PLC200 Programmable Controller I, PLC200_Lab17
Getting Started with RSLogix5000 Lab

Objectives:
Upon completion of this lab exercises the trainee should be able to:
1. Execute the RSLogix5000 software used to program a CompactLogix system.
2. Create and configure a new RSLogix5000 project
3. Create timer and an alias tag for data storage
4. Create a ladder program for the CompactLogix system
5. Create an Ethernet driver in RSLinx to communicate with the CompactLogix unit
6. Use the RSLogix5000 software to download, go online, change the processor mode and upload a project.

Equipment Required:
*A programming panel with RSLogix5000 (at least revision 17) and RSLinx
*An NSCC CompactLogix hardware simulator
*A serial communication cable or an ethernet interface cable

The following procedures will assist the user to program the following ladder logic into the CompactLogix processor.

![Ladder Logic Diagram]

Figure 1. Basic CompactLogix ladder logic program.

Steps in Creating a New Project:
1. From the application menu in the Windows operating system, choose:
   Rockwell Software
   RSLogix5000 Enterprise Series
   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 mouse 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.
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<td>5</td>
<td>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.</td>
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<td>6</td>
<td>A new project is created that will have a project view on the left of the screen.</td>
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<td>7</td>
<td>The following graphic shows the CompactLogix system that this project will be created for. Unlike the RSLogix500 software, which would read the I/O configuration, the RSLogix5000 software will require the user to manually configure the I/O.</td>
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Do the following sequence of clicks to choose the DC input module for slot 1

1. Right click on the CompactBus Local object in the project view and choose New Module.
2. Choose the Digital Module option.
3. Choose the 1769-IQ16 module and click the OK button.
9. Name the module. Choose the correct slot number. Click the OK button. The new module should appear.

Give the module a name. In this example it is Digital Inputs.

Make sure the module configuration has the correct Slot specified.

Click the OK button.

The new module is added to the I/O configuration.

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.
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** - Local:1.I.Data.1
**Output_1** - Local.2.O.Data.1
**Output_2** - Local.2.O.Data.2
and
the Timer_1 tag

To create the tags, type in the name of the alias tag and assign the base tag to it as shown in this graphic.
An NSF Funded Project

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

Double click on the End statement to start a new rung.

A rung is created with the small e on the rung edge. Drag the instructions to the ladder and drop.

To assign a tag to the TON instruction, double click on the address area. A pull down menu appears. Pull it down to get to the tags.

jkhjkj

sadfasdfs
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.
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.
Press the Cycle_Start pushbutton. How does the timer respond?

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

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

What will happen if the Cycle_Stop button is pressed?
Questions:
1. T F 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.

2. T F There is a different RSLinx application used for the CompactLogix system, than what is used with the SLC-500 system.

3. T F On a CompactLogix system, the controller is always considered Slot 0.

4. T F The type of module located in a specific module slot on a CompactLogix system, can be viewed with RSLinx.

5. T F Base tags are created in RSLogix5000 before the I/O modules are configured.

6. T F The Alias Tags are downloaded to the controller during a download.

7. T F The user can do a “Read I/O Config” in RSLogix5000 to read in the correct module located in a slot number.

8. Output number 6 in module slot number 2 has the following base tag:
   a. Local:2.O.Data.6
   b. Local:2.O.Data.2
   c. Local:6.O.Data.2
   d. Local:6.I.Data.2

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