# Project Example Using Lookout*Direct* as an OPC Client

Introduction

The following is an example of how the KEP*Direct* EBC I/O Server allows you to connect your device with your favorite OPC Client. For this example, we are using the **AUTOMATIONDIRECT** HMI OPC Client within Lookout*Direct*. If you do not have this OPC Client, a demo of Lookout*Direct* is available on the Software Product Showcase CD where the KEP*Direct* program is located. Insert the CD and install the demo version of Lookout*Direct*.

Step 1: Launch the Lookout*Direct* OPC Client and Open an Example

After the Lookout*Direct* demo or full version is installed on your computer, click on the Lookout*Direct* icon to launch the Lookout*Direct* software.

When Lookout*Direct* launches, a blank window opens with a menu bar on the top left corner of the window as shown to the right. From the menu, select **File**, then **Open**. See the figure to the right.
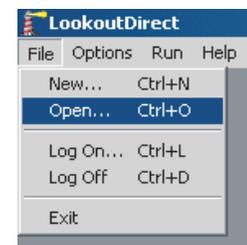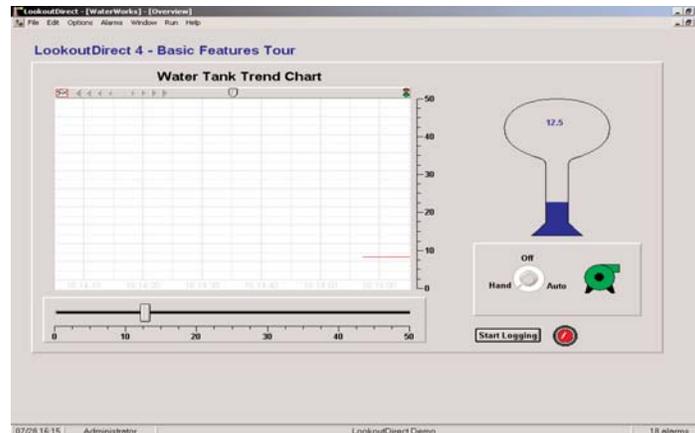
This opens the **Open Process File** window below which allows you to select one of the process file examples included with Lookout*Direct*. Cick on the **Waterworks** example indicated in the window below.
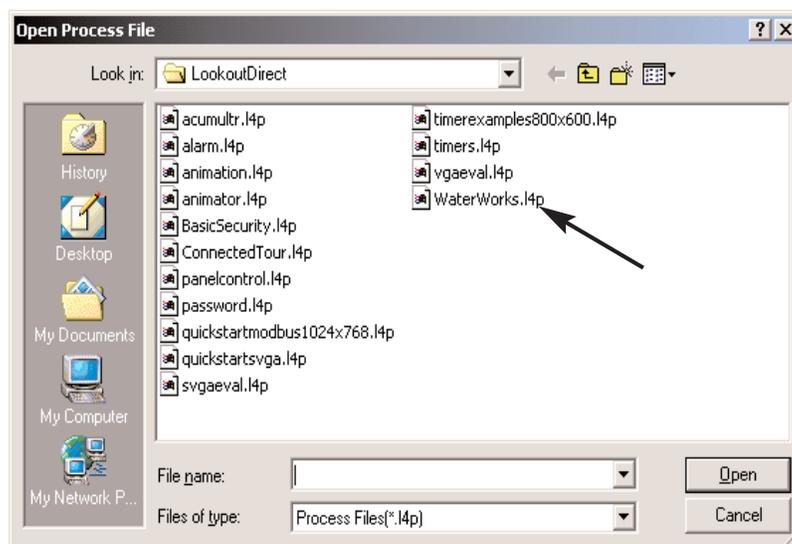
Step 2: Set the Process File to Edit Mode

The **Waterworks** process file below opens.

From this menu bar, select **Edit > Edit Mode** to set the screen to allow editing. The screen can also be toggled between **Edit** and **Run** by pressing CTRL - Space at the same time.

Step 3: Create the OPC Client Object

From the menu bar, click on **Object** and then click Create from the drop down menu. This opens the **Select Object Class** window shown below.

Click here to select the OPC Client
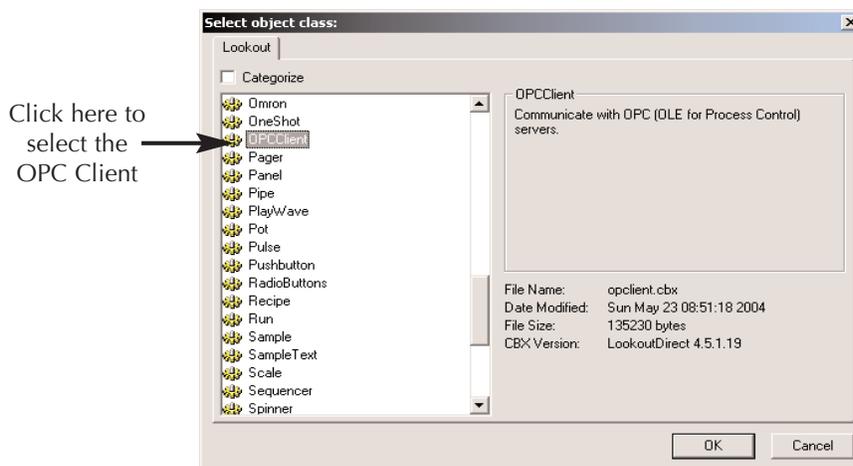
From the categories list, click on the **OPC Client** option to select. The item will be highlighted after it is selected. Once selected, click **OK** to accept the selection and continue to the next window.

Step 4: Select the Location for the New Object

The **Select Location** window, like the one on the right, will open. From this window, select **Waterworks** and click the **OK** button.

Select Waterworks
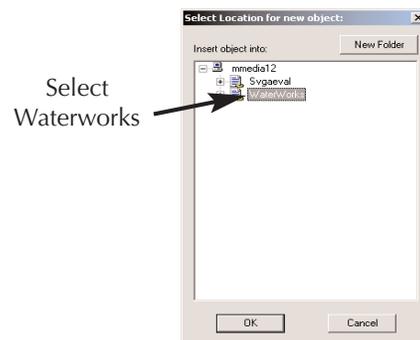
Step 5: Select the OPC Client Server

The **Create OPC Client** window shown below opens to allow the server selection. Click on the **Server Name** down arrow to display a list of available servers. From this list select the **AutomationDirect KEPDirect Server**. After selecting this server, click **OK** to accept the selection.
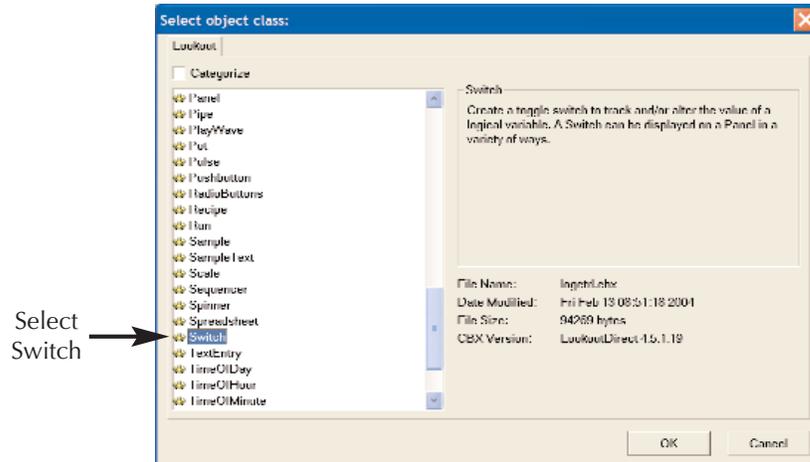
The initial **Waterworks** window is displayed again with no noticeable change.

Click here to select a server from list
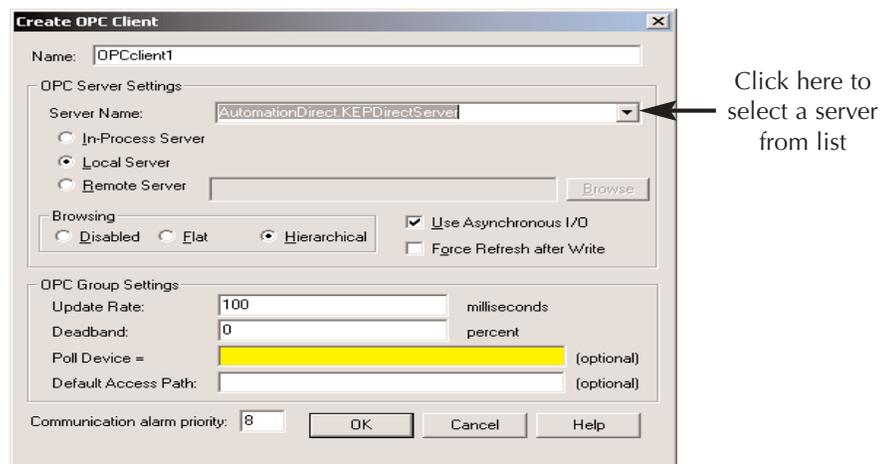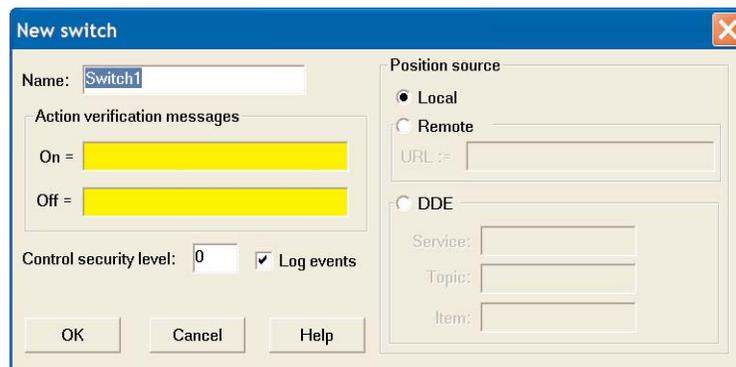
Step 6: Create a New Object

From the menu bar, select **Object > Create**. This will open the **Select Object Class** window shown below.

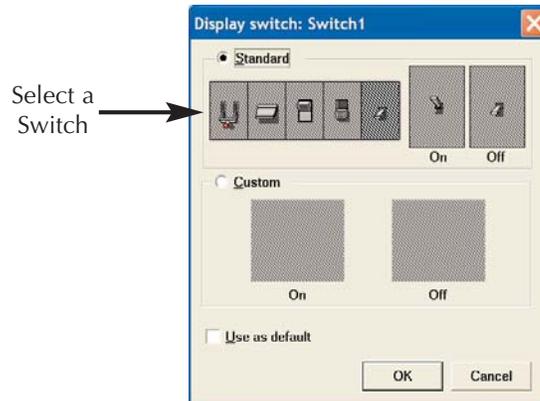Select **Switch** from the list, then click the **OK** button.

Step 7: Accept the New Switch Window

The **New Switch** window, below, will open. Leave this window as it is and click the **OK** button.

Step 8: Select a Switch

The **Display Switch** window opens next. Select one of the available switches or just accept the default switch by clicking the **OK** button.

Select a
Switch →

If a switch other than the default switch is selected, click **OK** to accept the switch selection. Once **OK** is pushed, the **Display Switch** window will close and the **Waterworks** screen will appear again. The switch just selected should now be displayed on the **Waterworks** screen. The switch can be dragged and placed anywhere to your liking on the **Waterworks** screen.


The new
Switch
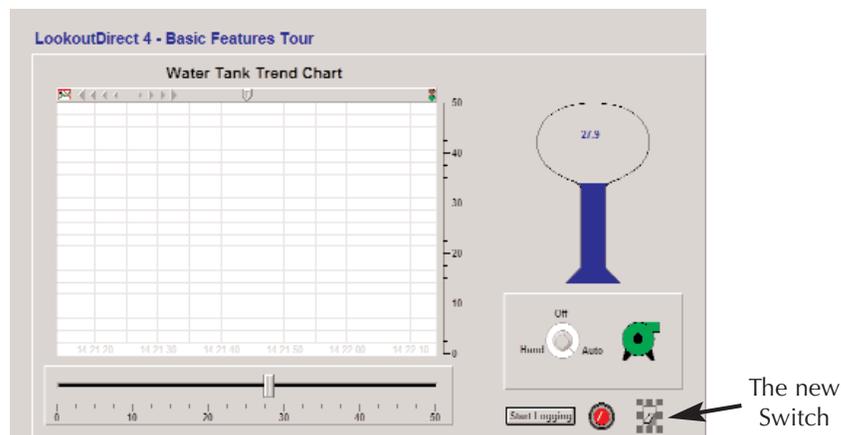
Step 9: Select the Object to Connect

Now that a virtual switch is installed on the panel, the switch needs to be virtually "wired" in order to make a connection with the device.

From the **Waterworks** screen menu bar, click on **Object**, then from the drop down menu click **Edit Connections**.

The **Edit Object Connections** screen shown on the right will open. From this screen, select **OPC Client** from the list and click **OK** to accept the selection.
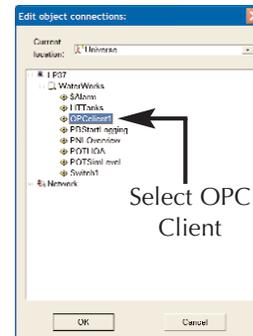
Select OPC Client

Step 10: Select the Device for Connection

The **Edit Object Connections** window closes and the **OPC Client Connections** window, below, opens.

Select device

Select button and output information
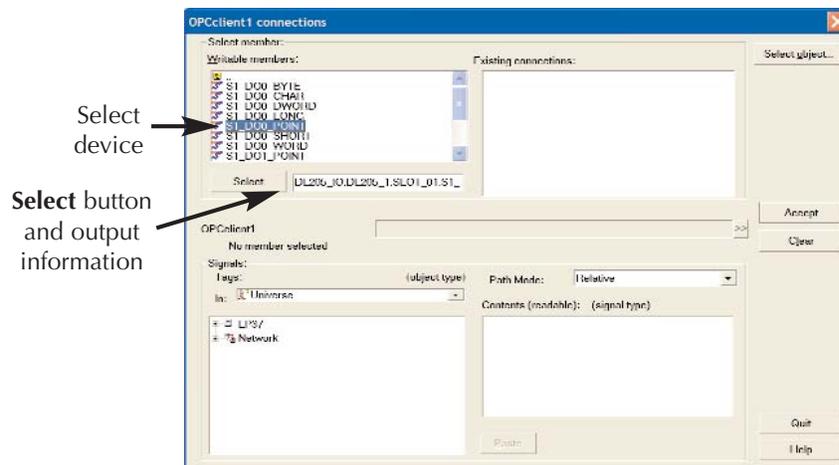
From the top left list, click on the device with the slot number and output point you want to use for your sample project. The output point will be highlighted. Now click on the **Select** button. The information for the output point will be displayed next to the **Select** button.

Step 11: Select the Switch for the Output Point

From the bottom left list, click on the switch just installed to select it as shown below. Once selected, click on the **Paste** button and the reference information for the switch will be displayed on the address line . See the figure below.
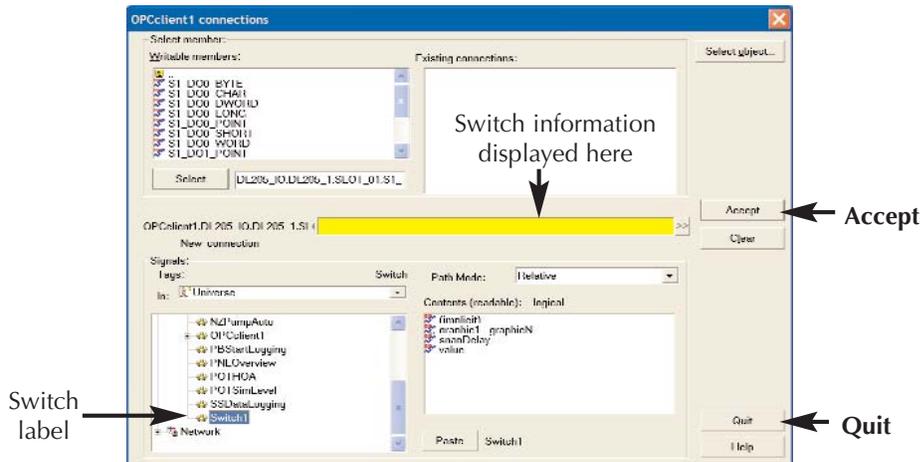
Once the switch reference text is shown on the address line, click on the **Accept** button to accept the output point and switch selections. Clicking on **Quit** will close the **OPC Client Connections** window.

Step 12: Test the Connection

The **Waterworks** screen now displays the new switch. To test the connection, press control key and the space bar at the same time to exit the **Edit Mode**. You may also click on **Edit** on the menu bar, then click on **Edit Mode** from the drop down menu to exit.

Place the cursor on the new switch and click on it. This should "flip" the switch to the ON position and the indicator for the output point on your test unit should light up. Click the switch again and it will "flip" to the OFF position and the output point indicator will turn off.

Your Connection Was Successful!

NOTE: Remember that KEP**Direct** must be running and your device (EBC I/O Node) must be powered up and linked to the server PC.

Step 13: Setup an Input for the Switch

Now we will create an input indicator object that displays when the switch or output is ON or OFF.

Press control and space bar to set the screen to **Edit Mode**. Click on **Insert** on the menu bar, then select **Expression** from the drop down menu. This opens the **Insert Expression** window shown below.

Select the I/O device from the Waterworks tree on the left half of the window by clicking on the slot number. Once the slot is selected, the available output points will be displayed on the right half of the window for the selected slot.

From this list select the output point that had been selected in the previous steps for the new switch. Once the output point is selected, it will be highlighted as shown below. Click on the **Paste** button to display the address for the selected output point.
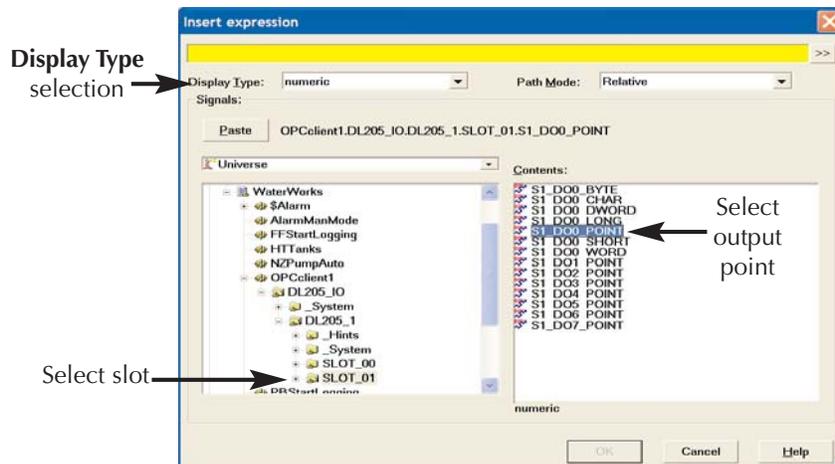

One more selection needs to be made. Click on the down arrow next to the **Display Type** window to view the availble options. Select **Logical** from the drop down list, then click on the **OK** button to accept all selections.

Step 14: Select Indicator

The **Display Logical Signal** window will open. Chose one of the available indicator selections or accept the default selection by clicking the **OK** button.
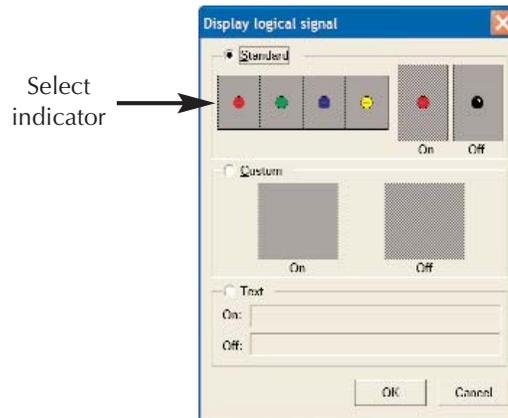
Select indicator →

If an indicator other than the default is selected, click **OK** to accept the selection. The **Display Logical Signal** window will close and the **Waterworks** screen will be displayed. The indicator just selected should be displayed on the screen. You can click on the indicator and drag it to place it next to the new switch created in the previous steps.
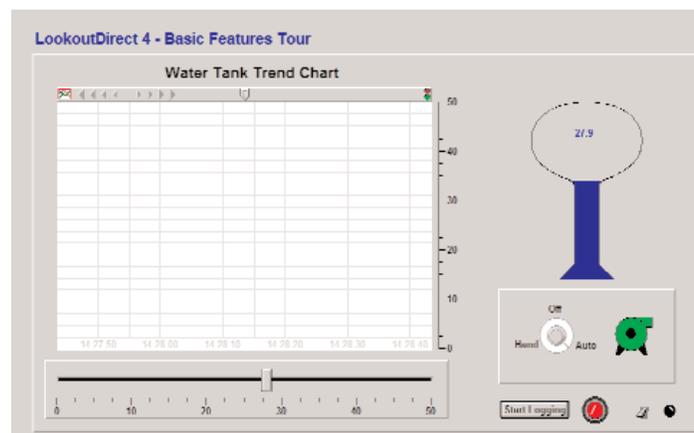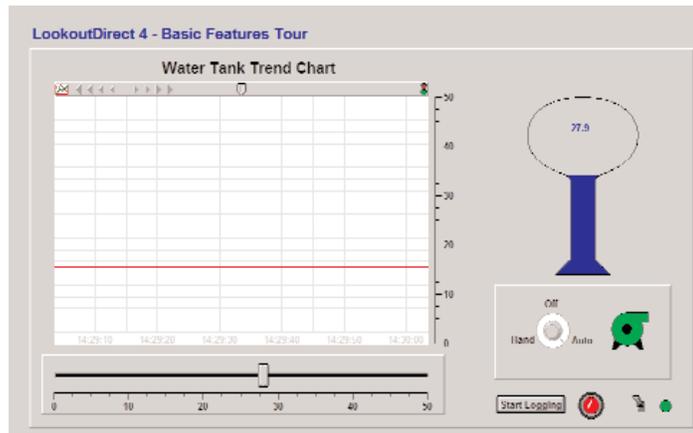

New switch and indicator

Step 15: Test the Installed Switch and Indicator

The new switch and indicator just installed on the displayed **Waterworks** screen can now be tested. To test the connections, exit the **Edit Mode** by pressing control and space bar.

Place the cursor on the new switch and click on it. This will "flip" the switch to the **ON** position, the new indicator will also turn **ON**. The output point indicator on the EBC I/O device which was selected should be **ON**. The figure below shows how the screen should look.

Click on the switch again and it will "flip" to the **OFF** position, turn off the new indicator and the EBC I/O point indicator will turn off.

Your Connection Was Successful!

NOTE: Remember that Kep**Direct** must be running and your device must be powered up and linked to the server PC.