PLC200
Module 1
Intro to RSLinx

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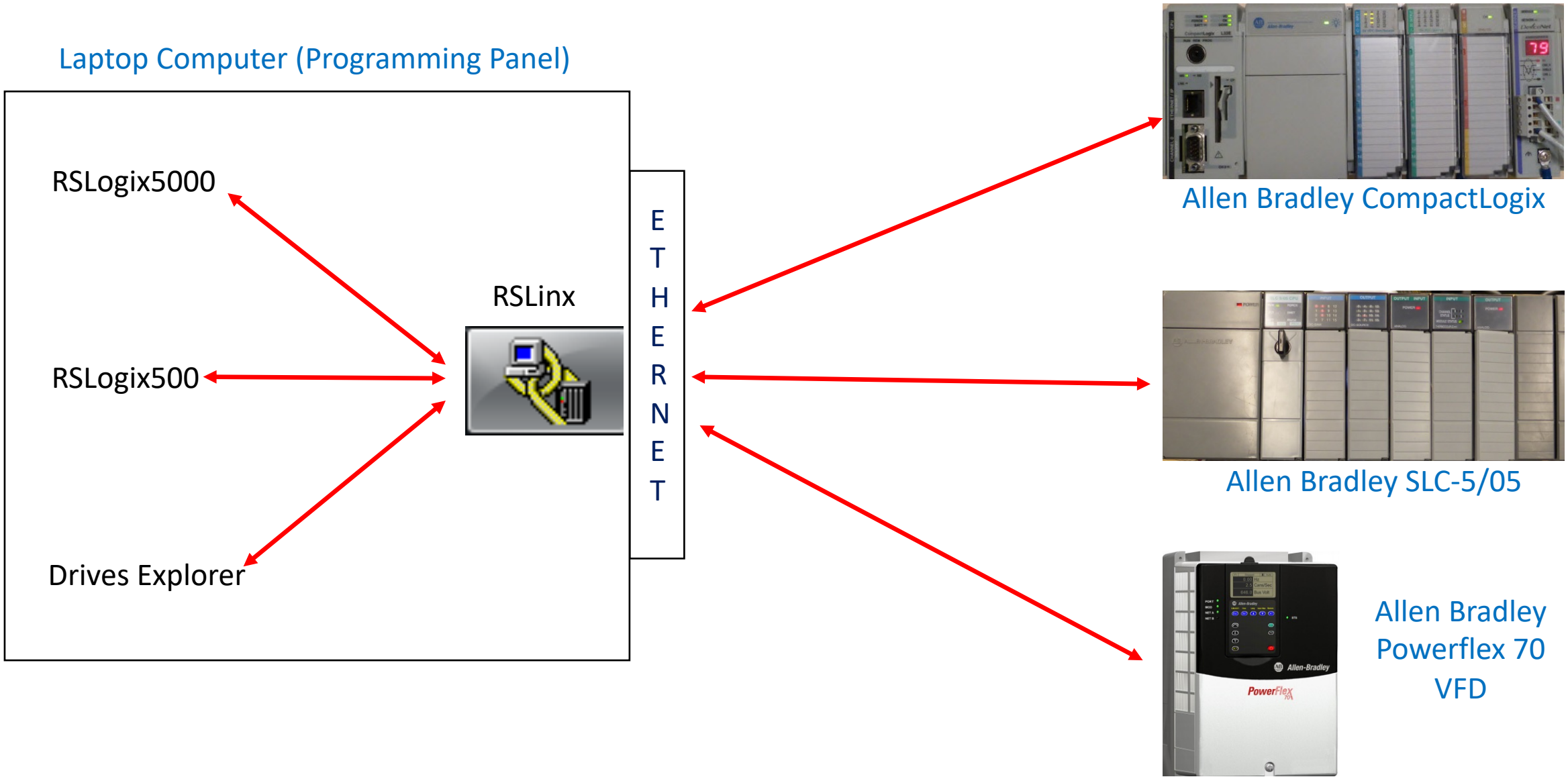
On 3/15/16

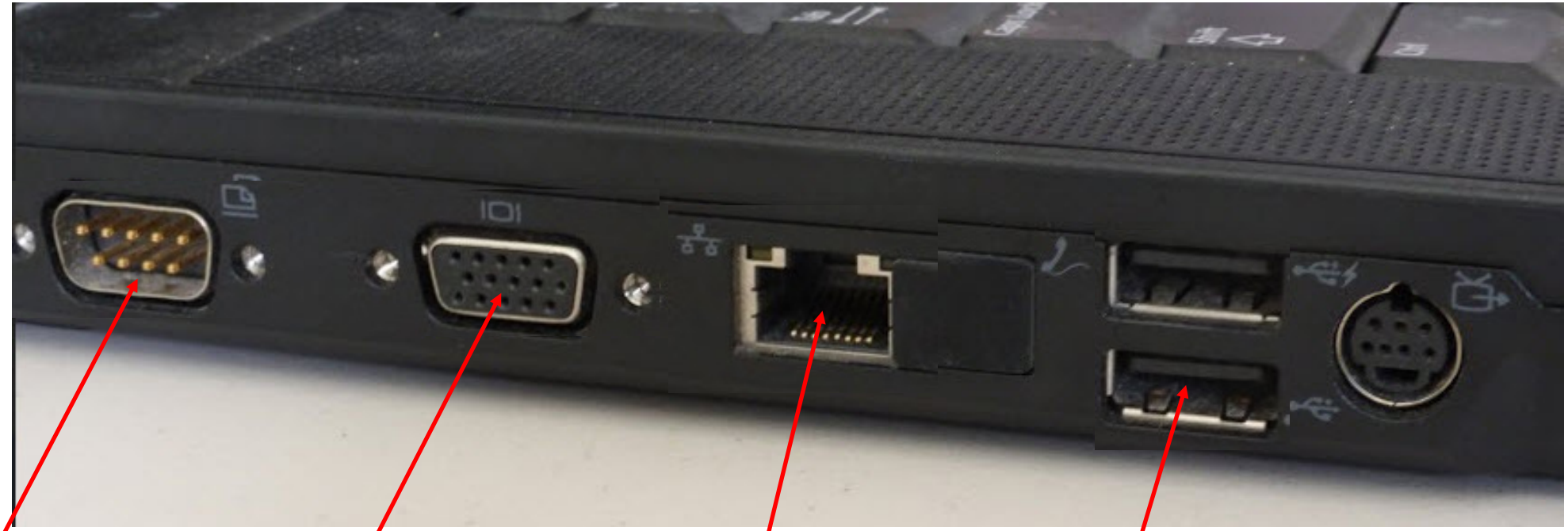
Module Objectives:

- Explain the purpose of RSLinx
- Explain how to start and stop the RSLinx application
- Explain how to create a driver in RSLinx for an SLC-500
- How to navigate through the RSLinx application
- Explain the communication ports on the SLC-500 modular processors

-RSLinx is a Rockwell Automation communication application that sets up communications between Allen Bradley PLCs and VFDs, with the Windows environment.
-RSLinx is required if the user wishes to go online, download, upload, etc., with an application such as RSLogix5000.



The following is a graphic of the communication ports on a computer, which will become a PLC program panel, when the PLC communication software (RSLinx) and programming software (RSLogix500) is loaded on the computer. Modern day laptops do not come with RS-232 ports, and many do not come with Ethernet ports. The USB is the universal standard for laptops. A user many have to use smart cables to convert from USB to RS-232, and USB to Ethernet.



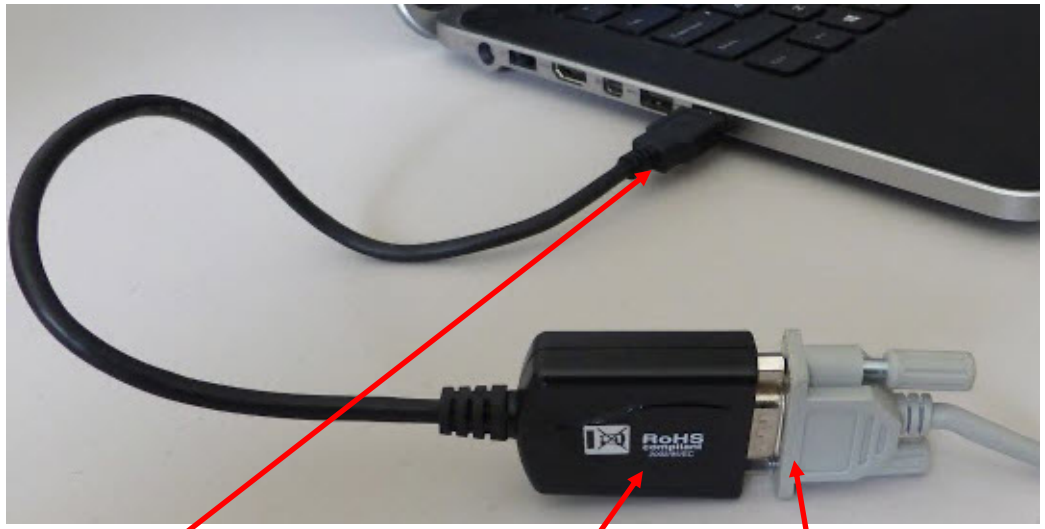
RS-232 port, which is a 9-pin, D shell connector

Video output port. Seldom used on modern computer.

RJ-45, Ethernet port

USB ports

The following is the graphic of a smart cable that converts a USB port to an RS-232 port (due to newer laptops not having an RS-232 port). This cable requires that the user install a device driver onto the computer from the smart cable manufacturer's website. A setup process occurs. The computer assigns a COM port number to the smart cable. This process need to occur only once, then the user should be able to use the cable for RS-232 communications. A standard RS-232 cable purchased from Rockwell, is used to connect the smart cable to the PLC processor serial port. The same cable is used for the SLC-500 and CompactLogix/ControlLogix processors.

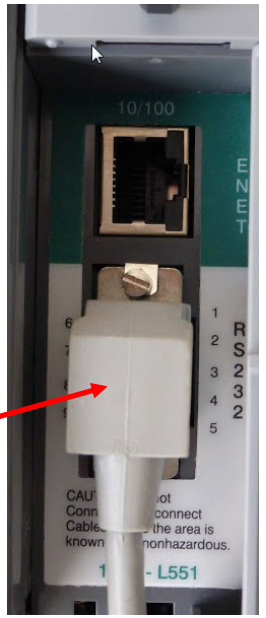


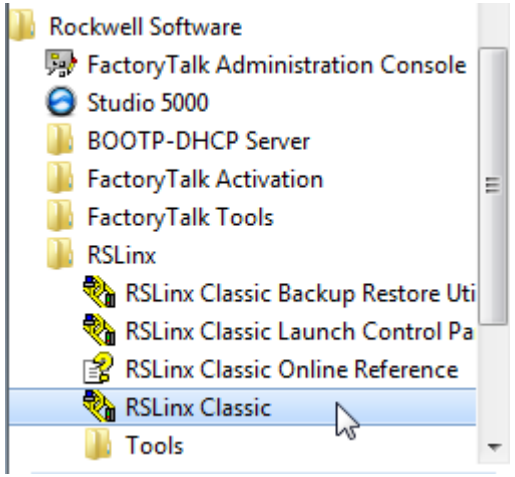
USB Port on the Computer

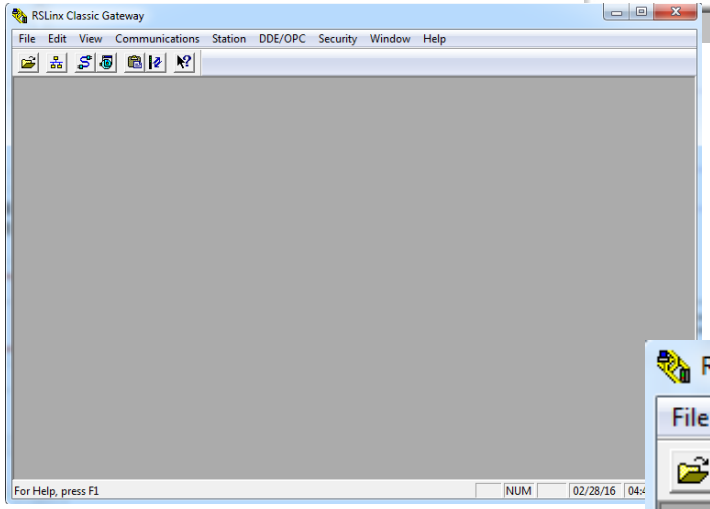
USB to RS-232 Smart Cable

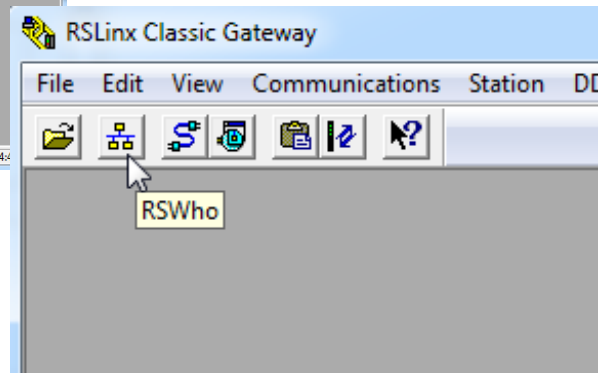
RS-232 Cable

RS-232 Port on the SLC-5/05 processor







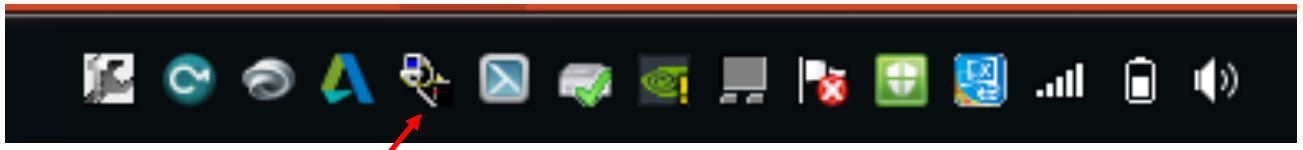


Start RSLinx by clicking the start button on the windows menu and choosing the Rockwell Software folder, then the RSLinx folder, and choose the RSLinx Classic application.

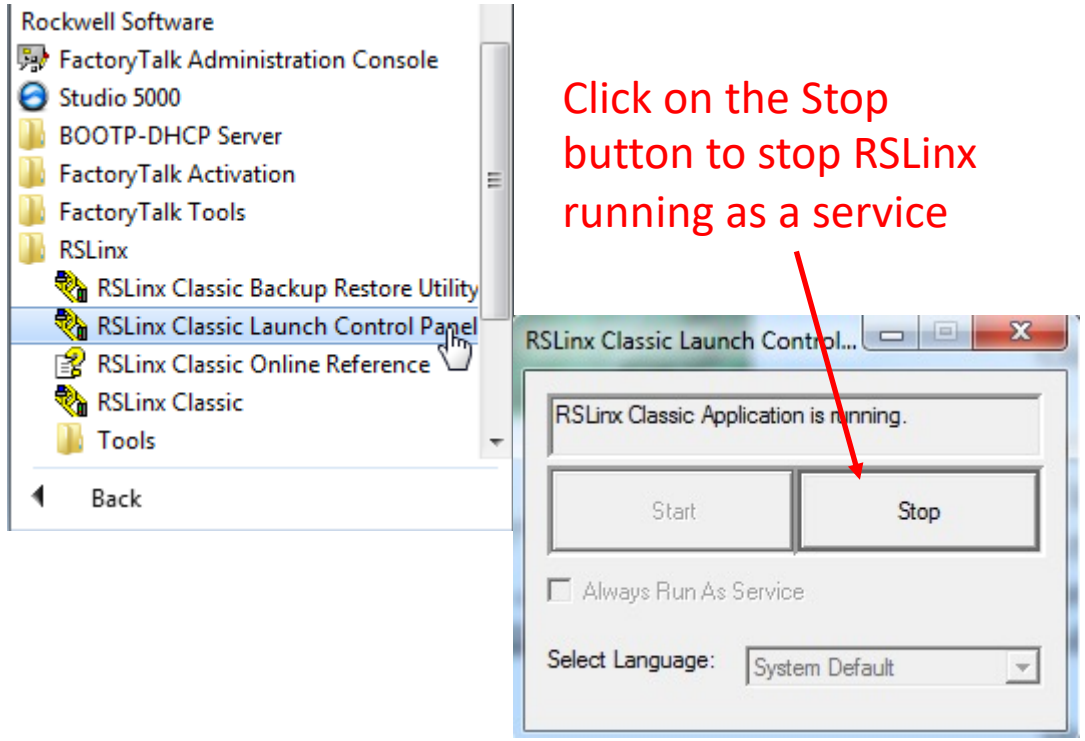
When the application launches, it looks into the Factory Talk activation server and determines the level of RSLinx it will open.

The example shown here is the RSLinx Classic Gateway, which allows for many advanced features beyond basic communications.

Our next slide will discuss how to shutdown RSLinx

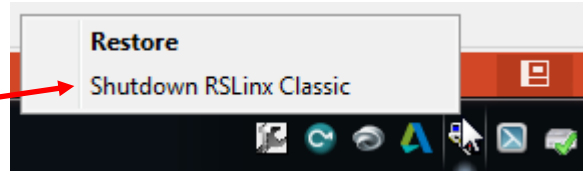


RSLinx icon in
the system tray



Click on the Stop
button to stop RSLinx
running as a service

Right mouse click on
the RSLinx icon and
choose shutdown

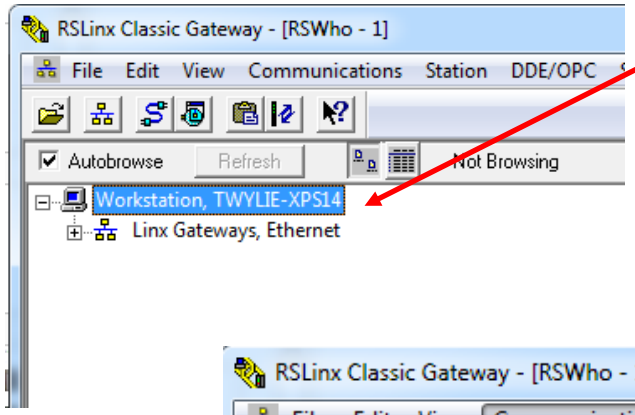


RSLinx typically starts as a service in the Windows operating system. This means it is always running in the background.

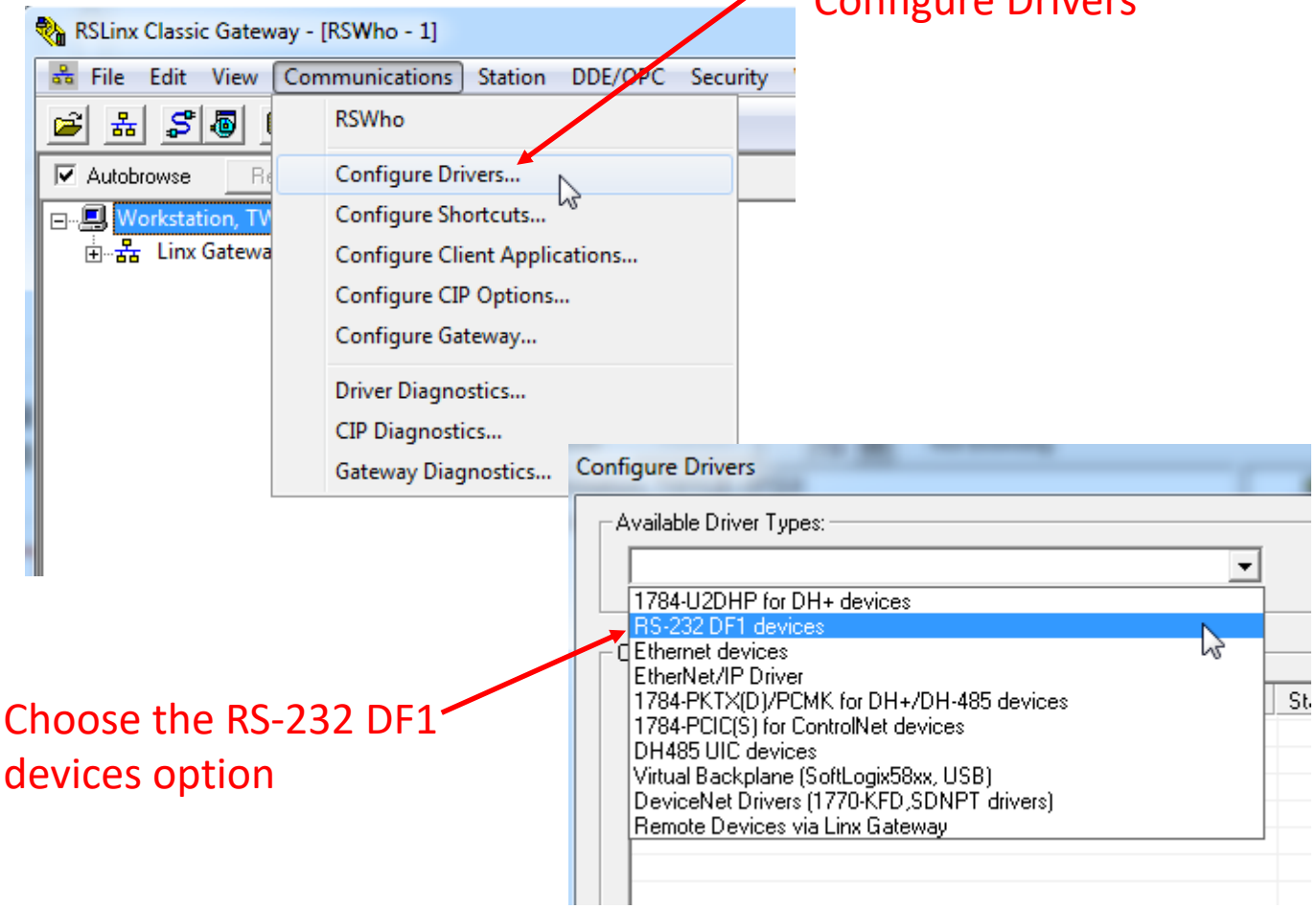
You can see it in the system tray (lower left of the screen). Sometimes you do not see it there, but it is still running.

Many times the user will have to stop RSLinx, due to the stubbornness of some communication drivers that will not delete when the app is running.

Closing RSLinx the traditional way does not shut it down. The user can stop RSLinx through the Launch Control Panel, or by right clicking on the RSLinx icon in the system tray and choosing shutdown



The name of the computer workstation where RSLinx resides



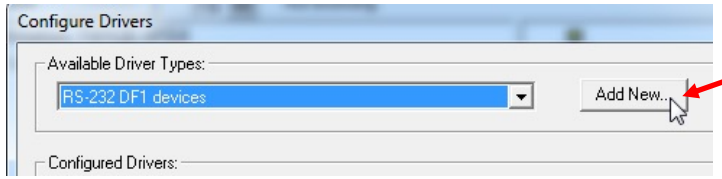
Click on the Communication pull down and choose Configure Drivers

Choose the RS-232 DF1 devices option

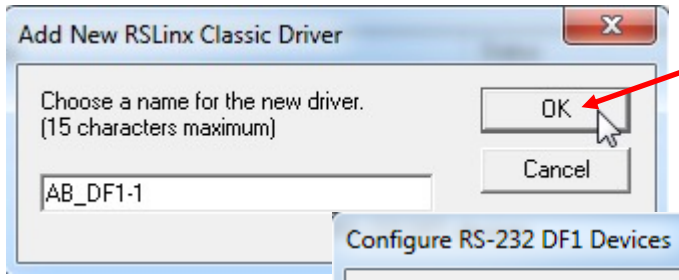
RSWho is the setting in RSLinx that will allow the users to view the communication drivers and to configure the drivers

A driver is the configuration of a communication port that will allow communications with an external device.

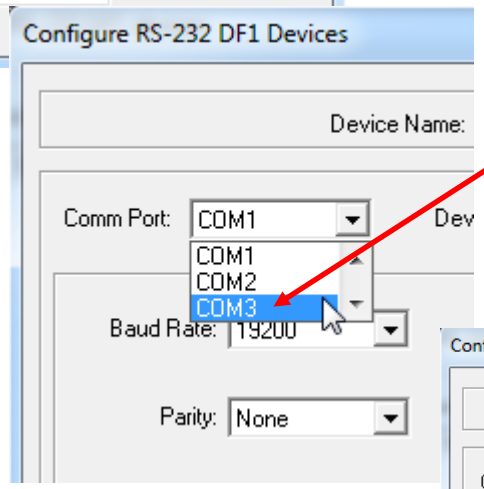
The next few slides will walk the user through how to setup an RS-232 driver to communicate with a serial port on an SLC-500 or CompactLogix



Click the Add New button

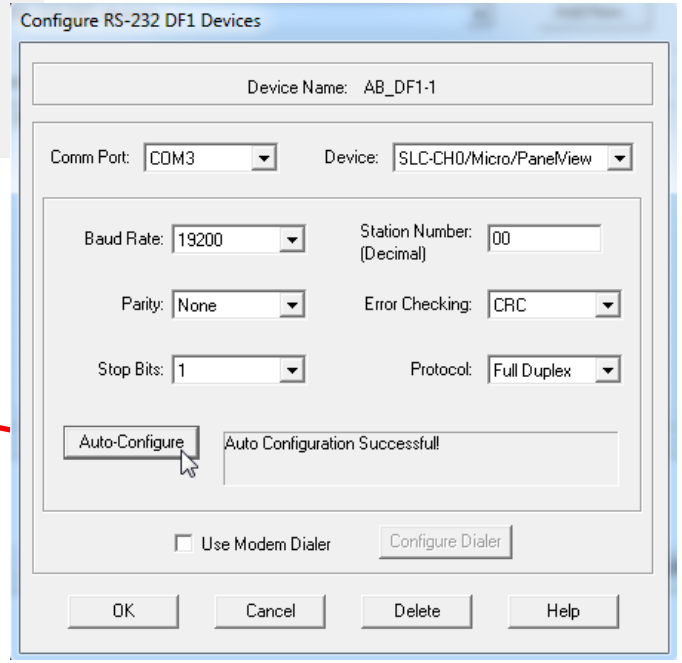


The default driver name of AB_DF1-1 appears. This can be changed. Click OK



This computer is using a smart cable (USB to RS-232). The unit is configured for COM3. Choose COM3.

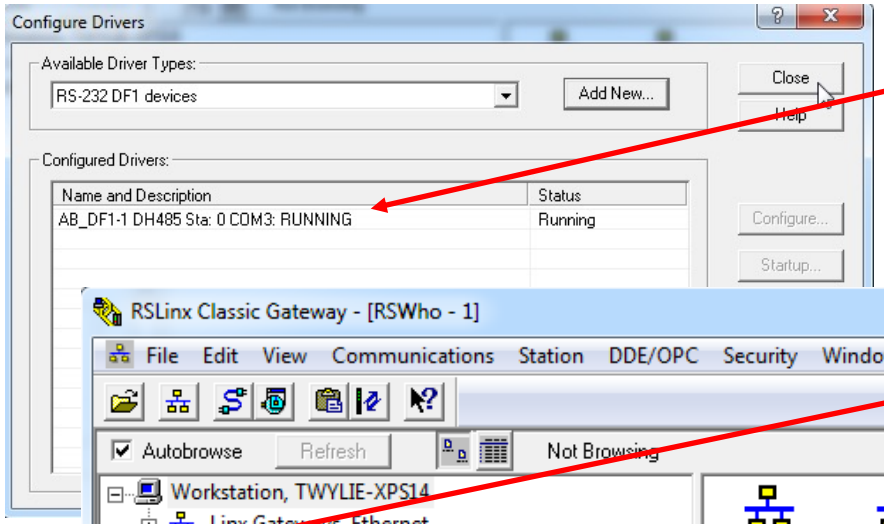
Click on the Auto-Configure button. This will set the baud rate of COM3 to match the baud rate of the RS-232 port on the program panel (if the cable is connected to the PLC)



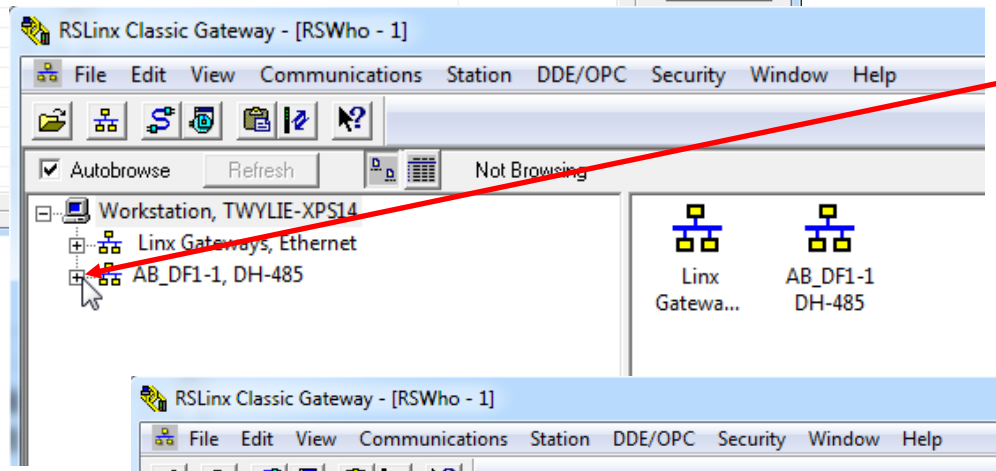
After choosing RS-232 DF1 device, the user will click the Add New button. The default name is AB_DF1-1, but can be changed to a logic name specified by the user.

In this example, the program panel does not have an RS-232 port, so a smart cable is used to convert a USB to RS-232. When the cable driver was set up, the computer assigned it to COM3. If the program panel has an RS-232 (9 pin, D shell), the setting would be COM1.

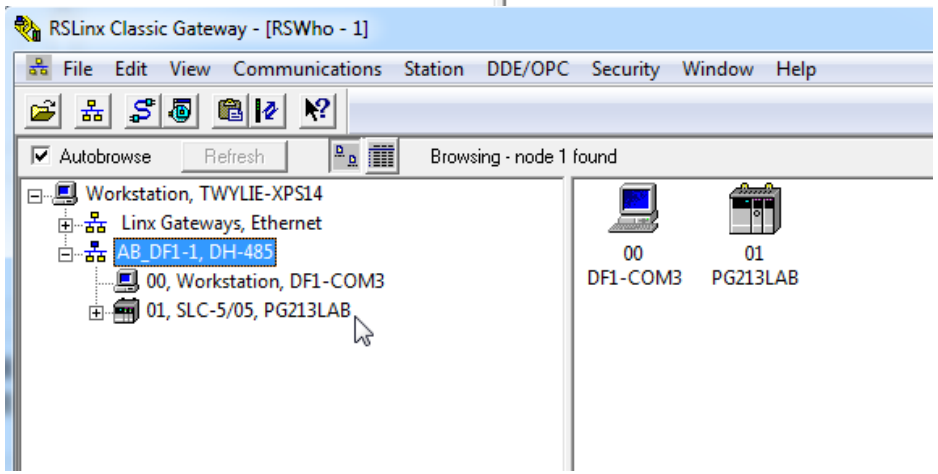
By clicking the Auto-Configure, RSLinx goes out through COM3 and checks the baud rate of the RS-232 port on the PLC, then adjusts its own COM port baud rate to match it. A cable must be connected to a powered PLC to make this work. Auto Configuration Successful will display if it makes the connection.



The user can view the configured driver and the status of the driver (Running). Click the Close button



The RSWho menu will display the driver. If the user clicks on the + sign in front of the driver, it will view the device(s) it is communicating with.

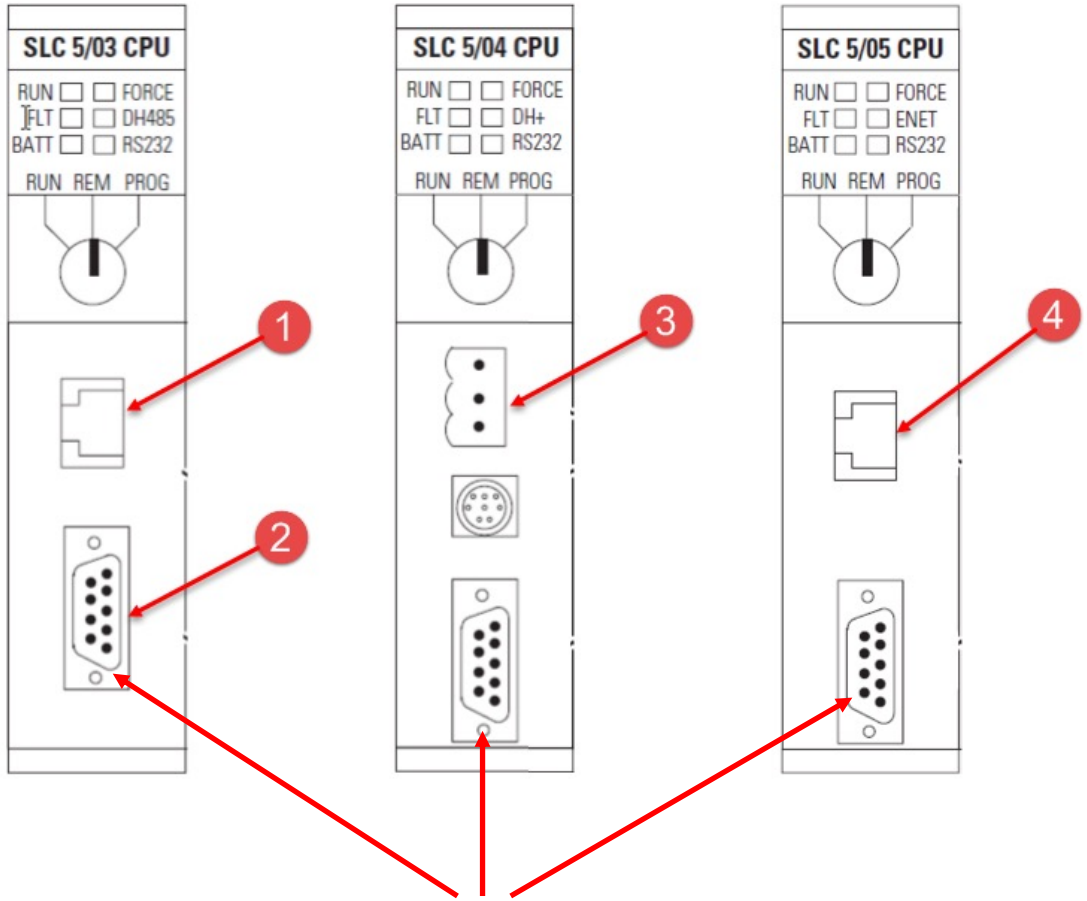


The driver will show the computer (program panel) and the communication port, as well as the PLC it is communicating with. The name of the program in the PLC is PG213LAB

The configured driver should be shown in the configured drivers list. If the user clicks the Close button, the driver will be shown in the RSWho menu.

The user can click the + sign in front of the driver to explode the view to see what devices it is communicating with. If this is clicked, the user will see the program panel and the PLC in the right hand window.

Notice the station numbers which are set automatically, as well as the name of the program that is currently in the PLC.



The RS-232 ports are standard 9 pin, D shell connectors on all the AB processors.

This graphic shows the communication ports on the SLC-5/03, 5/04 and 5/05 processors. It is critical that the user understands the communication ports.

The SLC-5/03 has two communication ports: RS-232 (9 pin, D shell) and an RJ-45 connector, which is used for DH-485 (not Ethernet). Using an Ethernet connector to do DH-485 was a major mistake by Allen Bradley with the SLC-5/03 processor. It has created a lot of confusion.

The SLC-5/04 has two communication ports: RS-232 and two Data Highway Plus (DH+) ports.

The SLC-5/05 has two communication ports: RS-232 and an RJ-45, which is used for Ethernet.

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