

# Schema documentation for fdk\_content.xsd

october 23, 2012

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**Namespace: ""**

## Schema(s)

### Main schema fdk\_content.xsd

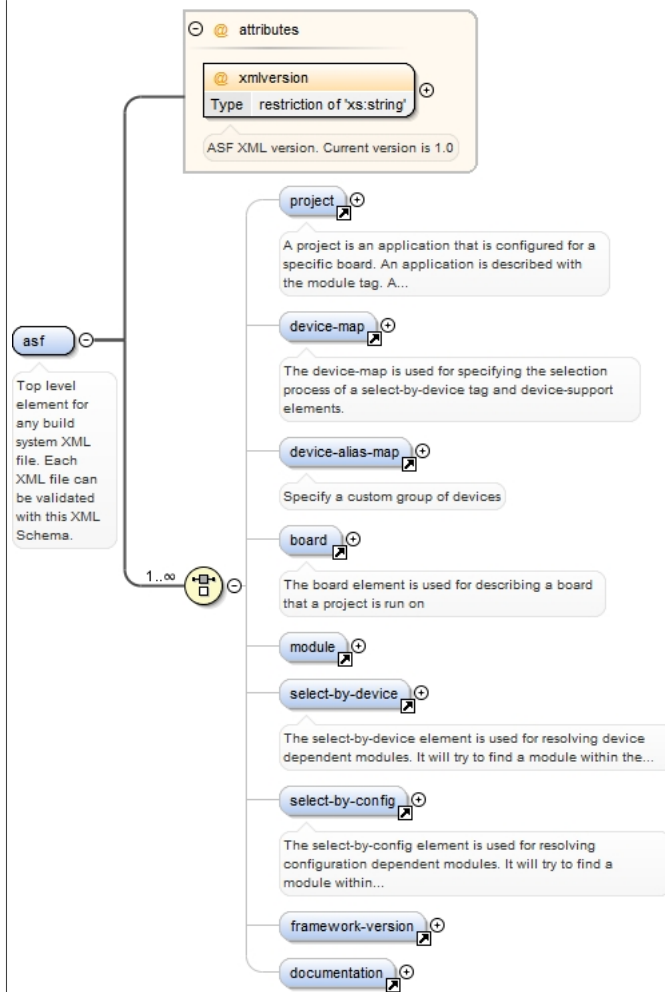
Namespace	No namespace
Annotations	<p>This document provides specification for XML that describe drivers, applications and other software modules (from here on called modules) in the Atmel Software Framework.</p> <p>Upon start the parser will scan through the ASF directory structure for all asf.xml files,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

## Element(s)

### Element asf

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

Diagram

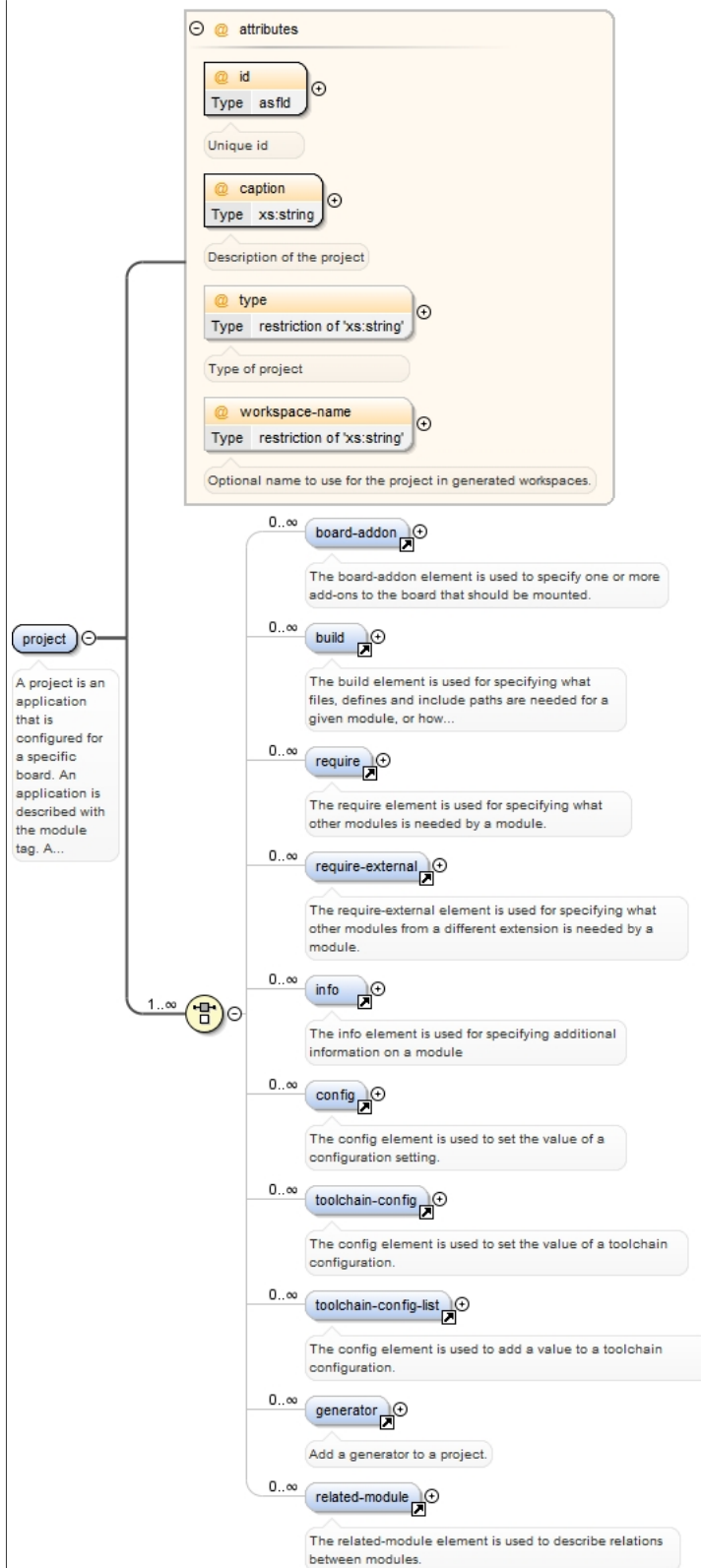


Model	project{0,1}   device-map{0,1}   device-alias-map{0,1}   board{0,1}   module{0,1}   select-by-device{0,1}   select-by-config{0,1}   framework-version{0,1}   documentation{0,1}				
Children	board, device-alias-map, device-map, documentation, framework-version, module, project, select-by-config, select-by-device				
Instance	<pre> &lt;asf xmlversion=""&gt;   &lt;project caption="" id="" type="" workspace-name=""&gt;{0,1}&lt;/project&gt;   &lt;device-map id=""&gt;{0,1}&lt;/device-map&gt;   &lt;device-alias-map name=""&gt;{0,1}&lt;/device-alias-map&gt;   &lt;board caption="" id="" mcu="" vendor=""&gt;{0,1}&lt;/board&gt;   &lt;module caption="" id="" type=""&gt;{0,1}&lt;/module&gt;   &lt;select-by-device caption="" id=""&gt;{0,1}&lt;/select-by-device&gt;   &lt;select-by-config caption="" default="" id="" name=""&gt;{0,1}&lt;/select-by-config&gt;   &lt;framework-version name=""&gt;{0,1}&lt;/framework-version&gt;   &lt;documentation baseurl=""&gt;{0,1}&lt;/documentation&gt; &lt;/asf&gt; </pre>				
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	<p>A project is an application that is configured for a specific board. An application is described with the module tag.</p> <p>A project description is the starting point for the project generator, and must at least state:</p> <ol style="list-style-type: none"> <li>1. which board the project makes use of</li> <li>2. which project generators can be used</li> <li>3. which application the project is for</li> </ol>

## Diagram



Used by	Element asf
Model	board-addon*   build*   require*   require-external*   info*   config*   toolchain-config*   toolchain-config-list*   generator*   related-module*
Children	board-addon, build, config, generator, info, related-module, require, require-external, toolchain-config, toolchain-config-list
Instance	<pre> &lt;project caption="" id="" type="" workspace-name=""&gt;   &lt;board-addon caption="" position="" vendor=""&gt;{0,unbounded}&lt;/board-addon&gt;   &lt;build name="" subtype="" toolchain="" type="" value=""&gt;{0,unbounded}&lt;/build&gt;   &lt;require idref=""&gt;{0,unbounded}&lt;/require&gt; </pre>

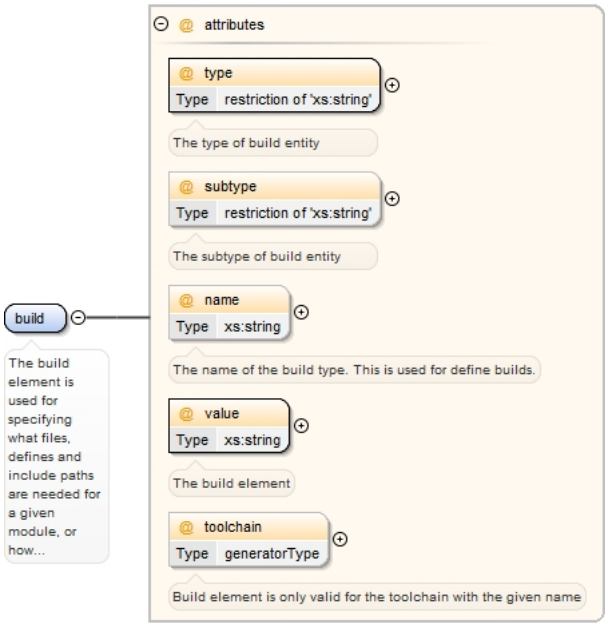
	<pre> &lt;require-external eidref="" idref=""&gt;{0,unbounded}&lt;/require-external&gt; &lt;info type="" value=""&gt;{0,unbounded}&lt;/info&gt; &lt;config name="" value=""&gt;{0,unbounded}&lt;/config&gt; &lt;toolchain-config name="" toolchain="" value=""&gt;{0,unbounded}&lt;/toolchain-config&gt; &lt;toolchain-config-list name="" toolchain="" value=""&gt;{0,unbounded}&lt;/toolchain-config-list&gt; &lt;generator default-mcu="" value=""&gt;{0,unbounded}&lt;/generator&gt; &lt;related-module module-id="" type=""&gt;{0,unbounded}&lt;/related-module&gt; &lt;/project&gt; </pre>				
Attributes	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>caption</b>	xs:string			required
		Description of the project			
	<b>id</b>	asfId			required
		Unique id			
	<b>type</b>	restriction of xs:string			optional
		Type of project			
	<b>workspace-name</b>	restriction of xs:string			optional
		Optional name to use for the project in generated workspaces.			

## Element board-addon

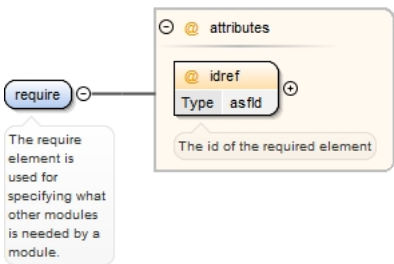
Namespace	No namespace				
Annotations	The board-addon element is used to specify one or more add-ons to the board that should be mounted.				
Diagram					
Used by	Element project				
Attributes	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>caption</b>	xs:string			required
		The string to use for presenting the add-on.			
	<b>position</b>	xs:string			optional
		The on-board position of the add-on			
	<b>vendor</b>	xs:string			optional
		The vendor of the add-on.			

## Element build

Namespace	No namespace				
Annotations	The build element is used for specifying what files, defines and include paths are needed for a given module, or how the documentation can be accessed.				

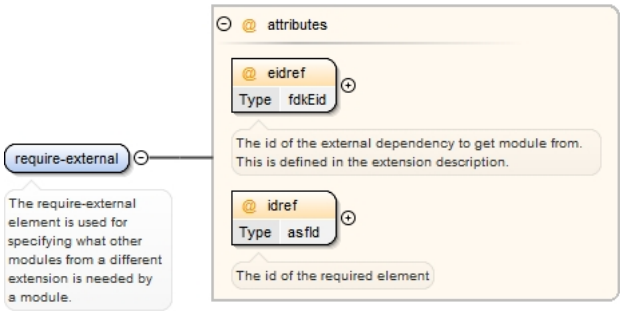
Diagram					
Used by	Elements	board, module, project			
Attributes	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>name</b>	xs:string			optional
		The name of the build type. This is used for define builds.			
	<b>subtype</b>	restriction of xs:string			optional
		The subtype of build entity			
	<b>toolchain</b>	generatorType			optional
		Build element is only valid for the toolchain with the given name			
	<b>type</b>	restriction of xs:string			required
		The type of build entity			
	<b>value</b>	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	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>idref</b>	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	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>eidref</b>	fdkEid			required
		The id of the external dependency to get module from. This is defined in the extension description.			
	<b>idref</b>	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	<pre>&lt;info type=" " value=" "&gt;   &lt;keyword value=" "&gt;{1,1}&lt;/keyword&gt; &lt;/info&gt;</pre>				
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
		<ul style="list-style-type: none"> <li>- kit</li> <li>- device</li> <li>- technology</li> <li>- application</li> </ul>			

## 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	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>name</b>	xs:string			required
		The name of the toolchain configuration.			
	<b>toolchain</b>	generatorType			required
		Toolchain configuration is only valid for the toolchain with the given name			
	<b>value</b>	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	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>name</b>	xs:string			required
		The name of the toolchain configuration.			
	<b>toolchain</b>	generatorType			required
		Toolchain configuration is only valid for the toolchain with the given name			
	<b>value</b>	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	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>default-mcu</b>	xs:string			optional
		Only allowed when value="doxygen-module".			
	<b>value</b>	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	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>module-id</b>	asfId			required
		The ID of the related module			
	<b>type</b>	relatedModuleType			required
		How the module is related			

## 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	<pre>&lt;device-map id=""&gt;   &lt;group doc-arch="" name=""&gt;{1,unbounded}&lt;/group&gt; &lt;/device-map&gt;</pre>				
Attributes	QName	Type	Fixed	Default	Use
	id	asfId			required
	Unique id of device-map.				

## Element group

Namespace	No namespace				
Annotations	Family group name				
Diagram					
Used by	Elements	device-map, group			
Model	group   mcu				
Children	group, mcu				
Instance	<pre>&lt;group doc-arch=" " name=" "&gt;   &lt;group doc-arch=" " name=" "&gt;{1,1}&lt;/group&gt;   &lt;mcu name=" "&gt;{1,1}&lt;/mcu&gt; &lt;/group&gt;</pre>				
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

	QName	Type	Fixed	Default	Use
		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	<pre>&lt;device-alias-map name=" "&gt;   &lt;device-support value=""&gt;{1,unbounded}&lt;/device-support&gt; &lt;/device-alias-map&gt;</pre>				
Attributes	QName	Type	Fixed	Default	Use
	name	xs:string			required
	Unique name of the device alias				

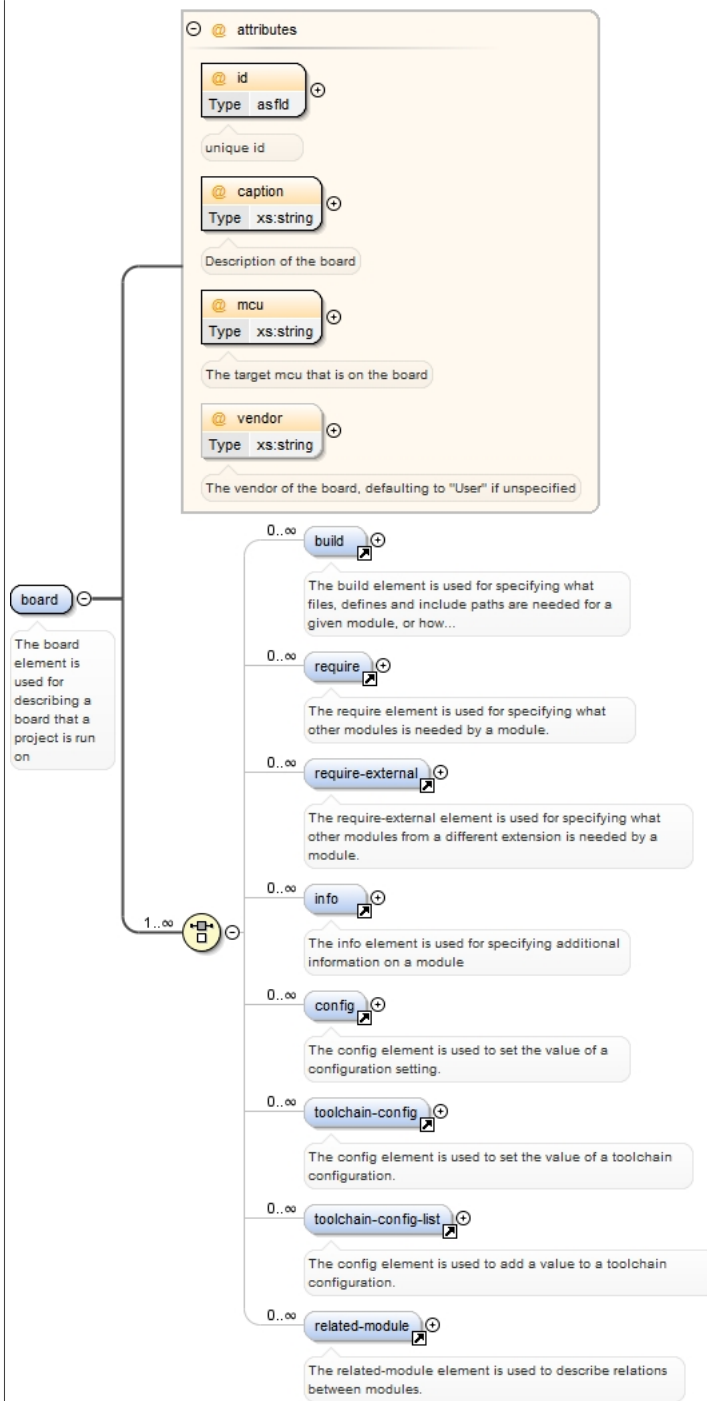
## Element device-support

Namespace	No namespace				
Diagram					
Used by	Elements                      device-alias-map, module				
Attributes	QName	Type	Fixed	Default	Use
	value	xs:string			optional
	Identifier of device that is supported. For example atxmega128a1.				

## 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*				
Children	build, config, info, related-module, require, require-external, toolchain-config, toolchain-config-list				
Instance	<pre> &lt;board caption="" id="" mcu="" vendor=""&gt;   &lt;build name="" subtype="" toolchain="" type="" value=""&gt;{0,unbounded}&lt;/build&gt;   &lt;require idref=""&gt;{0,unbounded}&lt;/require&gt;   &lt;require-external eidref="" idref=""&gt;{0,unbounded}&lt;/require-external&gt;   &lt;info type="" value=""&gt;{0,unbounded}&lt;/info&gt;   &lt;config name="" value=""&gt;{0,unbounded}&lt;/config&gt;   &lt;toolchain-config name="" toolchain="" value=""&gt;{0,unbounded}&lt;/toolchain-config&gt;   &lt;toolchain-config-list name="" toolchain="" value=""&gt;{0,unbounded}&lt;/toolchain-config-list&gt;   &lt;related-module module-id="" type=""&gt;{0,unbounded}&lt;/related-module&gt; &lt;/board&gt; </pre>				
Attributes	QName	Type	Fixed	Default	Use
	caption	xs:string			required

QName	Type	Fixed	Default	Use
	Description of the board			
<b>id</b>	asfId			required
	unique id			
<b>mcu</b>	xs:string			required
	The target mcu that is on the board			
<b>vendor</b>	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	<pre> &lt;module caption="" id="" type=""&gt;   &lt;build name="" subtype="" toolchain="" type="" value=""&gt;{0,unbounded}&lt;/build&gt;   &lt;require idref=""&gt;{0,unbounded}&lt;/require&gt;   &lt;require-external eidref="" idref=""&gt;{0,unbounded}&lt;/require-external&gt;   &lt;info type="" value=""&gt;{0,unbounded}&lt;/info&gt;   &lt;device-support value=""&gt;{0,unbounded}&lt;/device-support&gt; </pre>

	<pre> &lt;device-support-alias value=""&gt;{0,unbounded}&lt;/device-support-alias&gt; &lt;generator default-mcu="" value=""&gt;{0,unbounded}&lt;/generator&gt; &lt;related-module module-id="" type=""&gt;{0,unbounded}&lt;/related-module&gt; &lt;/module&gt; </pre>				
Attributes	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>caption</b>	xs:string			required
		Description of the module			
	<b>id</b>	asfId			required
		Unique id for module			
	<b>type</b>	restriction of xs:string			required
	<p>The type of the module. It can be :</p> <ul style="list-style-type: none"> <li>- driver</li> <li>- component</li> <li>- service</li> <li>- library</li> <li>- application</li> <li>- meta</li> <li>- build-specific</li> </ul>				

### Element device-support-alias

Namespace	No namespace				
Diagram					
Used by	Element	module			
Attributes	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>value</b>	xs:string			optional
	Identifier of device alias that is supported.				

### Element select-by-device

Namespace	No namespace				
Annotations	<p>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.</p> <p>It starts searching at the MCU in the device-map and then to each parent node, until a match is found.</p> <p>This ensures that a driver for one specific device has higher priority than a family generic driver.</p>				
Diagram					

Used by	Elements      asf, select-by-config				
Model	info*   module*				
Children	info, module				
Instance	<pre>&lt;select-by-device caption="" id=""&gt;   &lt;info type="" value=""&gt;{0,unbounded}&lt;/info&gt;   &lt;module caption="" id="" type=""&gt;{0,unbounded}&lt;/module&gt; &lt;/select-by-device&gt;</pre>				
Attributes	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>caption</b>	xs:string			optional
		Description of the selector			
	<b>id</b>	asfId			required
		Unique ID			

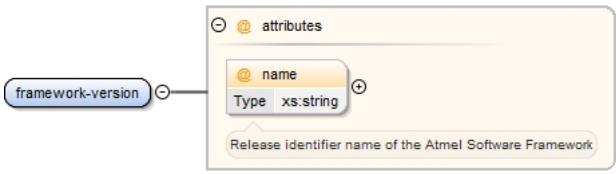
## Element select-by-config

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	<p>The select-by-config element is used for resolving configuration dependent modules. It will try to find a module within...</p>
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	<pre>&lt;select-by-config caption="" default="" id="" name=""&gt;   &lt;info type="" value=""&gt;{0,unbounded}&lt;/info&gt;   &lt;select-by-config caption="" default="" id="" name=""&gt;{0,unbounded}&lt;/select-by-config&gt;   &lt;select-by-device caption="" id=""&gt;{0,unbounded}&lt;/select-by-device&gt;   &lt;module caption="" id="" type=""&gt;{1,unbounded}&lt;/module&gt; &lt;/select-by-config&gt;</pre>

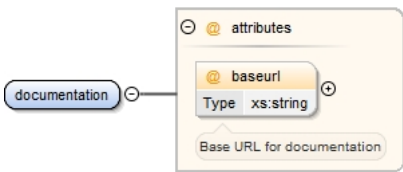


Attributes	QName	Type	Fixed	Default	Use
	<b>caption</b>	xs:string			optional
		Description of the selector			
	<b>default</b>	xs:string			optional
		The default value of the configuration if no value is configured.			
	<b>id</b>	asfId			required
		Unique ID			
	<b>name</b>	xs:string			required
		Name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

## Element framework-version

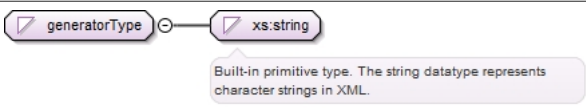
Namespace	No namespace				
Diagram					
Used by	Element	asf			
Attributes	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>name</b>	xs:string			optional
		Release identifier name of the Atmel Software Framework			

## Element documentation

Namespace	No namespace				
Diagram					
Used by	Element	asf			
Attributes	<b>QName</b>	<b>Type</b>	<b>Fixed</b>	<b>Default</b>	<b>Use</b>
	<b>baseurl</b>	xs:string			optional
		Base URL for documentation			

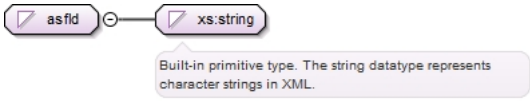
## Simple Type(s)

### Simple Type generatorType

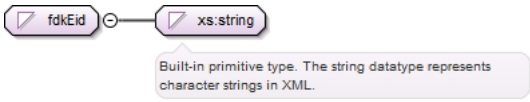
Namespace	No namespace				
Diagram					
Facets	enumeration	verbose			
	enumeration	avrgcc			
	enumeration	avr32gcc			
	enumeration	armgcc			
	enumeration	iarew			
	enumeration	iarew32			
	enumeration	iarewarm			

	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

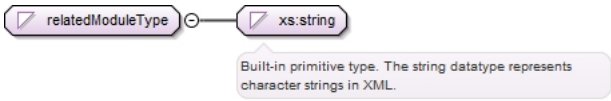
### Simple Type asfId

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
	enumeration	offline-help
	enumeration	online-help
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
	enumeration	module-guide-page
	enumeration	module-help-page
	enumeration	module-guide-page-append

	enumeration	module-help-page-append
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	
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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	<p>The type of information entity. The following types are supported:</p> <ul style="list-style-type: none"> <li>- keyword TBD</li> <li>- appnote Appnote number for related appnote. Ex: AVR123</li> <li>- description Textual description of the module. Can be of type: <ul style="list-style-type: none"> <li>* summary - Quick "one line" description.</li> <li>* detailed - Longer, more detailed description. The exact guidelines are TBD.</li> </ul> </li> </ul>	
Facets	enumeration	keyword
	enumeration	appnote
	enumeration	description
	enumeration	gui-flag
Used by	Element	info

**Attribute info / @value**

Namespace	No namespace	
Annotations	<p>The actual information, or category for blocks of keywords:</p> <ul style="list-style-type: none"> <li>- kit</li> <li>- device</li> <li>- technology</li> <li>- application</li> </ul>	
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
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**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

	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 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 / @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 atxmegal28a1	
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-support / @value**

Namespace	No namespace
Annotations	Identifier of device that is supported. For example atxmegal28a1.
Used by	Element device-support

**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 / @mcu**

Namespace	No namespace
Annotations	The target mcu that is on 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	Identifier 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
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**Attribute module / @type**

Namespace	No namespace	
Annotations	<p>The type of the module. It can be :</p> <ul style="list-style-type: none"> <li>- driver</li> <li>- component</li> <li>- service</li> <li>- library</li> <li>- application</li> <li>- meta</li> <li>- build-specific</li> </ul>	
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	
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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