How to delete an add-on instruction in Studio 5000 Logix Designer

This guide shows you how to delete an add-on instruction (AOI) in Studio 5000 Logix Designer. The example uses a Motor AOI named MOTOR, which has four instances in the main routine (MTR_1 to MTR_4). Logix Designer blocks deletion while the controller is online or while anything still references the AOI. You first go offline, remove every reference, and then delete the AOI.

Prerequisites

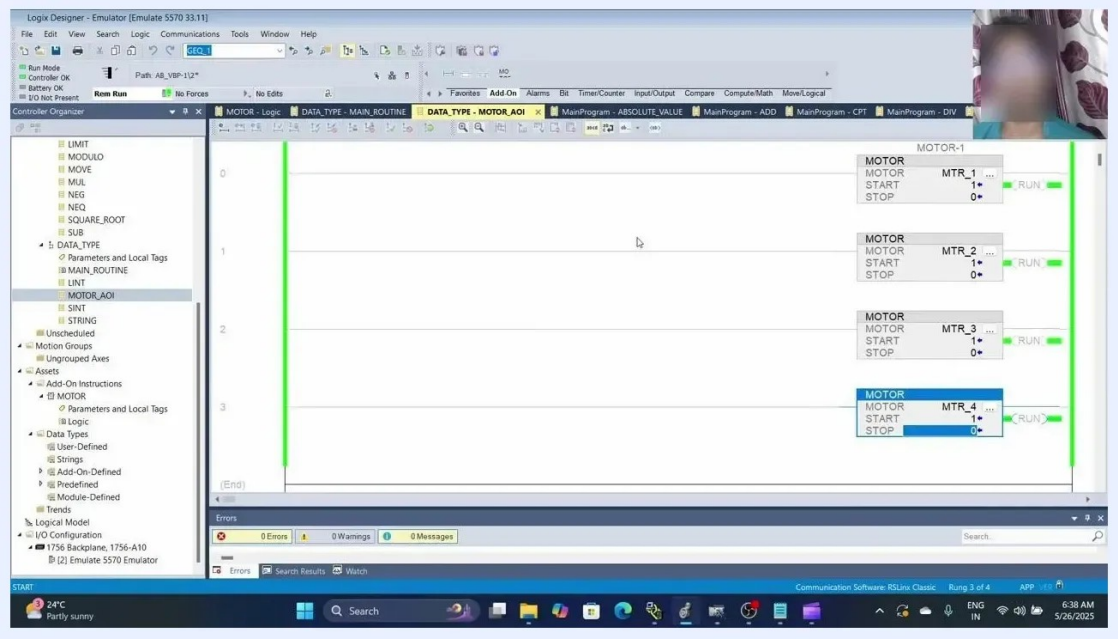
- A Logix Designer project that contains the AOI you want to delete. This example uses the MOTOR AOI.
- Access to the main routine where the AOI instances are used.
- The ability to take the controller offline. The project in this example starts in Rem Run mode.

Steps

1. Review the current logic

1. Open Logix Designer and load your project.
2. Go to the main routine where your Motor AOIs are used.
3. Look at the rungs that contain Motor AOI blocks (MTR_1, MTR_2, MTR_3, MTR_4). Each has tags and logic for MOTOR, START, and STOP.
4. Confirm which AOI instances are present and which ones you want to delete.

The top bar shows the project in Rem Run mode. The Controller Organizer on the left shows folders such as **DATA_TYPE** and **Add-On Instructions** > **MOTOR**.

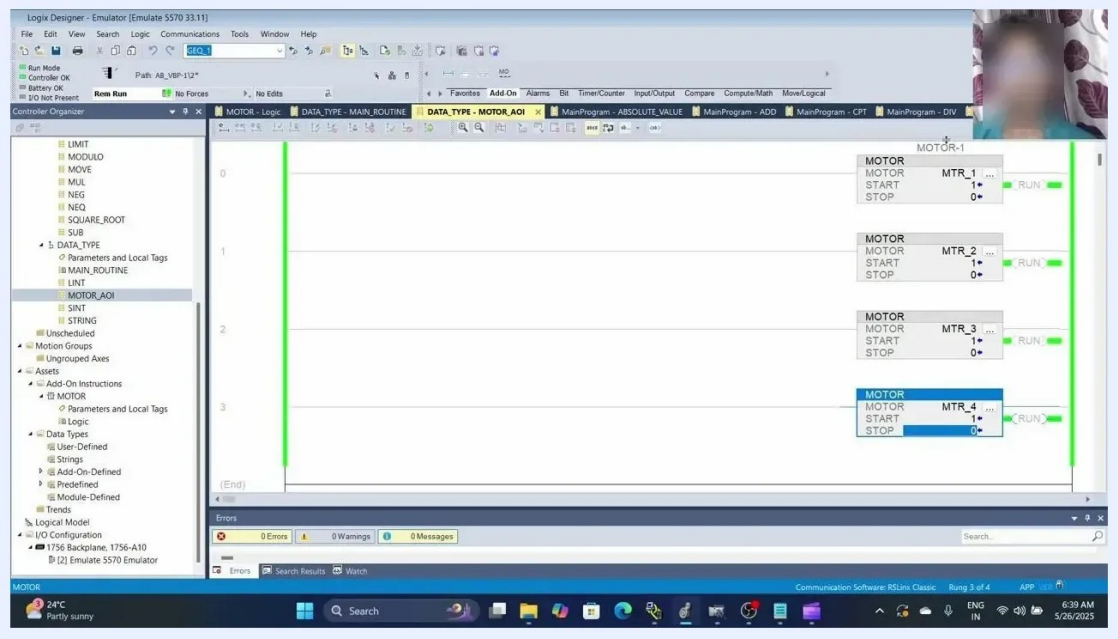


Main routine in Logix Designer showing four MOTOR AOI blocks (MTR_1 to MTR_4), with the Controller Organizer on the left and the project in Rem Run mode

2. Try to delete the add-on instruction while online

1. Try to delete the MOTOR AOI. Right-click it in the Controller Organizer, or select the AOI block in the logic and press the Delete key.
2. Notice that the delete option is greyed out in the right-click menu, and the Delete key has no effect.

You cannot delete either the AOI definition or its instances while the controller is online in Remote Run. This is a built-in safety feature that prevents accidental deletion while the controller is running.

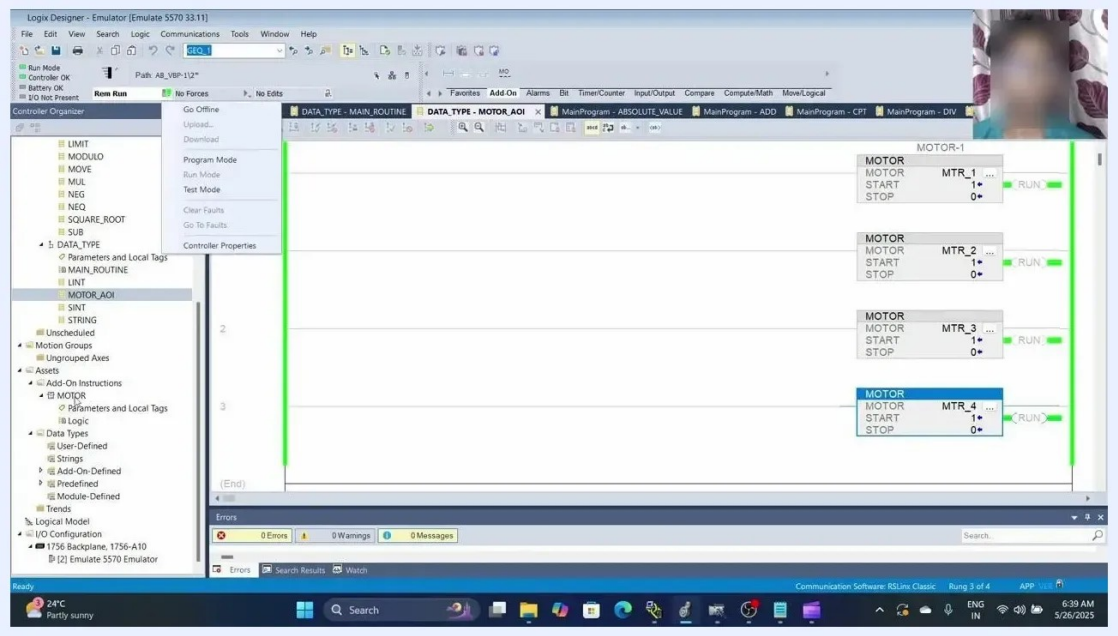


MOTOR AOI selected in the Controller Organizer with the delete option disabled and the project in Rem Run mode

3. Go offline to enable deletion

1. Open the controller status dropdown in Logix Designer.
2. Select **Go Offline**.
3. Wait until the top bar shows the project in Offline mode.

The dropdown also lists options such as Upload, Download, Program Mode, Run Mode, and Test Mode. Deletion is only available offline.

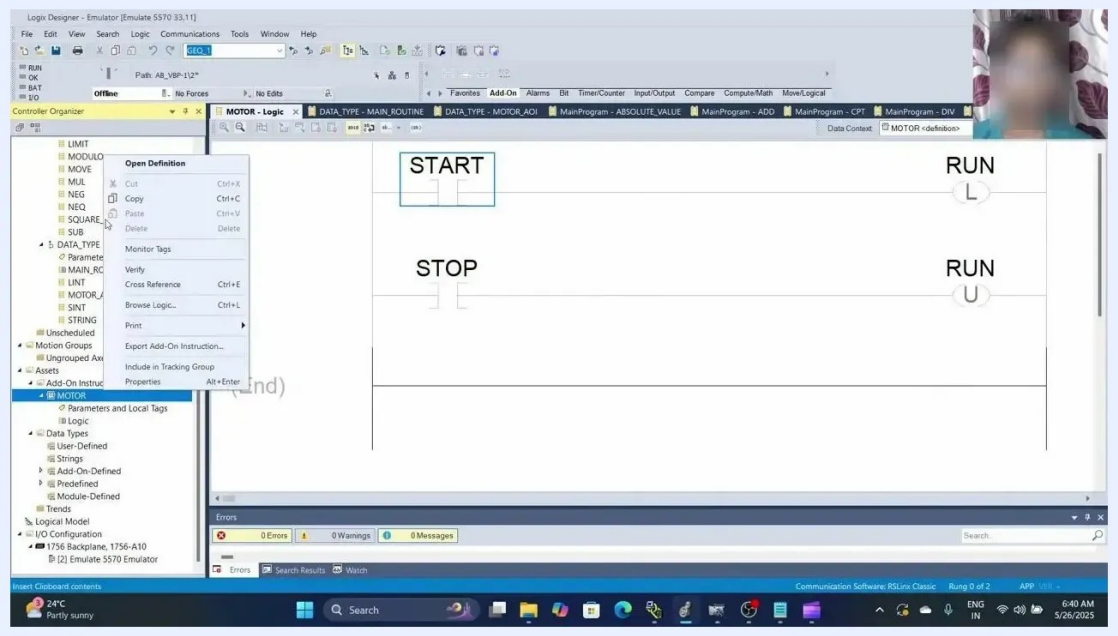


Controller status dropdown open in Logix Designer, showing Go Offline and other controller options

4. Check whether the delete option is still disabled

1. With the project offline, right-click the AOI under **Add-On Instructions**, or select it in the logic.
2. Check the context menu.

If the AOI is still referenced anywhere in the project, the delete option stays disabled even offline.



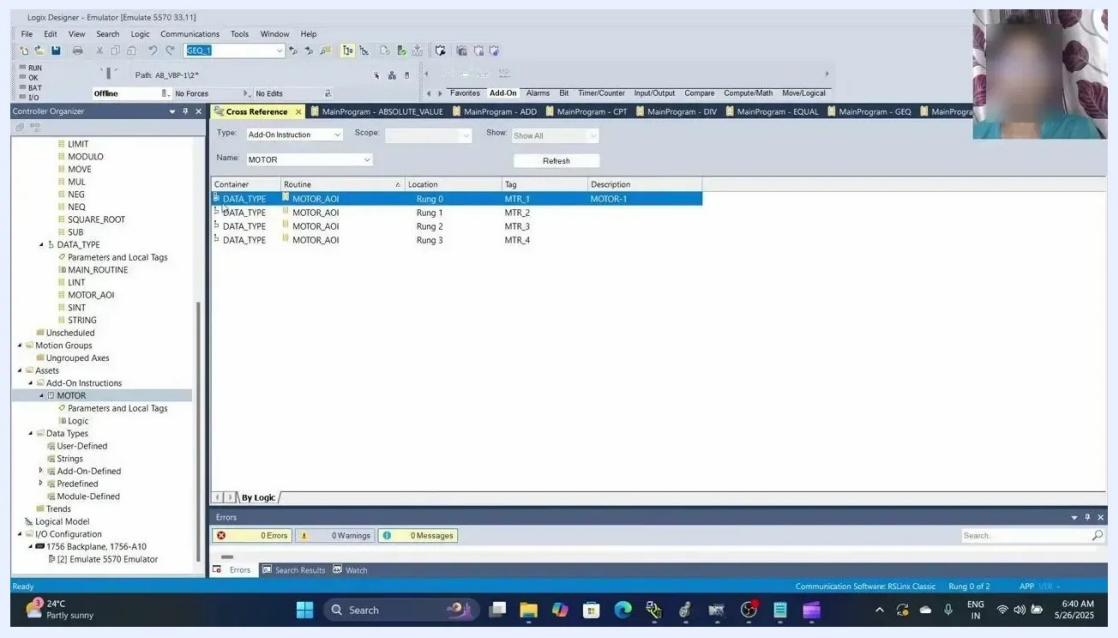
Offline project with the MOTOR AOI selected and the delete option still disabled in the context menu

5. Find where the add-on instruction is used with Cross Reference

1. Right-click the AOI (for example, MOTOR).
2. Select **Cross Reference**.
3. Review the Cross Reference window. For each instance, it shows the container (DATA_TYPE), the routine (MOTOR_AOI), the rung number, the tag, and the description.

In this example, the AOI is used at Rung 0 (MTR_1), Rung 1 (MTR_2), Rung 2 (MTR_3), and Rung 3 (MTR_4).

The AOI is referenced as a data type, as a symbol, and within program routines. You must remove every instance from all routines and tag definitions before you can delete the AOI. Cross Reference helps you find all of these references.

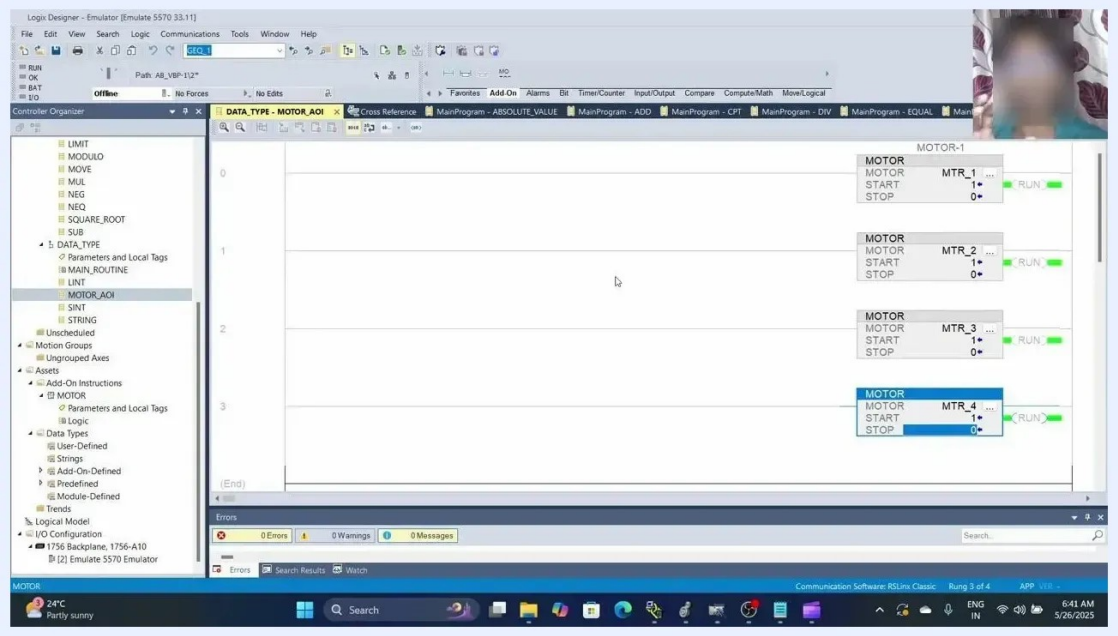


Cross Reference window listing every MOTOR AOI instance, from Rung 0 (MTR_1) to Rung 3 (MTR_4)

6. Delete the AOI instances from the routine

1. In the Controller Organizer, expand the Data Types section.
2. Select the **MOTOR_AOI** data type.
3. Open the **MOTOR_AOI** routine.

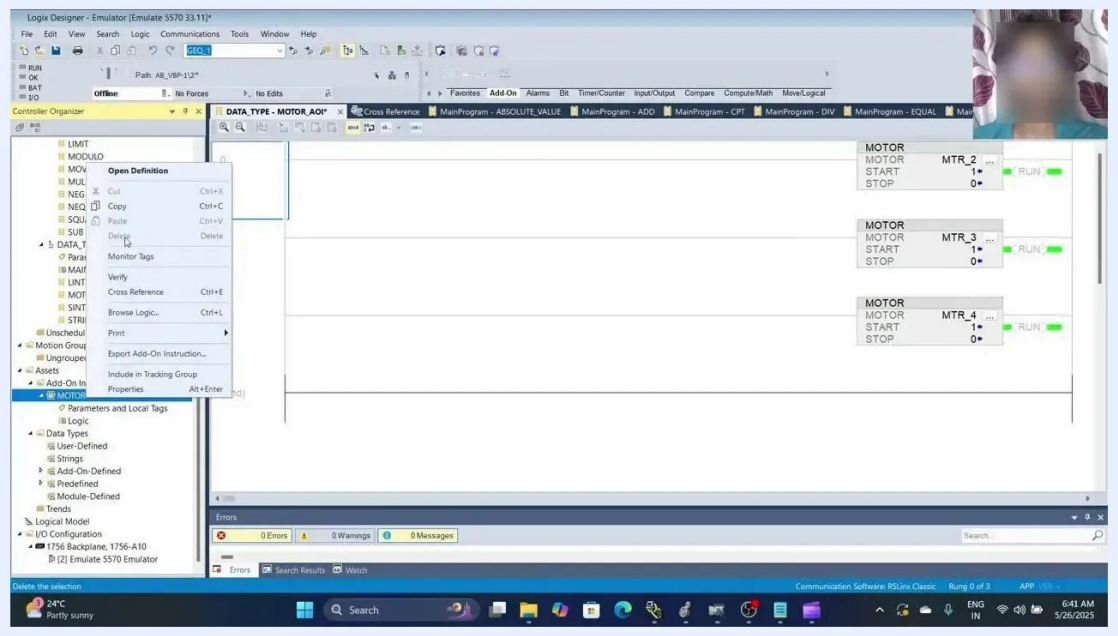
4. Confirm that all four motor instances (MTR_1 to MTR_4) appear in the logic.



MOTOR_AOI routine open, showing four rungs with MOTOR AOI blocks for MTR_1 to MTR_4

5. Select the rung or AOI block you want to remove, such as MTR_1.
6. Right-click and choose **Delete**, or press the Delete key.
7. Repeat for each AOI instance (MTR_1, MTR_2, MTR_3, MTR_4).

The delete option for the AOI itself can stay disabled until all references are removed, even after you delete some instances.

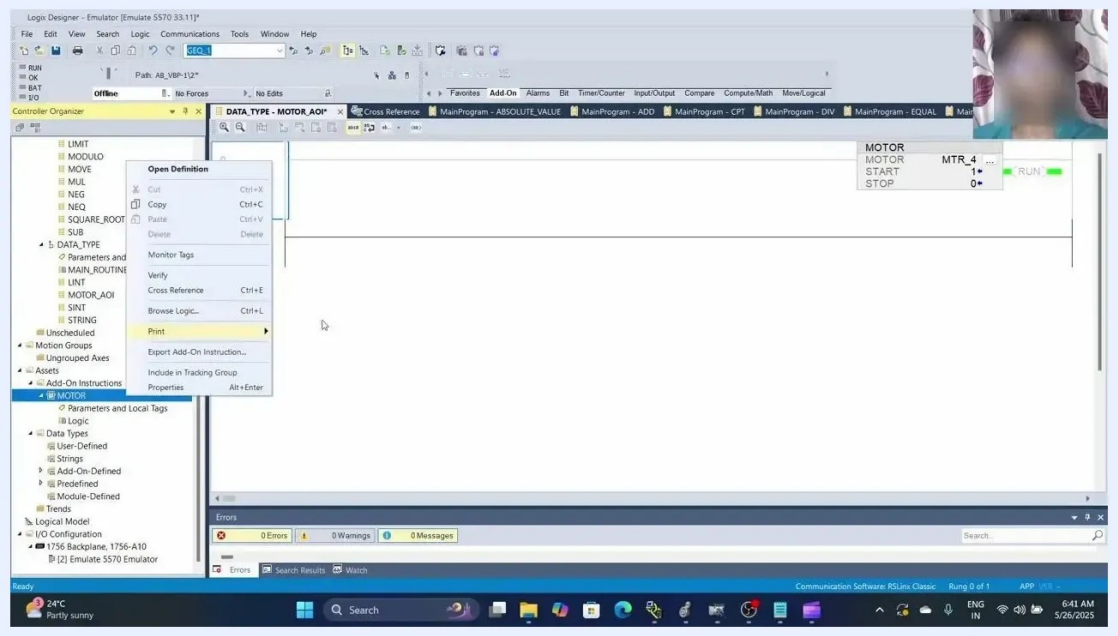


MOTOR AOI rung selected with the context menu open and the Delete option highlighted

7. Check the delete option for the add-on instruction

1. After you delete all the instances, right-click the MOTOR AOI under **Add-On Instructions**.
2. Check whether **Delete** is now enabled.

If any references remain, such as tags or unused rungs, the option stays disabled. This can happen even after you delete all the visible rungs.



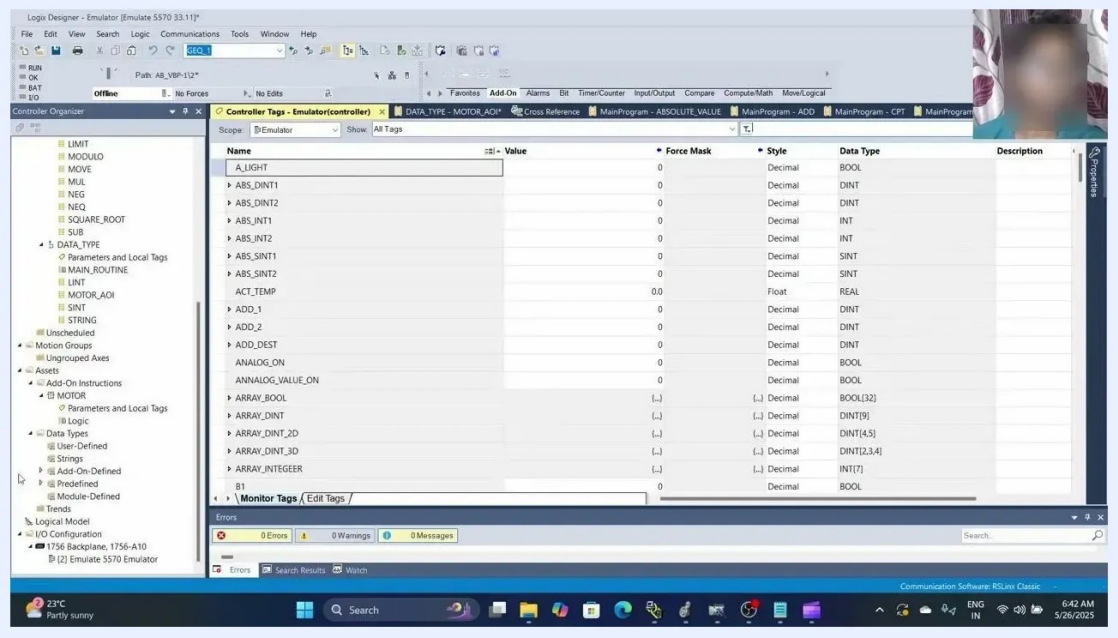
MOTOR AOI context menu with the Delete option still disabled after all rungs were removed

8. Search for the motor tags

Lingering tags can still reference the AOI, so look for them next.

1. Open the Logix Designer Emulator.
2. Go to the **Controller Tags** tab.

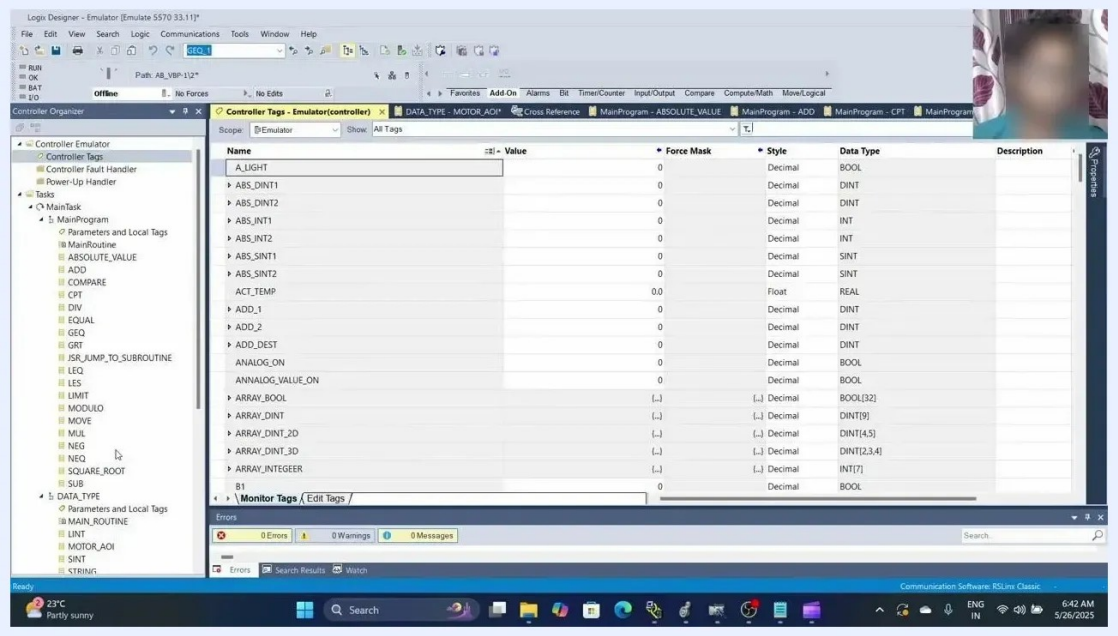
3. Review the tag list. It shows names, values, force masks, styles, data types, and descriptions. Tags such as A_LIGHT, ABS_DINT1, and ACT_TEMP appear with data types like BOOL, DINT, INT, SINT, and REAL.



Controller Tags tab in the Logix Designer Emulator listing tag names, values, and data types

4. Use the search/filter bar at the top right of the **Controller Tags** tab.
5. Enter MTR or MTR1 to find the motor-related tags.

The filtered results show MTR_1, MTR_2, MTR_3, and MTR_4, each with the data type MOTOR. The description for MTR_1 is "MOTOR-1".

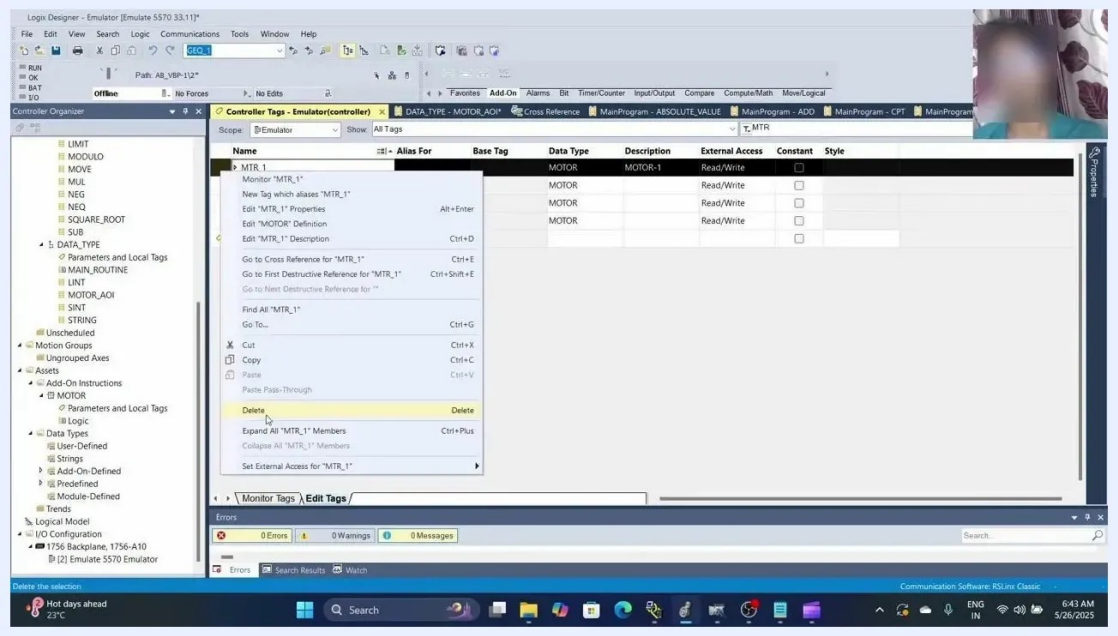


Controller Tags filtered to show MTR_1, MTR_2, MTR_3, and MTR_4, all with data type MOTOR

9. Enable tag deletion and delete the motor tags

1. Right-click a tag, such as MTR_1.
2. Check the **Delete** option.

Delete is disabled (grayed out) while the tag is being monitored in the **Monitor Tags** tab. You cannot delete a tag while it is being monitored.



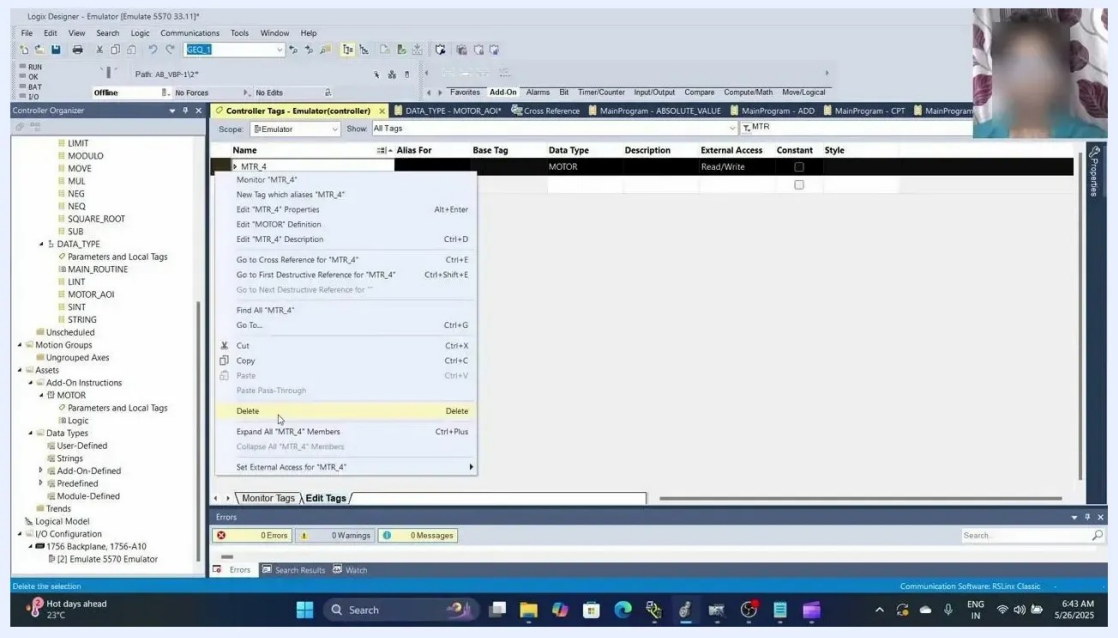
Right-click menu on MTR_1 with the Delete option disabled because the tag is being monitored

3. Switch from the **Monitor Tags** tab to the **Edit Tags** tab.
4. Right-click the tag you want to remove, such as MTR_1 or MTR_3.
5. Confirm that **Delete** is now enabled.
6. Select **Delete** to remove the tag from the controller.

10. Delete the add-on instruction in Studio 5000

1. In the Controller Organizer, expand the **Assets** section.
2. Under **Add-On Instructions**, right-click the **MOTOR** AOI.

3. Select **Delete** in the context menu.

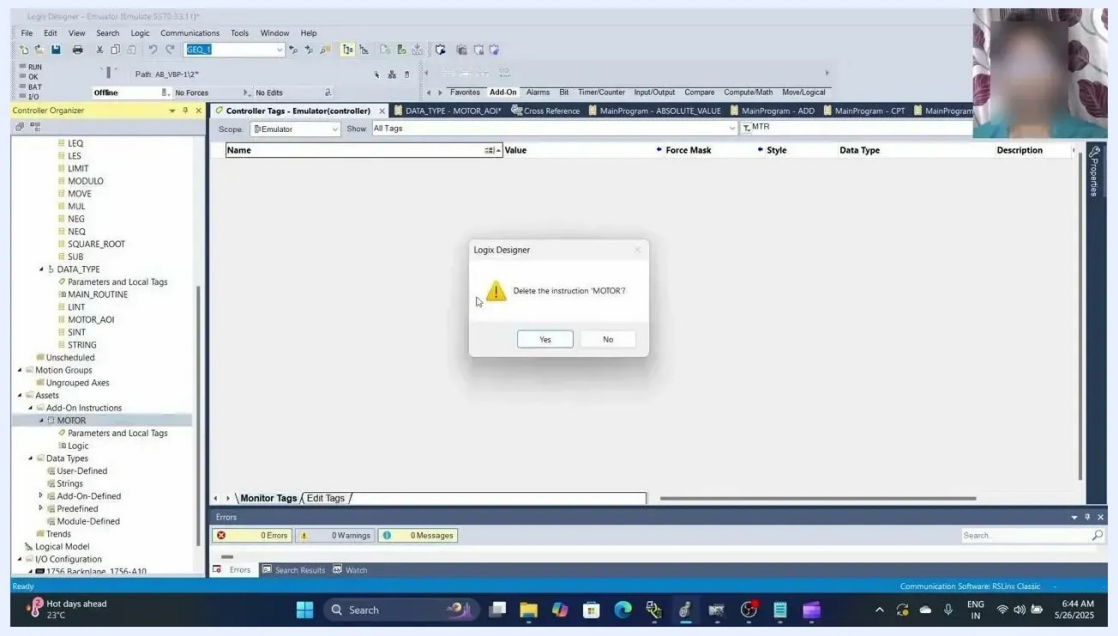


Context menu open for the MOTOR AOI with the Delete option highlighted

A confirmation dialog asks "Delete the instruction 'MOTOR'?" You have two choices:

- Click **Yes** to confirm the deletion.

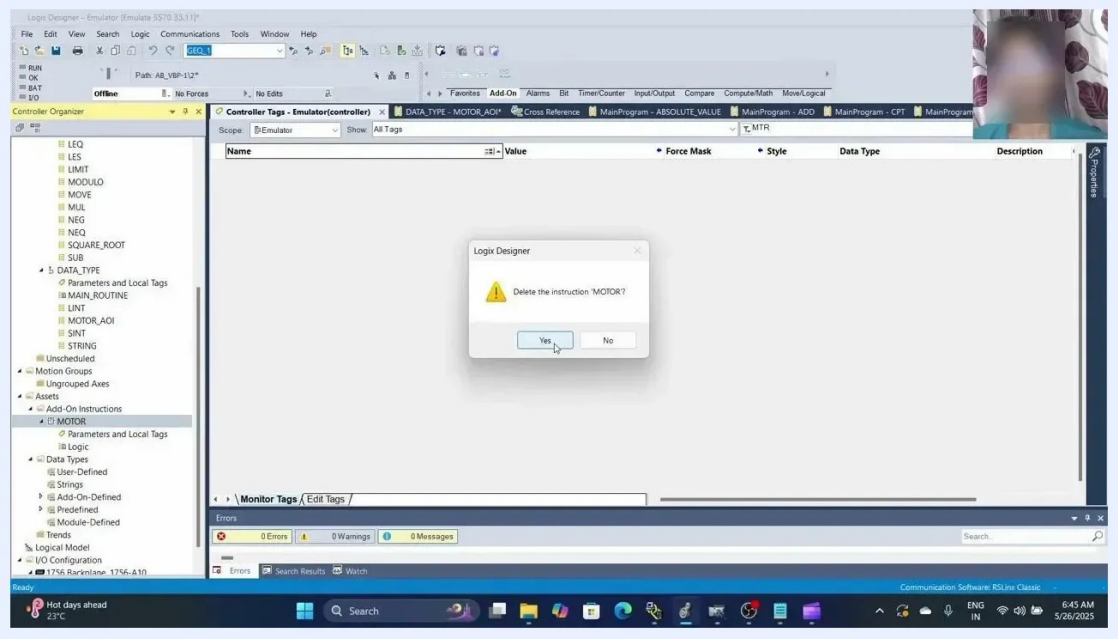
- Click **No** to cancel.



Confirmation dialog asking whether to delete the instruction 'MOTOR', with Yes and No options

4. Click **Yes**.

The MOTOR AOI is deleted from the project and no longer appears under **Add-On Instructions**. Any logic that still referenced the deleted AOI shows errors or missing instruction blocks.

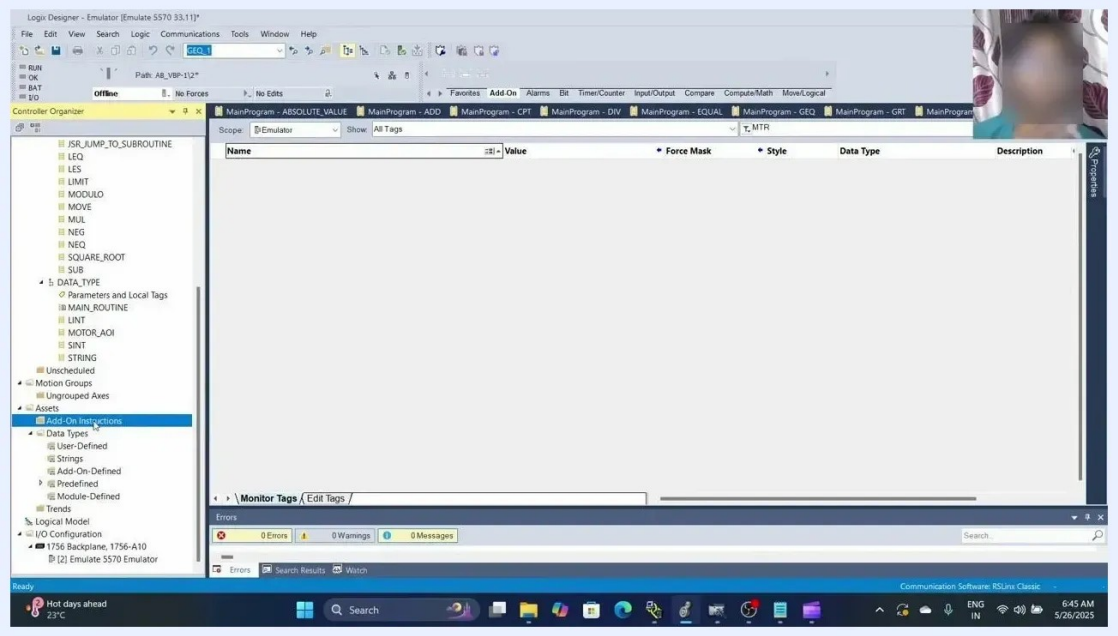


Delete confirmation dialog with the Yes button highlighted, ready to be clicked

11. Verify the add-on instruction is gone

1. In the Controller Organizer, check that **Add-On Instructions** under **Assets** is highlighted and empty.
2. Check the main workspace. It shows the **Monitor Tags** tab with no tags listed.

3. Check the **Errors**, **Warnings**, and **Messages** indicators at the bottom. Zero issues confirm a clean project state.



Add-On Instructions section highlighted and empty, with no errors or warnings in the project

Summary

To delete an add-on instruction in Studio 5000 Logix Designer, you:

- Take the controller offline.
- Use Cross Reference to find every use of the AOI.
- Delete all instances from the routines.
- Remove the related tags, switching to **Edit Tags** first if the tags are being monitored.
- Delete the AOI from **Assets** > **Add-On Instructions** and confirm with **Yes**.

Finally, check that the **Add-On Instructions** section is empty and that the project reports no errors or warnings.