Using Intellution's iFix® OPC Client Driver as an OPC Client to TOP Server

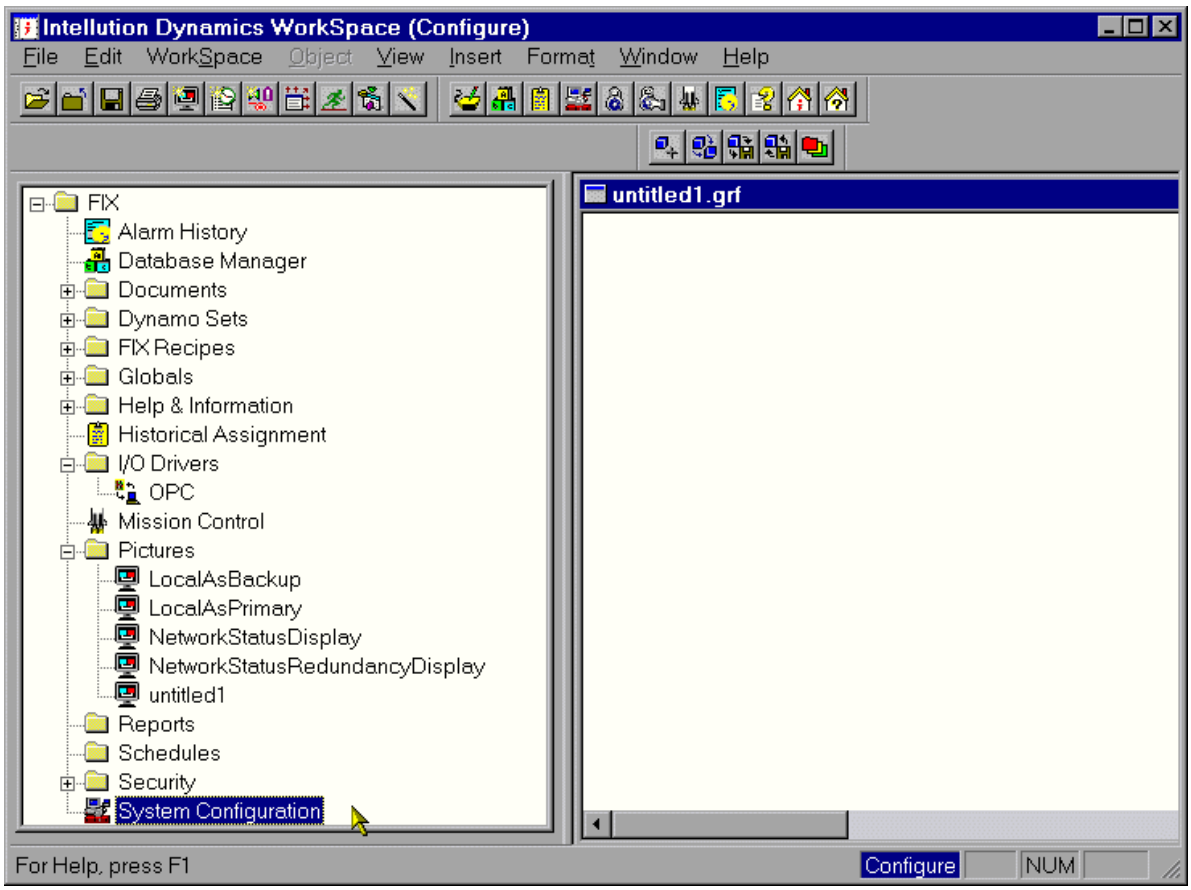
This document will help you to create an OPC connection to the TOP Server from the Intellution OPC Client Driver in iFix. Although iFix will run on any 32bit operating system, it is very important to note that the Client Driver must be used on a Windows NT based platform.

Note that you MUST have installed the iFIX OPC Client/Server Driver (Intellution Item "OPC" in their drivers list, also sometimes called the "Power Tool") on your machine in order to use this example. We suggest that you check with Intellution to make sure that you have the latest version of their OPC Client Driver before starting.

This document is not a substitute for Intellution provided documentation on their OPC Client Driver and is provided as a guideline to our clients to aid them in setting up to connect Intellution to the TOP Server. Software Toolbox Inc. provides telephone technical support for the TOP Server only and issues directly related to the use of the TOP server with the OPC client. Also, this is not the ONLY way to connect iFix to the TOP Server – the iFix OPC Client Driver help describes how to perform these steps from within the iFix Database Builder. See the topic "Configuring Servers, Groups and Items", subtopic "Configuring from iFix Applications" in the OPC Client Driver help file from Intellution for more information on this.

Connect to the Server from iFix

1. Open your copy of iFix and start a new project.



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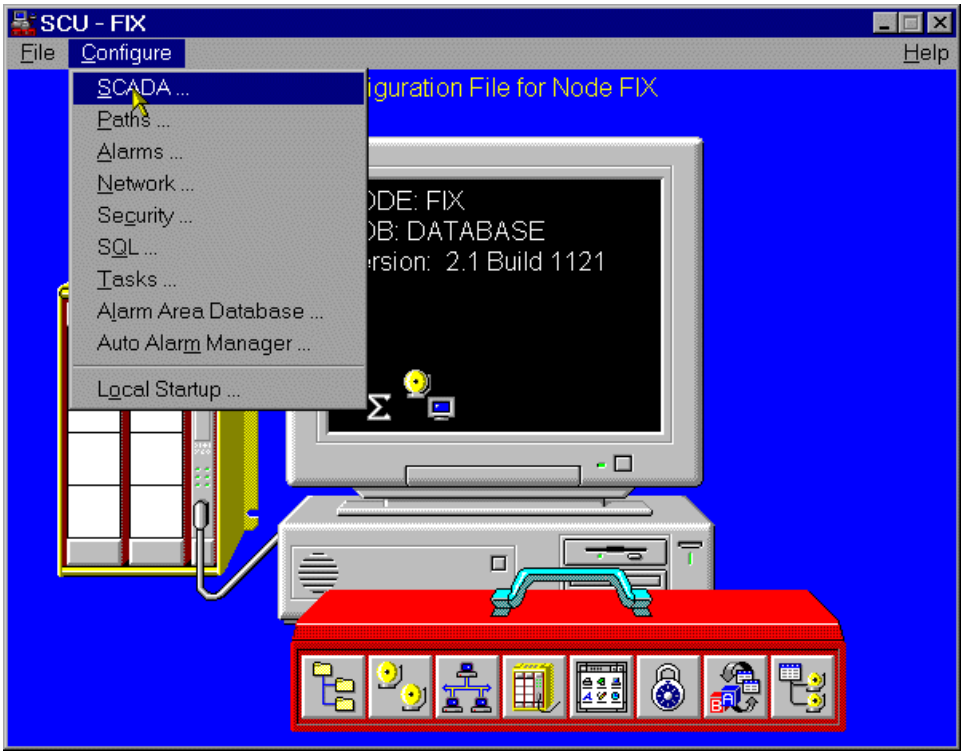
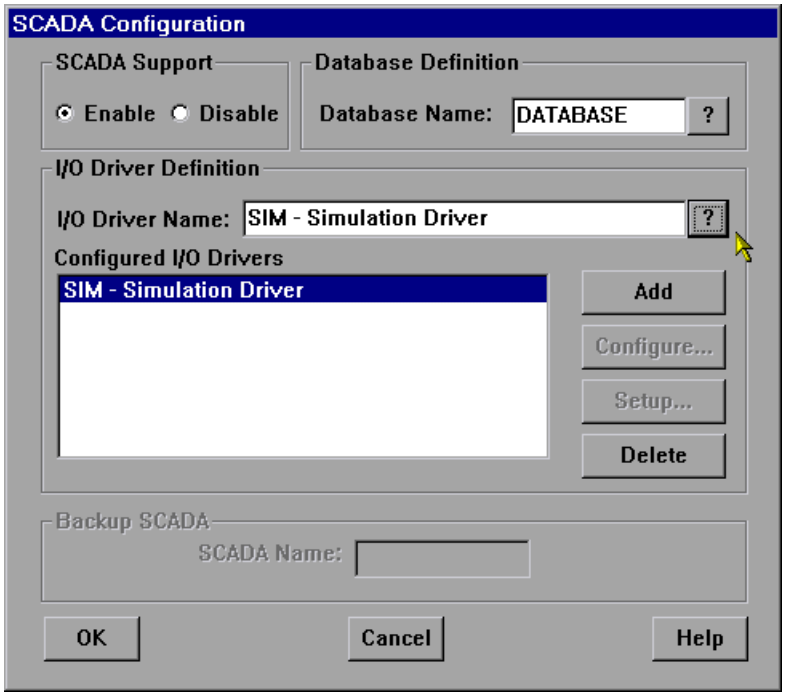
Configure the SCADA Properties

1. In Fix Dynamics, select System Configuration from the Tree. This will start the System Configuration Utility (SCU).

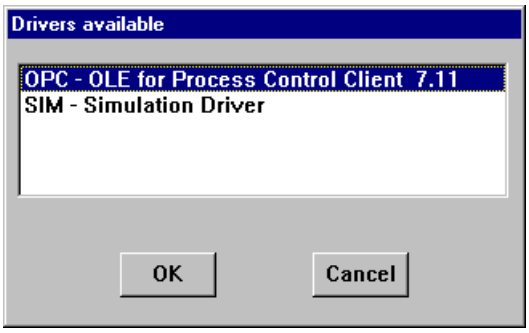


2. In the SCU select Configure|Scada… from the Main Menu.

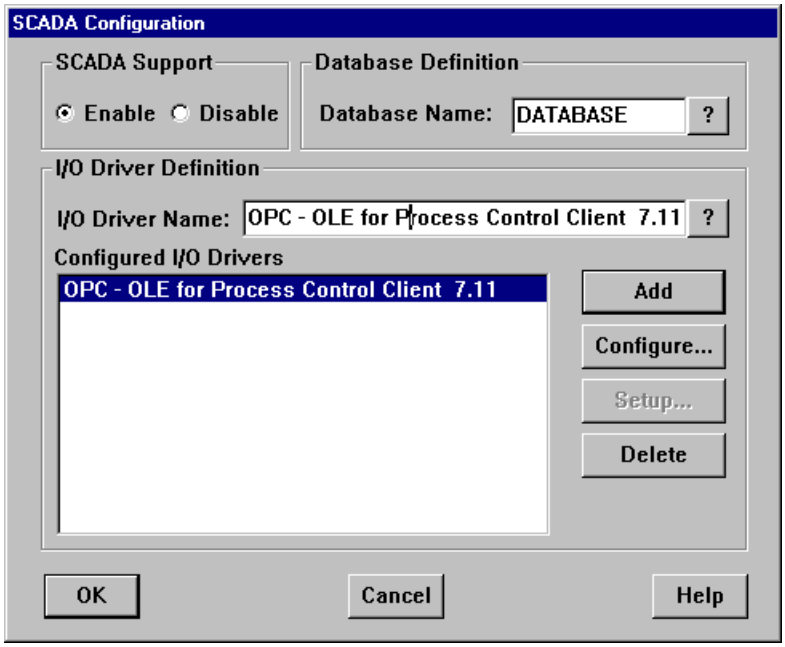


3. In the SCADA Configuration dialog, "Scada Support" area, click on the Enabled radio button. This will activate the Database Definition section and the I/O Driver Definition. For our example we will accept the default Database Definition

4. Click on the I/O Driver Name selection button under I/O Driver Definition to see a list of available drivers.
5. Select the "OPC – OLE for Process Control Client and click OK.

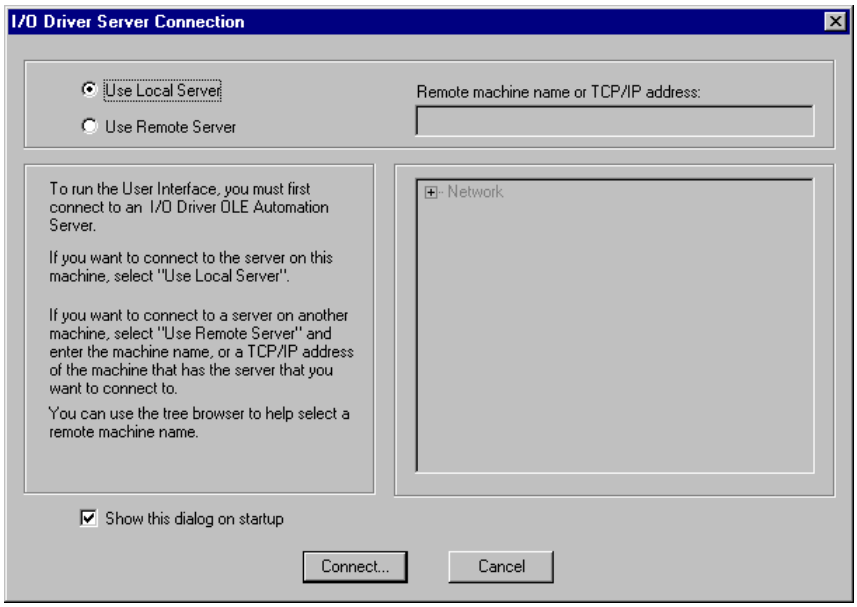


6. Click Add to place the OPC Client driver into the list of configured drivers for this project.

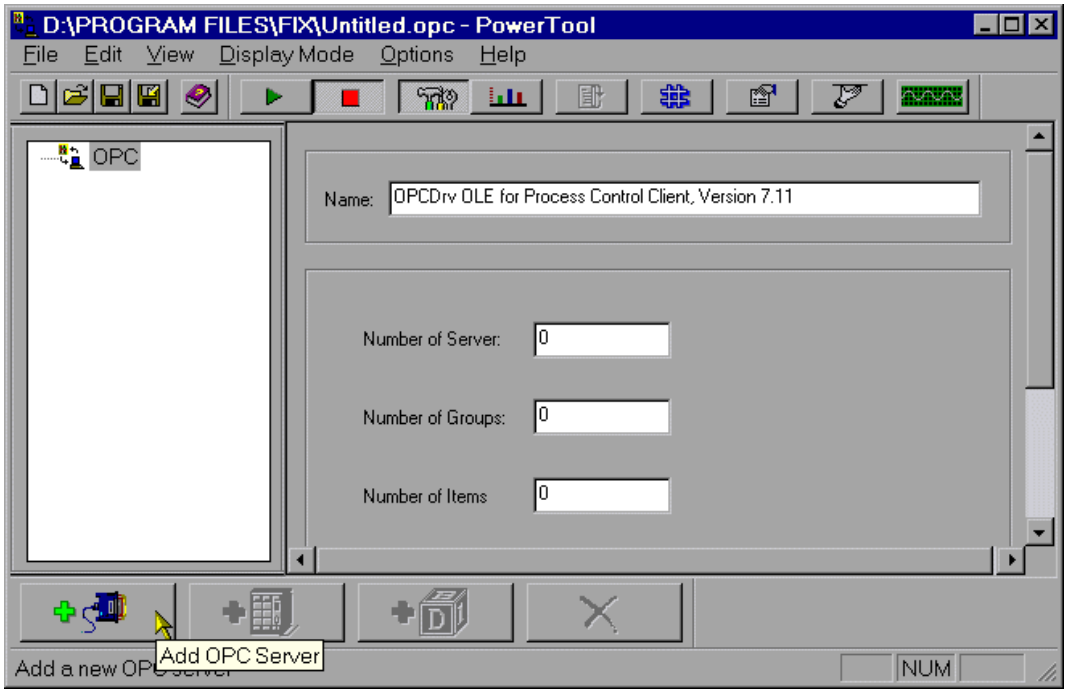


Enable the Fix OPC Client

1. Highlight the driver in the list and then click on Configure… to set it up.



2. In the I/O Driver Server Connection Window, enable the Use Local Server radio button and click the Connect… button to connect to the OPC Client Driver in iFix.

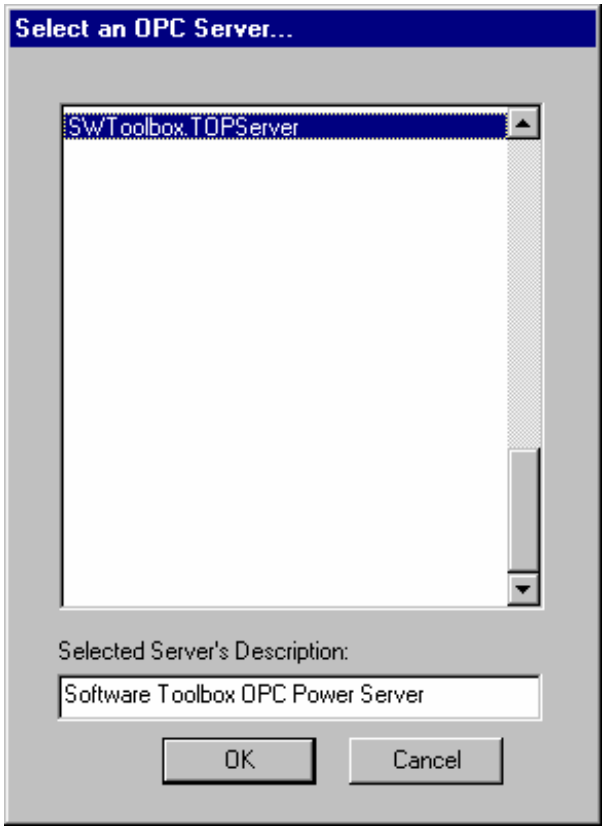


Add a Server to the OPC PowerTool

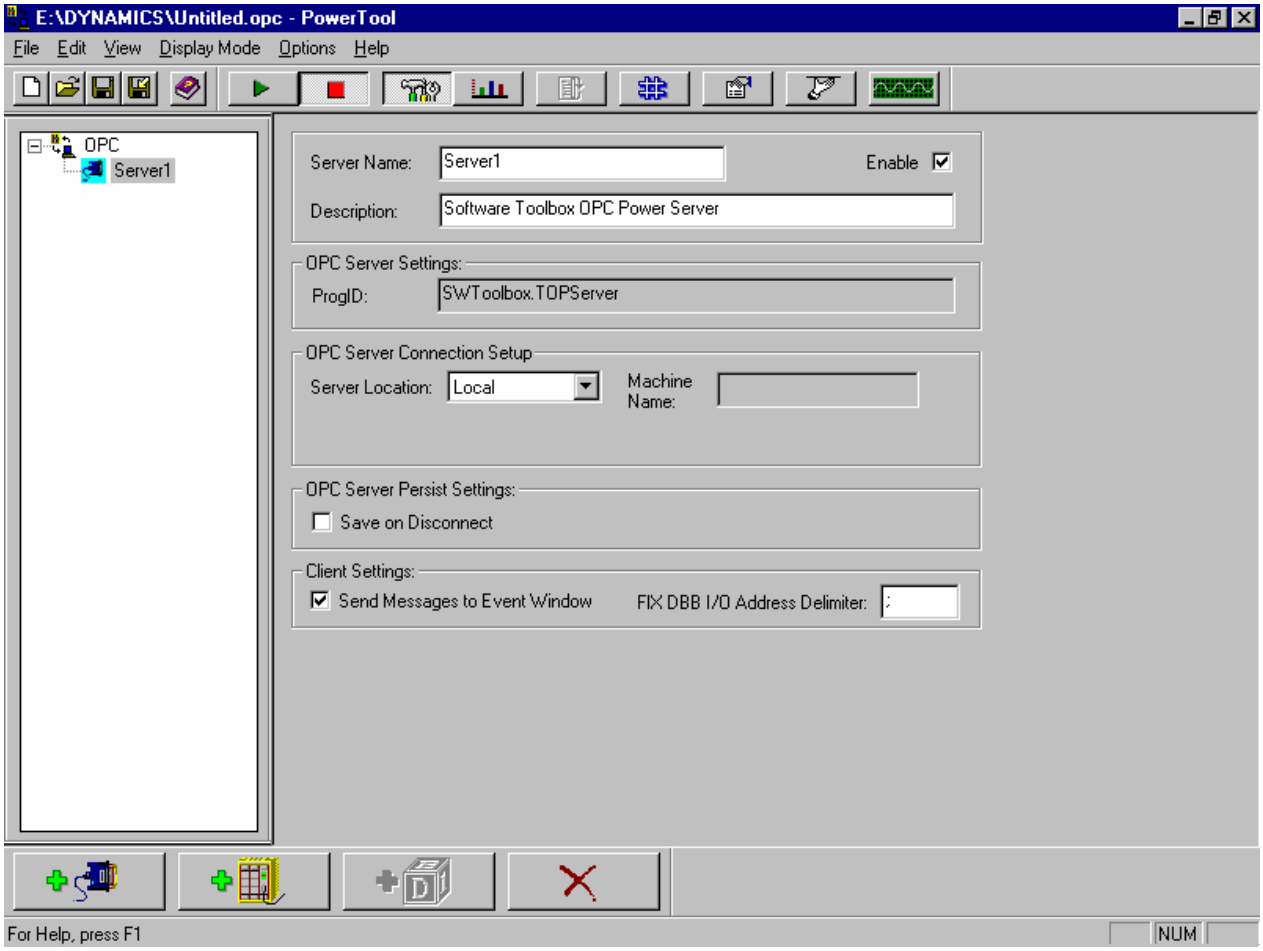
1. In the OPC PowerTool window you will add the OPC Server(s) that you wish to connect to, Tag Groups related to those servers, and Tags within each Tag Group. To start you will need to add an OPC Server.

Browse for Available Servers

1. Click the Add Server button located in the lower left-hand corner of the OPC PowerTool window, located first from the left.



2. Select an OPC Server from the browser window and click OK. In our example we have only one server loaded on our machine, the Software Toolbox OPC Power Server or "TOP Server" – whose ProgID is SWToolbox.TOPServer
3. When you do this, the TOP Server will automatically start if not already running and load the last used configuration it had in memory. If you have NEVER run the TOP Server before, you will need to switch to the TOP server task and open a project. We suggest for this sample that you use the SimDemo.opf configuration found at \Program Files\Software Toolbox\TOP Server\Projects on your hard drive as it contains a number of simulated tags for testing.

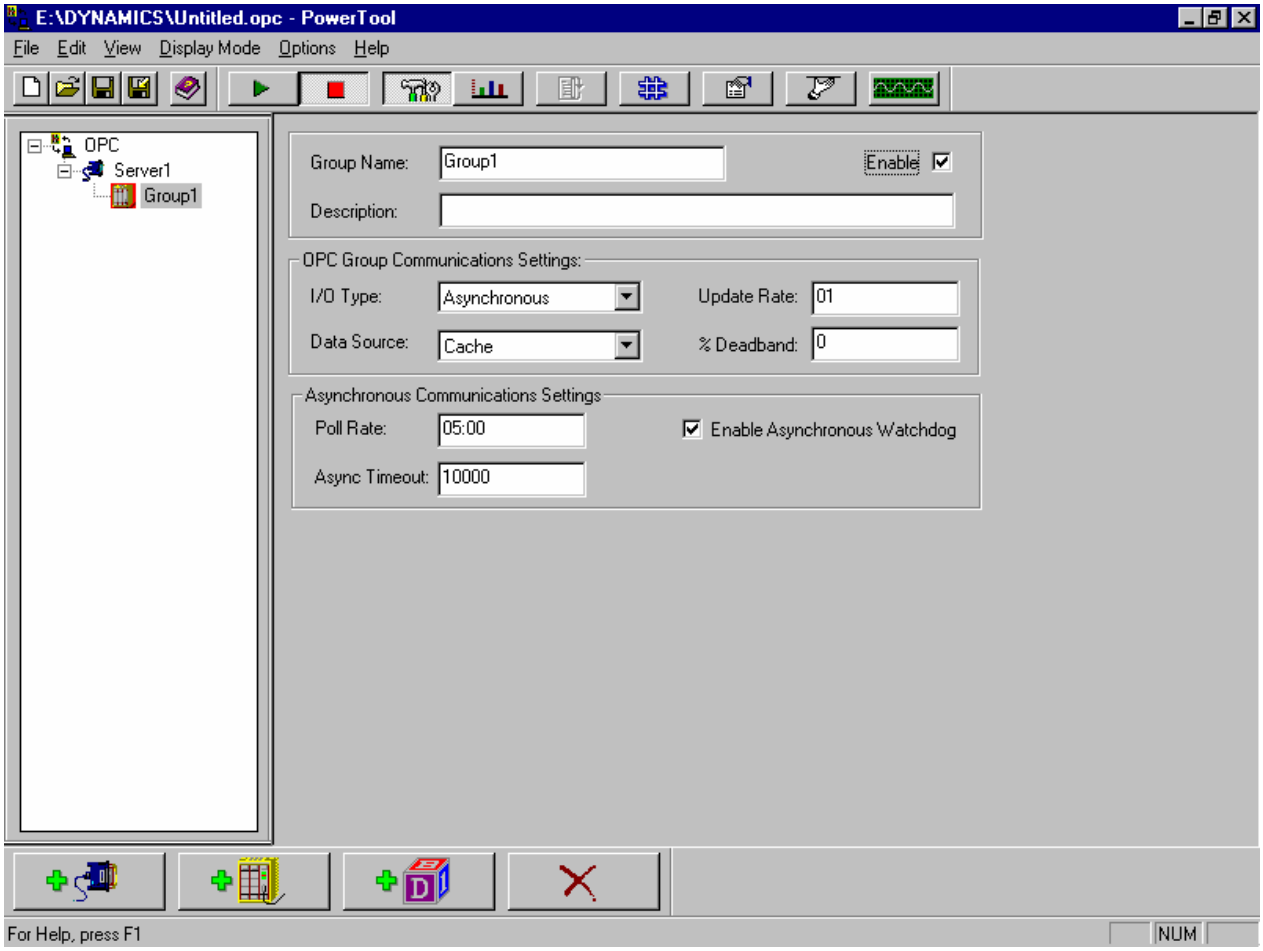


4. Enter a Server Name and Description to identify the server within iFix.
5. Make sure Enable is checked, otherwise you will not be able to communicate with any devices in this server.

6. Leave the Save on Disconnect box unchecked. The TOP Server does not support this function. Leave the Client Settings at their default.

Add an OPC Group

1. Next, click the Add Group button located at the bottom left-hand side of the OPC Power Tools window, second from the left.



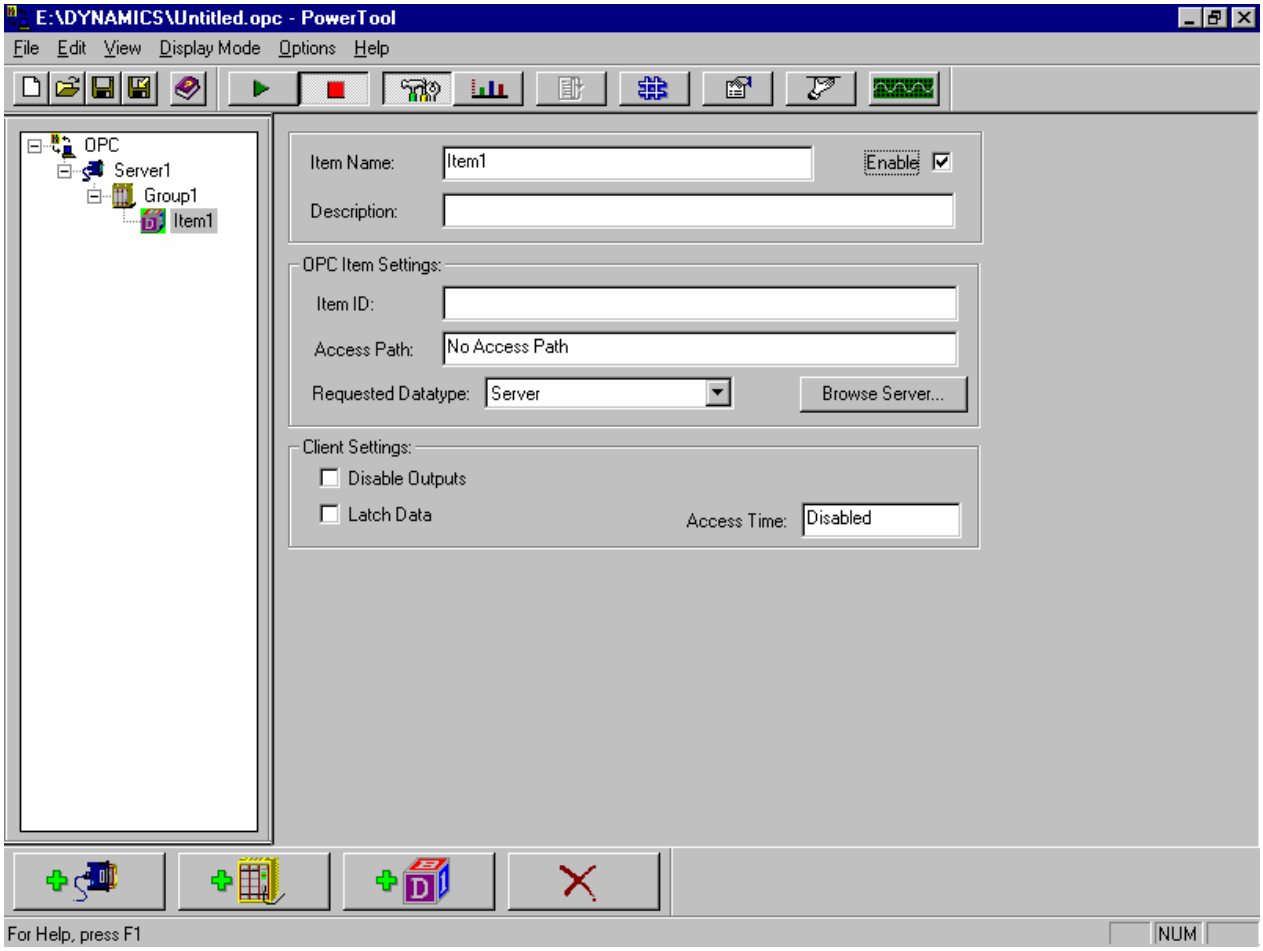
2. Enter a Group Name and Description to identify the tag group in Fix Dynamics.
3. Make sure you check the Enable box. Otherwise, you will be unable to communicate with the group or any items attached to it.

4. Select Synchronous or Asynchronous as an I/O Type.
5. Select Cache as a Data Source type. Cache reads are typically faster and recommended.

6. Set the Update Rate, % Deadband, and Poll Rates as your project requires. See the Intellution OPC Client Driver Help file for more information.

Add an OPC Item/Tag

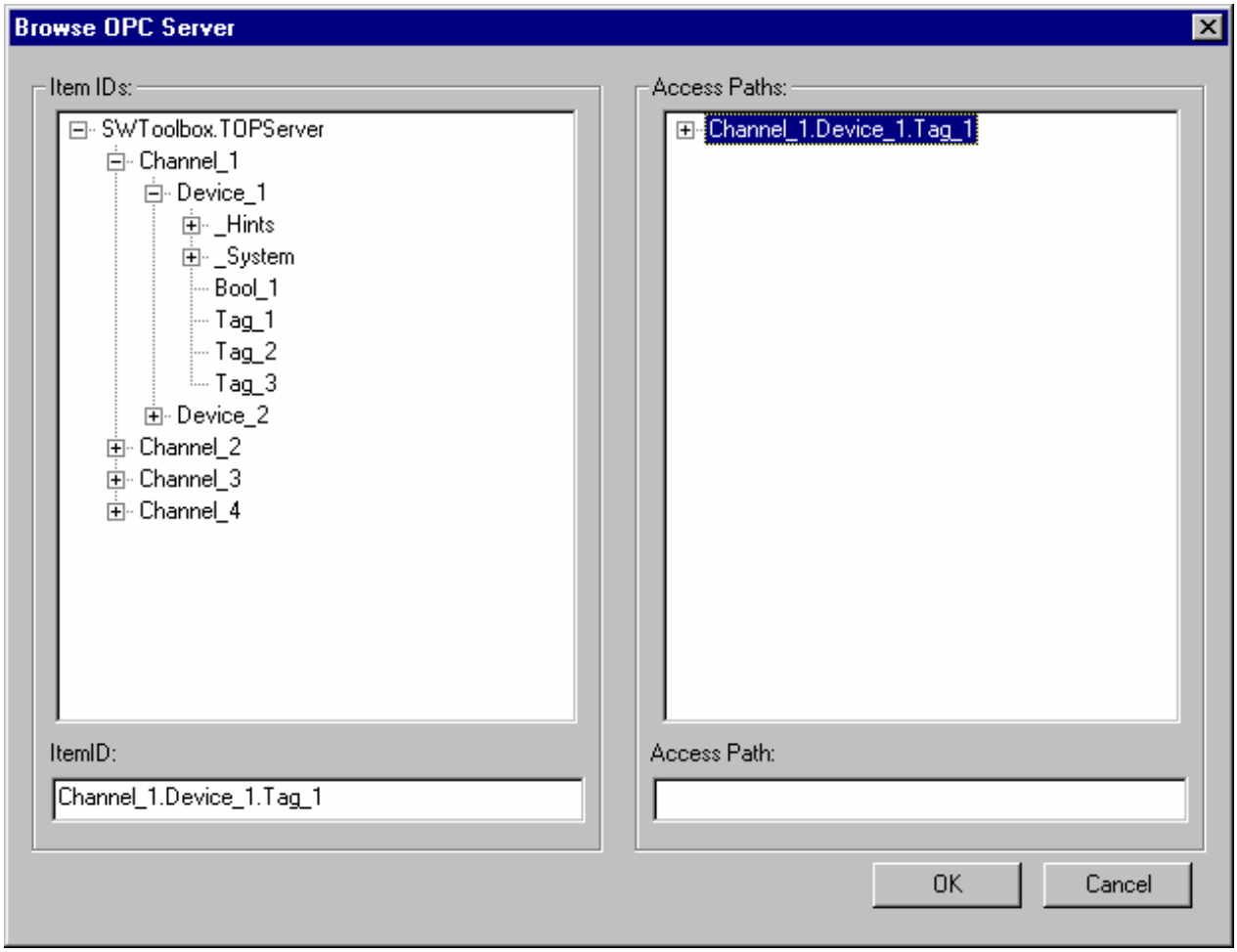
1. Next, click the Add Item button located at the bottom left-hand side of the OPC Power Tools window, third from the left.



2. Enter an Item Name and Description to identify the tag group, in iFix
3. Make sure you check the Enable box. Otherwise, you will be unable to communicate with the item. You may also wish to set the requested Data type. If you leave the setting as “Server” then the data type of this item will be the Native Data type in the OPC server for this item. If you change it, the OPC client will tell the server “give me the data formatted as this data type” when the client requests the data from the OPC server.

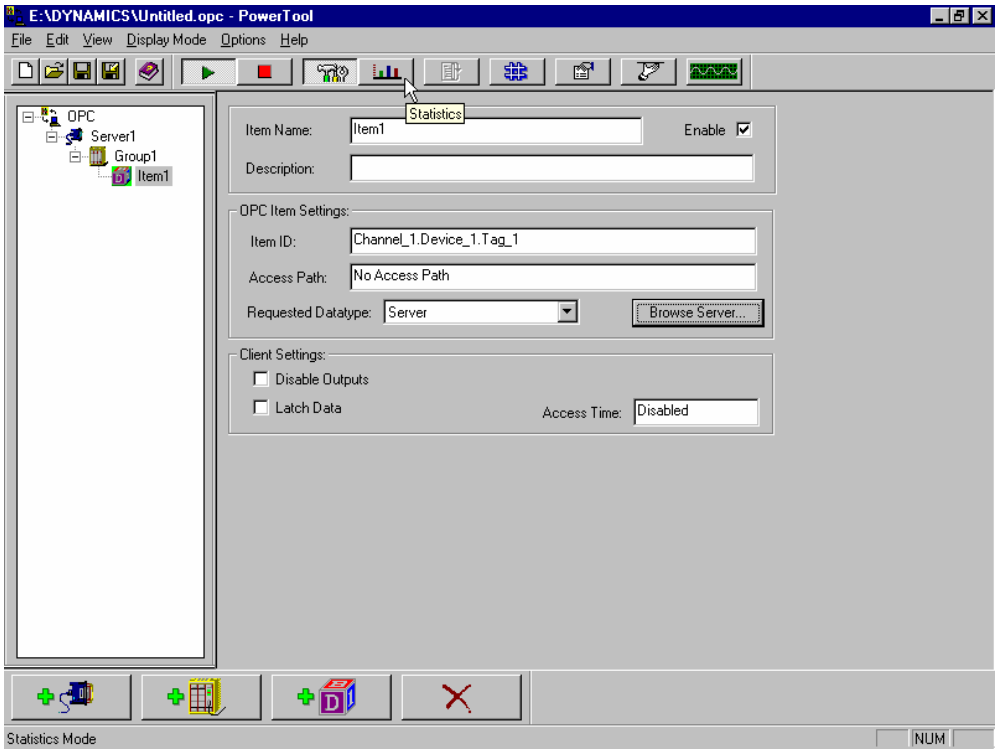
Browse for Available Tags

1. Click on the Browse Server button to select an Item Id or User Defined tag.

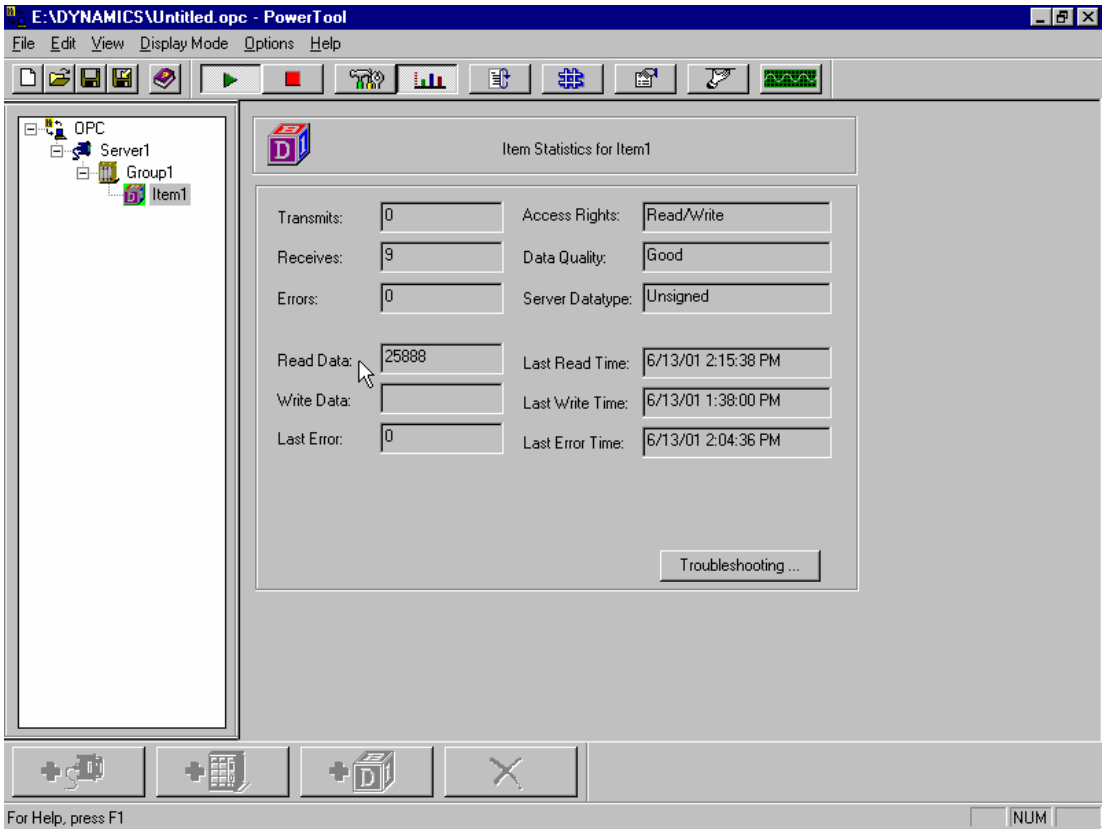


2. Select an ItemID from the server tree list and click OK. (Leave Access Path blank.)
3. **Note that you do NOT have to configure tags in the TOP Server in order to use it!!!** – You can specify a tagname to be created "on the fly" in the ItemID field by specifying ChannelName.DeviceName.PLCAddress@DataType . You have to at least setup the Channel name and Device Name in the TOP server but from there you can go on the fly. For the valid values for PLCAddress and DataType, see the topics "Addressing" and "Data Type" in the specific help file for the driver you are using on the TOP Server. You can type this into the ItemID field shown above OR in the OPC Item Settings section in the OPC Client Driver.

4. Click Save to save the server setup you have just created.



5. Once you have saved you can click Start and then click Statistics to be able to verify your connection to the server. If communications is successful you will see no errors and live data in the "Read Data" filed as shown below.



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