

Symbol configuration: Creating and using multiple symbol configurations

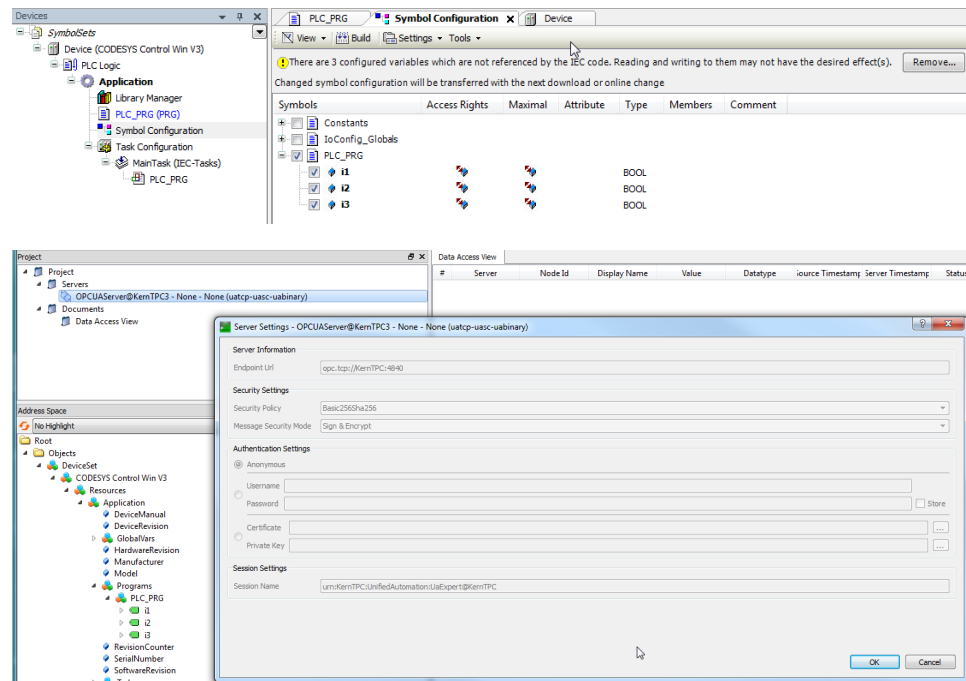
If different clients should have access to different data areas of the controller, then multiple groups of symbols are necessary. In CODESYS controllers, access to the respective symbol set is assigned to the controller by means of user management. As a result, the client has to supply the user and password, which should certainly be encrypted by today's standards.



From these requirements, encrypted communication with the controller is necessary. Especially with large amounts of data, encryption can lead to a higher load on the controller and, for example, prolong the startup behavior of the OPC UA server. Also note that not every client supports encrypted communication, for example an OPCDA-Client => mixed operation is not possible.

- Create a project with encrypted communication for 3 variables and test the communication, for example with the "UaExpert" OPCUA client.

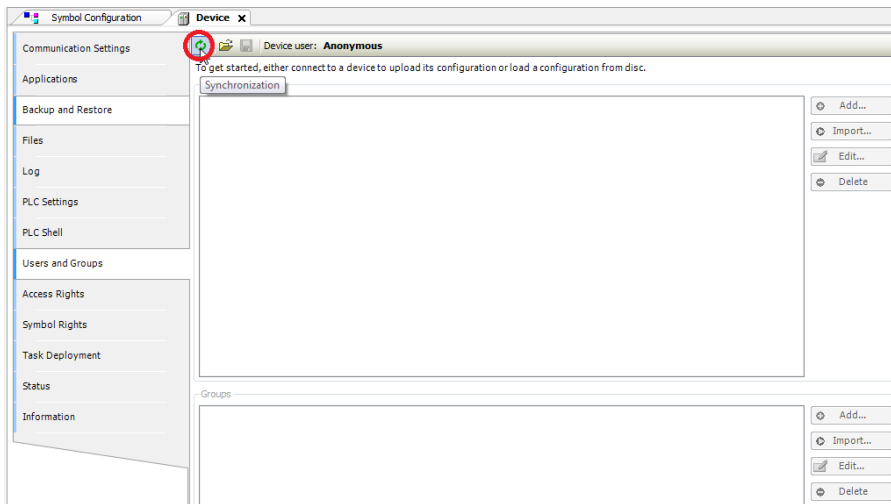
Step-by-step instructions are found in the help:



Creating user management for the controller

If user management is already activated on the controller, then you can skip this step.

- In the configuration area of the controller, open the *Users and Groups* tab. Click the *Refresh* button.

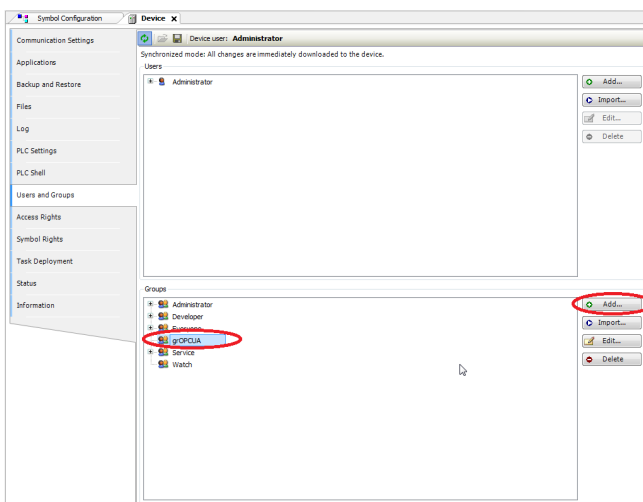


This is followed by a dialog that you confirm by clicking [Yes](#).

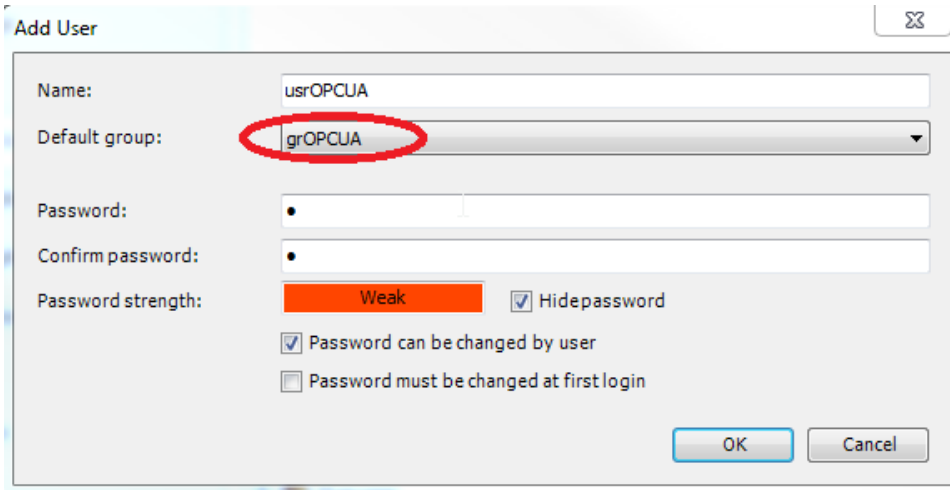
Then a login dialog opens for you to login on the controller as the default user [Administrator](#) (password: [Administrator](#)).

As this is the first time you have used user management, you will then be prompted to enter a new password.

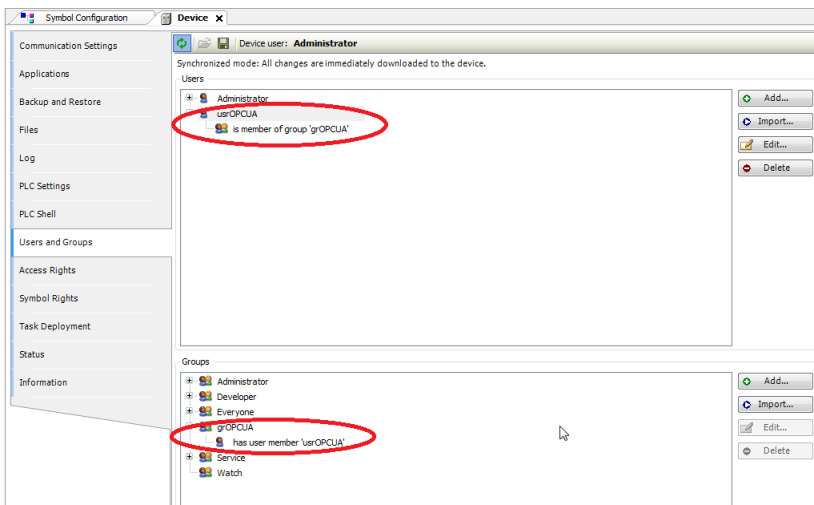
- Create a new user group (example: "grOPCUA") by clicking the [Add](#) button.



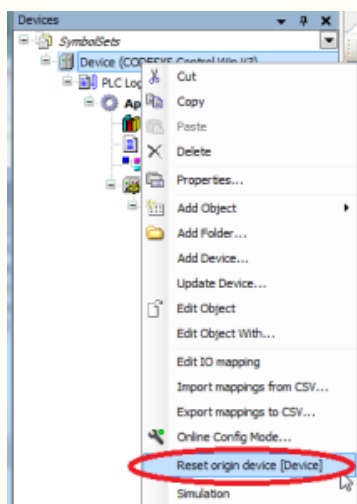
- Use this button to create a new user (example: "usrOPCUA") in this area.
In the configuration dialog, assign the created group "grOPCUA" to the user:



The 'Add User' dialog box is shown. The 'Name' field contains 'usrOPCUA'. The 'Default group' dropdown menu is set to 'grOPCUA', which is circled in red. The 'Password' and 'Confirm password' fields are empty. The 'Password strength' indicator shows 'Weak' in an orange box. The 'Hidepassword' checkbox is checked. The 'Password can be changed by user' checkbox is checked, and the 'Password must be changed at first login' checkbox is unchecked. The 'OK' and 'Cancel' buttons are at the bottom right.

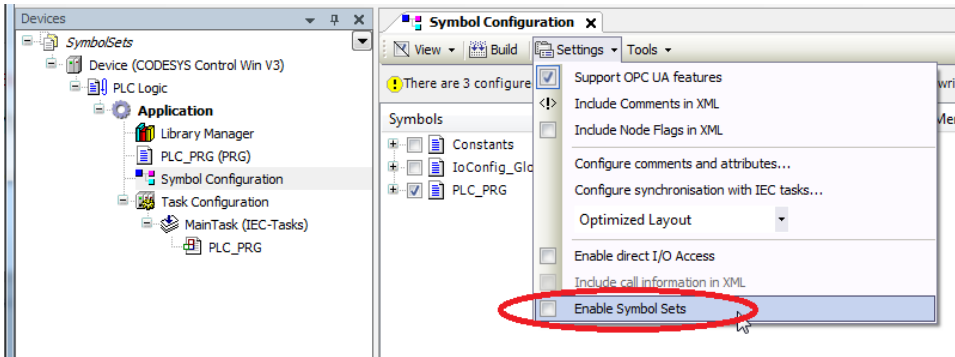


There is no special function for deactivating an activated user management.
If it is necessary to delete the user management, then the device must be reset to its original state:



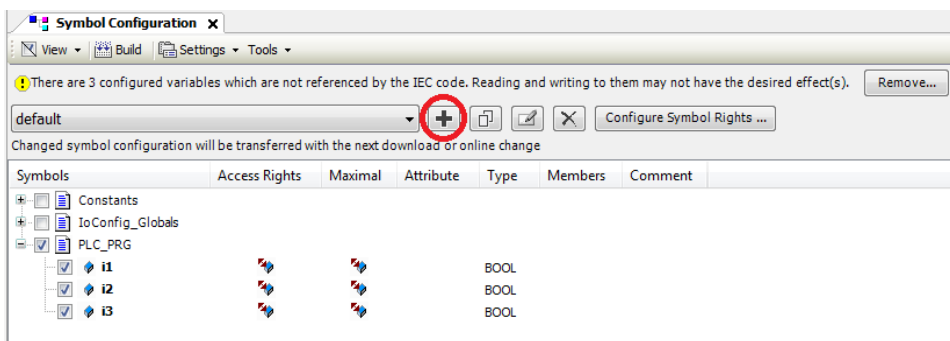
Creating a new configuration

- In the *Symbol Configuration*, select the option *Settings\Enable Symbol Sets*:

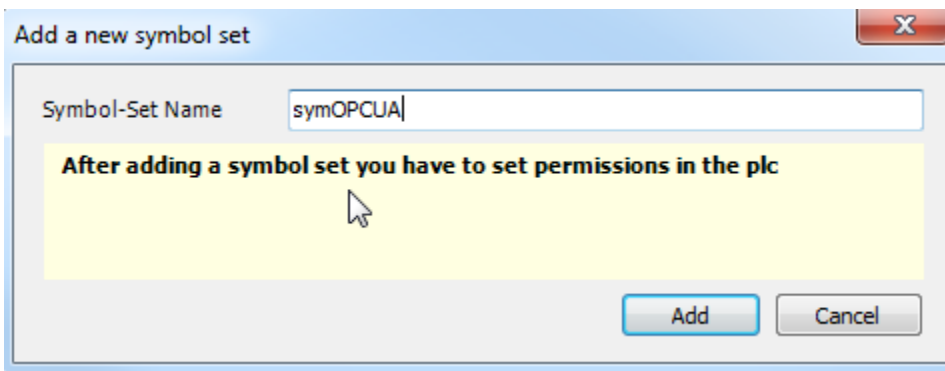


This makes the existing configuration the default set.

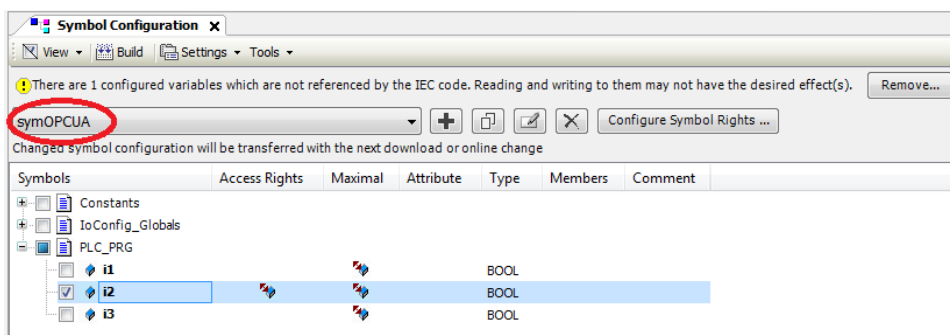
- Add a new group by clicking the *Add a new symbol set* button.



- In the dialog, type in a meaningful name for the group:



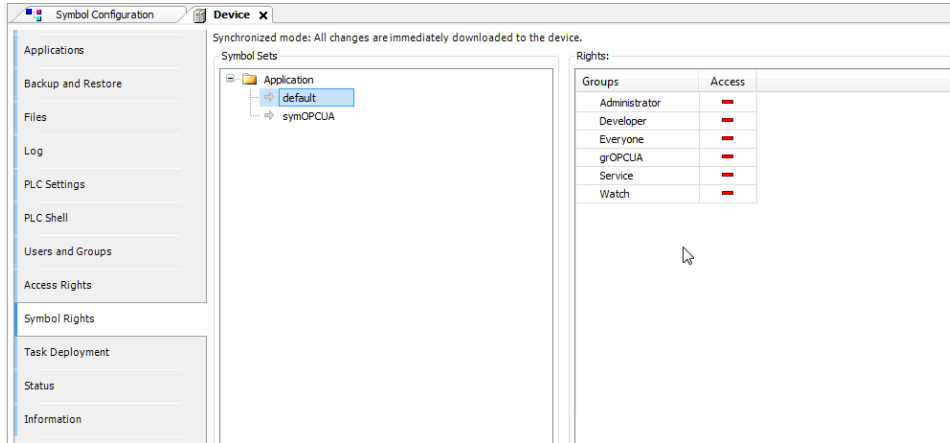
- Assign a variable to the group:



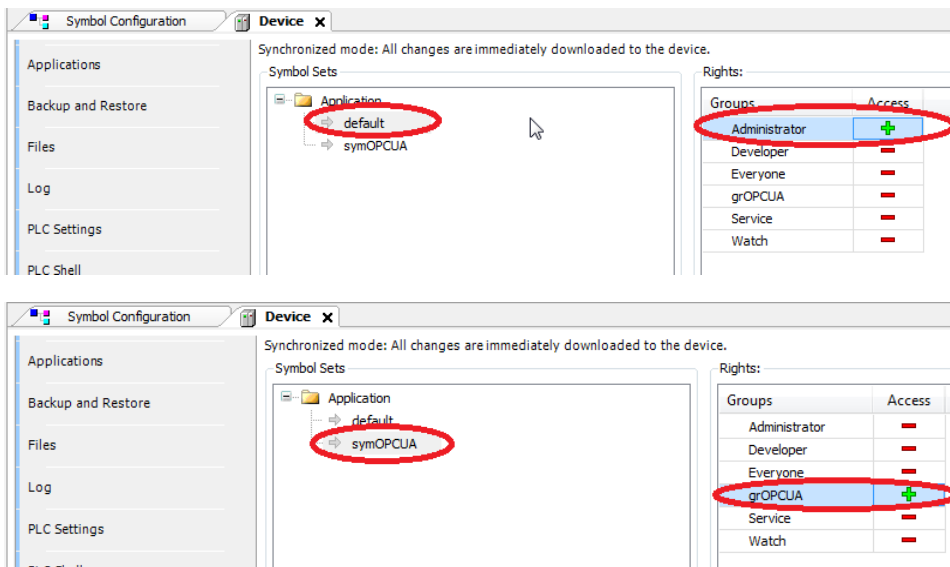
- Download the project to the controller.

Assigning from the symbol set to the user group

- Open the *Symbol Rights* tab in the controller and update the contents by clicking the *Refresh* button. The available symbol sets should now be listed:

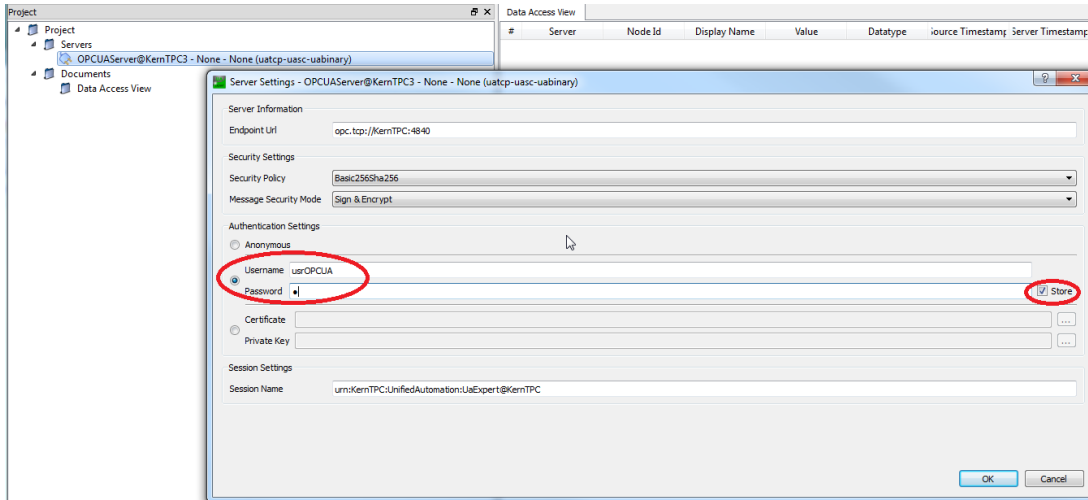


Now you can select the symbol set in the list on the left and assign it by double-clicking the user group:



Testing with the OPC UA client

In the OPC UA client, change the connection option to use a user:



If you login as user *usrOPCUA*, then you only get the variables that have been assigned to the symbol set *symOPCUA*.

