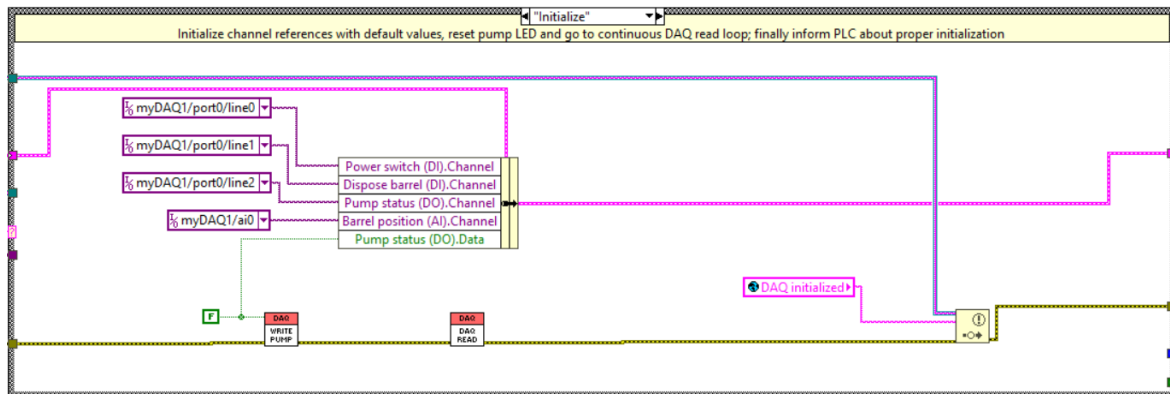# Exercise 7-2
Applying DAQ workflow

Task: Complete gaps in the application code to apply DAQ workflow

Use Bookmark manager to navigate through tasks in the application

### 7-2.1 Update Initialize case of DAQ module (Fig. 1):

a) Create proper **physical channels constants** and connect them to DAQ data cluster

b) Set **False** to **Pump status** in DAQ data cluster and in **Write Pump** API

Fig. 1. Initialize case of DAQ module

7-2.2 Update DAQ Read case of DAQ module (Fig. 2):

a) Use **Unbundle by name** nodes to connect proper virtual channels to **Read DI** and **Read AI** APIs

b) Connect output **data** terminal of **Read DI** APIs to proper cluster elements of DAQ data

c) Add **DAQ Read.vi** to continuously repeat DAQ Read loop
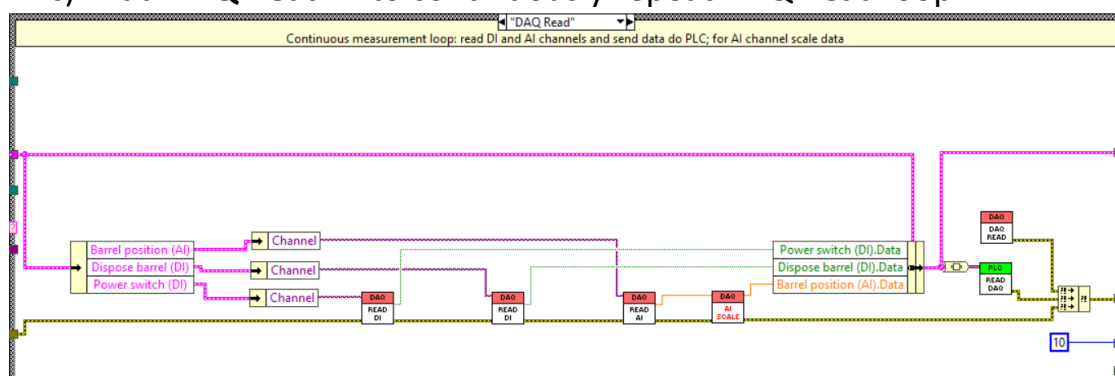
Fig. 2. DAQ Read case of DAQ module

7-2.3 Update AI scale.vi (Fig. 3):

Add scaling factor (**double constant**) of AI signal to match potentiometer MAX/MIN and Production Line position on Model User Interface (0..20 units)

NOTE: use **4,5** value for the scaling factor as the initial value, but if during testing the potentiometer does not cover all positions, update this value
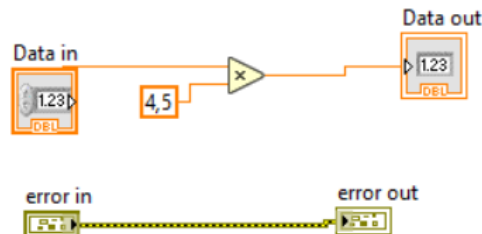

Fig. 3. AI scale.vi code diagram

7-2.4 Update DI Read Body.vi API (Fig. 4):

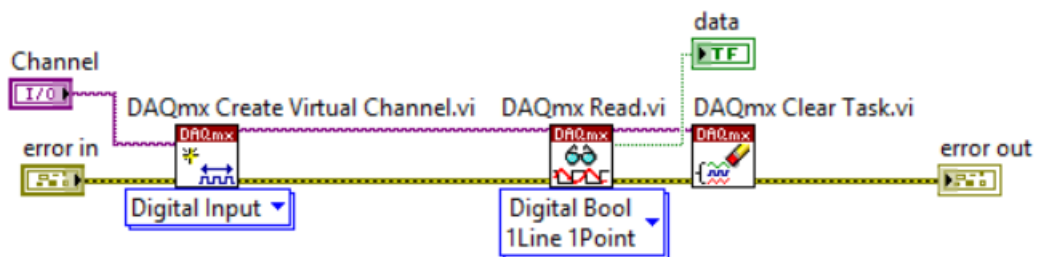Select proper polymorphic versions of **Create Virtual Channel.vi** and **DAQmx Read.vi** and connect the Vis with wires

Fig. 4. DI Read Body.vi code diagram