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Source: https://github.com/professoraire/ElegantXML-Crestron

Elegant XML – Signed Analog Values v1.2

GENERAL INFORMATION

SIMPL WINDOWS NAME	Elegant XML – Signed Analog Values v1.2
CATEGORY	Elegant Modules
VERSION	1.2
SUMMARY	Provides a connection point for setting and retrieving Signed Analog values from an XML file.
GENERAL NOTES	This module works with the Elegant XML – Manager module and there must be a Manager module in the program for this module to work.
CRESTRON HARDWARE REQUIRED	3-Series Processor

PARAMETERS

ManagerID	S	The ID of the Manager instance to associate this module with. The Manager instance will control what file is being loaded from.
XmlPath[#] (1 – 50)	S	The path to the XML attribute to read from the XML file.

CONTROL

InputValue[#] (1 – 50)	A	When this value changes, it sends the updated value to the Simpl# program, which stores it in memory. This value is then reflected out the associated OutputValue[#] join.

FEEDBACK

IsInitialized	D	Goes high when the module has successfully registered with its Manager module.
OutputValue[#] (1 – 50)	A	Outputs the value read from the XML file on the XmlPath provided. Also outputs the value from a change on the associated InputValue[#] join.

ADDITIONAL DATA

Revision History	v1.0 – Initial Release v1.2 – See Elegant XML – Manager v1.2 for relevant release notes.~~v1.2 – Added optional final delimiters and the ability to write a complete file using default values, if no file exists. Can also use default values for non-existent values while still reading available values from a file.~~

Additional Details	**Notes**
	• You do NOT need to place the RootElement on each path. This helps shorten the length of the paths needed.
	• Also note the last optional delimiter in the path. If you place this last delimiter on the path you will be telling the parser to read or write the value inside of a pair of tags, the opening and closing tags. (Like: <Quantity>2</Quantity>) This is useful for XML files that use unique individual elements for all properties, instead of placing multiple values on elements.
	• If a value doesn't exist in the XML file, the value of the corresponding input is used. So, if you time your system startup to initialize the inputs of all your element module and then load the file, if any value isn't found it will use that initialized value instead. This can be useful when creating standardized systems where you'll likely want to start with the same values, or where you want to be able to create XML files with the default values on the fly.
	
	The exact format for specifying paths is as follows: Element[Identifier]{PathDelimiter}Element[Identifier]{PathDelimiter}Element[Identifier][{PathDelimiter}][{DefaultValueDelimiter}DefaultValue]
	
	The following file snippet and paths demonstrate how this works:
	
	`<?xml version="1.0" encoding="UTF-8" ?>`
	`<Config>`
	`  <Switchers>`
	`  <Quantity>2</Quantity>`
	`    <Switcher Id="1">`
	`      <Inputs>`
	`        <Input Id="1" Name="Input 1" Patch="1" IsInstalled="true" />`
	`        <Input Id="2" Name="Input 2" Patch="2" IsInstalled="false" />`
	`      </Inputs>`
	`    </Switcher>`
	`    <Switcher Id="2">`
	`      <Inputs>`
	`        <Input Id="1" Name="Laptop" Patch="9" IsInstalled="false" />`
	`      </Inputs>`
	`    </Switcher>`
	`  </Switchers>`
	`</Config>`
	
	Paths
	1. Switchers.Switcher Id="1".Inputs.Input Id="1".Name|DefaultName
	a. This outputs "Input 1" if the file is present, or "DefaultName" if not.
	2. Switchers.Switcher Id="2".Inputs.Input Id="1".Patch|1
	a. This outputs "9" if the file is present, or "1" if not.
	3. Switchers.Switcher Id="1".Inputs.Input Id="1".IsInstalled|true
	a. This would return "true" if the file is present, or "true" if not.
	4. Switchers.Quantity.|0
	a. This outputs "2" if the file is present, or "0" if not.

The format for specifying paths is as follows: Element[Identifier]{Delimiter}Element[Identifier]{Delimiter}Element[Identifier][{Delimiter}]

Notes

- The {Delimiter} item in the format above defaults to a period, or dot. "." Certain modules may provide the ability to specify alternate delimiters.
- You do NOT need to place the RootElement on each path. This helps shorten the length of the paths needed.
- Also note the last optional delimiter in the path. If you place this last delimiter on the path you will be telling the parser to read or write the value inside of a pair of tags, the opening and closing tags. (Like: <Quantity>2</Quantity>) This is useful for XML files that use unique individual elements for all properties, instead of placing multiple values on elements.
- If a value doesn't exist in the XML file, the value of the corresponding input is used. So, if you time your system startup to initialize the inputs of all your element module and then load the file, if any value isn't found it will use that initialized value instead. This can be useful when creating standardized systems where you'll likely want to start with the same values, or where you want to be able to create XML files with the default values on the fly.

The following file snippet and paths demonstrate how this works:

```
<?xml version="1.0" encoding="UTF-8" ?>
<Config>
  <Switchers>
  <Quantity>2</Quantity>
    <Switcher Id="1">
      <Inputs>
        <Input Id="1" Name="Input 1" Patch="1" IsInstalled="true" />
        <Input Id="2" Name="Input 2" Patch="2" IsInstalled="false" />
      </Inputs>
    </Switcher>
    <Switcher Id="2">
      <Inputs>
        <Input Id="1" Name="Laptop" Patch="9" IsInstalled="false" />
      </Inputs>
    </Switcher>
  </Switchers>
</Config>
```

Paths

1. Switchers.Switcher Id="1".Inputs.Input Id="1".Name
    a. This outputs "Input 1"
2. Switchers.Switcher Id="2".Inputs.Input Id="1".Patch
    a. This outputs the value 9
3. Switchers.Switcher Id="1".Inputs.Input Id="1".IsInstalled
    a. This digital value would be high.
4. Switchers.Quantity.
    a. This outputs the value 2.

You can see in this example that the optional identifier MUST occur immediately following the name of the element. For example, if you attempted to write the path: Switchers.Switcher Id="1".Inputs.Input Name="Laptop" this would fail, since the Name="Laptop" attribute isn't immediately following the name of the element, which is Input.

You can also see that the identifier isn't required. Be wary though! If you place multiple elements with the same name inside another and you don't provide identifiers, the first element that matches this will ALWAYS be used. The path: Switchers.Switcher Id="1".Inputs.Input.IsInstalled

	would always return a true (or Digital High) value, because it would always use the value of the element Input Id=”1”.