Tech Note 377
Configuring FactorySuite® Gateway for Communication Between an OPC Client and a SuiteLink™ Server

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Introduction

This Technote can be used as a reference to configuring communication between any OPC Client and any SuiteLink Server.

FactorySuite Gateway (FSGateway) is an application that acts as a protocol converter which can be used to link clients and data sources that communicate using different data access protocols.

This technote explains the configuration required to enable OPC Client access to a SuiteLink IO Server.

Assumptions

- Industrial Aplication Server's OPC Proxy Object is used as the **OPCClient** and Wonderware's **MBENET IO Server** as the SuiteLink Server for this example.
- FSGateway is on the same node as the platform that contains the OPCClient object in IAS.
- The MBENET IO Server will be on a different node and will be configured with a topic named "quantum" that will point to a PLC. Configuration of the MBENET IO Server is outside the scope of this tech note.
- This Technote assumes a thorough knowledge of Industrial Application Server and Wonderware IO Servers.

Configuration of FSGateway and Industrial Application Server's OPC Proxy object is explained in the following section.

Configuring FSGateway

1. Launch the ArchestrA **System Management Console** (SMC).
2. Expand the **DAServer Manager** icon.
3. Expand the Local/ArchestrA.FSGateway.1 and highlight **Configuration** (under ArchestrA.FSGateway.1).
4. Right-click **Configuration** and select **Add SuiteLink Object** from the sub-menu.

   You can rename the SuiteLink Object at this point. For this example, we chose

MBENET_OPC as the name of our SuiteLink Object.

• The **Server Name** is the name of your SuiteLink Server (mbenet).

• The **Server Node** is the name of the computer where the SuiteLink server is installed.

5. Save the configuration by clicking the disk icon in the upper right corner:

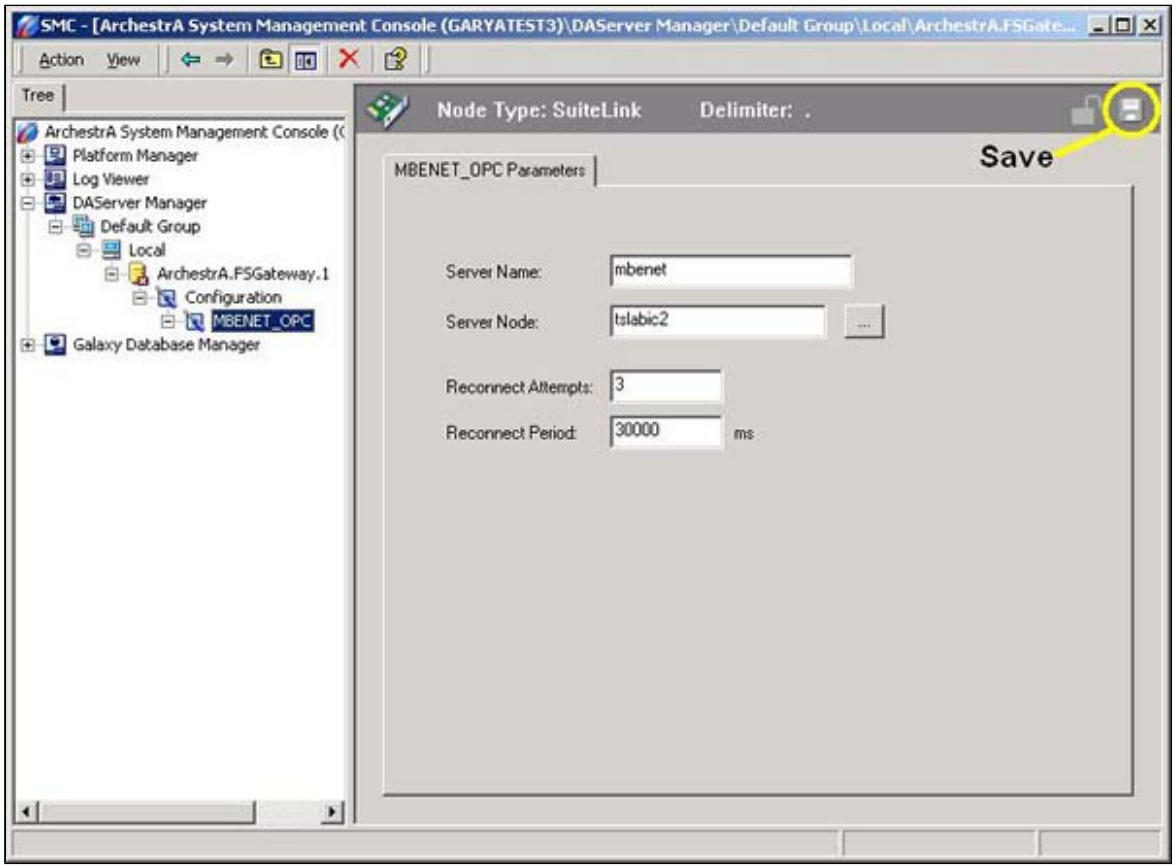

FIGURE 1: SAVE THE CONFIGURATION

6. Right-click the **MBENET_OPC SuiteLink** object and select **Add Topic Object**.

   You can rename the topic object at this point. For this example, we chose **quantum** as the name of our topic object because the MBENET IOServer has a topic named **quantum** that is configured to communicate to the PLC.

   Note: if the name of the topic object is different from the name of the topic configured in the SuiteLink server, you will need to check the **Change Topic Name** box and enter the topic name configured in the SuiteLink Server.

7. Save the configuration by clicking on the disk icon in the upper right corner.

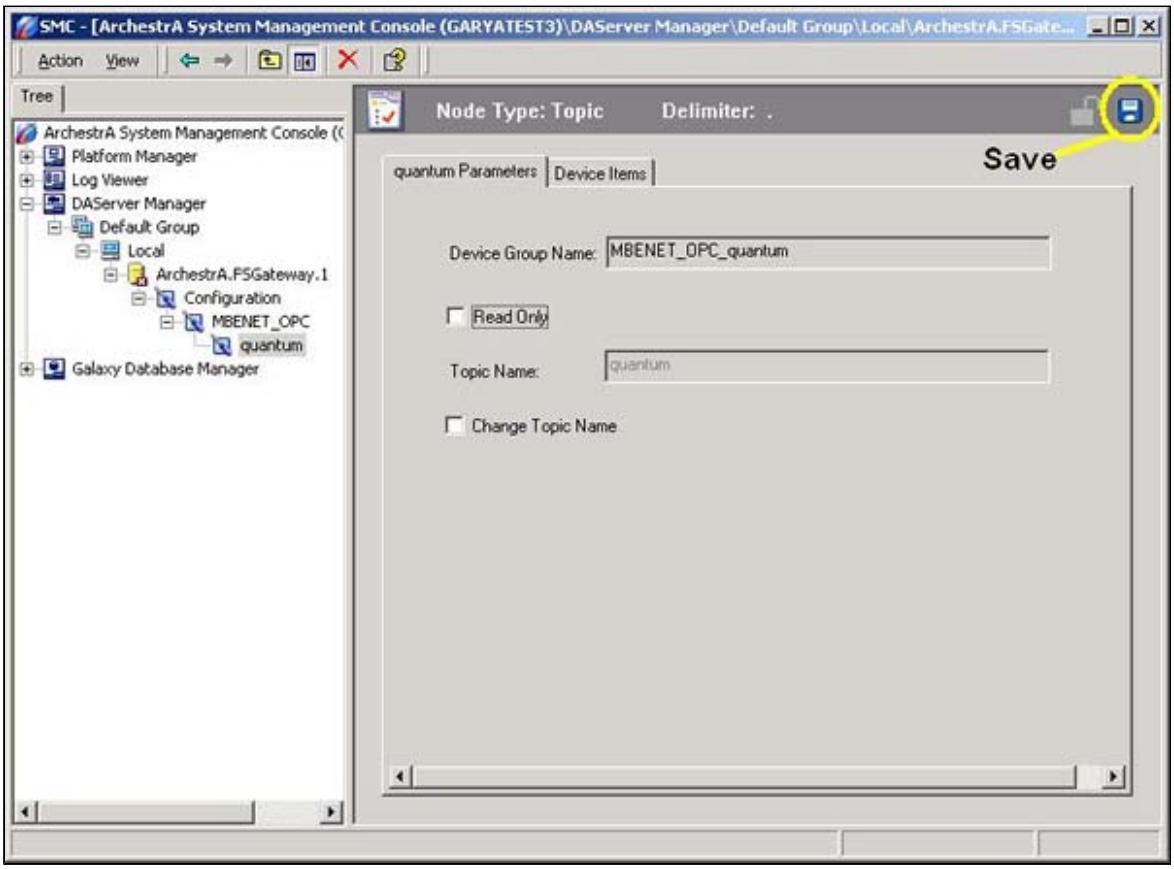

FIGURE 2: SAVE THE MBENET_OPC CONFIGURATION

The FactorySuite Gateway configuration is now complete.

Configuring Industrial Application Server

1. Launch the ArchestrA IDE and create a new galaxy or connect to an existing galaxy.

   • If this is a new Galaxy, create a new instance of a Platform, Engine, Area, and OPCClient Object.

   • If this is an existing Galaxy that already contains a Platform, Engine, and Area, you will need to create a new instance of an OPCClient Object.

   The deployment view should now look like Figure 3 (below):

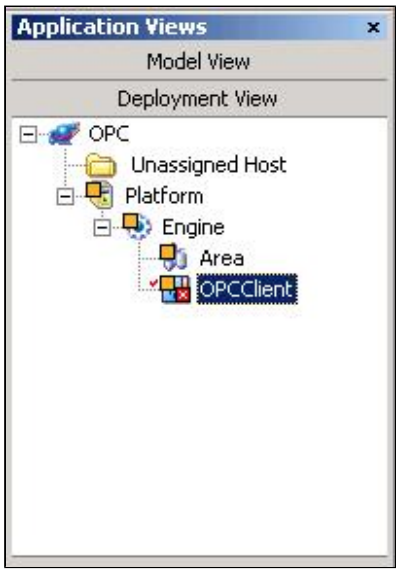

FIGURE 3: OPCCLIENT DEPLOYMENT VIEW

2. Right-click the **OPCClient** object and select **Open**.
3. Select the **General** tab then select **ArchestrA.FSGateway.1** from the **Server Name** dropdown list.

   Leave the default settings for the remaining **General** Tab configuration fields:

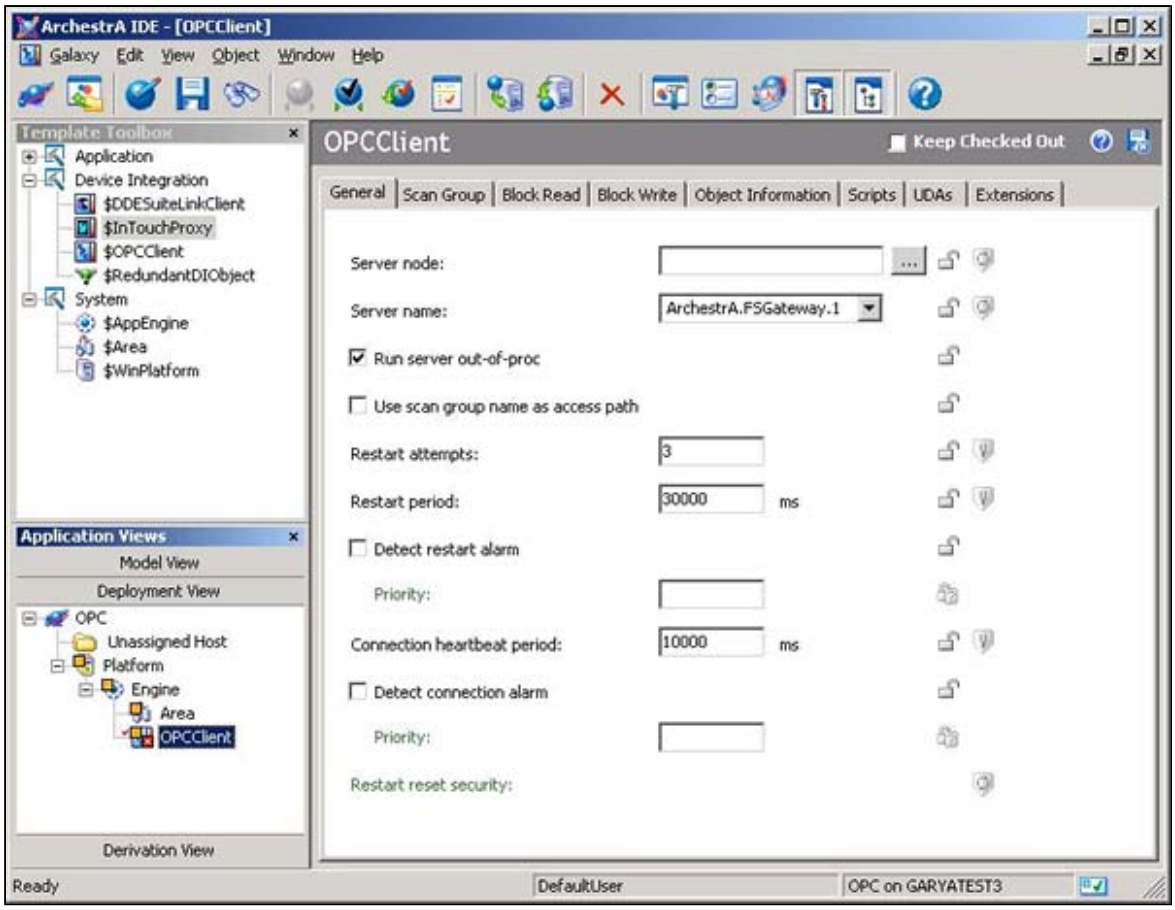

FIGURE 4: GENERAL

4. Select the **Scan Group** tab.
5. Add a scan group by selecting the **+** at the top right.
6. Enter a Scan Group name and an update interval.

   For this example we will use **PLC** as the scan group name with an update interval of **1000** ms.

7. Click the disk icon (upper right) to save and close the OPCClient object:

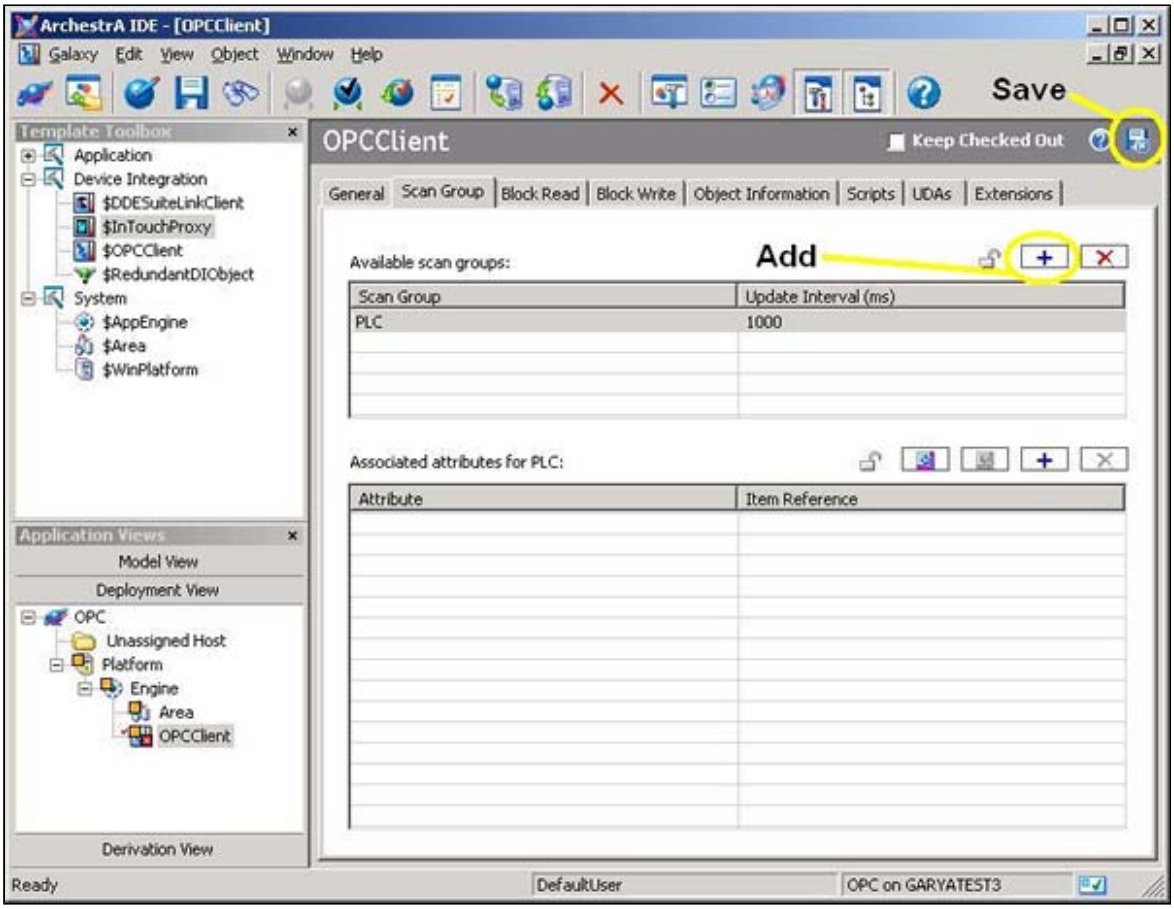

FIGURE 5: SAVE THE CONFIGURATION

8. Right-click the **$UserDefined** template from within the Template Toolbox.
9. Select **New / Instance**.
10. Rename the new instance to **PLC_Registers** and drag it under the Area.

    The deployment view should now look like Figure 6 (below):

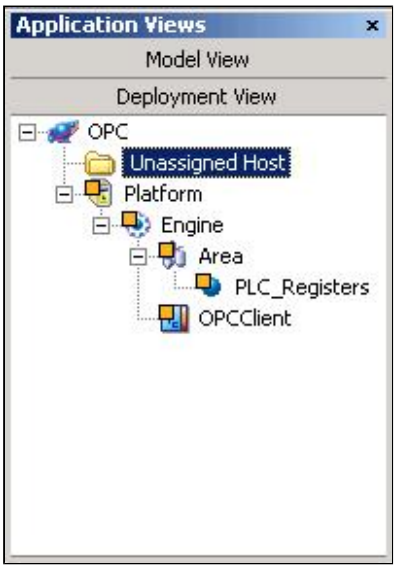

FIGURE 6: DEPLOYMENT VIEW - PLC REGISTERS

11. Right-click the **PLC_Registers** object and select **Open**.
12. Select the **UDAs** tab and create a UDA named **R400001** with a Data Type of **Integer**:

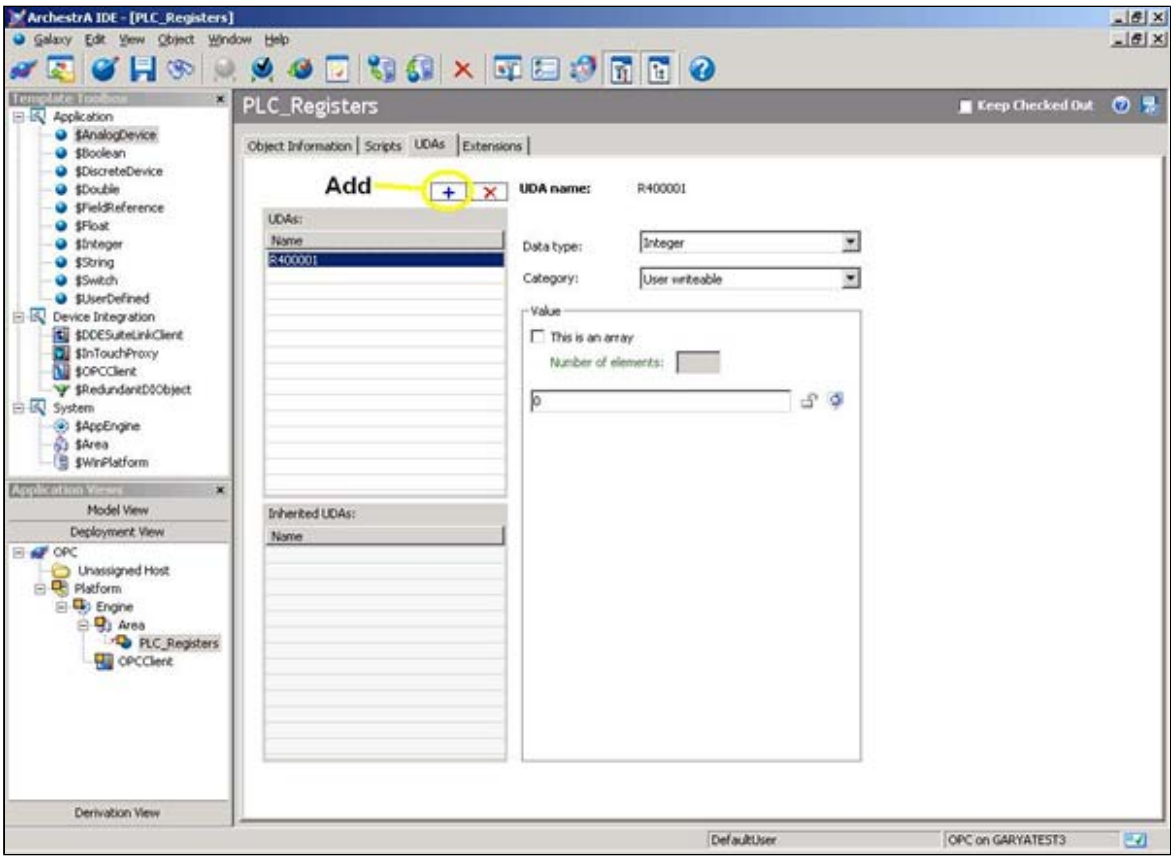

FIGURE 7: ADD UDA

13. Select the **Extensions** tab and select **R400001** within the Extendable Attributes list.
14. Place a check in the Input/Output extension checkbox and enter

OPCClient.PLC.mbenet_opc.quantum.400001 in the **Source** field.

> **Note:** The source field is made up of the following: <OPCClient object name>.<OPCClient object Scan Group>.<FSGateway SuiteLink object name>.<FSGateway Topic object name>.<PLC Register>

15. Click the disk icon (upper right) to save and close the **OPCClient** object:

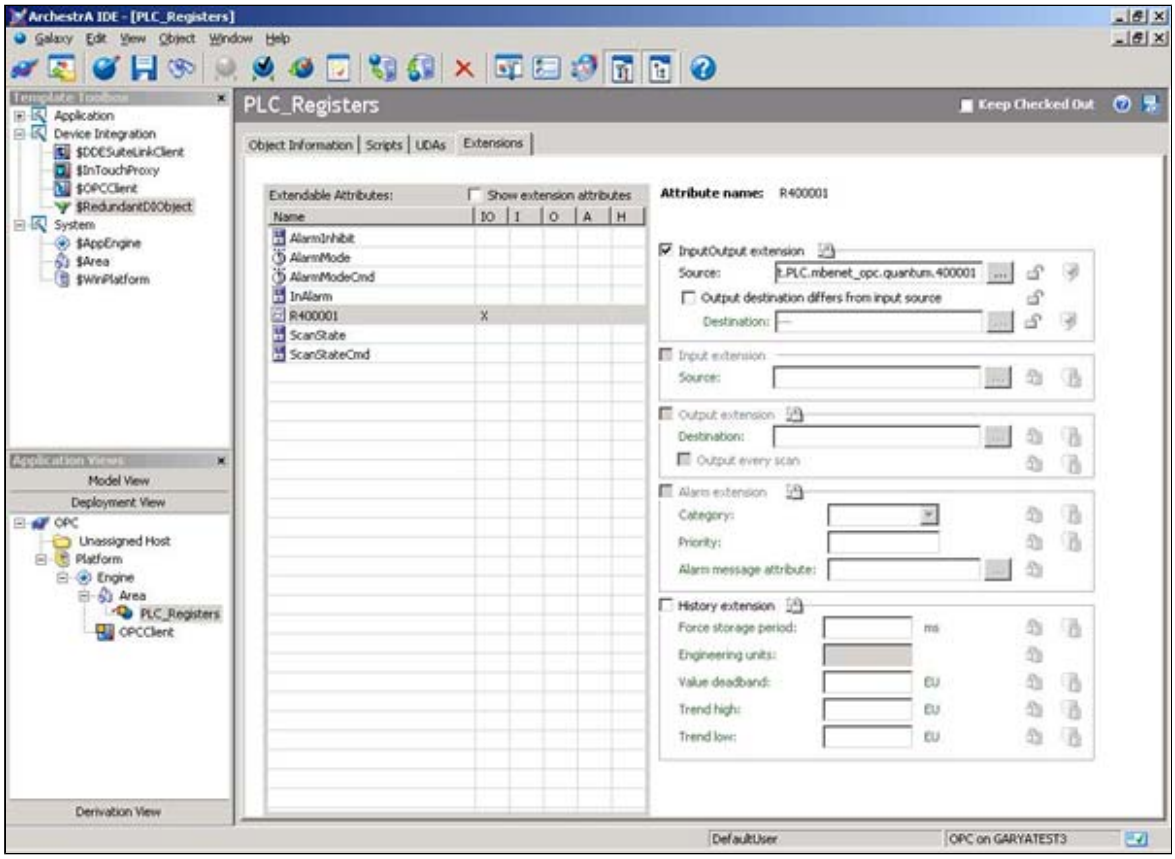

FIGURE 8: SAVE THE OPCCLIENT OBJECT CONFIGURATION

16. Perform a Cascade deploy of the Platform.

17. To view the value of the register in the PLC, right click **PLC_Registers** and select **View in Object Viewer**.

18. When Object Viewer appears, right-click **R400001** under the **Attribute Name** column then select **Add to Watch**:

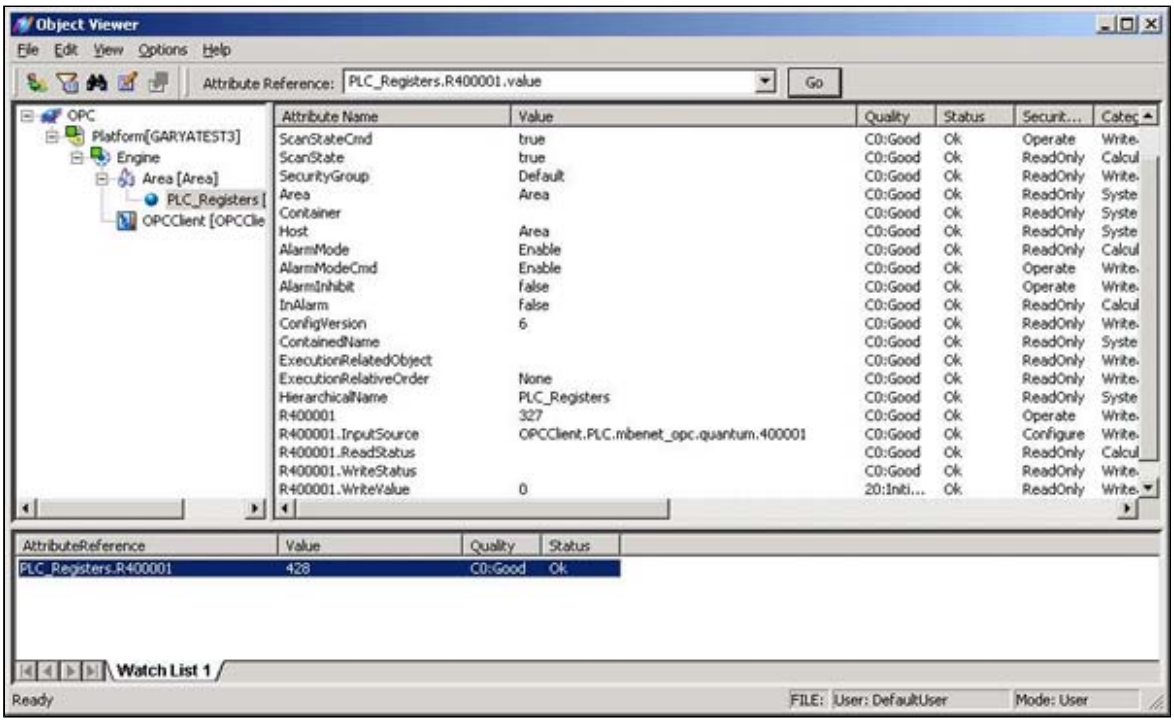

FIGURE 9: OBJECT VIEWER WATCH PANE

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