1. **Run-Time execution installation**

Installation requirements for CIM To MODelica Transformation Tool

1. Make sure you have the latest JAVA runtime installed (JAVA 1.8 or later). This can be checked by running the command java -version in a terminal, in any version of Windows, Linux or MacOS.
2. Make sure you have installed the Apache JENA and the JAXB libraries. Otherwise, you can download them from the following links:
   1. [Apache JENA](https://jena.apache.org/download/index.cgi)
   2. [JAVA JAXB](https://github.com/javaee/jaxb-v2)

Note: The cim2modelica.jar includes these two libraries. The .jar file should execute without problems, otherwise, check your JAVA installation status.

1. **Tool Set-up**

Create a working folder where to download and place the following required files and then proceed as follows:

1. Copy inside the working folder the ***cim2modelica.jar*** file (It contains the necessary libraries to run the code)
2. Copy the **./res** into the working folder. Make sure that the ./res folder contains the following:
   1. The folder ***./res/map***, which contains the mapping rules for populating the CIM values into the OpenIPSL component instances.
   2. The folder ***./res/network*** containing the CIM files of the network model
3. Create a ./model/ folder, where the auto generated models will be placed
4. **Using the tool in command line:**

Open a console terminal and go to the working directory where you have placed the *cim2modelica.jar* file. Use the command:

**java –jar cim2modelica.jar –d <model\_name> <relativePathFolderCIMFiles>**

where:

1. The option –d indicates that the input parameter of the .jar file is the folder relative path that contains the CIM profile files.
2. <model\_name> - name for the resulting Modelica model
3. The <relativePathFolderCIMFiles> indicates the folder that contains the CIM profiles’ files, which define the CIM model:
   1. *xxx\_EQ.xml*- equipment profile CIM file
   2. *xxx\_TP.xml*- topology profile CIM file
   3. *xxx\_SV.xml*- state variable profile CIM file
   4. *xxx\_DY.xml* - dynamics profile CIM file
4. You can run the same command, with the option **–p**. With this option, you must specify the relative path of the profile files, in the specified order, as follows:

**java –jar cim2modelica.jar –p <model\_name> <relativePath/xxx\_EQ.xml> <relativePath/xxx\_TP.xml> <relativePath/xxx\_SV.xml> <relativePath/xxx\_DY.xml>**

As output files, the cim2modelica tool will save the generated Modelica files into the folder ./model.



Figure 1 Detail of the resulting Kundur 2-Area [ref] model from CIM profiles. Machines with controllers are stored in the .mo files, under the *./PowerPlant* folder.