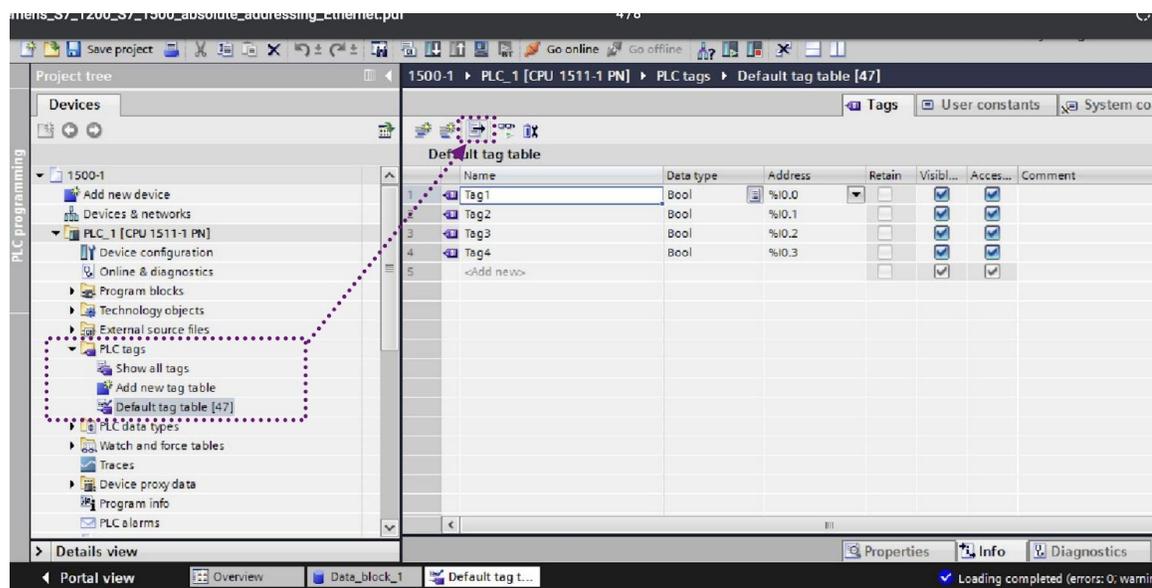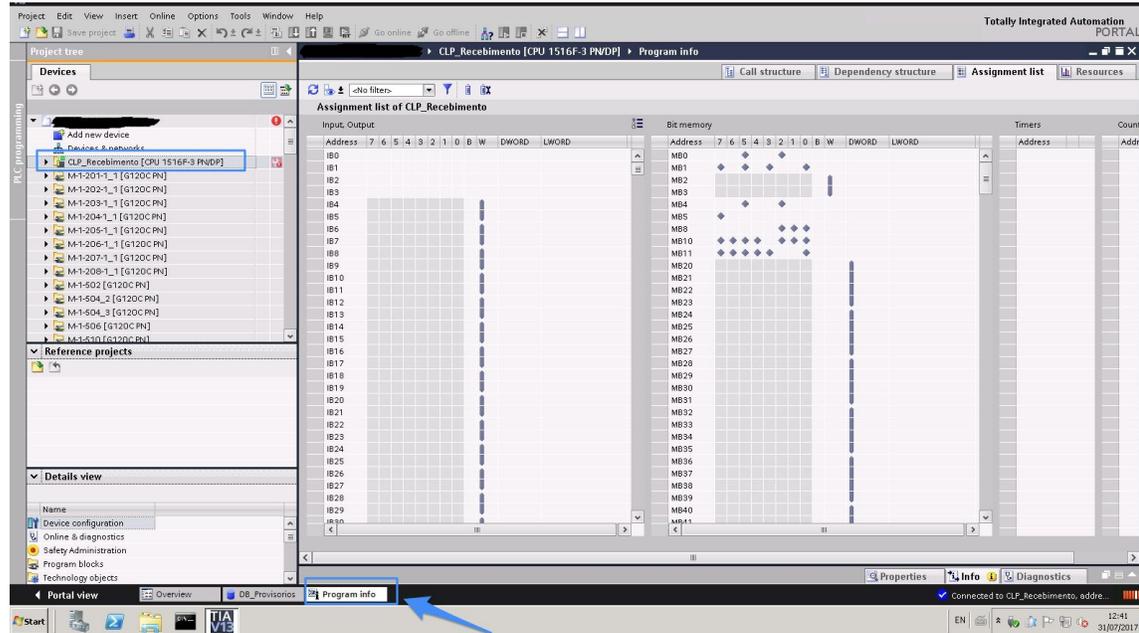# How to Locate the Modbus Table of a Siemens S7 PLC

1. Enable your Modbus Server on your PLC
   a. First, open the TIA Portal application that you use to program your PLCs.
   b. Next, open an existing project from the Start screen
   c. With your project open, select the "PLC programming" feature on the left.
   d. Next, from the Organization Blocks section, open the "Main" block to enter the main programming environment.
   e. Now, from the Instructions menu, add an MB_SERVER to a network diagram.
2. View your application's memory map
   a. Method #1: Via symbol table
      i. Please note: This only works if the application is written using symbols rather than raw IO accesses.
      ii. Open your Project
      iii. Expand "PLC Tags" in the device view
      iv. Select "show all tags", to view all tags in the program

      v. If you are using an older version of TIA portal, the following video can be helpful: https://www.youtube.com/watch?v=ErhmIOquo2E

b. Method #2: Via raw memory map
   i. Please note: If you used method #1, please skip to step 3
   ii. Select your project in the project tree
   iii. Double click program info on the bottom left

   iv. The Siemens forum related to the S7 can found here, along with a post about viewing the memory map:
       https://support.industry.siemens.com/tf/ww/en/posts/how-can-i-see-the-memory-map/77279?page=0&pageSize=10

3. Calculate modbus addresses from the memory map
   a. IWx is at Modbus address 30,000 + x/2 + 1
   b. QWx is at Modbus address 40,000 + x/2 +1
   c. IBx.y is at Modbus address 10,000 + 8*x + y + 1
   d. QBx.y is at Modbus address 8*x + y+ 1

4. Save your mapping table for future by using our Modbus table template (see attached Excel speadsheet).

5. Now you are ready to setup your application by entering your Modbus TCP table into Kosmos. Here is a step-by-step guide is here:
   https://temboo.com/files/docs/Product_Feature_Guides/Creating_Modbus_Tables.pdf