

## xml4ant Quickstart

for BARTEC ANTARES EtherNet/IP system

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**Installation Instruction - Original****xml4ant Quick Start****for BARTEC ANTARES EtherNet/IP system**

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# 1. Notes on this Installation Instruction



Read carefully before putting the devices into operation.

The Installation Instruction is a constituent part of the product.

It contains important notes which are necessary for the perfect functioning of the device in operation.

The Installation Instruction is written for all people who program, commission, handle and service the product.

The illustrations in this Installation Instruction serve to make the information and descriptions more clear. They are not necessarily true to scale and may deviate slightly from the actual construction of the device.

Safety instructions and warnings are specially highlighted in this Installation Instruction and marked by symbols.

## ATTENTION

**ATTENTION** identifies a potentially damaging situation which, if not avoided, could damage the equipment or something in its environment.



Remarques et informations importantes pour un usage efficace, économique et respectueux de l'environnement.

## 1.1 Languages

The original Installation Instruction is written in English. All other available languages are translations of the original user manual.

The Installation Instruction is available in German and English. If you require any other languages, please ask BARTEC or request them when placing the order.

## 1.2 Changes to the document

BARTEC reserves the right to alter the contents of this Installation Instruction without notice. No guarantee is given for the correctness of the information. In case of doubt, the German safety instructions shall apply because it is not possible to rule out errors in translation or in printing. In the event of a legal dispute, the "General Terms and Conditions" of the BARTEC group shall apply in addition.

The respective up-to-date versions of data sheets, manuals, certificates, EC Declaration of Conformity may be downloaded at **Fehler! Hyperlink-Referenz ungültig.** under products and solutions in the area "Automatic Technology" or ordered directly from BARTEC GmbH.

## 2. Tool Description

### 2.1 xml4ant command line tool

xml4ant is a Microsoft Windows command line tool to assist the RSLogix5000 programmer in mapping the raw data of a Bartec Antares EtherNet/IP system. The output of the tool is a L5X file that can be imported into a RSLogix5000 project as a routine. The routine contains all the code that is necessary to pick the raw bytes and place them onto properly named tags inside a UDT structure. The import-procedure also creates all UDT definitions necessary.



The configuration of the Bartec Antares system needs to be done by the Bartec Antares Designer. Refer to the Antares Designer documentation or contact your Bartec representative for details.

The I/O Configuration of the Bartec Antares EtherNet/IP system needs to be done manually. It is not part of the L5X file created by xml4ant.

### 2.2 Scope of delivery

Contents of the xml4ant package:

- xml4ant.exe
- xml4ant\_de.txt
- xml folder containing 56 L5X files
- xml4ant Quick Start.PDF (this document)
- Antares\_System.eds

### 2.3 Version History

Date	Initials	Version	Description
19.05.2015	FZ	0.4 Beta	First version to customer
11.09.2015	FZ	0.5 Beta	Minor Bug Fix
09.10.2015	FZ	1.0	Added 8TC Module
16.10.2015	FZ	2.0 Beta	New command line interface

### 3. Example Configuration



The screenshots in this document have been taken from RSLogix5000 V20. Some Menus or Faceplaces might look different in Logix Designer V21 or later.

The following chapters refer to an arbitrary example configuration:

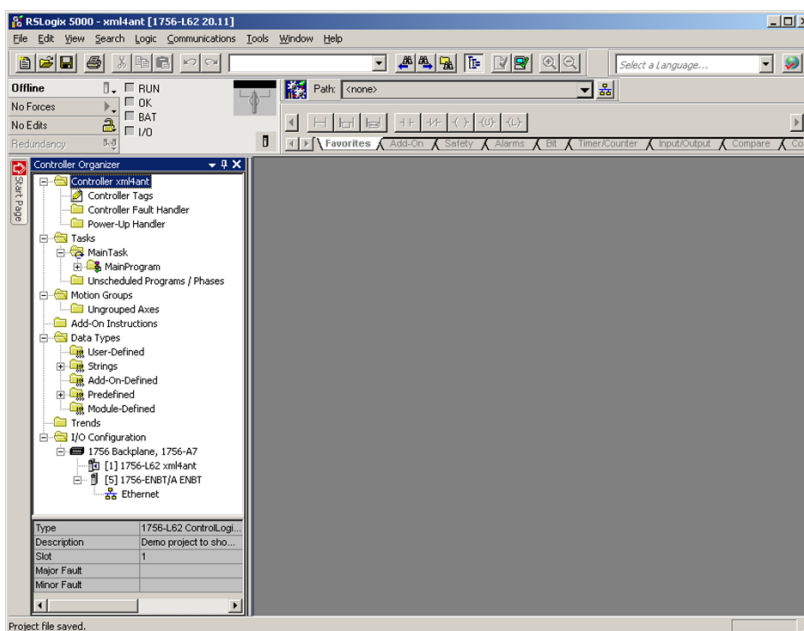
- 17-5174-1400 RCU
- 17-6143-1003 4TI
- 17-6143-1010 8DO SCL
- 17-6143-1006 4AIO (configured as 2AI and 2AO)
- 17-6143-1004 8AI
- 17-6143-1001 8DO
- 17-6143-1008 16DI-N
- 17-6143-1002 8DI-N (configured as 7DI and 1C)

#### 3.1 RSLogix5000 new project



We assume that you have successfully configured and downloaded the example configuration into your Bartec Antares EtherNet/IP system using the Bartec Antares Designer software. The system is up and running and properly connected to the Ethernet.

- In RSLogix5000, create a new project and name it "xml4ant":
  - RSLogix5000 V20.01
  - 1756-L62, FW20 in Slot #1
  - 1756-ENBT in Slot #5



## 3.2 xml4ant

- ▶ Copy xml4ant.exe and the xml folder to any location, e.g. to "C:\Temp\xml4ant".
- ▶ Open a command line window. Navigate to the xml4ant folder.
- ▶ Type the command line to create the desired output.  
Keep in mind that xml4ant is case sensitive. Refer to the highlighted line in the screenshot below.
- ▶ Hit the Return key.

xml4ant lists the result of your command line, it calculates the amount of input and output bytes and it creates a file named Antares1Routine.L5X.

```

C:\Temp\xml4ant>xml4ant /M "RCU 4TI 8DO 2AI2AO 8AI 8DO 16DI 7DI1C"

SLOT   CONFIG   MODULE
0:      RCU      RCU
1:      4TI      4TI
2:      8DO      8DO
3:      2AI2AO    4AI0
4:      8AI      8AI
5:      8DO      8DO
6:      16DI     16DI
7:      7DI1C    8DI

I/O Connection Input: 62 Bytes
I/O Connection Output: 11 Bytes

SUCCESS: Creating file .\Antares1Routine.L5x ...

C:\Temp\xml4ant>

```

## 3.3 Register the EDS file

If RSLinx (RSWho) can see your Antares EtherNet/IP system but it is shown as a yellow question mark, you need to register the EDS file "Antares\_System.eds". Use the RSLinx Hardware Installation Tool to register a single EDS file. After having registered successfully, the yellow question mark is replaced by a gray block.



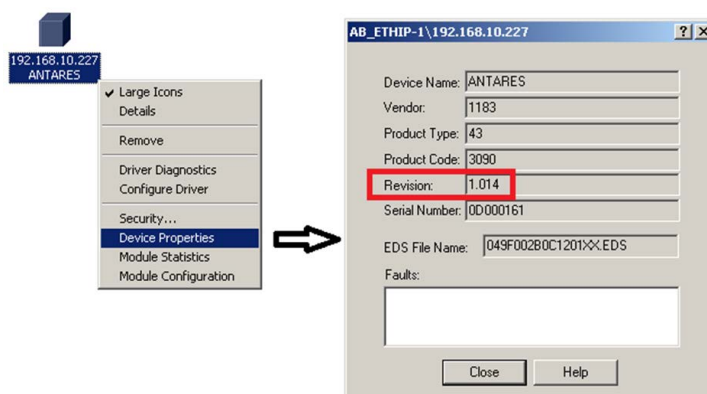
Additionally, the EDS file installs an AddOn-Profile in RSLogix5000. Adding the Antares EtherNet/IP system to the RSLogix5000 I/O Configuration is done by selecting the system out of a list. No need to add a cryptic generic module, anymore.



### 3.4 Gather required information

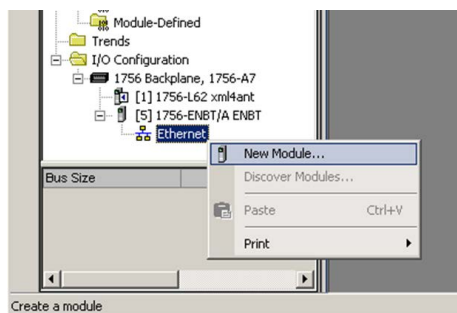
One benefit of executing the xml4ant.exe in the command line window is the I/O Connection Input/Output size. This is one important information that we need in our further development.

Additionally, in RSLinx (RSWho) right click on the gray block and select "Device Properties". The entry in the "Revision" field (1.14) is another important number. Now, we have collected all the information that we need to create the RSLogix5000 I/O Configuration for the Antares EtherNet/IP system.

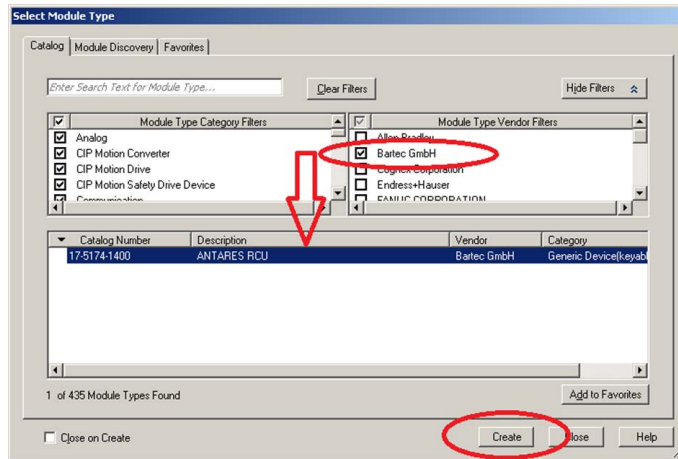


### 3.5 RSLogix5000 I/O Configuration

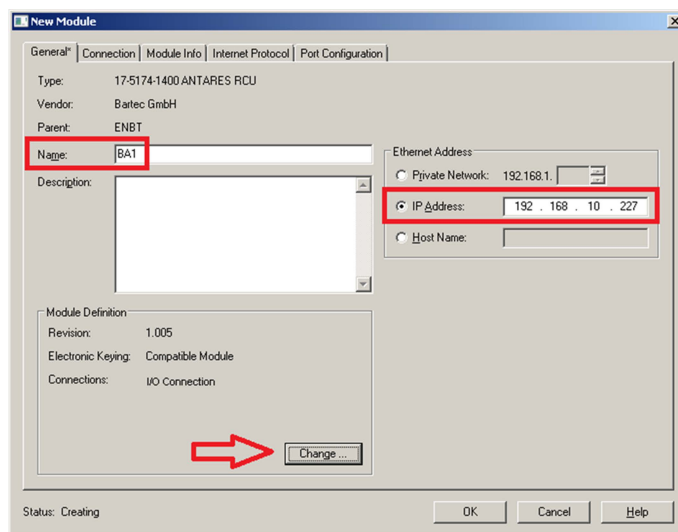
- In the I/O Configuration in RSLogix5000 right click on Ethernet and select "New Module...".



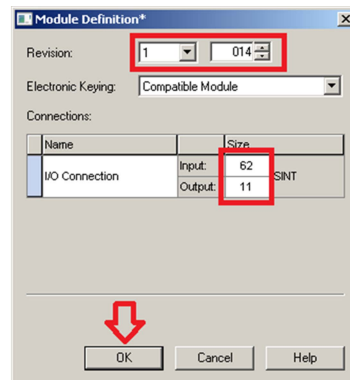
- Deselect all vendors but "Bartec GmbH".
- Select "17-5174-400 ANTARES RCU" and click on "Create".



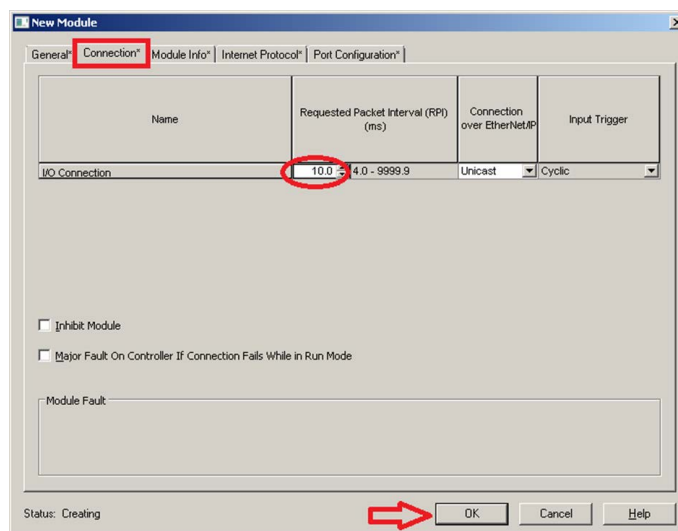
- Name the module "BA1". This is mandatory.
- You can rename the module later, after the import of the Antares1Routine.L5X file.
- Type in the IP Address.
- Click on "Change..."



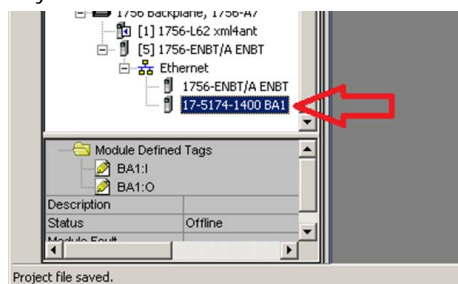
- Change the Revision to 1.14, the Input size to 62 and the Output size to 11 Bytes.
- Click "OK".
- Acknowledge the "Change module definition?" question with "Yes".



- In the "Connection" tab change the RPI value to a time interval that matches your system's needs.
- Click "OK" to finish creating the I/O Configuration of your Antares EtherNet/IP

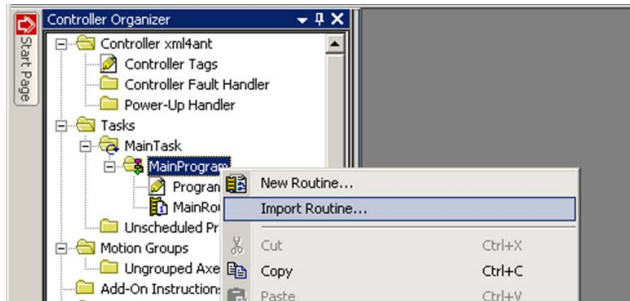


You have now successfully created the new module "BA1".

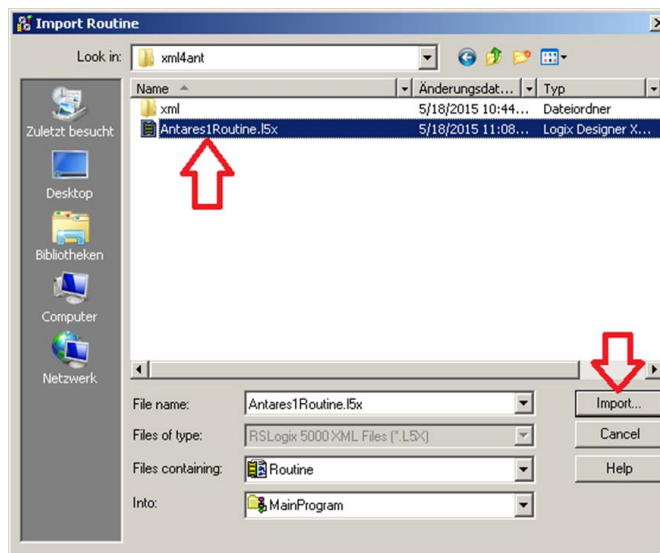


## 3.6 Import Routine

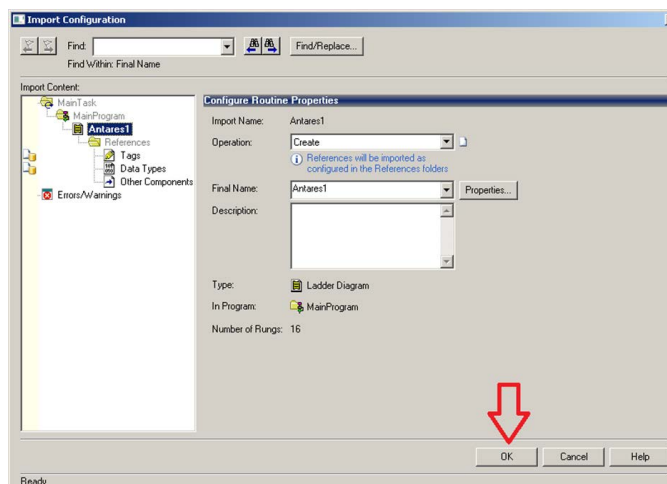
- ▶ Right click on "MainProgram" and select "Import Routine...".



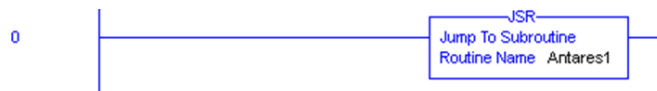
- ▶ Look in the xml4ant folder for the file named "Antares1Routine.l5x". Click on "Import...".



- ▶ Click "OK" to Import the routine, the tags and the UDT definitions.



- Finally, add a JSR command into your MainRoutine to ensure that your new routine is executed.



## 3.7 Verify, Download and Run

The RSLogix5000 project can now be downloaded into the controller. Do not touch the raw data of the Antares EtherNet/IP system "BA1:I" or "BA1:O". This is all done by the new routine. Reading and writing data is now done via the sub-elements inside the newly created UDT tag "Antares1".

Name	Value	Force Mas	Style	Data Type	Description
Antares1	(...)	(...)		UDT_ANT_A	1st Antares System
Antares1.IN	(...)	(...)		UDT_ANT_A_I	1st Antares System IN
Antares1.IN_A_RCU	(...)	(...)		UDT_RCU_I	1st Antares System RCU
Antares1.IN_A_RCU.Status	0		Decimal	SINT	1st Antares System Status
Antares1.IN_B_4TI	(...)	(...)		UDT_4TI_I	1st Antares System 4TI
Antares1.IN_B_4TI.Status	0		Decimal	SINT	1st Antares System 4TI
Antares1.IN_B_4TI.WireBreak	0		Decimal	SINT	1st Antares System 4TI
Antares1.IN_B_4TI.Short	0		Decimal	SINT	1st Antares System 4TI
Antares1.IN_B_4TI.Ch0	32767		Decimal	INT	1st Antares System 4TI
Antares1.IN_B_4TI.Ch1	32767		Decimal	INT	1st Antares System 4TI
Antares1.IN_B_4TI.Ch2	32767		Decimal	INT	1st Antares System 4TI
Antares1.IN_B_4TI.Ch3	32767		Decimal	INT	1st Antares System 4TI
Antares1.IN_C_8DO	(...)	(...)		UDT_8DO_I	1st Antares System 8DO
Antares1.IN_C_8DO.Status	0		Decimal	SINT	1st Antares System 8DO
Antares1.IN_C_8DO.WireBreak	0		Decimal	SINT	1st Antares System 8DO
Antares1.IN_C_8DO.Short	0		Decimal	SINT	1st Antares System 8DO
Antares1.IN_D_4AI0	(...)	(...)		UDT_4AI0_I	1st Antares System 4AI0
Antares1.IN_D_4AI0.Status	0		Decimal	SINT	1st Antares System 4AI0
Antares1.IN_D_4AI0.WireBreak	0		Decimal	SINT	1st Antares System 4AI0
Antares1.IN_D_4AI0.Short	0		Decimal	SINT	1st Antares System 4AI0
Antares1.IN_D_4AI0.Ch0	-32768		Decimal	INT	1st Antares System 4AI0
Antares1.IN_D_4AI0.Ch1	-32768		Decimal	INT	1st Antares System 4AI0
Antares1.IN_D_4AI0.Ch2	0		Decimal	INT	1st Antares System 4AI0
Antares1.IN_D_4AI0.Ch3	0		Decimal	INT	1st Antares System 4AI0
Antares1.IN_E_8AI	(...)	(...)		UDT_8AI_I	1st Antares System 8AI
Antares1.IN_E_8AI.Status	0		Decimal	SINT	1st Antares System 8AI
Antares1.IN_E_8AI.WireBreak	0		Decimal	SINT	1st Antares System 8AI
Antares1.IN_E_8AI.Short	0		Decimal	SINT	1st Antares System 8AI
Antares1.IN_E_8AI.Ch0	26545		Decimal	INT	1st Antares System 8AI
Antares1.IN_E_8AI.Ch1	-32768		Decimal	INT	1st Antares System 8AI
Antares1.IN_E_8AI.Ch2	-32768		Decimal	INT	1st Antares System 8AI
Antares1.IN_E_8AI.Ch3	-32768		Decimal	INT	1st Antares System 8AI
Antares1.IN_E_8AI.Ch4	-32768		Decimal	INT	1st Antares System 8AI
Antares1.IN_E_8AI.Ch5	-32768		Decimal	INT	1st Antares System 8AI
Antares1.IN_E_8AI.Ch6	-32768		Decimal	INT	1st Antares System 8AI
Antares1.IN_E_8AI.Ch7	-32768		Decimal	INT	1st Antares System 8AI
Antares1.IN_F_8DO	(...)	(...)		UDT_8DO_I	1st Antares System 8DO
Antares1.IN_F_8DO.Status	0		Decimal	SINT	1st Antares System 8DO
Antares1.IN_F_8DO.WireBreak	0		Decimal	SINT	1st Antares System 8DO
Antares1.IN_F_8DO.Short	0		Decimal	SINT	1st Antares System 8DO
Antares1.IN_G_16DI	(...)	(...)		UDT_16DI_I	1st Antares System 16DI
Antares1.IN_G_16DI.Status	0		Decimal	SINT	1st Antares System 16DI
Antares1.IN_G_16DI.WireBreak	0		Decimal	INT	1st Antares System 16DI
Antares1.IN_G_16DI.Short	0		Decimal	INT	1st Antares System 16DI
Antares1.IN_G_16DI.Data	0		Decimal	INT	1st Antares System 16DI
Antares1.IN_H_8DI	(...)	(...)		UDT_8DI_I	1st Antares System 8DI
Antares1.IN_H_8DI.Status	0		Decimal	SINT	1st Antares System 8DI
Antares1.IN_H_8DI.WireBreak	0		Decimal	SINT	1st Antares System 8DI
Antares1.IN_H_8DI.Short	0		Decimal	SINT	1st Antares System 8DI
Antares1.IN_H_8DI.Data	0		Decimal	SINT	1st Antares System 8DI
Antares1.IN_H_8DI.Counter0	0		Decimal	DINT	1st Antares System 8DI
Antares1.IN_H_8DI.Counter1	0		Decimal	DINT	1st Antares System 8DI
Antares1.OUT	(...)	(...)		UDT_ANT_A_O	1st Antares System OUT
Antares1.OUT_A_RCU	(...)	(...)		UDT_RCU_O	1st Antares System RCU
Antares1.OUT_A_RCU.Reserved	0		Decimal	DINT	1st Antares System Reser...
Antares1.OUT_C_8DO	(...)	(...)		UDT_8DO_O	1st Antares System 8DO
Antares1.OUT_C_8DO.Data	0		Decimal	SINT	1st Antares System 8DO
Antares1.OUT_D_4AI0	(...)	(...)		UDT_4AI0_O	1st Antares System 4AI0
Antares1.OUT_D_4AI0.Channel0	0		Decimal	INT	1st Antares System 4AI0
Antares1.OUT_D_4AI0.Channel1	0		Decimal	INT	1st Antares System 4AI0
Antares1.OUT_D_4AI0.Channel2	0		Decimal	INT	1st Antares System 4AI0
Antares1.OUT_D_4AI0.Channel3	0		Decimal	INT	1st Antares System 4AI0
Antares1.OUT_F_8DO	(...)	(...)		UDT_8DO_O	1st Antares System 8DO
Antares1.OUT_F_8DO.Data	0		Decimal	SINT	1st Antares System 8DO
Antares1.OUT_H_8DI	(...)	(...)		UDT_8DI_O	1st Antares System 8DI
Antares1.OUT_H_8DI.CounterControl	0		Decimal	SINT	1st Antares System 8DI

## 3.8 Rename

If you plan to import another Antares EtherNet/IP system, you need to rename your module, your routine and several tags:

- ▶ Rename the module "BA1" to "BA2"
- ▶ Rename the routine "Antares1" to "Antares2".
- ▶ Rename the controller tag "Antares1" to "Antares2".
- ▶ Rename the user-defined tag "UDT\_ANT\_A" to "UDT\_ANT\_B".
- ▶ Rename the user-defined tag "UDT\_ANT\_A\_I" to "UDT\_ANT\_B\_I".
- ▶ Rename the user-defined tag "UDT\_ANT\_A\_O" to "UDT\_ANT\_B\_O".

Renaming works without running into errors or warnings. All occurrences inside the RSLogix5000 project will be renamed automatically. Now, your RSLogix5000 project is ready for another Antares EtherNet/IP system "BA1".



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