

Module 1-Lesson 1.0



Ethernet I/P Driver
RSLinx /Studio 5000
Configuration

Student Materials

Student Materials for Lesson 1.0: RSLinx/Studio 5000 Configuration

Lesson Objective

By the end of this session, students should be able to:

1. Configure the Ethernet/IP Driver in RSLinx
2. Configure Studio 5000 to use Ethernet/IP Driver .

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Introduction:

The Allen-Bradley ControlLogix Lesson B5 covers installing/deleting drivers in RSLinx. One of the drivers that is not covered is the Ethernet/IP driver. This driver can be used to allow communications with ControlLogix PLCs via Ethernet communications.

To download, upload and monitor programs in a ControlLogix PLC the Path in Studio 5000 software must be set correctly. The second part of this lesson will cover setting the Path in Studio 5000 to use the Ethernet/IP driver from RSLinx.

RSLinx Ethernet/IP Driver:

Review ControlLogix Lesson B5 to navigate RSLinx screens.
Open the Configure Driver Screen in RSLinx.

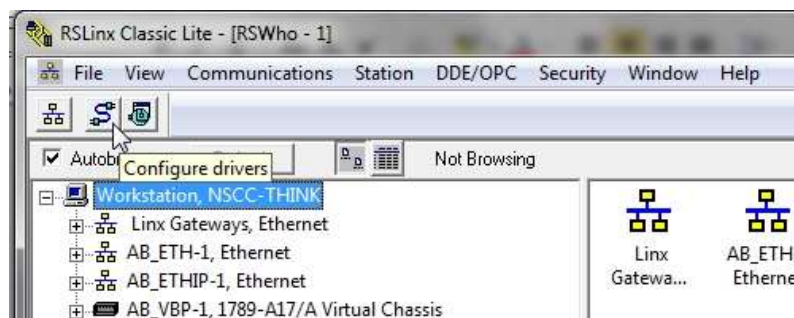


Figure 1-A

Click the down arrow from the Available Driver Types selection box.

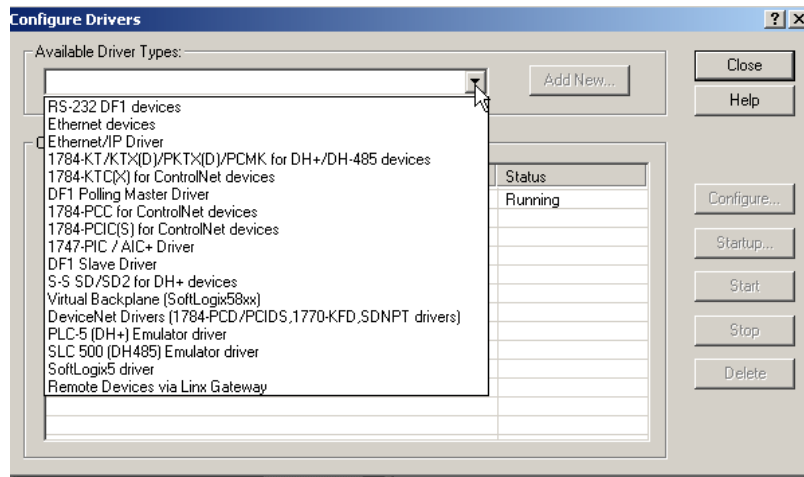


Figure 1-B

Note: Set-up for Ethernet Devices driver can be found in ControlLogix RSLinx Lesson 5.

Choose the Ethernet/IP Driver from the list, shown in Figure 1-B. Click on Ethernet /IPDriver selection to place the Ethernet/IP Driver in the Available Driver Types selection box.

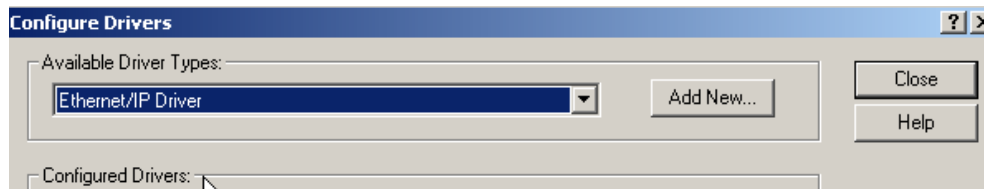


Figure 2-A

Click the Add New button.

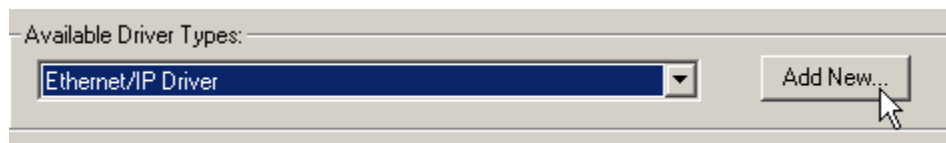


Figure 3-A

This will open the Add New RSLinx Driver window.

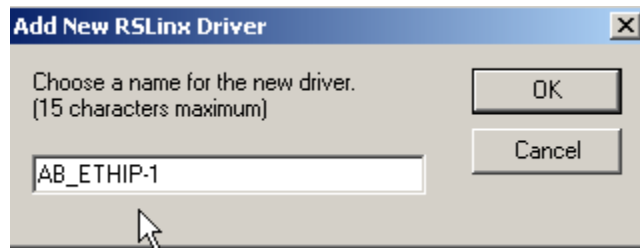


Figure 4-A

The Add New RSLinx Driver window also allows the driver to be renamed. Default driver name shown in Figure 4-A

Click the OK button on the Add New RSLinx Driver screen.

This will open the Configure driver: AB_ETHIP-1 screen.

See Figure 5-A

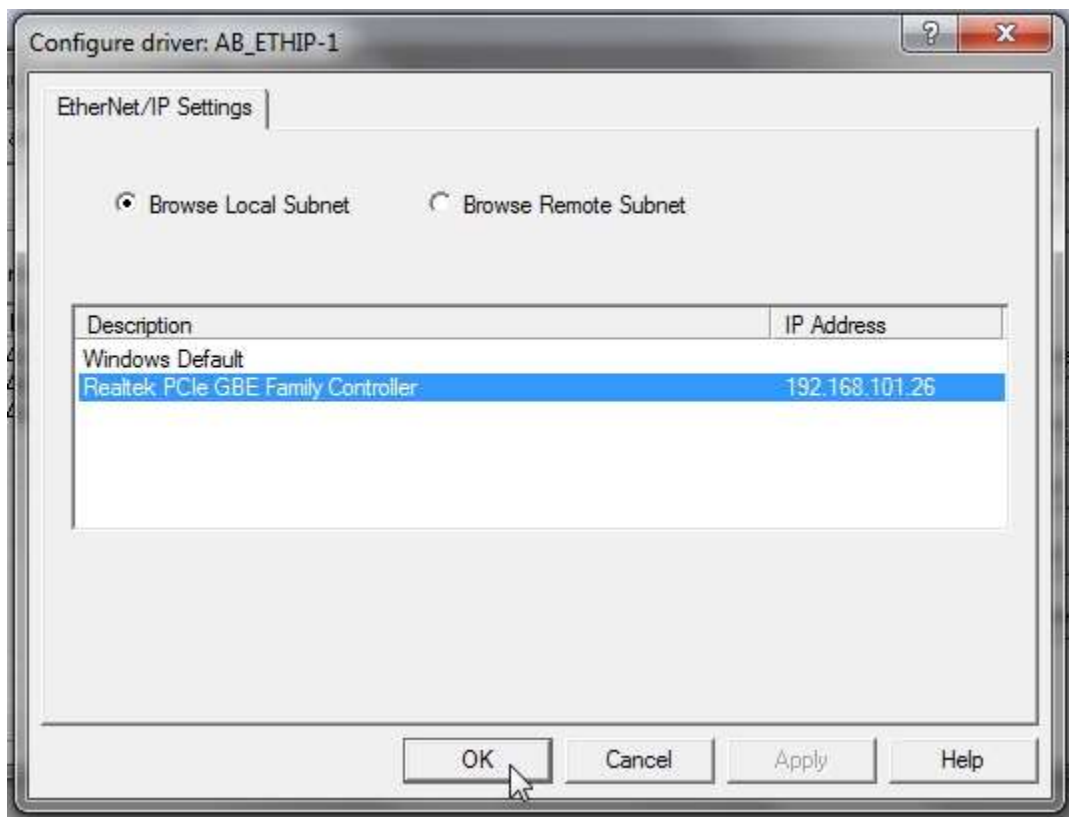


Figure 5-A

Click the Browse Local Subnet radio button.

Select the computer's Ethernet Port that will be used to connect to the PLC's Ethernet Port / Card.

Note: If the computer only has one Ethernet Port choose either Windows Default or the port selection with the IP Address.

Click the OK button on the Configure Driver:AB_ETHIP-1 screen.

Note: If the network uses a Router select Browse Remote Subnet.
Add Router IP Address in Configuration screen

The driver is now listed in the Configured Drivers area of the Configure Drivers screen.

See Figure 6-A.

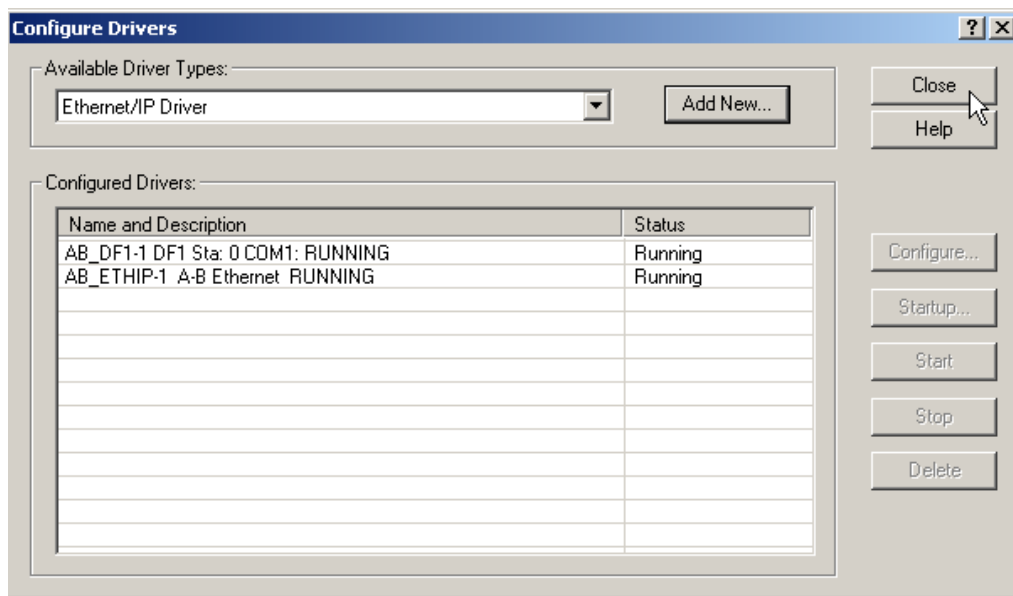


Figure 6-A

Click the Close button on the Configure Drivers screen.

This will return the main screen for RSLogix

If the RSWho is not shown -
Click the icon as show in Figure 7-A to open the RSWho screen.

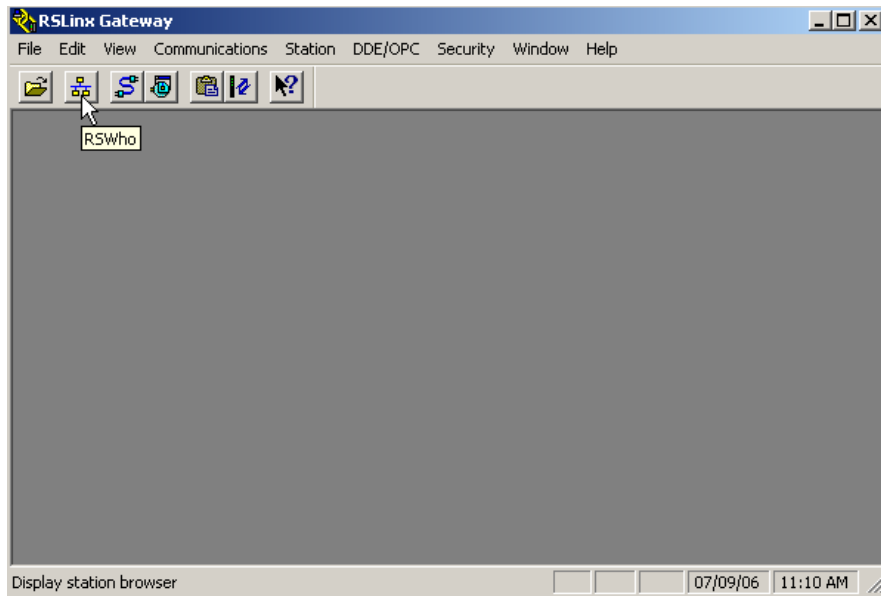


Figure 7-A

Verify the AB_ETHIP-1 driver is in the list on the left side of the RSWho screen.
Expand the driver to verify communication with 1756-ENBT or similar module

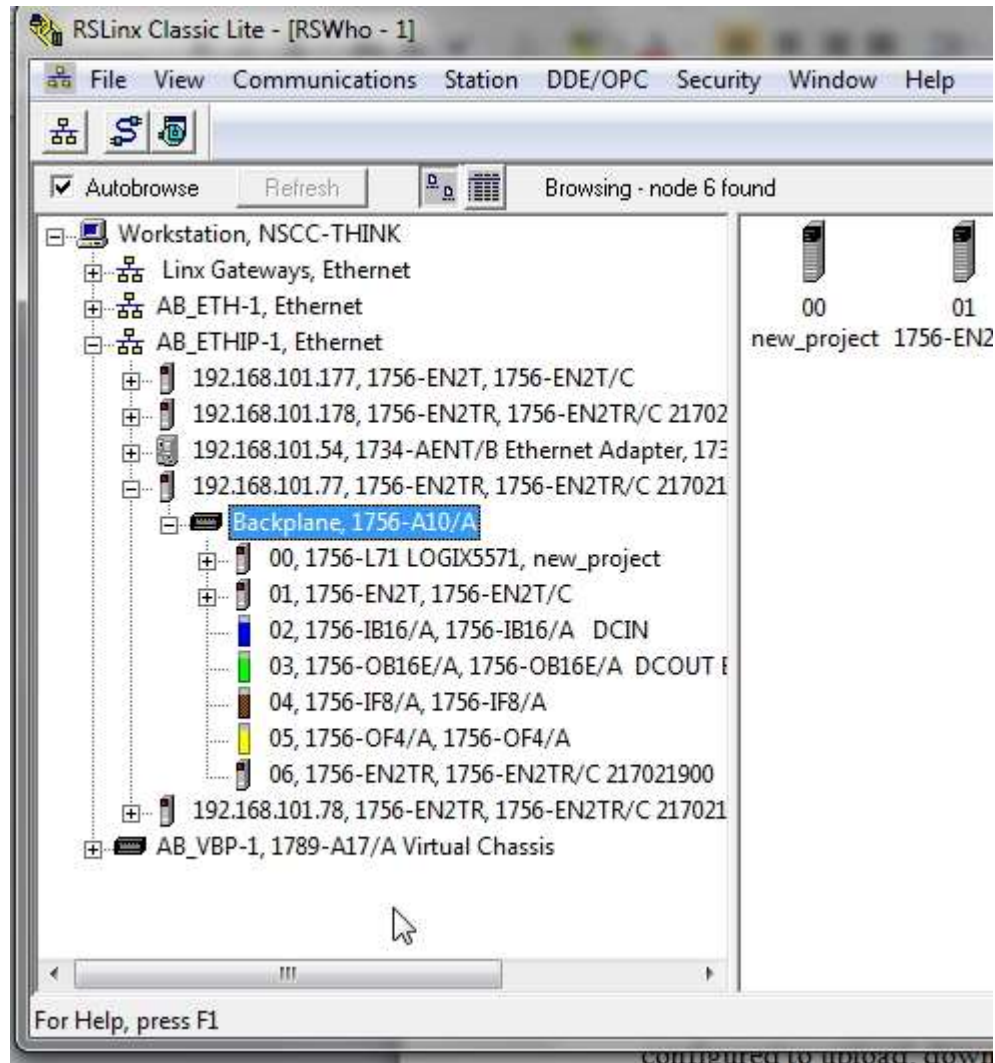


Figure 8-A

Now that the AB_ETHIP-1 driver is configured in RSLink , Studio 5000 can now be configured to upload, download, and monitor a ControlLogix PLC using the installed driver.

Configure Studio 5000:

Open Studio 5000.

On the Start Screen, select Existing Project .



Figure 9-A

In the Explorer window navigate to C:\Studio5000\Projects
Select sample_enet.ACD project file

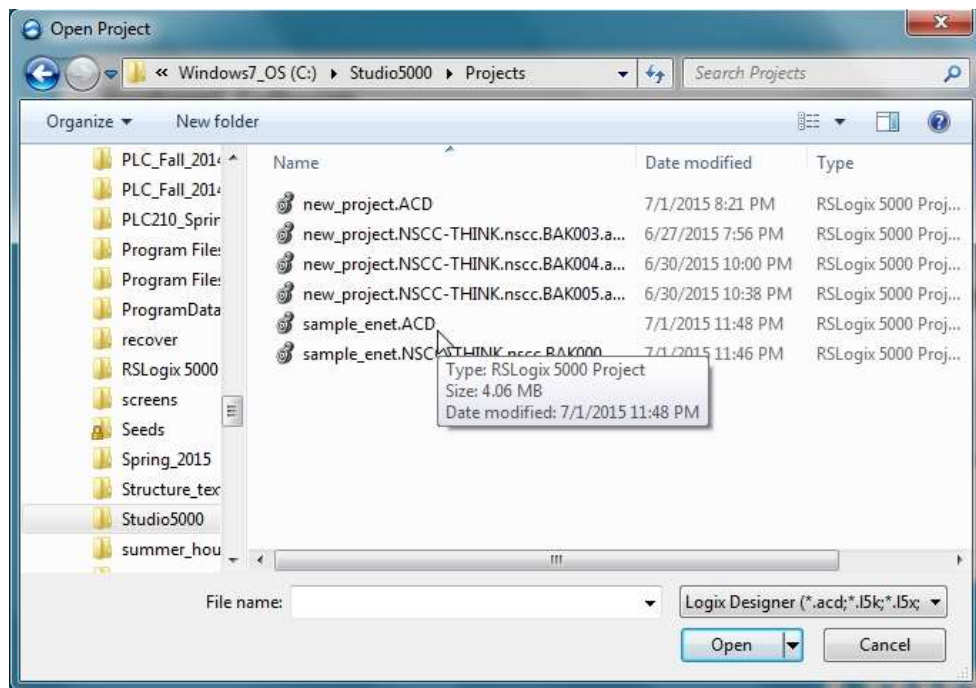


Figure 10-A

Click the Open button

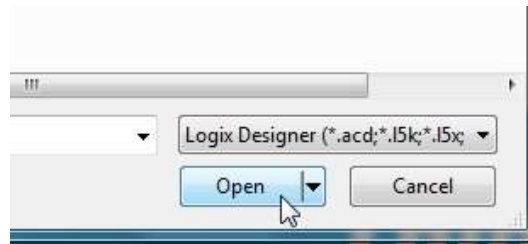


Figure 11-A

When Studio 5000 opens, the sample_enet.ACD project will be loaded.

Navigate to the Task folder - > MainProgram - > MainRoutine

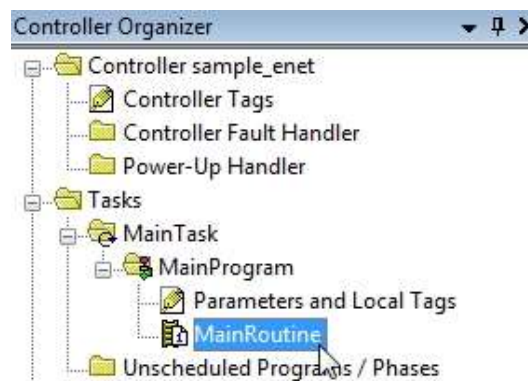


Figure 12-A

Double click MainRoutine to open Ladder Logic window.

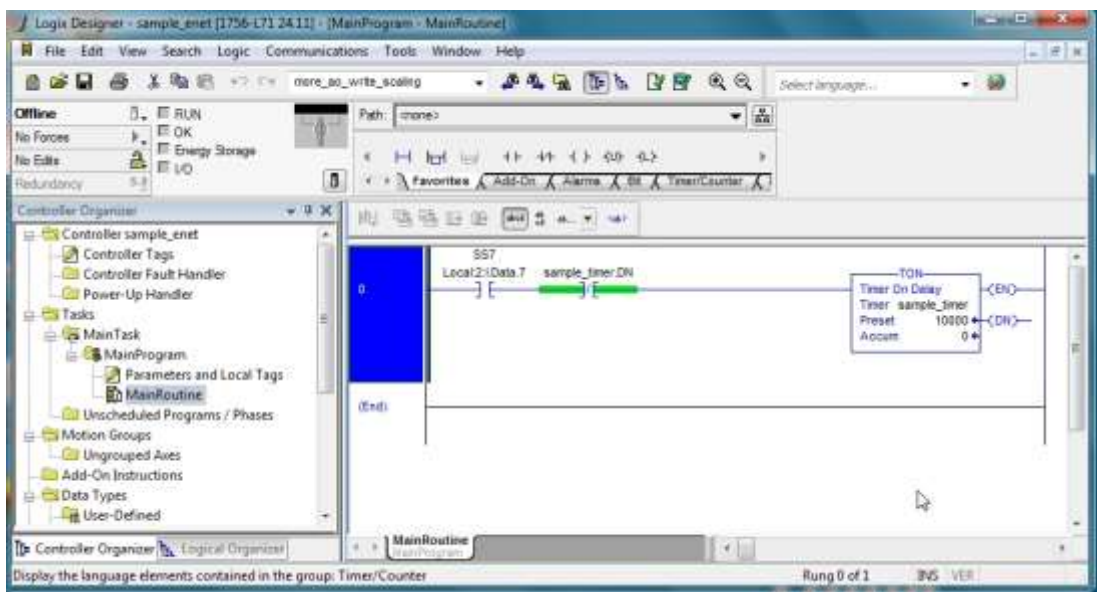


Figure 13-A

To use the AB_ETHIP-1 driver, it must be listed in the Path selection box.
Note: Path - <none> - no Path configured.

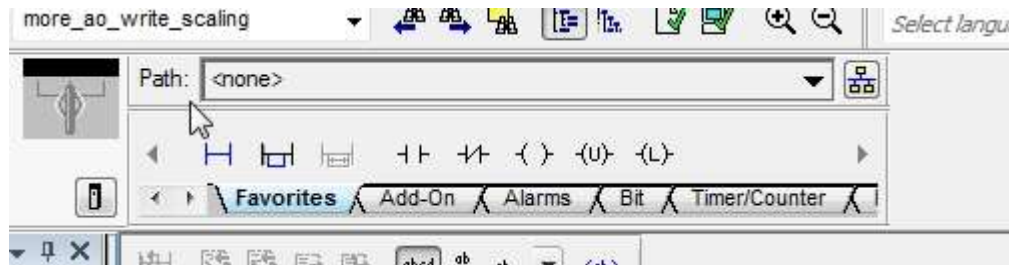


Figure 14-A

Click the Who Active icon

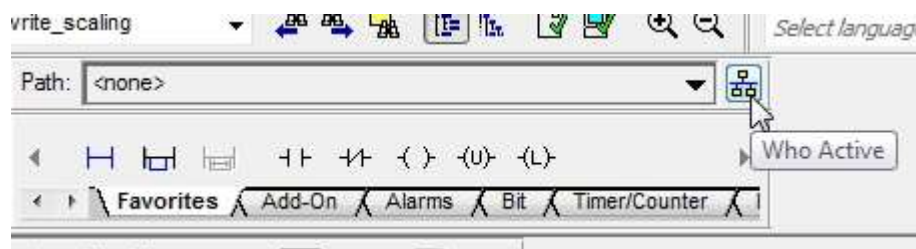


Figure 15-A

This will show the drivers configured in RSLogix on the Who Active screen.
Note: Download, Upload, Go Online buttons – Greyed – Out (not active).

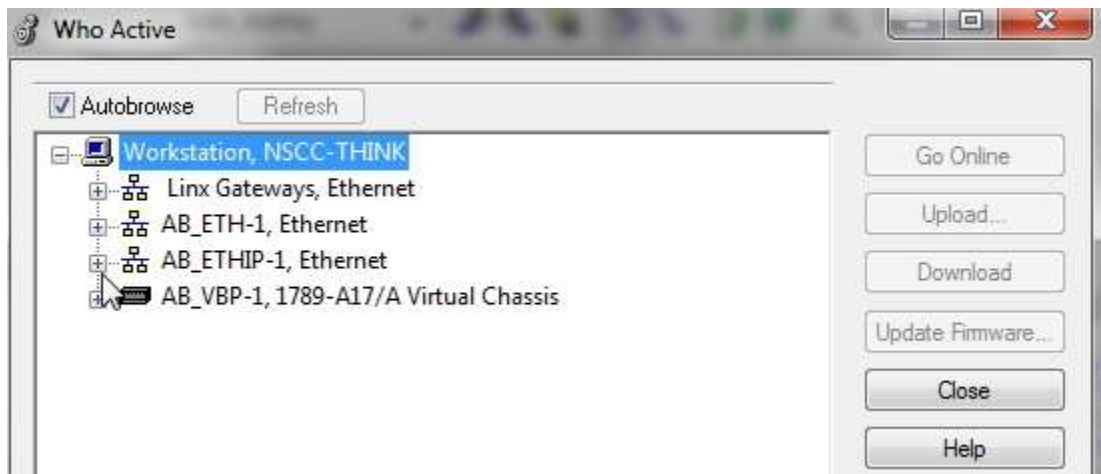


Figure 16-A

Click the + sign to the left of the AB_ETHIP-1 driver.
View available Allen Bradley Ethernet devices connected to the network.
See Figure 17-A

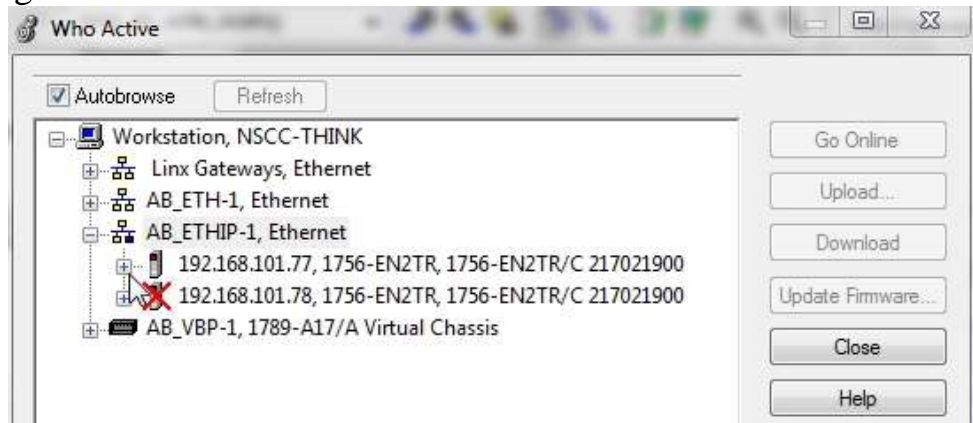


Figure 17-A

Find the selection with the IP address (192.168.101.77 in the example) that matches the IP address scrolling across the display of the Ethernet module installed on the demo board.

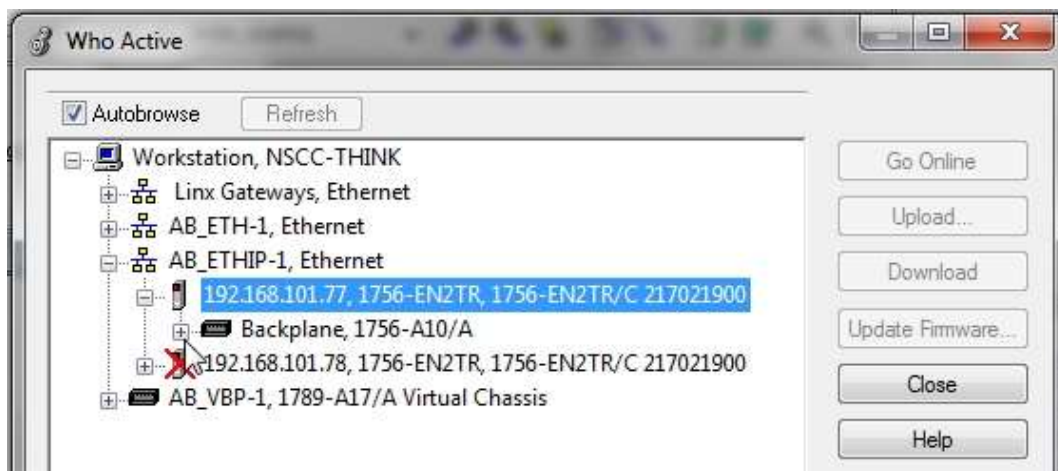


Figure 18-A



If the Ethernet module is configured with an IP address, the address will be scrolling across the Ethernet module's display.

These numbers (IP address) will match to a selection in the AB_ETHIP-1 driver tree.

If there is a red X on a selection in the AB_ETHIP-1 driver tree, there is a communication problem. Verify RSLinx set-up, cables connected and devices powered.

Figure 19-A

Click the + sign to the left of module icon to show Backplane icon

Click the + sign to the left of the Backplane icon to show modules in the chassis.

Locate the processor in the module list.

Click on the processor part number (1756-L71 in the example) to select that processor for downloading.

Note: Once the processor is selected Download, Upload, and Go Online buttons on the Who Active screen are now available –
No longer Greyed-Out

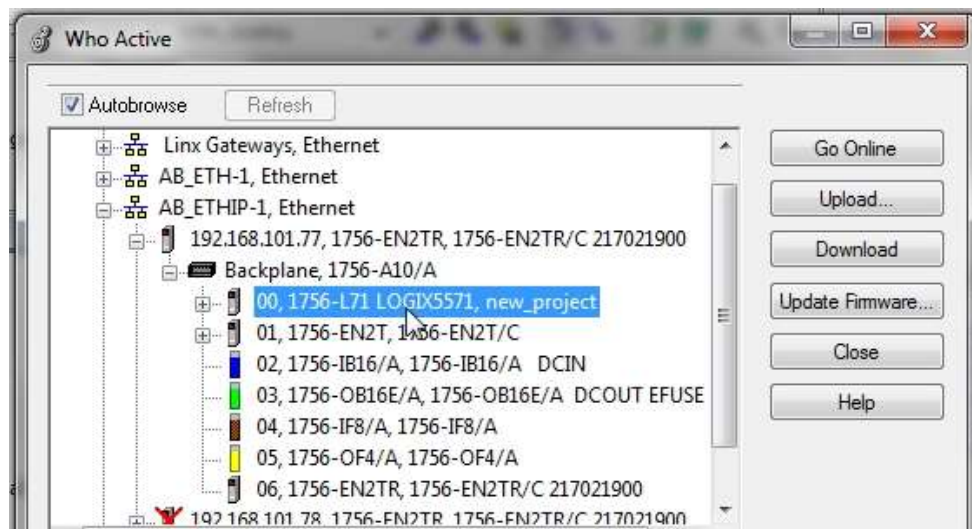


Figure 20-A

Verify the Key Switch on the processor is in the REM (middle) position.



Figure 21-A

Click the Download button on the right side of the Who Active screen

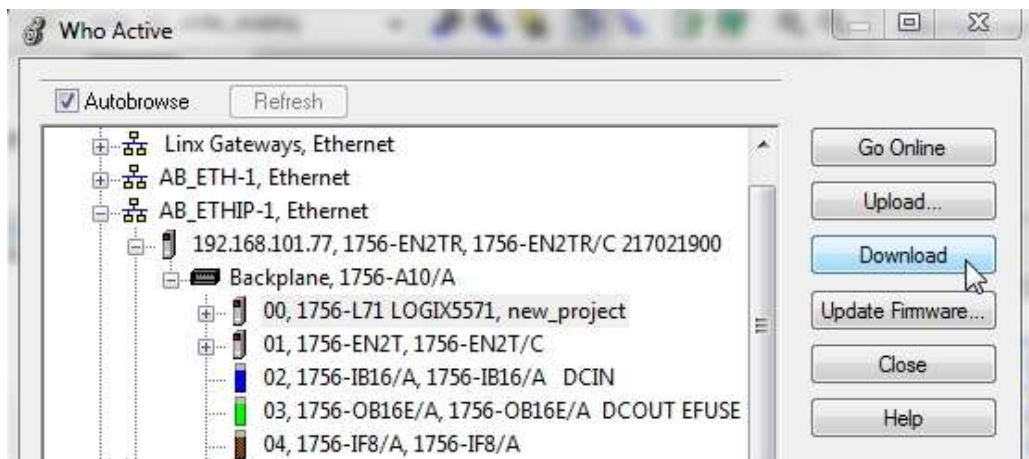


Figure 22-A

Once the Download button is pressed, the communication path is configured.

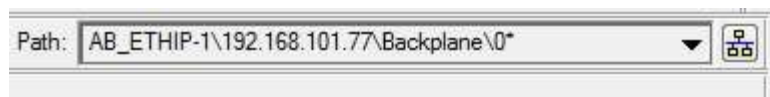


Figure 23-A

AB_ETHIP-1 – driver from RSLinx being used

192.168.101. 77 – module address of the connection

Backplane – from the Ethernet module the connection goes across the Backplane

0 – slot location of the processor that is receiving the project file download

Note: an alternate way of calling the Who Active screen is selecting Communications on the Menu Bar and choosing Who Active.



Figure 24-A

On the Download screen, read Danger, Warning, Controller and Project information.

Click the Download button on the bottom of the screen to verify download.

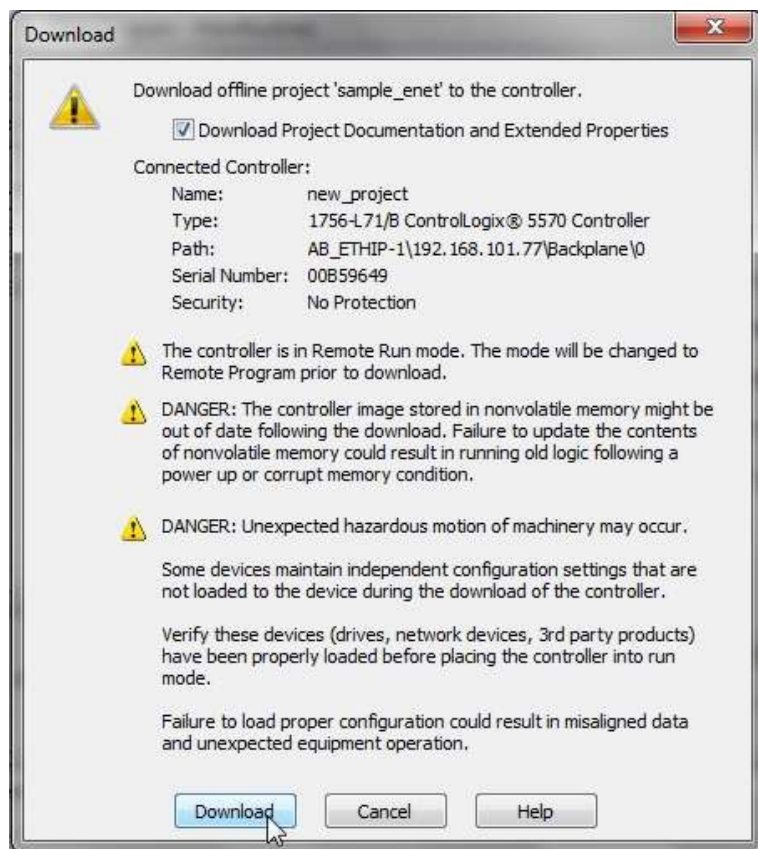


Figure 25-A

Downloading progress screen opens

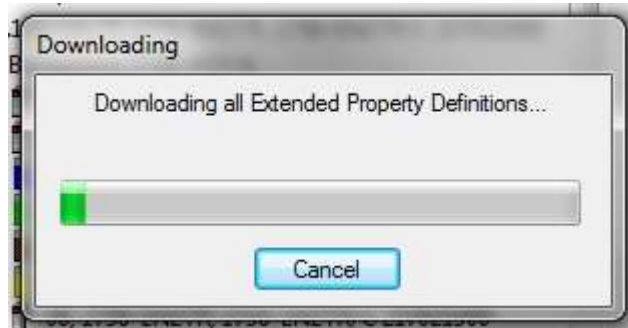


Figure 26-A

If the processor was in RUN mode prior to downloading, the Logix Designer screen opens.

Click Yes on the Logix Designer screen to put the processor back into RUN mode.

Click No to leave the processor in PROGRAM mode.

Note: processor must be in PROGRAM mode when downloading a project file



Figure 27-A

On line monitor screen in Designer 5000 software.

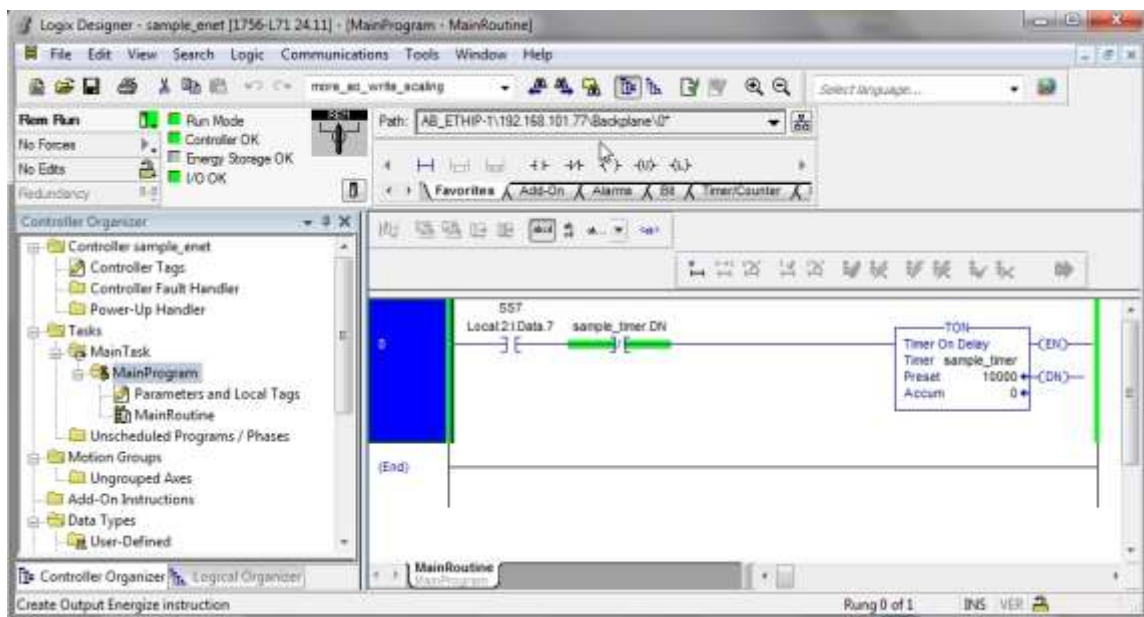


Figure 28-A

Exercise:

1. Configure RSLinx to use the AB_ETHIP driver.
2. Verify the set-up by connecting a UTP cable from the computer to the 1756-ENBT on the ControlLogix Demo and using the RSWho screen to monitor the connection.
3. Once the connection is working in RSLinx, set the Path in the Studio 5000 to use the AB_ETHIP driver.
4. Download and monitor sample_Enet.ACD project file to processor

Review Questions

- 1. T F RSLinx is used to configure communications between a computer and a PLC.**
- 2. A communication driver named AB_ETHIP-1, indicates which type of communication?**
 - a) Data Highway Plus
 - b) RS-232
 - c) Ethernet
 - d) ControlNet
- 3. T F RSLinx will hold only one communication driver**

at a time.

- 4. The Path toolbar in Studio 5000 is used for which type of communication connections?**
- a) Data Highway Plus
 - b) RS-232
 - c) Ethernet
 - d) ControlNet
 - e) All the above
- 5. T F Studio 5000 can communicate to a PLC without using RSLinx.**
- 6. While configuring an ETHIP driver in RSLinx, what setting used for networks without routers?**
- a) Add New
 - b) Browse Local Subnet
 - c) Baud Detect
 - d) Auto Configure
- 7. T F Studio 5000 must use Ethernet to communicate to a ControlLogix PLC.**
- 8. What does it indicate if a red “X” occurs on a Device within a communication driver in RSLinx.**
- a) RSLinx is no longer communicating with that device.

- b) The PLC processor is faulted out.
- c) AutoBrowse is not turned on in RSLinx.
- d) The PLC is in the Program Mode.

9. **T F A driver that is named AB_ETHIP-1, is associated with the Ethernet port on the computer.**

10. **T F RSLinx Lite cannot be used with Studio 5000 software.**

Review Question Answers:

- 1) T
- 2) c
- 3) F
- 4) e
- 5) F
- 6) b
- 7) F
- 8) a
- 9) T
- 10) F



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