Project Tag Database Setup Example

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File Name: Project Tag Database Example.pdf
Last Updated: 2/26/18

Project Tag Database Manager

The Project Tag Database Manager (PTDBM) simplifies project management by consolidating tag name definitions. Once defined, tags are automatically available to all NetSuite applications. The Project Tag Database Manager is also used to configure devices for NetSuite applications.

Tags can be added to the Project Tag Database in several ways. They can be typed directly into the Tags page of the Project Tag Database Manager. They can be imported from a Tag Table File created with a spreadsheet application. Tags will be added if you assign tag names to objects in NetArrays, and then download the project to a target device or simulator. Tags will also be added if an upload command from a target device is performed.

This setup example demonstrates how to 1) create tags in an excel spreadsheet, 2) define the alarming parameters, 3) import tag list into the PTDBM, 4) import tag list from PTDB into the NetArrays projects, 5) assign imported tags to I/O card channels, and 6) import the tag list into the RTPADA.

Defining Tags in Excel

There is a tag table file template installed during the RTP NetSuite software installation for defining tags in an excel spreadsheet. The default location of the file is C:\RTP NetSuite\PTDB\Import_Table.xls.

Note: When entering a tag name, the following rules apply:

- No more than 29 characters are allowed for a tag name.
- Blank spaces, dashes, hyphens, commas, asterisks (*), pound symbols (#), single quotation mark (’), equal signs (=), square brackets ([ ]), and parentheses ( ) are not allowed in Tag names.
- Tag names must be unique throughout a project. If a database contains multiple projects, tag names should be unique across all projects. This rule does not apply to Peer variables and variables that are strictly used within a NetArrays project.

Tag Table File Editing

The Import_Table.xls file may be modified to define all user tags. Upon completion, it should be saved as a comma separated variable (.csv) file. This file is used for importing tag names into the Project Tag Database and RTPADA.

The following creates a list of I/O channel tags, which will be imported and assigned to a 32 channel analog input card in Rack 00 slot 4 of a 3000Q/00-13 quad system.

- Open the Import_Table.xls
- See the Netsuite User Manual File Import and Export function section for a description of each field.
- Enter LIC_100 in cell A2 and use the auto-fill to generate tags LIC_101 thru LIC_131.
- Enter the additional alarming specifications and comments for the tags generated as shown in Figure 2:

Note 1- the yellow highlighted cells are fields to define the alarm configuration.
Note 2- the first line must contain the column header names as shown below in Figure 1. All of these column header names are in the default Excel spreadsheet.

Figure 1

Figure 2

	Tag	Group	Name	Priority	Eng	Har	Dig	LowLow	Low	High	HighHigh	Dev	Dev	Dea	Cat	App	Par	Description	Delt	Arc	SOE	SOE	SOE	OPC	Comment
2	UC_100	1	LEVEL	1				1	2	8	9							LEVEL ALARM 100							AI LEVEL R00S04AIC00
3	UC_101	1	LEVEL	1				1	2	8	9							LEVEL ALARM 101							AI LEVEL R00S04AIC01
4	UC_102	1	LEVEL	1				1	2	8	9							LEVEL ALARM 102							AI LEVEL R00S04AIC02
5	UC_103	1	LEVEL	1				1	2	8	9							LEVEL ALARM 103							AI LEVEL R00S04AIC03
6	UC_104	1	LEVEL	1				1	2	8	9							LEVEL ALARM 104							AI LEVEL R00S04AIC04
7	UC_105	1	LEVEL	1				1	2	8	9							LEVEL ALARM 105							AI LEVEL R00S04AIC05
8	UC_106	1	LEVEL	1				1	2	8	9							LEVEL ALARM 106							AI LEVEL R00S04AIC06
9	UC_107	1	LEVEL	1				1	2	8	9							LEVEL ALARM 107							AI LEVEL R00S04AIC07
10	UC_108	1	LEVEL	1				1	2	8	9							LEVEL ALARM 108							AI LEVEL R00S04AIC08
11	UC_109	1	LEVEL	1				1	2	8	9							LEVEL ALARM 109							AI LEVEL R00S04AIC09
12	UC_110	1	LEVEL	1				1	2	8	9							LEVEL ALARM 110							AI LEVEL R00S04AIC10
13	UC_111	1	LEVEL	1				1	2	8	9							LEVEL ALARM 111							AI LEVEL R00S04AIC11
14	UC_112	1	LEVEL	1				1	2	8	9							LEVEL ALARM 112							AI LEVEL R00S04AIC12
15	UC_113	1	LEVEL	1				1	2	8	9							LEVEL ALARM 113							AI LEVEL R00S04AIC13
16	UC_114	1	LEVEL	1				1	2	8	9							LEVEL ALARM 114							AI LEVEL R00S04AIC14
17	UC_115	1	LEVEL	1				1	2	8	9							LEVEL ALARM 115							AI LEVEL R00S04AIC15
18	UC_116	1	LEVEL	1				1	2	8	9							LEVEL ALARM 116							AI LEVEL R00S04AIC16
19	UC_117	1	LEVEL	1				1	2	8	9							LEVEL ALARM 117							AI LEVEL R00S04AIC17
20	UC_118	1	LEVEL	1				1	2	8	9							LEVEL ALARM 118							AI LEVEL R00S04AIC18
21	UC_119	1	LEVEL	1				1	2	8	9							LEVEL ALARM 119							AI LEVEL R00S04AIC19
22	UC_120	1	LEVEL	1				1	2	8	9							LEVEL ALARM 120							AI LEVEL R00S04AIC20
23	UC_121	1	LEVEL	1				1	2	8	9							LEVEL ALARM 121							AI LEVEL R00S04AIC21
24	UC_122	1	LEVEL	1				1	2	8	9							LEVEL ALARM 122							AI LEVEL R00S04AIC22
25	UC_123	1	LEVEL	1				1	2	8	9							LEVEL ALARM 123							AI LEVEL R00S04AIC23
26	UC_124	1	LEVEL	1				1	2	8	9							LEVEL ALARM 124							AI LEVEL R00S04AIC24
27	UC_125	1	LEVEL	1				1	2	8	9							LEVEL ALARM 125							AI LEVEL R00S04AIC25
28	UC_126	1	LEVEL	1				1	2	8	9							LEVEL ALARM 126							AI LEVEL R00S04AIC26
29	UC_127	1	LEVEL	1				1	2	8	9							LEVEL ALARM 127							AI LEVEL R00S04AIC27
30	UC_128	1	LEVEL	1				1	2	8	9							LEVEL ALARM 128							AI LEVEL R00S04AIC28
31	UC_129	1	LEVEL	1				1	2	8	9							LEVEL ALARM 129							AI LEVEL R00S04AIC29
32	UC_130	1	LEVEL	1				1	2	8	9							LEVEL ALARM 130							AI LEVEL R00S04AIC30
33	UC_131	1	LEVEL	1				1	2	8	9							LEVEL ALARM 131							AI LEVEL R00S04AIC31

Save the file as Import_Table_1.csv

Importing Tag Table List

The tag table list comma separated (.csv) file created is imported into the PTDBM by performing the following steps:

- Execute the PTDBM application
- Select Database, Tags, Import
- Open the Import_Table_1.csv file

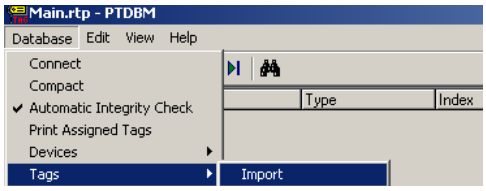
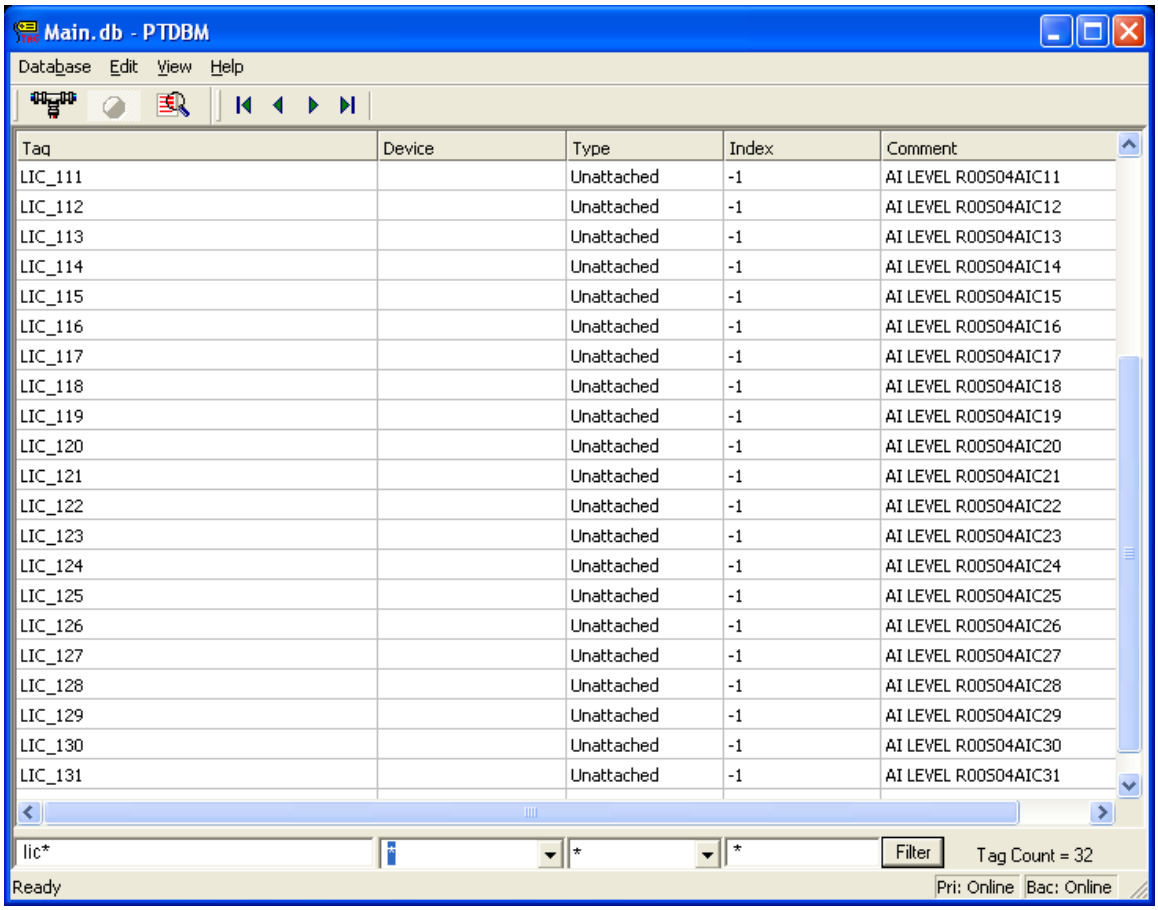


Figure 3

- Select View Tags to refresh the display and see the imported tags

The example shown in Figure 4 indicates successful import of the tags. The device, type (unattached) and index (-1) are not assigned.

Figure 4



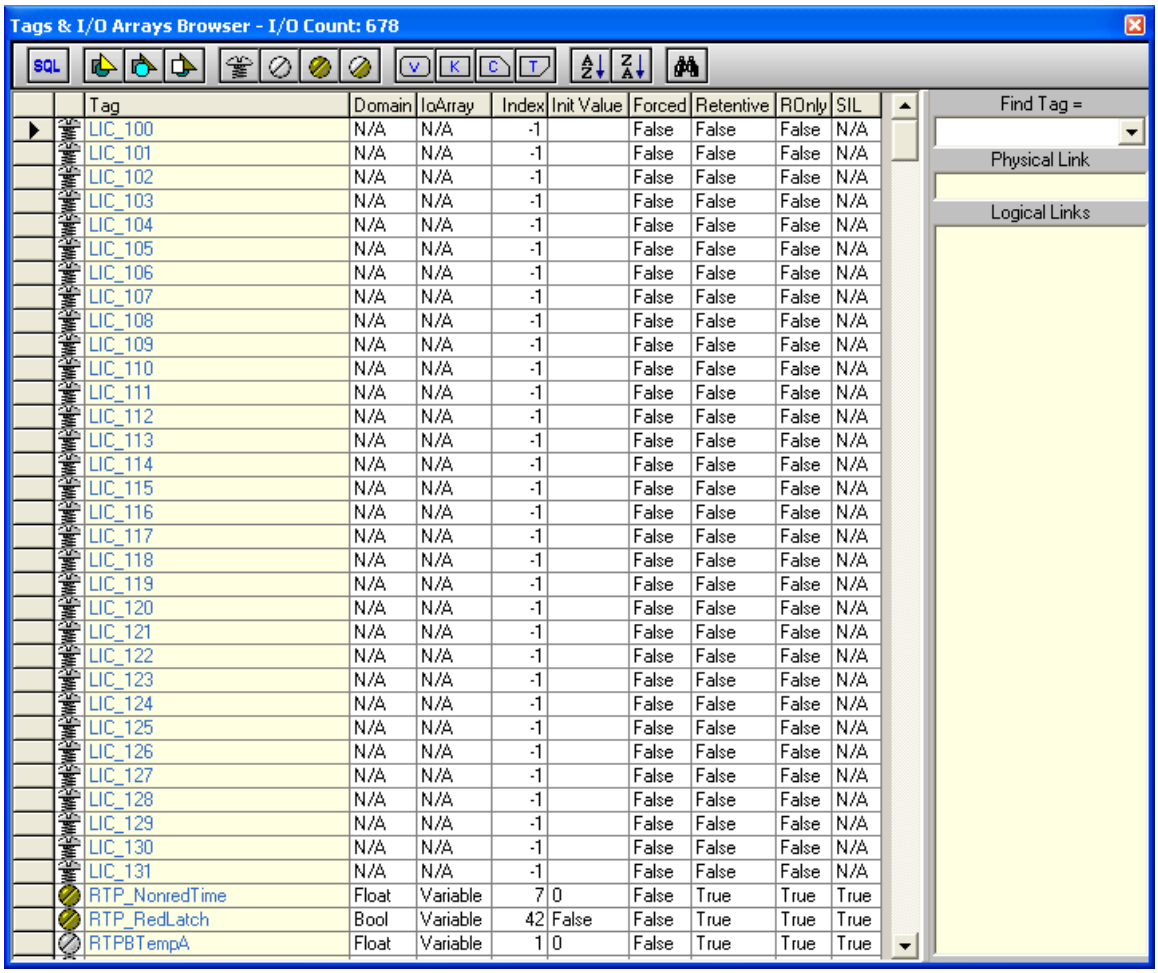
Importing Tags Into NetArrays

The list of tags in the PTDBM is accessible for importing into the NetArrays project.

- Execute NetArrays
- Select Tags, Get From PTDB…
- Select tags LIC_100 through LIC_131 then click Import Tags

The tags imported into the project may be viewed in the Tags and I/O array browser.

- Click Tags, Tags and I/O Arrays Browser…  .



Tag	Domain	IoArray	Index	Init Value	Forced	Retentive	ROnly	SIL
LIC_100	N/A	N/A	-1		False	False	False	N/A
LIC_101	N/A	N/A	-1		False	False	False	N/A
LIC_102	N/A	N/A	-1		False	False	False	N/A
LIC_103	N/A	N/A	-1		False	False	False	N/A
LIC_104	N/A	N/A	-1		False	False	False	N/A
LIC_105	N/A	N/A	-1		False	False	False	N/A
LIC_106	N/A	N/A	-1		False	False	False	N/A
LIC_107	N/A	N/A	-1		False	False	False	N/A
LIC_108	N/A	N/A	-1		False	False	False	N/A
LIC_109	N/A	N/A	-1		False	False	False	N/A
LIC_110	N/A	N/A	-1		False	False	False	N/A
LIC_111	N/A	N/A	-1		False	False	False	N/A
LIC_112	N/A	N/A	-1		False	False	False	N/A
LIC_113	N/A	N/A	-1		False	False	False	N/A
LIC_114	N/A	N/A	-1		False	False	False	N/A
LIC_115	N/A	N/A	-1		False	False	False	N/A
LIC_116	N/A	N/A	-1		False	False	False	N/A
LIC_117	N/A	N/A	-1		False	False	False	N/A
LIC_118	N/A	N/A	-1		False	False	False	N/A
LIC_119	N/A	N/A	-1		False	False	False	N/A
LIC_120	N/A	N/A	-1		False	False	False	N/A
LIC_121	N/A	N/A	-1		False	False	False	N/A
LIC_122	N/A	N/A	-1		False	False	False	N/A
LIC_123	N/A	N/A	-1		False	False	False	N/A
LIC_124	N/A	N/A	-1		False	False	False	N/A
LIC_125	N/A	N/A	-1		False	False	False	N/A
LIC_126	N/A	N/A	-1		False	False	False	N/A
LIC_127	N/A	N/A	-1		False	False	False	N/A
LIC_128	N/A	N/A	-1		False	False	False	N/A
LIC_129	N/A	N/A	-1		False	False	False	N/A
LIC_130	N/A	N/A	-1		False	False	False	N/A
LIC_131	N/A	N/A	-1		False	False	False	N/A
RTP_NonredTime	Float	Variable	7	0	False	True	True	True
RTP_RedLatch	Bool	Variable	42	False	False	True	True	True
RTPBTempA	Float	Variable	1	0	False	True	True	True

Figure 5

The screw in the up position  , Domain and IoArray type "N/A" indicates the imported tags have not been assigned.

Assigning Imported Tags To I/O

The IO configurator allows the user to select the type of node CPU configuration, chassis type and I/O cards for the individual slots. The user may auto-assign tags to the channels of the IO Cards or select tags from the list of unassigned tags as shown above.

- Close the Tags and IO array browser
- Click the IO Configuration button on the main toolbar 
- Select and drag the 3000Q/00-13 CPU node from the list on the right pane, drop into the empty Node=Empty box

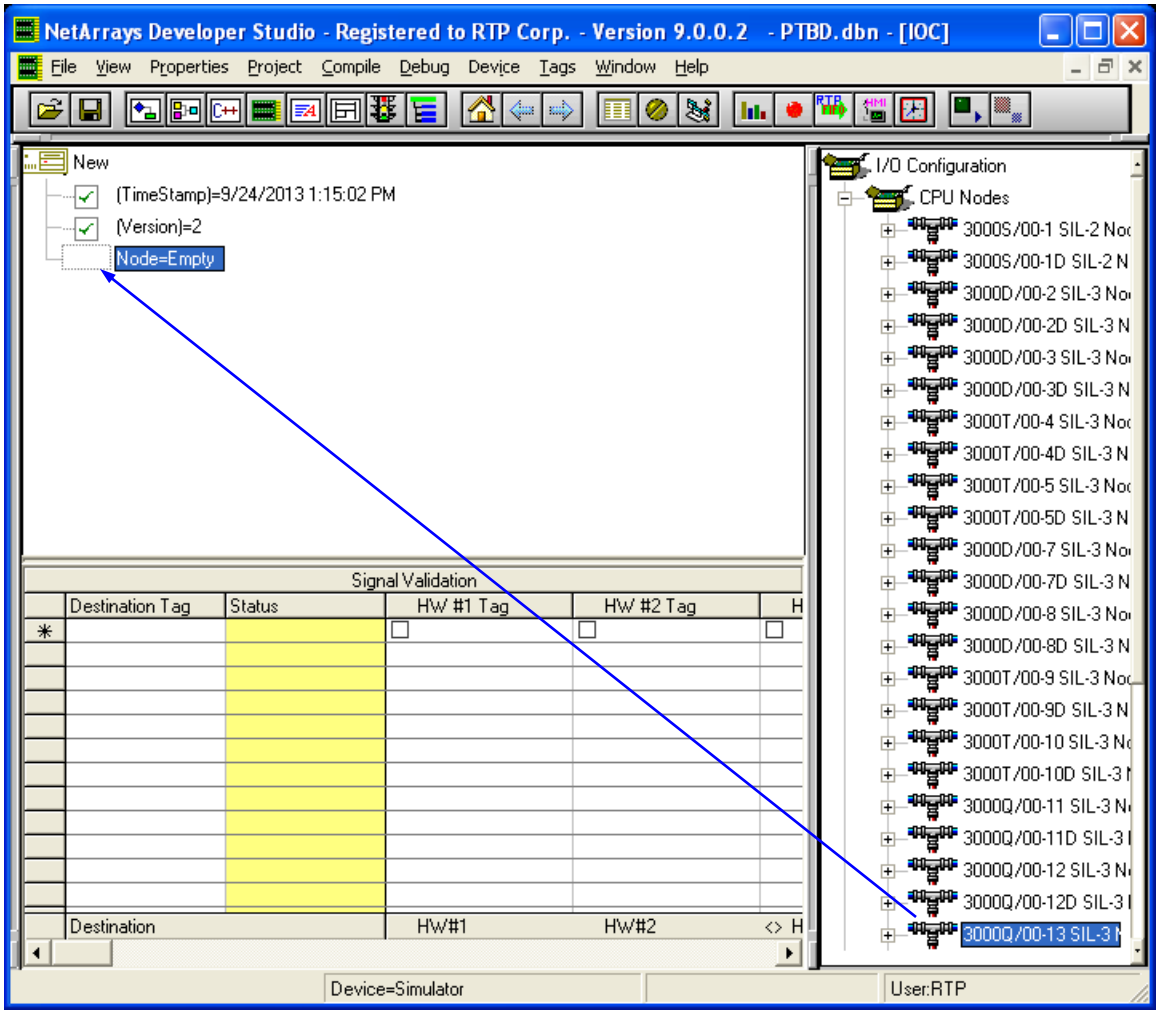


Figure 6

- Open the Node and Rack objects in I/O by clicking plus.
- Open the box RTP Analog Cards in the I/O Configuration by clicking plus.
- Drag and drop the 3115 32-Channel AI card into slot 4.
- The Auto Tag Generation dialog box will appear as shown below:

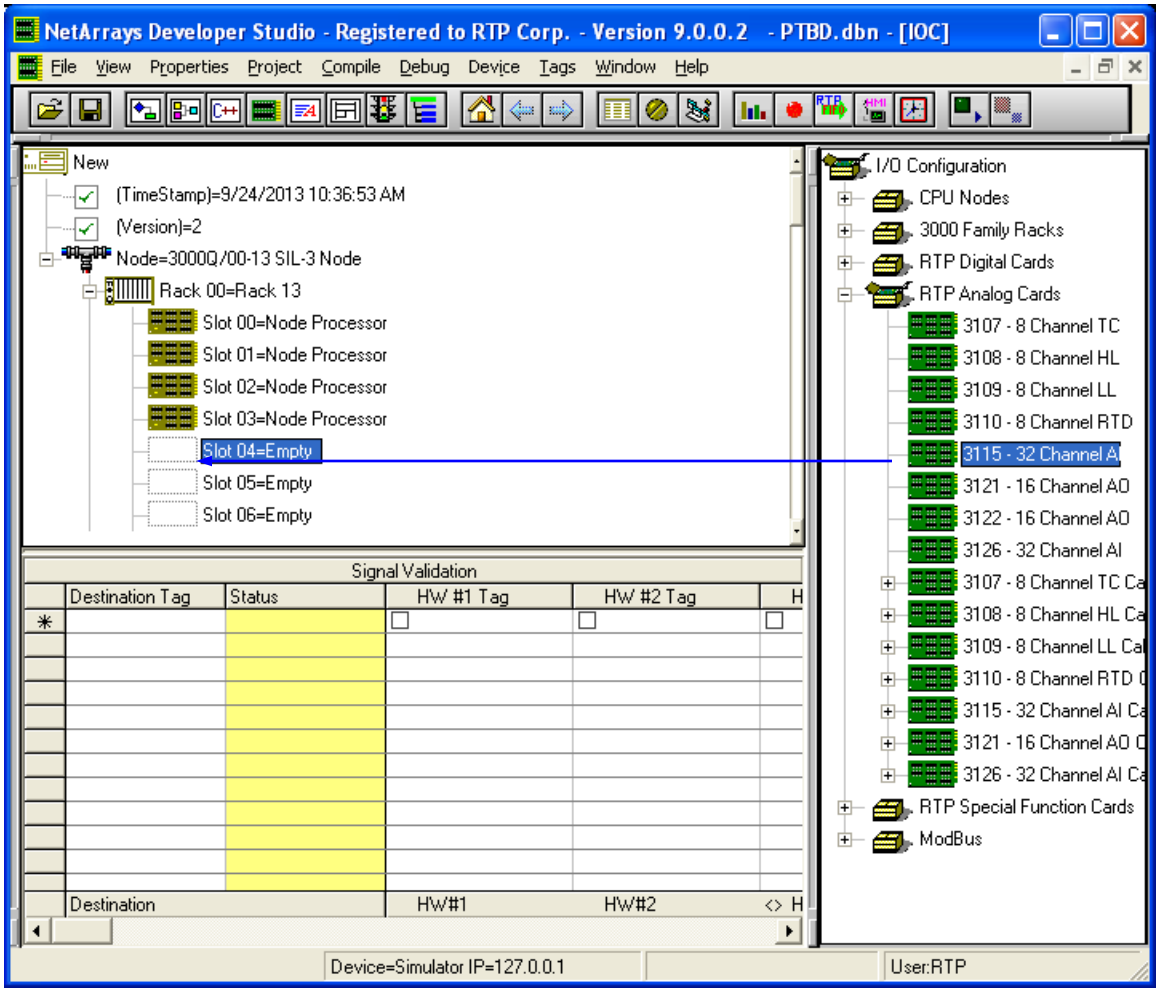

NetArrays Developer Studio - Registered to RTP Corp. - Version 9.0.0.2 - PTBD.dbn - [IOC]
File View Properties Project Compile Debug Device Tags Window Help
New
(TimeStamp)=9/24/2013 10:36:53 AM
(Version)=2
Node=3000Q/00-13 SIL-3 Node
Rack 00=Rack 13
Slot 00=Node Processor
Slot 01=Node Processor
Slot 02=Node Processor
Slot 03=Node Processor
Slot 04=Empty
Slot 05=Empty
Slot 06=Empty
I/O Configuration
CPU Nodes
3000 Family Racks
RTP Digital Cards
RTP Analog Cards
3107 - 8 Channel TC
3108 - 8 Channel HL
3109 - 8 Channel LL
3110 - 8 Channel RTD
3115 - 32 Channel AI
3121 - 16 Channel AO
3122 - 16 Channel AO
3126 - 32 Channel AI
RTP Special Function Cards
ModBus
Signal Validation
Destination Tag
Status
HW #1 Tag
HW #2 Tag
Destination
HW#1
HW#2
Device=Simulator IP=127.0.0.1
User:RTP

Figure 7

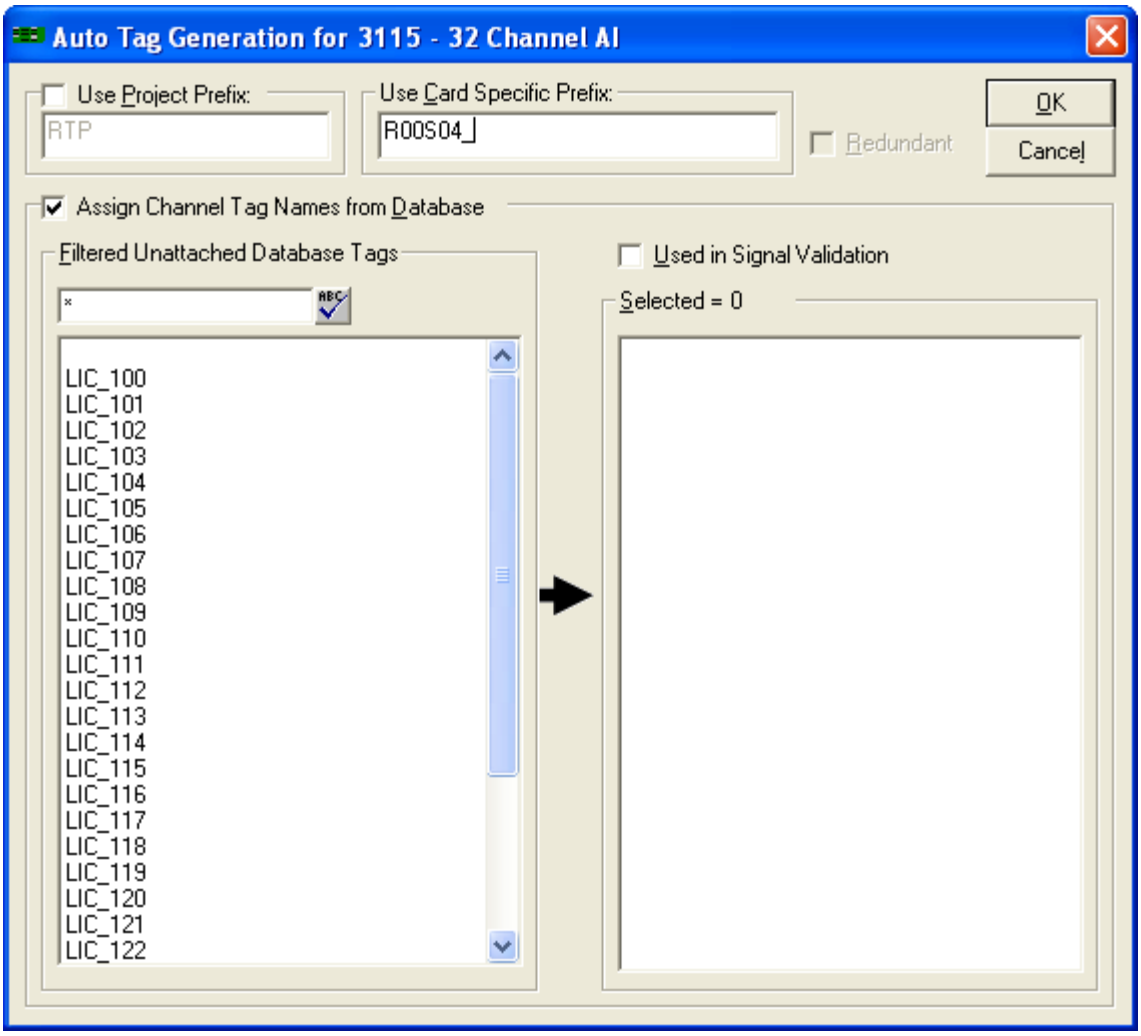


Figure 8

- Enter as the prefix R00S04_
- Check the box Assign Channel Tag Names from Database
- Deselect Used in Signal Validation if it is Checked
- Click the LIC_100 tag to assign this tag to channel 0.
- Press the shift key and select LIC_131 to assign the remaining channels 1-31

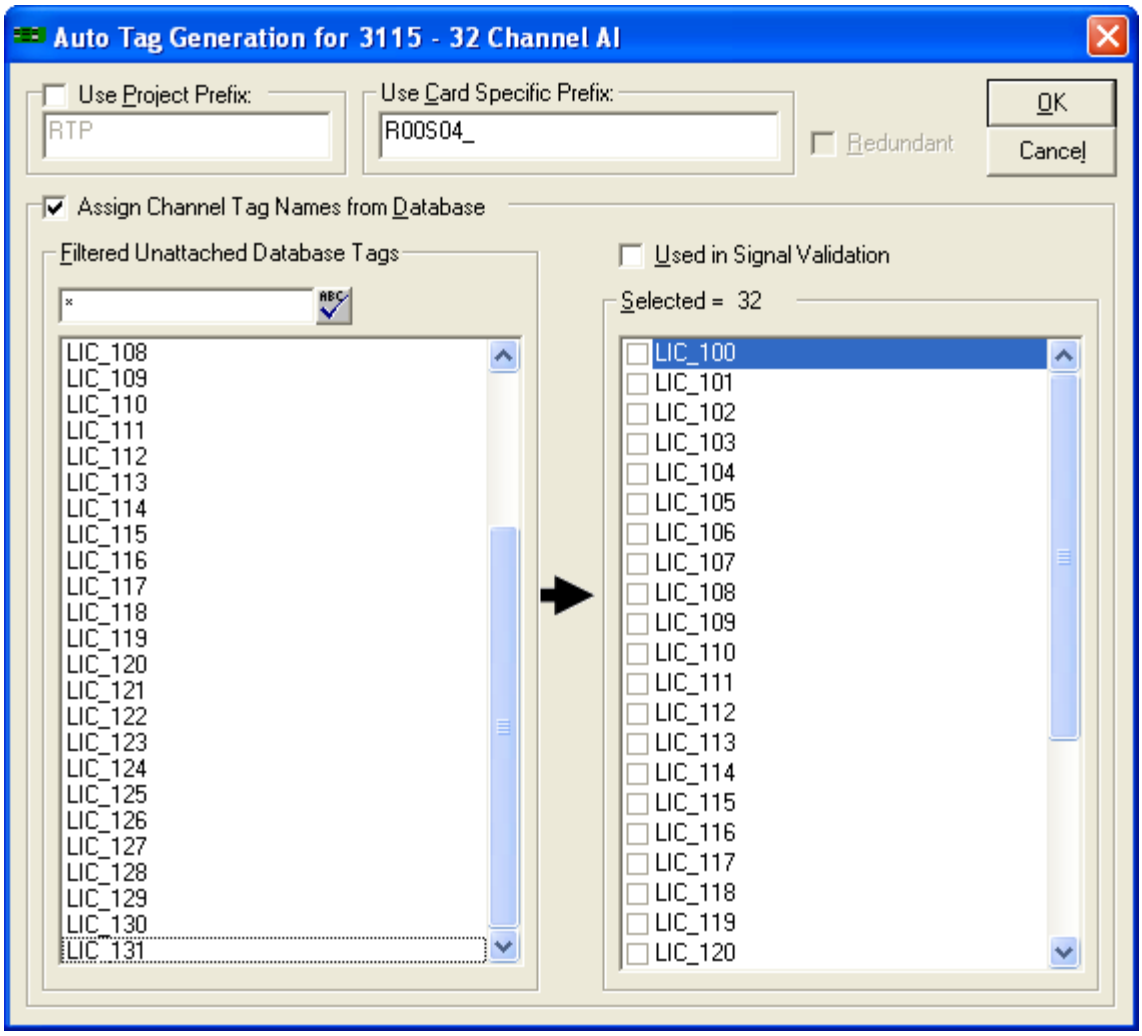


Figure 9

- Click the OK button

The channels have now been assigned to the I/O card. The I/O card property will indicate the tags as they have been assigned to each of the I/O channels.

- Select the I/O card and left mouse click to select property.

Property Manager - 3115 - 32 Channel AI()

Card Properties	
Card	Slot 04=3115 - 32 Channel AI
Float Cal High	(R00S04_CHA)
(Tag)	R00S04_CHA
Float Cal Low	(R00S04_CLA)
(Tag)	R00S04_CLA
Float Board Temp	(R00S04_TMPA)
(Tag)	R00S04_TMPA
Integer Card Revision	(R00S04_CRA)
(Tag)	R00S04_CRA
Integer Error Detection	(R00S04_EDA)
(Tag)	R00S04_EDA
Integer Channel Error Status 00	(R00S04_CE0A)
(Tag)	R00S04_CE0A
Integer Channel Error Status 01	(R00S04_CE1A)
(Tag)	R00S04_CE1A

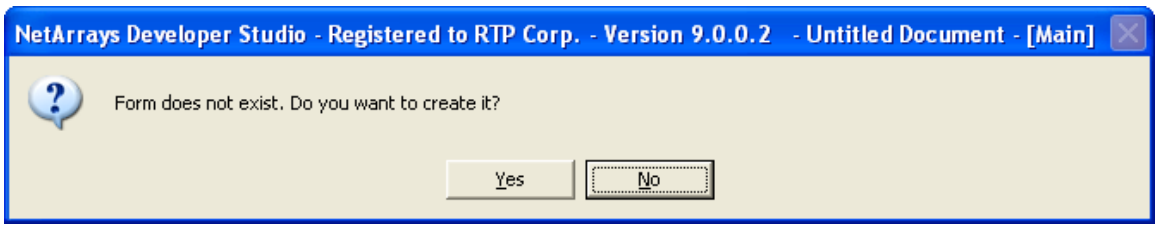
I/O Channel Properties

	Channel	I/O Tag	Filter	Threshold	SOE Low	SOE High	Guard Band Low	Guard Band High
Float	Input 00	LIC_100	10	10	0	0	-10.1	10.1
Float	Input 01	LIC_101	10	10	0	0	-10.1	10.1
Float	Input 02	LIC_102	10	10	0	0	-10.1	10.1
Float	Input 03	LIC_103	10	10	0	0	-10.1	10.1
Float	Input 04	LIC_104	10	10	0	0	-10.1	10.1
Float	Input 05	LIC_105	10	10	0	0	-10.1	10.1
Float	Input 06	LIC_106	10	10	0	0	-10.1	10.1
Float	Input 07	LIC_107	10	10	0	0	-10.1	10.1
Float	Input 08	LIC_108	10	10	0	0	-10.1	10.1
Float	Input 09	LIC_109	10	10	0	0	-10.1	10.1
Float	Input 10	LIC_110	10	10	0	0	-10.1	10.1
Float	Input 11	LIC_111	10	10	0	0	-10.1	10.1
Float	Input 12	LIC_112	10	10	0	0	-10.1	10.1
Float	Input 13	LIC_113	10	10	0	0	-10.1	10.1
Float	Input 14	LIC_114	10	10	0	0	-10.1	10.1
Float	Input 15	LIC_115	10	10	0	0	-10.1	10.1
Float	Input 16	LIC_116	10	10	0	0	-10.1	10.1
Float	Input 17	LIC_117	10	10	0	0	-10.1	10.1
Float	Input 18	LIC_118	10	10	0	0	-10.1	10.1
Float	Input 19	LIC_119	10	10	0	0	-10.1	10.1
Float	Input 20	LIC_120	10	10	0	0	-10.1	10.1
Float	Input 21	LIC_121	10	10	0	0	-10.1	10.1
Float	Input 22	LIC_122	10	10	0	0	-10.1	10.1
Float	Input 23	LIC_123	10	10	0	0	-10.1	10.1
Float	Input 24	LIC_124	10	10	0	0	-10.1	10.1
Float	Input 25	LIC_125	10	10	0	0	-10.1	10.1
Float	Input 26	LIC_126	10	10	0	0	-10.1	10.1
Float	Input 27	LIC_127	10	10	0	0	-10.1	10.1
Float	Input 28	LIC_128	10	10	0	0	-10.1	10.1
Float	Input 29	LIC_129	10	10	0	0	-10.1	10.1
Float	Input 30	LIC_130	10	10	0	0	-10.1	10.1
Float	Input 31	LIC_131	10	10	0	0	-10.1	10.1

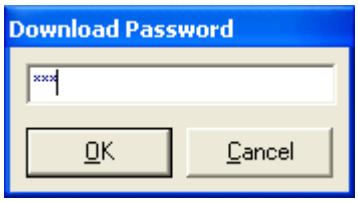
Figure 10

The tags generated for this card may be copied and pasted into a module form for user application logic.

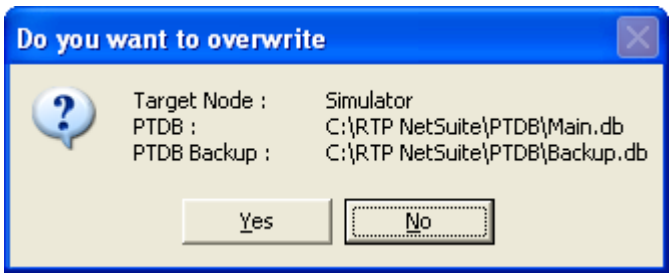
- Right mouse click on the I/O card and select “copy as is”
- Navigate to the main page and double click on MForm1
- Answer Yes to create the form.



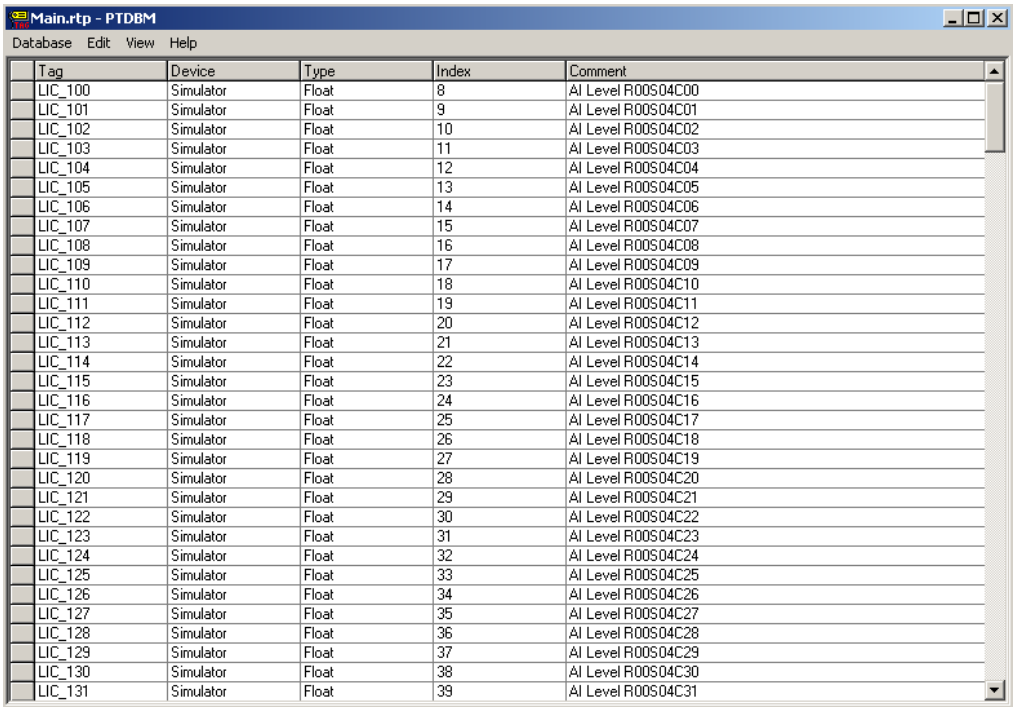
- Right mouse click in cell A1 and select paste
- Save the NetArrays project file as My_First.dbn
- Main menu bar, click Device, scroll to select, select simulator
- Main menu bar, click Device, select Download Project
- If prompted, enter the password (we are using “rtp”) and click OK.



- Click Device, Download Project and yes to overwrite



- Main menu bar, click Tags, select PTDB manager
- Select View Tags and observe PTDB is updated with tag assignment information.



Tag	Device	Type	Index	Comment
LIC_100	Simulator	Float	8	AI Level R00S04C00
LIC_101	Simulator	Float	9	AI Level R00S04C01
LIC_102	Simulator	Float	10	AI Level R00S04C02
LIC_103	Simulator	Float	11	AI Level R00S04C03
LIC_104	Simulator	Float	12	AI Level R00S04C04
LIC_105	Simulator	Float	13	AI Level R00S04C05
LIC_106	Simulator	Float	14	AI Level R00S04C06
LIC_107	Simulator	Float	15	AI Level R00S04C07
LIC_108	Simulator	Float	16	AI Level R00S04C08
LIC_109	Simulator	Float	17	AI Level R00S04C09
LIC_110	Simulator	Float	18	AI Level R00S04C10
LIC_111	Simulator	Float	19	AI Level R00S04C11
LIC_112	Simulator	Float	20	AI Level R00S04C12
LIC_113	Simulator	Float	21	AI Level R00S04C13
LIC_114	Simulator	Float	22	AI Level R00S04C14
LIC_115	Simulator	Float	23	AI Level R00S04C15
LIC_116	Simulator	Float	24	AI Level R00S04C16
LIC_117	Simulator	Float	25	AI Level R00S04C17
LIC_118	Simulator	Float	26	AI Level R00S04C18
LIC_119	Simulator	Float	27	AI Level R00S04C19
LIC_120	Simulator	Float	28	AI Level R00S04C20
LIC_121	Simulator	Float	29	AI Level R00S04C21
LIC_122	Simulator	Float	30	AI Level R00S04C22
LIC_123	Simulator	Float	31	AI Level R00S04C23
LIC_124	Simulator	Float	32	AI Level R00S04C24
LIC_125	Simulator	Float	33	AI Level R00S04C25
LIC_126	Simulator	Float	34	AI Level R00S04C26
LIC_127	Simulator	Float	35	AI Level R00S04C27
LIC_128	Simulator	Float	36	AI Level R00S04C28
LIC_129	Simulator	Float	37	AI Level R00S04C29
LIC_130	Simulator	Float	38	AI Level R00S04C30
LIC_131	Simulator	Float	39	AI Level R00S04C31

Figure 11

Congratulations! You have successfully 1) created tags in an excel spreadsheet, 2) imported tag list into the PTDBM, 3) imported tag list from PTDB into the NetArrays projects, and 5) assigned imported tags to I/O card channels.