

# XML – IRIG 106 Chapter 10 mapping

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## *Proposed XML editor setup*

### **1 Introduction**

To get started with the XML – CH 10 mapping you will need an XML editor (unless you want to work with a simple text editor).

A nice a free solution that is proposed here is to use the XML editor from Eclipse.

This solution will give you:

- Text based XML writing
  - o Syntax highlighting
  - o On demand auto completion of what you type and display of possible choices
  - o Error highlighting as you type
  - o Pop up help on XML element and attribute definitions
- A structural, tree based XML creation where you select XML elements, attributes and values from drop down lists
- Validation of the XML file against the XML schema to point you to the error location and give you error messages

You can additionally install free version management tools that integrate with Eclipse (not described here).

This document intends to give some guidance but is in no way complete.

### **2 Setup**

The setup expects you have Java installed. Otherwise go to [www.java.com](http://www.java.com). There is no further explanation about this here.

You will need internet access during setup.

Do the following steps:

1. Install a basic Eclipse version. Some of the larger versions already include XML support but will give you many things you don't need (for this purpose). Either install a large version like "Eclipse for Java developers" (from [www.eclipse.org](http://www.eclipse.org)) and proceed with step 3 or follow the instructions here for a small dedicated version:
  - a. Go to the website [download.eclipse.org/eclipse](http://download.eclipse.org/eclipse)
  - b. Select the link with the highest version number below "Latest Release"
  - c. In the section "Platform Runtime Binary" download the archive for your operating system (32 / 64 bit depends on your installed Java version, not your operating system – 32 bit OS can only have 32 bit Java. 64 bit OS can have either 32 or 64 bit Java)
  - d. Unzip the archive somewhere on your computer. Use directories where you have and keep write access. On newer Windows Versions the Program Files directory is therefore no good choice.

- e. Start Eclipse using the eclipse.exe file
  - f. Select a workspace directory. This is where your data will be stored. I.e. you can organize different XML files within projects within the workspace directory
  - g. Close the welcome window (not the main window)
2. Install the XML Tools plug-ins:
    - a. Select Help > Install New Software
    - b. Set the “work with” field to “All available sites”
    - c. Deselect the option “Group items by category” on the bottom
    - d. Enter “XML” as the filter text
    - e. The action may take some time. On the bottom right of the main Eclipse window you will see a progress that indicates the download of the available software list
    - f. Select “Eclipse XML Editors and Tools” as soon as this package gets available and continue the installation (which may take some time again)
    - g. Restart Eclipse when requested
  3. Create first XML files
    - a. Create a project within the workspace (like Timing\_Tests\_On\_Recorder\_Model\_XYZ). To do so Select File > New > Project > General > Project
    - b. Copy one of the XML files from the samples into the project (you can copy them in a windows explorer and then right click your project in the Eclipse Project Explorer and select “Paste”
    - c. Double click the XML file in the Project Explorer
    - d. The file opens in a window with two tabs on the bottom called “design” and “source”. We prefer the source variant that directly shows the XML code. Switch to this variant.
    - e. Right click into the XML text and select “Validate”. Eclipse will give you a warning that the XML schema cannot be located
    - f. You have two choices to make the schema available:
      - i. Have the schema in the same directory as the XML
        1. Copy / paste the XMLCH10Mapping.xsd file that comes with the Data Bus Tools downloads into the project
        2. Make sure that the XML files declare the top level XML element (ch10) with a schema location like this:

```
<cns:ch10
xmlns:cns="http://www.example.org/XMLCH10Mapping"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="XMLCH10Mapping.xsd"
xsi:schemaLocation="http://www.example.org/XMLCH10Mapping XMLCH10Mapping.xsd">
```
      - ii. Instead of keeping copies of the schema within each project you can keep the schema at one central location and create an XML Catalog entry in Eclipse to associate all the XML files of a specific namespace with this schema:
        1. Select Window > Preferences > XML > XML Catalog > User Specified Entries > Add
        2. Select the location on the file system
        3. Use “namespace name” as key type and leave the key as proposed

4. Make sure that the XML files declare the top level XML element (ch10) without a schema location like this:

```
<cns:ch10
  xmlns:cns="http://www.example.org/XMLCH10Mapping"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
```

- g. Select the icon for “Reload Dependencies” while you are in the XML file window. To find the icon look at the tool tips that pop up over the icon when the mouse hovers over it (probably 5<sup>th</sup> icon from left).
- h. Try validating the XML files again. The XML schema should now be found

### 3 Hints for XML editing

- While you type in the XML window of a file place the cursor somewhere and type CTRL-Space. A menu will pop up that offers you some options. This way you can generate the structure of a whole XML element with the required attributes, choose available attributes or choose attribute values.
- Hover with the mouse over XML elements, attributes etc. A window will pop up with additional information
- Eclipse highlights errors and warnings in the XML code and places markers on the left border of the editor. Some errors are immediately detected, for some you need to validate again (right click in text > Validate). You can also validate a whole project with all included files (right click project > Validate).
- Errors and warnings will also be displayed in the “Problems View”. This can help you for example if the XML schema has been updated to a new release and you need to adapt a bunch of files. To show the “Problems View” select Window > Show View > Problems.