

RSView32 v7.40 OPC

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Overview

This tech-note describes how to use RSView32 to communicate with an In-Sight OPC server by creating a simple example client. Since the In-Sight server is a Data Access 2.0 compatible server, any other compatible server can be used.

Creating an RSView32 Application

This section describes the basic process for creating an RSView32 project and accessing data from an OPC server. There are two steps to building an application:

1. Defining the tags
2. Using the tags in the application

Defining the Project's Tags

This section assumes you have registered the OPC server on both the PC that is hosting the server and the RSView32 PC.

1. Start RSView32, create a new project, "TestProject"
2. In the Project Manager window, select the Edit Mode tab and expand the system folder. The Node and Tag Database editors will be used to associate RSView32 tags with OPC server items.
3. Open the Node editor and define all of the servers that the RSView32 client will access. Node names are arbitrary. In this example, only one server is used:

- For the Data Source select OPC Server.
 - For a Node Name enter TestServer.
 - For the Server Name enter dbTEST.OPCServerDA.1 or use the button at the end of the name field and select this server from the list.
 - For the Server Type select Remote (Local if on same machine).
 - For a remote server type, for Address enter \\PC-name or use the button at the end of the Address field to browse for the PC.
 - Press Accept then Close.
4. Open the Tag Database editor and define tags to use in the RSView32 project. In the editor:
- For Name enter anything, e.g. TestTag1.
 - For Type, select the correct type (Analog is used for numeric types).
 - For Data Source select Device (Memory is for local variables).
 - For Node Name, enter the same node name you defined with the node editor.
 - Alternatively, press the browse button at the end of the name field, select the name and press OK.
 - For Address enter DW_INOUT1, which is a read/writable value.
 - Alternatively, use the browse button, navigate to the name, and press OK.
 - Press Accept.
5. Define another tag by repeating the previous steps, with the following changes. If you didn't close the Tag Database editor, then press New.
- For Type string.
 - For Address, use the browser to navigate to the server's Test. String item (in this server, some of the server's items are named after their type).
6. Define another tag of type Analog, navigate to Test. Integer or just enter it.
- Close the Tag Database editor.
7. Verify the tags by opening the Tag Monitor editor.

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- Enter a tag name and press return.
- If the tag is working, the state will go to valid.
- Any errors are listed in the activity bar at the bottom of the RSVIEW32 window.
- The activity bar can be expanded only after detaching it (grab the space between the clear and clear-all buttons.)

8. Write the TestTag1 value:

- In the project manager open the Command Line editor.
- Press the browse button on the right side of the editor and notice all of the fun commands.
- Select the = then fill in the Tag and Expression parts of the dialog.
- Alternatively, just enter TestTag1=1 in the Command Line dialog and press return.
- Notice the TestTag1's value in the tag monitor changes.

Using Your Tags in an Application

1. Collapse the System folder and Expand the Graphics folder.
 - Open the display editor.
 - From the menu select, Edit --> Settings.
 - Change the display color to yellow and add a title.
 - On the tool bar press Test Run (looks like a VCR play button) and Normal buttons (next to Test Run).
 - If the display is closed, open it again from The Project window by selecting it from the right panel when the Display editor is selected (edit mode tab, not run mode tab).
2. On the Tool bar, press the button marked with a # inside a rectangle.
 - Draw it on the yellow display.
 - For expression, enter TestTag1.
3. On the Tool bar, press the button marked A and use it to label the numeric display field just added.
 - Press the play and normal buttons to see if it's working.
4. Repeat steps 2 and 3 for the other tags, using the S inside a rectangle button for the string display.

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5. From the menu bar, select Objects --> Advanced Objects --> Button to drop a button on the display.

- Double click it and select the Up Appearance Tab to rename the button to Reset TestTag1.
- Select the Action tab and select the Reset action.
- Enter TestTag1.
- Press OK then run the application by pressing the Test Run tool bar button.

Monitoring OPC Status

The RSView32 environment predefines system tags that can be used throughout the application, for example, date, time, and opc status. This section assumes you are familiar with the steps in the sections Defining the project's tags and Using your tags in an application.

1. Add a Numeric Display. Set its expression to the tag system\ComErrorValueOPC.
2. Add a String Display. Set its tag name to system\ComErrorStringOPC.
3. As in steps 1 and 2, add Numeric and String displays using the system\ComStatusValueOPC and system\ComStatusStringOPC.

Adding Graphics to the Project

The graphics library contains symbols that have animation associated with them. Some of the graphics already have one or more tags associated with them. These tags act as placeholders. Substitute different tags by right clicking on the graphic and selecting Tag Substitution. The other kind of graphics support animation, but do not have placeholder tags. This section will show how to add a button that flashes and resets TestTag1.

1. In the Project window's Edit Mode, expand the Graphics folder.
2. Select the Library editor.
3. In the right panel, select Buttons - Industrial.
4. Drop a copy of the plain black octagon shaped button onto the display.
5. Click on it until you see four black handles on the inside of the button.
6. Right click (4 more blue handles appear) and select animation Color.
7. In expression, enter system\Second % 2 (time modulus 2).
8. Select the Touch tab, in Press Action enter &Set TestTag1 0 or use the ... at the end of the field to select the set command.
9. Apply and test run.

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A button is a group of several components. Use Ctrl U to ungroup and Ctrl G to group. Notice some of the other buttons contain many objects, for example, the AB style buttons contain several ellipses. To make this button change colors, ungroup them, pull it apart, and then set the animation color (as done above for the black button). Do this on each ellipse or copy the animation and paste it to the others. To regroup, select all of the ellipses then from the menu select Arrange Align Middle, then use Ctrl G.