Day 3 lab work

This is the Core Class lab work for day 3. 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.

Store tag history

1. Edit the **Conveyor UDT** to store tag history for the **Amps, HOA, Speed**, **SpeedSP**, and **Totalizer** tags**.**
2. Use the existing database connection as the **Storage Provider**.

Add alarms

1. In the **Conveyor UDT**, add an alarm for the **HOA** tag.
2. Name the alarm **Faulted.**
3. In the **Alarm Mode Settings**, set the **Mode** to **Equal,** and the **Setpoint** to **2.** .
4. Add an alarm to the **Speed** tag.
5. Name the alarm **High Speed.**
6. In the **Alarm Mode Settings**, set the **Mode** to **Above Setpoint.**
7. Bind the **Setpoint** to the **SpeedSP** tag.

Create a Vision popup window

1. Create a new **Popup Window** in Vision. Alternatively, you can duplicate and rename the existing **Popup** window.
2. Name the popup **Lab work day 3**.
3. Add a parameter to the window named **PopupConveyorNumber**.
4. Set the parameter's **data type** to **Integer**.
5. Add a **Label** to the popup.
6. Use a **dynamic expression binding** to set the **Text** property of the label to **Conveyor** plus the value of the **PopupConveyorNumber** parameter.
7. Add a **Numeric Text Field** to the popup.
8. Use an **indirect binding** to allow users to edit the value of the **SpeedSP** tag from the numeric field. Be sure that users can input **decimal** values.
9. Modify the **security settings** on the **numeric text field** so that only users in the **Administrator** roles can edit its value.
10. Add a **Label** to the popup.
11. Set the **Text** property to **SpeedSP.**
12. Add an **Alarm Status Table** to the popup.
13. Set the table's **Display Path** filter to an **expression** that will ensure that only the alarms for the Conveyor currently being displayed by the popup are shown. For example, when displaying Conveyor 1, only Conveyor 1 alarms should display, and not alarms for Conveyors 10-15.
14. Add an **Easy Chart** to the popup.
15. Set the chart's **Chart Mode** to **Realtime.**
16. Add the **Speed** and **SpeedSP** tags to the **Easy Chart**.
17. Use a **Cell Update Binding** to ensure that the chart displays the data from the Conveyor being displayed on the popup.

Modify the template

1. Open the **Conveyor Template.**.
2. Add a **Navigation Script** to the template so that when any part of the template is clicked, the **popup window** created above will open.
3. Ensure that the **template parameter** is passed to the **popup.**

Test your work

1. Open the **Lab work day 2** window in the Vision Client.
2. Click on each of the instances of the **Conveyor template.**
3. Check to make sure the correct Conveyor is shown in the **Label**, that the **Alarm Status** table is filtering correctly, that the **Easy Chart** is displaying the correct data, and that editing the value in the **Numeric Text Field** changes the corresponding tag.

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 2 window. The instructor will:
    a. Verify that you can open a popup for 2 different conveyors.
    b. Verify that each popup is showing the correct conveyor data.

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. Modify the **Popup** to include an instance of the **Conveyor** template.
2. Add the **HOA** value to the **Easy Chart**. Display it on its own subplot with a custom axis.
3. Add a **Dropdown List** to the **Popup.** Allow operators to select a **Conveyor** from the list to change which Conveyor is displaying on the Popup.
4. Add an **Alarm Pipeline** that will send an email alert to **two rosters** at the same time.

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.