Produced/Consumed tags Through a Network Address Translation Connection

638107 | Date Created: 01/08/2015 | Last Updated: 05/07/2018
Access Level: TechConnect

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Question

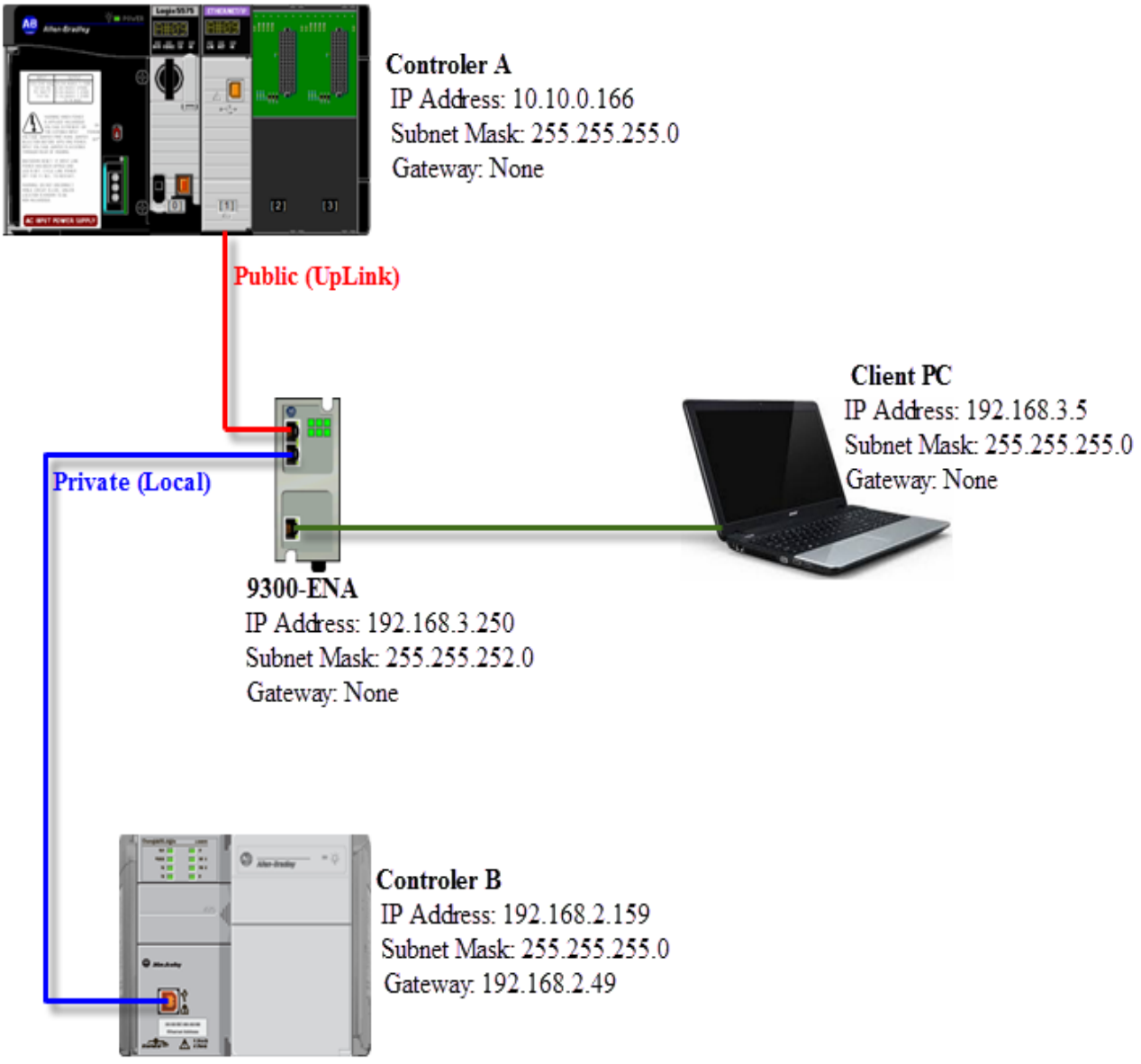
- How to communicate a produced and consumed type through the 9300-ENA?
- Is there any guideline on how to setup Produced Consumed with 1783-NATR?

Environment

- 1756-L75 v20.014
- 1756-EN2T v4.003
- 1769-L36ERM v20.014
- 9300-ENA v2.036
- 1783-NATR

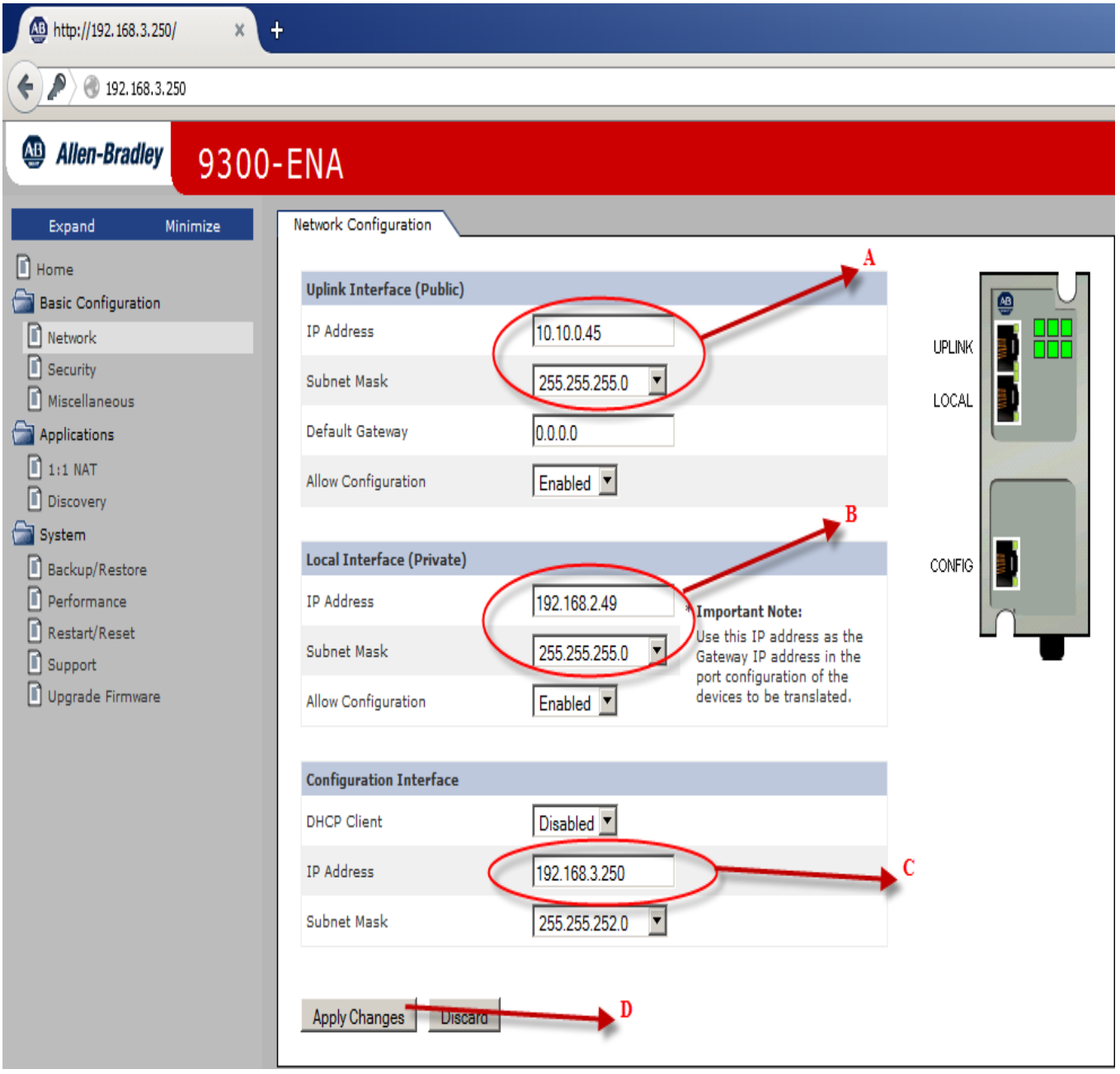
Answer

This diagram shows the network used in the following example:



Note: Any changes on the 1783-NATR require a power cycle/module reset to take effect

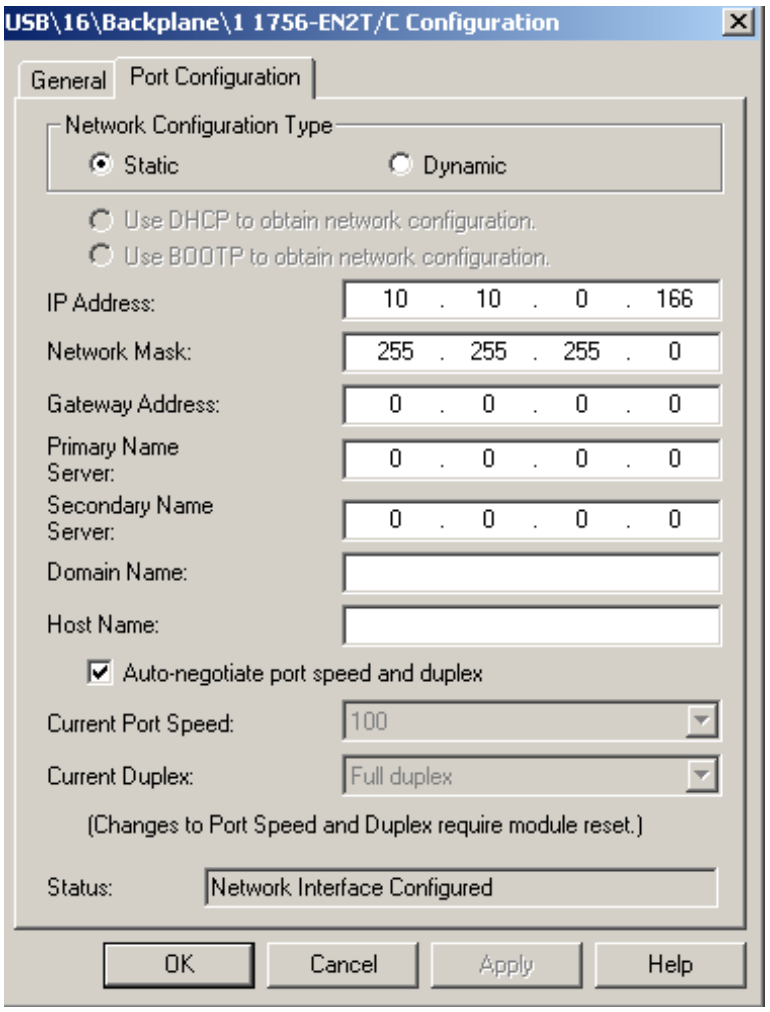
1. Configure the IP's in 9300-ENA



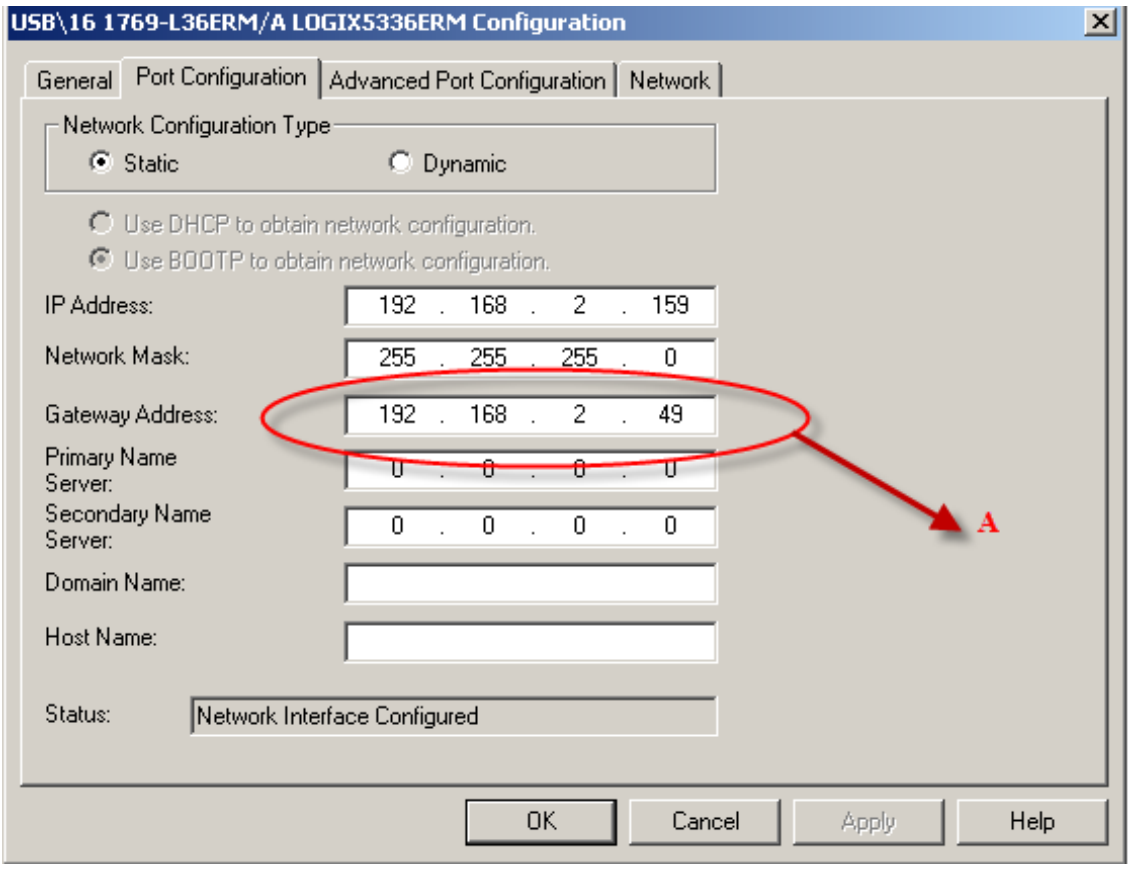
A - Set the IP available to the Uplink port (Public). If disabled, you can not configure (read / write) the ENA via the Uplink port, that is, the web page will not be accessible.
B - Set the IP available to the Local port (Private) *. If disabled, you can not configure (read / write) the ENA via local port.
C - Set the IP for the 9300-ENA. In order to configure it via Interface port.
D - Apply all changes.

* IMPORTANT: Use this IP address as the Gateway Address of the devices to be converted to a Private IP Address

2. Configure the IP's on Controllers



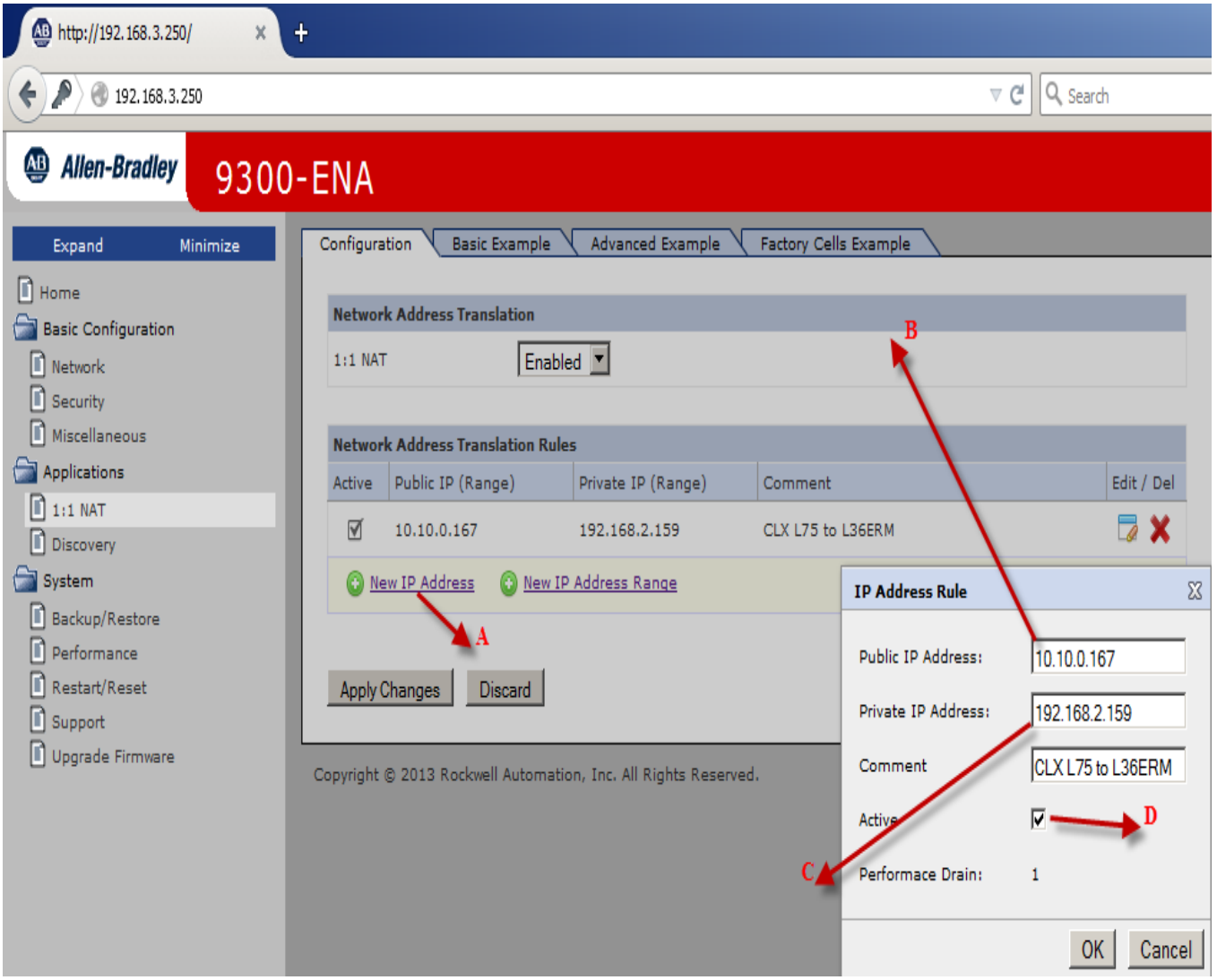
IP address of the ControlLogix controller



IP address of the CompactLogix

A - IP Address of step 1 item B

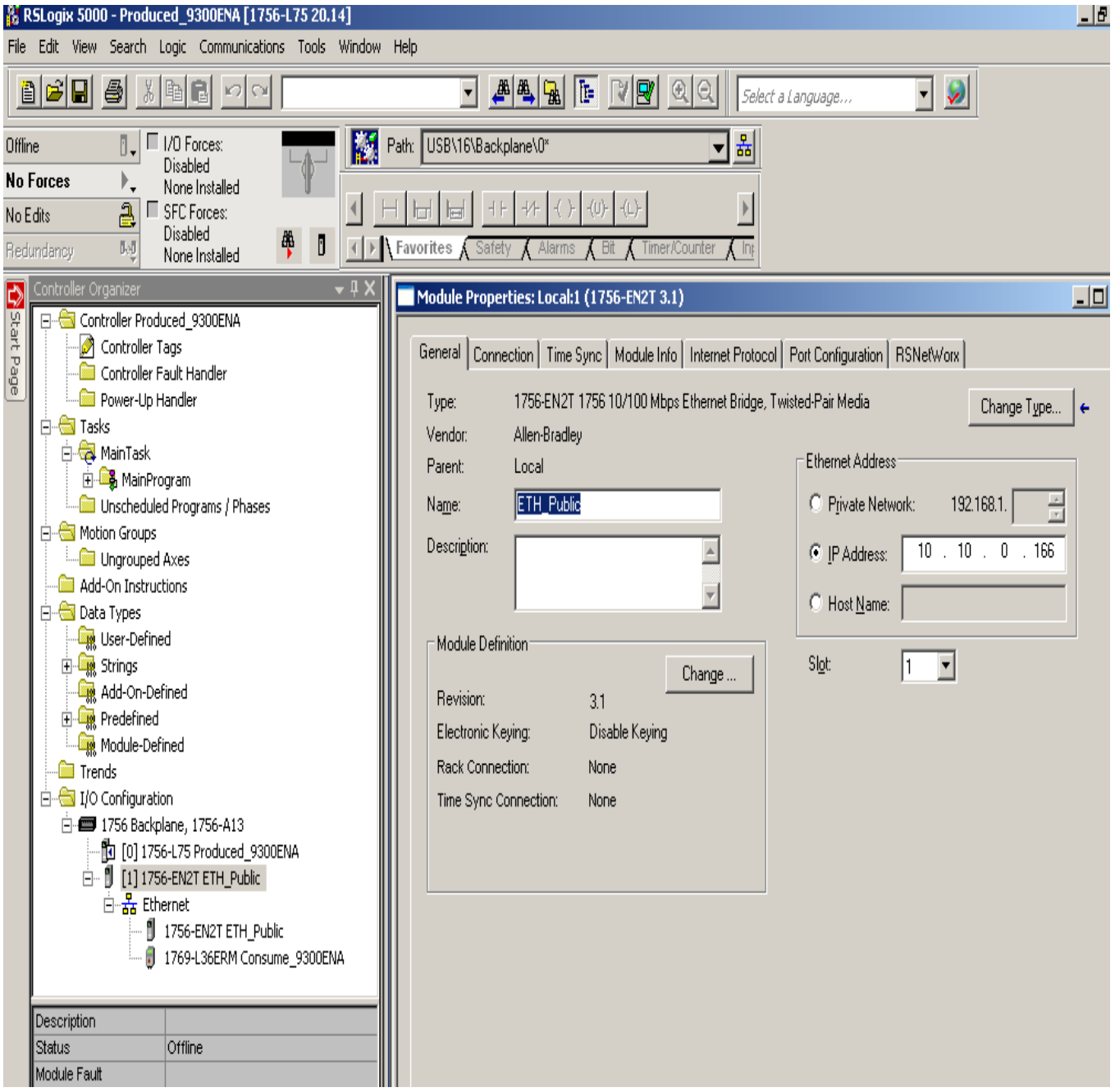
3. Set the conversion rules tab 1:1 NAT in 9300-ENA. This tab is used to make the IP conversion of a Private network to the Public network

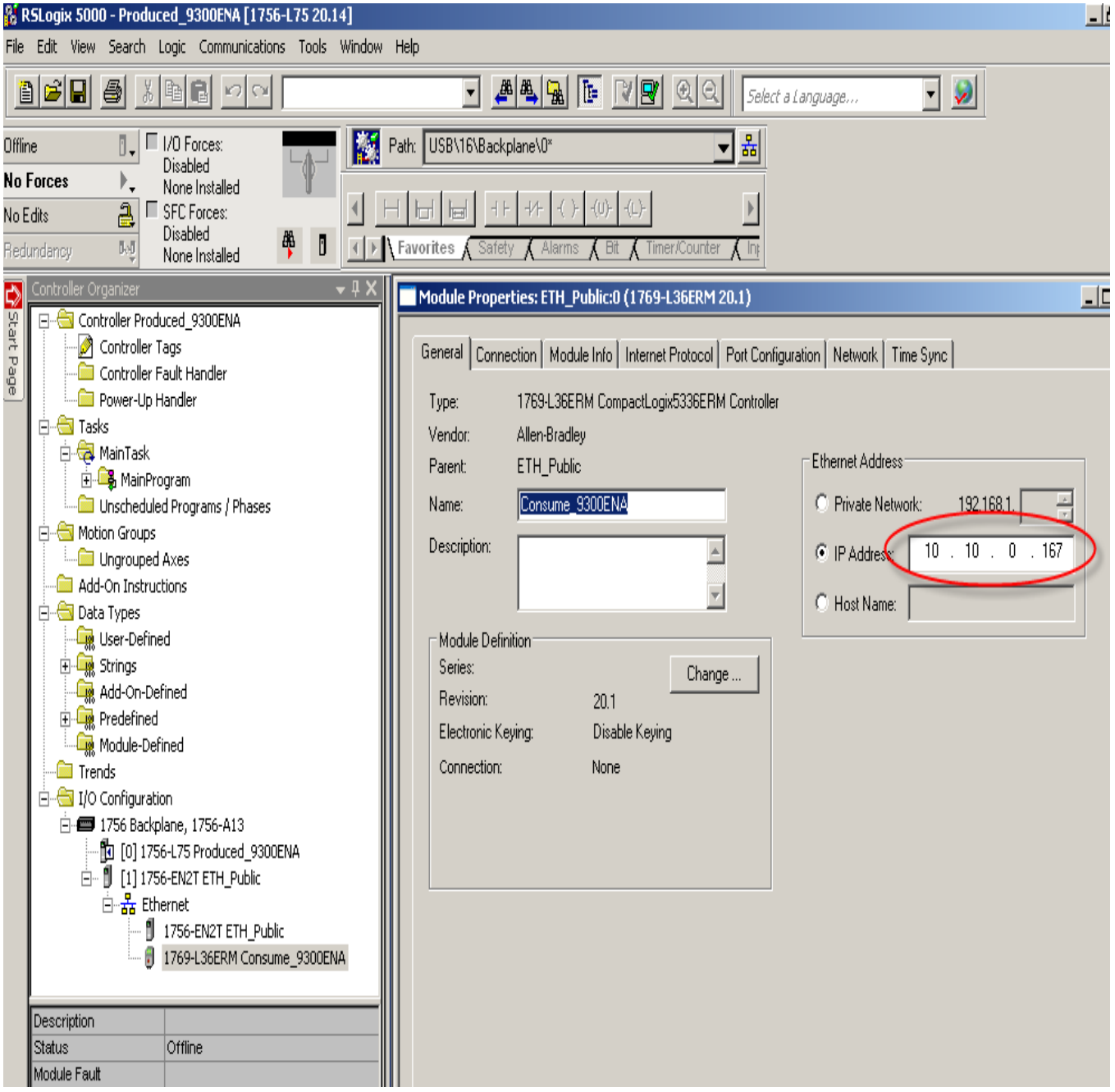


Note: Before you start adding IP addresses on your ENA, make a list of all IP addresses that you want to use for each Ethernet network. This will help you prevent IP address conflicts.
IP addresses include all Ethernet interfaces, automation equipment, PC's, switches, both ENA interfaces, and all IP addresses in the NAT table (even if there is not hardware in the local network corresponding to an IP you entered in the table).

A - Add the IP that will be converted
B - This IP has to be a virtual IP, that is an IP in the range of Public network that is not being used, not to duplicate the IP. This IP will be used in the controller that will be the producer, because it will not communicate directly with the Consumer Controller that is in the 192.168.2.159 range
C - This IP corresponds to the CompactLogix L36ERM
D - Do not forget to activate the conversion

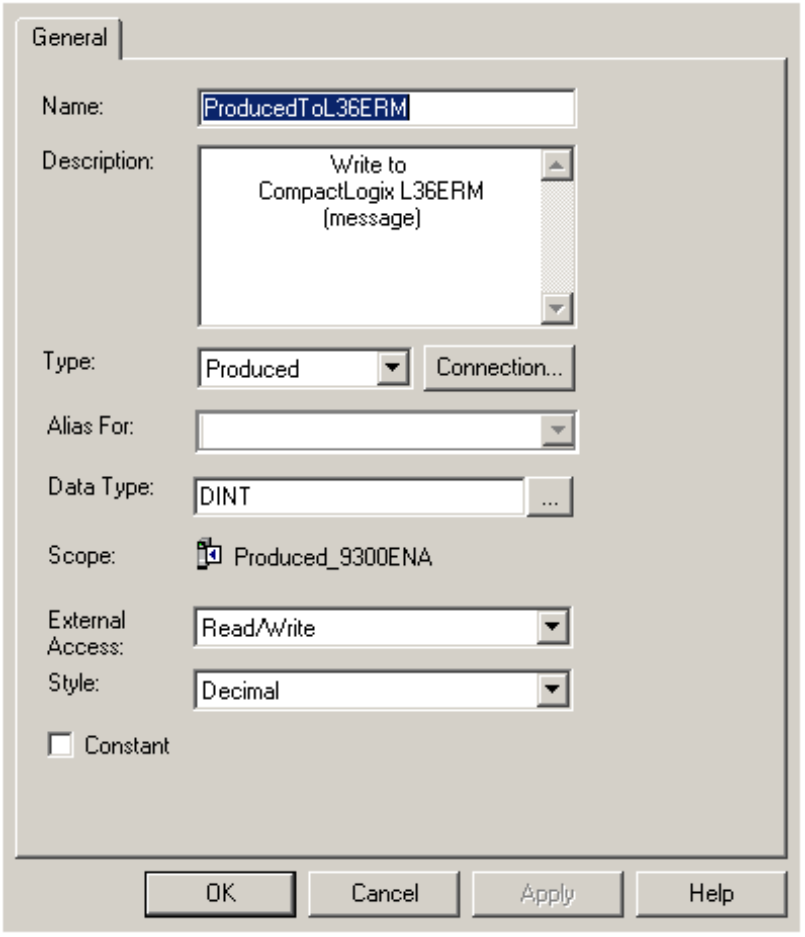
4. Create the Producer Controller project


RSLogix 5000 - Produced_9300ENA [1756-L75 20.14]
File Edit View Search Logic Communications Tools Window Help
Select a Language...
Offline
No Forces
No Edits
Redundancy
I/O Forces: Disabled None Installed
SFC Forces: Disabled None Installed
Path: USB\16\Backplane\0*
Favorites Safety Alarms Bit Timer/Counter
Start Page
Controller Organizer
Controller Produced_9300ENA
Controller Tags
Controller Fault Handler
Power-Up Handler
Tasks
MainTask
MainProgram
Unscheduled Programs / Phases
Motion Groups
Ungrouped Axes
Add-On Instructions
Data Types
User-Defined
Strings
Add-On-Defined
Predefined
Module-Defined
Trends
I/O Configuration
1756 Backplane, 1756-A13
[0] 1756-L75 Produced_9300ENA
[1] 1756-EN2T ETH_Public
Ethernet
1756-EN2T ETH_Public
1769-L36ERM Consume_9300ENA
Description
Status Offline
Module Fault
Module Properties: Local:1 (1756-EN2T 3.1)
General Connection Time Sync Module Info Internet Protocol Port Configuration RSNetWorx
Type: 1756-EN2T 1756 10/100 Mbps Ethernet Bridge, Twisted-Pair Media
Change Type...
Vendor: Allen-Bradley
Parent: Local
Name: ETH_Public
Description:
Ethernet Address
Private Network: 192.168.1.
IP Address: 10 . 10 . 0 . 166
Host Name:
Module Definition
Change ...
Revision: 3.1
Electronic Keying: Disable Keying
Rack Connection: None
Time Sync Connection: None
Slot: 1

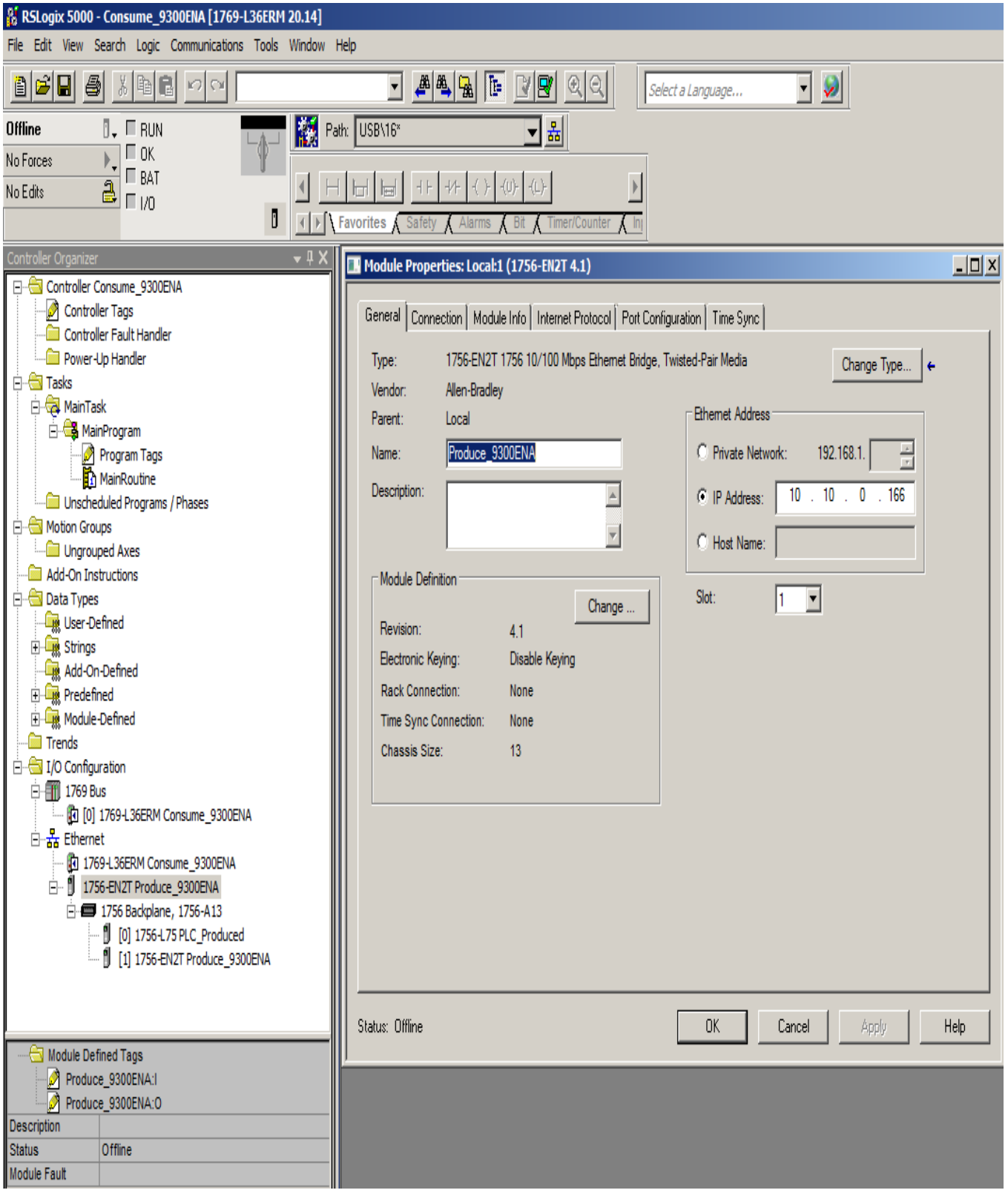


IP Address step 3 item B

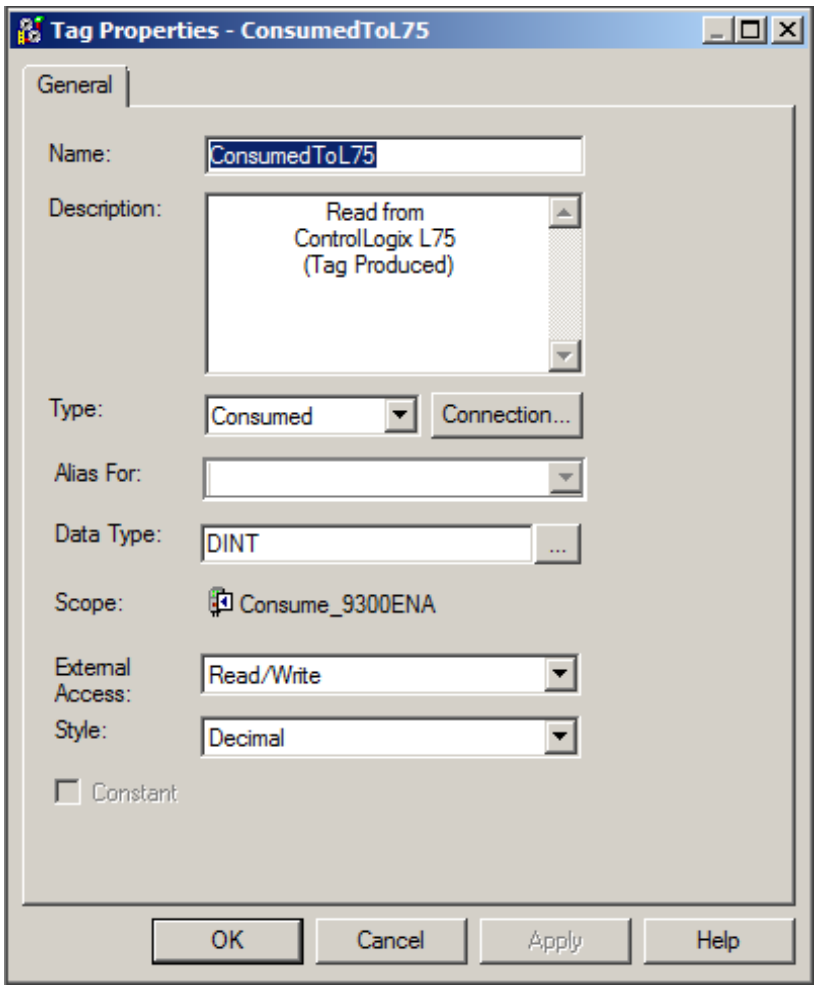
5. Create the tag Producer type

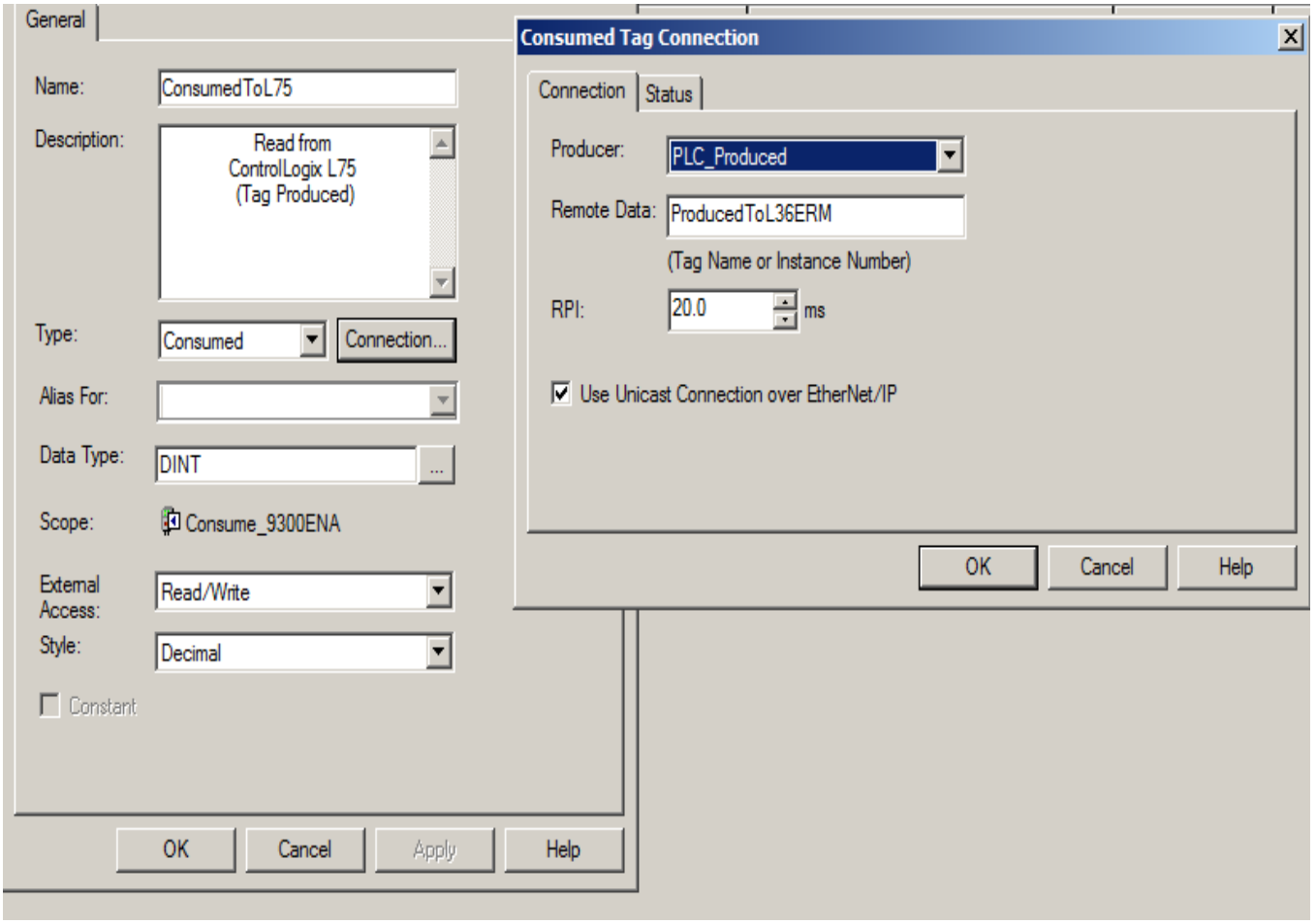


6. Create the Consumer Controller project

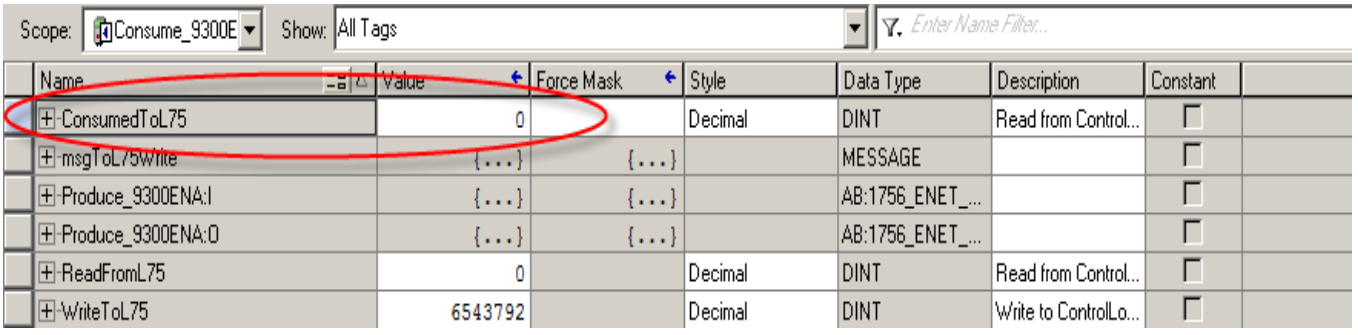


7. Create the tag Consumer type

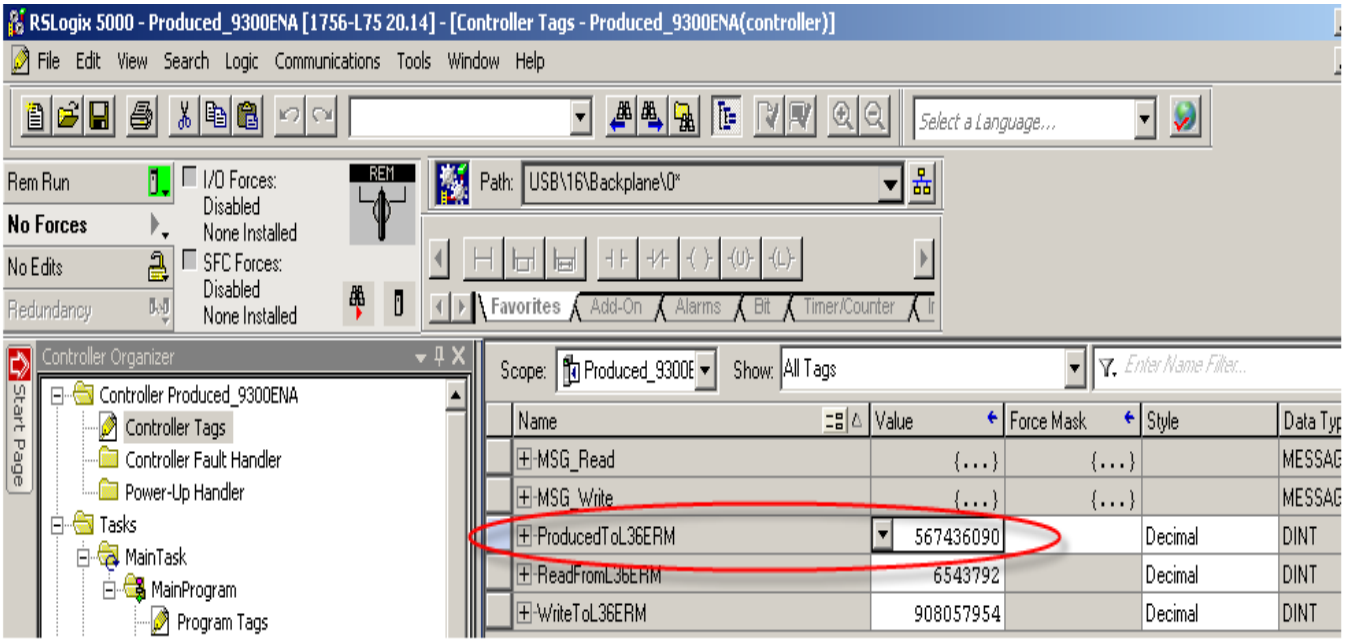

Tag Properties - ConsumedToL75
General
Name:
ConsumedToL75
Description:
Read from
ControlLogix L75
(Tag Produced)
Type:
Consumed
Connection...
Alias For:
Data Type:
DINT
...
Scope:
Consume_9300ENA
External Access:
Read/Write
Style:
Decimal
Constant
OK
Cancel
Apply
Help



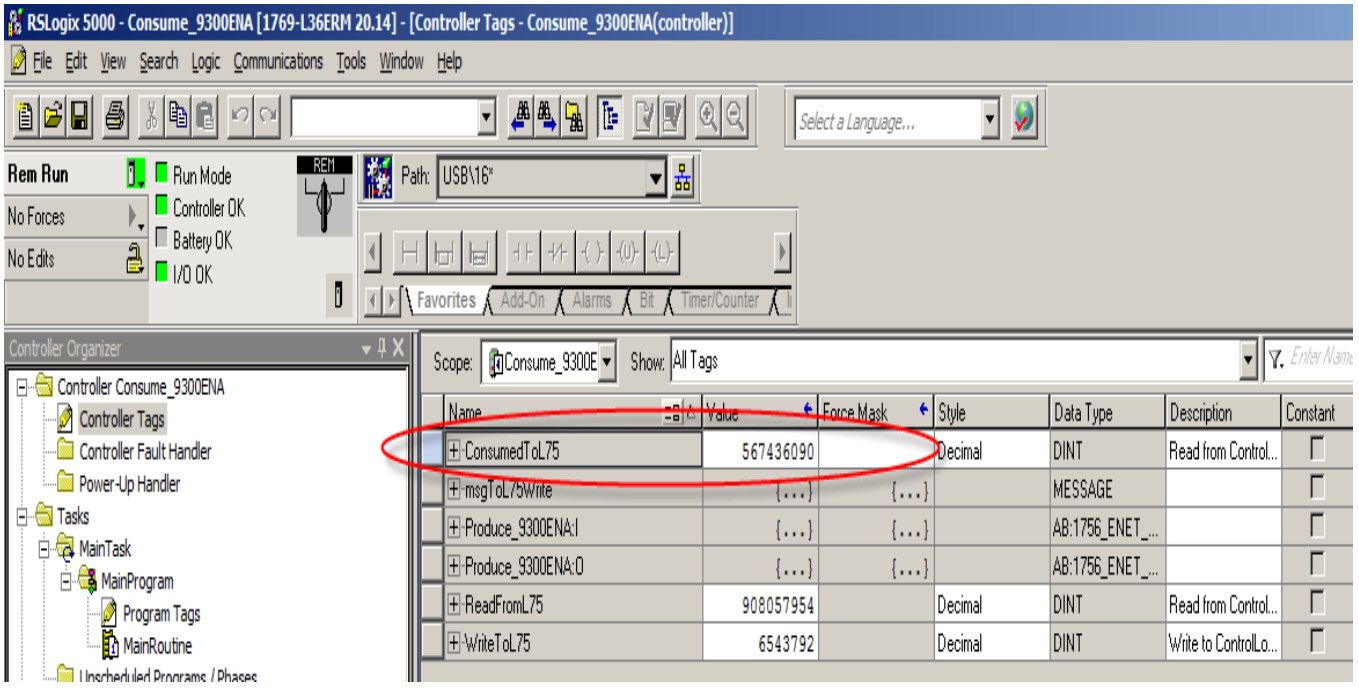
8. Check the tag Consumer type and ensure that the value is 0 before download the Producer Controller project



9. Check the tag Producer type and ensure that the value is 567436090



10. Check the tag Consumer type and ensure that the value 567436090 is there after downloading the Producer Controller project



Attachments

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