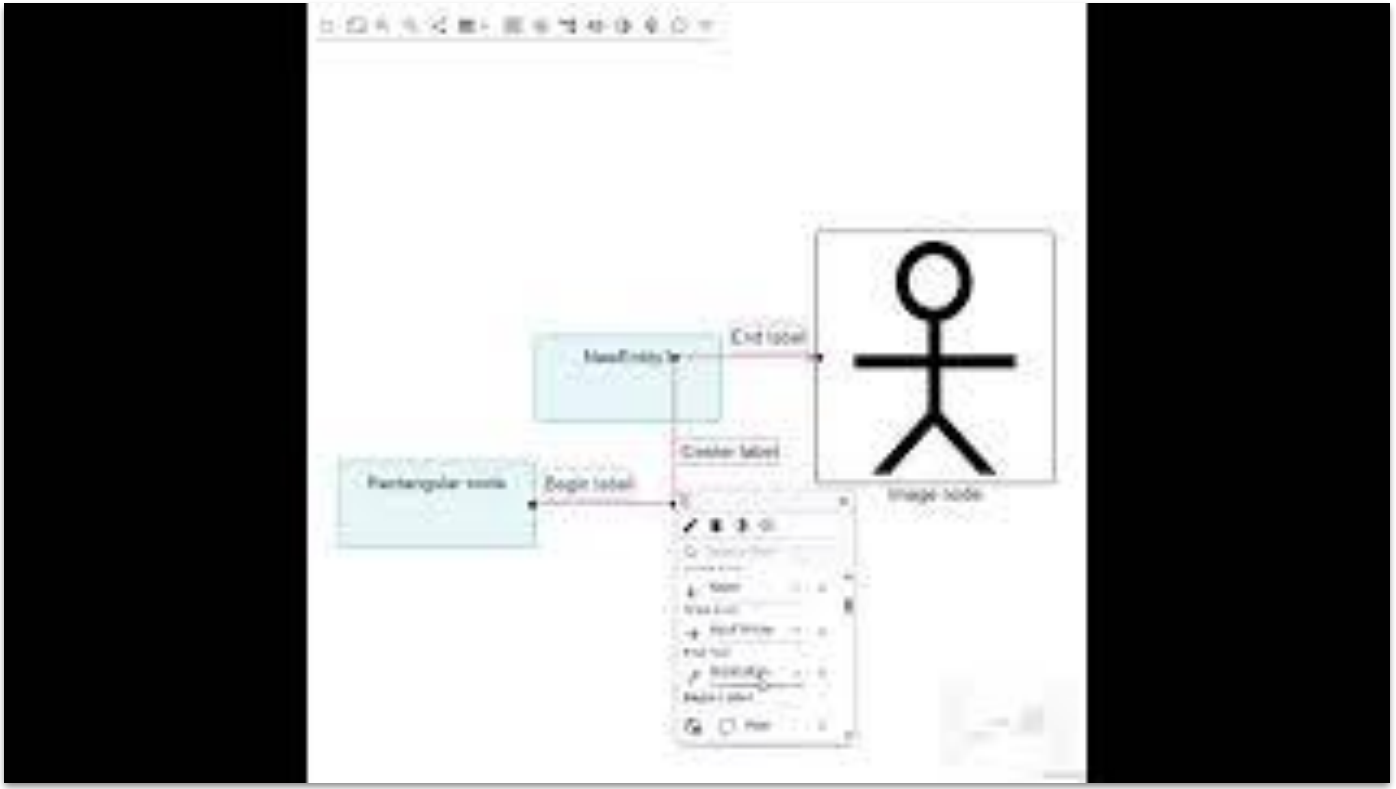
Impact analysis



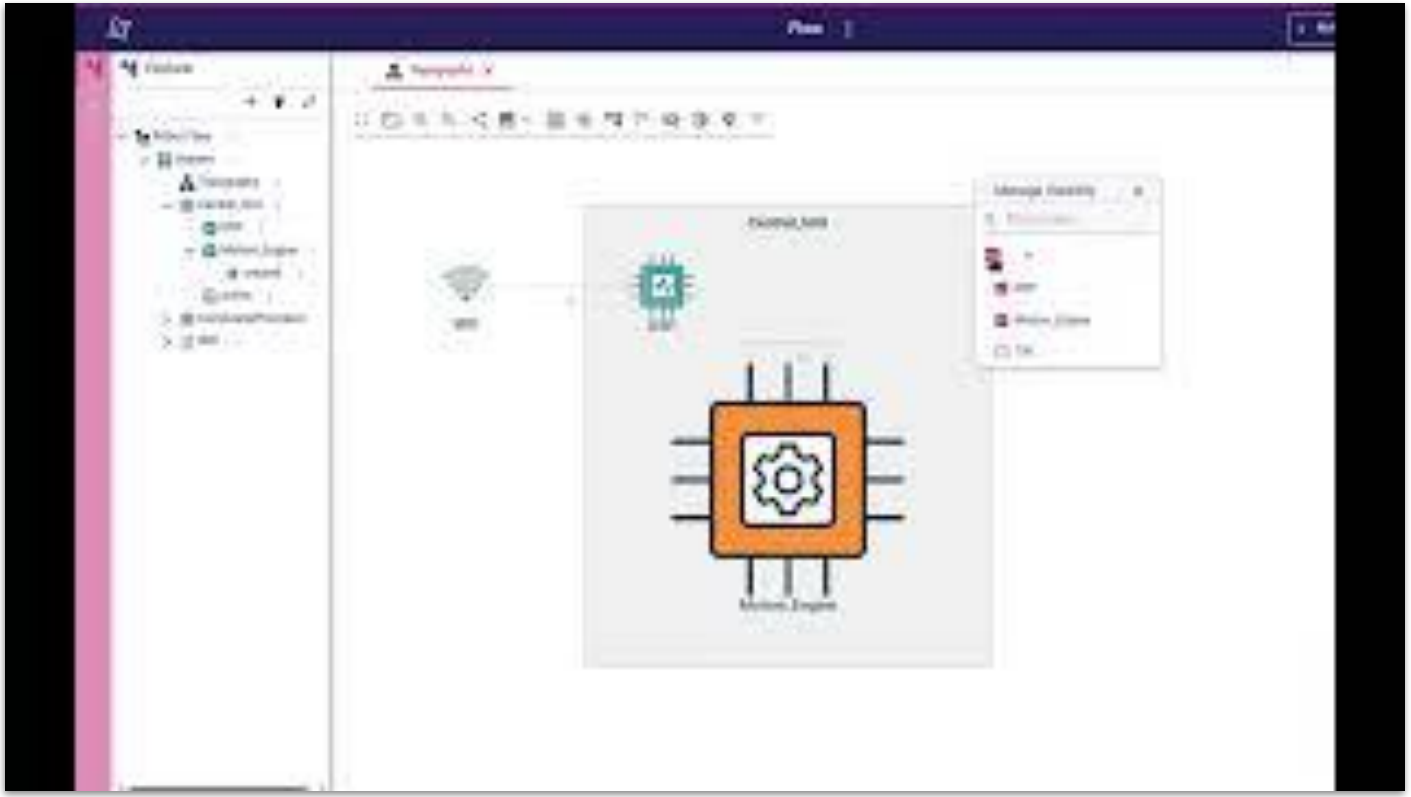
Node Appearance



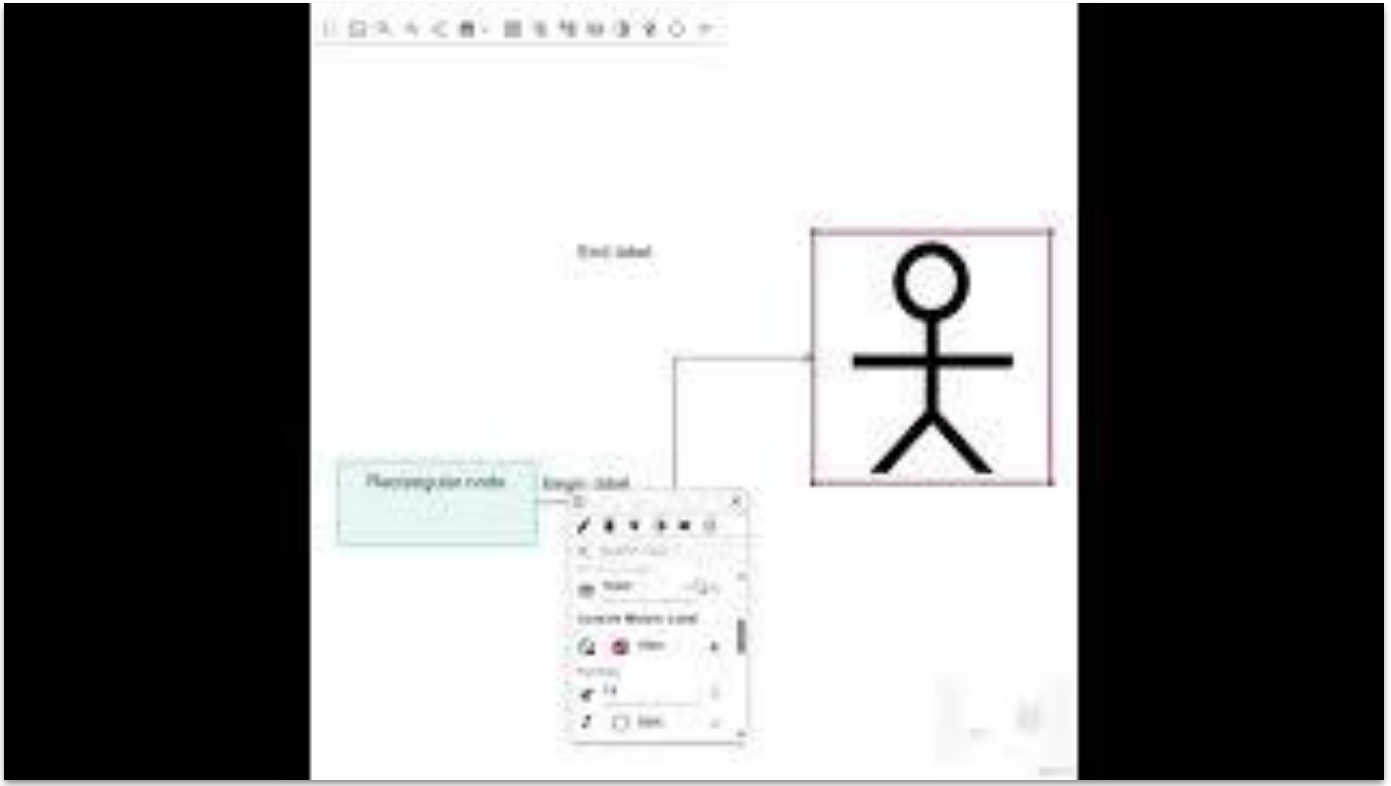
Edge Appearance



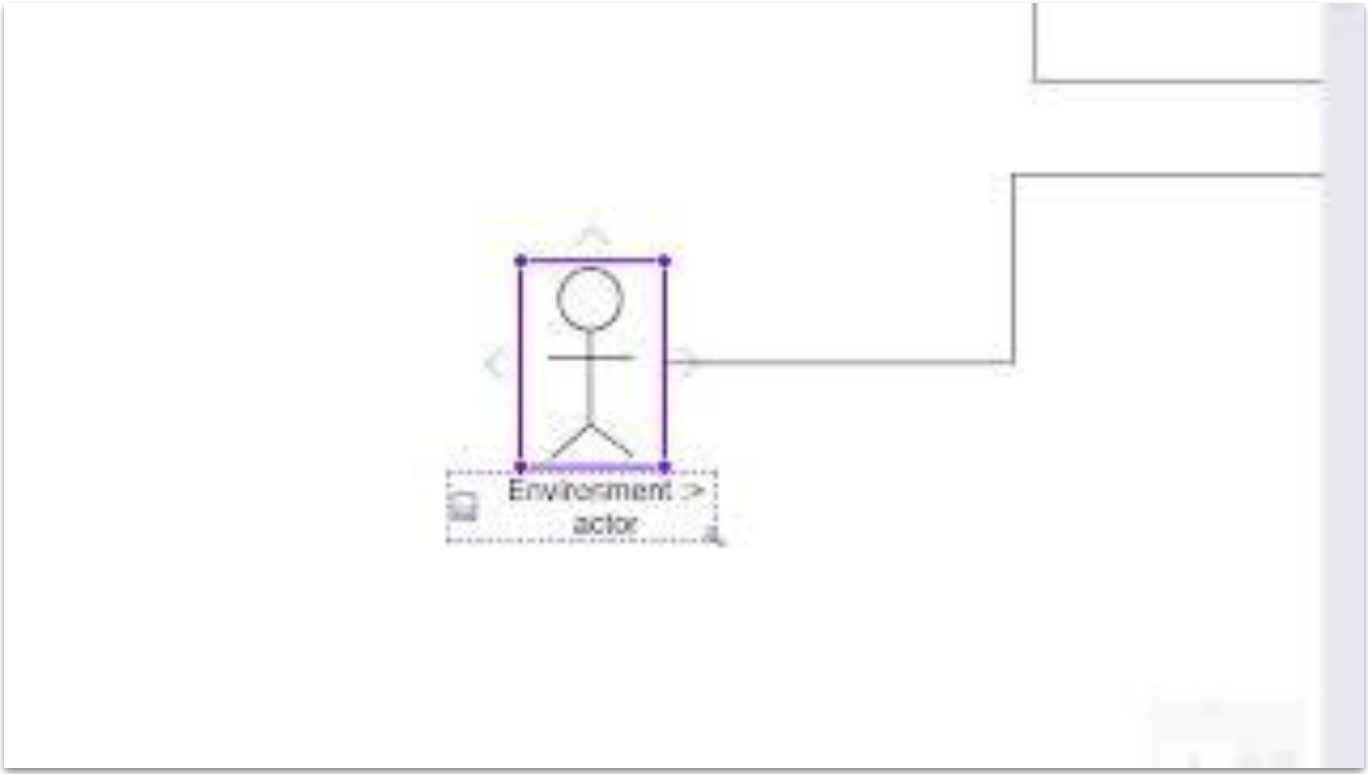
Manage visibility



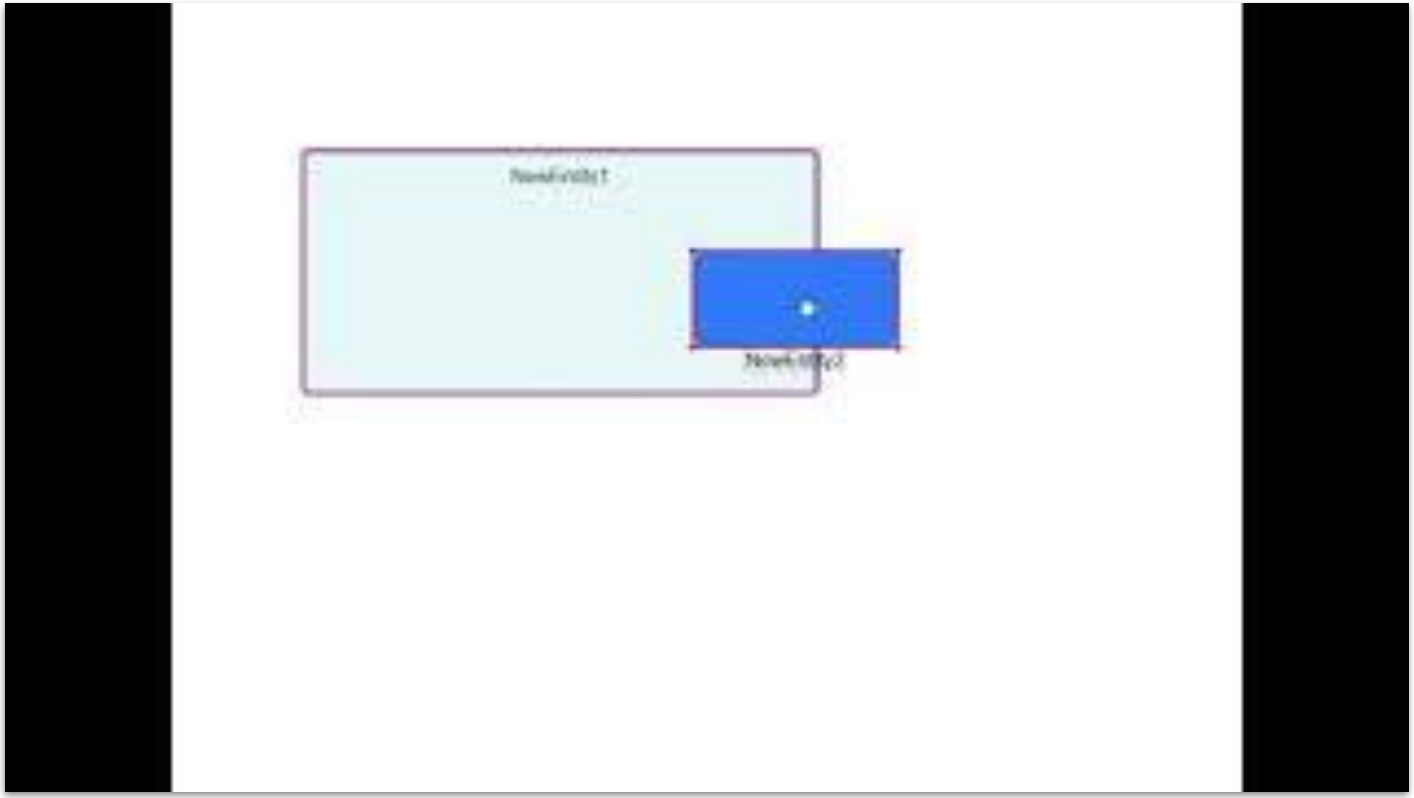
Label Management



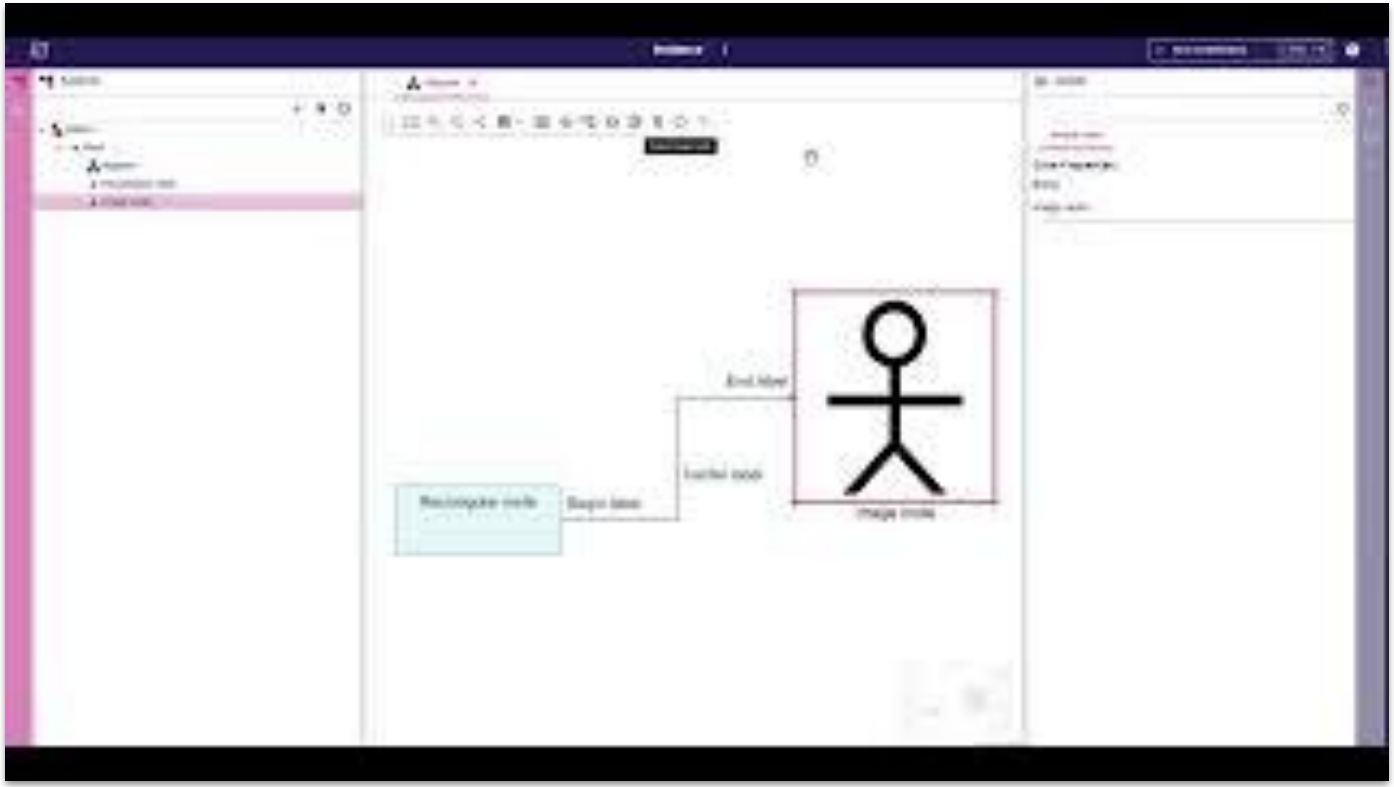
Resizable Label



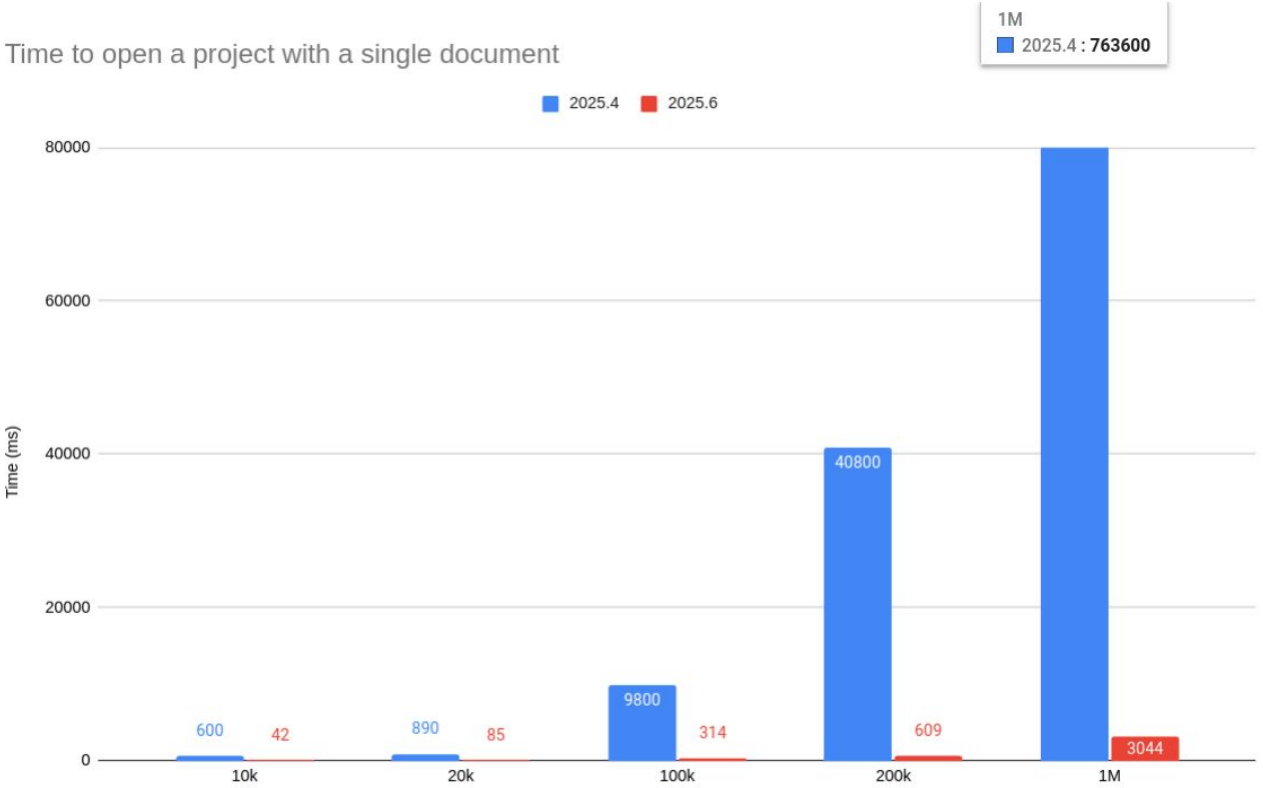
Improved drop feedback



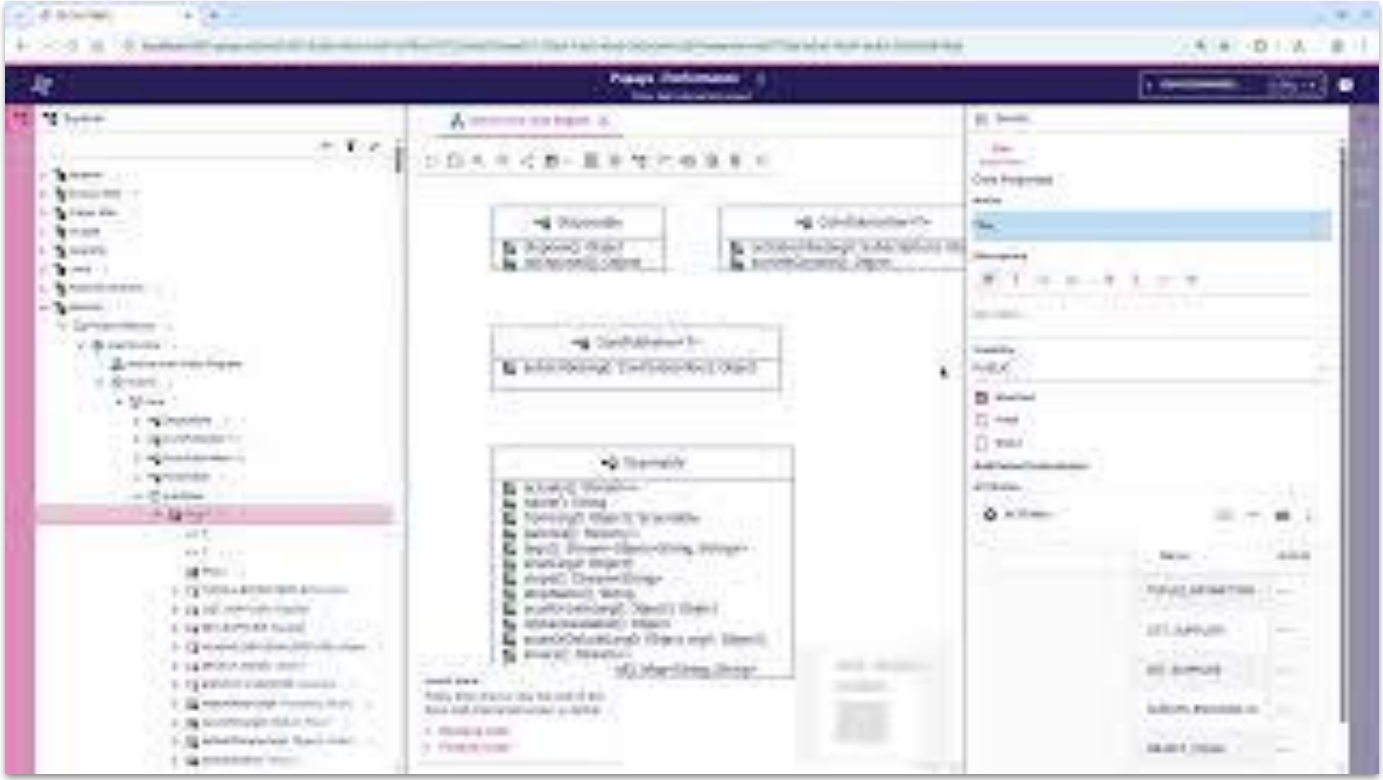
Workbench Selection



Performance Boosts



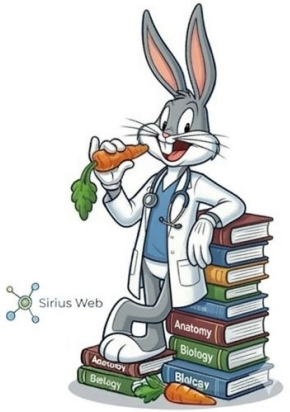
Faster Explorer



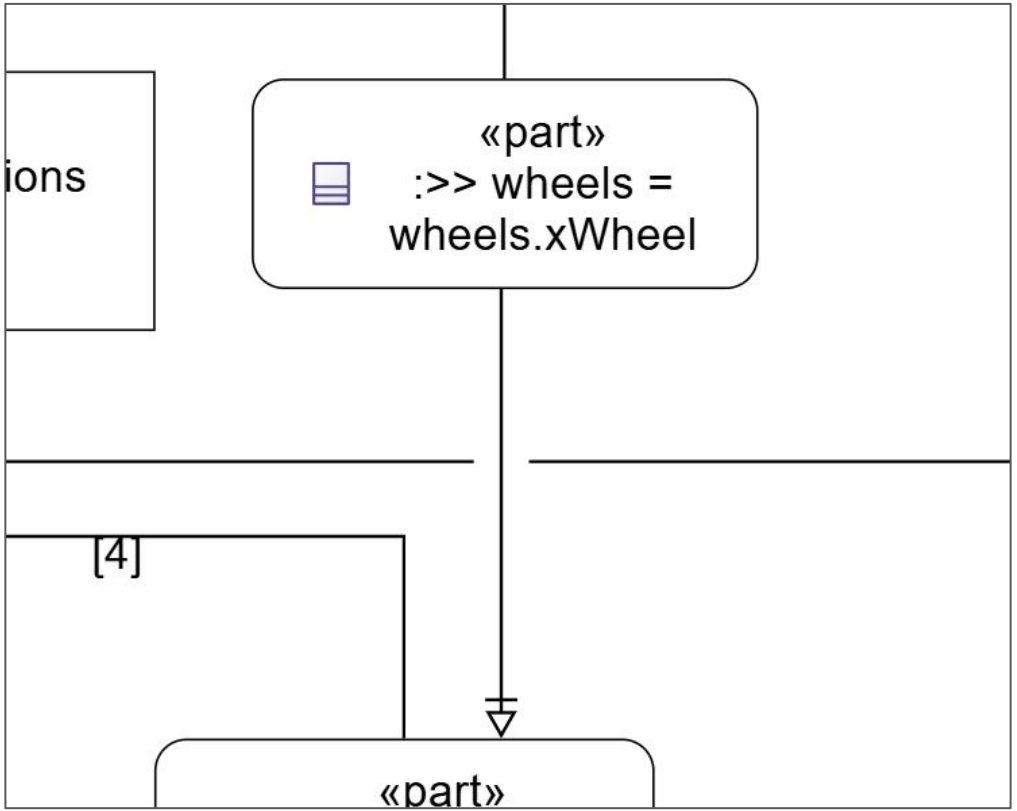
Explorer View Filtering

Improved Link Routing and Readability

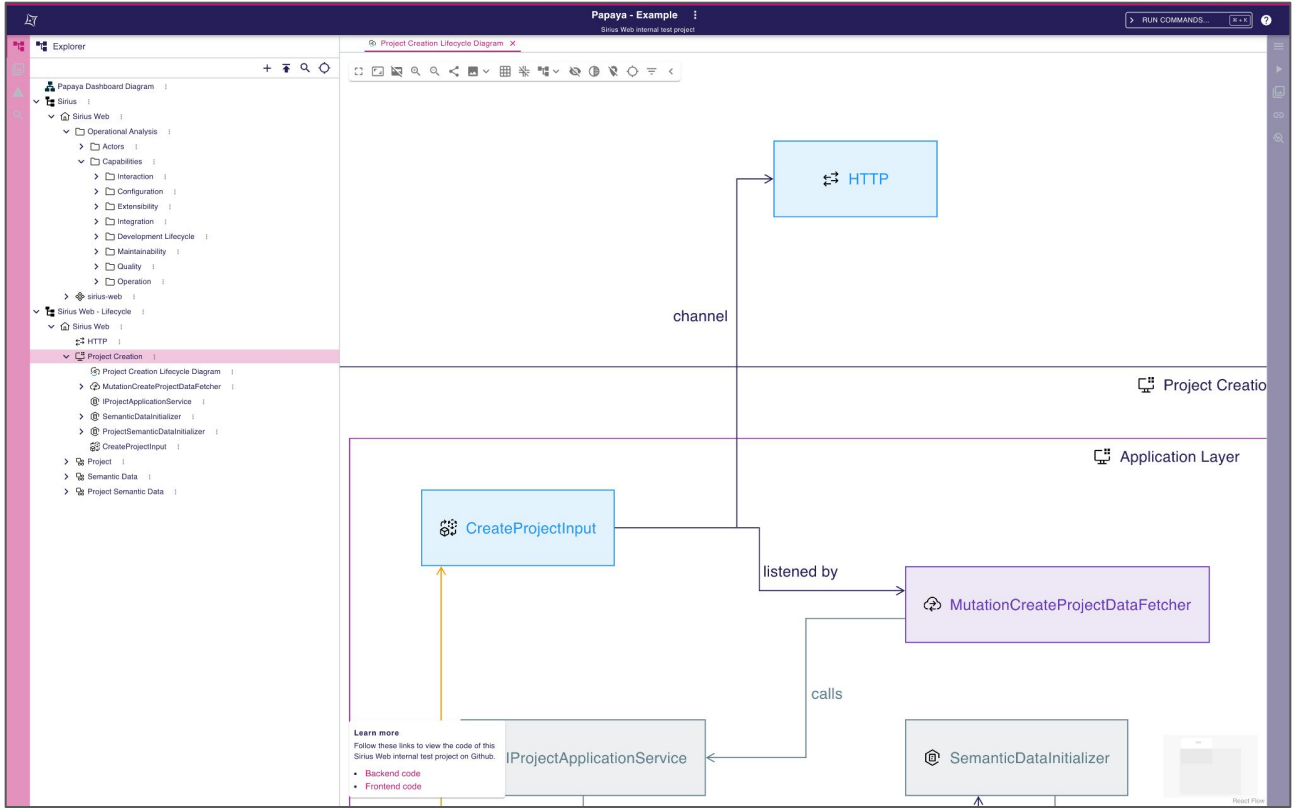
- **Smart Routing**: New algorithms for Manhattan and oblique paths to minimize crossings.
- **Edge-to-Edge Connections**: Ability to link directly between edges, improving support for complex notations.
- **Layout Stability**: Better preservation of the diagram layout when adding or removing elements.
- **Visual Clarity**: Improved management of edge labels and intersection points.



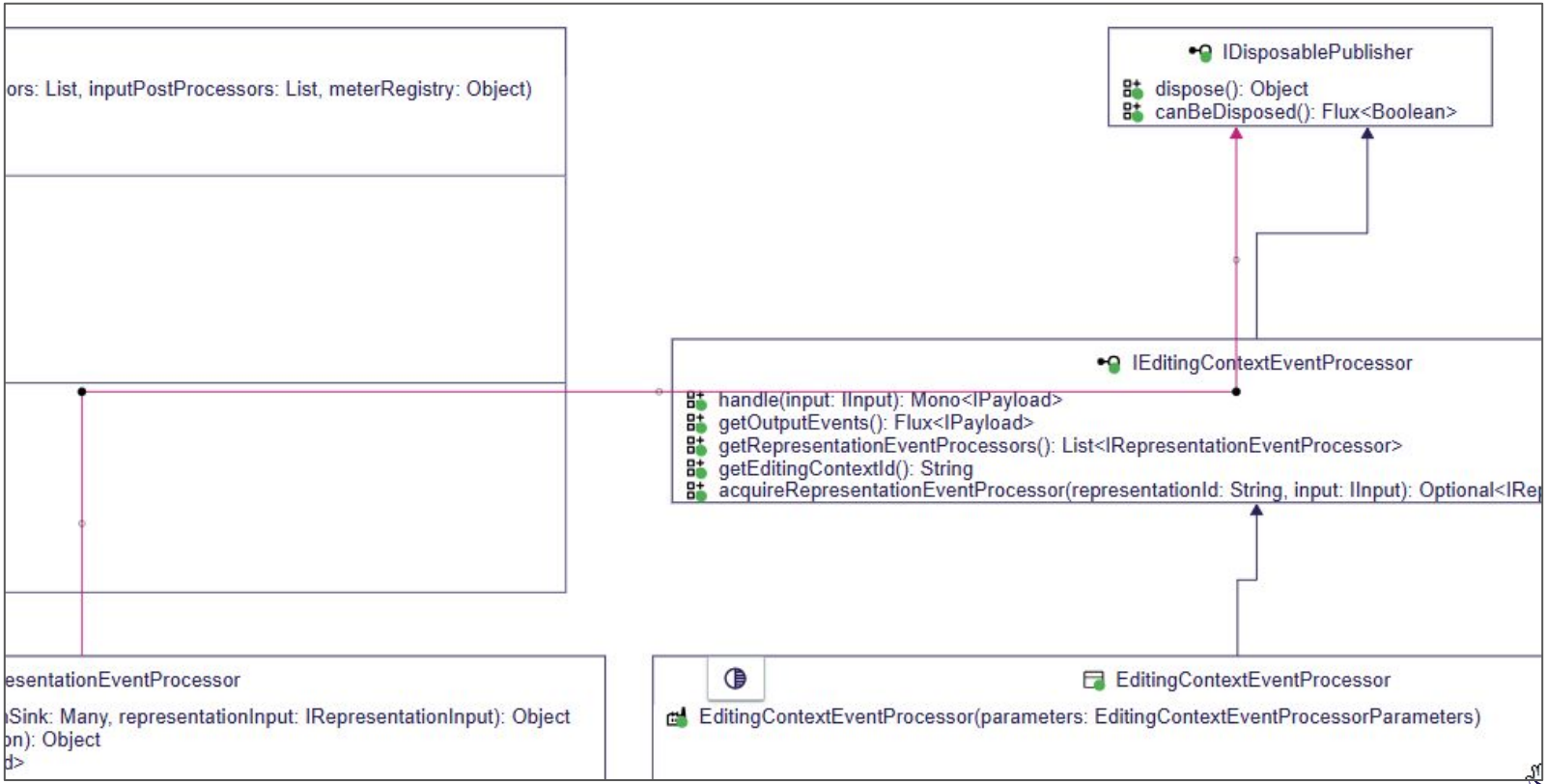
Clear Edge Crossing



Edge-to-edge

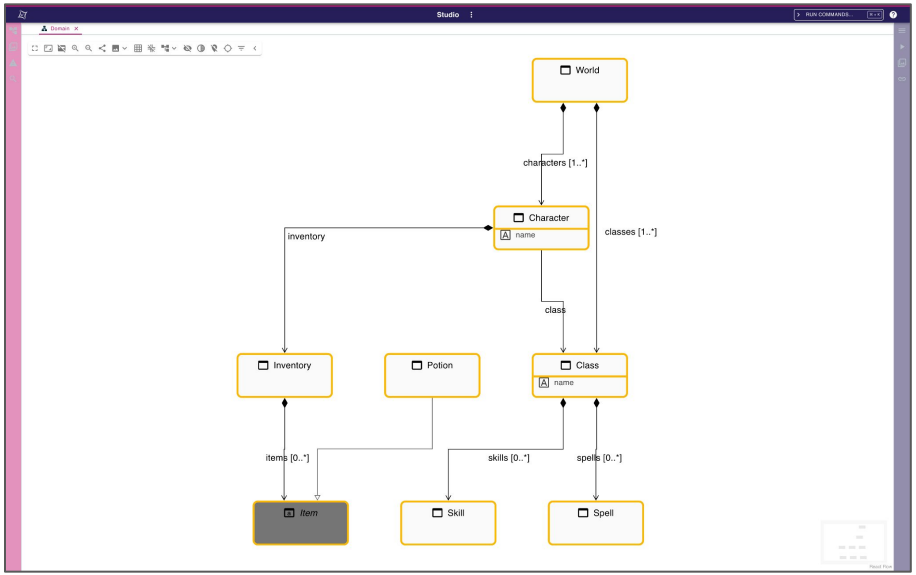

Papaya - Example
Sirius Web internal test project
RUN COMMANDS...
Explorer
Project Creation Lifecycle Diagram
Papaya Dashboard Diagram
Sirius
Sirius Web
Operational Analysis
Actors
Capabilities
Interaction
Configuration
Extensibility
Integration
Development Lifecycle
Maintainability
Quality
Operation
sirius-web
Sirius Web - Lifecycle
Sirius Web
HTTP
Project Creation
Project Creation Lifecycle Diagram
MutationCreateProjectDataFetcher
IProjectApplicationService
SemanticDataInitializer
ProjectSemanticDataInitializer
CreateProjectInput
Project
Semantic Data
Project Semantic Data
HTTP
channel
Project Creatio
Application Layer
CreateProjectInput
listened by
MutationCreateProjectDataFetcher
calls
IProjectApplicationService
SemanticDataInitializer
Learn more
Follow these links to view the code of this Sirius Web internal test project on Github.
Backend code
Frontend code

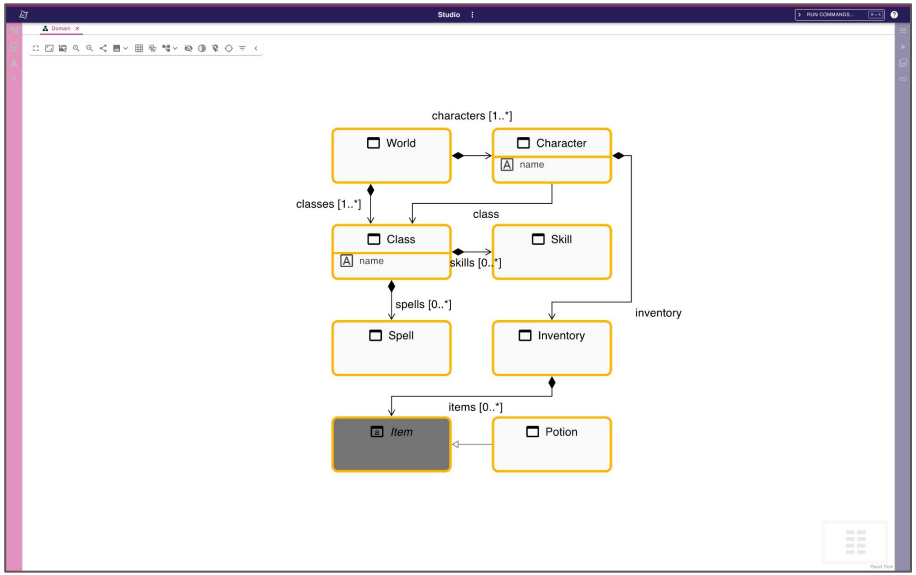
Edit the path of Edges



Sirius Web

Flow & Compact Layout





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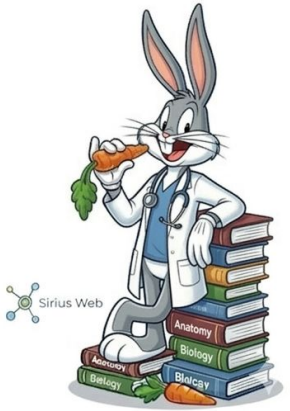
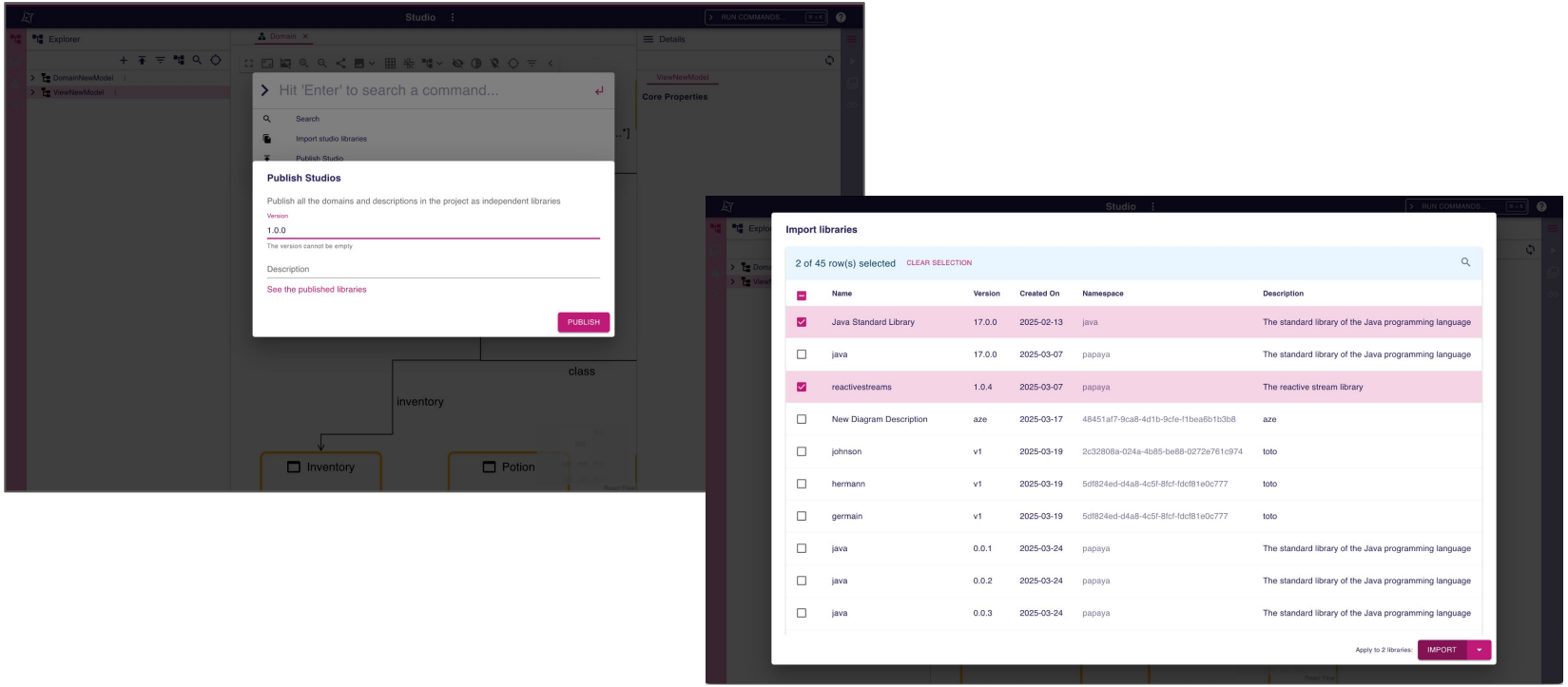
Sirius

Libraries and reuse

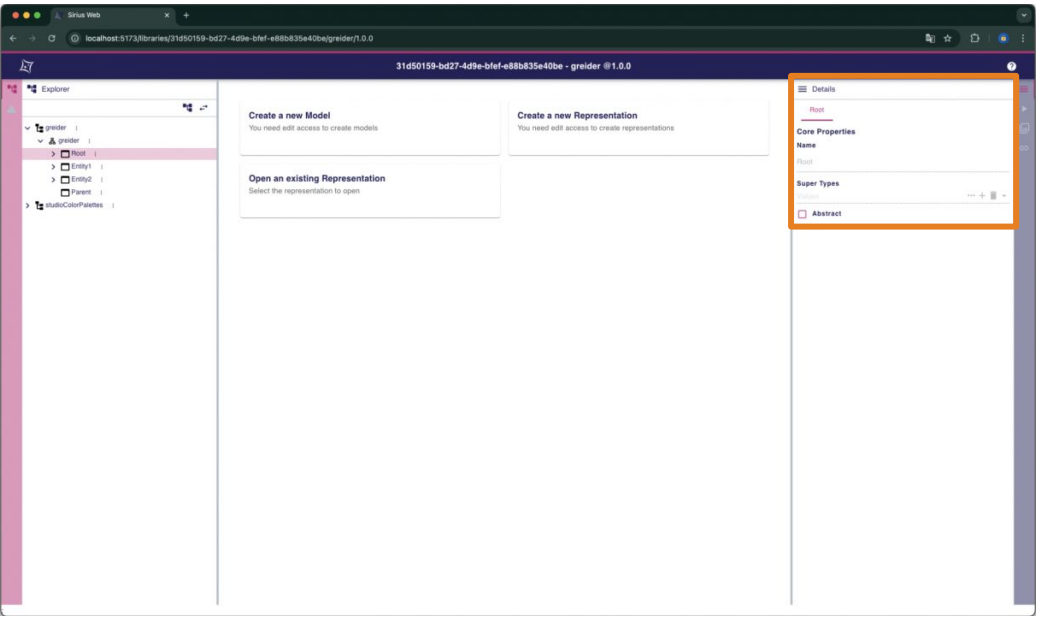
- **Resource Sharing**: Ability to define common elements in a library and reuse them across multiple projects.
- **Dependency Management**: Support for referencing external models while maintaining data integrity.
- **Scalability**: Enables large organizations to build a "single source of truth" for shared components.
- **Read-Only References**: Options to include library elements as read-only to prevent accidental modifications in the consuming project.

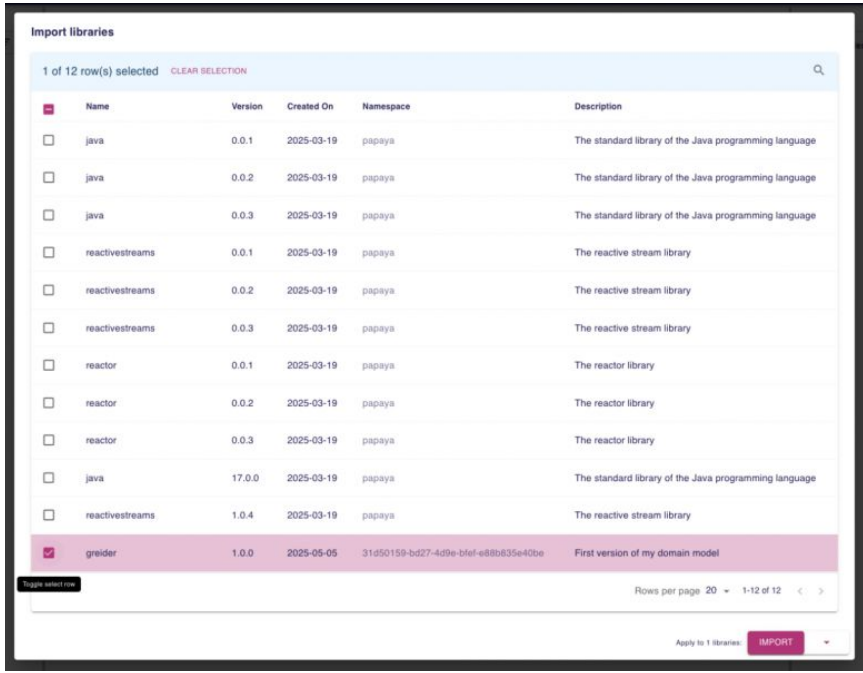


Library Support: Reuse and Share Models Across Projects



Library Support: Reuse and Share Models Across Projects

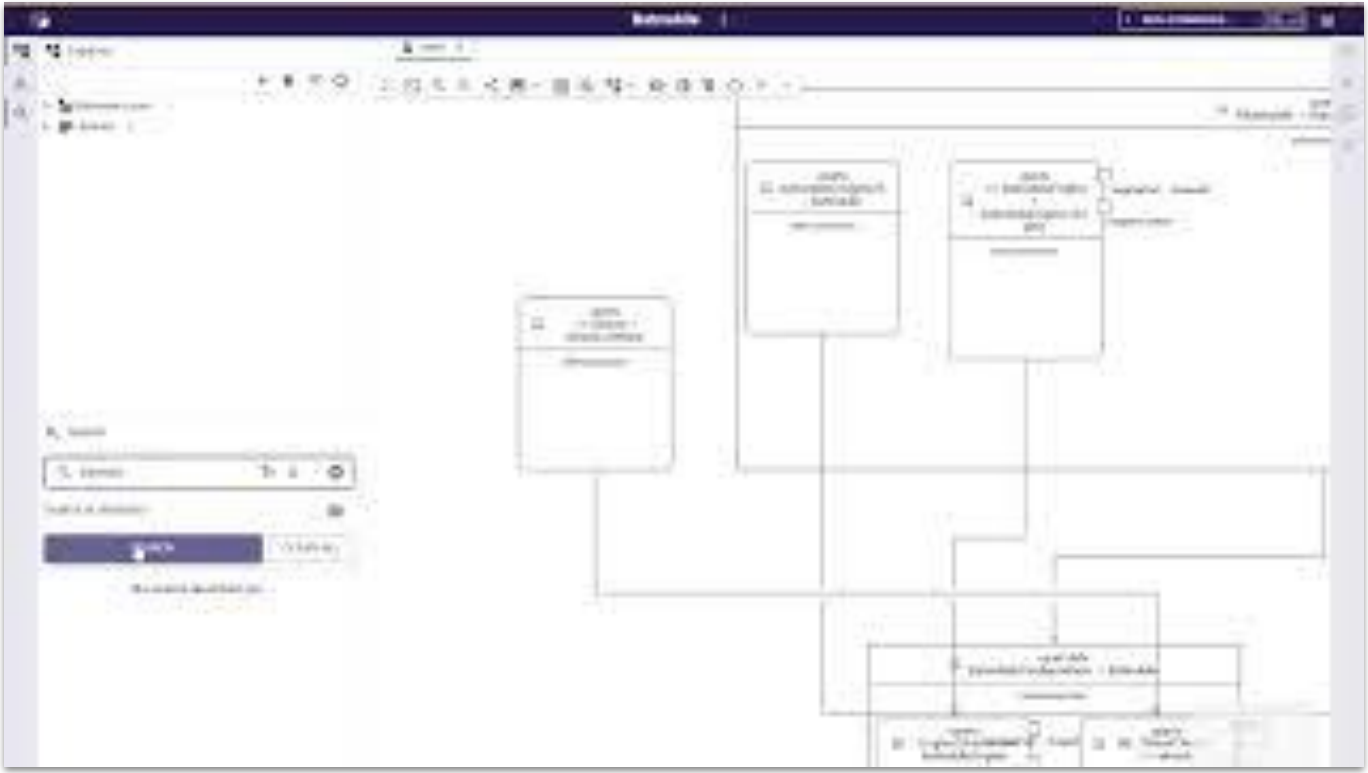




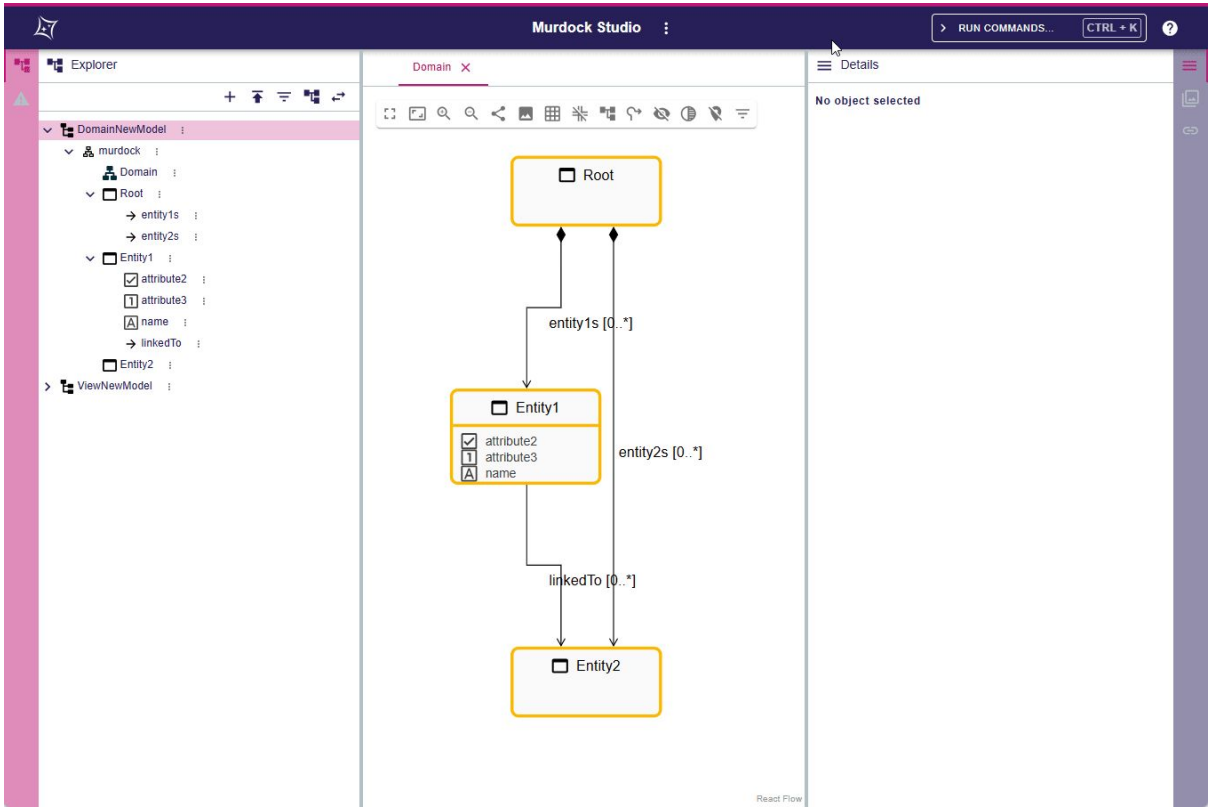
Productivity improvements

- **Global Search** : Quickly locate elements, diagrams, or actions across the entire project via Omnibox or dedicated Search View.
- **Bulk Actions**: Perform modifications on multiple selected elements to reduce repetitive tasks.
- **Improved Navigation**: Quicker transitions between different representations (e.g., jumping from a tree node to its diagram).
- **Contextual Shortcuts**: Faster access to frequent modeling operations through refined menus.

Search View

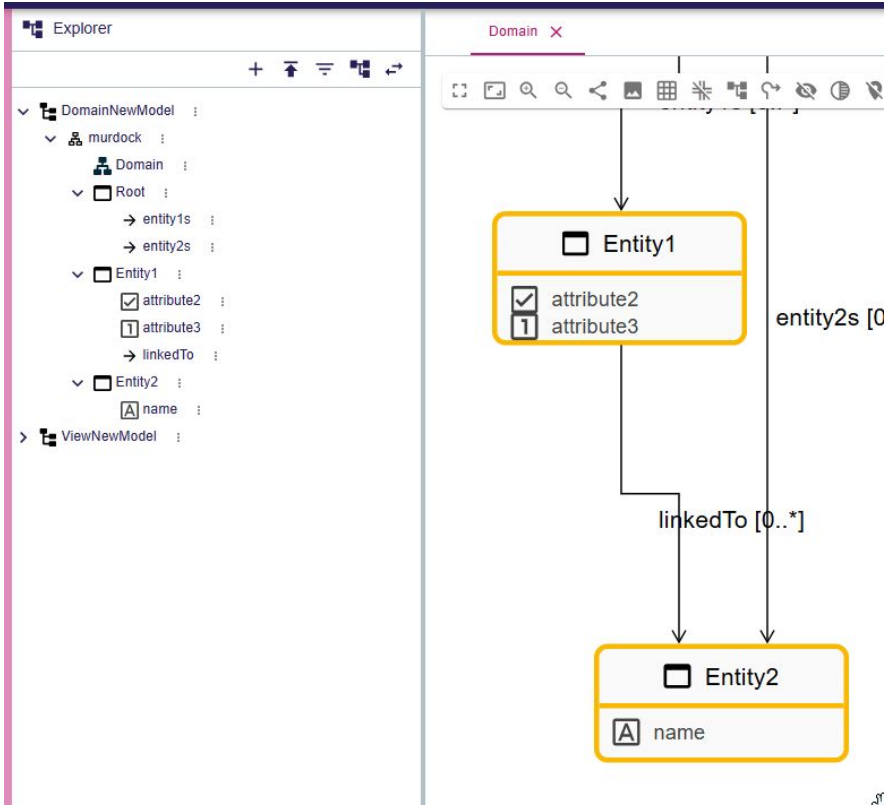


Command Palette

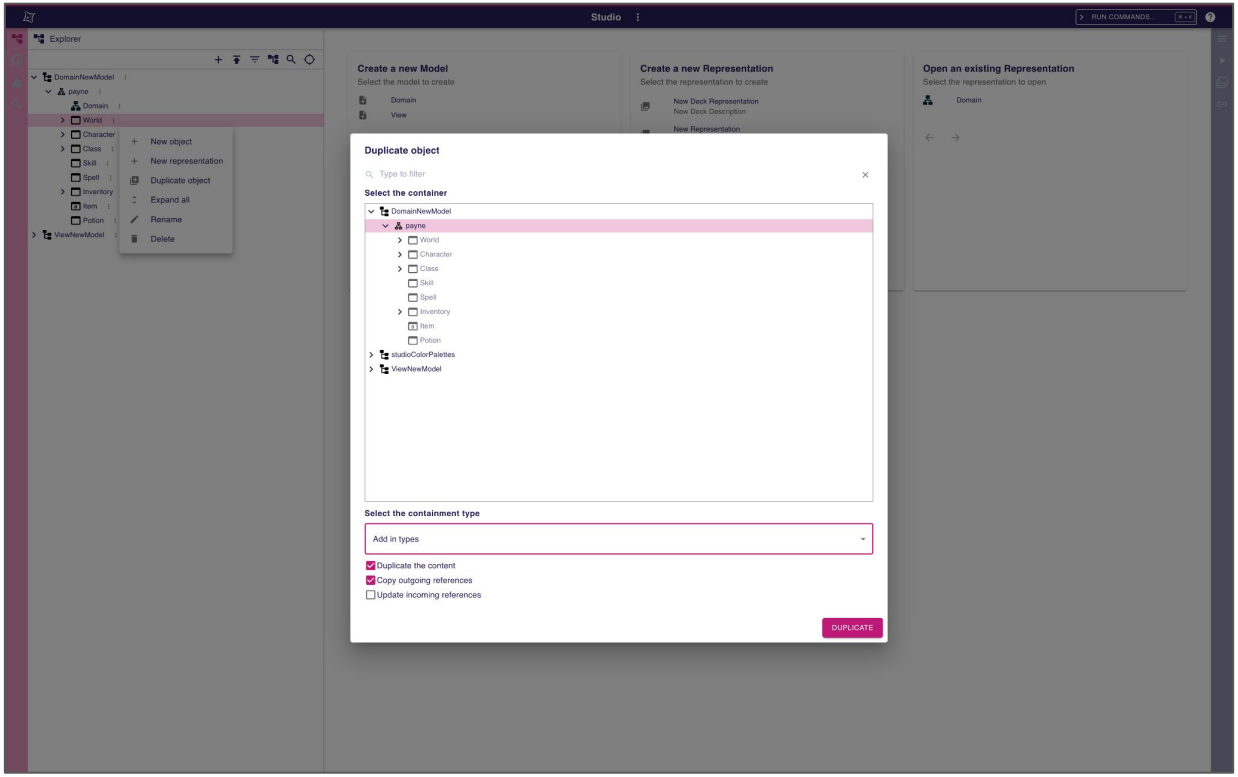


Cross-Project Search

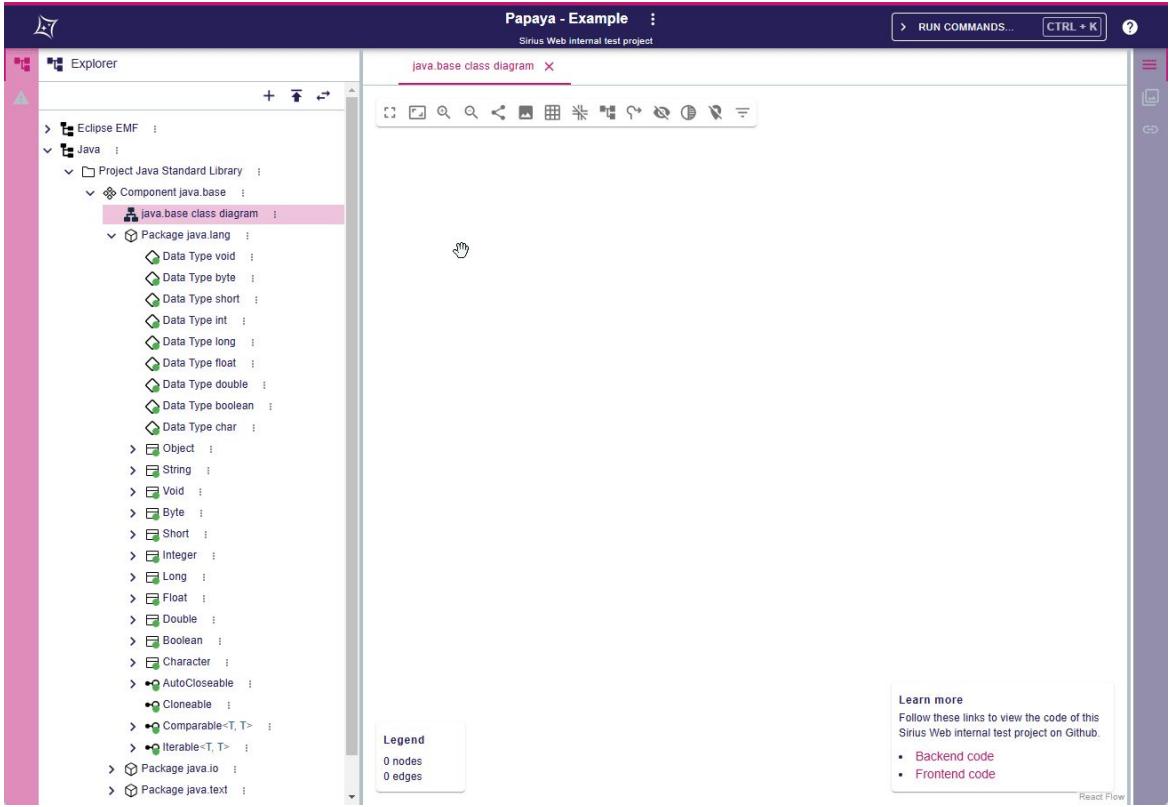
Explorer : Move Elements

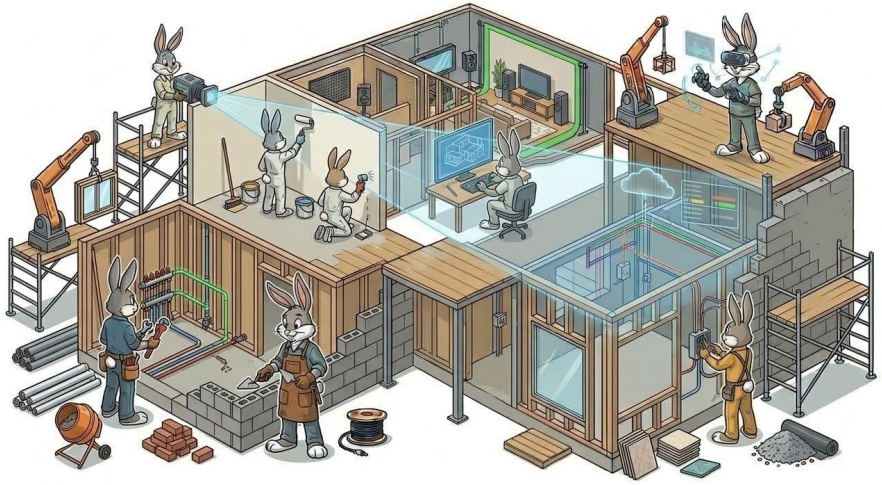


Explorer : Duplicate elements easily



Tree in Selection Dialog

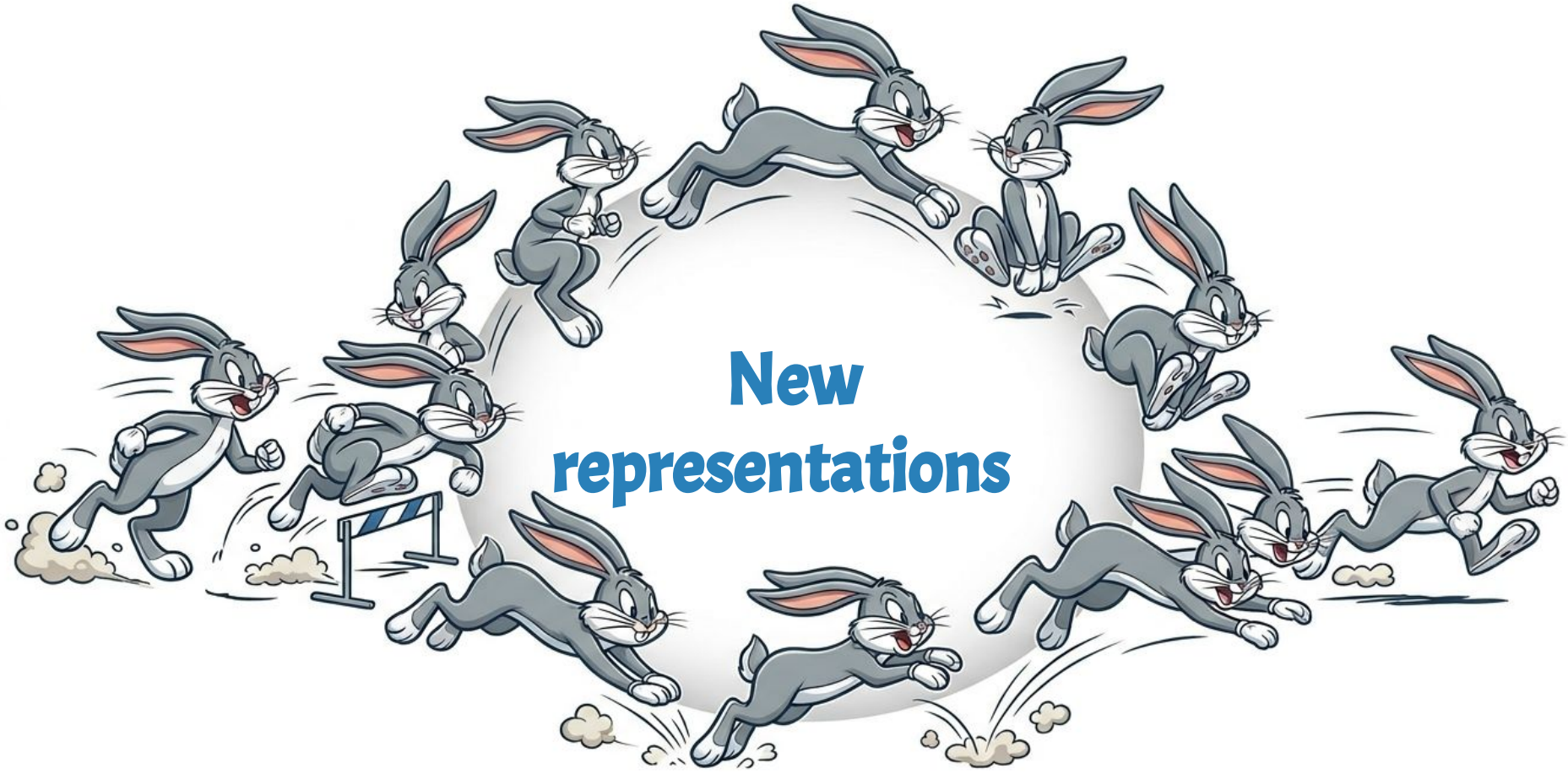




Studio Makers

OBEO

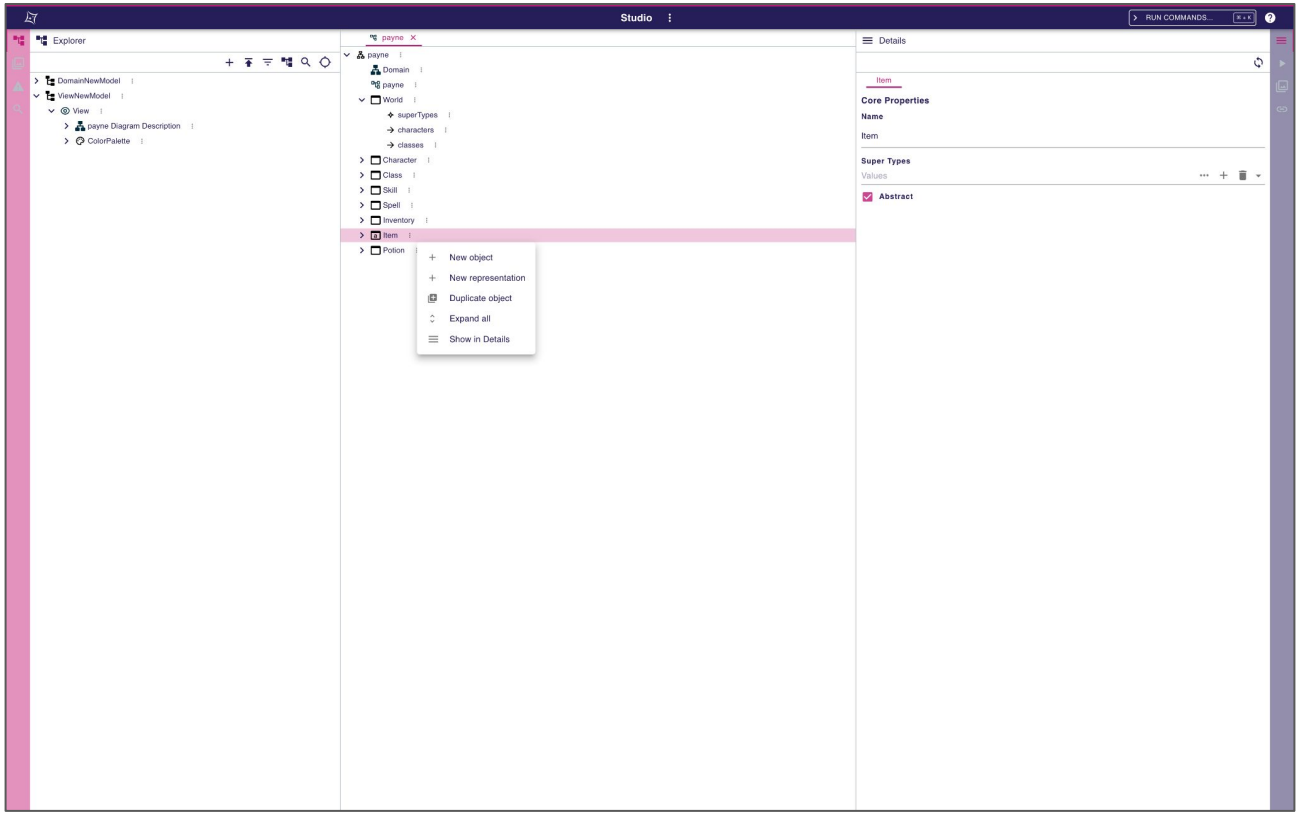
Sirius


New
representations

Hierarchical Navigation: Tree representation

- **Alternative Viewpoint**: Provides a structured, hierarchical look at model elements.
- **Efficient Exploration**: Better suited for large-scale models where diagrams might become cluttered.
- **Direct Interaction**: Supports standard operations like renaming, creating, or moving elements directly within the tree.
- **Synchronization**: Stays in sync with diagram selections for consistent navigation.

Tree Representation



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Sirius

Data-Centric Editing: Table representation

- **Advanced Filtering**: Allows users to query and display specific subsets of model data based on attributes.
- **Configurable Columns**: Tool builders can define exactly which properties are exposed and editable.

Table Representation

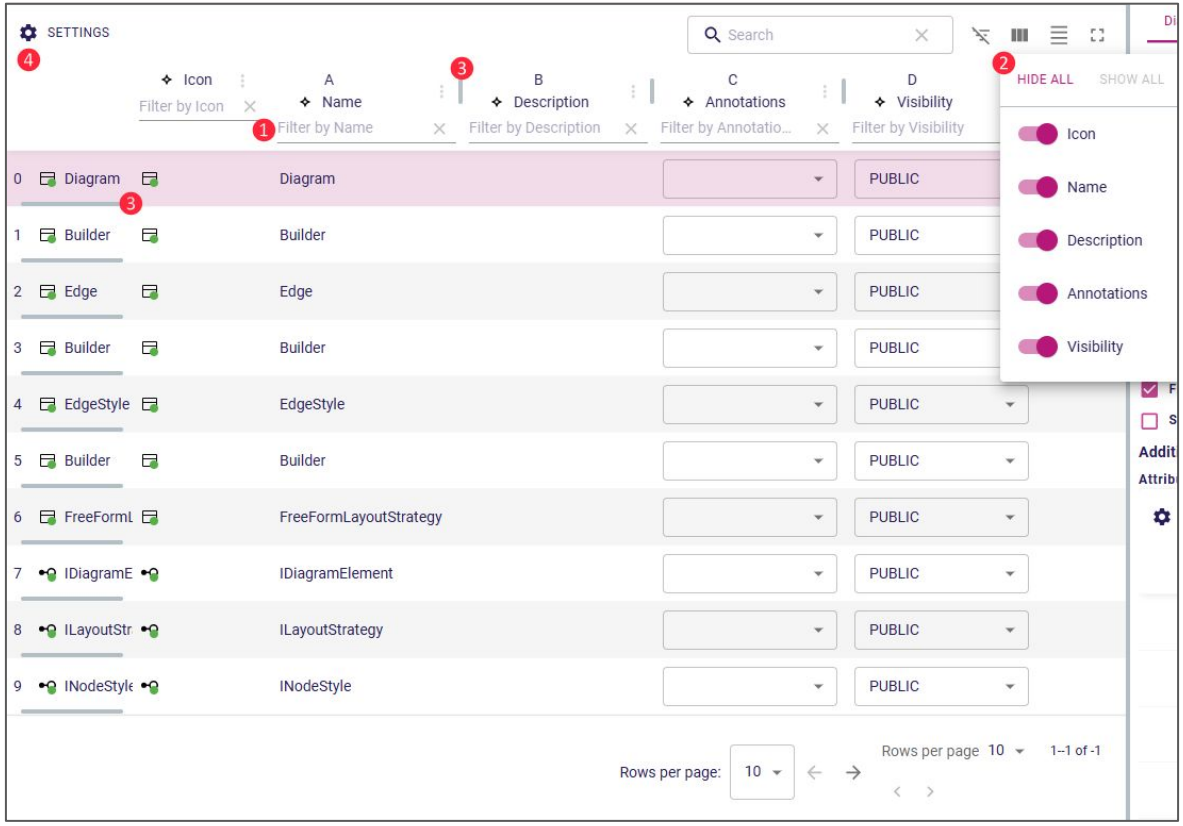
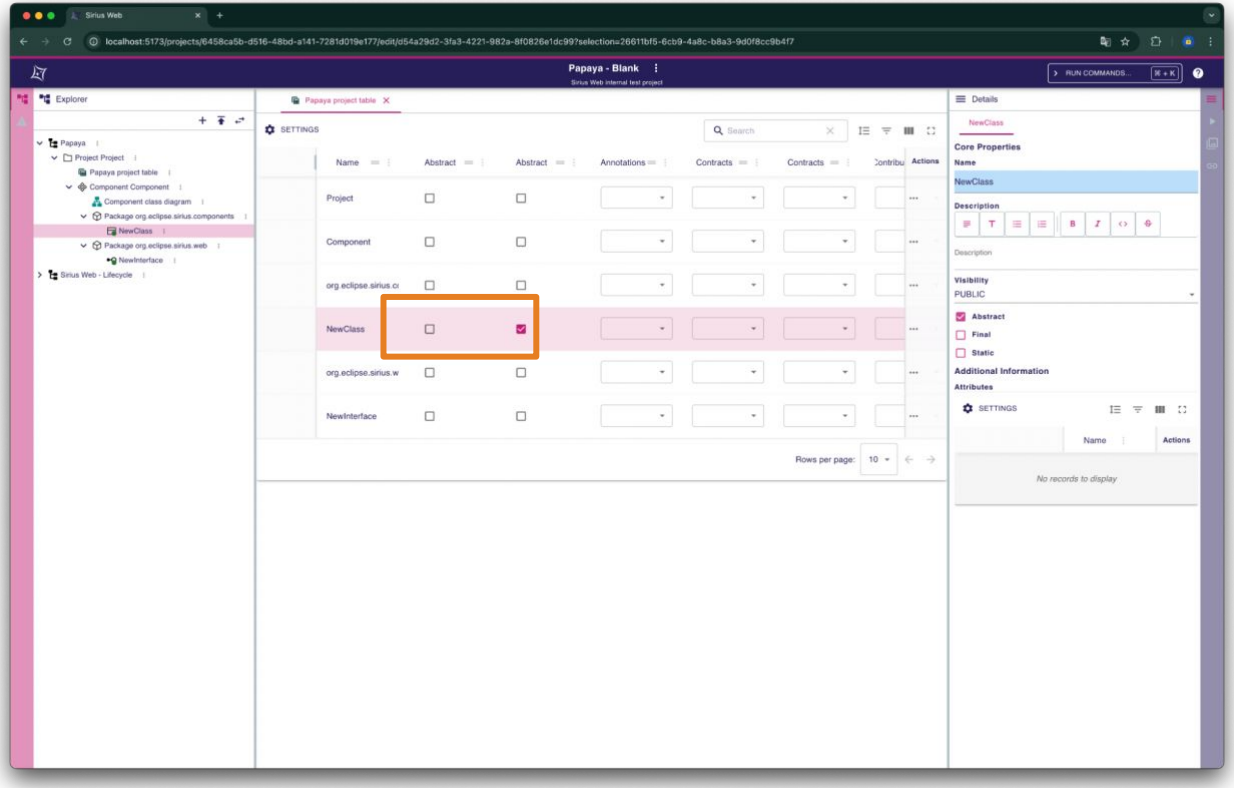
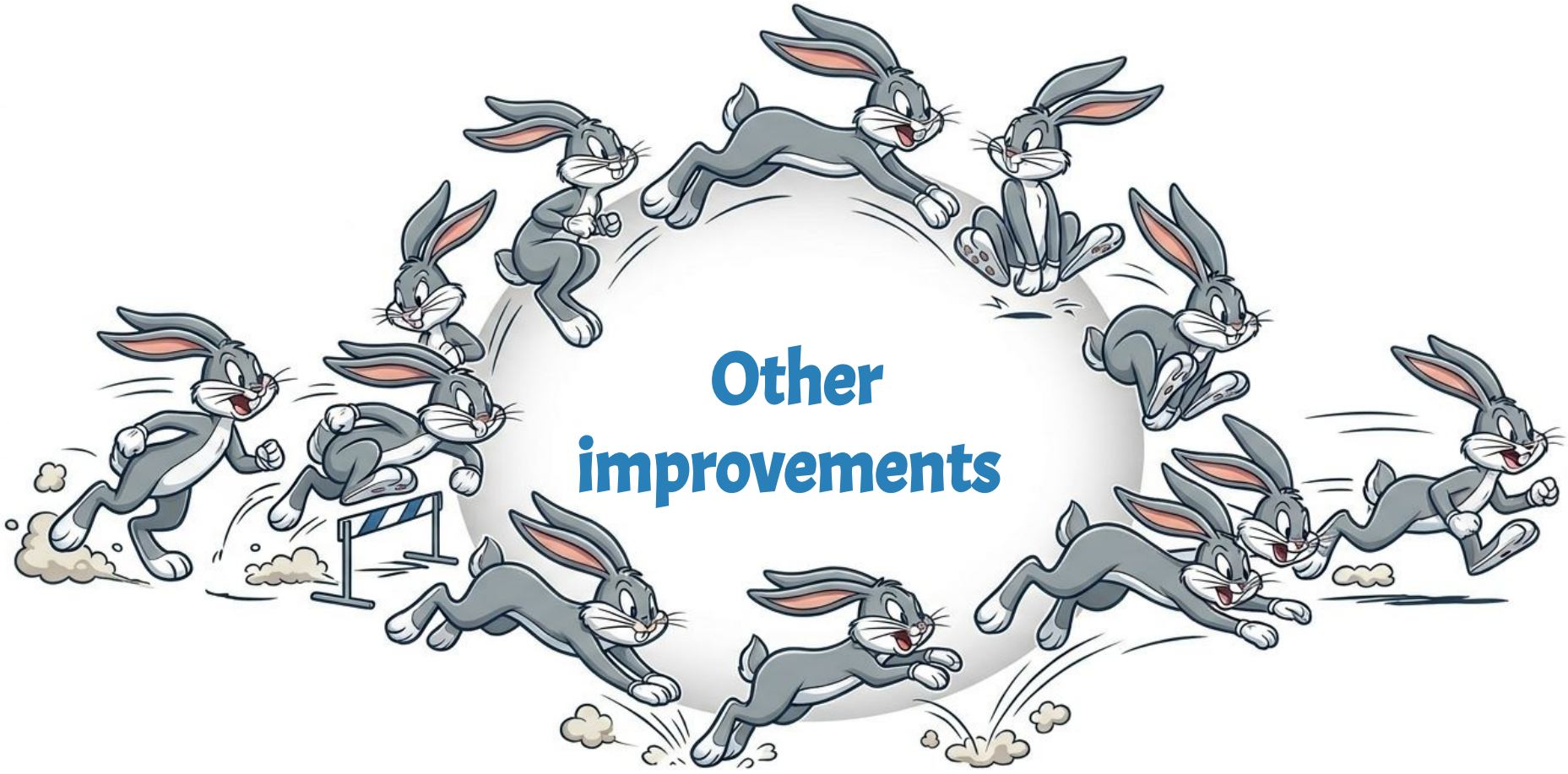
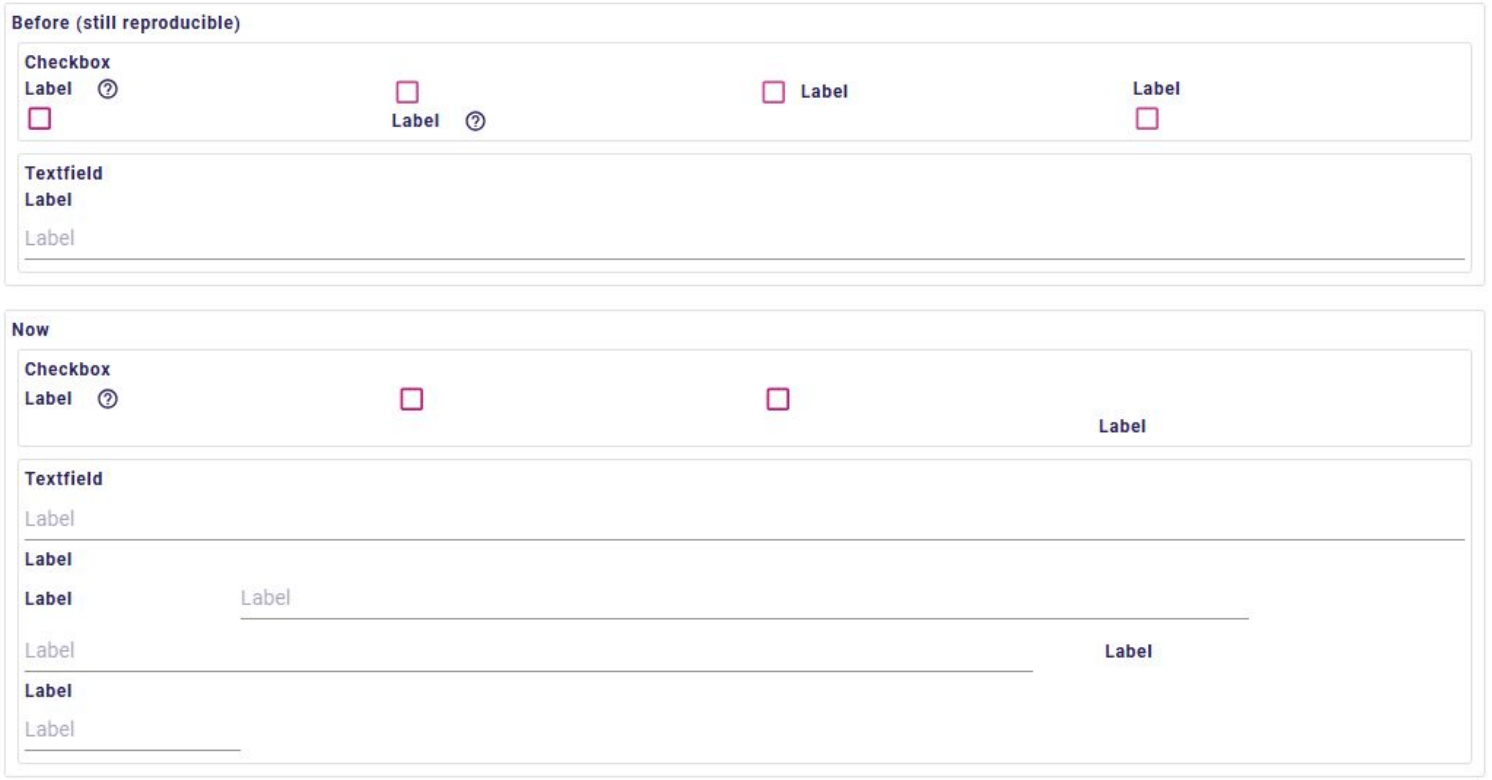


Table: Interactive Custom Widgets

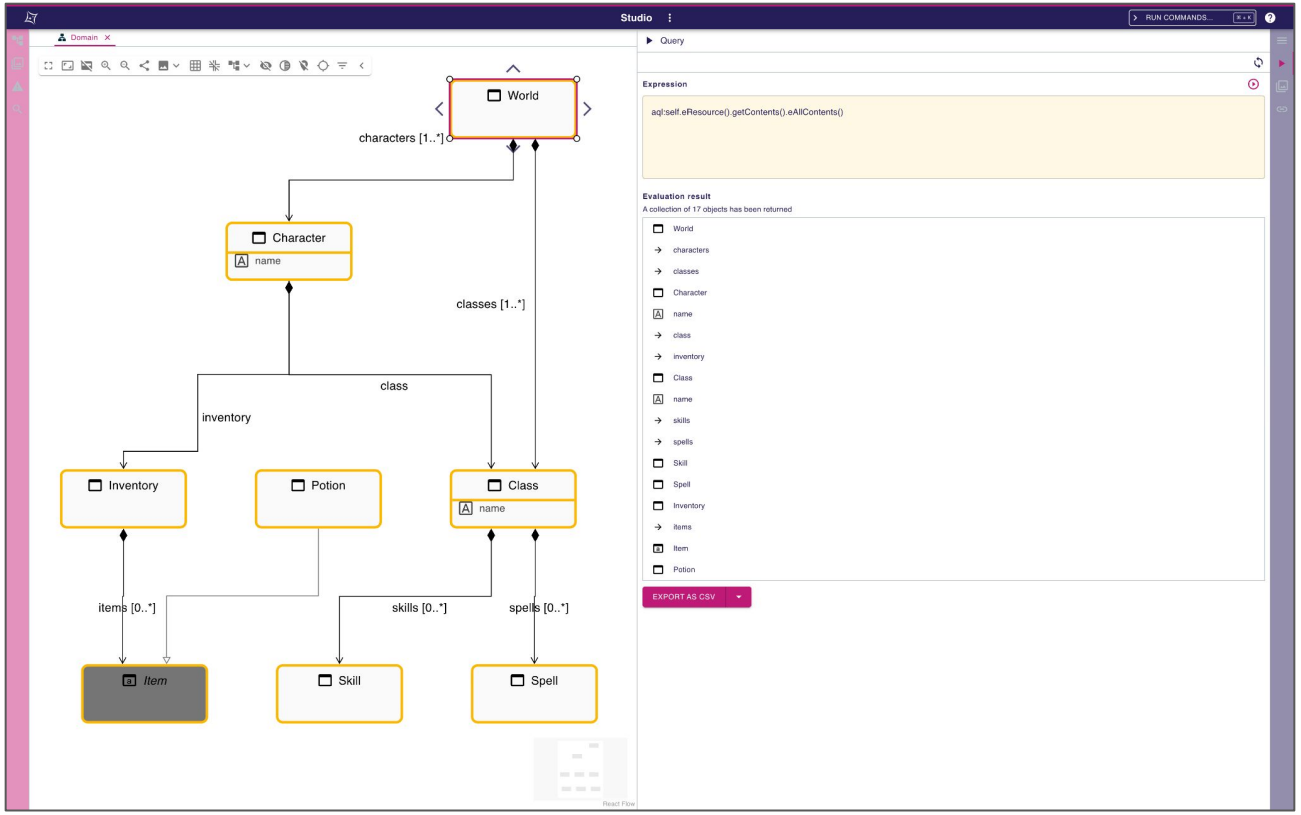



Other
improvements

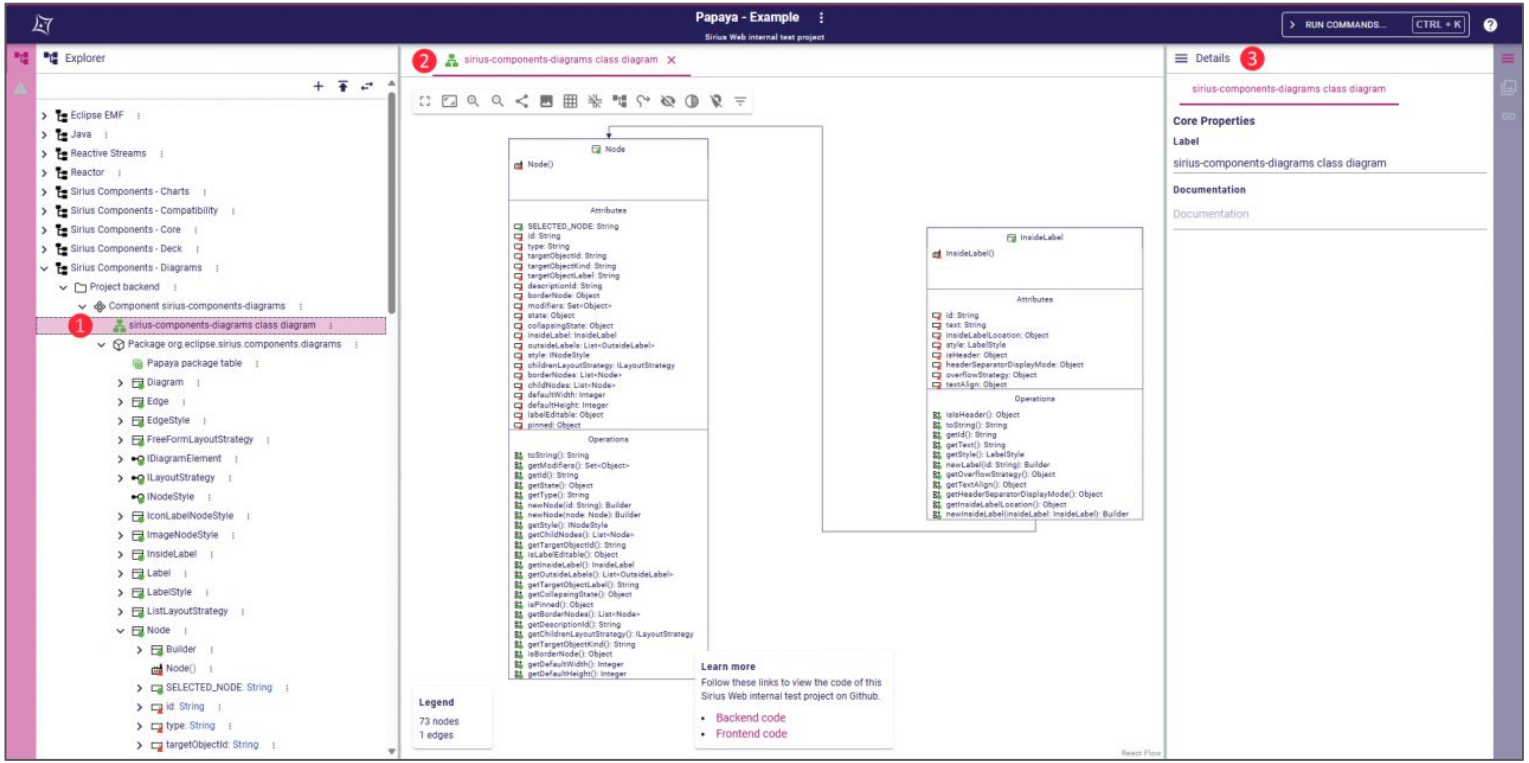
Form: Widget layout



Query View


Studio
RUN COMMANDS...
Domain
World
characters [1..*]
Character
name
classes [1..*]
class
inventory
Inventory
Potion
Class
name
items [0..*]
skills [0..*]
spells [0..*]
Item
Skill
Spell
Query
Expression
aql:self.eResource().getContents().eAllContents()
Evaluation result
A collection of 17 objects has been returned
World
characters
classes
Character
name
class
inventory
Class
name
skills
spells
Skill
Spell
Inventory
items
Item
Potion
EXPORT AS CSV

Representation Customization



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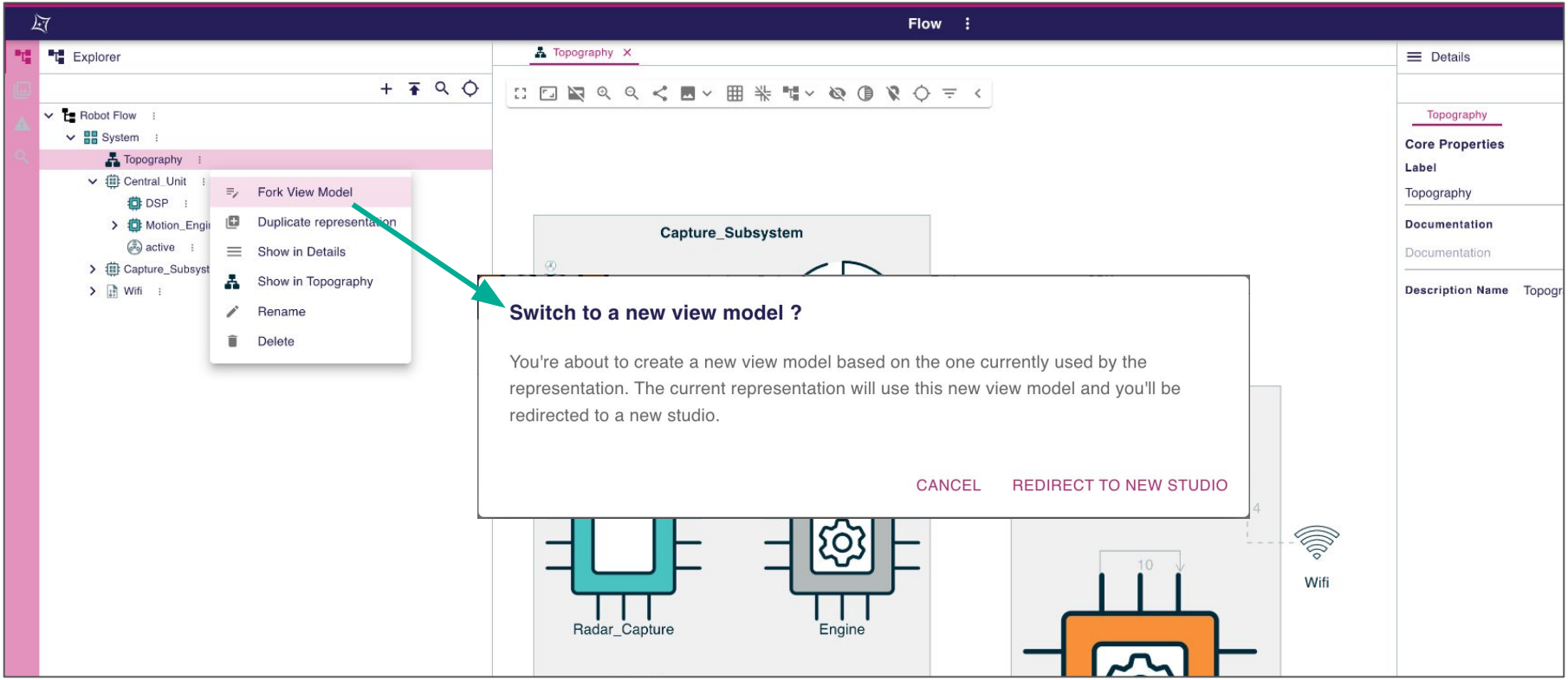
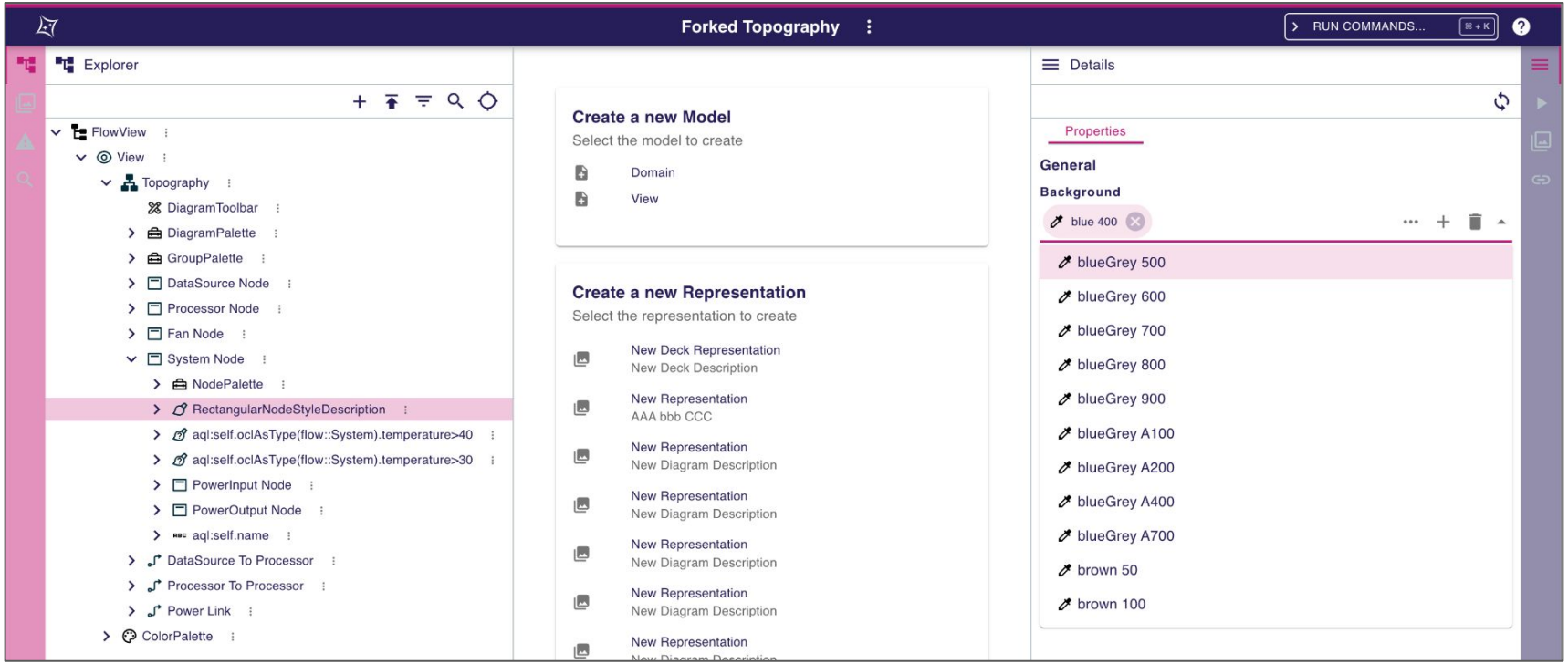
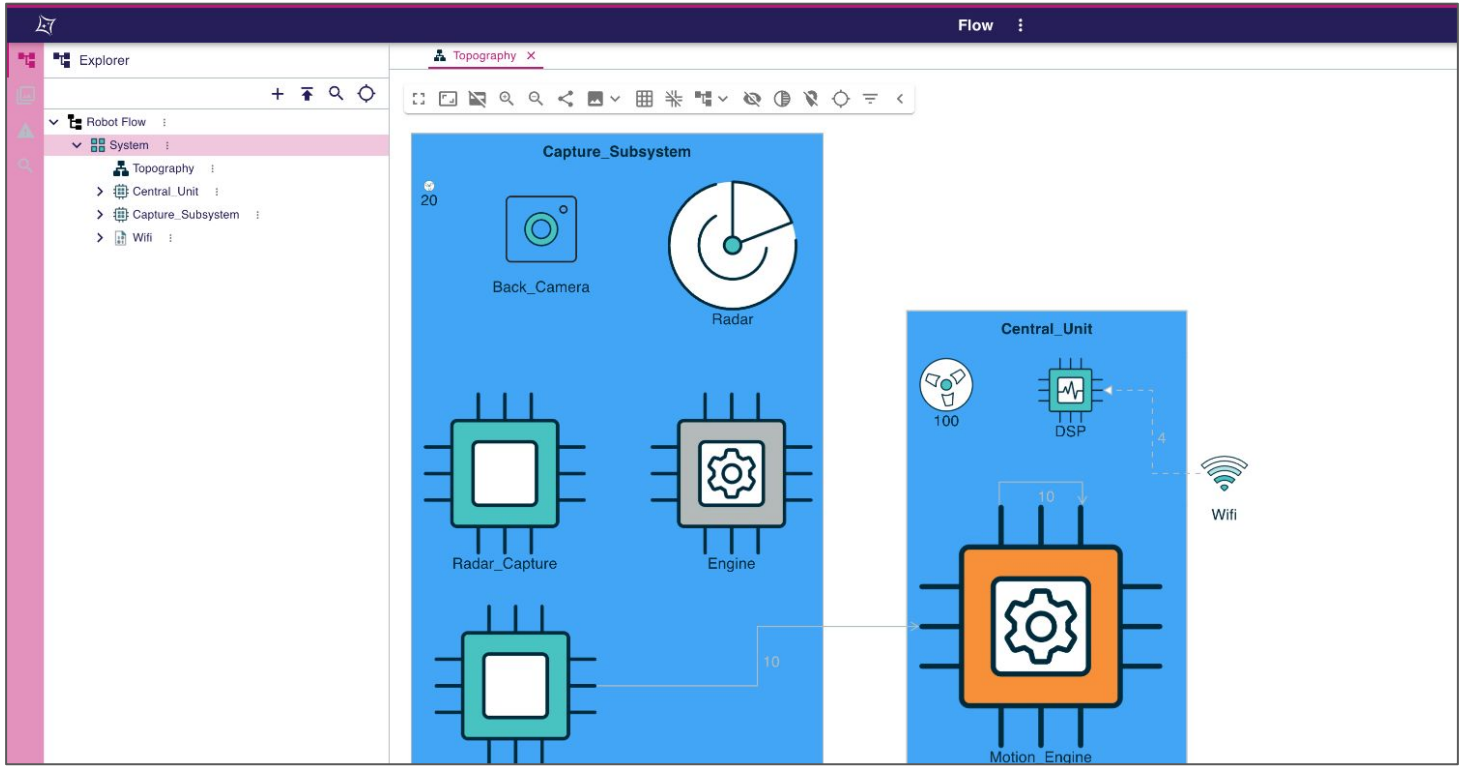
Dynamically Update Representation Descriptions

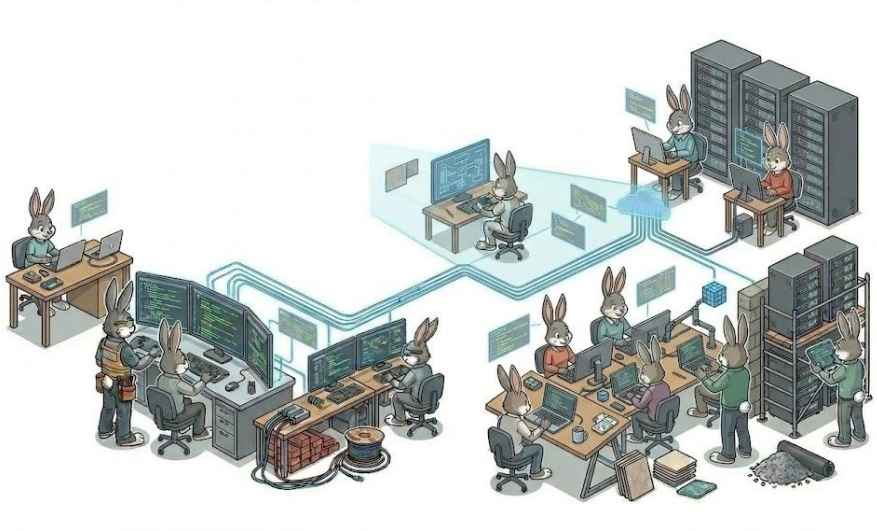


Dynamically Update Representation Descriptions

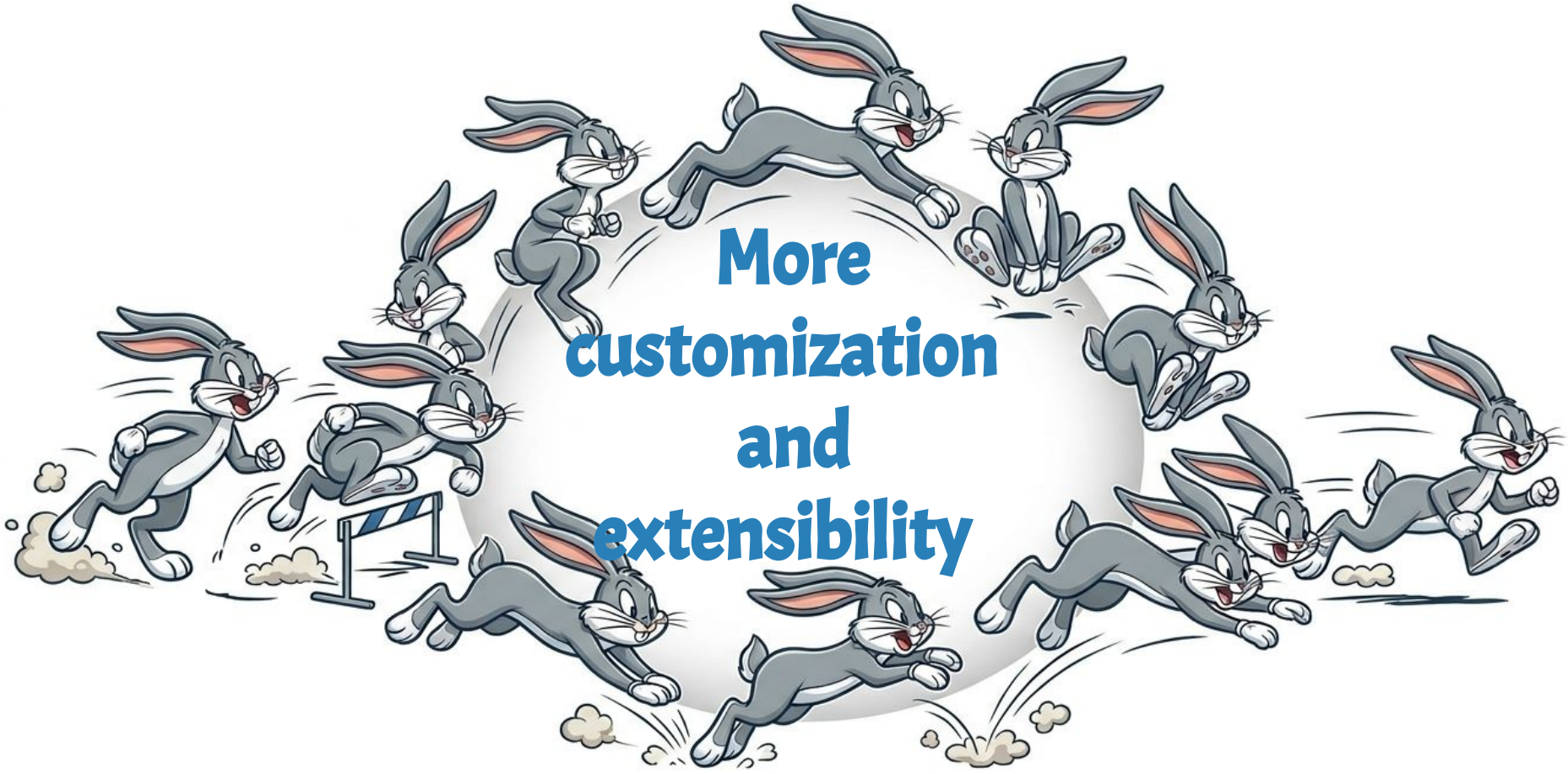


Dynamically Update Representation Descriptions

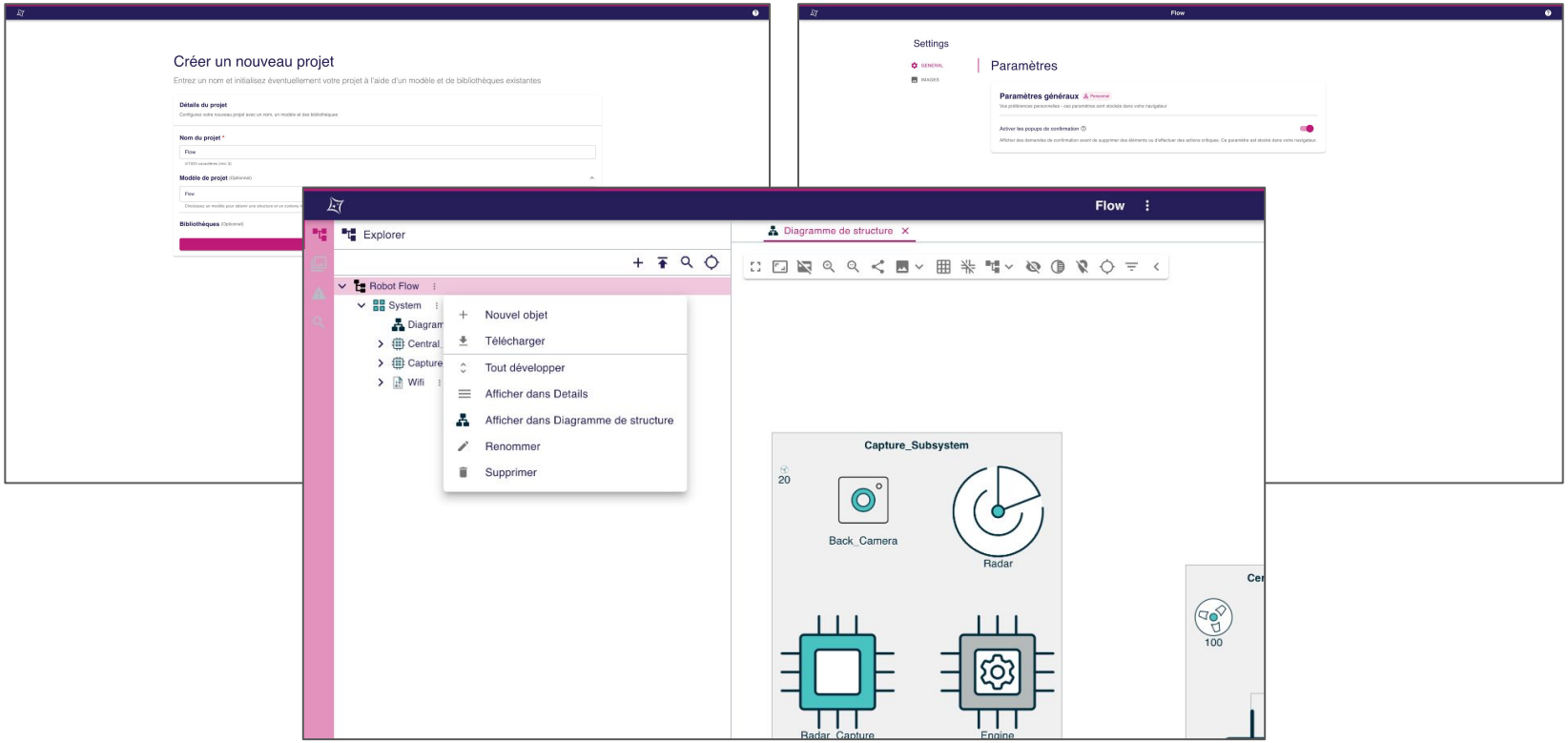




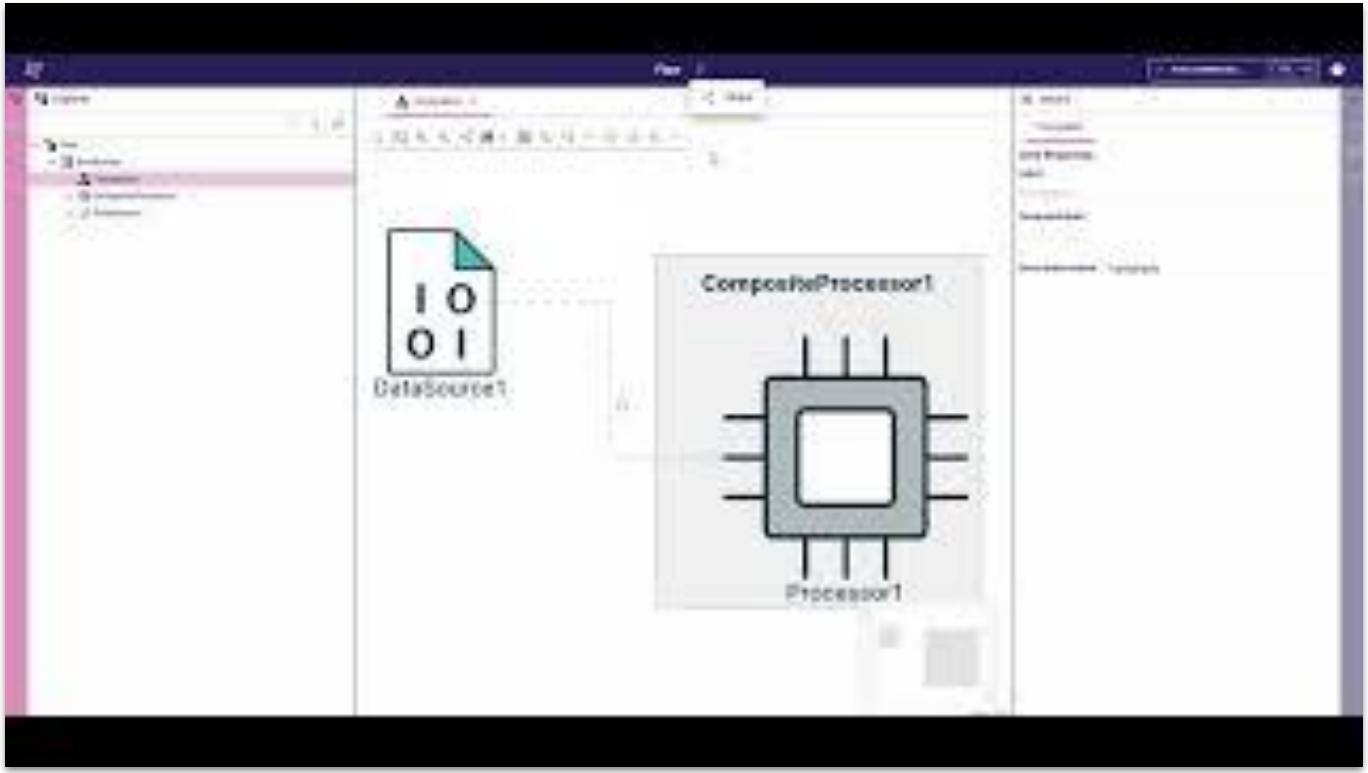
Developers


More
customization
and
extensibility

Internationalization

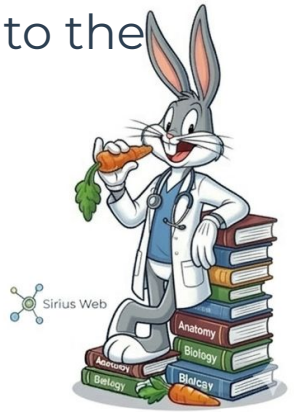


Capabilities: Fine-Grained UI Control



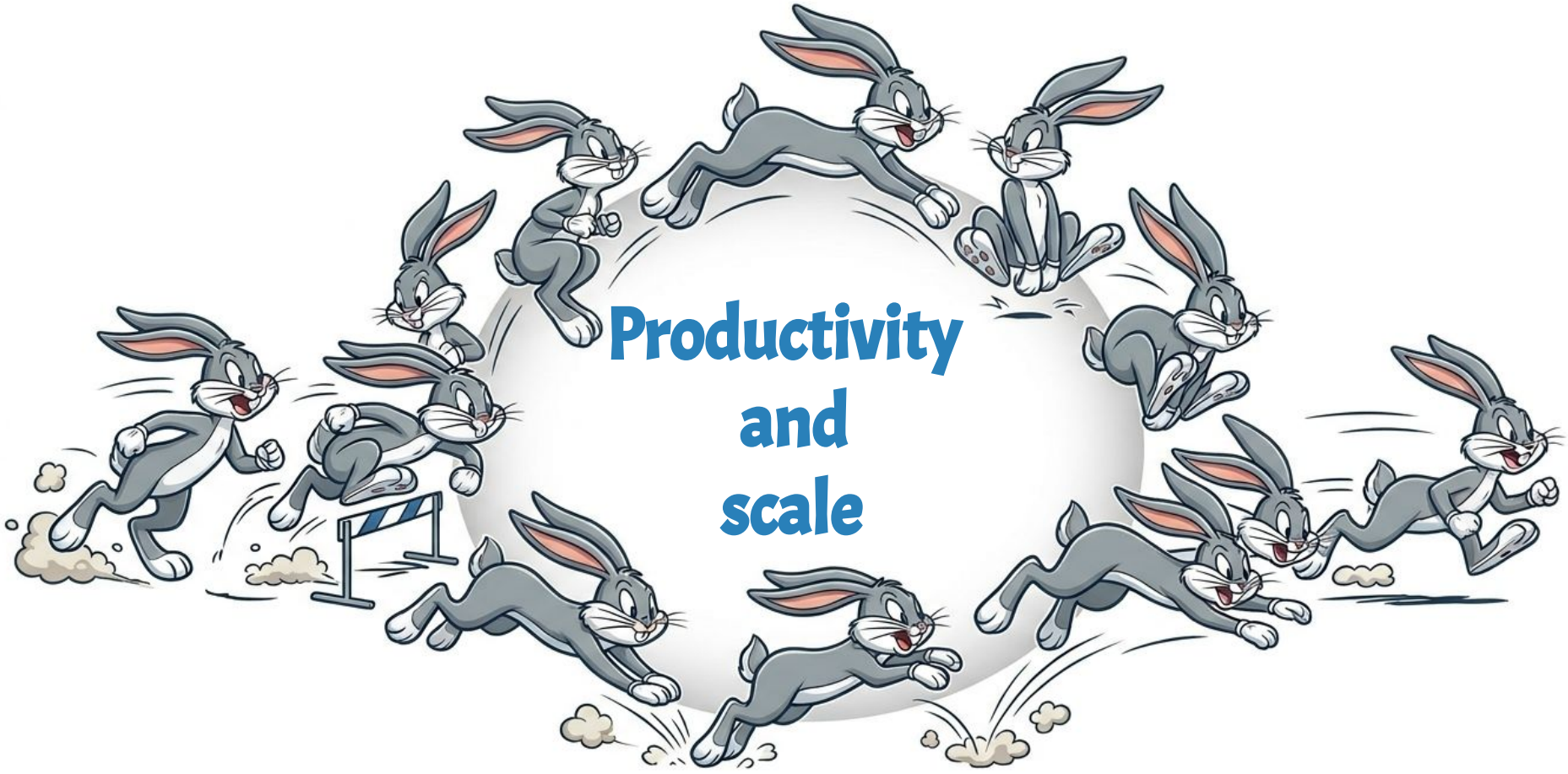
More customization for tool builders

- **Style Flexibility**: Expanded control over colors, shapes, and conditional styling based on model states.
- **Dynamic UI**: Ability to define custom actions and contextual menus more easily.
- **Project-Specific Workbench Views**: Tool builders can now better tailor the interface for different use cases
- **Branding**: Easier integration of corporate visual identities into the modeling workbench.



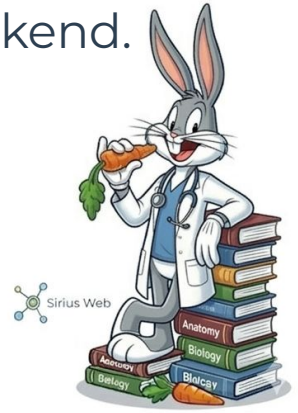
New APIs and integration capabilities

- **Standardized APIs**: Improved GraphQL endpoints for external data access and manipulation + REST APIs.
- **Frontend Extensions**: New entry points for developers to add custom React components or widgets.
- **Easier deployment**: Docker image on Docker Hub under the name eclipsesirius/sirius-web.

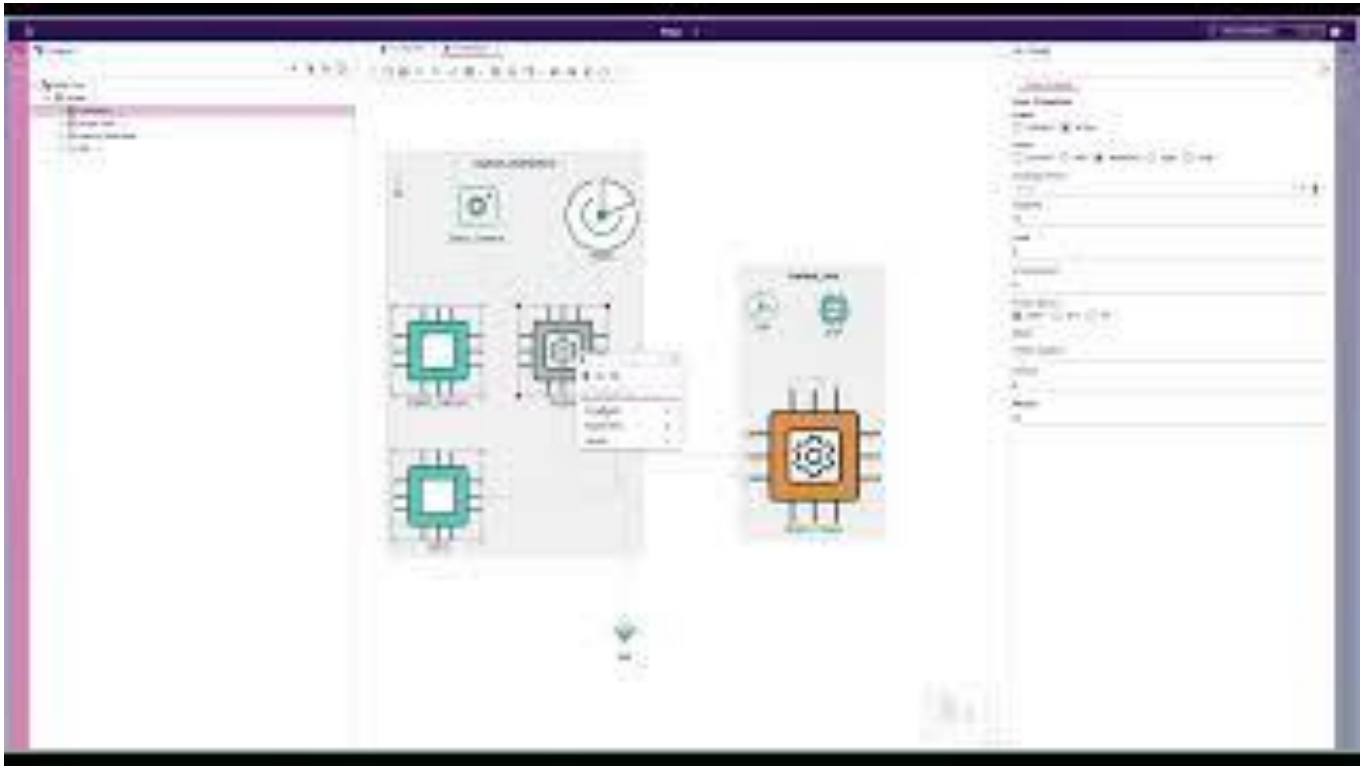

Productivity
and
scale

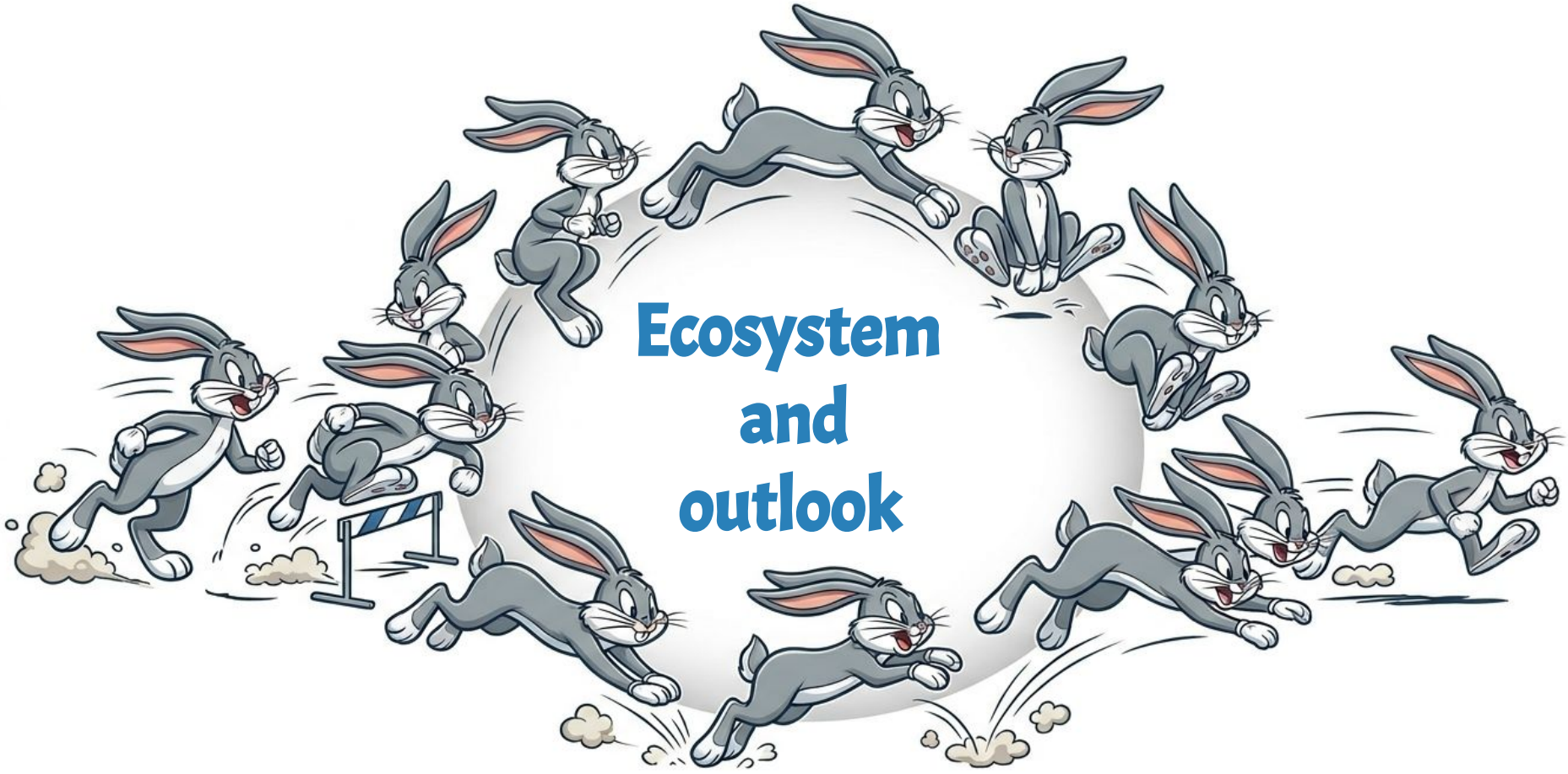
Scalability and platform improvements

- **Frontend Virtualization**: The UI only renders what is visible, allowing for fluid interaction with thousands of elements (Query / Search views).
- **Progressive Loading**: Large explorers and lists load only the relevant subset of data requested to ensure instant responsiveness.
- **Backend Stability**: Significant optimizations in memory management and request handling in the Spring Boot backend.
- **Deployment Ready**: Official Docker images and improved configuration for Kubernetes environments.



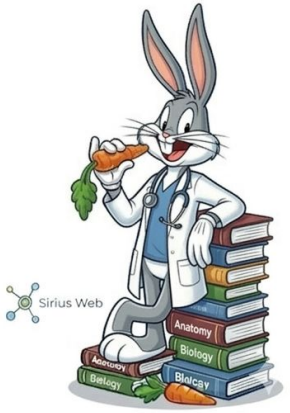
Batch tools



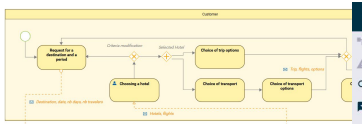

Ecosystem
and
outlook

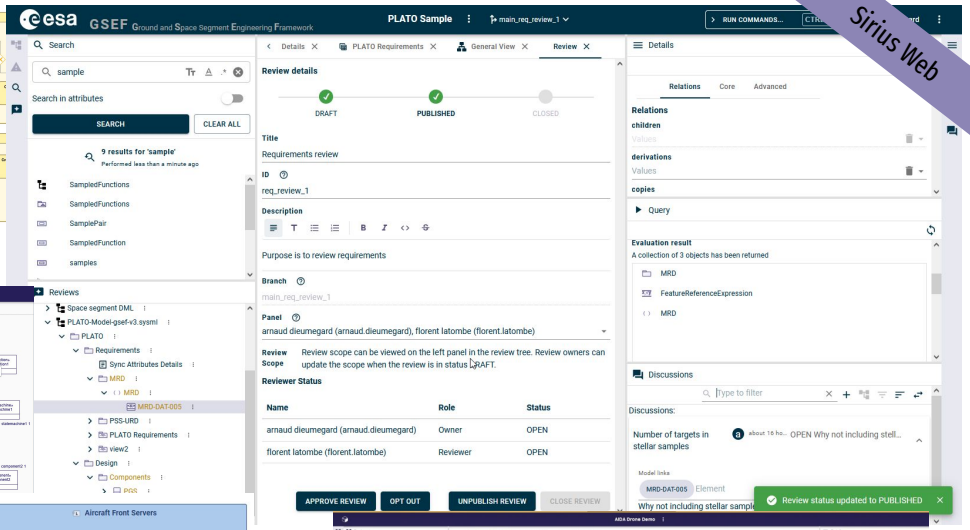
Sirius Web in the ecosystem & OE4S

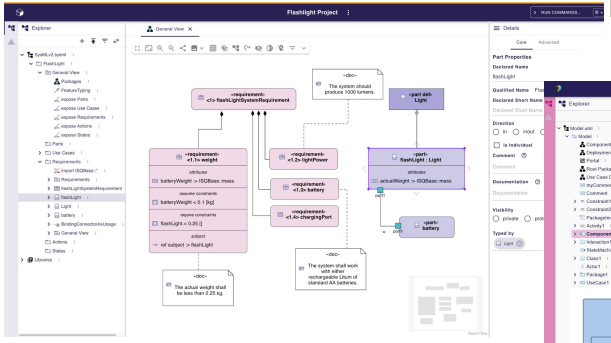
- **Core Foundation**: Sirius Web provides the open-source building blocks.
- **Obeo Enterprise for Sirius (OE4S)**: Provides the enterprise-grade features such as advanced security, scalability, and specialized support.
- **Industry Solutions**: Sirius Web powers specific tools like SysON (SysML v2), Papyrus Web and SmartEA.
- **Collaborative Growth**: Improvements in the core platform benefit all tools built on top of it.

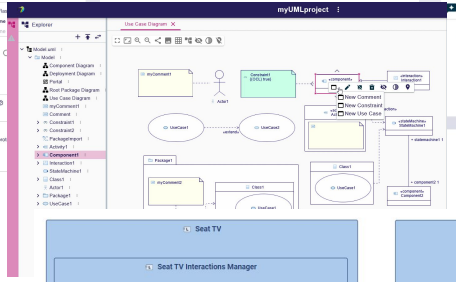


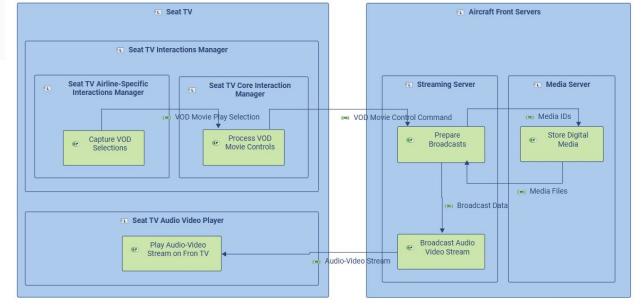
Sirius Web Gallery

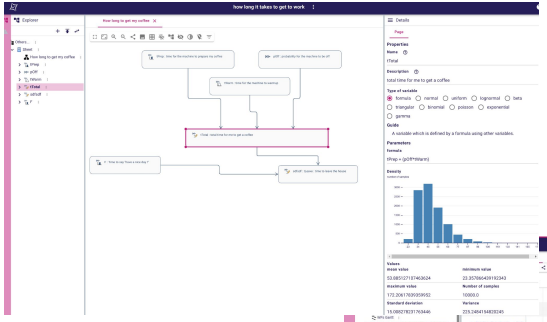


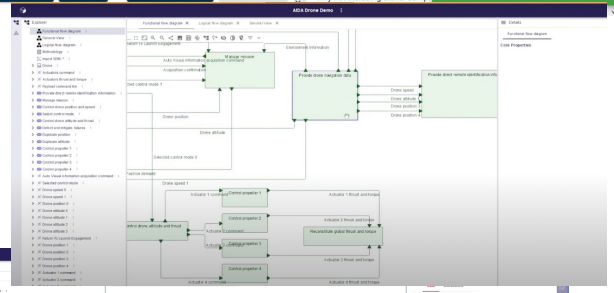


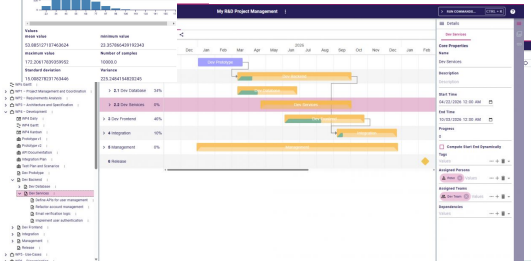


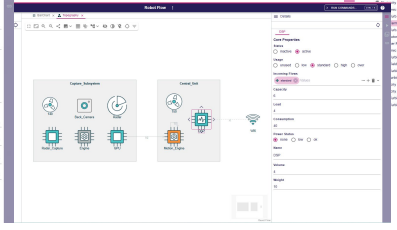


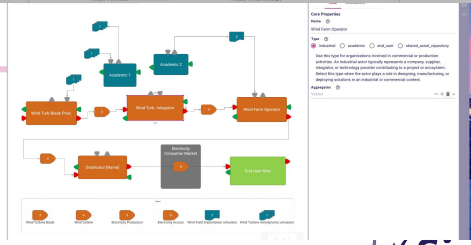












OBEO

Sirius

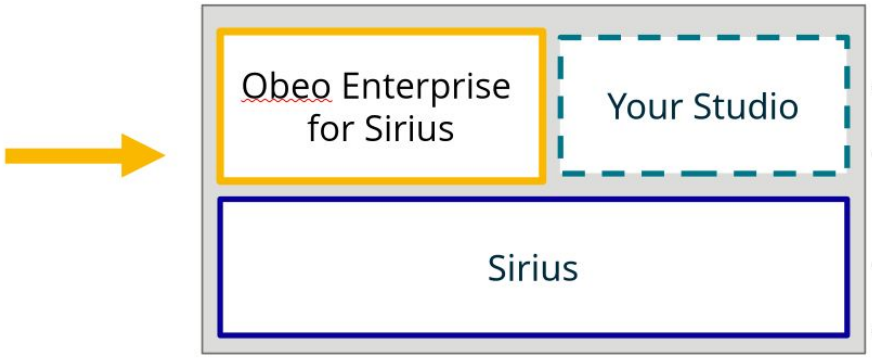
Obeo Enterprise for Sirius (OE4S)

OBEO
Enterprise
for Sirius

Enterprise Collaboration Enabler
for Cloud-Native Graphical Modeling

Architecture

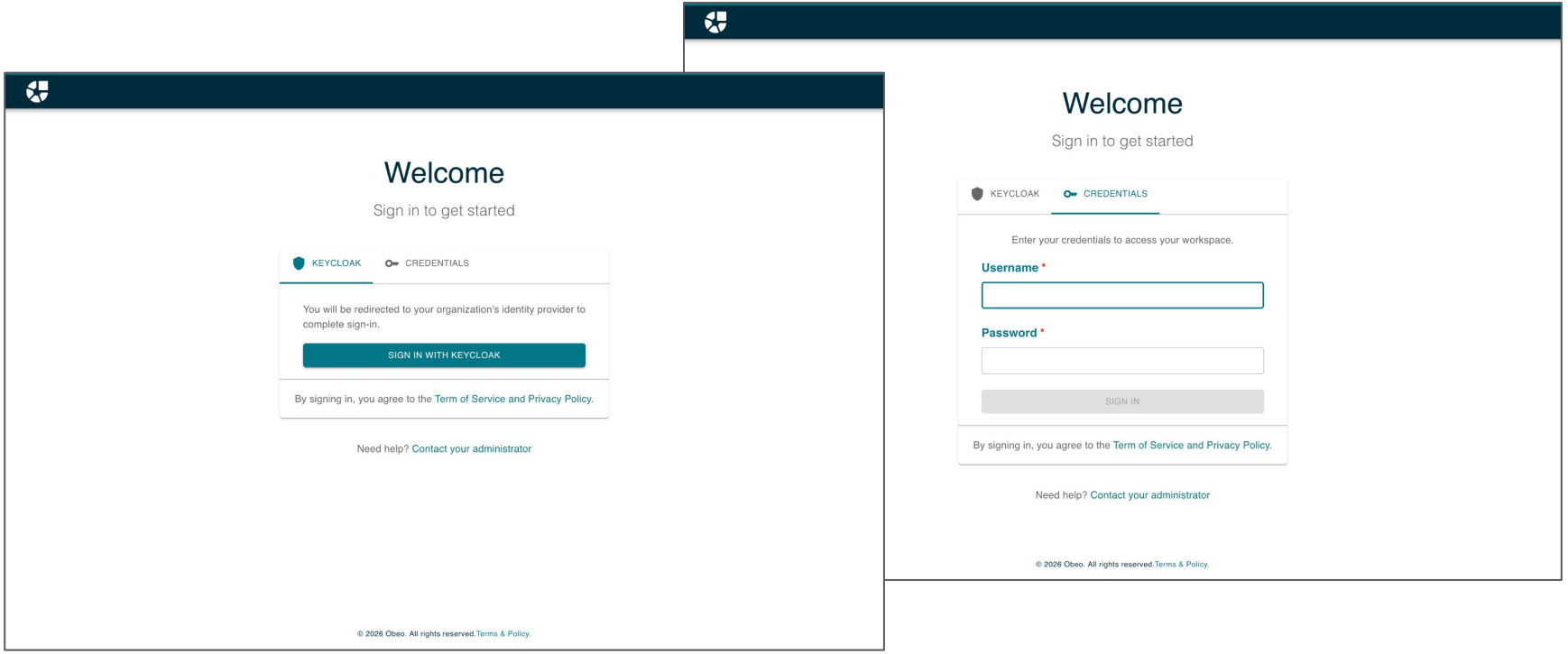
Open Source



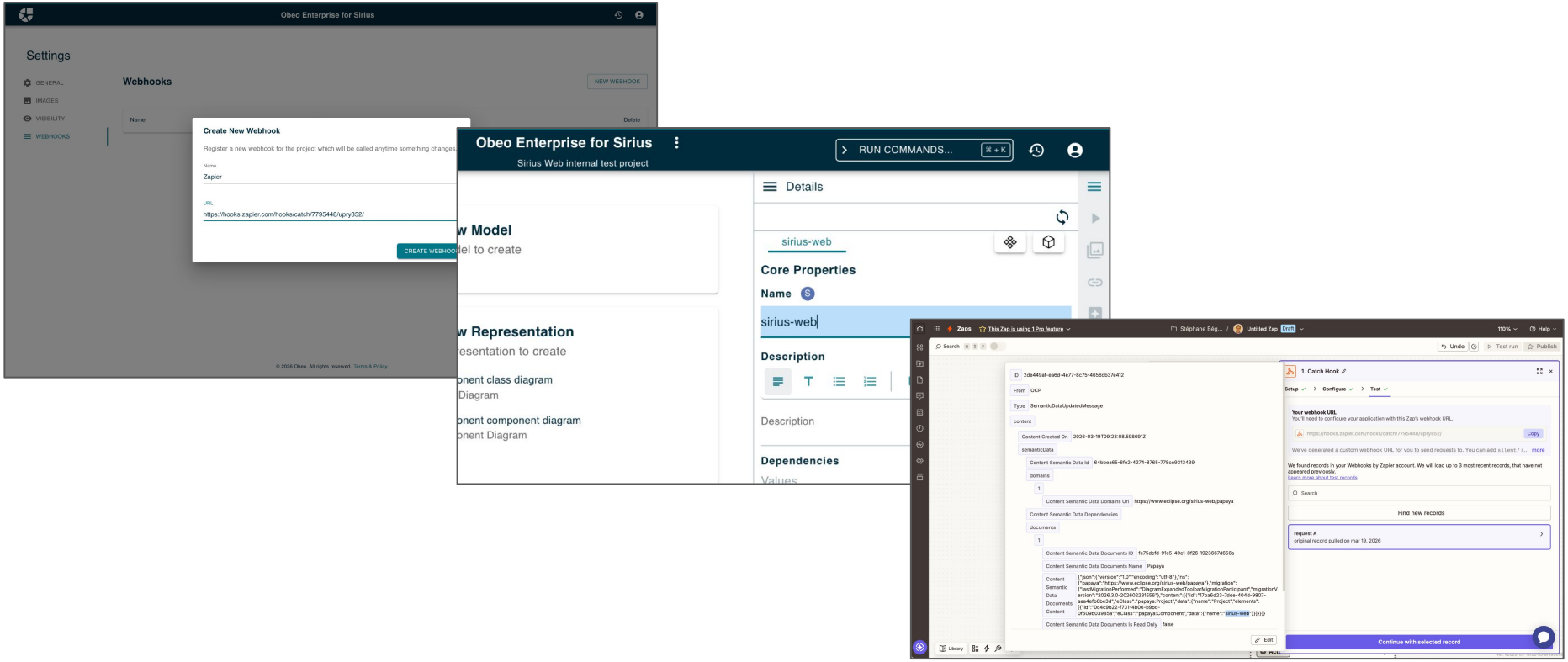
Enterprise

- The code base remains exactly the same, provided it follows a modular design
- Untouched, as it was designed to be extendable for adding enterprise features via extensions

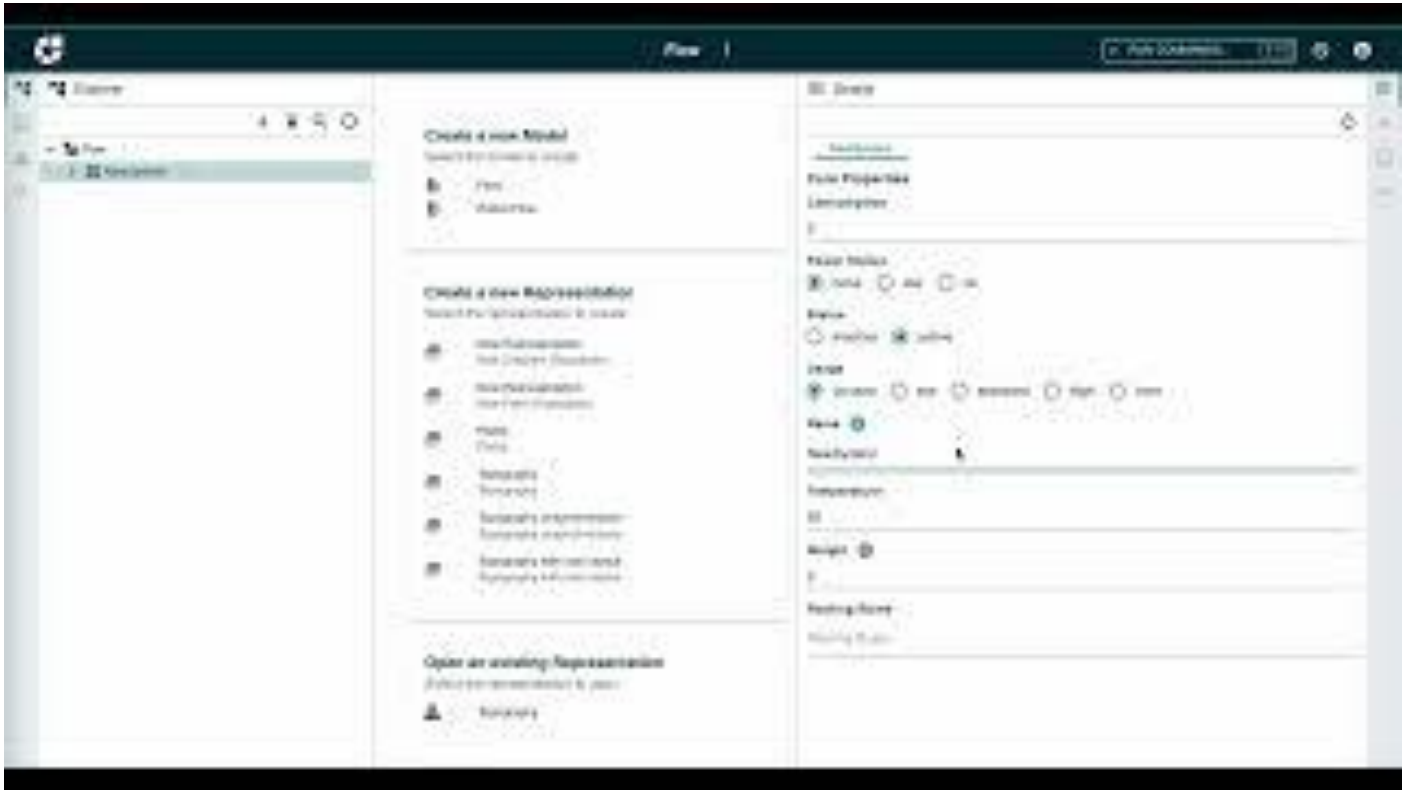
OE4S Features - Authentication



OE4S Features - Webhooks



OE4S Features - Visual collaboration

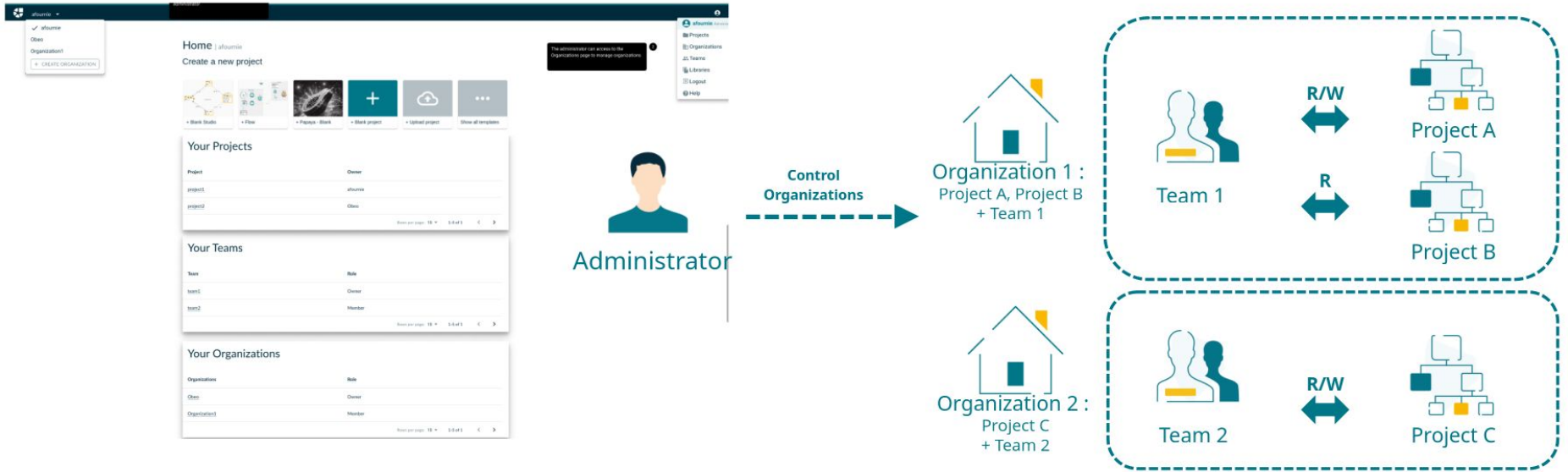


Control User Permissions : Organizations

Shared workspace: To structure teams and control access to projects (similar to Github's Organizations)

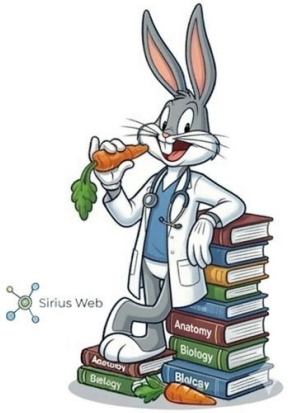
Project ownership : To group related projects under a common ownership and governance model.

Scalable collaboration: Makes collaboration easier to scale while keeping project ownership

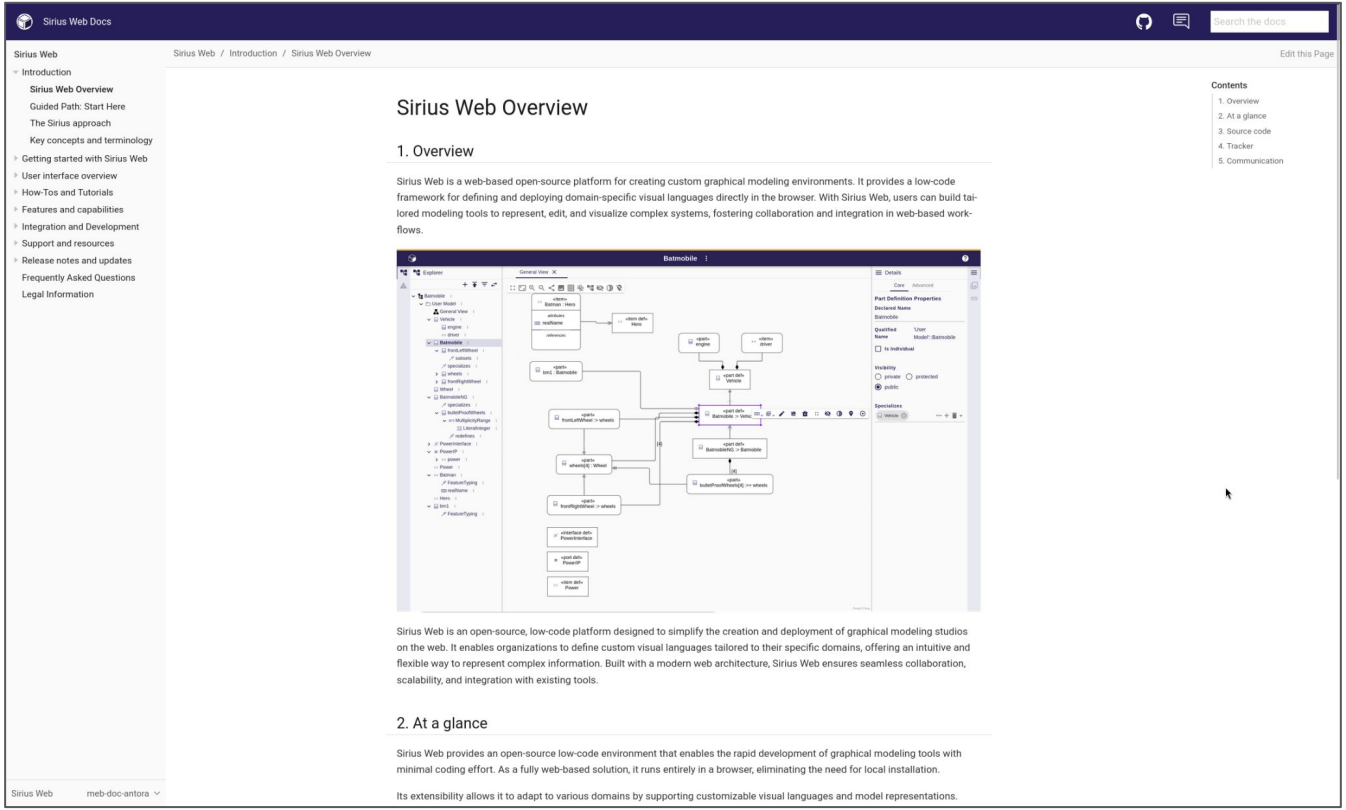


What's next?

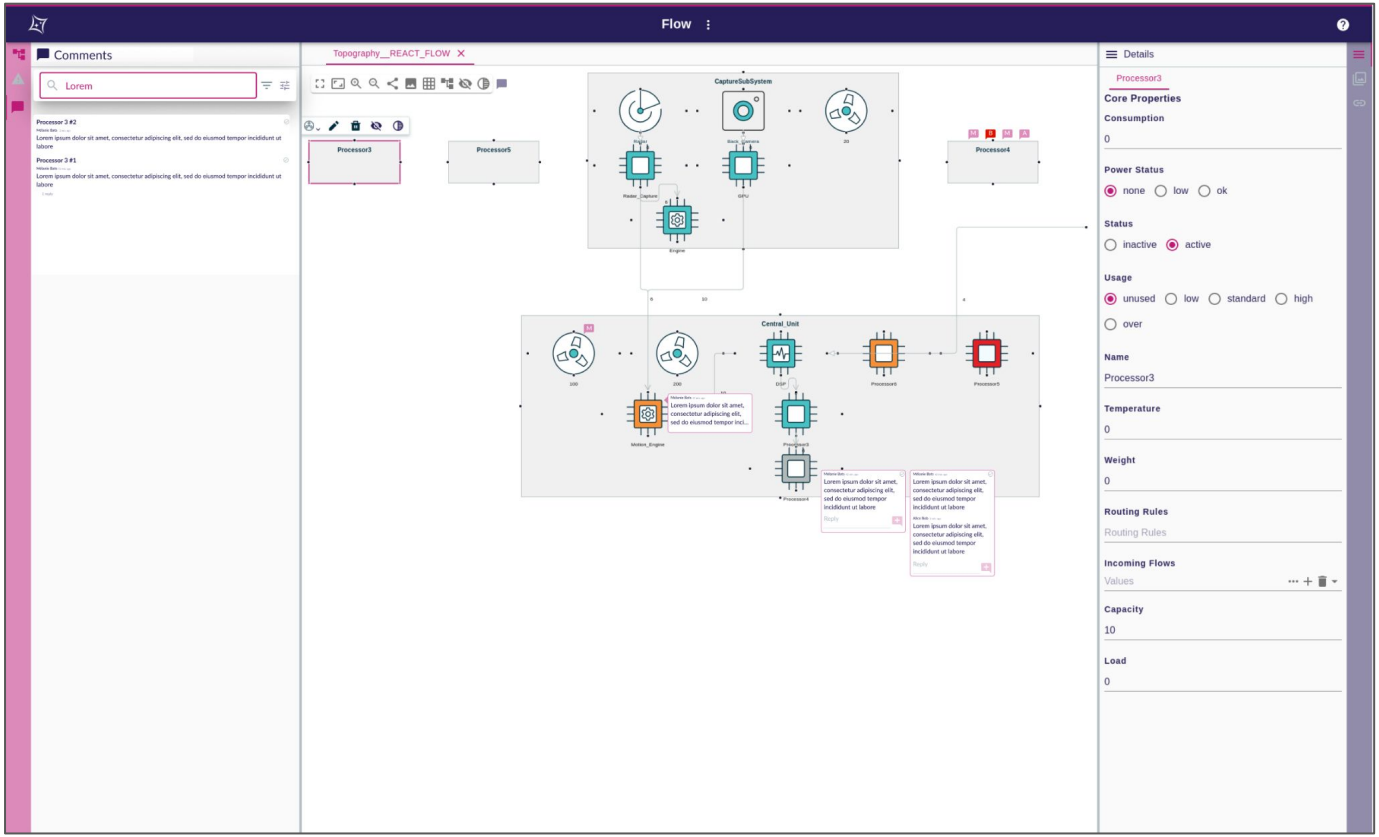
- **Advanced Collaboration**: Moving toward real-time multi-user editing with visual presence (multi-cursor), version management...
- **Assisted Modeling**: Exploring AI integration to assist in model generation and consistency checking.
- **UX Continuity**: Continued focus on bridging the gap between desktop-level power and web-level simplicity.



Sirius Web Documentation



Comment

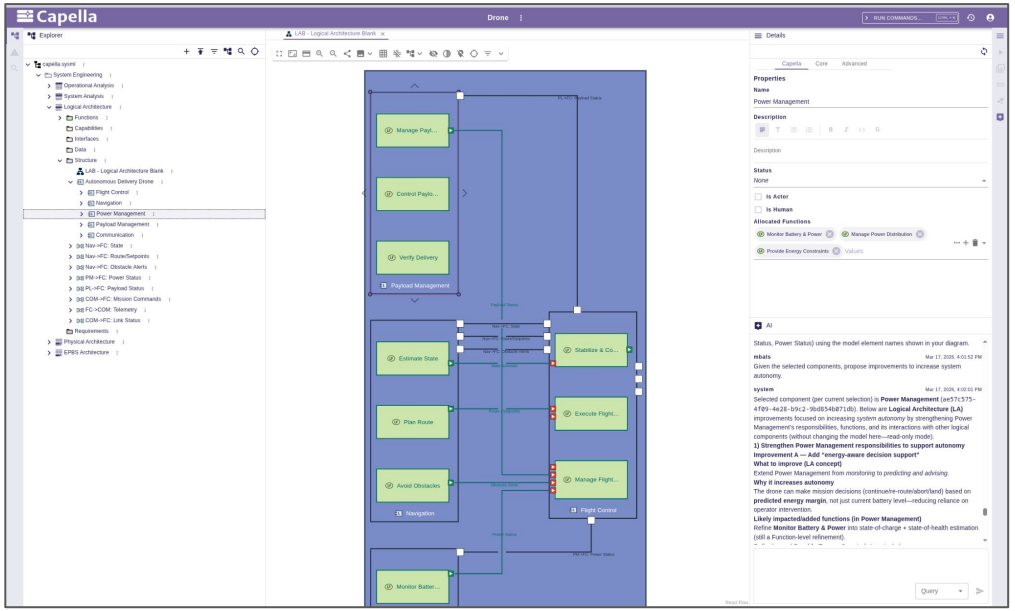

Flow
Comments
Lorem
Topography__REACT_FLOW
Processor3
Processor5
Processor4
CaptureSubSystem
Central_Unit
Details
Processor3
Core Properties
Consumption
0
Power Status
none
low
ok
Status
inactive
active
Usage
unused
low
standard
high
over
Name
Processor3
Temperature
0
Weight
0
Routing Rules
Routing Rules
Incoming Flows
Values
Capacity
10
Load
0

AI Integration

Modeling assistance: AI can help users create, refine, and complete model elements faster.

Task automation: Repetitive actions such as documentation can be accelerated with AI.

Context-aware support: AI uses the project and model context to provide more relevant guidance.



AI Integration

And More . . .

- **Sirius Web** : Textual editor…
- **Obeo Enterprise For Sirius**: Change management, reviews, “turbo” version…

Depends on what

Community :

is **interested** in,

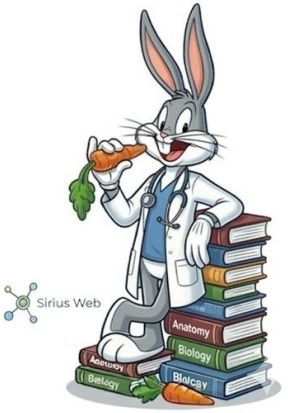
contributes,

is **sponsoring**!

That's All Folks! 🥕

- **Maturity**: Sirius Web is now a multi-representation platform (Diagrams, Forms, Gantt, Deck, Trees, Tables...).
- **Ready for Scale**: Performance and architectural updates support enterprise-level models.

The **synergy** between **Sirius Web and Obeo Enterprise for Sirius** ensures a path from **open-source innovation** to **industrial production**.



OBEO

Thank You!
Questions?

melanie.bats@obeo.fr
stephane.begaudeau@obeo.fr

https://eclipse.dev/sirius/sirius-web.html
https://github.com/eclipse-sirius/sirius-web