Connectivity Guide

KEPServerEX® and ObjectAutomations OAenterprise™

1. Overview and Requirements

This guide will demonstrate how to establish a connection between the KEPServerEX OPC server and an ObjectAutomations OAenterprise™ runtime project. Users must complete the following before continuing with this tutorial:
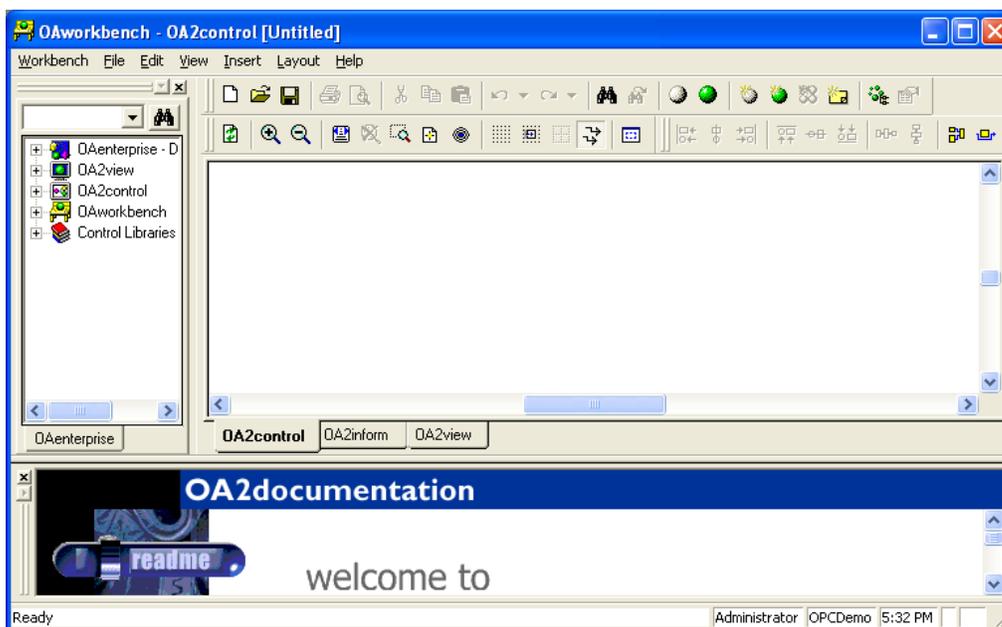
- Configure a server project. Users may either select the appropriate driver and settings or run the **Simulation Driver Demo** that is included with KEPServerEX. The Simulation Driver Demo project will be used for all examples in this tutorial.

- Start KEPServerEX and load the Simulation Driver Demo project. Once the server project has been loaded, open the Runtime menu on the main menu bar and verify that the server project has been connected.

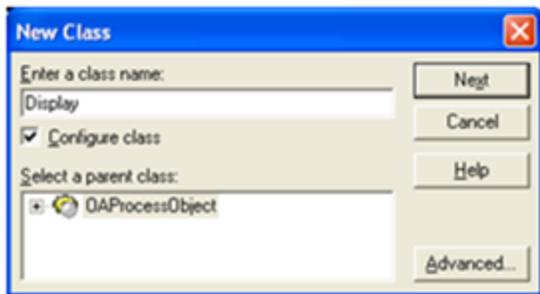# 2. Using OAenterprise™ as an OPC Client

For information on connecting to KEPServerEX from OAenterprise™ as an OPC client, follow the instructions below.

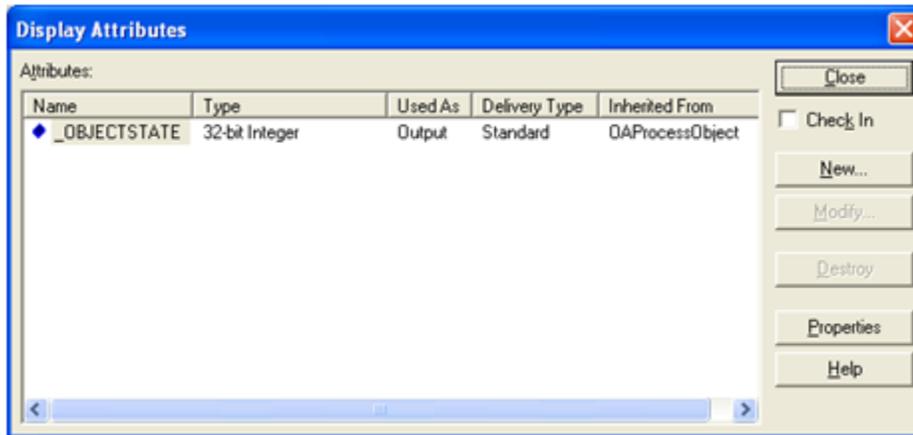🌱 **Tip**: OAenterprise™ version 5.1 is used in this tutorial.

1. To start, open OAworkbench.
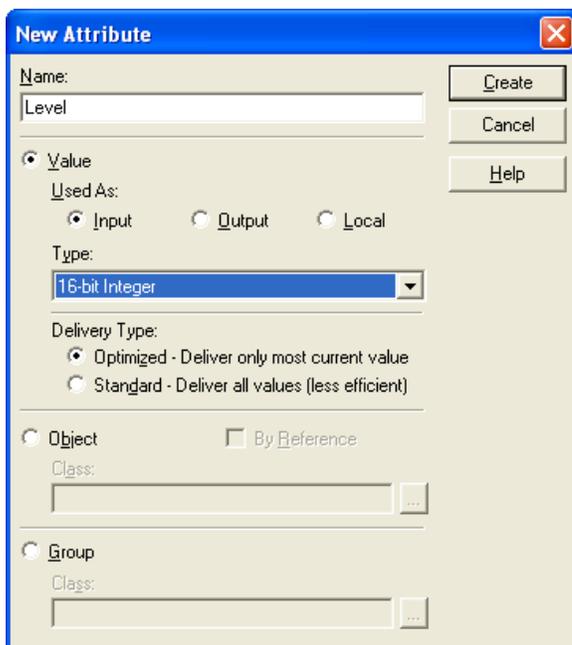2. Create a new workspace or open an existing one.

3. In the tree browser, expand **OAenterprise**. Then, right-click on **Classes** and select **New Class**.
4. Enter a class name and select the parent class.
5. Verify that **Configure class** is checked and click **Next**.

6. In **Display Attributes**, select the new class object.

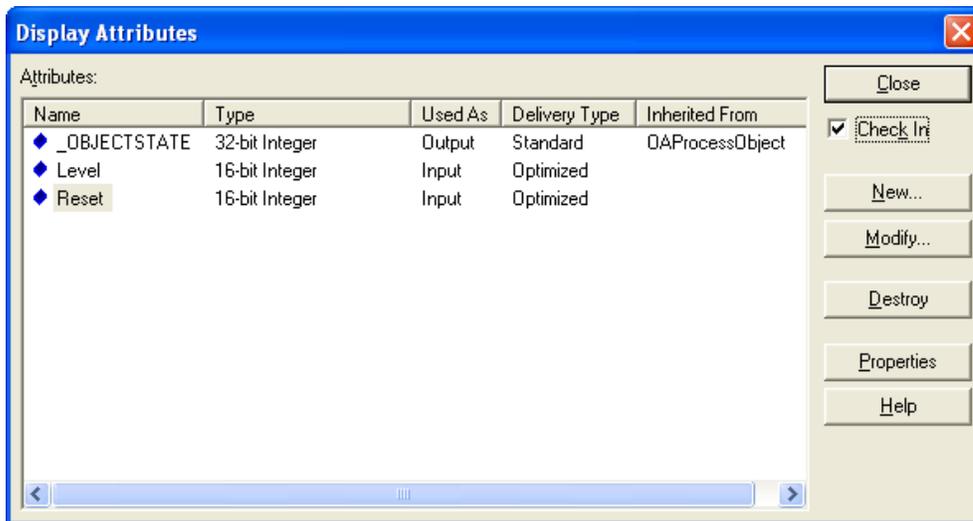7. To add a new attribute, click **New...**.

8. In **New Attribute**, change the parameters as follows:

   - Enter a name. In this tutorial, "Level" is chosen.

   - Select **Value**, specifying how it will be used. In this tutorial, "Input" is chosen.

   - Select the object data type.
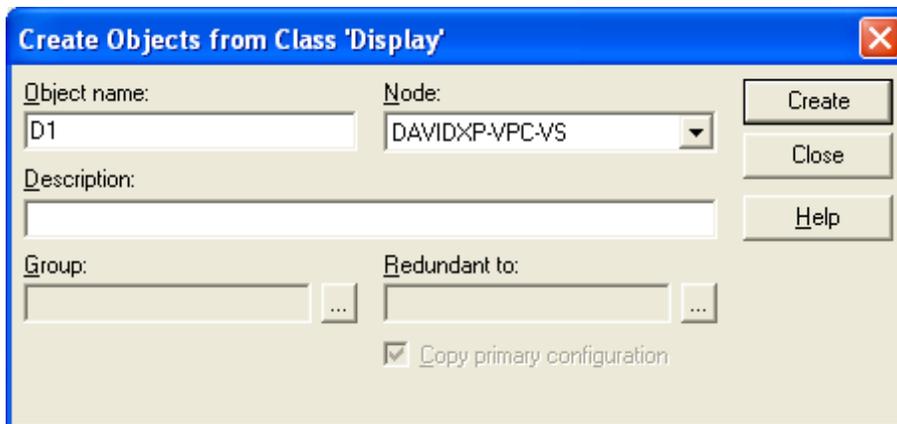
9. Once finished, click **Create**.

🔸 **Tip**: Additional attributes can be added to the object. In this tutorial, an attribute named "Reset" was added in order to write back to the object.
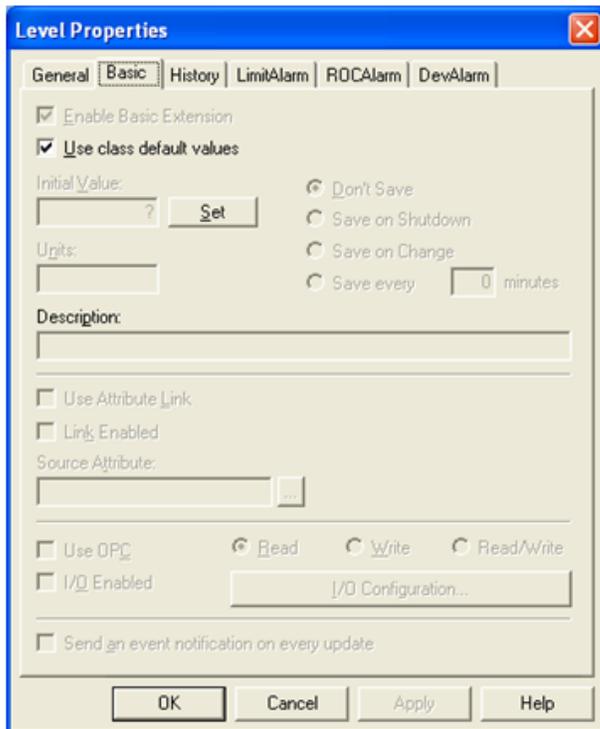
10. Once all the desired attributes have been added for the class, check **Check in**.
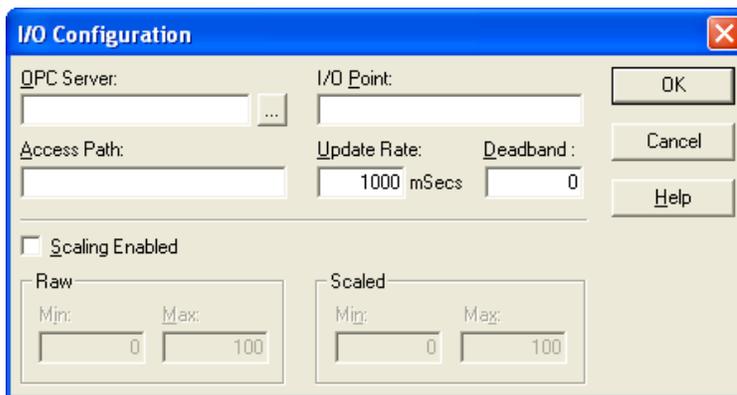
11. Click **Close**.

12. Right-click on the new class and select **Create Object From**. This creates the object.

13. Beneath **Object Name**, enter a name for the new object.

14. Click **Create**.
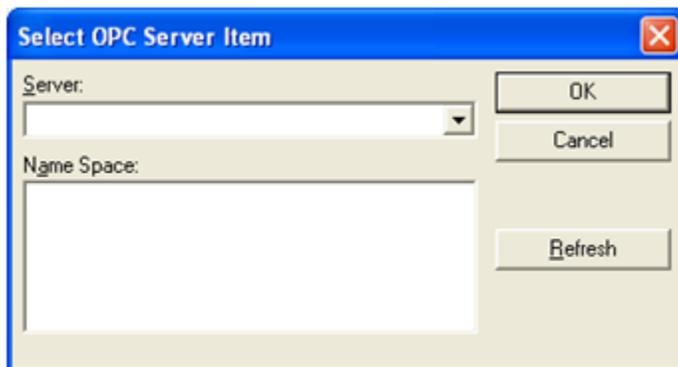
15. Once finished, click **Close**.

16. In the OAworkbench tree browser, under **OAenterprise** | **Objects**, expand the object to display the attributes.

17. Right-click on an attribute and select **Properties**. In this tutorial, the attribute selected is "Level."

18. Select the **Basic** tab and change the parameters as follows:

- Uncheck **Use class default values**.

- Check **Use OPC**.

- Check **Read** or **Write**, depending on the attribute's intention.

19. Once finished, click **I/O Configuration**.

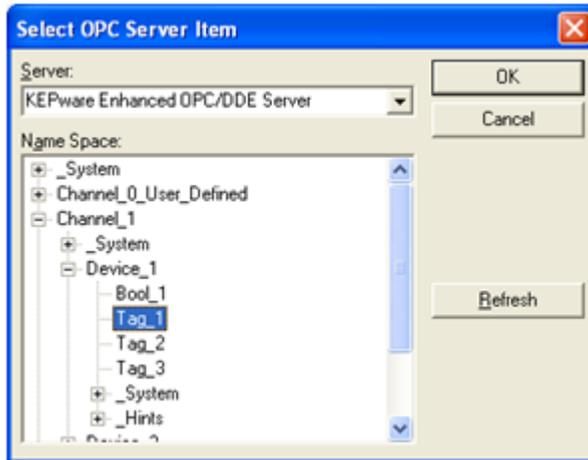20. In **I/O Configuration**, click the OPC Server browse button.

21. Locate and select the server desired for connection. In this tutorial, **Kepware Enhanced OPC/DDE Server** (which has a Program ID of "Kepware.KEPServerEX .V4") is selected. KEPServerEX V5 has a Program ID of "Kepware.KEPServerEX .V5."
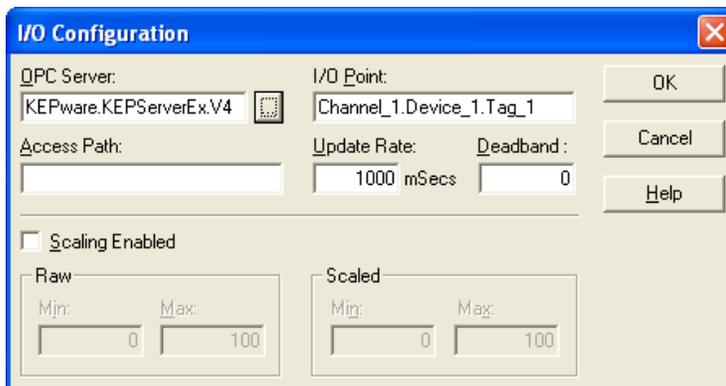

22. In **Select OPC Server Item**, expand the tree list beneath **Name Space** to locate the access path containing the I/O point to be associated with this attribute. In this tutorial, "Channel_1.Device_1.Tag_1" is selected.
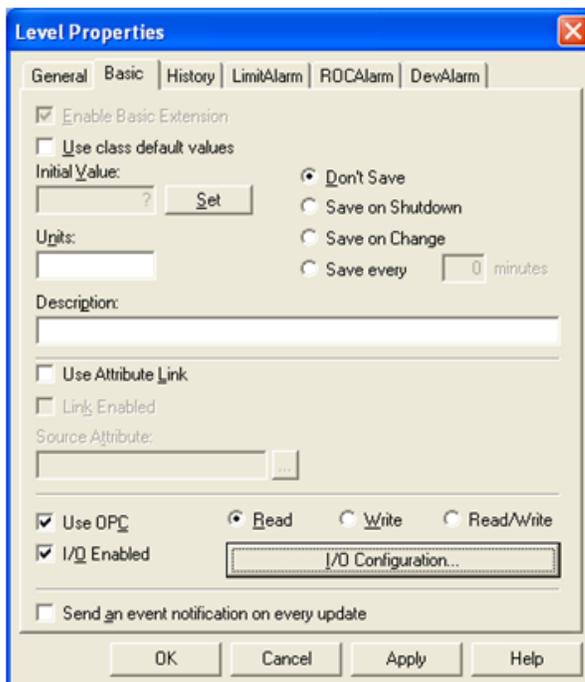
23. Once finished, click **OK**.

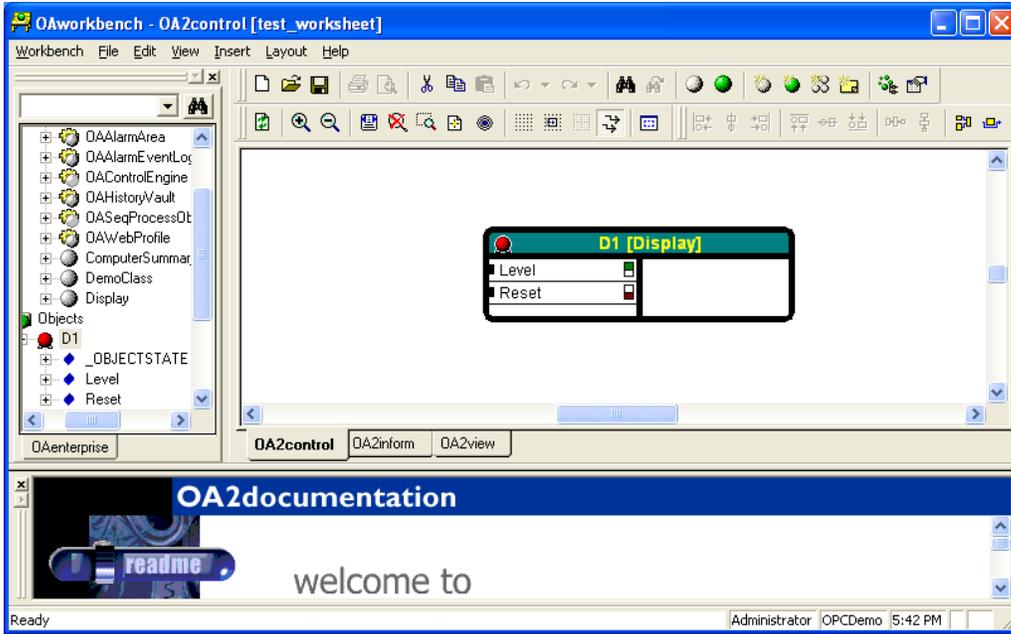24. In **I/O Configuration**, click **OK**.

25. In **Level Properties**, click **OK**.

26. Repeat the last steps as necessary for any other attributes.

27. Return to the OAworkbench.

28. Locate the object beneath **Objects** and drag it to the work area.

29. Next, complete the following:

- Right-click on the object header and select **Watch On**.

- Right-click on the object header and select **Start and Set Online**. This starts the object and establish OPC connections.

- Right-click on the attribute configured for write I/O and select **Value**. This allows data to be written to the OPC item for that attribute.

30. Next, enter a new value and click **Set**.

31. Once the write to the OPC item completes, click **Close**.