Axivion Suite - Technical Factsheet Architecture

Version 7.12.0 upwards

Contents

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1. ARXML

Rule	Description
ARXMLImportModel	Instantiate and import an AUTOSAR classic ECU extract of System Description into an RFG.
ARXMLLowLevelImport	Import the raw ARXML model into an RFG.
ARXMLRteCommunication	Add dependencies implemented via AUTOSAR classic RTE.

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2. Architecture Analyses

Rule	Description
ArchitectureCheck	Performs an architecture analysis (reflexion-based), creates result views and violation messages.
GravisArchitecture	Architecture check using GXL files for architecture and mapping.
GravisRoleAttributes	Set RFG view roles for architecture check in Gravis.
MappingSanityCheck	Mapping Sanity Check.
Reengineering	Use an architecture and mapping initially generated from code information to do architecture verification.
ReengineeringDetailedDesign	"Generate architecture from code, using a modelling including a detailed design down to attribute / operation level.
ReengineeringEACodeEngineering	Generate UML-based Architecture from RFG representation of code.
ReengineeringFileEntities	Generate architecture from code, where directories are represented as packages and files as components %s.
ScriptedArchitecture	Architecture modelling via Python scripts for both mapping and architecture.

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1. Mapping

Rule	Description
HierarchicalMapping	Create a hierarchical mapping.
TaggedValuesMapping	Create a tagged-value based mapping.

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2. Model Transformation

Rule	Description
EdgeInterpretation	Replace each non-hierarchical edge in a view by a (possibly empty) set of edges, depending on the edge type, its stereotype, and its target multiplicity.
MatchGraphs	Match two subgraph structures and transform found matchings.

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3. Safety and Security

Rule	Description
ExtractFfIArchitecture	Extract Freedom from Interference Architecture Mapping from Annotations in existing Architecture and Mapping views.

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3. Dependencies

Rule	Description
AddDynamicVariableAccesses	Analyze data flow to annotate variables referenced by accesses through pointer dereference.
CreateTypes	Create new Node and Edge types.

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4. Exporters

Rule	Description
EAExporterCom	Export architecture view into Enterprise Architect format using EA's COM-based API (Windows-only)
GXLExport	Exports a view of an RFG into a file in GXL format.
QEAExporter	Exports an architecture view to a .qea file for Enterprise Architect (Unsupported preview).
SaveRFG	Save the intermediate RFG.

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5. Graph-based Analyses

Rule	Description
CheckRFGEquality	Check equality of the given two graphs.
CheckRFGLanguageSchema	Performs a language schema verification on an RFG.
CloneView	Create a clone view.

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1. Cycles

Rule	Description
CyclesView	Create a view containing cycles of a certain base view.
LiftedCyclesView	Create a view containing callgraph cycles at module/class level.

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2. Dead Code

Rule	Description
CombinedDeadCode	Report dead code findings considering several client projects (i.e., findings that appear in all projects).
CopyIntoEntriesView	Copy routines matching the given name pattern into the Entries View.
DeadCodeView	Create a view containing dead functions of a certain base view.
VariantDeadCode	Report dead code findings considering several client projects (i.e. findings that appear in all projects).

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6. Importers

Rule	Description
ARXMLImport	Instantiate and import an AUTOSAR classic ECU extract of System Description into an RFG.
EAImporter	Imports an Enterprise Architect model (in XMI1.1 format) into the RFG.
GXLImport	Import a GXL file as a view into an RFG.
PlantUMLC4Importer	Imports PlantUML C4 files into the RFG.
PlantUMLImporter	Imports a PlantUML model into the RFG.
QEAImporter	Imports an Enterprise Architect model from a .qea/.qeax file into the RFG.
RhapsodyImporter	Imports an IBM Rhapsody model into the RFG.

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7. Transformations

Rule	Description
CustomRFGFunction	Modifies the RFG using user-defined python functions.
ObfuscateNames	Obfuscate names in the given RFG.
StripBasepath	Strip basepath from Source.Path attribute of nodes.
TransitiveClosure	Compute the transitive closure of a given view with respect to a given edge type.

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1. Views

Rule	Description
CombineViews	Copy the content of the given RFG view to a new view (overwriting its previous content).
CopyAndProjectView	Copy the content of the given RFG view to a new view (overwriting its previous content) and remove all nodes that are not children of the given root node.
CopyView	Copy the content of the given RFG view to a new view (overwriting its previous content).
ProjectView	Remove all view nodes that are not children of the given root node.
RemoveView	Remove the view.
RenameView	Rename the given RFG view (overwriting a possibly existing view with target name first).

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