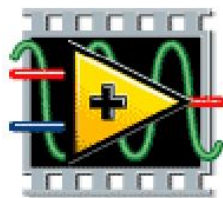


Application Note for LabVIEW Programming



NATIONAL INSTRUMENTS

LabVIEW

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1. Preface

This document will help you to start a project with LabVIEW in order to drive our product like:

- CCS/std
- CCSI
- Central / Central I
- PDM HPP
- Tombak

2. Instructions

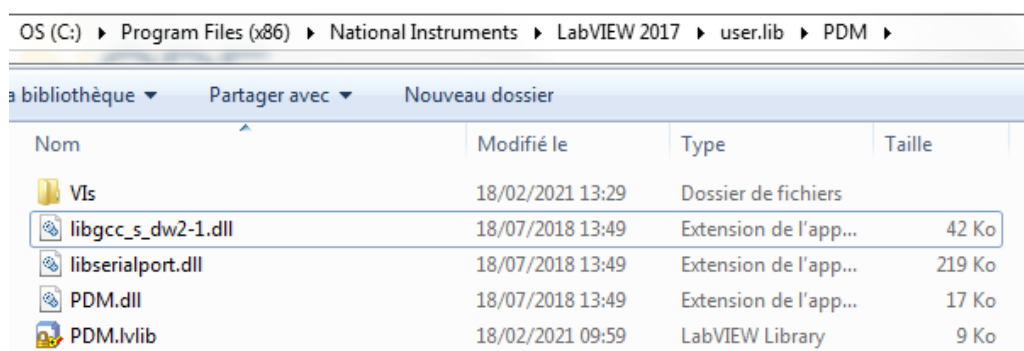
2.1. Preliminary verifications

Please verify the correct functioning of the product before to start a LabVIEW project.

2.2. Download VIs and unzip files

The first step is to unzip the files and place them in this specific folder:

... \National Instruments\LabVIEW 2017\user.lib\PDM.



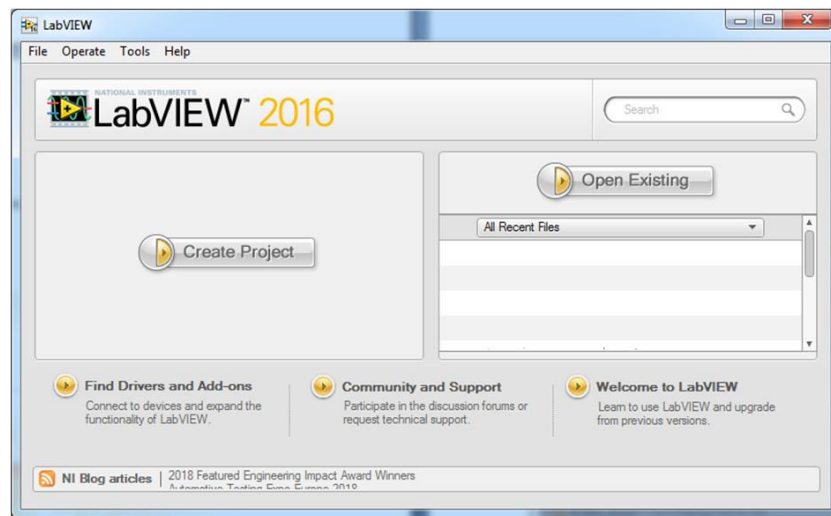
The screenshot shows a Windows File Explorer window with the address bar displaying the path: OS (C:) > Program Files (x86) > National Instruments > LabVIEW 2017 > user.lib > PDM. The window title is 'PDM'. The main area shows a list of files and folders:

Nom	Modifié le	Type	Taille
VIs	18/02/2021 13:29	Dossier de fichiers	
libgcc_s_dw2-1.dll	18/07/2018 13:49	Extension de l'app...	42 Ko
libserialport.dll	18/07/2018 13:49	Extension de l'app...	219 Ko
PDM.dll	18/07/2018 13:49	Extension de l'app...	17 Ko
PDM.lvlib	18/02/2021 09:59	LabVIEW Library	9 Ko

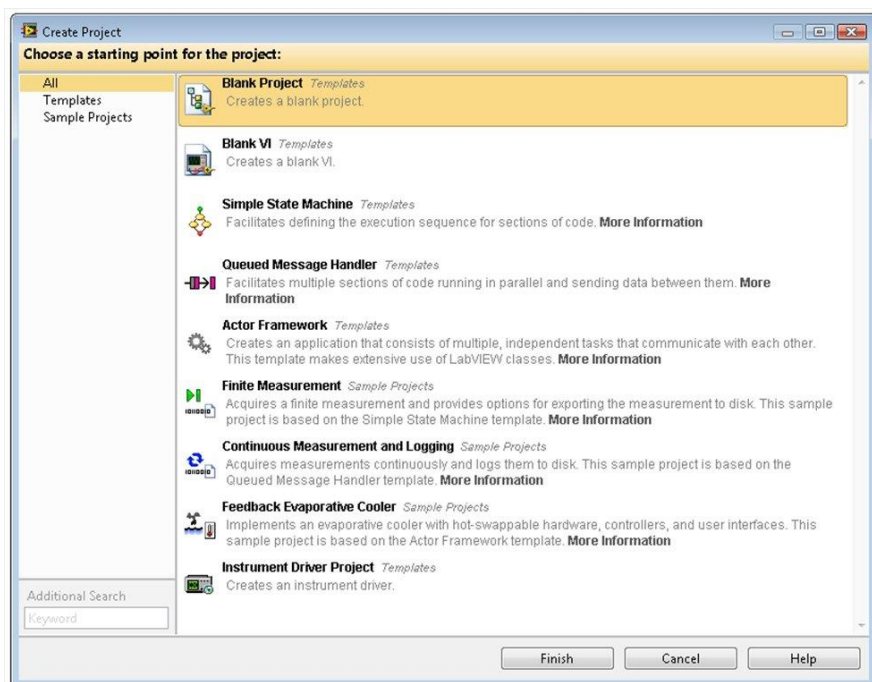
Figure 1 : Unzipping the files in the correct folder

2.3. Create a LabVIEW project

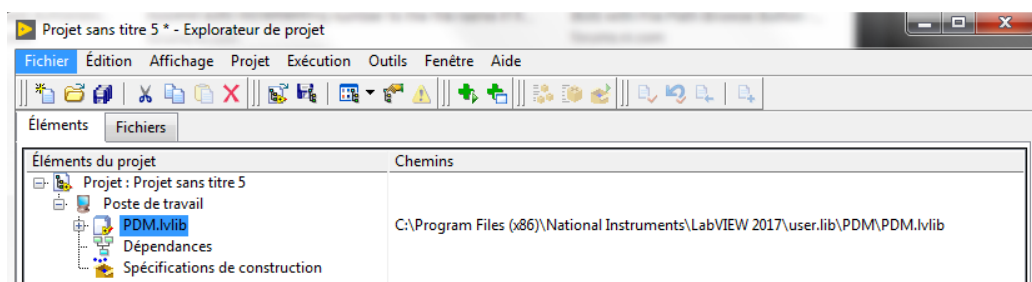
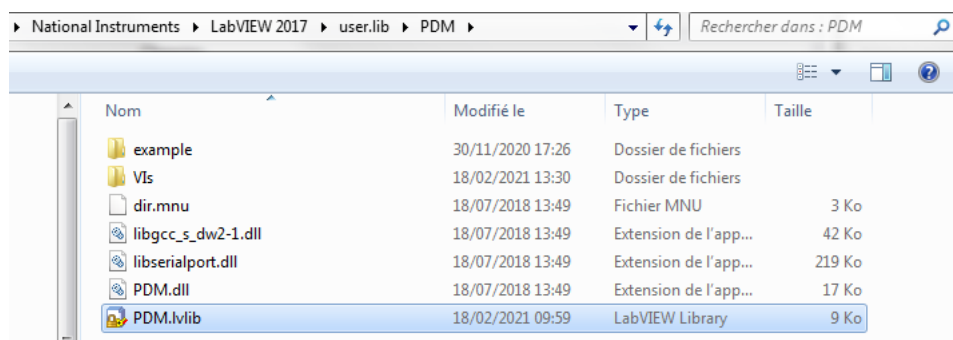
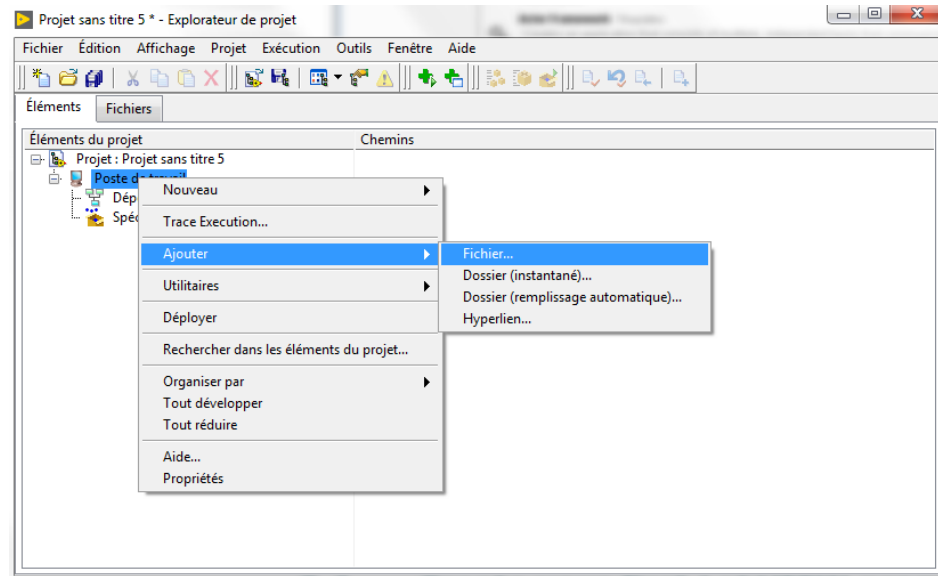
- 1- Open LabVIEW and Select “create a project”



- 2- Select “Blank project”

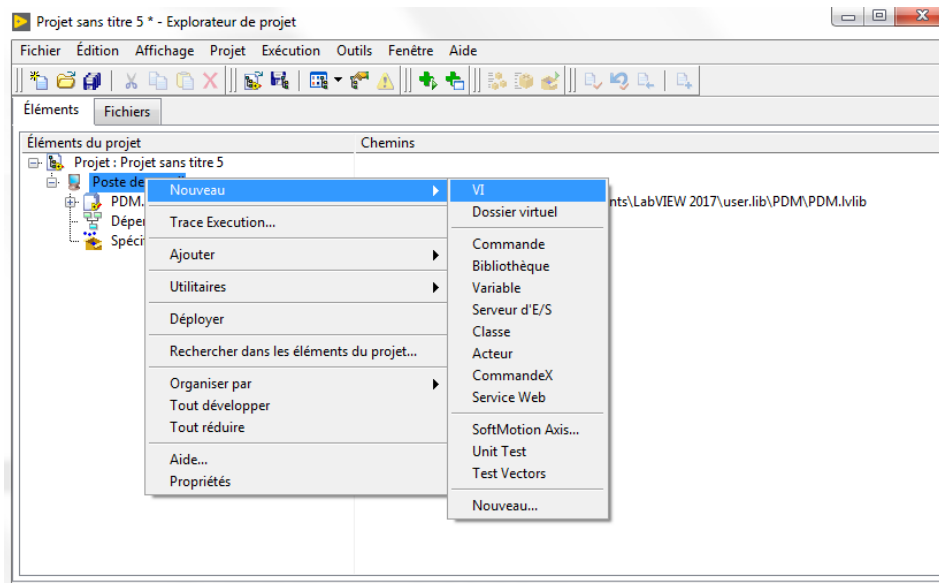


3- Add our library

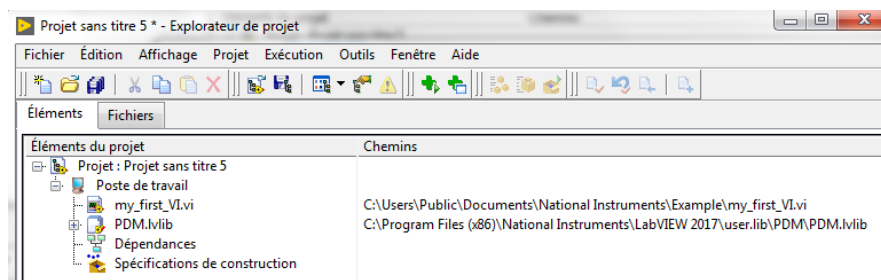


4- Save your project

5- Create a new VI

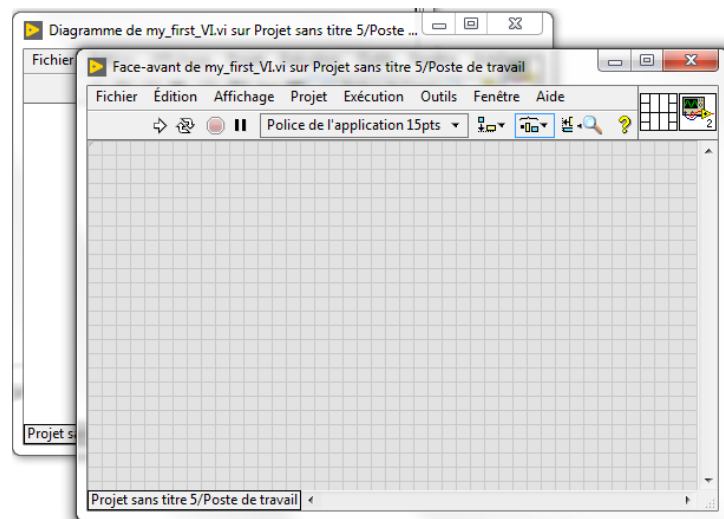


6- Save your VI and rename it

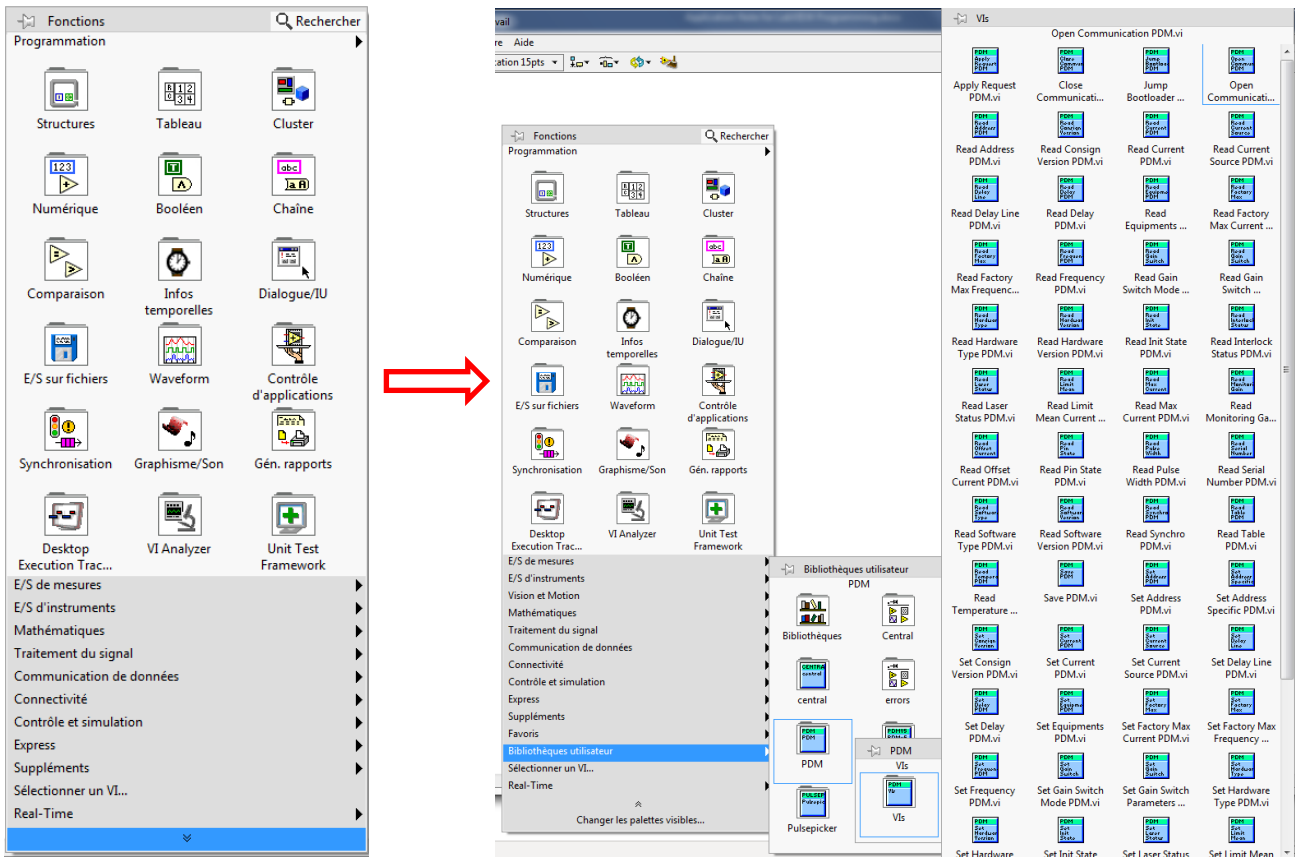


2.4. Create your first LabVIEW program

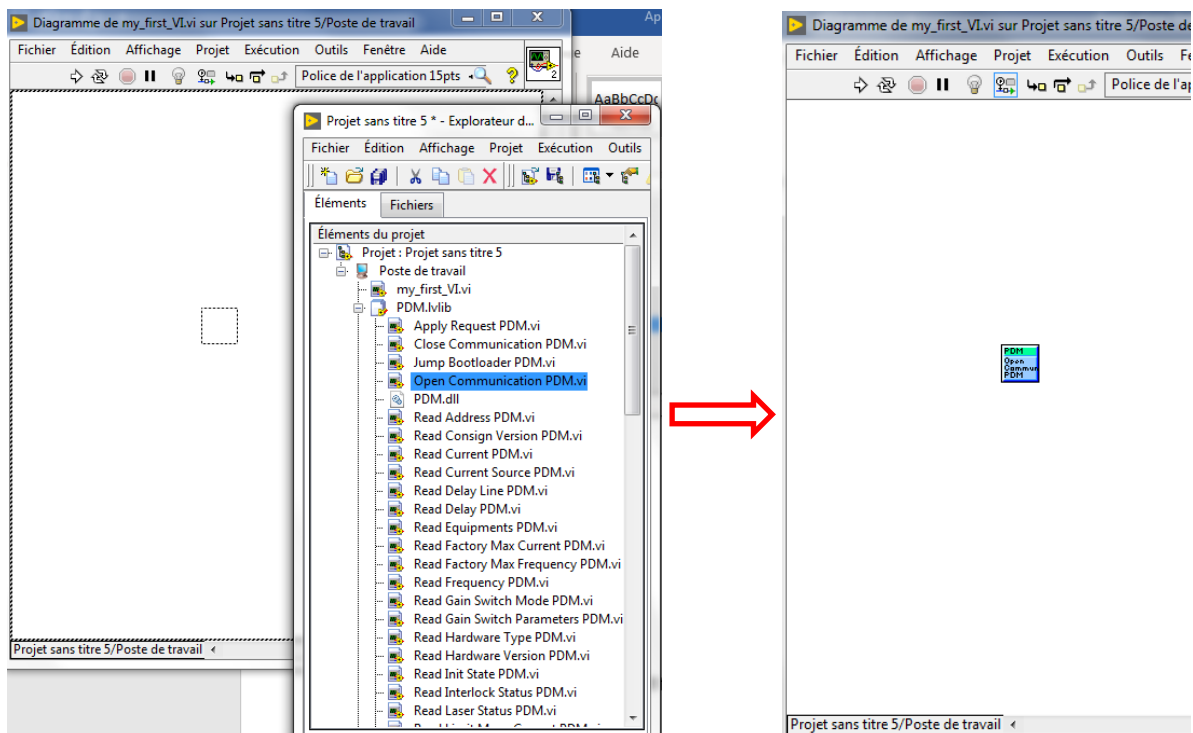
1- Open the new VI



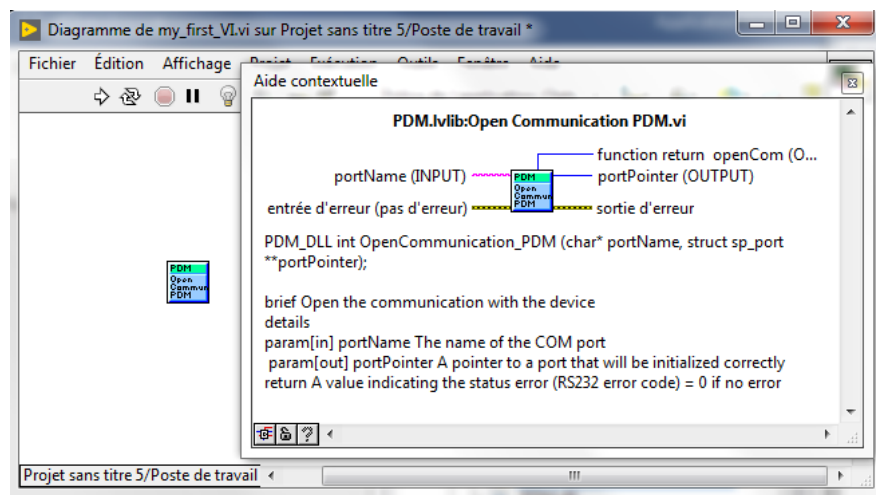
2- Add the Open_Communication.vi and Open_Communication.vi, these are the first VIs to add in order to drive our product



Or you can directly add the VI to the project.

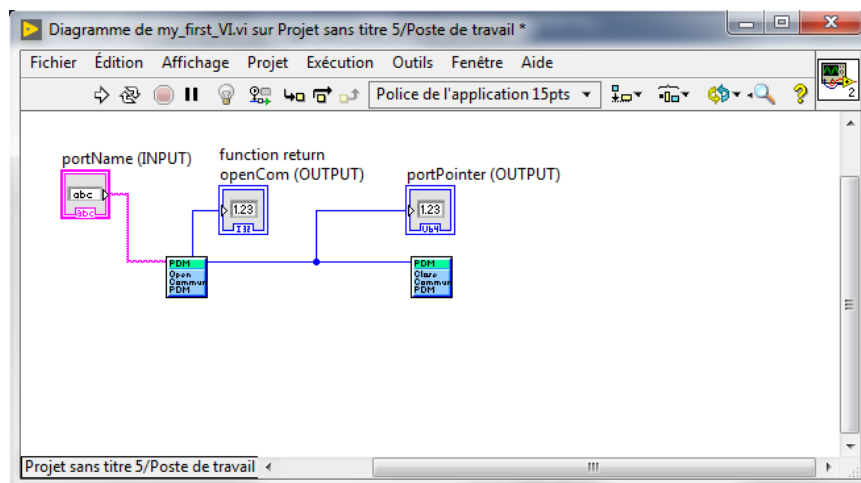


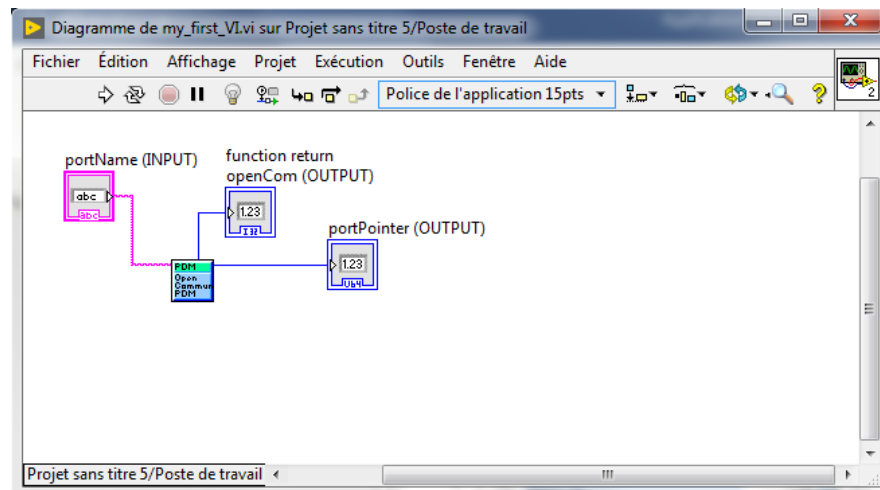
3- You can press CTRL-H to open a help window



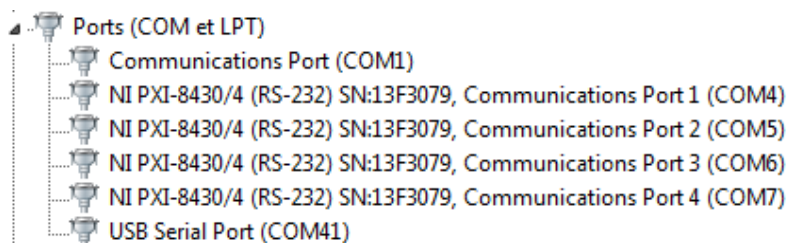
Thanks to this window we can know the input and output signals. In this Open_Communication.vi, there are 2 input signals (portName / input error) and 3 output signals (portPointer / function return / output signal).

4- Add controls and indicators

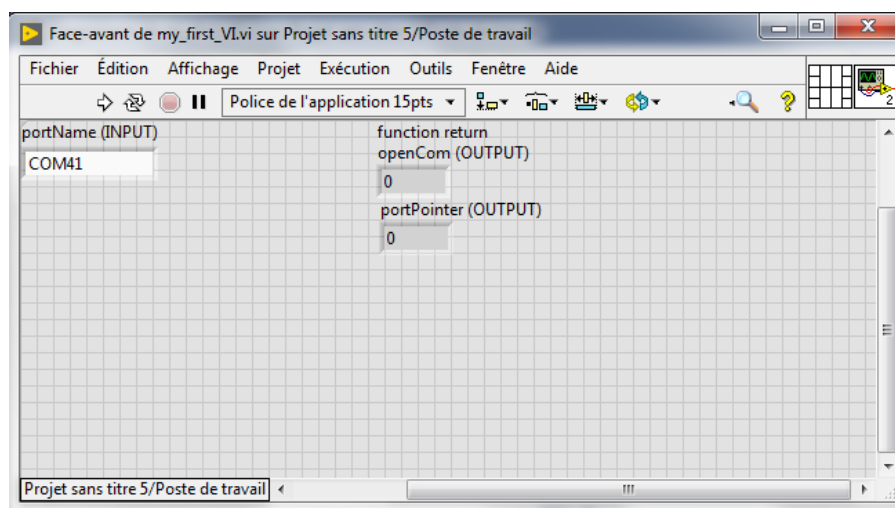




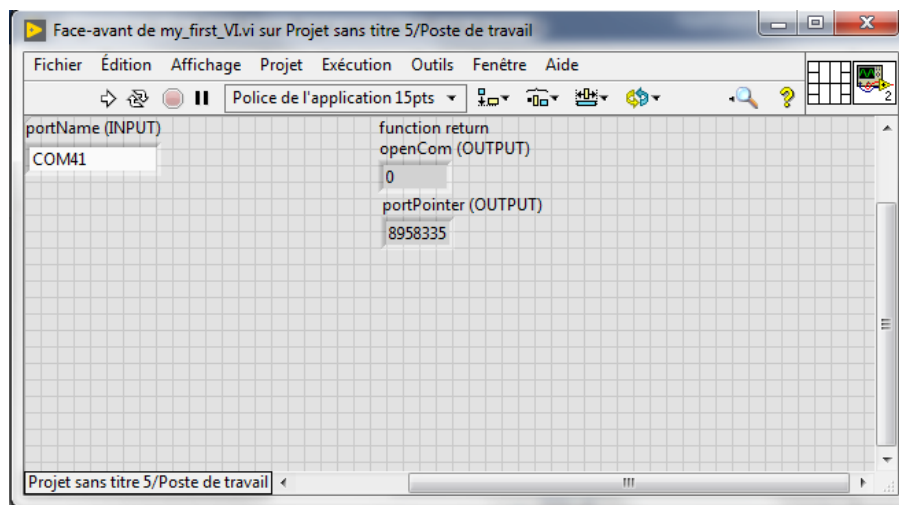
5- Check the portName (USB serial Port) with the device manager.



In this case, the portName is COM41. So, we must write "COM41" in the input signal portName.



6- Run the VI with the 



If there is no problem, the “function return” signal returns 0. The portPointer is generated by the Open_Communication.vi

7- Add different VIs from our library to drive the product

This is an example of using our LabVIEW function, we just set and read the temperature. Don’t forget to use the Apply_Request.vi after Set_XXX.vi (for example: set_temperature.vi or set_pulse_width.vi)

