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# The Sirius Project

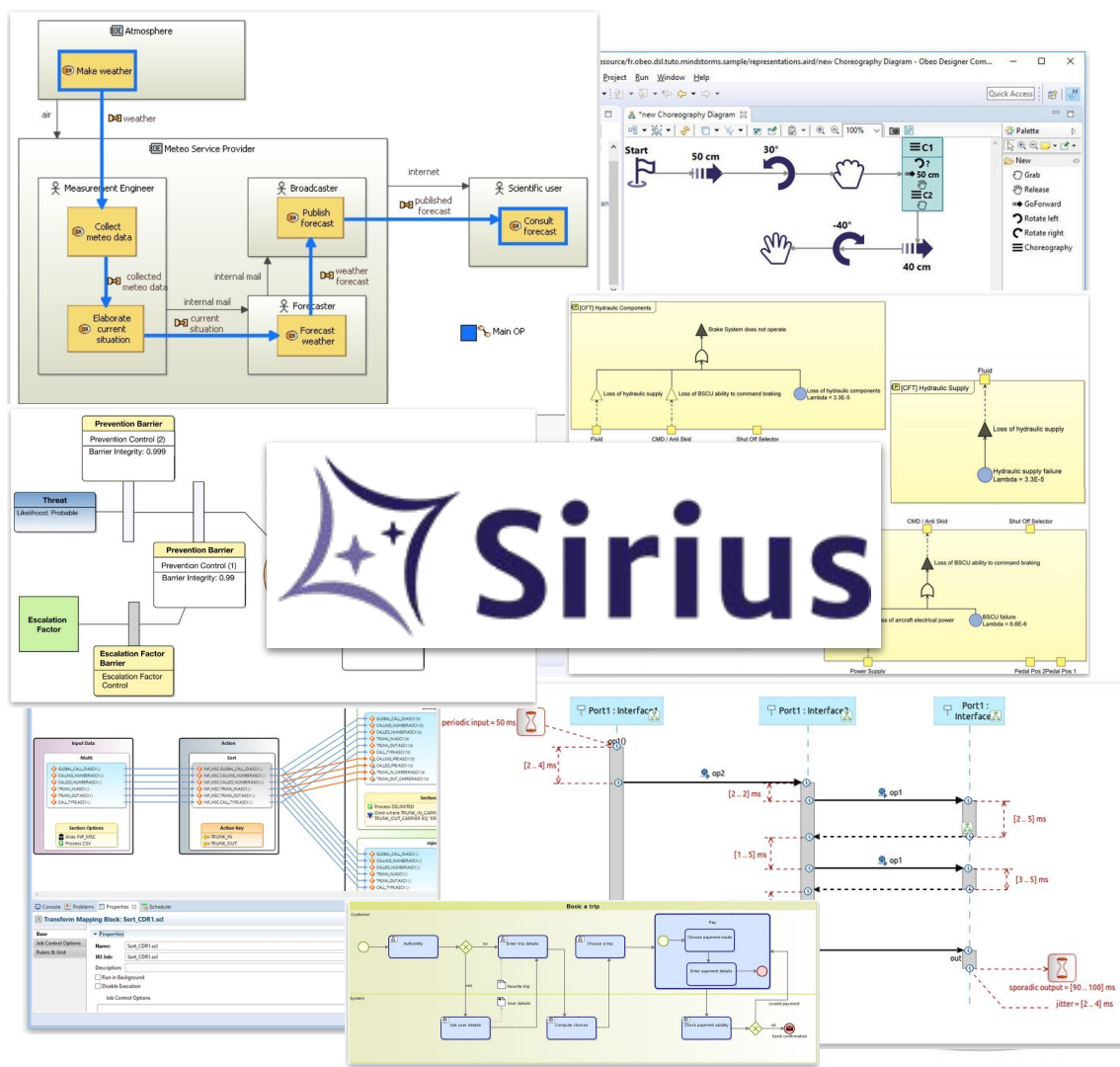
**Open Source Framework:** An Eclipse Foundation project for creating domain-specific graphical editors.

**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.

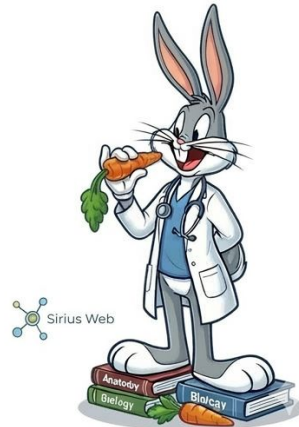
**Your Model + Your Rules =  
Your Workbench**



# Why Sirius Web ?

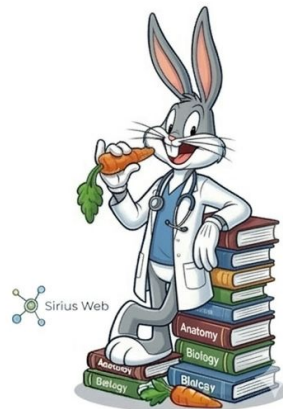
## Evolution to a Web-Based Environment

- **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

## Commits over time

Weekly from 16 sept. 2020 to 8 mars 2026



### Very active project:

+ 30 committers

~ 35 commits integrated per release

~ 1 pre-releases per week

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 ↔

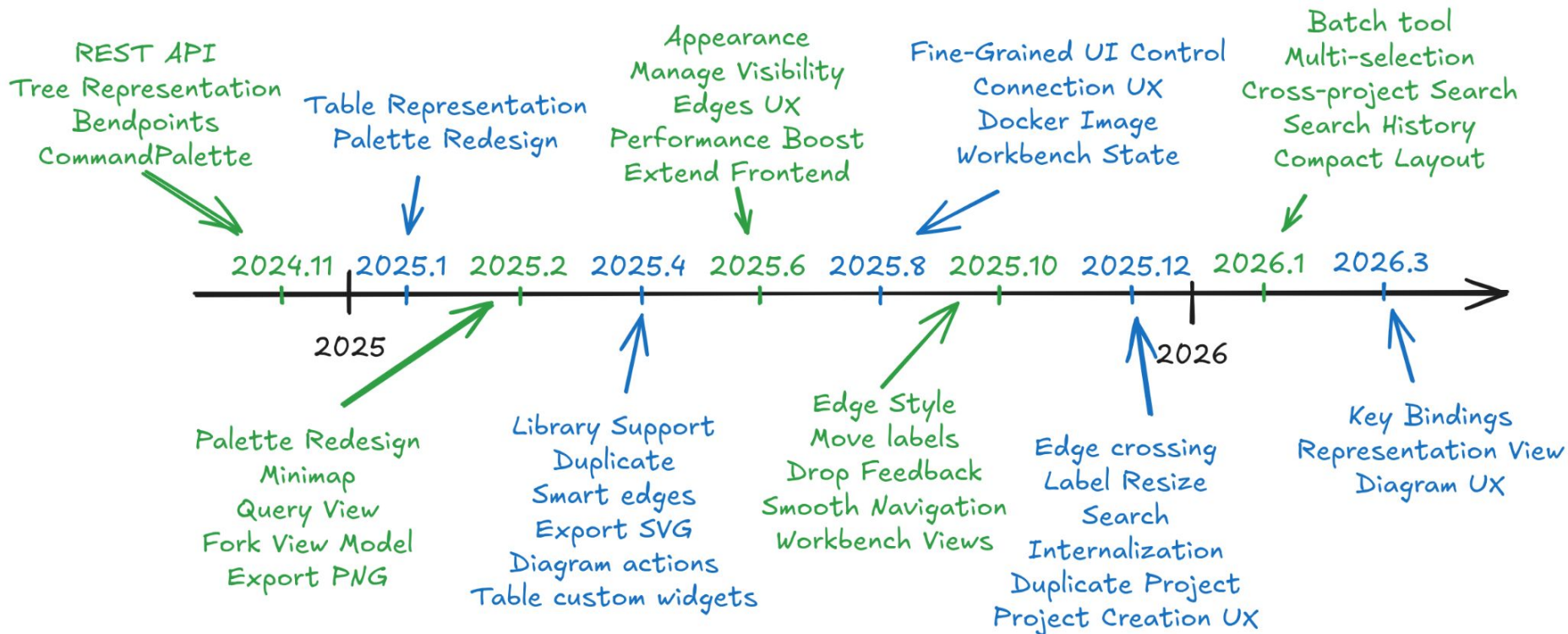
v2025.12.4

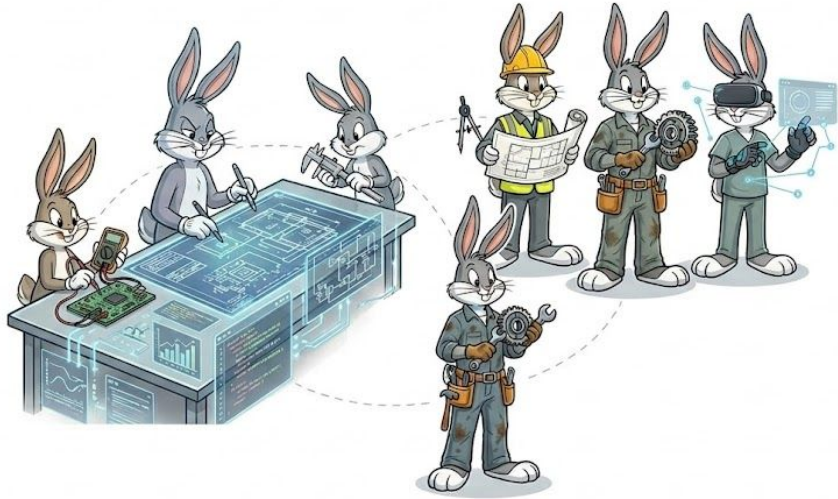
🕒 on Jan 12 ↔

v2025.12.3

🕒 on Jan 11 ↔

# A lot happened since late 2024






# End Users




**Improve  
workbench**

# Project Browser: Smarter Filtering


Create a new project




+ Blank Studio




+ Flow




+ Papaya - Blank



+ Blank project



+ Upload project



Show all templates

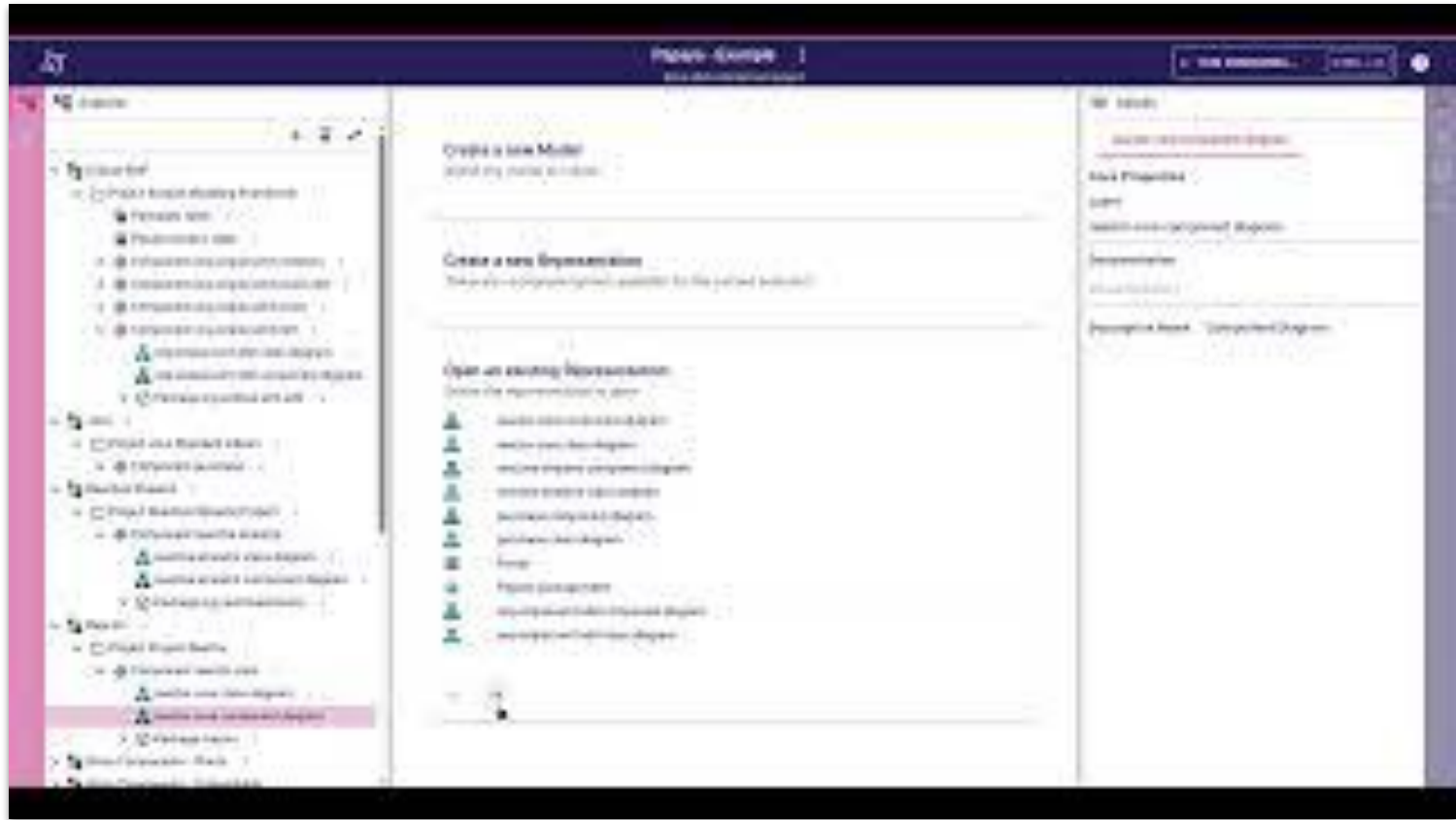
Existing Projects

Name	Actions
Domain Studio	...
Blank Studio	...

Rows per page: 20 ← →

© 2025 Obeo. Powered by Sirius Web

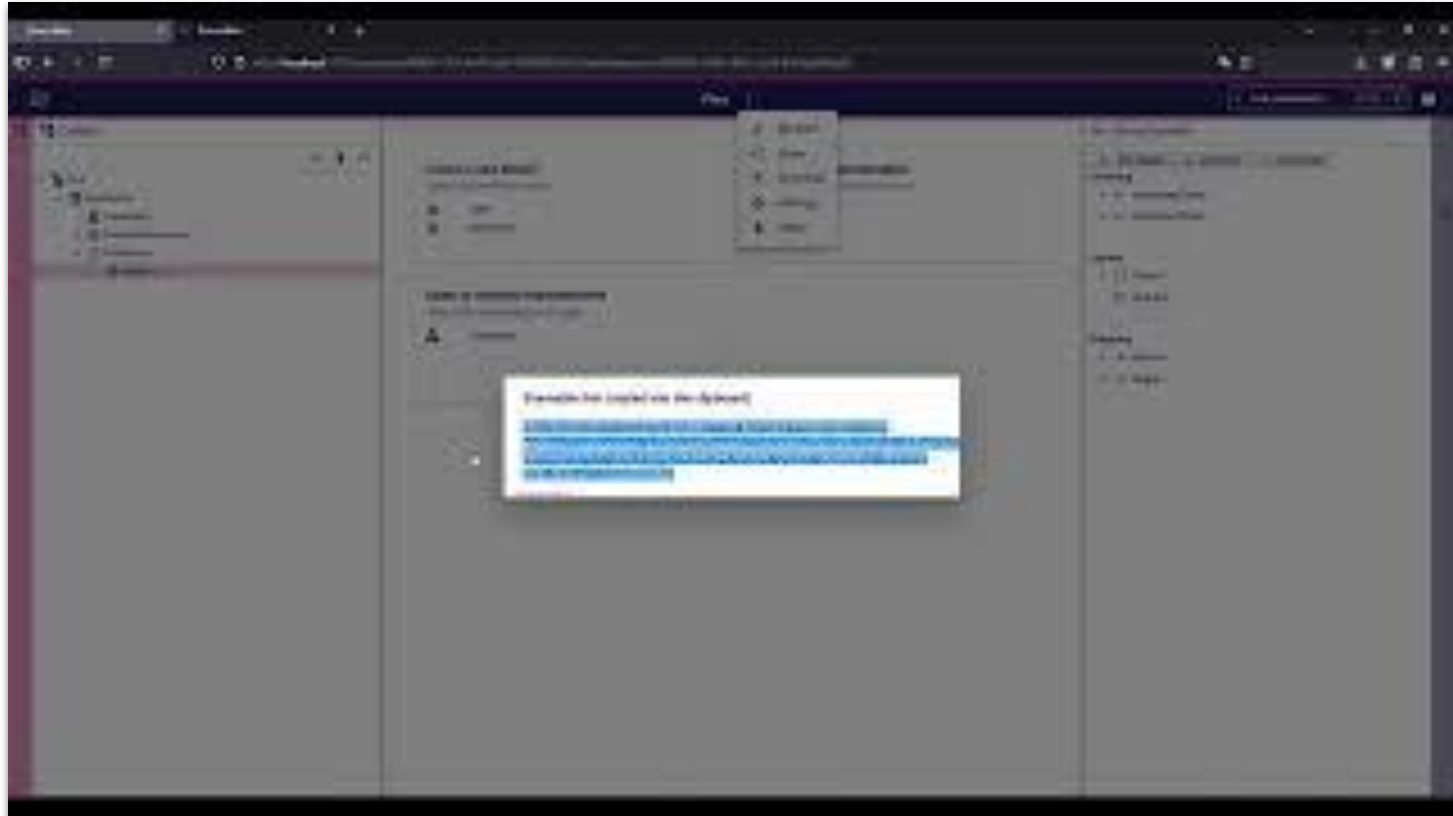
# Onboard Area : Pagination



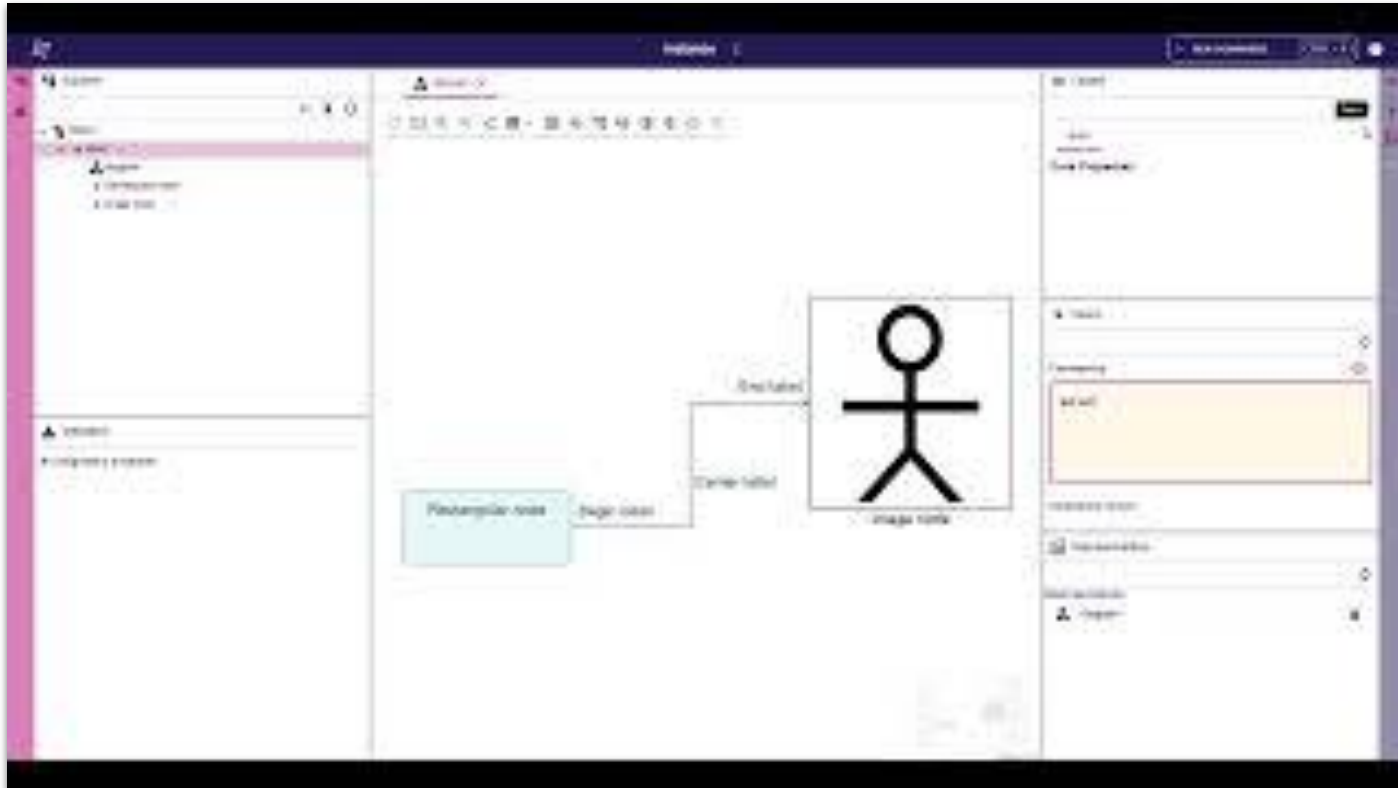
# Loading indicators

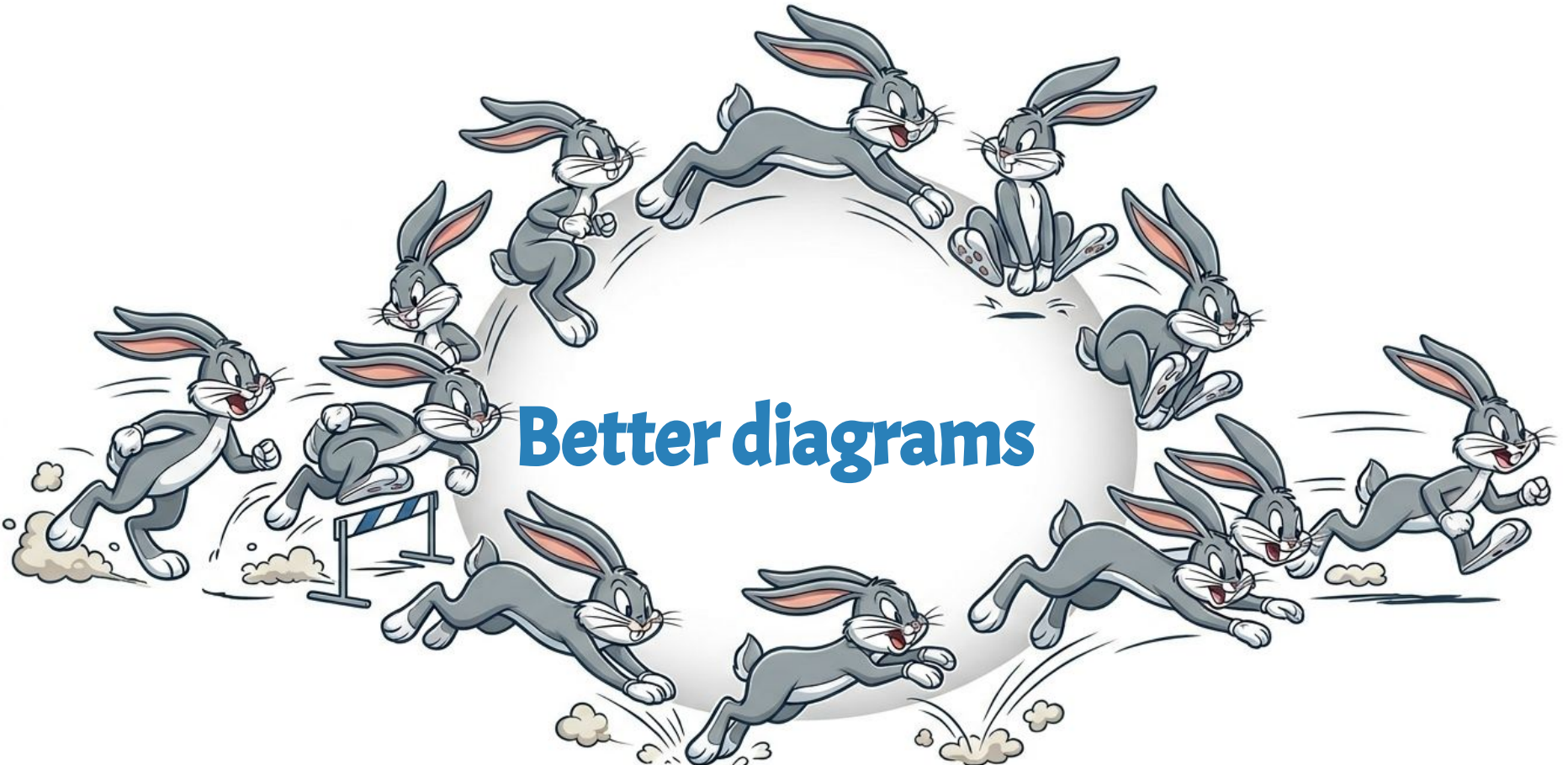


# Share Your Workbench State



# Workbench views

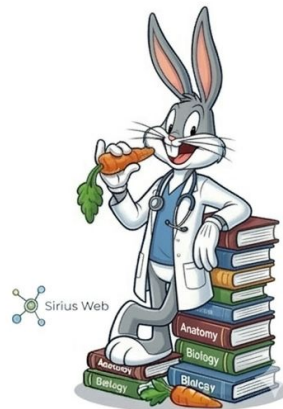




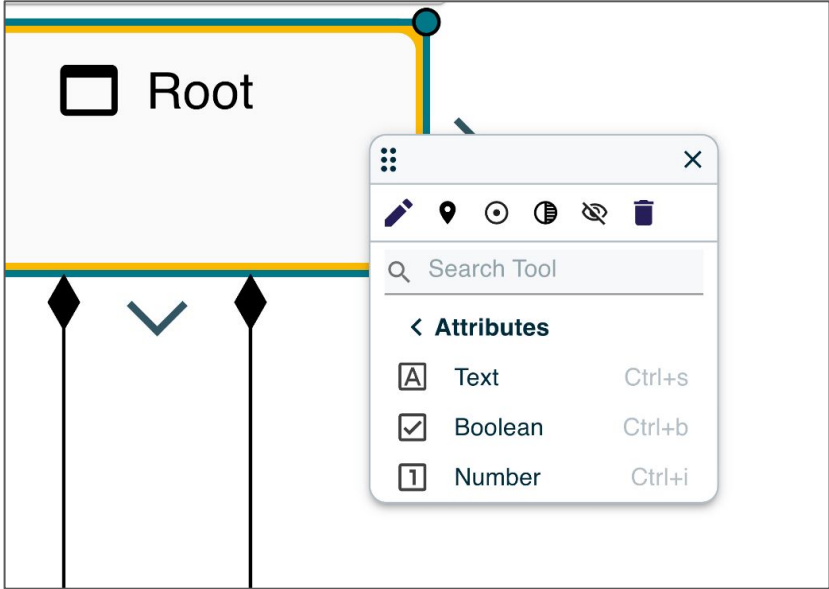
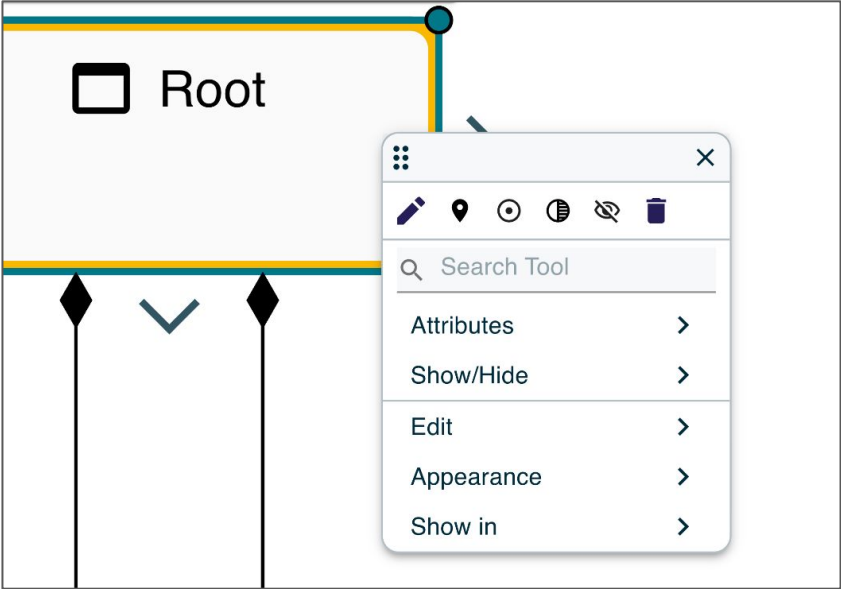
**Better diagrams**

# Smoother diagram editing

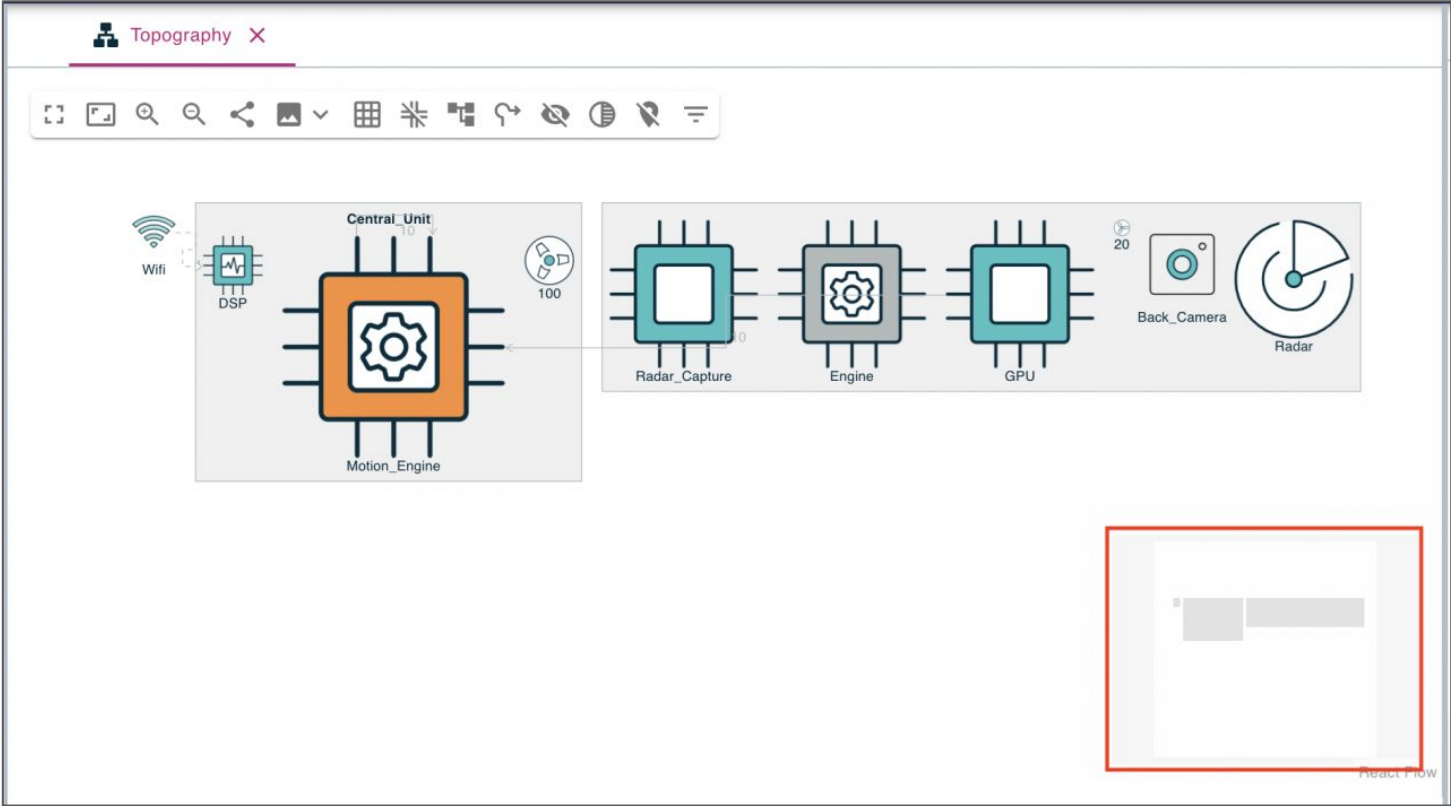
- **Fluid Manipulation:** Improved feedback during move and resize operations.
- **UX Refinement:** More intuitive selection handling and snap-to-grid behaviors.
- **Consistency:** A more predictable editing experience across different browsers.
- **Reduced Latency:** Significant optimizations in the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



# Palette Rework



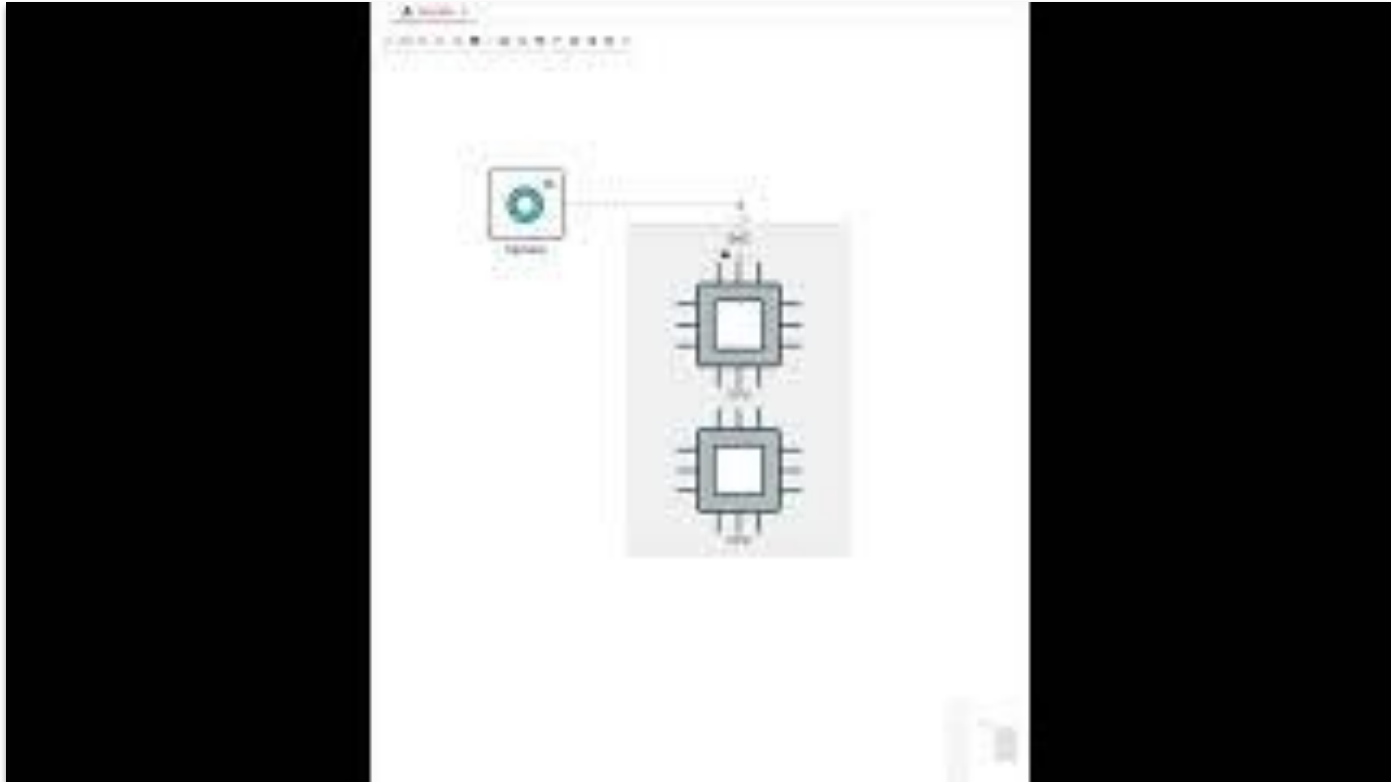
# Minimap



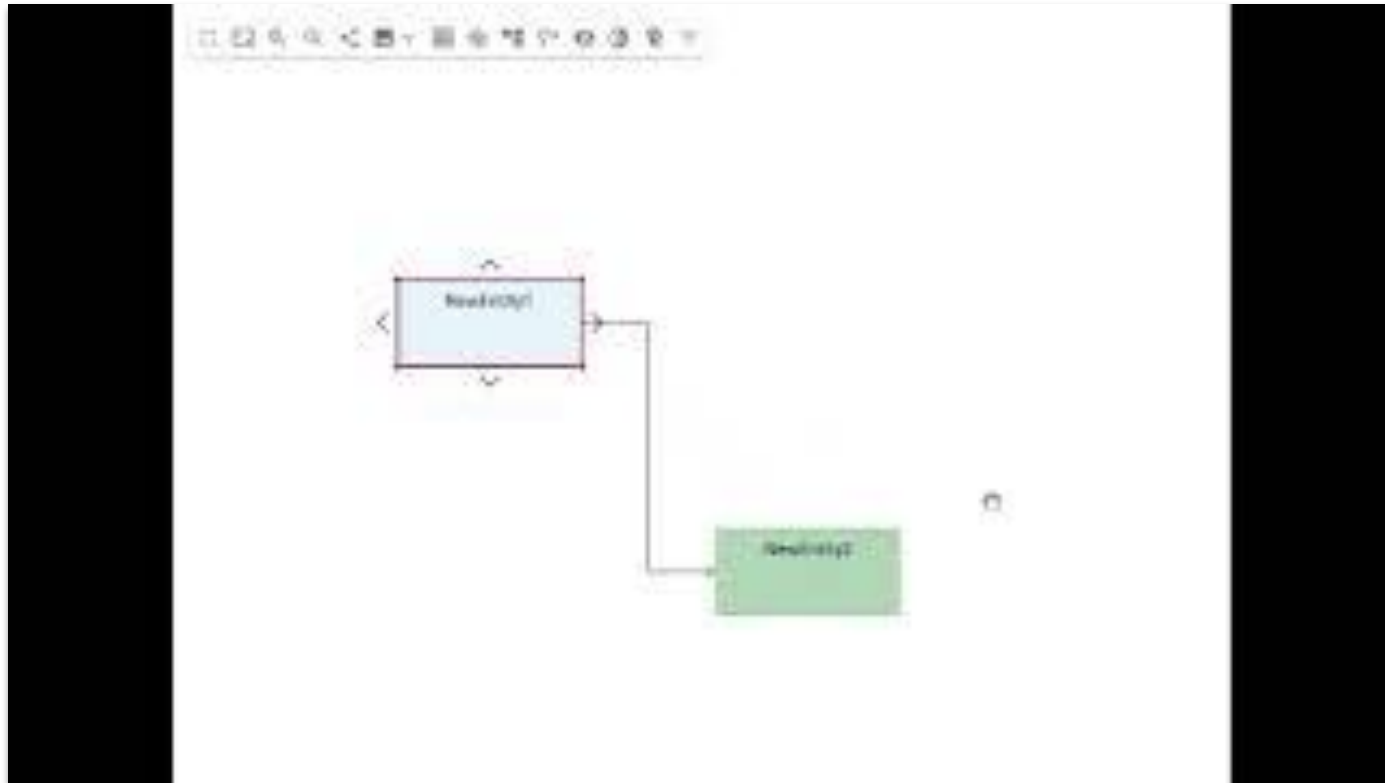
# Export Diagram

The screenshot shows a software interface for a topography diagram. At the top, there is a title bar with a tree icon, the text "Topography", and a close button. Below the title bar is a toolbar with various icons for zooming, panning, and editing. A context menu is open over the diagram, showing two options: "SVG" and "PNG", with "PNG" highlighted in pink. The diagram itself consists of several interconnected components: a central orange square labeled "Central\_Unit" with a gear icon; a "Wifi" icon on the left; a "DSP" component with a waveform icon; a "Motion\_Engine" component at the bottom; a "Radar\_Capture" component with a square icon; an "Engine" component with a gear icon; a "GPU" component with a square icon; a "Back\_Camera" component with a camera icon; and a "Radar" component with a circular icon. A small "100" label is also visible near the central unit.

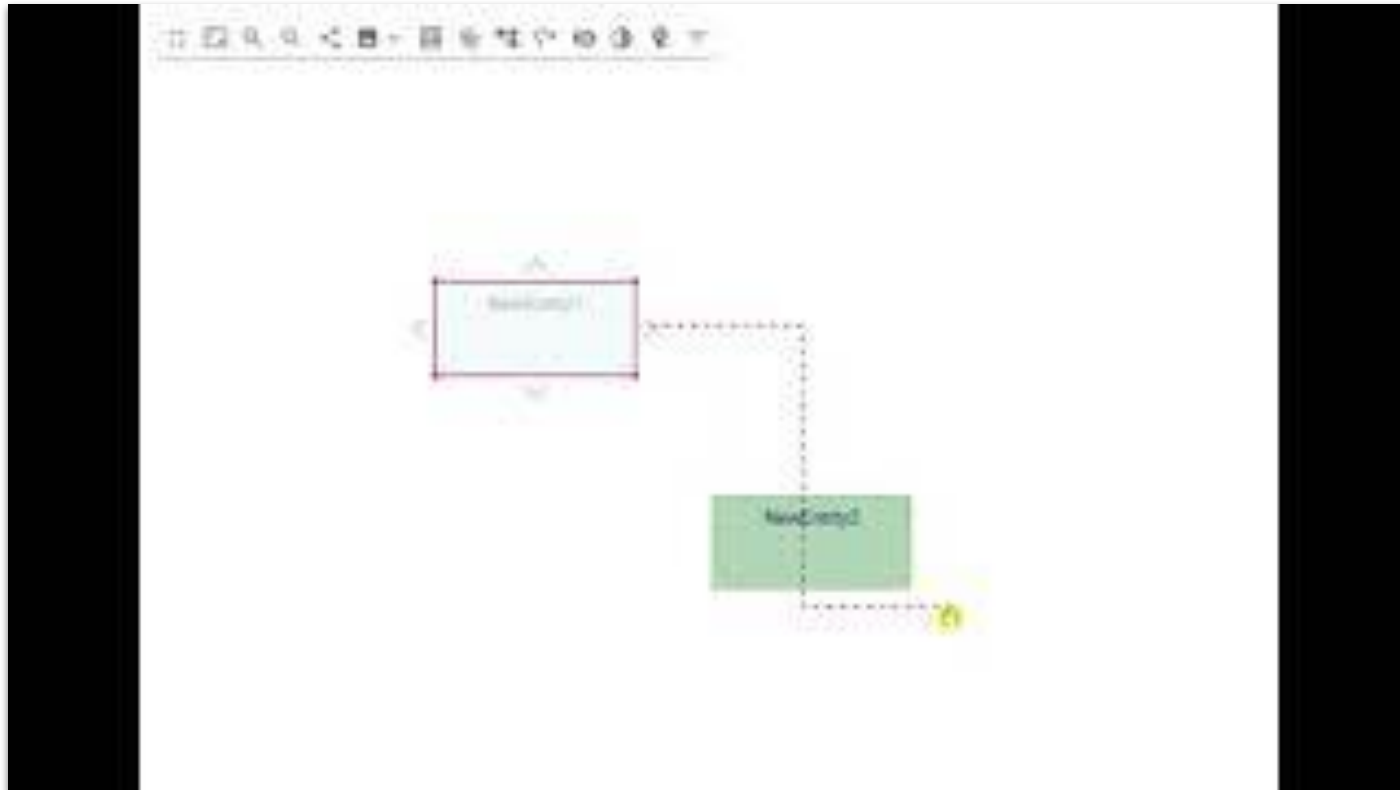
# Edge creation



# Edge connection : auto-connect



# Edge connection : manual-connect





# Impact analysis

The screenshot shows the Sirius IDE interface with a 'New class' dialog box open. The dialog box contains the following information:

**You are about to New class**

The New class tool will have the following effects on your model:

- Elements added: 1
- Elements modified: 2
- Views added: 1

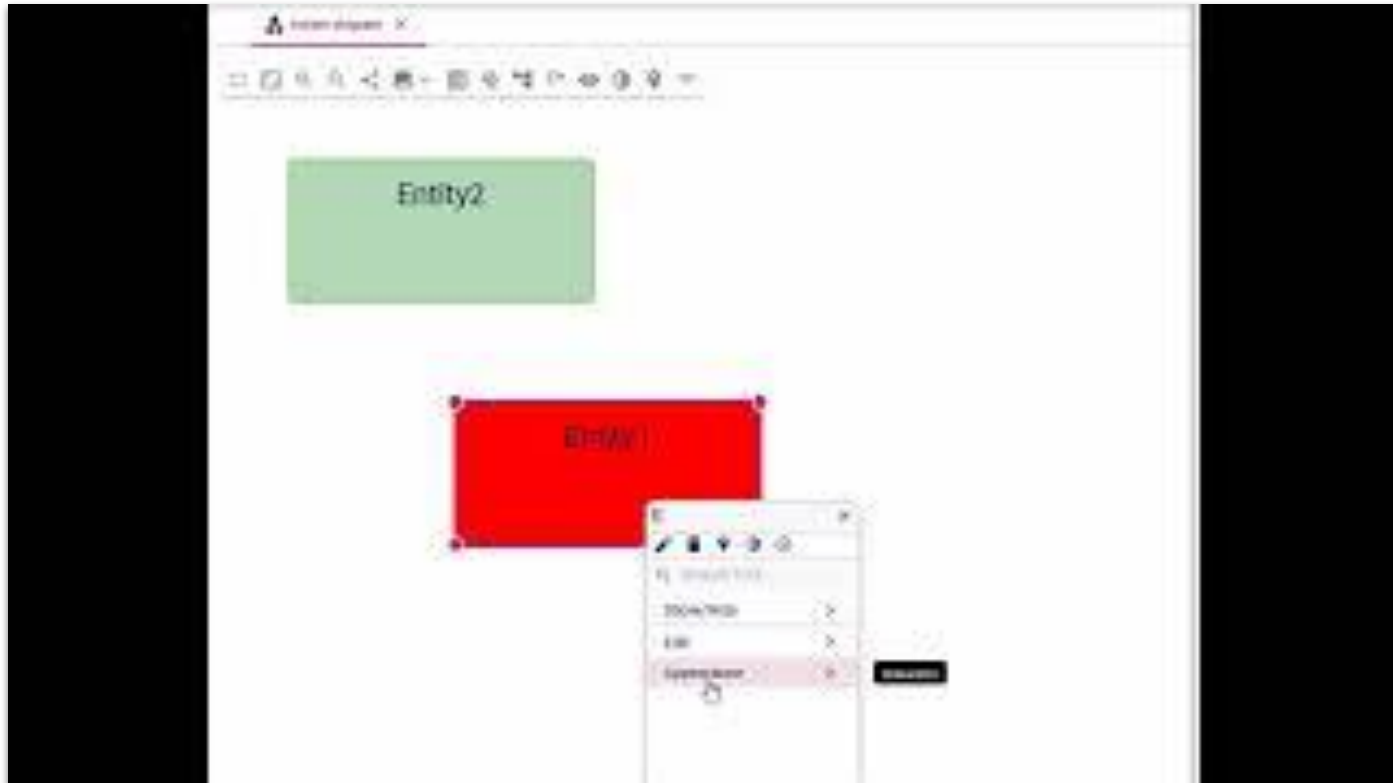
The dialog also shows a tree view of the project structure:

- ↳ Sirius
  - ↳ Sirius Web
    - ↳ sirius-web
      - ↳ org.eclipse.sirius.web
        - ↳ types: NewClass
          - ↳ NewClass
            - ↳ name: NewClass

At the bottom of the dialog, it asks: "Are you sure you want to proceed?" with an "EXECUTE" button.

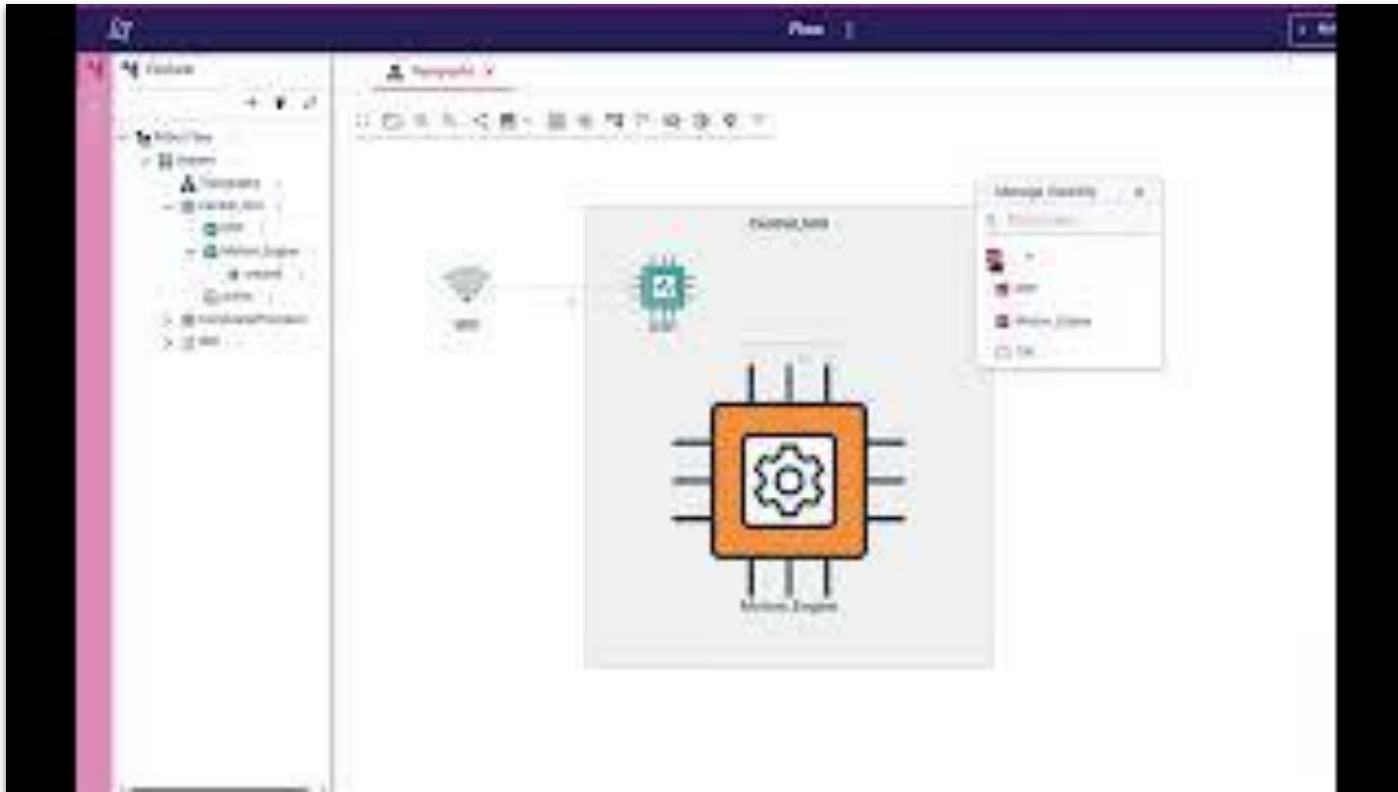
In the background, the IDE shows a class diagram with two classes: "FormDescription" and "DiagramDescription", both having an "Attributes" compartment. The Explorer on the left shows the project structure, and the Details on the right shows the properties of the selected class diagram.

# Node Appearance

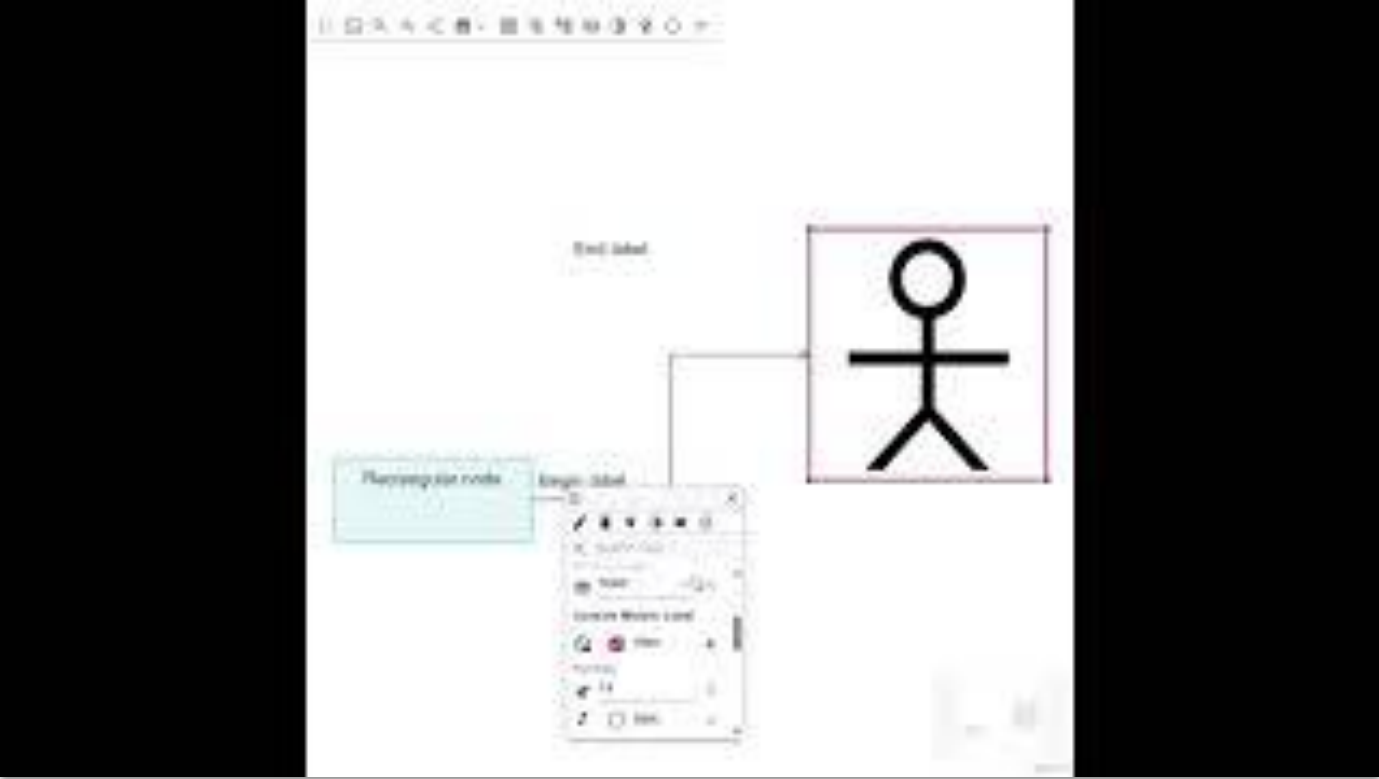




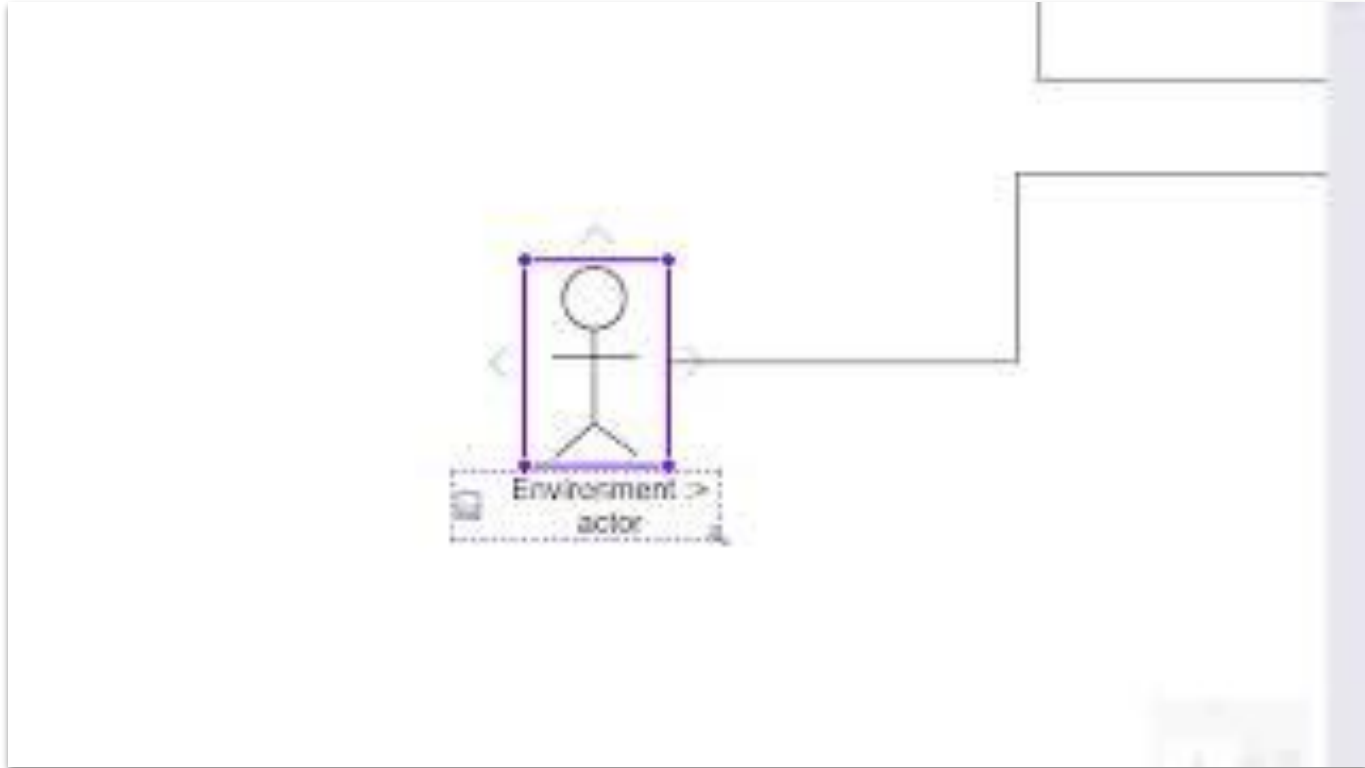
# Manage visibility



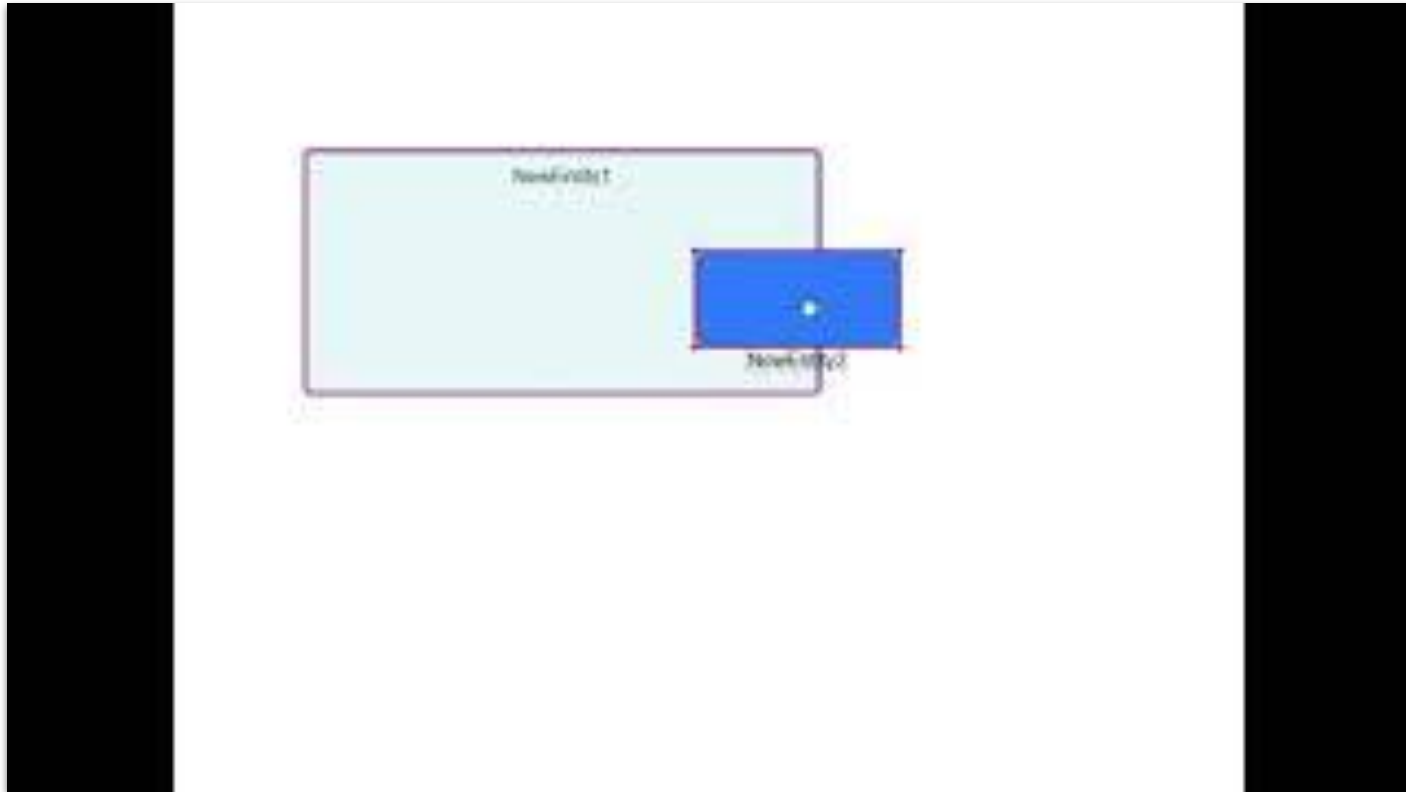
# Label Management



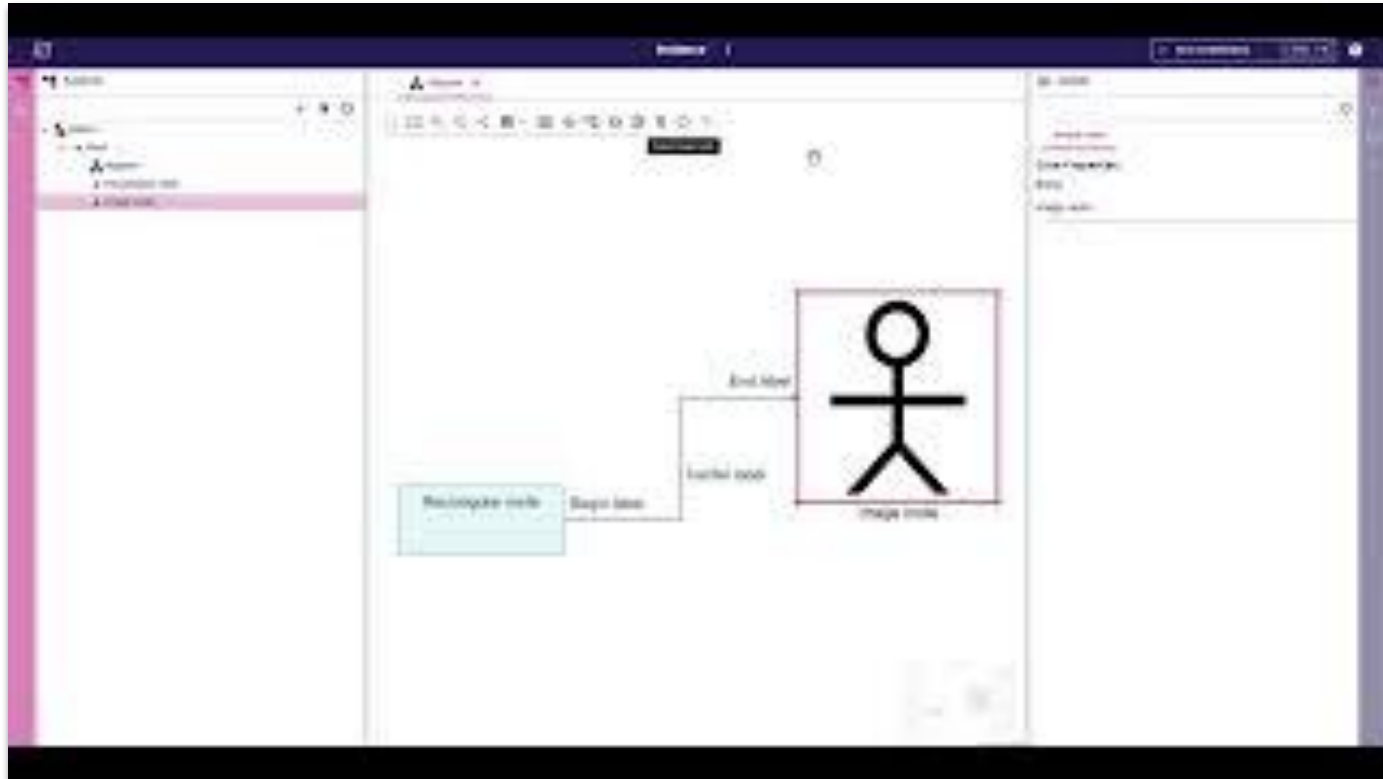
# Resizable Label



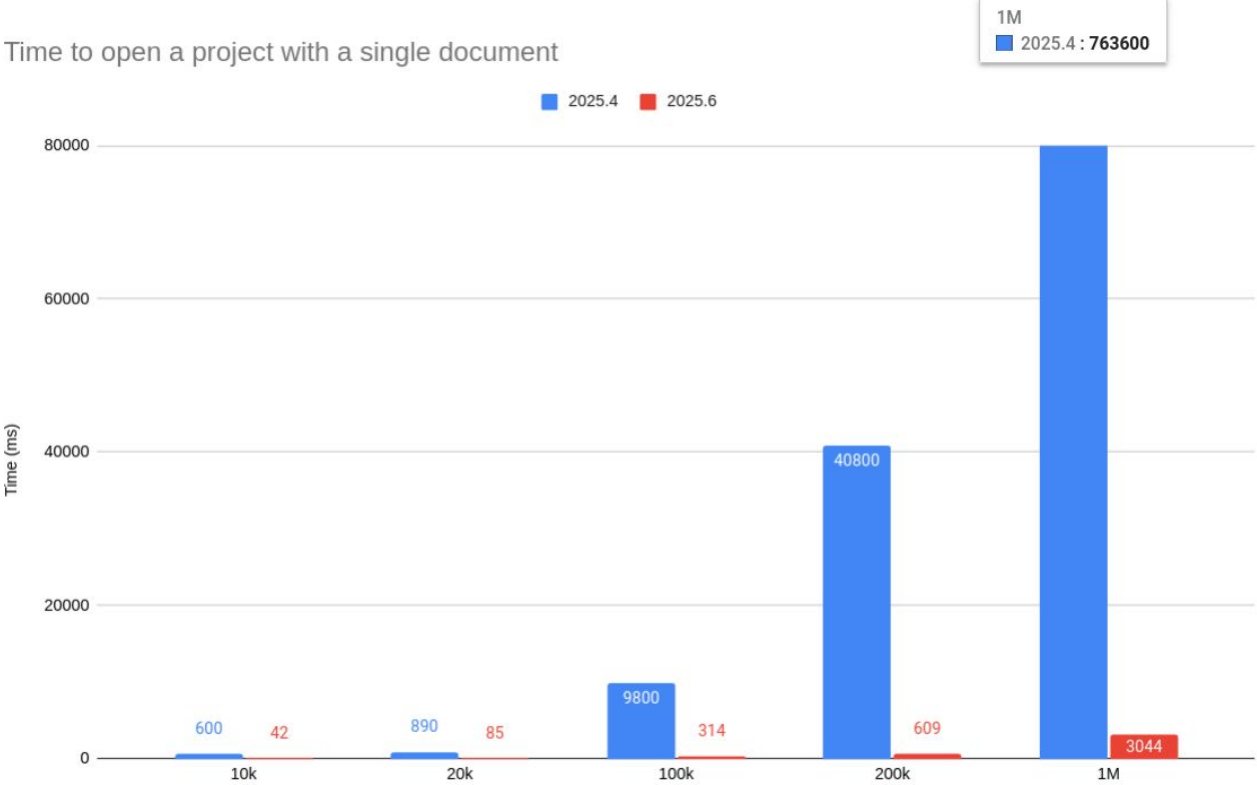
# Improved drop feedback



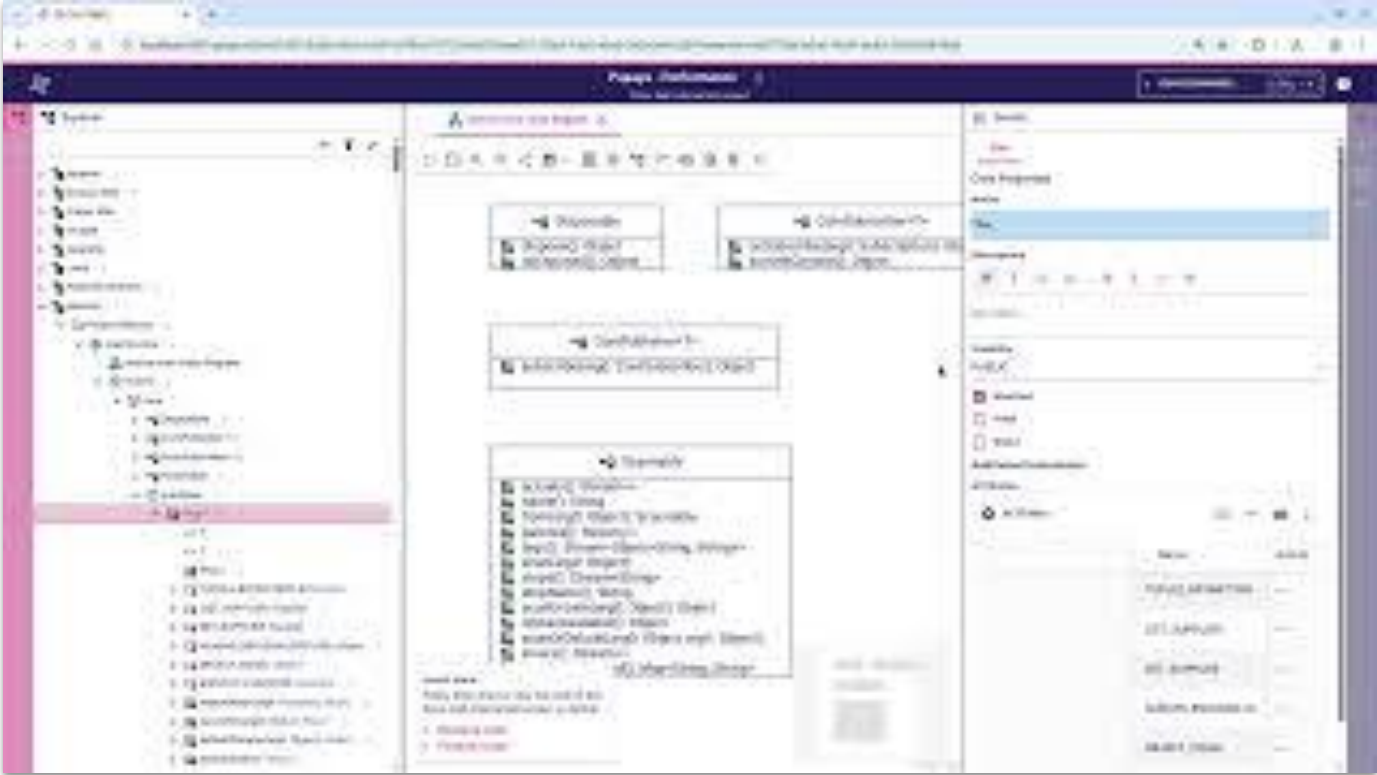
# Workbench Selection



# Performance Boosts



# Faster Explorer

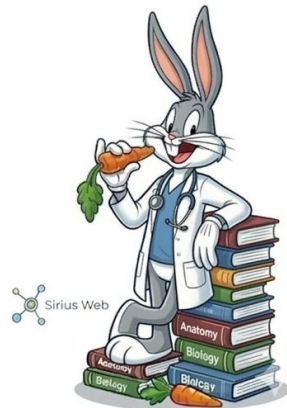


# Explorer View Filtering

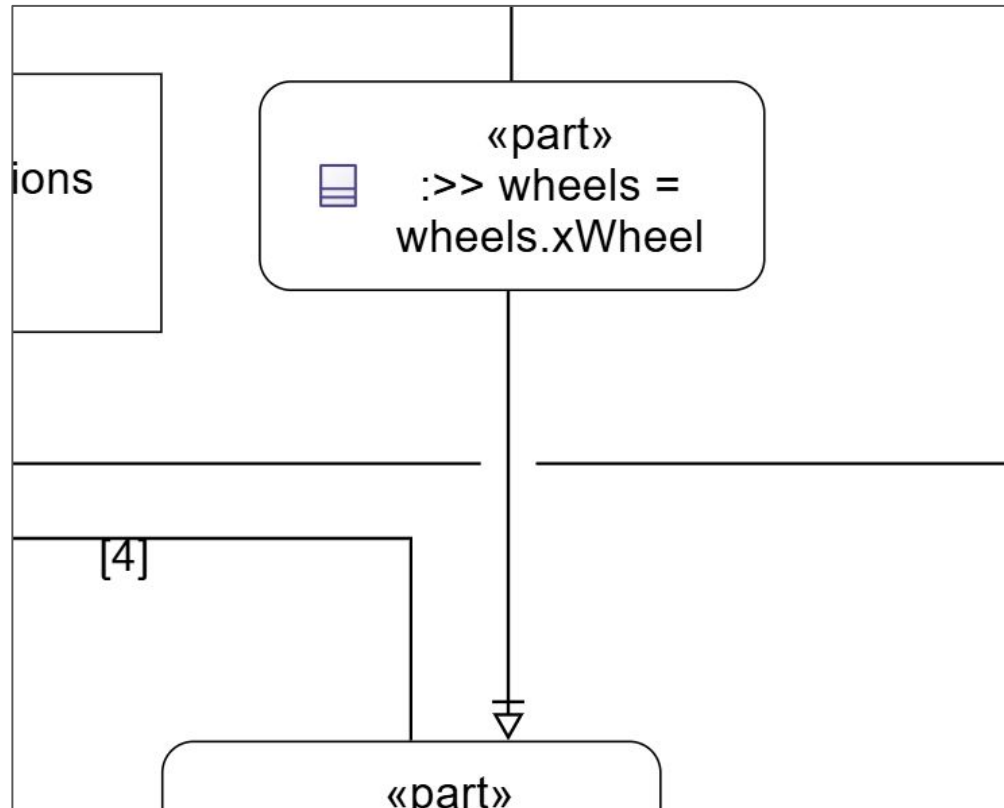
The screenshot shows the Sirius Web Explorer interface. At the top, the title bar reads "Explorer". Below the title bar is a toolbar with icons for adding (+), navigating up (↑), searching (🔍), and settings (⚙️). A search bar is active, containing the text "Port" and a "Filter" button with a close icon (✕). The tree view below shows a hierarchy: "Flow" (expanded) contains "NewSystem" (expanded), which contains "Portal" (highlighted in pink), "Topography", "Topography7", "CompositeProcessor1", and "DataSource1".

# Improved Link Routing and Readability

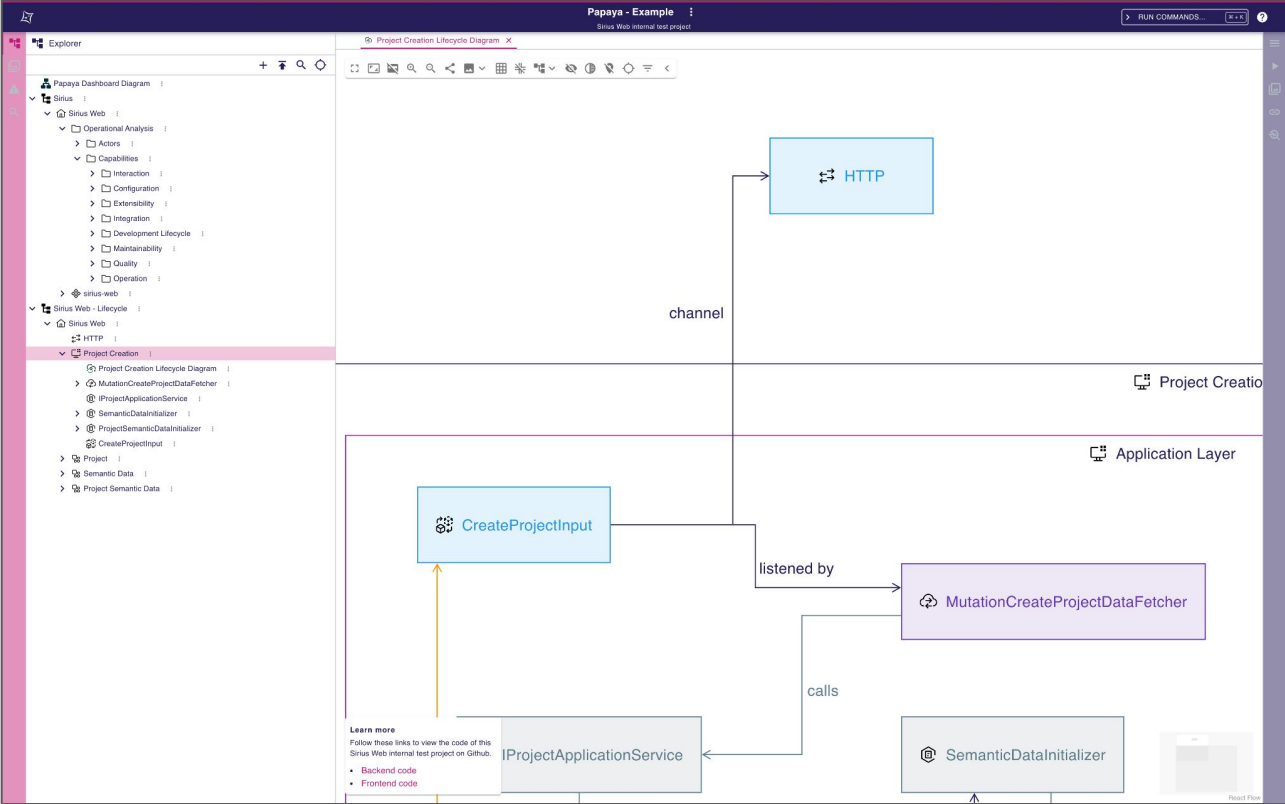
- **Smart Routing:** New algorithms for Manhattan and oblique paths to minimize crossings.
- **Edge-to-Edge Connections:** Ability to link directly between edges, improving support for complex notations.
- **Layout Stability:** Better preservation of the diagram layout when adding or removing elements.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



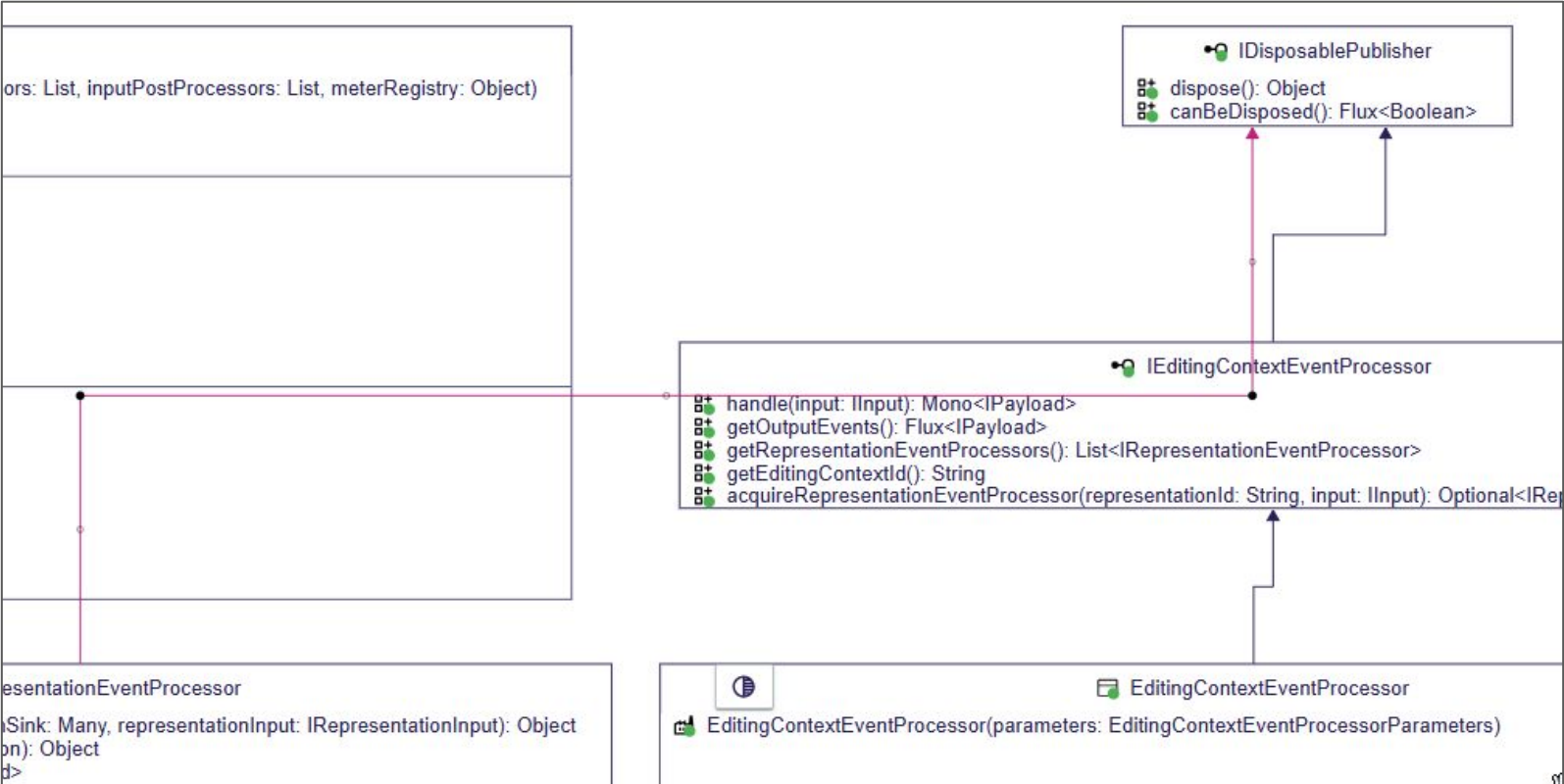
# Clear Edge Crossing



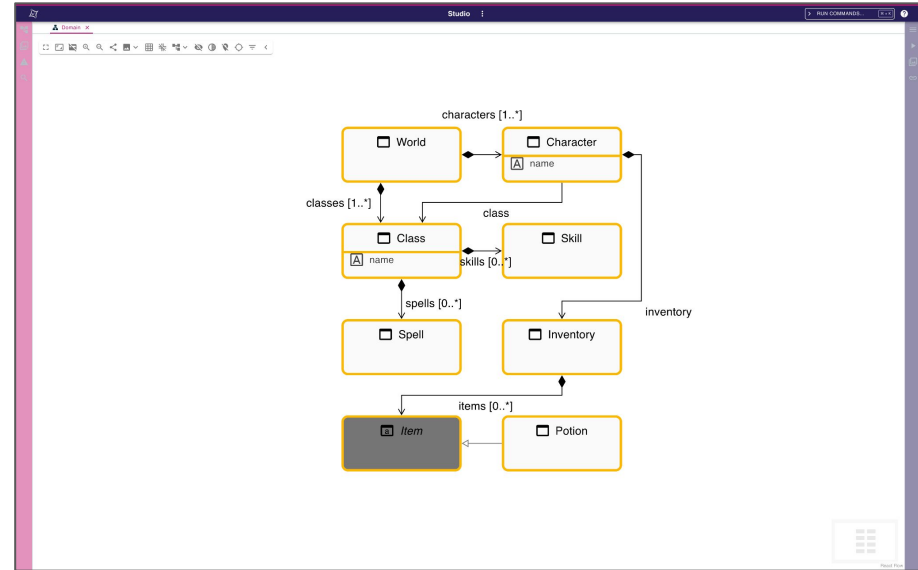
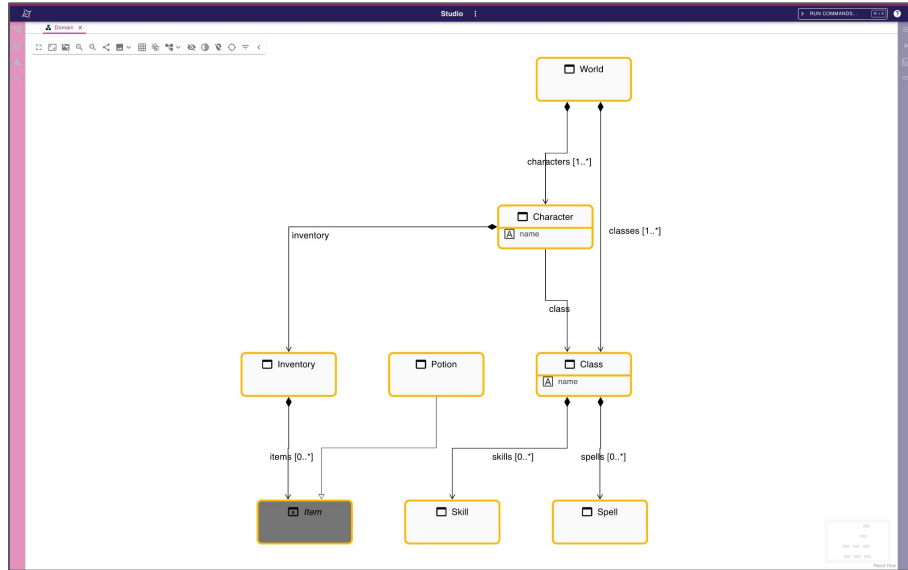
# Edge-to-edge



# Edit the path of Edges

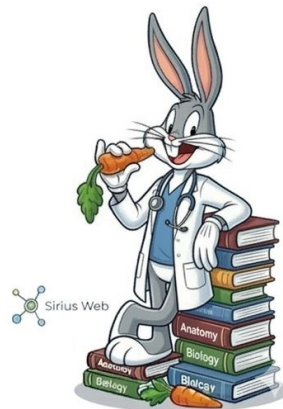


# Flow & Compact Layout

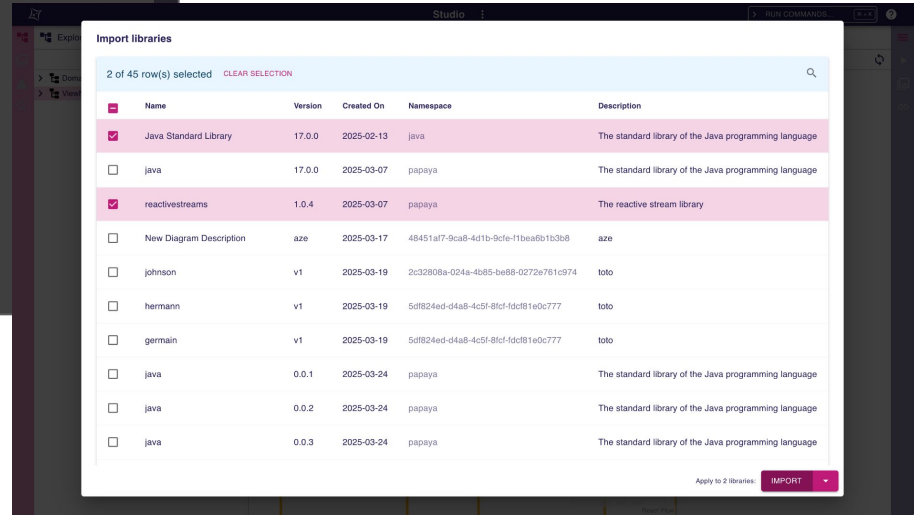
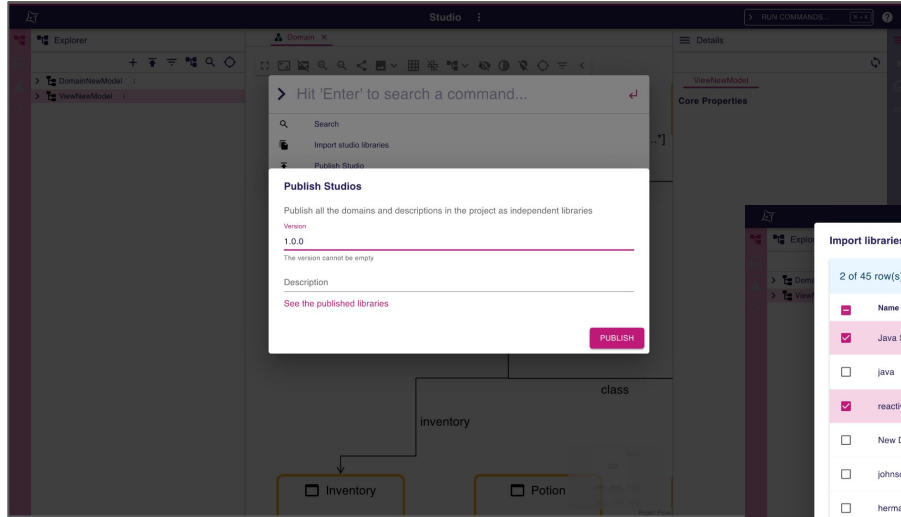


# Libraries and reuse

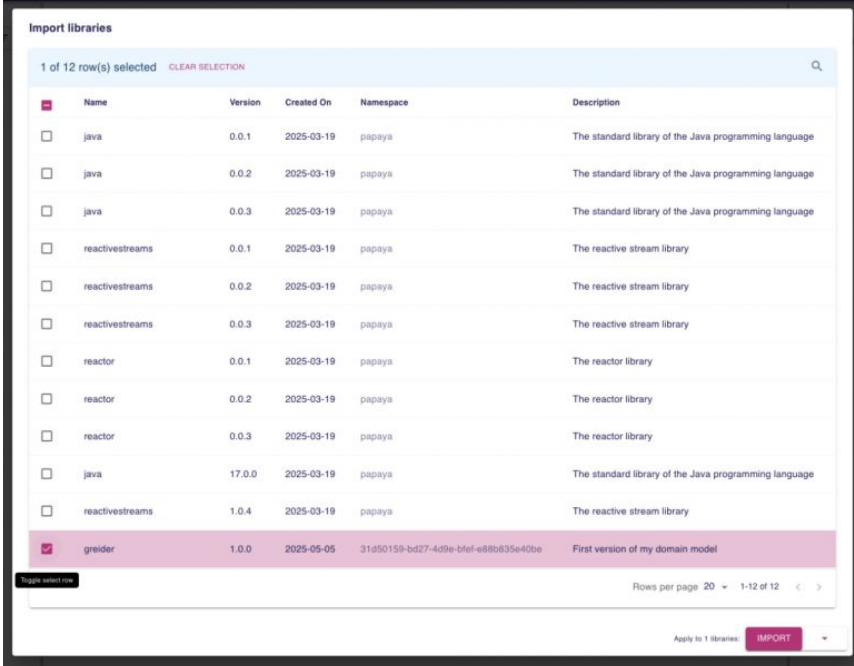
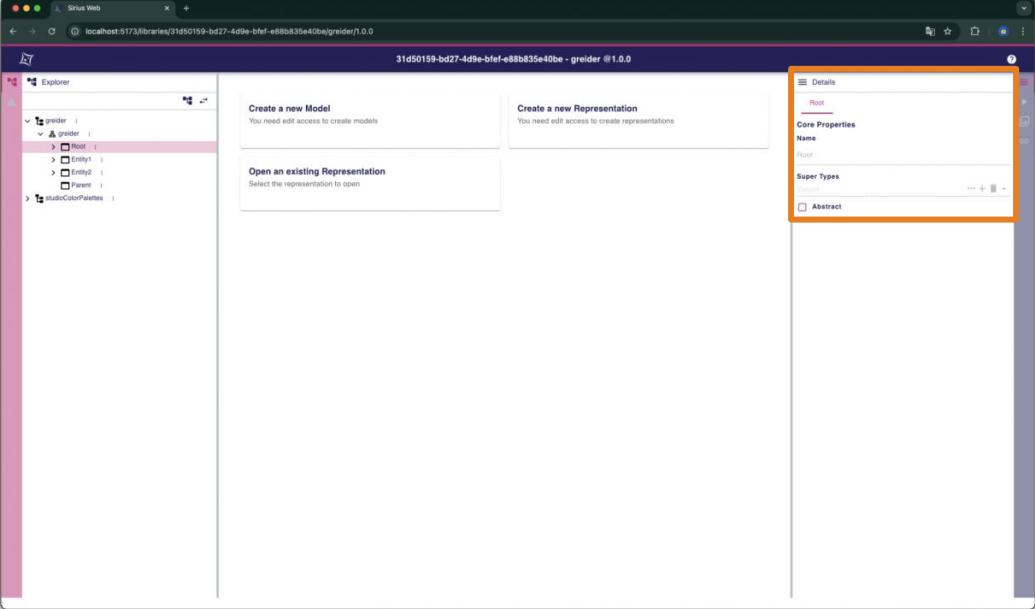
- **Resource Sharing:** Ability to define common elements in a library and reuse them across multiple projects.
- **Dependency Management:** Support for referencing external models while maintaining data integrity.
- **Scalability:** Enables large organizations to build a "single source of truth" for 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

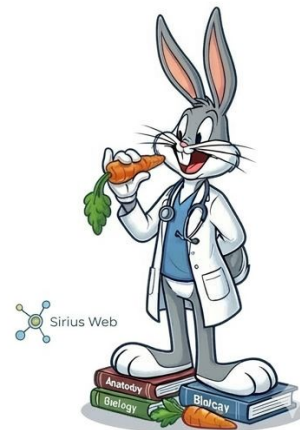


# Library Support: Reuse and Share Models Across Projects

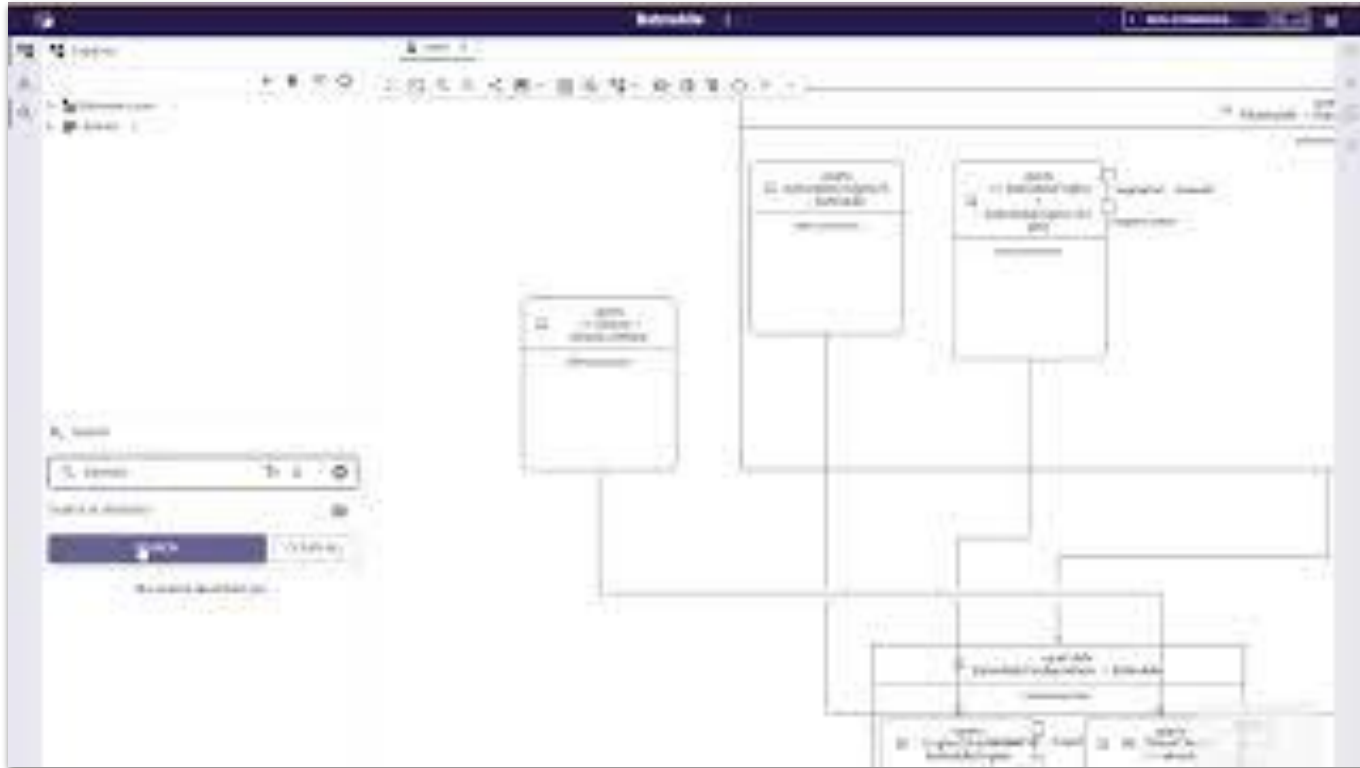


# Productivity improvements

- **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

The screenshot displays the Murdock Studio interface with the following components:

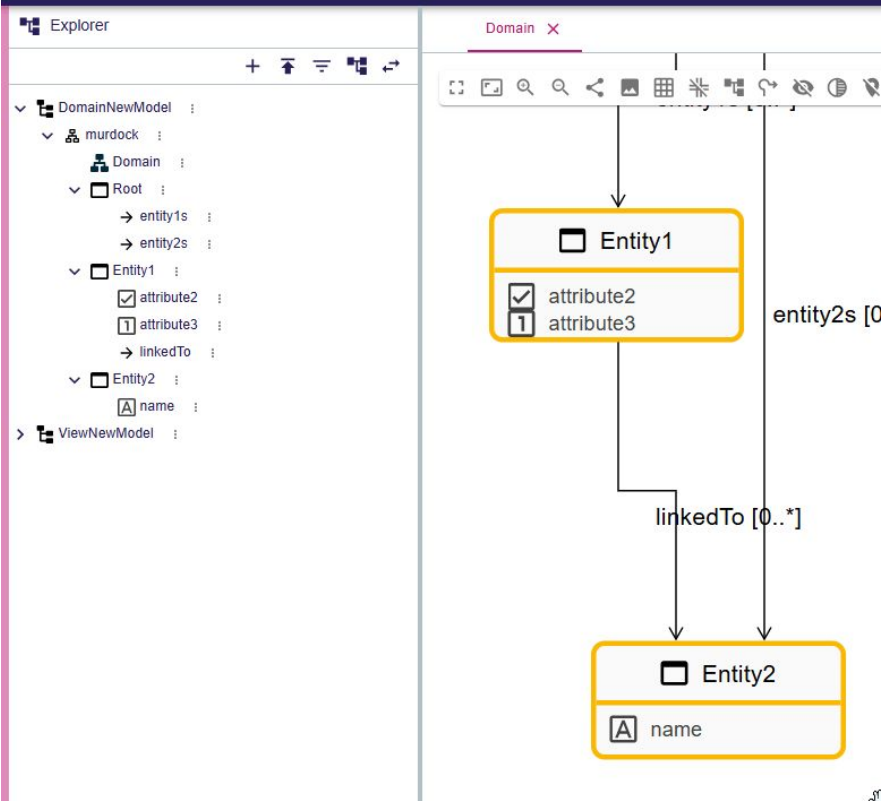
- Explorer (Left):** Shows a tree view of the domain model:
  - DomainNewModel
    - murdock
      - Domain
        - Root
          - entity1s
          - entity2s
        - Entity1
          - attribute2
          - attribute3
          - name
          - linkedTo
        - Entity2
      - ViewNewModel

- Domain (Center):** Displays a UML class diagram:
- Root** class (yellow box)
  - Relationships:
    - entity1s [0..\*] (arrow from Root to Entity1)
    - entity2s [0..\*] (arrow from Root to Entity2)
- Entity1** class (yellow box)
  - Attributes:
    - attribute2 (checked)
    - attribute3 (text icon)
    - name (text icon)
  - Relationships:
    - linkedTo [0..\*] (arrow from Entity1 to Entity2)
- Entity2** class (grey box)
- Details (Right):** Shows "No object selected".
- Toolbar (Top Center):** Contains icons for navigation and editing.
- Header (Top):** "Murdock Studio" with a "RUN COMMANDS... CTRL + K" button.

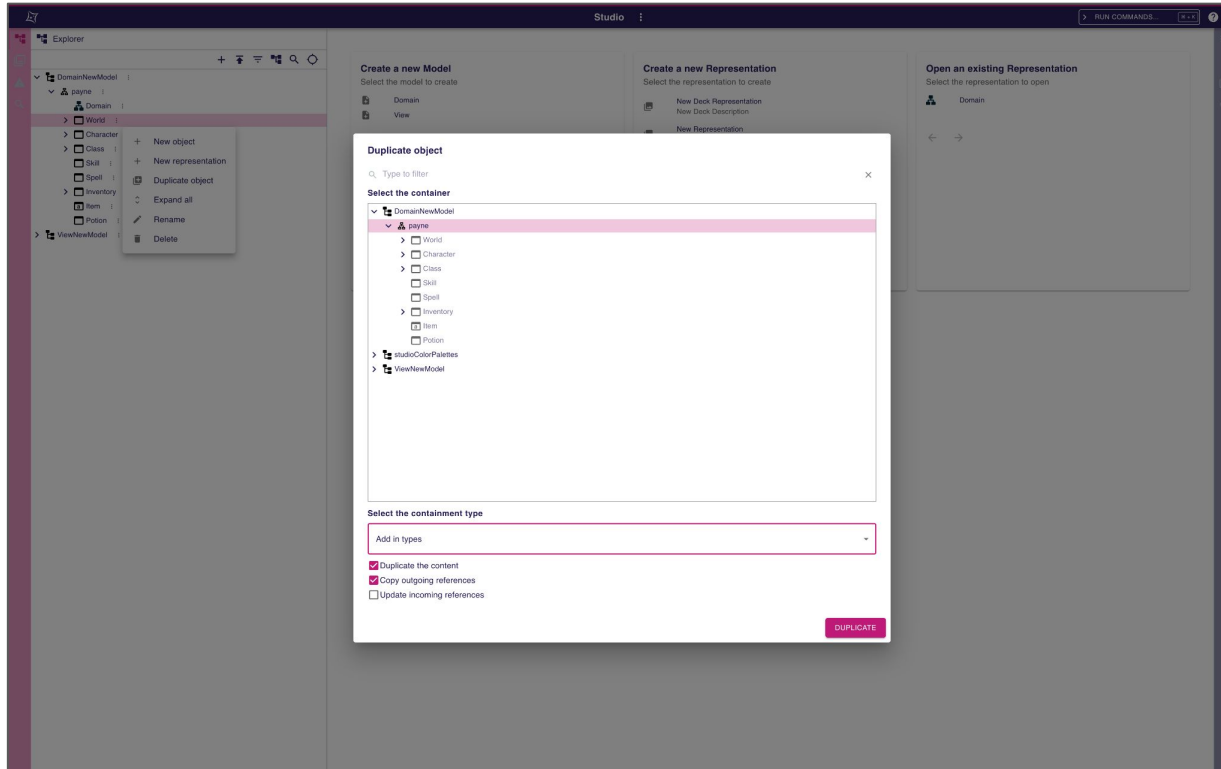
# Cross-Project Search



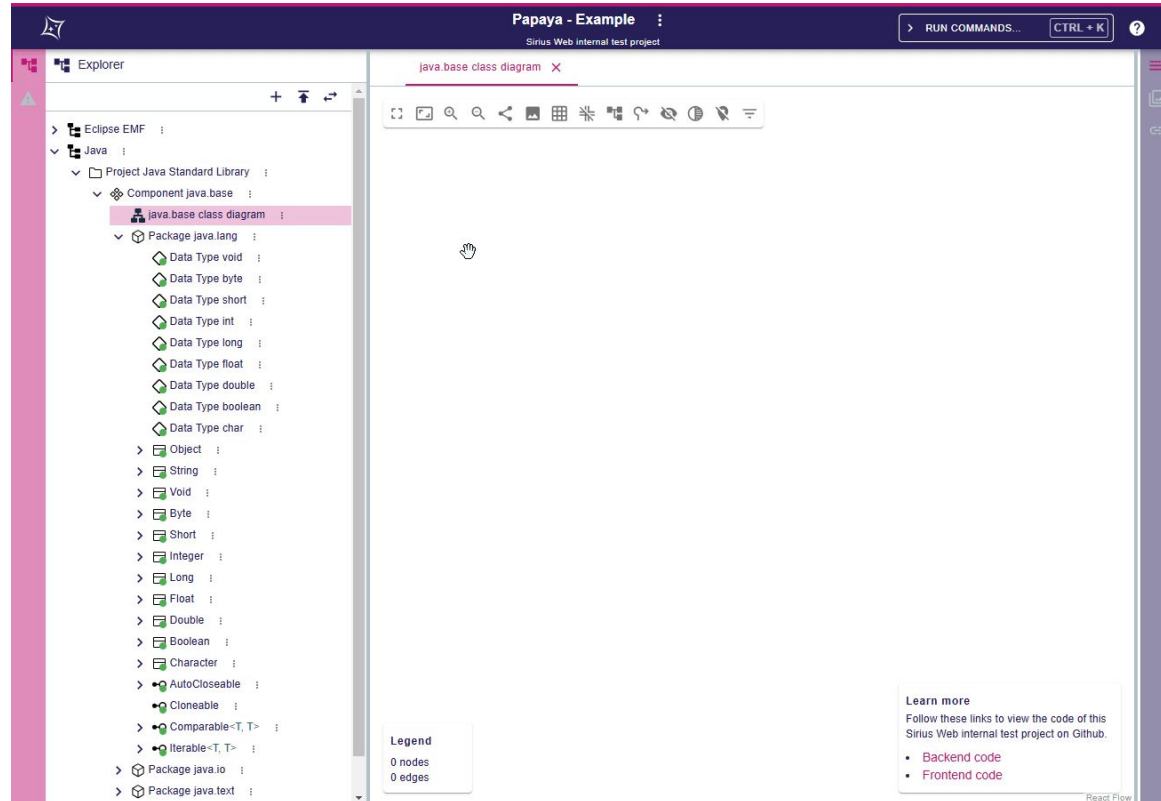
# Explorer : Move Elements

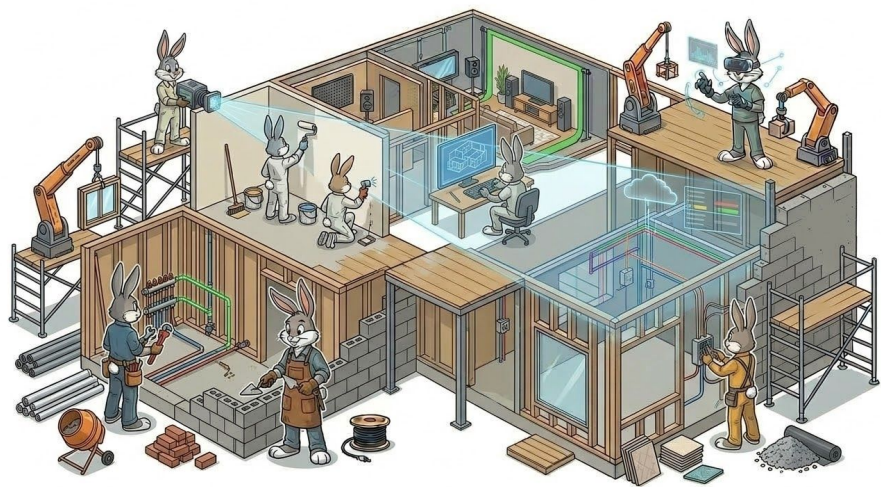


# Explorer : Duplicate elements easily



# Tree in Selection Dialog





# Studio Makers



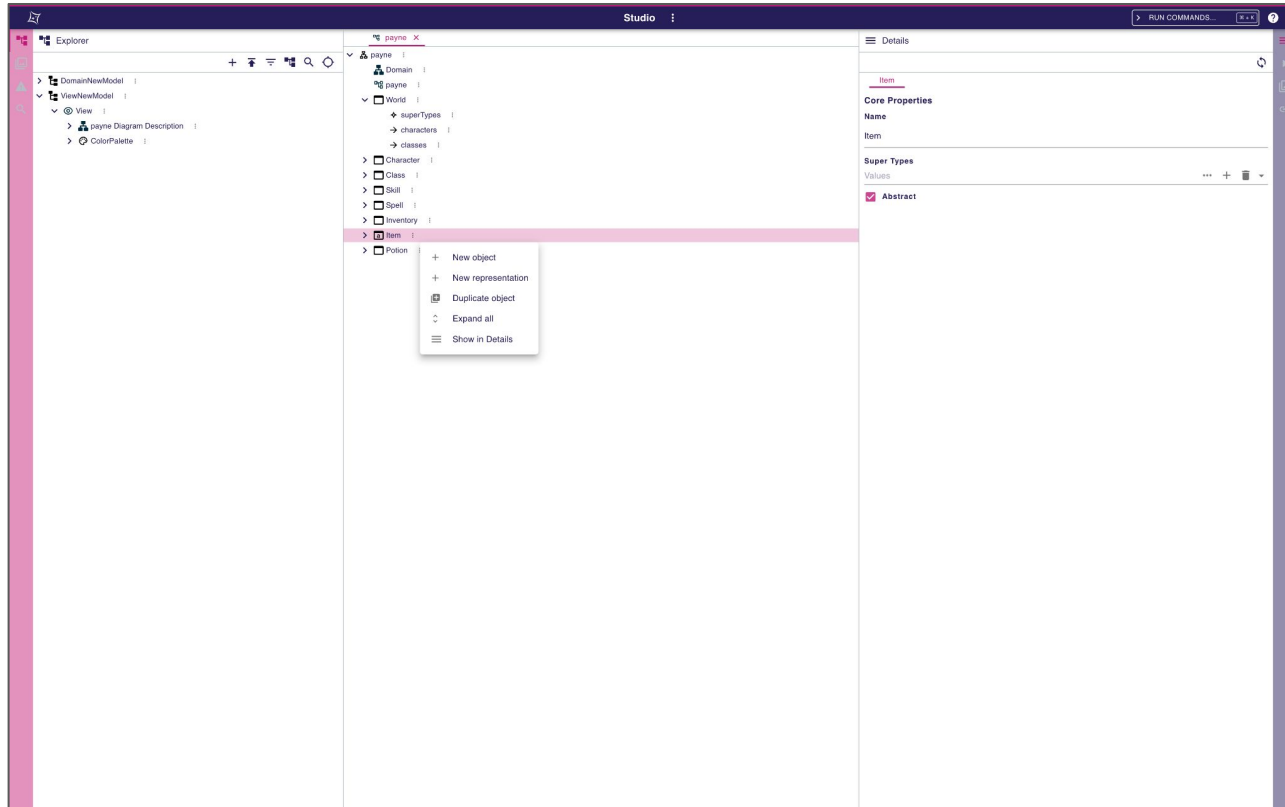
**New  
representations**

# 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.

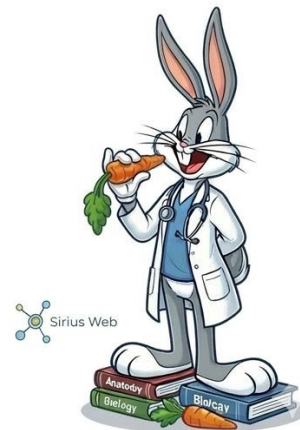


# Tree Representation



## 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

SETTINGS

Search

4

3

1

2

3

HIDE ALL SHOW ALL

Icon

Name

Description

Annotations

Visibility

	Icon	Name	Description	Annotations	Visibility
0	Diagram	Diagram			PUBLIC
1	Builder	Builder			PUBLIC
2	Edge	Edge			PUBLIC
3	Builder	Builder			PUBLIC
4	EdgeStyle	EdgeStyle			PUBLIC
5	Builder	Builder			PUBLIC
6	FreeFormL	FreeFormLayoutStrategy			PUBLIC
7	IDiagramE	IDiagramElement			PUBLIC
8	ILayoutStr	ILayoutStrategy			PUBLIC
9	INodeStyle	INodeStyle			PUBLIC

Rows per page: 10

Rows per page 10 1-1 of 1

# Table: Interactive Custom Widgets

The screenshot shows the Sirius Web IDE interface. On the left is the Explorer view showing a project structure. The main area displays a table titled 'SETTINGS' with columns for Name, Abstract, Annotations, Contracts, and Actions. The 'NewClass' row is highlighted in pink, and an orange box highlights the 'Abstract' checkbox in this row, which is checked. The right sidebar shows the 'Details' view for the selected 'NewClass' element, including core properties like Name, Description, and Visibility.

Name	Abstract	Annotations	Contracts	Contrib	Actions
Project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Component	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
org.eclipse.sirius.o	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
NewClass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
org.eclipse.sirius.w	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
NewInterface	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>



**Other  
improvements**

# Form: Widget layout

**Before (still reproducible)**

**Checkbox**  
Label ⓘ  Label  Label

**Textfield**  
Label  
Label

**Now**

**Checkbox**  
Label ⓘ   Label

**Textfield**  
Label  
Label  
Label Label  
Label Label  
Label

# Query View

The screenshot displays the Sirius Web Query View interface. On the left, a class diagram shows the following structure:

- World** (Class)
  - characters [1..\*] (Association to **Character**)
  - classes [1..\*] (Association to **Class**)
- Character** (Class)
  - name (Attribute)
- Inventory** (Class)
  - items [0..\*] (Association to **Item**)
- Potion** (Class)
  - skills [0..\*] (Association to **Skill**)
- Class** (Class)
  - name (Attribute)
  - spells [0..\*] (Association to **Spell**)
- Item** (Class)
- Skill** (Class)
- Spell** (Class)

On the right, the **Query** panel shows the following expression:

```
ag:SELF.eResource().eAllContents()
```

The **Evaluation result** panel shows a collection of 17 objects has been returned:

- World
  - characters
  - classes
- Character
  - name
- Class
  - name
- Inventory
  - items
- Item
- Potion
  - skills
- Spell
  - spells

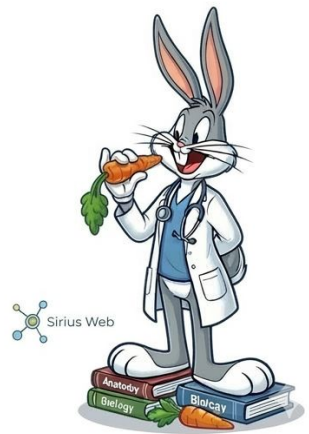
At the bottom of the right panel, there is an **EXPORT AS CSV** button.

# Representation Customization

**Learn more**

Follow these links to view the code of this Sirius Web internal test project on Github.

- [Backend code](#)
- [Frontend code](#)



# Dynamically Update Representation Descriptions

The screenshot shows the Sirius Web interface with the Explorer pane on the left. A context menu is open over the 'Topography' element, with 'Fork View Model' selected. A dialog box is displayed in the center, asking for confirmation to switch to a new view model. The dialog contains the following text:

**Switch to a new view model ?**

You're about to create a new view model based on the one currently used by the representation. The current representation will use this new view model and you'll be redirected to a new studio.

**CANCEL REDIRECT TO NEW STUDIO**

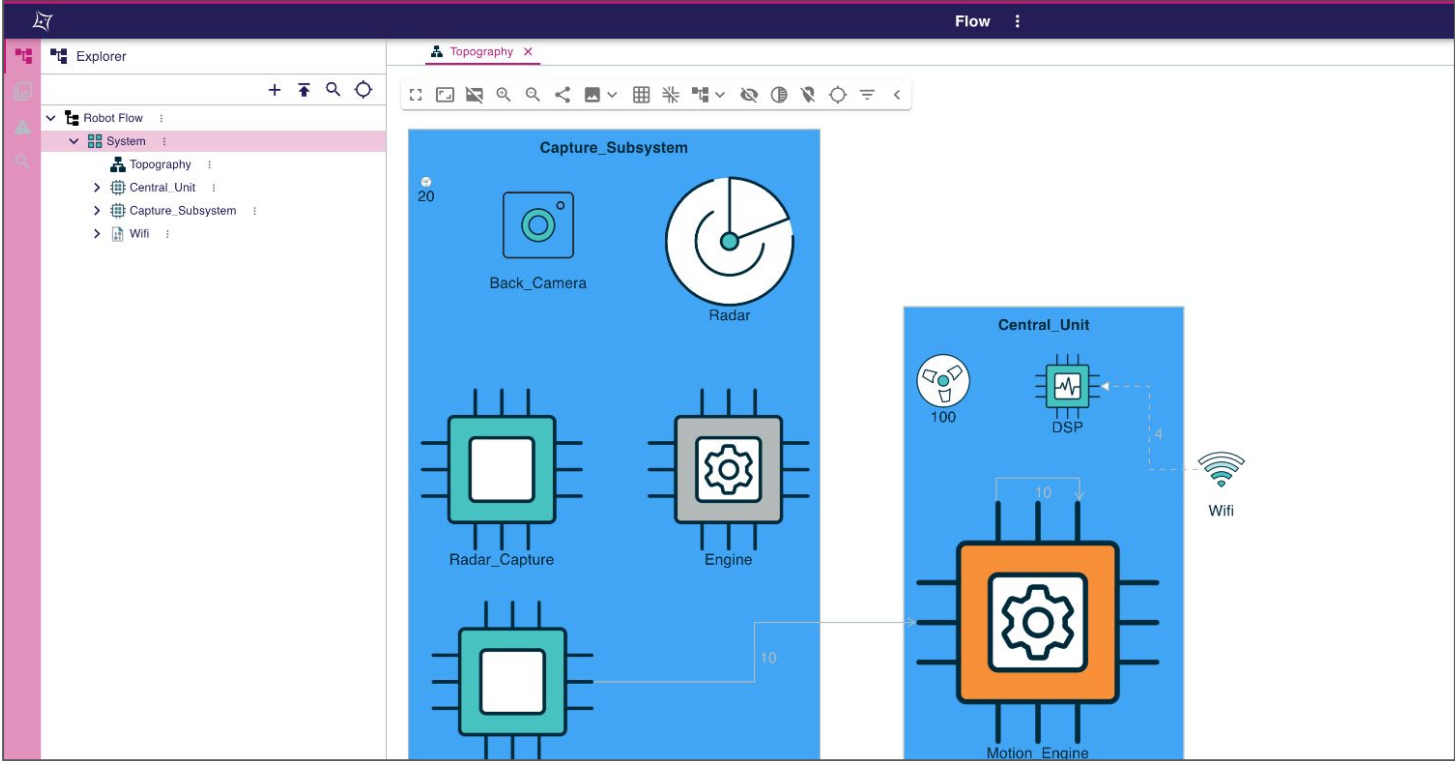
The background shows a diagram of a 'Capture\_Subsystem' with components like 'Radar\_Capture', 'Engine', and a 'Wifi' icon.

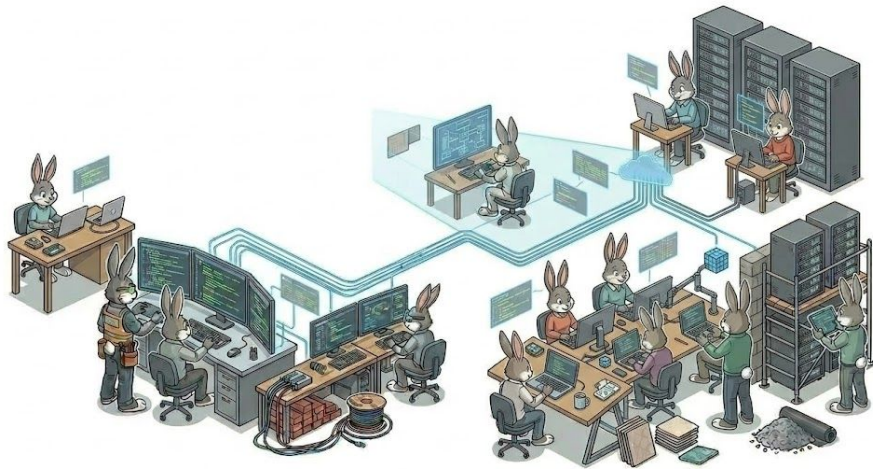
# Dynamically Update Representation Descriptions

The screenshot displays the Sirius Web interface for a project named "Forked Topography". The interface is divided into four main panels:

- Explorer:** Shows a tree view of the project structure. The "RectangularNodeStyleDescription" element is selected and highlighted in pink.
- Create a new Model:** A dialog box titled "Create a new Model" with the instruction "Select the model to create". It lists two options: "Domain" and "View".
- Create a new Representation:** A dialog box titled "Create a new Representation" with the instruction "Select the representation to create". It lists several options, including "New Deck Representation", "New Representation AAA bbb CCC", and "New Representation New Diagram Description".
- Details:** A panel titled "Details" showing the "Properties" of the selected element. Under the "Background" section, a list of color swatches is displayed, with "blueGrey 500" selected and highlighted in pink.

# Dynamically Update Representation Descriptions





# Developers



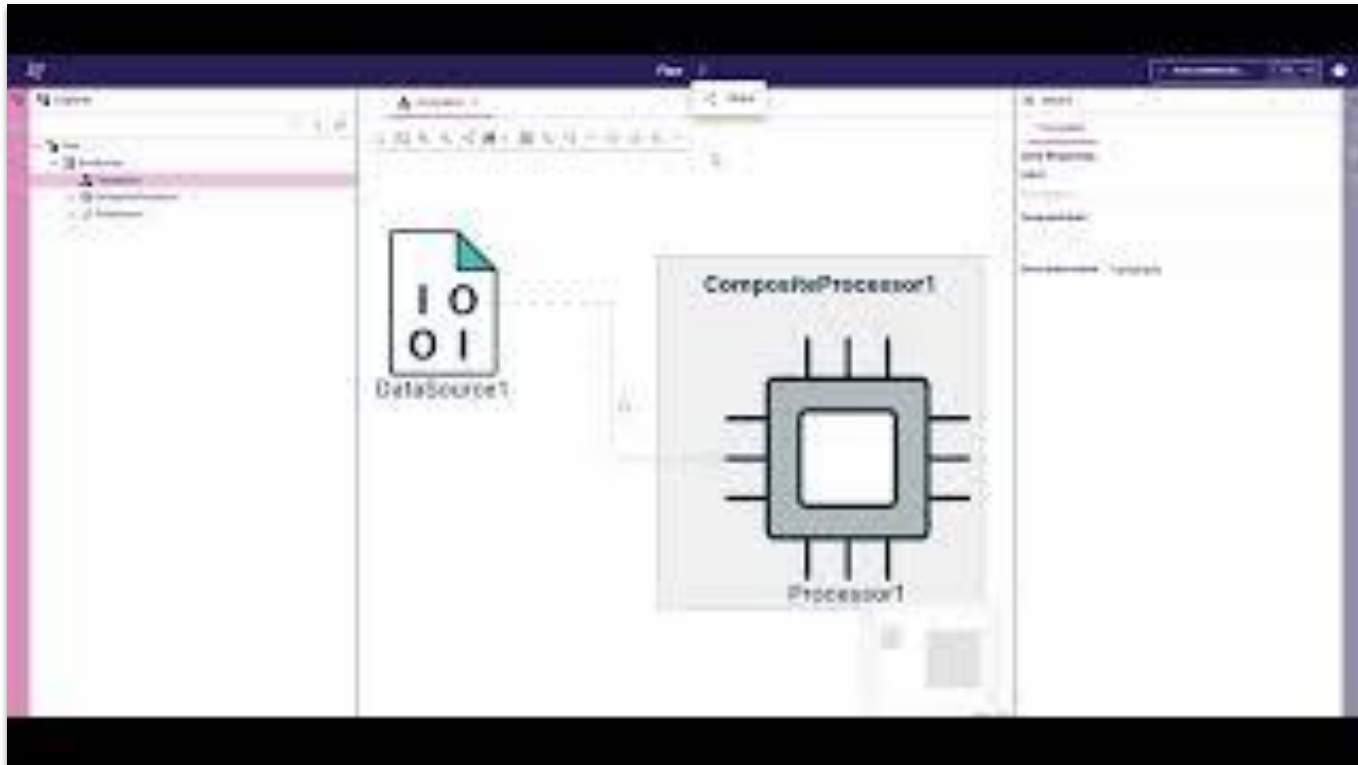
**More  
customization  
and  
extensibility**

# Internationalization

The image displays three overlapping windows from the Sirius Web application:

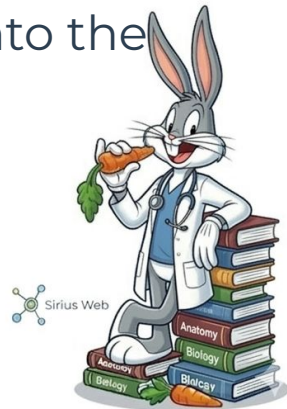
- Créer un nouveau projet (Create a new project):** A form for configuring a new project. It includes fields for "Nom du projet\*" (Project name), "Fichier" (File), "Modèle de projet (sélectionné)" (Project model), and "Bibliothèques (Chargées)" (Libraries). A note states: "Configurez votre nouveau projet avec un nom, un modèle et des bibliothèques." Below the form, it says: "Créez un modèle pour donner une structure à vos éléments."
- Settings / Paramètres:** A settings window with tabs for "GENERAL" and "MAJORS". The "Paramètres" section shows "Paramètres généraux" with a "Personnel" link and a note: "Les paramètres personnalisés - Les paramètres sont stockés dans votre navigateur." There is a toggle for "Activer les popups de confirmation" (Enable confirmation popups) which is currently turned on.
- Diagramme de structure (Structure diagram):** A central window showing a hierarchical tree on the left and a diagram on the right. The tree includes "Robot Flow" with sub-items "System", "Diagram", "Central", "Capture", and "Wifi". A context menu is open over the "System" folder, listing actions: "Nouvel objet", "Télécharger", "Tout développer", "Afficher dans Détails", "Afficher dans Diagramme de structure", "Renommer", and "Supprimer". The diagram on the right shows a "Capture\_Subsystem" containing "Back\_Camera" and "Radar" components, and "Radar\_Capture" and "Engine" components below it.

# Capabilities: Fine-Grained UI Control



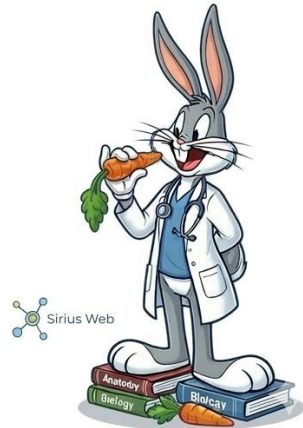
# More customization for tool builders

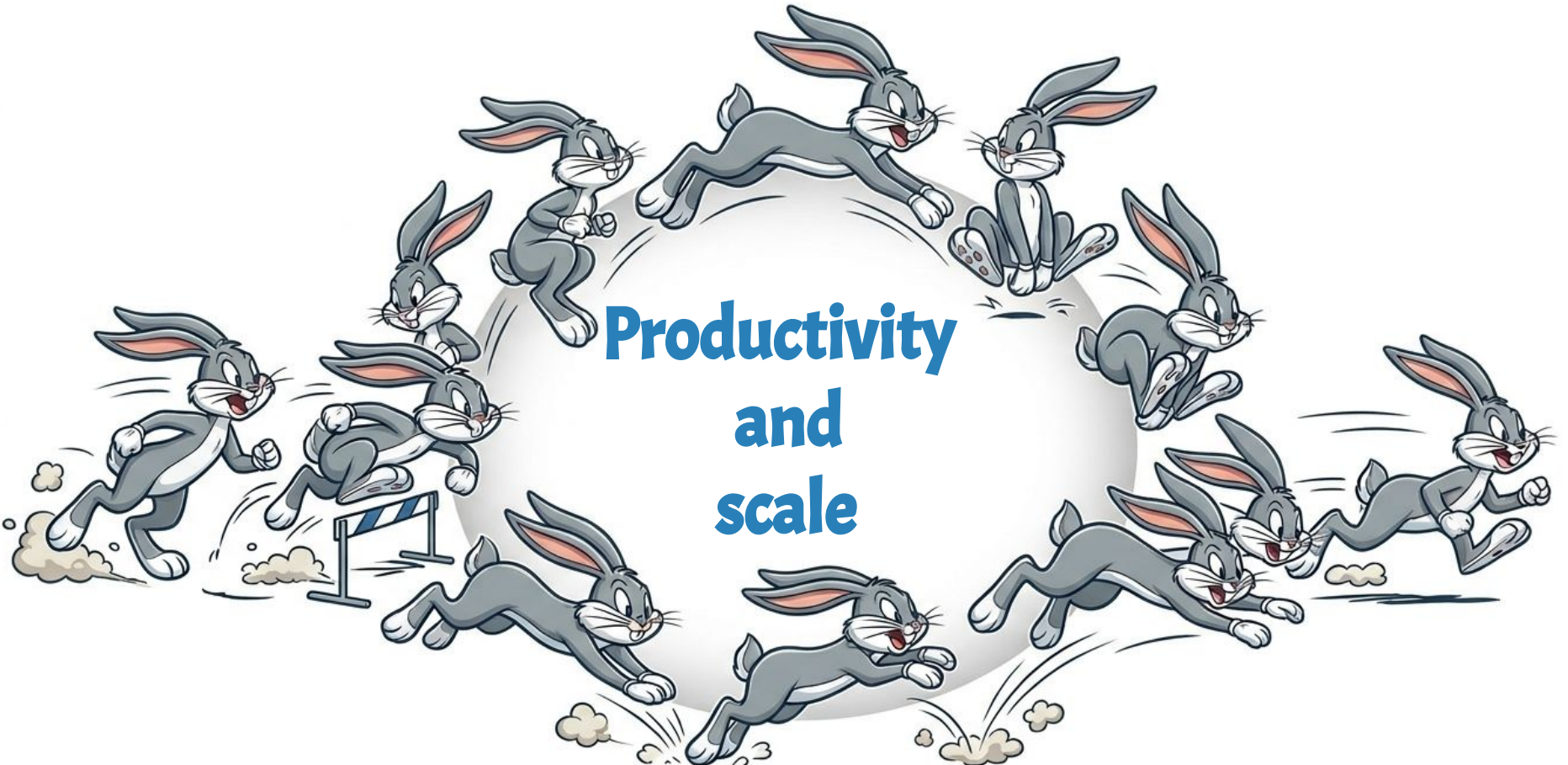
- **Style Flexibility:** Expanded control over colors, shapes, and conditional styling based on model states.
- **Dynamic UI:** Ability to define custom actions and contextual menus more easily.
- **Project-Specific Workbench Views:** Tool builders can now better tailor the interface for different use 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](https://hub.docker.com/r/eclipsesirius/sirius-web).

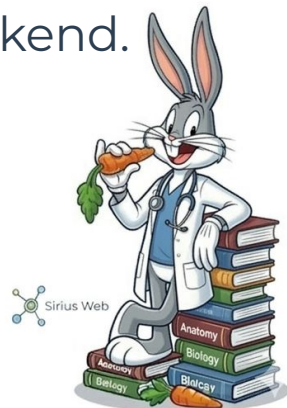




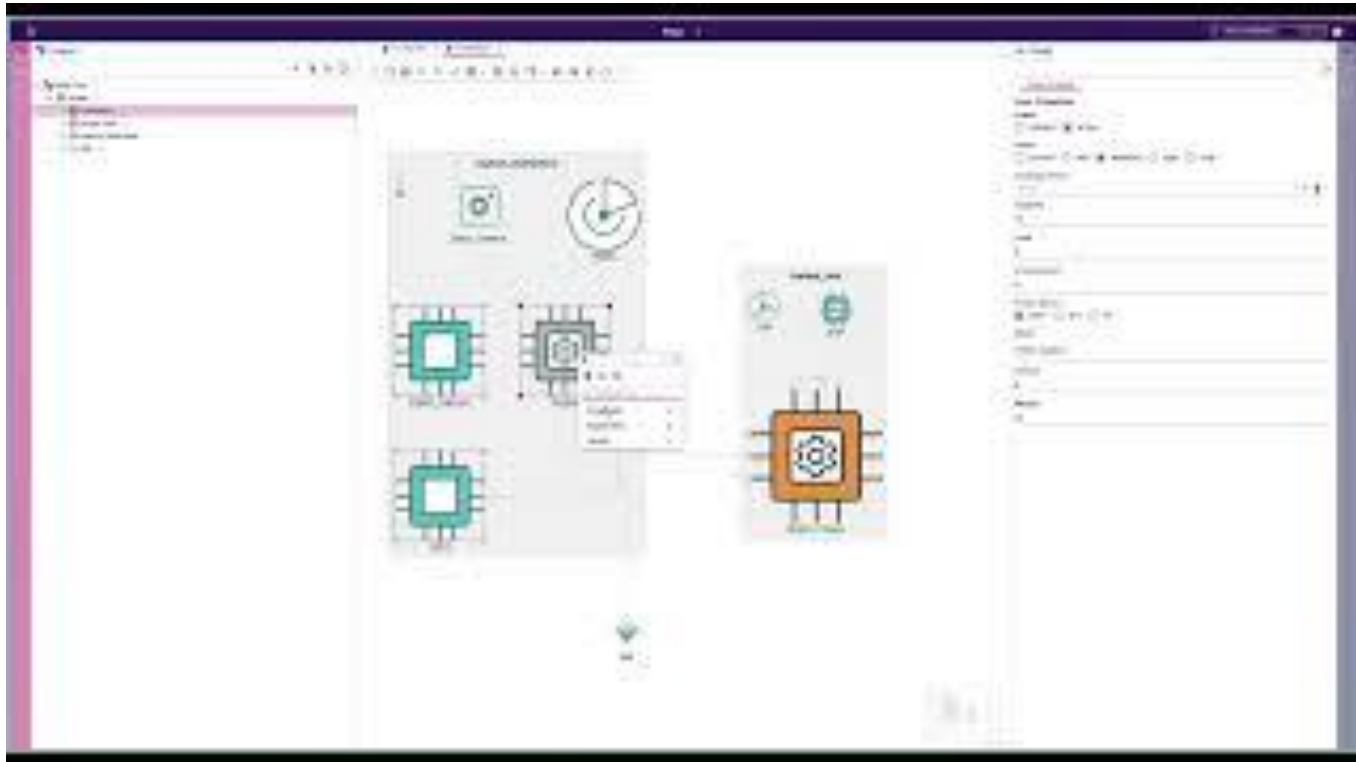
**Productivity  
and  
scale**

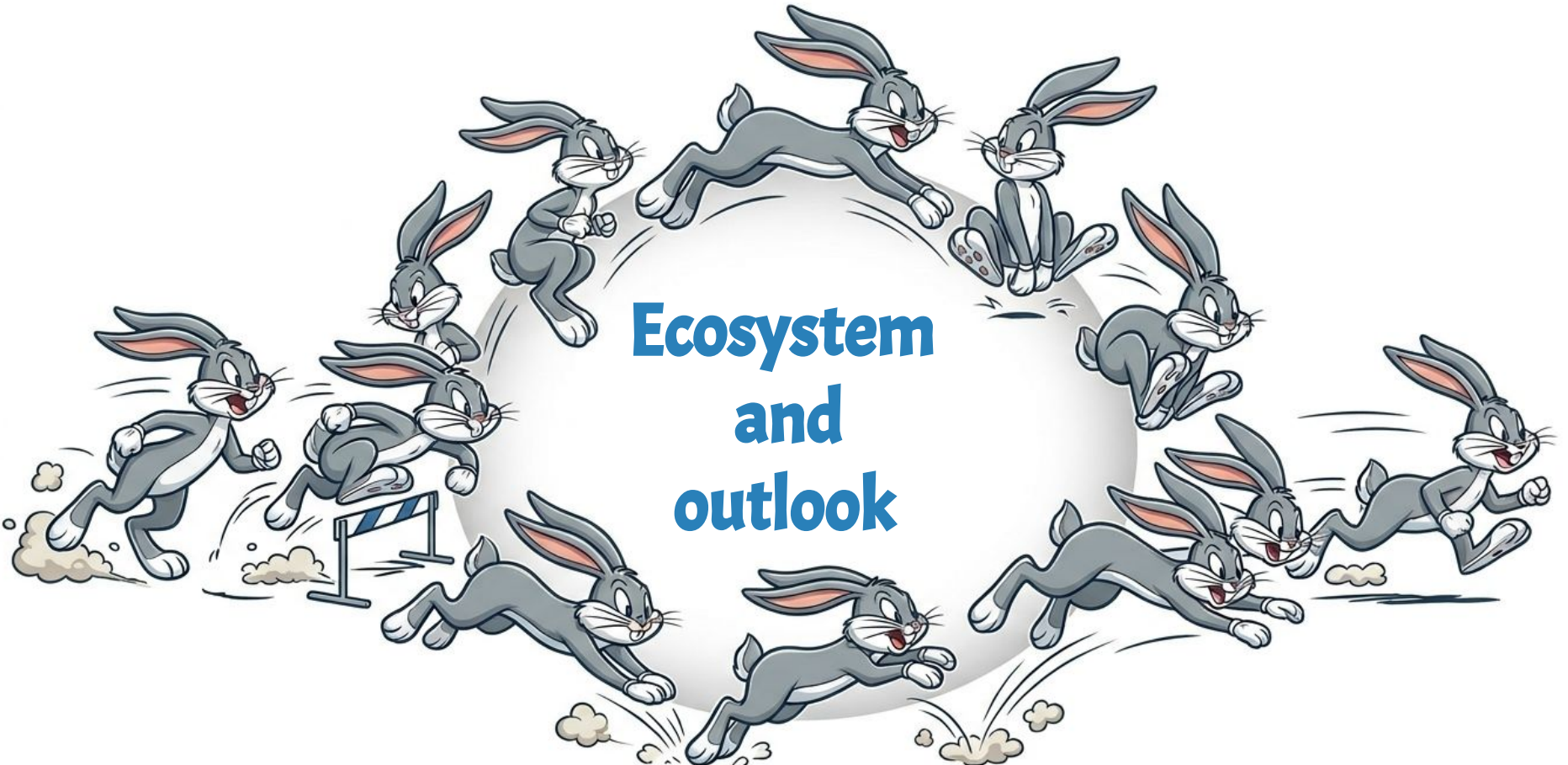
# Scalability and platform improvements

- **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

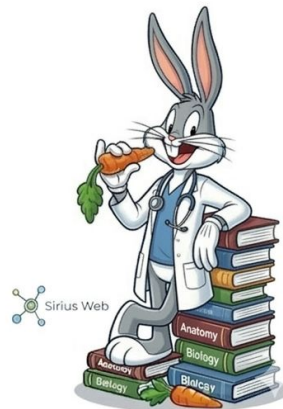




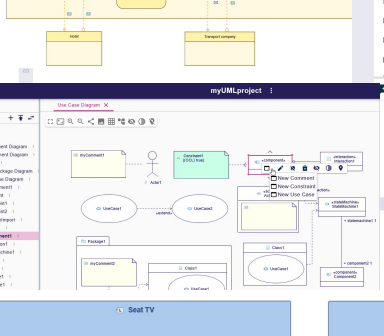
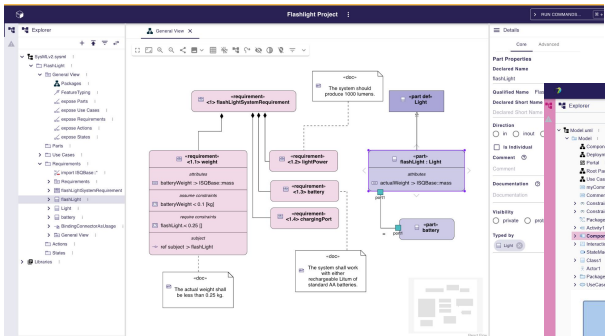
**Ecosystem  
and  
outlook**

# 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

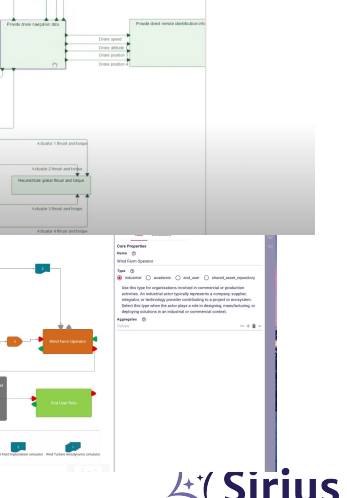
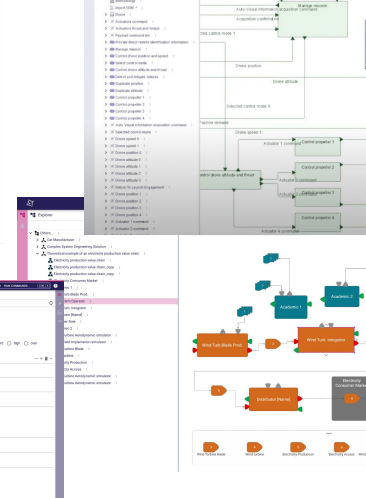
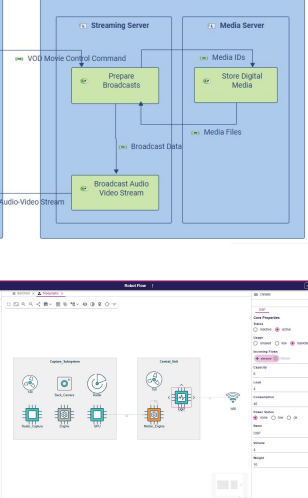


Search results for 'sample':

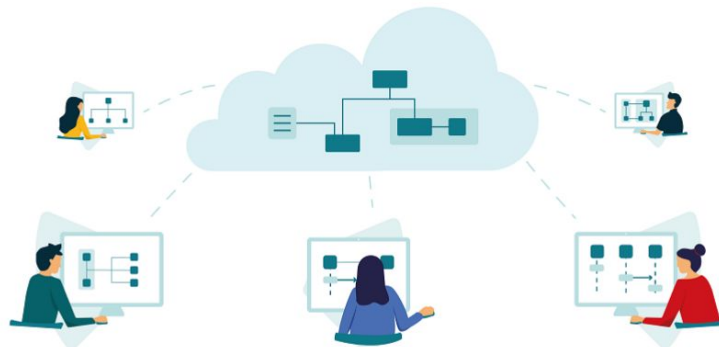
- SampleFunctions
- SamplePar
- SampleFunction
- samples

Name	Role	Status
arnaud deumegard (arnaud.deumegard)	Owner	OPEN
florent latombe (florent.latombe)	Reviewer	OPEN

Name	Role	Status
arnaud deumegard (arnaud.deumegard)	Owner	OPEN
florent latombe (florent.latombe)	Reviewer	OPEN

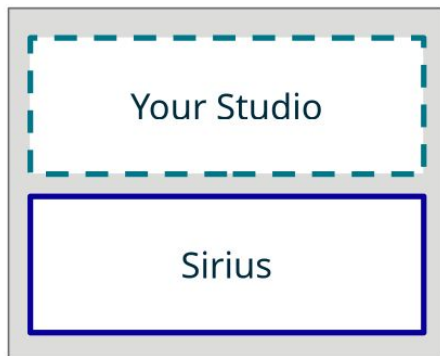


# Obeo Enterprise for Sirius (OE4S)

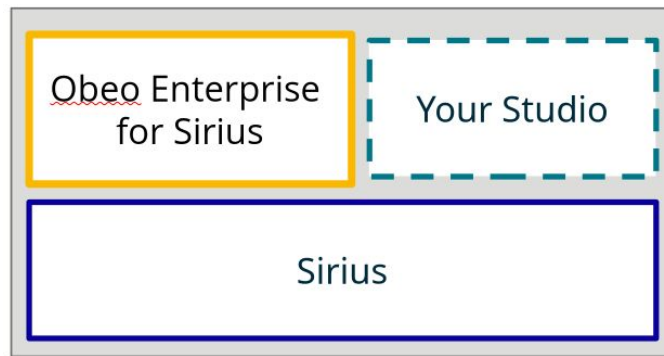


**Enterprise Collaboration Enabler  
for Cloud-Native Graphical Modeling**

# 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

The image displays two versions of the OE4S authentication interface. The left version shows a 'Welcome' page with a 'KEYCLOAK' button and a 'SIGN IN WITH KEYCLOAK' button. The right version shows a 'Welcome' page with a 'CREDENTIALS' form containing 'Username' and 'Password' fields and a 'SIGN IN' button.

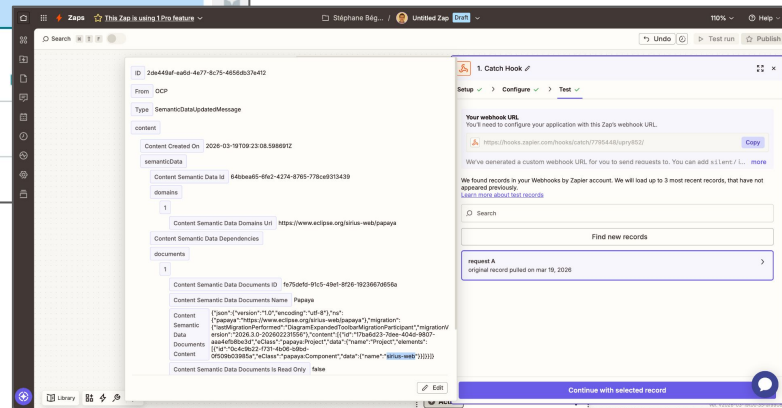
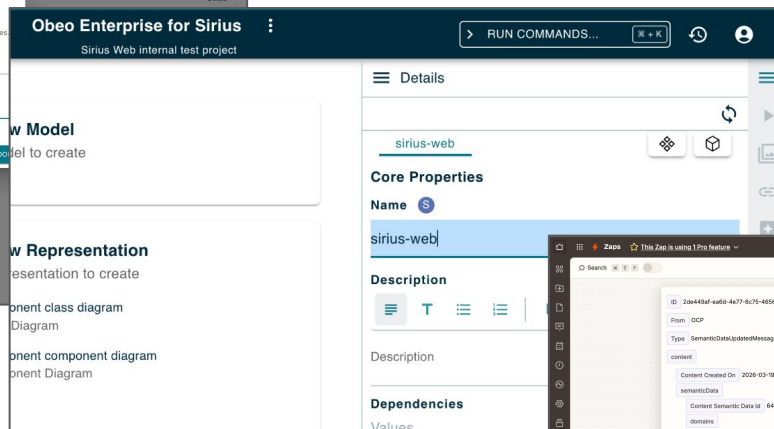
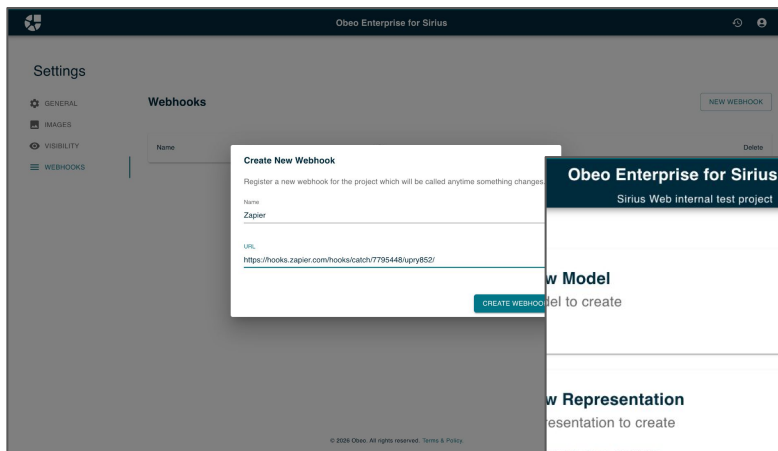
**Left Screenshot:**

- Header: Welcome
- Text: Sign in to get started
- Buttons: KEYCLOAK (selected), CREDENTIALS
- Text: You will be redirected to your organization's identity provider to complete sign-in.
- Button: SIGN IN WITH KEYCLOAK
- Text: By signing in, you agree to the [Term of Service and Privacy Policy](#).
- Text: Need help? [Contact your administrator](#)
- Footer: © 2026 Obeo. All rights reserved. [Terms & Policy](#)

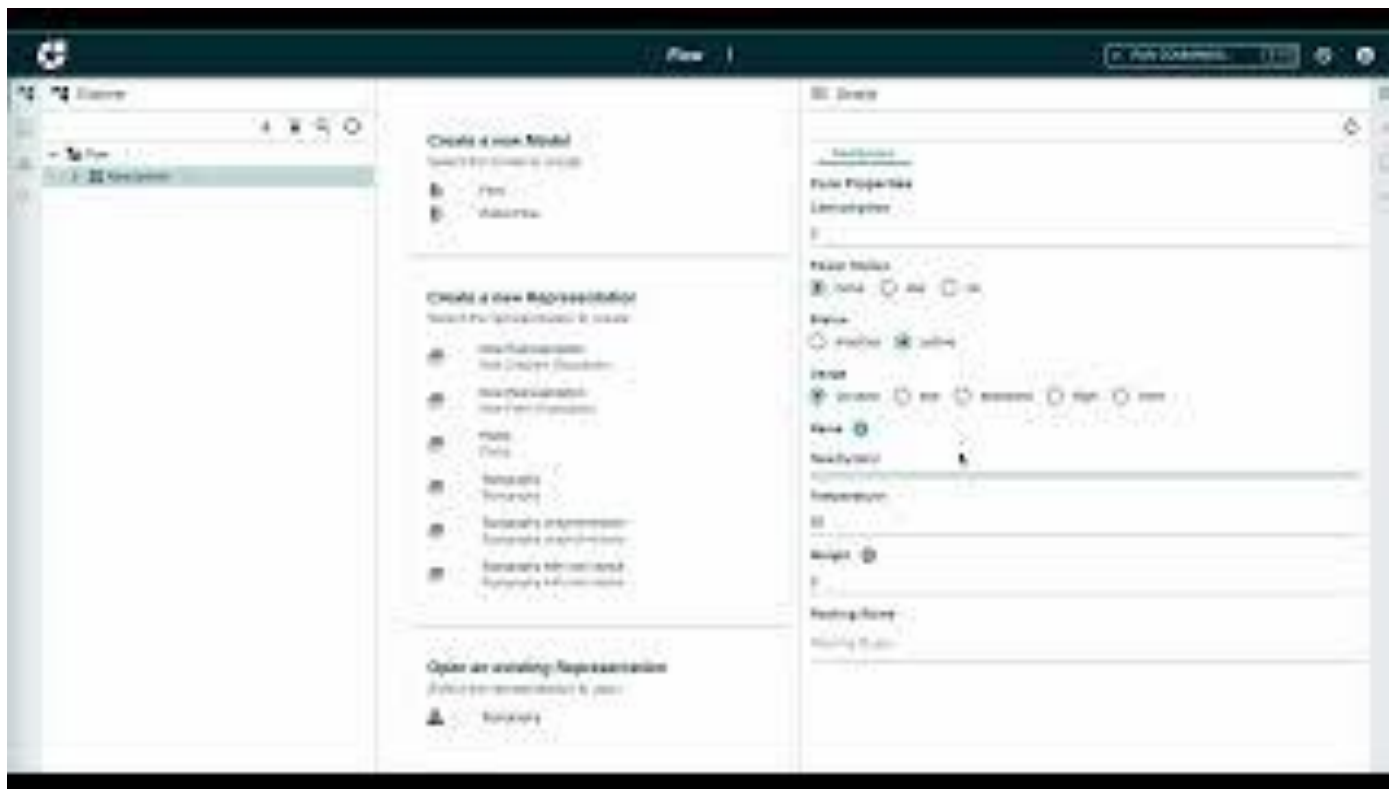
**Right Screenshot:**

- Header: Welcome
- Text: Sign in to get started
- Buttons: KEYCLOAK, CREDENTIALS (selected)
- Text: Enter your credentials to access your workspace.
- Form: Username \* (input field)
- Form: Password \* (input field)
- Button: SIGN IN
- Text: By signing in, you agree to the [Term of Service and Privacy Policy](#).
- Text: Need help? [Contact your administrator](#)
- Footer: © 2026 Obeo. All rights reserved. [Terms & Policy](#)

# OE4S Features - Webhooks



# OE4S Features - Visual collaboration

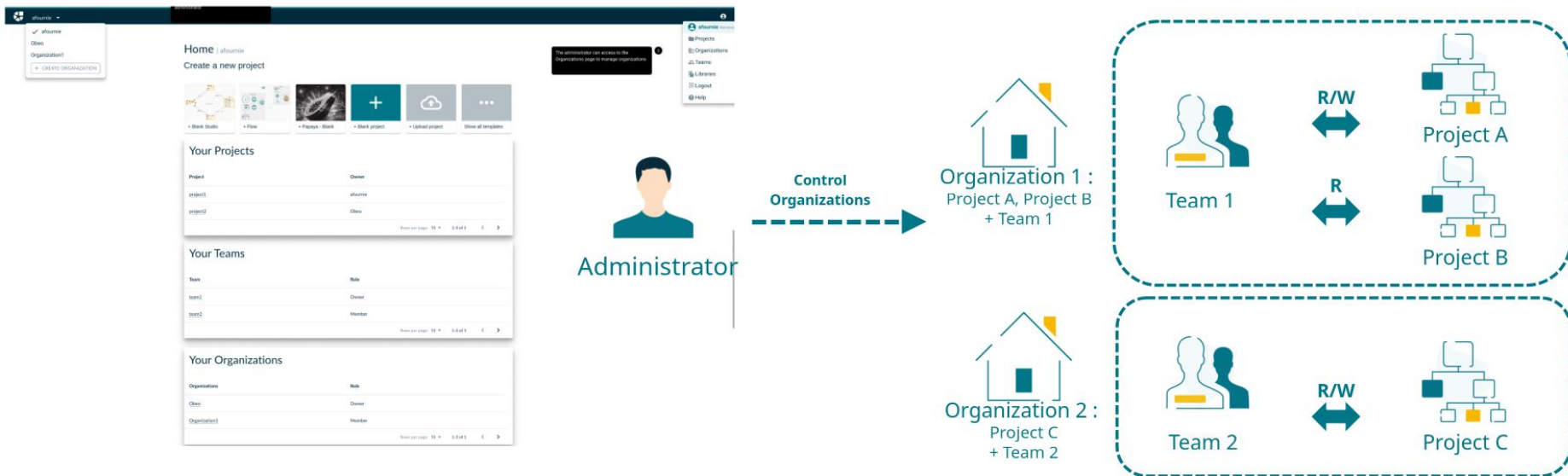


# Control User Permissions : Organizations

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

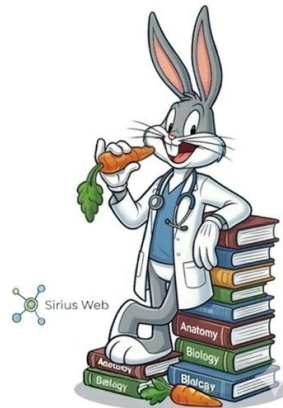
**Project ownership :** To group related projects under a common ownership and governance model.

**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

Sirius Web Docs

Sirius Web

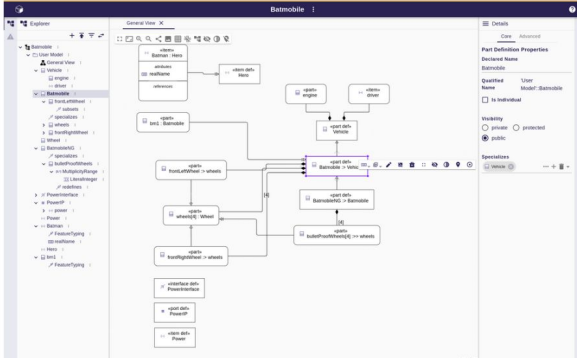
- Introduction
- Sirius Web Overview**
  - Guided Path: Start Here
  - The Sirius approach
  - Key concepts and terminology
- Getting started with Sirius Web
- User interface overview
- How-Tos and Tutorials
- Features and capabilities
- Integration and Development
- Support and resources
- Release notes and updates
- Frequently Asked Questions
- Legal Information

Sirius Web / Introduction / Sirius Web Overview Edit this Page

## Sirius Web Overview

### 1. Overview

Sirius Web is a web-based open-source platform for creating custom graphical modeling environments. It provides a low-code framework for defining and deploying domain-specific visual languages directly in the browser. With Sirius Web, users can build tailored modeling tools to represent, edit, and visualize complex systems, fostering collaboration and integration in web-based workflows.



Sirius Web is an open-source, low-code platform designed to simplify the creation and deployment of graphical modeling studios on the web. It enables organizations to define custom visual languages tailored to their specific domains, offering an intuitive and flexible way to represent complex information. Built with a modern web architecture, Sirius Web ensures seamless collaboration, scalability, and integration with existing tools.

**Contents**

1. Overview
2. At a glance
3. Source code
4. Tracker
5. Communication

Sirius Web provides an open-source low-code environment that enables the rapid development of graphical modeling tools with minimal coding effort. As a fully web-based solution, it runs entirely in a browser, eliminating the need for local installation.

Its extensibility allows it to adapt to various domains by supporting customizable visual languages and model representations.

Sirius Web
meb-doc-antora ▾

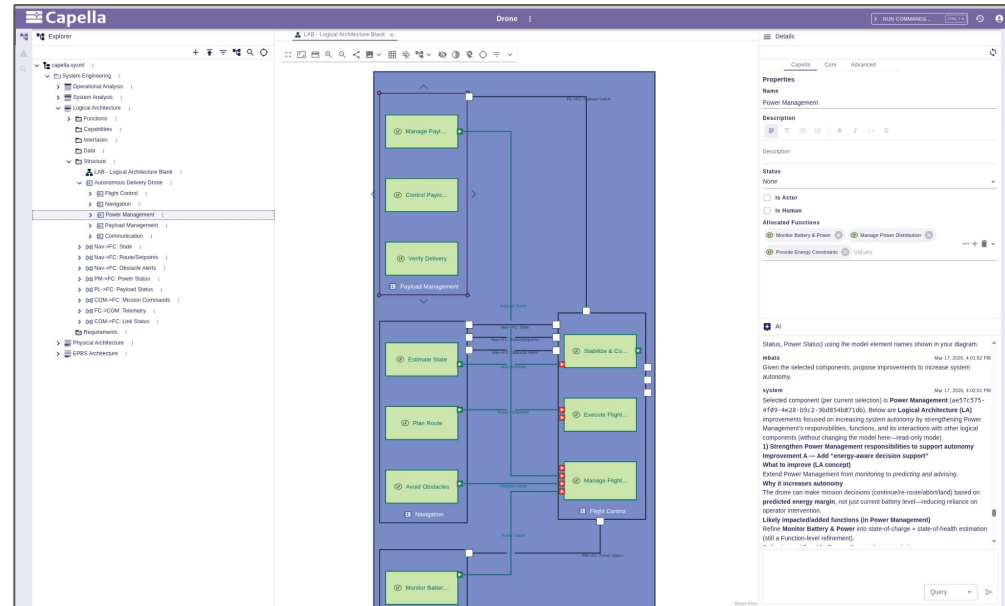


# AI Integration

**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,

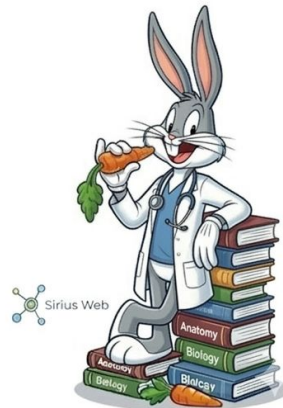
**contributes**,

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**.





**Thank You!**  
**Questions?**

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[stephane.begaudeau@obeo.fr](mailto:stephane.begaudeau@obeo.fr)

<https://eclipse.dev/sirius/sirius-web.html>

<https://github.com/eclipse-sirius/sirius-web>