

Integration of the Wonderware InTouch 9.5 HMI and CTCopc OPC Server2.0

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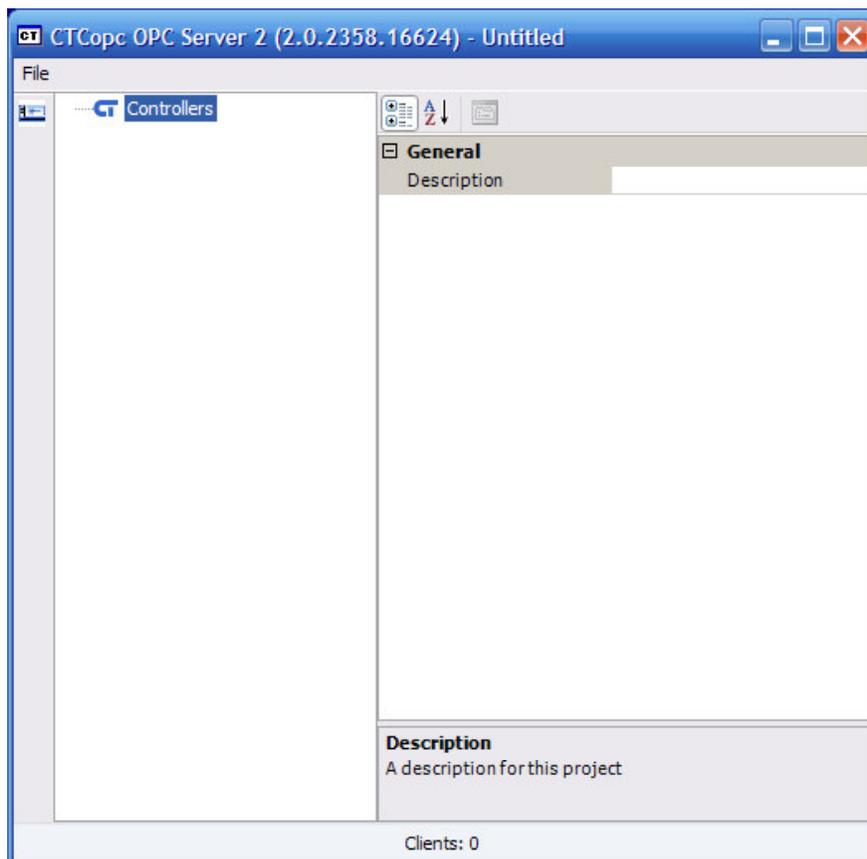


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This tech tip will show you how to set up CTC's OPC server with Wonderware Intouch 9.5. It explains how to use both the CTC and Wonderware configuration tools via a simple example.

1. Create Tags in the CTCopcServer2.0

It is assumed that the CTCopcServer has been installed correctly. The OPC Server can be launched from the desktop icon shortcut or from the shortcut in the START menu. After starting the OPCServer, an empty project is created and the main screen is shown. See below:

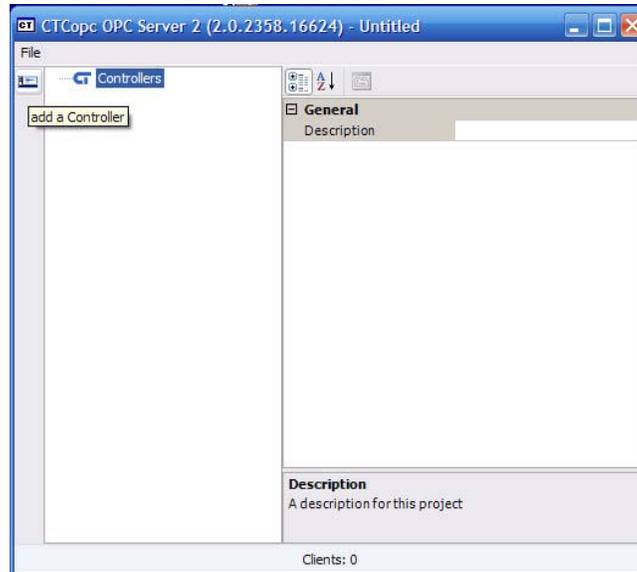


The screen is made up of two sections : left and right along with a toolbar to the far left of the window.

The left section is the *tag tree* and depicts the tree structure of a CTCopc project. The right section is the *property editor* and allows the user to edit various parameters for the controllers and tags.

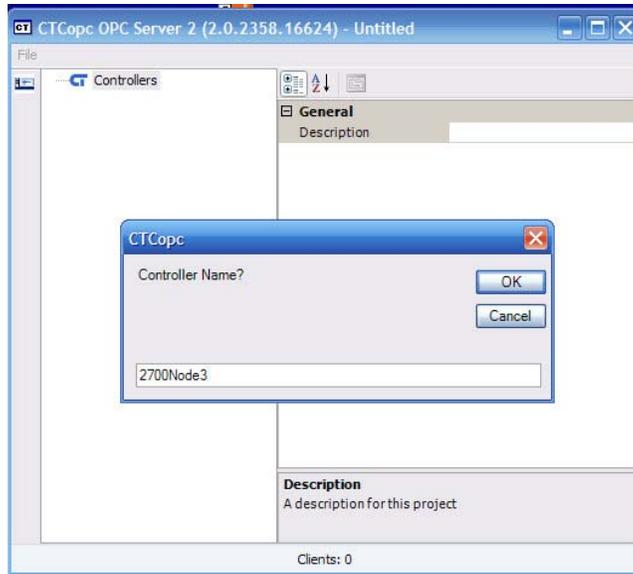
We will create a new, simple project to illustrate the process of creating tags. In this example, we will assume one CTC 2700-5 controller exists and its IP address is 169.254.203.250.

This controller is added to the project by clicking the control icon on the toolbar or by right mouse clicking the Controllers node in the tag tree. See below:

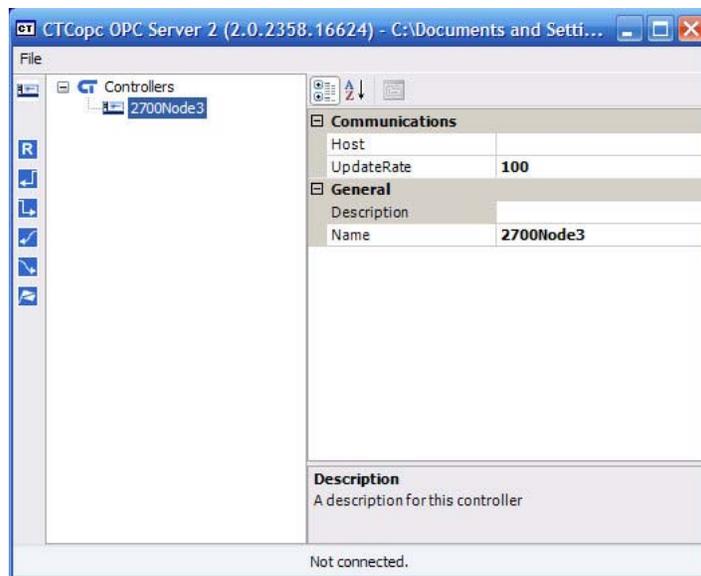


A property box appears asking you to name the controller. This name will get sent out to OPC clients such as WonderWare In Touch.

In this example we will call the controller 2700Node3. See the next page :



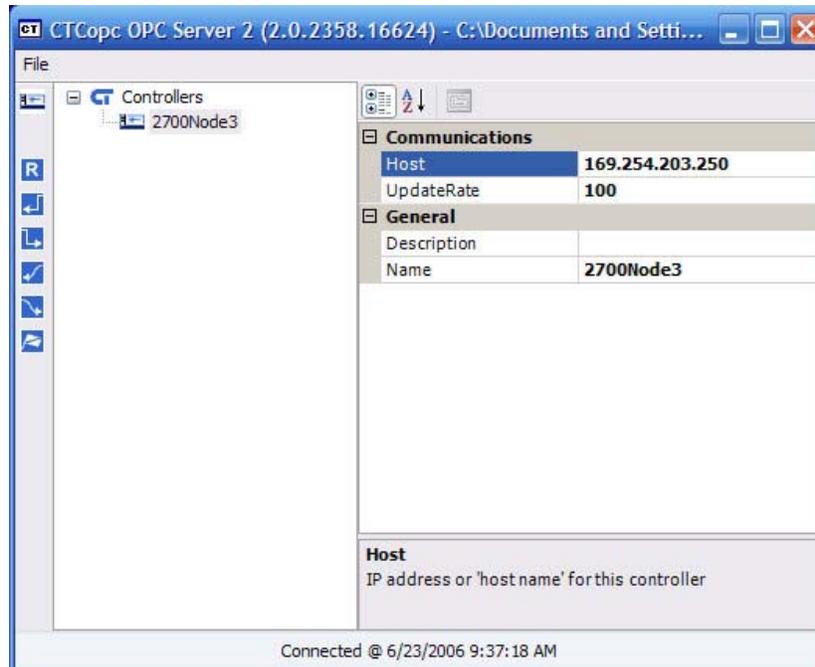
Once the name is entered and the OK button is pressed, the controller will appear on the left side *tag tree*. See below :



From the previous page, the right side of the screen (property editor) has filled in with a few default values for this node (controller name).

The property editor will change and update depending upon which node is selected in the *tag tree*.

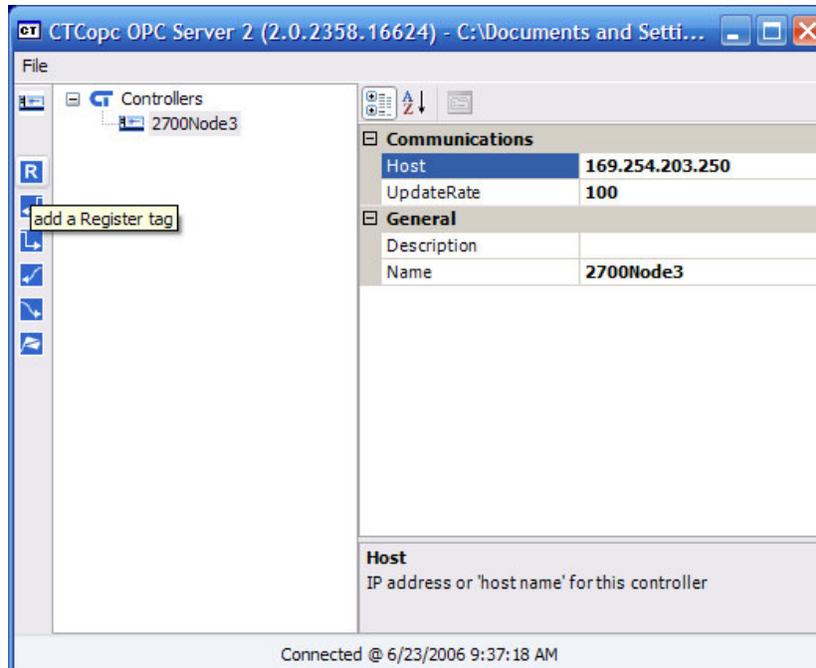
The most important property that we need to edit is called *HOST*. This field defines the address and the protocol that the CTCopc OPC Server will use to communicate to the controller. In our example, the Host parameter should be 169.254.203.250. This is accomplished by clicking in the blank field next to Host and entering the address. See below:



Adding multiple controllers is as simple as repeating the process described above. You would assign a different IP address and a unique name to each controller.

To add a tag to a controller, highlight the controller in the tag-tree section and then click the appropriate icon in the toolbar for the type of tag you want to create.

On the next page, we will add two tags to the controller.



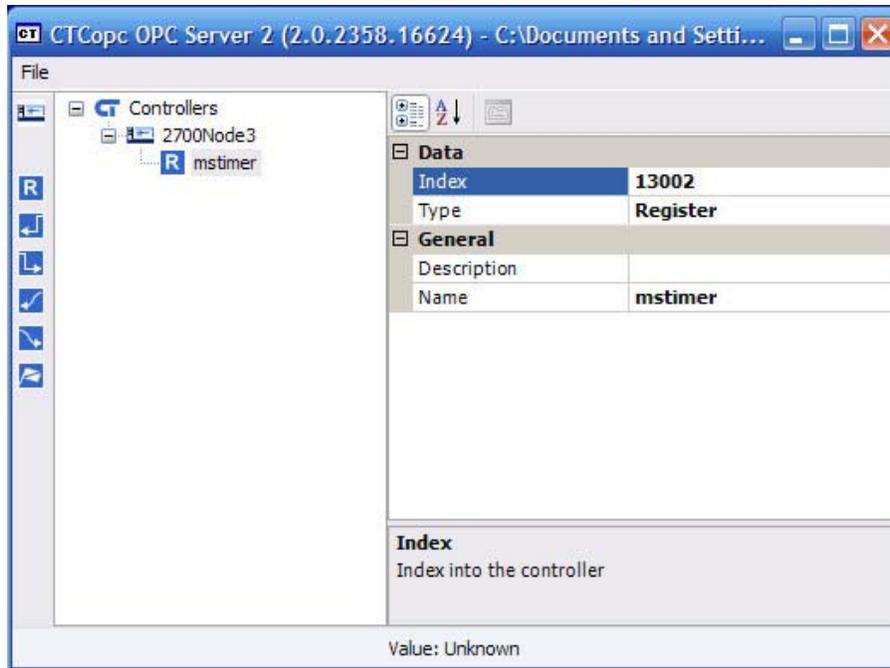
A prompt will appear for the name of the tag. In our example, we will choose the name `mstimer` and then click the OK button.



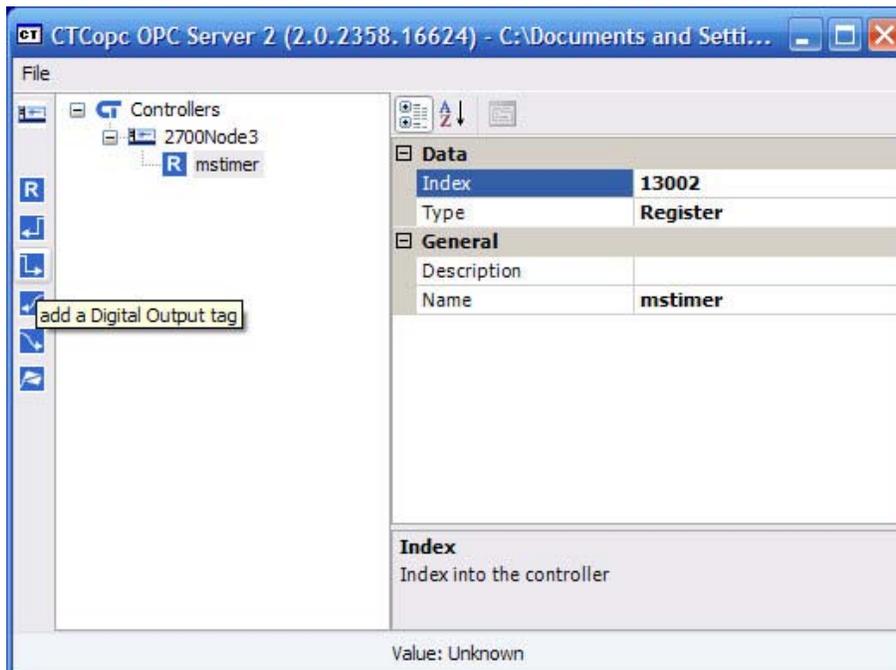
If a numeric name (such as `13002`) is entered for a tag name, then the Index property is automatically set to the value of the numeric name. If an alphanumeric name is entered (such as `mstimer`), then the Index property must be set manually.

Therefore, to finish creating the `mstimer` tag, we should put the register number for this tag located in the Index property from its default value of "0" to a value of 13002, which corresponds to the millisecond timer in the controller.

Screen shot on next page.



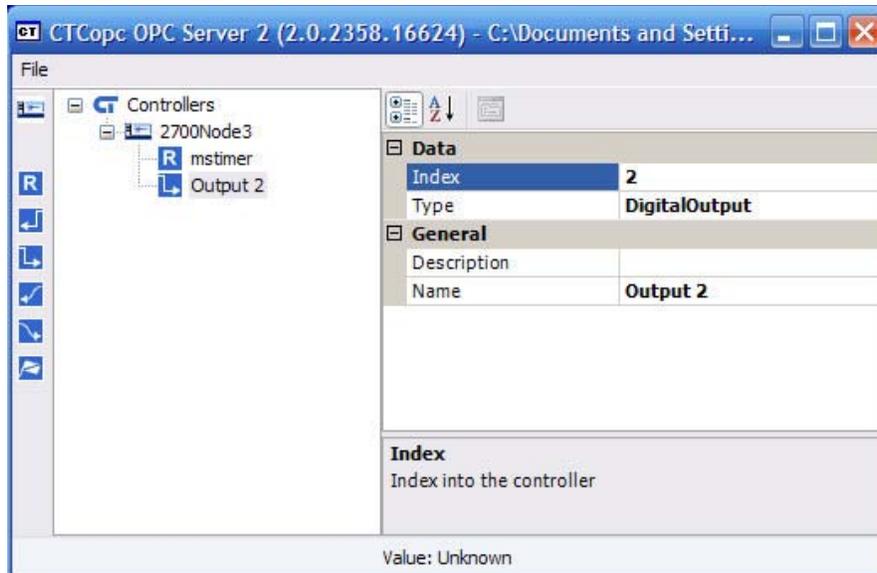
Now let's add the digital output tag in the same manner. Select a digital output tag from the icon on the toolbar. See below:



When you click on the output icon, a window opens asking for the name of the output to be inserted. Choose a name and click OK. See the next page.



Since it is the second output, the index should correspond to the 2nd physical output channel. See below:



We now have 2 tags created in the OPC Server. Other tag types — flags, analog I/O and digital inputs — are created in a similar manner.

NOTE: Index Values

The Index Value field in the CTCopc OPC Server is the actual number of the resource which you would like to assign to the tag you create. See the examples below:

The index value for the millisecond timer is 13002 since register 13002 holds that value. Your OPC tag would be a register type with index number 13002.

Digital I/O and Analog I/O use the actual channel number for the Index Value. For example, if you set up a digital Output tag in the OPCServer and call it Output 1(to correspond to the first physical output channel), then the Index Number would be 1. Output 2 would be 2, 3 would be 3, etc.

NOTE: Resource Types

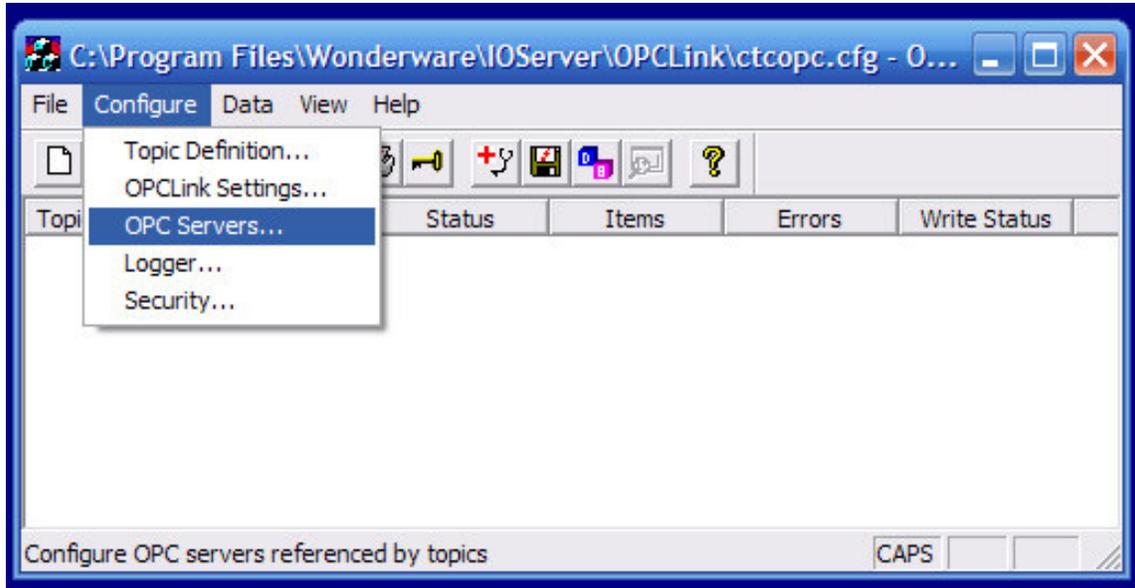
The following are supported resource types in the CTCopc OPC Server :

- _ Registers
- _ Digital Inputs
- _ Digital Outputs
- _ Analog Inputs
- _ Analog Ouputs
- _ Flags

2. Setting Up, Configuring and Using OPCLink from WonderWare, Definitions

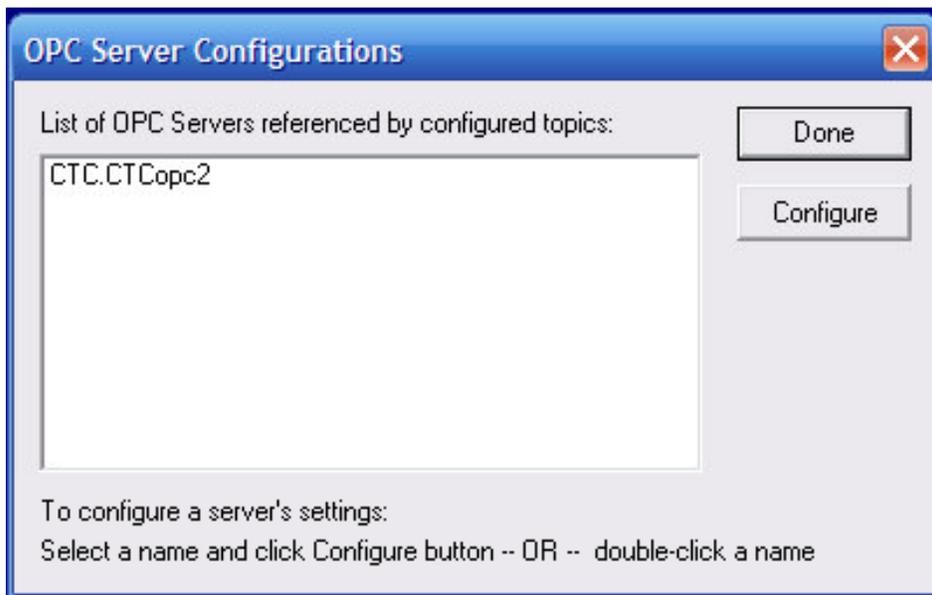
A. Configuring OPCLink

Once the Wonderware OPCLink has been installed, some configuration is required. Configuring OPCLink automatically saves the data in a configuration file. If no configuration file is selected, you will be prompted to select a file name.

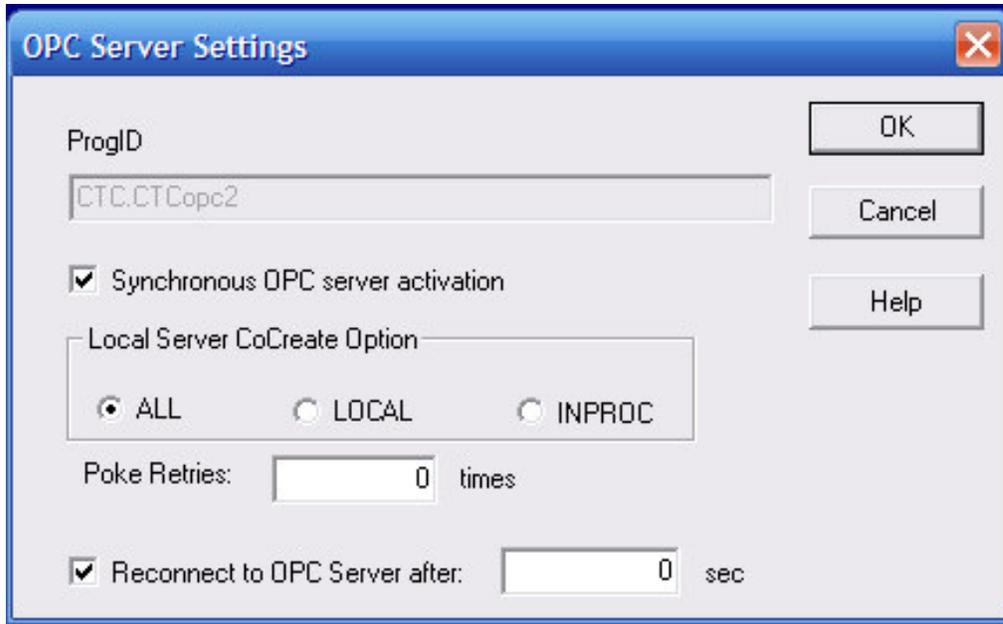


B. Configuring OPC Servers

Use the OPC Servers option from the Configure menu to access the OPC Server Configurations window. This window lists all OPC Servers alphabetically, referenced by configured topics.

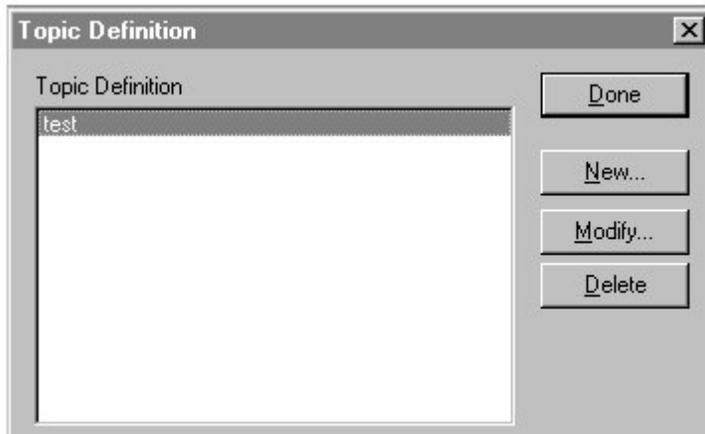


To configure the settings for a listed server name, double-click the server name, or select the server name then click Configure. The OPC Server Settings window appears:



C. Configuring a Topic Definition

Use the Topic Definition option from the Configure menu to create new, modify, or delete topic definitions. One or more topic definitions must exist for each OPC server that OPCLink will communicate with. Each topic definition must contain a unique name. When this option is selected, the Topic Definition dialog box will appear:



This dialog box appears when the **New** or **Modify** button is selected in the Topic Definition dialog box. This dialog box is used to define the settings for the topic name. For details on an item in this dialog box, click on it in the example below:

The Topic Name should be an intuitive name for a group(s) of resources found as tags in an OPC Server, in this case CTC's OPC Server2.0. The Node name is the name of the PC on which the OPCServer is found. The node fields can be left blank or labeled localhost. The OPC Server Name is the actual name of the OPCServer being used.

To determine the correct OPC Path entry, click on the browse tab as listed above. You should see the window listed on the next page. The OPC Path will be filled in as the OPC Browser finds all OPC Servers and their associated tags. Cut and paste the contents of the OPC Path field into the OPC Path field in the window for the topic definition.