TN2013-006-1.1

How to setup a MicroLogix 1400 MSG with an AN-X2-AB-DHRIO in DH+ mode

Introduction

This technical note will describe how to set up a message over EtherNet/IP with a MicroLogix 1400 and a AN-X2-AB-DHRIO, to communicate with a DH+ device.

Please note that this program is an example and has to be adapted to your architecture requirements

Additional files attached to this technical note

- **MLX1400_AN-X-AB-DHRIO.RSS**: is the MicroLogix1400 RSLogix500 project file.

Requirements

A. Pre-requisites

In this technical note, ProSoft technology assumes that you are familiar:

- With RSLogix500 software environment.

B. System & Hardware Requirements

B.1. Hardware:

Rockwell Automation:

- MicroLogix 1400

ProSoft Technology

- AN-X2-AB-DHRIO.

Other

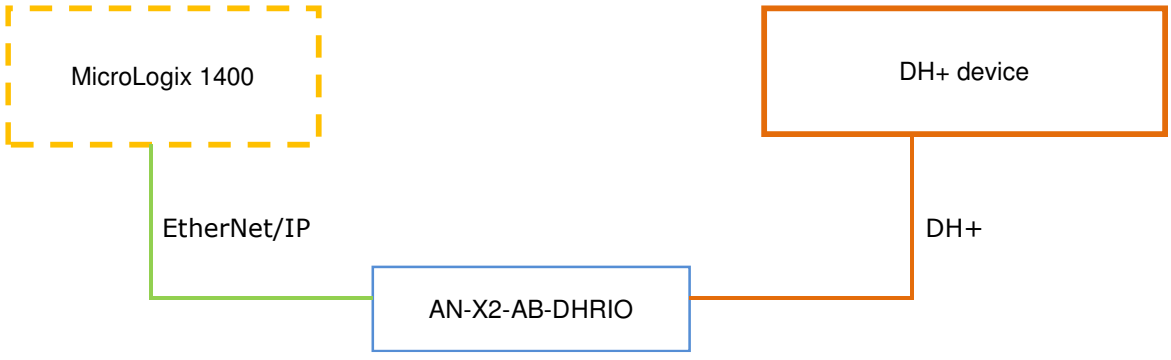
- Any DH+ devices

B.2. Software:

Rockwell Automation:

- RSLogix500.

Architecture



Procedure

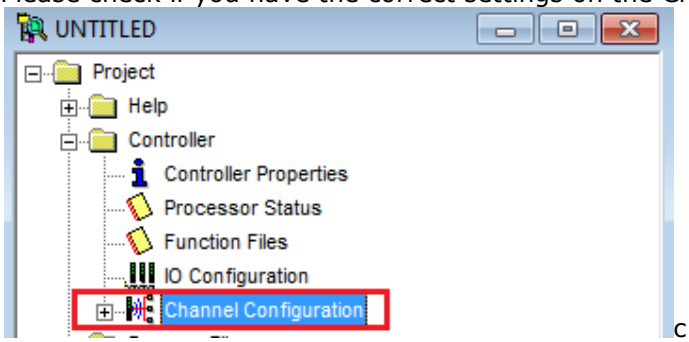
Here are the basic steps needed to establish communications:

C. Setting of the master radio.

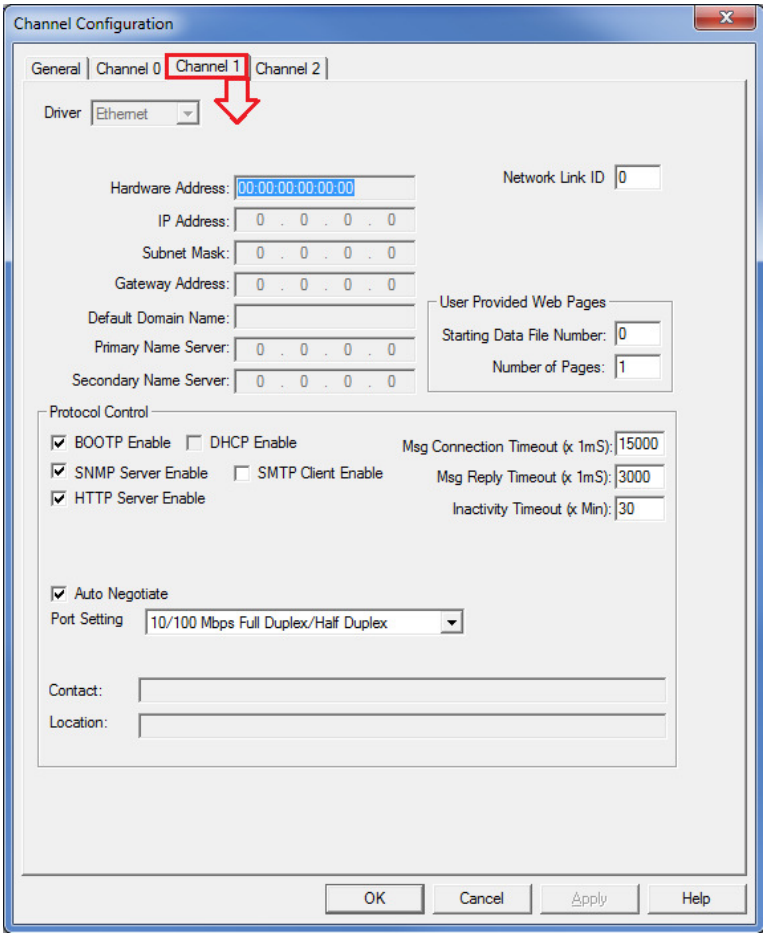
1) Open RSLogix500

2) Choose a "Bul. 1766 MicroLogix 1400 Serie A" processor

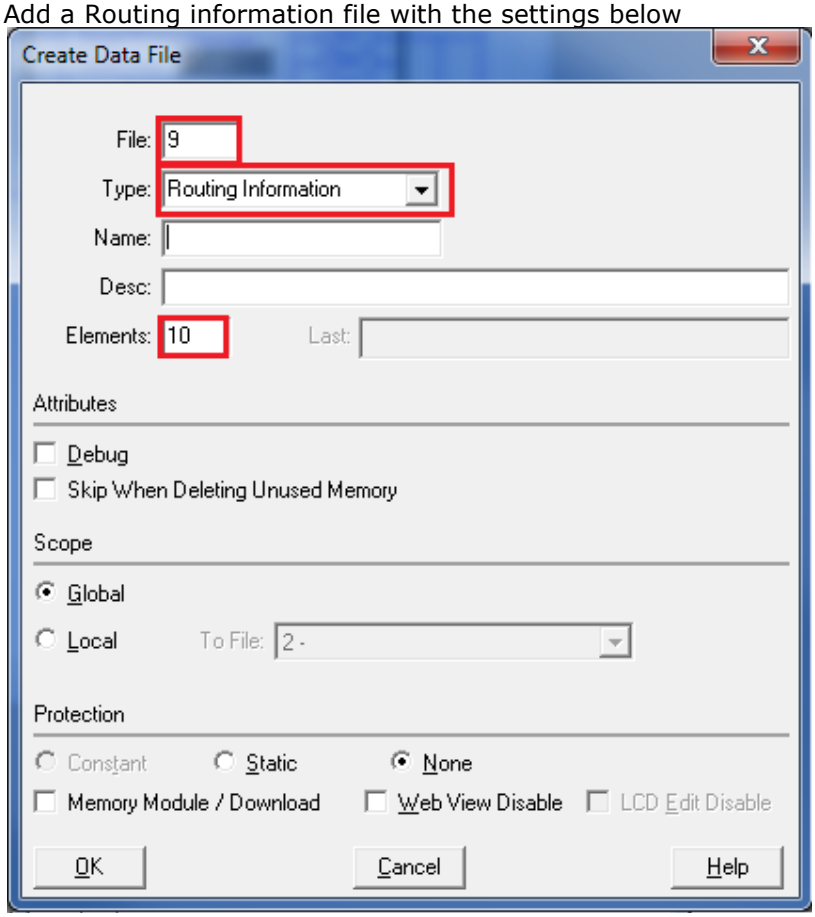
3) Please check if you have the correct settings on the Channel Configuration



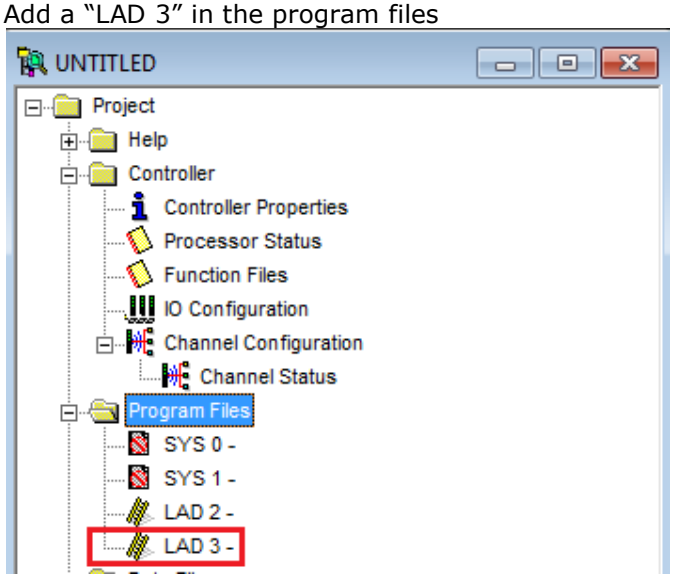
c



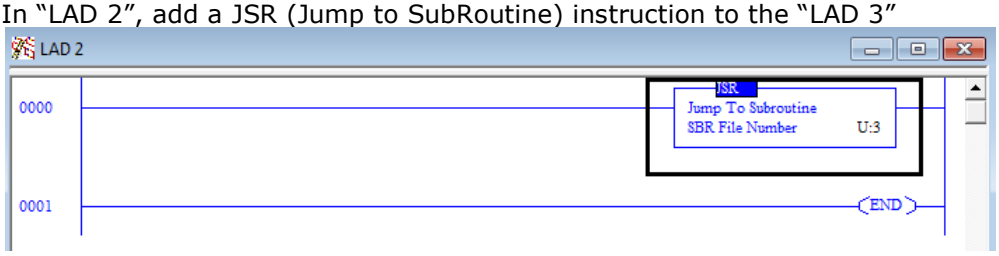
4) Add a Routing information file with the settings below



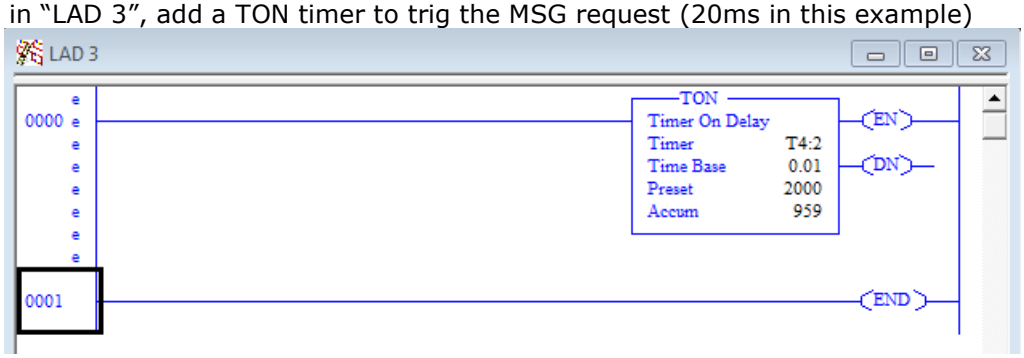
5) Add a "LAD 3" in the program files



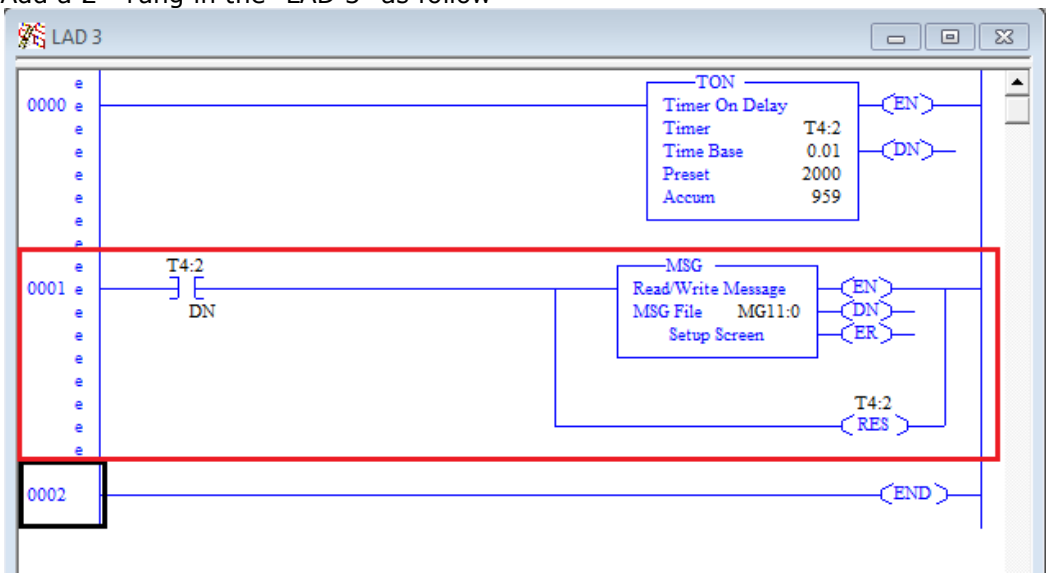
6) In "LAD 2", add a JSR (Jump to SubRoutine) instruction to the "LAD 3"



7) in "LAD 3", add a TON timer to trig the MSG request (20ms in this example)

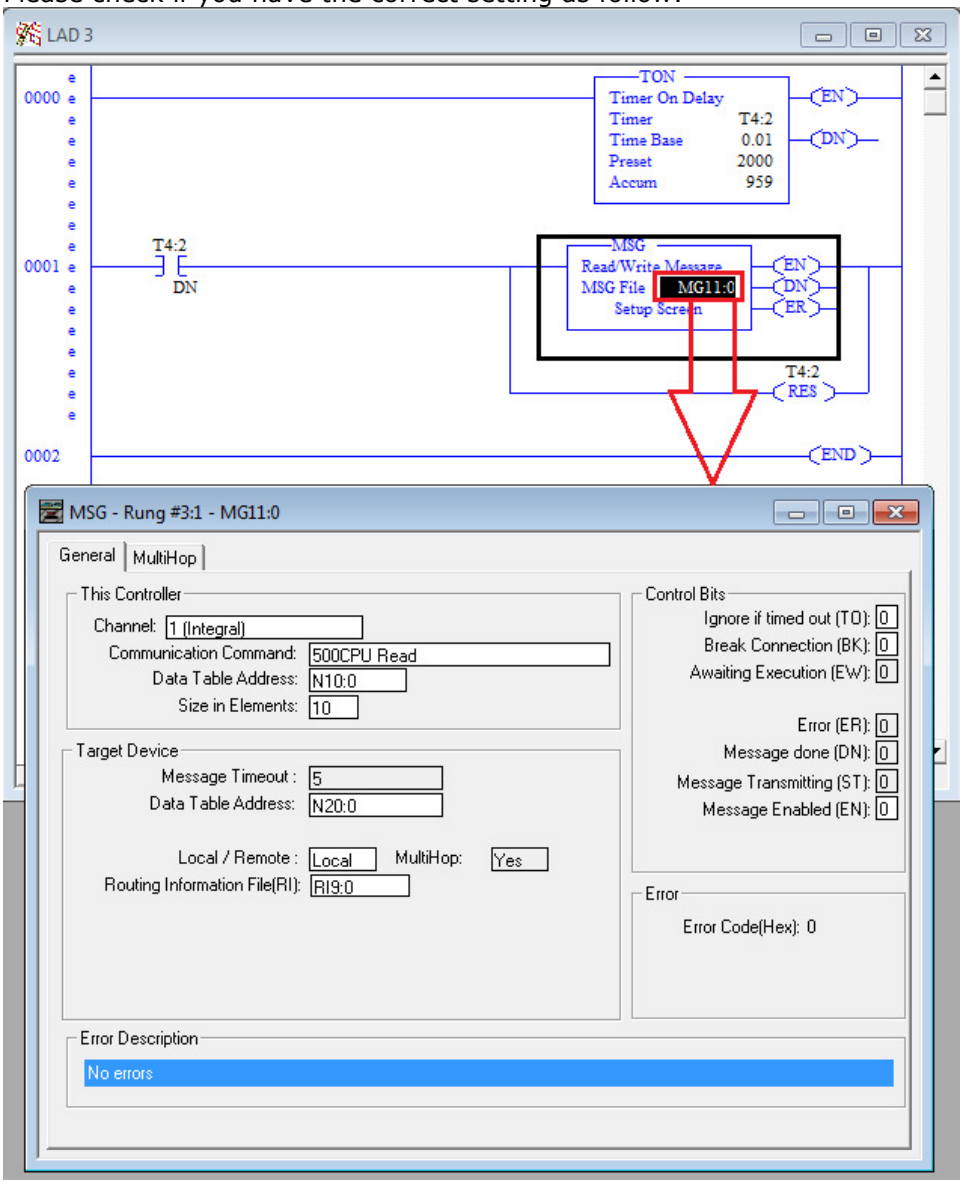


8) Add a 2nd rung in the "LAD 3" as follow



This MSG instruction will actually perform the exchanges between the MicroLogix 1400 and the DH+ devices.

9) When you select the "MSG file" a configuration window will appear. Please check if you have the correct setting as follow:



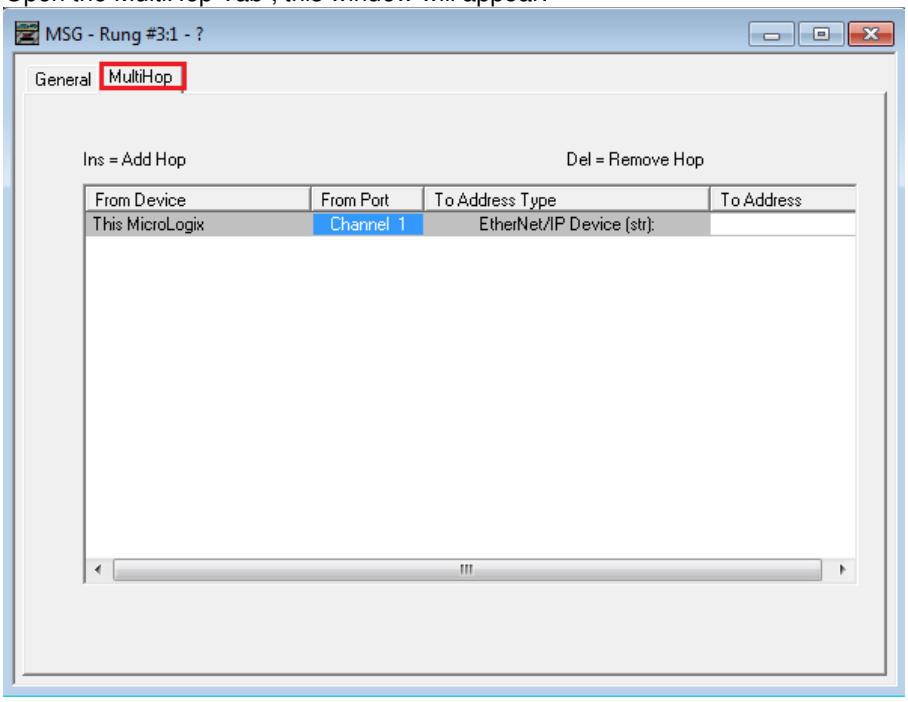
"This Controller" settings:

- Channel is equal to "1 (Integral)" to have the correct options (MultiHop, Routing Information…) on this page.
- Communication command is to select a read or write command (in our case we use a read command).
- Data Table Address is the N file and the offset where you want to copy your data in the MicroLogix1400 CPU.
- Size element is the number of data you want to get from the DH+ network

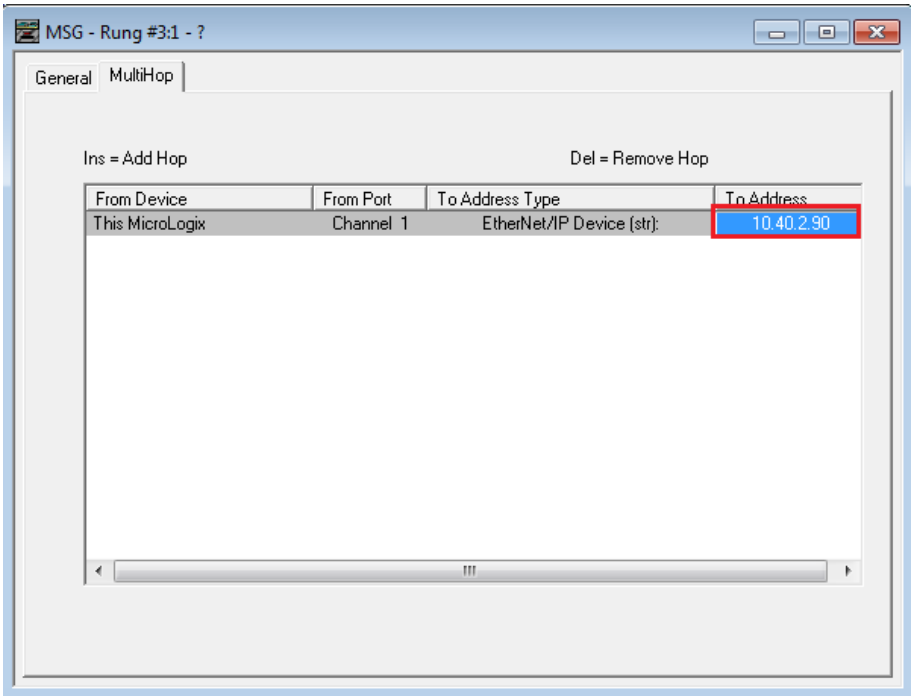
"Target Device" settings:

- Data Table Address, is the N file and the offset you want to get into your DH+ device
- Local, is to make simple path to the network network
- Routing Information file is the file (like an N file) with the routing information please selects the R9:0 (Created before).

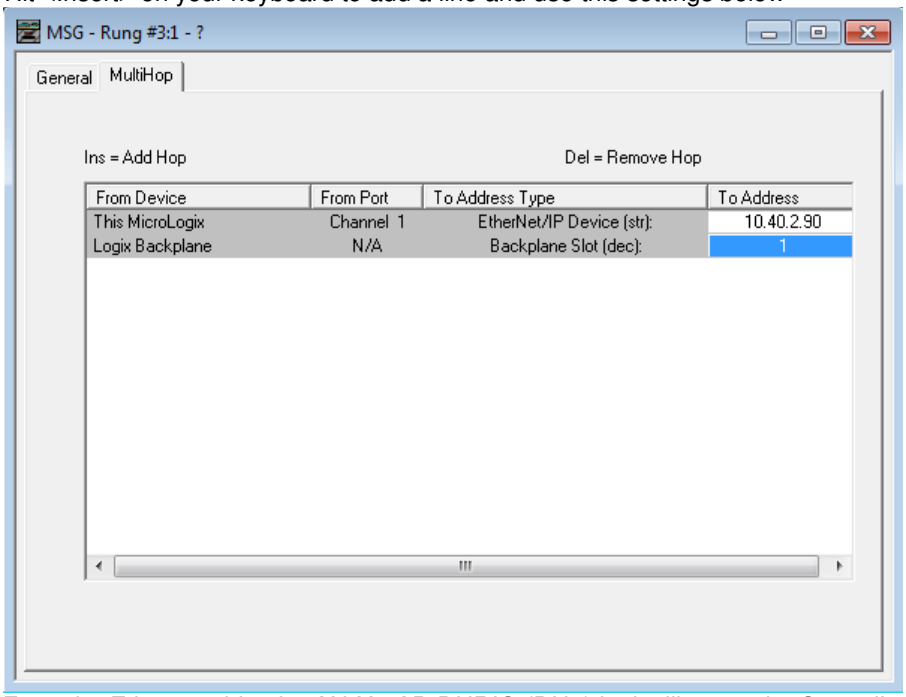
10) Open the MultiHop Tab ; this window will appear:



11) Enter the AN-X2-AB-DHRIO IP address

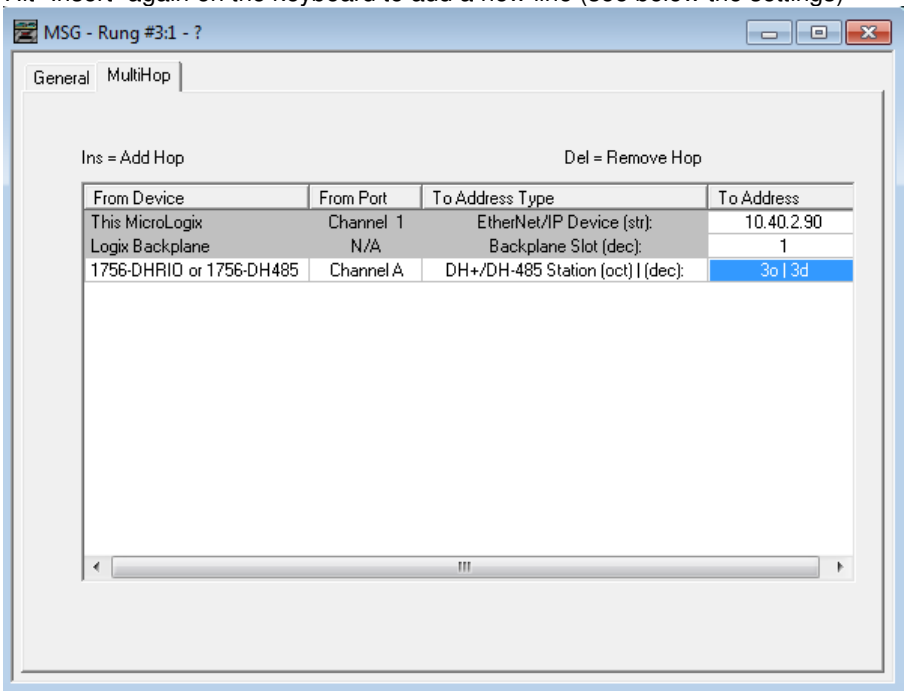


12) Hit <Insert> on your keyboard to add a line and use this settings below



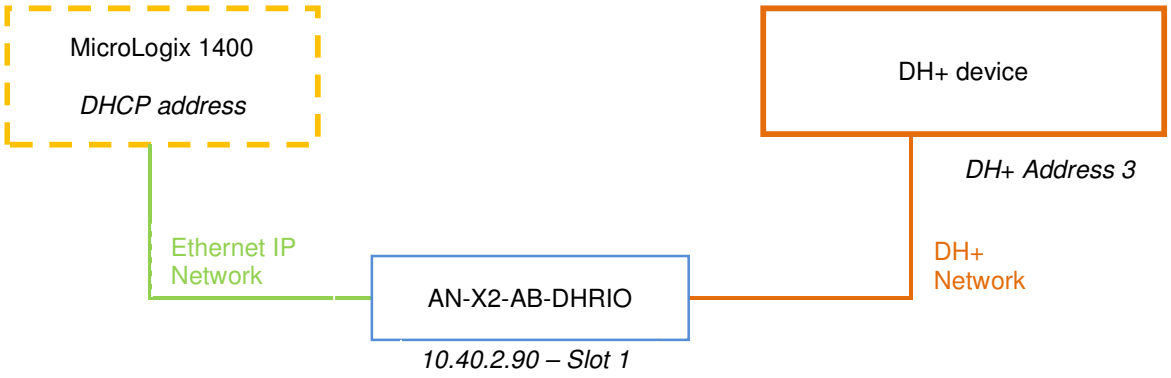
From the Ethernet side, the AN-X2-AB-DHRIO (DH+) looks like a 4-slot ControlLogix rack with an ENET module in slot 0 and a DH/RIO in slot 1. So please use here Slot = 1

13) Hit “Insert” again on the keyboard to add a new line (see below the settings)



Please choose 1756-DHRIO or 1756-DH485 to choose the correct communication protocol
The Channel A is the only available on our AN-X2-AB-DHRIO
Choose DH+/DH- 485 Station (Oct) | (dec) to have the correct address format
Please choose the correct address of your DH+ device (in this case address 3)

You are now able to read the Data on the N20 file to the DH+ device address 3 and copy this data into the MicroLogix1400



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