

UML2 Profile for XML Schema Generation

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See Also:

UML2 Profile for XML Schema, <http://www.xmlmodeling.com/documentation/specs/>

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Abstract:

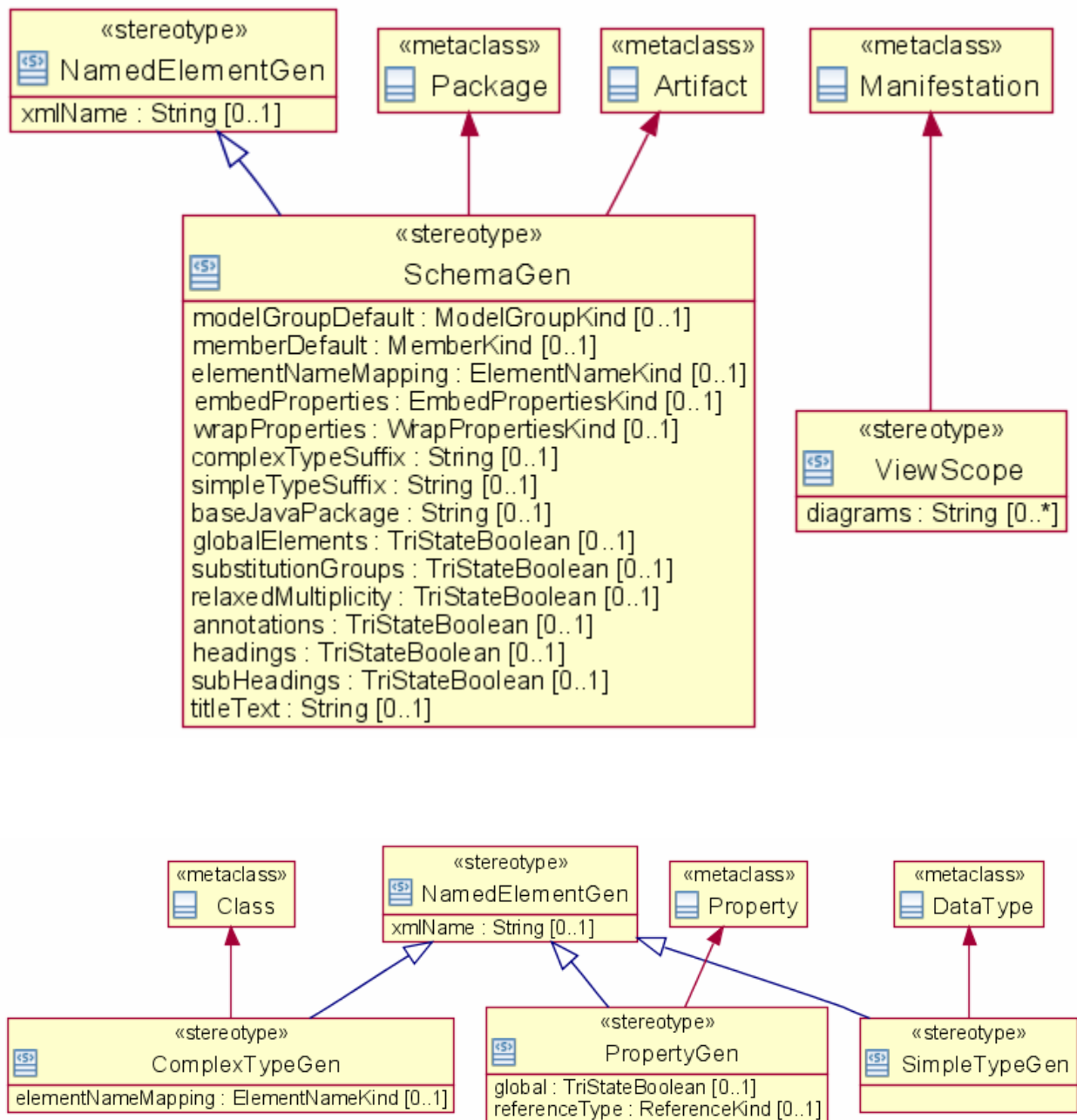
This UML profile includes stereotypes and properties that support generation of schemas by guiding tools with user preferences for XML Schema design rules. This profile complements the UML2 Profile for XML Schema that includes only stereotypes required to map between UML and XML Schema specifications.

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Introduction

This UML profile includes stereotypes and properties that support generation of schemas by guiding tools with user preferences for XML Schema design rules. This profile complements the UML2 Profile for XML Schema that includes only stereotypes required to map between UML and XML Schema specifications. Both profiles may be applied to a model to obtain XSD mapping extensions and tool generator preferences.

Overview of Stereotypes



Stereotypes Definitions

In general, you should apply stereotypes to the UML model only when you must modify the default mapping from UML to XML Schema, or when you must specify additional XSD attributes that have no corresponding interpretation in UML.

«NamedElementGen»

Description

Abstract stereotype that defines properties inherited by other stereotypes.

Properties

- xmlName :String [0..1] XML name used instead of UML name.

«schemaGen»

Stereotype: SchemaGen

Base Metaclass	Generalizations
<ul style="list-style-type: none"> • Package • Artifact 	<ul style="list-style-type: none"> • NamedElementGen

Description

This stereotype and its assigned property values apply to all owned packages and types, unless a stereotype is assigned to an owned member where it may override properties from the owner package stereotype.

Properties

- modelGroupDefault : ModelGroupKind [0..1]
The default content model for complexTypes generated in this package
- memberDefault : MemberKind [0..1]
The default mapping of class properties to XSD attribute or element.
- elementNameMapping : ElementNameKind [0..1]
Determines how global element names are derived from a class name.
- embedProperties : EmbedPropertiesKind [0..1]
- wrapProperties : WrapPropertiesKind [0..1]
- complexTypeSuffix : String [0..1]
The suffix appended to all complexType names (e.g. "Type").
- simpleTypeSuffix : String [0..*]
The suffix appended to all simpleType names.
- baseJavaPackage : String [0..1]
Used when generating Java bindings from this package.
- globalElements : TriStateBoolean [0..1]
If true, generate global XSD element references for all class properties.

- substitutionGroups :TriStateBoolean [0..1]
If true, generate element substitutionGroup for class generalization.
- relaxedMultiplicity :TriStateBoolean [0..1]
If true, set minOccurs = 0 for all XSD elements, and all XSD attributes optional.
- annotations :TriStateBoolean [0..1]
If true, generate XSD annotations for UML comments.
- headings :TriStateBoolean [0..1]
Generate heading comment in each XSD file.
- subHeadings :TriStateBoolean [0..1]
Generate sub-heading comment for each XSD declaration.
- titleText :String [0..1]
If provided, replaces the default heading text in XSD file.

Constraints

-

Semantics

Notation and Use

«complexTypeGen»

Stereotype: ComplexTypeGen

Base Metaclass	Generalizations
<ul style="list-style-type: none">• Class•	<ul style="list-style-type: none">• NamedElementGen

Description

Modifies XML Schema generation for complexType definitions.

Properties

- elementNameMapping : ElementNameKind [0..1]
Determines how global element names are derived from this class name. Used to override the package default assigned via the SchemaGen stereotype.

Constraints

- Shall not be applied to any class that is not mapped to an XSD complexType.

Semantics

Notation and Use

«simpleTypeGen»

Stereotype: SimpleTypeGen

Base Metaclass	Generalizations
<ul style="list-style-type: none"> • DataType • 	<ul style="list-style-type: none"> • NamedElementGen

Description

Modifies XML Schema generation for simpleType definitions.

Properties

-

Constraints

- Shall not be applied to any class that is not mapped to an XSD simpleType.

Semantics**Notation and Use****«propertyGen»**

Stereotype: PropertyGen

Base Metaclass	Generalizations
<ul style="list-style-type: none"> • Property • 	<ul style="list-style-type: none"> • NamedElementGen

Description

Modifies XML Schema generation for XSD elements and attributes from UML properties.

Properties

- global :TriStateBooleanKind [0..1]
If true, generate this property to an XSD global element or attribute reference.
- referenceType : ReferenceKind [0..1]
Override the XSD element or attribute type to use this reference kind.

Constraints

-

Semantics

Notation and Use

«viewScope»

Stereotype: ViewScope

Base Metaclass	Generalizations
<ul style="list-style-type: none">• Manifestation	<ul style="list-style-type: none">•

Description

Modifies XML Schema generation for Artifacts.

Properties

- diagrams : String [0..*]
List of class diagram names in the related UML package that are manifestations of an Artifact.

Constraints

-

Semantics

Notation and Use

Enumerations

The following enumeration types are defined and used within this profile for stereotype property types.

<p>TriStateBoolean</p> <ul style="list-style-type: none"> • Unspecified • true • false 	<p>ModelGroupKind</p> <ul style="list-style-type: none"> • Unspecified • all • choice • sequence
<p>MemberKind</p> <ul style="list-style-type: none"> • Unspecified • attribute • element 	<p>ElementNameKind</p> <ul style="list-style-type: none"> • Unspecified • sameAsClass • lowerCamelCase • upperCamelCase • omitElement
<p>EmbedPropertiesKind</p> <ul style="list-style-type: none"> • Unspecified • none • all • aggregation • composition 	<p>WrapPropertiesKind</p> <ul style="list-style-type: none"> • Unspecified • none • multiplicity • complexContent
<p>ReferenceElementKind</p> <ul style="list-style-type: none"> • Unspecified • never • always • multiplicity 	<p>ReferenceKind</p> <ul style="list-style-type: none"> • Unspecified • string • QName • IDREF • anyURI

References

[1] UML 2.1

[2] XML Schema