



Setup Examples

RTPOPC Server Configuration Development

RTPOPC Server Configuration Development Example

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RTPOPC Server Configuration Development

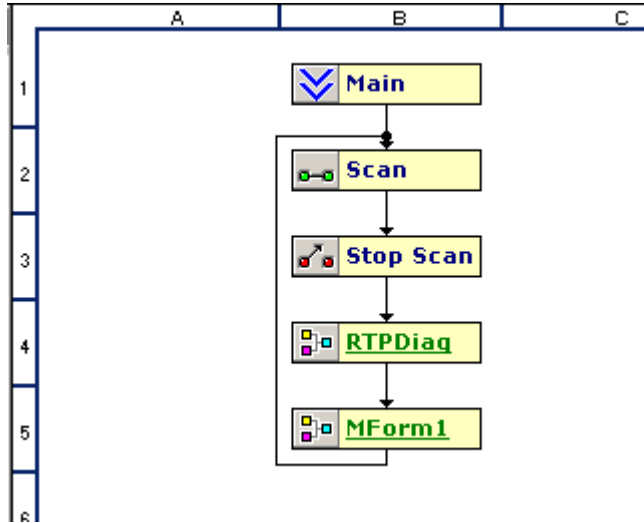
The RTP3000 system includes OPC Server support to provide variables to OPC Clients. This example has 5 sections:

- First we will develop a simple NetArrays Program to generate 4 variables to be used by the OPC Server.
- Second we will develop an OPC Server Configuration by importing the 4 tags from the Project Tag Data Base (PTDB). You can choose to either use the Import OPC Tags or Enter OPC Tags in the third section. The resulting configuration will be the same.
- Third we will develop an OPC Server Configuration by entering the 4 tag names into the OPC Server.
- Fourth we will start the desired OPC Server configuration.
- Lastly we will develop an RTPView Program to be an OPC Client and display the 4 OPC variables.

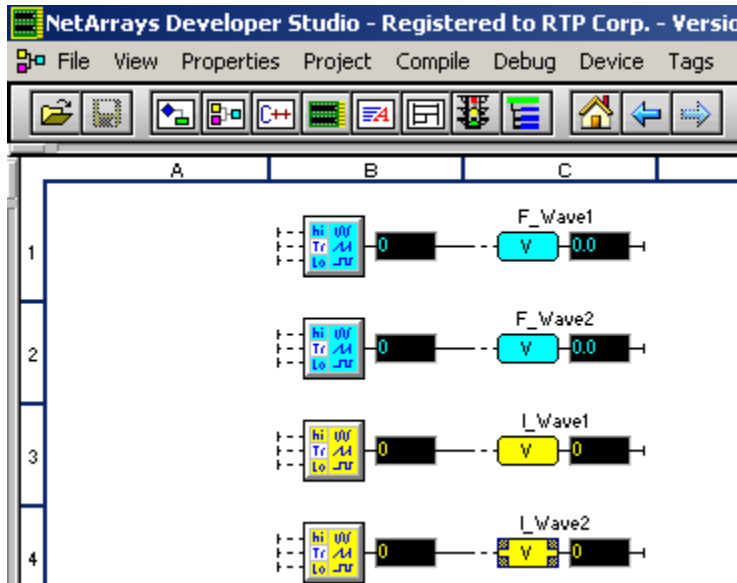
Developing a Simple 4-Variable NetArrays Project

Developing NetArrays Project

- On your PC, press  Start and select Programs ▶ RTP NetSuite ▶ NetArrays.
- The configuration will look as shown below:



- Double click on **MForm1** to open it. Left click on objects in the Right Pane, then drag and drop them as shown on the figure below. Change the configuration parameters to that in the objects as shown in the table that follows.



RTPOPC Server Configuration Development

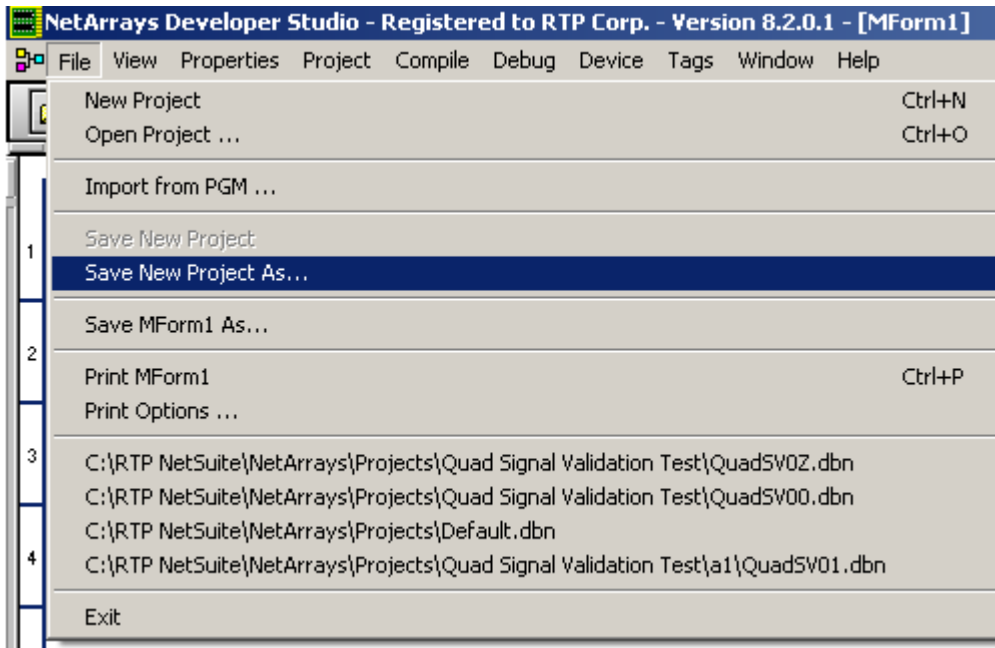
Object Parameters

Object Location	Object Type	Parameter	Notes
B1	Float Waveform	Period = 30	
C1	Float Variable	Tag = F_Wave1	Will be used by OPC
B2	Float Waveform	Period = 45	
C2	Float Variable	Tag = F_Wave2	Will be used by OPC
B3	Integer Waveform	Period = 1.5	
B3	Integer Variable	Tag = I_Wave1	Will be used by OPC
B4	Integer Waveform	Period = 2	
C4	Integer Variable	Tag = I_Wave1	Will be used by OPC

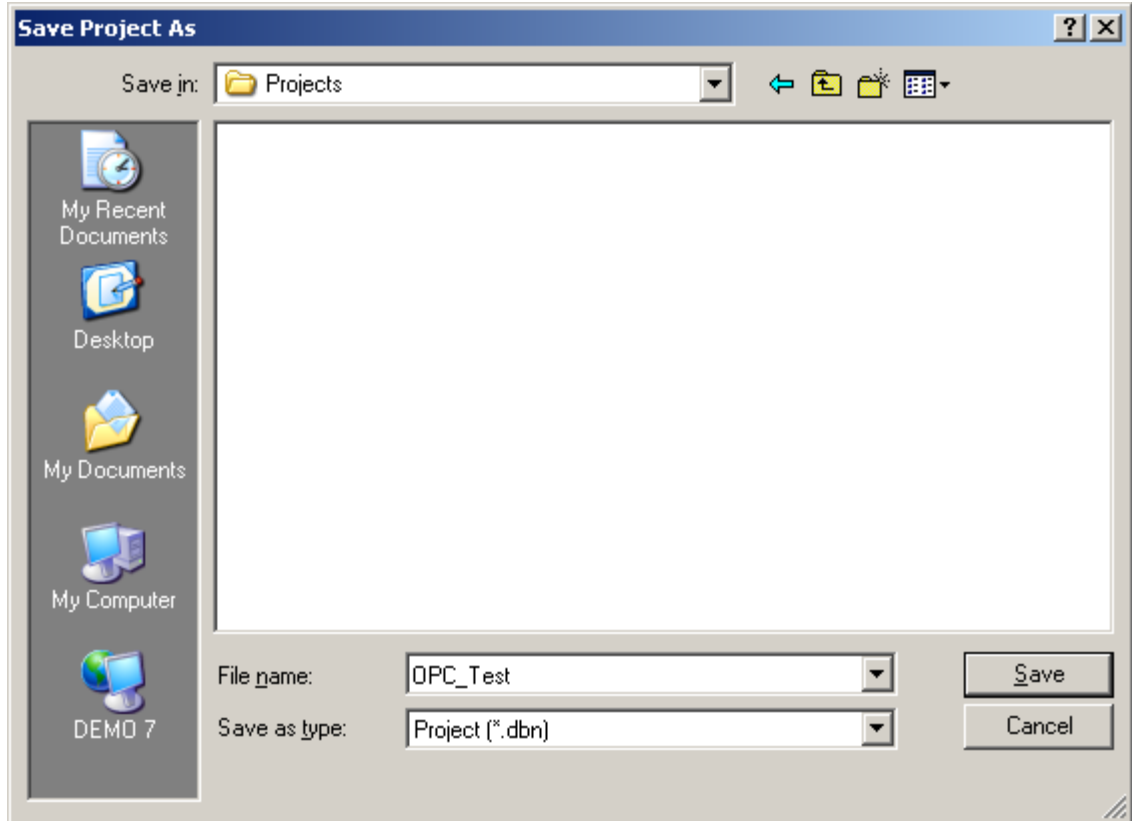
All other parameters will be left in their default state.

Saving the Project

- Click on **File** and **Save New Project as**.

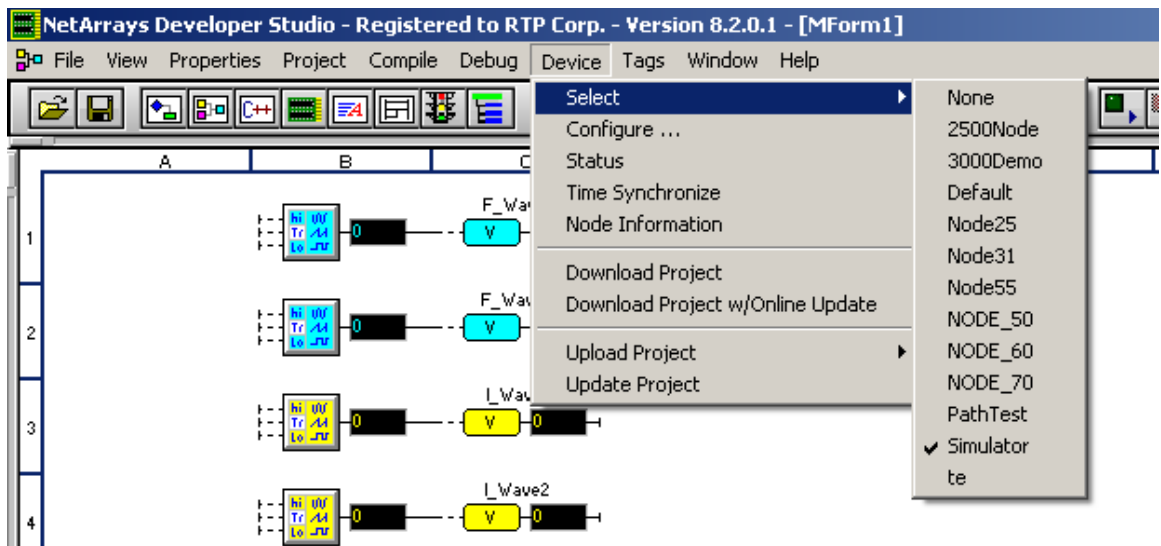


- Navigate to the desired directory, enter the **FileName** (such as OPC_Test) and click **Save**.

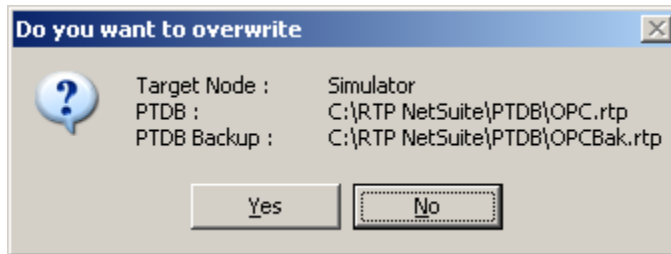
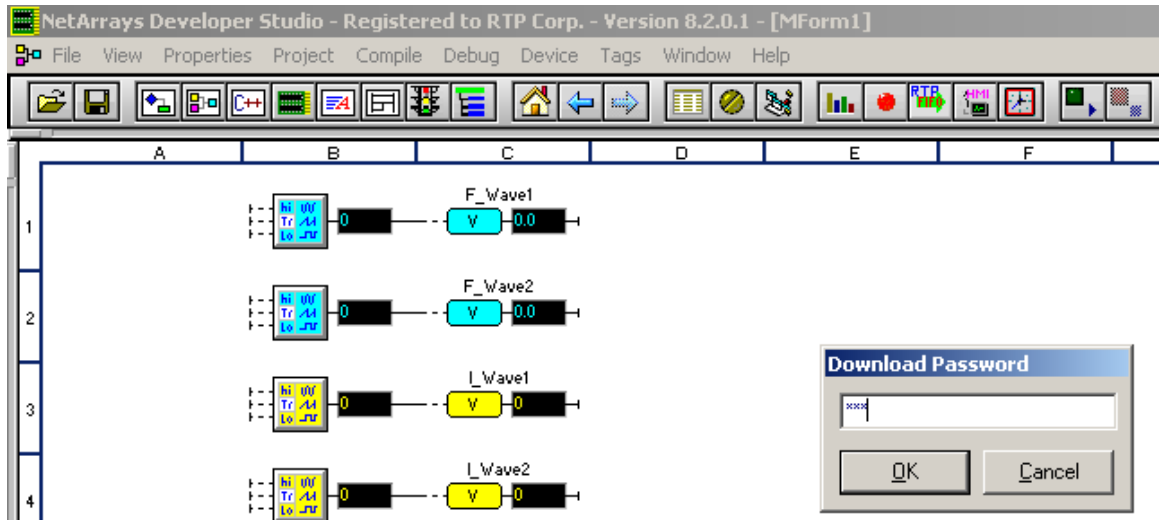
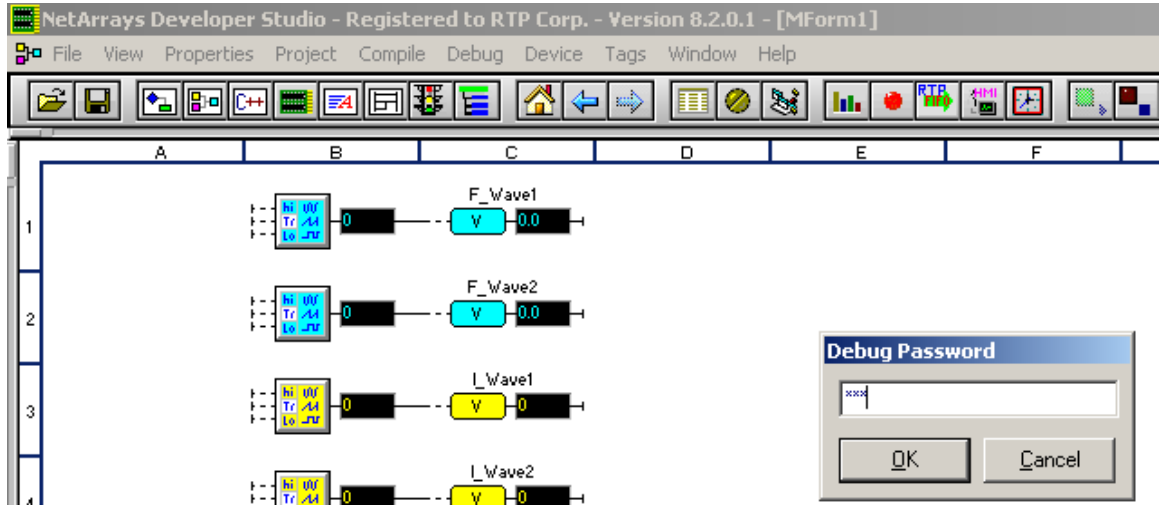
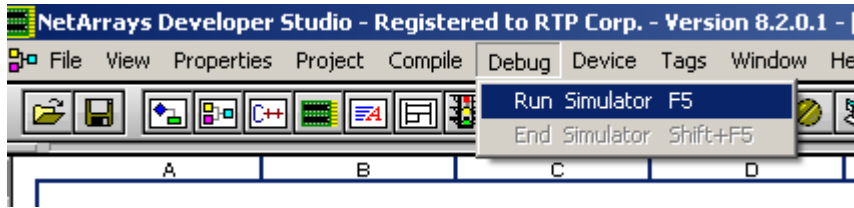


Downloading and running the Project

- Download the program to the Simulator. First click **Device** on the **Main Toolbar**, **Select** and pick **Simulator**. Then click on the **Debug** button on the **Main Toolbar** and select **Run Simulator F5**. Enter **rtp** for **Debug Password** and **rtp** for the **Download Password** and select **Yes** for **Do you want to overwrite**.

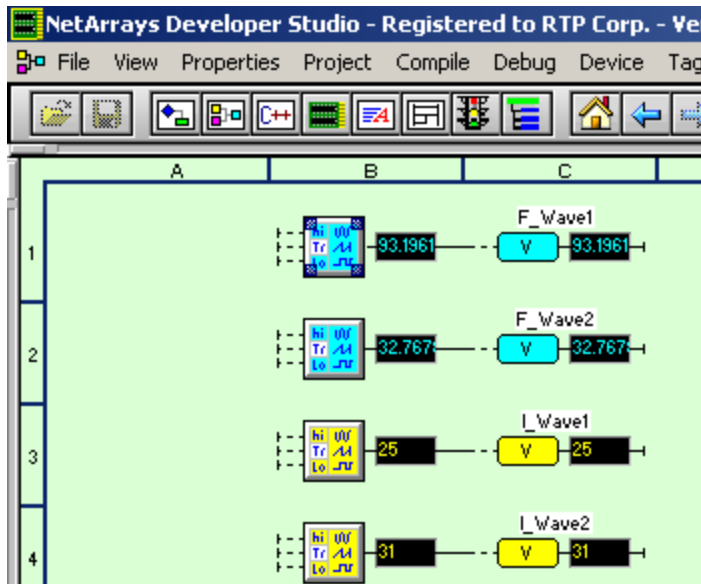


RTPOPC Server Configuration Development



RTPOPC Server Configuration Development


- Observe that the variables F_Wave1, F-Wave2, I_Wave1 and IWave2 are ranging between 0 and 100.

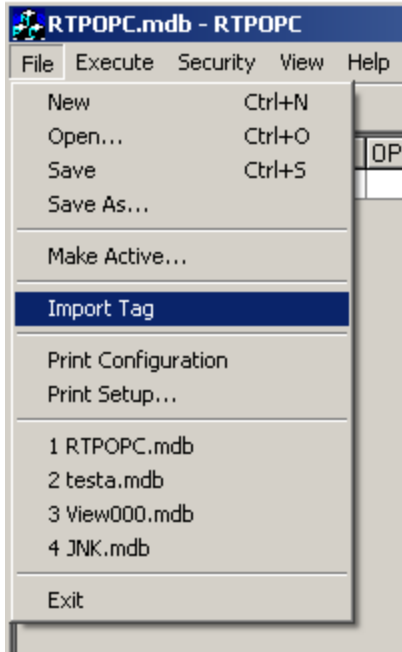


- This completes the creation of a NetArrays configuration.

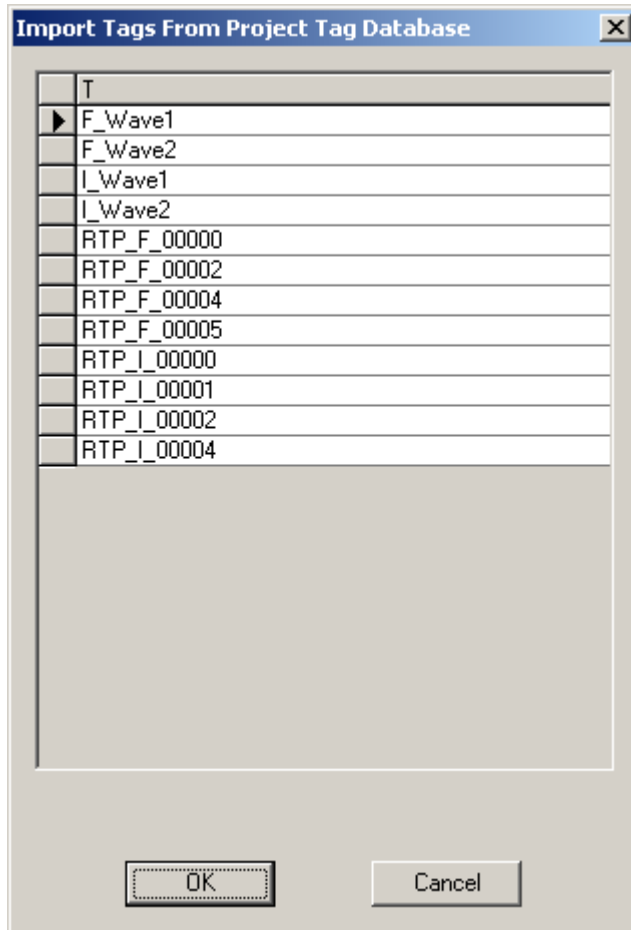
Developing an OPC Configuration by Importing Tags from PTDB

Importing Tags to the OPC Server Configuration

- You can either chose to either Import OPC Tags from the PTDB (this section) or Create OPC Tags by entering tags names as shown in the next section. The resulting configurations in these two examples will be the same. Each will result in the same OPC Server configuration.
- On your PC, press  Start and select Programs ▶ RTP NetSuite ▶ OPC.
- Click on **File** and select **Import Tag**.

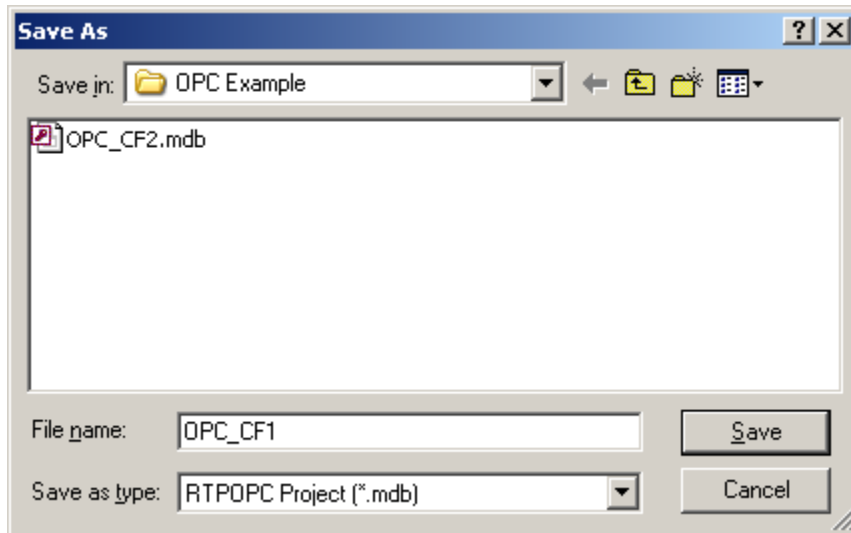


- Scroll down until the variable **F_Wave1** is visible. Click on the variable. Repeat for variables **F_Wave2**, **I_Wave1**, and **I_Wave2** following each tag by clicking **OK**.
- A shortcut is available for Importing blocks of tags. If the tags are sequential in the PTDB, click on the first line and hold **Shift** and click on the last line. Then click **OK** and a group of tags will be imported in one operation.



Saving the OPC Server Configuration


- Click on **File**, select **Save As**, navigate to the desired directory, enter the **File Name** (such as OPC_CF1), and click **Save**.



- This completes the creation of the OPC Server configuration by importing tags.

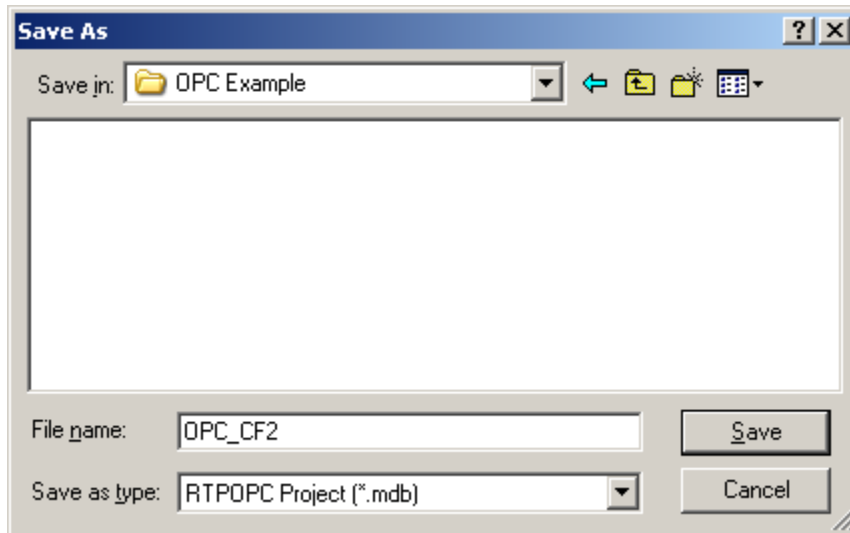
Developing an OPC Configuration by Entering Tags

Entering Tags into the OPC Server Configuration

- You can either chose to Create OPC Tags by entering tags names (this section) or Import OPC Tags from the PTDB as shown in the previous section. The resulting configurations in these two examples will be the same. Either will result in the same OPC Server function.
- On your PC, press  Start and select Programs ▶ RTP NetSuite ▶ OPC.
- Click on the **TagName** window and start typing the first Tag Name **F_Wave1**. When the desired tag is visible click on the name. The **TagName**, **Device** (Simulator) and **OPCItemID** should automatically be filled in. If not, check the Tag Names of the program downloaded to the Simulator.
- Similarly add tags for **F_Wave2**, **I_Wave_1**, and **I_Wave2**.

Saving the OPC Server Configuration


- Click on **File**, select **Save As**, navigate to the desired directory, enter the **File Name** (such as OPC_CF2), and click **Save**.

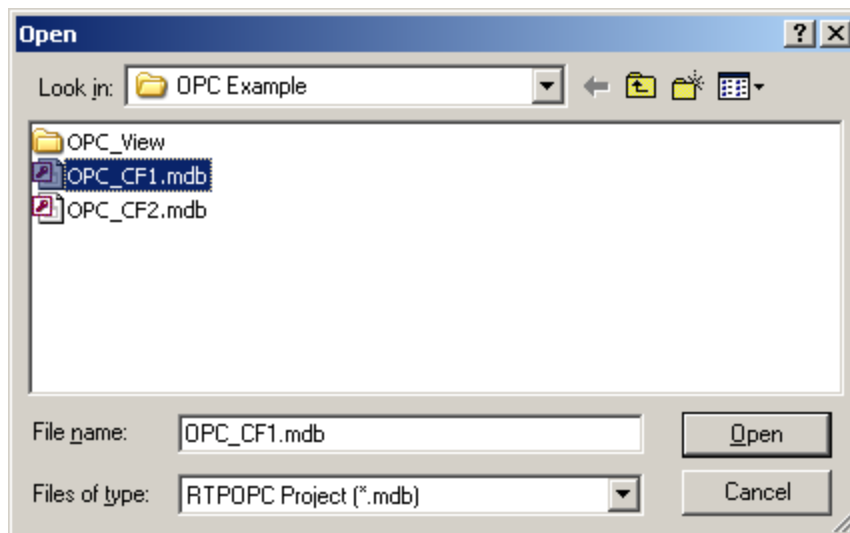
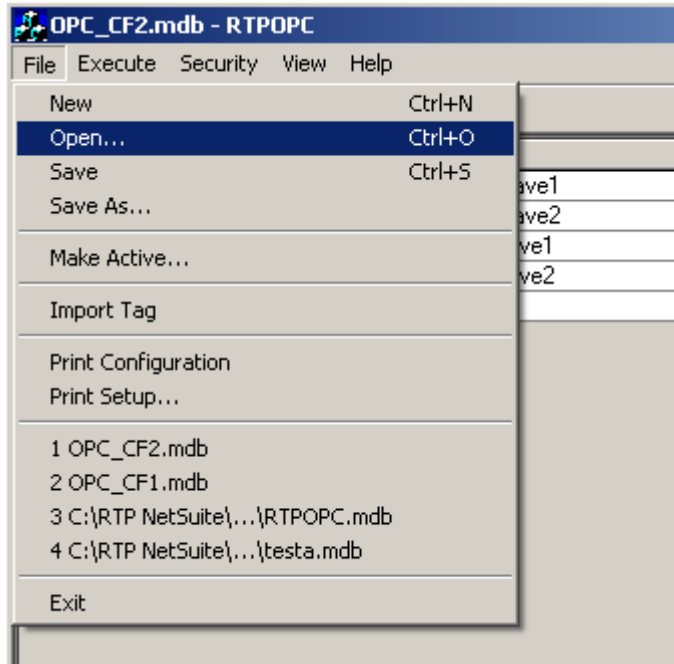


- This completes the creation of the OPC Server configuration by entering tags.

Starting and Running the OPC Server

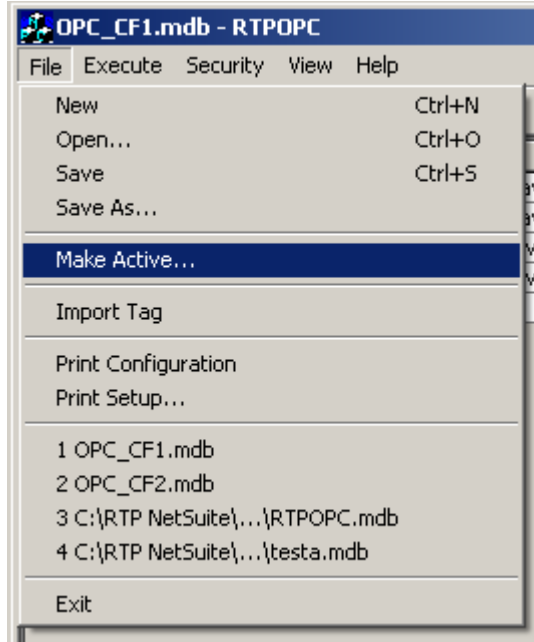
Open the OPC Server Configuration

- On your PC, press  Start and select Programs ▶ RTP NetSuite ▶ OPC.
- Click on **File**, select **Open**, and navigate to the directory with the desired file. Select the **File Name** (such as OPC_CF1), and click **Open**. You can select the OPC Server configuration created by either method.

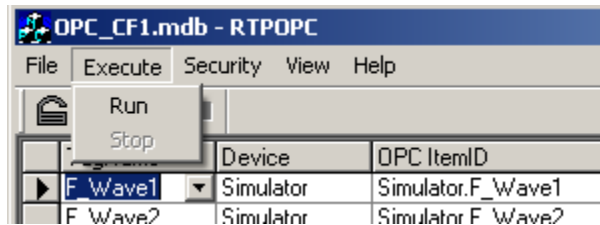


Make the OPC Server Configuration Active

- Click on **File**, select **Make Active**.



- Run the OPC Server to verify that it is connected correctly before proceeding to the next step. Click on **Execute** and select **Run**.



- The OPC Server will show the **Value** of each of the 4 variables changing as in NetArrays and the **Quality** for each is **Good**. See the figure below. If the **Value** and **Quality** are not as expected, check the linkage to the variables selected.


The screenshot shows the main window of the OPC server with a table displaying the current state of the variables:

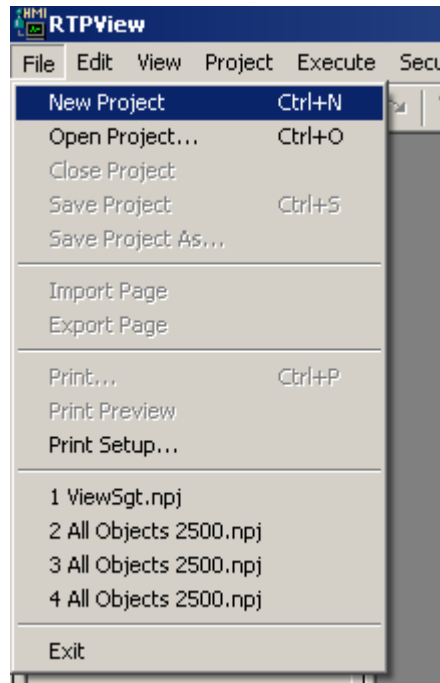
TagName	Device	OPC ItemID	Value	Quality	TimeStamp
F_Wave1	Simulator	Simulator.F_Wave1	15.69638	Good	06-08-2009 21:09:38.218
F_Wave2	Simulator	Simulator.F_Wave2	24.15839	Good	06-08-2009 21:09:38.218
I_Wave1	Simulator	Simulator.I_Wave1	2	Good	06-08-2009 21:09:38.128
I_Wave2	Simulator	Simulator.I_Wave2	90	Good	06-08-2009 21:09:38.218
*					

- This completes the Starting OPC Server section.

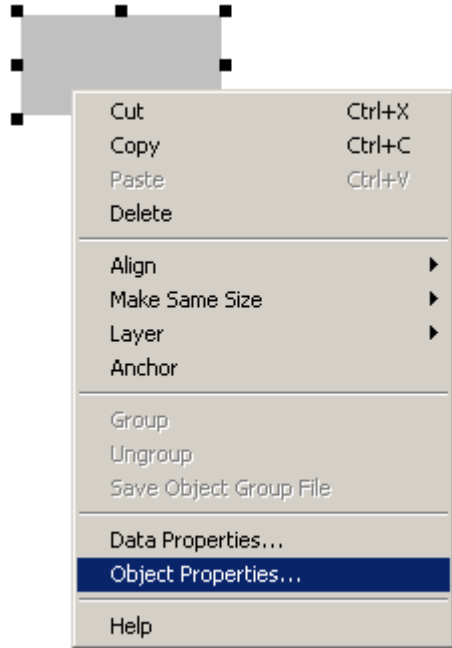
Developing and Running an RTPView Configuration Linked to Variables via an OPC Server

Creating the RTPView Configuration

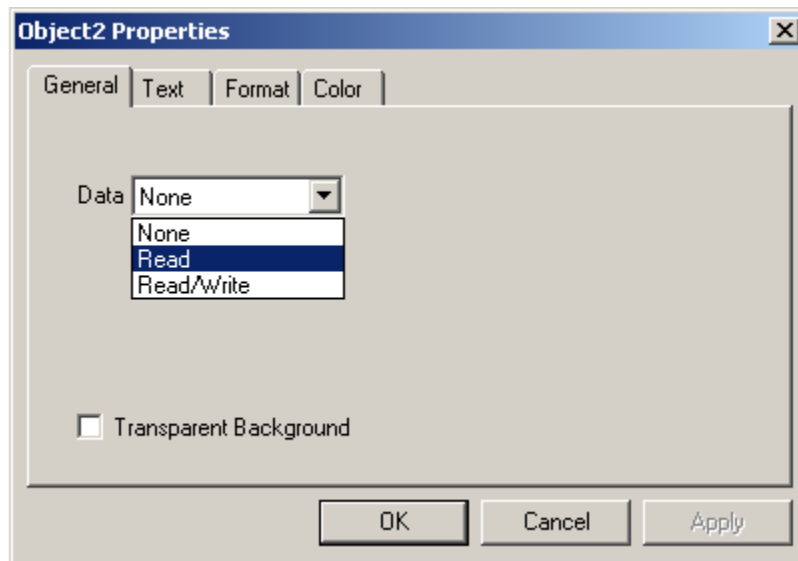
- On your PC, press  Start and select Programs ▶ RTP NetSuite ▶ RTPView.
- Click on the **File** and select **New Project**.



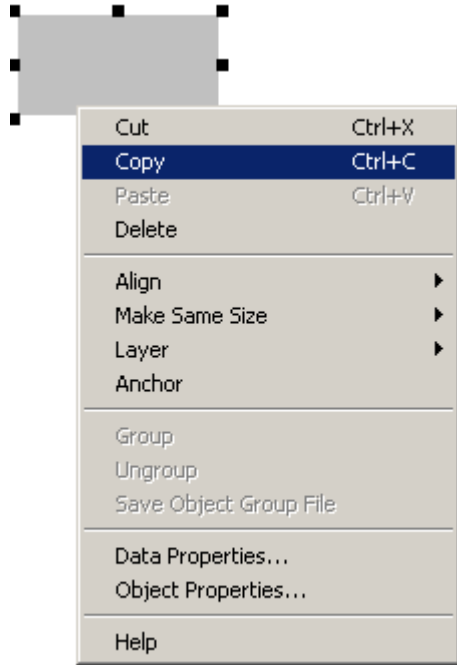
- Click on the **No** to the query **“Project has been modified. Save Changes?”**
- Left click on the **Edit Box** Icon on the Palette and left click on the page that was created.
- Right click on the **Edit Box** that was added and select **Object Properties**.



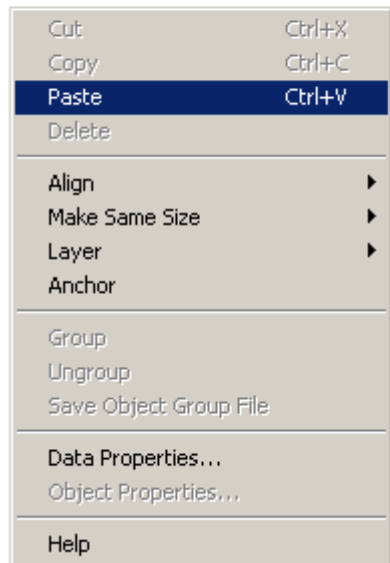
- Under the **General** tab select **Read** and click **OK**.



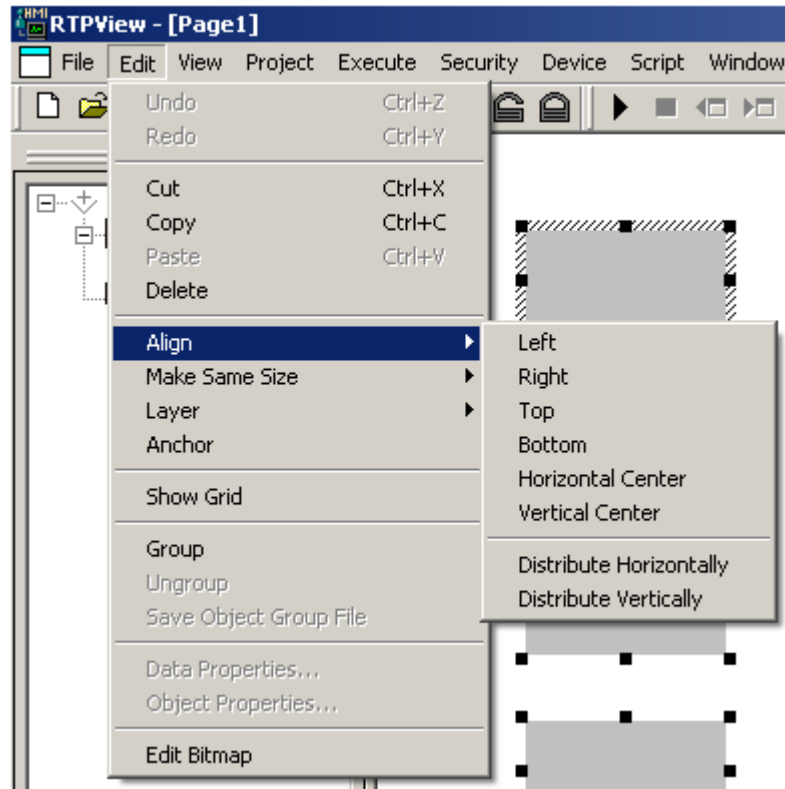
- Right click on the **Text Box** created and select **Copy**.



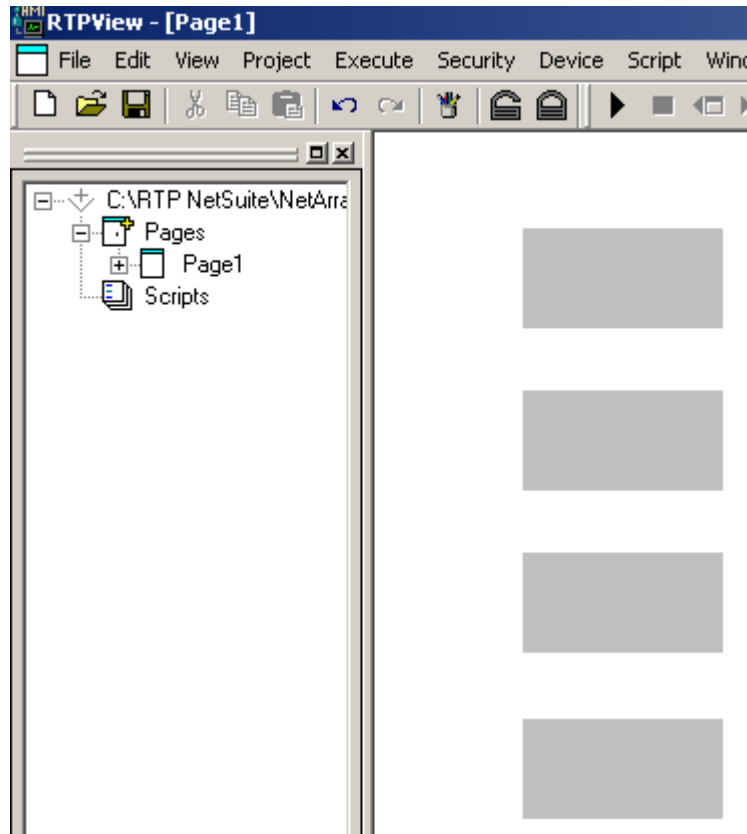
- Right click on a clear area on the page and select **Paste**. Repeat the **Paste** operation two more times.



- Align the objects as desired.

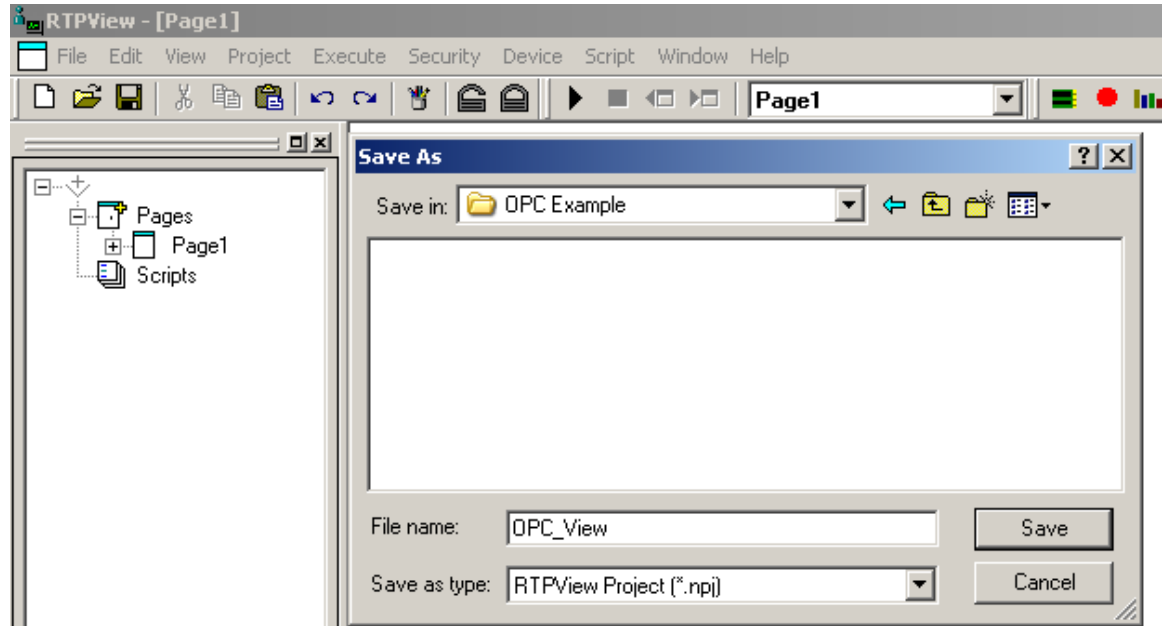


- The page should look similar to the one below.



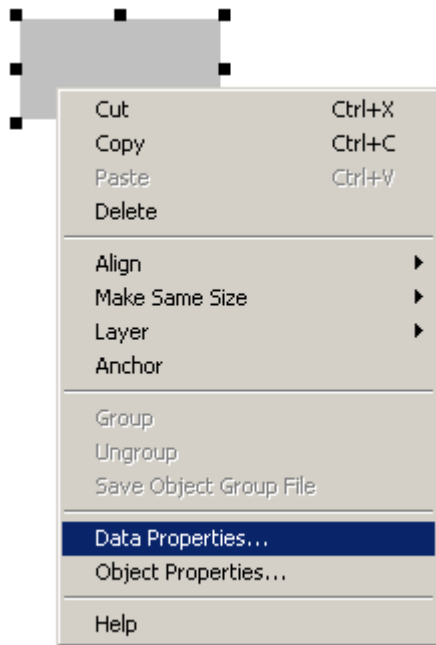
Saving the RTPView Configuration

- Click on **File**, select **Save As**, navigate to the desired directory, enter the **File Name** (such as OPC_View), and click **Save**.

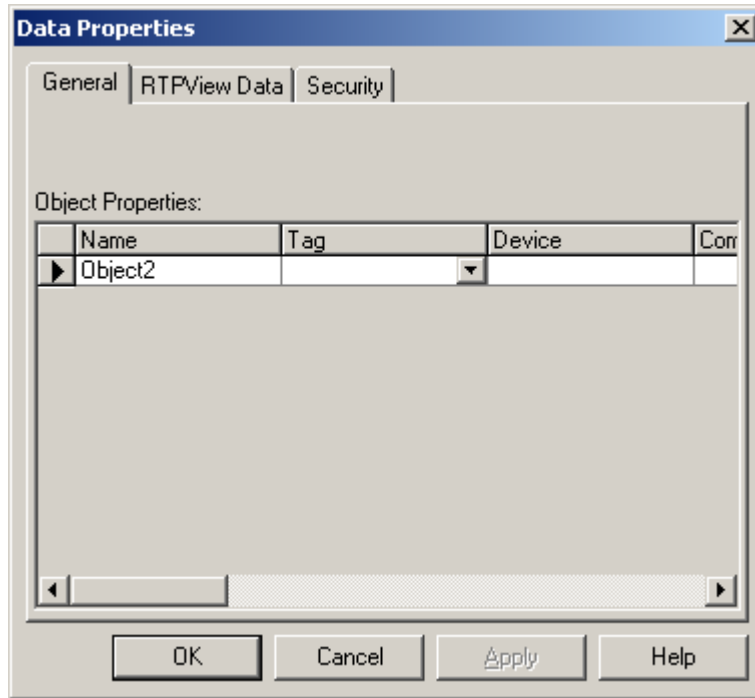


Linking RTPView Application to the OPC Tags

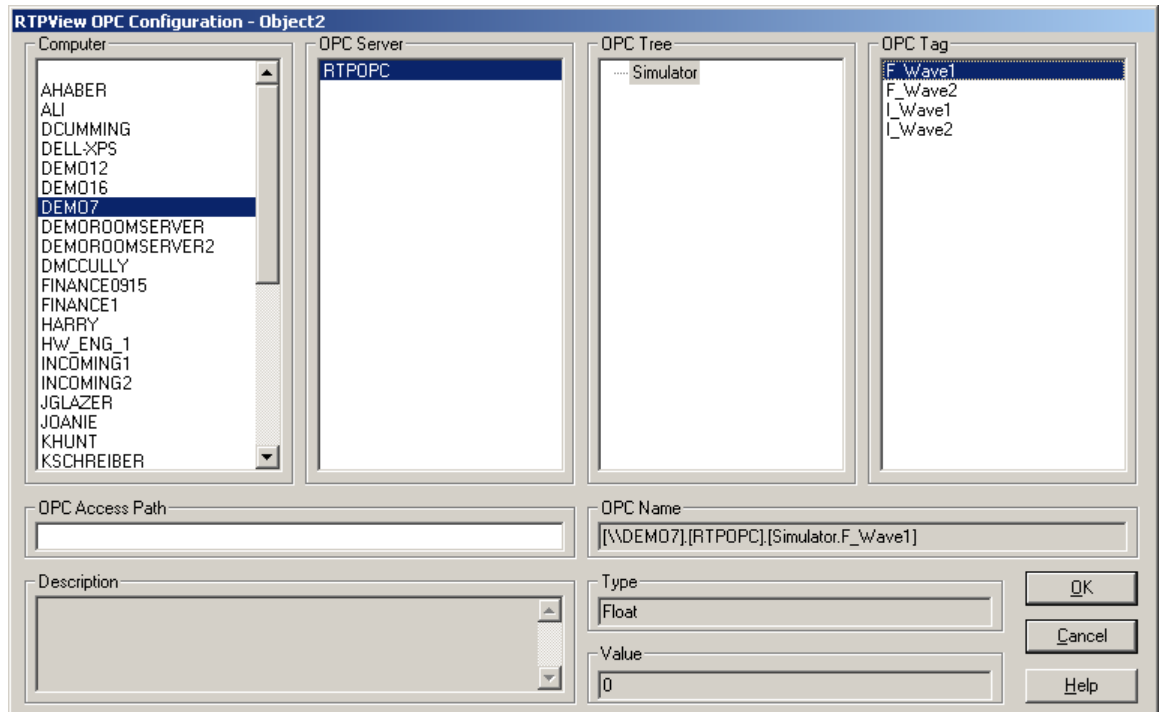
- Right click on the first **Edit Box** and select **Data Properties**.



- Left click in the Tag window.



- Press **<Alt>** and left click to bring up the **OPC window**. Select the **Computer**, **OPC Device (RTPOPC)**, **OPC Tree (Simulator)**, and **OPC Tag (F_Wave1)**. Then click **OK** twice.

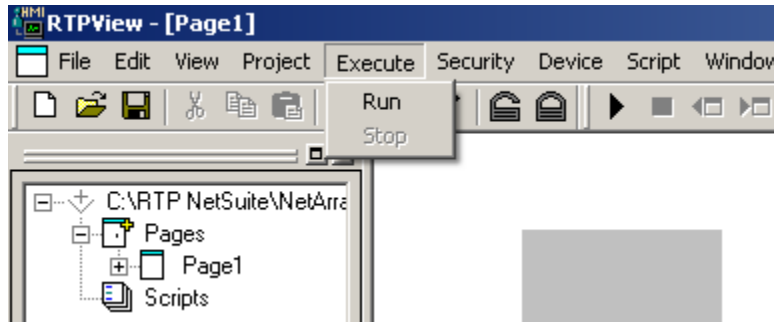


- Repeat on the other 3 **Edit Boxes** and select Tags **F_Wave2**, **I_Wave1**, and **I_Wave2** as in the step above.

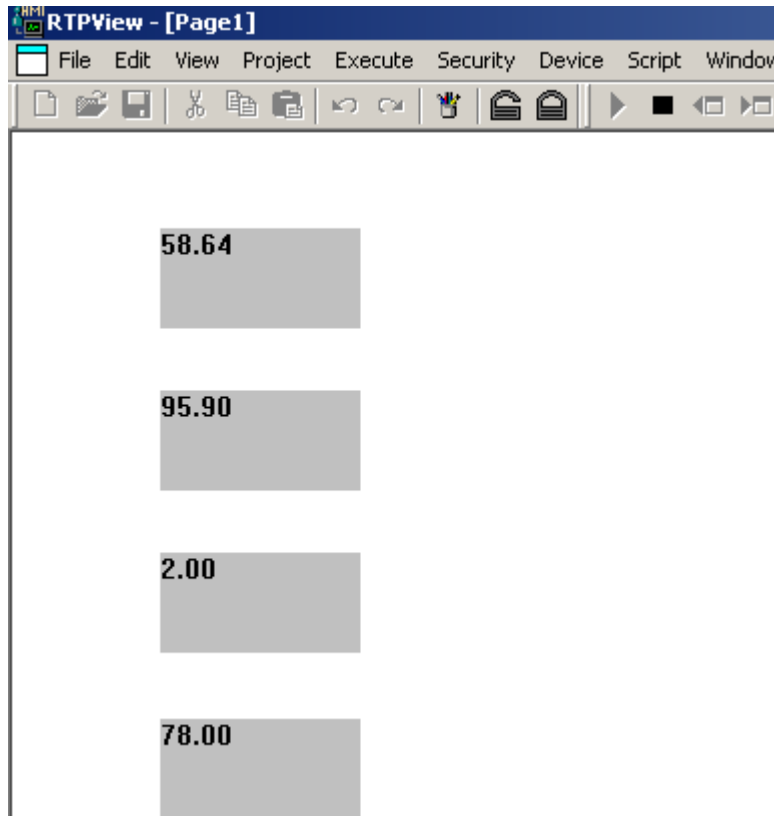
- Save the Project by selecting **File** and **Save Project**.

Run RTPView Application and Observe the 4 Variables

- Click on **Execute** and select **Run**. This will cause the RTPView project to execute.



- The RTPView window should look similar to the one below. All 4 variables will be changing to match the variables on the NetArrays screen.



Congratulations! You have successfully completed your first NetArrays OPC configuration and run it on the Simulator.