

Q. 如何在 LabWindows/CVI 編譯 DAQ Card 程式?

A: 請參考至下列步驟:

步驟 1: 安裝驅動程式。

1. 安裝 UniDAQ 驅動程式。UniDAQ 驅動程式下載位置:
 CD:\NAPDOS\PCI\UniDAQ\DLL\Driver\
<ftp://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidaq/dll/driver/>
2. 更詳細的驅動程式安裝說明，請參考 UniDAQ SDK 使用手冊。使用手冊下載位置:
 CD:\NAPDOS\PCI\UniDAQ\Manual\
<http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidaq/manual/>

步驟 2: 安裝 DAQ Card 至電腦上。

1. 關掉電腦電源。
2. 打開電腦機殼。
3. 將 I/O 板卡插入至一個未使用的 PCI 插槽。
4. 裝上機殼。
5. 重新啟動電源。

步驟 3: 取得 “.h” 檔及 “.lib” 檔案。

您可從 VC 範列程式中取得 “UniDAQ.h” 檔及 “UniDAQ.lib” 檔來使用。

VC 範列程式下載位置: CD:\NAPDOS\PCI\UniDAQ\DLL\Demo\
<http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidaq/dll/>

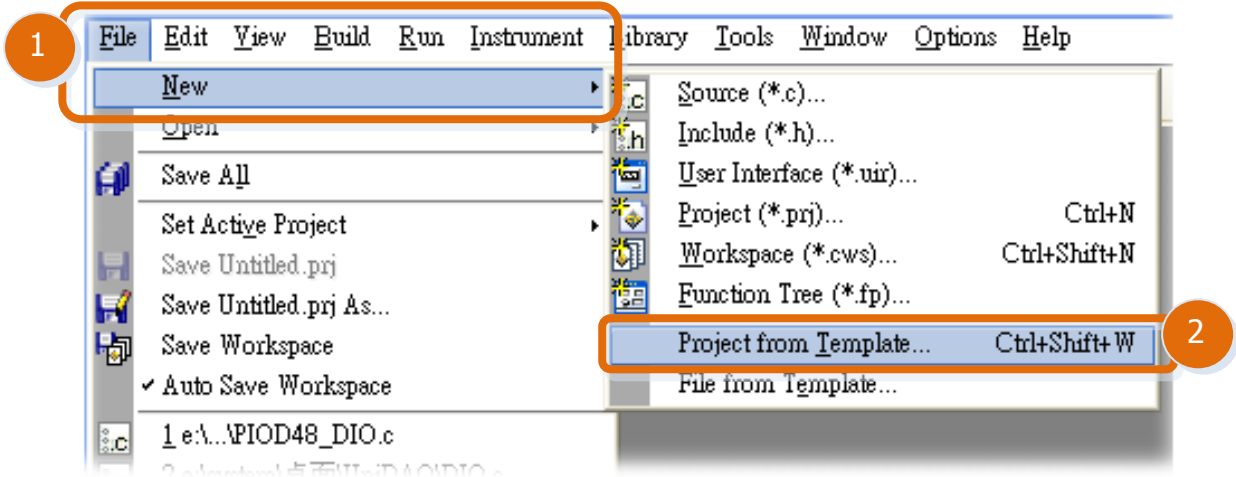


UniDAQ.h
C Header file
16 KB

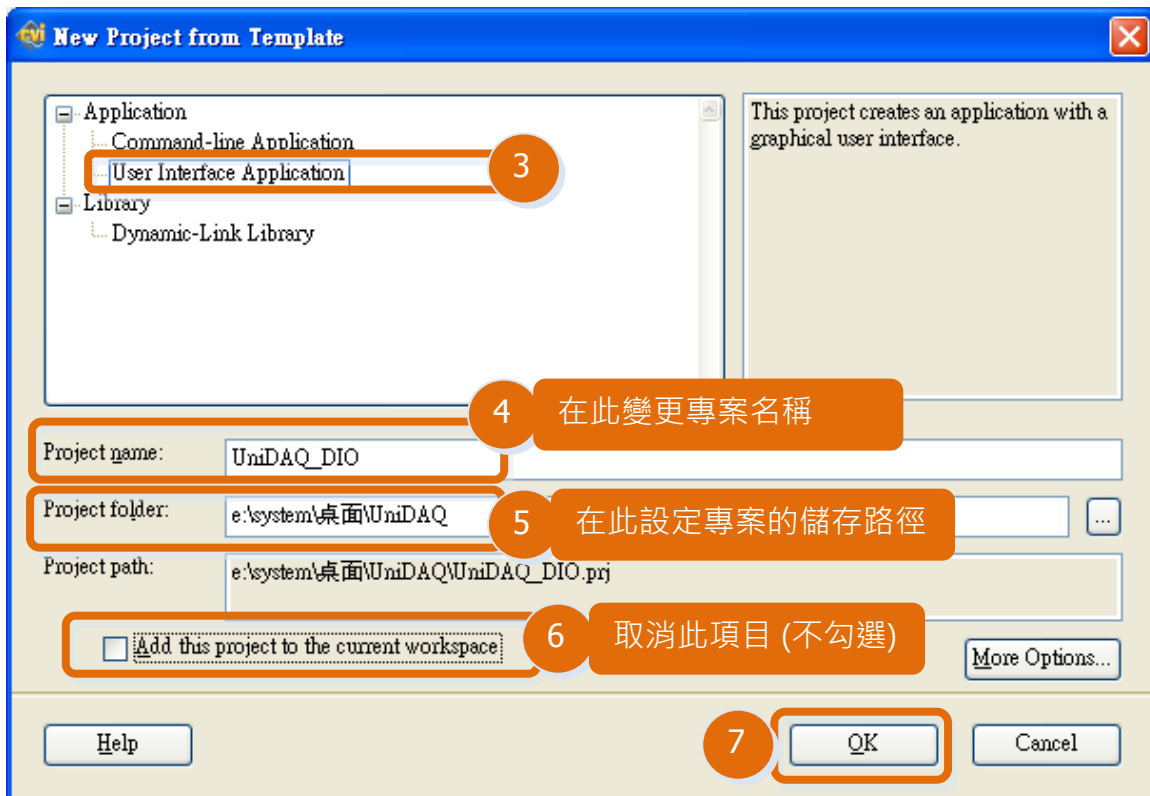


UniDAQ.lib
LIB 檔案
16 KB

步驟 4: 執行 LabWindows/CVI 後，選擇 **File** → **New** → **Project from Template** 來建立一個新的專案。

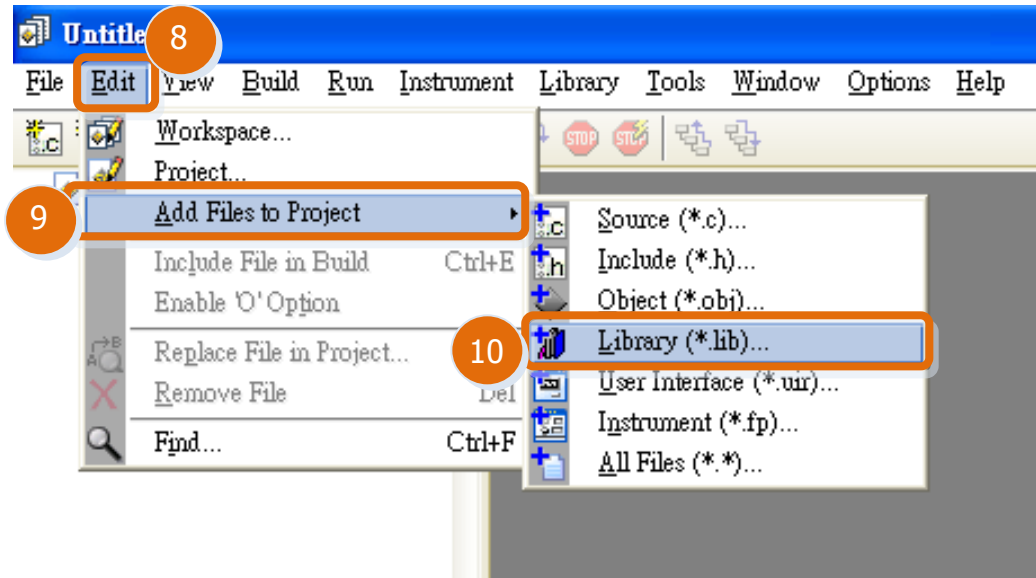


步驟 5: 選擇 **User Interface Application**。

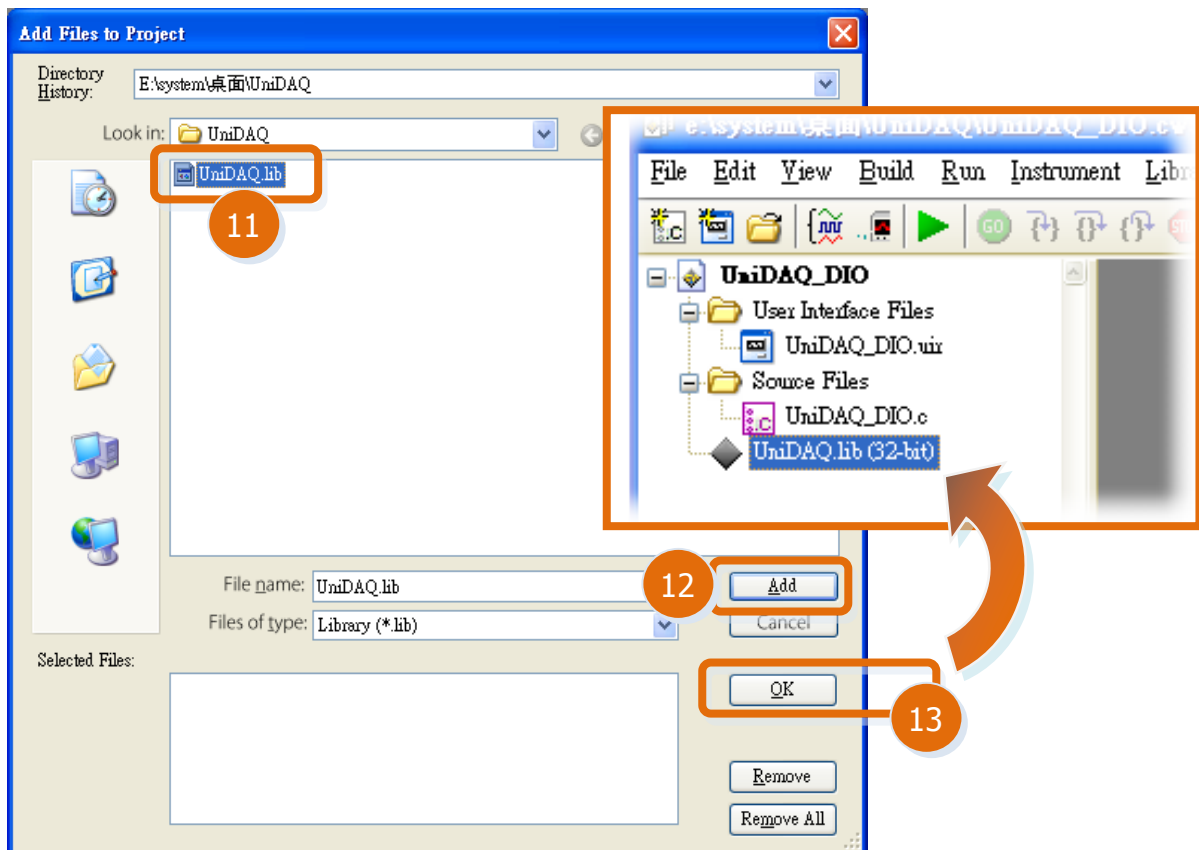


步驟 6: 新增 “.lib” 檔至新增的專案中。

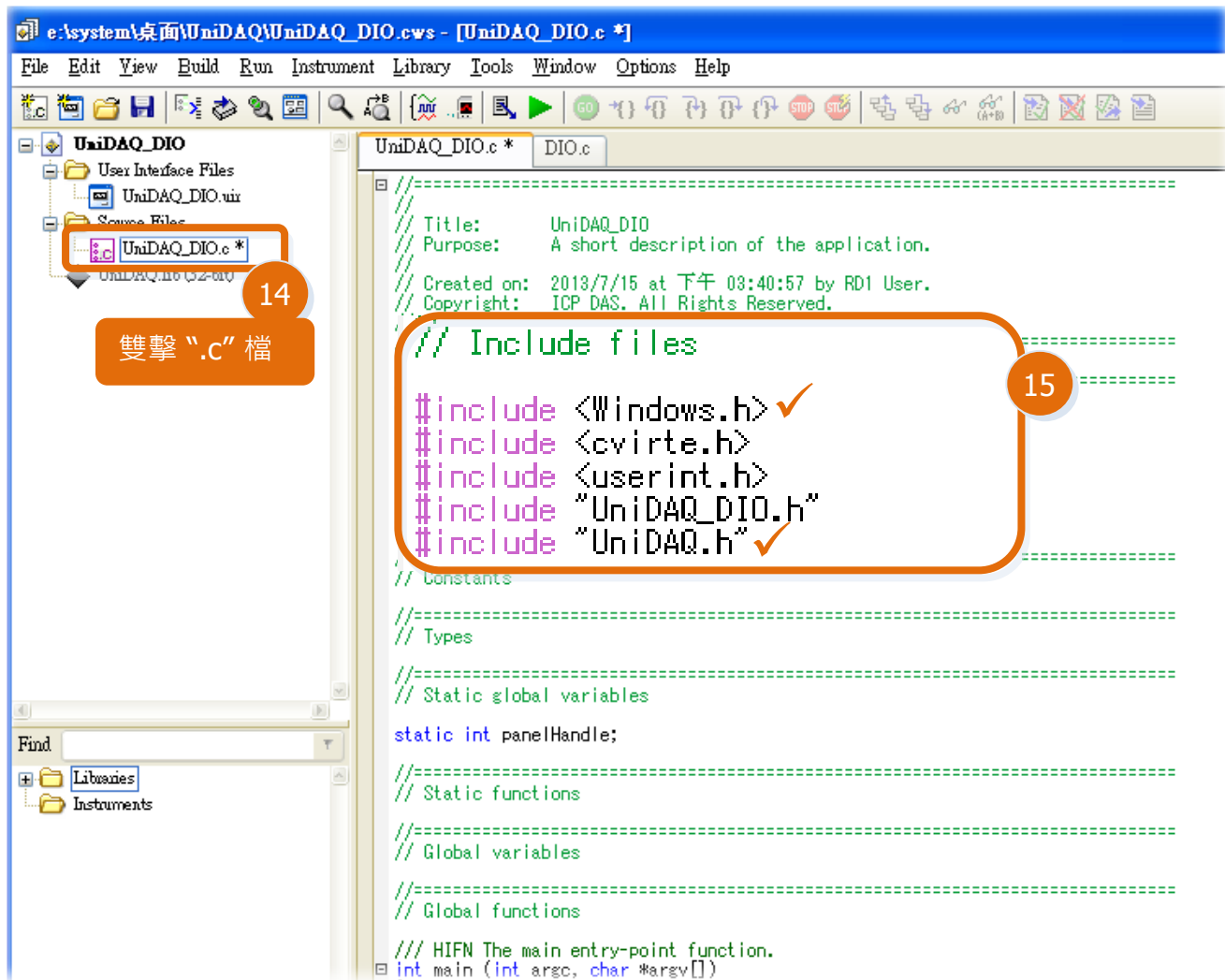
1. 在 LabWindows/CVI 開發軟體功能選單上，單擊 “Edit” → “Add Files to Project” → “Library (*.lib)”。



2. 選擇 “UniDAQ.lib” 檔後，單擊 “Add” 按鈕，再單擊 “OK” 按鈕。



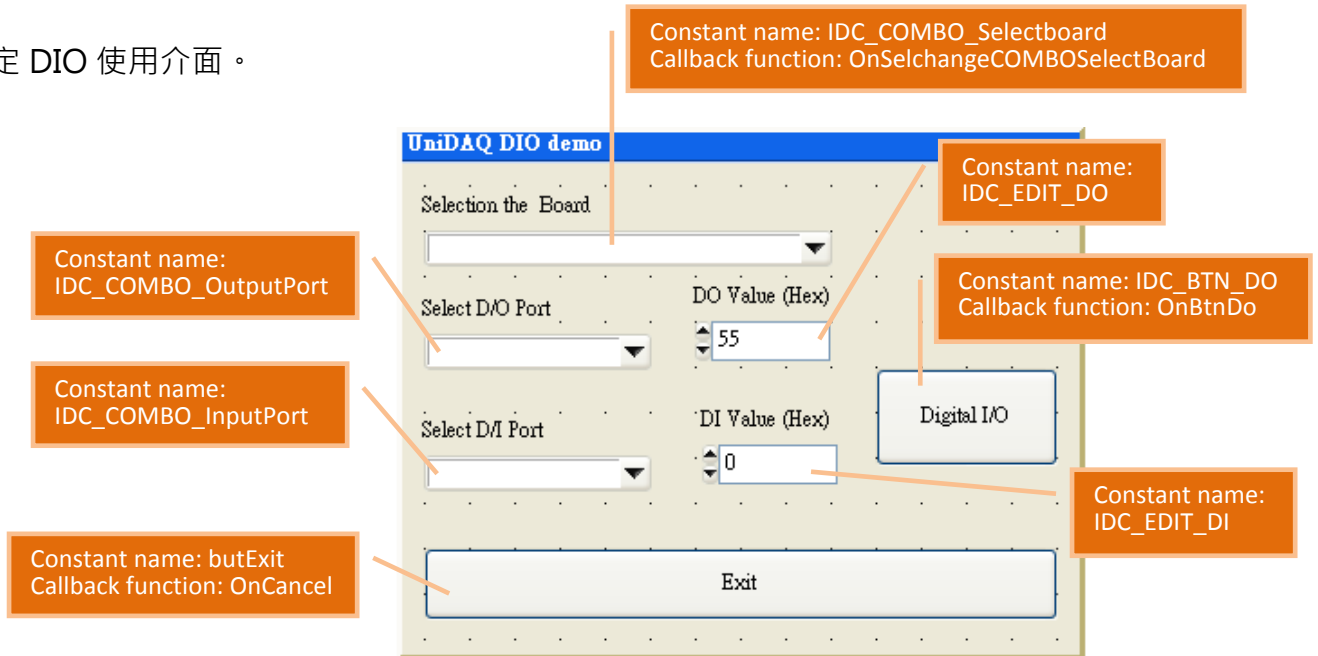
步驟 7: 在專案的.c 檔中的 **Include files** 區塊，新增 “**#include <Windows.h>**” 及 “**#include “UniDAQ.h”**”。



步驟 8: 您可以開始設計您所需的使用介面 (.uir 檔) 及編寫程式碼 (.c 檔)。

範例: DIO 功能範例程式如下:

1. 設定 DIO 使用介面。



2. 撰寫程式碼，如下:

```
#include <Windows.h>
#include <cvirte.h>
#include <userint.h>
#include "UniDAQ_DIO.h"
#include "UniDAQ.h"

static int panelHandle;
WORD wRtn;
int wBoardNo;
int wBoardIndex;
WORD PortIndex;
IXUD_DEVICE_INFO sDevInfo[MAX_BOARD_NUMBER];
IXUD_CARD_INFO sCardInfo[MAX_BOARD_NUMBER];
char szModelName[20]="Unknow Device";

int main (int argc, char *argv[])
{
    int iCardNum =0;
    WORD wTotalBoards;

    if (InitCVIRTE (0, argv, 0) == 0)
        return -1; /* out of memory */
    if ((panelHandle = LoadPanel (0, "UniDAQ_DIO.uir", PANEL)) < 0)
        return -1;
```

```

//Initial the resource and get total board number form driver
★ wRtn=Ixud_DriverInit(&wTotalBoards);
if (wRtn!=0) return wRtn;

ClearListCtrl(panelHandle, PANEL_IDC_COMBO_SelectBoard);
InsertListItem (panelHandle, PANEL_IDC_COMBO_SelectBoard, 0,"--Select Board--",0);

//Get DAQ Card Information
for(WORD wBoardIndex = 0; wBoardIndex<wTotalBoards ; wBoardIndex++)
{
★ wRtn = Ixud_GetCardInfo(wBoardIndex,&sDevInfo[wBoardIndex],&sCardInfo[wBoardIndex],szModelName);
  InsertListItem (panelHandle, PANEL_IDC_COMBO_SelectBoard, -1, szModelName, wBoardIndex);
}

DisplayPanel (panelHandle);
RunUserInterface ();
DiscardPanel (panelHandle);
return 0;
}

int CVICALLBACK OnSelchangeCOMBOSelectBoard (int panel, int control, int event,
void *callbackData, int eventData1, int eventData2)
{
WORD wPortChNum;
char sPortNo[32];

GetCtrlIndex (panelHandle, PANEL_IDC_COMBO_SelectBoard, &wBoardNo);
wPortChNum = sCardInfo[wBoardNo].wDIOPortWidth;

switch (event)
{
case EVENT_COMMIT:

//Total D/O port
ClearListCtrl(panelHandle, PANEL_IDC_COMBO_OutputPort);

for (PortIndex = 0; PortIndex < (sCardInfo[wBoardNo].wDIOPorts +
sCardInfo[wBoardNo].wDOPorts) ;PortIndex++)
{
sprintf(sPortNo, "%02d", PortIndex);
InsertListItem (panelHandle, PANEL_IDC_COMBO_OutputPort, -1, sPortNo ,PortIndex);
}
//Total D/I port
ClearListCtrl(panelHandle, PANEL_IDC_COMBO_InputPort);

for (PortIndex = 0; PortIndex < (sCardInfo[wBoardNo].wDIOPorts +
sCardInfo[wBoardNo].wDIPorts) ;PortIndex++)
{
sprintf(sPortNo, "%02d", PortIndex);
InsertListItem (panelHandle, PANEL_IDC_COMBO_InputPort, -1, sPortNo, PortIndex);
}
break;
}
return 0;
}
}

```

```

int CVICALLBACK OnBtnDo (int panel, int control, int event,
                        void *callbackData, int eventData1, int eventData2)
{
    WORD wRtn;
    int wOutputPortNo;
    int wInputPortNo;
    DWORD dwDOVal;
    DWORD dwDIVal;

    GetCtrlIndex (panelHandle, PANEL_IDC_COMBO_SelectBoard, &wBoardNo);
    GetCtrlIndex (panelHandle, PANEL_IDC_COMBO_OutputPort, &wOutputPortNo);
    GetCtrlIndex (panelHandle, PANEL_IDC_COMBO_InputPort, &wInputPortNo);

    switch (event)
    {
        case EVENT_COMMIT:

            //Config the DIO Port
            if(sCardInfo[wBoardNo].wDIOPorts>0)
            ★ wRtn = Ixud_SetDIOModes32(wBoardNo, 1<<wOutputPortNo);

            //Write digital output port Value
            ★ GetCtrlVal (panelHandle, PANEL_IDC_EDIT_DO, &dwDOVal);
            wRtn = Ixud_WriteDO(wBoardNo,wOutputPortNo,dwDOVal);

            //Read digital input port Value
            ★ wRtn = Ixud_ReadDI(wBoardNo,wInputPortNo,&dwDIVal);
            SetCtrlVal (panelHandle, PANEL_IDC_EDIT_DI, dwDIVal);

            break;
    }
    return 0;
}

int CVICALLBACK OnCancel (int panel, int control, int event,
                        void *callbackData, int eventData1, int eventData2)
{
    switch (event)
    {
        case EVENT_COMMIT:

            //Release the resource form Driver
            ★ wRtn = Ixud_DriverClose();
            QuitUserInterface (0);
            break;
    }
    return 0;
}

```

★ 更多更詳細的 UniDAQ DLL 函式資訊，請參考至 UniDAQ DLL 使用手冊。手冊下載位置如下：
<http://ftp.icpdas.com/pub/cd/iocard/pci/napdos/pci/unidaq/manual/>