

How to extract info from your .xml config files

Here is an example of a very small config-file:

```
<?xml version = '1.0' encoding = 'UTF-8'?>
<wn_bredon>
  <!-- B2 video router -->
  <param id="B2_Video" index="15">
    <paraminfo id="first_index" value="1" />
    <paraminfo id="last_index" value="12" />
    <paraminfo id="VT_source" value="9" />
    <paraminfo id="VT_dest" value="8" />
  </param>
  <!-- B2 GPI device -->
  <param id="B2_GPI" index="8">
    <paraminfo id="first_switch" value="1" />
    <paraminfo id="last_switch" value="10" />
    <paraminfo id="first_index" value="1" />
    <paraminfo id="last_index" value="32" />
  </param>
</wn_bredon>
```

It only contains two elements and the name of the file itself is wn_bredon.xml. It needs to live in the same place as all the other xml-files (i.e. in CC_ROOT\CC_SYSTEM\config).

The crucial thing about these config files is that at each 'level' there is one entry (id) that is unique and therefor uniquely identifiable. At the top level that entry is wn_bredon itself. This top level has two 'child' levels, B2_Video and B2_GPI. Each of these levels again have four child levels, each with a unique id.

In order to access these elements a BNCs object has been created, called bncs_config. You can define your bncs_config object as either a whole file or as part of a file, but the object must have one unique element as the top...

```

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  <!-- B2 video router -->
  <param id="B2_Video" index="15">
    <paraminfo id="first_index" value="1" />
    <paraminfo id="last_index" value="12" />
    <paraminfo id="VT_source" value="9" />
    <paraminfo id="VT_dest" value="8" />
  </param>
  <!-- B2 GPI device -->
  <param id="B2_GPI" index="8">
    <paraminfo id="first_switch" value="1" />
    <paraminfo id="last_switch" value="10" />
    <paraminfo id="first_index" value="1" />
    <paraminfo id="last_index" value="32" />
  </param>
</wn_bredon>

```

...so this is a valid bnc_config object....

...whilst this is not.

Individual entries are accessed by their attributes, so `wn_bredon.B2_Video.attr("index")` will give an output of 15.

Here's how you can get to your sub-entries. First create a `bncs_config` object – let's just call it 'myConfig' for simplicity – and assign it to the `VT_source` object:

```
bncs_config myConfig ( "wn_bredon.B2_Video.VT_source");
```

Now create a `bncs_string` object – cunningly named 'myString' – and set it to the 'value' attribute of our myConfig `bncs_config` object:

```
bncs_string myString = myConfig.attr("value");
```

After executing these two lines, 'myString' will hold the value 9 and is available to be used for whatever takes your fancy.

You can also iterate over child objects, there is a method in the BNCs library for this, so the following code will go through each of the sub-elements of `B2_Video` and return the values of each of them – `myEntry` is just a string to contain all the values at the end:

```

bncs_config sub_element("wn_bredon.B2_Video");
if (sub_element.isValid()) //this is just checking that we haven't put in an entry that
                           //doesn't exist in our config-file
{
  while (sub_element.isChildValid())
  {
    myEntry = myEntry + " " + sub_element.childAttr("value");
    sub_element.nextChild();
  }
}

```

So this code will go through each child in turn and extract the values, add them to `myEntry` with a space in between. The 'while'-loop will continue for as long as it is being given a valid child-entry to inspect and will return false when the `nextChild()` method makes it count past the end of the entries, and thus cause the loop to end.

I have a working example of the code if you want me to send you a copy!