

Advantech SE Technical Share Document

Date	2020 / 08 / 03	Related Product	CODESYS	
Category	■ FAQ □ SOP □ Driver Tech Note			
Abstract	CODESYS 的 COM PORT			
Keyword	CODESYS COM 、 serial port 、 COM Port 。			
Related OS	WINDOWS 、			
Revision History				
Date	Version	Author	Reviewer	Description
2020/08/03	V1.0	Tenjin.Lin	Nick.Liu	CODESYS V3.5 SP15

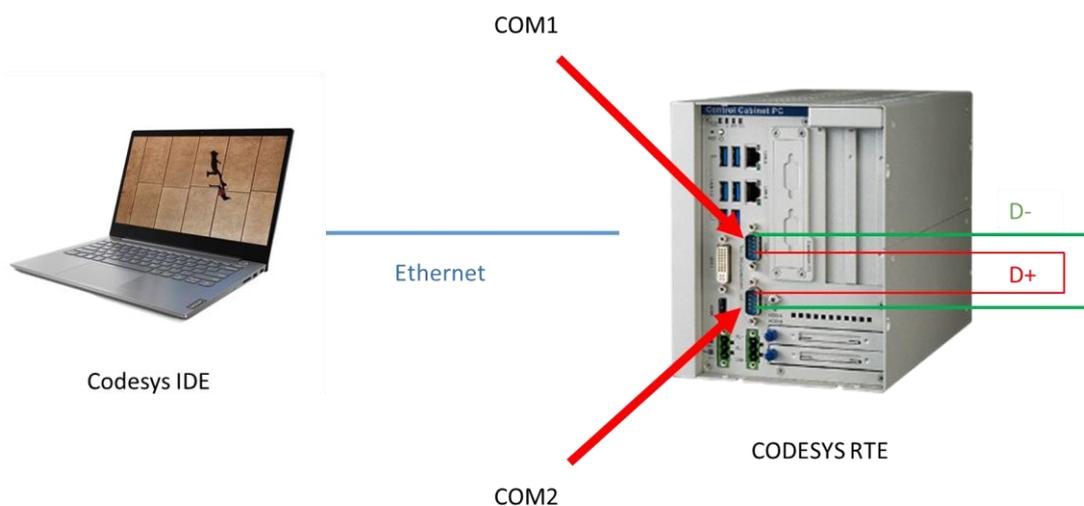
1 Problem Description & Architecture:

本文主要介紹 CODESYS 所提供的免費 COM Port 測試程式，取得方式與使用方式，

本文以 UNO 機械上安裝 CODESYS RTE 並使用其設備上兩個 COM Port 作為對傳使用。

2 Brief Solution - Step by Step:

2.1 硬體架構

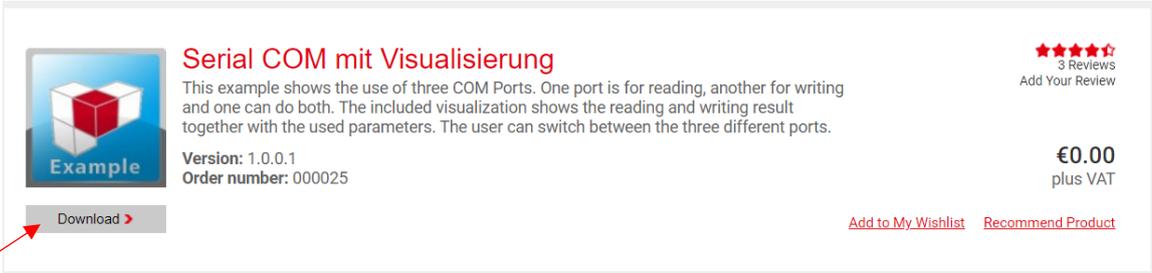


3 取得方式

3.1 CODESYS Store

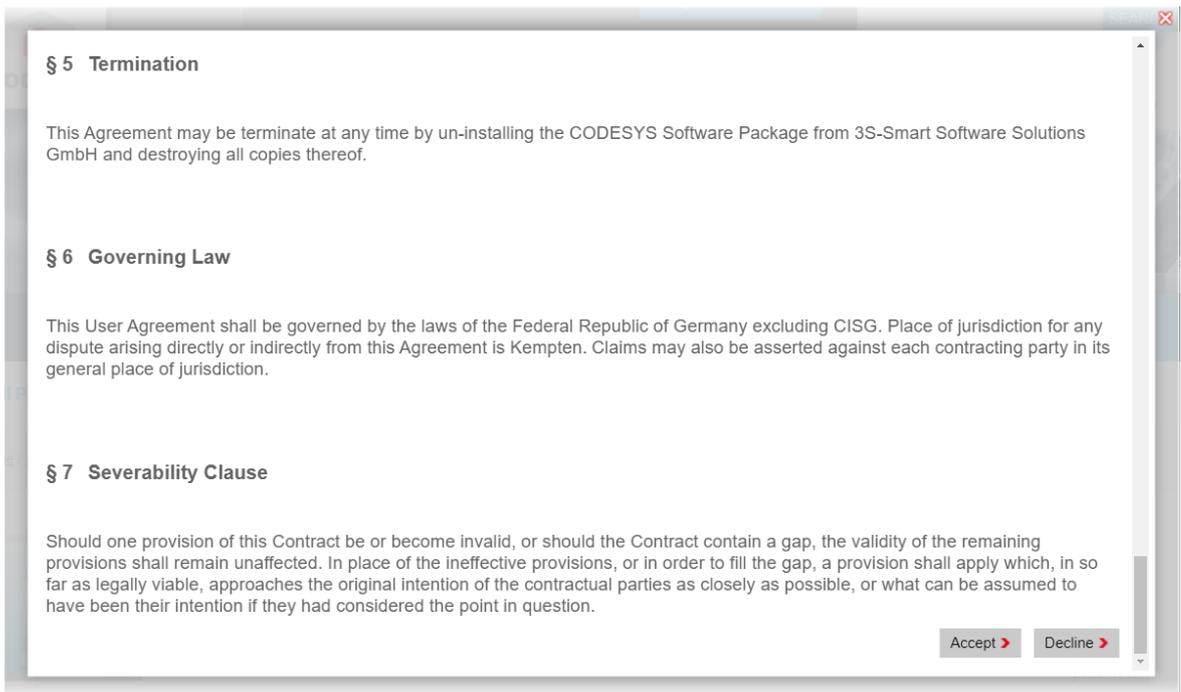
3.1.1 到此網址 <https://store.codesys.com/serial-com-with-visu.html>

3.1.2 點擊 Download



The screenshot shows a product listing for 'Serial COM mit Visualisierung'. On the left is a thumbnail image of a 3D cube with the word 'Example' below it. To the right of the image, the product title is in red. Below the title is a short description: 'This example shows the use of three COM Ports. One port is for reading, another for writing and one can do both. The included visualization shows the reading and writing result together with the used parameters. The user can switch between the three different ports.' Further down, it lists 'Version: 1.0.0.1' and 'Order number: 000025'. On the right side of the product card, there are five red stars, '3 Reviews', and 'Add Your Review'. Below that, the price is listed as '€0.00 plus VAT'. At the bottom right, there are two red links: 'Add to My Wishlist' and 'Recommend Product'. At the bottom left, there is a grey 'Download' button with a right-pointing arrow. A red arrow from the text below points to this button.

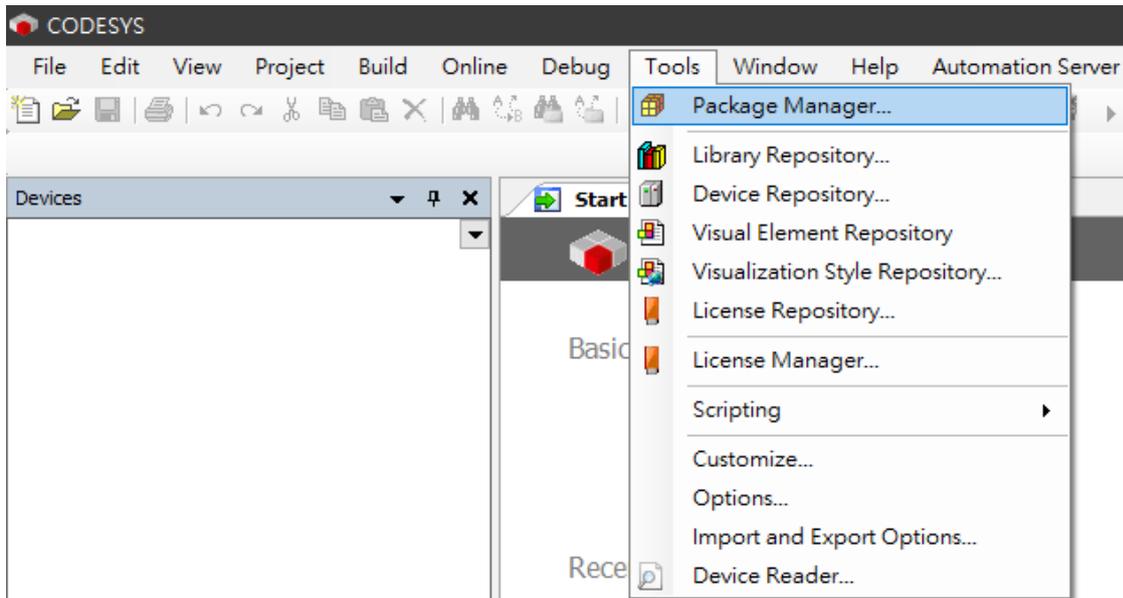
3.1.3 將卷軸拉到最下方點擊 Accept · 下載檔案 ·



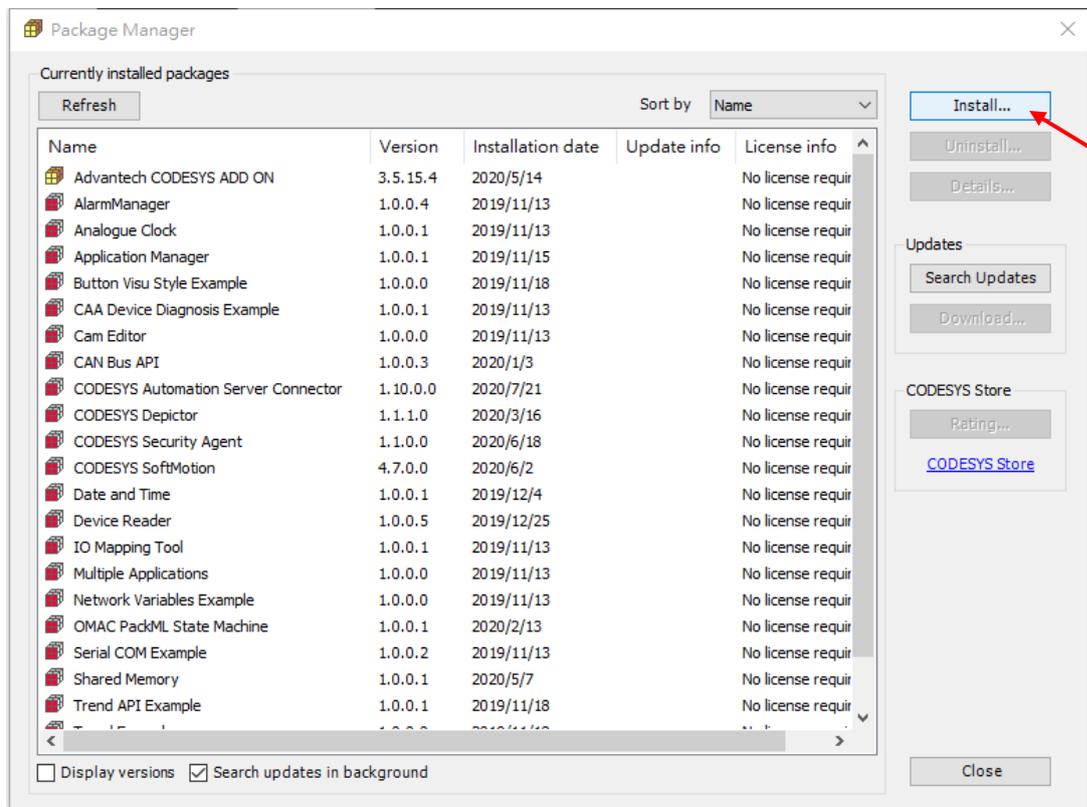
The screenshot shows a window titled '§ 5 Termination'. The text reads: 'This Agreement may be terminate at any time by un-installing the CODESYS Software Package from 3S-Smart Software Solutions GmbH and destroying all copies thereof.' Below this is '§ 6 Governing Law' with the text: 'This User Agreement shall be governed by the laws of the Federal Republic of Germany excluding CISG. Place of jurisdiction for any dispute arising directly or indirectly from this Agreement is Kempten. Claims may also be asserted against each contracting party in its general place of jurisdiction.' The next section is '§ 7 Severability Clause' with the text: 'Should one provision of this Contract be or become invalid, or should the Contract contain a gap, the validity of the remaining provisions shall remain unaffected. In place of the ineffective provisions, or in order to fill the gap, a provision shall apply which, in so far as legally viable, approaches the original intention of the contractual parties as closely as possible, or what can be assumed to have been their intention if they had considered the point in question.' At the bottom right of the window, there are two buttons: 'Accept' and 'Decline', both with right-pointing arrows.

3.2 開啟 CODESYS

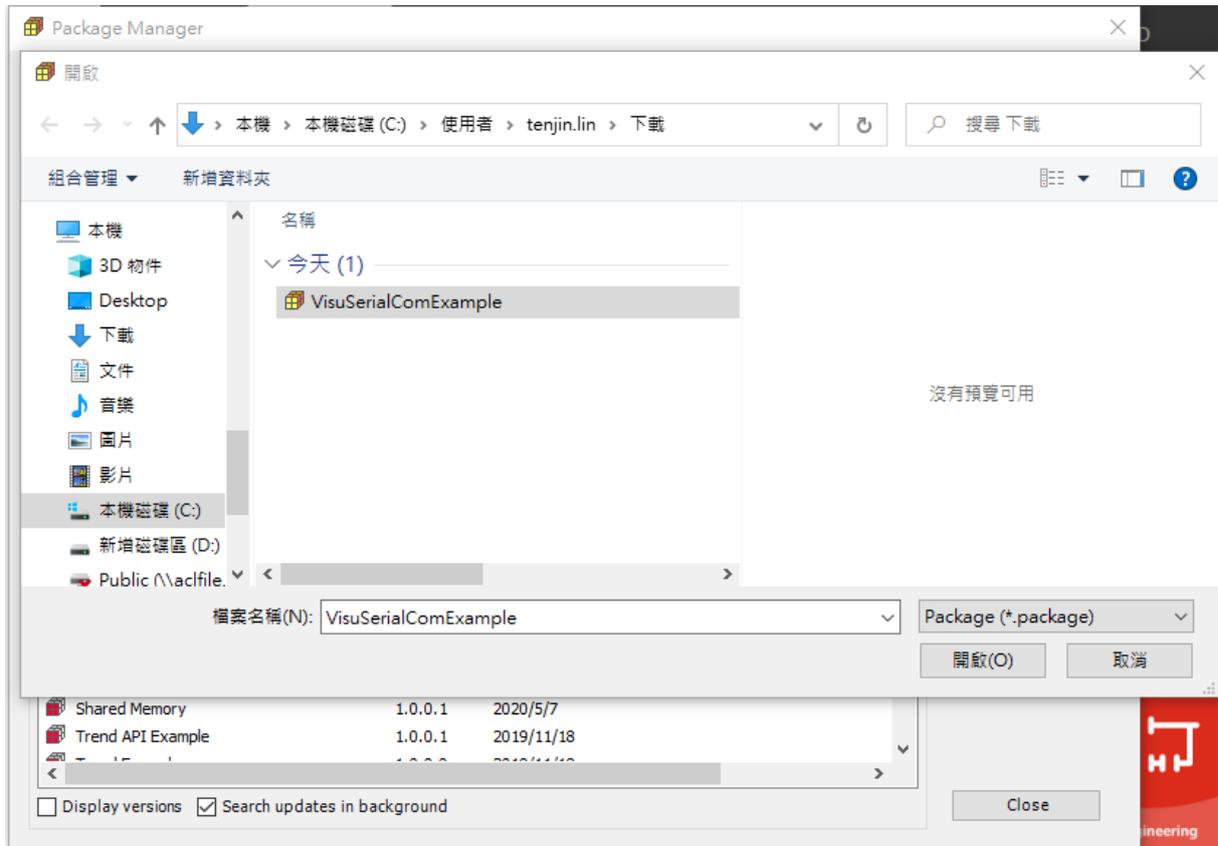
3.2.1 點擊 Tool->Package Manager...



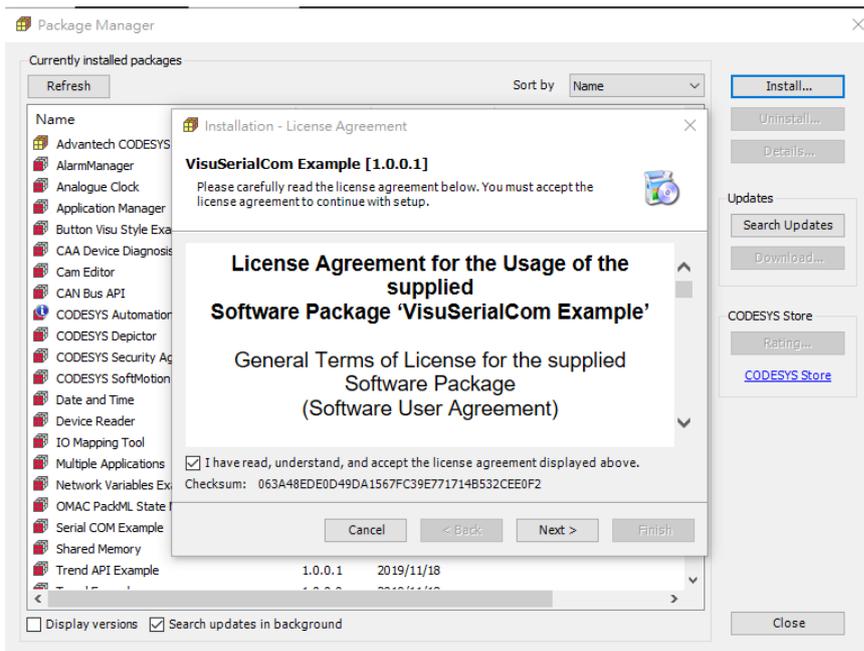
3.2.2 點擊 Install



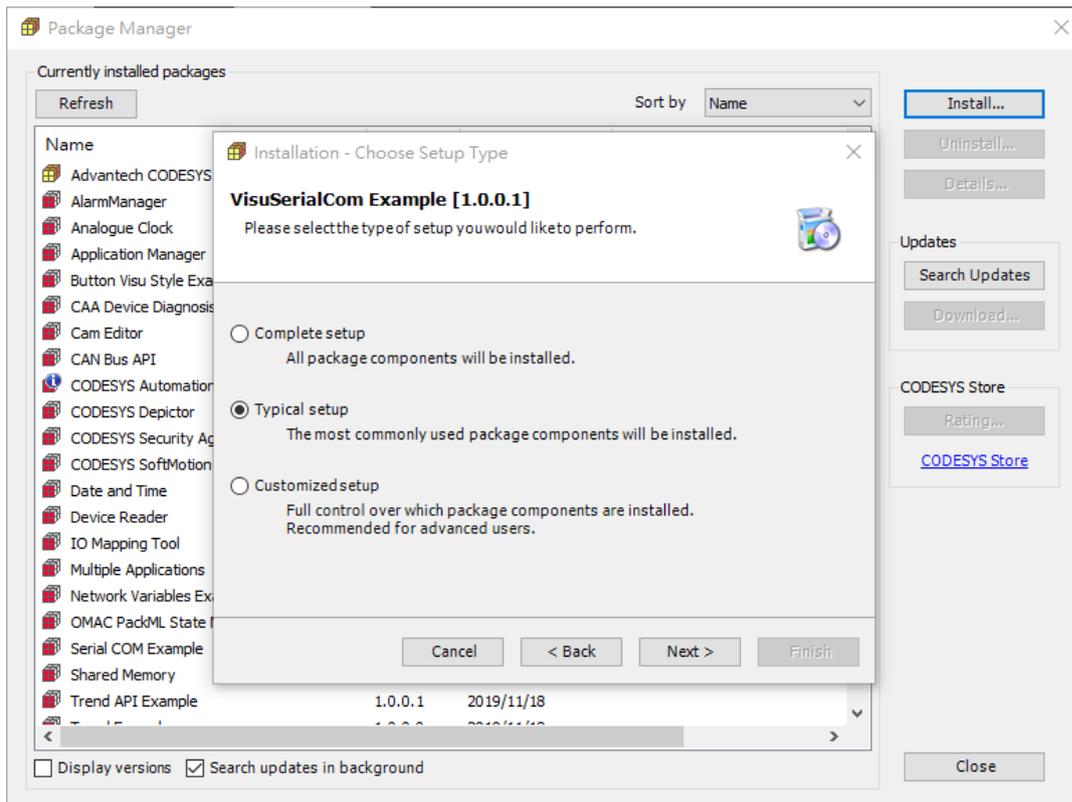
3.2.3 選擇剛剛所下載的檔案



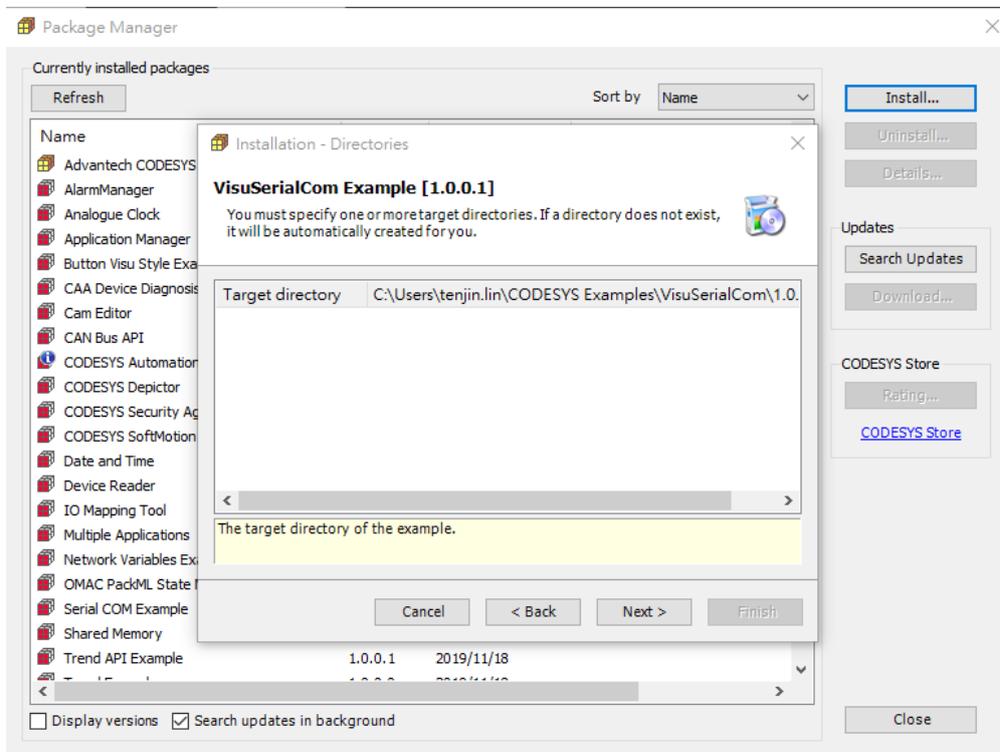
3.2.4 同意條款後點選 NEXT



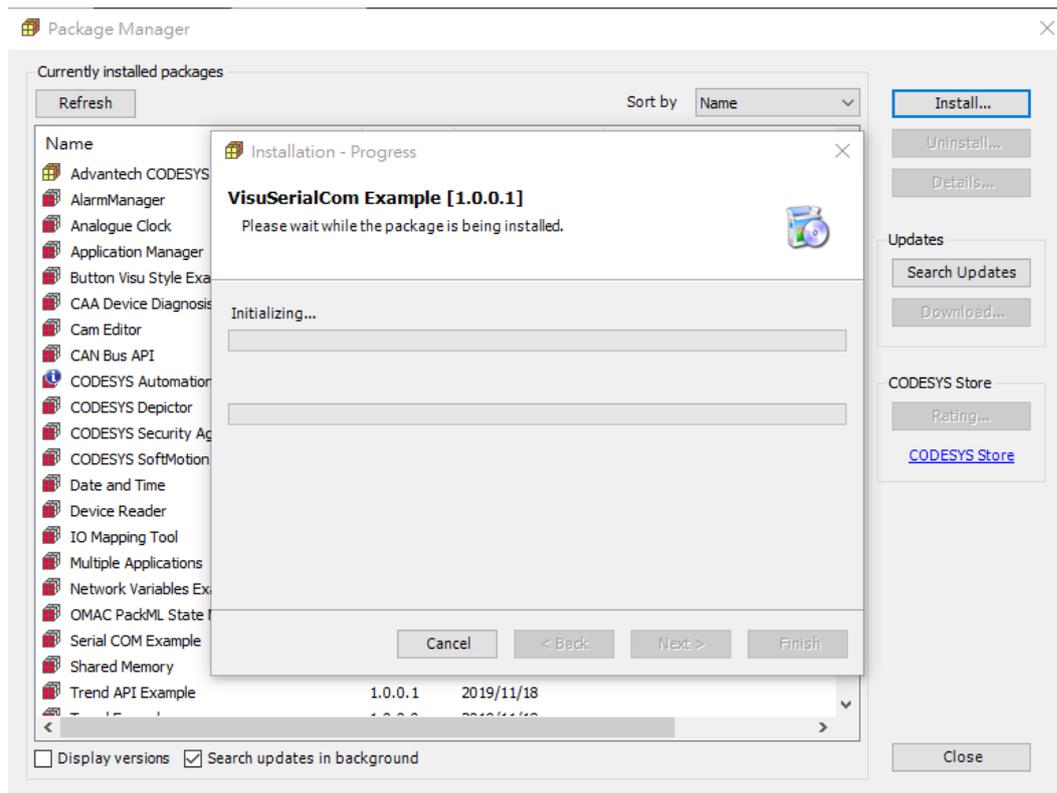
3.2.5 點選 NEXT



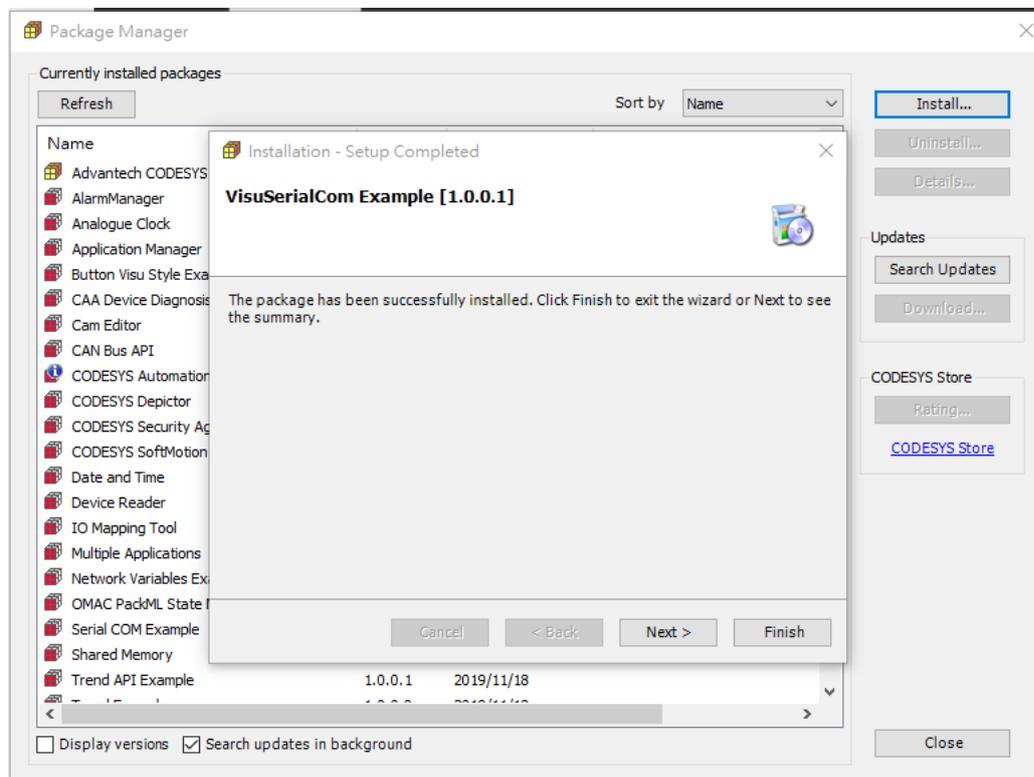
3.2.6 點選 NEXT



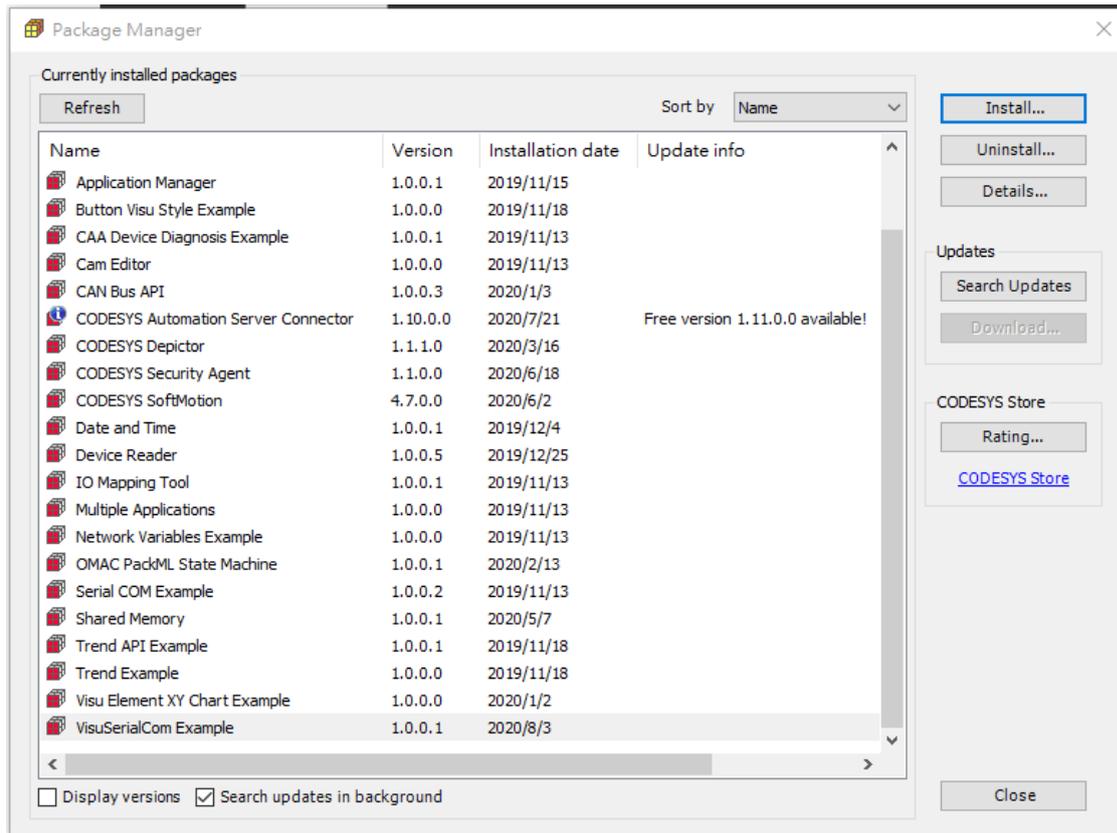
3.2.7 等待安裝結束



3.2.8 完成後點選 Finish

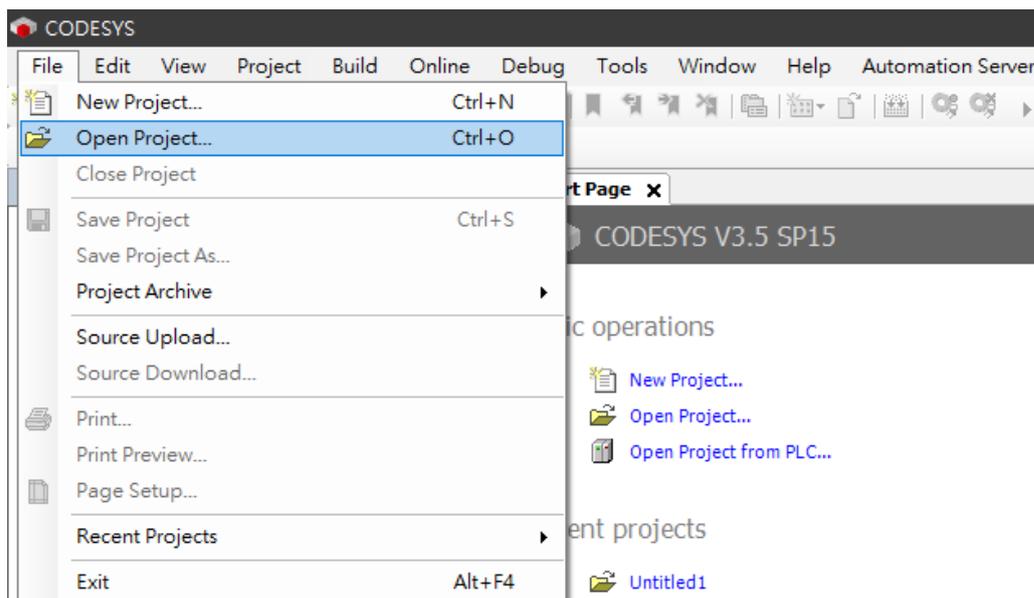


3.2.9 完成後就會看到已經安裝完成的 Package 已經在裡面了

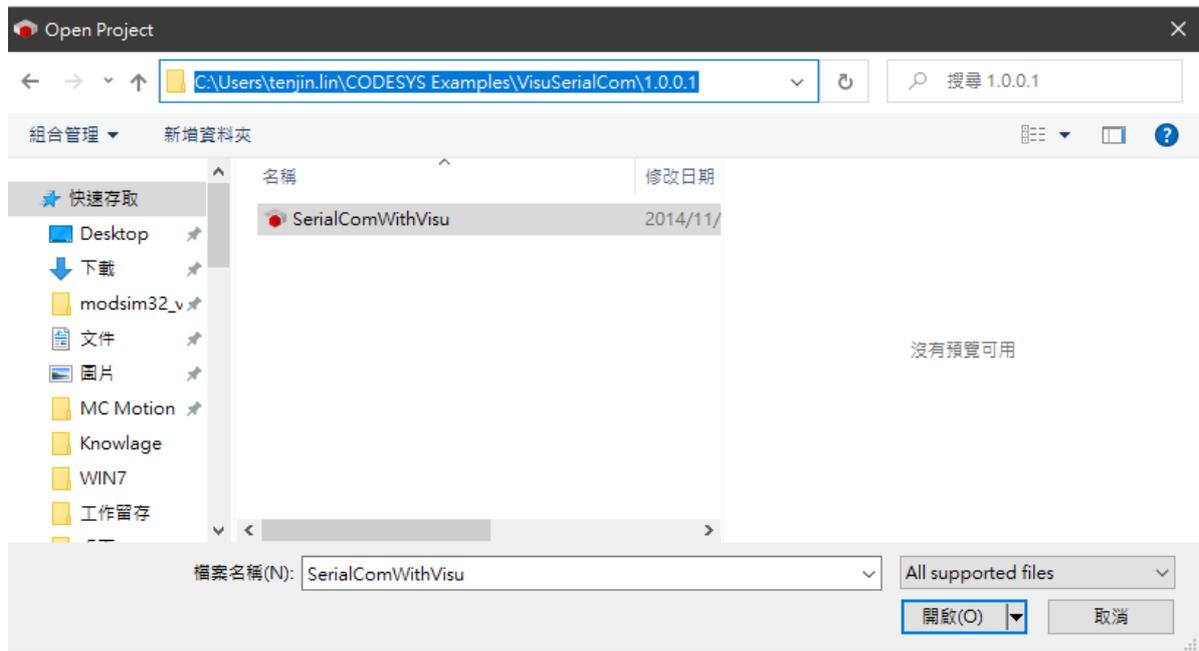


3.3 開啟範例

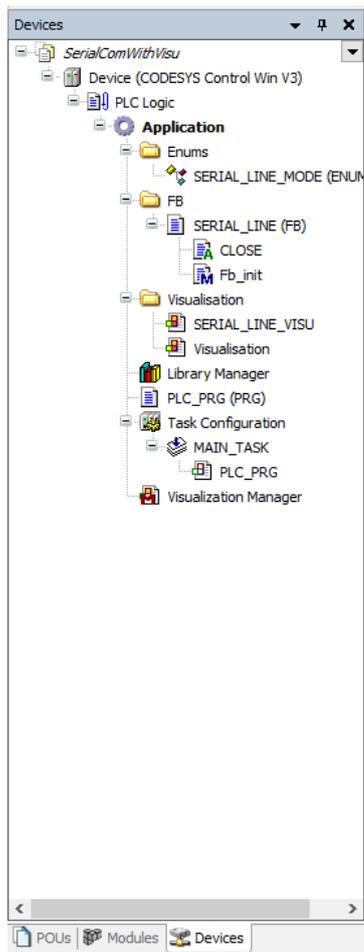
3.3.1 點擊 File->Open Project..



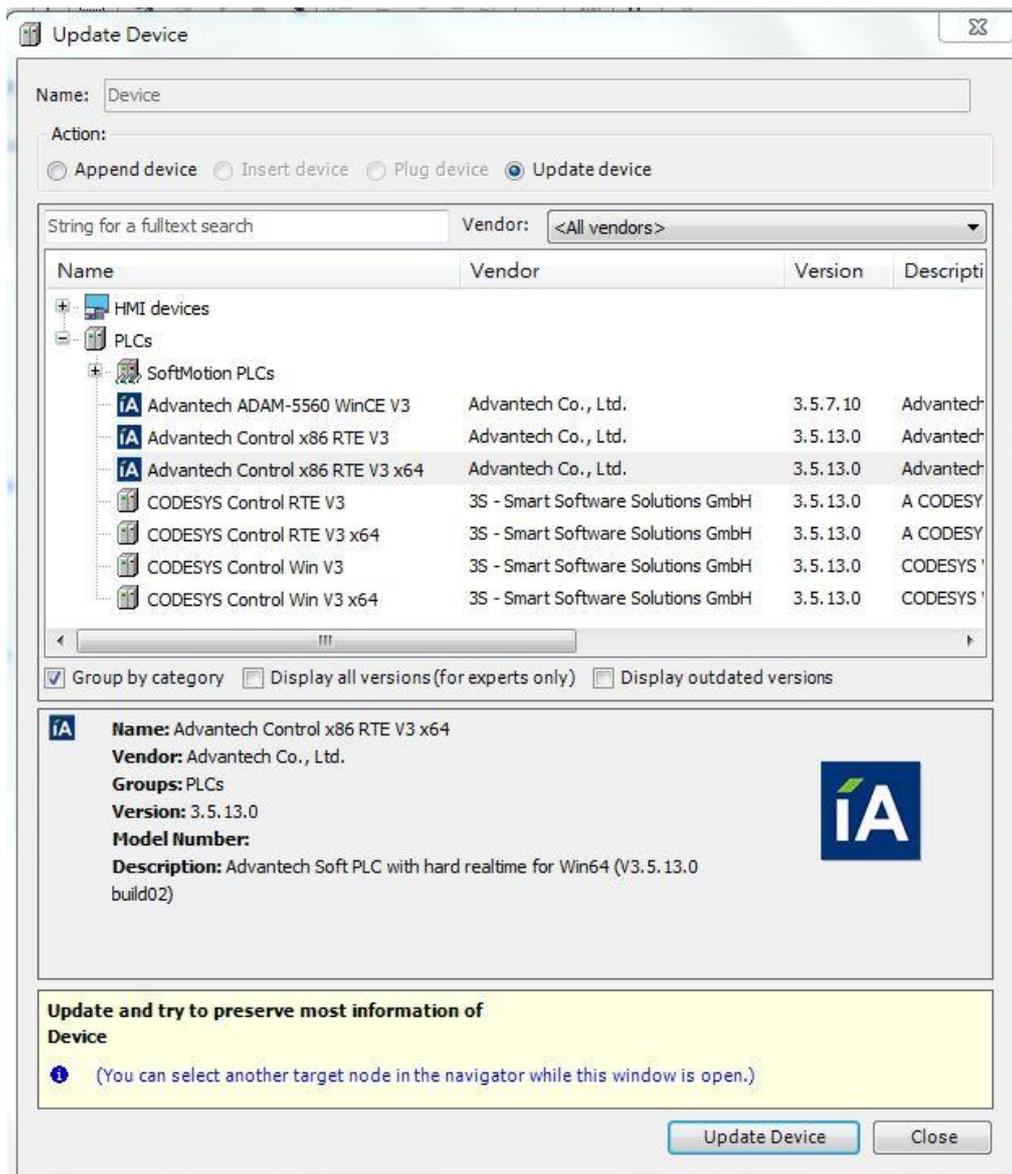
3.3.2 選擇範例路徑，並開啟檔案。



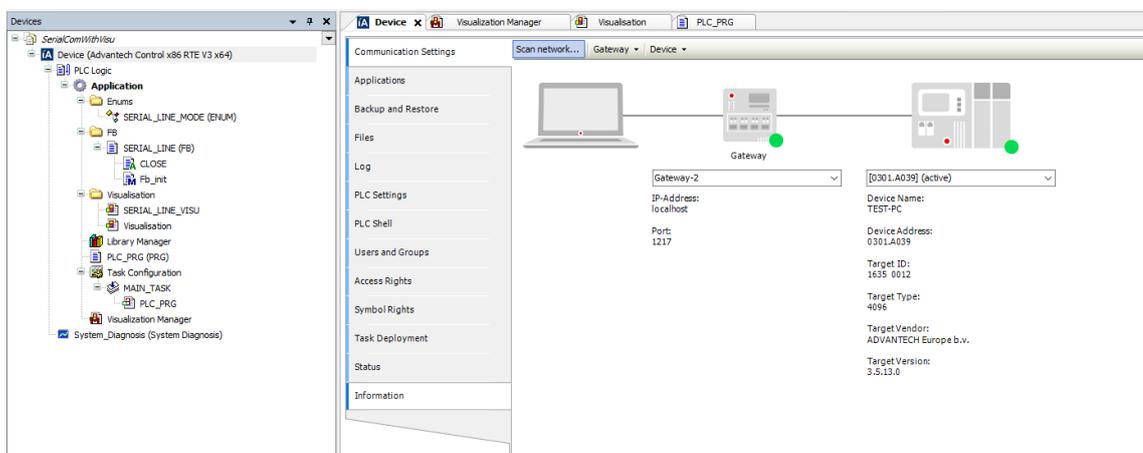
3.3.3 開啟完成後需變更 Device 為正在使用的裝置。



3.3.4 對 Device 點擊右鍵,選擇目標機器所對應的裝置。



3.3.5 將 IDE 與 RTE 連接



3.3.6 到 PLC_RPG 將其參數改為對應的 COM Port

```

1  PROGRAM PLC_PRG
2  VAR
3      xTwoLines: BOOL; ::= TRUE;
4      xTwoLinesOld: BOOL;
5      FirstSerialLine: SERIAL_LINE;
6      SecondSerialLine: SERIAL_LINE;
7      ThirdSerialLine: SERIAL_LINE;
8  END_VAR

15  RETURN;
16  END_IF
17  IF NOT ThirdSerialLine.xClosed THEN
18      ThirdSerialLine.CLOSE();
19      RETURN;
20  END_IF
21  xTwoLinesOld:= xTwoLines;
22  END_IF
23
24  //set the special parameters for the port
25  // depending on the Port and the bandwidth the values should be adapted
26  IF xTwoLines THEN
27      FirstSerialLine(
28          slMode:= SL_READ, //reading port
29          udiPort:= 2, //Port number
30          udiBaudrate:= 9600, //bandwidth
31          paParity:= COM.PARITY.EVEN, //the parity is optional
32          sbStopBits:= COM.STOPBIT.ONESTOPBIT,
33          udiByteSize := 8); //the stopbits are optional );
34      SecondSerialLine(
35          slMode:= SL_WRITE, //writing port
36          udiPort:= 1,
37          udiBaudrate:= 9600,
38          paParity:= COM.PARITY.EVEN,
39          sbStopBits:= COM.STOPBIT.ONESTOPBIT,
40          udiByteSize := 8);
41  ELSE
42      ThirdSerialLine(
43          slMode:= SL_READWRITE,
44          udiPort:= 6,
45          udiBaudrate:= 9600,
46          paParity:= COM.PARITY.EVEN,
47          sbStopBits:= COM.STOPBIT.ONESTOPBIT,
48          udiByteSize := 8);
49  END_IF
50  END_IF
    
```

3.3.7 LOGIN 後點擊 RUN PLC 並點擊 Visualisation

COM 6	9600 Baud	Paritymode EVEN	Stopbitmode ONESTOPBIT	Error NO_ERROR
Write	Hello World!			
Read				

Two serial lines (R / W)

3.3.8 點擊 Two serial lines

COM 2	9600 Baud	Paritymode EVEN	Stopbitmode ONESTOPBIT	Error NO_ERROR
Read	Hello World!			

COM 1	9600 Baud	Paritymode EVEN	Stopbitmode ONESTOPBIT	Error NO_ERROR
Write	Hello World!			

One serial line (RW)

3.3.9 可以修改對話框中的文字就可以同步看到另一個 COM Port 的文字跟著變化

COM 2	9600 Baud	Paritymode EVEN	Stopbitmode ONESTOPBIT	Error NO_ERROR
Read	AAA-TEST			

COM 1	9600 Baud	Paritymode EVEN	Stopbitmode ONESTOPBIT	Error NO_ERROR
Write	AAA-TEST			

One serial line (RW)

Reference:

- (1) CODESYS Online Help