



Data & Intellectual Property Rights protection in EICASLAB™



Welcome to Innovation



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- Concept of Data and Intellectual Property Rights protection in EICASLAB
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Data sharing



An easy and friendly way of Data sharing is fundamental for working in a Team.

EICASLAB allows *data* sharing among EICASLAB users, in particular among the [EICASLAB community](#) members.



The *data* that are sharable are:



- the EICASLAB **projects**,
- the EICASLAB **user libraries**, containing user blocks called **macros** that can be programmed by the user and used in the projects,

that you can develop using the EICASLAB software suite.

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Data and IPR protection in EICASLAB

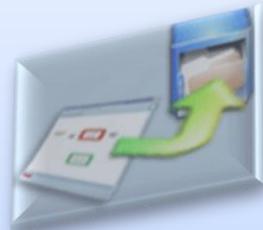
You can **protect** your EICASLAB **data** projects and user libraries by means of a password.

Data
protection

IPR
protection

You can also share your data letting some parts of them available with suitable *restrictions* later described: the highest level restrictions allow other users to know only the inputs and outputs of the protected parts.

In this way it is possible to perform a multi-user development of projects and user libraries (all the parts, also those available with restrictions, can be used and every developer has enough information to develop its part of work), always guaranting the **Intellectual Property Rights protection** of all the users.



Projects sharing and protection in EICASLAB



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Project sharing & protection

Archive creation

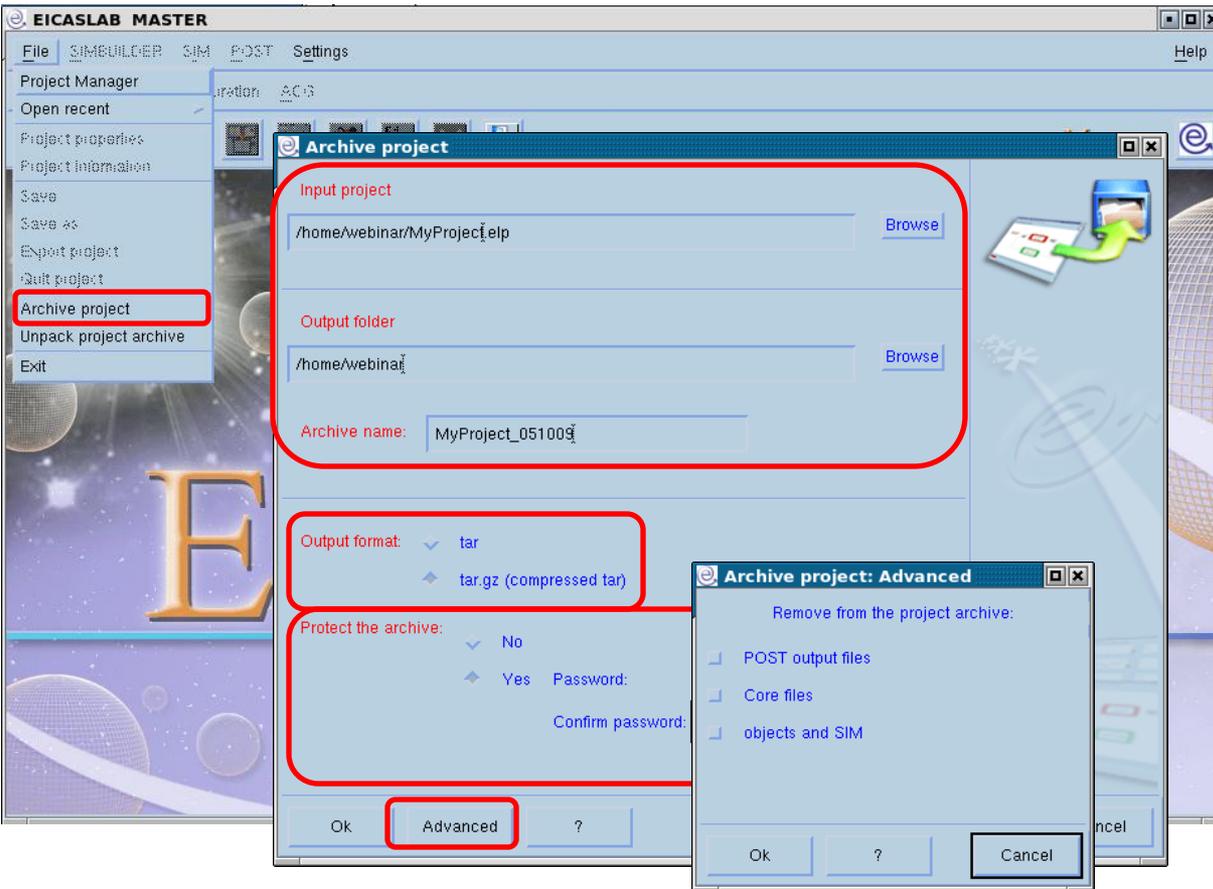
You can create an archive of your EICASLAB projects to share with other EICASLAB users.

The output format can be:

- A **.tar* file (containing all the information of your project),
- A compressed "tar" file, that is a **.tar.gz* file,

You can protect your archive (by means of a password), creating a **.tar.prot* or a **.tar.gz.prot* file.

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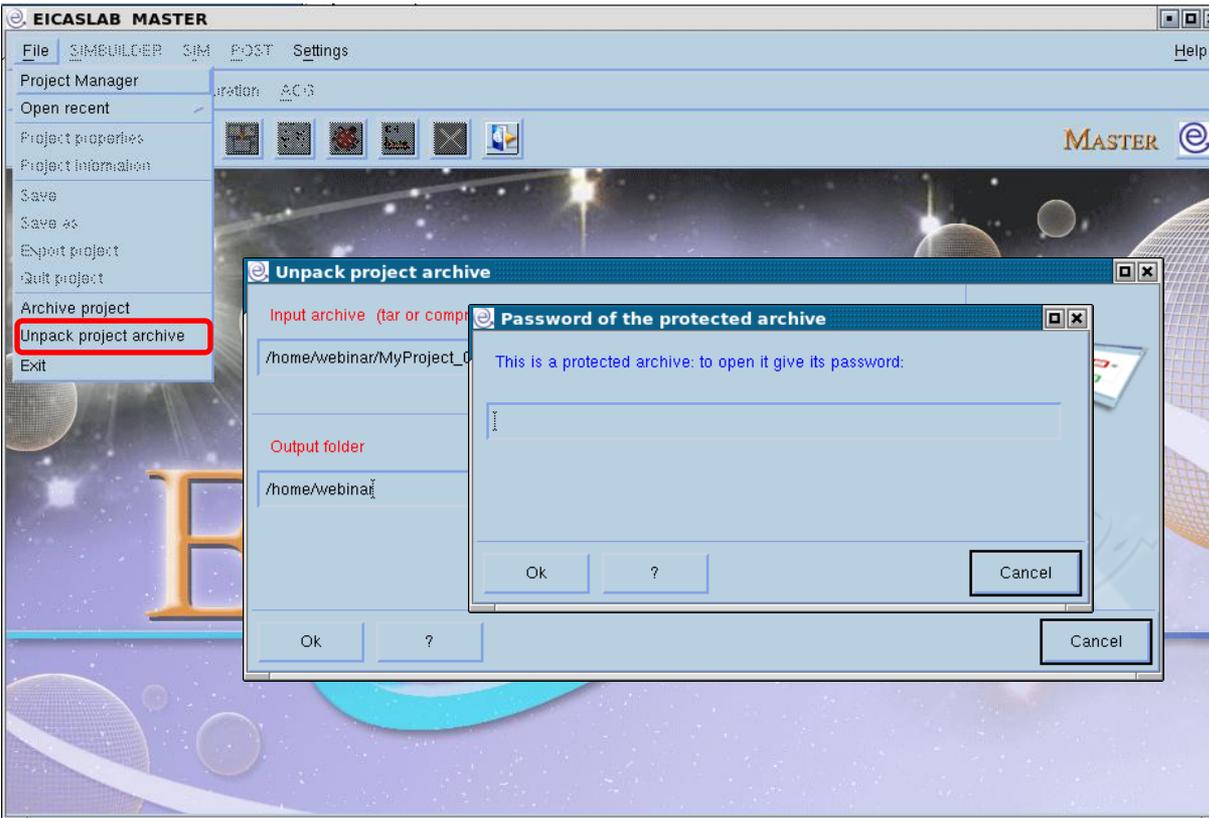


Project sharing & protection

Archive recovery

You can recover an EICASLAB project archive.

If it is a protected archive, you have to insert the corresponding password.





Restrictions for the exported project

Project sharing and IPR protection

Export of projects

Exporting a project means creating a copy of the project available for other EICASLAB users.

During the export action, you can protect parts of your project: the blocks that compose your project can be protected and are then available, in the exported project, with *restrictions*.

Export of blocks:

- without any restriction (open padlock )
- with restrictions (closed padlock )

Give the directory and the name of the exported the project:

directory: Browse

name:

Actual settings for the export:

Block name	Restrictions for the exported project	Source code availability	Internal variables availability	Variables plot availability	
Continuous_Plant		-	Yes	actual configuration	Modify
Reference		-	Yes	actual configuration	Modify
Control1_P1		Yes	Yes	actual configuration	Modify

Ok ? Cancel



Restrictions for the exported project

Project sharing and IPR protection

Possible restrictions of the exported blocks graphically programmed

Restrictions for the exported project	Internal variables availability	Variables plot availability
Block exported without any restriction (<i>open padlock</i> )	Yes	No limitations.
Block exported with restrictions (<i>closed padlock</i> )	Yes The graphical layout of the block can be opened: it is possible to see and modify the parameters of the blocks of the layout, it is not possible to modify the structure of the layout.	No limitations.
	No The block is a 'black box': just the inputs and outputs are available.	only inputs and outputs.

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Project sharing and IPR protection

Possible restrictions of the exported blocks programmed in ANSI C language



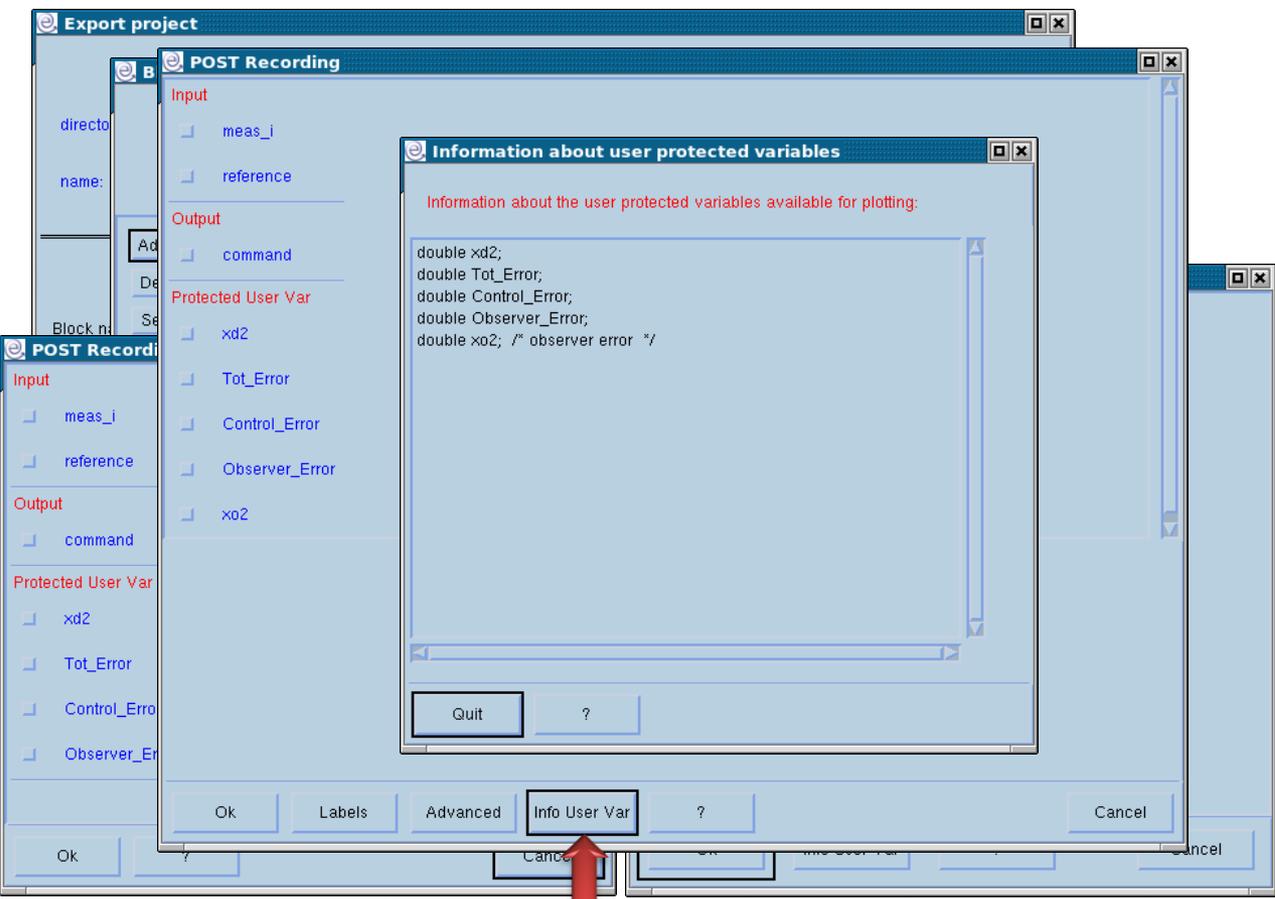
Restrictions for the exported project	Source code availability	Internal variables availability	Variables plot availability
Block exported without any restriction (<i>open padlock</i> )	Yes	Yes	No limitations
Block exported with restrictions (<i>closed padlock</i> )	No	<i>Yes</i> data file available	<i>actual configuration</i> <i>only input/output variables</i> <i>custom made</i>
		<i>No</i> The block is a 'black box': just the inputs and outputs are available	only inputs and outputs



Restrictions for the exported project

Project sharing and IPR protection

'Custom made' variable plot availability of the exported blocks programmed in ANSI C



Consider a block programmed in ANSI C language and exported:

- with restrictions,
- with internal data availability

There is no source code but, using the '*costum made*' option, you can provide a list of internal variables that can be plotted in the exported project.

By default the variables currently plotted in SIM or recorded in POST files are available.

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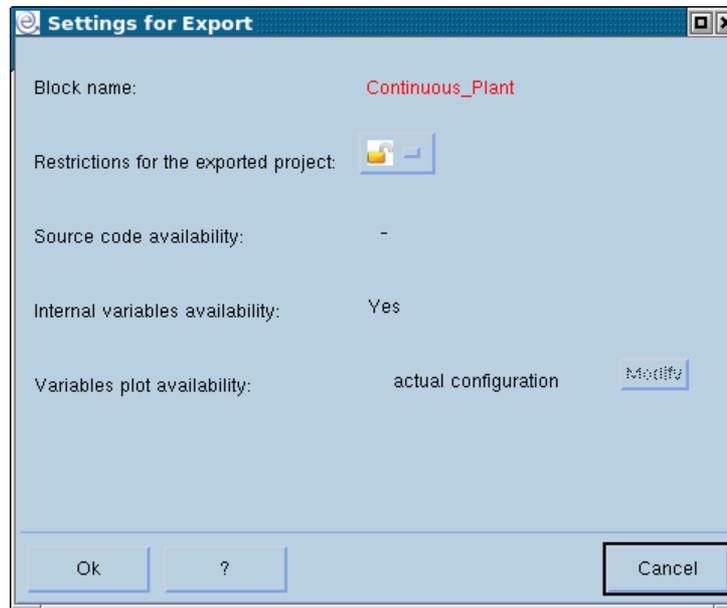
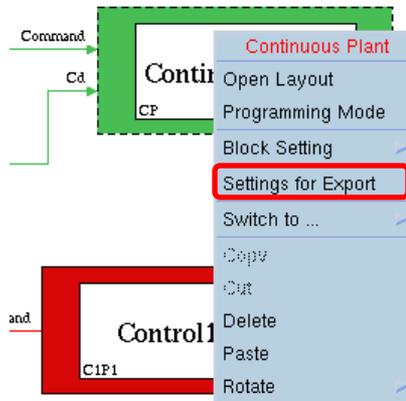
Restrictions for the exported project



Project sharing and IPR protection

The 'Setting for export' menu

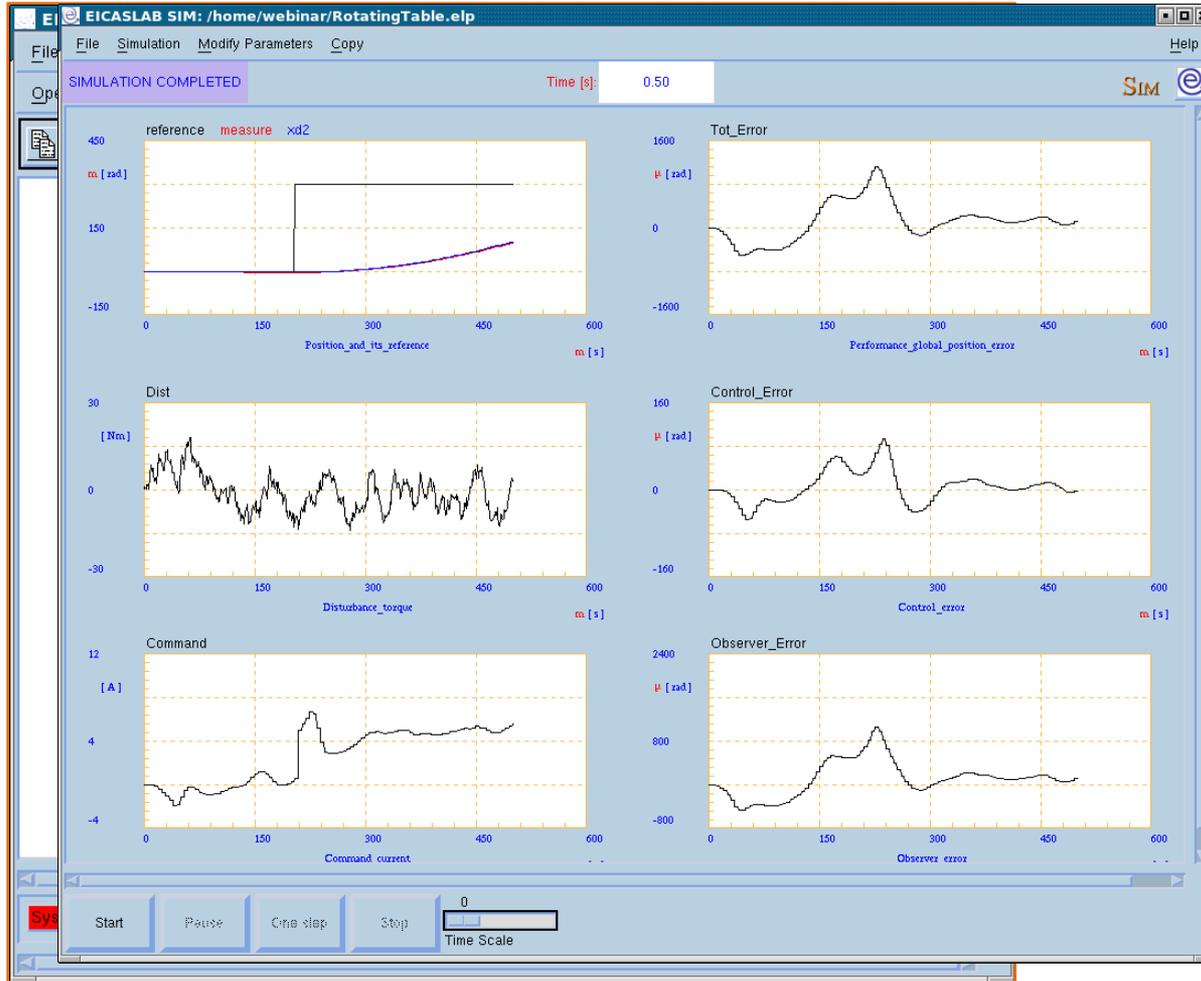
You can set the default export settings for every block.





Example of project export Example of project

Restrictions for the exported project



Consider, as an example, a project composed by a Plant, its Control, and a user mission to give the reference to the control.

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Restrictions for the exported project



Example of project export

Project exported without any protection

Give the directory and the name of the exported the project:

directory: /home/webinar

name: ExpProj.elp

Actual settings for the export:

Block name	Restrictions for the exported project	Source code availability	Internal variables availability	Variables plot availability	
Continuous_Plant		-	Yes	actual configuration	<input type="button" value="Modify"/>
Reference		-	Yes	actual configuration	<input type="button" value="Modify"/>
Control1_P1		Yes	Yes	actual configuration	<input type="button" value="Modify"/>

If you export a project without any restriction (all the padlocks are open) you create a copy of the project.



Example of project export

Project exported with the maximum protection

Restrictions for the exported project



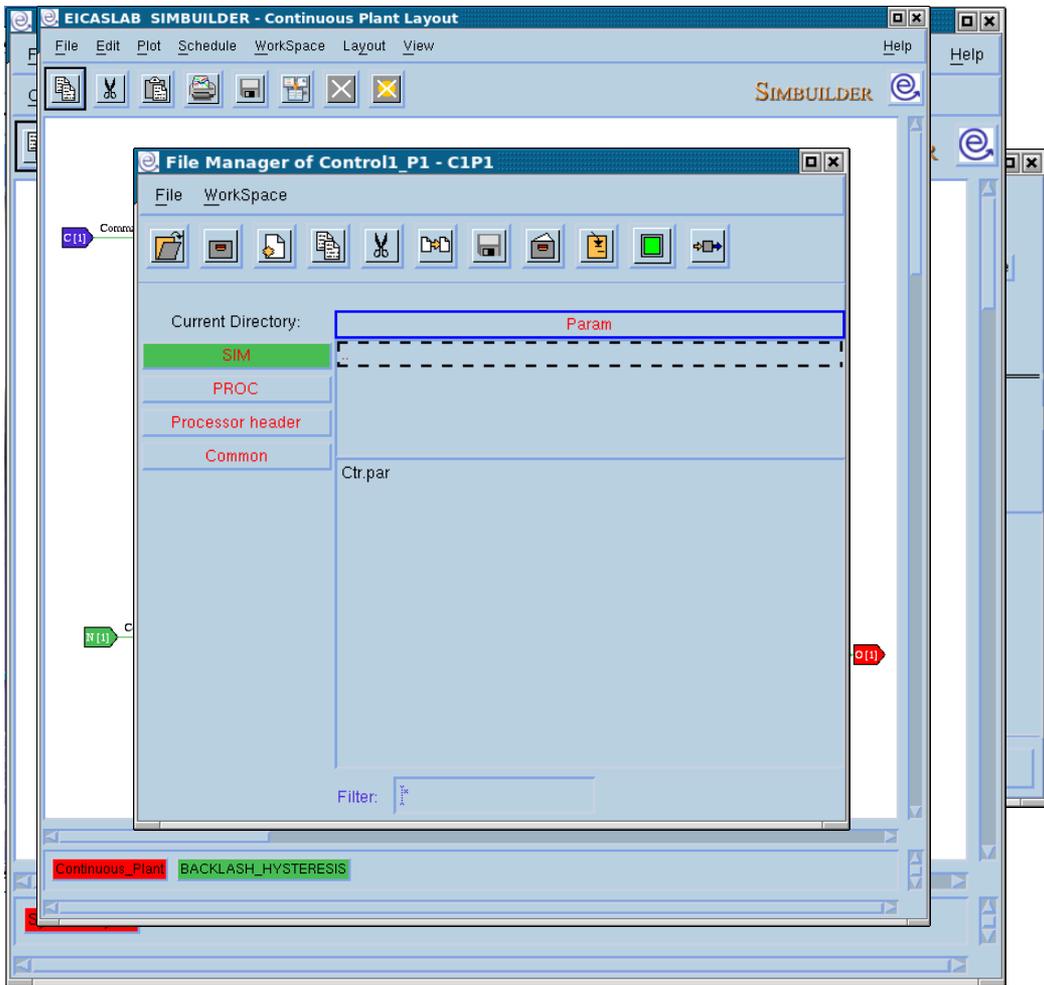
You close all the padlocks and you do not let the internal variable availability: the protected blocks are 'black boxes'.

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Example of project export

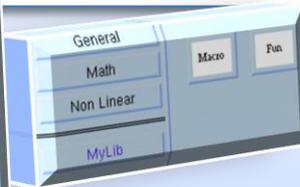
Project exported with intermediate protection

Restrictions for the exported project



- Consider, for instance:
- ❖ The Plant (graphically programmed) exported with restrictions but with internal variables availability,
 - ❖ The Control (programmed in ANSI C language) exported with restrictions, with internal variables availability and with only input/output variables plotting availability,
 - ❖ The user mission (graphically programmed) exported with restrictions and without internal variables availability

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User libraries sharing and protection in EICASLAB



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EICASLAB layouts and libraries

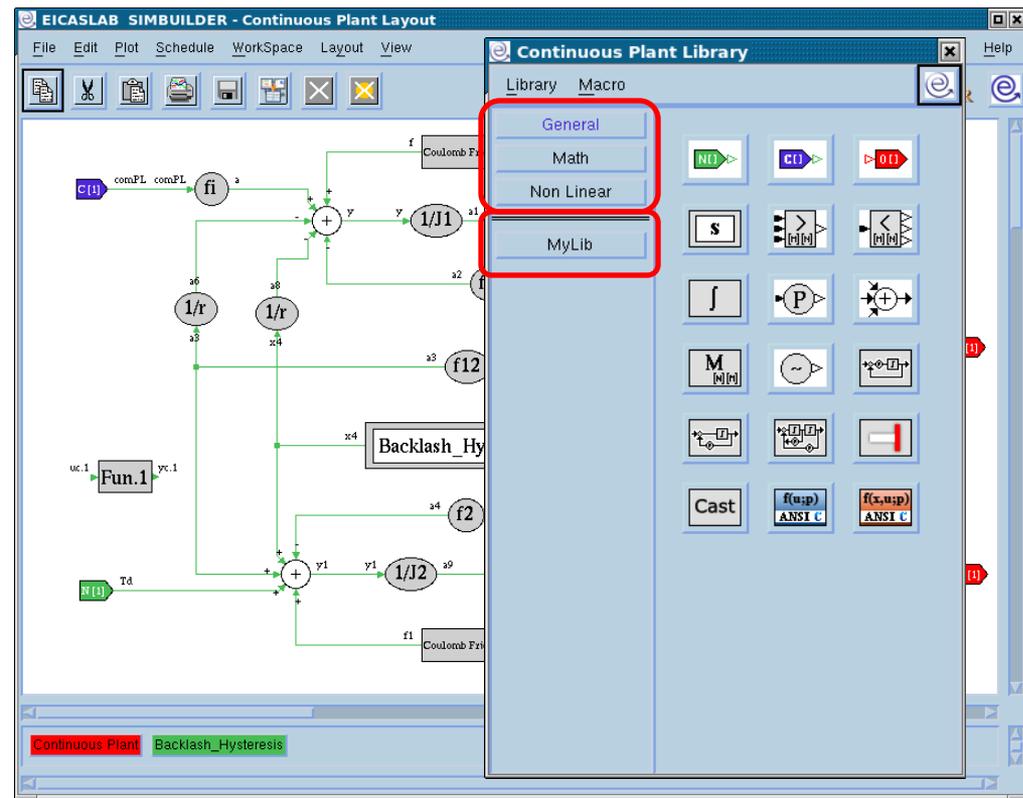
Every block graphically programmed has at disposal a **graphical layout**.

Every layout is equipped with a specific and oriented **library** window which contains *block libraries* containing the blocks that can be inserted in that layout.

Two categories of libraries:

default libraries: containing the blocks available as a default for each specific layout

user libraries: containing the user macros; they are indicated in the low part of the left section of the library windows.





Macros and User libraries

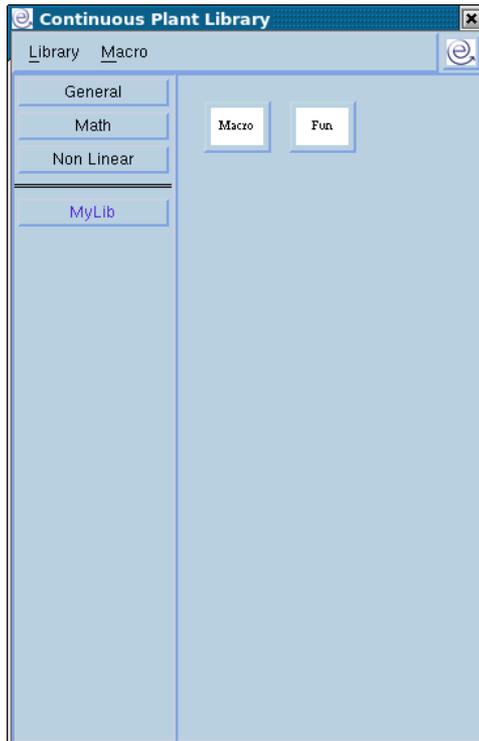
User libraries are sharable within EICASLAB users.

They are composed by user macros (shortly **macros**) that are created by the user in order to customise the library for their own needs.

The macros can be programmed:

- **graphically**
- **in ANSI C language.**

They are then available in the library window of the layout, as all the other blocks and can be used in the current project.





Macros & user libraries sharing & protection

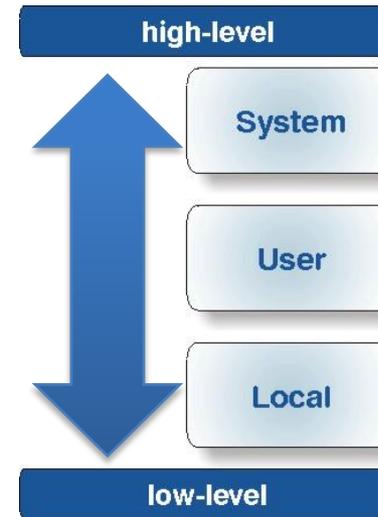
Macros level

Three levels of macros are available:

Local level macros: macros that can be used and modified only in the project in which they have been built,

User level macros: macros that can be used and modified only by the user who built them,

System level macros: macros that can be used and modified by every user that shares the same EICASLAB (EICASLAB is a multi-user software suite).



When a new macro is created, by default, it is assigned to *Local* level i.e. it is made available only in the project in which it has been built.

A first possibility for sharing a macro consists in extending its use to other projects and users that share the same EICASLAB by **changing the level of the macros**.

Macros & user libraries sharing & protection

Export of user libraries



Another possibility for sharing macros is to create an archive of the user library (called *user library archive*) and to let it available to other EICASLAB users.

A *user library archive* can be loaded and used by other EICASLAB users in their own projects.

Similarly to data sharing & protection for EICASLAB projects,

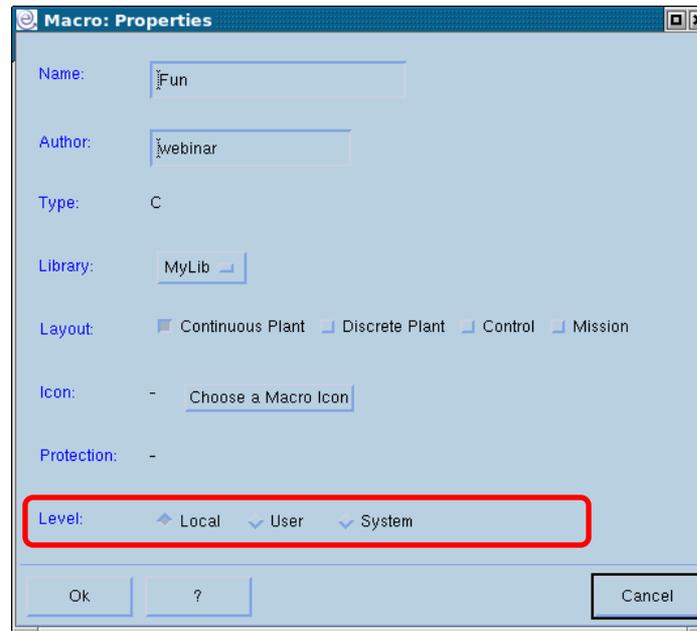
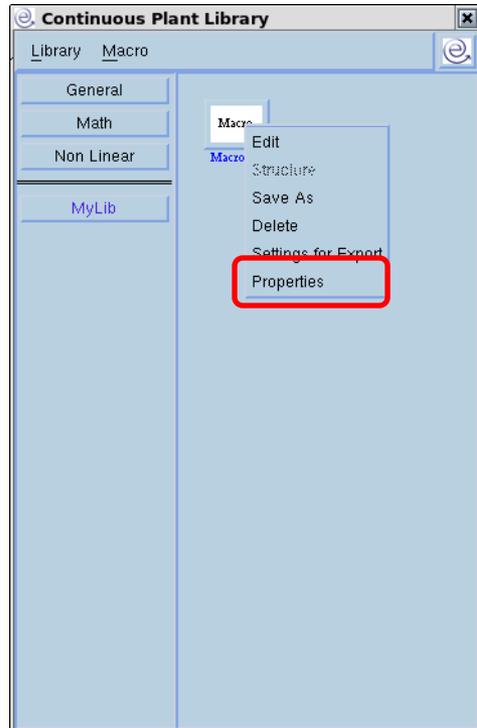
- you can protect your *user library archive* by means of a password (**data protection**).
- you can **protect your IPR** (Intellectual Property Rights) by introducing restrictions in some macros included in your user library archive (f.i. in reading/writing).



Practical examples

Macros level setting

The level of the macro can be set by means of the “*Properties*” window.

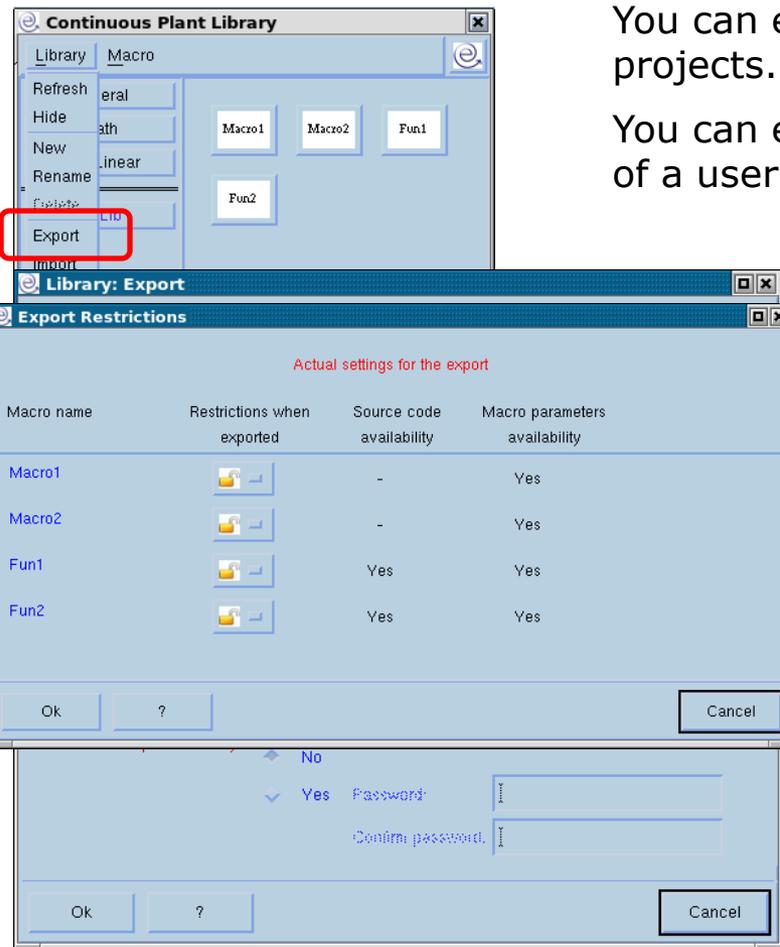




Practical examples Macro export

You can export macros to make them available to other EICASLAB projects.

You can export an entire user library or a set of selected macros of a user library.



The "Library: Export" window allows:

- to set the name and the destination path of the *user library archive* to create,
- to set the macros restrictions: the **Export Restrictions** button opens a window containing the list of the exporting macros with their own export settings and where you can set their restrictions.
- to protect the *user library archive* : the *user library archive* are *.elib.tar.gz files; you can protect them by means of a password, creating a *.elib.tar.gz.prot file.

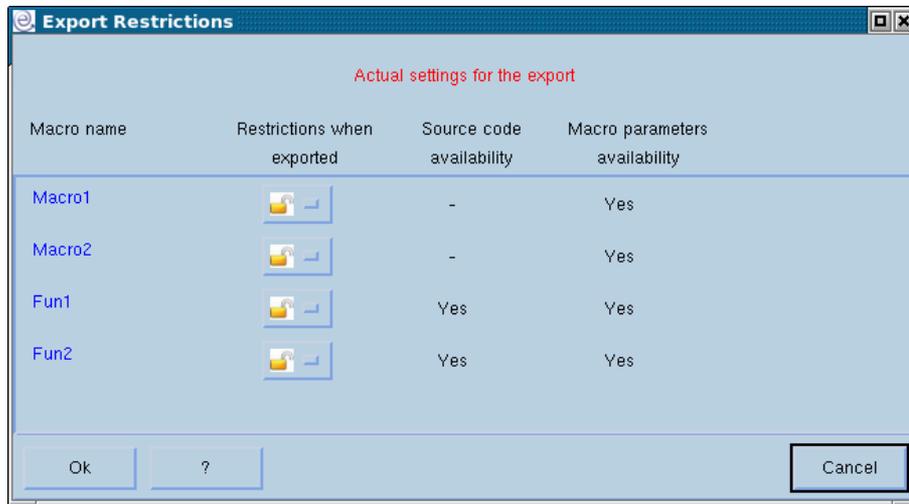


Practical examples

Macro export restrictions

You can export the macros:

- without any restriction (open padlock )
- with restrictions (closed padlock )

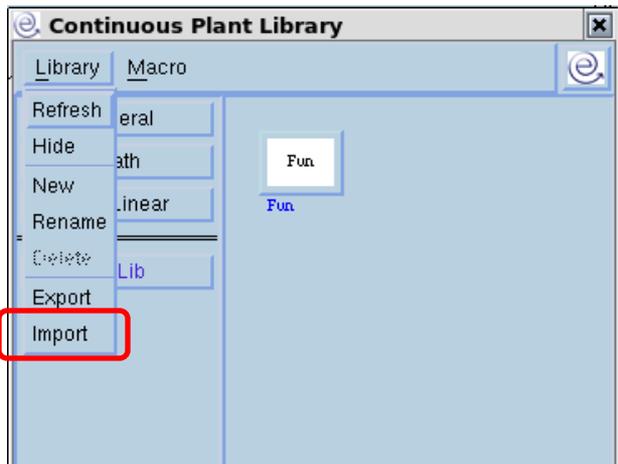


AVAILABLE EXPORT RESTRICTION

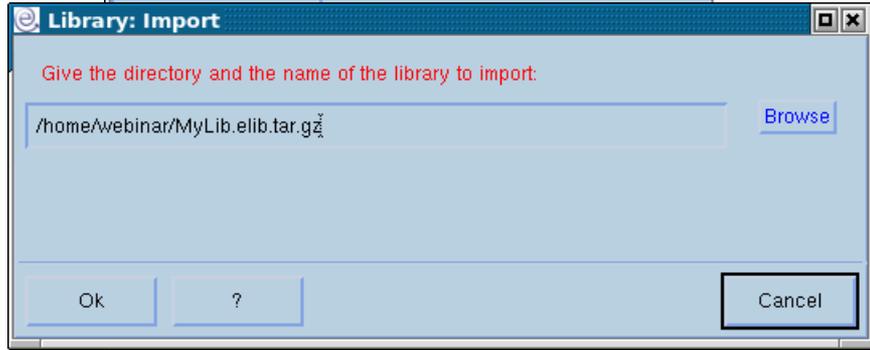
- ❖ for graphical macros:
 - deny access to graphical layout
 - deny modification of graphical layout structure .
- ❖ for ANSI C Macros:
 - deny access to source code
 - deny access to parameters

Practical examples

Macros: import

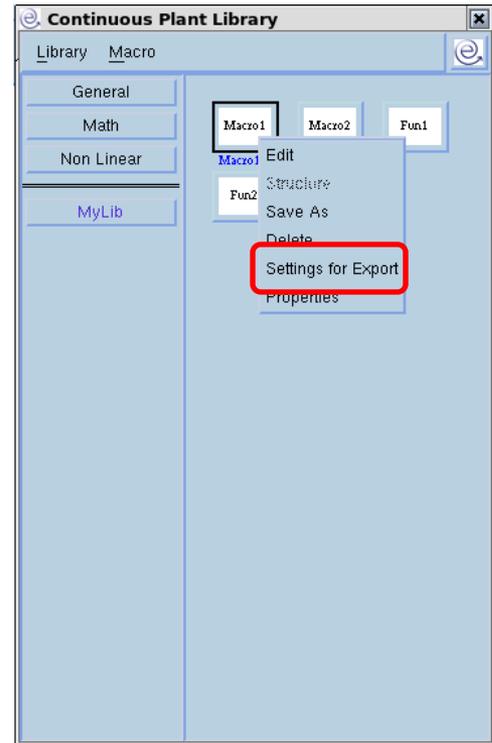


You can import all the macros of an *user library archive* through the **Library** → **Import** menu: A browser appears for selecting the *user library archive* to be downloaded.

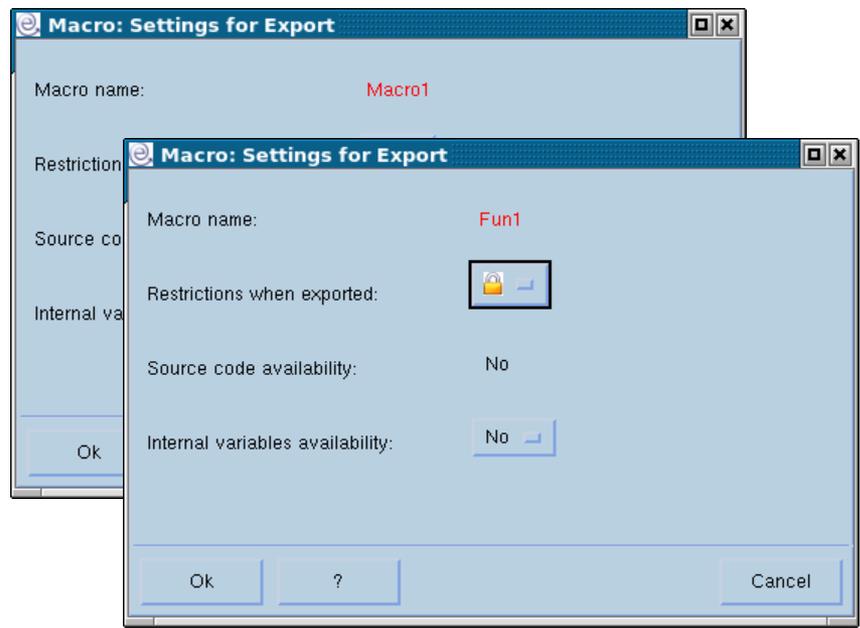


Practical examples

Macros 'settings for Export'



You can set the default export settings for every macro.





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