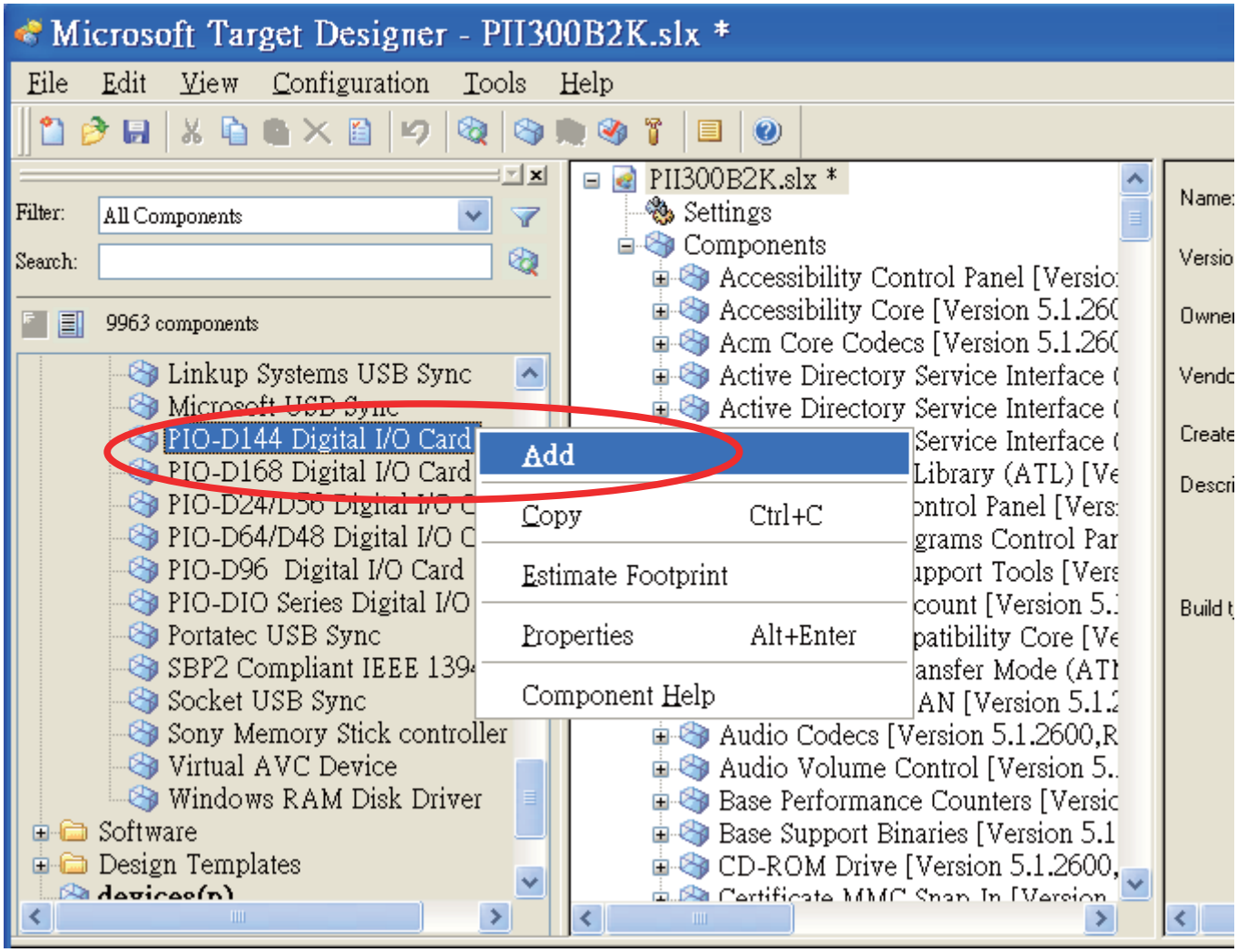
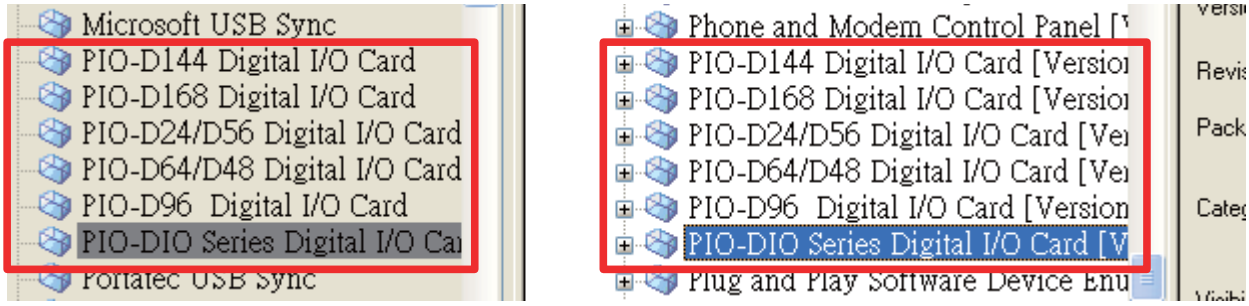
32.In "Components" list, right-click mouse boutton on the required component(i.e: PIO-D144 Digital I/O Card) and click "Add".



33.Add other required components(i.e: PIO-D168 Digital I/O Card, PIO-D24/D56 Digital I/O Card, PIO-D64/D48 Digital I/O Card, PIO-D96 Digital I/O Card and PIO-DIO Series Digital I/O Card) by following above step 32.

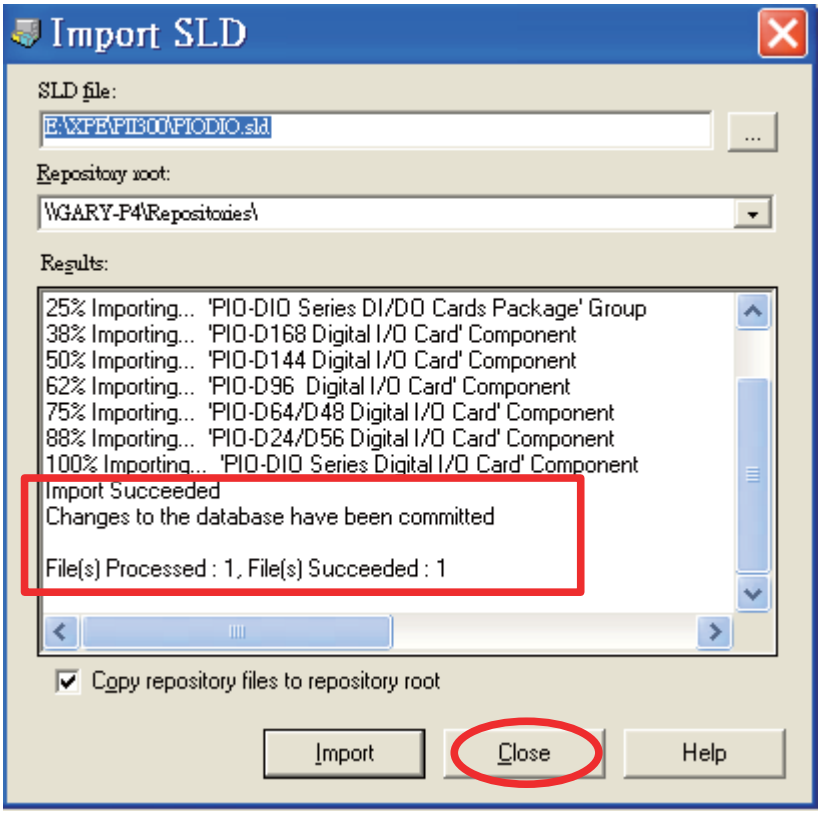


34.Click the "File / Save" menu item to save this configuration.
35.Click the "Configuration / Check Dependencies" menu item to check configuration.
36.Click the "Configuration / Build Target Image..." menu item to build OS image.

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28.Wait for the import operation complete, and then click "Close".



29.Click "Close" to exit "Component Database Manager".

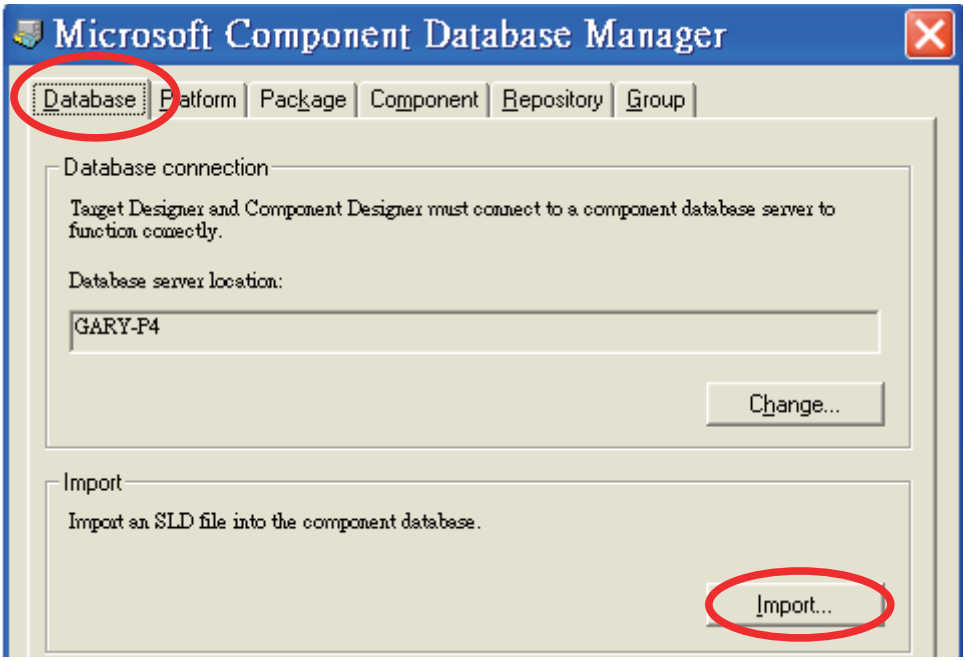
30.Click "File / Exit" to exit "Component Designer".

31.Run "Target Designer" program and load your project.

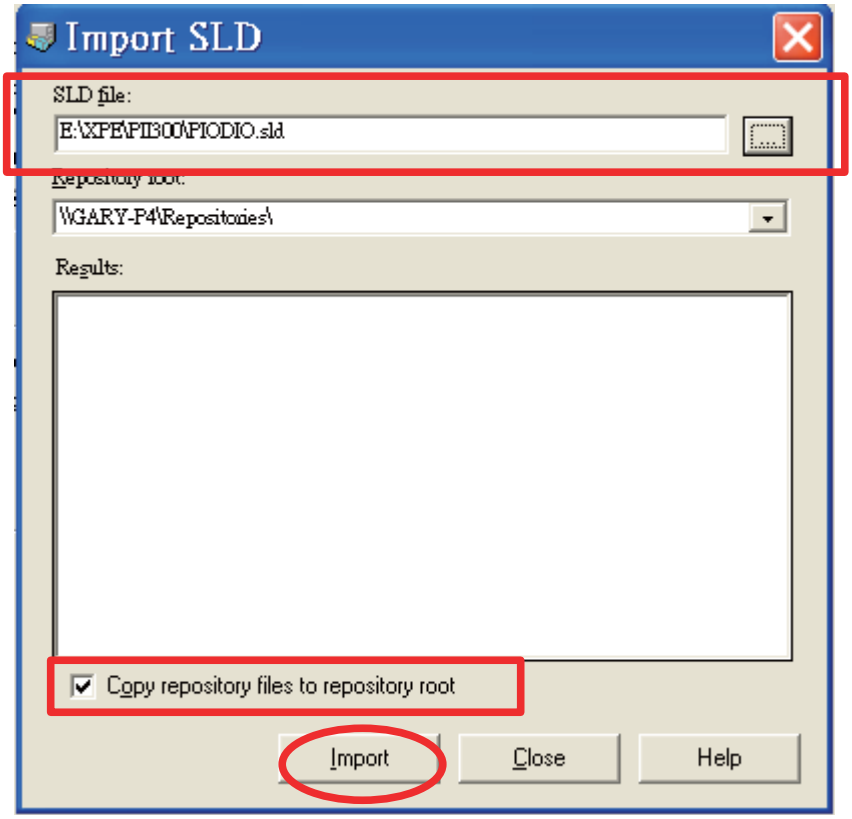
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26. In the "Database" tab page, click "Import...".



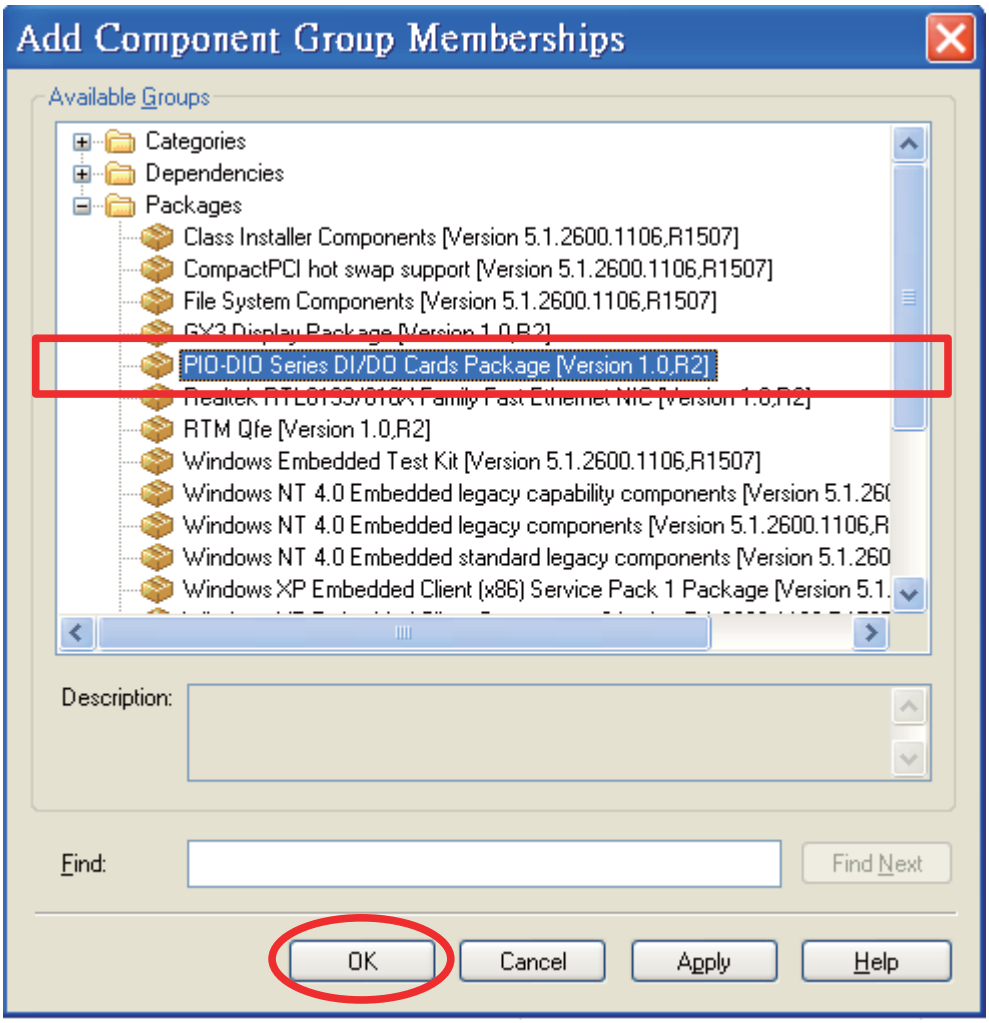
27. In the "Import SLD" dialog box, select the component information file (SLD file, i.e: PIODIO.sld) that we just created in Component Designer. Check the "Copy repository files to repository root" item and then click "Import".



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22. In the "Add Component Group Memberships" dialog box, select the package we just created(i.e: PIO-DIO Series DI/DO Cards Package), and then click "OK".



23. Repeate above step 11 ~ 22 to add **Repository, Group Memberships, Files and Registry data** informations **for each component**. (Note: You can use "Copy" and "Paste" to simpify the operations for adding "Files" and "Registry data" items.

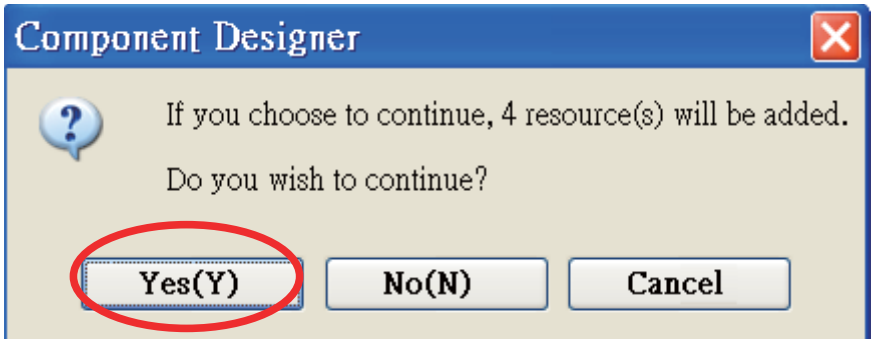
24. Click the "File / Save" menu item to save this component information.

25. Click the "Tools / Component Database Manager" menu item.

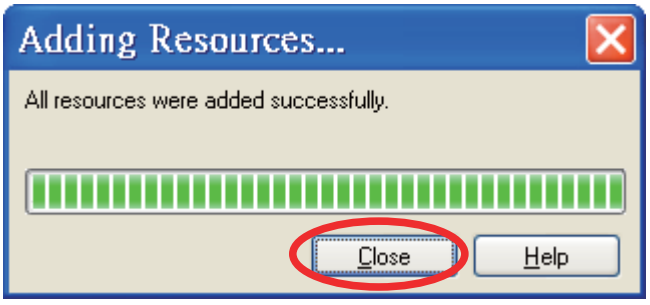
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18.Click "Yes(Y)" to add all required registry data.



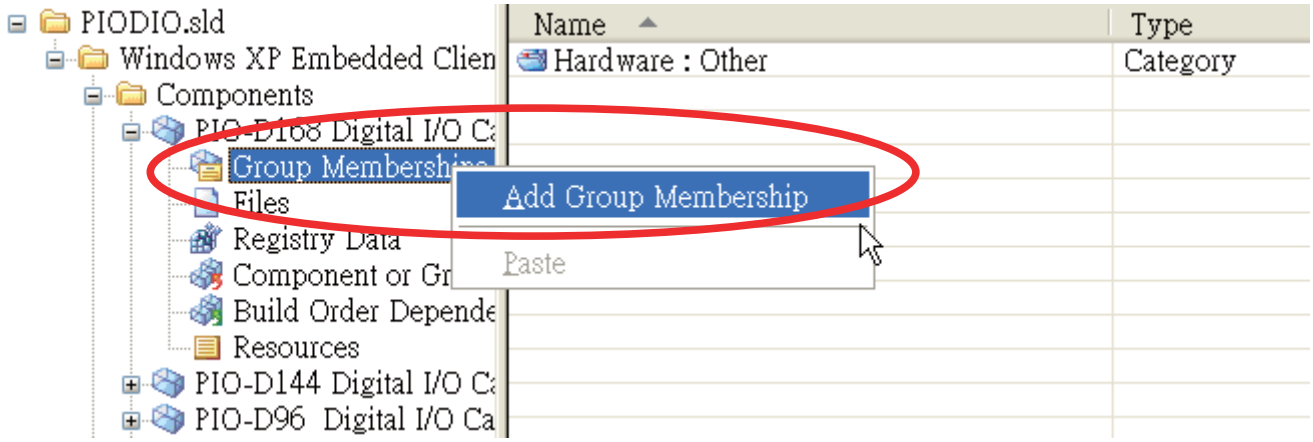
19.Click "Close".



20.Now, we can see 1 key and 3 values have been added.
(Note: If you get other registry information, please remove it first.)

Registry Path	Value name	Format	Value
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Napwnt			
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Napwnt	ErrorControl	REG_DWORD	1
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Napwnt	Type	REG_DWORD	1
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Napwnt	Start	REG_DWORD	2

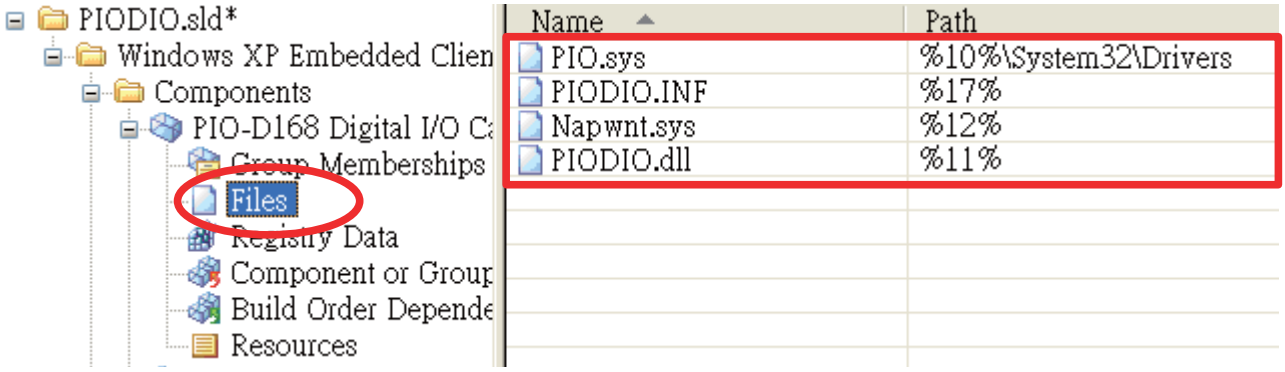
21.Right-click the "Group Memberships" item and then click "Add Group Membership".



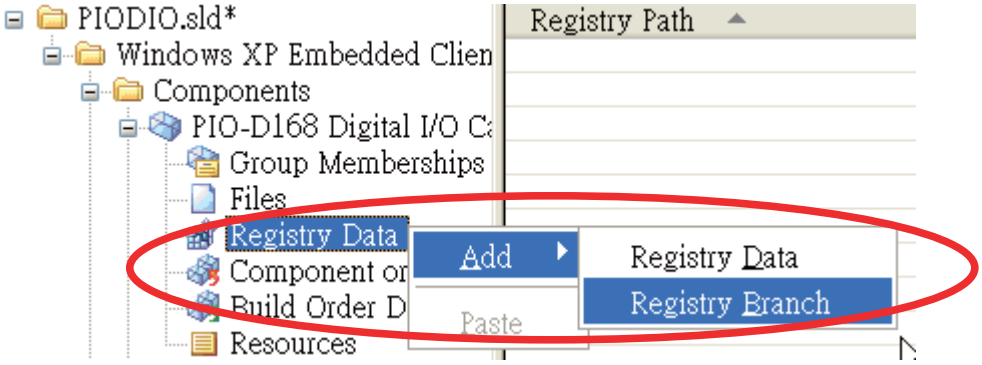
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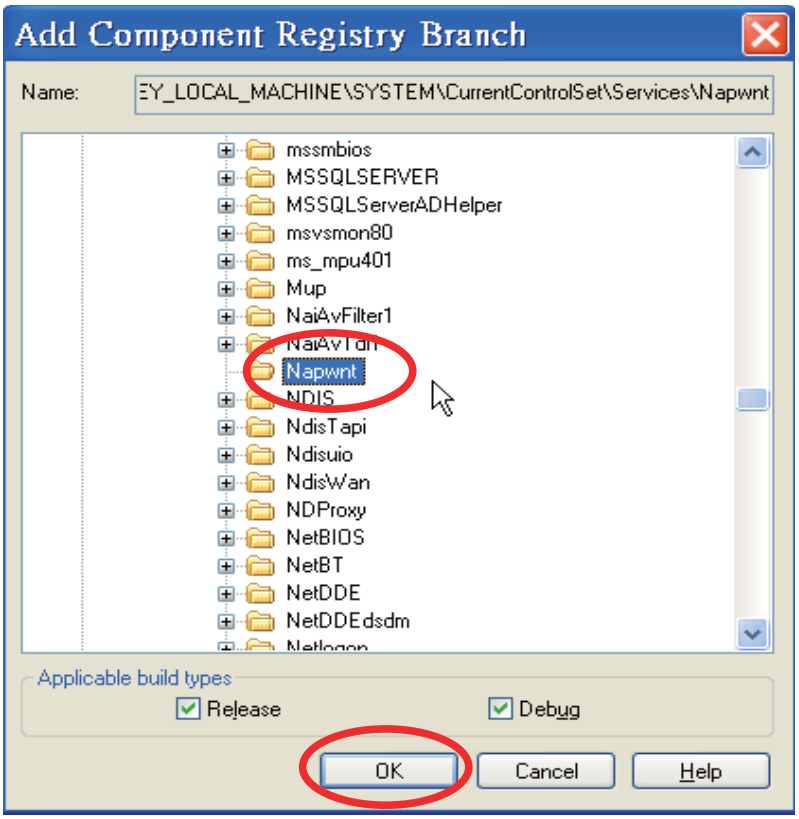
15.Following previous step 13 ~ 14 to add other rquired DLL file(i.e.: PIODIO.DLL), and set it destination to "%11%"(equal to Windows\System32 folder).



16.Right-click on "Registry Data" and then select "Add / Registry Branch" to add Napwnt.sys registry.(Note: PnP driver registration is no required.)



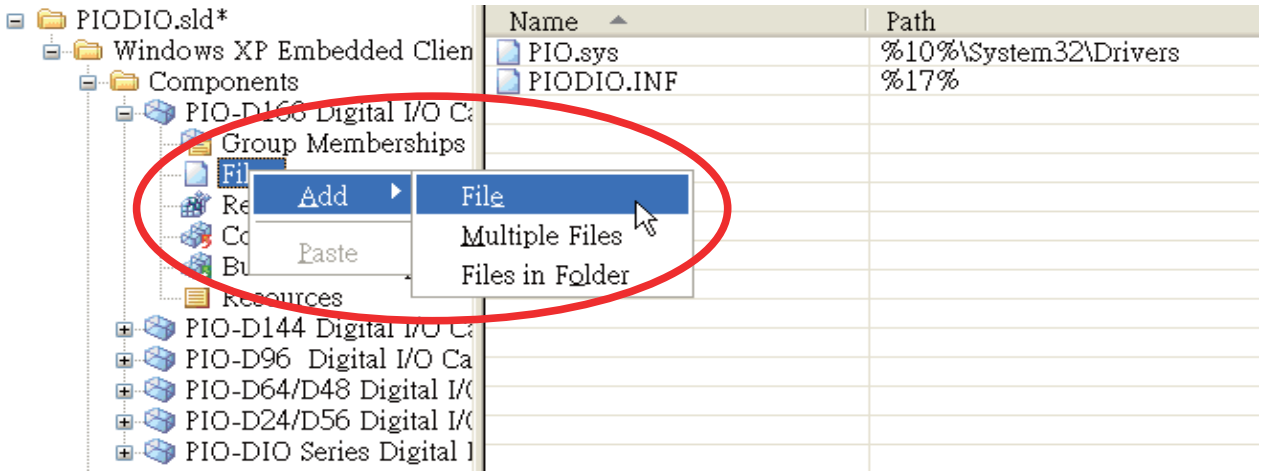
17.In "Add Component Registry Branch" dialog box, click "HKEY_LOCAL_MACHINE", and then select "SYSTEM\CurrentControlSet\Services\Napwnt" item. Finally click "OK".



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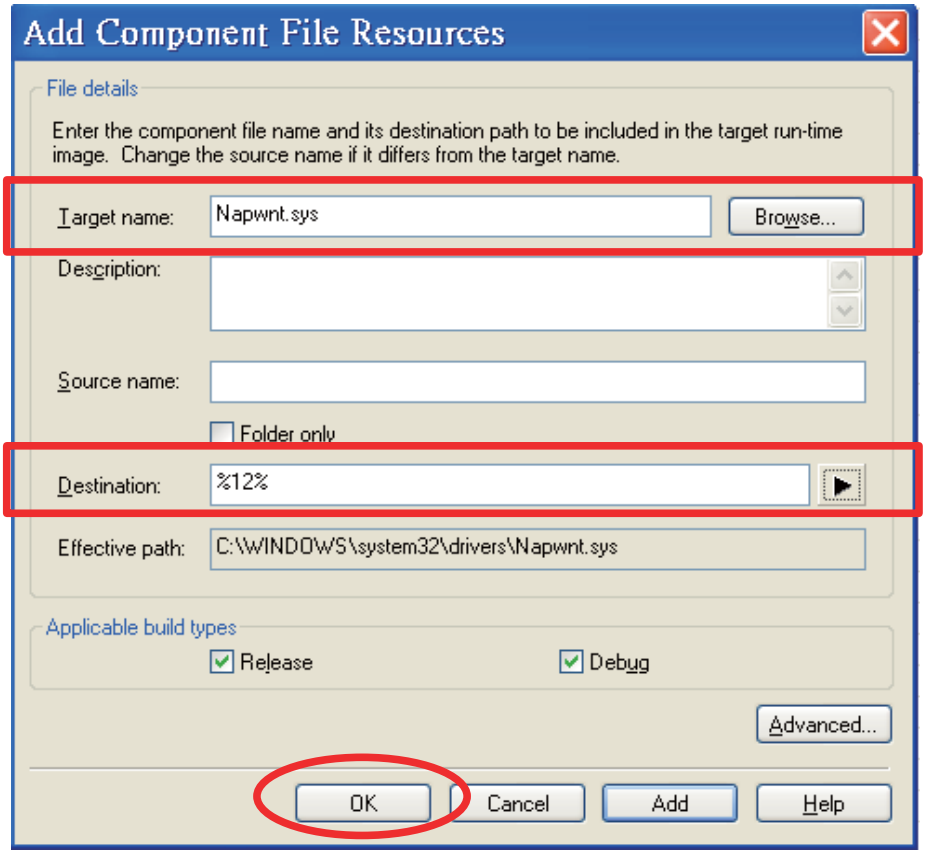
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13. Expand the component and select "Files" item. We can see files (i.e: PIODIO.INF and PIO.sys) that imported from INF file(step 2 ~6). Right-click mouse button and click "Files / Add / File" to add other required files.



Note: PIO.SYS is a PnP (Plug&Play) driver. It comes with the PIODIO.INF file when importing. And we have to add I/O driver (Napwnt.sys) and DLL file manually.

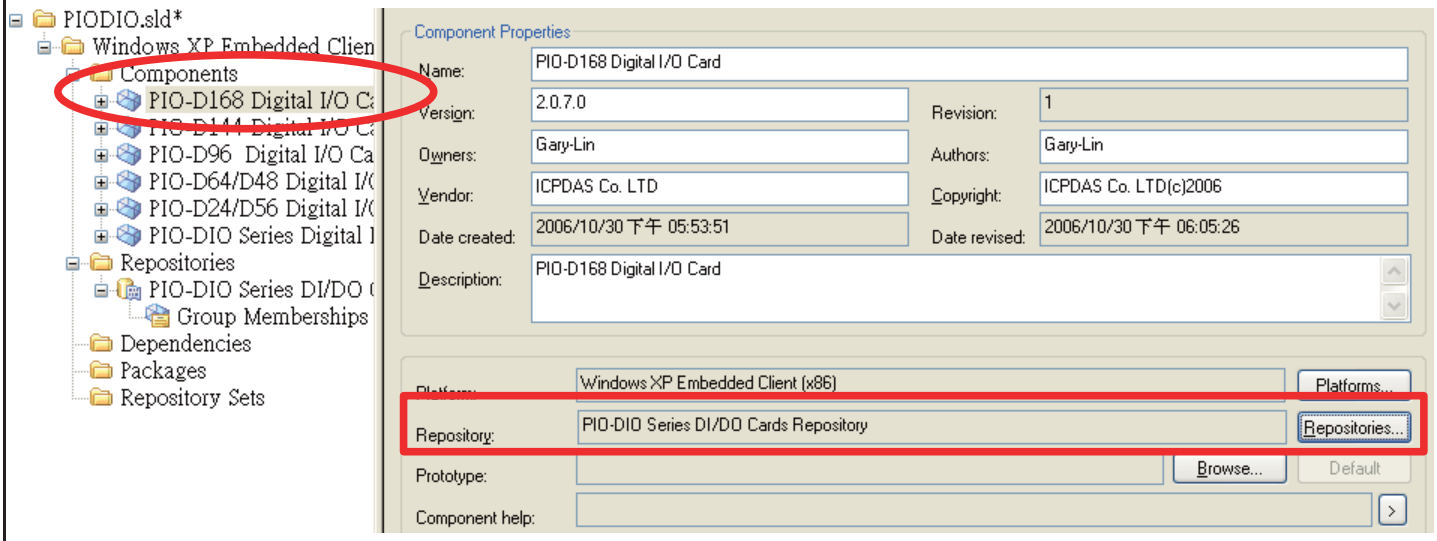
14. In the "Add Component File Resources" dialog box, add "Napwnt.sys" to the "Target name:" field and set "%12%" to the "Destination:" field (equal to Windows\System32\drivers folder). Finally, click "OK" to finish the setting.



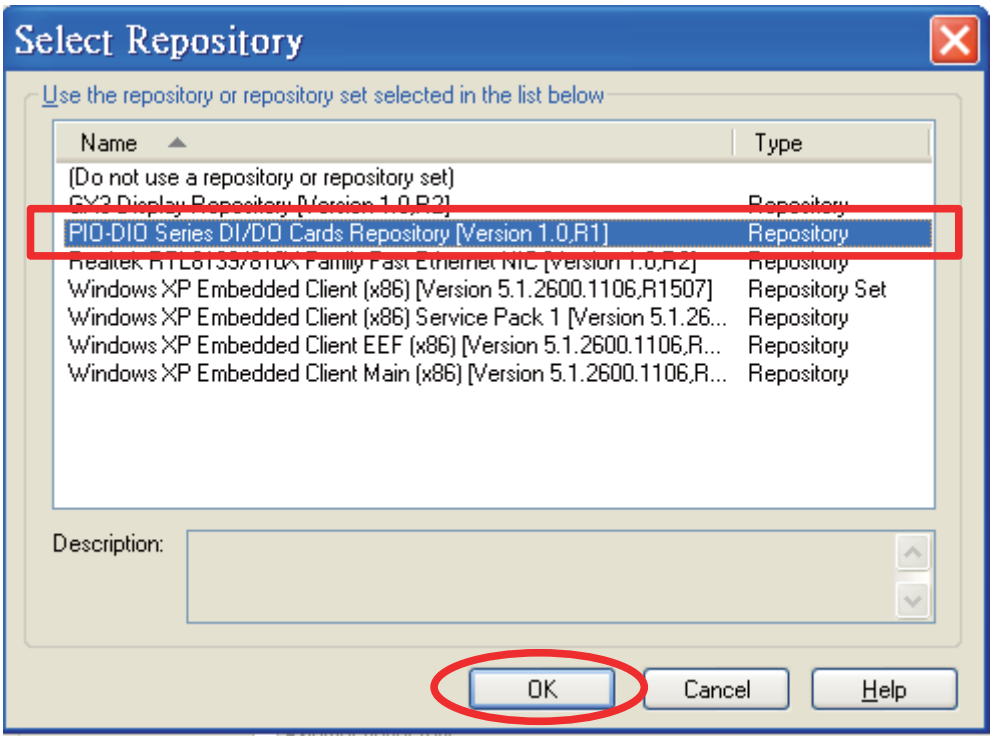
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11.Select the first component (i.e: PIO-D168 Digital I/O Card) and then click "Repositories...".



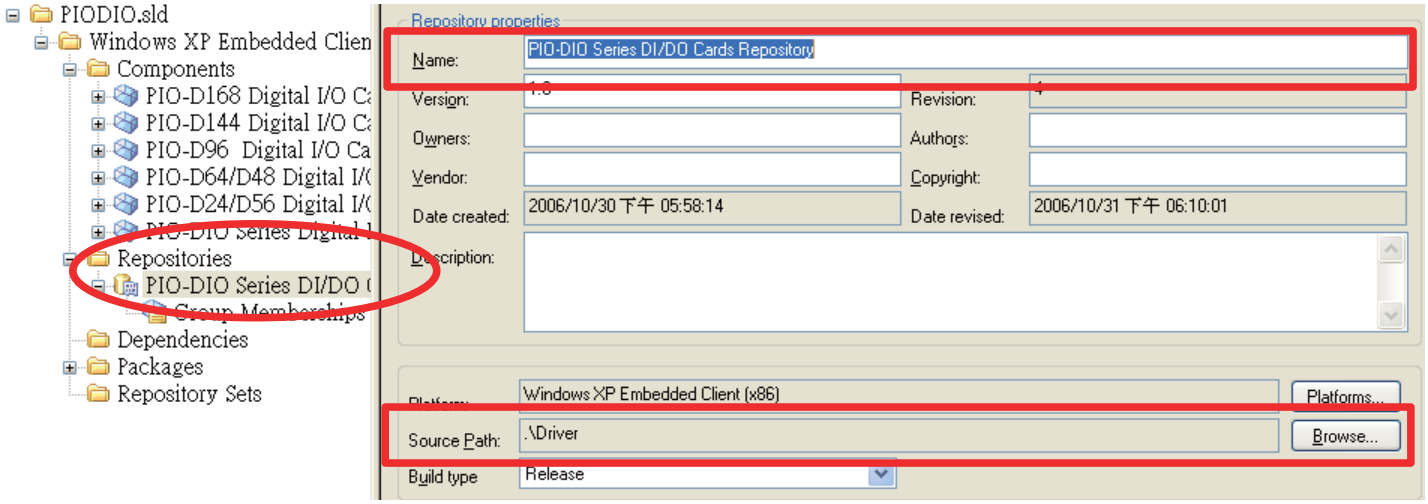
12.Select the repository we just created(i.e: PIO-DIO Series DI/DO Cards Repository), and then click "OK".



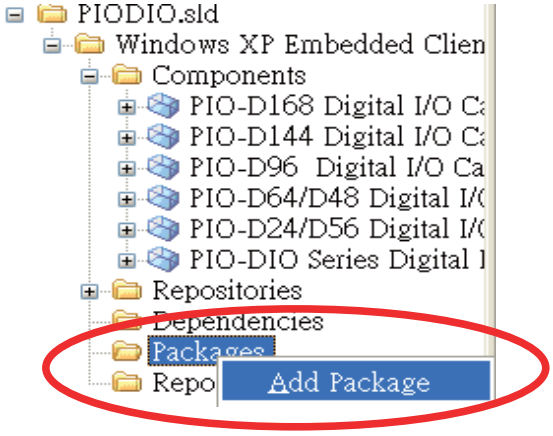
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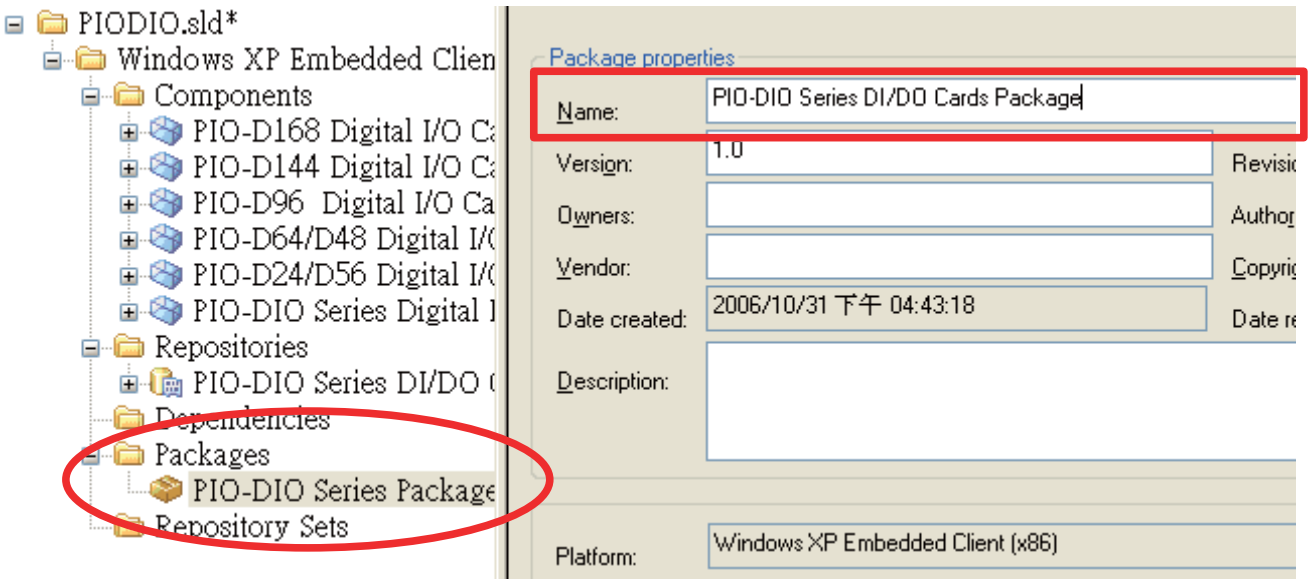
8. Give a new name in the "Name" field(i.e: PIO-DIO Series DI/DO Cards Repository). Select the file folder in the "Source Path" field(i.e: .\Driver). Note: It's recommended to copy required files to the same folder of sld (component) file.



9. Right-click on the "Packages" item and click "Add Package".



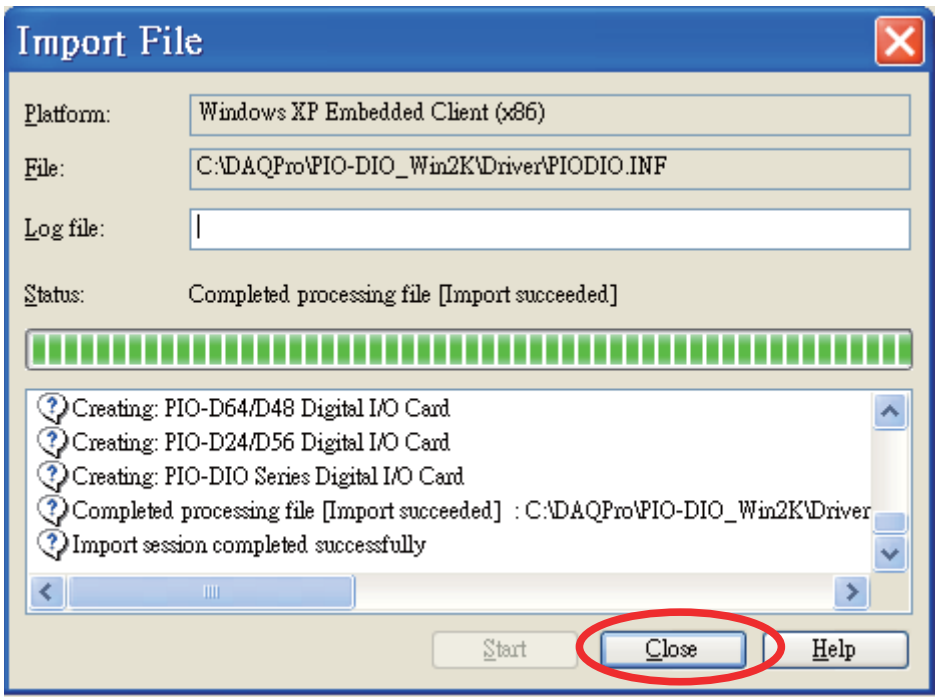
10. Give a new name in the "Name" field(i.e: PIO-DIO Series DI/DO Cards Package).



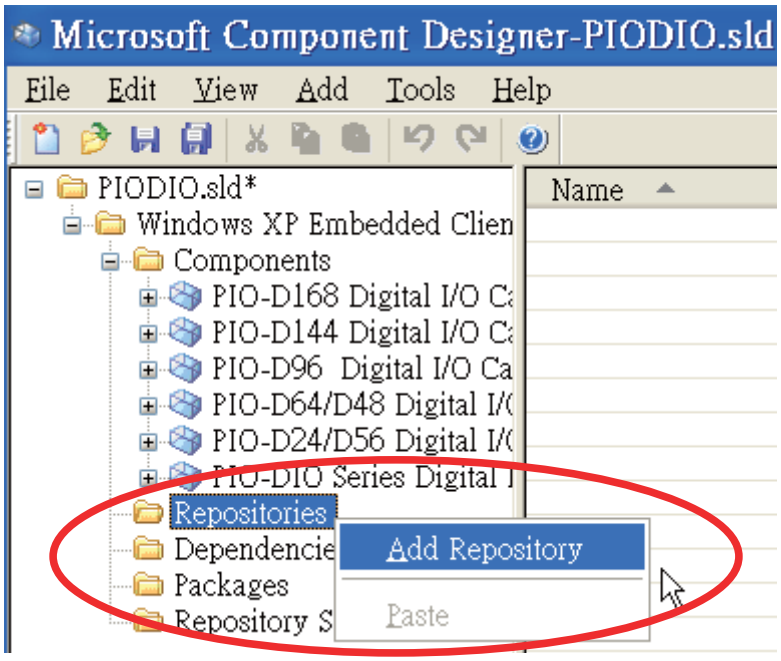
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6. After import operation finished, click "Close".



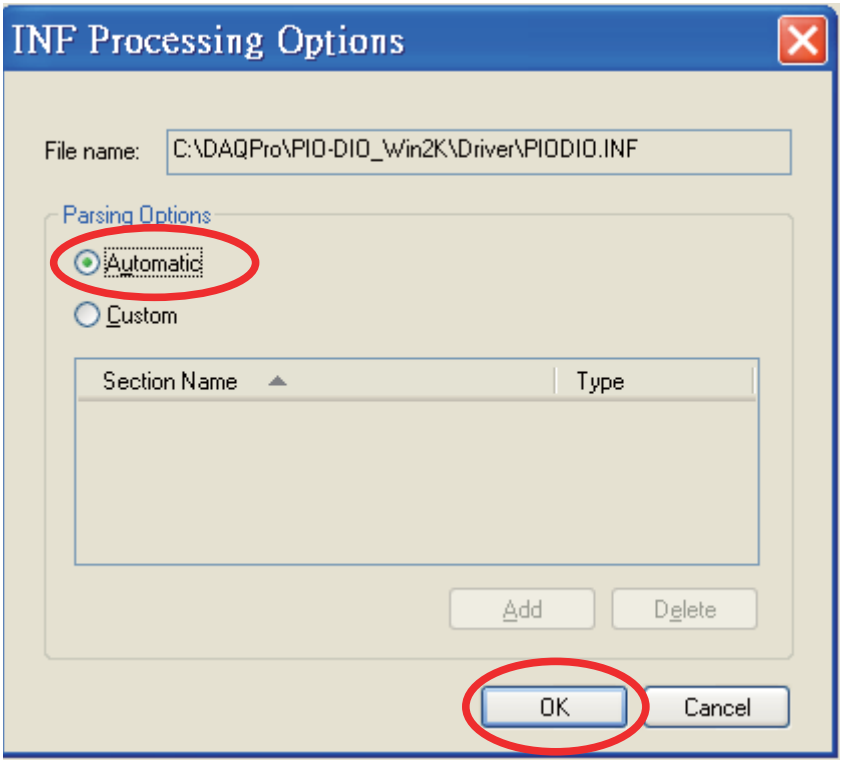
7. Now, we can see several components imported from INF file that contains hardware information. Right click the "Repositories" item and click "Add Repository".



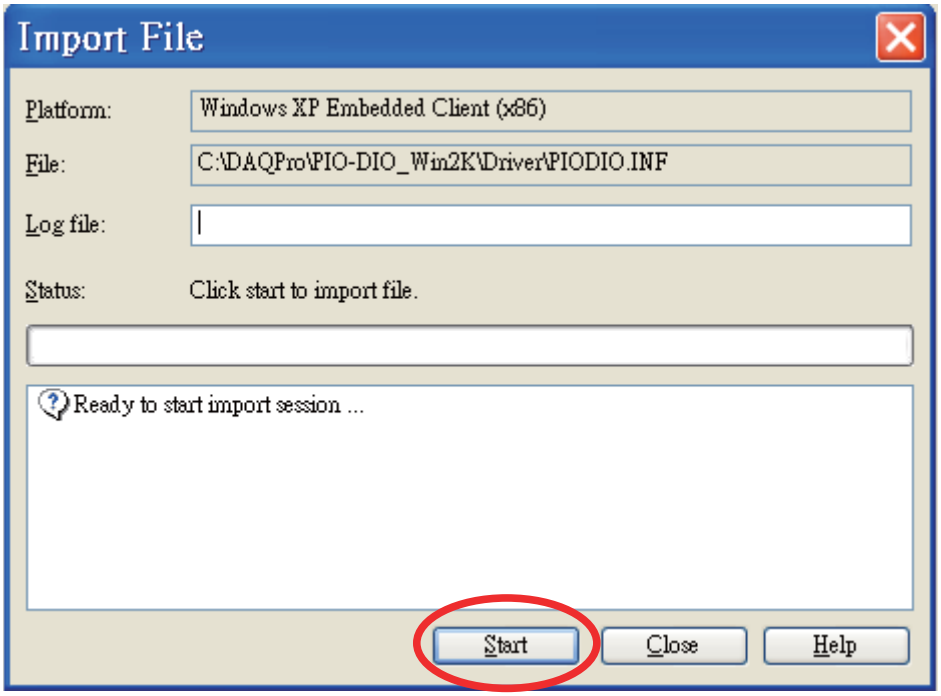
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4. In the "INF Processing Options" dialog box, select "Automatic" then click "OK".



5. In the "Import File" dialog box, click "Start".



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Using DAQ Cards in Windows XP Embedded

This paper introduces how to add ICP DAS I/O card drivers into Microsoft Windows XP Embedded (XPe) system, and then the I/O cards can work with XPe.

Driver Installation In A Single Machine

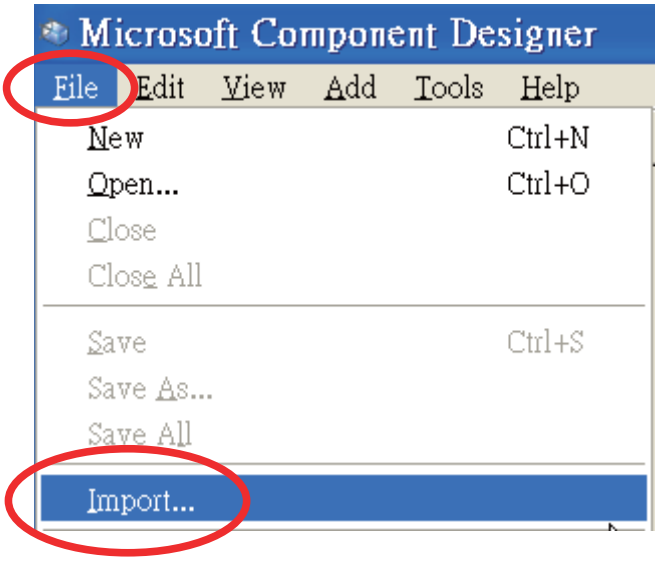
First method, as standard Windows XP system, we can run ICP DAS I/O card driver setup program directly in the system after the Windows XP Embedded device boots up successfully. The ICP DAS I/O card drivers for Windows 2000 are fully compatiable to Windows XP and Windows XP Embedded (XPe) systems.

Driver Installation In Multiple Machines

Second method is to make a driver component and add it into Windows XP Embedded, then we can create an OS image including this driver component. This is good for mass system creation. Next are the procedures of making a driver component.

1. Run setup program to install I/O card driver. Reboot the system and test the card with driver to see if it works well. This ensures the driver you are going to make into a component is correct.

2. Launch the "Microsoft Component Designer" program. Click the "File / Import... " menu item to import the INF setup information file.



3. The "Choose File for Import" dialog box pops up.
   Change directory to the driver installed folder(i.e: C:\DAQPro\PIO-DIO_Win2K\Driver), change "File Type(T)" to "Setup Information Files (*.inf)", and select the required setup information file(i.e: PIODIO.inf), then click "Open(O)".

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