



HIGHLIGHTS IN PURE VARIANTS

Release 7.0



Date: 2025-04-07



PURE VARIANTS RELEASE 7.0

Pure Variants 7.0 is a major release, which brings several notable feature additions and improvements, as well as important bug fixes

- **Scalability**

- Enhanced responsiveness during variant configuration and faster previews
- Faster loading of projects with large amount of models
- Improved parallel processing of requests to model server
- More efficient branching for model server projects

- **Seamless Experience (ALM) - Codebeamer**

- Faster Working Set Transformations
- Variability in Risk Trackers
- Syntax & Semantic check report

- **Openness**

- Redact transformation mode for Codebeamer, DOORS Next, MS Word and Source Code
- Benefit from the most recent Tool Versions

- **Latest Additions to Web Client**

- Access & User Management
- View History
- pvscl Library editing

- **Improvements to Desktop Client and Web Client**

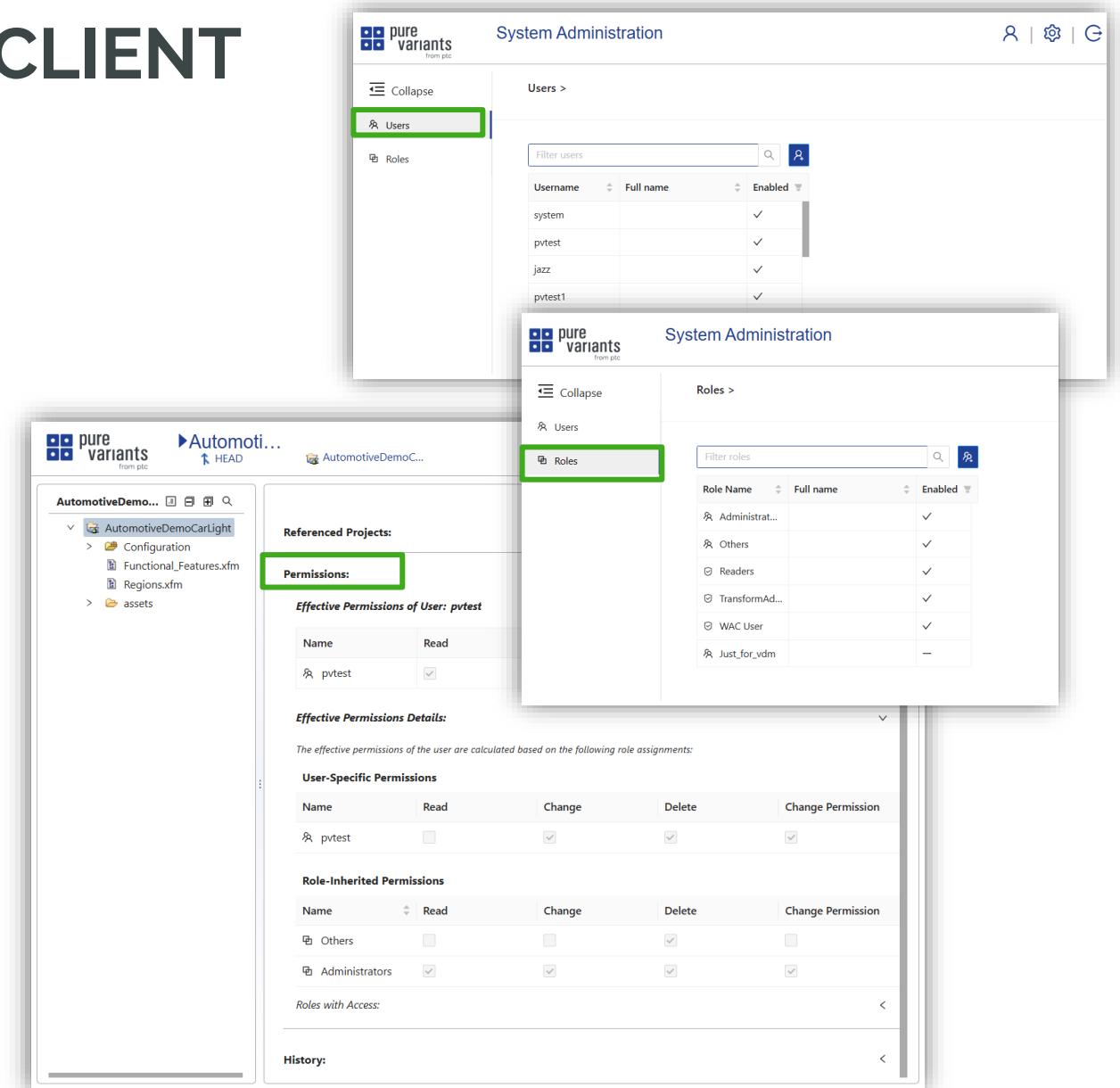
- Change inherited variant values,
- New pvscl functions for String manipulation



WEB CLIENT & MODEL SERVER IMPROVEMENTS

USER MANAGEMENT IN WEB CLIENT

- The Pure Variants Web Client now provides direct access to the User Management of a model server, making it simple to manage users and roles. **(PV-6643, PV-6819)**
- Enables Pure Variants Model Server administrators to create users, define roles and their functions, assign roles to multiple users and unassign them when needed—all in one place!
- Admins and users with "Change permission" can edit access rights at project, folder, configuration space and model level.



SHOW HISTORY OF MODELS AND ELEMENTS

- The Web Client now displays the history of models and elements, showing model-level changes for project models and element-level changes for feature, family and variant models in the scope of the opened model. **(PV-6710)**

The screenshot displays the Pure Variants Web Client interface. The left sidebar shows a tree view with 'AutomotiveDemoCarLight' selected, containing 'Configuration', 'Functional_Features.xfm', 'Regions.xfm', and 'assets'. The main panel shows details for the selected model, including a 'Link for Help' section, 'Unique ID', 'Created' date, 'Type', and 'Project Version'. Below this, there are sections for 'Referenced Projects', 'Permissions', and 'History'. The 'History' section is highlighted with a green box and shows a list of changes with columns for date, time, user, and version. The 'History' table shows changes made by 'jazz' on 07.03.2025 and 11.10.2024. The 'History' section also includes filters for user and date range, and a 'Number of results' dropdown set to 20.

AutomotiveDemo... **Automoti...** **AutomotiveDemoC...**

AutomotiveDemo... **AutomotiveDemoCarLight**

- Configuration
- Functional_Features.xfm
- Regions.xfm
- assets

Link for Help:

Link

Unique ID: il5gPMGzV09l1Ssp4 **Type:** ps:project

Created: jazz / Oct 11, 2024, 1:43:52 PM **Project Version:** 5

Referenced Projects:

Permissions:

Effective Permissions of User: pvtest

Roles with Access:

History:

Filter by user: Select user Filter by date range: Start date → End date Number of results: 20

07.03.2025

- > 11:49:38 AM HEAD jazz
- > 11:49:29 AM HEAD jazz

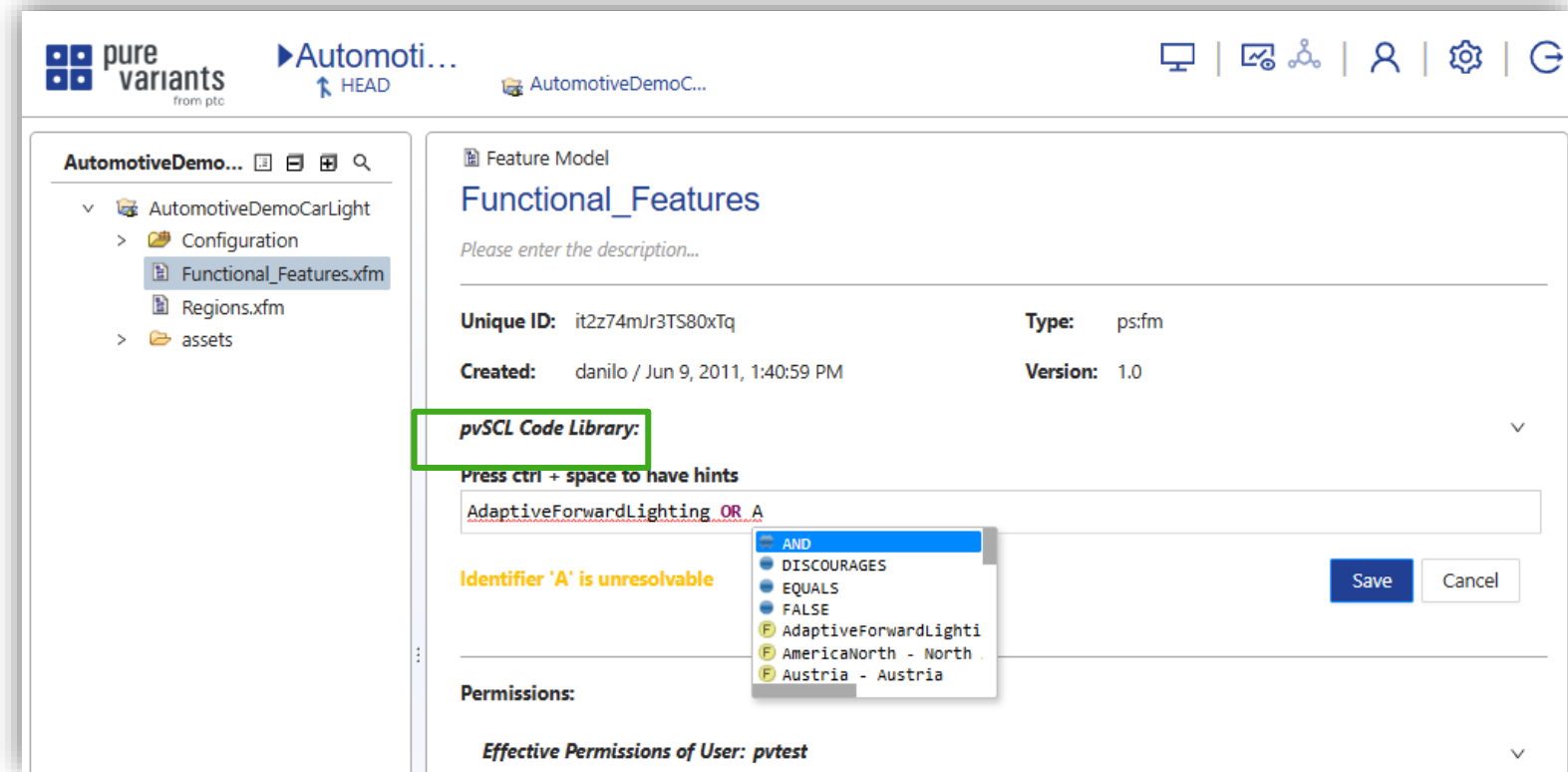
11.10.2024

- > 02:18:42 PM HEAD jazz
- > 01:43:53 PM HEAD jazz
- > 01:43:53 PM HEAD jazz
- > 01:43:52 PM HEAD jazz

12-02.2025

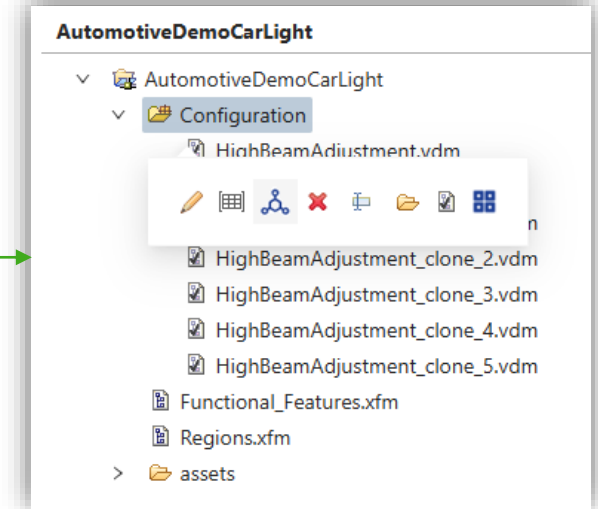
PVSCL LIBRARY EDITING

- pvSCL libraries of Family and Feature models can now be viewed and edited directly in the Web Client, with syntax highlighting, autocomplete functionality and syntax checks making code library management more seamless.
(PV-6791)

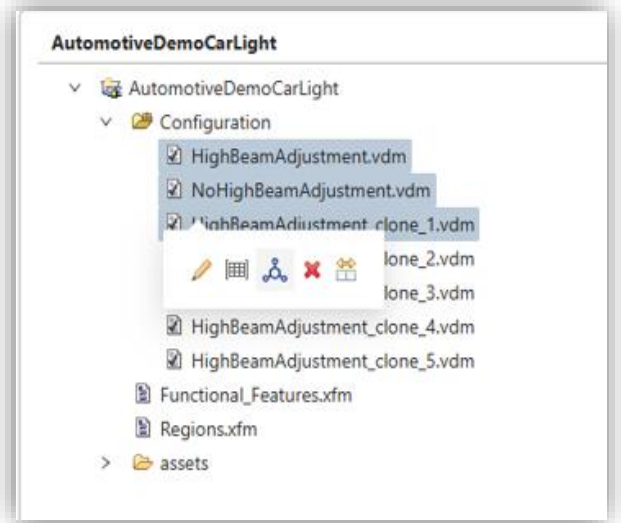


NOTABLE WEB CLIENT IMPROVEMENTS

- Users now receive immediate notifications when initiating the creation of revisions, keeping them informed if background processes are already in progress providing real-time updates. **(PV-6401)**
- Possible to convert projects to version 7 with ease via the Web Client and Desktop Client. **(PV-6840)**
- Batch transformation of multiple Variant Models can be directly triggered from the project view of the Web Client without requiring the Matrix View by multi-selection of variant models. **(PV-6711)**



Trigger transformation on configuration space



Trigger transformation on multiple VDMs

MODEL SERVER ENHANCEMENTS

- The improved Evaluation Engine enhances tool response time during variant configuration and preview, while accelerating transformations for better scalability in Desktop Client and Web Client. **(PV-6835)**
- Significant performance enhancements for concurrent user access to Web Client in Kubernetes deployments due to horizontal scaling of the Web Client and shifting computation-heavy tasks from the Model Server to the Web Client. **(PV-6624)**
- More efficient branching for model server projects in turn providing reduced database growth, faster branching. **(PV-5873)**
- The Model Server now handles Desktop & Web Client requests more efficiently, ensuring smoother logins, branching, and project access — Faster user interactions in case of parallel user requests to model server. Support larger number of parallel users with high tool responsiveness. **(PV-6576)**
- Model Server projects can now be renamed **(PV-4280)**, and branch/tag names can include spaces for improved usability. **(PV-3351)**

FURTHER ENHANCEMENTS

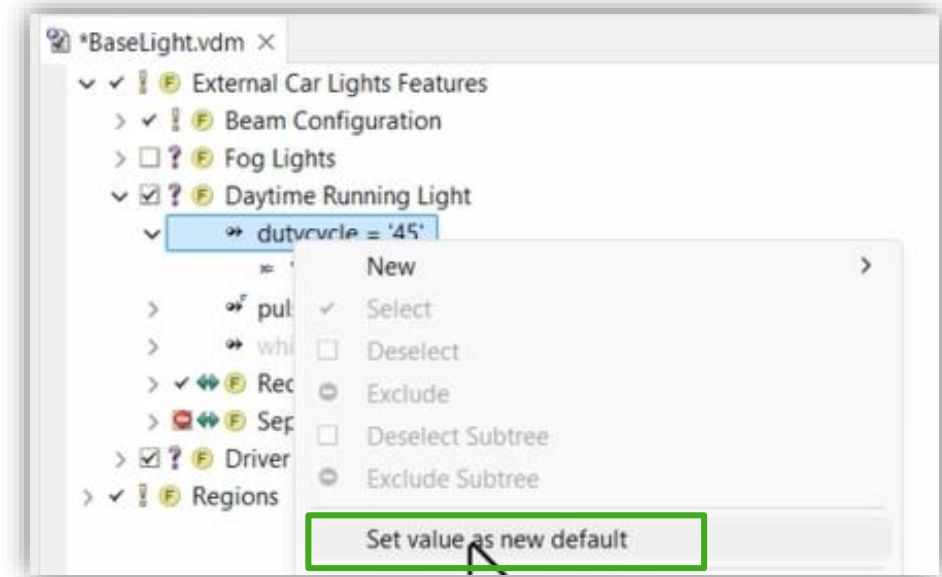
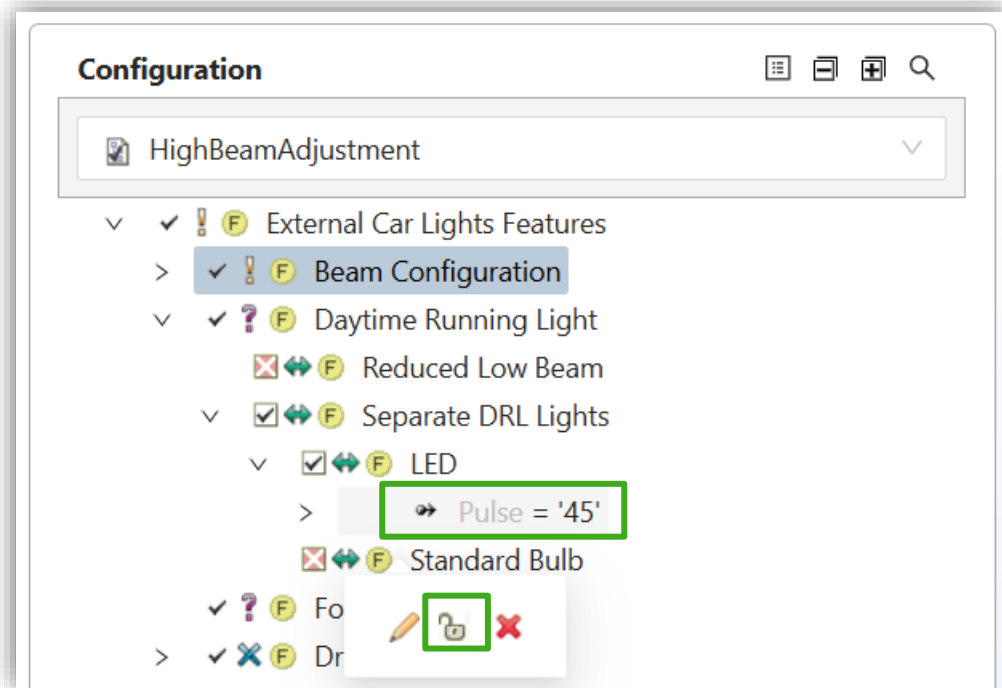
- Improved usability of stored reference revisions, reducing inconsistencies caused by combining mismatched project revisions. **(PV-4886)** Users are warned if switching to another revision could create inconsistencies with other referencing projects. The revision switch only proceeded upon user confirmation, with an option to update referenced revisions across all related projects. **(PV-4890)**
- Extracting a branch of features to a feature model in a different project on a model server is now supported. **(PV-7032)**



DESKTOP CLIENT & WEB CLIENT IMPROVEMENTS

CHANGES OF INHERITED VARIANT VALUES SUPPORTED

- Possible to set default values and non-fixed values for sub-product lines in variant models. **(PV-3576)**



NEW PVSCL FUNCTIONS

- New native pvscl functions for String manipulations, getting variant names and more: **(PV-6558)**
 - **pv:LastIndexOf()** - searches for last occurrences in strings and collections
 - **pv:ToFloat()** - converts now also strings to floats
 - **pv:VariantName()** - returns name of the variant
 - **pv:ForAny()** - checks if at least for one list item a condition is fulfilled
 - **pv:StringReplace()** and **pv:StringReplaceAll()** - replace substrings in strings
 - **pv:StringSplit()** - splits strings around delimiter
 - **pv:ToInteger()** - converts strings and numbers to integers

MORE IMPROVEMENTS AND BUG FIXES

- Faster loading of model server projects (strongest impact) and file-based projects with multiple models. **(PV-6939)**

DESKTOP CLIENT BUG FIXES

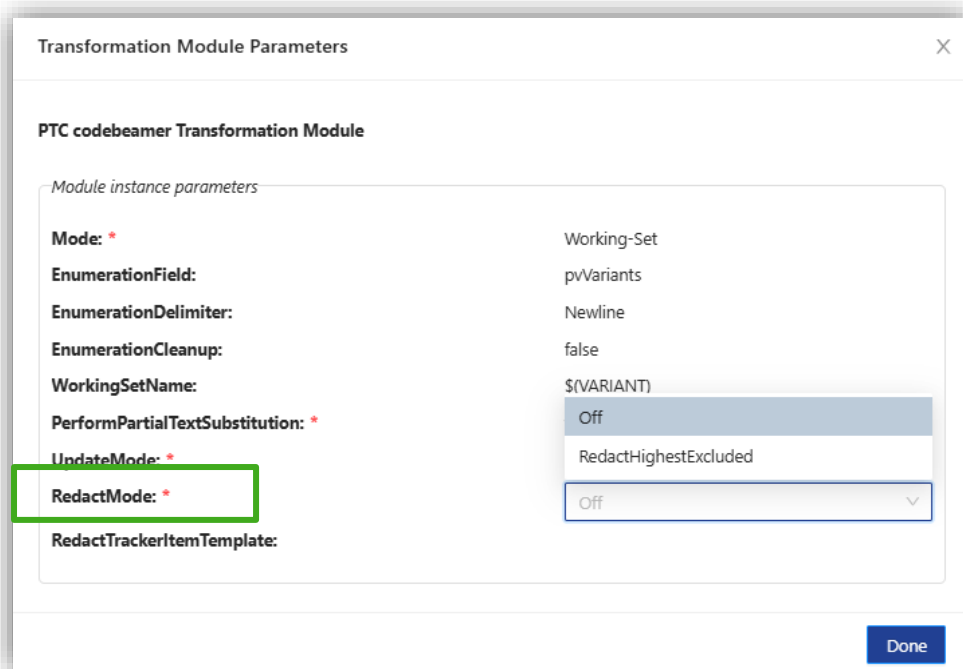
- The extract element refactoring could not be executed in certain cases. Fixed. **(PV-7004)**
- Renaming of configuration space does not update path to module config. Fixed. **(PV-6943)**
- Type model editor cannot edit an attribute type if base type does not exist anymore. Fixed. **(PV-6937)**



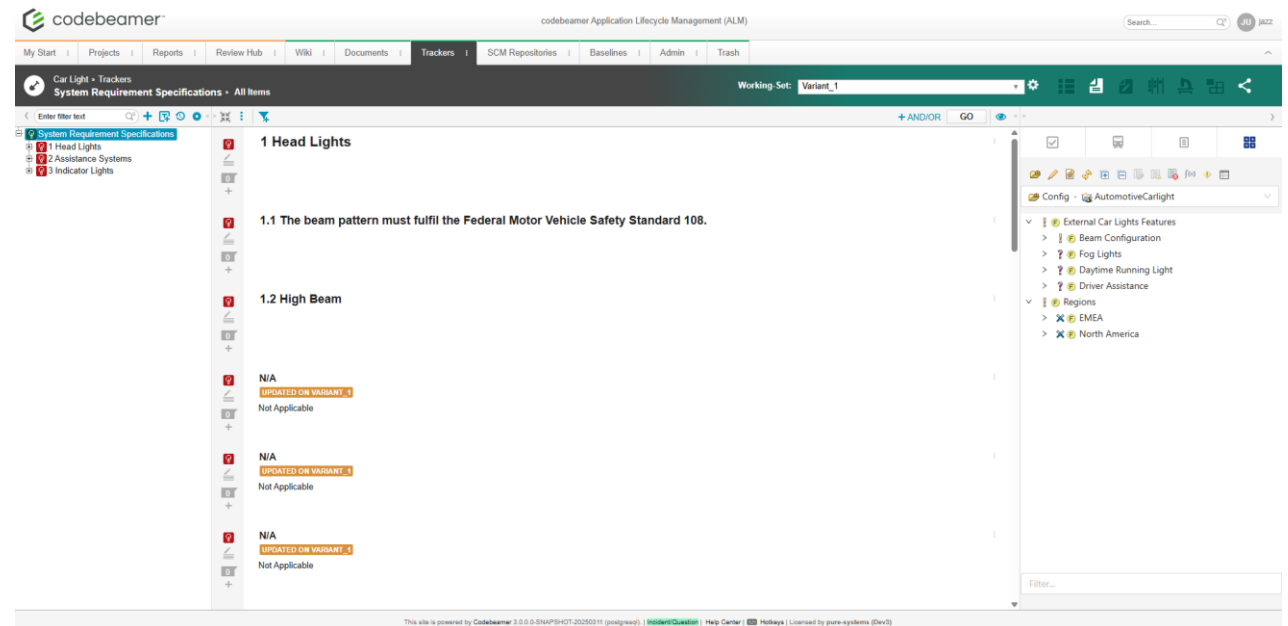
CONNECTORS IMPROVEMENTS & FIXES

REDACT TRANSFORMATION

- New “redact” transformation mode that redacts / blanks engineering assets instead of deleting them from variants during transformation. **(PV-5813)**
- Supported for **Codebeamer, DOORS Next, Source Code, MS Word.**



Redact mode in codebeamer transformation settings



100% requirement specification document in redact mode

NOTABLE FIXES AND IMPROVEMENTS

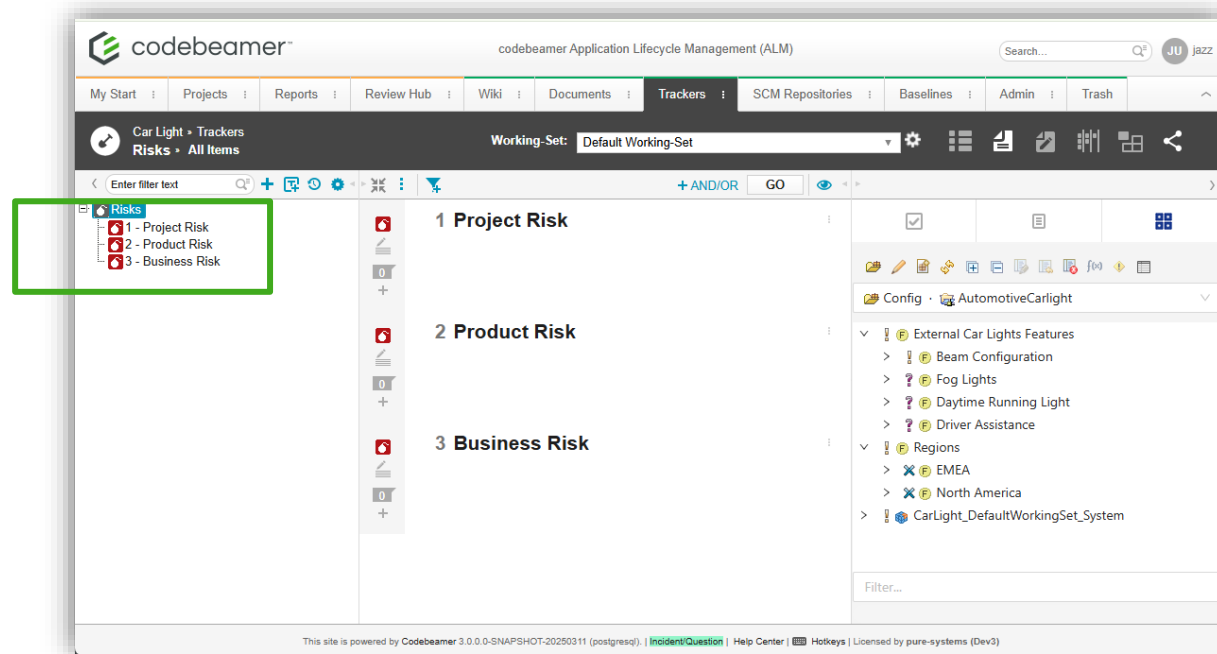
- Partial preview should not unescape the escaped substitution markers for **Codebeamer, DOORS Next and Polarion**. Fixed. **(PV-4790)**
- Multi-selection of elements for drag-and-drop functionality is now enabled when adding restrictions and calculations for **Codebeamer, DOORS Next and Polarion**. **(PV-5995)**
- The option to disable the deletion of removed requirements during transformation in **DOORS Next** is now available. **(PV-6104)**
- The ability to display model data in a language-specific format in web-based in-tool integrations is supported. **(PV-6185)**
- Seamless switching between user-defined and administrator-defined WebHub URLs via the web-based in-tool integrations. **(PV-6999)**



CODEBEAMER CONNECTOR

CODEBEAMER IMPROVEMENTS

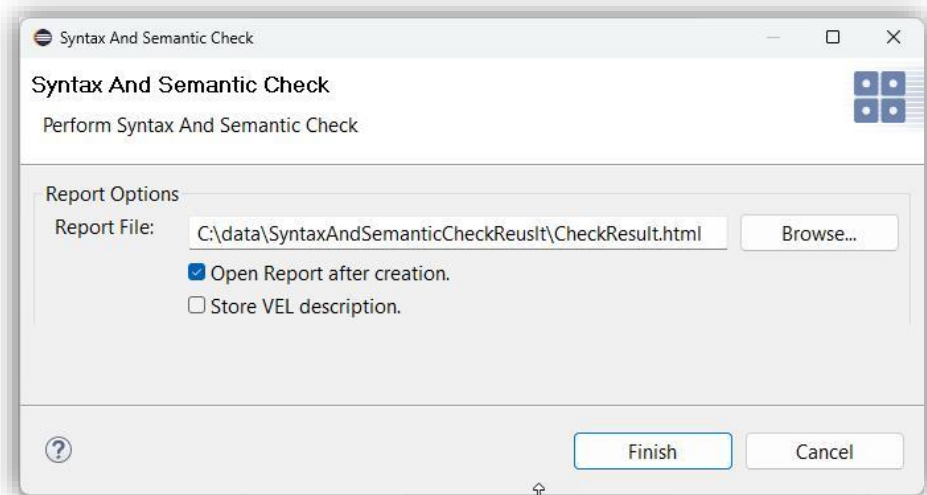
- Faster initial transformation of working sets with larger number of tracker items due to scalable working sets introduced with Codebeamer 3.0.
- Pure Variants now supports variability in risk trackers. The Codebeamer widget allows you to add restrictions, calculations, error checks, and previews for variant management of risk trackers. **(PV-6405)**



Pure Variants widget for risk trackers

STREAMLINED VALIDATION IN CODEBEAMER

- The syntax and semantic check report for restrictions and calculations in a tracker is now available in the Desktop Client. It ensures efficient validation across all trackers in a working set. Easily navigate to incorrect expressions through direct links. **(PV-6470)**



Syntax and semantic check dialog

Syntax and Semantic Check Result

Generated on Thu Feb 27 13:20:36 CET 2025 with pure::variants 6.9.0

PVSCL Problems

Model: CarLight_WSWWithErrors

Severity	Message	Element	Attribute
Warning	Call to unknown function with context or attribute 'bulbcolor1' with 0 argument(s) in 'IndicatorLight->bulbcolor1'	TrackerItem_13547	Description
Warning	Identifier 'unknownfeature' is unresolvable in 'unknownfeature'	TrackerItem_13548	pvRestriction
Warning	Call to unknown function with context or attribute 'unknownAttr' with 0 argument(s) in 'DRL_LED->unknownAttr'	TrackerItem_13549	Summary
Warning	Call to unknown function with context or attribute 'pulse' with 0 argument(s) in 'DRL->pulse'	TrackerItem_13551	Action

Evaluation Problems

Variant Model: UnresolvedFeatureAndAttr

Severity	Message	Model	Element
Error	no value for attribute 'IndicatorLight->bulbcolor1' for field 'Description' in tracker item '13547'	CarLight_WSWWithErrors	TrackerItem_13547
Error	Call to unknown function with context or attribute 'bulbcolor1' with 0 argument(s) at element 'IndicatorLight->bulbcolor1'	CarLight_WSWWithErrors	TrackerItem_13547

Codebeamersyntax and semantic check report

FURTHER IMPROVEMENTS

- Configuring the tracker item's fieldname to something other than pre-defined field names will lead to missed text substitution during Preview. Fixed. **(PV-6585)**
- Users can now define a Jama filter for import and transformation to return only items with the pvRestriction attribute set, reducing unnecessary delays and improving processing times. **(PV-6588)**



VERSION UPDATES

TOOL VERSION UPDATES

The following new versions of 3rd party tools and infrastructure software have been verified to work with Pure Variants 7.0*.

- Codebeamer 3.0
- Eclipse 2024-12
- IBM ELM 7.0.2 iFix032
- IBM ELM 7.0.3 iFix009
- IBM ELM 7.1.0
- Java 18-23 (Oracle & OpenJDK)
- postgresSQL 17

* For details on all supported versions in the current release, check the [Systems Requirements document](#)



THANK YOU

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