Introduction

ActiveFactory provides some of its application and functionality as .NET Controls. This allows you to run an ActiveFactory Trend program from within a .NET container such as a managed InTouch application.

This Tech Note describes how to configure the aaTrendControl in a managed InTouch application so that you can query tags from a Historian database and plot them on a graphical display within the InTouch application.

Download the zipped example files used for this Tech Note here.

Assumptions

This Tech Note assumes that you are knowledgeable on the following products:

- Historian (or InSQL Server) v9.0 or later
- ActiveFactory v9.2 or later
- InTouch v10.0 or later
- Wonderware® Industrial Application Server (WAS) version 3.0 or later
- MS SQL Server 2000 or 2005

Procedure

When you install ActiveFactory, a .NET Control called aaHistClientTrendControl.dll is automatically installed. Using the ArchestrA IDE’s Import Client Control(s), this .NET Control can be imported into the galaxy and will be displayed as the aaTrendControl in the ArchestrA IDE’s Graphic Toolbox.

Creating a Symbol with an Embedded aaHistClientTrendControl
1. Follow the instructions in **TechNote 510: Creating an ActiveFactory Graphic Symbol**. The *Tech Note* shows you how to import ActiveFactory .NET Controls into the ArchestrA IDE and then embed the aaTrendControl in an ArchestrA object as a graphic symbol.

2. You need to follow steps 6, 7 and 8 (below) to open the TrendControl symbol and embed the aaHistClientTrendControl.dll into the symbol, which should then appear as shown in Figure 1 below. Make sure to click on the symbol’s canvas after you selected aaHistClientTrendControl.dll object so that you can effectively place and embed the control into the symbol.

![Figure 1: Symbol TrendControl with Embedded aaHistClientControl.dll](image)

**Creating a Managed InTouch Application for System Platform**

A managed InTouch application is one that is created from within the ArchestrA IDE and deployed or published as an object in Wonderware Application Server. A managed InTouch application allows the use of ArchestrA Symbols and exhibits the same kind of behavior as other objects in the IDE.

**To create the Managed Application**

1. From the IDE, in the Template Toolbox, expand the System Toolset.
2. Right-click **$InTouchViewApp** and select **New/Derived Template**.

3. Rename the new template to a meaningful name for your application. For this example, it is called **MyManagedApp**.

4. Assign the new template to an existing template toolset. In this example, the new template is moved to Training Objects template toolset as shown in Figure 2 (below).

![Assigning/Moving $MyManagedApp to Training Objects Toolset](image)

5. Double-click **$MyManagedApp**. Accept the default setting to **Create new InTouch application**. The InTouch WindowMaker™ should now appear as shown in Figure 3 (below).
6. In WindowMaker, click **File/New Windows** to create a new screen. Enter a name for this new screen. **MyTrendControl** is used in this Technote.

7. Click the **Embed ArchetrA Graphic** button on the toolbar to place the symbol TrendControl (with embedded aaHistClientControl.dll) created in the above steps.
8. The Galaxy Browser appears. Click on the Graphic Toolbox and select the TrendControl symbol in the ActiveFactory toolset as shown in figure 5 below.

9. Click **OK**.
10. When the **MyTrendControl** window reappears, click on the screen to embed the symbol into it.
Figure 6: TrendControl symbol embedded into WindowMaker screen

11. Click **File/Save Window**. Then close WindowMaker and perform the check in.

### Configuring the aaTrendControl

1. From the IDE, click on the Graphic Toolbox and double-click on the TrendControl symbol to open it.
2. Right-click on the window canvas and select Scripts... (F10). The **Edit Scripts** window appears.
3. Select Trigger type **On Show**, then click on the **Display Attribute Browser**.
4. Click **Element Browser**, expand TrendControl, select aaTrendControl1.

5. Select the **AddServerEx** method to add the InSQL Server name to the Trend control.

6. Click **OK** to accept the selection.
7. Copy the following script into the script area:

```csharp
aaTrendControl1.AddServerEx(System.String serverName, System.String loginName, System.String password, System.Boolean bPersistPassword)
```

**Where**
- **serverName** is the Historian name and is of string type. **briann1** is used in this TechNote.
- **loginName** is the login name used for the Historian and is of string type. **sa** is used in this TechNote.
- **password** is the corresponding password used for the Historian and is of string type. **sa** is used in this TechNote.
- **bPersistPassword** is of Boolean type. If set to True, the password is remembered for the next time a connection is attempted. The password is only remembered for a single application; the persisted password is not available to all applications. **1** is used in this example.
Therefore, your AddServerEx method will be similar to the following:

```csharp
aaTrendControl1.AddServerEx("briann1","sa","sa",1);
```

8. Similarly, we will use the `AddAnyTag()` method to verify and adds a tag to the trend. Copy the following script into the script area:

```csharp
aaTrendControl1.AddAnyTag(System.String serverName,System.String tagName)
```

Where
- `tagName` is the name of a tag in the Historian database.

Let's use a predefined Historian tag such as `SysMinutesRun` for this example and modify the script as follows:

```csharp
aaTrendControl1.AddAnyTag("briann1", "SysTimeSec");
```

9. Click **Validate Value** to verify the scripts are properly entered. Then click **OK** to close the Edit Scripts dialog box.
10. The TrendControl symbol reappears. Click **Save and Close**, and check it in.

![Save and Close](image)

**Figure 10: Save and Close**

11. Now double-click on **$MyManagedApp** in the Template Toolset **Training objects** to start InTouch WindowMaker. Then switch it to WindowViewer™ to see **aTrendControl** in action as in **Figure 11** (below).

![MyTrendControl](image)

**Figure 11: MyTrendControl**

12. The **$MyManagedApp** derived template is now ready for use. You can deploy it to a platform within the galaxy or publish it to a fixed location.
13. To do so, right-click on $\text{ViewEngine}$ and select \textbf{New/Instance}. The new instance ViewEngine\_001 will be placed in the Unassigned Host.

Drag the \textbf{ViewEngine\_001} from the Unassigned Host to a proper platform.

14. Right-click on the $\text{MyManagedApp}$ derived template and select New/Instance. The new instance MyManagedApp\_001 is placed in the Unassigned Host. Drag the MyManagedApp\_001 from the Unassigned Host to the ViewEngine\_001.

15. Perform a cascade deploy for \textbf{ViewEngine\_001}.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Figure_12.png}
\caption{InTouch Application Manager Showing $\text{MyManagedApp}$ Template}
\end{figure}
After deployment, the managed InTouch application $MyManagedApp will be pushed to the InTouch Application Manager allowing you to start up the managed InTouch App from there.

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