Day 1 lab work

This is the Core Class lab work for day 1. To earn certification from this class, you must complete this lab work during the designated time in class.

Instructions

Using the same project we have been working on throughout the class today, complete the following steps.

Create a new device connection

1. Add a new device connection in the **Gateway Webpage**.
2. Use the **Programmable Device Simulator** type.
3. Name the connection **LabWorkSim**.
4. Load a program into the simulator using the **LabWorkSimTags.csv** file. The csv file can be found in the **Class Start Files** folder we reviewed earlier.

Add a new tag group

1. Create a new **Tag Group** in the Designer.
2. Name the group **LabWorkRate**.
3. Set the group to a constant **2 second** rate.

Add new tags

1. Create a **new folder** in the Tag Browser.
2. Name the folder **LabWorkSim**.
3. Add all **15 Conveyor folders** from the **LabWorkSim** device you created above. Make sure the tags are added to the new **LabWorkSim** folder.
4. Update all of the **Conveyor** tags to use the **LabWorkRate** tag group you created above. Be sure that all of the Conveyors are using the new rate. (You can look at the tags in the Tag Browser. You should see the values updating every 2 seconds, rather than every second.)

Create a new Vision window

1. Create a new main window in **Vision**. Alternatively, you can duplicate and rename the **Empty** window.
2. Name the new window **Lab work day 1**.
3. Add a **Label** component.
4. Set the text on the label to **Conveyor 1**.
5. Add a **Symbol Factory** image to the display. Use any of the **Conveyor** symbols.
6. Add an **LED Display** component.
7. Bind this LED component to the **Conveyor 1 AMP**s tag.
8. Add a label next to the LED component. Set its text to **Amps**.
9. Repeat steps 6-8 for the Conveyor 1 **Speed** and **Totalizer** tags.
10. Add a **Multi-state Button** component to display and control the value of Conveyor 1's **HOA** tag.
11. Repeat steps 3-10 on the same window, but this time with a **different conveyor**. Both sets of components should look the same but show different data.

12. Add a **Label** component at the top of the window. Set its text to **Lab work day 1 conveyors**. If you duplicated the Empty window in step 1, **change the text** on the header instead.

Set navigation

1. Add the **Lab work day 1** main window to your **navigation Tab Strip**.

Test your work

1. Open the **Lab work day 1** window in the Vision Client.
2. Verify that the **LED Display** components are showing the correct values, and that those values are updating every 2 seconds.
3. Click the **Multi-state Button** and ensure that it indicates a new value. Return to the Designer and use the **Tag Browser** to check that the **HOA** tag value has changed.

Lab work check

Once you have completed all of the steps above, please let your instructor know so that they can check your work. Please do the following:

1. Have the Vision Client open to the Lab work day 1 window. The instructor will:
    a. Verify that the values are updating at a 2 second rate.
    b. Verify that clicking on the multistate button changes the value.

Additional challenges

If you finish the lab work early, give these challenges a try.

Completing these challenges is not required for certification. Your instructor will not cover these in the lab work review.

1. Add a **box** from the **Symbol Factory**. There are a bunch of them in **Basic/Containers**.
2. Place the box at the start of the conveyor; resize if needed.
3. Add a **Timer** component.
4. Bind the **box** to the **Timer** so that it animates across the conveyor. When it reaches the end, it should reset back to the start of the conveyor.
5. Add a binding so that the animation only runs if the **Multi-State Button** is set to **Auto**.

Virtual classes only

If you are taking the class virtually, please use the Windows Start menu to properly shut down the machine after your work is checked. This will ensure that the AWS workspaces are properly shut down.