How to upload a program from a PLC in TIA Portal

This guide shows you how to upload a program from a PLC in TIA Portal. You create a new project, scan the network for accessible devices, and upload the device as a new station. TIA Portal then loads the hardware configuration and program blocks from the PLC into your project. The example uses an S7-300 CPU 317-2 PN/DP.

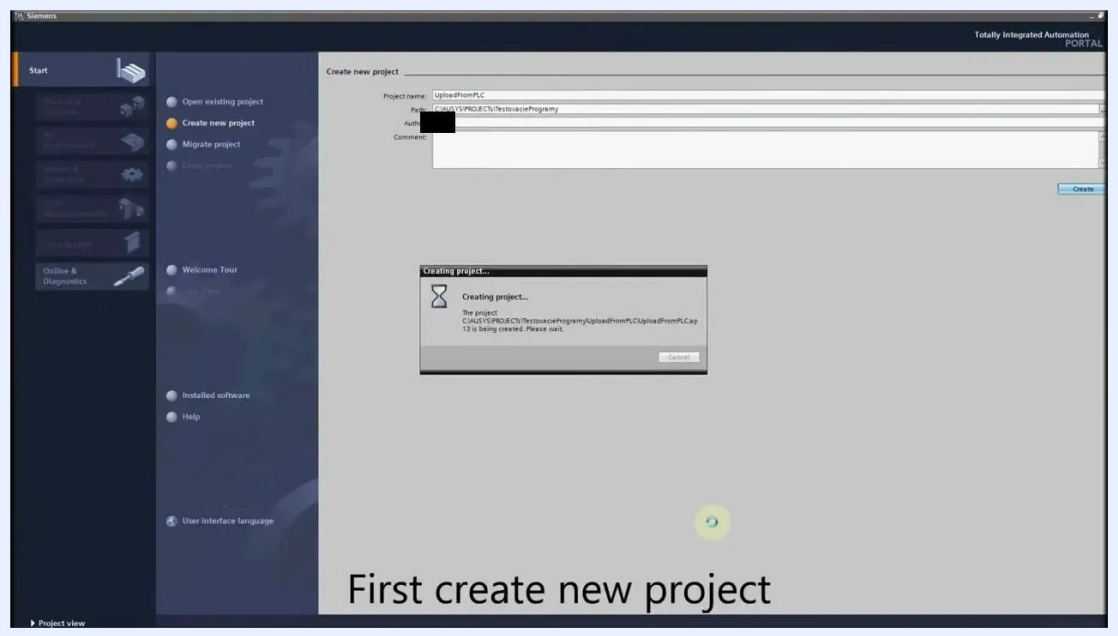
Prerequisites

- TIA Portal installed on your PG/PC.
- A network adapter connected to the network where the PLC is reachable (the example uses the PN/IE interface type with a ThinkPad OneLink Dock USB GigaLAN adapter).
- A PLC on that network. The example PLC is plc_1 (CPU 317-2 PN/DP) at 192.168.0.50.

Steps

1. Start TIA Portal and select Create new project

Launch TIA Portal. In the Start menu on the left, select **Create new project**. The main area prompts you to open an existing project or create a new one.



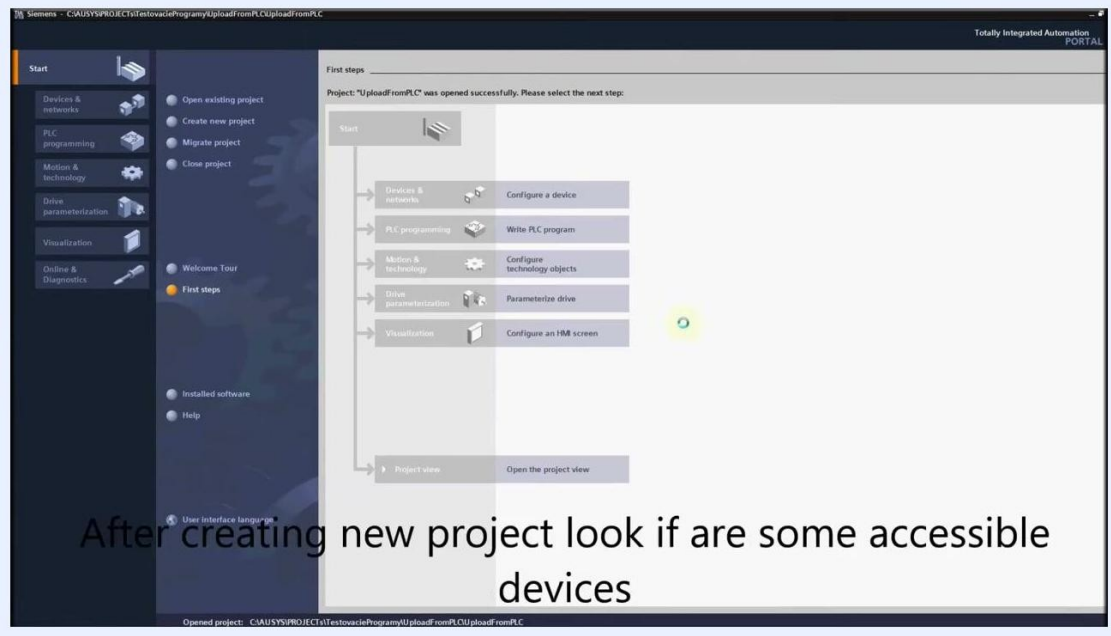
TIA Portal start screen with Create new project selected

2. Enter the project details

On the **Create new project** screen, fill in the following fields:

- **Project name:** UploadFromPLC
- **Path:** C:\AUSYS\PROJECTS\TestovacieProgramy
- **Author:** Ján
- **Comment:** Leave blank or add a comment as needed.

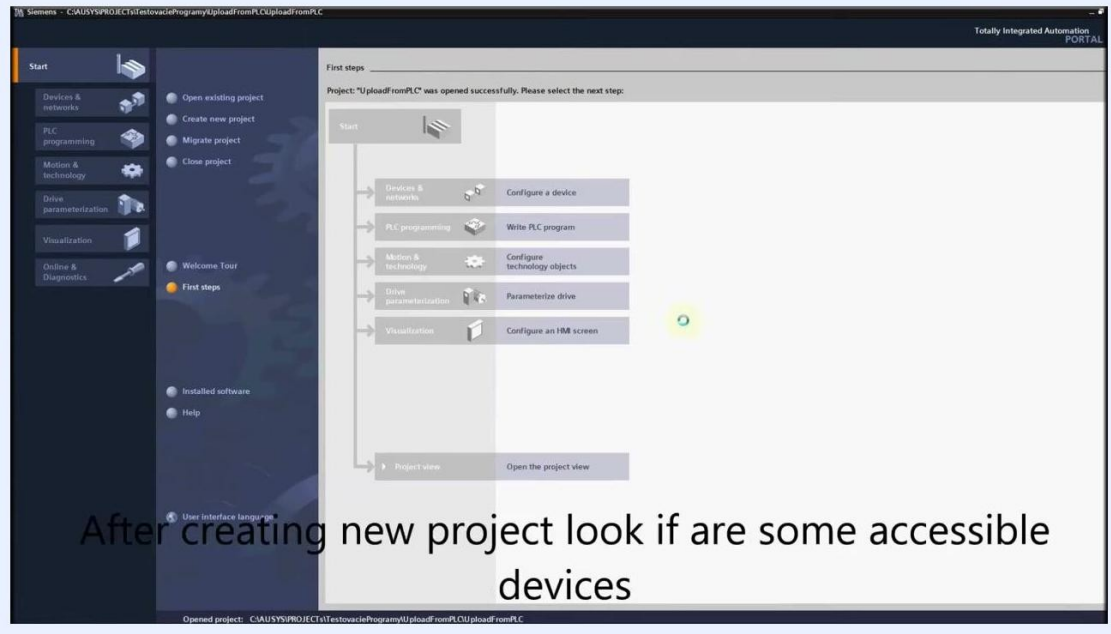
Click **Create** on the right.



Create new project screen with the project name, path, and author filled in

3. Wait for the project to be created

A **Creating project...** dialog appears. It shows a message that the project C:\AUSYS\PROJECTS\TestovacieProgramy\UploadFromPLC\UploadFromPLC.ap13 is being created. Wait for the process to finish.

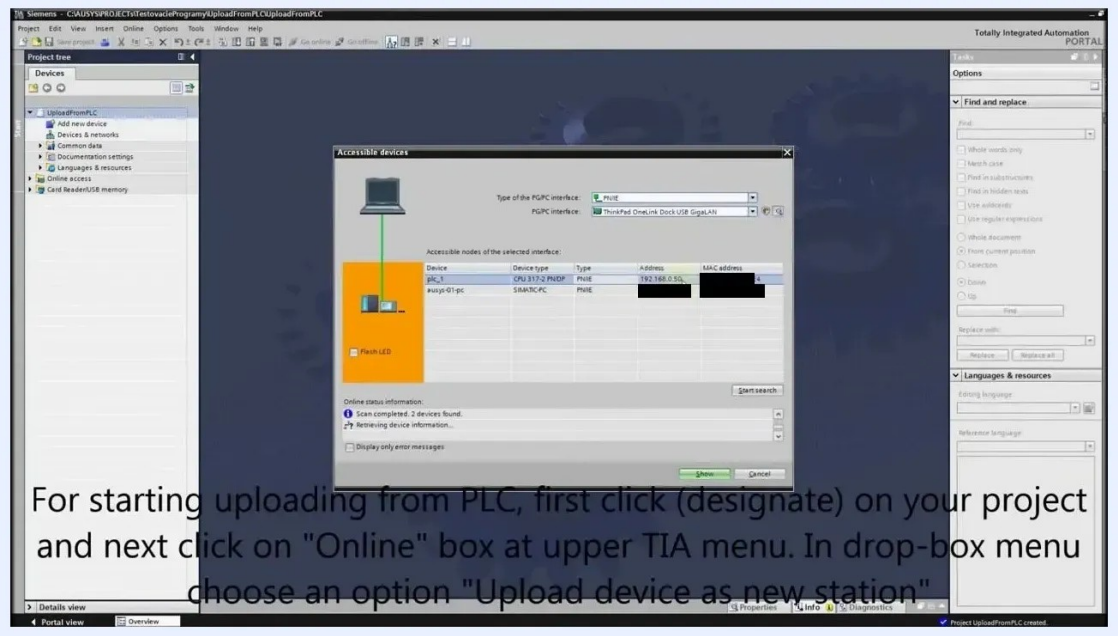


Creating project progress dialog in TIA Portal

4. Select the network interface in the Accessible devices dialog

The **Accessible devices** dialog appears. Set the **Type of PG/PC interface** to PN/IE. In the **PG/PC interface** dropdown, select your network adapter, for example ThinkPad OneLink Dock USB GigaLAN.

The device list stays empty until you start a search.



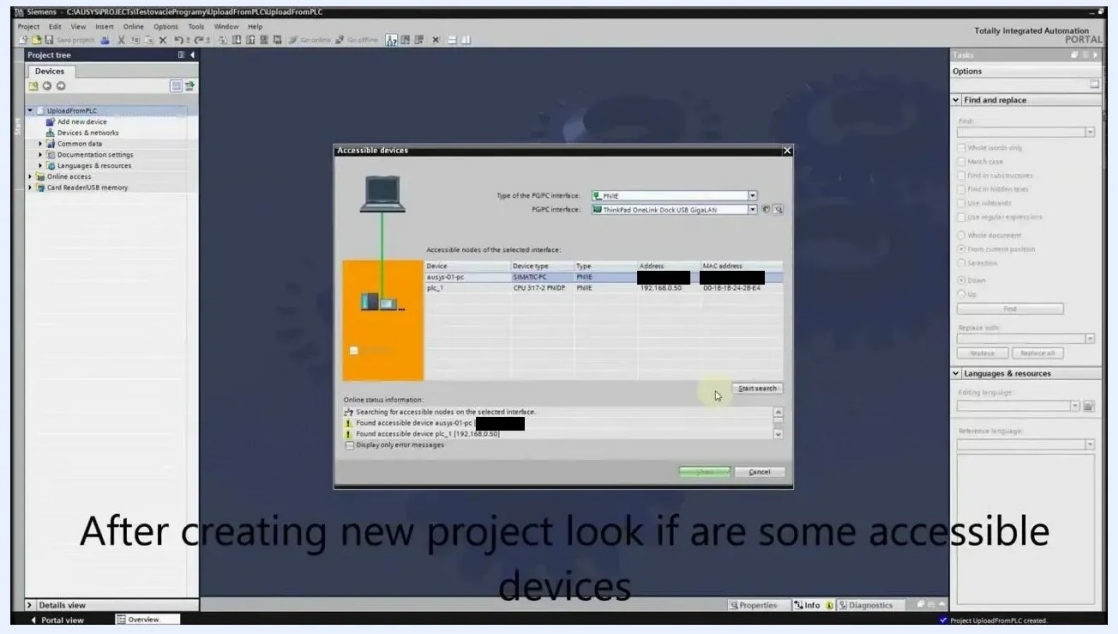
Accessible devices dialog with the network interface dropdown open

5. Scan for accessible devices

After you select the correct network interface, click **Start search**. The dialog lists the devices it finds. In the example, these are:

- ausys-01-pc (SIMATIC PC, PN/IE, 192.168.0.205, MAC 00-50-6B-64-68-88)
- plc_1 (CPU 317-2 PN/DP, PN/IE, 192.168.0.50, MAC 00-1B-1B-24-2B-E4)

The online status information at the bottom confirms the devices found.



Accessible devices dialog listing the detected devices

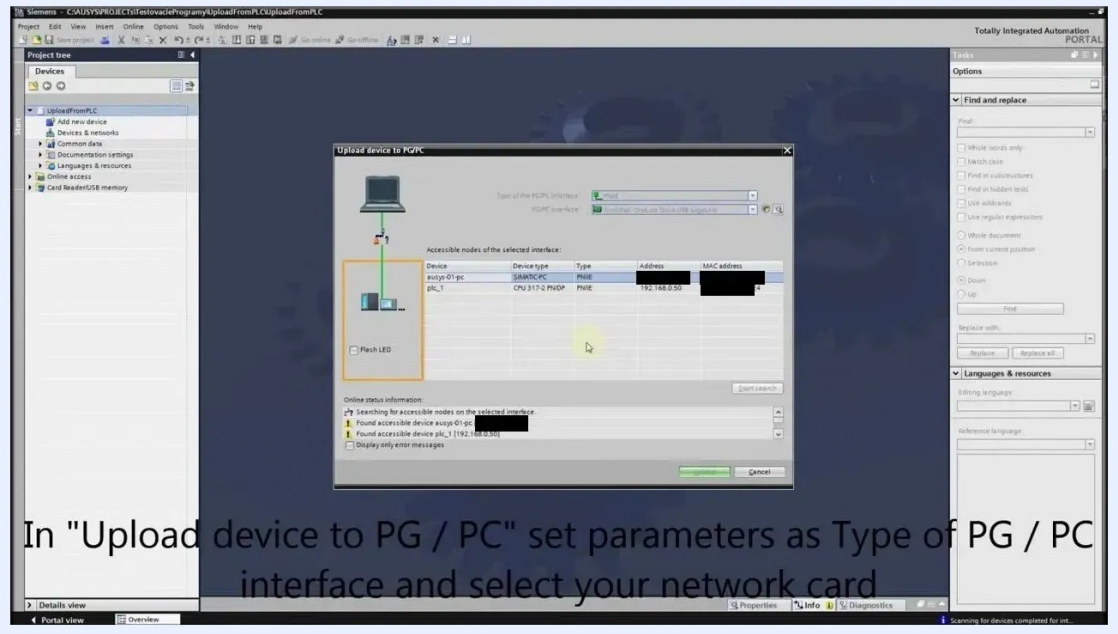
6. Set the upload parameters

To start the upload, first select your project. Then click **Online** in the upper TIA Portal menu and choose **Upload device as new station** from the drop-down menu.

In the **Upload device to PG/PC** dialog, set the following:

- **Type of PG/PC interface:** PN/IE
- **PG/PC interface:** Your network card, for example ThinkPad OneLink Dock USB GigaLAN

Confirm that the detected devices are listed below.

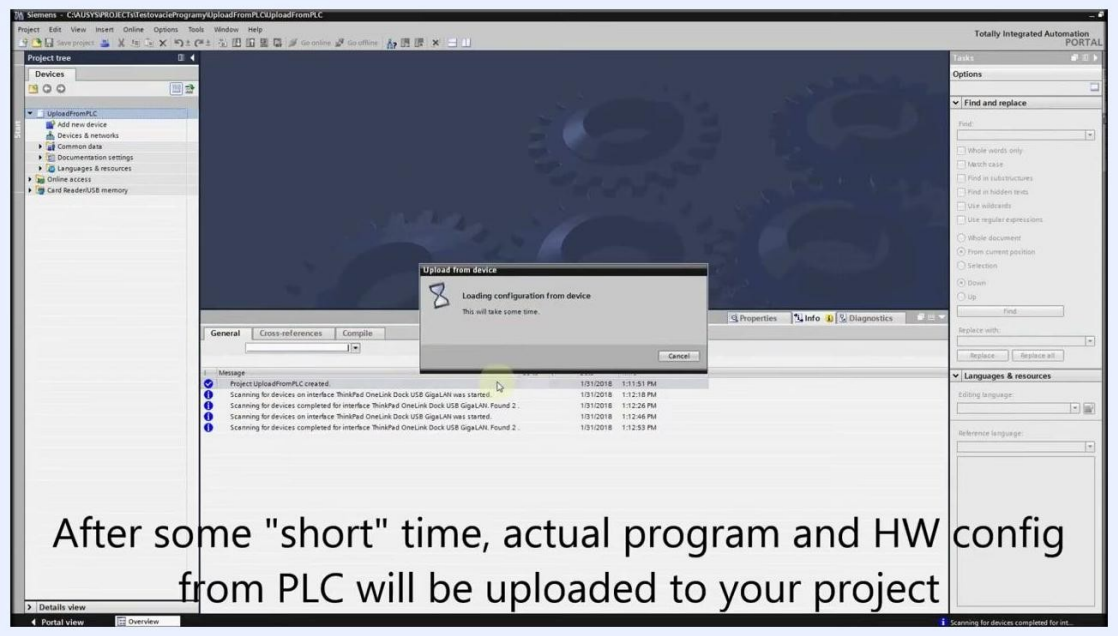


Upload device to PG/PC dialog with the parameters set and devices listed

7. Start the upload from the PLC

After you configure the network interface and select the PLC, the upload begins. An **Upload from device** dialog appears with the message "Loading configuration from device. This will take some time."

The project tree and message log stay visible in the background. The message log lists the scanning and upload events.



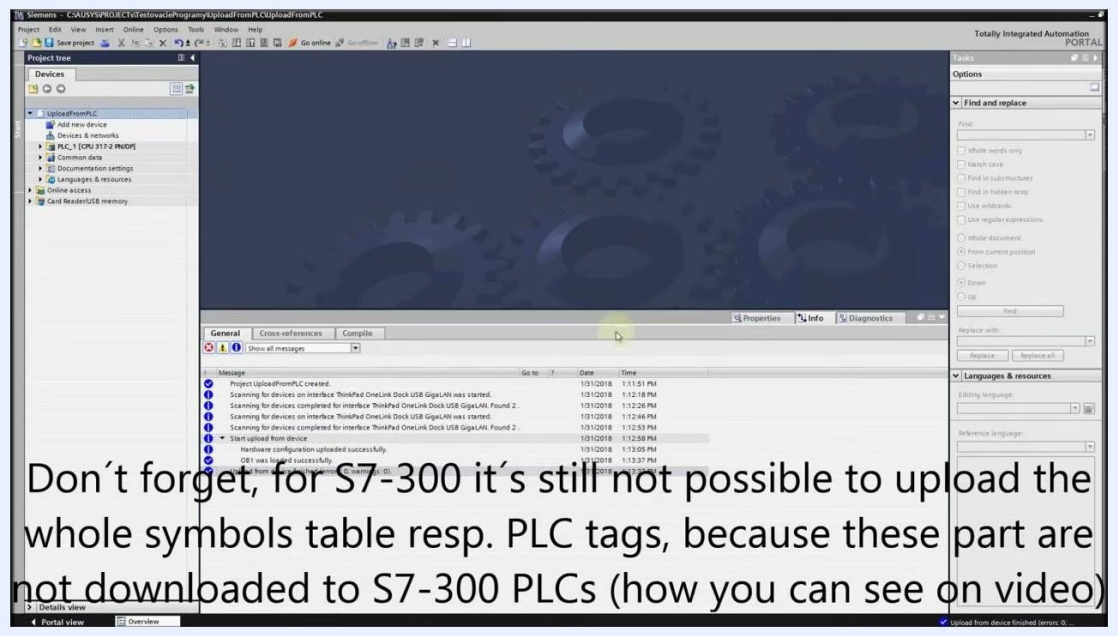
Upload from device dialog showing the loading message

8. Wait for the upload to complete

After a short time, the upload dialog closes. The message log shows:

- "Start upload from device"
- "Hardware configuration uploaded successfully."

The rest of the interface stays unchanged, with the project tree and message log visible.

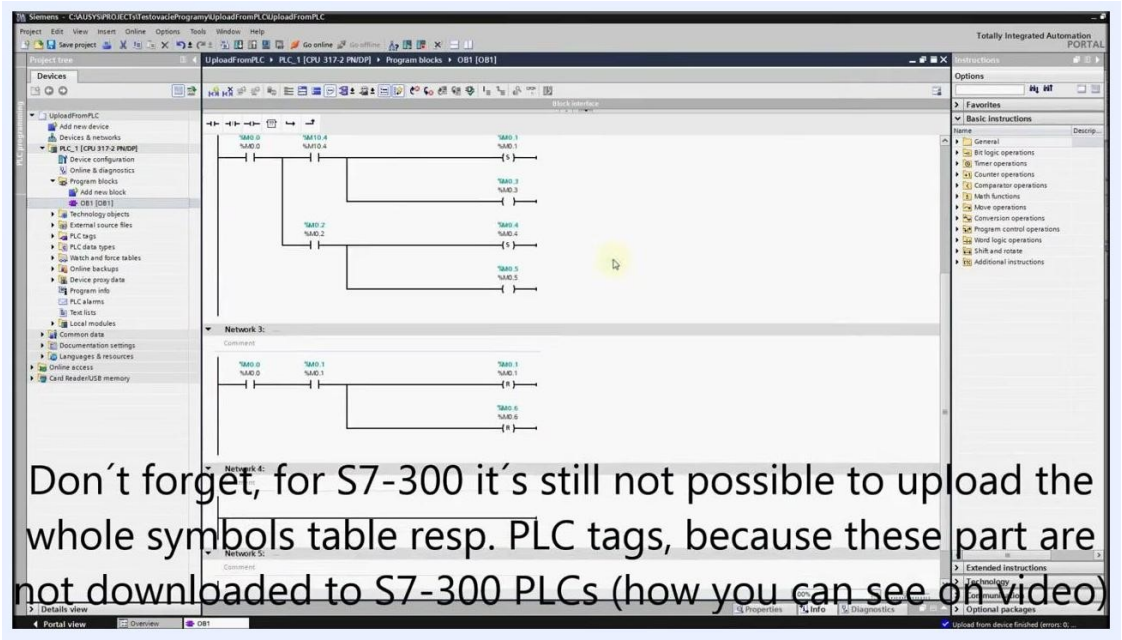


Message log showing the successful upload after the dialog closes

9. Review the upload results

When the upload finishes, the project tree shows the uploaded PLC, for example **PLC_1 [CPU 317-2 PN/DP]**, under your project. The message log confirms the successful upload steps, including the hardware configuration and OB1.

Keep this limitation in mind: for S7-300 PLCs, you cannot upload the symbol table or PLC tags. These parts are not stored on S7-300 PLCs.



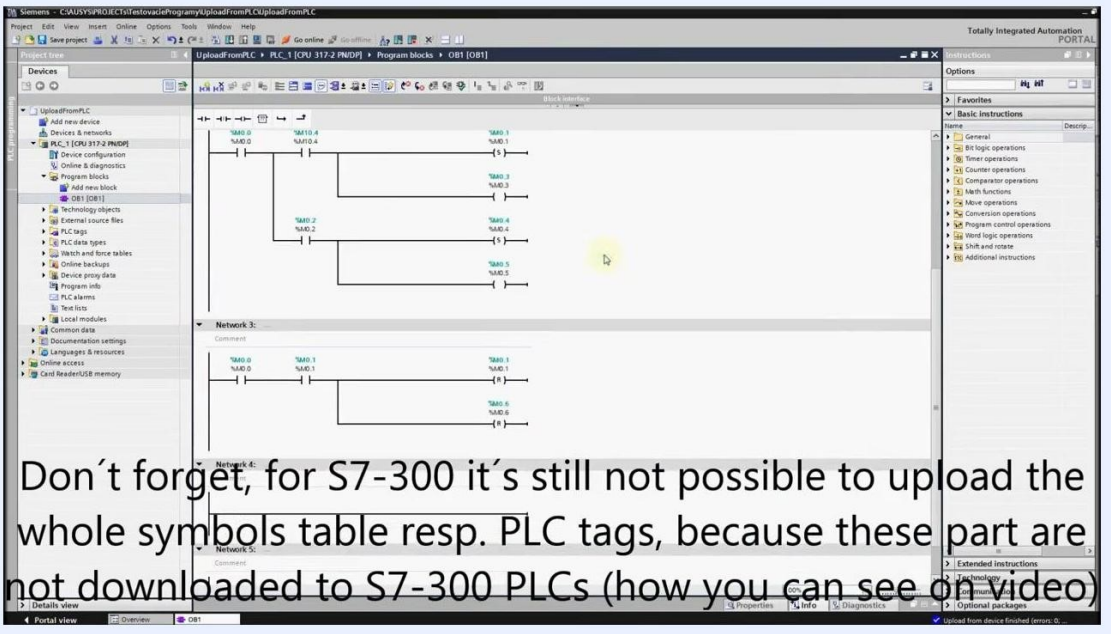
Project tree with the uploaded PLC and the note about S7-300 symbol table limitations

10. Check the uploaded program blocks

The main workspace now displays the uploaded PLC program in ladder logic. The project tree on the left shows:

- **Program blocks**, for example OB1
- **PLC tags**, with options to show all tags, add a new tag table, or open the default tag table

The right panel lists the available instructions and favorites.

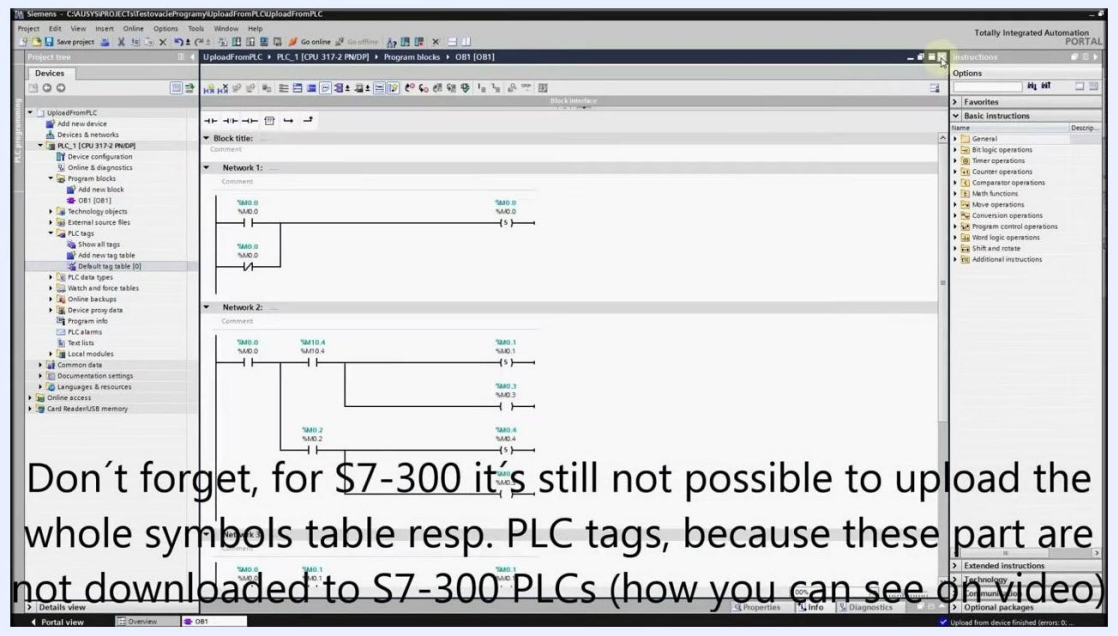


Uploaded ladder logic program and the PLC tags section in the project tree

11. Review the uploaded logic

Continue reviewing the uploaded logic in the main workspace. The project tree and instruction panel remain visible. Because S7-300 tags are not uploaded, the PLC tag table does not contain the tags from the device.

No further action is required. The project is ready for further work.



Uploaded logic in the workspace with the PLC tag table highlighted

Summary

You created a new project in TIA Portal, scanned the network for accessible devices, and used **Upload device as new station** to load the hardware configuration and program from the PLC. The uploaded PLC and its program blocks now appear in your project tree. For S7-300 PLCs, the symbol table and PLC tags are not uploaded.

What's next

Continue with your own workflow or project requirements. You can open the uploaded program blocks, such as OB1, and work with the logic in your project.