How to use SHIM2.0 Editor
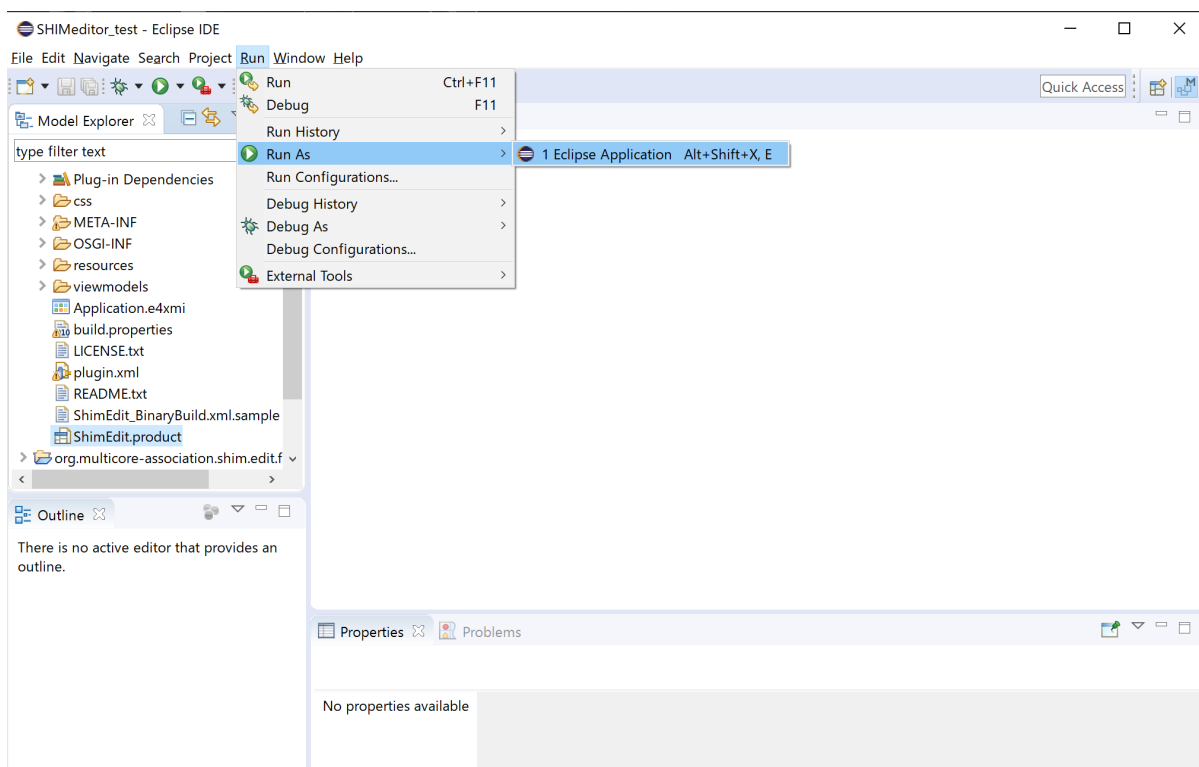
1.Run SHIM2.0 Editor

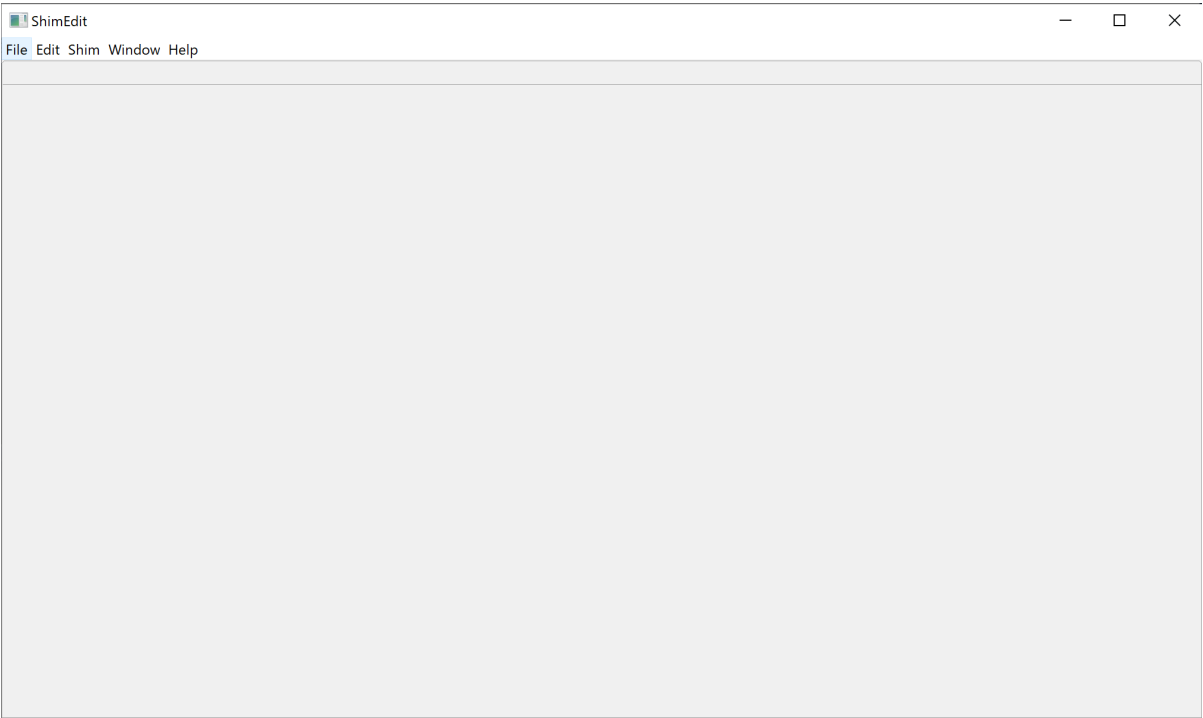See Readme for requirement for the project and how to import it.

Projects listed in the Model Explorer list
Expand "org.multicore_association.shim.edit" and select "ShimEdit.product" in it.

With "ShimEdit.product" selected, select "Run As" in the "Run" menu, and then select "Eclipse Application".

You can see that the application is running and a window is displayed.

2.Create SHIM2.0 XML

SHIM2.0 Editor starts and show the Editor page.
Click on *New* and the "Create New SHIM2.0 Data Wizard" starts.
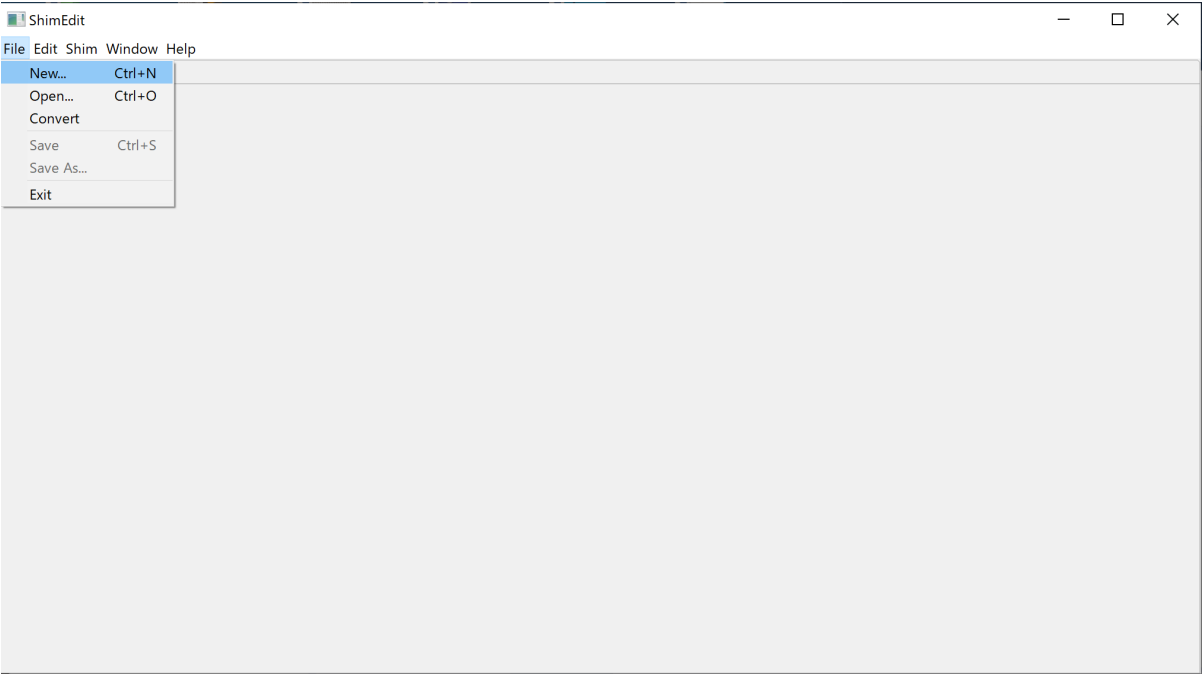Refer to an after section for what configure by each page of Wizards.

figure1. Editor page

1st page: Setting ComponentSetInfomation

You should input some basic infomation for new SHIM2.0 XML for creating initial component set structure.

When you configure *MasterComponent*, select a tab of *MasterComponent*. In case of configuring *SlaveComponent* or *ComponentSet*, like, select a tab of *SlaveComponent* or *ComponentSet*.

figure2. Setting ComponentSetInfomation

2nd page: Edit Component Structure

The 2nd page shows the structure of *ComponentSet* that is created based on the settings you inputted at the previous page.

figure3. Edit Component Structure

If you'd like to add a child component or to delete components, right-click on the target components and select *Add Child* ～ or *Delete Item*.
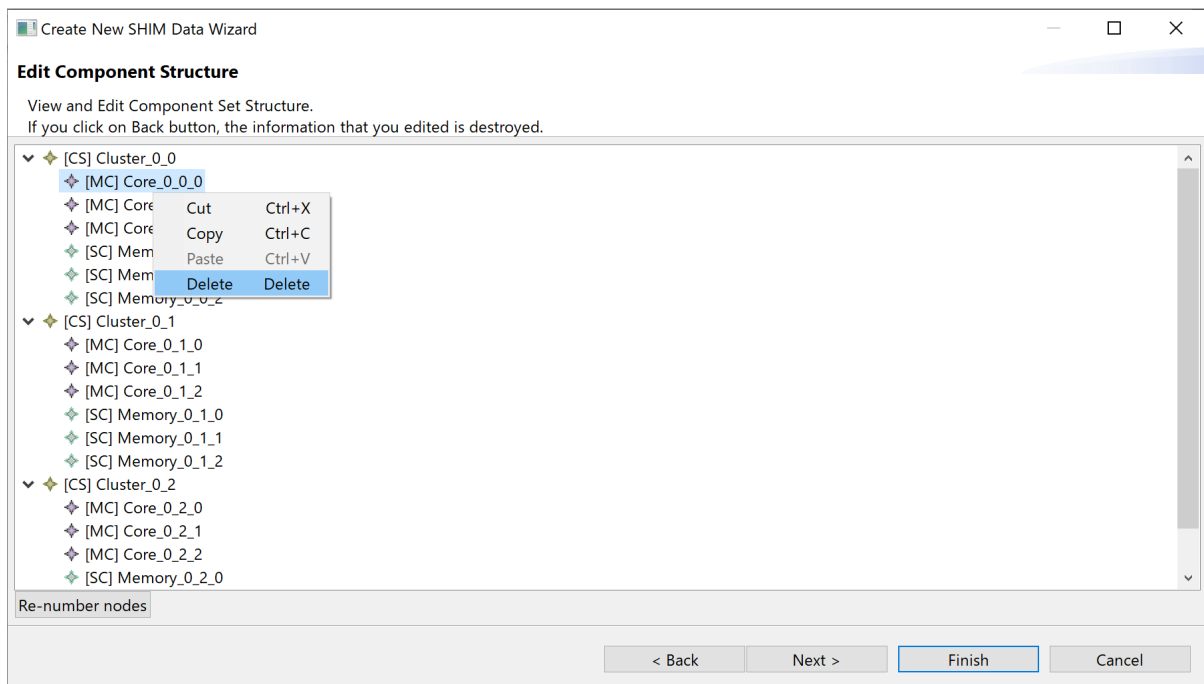

figure4. Edit Component Structure's menu items

3rd page: Setting AddressSpace Infomation

At this page, input the number of the element such as *AddressSpace* and *SubSpace* that you'd like to create.
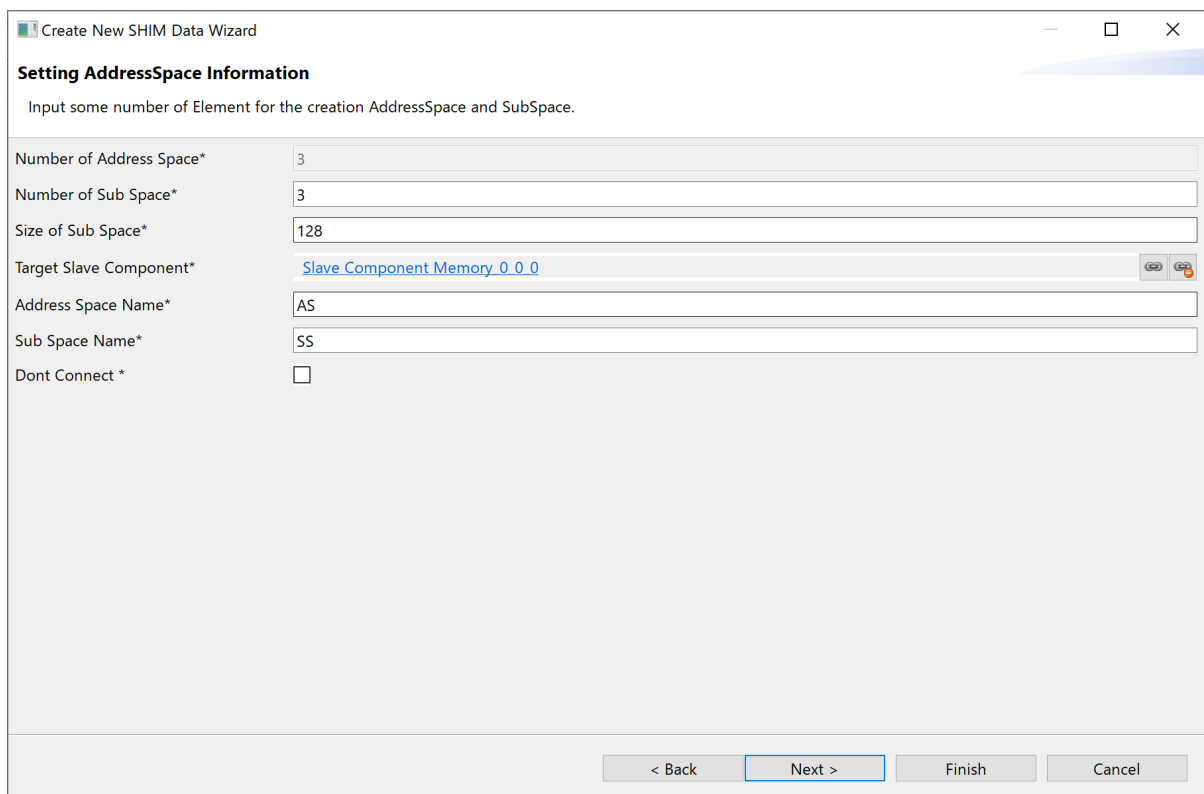

figure5. Setting AddressSpace Infomation

4th page: Setting AddressSpace

The 4th page shows AddressSpaces and SubSpaces.
You can edit the infomation of those elements.
If you'd like to add a new SubSpace or to delete AddressSpace, SubSpace, right-click on the target components and select *Add Child* 〜 or *Delete Item*.
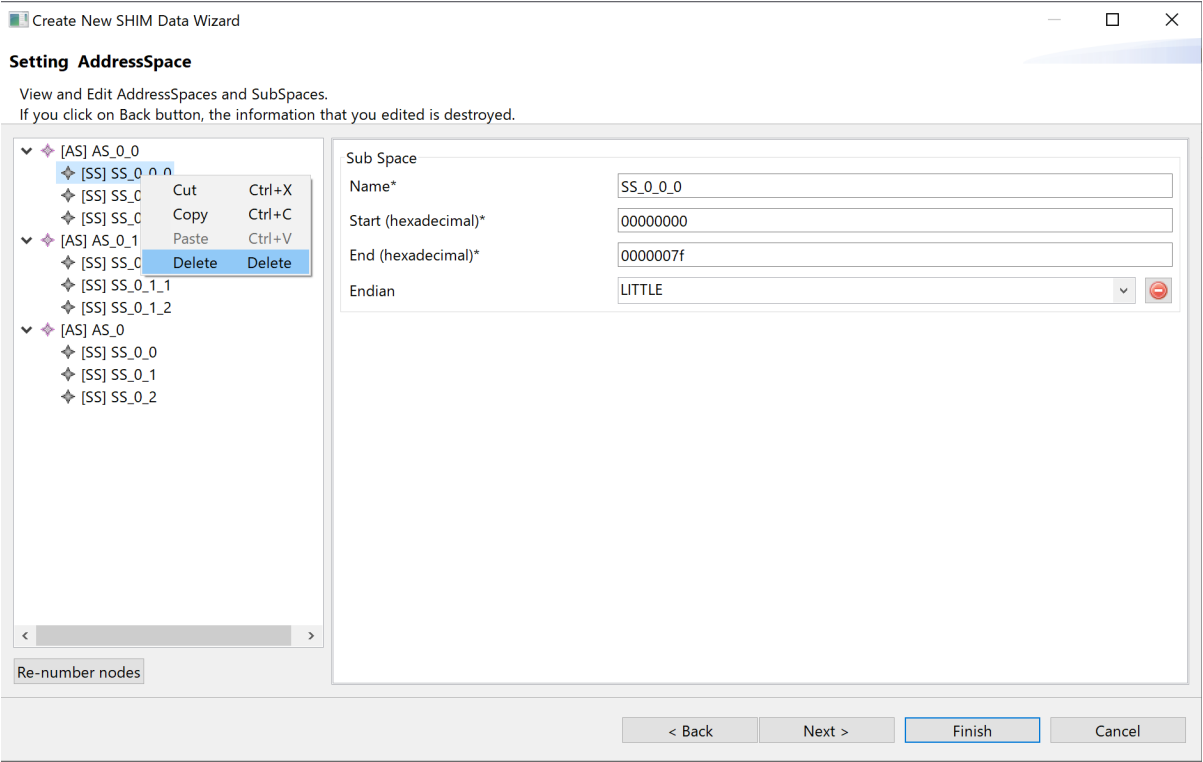

figure6. Setting AddressSpace

5th page: Setting Communication Set

Select Communication Set you'd like to create, and configure them.

Create New SHIM Data Wizard			—	□	✕

Setting Communication Set

Choose Communication Set

☑ Select/Deselect ALL

Interrupt Communication*	☑		
Event Communication*	☑		
FIFO Communication*	☑		

FIFO Communication

Fifo Data Size*	64	KiB ∨
Queue Size*	32	

Shared Memory Communication* ☑

SharedRegisterCommunication

Shared Memory Data Size	128	KiB ∨	⊖
Operation Type*	TAS		∨
Address Space*	Address Space AS_0_0		🔗 🔗
Sub Space*	Sub Space SS_0_0_0		🔗 🔗

Shared Register Communication* ☑

SharedRegisterCommunication

NRegister*	32

Dont Connect * ☐

< Back	Next >	Finish	Cancel

figure7. Setting Communication Set

6th page: Cache Infomation

Select *Cache Type*, and configure the cache.

Create New SHIM Data Wizard			—	□	✕

Cache Information

This is Basic Information for Cache Data.

Cache Type*	UNIFIED	∨

Cache(Unified)

Cache Coherenecy*	SOFTWARE		∨
Size*	64	KiB	∨
NWay	16		
Line Size	128		
Lock Down Type	LINE	∨	⊖

< Back	Next >	Finish	Cancel

figure8. Cache Infomation

If you select *Data and Instruction* at the *Cache Type* selection, you should configure *Data Cache* and *Instruction Cache*.

figure9. Cache Infomation (Data and Instruction)

7th page: Setting Infomation of Base AccessType

The 7th page is the final page.You can configure *AccessType* at this page.
The number of *AccessType* is determined by the following formula.

- [the number of *RWType*] × [the number of *AccessByteSize*]

figure10. Setting Infomation of Base AccessType

3.Load SHIM2.0 XML

If you have a SHIM2.0 XML file, you open and edit it.
Click on File and Open, and select SHIM2.0 XML file.
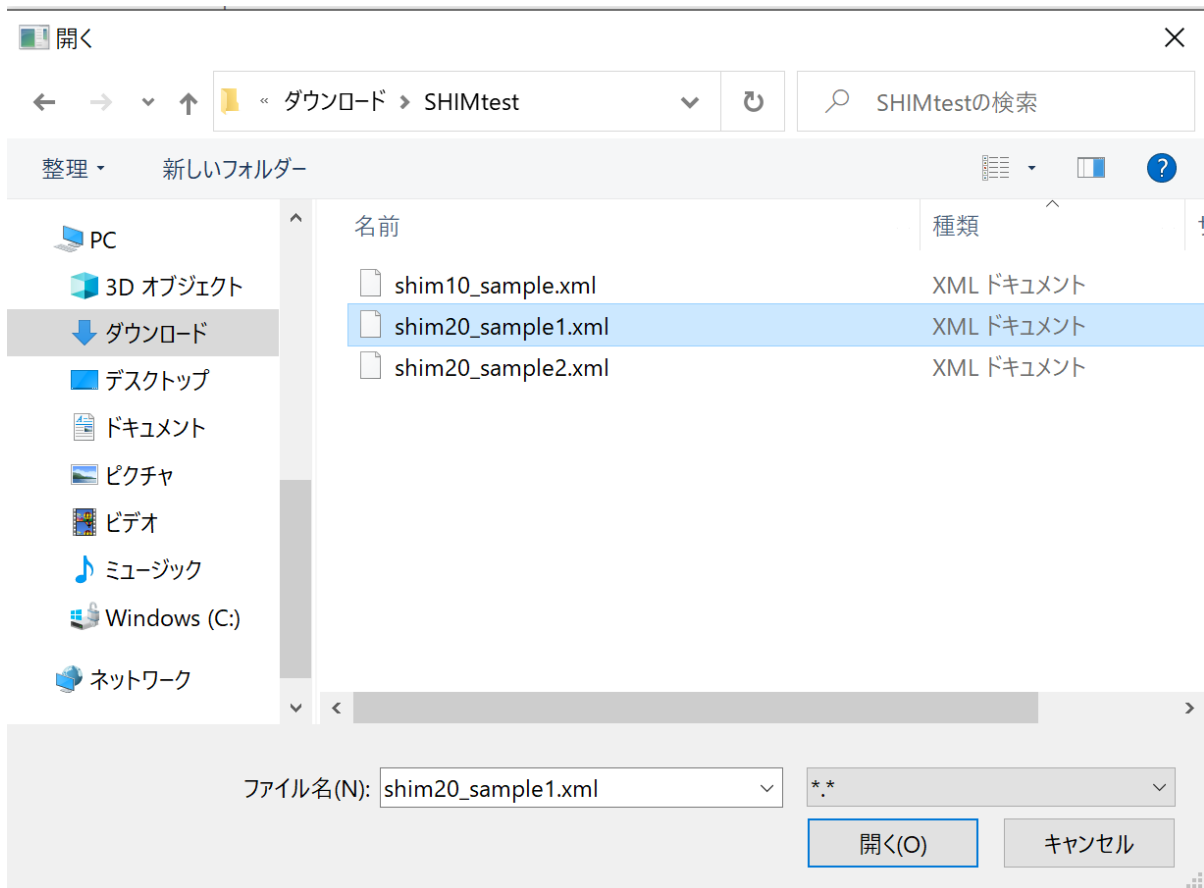

figure11. Load SHIM2.0 XML

figure12. Load SHIM2.0 XML, FileDialog

4.Edit SHIM2.0 XML

If you create a new SHIM2.0 XML or open a SHIM2.0 XML file, SHIM2.0 Editor shows some infomation of SHIM2.0 XML. Introduce about the following typical control by an after section.

- Add Child Elements
- Delete item
- Copy Item
- Paste Item
- Re-number nodes
- Visualization of XML

Add Child Elements

To add an element, you must know which element is its parent element.
Right-click on the element to be belonged in the TreeViewer, you can select *Add Child Element*.

For example, add child *ComponentSet* to the *ComponentSet* in this section.

If you'd like to edit the structure of component, select *Components* tab.
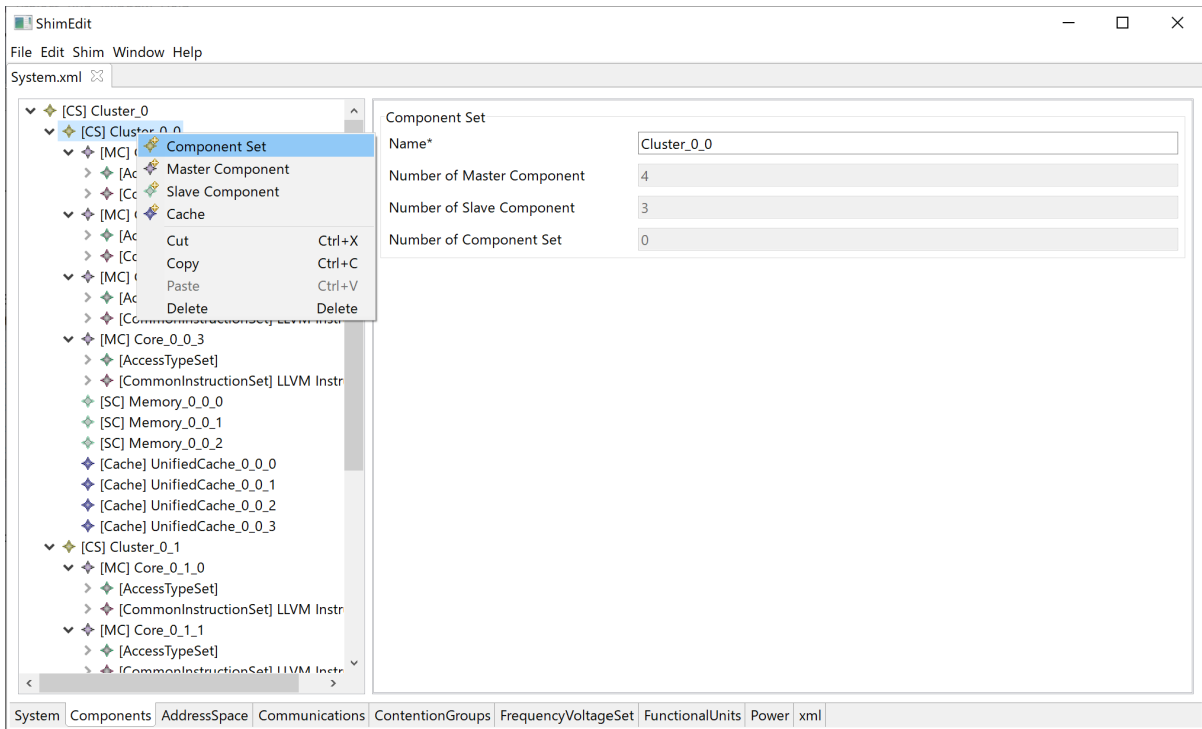Right-click on the parent *ComponentSet*, select *ComponentSet*.

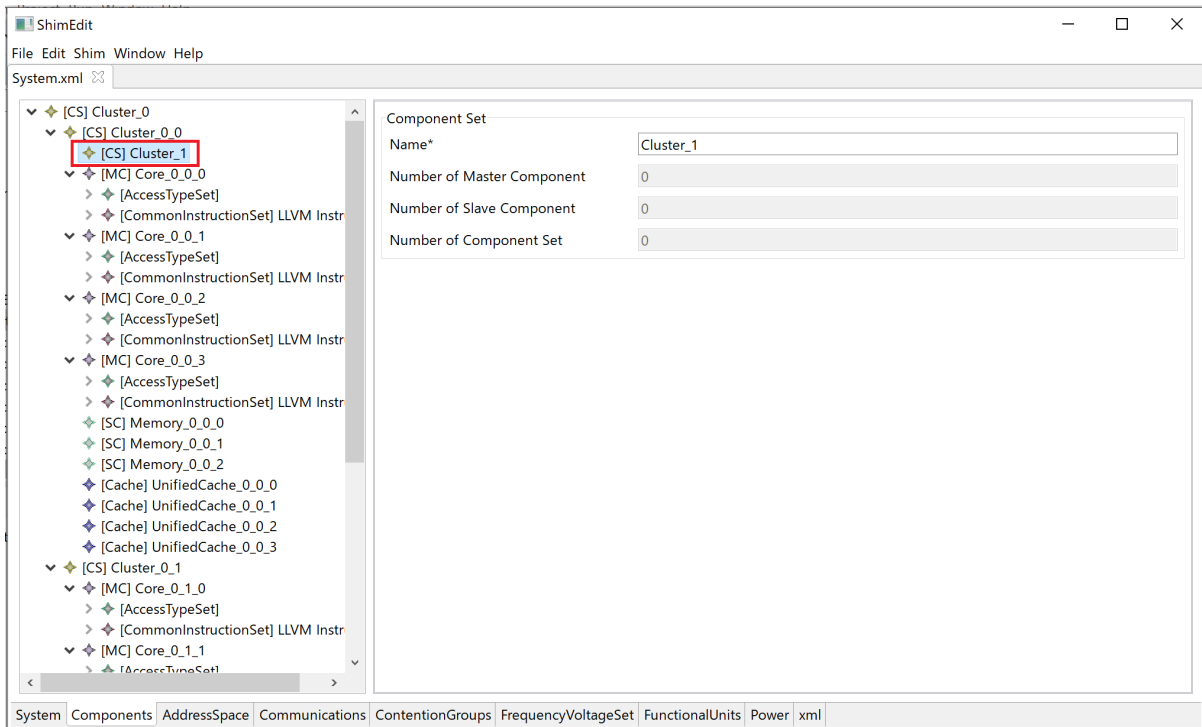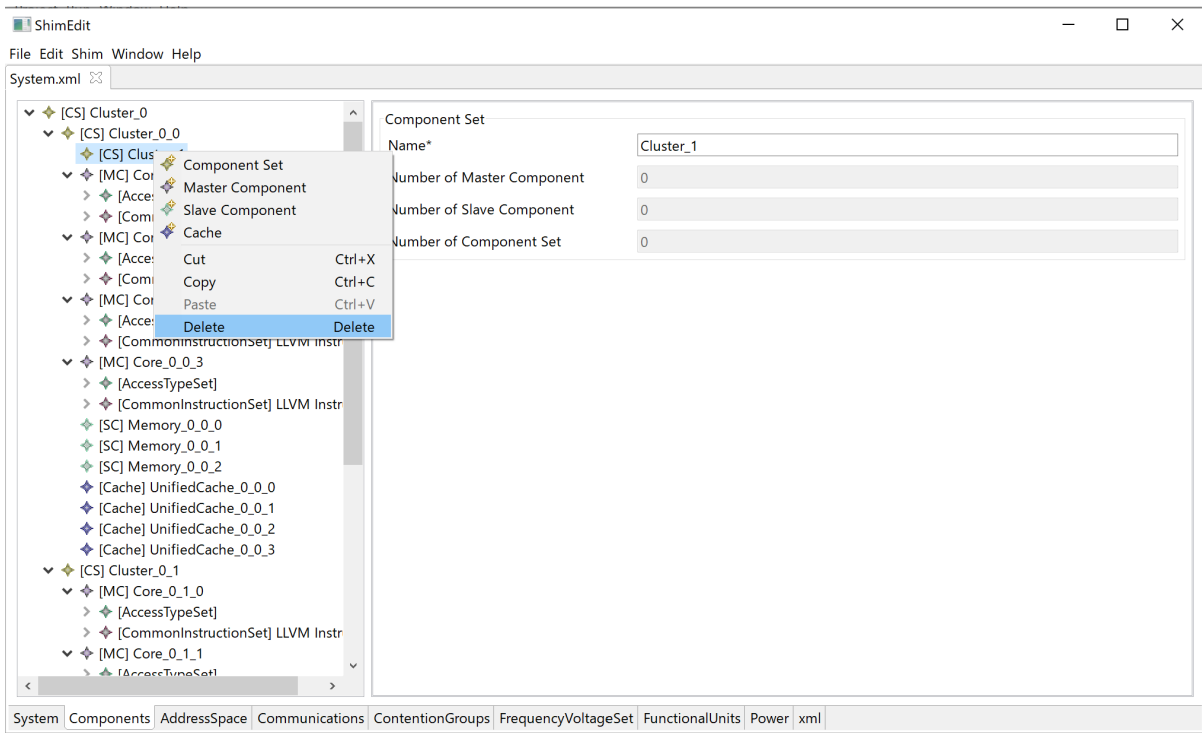**figure13. Add Child Component**

figure14. After Add Child Component

Delete Item

If you'd like to delete an element, right-click on the target element in Treeviewer and select *Delete*.
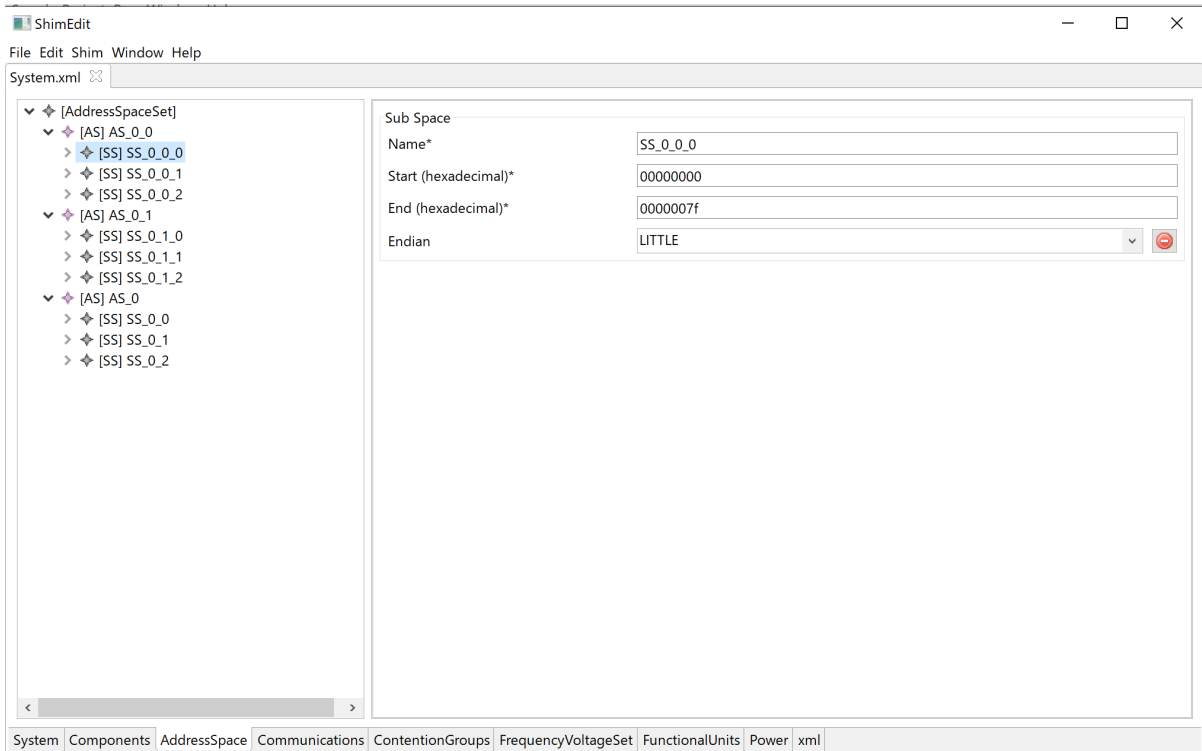
figure15. example that Delete Item

Edit Element's Paramerer

There are several ways to edit element's parameter(ex. attribute, child elements).

The simplest way is that you select a target element in TreeViewer and edit displayed parameters.

figure16. Edit an element from an element's input panel

You can also select the target element in TreeViewer and right-click to edit the optional parameters.
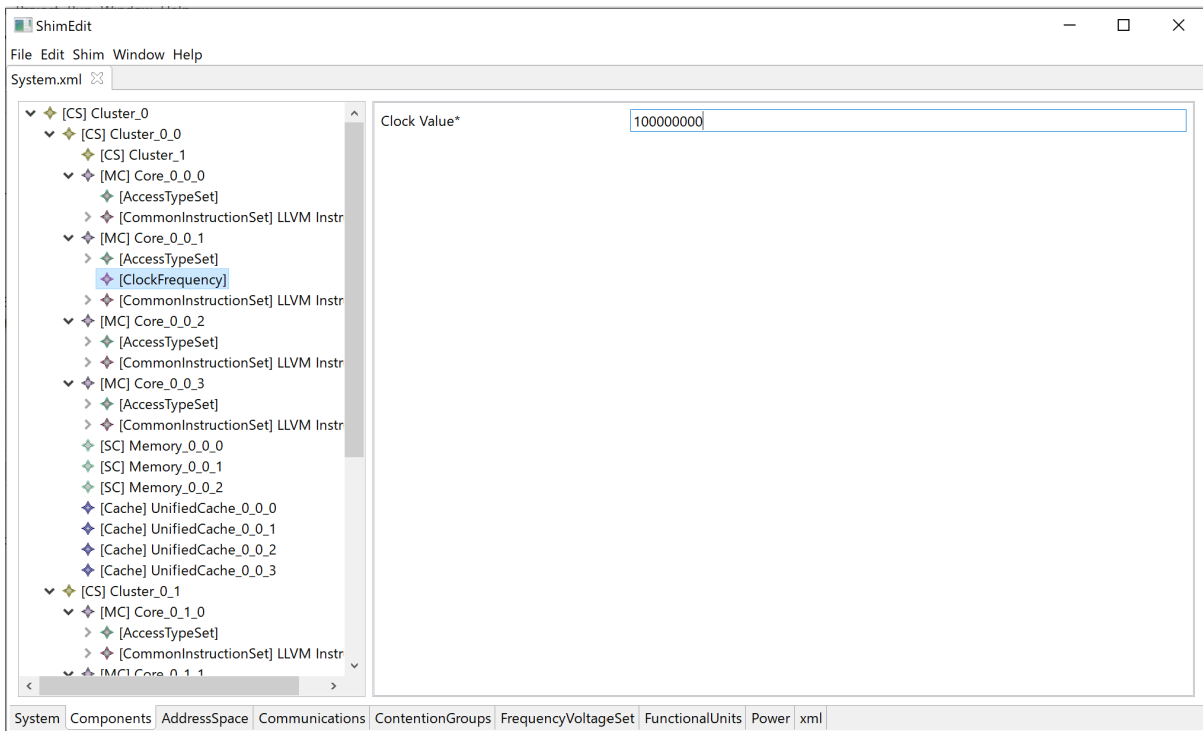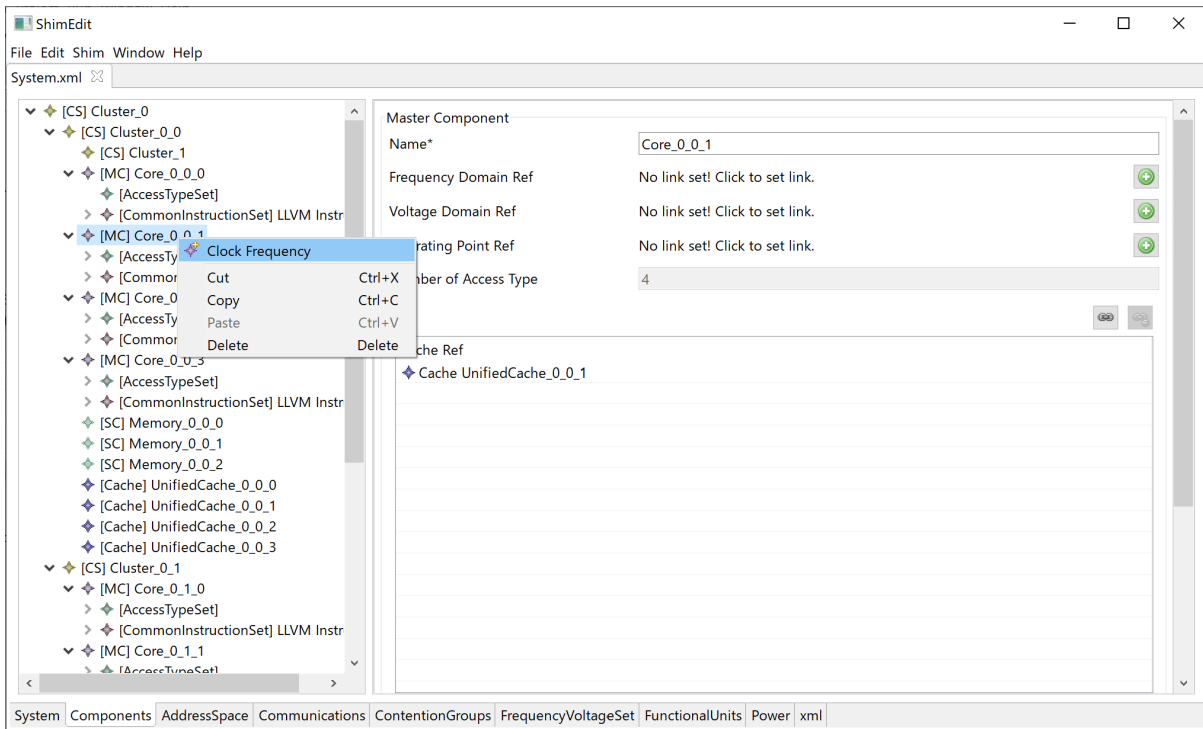
figure17. Edit an optional element

Copy & Paste Item

SHIM2.0 Editor supports copy and paste.
To copy the item, you select the item, right-click on it and select *Copy*.
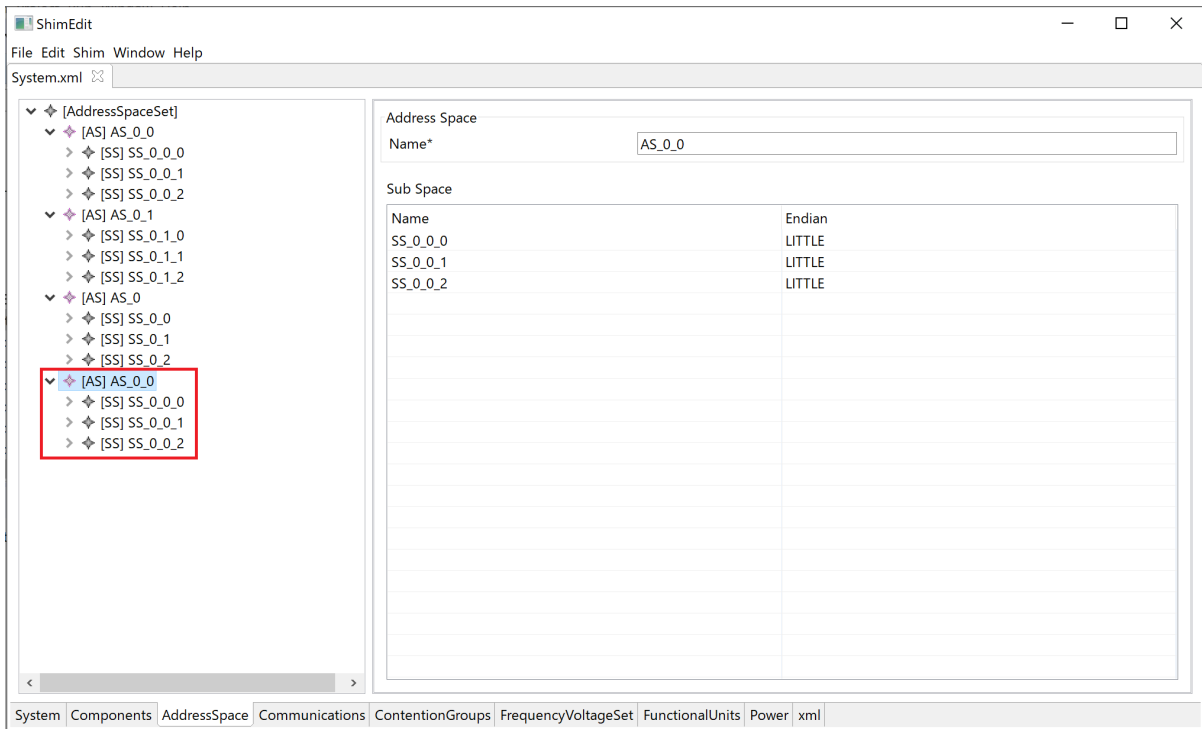
figure18. Copy Item(s)

To paste the item, you select the item that is the parent element of the copy item, right-click on it and select *Paste*.

figure19. Paste Item(s)

You can paste the item according to the schema of SHIM2.0 XML.

figure20. After Paste item and Overwrite

Re-number nodes

After adding child elements, deleting child elements and so on, you want to assign automatically component numbers.
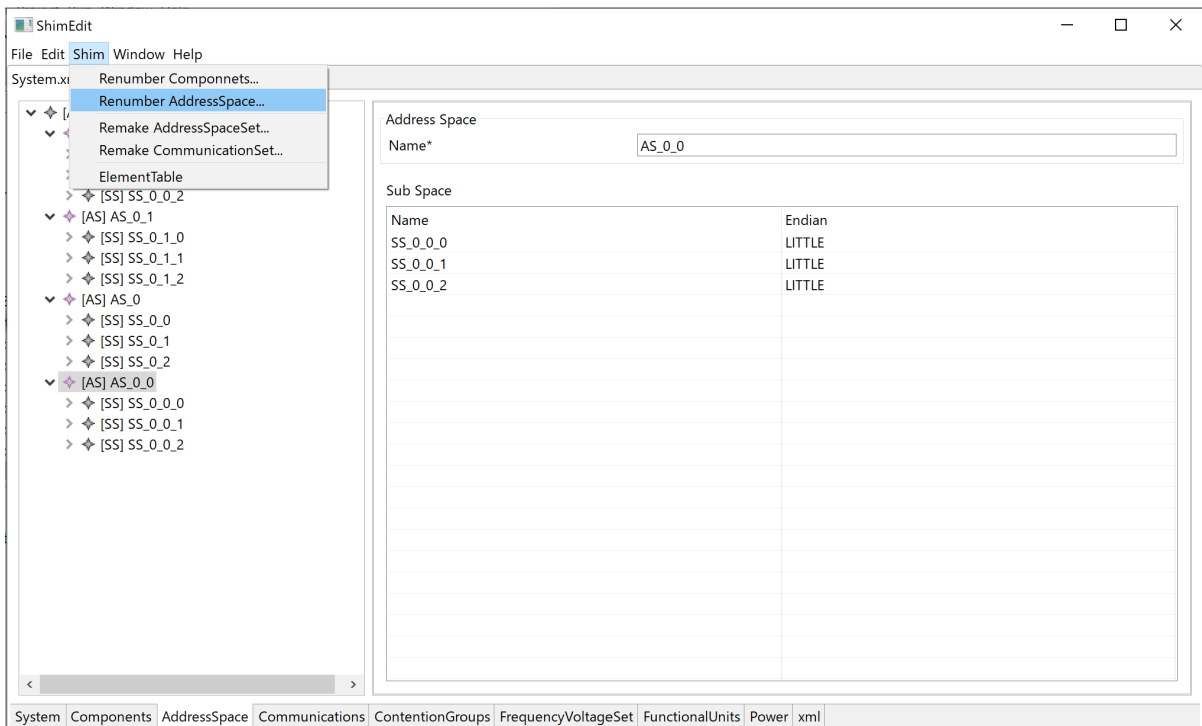In this case, click shim, *Re-number nodes* button.
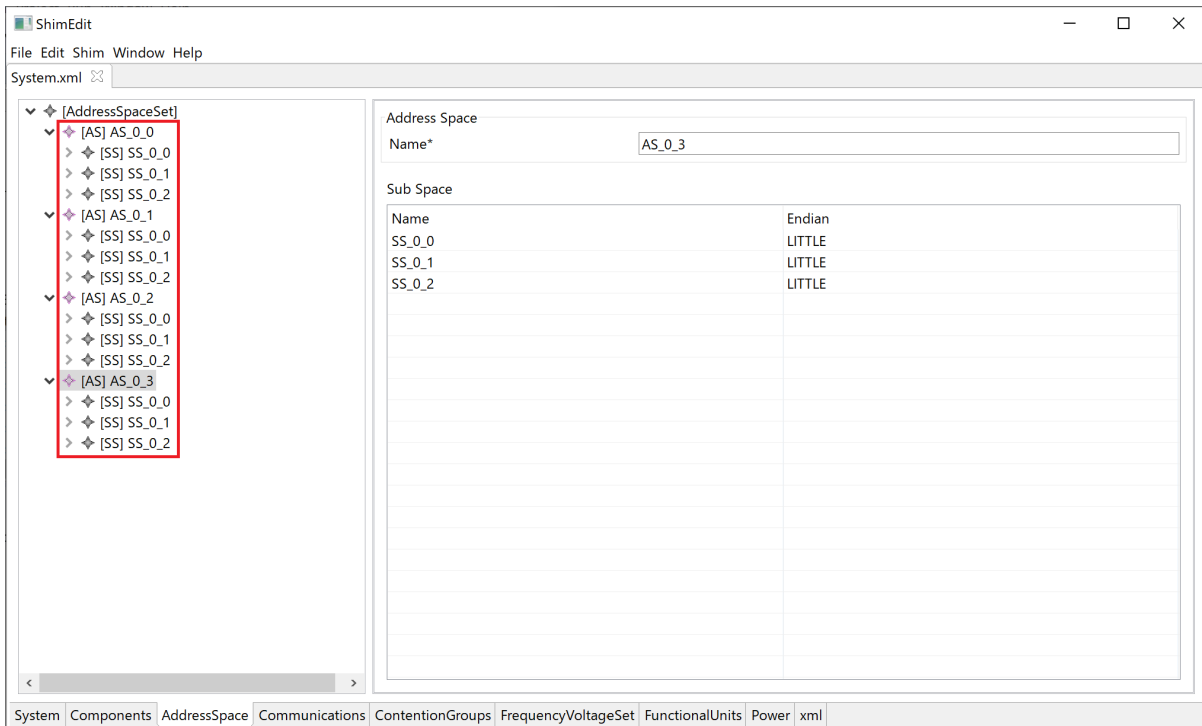

figure21. Before *Re-number nodes*

figure22. After *Re-number nodes*

Re-Make AddressSpaceSet(or CommunicationSet)

SHIM2.0 Editor does not create automatically new CommunicationSet or MasterSlaveBindingSet after *Add Child Master(or Slave)Component* and *Paste the Master(or Slave)Component*, because doesn't know whether those are needed.
If you want to create all combinations of AddressSpaceSet or CommunicationSet, click on shim, *Re-Make AddressSpaceSet(or CommunicationSet)*.
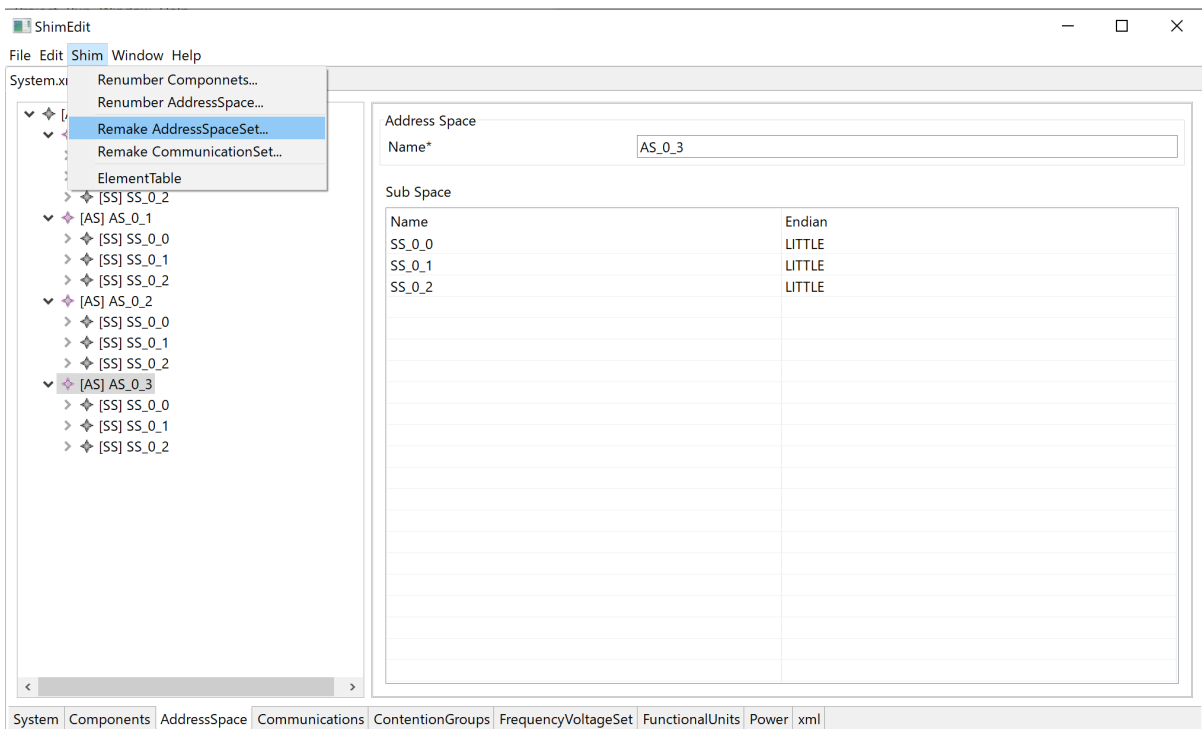

figure23. Re-Make AddressSpaceSet(or CommunicationSet)

Visualization of XML

You can check the edited SHIM2.0 XML by XML description with SHIM2.0 Editor.
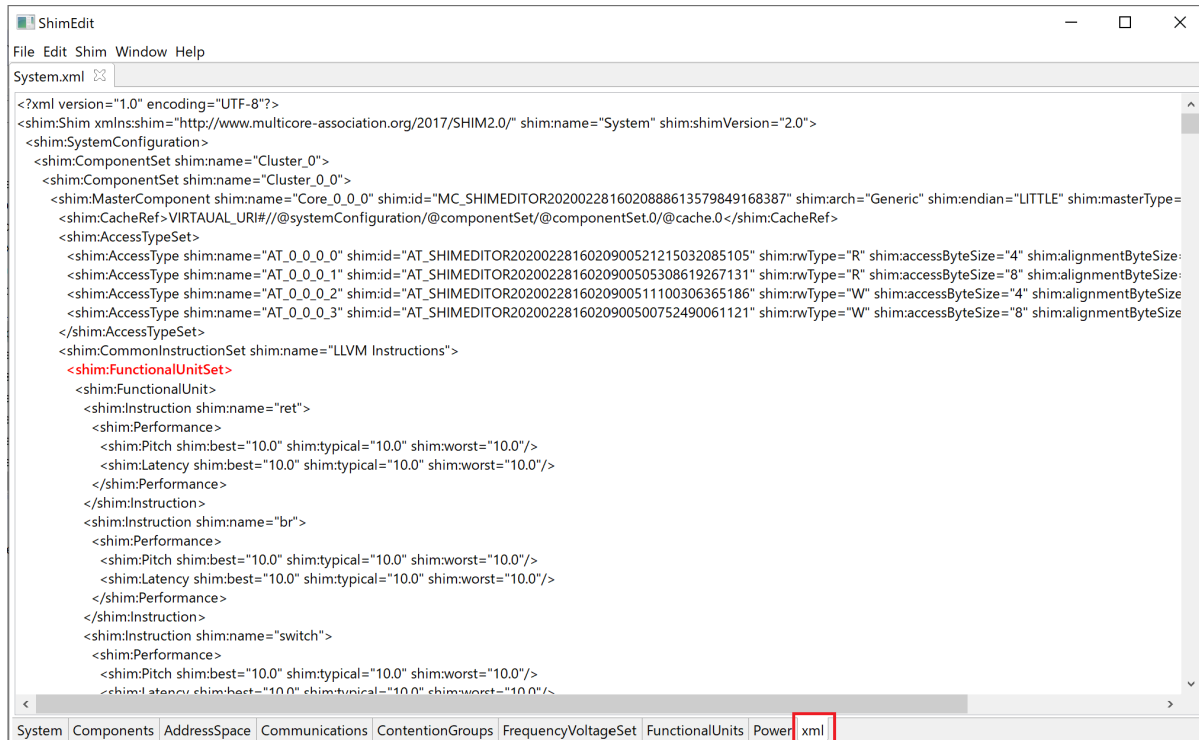

figure24. Visualization of XML

Split output of XML (FunctionalUnitSet)

You can split output of XML (FunctionalUnitSet).
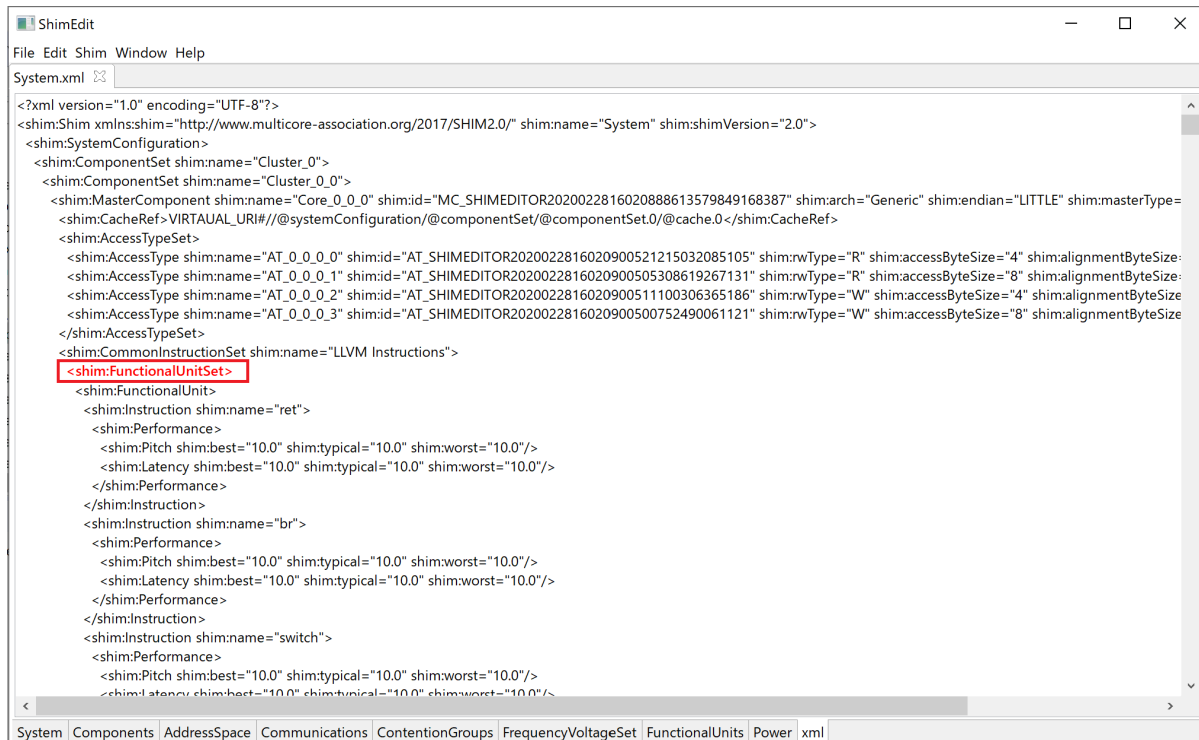Left-click the red FunctionalUnitSet. The output dialog opens.

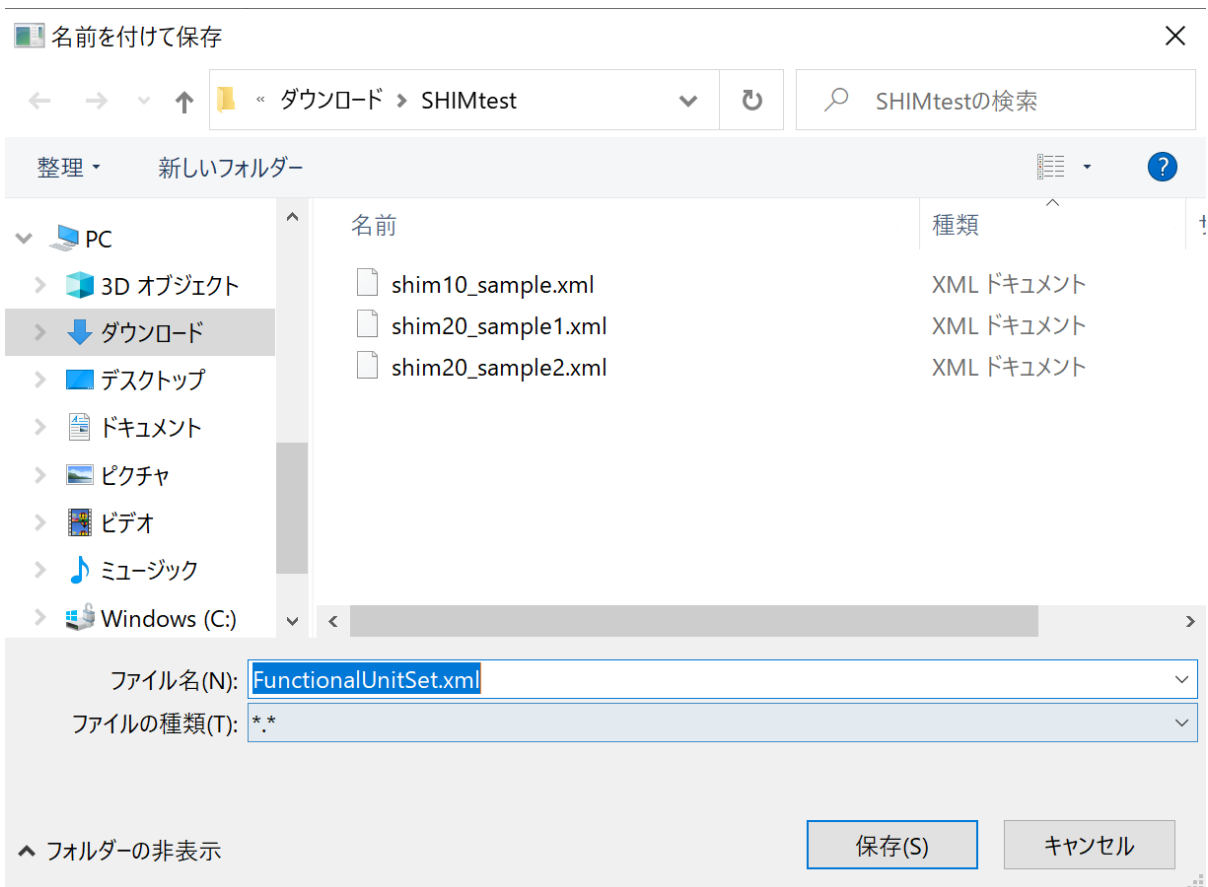**figure25. Split output of XML (FunctionalUnitSet)**

figure26. The split output dialog FunctionalUnitSet

5.Convert SHIM1.0 XML to SHIM2.0 XML

If you have a SHIM1.0 XML file, you can open it and it is converted SHIM2.0 XML file. Note that you cannot edit the XML of SHIM1.0 as it is. The opened file can be edited as SHIM 2.0 XML.
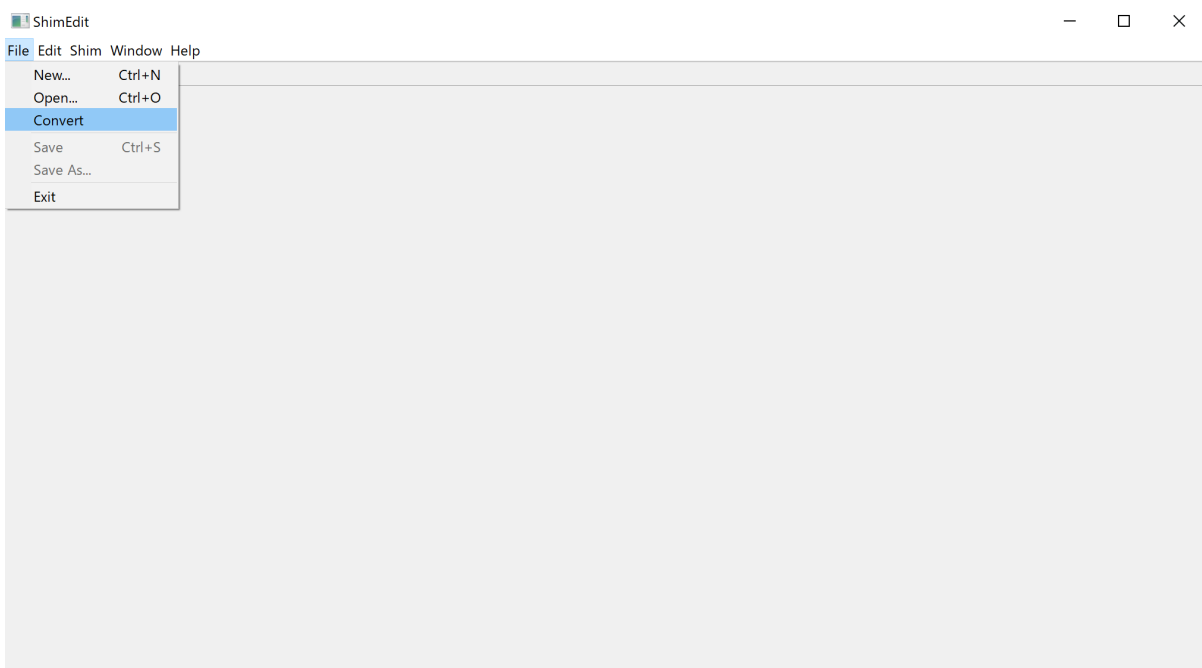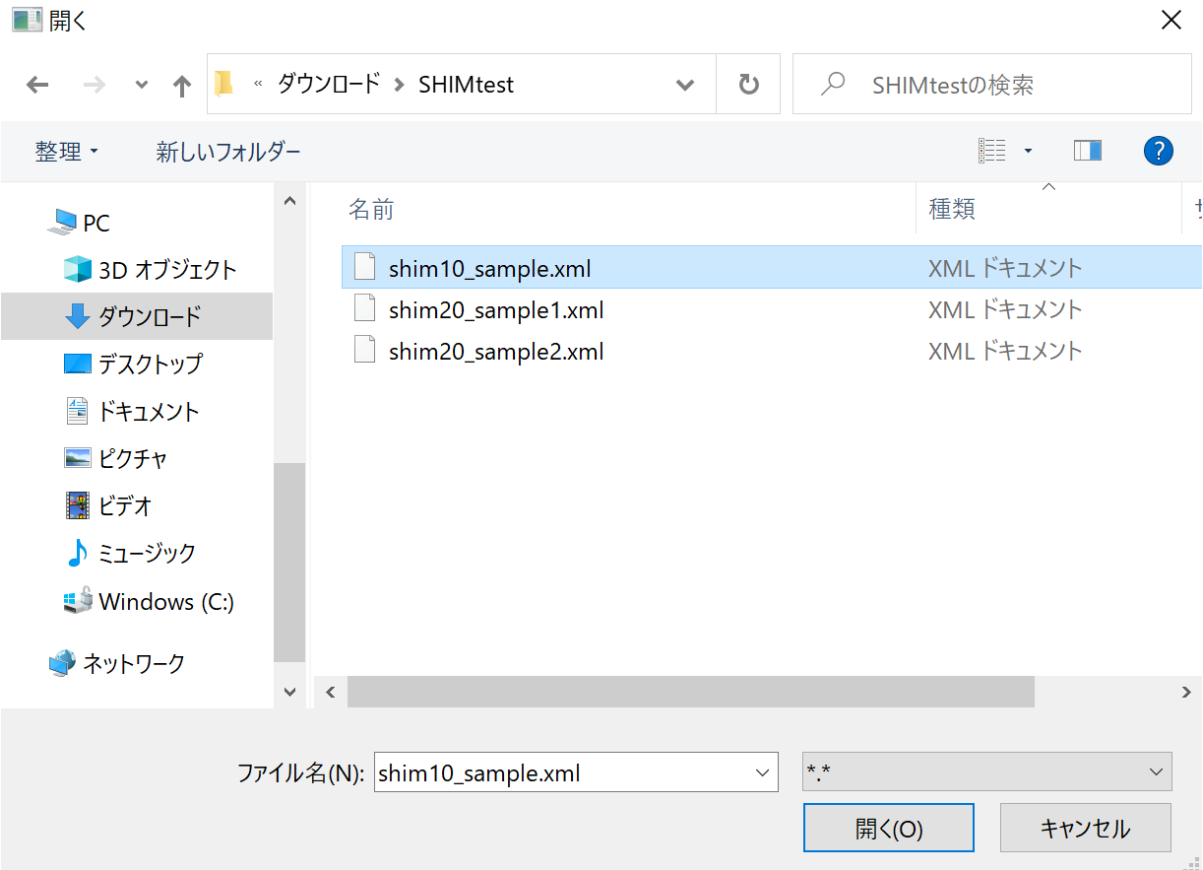Click on File and the "Convert", and select SHIM1.0 XML file.

figure27. Convert page

figure28. Load SHIM1.0 XML, FileDialog