Schema documentation for fdk_content.xsd

october 15, 2012

Table of Contents

Namespace: "" 2
- Schema(s) 2
  - Main schema fdk_content.xsd 2
- Element(s) 2
  - Element asf 2
  - Element project 3
  - Element board-addon 5
  - Element build 5
  - Element require 6
  - Element require-external 6
  - Element info 7
  - Element keyword 8
  - Element config 8
  - Element toolchain-config 8
  - Element toolchain-config-list 9
  - Element generator 9
  - Element related-module 10
  - Element device-support 10
  - Element device-map 10
  - Element group 11
  - Element mcu 12
  - Element device-alias-map 12
  - Element board 12
  - Element module 14
  - Element device-support-alias 15
  - Element select-by-device 15
  - Element select-by-config 16
  - Element framework-version 17
  - Element documentation 17
- Simple Type(s) 17
  - Simple Type generatorType 17
  - Simple Type asfId 18
  - Simple Type fdkEid 18
  - Simple Type relatedModuleType 18
- Attribute(s) 18
  - Attribute board-addon / @vendor 18
  - Attribute board-addon / @caption 18
  - Attribute board-addon / @position 19
  - Attribute build / @type 19
  - Attribute build / @subtype 19
  - Attribute build / @name 19
  - Attribute build / @value 20
  - Attribute build / @toolchain 20
  - Attribute require / @idref 20
  - Attribute require-external / @eidref 20
  - Attribute require-external / @idref 20
  - Attribute keyword / @value 20
  - Attribute info / @type 21
  - Attribute info / @value 21
  - Attribute config / @name 21
  - Attribute config / @value 21
  - Attribute toolchain-config / @name 21
  - Attribute toolchain-config / @value 21
  - Attribute toolchain-config / @toolchain 22
  - Attribute toolchain-config-list / @name 22
  - Attribute toolchain-config-list / @value 22
  - Attribute toolchain-config-list / @toolchain 22
  - Attribute generator / @value 23
  - Attribute generator / @default-mcu 23
  - Attribute related-module / @type 23
  - Attribute related-module / @module-id 23
  - Attribute device-support / @value 23

Attribute project / @id 23
Attribute project / @caption 24
Attribute project / @default-mcu 24
Attribute project / @type 24
Attribute project / @workspace-name 24
Attribute mcu / @name 24
Attribute group / @name 24
Attribute group / @doc-arch 24
Attribute device-map / @id 24
Attribute device-alias-map / @name 25
Attribute board / @id 25
Attribute board / @caption 25
Attribute board / @vendor 25
Attribute device-support-alias / @value 25
Attribute module / @id 25
Attribute module / @caption 25
Attribute module / @type 25
Attribute select-by-device / @id 26
Attribute select-by-device / @caption 26
Attribute select-by-config / @id 26
Attribute select-by-config / @name 26
Attribute select-by-config / @default 26
Attribute select-by-config / @caption 26
Attribute framework-version / @name 27
Attribute documentation / @baseurl 27
Attribute asf / @xmlversion 27

Namespace: ""

Schema(s)

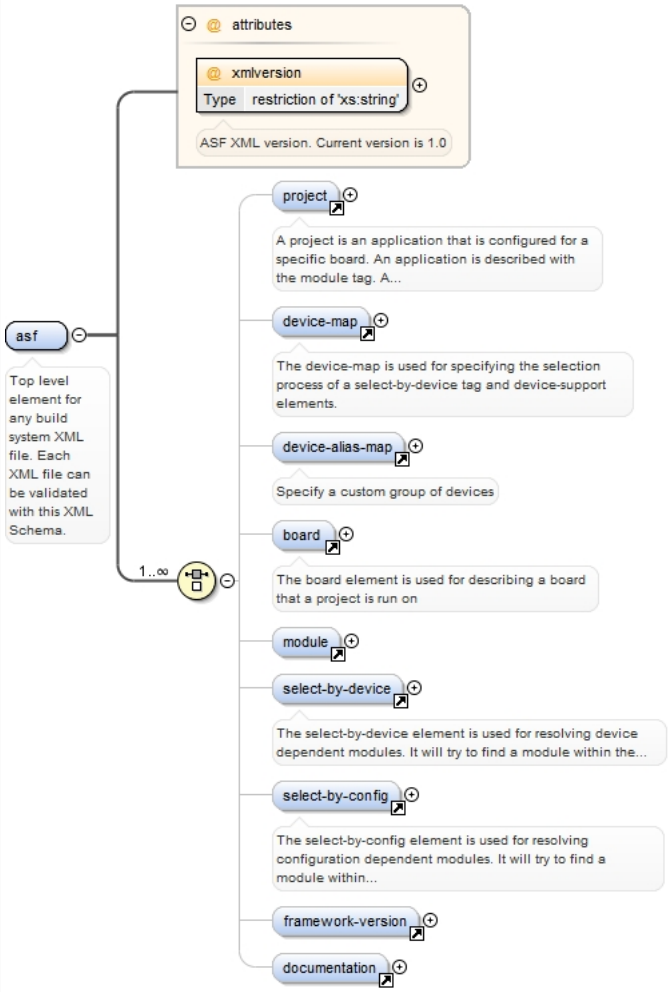
Main schema fdk_content.xsd

Namespace	No namespace
Annotations	This document provides specification for XML that describe drivers, applications and other software modules (from here on called modules) in the Atmel Software Framework. Upon start the parser will scan though the ASF directory structure for al asf.xml files, strip the "asf" tag and then include all elements into one XML file. The resulting XML file is used as a database for all software modules in the ASF. The database can be used to resolve dependencies for any module in the ASF, and find other information regarding the software modules.

Element(s)

Element asf

Namespace	No namespace
Annotations	Top level element for any build system XML file. Each XML file can be validated with this XML Schema.

Diagram	
Model	project{0,1} | device-map{0,1} | device-alias-map{0,1} | board{0,1} | module{0,1} | select-by-device{0,1} | select-by-config{0,1} | framework-version{0,1} | documentation{0,1}
Children	board, device-alias-map, device-map, documentation, framework-version, module, project, select-by-config, select-by-device

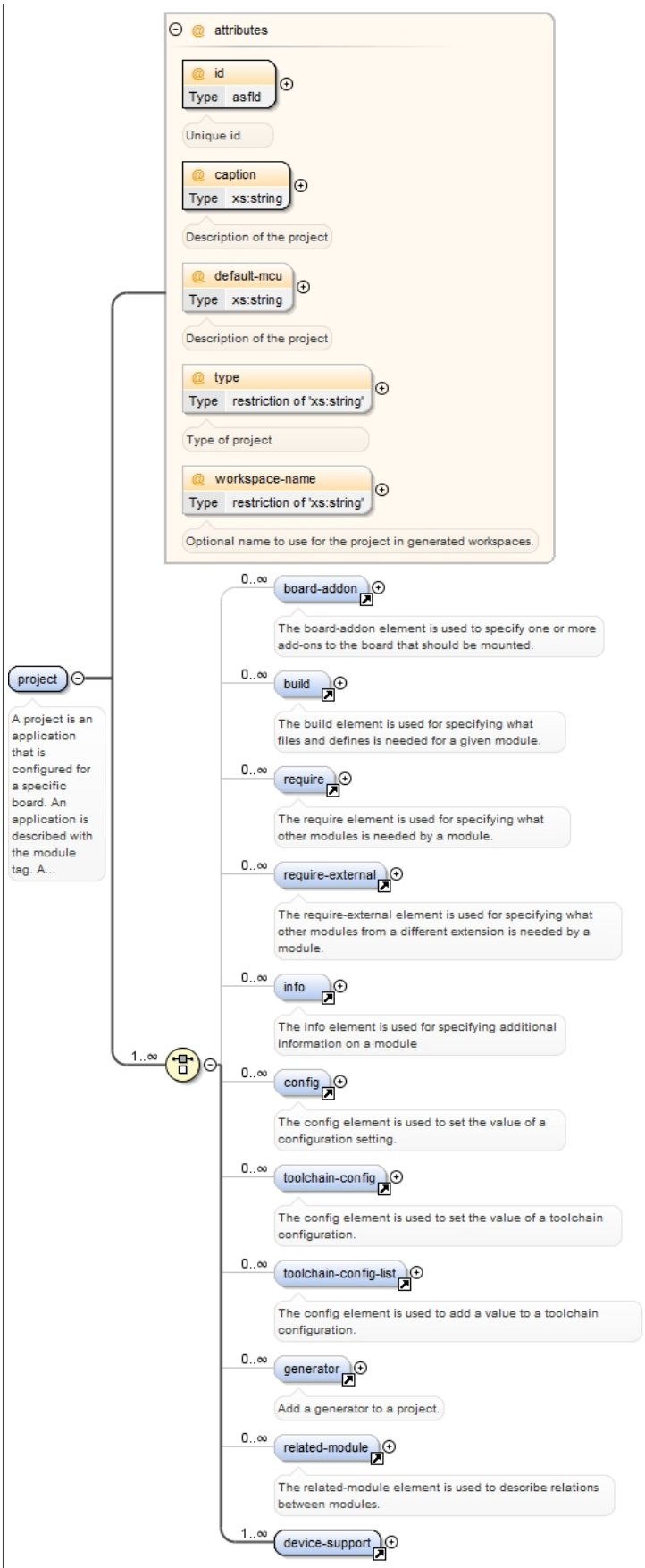
Instance	`<asf xmlversion="">`
	`  <project caption="" default-mcu="" id="" type="" workspace-name="">{0,1}</project>`
	`  <device-map id="">{0,1}</device-map>`
	`  <device-alias-map name="">{0,1}</device-alias-map>`
	`  <board caption="" id="" vendor="">{0,1}</board>`
	`  <module caption="" id="" type="">{0,1}</module>`
	`  <select-by-device caption="" id="">{0,1}</select-by-device>`
	`  <select-by-config caption="" default="" id="" name="">{0,1}</select-by-config>`
	`  <framework-version name="">{0,1}</framework-version>`
	`  <documentation baseurl="">{0,1}</documentation>`
	`</asf>`

Attributes

QName	Type	Fixed	Default	Use
xmlversion	restriction of xs:string			required
	ASF XML version. Current version is 1.0			

Element `project`

Namespace	No namespace
Annotations	A project is an application that is configured for a specific board. An application is described with the module tag. A project description is the starting point for the project generator, and must at least state: 1. which board the project makes use of 2. which project generators can be used 3. which application the project is for

Diagram	
Used by	Element asf

Model	board-addon* | build* | require* | require-external* | info* | config* | toolchain-config* | toolchain-config-list* | generator* | related-module* | device-support+
Children	board-addon, build, config, device-support, generator, info, related-module, require, require-external, toolchain-config, toolchain-config-list

Instance

```
<project caption="" default-mcu="" id="" type="" workspace-name="">
  <board-addon caption="" position="" vendor="">{0,unbounded}</board-addon>
  <build name="" subtype="" toolchain="" type="" value="">{0,unbounded}</build>
  <require idref="">{0,unbounded}</require>
  <require-external eidref="" idref="">{0,unbounded}</require-external>
  <info type="" value="">{0,unbounded}</info>
  <config name="" value="">{0,unbounded}</config>
  <toolchain-config name="" toolchain="" value="">{0,unbounded}</toolchain-config>
  <toolchain-config-list name="" toolchain="" value="">{0,unbounded}</toolchain-config-list>
  <generator default-mcu="" value="">{0,unbounded}</generator>
  <related-module module-id="" type="">{0,unbounded}</related-module>
  <device-support value="">{1,unbounded}</device-support>
</project>
```

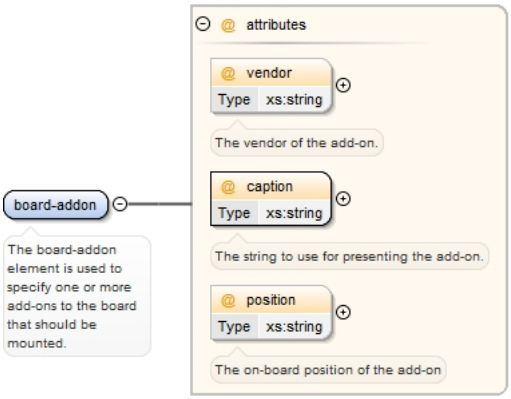
Attributes

QName	Type	Fixed	Default	Use
caption	xs:string			required
	Description of the project			
default-mcu	xs:string			optional
	Description of the project			
id	asfId			required
	Unique id			
type	restriction of xs:string			optional
	Type of project			
workspace-name	restriction of xs:string			optional
	Optional name to use for the project in generated workspaces.			

Element board-addon

Namespace	No namespace
Annotations	The board-addon element is used to specify one or more add-ons to the board that should be mounted.

Diagram



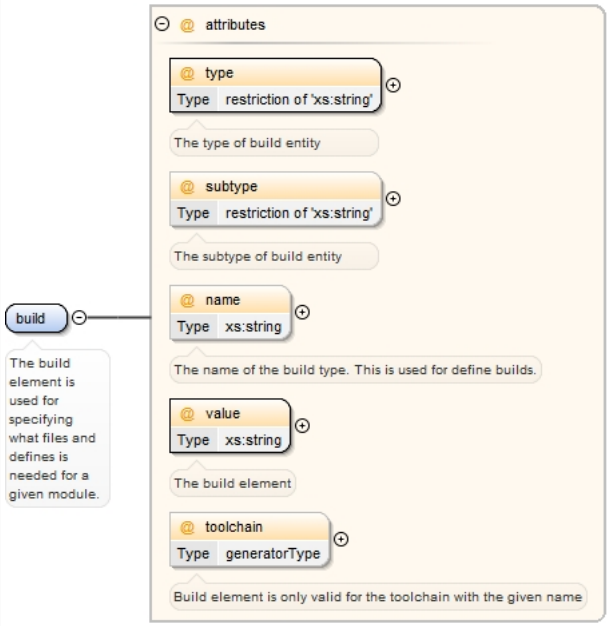
Used by	Element project

Attributes

QName	Type	Fixed	Default	Use
caption	xs:string			required
	The string to use for presenting the add-on.			
position	xs:string			optional
	The on-board position of the add-on			
vendor	xs:string			optional
	The vendor of the add-on.			

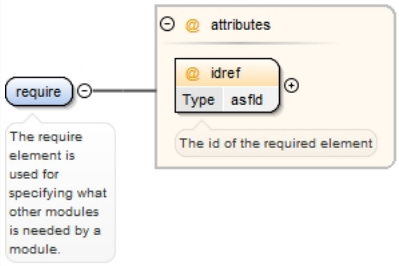
Element build

Namespace	No namespace
Annotations	The build element is used for specifying what files and defines is needed for a given module.

Diagram	
Used by	Elements board, module, project

Attributes	QName	Type	Fixed	Default	Use
	name	xs:string			optional
		`The name of the build type. This is used for define builds.`			
	subtype	restriction of xs:string			optional
		`The subtype of build entity`			
	toolchain	generatorType			optional
		`Build element is only valid for the toolchain with the given name`			
	type	restriction of xs:string			required
		`The type of build entity`			
	value	xs:string			required
		`The build element`			

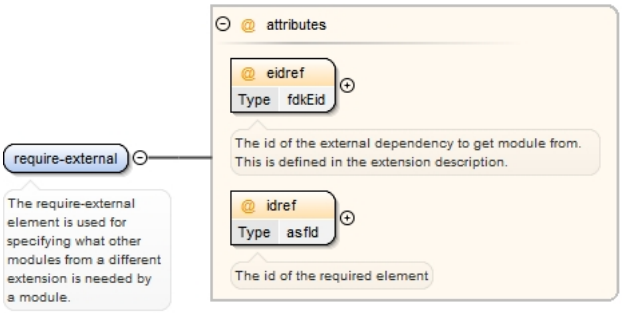
Element `require`

Namespace	No namespace
Annotations	`The require element is used for specifying what other modules is needed by a module.`
Diagram	
Used by	Elements board, module, project

Attributes	QName	Type	Fixed	Default	Use
	idref	asfId			required
		`The id of the required element`			

Element `require-external`

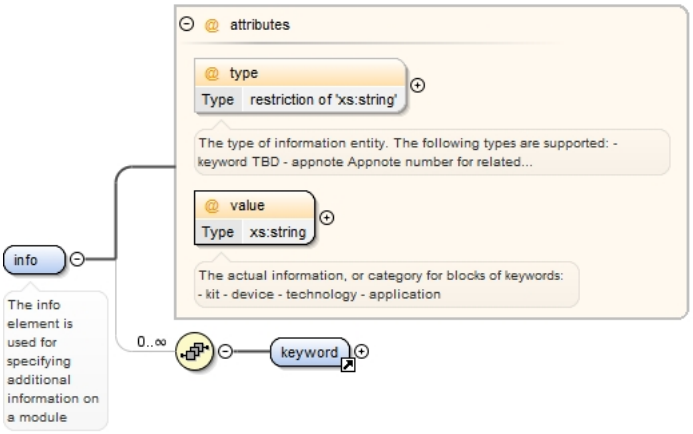
Namespace	No namespace
Annotations	`The require-external element is used for specifying what other modules from a different extension is needed by a module.`

Diagram	
Used by	Elements board, module, project

Attributes

QName	Type	Fixed	Default	Use
eidref	fdkEid			required
	The id of the external dependency to get module from. This is defined in the extension description.			
idref	asfId			required
	The id of the required element			

Element `info`

Namespace	No namespace
Annotations	The info element is used for specifying additional information on a module
Diagram	
Used by	Elements board, module, project, select-by-config, select-by-device
Model	keyword
Children	keyword

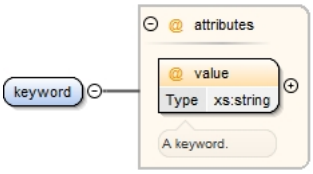
Instance	`<info type="" value="">`
	`  <keyword value="">{1,1}</keyword>`
	`</info>`

Attributes

QName	Type	Fixed	Default	Use
type	restriction of xs:string			optional
	The type of information entity. The following types are supported: - keyword TBD - appnote Appnote number for related appnote. Ex: AVR123 - description Textual description of the module. Can be of type: * summary - Quick "one line" description. * detailed - Longer, more detailed description. The exact guidelines are TBD.			
value	xs:string			required
	The actual information, or category for blocks of keywords:			

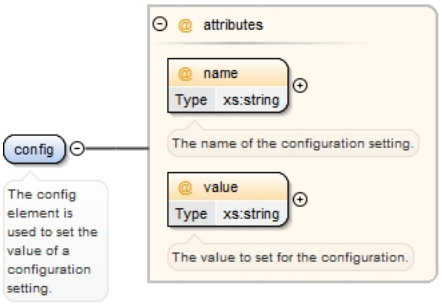
	QName	Type	Fixed	Default	Use
		- kit - device - technology - application			

Element keyword

Namespace	No namespace
Diagram	
Used by	Element info
Attributes	

QName	Type	Fixed	Default	Use
value	xs:string			required
	A keyword.			

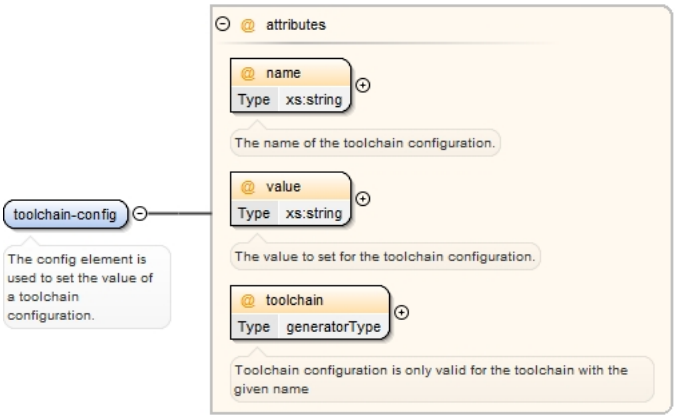
Element config

Namespace	No namespace
Annotations	The config element is used to set the value of a configuration setting.
Diagram	
Used by	Elements board, project
Attributes	

QName	Type	Fixed	Default	Use
name	xs:string			required
	The name of the configuration setting.			
value	xs:string			required
	The value to set for the configuration.			

Element toolchain-config

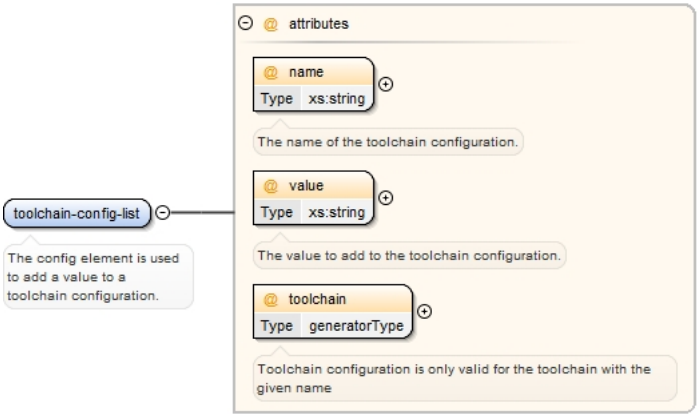
Namespace	No namespace
Annotations	The config element is used to set the value of a toolchain configuration.

Diagram	
Used by	Elements board, project

Attributes

QName	Type	Fixed	Default	Use
name	xs:string			required
	`The name of the toolchain configuration.`			
toolchain	generatorType			required
	`Toolchain configuration is only valid for the toolchain with the given name`			
value	xs:string			required
	`The value to set for the toolchain configuration.`			

Element `toolchain-config-list`

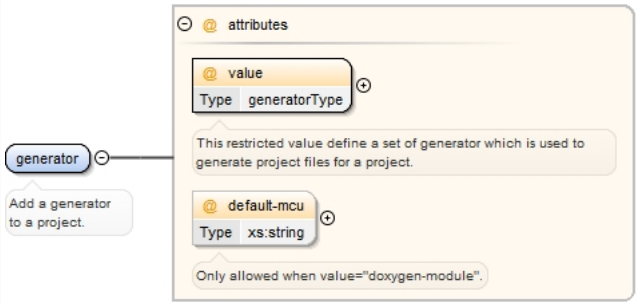
Namespace	No namespace
Annotations	`The config element is used to add a value to a toolchain configuration.`
Diagram	
Used by	Elements board, project

Attributes

QName	Type	Fixed	Default	Use
name	xs:string			required
	`The name of the toolchain configuration.`			
toolchain	generatorType			required
	`Toolchain configuration is only valid for the toolchain with the given name`			
value	xs:string			required
	`The value to add to the toolchain configuration.`			

Element `generator`

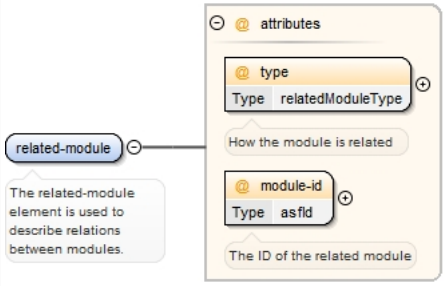
Namespace	No namespace
Annotations	`Add a generator to a project.`

Diagram	
Used by	Elements module, project

Attributes

QName	Type	Fixed	Default	Use
default-mcu	xs:string			optional
	`Only allowed when value="doxygen-module".`			
value	generatorType			required
	`This restricted value define a set of generator which is used to generate project files for a project.`			

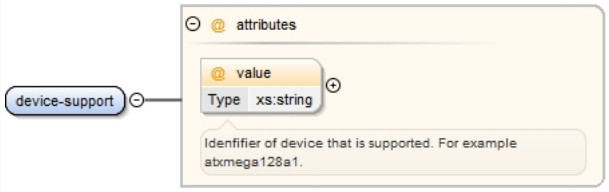
Element `related-module`

Namespace	No namespace
Annotations	`The related-module element is used to describe relations between modules.`
Diagram	
Used by	Elements board, module, project

Attributes

QName	Type	Fixed	Default	Use
module-id	asfId			required
	`The ID of the related module`			
type	relatedModuleType			required
	`How the module is related`			

Element `device-support`

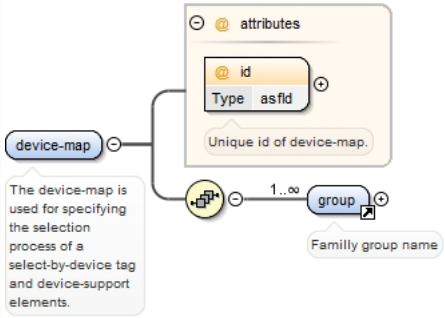
Namespace	No namespace
Diagram	
Used by	Elements board, device-alias-map, module, project

Attributes

QName	Type	Fixed	Default	Use
value	xs:string			optional
	`Idenfifier of device that is supported. For example atxmega128a1.`			

Element `device-map`

Namespace	No namespace

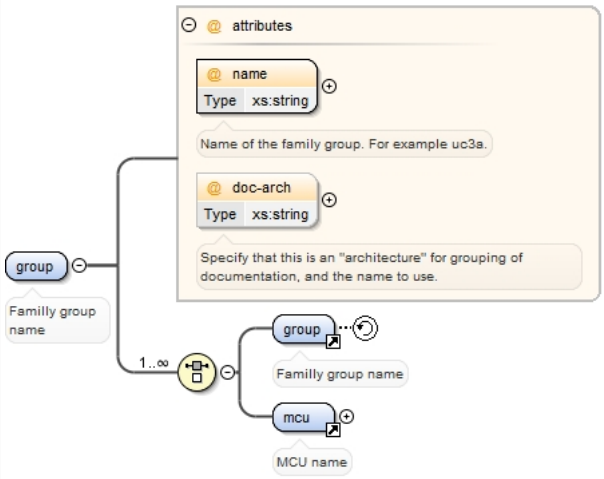
Annotations	The device-map is used for specifying the selection process of a select-by-device tag and device-support elements.
Diagram	
Used by	Element asf
Model	group+
Children	group

Instance	`<device-map id="">`
	`  <group doc-arch="" name="">{1,unbounded}</group>`
	`</device-map>`

Attributes	

QName	Type	Fixed	Default	Use
id	asfId			required
	Unique id of device-map.			

Element group

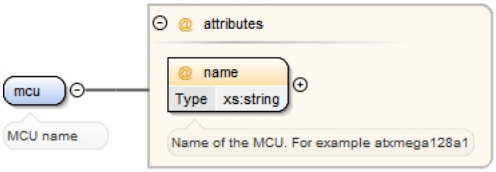
Namespace	No namespace
Annotations	Familly group name
Diagram	
Used by	Elements device-map, group
Model	group | mcu
Children	group, mcu

Instance	`<group doc-arch="" name="">`
	`  <group doc-arch="" name="">{1,1}</group>`
	`  <mcu name="">{1,1}</mcu>`
	`</group>`

Attributes	

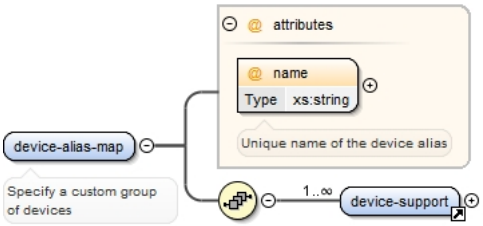
QName	Type	Fixed	Default	Use
doc-arch	xs:string			optional
	Specify that this is an "architecture" for grouping of documentation, and the name to use.			
name	xs:string			required
	Name of the family group. For example uc3a.			

Element mcu

Namespace	No namespace
Annotations	MCU name
Diagram	
Used by	Element group
Attributes	

QName	Type	Fixed	Default	Use
name	xs:string			required
	Name of the MCU. For example atxmega128a1			

Element device-alias-map

Namespace	No namespace
Annotations	Specify a custom group of devices
Diagram	
Used by	Element asf
Model	device-support+
Children	device-support

Instance	`<device-alias-map name="">`
	`  <device-support value="">{1,unbounded}</device-support>`
	`</device-alias-map>`

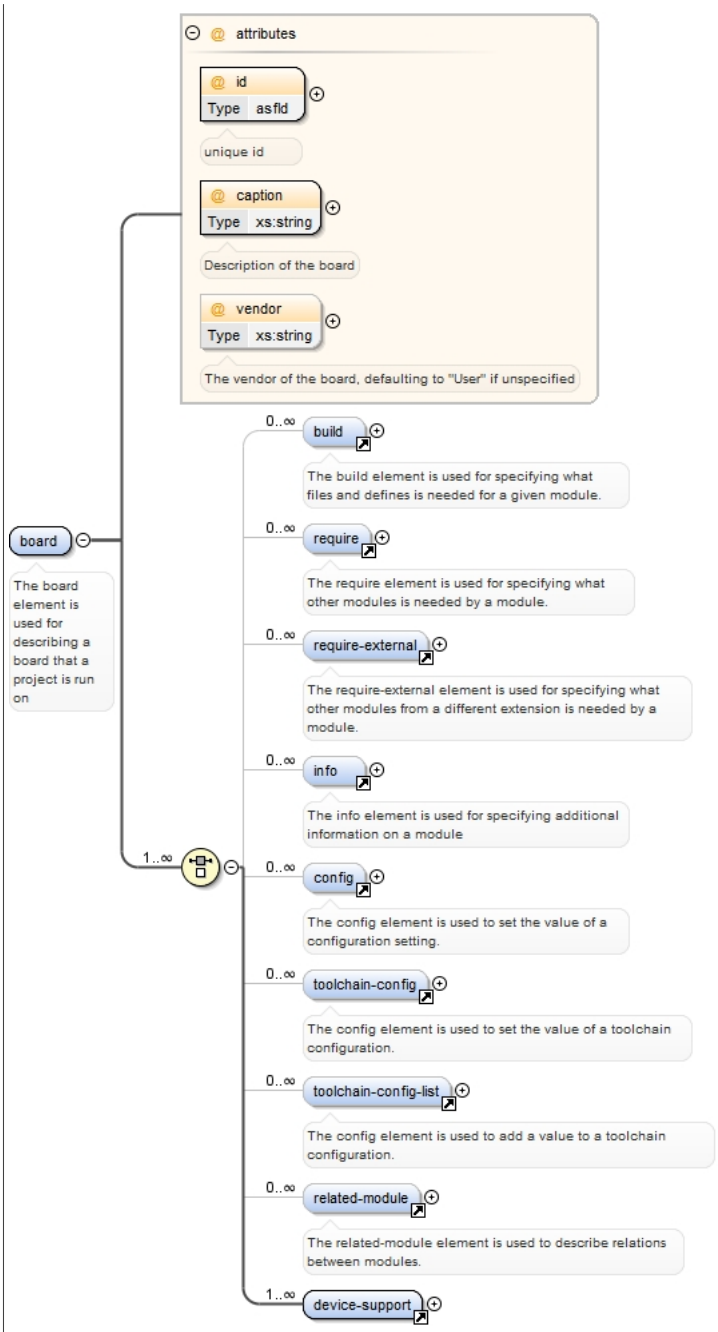
Attributes	

QName	Type	Fixed	Default	Use
name	xs:string			required
	Unique name of the device alias			

Element board

Namespace	No namespace
Annotations	The board element is used for describing a board that a project is run on

Diagram



Used by	Element asf
Model	build* | require* | require-external* | info* | config* | toolchain-config* | toolchain-config-list* | related-module* | device-support+
Children	build, config, device-support, info, related-module, require, require-external, toolchain-config, toolchain-config-list

Instance

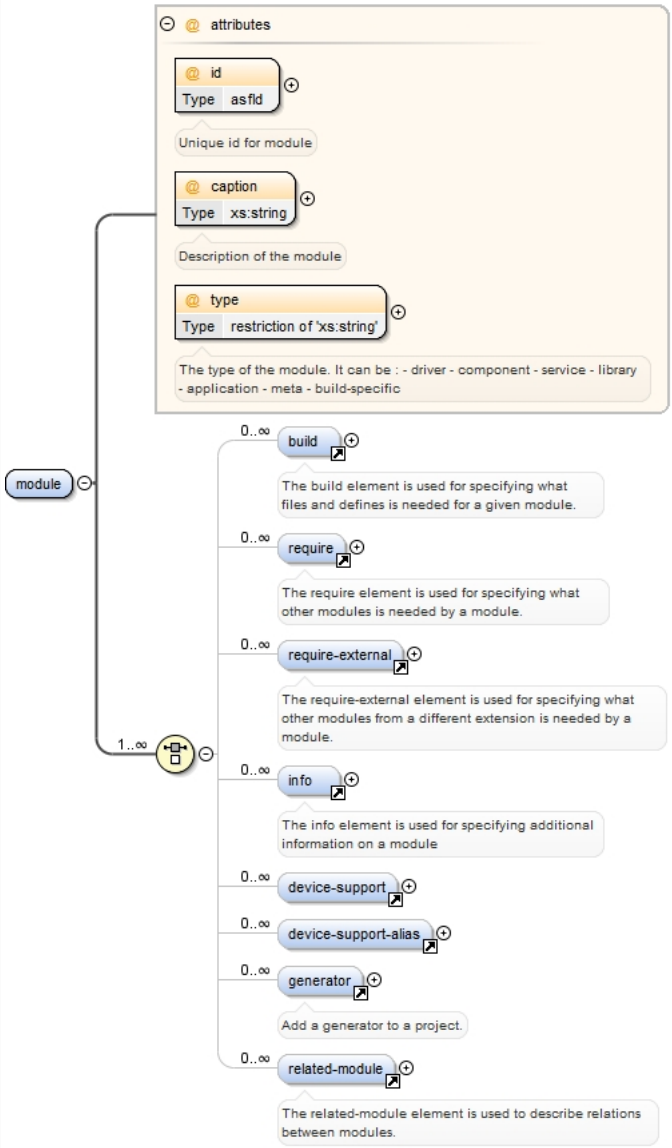
```
<board caption="" id="" vendor="">
  <build name="" subtype="" toolchain="" type="" value="">{0,unbounded}</build>
  <require idref="">{0,unbounded}</require>
  <require-external eidref="" idref="">{0,unbounded}</require-external>
  <info type="" value="">{0,unbounded}</info>
  <config name="" value="">{0,unbounded}</config>
  <toolchain-config name="" toolchain="" value="">{0,unbounded}</toolchain-config>
  <toolchain-config-list name="" toolchain="" value="">{0,unbounded}</toolchain-config-list>
  <related-module module-id="" type="">{0,unbounded}</related-module>
  <device-support value="">{1,unbounded}</device-support>
</board>
```

Attributes

QName	Type	Fixed	Default	Use
caption	xs:string			required
	Description of the board			

QName	Type	Fixed	Default	Use
id	asfId			required
	`unique id`			
vendor	xs:string			optional
	`The vendor of the board, defaulting to "User" if unspecified`			

Element `module`

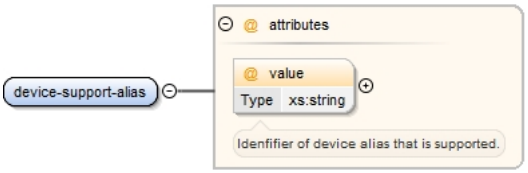
Namespace	No namespace
Diagram	
Used by	Elements asf, select-by-config, select-by-device
Model	build* | require* | require-external* | info* | device-support* | device-support-alias* | generator* | related-module*
Children	build, device-support, device-support-alias, generator, info, related-module, require, require-external

Instance	`<module caption="" id="" type="">`
	`  <build name="" subtype="" toolchain="" type="" value="">{0,unbounded}</build>`
	`  <require idref="">{0,unbounded}</require>`
	`  <require-external eidref="" idref="">{0,unbounded}</require-external>`
	`  <info type="" value="">{0,unbounded}</info>`
	`  <device-support value="">{0,unbounded}</device-support>`
	`  <device-support-alias value="">{0,unbounded}</device-support-alias>`
	`  <generator default-mcu="" value="">{0,unbounded}</generator>`
	`  <related-module module-id="" type="">{0,unbounded}</related-module>`
	`</module>`

Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	caption	xs:string			required
		`Description of the module`			
	id	asfId			required
		`Unique id for module`			
	type	restriction of xs:string			required

		`The type of the module.`
		`It can be :`
		
		`- driver`
		
		`- component`
		
		`- service`
		
		`- library`
		
		`- application`
		
		`- meta`
		
		`- build-specific`			

Element `device-support-alias`

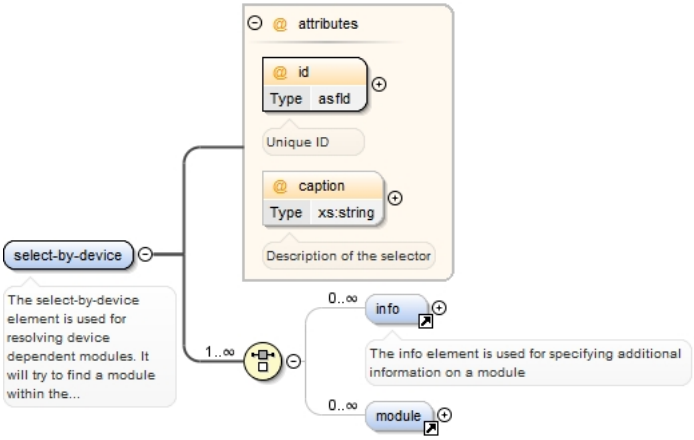
Namespace	No namespace
Diagram	
Used by	Element module

Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	value	xs:string			optional
		`Idenfifier of device alias that is supported.`			

Element `select-by-device`

Namespace	No namespace

Annotations	`The select-by-device element is used for resolving device dependent modules.`
	`It will try to find a module within the tag that contains the same id, with a hash and the device appended.`
	`It starts searching at the MCU in the device-map and then to each parent node, until a match is found.`
	`This ensures that a driver for one specific device has higher priority than a family generic driver.`

Diagram	
Used by	Elements asf, select-by-config

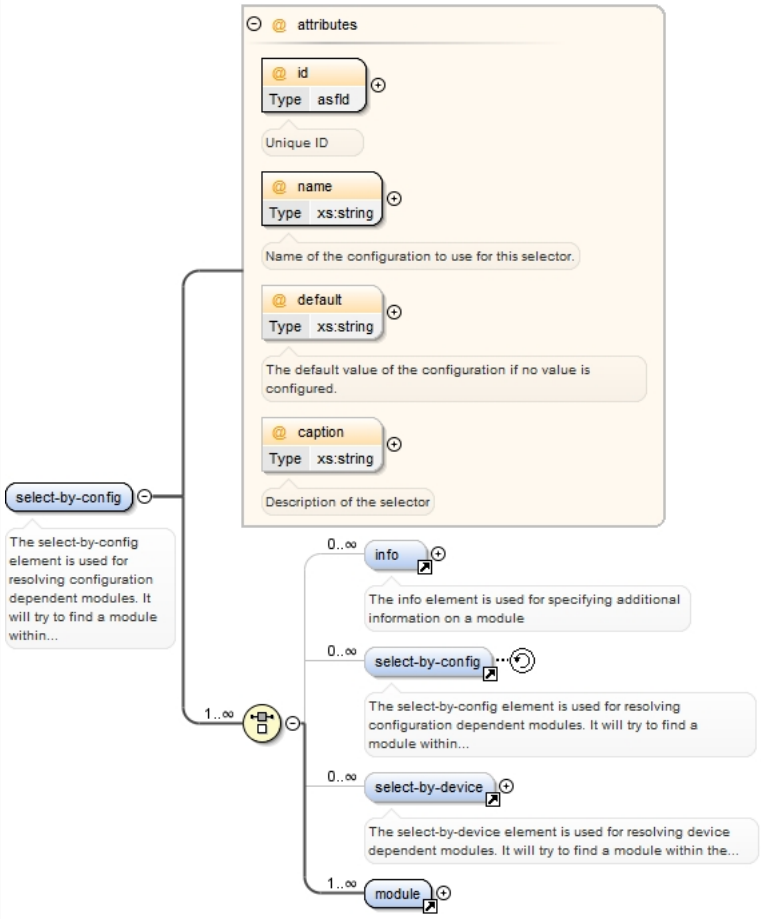
Model	info* | module*
Children	info, module

Instance	`<select-by-device caption="" id="">`
	`  <info type="" value="">{0,unbounded}</info>`
	`  <module caption="" id="" type="">{0,unbounded}</module>`
	`</select-by-device>`

Attributes	

QName	Type	Fixed	Default	Use
caption	xs:string			optional
	Description of the selector			
id	asfId			required
	Unique ID			

Element `select-by-config`

Namespace	No namespace
Annotations	The select-by-config element is used for resolving configuration dependent modules. It will try to find a module within the tag that contains the same id, with a hash and the configuration appended.
Diagram	

Used by	Elements asf, select-by-config
Model	info* | select-by-config* | select-by-device* | module+
Children	info, module, select-by-config, select-by-device

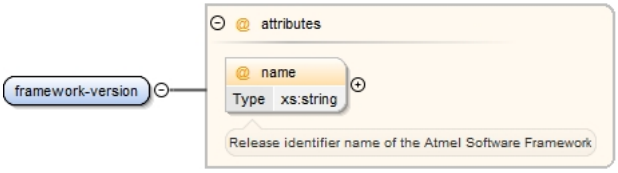
Instance	`<select-by-config caption="" default="" id="" name="">`
	`  <info type="" value="">{0,unbounded}</info>`
	`  <select-by-config caption="" default="" id="" name="">{0,unbounded}</select-by-config>`
	`  <select-by-device caption="" id="">{0,unbounded}</select-by-device>`
	`  <module caption="" id="" type="">{1,unbounded}</module>`
	`</select-by-config>`

Attributes	

QName	Type	Fixed	Default	Use
caption	xs:string			optional

	QName	Type	Fixed	Default	Use
		Description of the selector			
	default	xs:string			optional
		The default value of the configuration if no value is configured.			
	id	asfId			required
		Unique ID			
	name	xs:string			required
		Name of the configuration to use for this selector.			

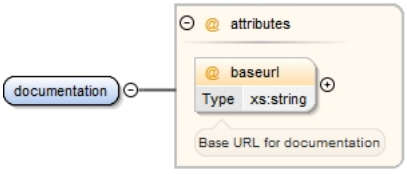
Element `framework-version`

Namespace	No namespace
Diagram	
Used by	Element asf

Attributes

QName	Type	Fixed	Default	Use
name	xs:string			optional
	Release identifier name of the Atmel Software Framework			

Element `documentation`

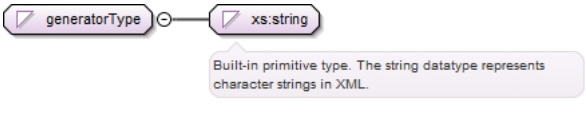
Namespace	No namespace
Diagram	
Used by	Element asf

Attributes

QName	Type	Fixed	Default	Use
baseurl	xs:string			optional
	Base URL for documentation			

Simple Type(s)

Simple Type `generatorType`

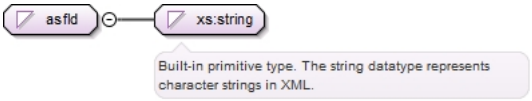
Namespace	No namespace
Diagram	

Facets

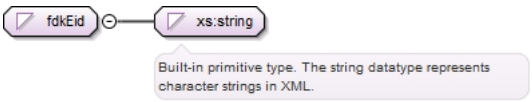
enumeration	verbose
enumeration	avrgcc
enumeration	avr32gcc
enumeration	armgcc
enumeration	iarew
enumeration	iarew32
enumeration	iarewarm
enumeration	doxygen

	enumeration	`doxygen-module`
	enumeration	`as5_8`
	enumeration	`as5_32`
	enumeration	`as5_arm`
	enumeration	`as5_8_template`
	enumeration	`as5_32_template`
	enumeration	`as5_arm_template`
Used by	Attributes	build/@toolchain, generator/@value, toolchain-config-list/@toolchain, toolchain-config/@toolchain

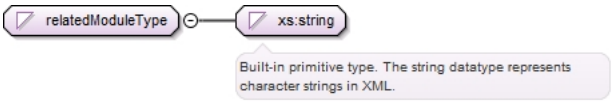
Simple Type `asfId`

Namespace	No namespace	
Diagram		
Facets	pattern	`[a-z0-9\.\-_#]+`
Used by	Attributes	board/@id, device-map/@id, module/@id, project/@id, related-module/@module-id, require-external/@idref, require/@idref, select-by-config/@id, select-by-device/@id

Simple Type `fdkEid`

Namespace	No namespace	
Diagram		
Facets	pattern	`[a-z0-9\.\-_]+`
Used by	Attribute	require-external/@eidref

Simple Type `relatedModuleType`

Namespace	No namespace	
Diagram		
Facets	enumeration	`example`
	enumeration	`unit-test`
Used by	Attribute	related-module/@type

Attribute(s)

Attribute `board-addon / @vendor`

Namespace	No namespace	
Annotations	`The vendor of the add-on.`	
Used by	Element	board-addon

Attribute `board-addon / @caption`

Namespace	No namespace	
Annotations	`The string to use for presenting the add-on.`	
Used by	Element	board-addon

Attribute board-addon / @position

Namespace	No namespace
Annotations	The on-board position of the add-on
Used by	Element board-addon

Attribute build / @type

Namespace	No namespace	
Annotations	The type of build entity	
Facets	enumeration	c-source
	enumeration	include-path
	enumeration	header-file
	enumeration	module-config
	enumeration	asm-source
	enumeration	define
	enumeration	distribute
	enumeration	library
	enumeration	linker-config
	enumeration	macro-config
	enumeration	build-config
	enumeration	doxygen-image-path
	enumeration	doxygen-entry-point
	enumeration	doxygen-quick-start
Used by	Element	build

Attribute build / @subtype

Namespace	No namespace	
Annotations	The subtype of build entity	
Facets	enumeration	api
	enumeration	path
	enumeration	required-header-file
	enumeration	directory
	enumeration	file
	enumeration	user-file
	enumeration	license
	enumeration	compiler
	enumeration	user
	enumeration	flags
	enumeration	script
	enumeration	aux-script
	enumeration	assembler-flags
	enumeration	c-compiler-flags
	enumeration	c++-compiler-flags
	enumeration	preprocessor-flags
Used by	Element	build

Attribute build / @name

Namespace	No namespace
Annotations	The name of the build type. This is used for define builds.

Used by	Element	build

Attribute `build / @value`

Namespace	No namespace	
Annotations	`The build element`	
Used by	Element	build

Attribute `build / @toolchain`

Namespace	No namespace	
Annotations	`Build element is only valid for the toolchain with the given name`	
Facets	enumeration	`verbose`
	enumeration	`avrgcc`
	enumeration	`avr32gcc`
	enumeration	`armgcc`
	enumeration	`iarew`
	enumeration	`iarew32`
	enumeration	`iarewarm`
	enumeration	`doxygen`
	enumeration	`doxygen-module`
	enumeration	`as5_8`
	enumeration	`as5_32`
	enumeration	`as5_arm`
	enumeration	`as5_8_template`
	enumeration	`as5_32_template`
	enumeration	`as5_arm_template`
Used by	Element	build

Attribute `require / @idref`

Namespace	No namespace	
Annotations	`The id of the required element`	
Facets	pattern	`[a-z0-9\.\-_#]+`
Used by	Element	require

Attribute `require-external / @eidref`

Namespace	No namespace	
Annotations	`The id of the external dependency to get module from. This is defined in the extension description.`	
Facets	pattern	`[a-z0-9\.\-_]+`
Used by	Element	require-external

Attribute `require-external / @idref`

Namespace	No namespace	
Annotations	`The id of the required element`	
Facets	pattern	`[a-z0-9\.\-_#]+`
Used by	Element	require-external

Attribute `keyword / @value`

Namespace	No namespace

Annotations	A keyword.
Used by	Element keyword

Attribute info / @type

Namespace	No namespace
Annotations	The type of information entity. The following types are supported: - keyword TBD - appnote Appnote number for related appnote. Ex: AVR123 - description Textual description of the module. Can be of type: * summary - Quick "one line" description. * detailed - Longer, more detailed description. The exact guidelines are TBD.
Facets	enumeration keyword enumeration appnote enumeration description enumeration gui-flag
Used by	Element info

Attribute info / @value

Namespace	No namespace
Annotations	The actual information, or category for blocks of keywords: - kit - device - technology - application
Used by	Element info

Attribute config / @name

Namespace	No namespace
Annotations	The name of the configuration setting.
Used by	Element config

Attribute config / @value

Namespace	No namespace
Annotations	The value to set for the configuration.
Used by	Element config

Attribute toolchain-config / @name

Namespace	No namespace
Annotations	The name of the toolchain configuration.
Used by	Element toolchain-config

Attribute toolchain-config / @value

Namespace	No namespace
Annotations	The value to set for the toolchain configuration.
Used by	Element toolchain-config

Attribute `toolchain-config / @toolchain`

Namespace	No namespace	
Annotations	`Toolchain configuration is only valid for the toolchain with the given name`	
Facets	enumeration	`verbose`
	enumeration	`avrgcc`
	enumeration	`avr32gcc`
	enumeration	`armgcc`
	enumeration	`iarew`
	enumeration	`iarew32`
	enumeration	`iarewarm`
	enumeration	`doxygen`
	enumeration	`doxygen-module`
	enumeration	`as5_8`
	enumeration	`as5_32`
	enumeration	`as5_arm`
	enumeration	`as5_8_template`
	enumeration	`as5_32_template`
	enumeration	`as5_arm_template`
Used by	Element	toolchain-config

Attribute `toolchain-config-list / @name`

Namespace	No namespace	
Annotations	`The name of the toolchain configuration.`	
Used by	Element	toolchain-config-list

Attribute `toolchain-config-list / @value`

Namespace	No namespace	
Annotations	`The value to add to the toolchain configuration.`	
Used by	Element	toolchain-config-list

Attribute `toolchain-config-list / @toolchain`

Namespace	No namespace	
Annotations	`Toolchain configuration is only valid for the toolchain with the given name`	
Facets	enumeration	`verbose`
	enumeration	`avrgcc`
	enumeration	`avr32gcc`
	enumeration	`armgcc`
	enumeration	`iarew`
	enumeration	`iarew32`
	enumeration	`iarewarm`
	enumeration	`doxygen`
	enumeration	`doxygen-module`
	enumeration	`as5_8`
	enumeration	`as5_32`
	enumeration	`as5_arm`
	enumeration	`as5_8_template`
	enumeration	`as5_32_template`
	enumeration	`as5_arm_template`

Used by	Element	toolchain-config-list

Attribute `generator / @value`

Namespace	No namespace	
Annotations	`This restricted value define a set of generator which is used to generate project files for a project.`	
Facets	enumeration	`verbose`
	enumeration	`avrgcc`
	enumeration	`avr32gcc`
	enumeration	`armgcc`
	enumeration	`iarew`
	enumeration	`iarew32`
	enumeration	`iarewarm`
	enumeration	`doxygen`
	enumeration	`doxygen-module`
	enumeration	`as5_8`
	enumeration	`as5_32`
	enumeration	`as5_arm`
	enumeration	`as5_8_template`
	enumeration	`as5_32_template`
	enumeration	`as5_arm_template`
Used by	Element	generator

Attribute `generator / @default-mcu`

Namespace	No namespace	
Annotations	`Only allowed when value="doxygen-module".`	
Used by	Element	generator

Attribute `related-module / @type`

Namespace	No namespace	
Annotations	`How the module is related`	
Facets	enumeration	`example`
	enumeration	`unit-test`
Used by	Element	related-module

Attribute `related-module / @module-id`

Namespace	No namespace	
Annotations	`The ID of the related module`	
Facets	pattern	`[a-z0-9\.\-_#]+`
Used by	Element	related-module

Attribute `device-support / @value`

Namespace	No namespace	
Annotations	`Idenfifier of device that is supported. For example atxmega128a1.`	
Used by	Element	device-support

Attribute `project / @id`

Namespace	No namespace

Annotations	Unique id	
Facets	pattern	[a-z0-9\.\-_#]+
Used by	Element	project

Attribute project / @caption

Namespace	No namespace	
Annotations	Description of the project	
Used by	Element	project

Attribute project / @default-mcu

Namespace	No namespace	
Annotations	Description of the project	
Used by	Element	project

Attribute project / @type

Namespace	No namespace	
Annotations	Type of project	
Facets	enumeration	normal
	enumeration	template
	enumeration	unit-test
Used by	Element	project

Attribute project / @workspace-name

Namespace	No namespace	
Annotations	Optional name to use for the project in generated workspaces.	
Facets	pattern	[a-z0-9\-_]+
Used by	Element	project

Attribute mcu / @name

Namespace	No namespace	
Annotations	Name of the MCU. For example atxmega128a1	
Used by	Element	mcu

Attribute group / @name

Namespace	No namespace	
Annotations	Name of the family group. For example uc3a.	
Used by	Element	group

Attribute group / @doc-arch

Namespace	No namespace	
Annotations	Specify that this is an "architecture" for grouping of documentation, and the name to use.	
Used by	Element	group

Attribute device-map / @id

Namespace	No namespace
Annotations	Unique id of device-map.

Facets	pattern	`[a-z0-9\.\-_#]+`
Used by	Element	device-map

Attribute `device-alias-map / @name`

Namespace	No namespace
Annotations	`Unique name of the device alias`
Used by	Element device-alias-map

Attribute `board / @id`

Namespace	No namespace
Annotations	`unique id`
Facets	pattern `[a-z0-9\.\-_#]+`
Used by	Element board

Attribute `board / @caption`

Namespace	No namespace
Annotations	`Description of the board`
Used by	Element board

Attribute `board / @vendor`

Namespace	No namespace
Annotations	`The vendor of the board, defaulting to "User" if unspecified`
Used by	Element board

Attribute `device-support-alias / @value`

Namespace	No namespace
Annotations	`Idenfifier of device alias that is supported.`
Used by	Element device-support-alias

Attribute `module / @id`

Namespace	No namespace
Annotations	`Unique id for module`
Facets	pattern `[a-z0-9\.\-_#]+`
Used by	Element module

Attribute `module / @caption`

Namespace	No namespace
Annotations	`Description of the module`
Used by	Element module

Attribute `module / @type`

Namespace	No namespace

Annotations	`The type of the module.`
	`It can be :`
	
	`- driver`
	
	`- component`

	- service - library - application - meta - build-specific
Facets	enumeration `driver` enumeration `component` enumeration `service` enumeration `library` enumeration `application` enumeration `meta` enumeration `build-specific`
Used by	Element module

Attribute `select-by-device / @id`

Namespace	No namespace
Annotations	`Unique ID`
Facets	pattern `[a-z0-9\.\-_#]+`
Used by	Element select-by-device

Attribute `select-by-device / @caption`

Namespace	No namespace
Annotations	`Description of the selector`
Used by	Element select-by-device

Attribute `select-by-config / @id`

Namespace	No namespace
Annotations	`Unique ID`
Facets	pattern `[a-z0-9\.\-_#]+`
Used by	Element select-by-config

Attribute `select-by-config / @name`

Namespace	No namespace
Annotations	`Name of the configuration to use for this selector.`
Used by	Element select-by-config

Attribute `select-by-config / @default`

Namespace	No namespace
Annotations	`The default value of the configuration if no value is configured.`
Used by	Element select-by-config

Attribute `select-by-config / @caption`

Namespace	No namespace
Annotations	`Description of the selector`
Used by	Element select-by-config

Attribute `framework-version / @name`

Namespace	No namespace
Annotations	`Release identifier name of the Atmel Software Framework`
Used by	Element framework-version

Attribute `documentation / @baseurl`

Namespace	No namespace
Annotations	`Base URL for documentation`
Used by	Element documentation

Attribute `asf / @xmlversion`

Namespace	No namespace
Annotations	`ASF XML version. Current version is 1.0`
Facets	enumeration `1.0`
Used by	Element asf