

PLC127 LAB 3.1: GETTING STARTED WITH RSLOGIX5000

Student Name: _____

Student ID: _____

LAB OUTCOMES:

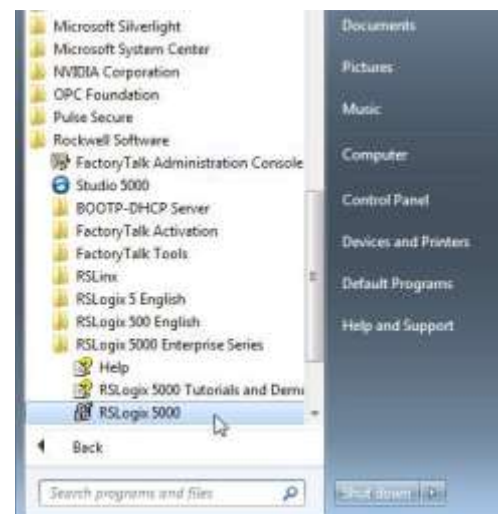
1. Demonstrate how to use RSLogix5000 to program a CompactLogix system
2. Demonstrate how to create and configure a new RSLogix5000 project
3. Demonstrate how to create a timer and alias tag for data storage
4. Demonstrate how to create a ladder program for the CompactLogix system
5. Demonstrate how to create an ethernet driver in RSLinx to communicate with the CompactLogix system
6. Demonstrate how to use RSLogix5000 to download, go online, change the processor mode, and upload a project

LAB PROCESS:

Create a new project following the steps in Part 1. Then you will have to manually configure the I/O through the RSLogix5000 software based on the module information gathered when configuring RSLinx. Key in the ladder logic.

Part 1

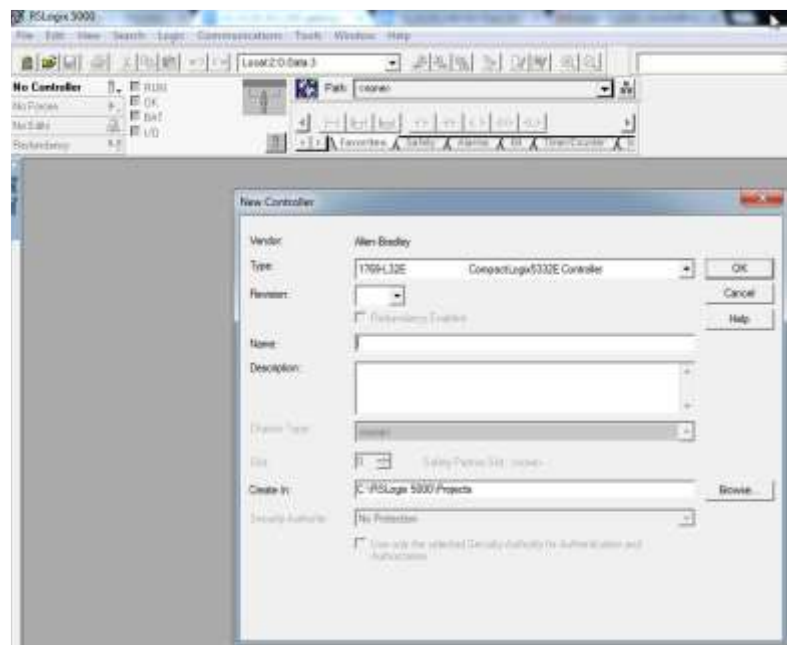
1. From the application menu in Windows choose Rockwell Software. Select RSLogix5000



2. A quick start screen appears. Click on the radio button for New Project



3. The project shell is created and the New Controller window appears

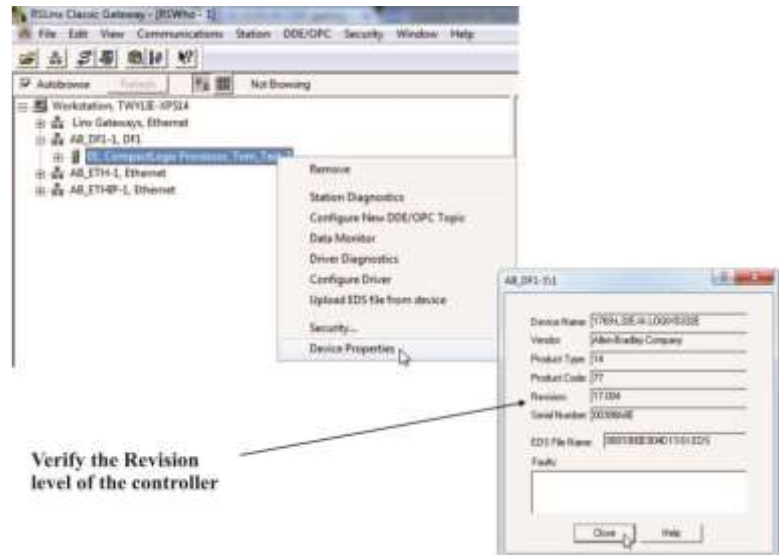


4. Check the Controller Software Revision.
Configure a driver in RSLinx.
Open the driver and right click on the processor.

Choose Device Properties

Verify the firmware revision of the CompactLogix controller the project will be downloaded to.

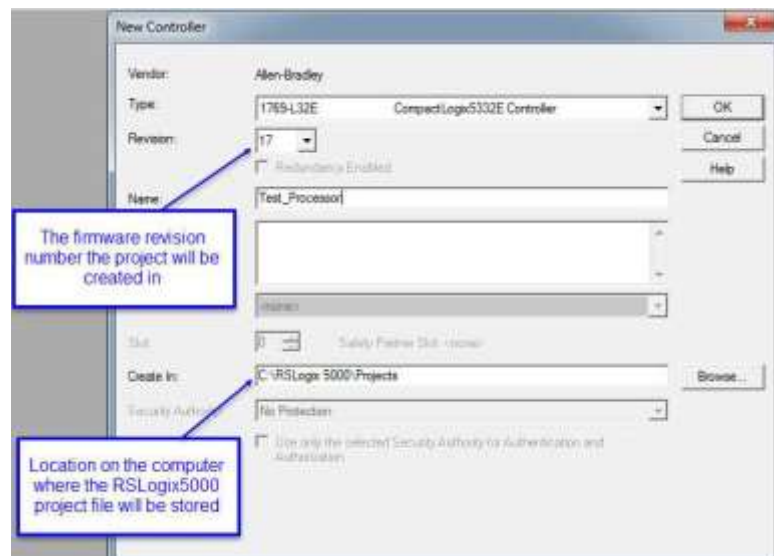
The controller software revision number must match The software version of RSLogix5000 that the project Is created in.



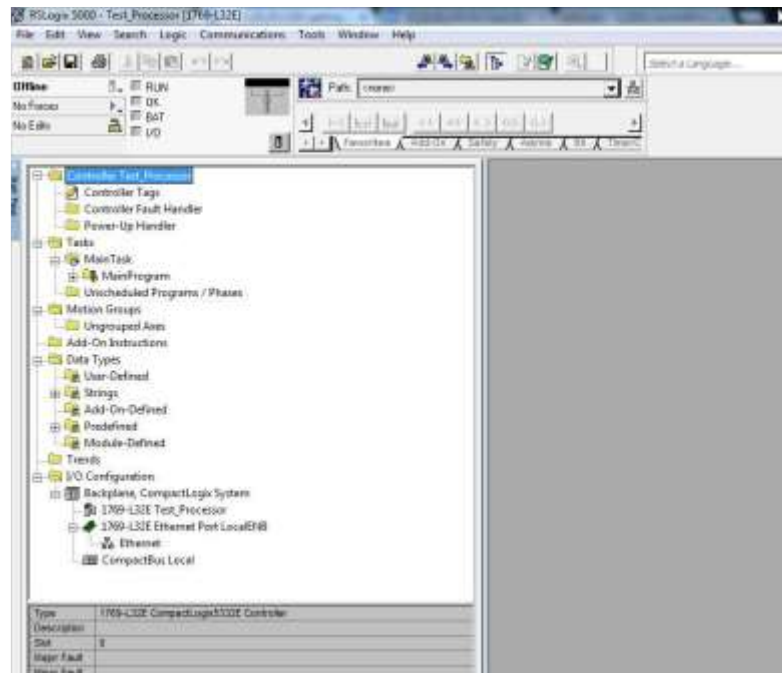
5. Give the new controller a name, and set the revision level to the level that matches the processor

Also verify the folder the project is created in

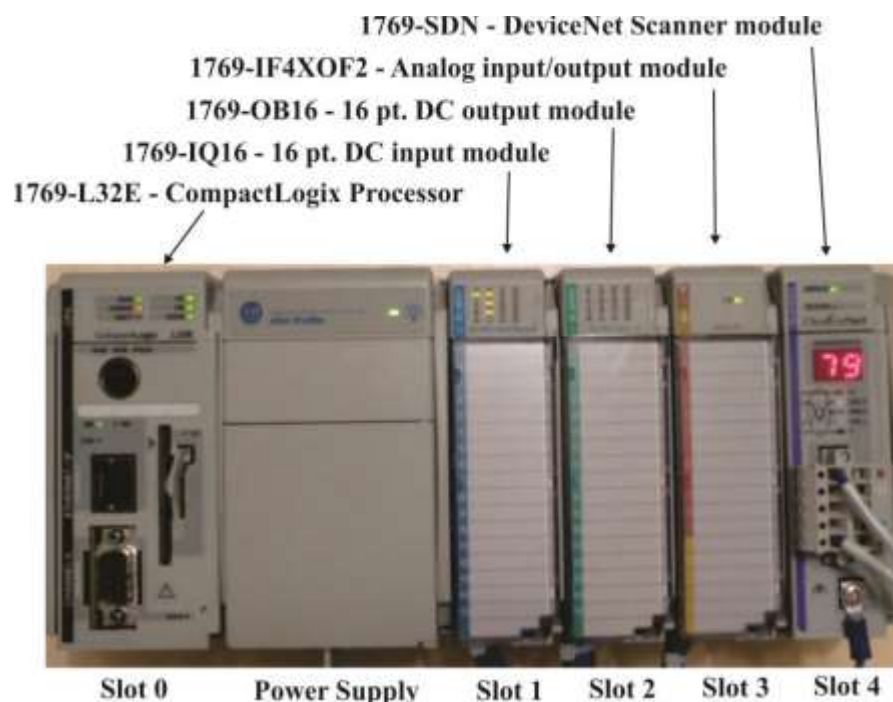
Click the OK button



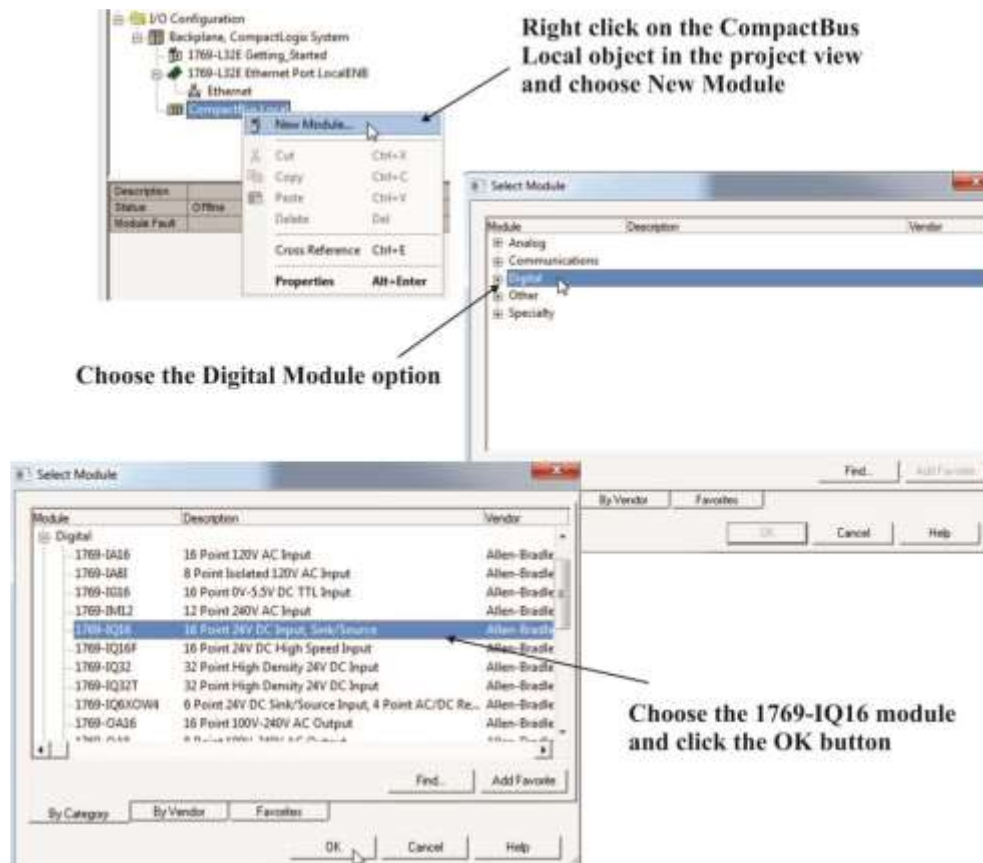
6. A new project is created that will have a project view on the left of the screen



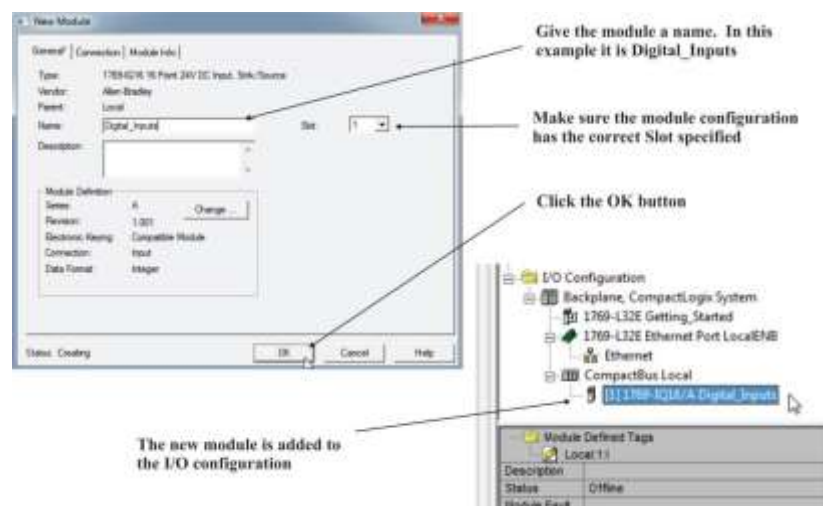
7. Unlike the RSLogix500 software, the RSLogix5000 will require the user to manually configure the I/O. The following graphic shows the CompactLogix system that this project will be created for.



8. Follow the sequence below to choose the DC input module for slot 1

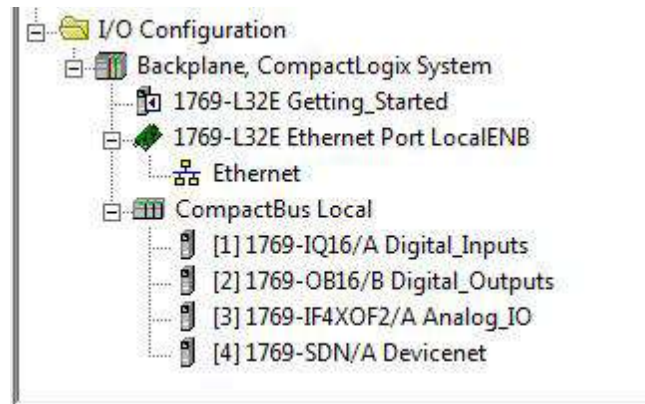


9. Name the module. Choose the correct slot number. Click the OK button. The new module should appear



10. Repeat the process above to add the new modules that were listed above in the hardware graphic.

When complete, all modules should be listed under the CompactBus Local object in the I/O Configuration



11. In the project view, right click on the Controller Tags (top of project view window), and choose Monitor Tags.

The Base Tags that are created when the user configures the I/O will be listed



12. In the Tag Monitor Window, click on the Edit Tags tab at the bottom of the screen.

In this program, the user will create 4 Alias tags, and one Timer tag.

Cycle_Stop, alias tag for Local:1.I.Data.0 input

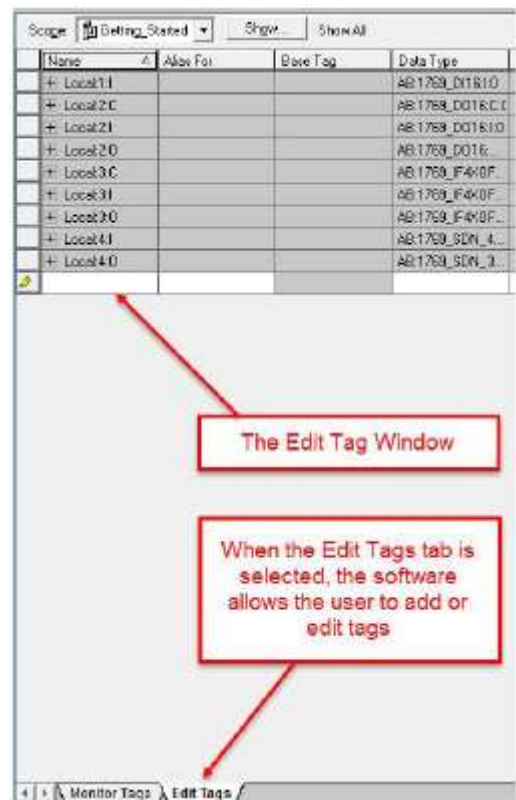
Then

Cycle_Start for Local:1.O.Data.1

Output_1 for Local:2.O.Data.1

Output_2 for Local:2.O.Data.2


Timer_1 tag



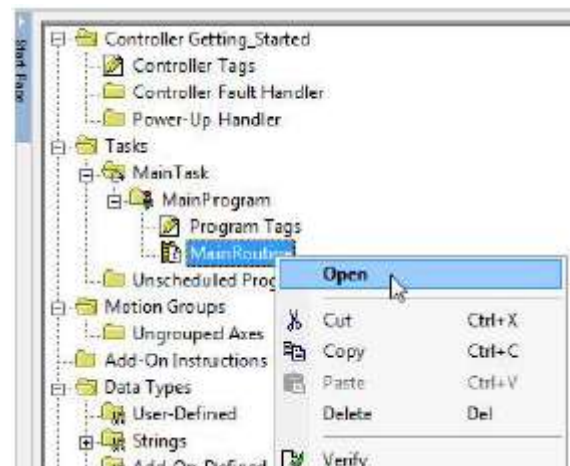
-
- Type in the Alias Tag name**
- Under the Alias For column, double click to get a pull down menu to choose the base tag to assign**
- Drill down to the address for Local1.1.Data, and choose input 0**
- Type in the Alias Tag name as a BOOL data type**

To assign an Alias for an output, type in the Alias name and then drill down to the output Local.2.O.Data.1

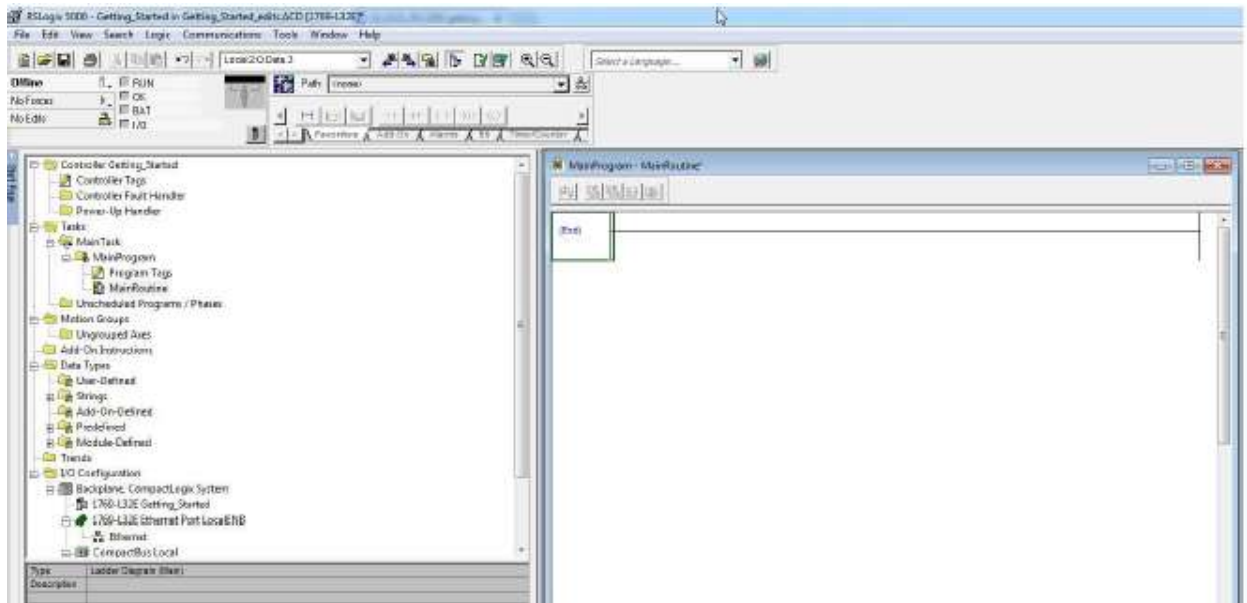
For the Timer_1 tag, type in the tag name, then under the data type column choose the TIMER type and click OK



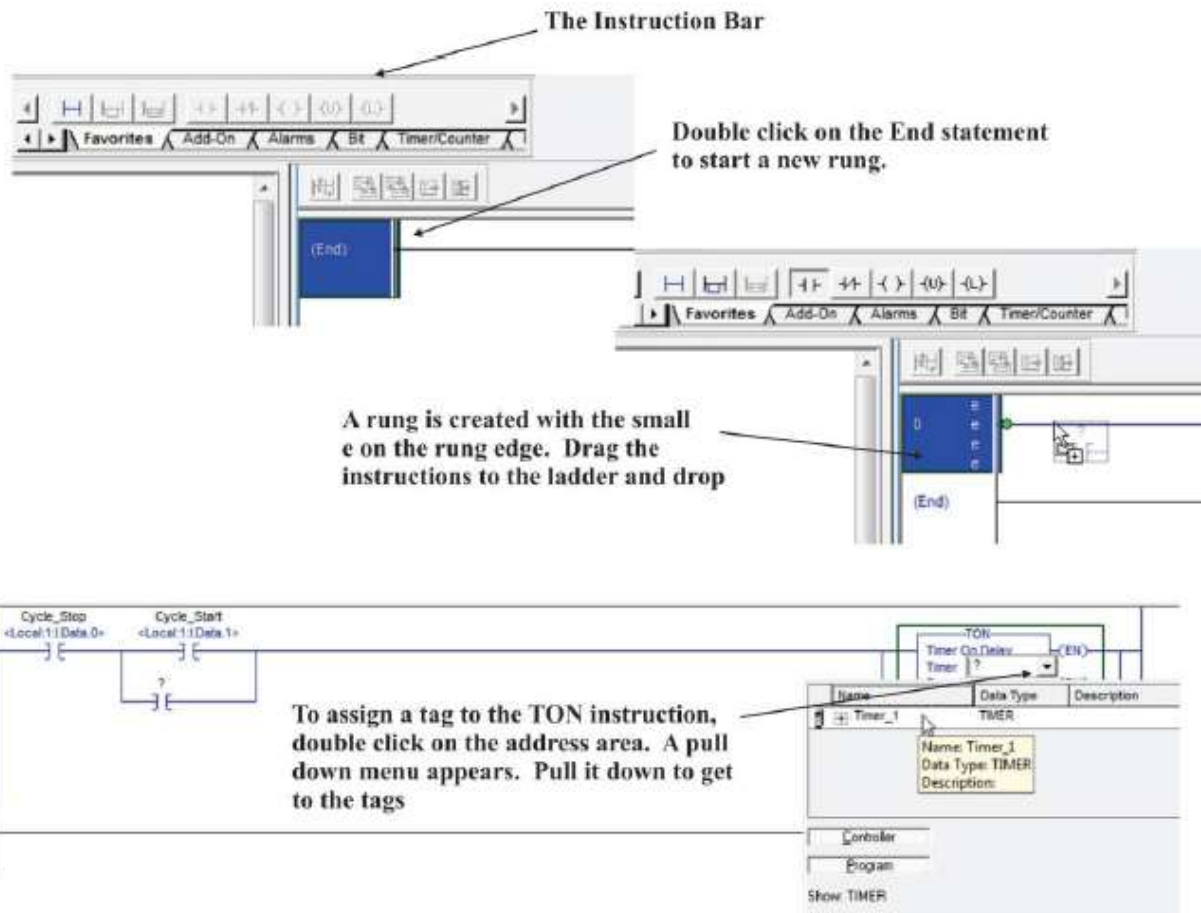
14. Right click on MainRoutine and select Open.



15. The main ladder (routine) window will appear to the right of the project view.



16.



17.

TON
Timer On Delay
Timer: Timer_1
Preset: 15000
Accum: 0

Output_1

Name	Data Type	Description
Local 4:I	AB:1769_SD...	
Local 4:O	AB:1769_SD...	
Output_1	BOOL	
Output_2	BOOL	
Timer_1	TIMER	

Controller
Program
Show: Show All

Timer_1.E

Name	Data Type	Description
Timer_1.PRE	DINT	
Timer_1.ACC	DINT	
Timer_1.EN	BOOL	
Timer_1.TT	BOOL	
Timer_1.DN	BOOL	

Controller
Program
Show: Show All

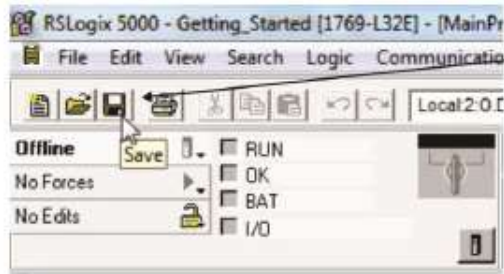
Verify Controller

Notice when you program an output, double click to get the pull down menu. Pull the menu down and choose the Alias Tag

When putting a timer status bit tag on an XIC, drill down into the timer tag to get to the status bits

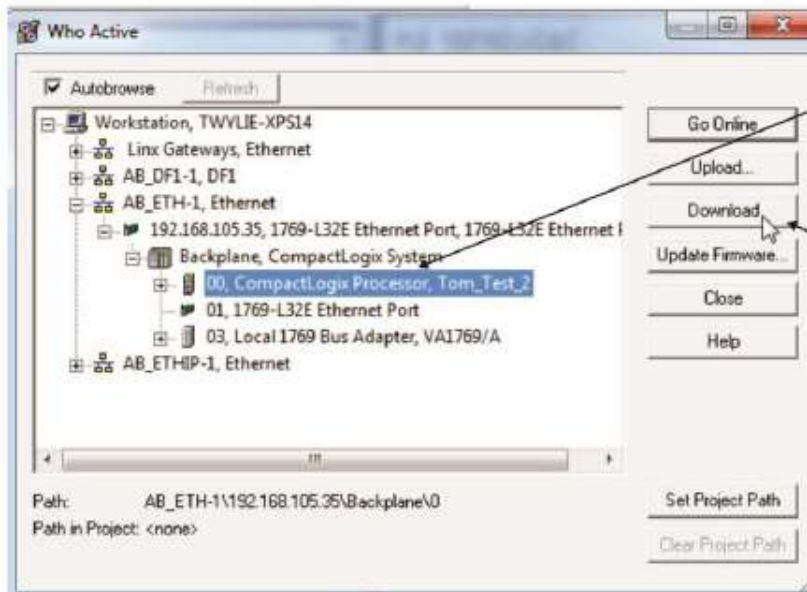
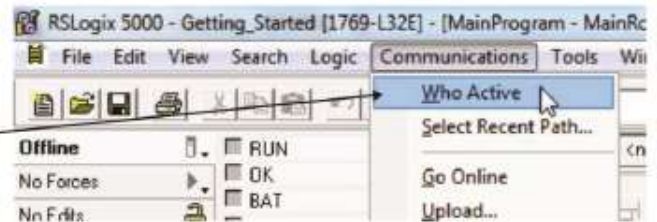
The last step is to verify the controller

18.



Click the Save icon to save the project to the default directory

Click on the Communications pull down menu and choose the WhoActive option



An RSLinx RSWHo window will appear. Drill down into any of the drivers and choose the processor.

Click the Download button

19.

The image displays three screenshots from the RSLogix 5000 software interface:

- Download Dialog Box:** Shows the 'Download' button being clicked. The dialog contains information about the connected controller (Name: Tons_Test_2, Type: 1765-L33E/A CompactLogix 533E Controller) and a warning that the controller is in Remote Run mode.
- Download Confirmation Dialog Box:** Shows the 'Yes' button being clicked. The message says 'Done downloading. Change controller mode back to Remote Run?'.
- RSLogix 5000 Main Window:** Shows the 'Run Mode' button highlighted. The status bar indicates 'Remote Run' mode. The ladder logic diagram is visible, showing a timer T1 (T1S1) and two outputs, Output_1 and Output_2.

Annotations and text labels:

- 'Click the Download button to start the download process' points to the 'Download' button in the first dialog.
- 'Click the Yes button when the download is complete' points to the 'Yes' button in the second dialog.
- 'The processor is in the Rem Run mode and the graphic which shows gears spinning, which means the software is Online to the controller' points to the 'Run Mode' button and the status bar.
- 'The rung edges are lime green which indicates logic power flow.' points to the green lines in the ladder logic diagram.

20. Press the **Cycle_Start** pushbutton. How does the timer respond?

21. How long once the **Cycle_Start** is pushed, will **Output_1** come on?

22. How long once the **Cycle_Start** is pushed, will **Output_2** come on?

23. What will happen if the **Cycle_Stop** button is pressed?

Questions

1. The software revision that is set by the user for a new project in RSLogix5000, can be a higher revision number than the firmware revision of the controller the project will be loaded into.
True or False.
2. There is a different RSLinx application used for the CompactLogix system than what is used with the SLC-500 system. True or False.
3. On a CompactLogix system, the controller is always considered Slot 0. True or False.
4. The type of module located in a specific module slot on a CompactLogix system, can be viewed with RSLinx. True or False.
5. Base tags are created in RSLogix5000 before the I/O modules are configured. True or False.
6. The Alias Tags are downloaded to the controller during a download. True or False.
7. The user can do a “Read I/O Config” in RSLogix5000 to read in the correct module located in a slot number. True or False.
8. Output number 6 in module slot number 2 has which base tag

Local:2.O.Data.6

Local:2.O.Data.2

Local:6.O.Data.2

Local:6.I.Data.2

The outcomes of this exercise (listed on page 1) specifies the skills that the Student must demonstrate to the Instructor. Once the Instructor is satisfied with the demonstration of Knowledge & Skills by the individual student, they will sign this document (for the student), then enter a 100% into the Hands-On Lab grade in Sakai.

I verify that this student has completed all of the requirements of this Hands-On Assessment:

Student Name: _____

Faculty Signature: _____ Date: _____

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