

ArchestrA Web Exporter Guide

Invensys Systems, Inc.

Revision A

Last Revision: 12/4/09



Copyright

© 2009 Invensys Systems, Inc. All Rights Reserved.

All rights reserved. No part of this documentation shall be reproduced, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Invensys Systems, Inc. No copyright or patent liability is assumed with respect to the use of the information contained herein. Although every precaution has been taken in the preparation of this documentation, the publisher and the author assume no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein.

The information in this documentation is subject to change without notice and does not represent a commitment on the part of Invensys Systems, Inc. The software described in this documentation is furnished under a license or nondisclosure agreement. This software may be used or copied only in accordance with the terms of these agreements.

Invensys Systems, Inc.
26561 Rancho Parkway South
Lake Forest, CA 92630 U.S.A.
(949) 727-3200

<http://www.wonderware.com>

For comments or suggestions about the product documentation, send an e-mail message to productdocs@wonderware.com.

Trademarks

All terms mentioned in this documentation that are known to be trademarks or service marks have been appropriately capitalized. Invensys Systems, Inc. cannot attest to the accuracy of this information. Use of a term in this documentation should not be regarded as affecting the validity of any trademark or service mark.

Alarm Logger, ActiveFactory, ArcestrA, Avantis, DBDump, DBLoad, DT Analyst, Factelligence, FactoryFocus, FactoryOffice, FactorySuite, FactorySuite A², InBatch, InControl, IndustrialRAD, IndustrialSQL Server, InTouch, MaintenanceSuite, MuniSuite, QI Analyst, SCADAAlarm, SCADASuite, SuiteLink, SuiteVoyager, WindowMaker, WindowViewer, Wonderware, Wonderware Factelligence, Wonderware Information Server, and Wonderware Logger are trademarks of Invensys plc, its subsidiaries and affiliates. All other brands may be trademarks of their respective owners.

Contents

Welcome.....	7
Documentation Conventions.....	7
Technical Support.....	8
Chapter 1 About Publishing Symbols to the Web.....	9
About the ArcestrA Web Exporter.....	9
About ArcestrA Web Projects	11
Online and Offline Modes	11
About Displays.....	11
Displays as Transformed ArcestrA Symbols.....	12
Displays as Transformed InTouch Windows	12
Organizing Displays	13
WindowSets	13
Folders.....	13
TableWeaverSets.....	13
Previewing Displays.....	14
Data Sources for Published Displays	14
Using ArcestrA as a Data Source	14
Using WindowViewer as a Data Source	15
Using Other Data Sources	15
Application Logic for Transformed InTouch Windows	15
About Publishing Displays.....	16
Security for Viewing Published Windows	17

Viewing Published Displays with the ArchestrA Web Exporter	17
Combined Internet/Intranet Access	18
Chapter 2 Using the ArchestrA Web Exporter	19
Installing the ArchestrA Web Exporter	19
Managing Web Projects.....	20
Creating a Web Project	20
Opening a Web Project.....	22
Renaming a Web Project.....	24
Changing the InTouch Data Source Node of a Web Project.....	24
Customizing the ArchestrA Web Exporter	26
Managing WindowSets and Folders.....	27
Creating WindowSets.....	27
Creating Folders.....	28
Renaming WindowSets and Folders.....	28
Deleting Local Copies of WindowSets and Folders	29
Deleting WindowSets and Folders on the Portal.....	29
Changing the InTouch Data Node of a WindowSet	30
Managing TableWeaverSets	31
Creating TableWeaverSets	31
Renaming TableWeaverSets	31
Deleting Local Copies of TableWeaverSets	32
Deleting TableWeaverSets on the Portal	32
Managing Displays.....	33
Deleting a Display	33
Changing the Properties of a Display	33
Transforming ArchestrA Symbols and InTouch Windows	34
Transforming ArchestrA Symbols	34
Resolving Unresolved Configuration in Symbols	37
Transforming InTouch Windows.....	39
Setting Conversion Behavior for InTouch Windows.....	40
Previewing ArchestrA Symbols and InTouch Windows	42
Publishing ArchestrA Symbols and InTouch Windows	42
Publishing Displays to the Information Server Portal	43
Publishing Displays to a Different Information Server Portal	44
Viewing Published Displays	45

Chapter 3 Using Published Displays on the Web 47

Viewing Published WindowSet Displays.....	47
Showing Quality and Status.....	49
Executing Scripts	49
Interacting with Published WindowSet Displays.....	50
Enabling Write-Back to the Galaxy and InTouch.....	51
Using InTouch Windows.....	52
Inputting Data at Run Time.....	52
Configuring TableWeaverSet Displays.....	55

Appendix A Limitations of the ArcestrA Web Exporter 57

Unsupported Features	57
Unsupported ArcestrA Graphic Elements.....	57
Unsupported ArcestrA Graphic Animations	58
Unsupported ArcestrA Script Functions	58
Unsupported ArcestrA ShowSymbol Animation Configurations.....	58
Unsupported ArcestrA Symbol Shortcut Keys	59
Unsupported .NET Functions.....	59
Unsupported InTouch Components	60
Unsupported InTouch Features.....	61
Unsupported InTouch Graphics.....	61
Unsupported InTouch Touch Action Scripts	61
Unsupported InTouch Script Types	62
Unsupported InTouch QuickScript Functions	62
Write-back to System Tags and Indirect Tags Prevented.....	64
Features with Limitations and Differences	64
Logging to the ArcestrA Logger.....	64
Rotation of Windows Controls	65
Adding Items to Windows Controls	65
InTouch SetProperty and GetProperty Functions	65
Truncations and Line Wrapping in Windows Controls	66
Differences in the Calendar Control.....	66
Differences in InTouch Window Types	66
Show Symbol/Window Name Limitation	66
Duplicate InTouch Windows Controls Naming.....	67
Differences in FOR NEXT Loop Execution.....	67
Differences in the StringFromTime function Result	67

Appendix B Design Recommendations	69
Limit the Complexity of the Symbol or Window.....	69
Avoid Complex Elements and Gradients	70
Avoid Animations on Groups	70
Avoid Embedding of Symbols in Symbols	71
Merge Multiple Windows to One Window.....	71
Index	73

Welcome

This guide describes publishing ArchestrA Symbols and InTouch Windows to the web using the ArchestrA Web Exporter. This utility can be downloaded from the Information Server portal and installed on a computer as an extension of the ArchestrA Integrated Development Environment (IDE).

You can view this document online or you can print it, in part or whole, by using the print feature in Adobe Acrobat Reader.

This guide assumes you know how to use Microsoft Windows, including navigating menus, moving from application to application, and moving objects on the screen. If you need help with these tasks, see the Microsoft online help.

Documentation Conventions

This documentation uses the following conventions:

Convention	Used for
Initial Capitals	Paths and file names.
Bold	Menus, commands, dialog box names, and dialog box options.
Monospace	Code samples and display text.

Technical Support

Wonderware Technical Support offers a variety of support options to answer any questions on Wonderware products and their implementation.

Before you contact Technical Support, refer to the relevant section(s) in this documentation for a possible solution to the problem. If you need to contact technical support for help, have the following information ready:

- The type and version of the operating system you are using.
- Details of how to recreate the problem.
- The exact wording of the error messages you saw.
- Any relevant output listing from the Log Viewer or any other diagnostic applications.
- Details of what you did to try to solve the problem(s) and your results.
- If known, the Wonderware Technical Support case number assigned to your problem, if this is an ongoing problem.

Chapter 1

About Publishing Symbols to the Web

You use the ArcestrA Web Exporter to publish ArcestrA Symbols and InTouch Windows to the web. The ArcestrA Web Exporter is a utility you can download from the Wonderware Information Server portal.

About the ArcestrA Web Exporter

The ArcestrA Web Exporter is intended for application engineers who want to configure displays on the Wonderware Information Server that connect to both live and historical data.

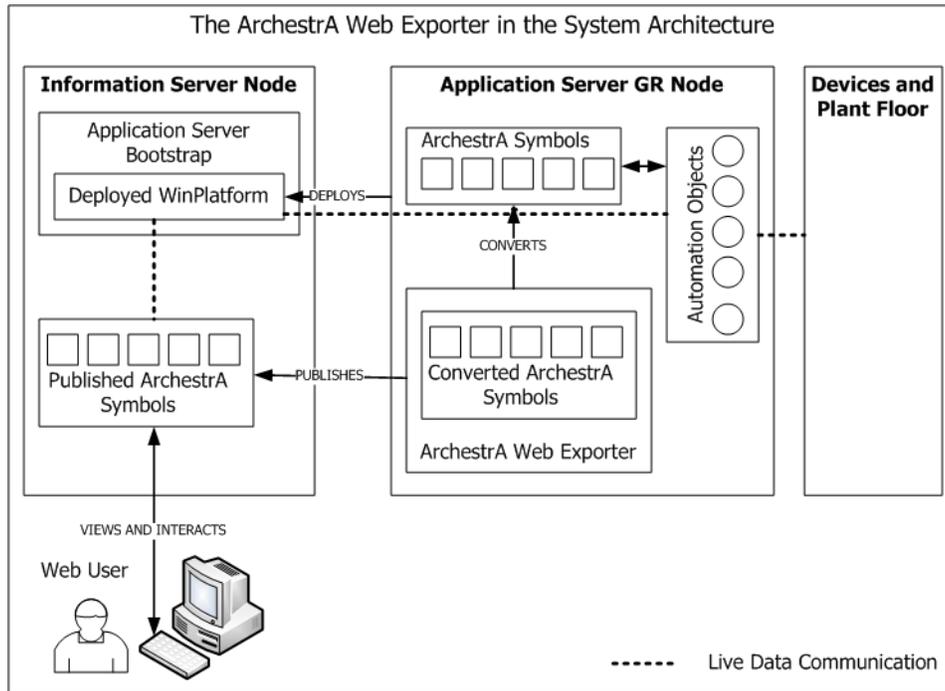
The ArcestrA Web Exporter is a replacement for the Win-XML Exporter delivered with previous versions of the Wonderware Information Server. It lets you transform and publish ArcestrA Graphics to the web as well as transform and publish InTouch Windows.

You must install the ArcestrA Integrated Development Environment (IDE) before installing the ArcestrA Web Exporter.

After the installation, you can start the ArcestrA Web Exporter from the ArcestrA IDE toolbar, from the **Object** menu, or from the context menu of an InTouchViewApp object.

For more information on how to install the ArcestrA Web Exporter, see *Installing the ArcestrA Web Exporter* on page 19.

The following diagram shows in more detail how the ArchestrA Web Exporter operates in the ArchestrA environment:



Note The ArchestrA Web Exporter can also transform Windows of managed InTouch applications. This is not shown in the diagram above.

With the ArchestrA Web Exporter you can:

- Transform ArchestrA Symbols or InTouch Windows. These reside on the local file system.
- Manage your transformed content in Web Projects, WindowSets, TableWeaverSets, and folders.
- Preview the transformed content before publishing it.
- Publish transformed content to one or more Information Server portals.
- Republish changed content to the Information Server.

The web user can browse and interact with published ArchestrA Symbols and InTouch windows by accessing the Information Server portal.

About ArcestrA Web Projects

The ArcestrA Web Exporter uses Web Projects to store configuration information for the transformed ArcestrA Symbols and InTouch Windows. A Web Project corresponds to a folder on the local file system.

You can only open one Web Project at a time in the ArcestrA Web Exporter.

Online and Offline Modes

You can operate the ArcestrA Web Exporter in two different modes:

- **Offline mode:** Use this mode to transform and manage ArcestrA Symbols and InTouch Windows. The offline mode shows transformed content ready to be published and no live data. All operations in offline mode only affect the local configuration set.
- **Online mode:** Use this mode to connect to an Information Server portal and view how the published content appears. You can also use this mode to delete published content from the portal. All operations in online mode only affect published content to the portal.

About Displays

Before you can publish ArcestrA Symbols and InTouch Windows to the web, you must transform them with the ArcestrA Web Exporter.

Transformed ArcestrA Symbols and InTouch Windows are called “displays”.

Displays are Microsoft Silverlight XAP files that can be directly opened in a web browser with an installed Silverlight-plugin.

If you do not have Silverlight installed on a computer when you open a published display, Internet Explorer asks you to download the latest version of Microsoft Silverlight.

To be able to transform InTouch Windows and ArcestrA Symbol, you also need the Microsoft Silverlight SDK. You can download Microsoft Silverlight and Microsoft Silverlight SDK from the Wonderware Information Server portal when you install the ArcestrA Web Exporter.

To publish displays to the portal, you must be a member of the Administrator role on the Wonderware Information Server. For more information on user roles, see the *Wonderware Information Server Administration Guide*.

Displays as Transformed ArcestrA Symbols

You can create displays from ArcestrA Symbols contained in one of the following:

- Graphic Toolbox
- Automation Object template
- Automation Object instance

ArcestrA Symbols may contain references that cannot be resolved without further configuration, such as:

- Relative references (*me*, *myContainer*, *myHost*, *myArea*, *myEngine*, or *myPlatform*) .
- Unresolved references indicated by “---”.

In both cases, you can map the unresolved references during conversion to Automation Object instances, literal values, absolute or relative references.

Note You cannot map unresolved references to expressions, such as `tag1 + 13`.

Displays as Transformed InTouch Windows

You can create displays from InTouch Windows of managed InTouch applications. The Windows can contain InTouch native graphics, SmartSymbols, Wizards, and embedded ArcestrA Symbols.

Note Stand-alone and published InTouch applications are not supported by the ArcestrA Web Exporter.

You can organize your displays under WindowSets. Each WindowSet uniquely identifies a the computer name from which the publish displays retrieve their InTouch data.

When you transform InTouch Windows to WindowSet displays, you can let the ArcestrA Web Exporter automatically create the same folder structure in the Publishing pane as the folder structure in the Project View of the InTouch application.

For more information on unsupported InTouch Window content, see *Limitations of the ArcestrA Web Exporter* on page 57.

Organizing Displays

WindowSets, TableWeaverSets, and folders help you organize displays within an ArcestrA Web Project.

- Displays published from WindowSets show you live plant data on the Web.
- Displays published from TableWeaverSets show you historical plant data on the Web.

WindowSets

WindowSets are used for displays that you publish to the Information Server portal. Published displays from WindowSets appear under the ArcestrA Graphics node in the Information Server portal.

You can configure a WindowSet with a name of a computer running WindowViewer.

A WindowSet can contain displays with or without a folder hierarchy.

WindowSet names need to be unique within a Web Project.

Folders

Folders are containers for displays to help you organize displays within WindowSets. You can create a hierarchy of folders in a WindowSet to contain your displays.

When you transform InTouch Windows to displays, you can optionally let ArcestrA Web Exporter create the same folder hierarchy as the Project View in the InTouch application.

TableWeaverSets

You can use TableWeaverSets to contain and manage displays that you publish to the Information Server portal for visualization of historical plant data from the Wonderware Historian.

You can only transform ArcestrA Symbols to displays under TableWeaverSets. InTouch Windows are not supported.

Published displays from TableWeaverSets appear in Table Weaver the Information Server portal.

After you publish displays to the Wonderware Information Server as Table Weaver displays, you cannot interact with them, such as using:

- Sliders to change values
- Pushbutton animation
- Action scripts

- Show Symbol or Hide Symbol animations

However, TableWeaverSet displays can show sliders and other elements of interaction, such as switch wizards and others.

TableWeaverSet names need to be unique within a Web Project.

Previewing Displays

After you transform ArcestrA Symbols or InTouch Windows to displays in the Publishing pane, you can preview the displays within the ArcestrA Web Exporter before publishing. This is known as Offline mode.

When you preview displays in offline mode, the displays do not show live data and animations that depend on InTouch tags or ArcestrA Galaxy attributes. If the elements use animations that exclusively use local data, such as custom properties or local script variables, the elements will be animated and you can interact with them.

Data Sources for Published Displays

There are certain requirements that must be met so that a published display can read and write data back to its data source.

Using ArcestrA as a Data Source

Published displays use a service called the ArcestrA LMX Publisher Service to handle data communication between the Information Server and the Galaxy.

You can only use the Galaxy that deployed the WinPlatform to the Information Server computer. If you publish a display using a data reference that exists in another Galaxy, the reference only works for the Galaxy that published the display.

If you deploy a WinPlatform from a different Galaxy to the Information Server node, you need to restart the ArcestrA LMX Publisher on the Information Server node. Otherwise the data in published symbols and windows does not update.

To publish displays to the portal, you must be a member of the Administrator role on the Wonderware Information Server. For more information on user roles, see the *Wonderware Information Server Administration Guide*.

Using WindowViewer as a Data Source

If your published displays use InTouch WindowViewer as a data source, you need to configure the WindowSet hosting the published display to specify the computer name on which InTouch WindowViewer is running.

Using Other Data Sources

You can use other data sources besides Galaxy data and InTouch tags, such as data from DAServers and I/O Servers if the data is configured in ArcestrA Automation objects or in the InTouch application.

There is no need for additional configuration in the ArcestrA Web Exporter.

For example:

- Device Integration Automation Objects, such as the OPCClient object to access data from external sources such as a DAServer.
- I/O tags and direct references in the InTouch HMI to access data from a DAServer or any other supported data source.

Application Logic for Transformed InTouch Windows

InTouch windows that have been transformed with the ArcestrA Web Exporter do not contain any application logic; that is, they do not execute scripts locally.

What this means for InTouch application developers is that the InTouch windows shown to end users are separated from the data sources and any application logic (for example, scripts) that allows a user to interact with the data sources.

Browser-based windows can execute scripts, but these scripts must not be of the application type and must only be used when the logic pertains to the individual use of the individual window. The browser-based windows interact and change according the application logic running in the InTouch plant floor application.

The logic and data are provided by a specified InTouch computer (node), which also provides the animation information and actual data for the window.

About Publishing Displays

You can publish displays from ArchestrA Web Exporter to the configured Information Server portal. You can do so at the following levels:

Project	All WindowSets and TableWeaverSets are published to the Information Server.
WindowSet	The WindowSet, all folders, sub-folders, and displays contained in the WindowSet are published to the Information Server.
TableWeaverSet	The TableWeaverSet and its displays are published to the Information Server.
Folder	The folder, all sub-folders, and displays contained in the folder structure are published to the Information Server.
Display	Just the display is published to the Information Server.

When you publish to the Information Server, all content is copied and merged to existing content on the Server. If a display already exists on the portal, a confirmation dialog box appears showing you which displays are already published to the portal and will be overwritten.

To publish windows to Wonderware Information Server, you must:

- Have been given permission to publish. You need to be a member of the Information Server Administrator role. For more information on configuring the roles, see the *Wonderware Information Server Administration Guide*.
- Have an HTTP connection to the site.

You do not have to be logged on the web server computer to publish a window. Also, you do not need to have a connection with the application node supplying the data.

Security for Viewing Published Windows

Wonderware Information Server is fully integrated with Windows security. Wonderware Information Server administrators can give Windows domain users privileges to read, write, or configure the system. Wonderware Information Server also supports the SSL Internet protocols for additional security, and the system works behind firewalls.

Access, right-privileges, and other security settings are determined by the role to which a user is assigned by the Wonderware Information Server administrator.

In Wonderware Information Server, no user can effect changes (write-back) unless:

- This has been enabled for the site by the Wonderware Information Server administrator.
- There is a specific write-back license installed.
- The user has been assigned to the engineer role with write-back privileges.

There are also advanced security options beyond what Wonderware Information Server provides. For detailed information on configuring security, see the *Wonderware Information Server Administration Guide*.

Viewing Published Displays with the ArcestrA Web Exporter

After you publish displays to the Information Server, you can view them in the ArcestrA Web Exporter. This is known as Online mode.

When you view displays in online mode, you are seeing the display as it appears to a user accessing the Information Server portal. You can interact with the display, and the display shows live data and animations.

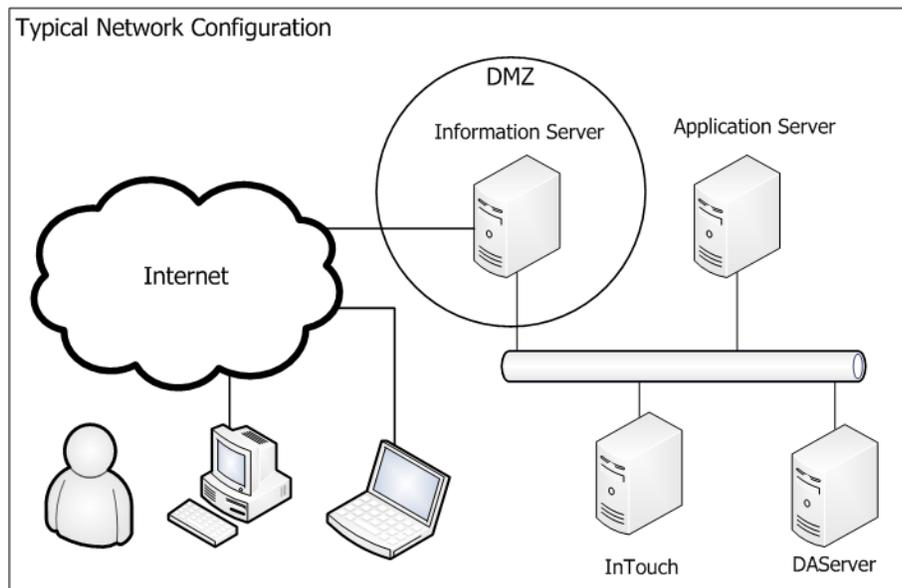
Combined Internet/Intranet Access

If your users are accessing Wonderware Information Server from both the Internet and a company intranet, then both the Internet and intranet URL for your web server must be listed in your corporate DNS server or LMHOSTS file.

This is because a web server is usually known by one name on the Internet and another on the intranet.

Another solution is to create different WindowSets or TableWeaverSets for the different users, each using the web server URL that can be resolved by their system.

The following diagram shows a typical network configuration for operating in an ArcestrA environment where users can visualize and interact with ArcestrA Symbols and InTouch windows from the web.



Chapter 2

Using the ArcestrA Web Exporter

The ArcestrA Web Exporter uses Web Projects to manage transformed ArcestrA Symbols and InTouch Windows. This section shows you how to install the ArcestrA Web Exporter, manage your Web Projects, and to transform and publish ArcestrA Symbols and InTouch Windows to the web.

Installing the ArcestrA Web Exporter

You must install the ArcestrA Web Exporter on a computer that has ArcestrA IDE installed and has access to the Wonderware Information Server.

You need to log on as portal administrator to be able to install the ArcestrA Web Exporter.

To install and start the ArcestrA Web Exporter

- 1 Close ArcestrA IDE.
- 2 Open the Information Server portal in a web browser.
- 3 In the **System** panel, expand **Administration**.
- 4 Click **ArcestrA Web Exporter**.
- 5 If you have not already installed Microsoft Silverlight 3.0, do the following:
 - a Click **Download Silverlight 3.0**.
 - b Click **Run**, then click **Run** again.
 - c Click **Install now**.
 - d When the installation is complete, click **Finish**.

- 6 Click **Download ArcestrA Web Exporter**.
- 7 Click **Run**, then click **Run** again.
- 8 Follow the instructions of the installation wizard.
- 9 Open the ArcestrA IDE.



- A new icon appears on the toolbar.
 - A menu item **Open/Create Web Project** appears on the **Object** menu.
 - Three menu item **Open Last Web Project**, **Create Web Project**, and **Open Web Project** appear on the context menu of managed InTouch applications.
- 10 Click the toolbar icon and select **Create Web Project** to start the ArcestrA Web Exporter.

Managing Web Projects

The ArcestrA Web Exporter manages your Web Projects that contain WindowSets, TableWeaverSets, folders and displays.

You can create Web Projects, re-open Web Projects, rename Web Projects, change the name of the computer that provides InTouch data and change the URL of the portal.

Creating a Web Project

You can create a Web Project from:



- The ArcestrA Web Exporter icon list.
- The context menu of a managed InTouch application.
- The **Object** menu in the ArcestrA IDE.
- The **File** menu of the ArcestrA Web Exporter.

To create a new Web Project

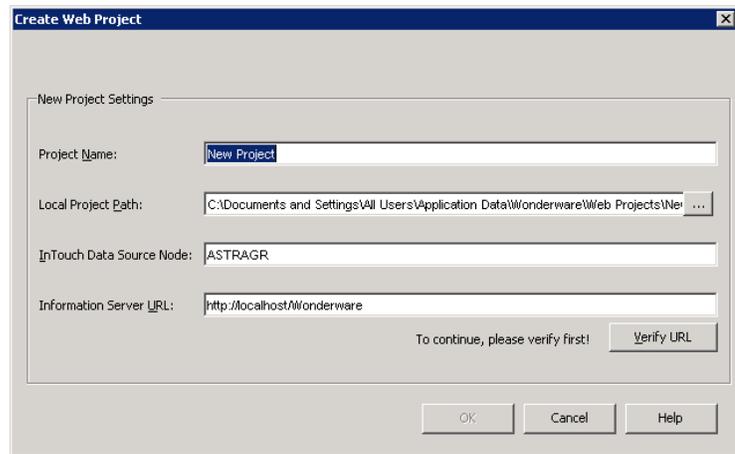
- 1 Access the **Create Web Project** dialog box. Do any of the following:



- Click the ArcestrA Web Exporter icon on the toolbar and click **Create Web Project**.
- Right-click a managed InTouch application template and click **Create Web Project**.
- On the **Object** menu in the ArcestrA IDE, click **Create/Open Web Project**, and then click **Create Web Project**.

- In the Archestra Web Exporter on the File menu, click **New Project**.

The Create Web Project dialog box appears.



Note If you open this dialog box from a deployed InTouch application, the InTouch data source node is automatically set to its hosting WinPlatform object.

- 2 In the **Project Name** box, type the name of your new Web Project.
- 3 In the **Local Project Path** box, keep the default setting or type the local path name or browse for the local path that will contain the Web Project. You can also use a network drive location or a network share location.
- 4 In the **InTouch Data Source Node** box, type the name of the computer on which InTouch WindowViewer will run. This can be the name of the computer to which you deploy a managed InTouch application.
- 5 In the **Information Server URL** box, type the full address of the Wonderware Information Server to which you publish, for example `http://MyWISServer/Wonderware`.

Note If you use a secured HTTP connection or a custom port to access the Information Server, you can type `https` and port number in the URL. For example:
`https://WISServer:8443/Wonderware`

- 6 Click **Verify URL**. An authentication dialog box appears.

- 7 Type a user name with Information Server administrator rights and password, and then click **OK**.

If the authentication is successful, a confirmation message appears.



- 8 Click **OK**. If a Web Project already exists in the given local project path, a confirmation dialog box appears. Click **Yes**. Your Web Project is created and the **ArcestrA Web Exporter** appears.

Opening a Web Project

You can open a Web Project using one of the following methods:

- The last opened Web Project. Use this option if you want to quickly re-use the ArcestrA Web Exporter to publish displays.
- A recently opened Web Project or any Web Project. Use this option if you are using multiple Web Projects at the same time.

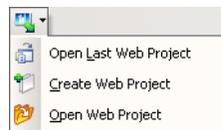
You can open a Web Project from either the ArcestrA IDE or from the ArcestrA Web Exporter directly.

To open the last Web Project

- ◆ Do one of the following:



- In the ArcestrA IDE, click the ArcestrA Web Exporter icon, and then click **Open Last Web Project**.



- In the ArcestrA IDE on the **Object** menu, click **Create/Open Web Project**.
- On the context menu of a managed InTouch application template, click **Open Last Web Project**.

The ArcestrA Web Exporter appears with last opened Web Project.

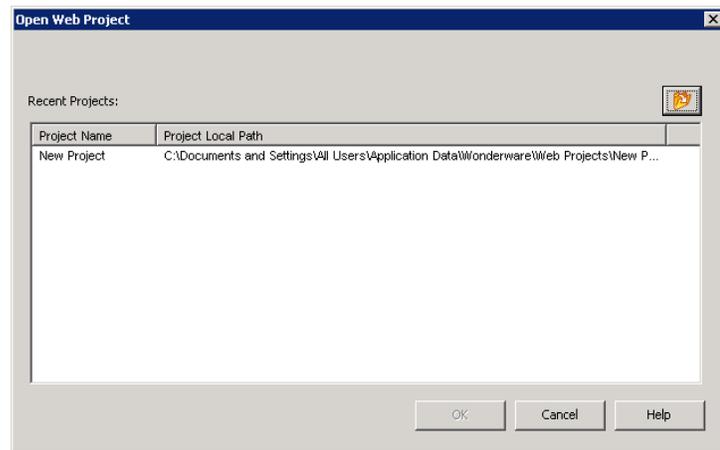
To open a recent or any Web Project

- 1 Access the **Open Web Project** dialog box. Do any of the following:



- In the ArcestrA IDE, click the ArcestrA Web Exporter icon, and then click **Open Web Project**.
- On the context menu of a managed InTouch application template, click **Open Web Project**.
- In the ArcestrA Web Exporter on the **File** menu, click **Open Web Project**.

The **Open Web Project** dialog box appears.



- 2 Do one of the following:
 - Select a project from the **Recent Projects** list and click **OK**.
 - Click on the browse icon and browse for a Web Project. Click **Open**, and then click **OK**.

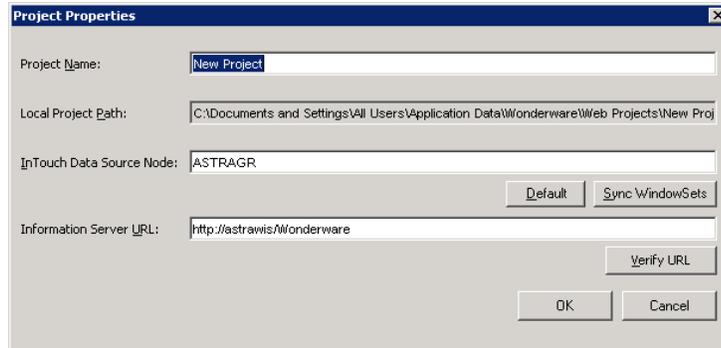
The ArcestrA Web Exporter appears with selected Web Project.

Renaming a Web Project

Renaming a Web Project has no effect on the published or unpublished displays, folders, WindowSets, or TableWeaverSets.

To rename a project

- 1 In the ArcestrA Web Exporter, right-click the project name in the Publishing pane, and then click **Properties**. The **Project Properties** dialog box appears.



- 2 In the **Project Name** box, type a new Web Project name and click **OK**.

Changing the InTouch Data Source Node of a Web Project

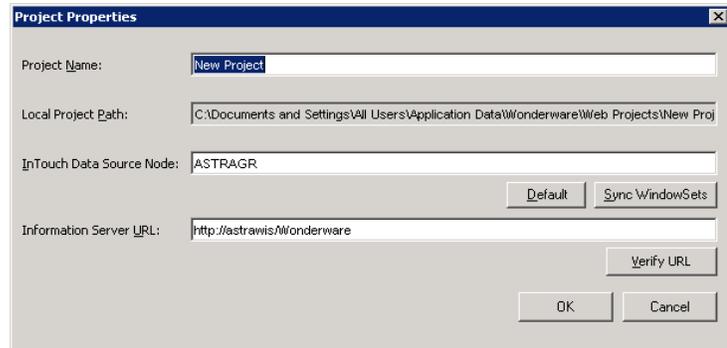
You can change the InTouch data source node of all WindowSets by changing the InTouch data source node in the project properties and applying this change to the WindowSets.

You would typically do this if you are switching to an InTouch backup node for all WindowSets.

After you change the InTouch data source node of a project, any new WindowSets automatically use the new name as the InTouch data source. You must republish the Web Project for the change to take effect.

To change the InTouch data source node of a project

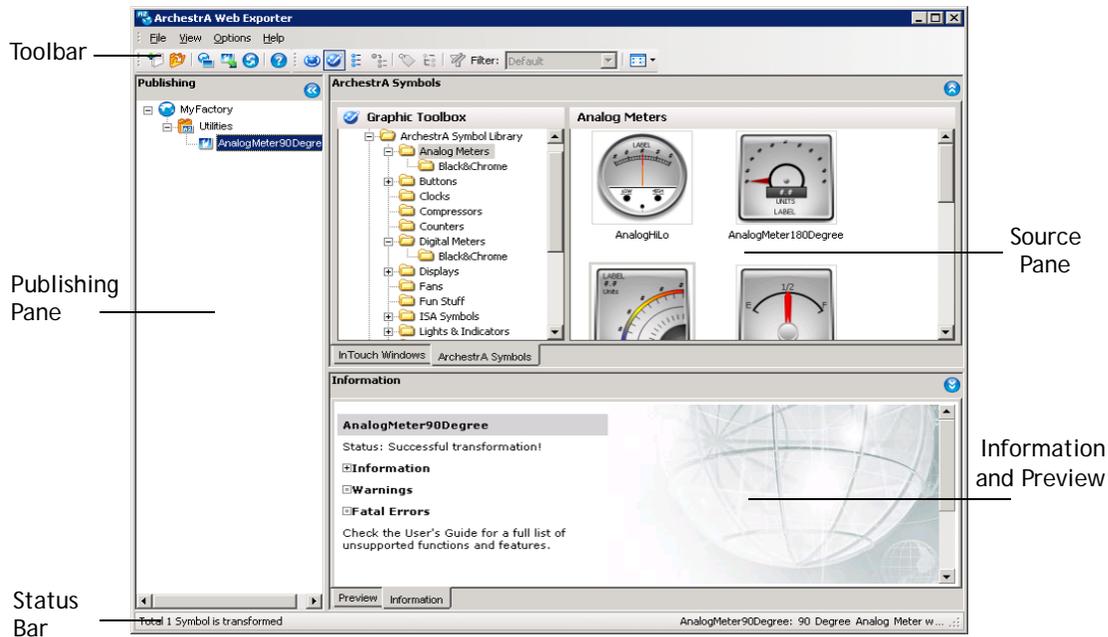
- 1 In the ArchestrA Web Exporter, right-click the project name in the Publishing pane, and then click **Properties**. The **Project Properties** dialog box appears.



- 2 In the **InTouch Data Source Node** box, type the new name of the computer on which the managed InTouch application runs.
- 3 If you want to apply this change to all WindowSets in the project, do the following:
 - a Click **Sync WindowSets**. A confirmation message appears.
 - b Click **Yes**.
- 4 If you want to reset the InTouch data source nodes of all WindowSets to their originally configured nodes, do the following:
 - a Click **Default**. A confirmation message appears.
 - b Click **Yes**.
- 5 Click **OK**.
- 6 Transform the converted InTouch Windows and ArchestrA Symbols again.
- 7 Republish the Web Project to the portal.

Customizing the ArcestrA Web Exporter

After you create a new Web Project, you can customize the layout of the ArcestrA Web Exporter to your needs.



To customize the layout of the ArcestrA Web Exporter

- Grab the bars between the panes to enlarge or shrink the:
 - Width of the Publishing pane
 - Height of the Source pane
 - Height of the Preview and Information pane
- Click the expand and shrink icons to minimize or restore the size of the panes.



- Double-click the title bar of the:
 - Publishing pane to minimize or restore the width of the Publishing pane.
 - Source pane to maximize or restore the size of the Source pane.
 - Preview and Information pane to maximize or restore the size of the Preview and Information pane.
- On the **View** menu, clear or check:
 - **Publishing Pane** to minimize or restore the width of the Publishing pane.
 - **InTouch Windows and ArcestrA Symbols** to minimize or restore the height of the Source pane.

- **Preview and Information** to minimize or restore the height of the Preview and Information pane.
- 5 On the **View** menu, click **Restore Layout** to restore all pane sizes to their default values.

Managing WindowSets and Folders

You can use WindowSets and folders to contain and organize your displays. WindowSets are top-level folders that can contain folders. You can set the properties of a WindowSet to a computer name as data source of an InTouch application.

Creating WindowSets

In the ArchestrA Web Exporter, you can create additional WindowSets to host folders and displays.

Each WindowSet is configured with a computer name. If the displays in the WindowSet use InTouch as a data source, the computer name identifies the computer on which the managed InTouch application runs.

To create a WindowSet

- 1 In ArchestrA Web Exporter, right-click the project name in the Publishing pane, and then click **New WindowSet**. A new WindowSet is added to the Publishing pane under the project name.



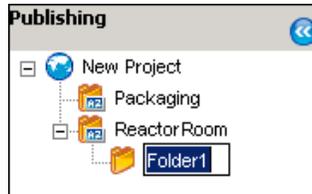
- 2 Type a new name for the WindowSet and press **Enter**. You can now add folders or drag ArchestrA Symbols or InTouch Windows to the WindowSet.

Creating Folders

You can use folders under WindowSets to organize the structure of the displays. When you publish WindowSets, folders or displays, the folders are created on the portal.

To create a folder

- 1 In ArcestrA Web Exporter, right-click a WindowSet or a folder, and then click **New Folder**. A new folder is added to the Publishing pane under the WindowSet or folder.



- 2 Type a new name for the folder and press **Enter**. You can now drag ArcestrA Symbols or InTouch Windows to the folder.

Renaming WindowSets and Folders

You can rename WindowSet (or folder) at any time. You can only rename a WindowSet (or folder) in offline mode.

When you rename a WindowSet (or folder), the new name has no effect on the name of the published WindowSet (or folder). If you republish the WindowSet (or folder), a new WindowSet (or folder) with the new name is created on the portal.

To change the name of a WindowSet or folder

- 1 In the ArcestrA Web Exporter, right-click the WindowSet or folder you want to rename, and then click **Rename**. The selected WindowSet (or folder) appears in edit mode.

Note You can also click one time on an already selected WindowSet (or folder). The selected item appears in edit mode.

- 2 Type a new name for the WindowSet (or folder) and press **Enter**.

Deleting Local Copies of WindowSets and Folders

You can delete a local copy of a WindowSet (or folder) by switching to offline mode and deleting it from the Publishing pane. The published WindowSet (or folder) on the portal is not deleted.

When you delete a:

- WindowSet, all contained folders and displays are deleted at the same time.
- Folder, all contained displays are deleted at the same time.



To delete a local copy of the WindowSet or folder

- 1 In the ArcestrA Web Exporter, switch to offline mode.
- 2 Right-click the WindowSet or folder you want to delete, and then click **Delete**. A warning message appears.
- 3 Click **Yes**. The selected WindowSet (or folder) is deleted from the local computer.

Deleting WindowSets and Folders on the Portal

You can delete a WindowSet (or folder) on the Portal by switching to online mode and deleting it from the Publishing pane. The local WindowSet (or folder) is not deleted and can be republished any time.

When you delete a:

- WindowSet, all contained folders and displays are deleted at the same time.
- Folder, all contained displays are deleted at the same time.



To delete a WindowSet or folder on the portal

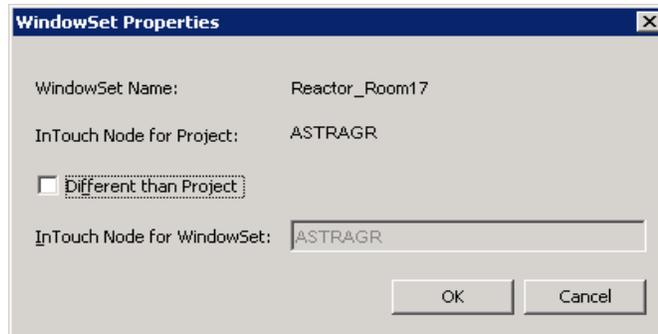
- 1 In the ArcestrA Web Exporter, switch to online mode.
- 2 Right-click the WindowSet or folder you want to delete, and then click **Delete**. A warning message appears.
- 3 Click **Yes**. The selected WindowSet (or folder) is deleted from the portal.

Changing the InTouch Data Node of a WindowSet

You can change the InTouch data source node of any WindowSet by changing the InTouch data source node in the WindowSet properties.

To change the InTouch data source node of a WindowSet

- 1 In the ArcestrA Web Exporter, right-click the WindowSet for which you want to change the InTouch data source node, and then click **Properties**. The **WindowSet Properties** dialog box appears.



- 2 Select the **Different than Project** check box.
- 3 In the **InTouch Node for WindowSet** box, type the new node name for the InTouch data source.
- 4 Click **OK**.
- 5 Transform the converted InTouch Windows and ArcestrA Symbols again.
- 6 Republish the WindowSet to the portal.

Managing TableWeaverSets

You can create, rename, and delete TableWeaverSets.

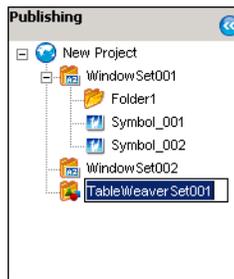
Creating TableWeaverSets

In the ArcestrA Web Exporter, you can create additional TableWeaverSets to host displays.

There is no specific configuration for a TableWeaverSet. You use it only so that you can publish transformed displays with one single publishing operation.

To create a TableWeaverSet

- 1 In the ArcestrA Web Exporter, right-click the project name in the Publishing pane, and then click **New TableWeaverSet**. A new TableWeaverSet is added to the Publishing pane under the project name.



- 2 Give the TableWeaverSet a new name and press **Enter**. You can now drag ArcestrA Symbols to the TableWeaverSet.

Renaming TableWeaverSets

You can rename a TableWeaverSet at any time. You can only rename a TableWeaverSet in offline mode.

When you rename a TableWeaverSet, the new name has no effect on published TableWeaverSets.

To change the name of a TableWeaverSet

- 1 In the ArcestrA Web Exporter, right-click the TableWeaverSet you want to rename, and then click **Rename**. The selected TableWeaverSet appears in edit mode.

Note You can also click one time on an already selected TableWeaverSet. The selected item appears in edit mode.

- 2 Type a new name for the TableWeaverSet and press **Enter**.

Deleting Local Copies of TableWeaverSets

You can delete a local copy of a TableWeaverSet by switching to offline mode and deleting it from the Publishing pane. The published TableWeaverSet on the portal is not deleted.

When you delete a TableWeaverSet, all contained displays are deleted at the same time.



To delete a local copy of the TableWeaverSet

- 1 In the ArcestrA Web Exporter, switch to offline mode.
- 2 Right-click the TableWeaverSet you want to delete, and then click **Delete**. A warning message appears.
- 3 Click **Yes**. The selected TableWeaverSet is deleted from the local computer.

Deleting TableWeaverSets on the Portal

You can delete a TableWeaverSets on the Portal by switching to online mode and deleting it from the Publishing pane. The local TableWeaverSet is not deleted and can be republished any time.

When you delete a TableWeaverSet, all contained displays are deleted at the same time.



To delete a TableWeaverSet on the portal

- 1 In the ArcestrA Web Exporter, switch to online mode.
- 2 Right-click the TableWeaverSet you want to delete, and then click **Delete**. A warning message appears.
- 3 Click **Yes**. The selected TableWeaverSet is deleted from the portal.

Managing Displays

Displays are transformed ArcestrA Symbols and InTouch Windows and appear under folders, WindowSets, or TableWeaverSets in the Publishing pane.

You cannot rename a display, but you can do the following:

- Delete a published display from the Information Server.
- Delete the local display.
- Change the properties of a display as you would with a file.

Deleting a Display

You can delete a display at any time.

In offline mode, deleting a display has no effect on the published display.

In online mode, deleting a display means the display is deleted from the Information Server portal. The local display is not deleted and can be republished any time.

To delete a display

- 1 In the ArcestrA Web Exporter, right-click the display you want to delete, and then click **Delete**. A warning message appears.
- 2 Click **Yes**. The selected display is deleted.

Changing the Properties of a Display

You can change the properties of a display as you would with a normal Windows file. For example, you make it read-only so that it cannot be accidentally overwritten.

To change the properties of a display

- 1 In the ArcestrA Web Exporter, right-click the display, and then click **Properties**. The file properties dialog box appears.
- 2 If necessary, make changes to the file properties and click **OK**.

Transforming ArcestrA Symbols and InTouch Windows

You can transform ArcestrA Symbols and InTouch Windows to displays with the ArcestrA Web Exporter by dragging them from the Source pane to the Publishing pane.

Transforming ArcestrA Symbols

You transform ArcestrA Symbols by dragging them from the ArcestrA Symbols pane to a WindowSet, TableWeaverSet, or folder in the Publishing pane. You can transform ArcestrA Symbols from the Graphics Toolbox, from object templates, and from object instances.



Note At any time you can refresh the source pane to show the latest symbols, objects, toolsets, or InTouch Windows. Press F5, click the Refresh icon, or click **Refresh** on the **View** menu.

To transform ArcestrA Symbols

- 1 In the ArcestrA Web Exporter, click the ArcestrA Symbols tab.
- 2 On the toolbar, click the source of the ArcestrA Symbol:

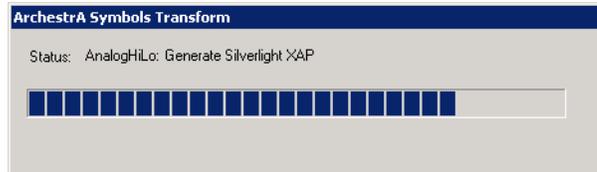
Icon	Purpose
	Shows the Automation Object templates on the left. You can select a template to show its hosted ArcestrA Symbols.
	Shows the ArcestrA Symbols and Toolsets in the Graphic Toolbox.
	Shows the Automation Object instances on the left. You can select an instance to show its hosted ArcestrA Symbols.

- 3 Drag one or more ArcestrA symbols you want to transform to the WindowSet you want to use to host the symbols. To multi-select items, you can use one of the following methods:
 - a Hold the **Ctrl** key and click the items you want to select.
 - b Click one item, then hold the **Shift** key and click another item to select all items between the clicked items.

- c Drag a rubber band selection around the items you want to select.

If any of the ArchestrA symbols you are transforming contains unresolved configuration, the **Unresolved Configuration in Symbols** dialog box appears. For more information, see *Resolving Unresolved Configuration in Symbols* on page 37.

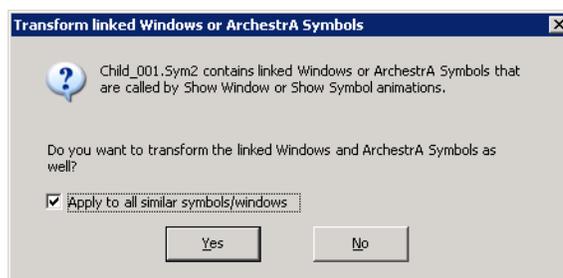
A conversion dialog box appears and shows you the progress of the conversion.



After a short while, the transformed symbols appear under the selected WindowSet.



If the transformed symbols use a ShowSymbol animation, a message appears for each symbol asking if you also want to transform the linked ArchestrA Symbols.



If you click **Yes**, the ArchestrA symbol is transformed together with any linked ArchestrA Symbols.

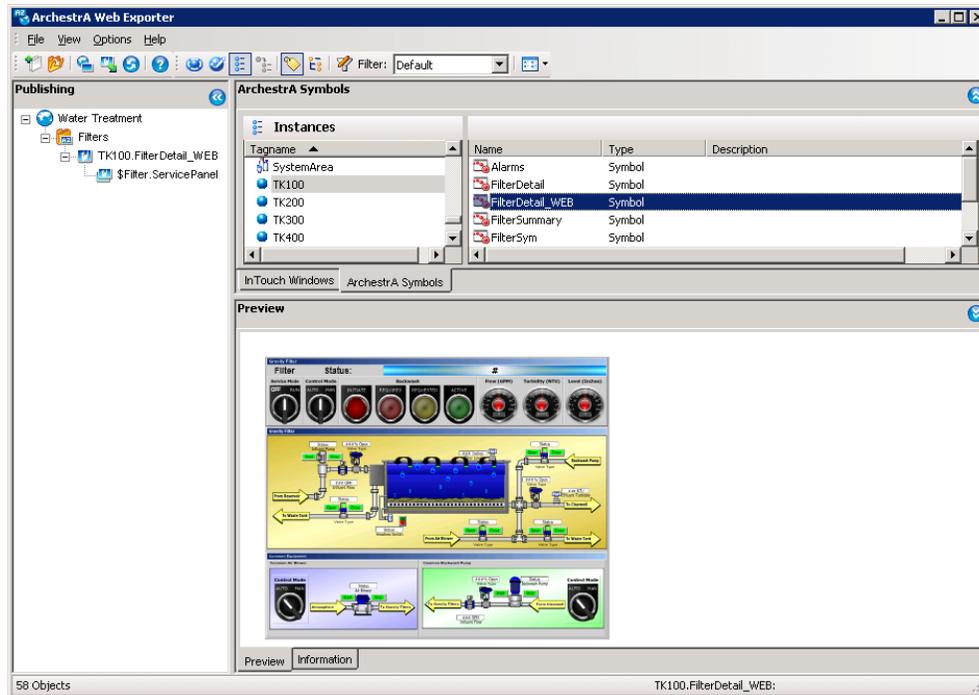
Select **Apply to all similar symbols/windows** if you don't want to be prompted for each symbol that has a ShowSymbol animation.

The linked ArchestrA Symbols appear as child nodes

under the new display.

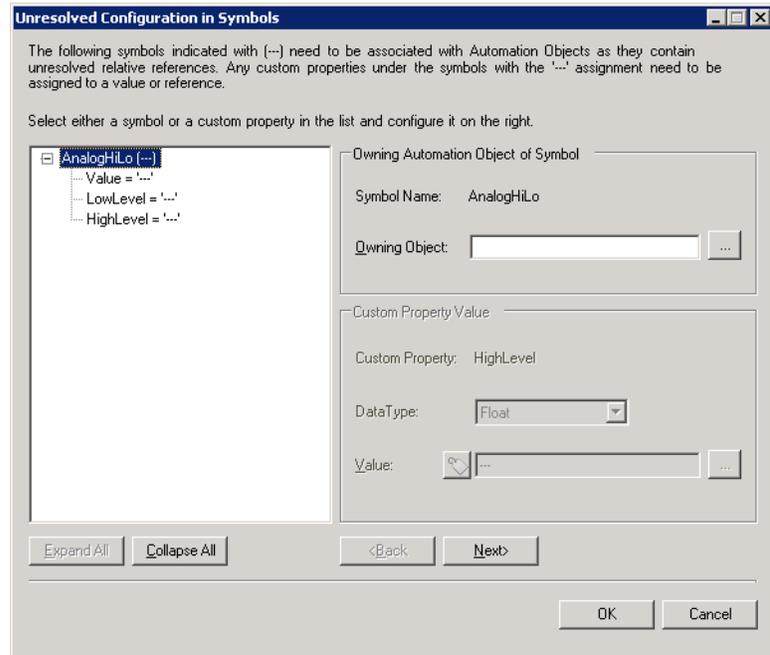


- 4 Read the information on the Information pane for any errors and warnings during the conversion.
- 5 If you want to preview the transformed ArchestrA Symbol or InTouch Window, click the **Preview** tab.



Resolving Unresolved Configuration in Symbols

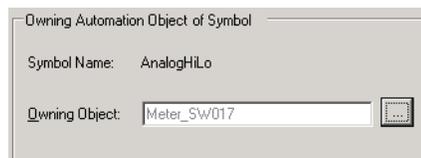
When an ArcestrA Symbol uses relative references that cannot be resolved by the ArcestrA Web Exporter, or when the Symbol configuration uses the “---” placeholder in custom property values, the **Unresolved Configuration in Symbols** dialog box appears.



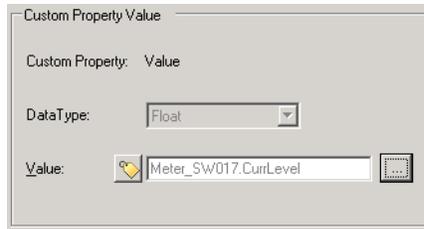
Note If you do not resolve the references, the published display may not work correctly in the Information Server portal unless the references are set by run-time scripting.

To resolve unresolved configuration in ArcestrA Symbols

- 1 In the Unresolved Configuration in Symbols dialog box, click an item with “---” placeholder.
- 2 If the item is a symbol, you must associate the symbol with an Automation object instance. To do this:
 - a Next to the **Owning Object** box, click the Browse button. The **Galaxy Browser** appears.
 - b Select an Automation Object instance to associate with the symbol and click **OK**.



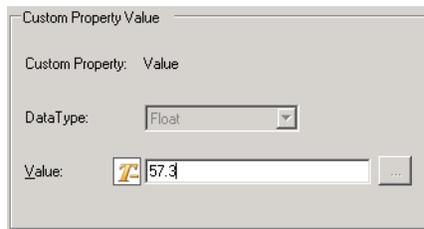
- 3 If the item is a custom property, you must specify a value or a reference for the custom property. To configure a reference:
 - a Next to the **Value** box, click the Browse button. The **Galaxy Browser** appears.
 - b Select an Automation Object instance on the left. The right pane shows the attributes of the selected instance.
 - c Select an attribute and click **OK**.



If you want to configure a value instead of a reference, do the following:



- a Click the label button to the left of the **Value** box, so that it shows the value icon.
- b In the **Value** box, type a value for the custom property.



Note You cannot use an expression as a value.

- 4 You can click **Next** to configure the next unresolved item, or **Back** to configure the previous unresolved item.
- 5 After you configure all unresolved items, you can click **OK**.

If some items are still unresolved, a warning message appears.



Click **Yes** to ignore the warning and start the conversion, or click **No** to go back and configure the unresolved items.

Transforming InTouch Windows

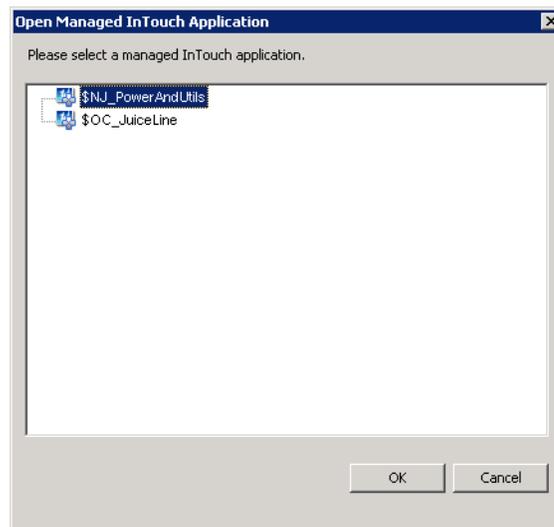
You transform InTouch Windows by dragging them from the InTouch Windows pane to a WindowSet, or a folder in the Publishing pane.

When you transform an InTouch Window, all native InTouch graphics, all embedded ArchestrA Symbols, and related pop-up Windows of the InTouch Window are also transformed.

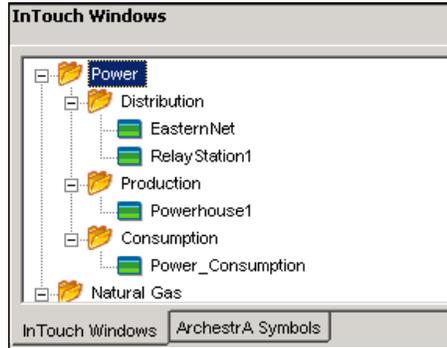
Note If the InTouch Window contains ArchestrA Symbols with unresolved references, the **Unresolved References in Symbols** dialog box does not appear. You need to configure the ArchestrA Symbol so that it can resolve its own unresolved references at run time.

To transform InTouch Windows

- 1 In the ArchestrA Web Exporter, click the InTouch Windows tab.
- 2 On the File menu, click **Open managed InTouch application**. The **Open Managed InTouch Application** dialog box appears.



- 3 Select the InTouch application and click OK. The source pane shows the InTouch Windows of the selected InTouch application.



- 4 Drag an InTouch Window to the Publishing pane.



Note If you want to transform more than one InTouch Window at a time, click the Details View icon to switch to a detailed list of InTouch Windows.

A message may appear asking if you want to always create the same folder hierarchy in the Publishing pane as the folder hierarchy in the InTouch application.

- 5 Click:
 - **Yes.** The ArcestrA Web Exporter transforms your InTouch windows and creates the same folder hierarchy in the Publishing pane as the folder hierarchy in the InTouch application. It will not ask you again.
 - **No.** The ArcestrA Web Exporter simply transforms the InTouch windows as displays in the WindowSet or TableWeaverSet you dragged them to.

Note For more information on how to change the conversion behavior and disable the message, see Setting Conversion Behavior for InTouch Windows on page 40.

Setting Conversion Behavior for InTouch Windows

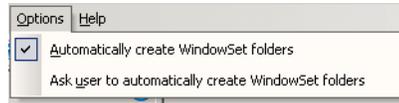
When you transform an InTouch Window, the ArcestrA Web Exporter can automatically create the same folder hierarchy as the Project View folder hierarchy in the InTouch HMI hosting the InTouch Window.

You can configure the ArcestrA Web Exporter to automatically:

- Always create the folder structure
- Never create the folder structure
- Prompt you each time to create the folder structure

To always automatically create the folder structure

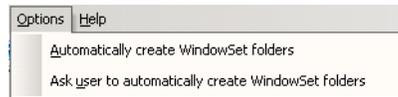
- ◆ Do one of the following:
 - On the **Options** menu, select **Automatically create WindowSet folders**.



- Convert an InTouch Window and click **Yes** when you are prompted to always automatically create folders.

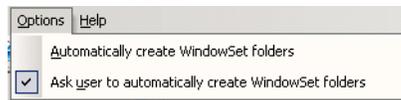
To never automatically create the folder structure

- ◆ On the **Options** menu, clear:
 - **Automatically create WindowSet folders**
 - **Ask user to automatically create WindowSet folders**



To prompt you each time to automatically create the folder structure

- ◆ On the **Options** menu, select **Ask user to automatically create WindowSet folders**.



Previewing ArcestrA Symbols and InTouch Windows

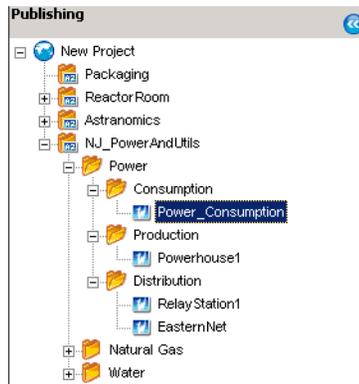
You can preview transformed ArcestrA Symbols and InTouch Windows in the ArcestrA Web Exporter before publishing them to the portal.

After publishing, you can also use the ArcestrA Web Exporter to view the published display as it appears in the portal. For more information, see [Viewing Published Displays](#) on page 45.

To preview displays before publishing



- 1 On the **File** menu, make sure **Switch between offline and online modes** is not selected. The WindowSet, folder, and display names appear in black.
- 2 In the Publishing pane, click the display you want to preview.



- 3 Click the **Preview** tab in the Preview and Information pane.

Publishing ArcestrA Symbols and InTouch Windows

You can publish displays to the Information Server Portal as configured in the Web Project Properties dialog box. You can also publish the displays to a different Information Server Portal.

You can only publish one display at a time. To publish more displays at the same time, you can either publish a folder, WindowSet or TableWeaverSet containing displays or the entire Web Project.

You can publish the display to resize automatically to the portal web window (Fit to Window), or in its original size.

To publish displays to the portal, you must be a member of the Administrator role on the Wonderware Information Server. For more information on user roles, see the *Wonderware Information Server Administration Guide*.



Note You cannot publish a transformed symbol that is current checked out. Checked-out ArcestrA symbols appear with a check mark in the **Publishing** pane. To publish the symbol, check the ArcestrA Symbol in first, then transform it again and publish it.

Publishing Displays to the Information Server Portal

You can publish displays from the Publishing pane to the Information Server portal. When you do so, the folders and WindowSet or TableWeaverSet containing the display are created on the portal.

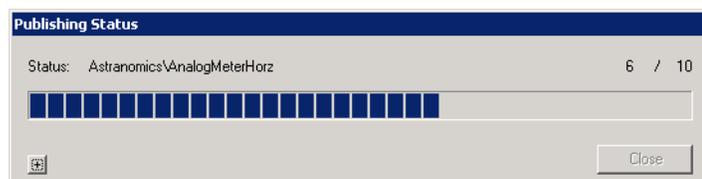
Note By default, the **Fit to Window** option is selected on the context menu of a display. If you want the published display to appear in original size on the portal, uncheck this option.

To publish a display to an Information Server portal

- 1 In the ArcestrA Web Exporter, right-click the display you want to publish, and then click **Publish**.

If the display you are publishing already exists on the Information Server portal, a warning message appears. Click **OK** to overwrite the published displays.

The **Publishing Status** dialog box appears showing you the progress.



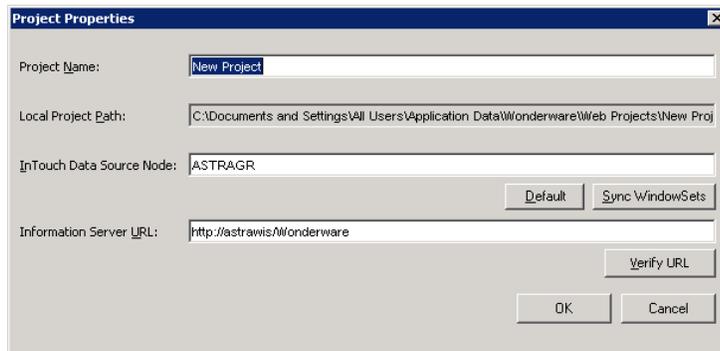
- 2 When the publishing is finished, click **Close**.

Publishing Displays to a Different Information Server Portal

You can change the Information Server URL if you want to publish the same project to a different Information Server Portal.

To publish a display to a Different Information Server Portal

- 1 In the ArcestrA Web Exporter, right-click the project name in the Publishing pane, and then click **Properties**. The **Project Properties** dialog box appears.



- 2 In the **Information Server URL** box, type the full URL of the Information Server portal you want to publish to.
- 3 Optionally, click **Verify URL**. The ArcestrA Web Exporter checks if the Information Server URL is correct and shows a message.
- 4 Click **OK**. You can now republish WindowSets and TableWeaverSets to the new Information Server portal. For more information, see *To publish a display to an Information Server portal* on page 43.

Viewing Published Displays

After you publish Arcestra Symbols or InTouch Windows to the Information Server, you can view them within the Arcestra Web Exporter without having to open in the Internet Explorer.

To view published displays



- 1 On the File menu, make sure **Switch between offline and online modes** is selected. The WindowSet, folder, and display names appear in blue.
- 2 In the Publishing pane, click the display you want to preview.



The right side of the Arcestra Web Exporter shows the published display as it would appear in a portal.

Chapter 3

Using Published Displays on the Web

After you publish a WindowSet display, you can view and interact with it in the ArcestrA Graphics node of the Information Server.

You can also configure published TableWeaverSet displays inside the Table Weaver Manager and view them in Table Weaver.

Viewing Published WindowSet Displays

You can view published displays in the Wonderware Information Server portal from any computer with Internet Explorer.

To view published WindowSet displays in the Information Server

- 1 Start Internet Explorer and browse to the Information Server, such as <http://mycompany/Wonderware>. The Information Server Portal page opens.
- 2 On the **Launch Pad** panel, expand **ArcestrA Graphics**. One or more WindowSet nodes appear.
- 3 Expand the WindowSet containing the published displays.

- Click the link of the published display. The published display appears on the right.

The screenshot shows a web browser window displaying the Wonderware Information Server interface. The browser address bar shows the URL: `http://astrawis/Wonderware/useng/main/default.asp`. The page title is "Wonderware INFORMATION SERVER".

The interface is divided into several sections:

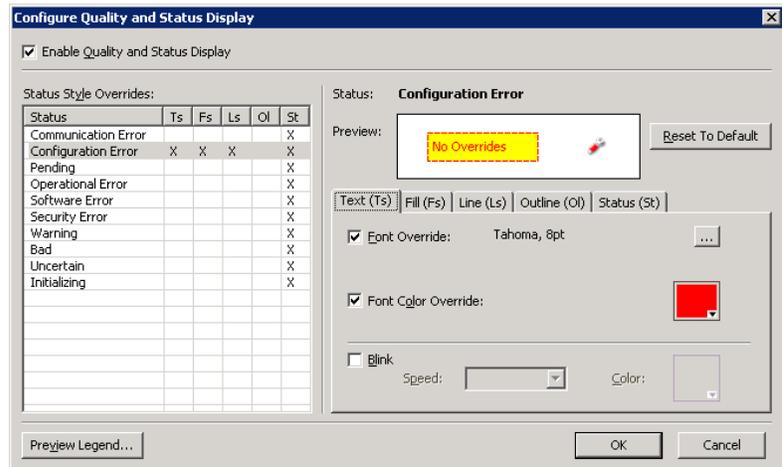
- Navigation Menu (Left):** A "Launch Pad" with a "System" tab. Under "System", there are links for Administration, Process Graphics, Factory Alarms, Custom Links, Table Weaver, Arcestra Graphics, WindowSet001, and Filters. The "Filters" link is expanded, showing "TK100.FilterDetail_WEB" as the selected item.
- Header:** "Wonderware INFORMATION SERVER" logo and navigation links for Home, Help, About, and Log off.
- Filter TK100 Status:** A control panel for the "Cavity Filter TK100". It includes:
 - Service Mode:** OFF, RUN, AUTO, MAN.
 - Control Mode:** INITIATE, REQUIRED, REQUESTED, ACTIVE.
 - Backwash:** A section with indicators for Flow (GPM), Turbidity (NTU), and Level (Inches).
- Process Diagram:** A detailed schematic of the Cavity Filter TK100. It shows a central cylindrical filter with various pipes, valves, and pumps. Labels include "From Reverse", "To Waste Tank", "From Air Blower", "To Waste Tank", "From Cleanwell", and "To Cleanwell".
- Common Equipment:** Two smaller control panels at the bottom:
 - Common Air Blower:** Shows a control knob for "Control Mode" (AUTO, MAN) and a status indicator for "Stopped Air Blower".
 - Common Backwash Pump:** Shows a control knob for "Control Mode" (AUTO, MAN) and a status indicator for "Stopped Backwash Pump".

The bottom of the browser window shows the status bar with "Done", "Local intranet", and "100%" zoom level.

After a short while, if the published display uses live data from the Arcestra Galaxy or from InTouch, live data appears and the published display is animated.

Showing Quality and Status

You can show Quality and Status as you would with ArcestrA Symbols in a desktop environment. ArcestrA Symbols published to the web show Status elements and element overrides as configured in the **Configure Quality and Status Display** dialog box in the ArcestrA IDE.



If you make changes to the overrides in the **Configure Quality and Status Display** dialog box in the ArcestrA IDE, you simply need to reload the web page with the published ArcestrA Symbol for the changes to take effect.

Note You cannot show Quality and Status information from a non-ArcestrA data source, such as from an InTouch tag that is referencing an I/O source.

Executing Scripts

You can only execute the following scripts in a published display:

- InTouch Window Script
- InTouch Action Script
- ArcestrA Symbol Predefined Script
- ArcestrA Named Script

The script execution writes back values to external data sources such as InTouch tags and ArcestrA attributes only at the end of the script execution.

This approach reduces the amount of communication between the web application and the data source. It also means higher performance for the web application.

Note This applies to InTouch tags and Galaxy attributes only. Values are written back immediately to custom properties during script execution.

Example

```
dim i as integer;
ud1.int1 = 0;
for i = 1 to 100
    ud1.int1 = ud1.int1 + 3;
next;
```

In the example, zero is not written back to the Galaxy attribute `ud1.int1` during script execution. Instead an internal “invisible” variable is used instead of the actual reference during script execution.

This variable is increased 100 times by the value of 3, the result is then written back to the actual Galaxy reference at the end of the script execution.

In other words, the value 300 is written back to the Galaxy reference `ud1.int1` one time at the end of the script execution.

Interacting with Published WindowSet Displays

You can interact with published displays in the Wonderware Information Server portal from any computer with the Internet Explorer as you would with the ArcestrA Symbols and InTouch Windows in a desktop environment.

Interaction includes:

- Clicking objects to change data and execute script (Pushbutton and Action Script animations)
- Clicking objects to enter specific values (User Input animation)
- Dragging objects (Slider animation)
- Moving the mouse over objects to view information (Tooltip animation)

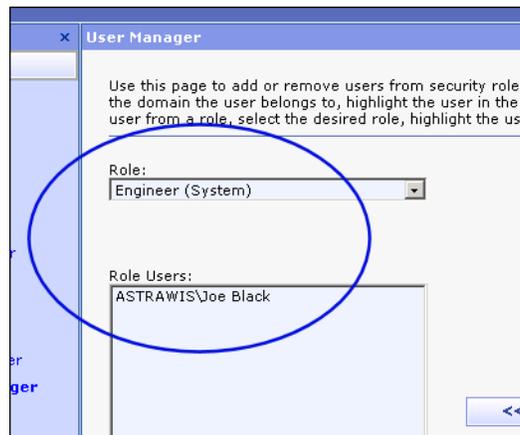
Enabling Write-Back to the Galaxy and InTouch

To be able to write back values from the Information Server portal to the Galaxy or InTouch, you must:

- Add the Information Server user to the Information Server Engineering role.
- Enable tag server write-back in the License Manager.

To enable write-back to the Galaxy and InTouch

- 1 Log on to the Information Server portal with an administrator account.
- 2 In the **Launch Pad**, expand **Administration**, and click **User Manager**. Then do the following:
 - a In the **Role** list, select **Engineer (System)**.
 - b In the **Domain** list, select the domain of the user you want to add.
 - c In the **Domain Users** list, select one or more users.
 - d Click **Add**. The selected users are added to the **Role Users** list.



- 3 In the **Launch Pad**, expand **Administration**, and click **License Manager**. Then do the following:
 - a Click **Tag Server Writeback**.
 - b Select **Enabled** for ALL tag server nodes.
 - c Click **Save**.
- 4 From a command prompt, type `services.msc` and press **Enter**.
- 5 Restart the service **Wonderware RunTime DB Handler**.
- 6 Reload the Information Server portal page.

Note You can also enable write-back for just selected nodes instead of for all nodes. For more information, see the section *Enabling Tag Server Writeback* in the *Wonderware Information Server Administration Guide*.

Using InTouch Windows

After you transform InTouch Windows and publish their displays to Information Server, the displays appear with gradient title bars in the Information Server as they do in InTouch.

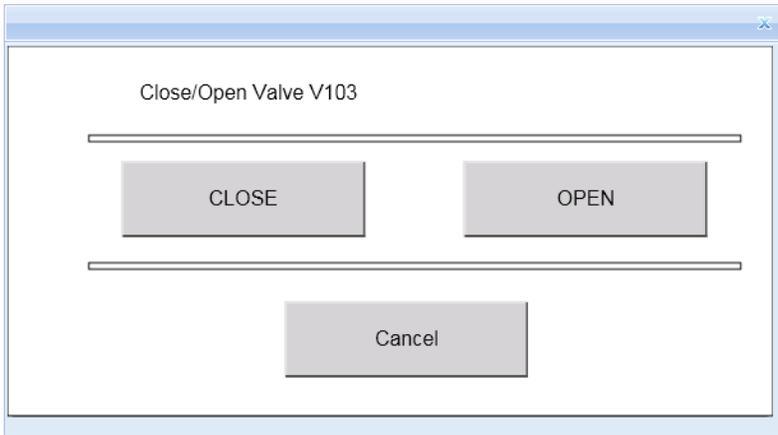
You need to be aware of a few differences between InTouch Windows in WindowViewer and the published displays:

- If you are transforming an InTouch Window calling more than one InTouch window with script or animation at the same time, not all linked InTouch Windows are transformed.
- You cannot use multiple InTouch windows of type Replace and Overlay at the same time in Information Server.
- Windows with Overlay window type are transformed as Replace window type.

Inputting Data at Run Time

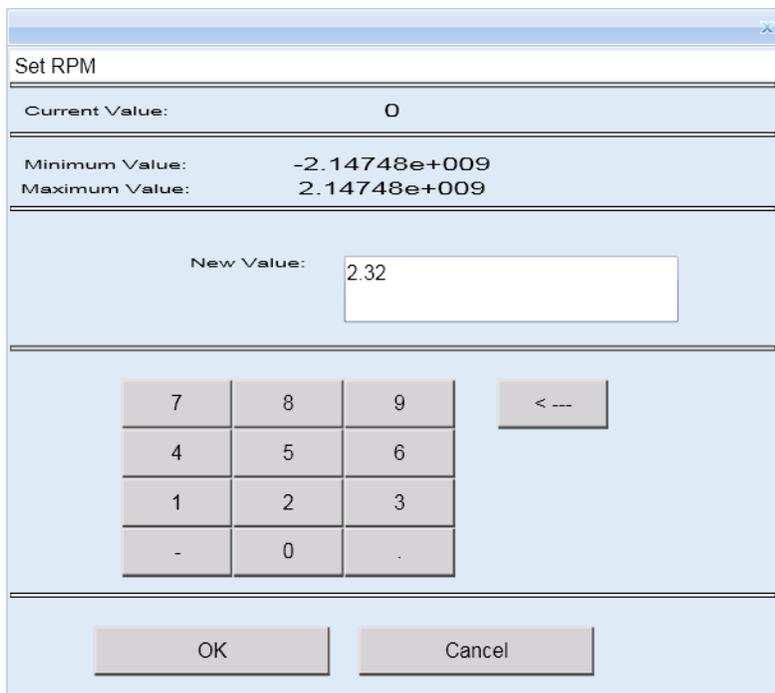
The visual appearance of the dialog boxes to enter data at run time is different than that of the desktop environment.

The following table shows the dialog boxes of various data types you use to enter specific data at run time.

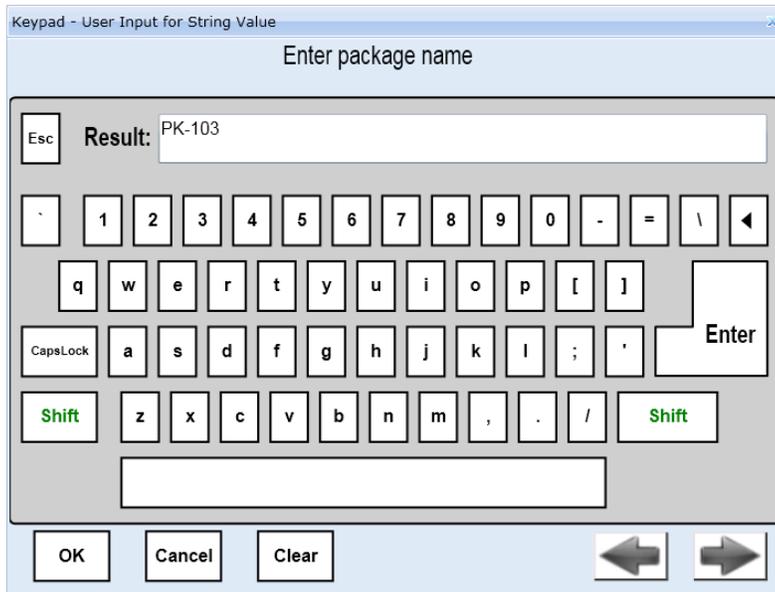
Data Type	Run-Time Dialog Box
Boolean	

Data Type **Run-Time Dialog Box**

Analog

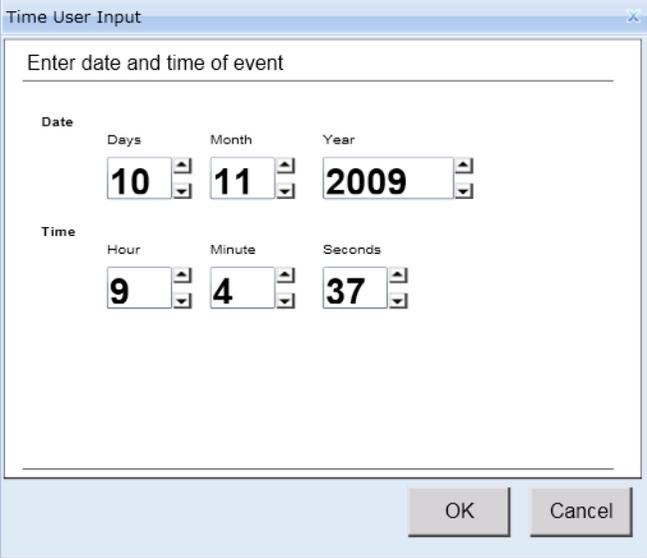


String



Data Type**Run-Time Dialog Box**

Time



Time User Input

Enter date and time of event

Date

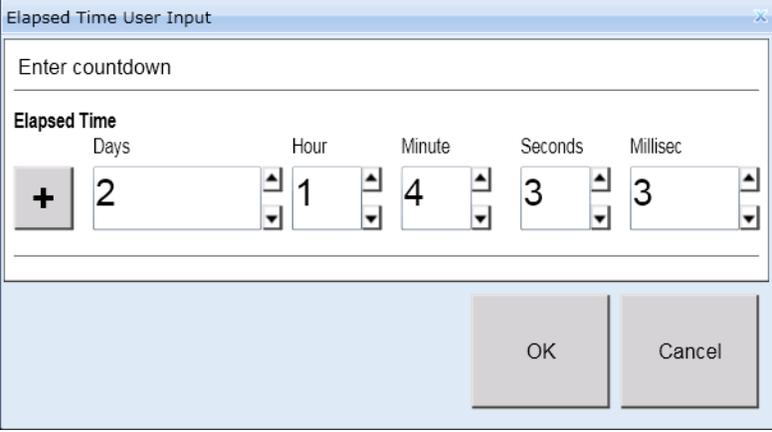
Days	Month	Year
10	11	2009

Time

Hour	Minute	Seconds
9	4	37

OK Cancel

Elapsed Time



Elapsed Time User Input

Enter countdown

Elapsed Time

Days	Hour	Minute	Seconds	Millisec	
+	2	1	4	3	3

OK Cancel

Configuring TableWeaverSet Displays

You can configure published TableWeaverSet displays in the Wonderware Information Server portal from any computer with Internet Explorer.

For more information on configuring Table Weaver displays, Queries and Content Units, see the *Wonderware Information Server Administration Guide*.

Note You can only map public custom properties of the published ArchestrASymbol. You cannot map Galaxy references, InTouch references or custom properties of embedded symbols within the published symbol.

To configure TableWeaverSet displays

- 1 Start Internet Explorer and browse to the Information Server, such as <http://mycompany/Wonderware>. The Information Server Portal page opens.
- 2 On the **Launch Pad**, expand **Table Weaver Manager** and click **Displays**. The **Displays** page appears on the right.
- 3 Click **New** and in the **Display Type** list, select **ArchestrASymbol**. The page is populated.

The screenshot shows the 'Displays' configuration window. The 'Define Display' section has 'Display Type' set to 'ArchestrASymbol'. The 'Identification' section has 'Display ID' and 'Description' fields. The 'Symbol and Layout' section has 'Symbol' (a dropdown menu), 'Total Number of Symbols' (set to 50), and 'Symbols in a Row' (set to 1). The 'Custom Property - Data Field Mappings' section has two columns: 'Public Custom Properties' and 'Data Field'. At the bottom are 'Save', 'Reset', and 'Cancel' buttons, and a legend for '* Required field'.

- 4 In the **Display ID** box, type a name for the display.
- 5 In the **Symbol** list, select your published TableWeaverSet display. The **Custom Properties - Data Field Mappings** area shows the public custom properties of the published symbol.

- 6 In the **Data Field** boxes, type the names of the columns from the query result set of the query to the Historian.
- 7 When you are done, click **Save**.

Appendix A

Limitations of the ArcestrA Web Exporter

There are some limitations of the ArcestrA Web Exporter, such as unsupported features and features that appear or behave differently on the web compared to a desktop environment.

Unsupported Features

This section lists all features of ArcestrA Symbols and InTouch Windows that cannot be transformed by the ArcestrA Web Exporter.

Unsupported ArcestrA Graphic Elements

The following ArcestrA graphic elements are not supported by the ArcestrA Web Exporter:

- ArcestrA Client Controls, such as the ArcestrA Alarm Control or the Trend Control
- Third Party Windows controls
- ActiveX controls
- .NET controls

Unsupported ArcestraA Graphic Animations

The following ArcestraA Graphic animations are not supported by the ArcestraA Web Exporter:

- Action Scripts triggered by the center or right mouse button.

Unsupported ArcestraA Script Functions

The following ArcestraA script functions are not supported by the ArcestraA Web Exporter:

- ActivateApp
- LogDataChangeEvent
- LogMessage
- SendKeys
- SetBad
- SetGood
- SetInitializing
- SetUncertain
- WWControl
- CreateObject
- WWExecute
- WWPoke
- WWRequest

Unsupported ArcestraA ShowSymbol Animation Configurations

The following features of the ArcestraA ShowSymbol animation are not supported:

- Reference as **Desktop**. As the transformed display is using a web browser window, all **Desktop** references relate to the Client Area instead.
- Reference as **Desktop X Y**. As the transformed display is using a web browser window, all **Desktop X Y** references relate to the Client Area instead.
- The **Relative to Desktop** setting is ignored and relates to the Client Area instead.

Unsupported ArcestrA Symbol Shortcut Keys

The following shortcut keys do not work in transformed displays:

- Function keys F1, F3, F4, F5, F6, F10, F11
- Function key F12 on Internet Explorer 8.0. F12 is supported in Internet Explorer 6.0 and 7.0.
- Up arrow, Down arrow, PgUp, PgDn
- Tab, Print, Execute, Separator, Num Lock, Help
- Backspace, End, Home
- ALT key with any of the following keys:
 - A, C, D, F, N, P, U, Z
 - Arrow keys
 - Home, End, +, -
- CTRL key with any of the following keys:
 - A, B, C, D, E, F, H, I, L, N, O, P, R, S, V, W, X
 - Left arrow, Right arrow, Enter, Click, Tab, F5
- SHIFT key with any of the following keys:
 - Tab, Ctrl + Tab, F10

If your ArcestrA Symbols or InTouch Windows use any of the keys above in key equivalents to trigger scripts, a warning appears in the Conversion report.

Use a supported key combination instead.

Unsupported .NET Functions

You can use .NET types in ArcestrA Symbol scripting to enhance the functionality of the symbol. Transformed ArcestrA Symbols use Microsoft Silverlight to show and animate ArcestrA Symbols on the web.

However, Microsoft Silverlight only supports a smaller .NET type set compared to the .NET Framework type set. The .NET types you use in your symbols may not be supported by Microsoft Silverlight.

If you transform ArcestrA Symbol scripts containing unsupported .NET types, the ArcestrA Web Exporter shows warnings in the conversion report and the script is not transformed.

To view supported .NET types

- 1 On the computer with the installed Arcestra Web Exporter, open the file C:/Program Files/Arcestra/Framework/Bin/aaWXE/DesignTime/SilverlightDIITypes/AIISLDLLTypes.xml in an appropriate XML Editor.

```

?xml version="1.0" encoding="utf-8"?
<AllAssembly name="AllAssembly">
  <TagType TypeName="Arcestra.QuickScript.Functions">
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.GetPropertyI(System.String, Syst
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.GetPropertyI(System.String, Syst
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.GetPropertyM(System.String, Syst
    <TagMethod MethodName="System.Void Arcestra.QuickScript.Functions.HideSelf()" />
    <TagMethod MethodName="System.Void Arcestra.QuickScript.Functions.IGetRemoteReferences(System.Stri
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.SetPropertyI(System.String, Syst
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.SetPropertyM(System.String, Syst
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.SetPropertyM(System.String, Syst
    <TagMethod MethodName="System.Void Arcestra.QuickScript.Functions.Show(System.String)" />
    <TagMethod MethodName="System.Void Arcestra.QuickScript.Functions.ShowAt(System.String, System.Int3
    <TagMethod MethodName="System.Void Arcestra.QuickScript.Functions.ShowTopLeftAt(System.String, Syst
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.wcAddItem(System.String, System.
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.wcClear(System.String)" />
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.wcDeleteItem(System.String, Syst
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.wcDeleteSelection(System.String)
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.wcErrorMessage(System.Int32)" />
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.wcFindItem(System.String, System.
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.wcGetItem(System.String, System.
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.wcGetItemData(System.String, Sys
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.wcInsertItem(System.String, Syst
    <TagMethod MethodName="System.Int32 Arcestra.QuickScript.Functions.wcSetItemData(System.String, Sys
    <TagMethod MethodName="System.Double Arcestra.QuickScript.Functions.Abs(System.Double)" />
    <TagMethod MethodName="System.Double Arcestra.QuickScript.Functions.Sgn(System.Double)" />
    <TagMethod MethodName="System.Double Arcestra.QuickScript.Functions.ArcCos(System.Double)" />
    <TagMethod MethodName="System.Double Arcestra.QuickScript.Functions.ArcSin(System.Double)" />
    <TagMethod MethodName="System.Double Arcestra.QuickScript.Functions.ArcTan(System.Double)" />
    <TagMethod MethodName="System.Double Arcestra.QuickScript.Functions.Sin(System.Double)" />
  
```

- 2 Use the XML Editor to view supported .NET types or to find .NET types. If the .NET is not listed in the file, it is not supported.

Unsupported InTouch Components

The following list shows the InTouch components that are **not** supported by the Arcestra Web Exporter:

- Recipe Manager
- SPC Pro
- SQL Access
- 16 Pen Trend

Note If you transform and publish unsupported objects or objects that contain unsupported objects (such as Symbol Factory Wizards, cells, symbols or SmartSymbols using unsupported objects), the published symbol may show unpredictable behavior at run time.

Unsupported InTouch Features

The following list shows the InTouch features that are not supported by the ArcestrA Web Exporter:

- InTouch Keyboard as entry method.
- Blink Frequency setting
- Script Timeouts

Unsupported InTouch Graphics

The following list shows which InTouch Graphics are **not** supported by the ArcestrA Web Exporter:

- ActiveX Controls
- GOT Objects
- Real Time Trend
- Historical Trend
- Historical Trend Wizards

Unsupported InTouch Touch Action Scripts

The following InTouch Touch Action scripts are not supported:

- On Right Click
- While Right Down
- On Right Up
- On Right Double Click
- On Center Click
- While Center Down
- On Center Up
- On Center Double Click

Unsupported InTouch Script Types

The following InTouch Script Types are not supported:

- Application Script
- Key Script
- Condition Script
- Data Change Script
- QuickFunction Script

Unsupported InTouch QuickScript Functions

The following is a list of all unsupported InTouch QuickScript functions.

If you try to transform InTouch Windows containing the following QuickScript functions, a warning is logged to the conversion report.

- Ack
- ActivateApp
- AddPermission
- All Distributed Alarm Object functions. These start with “alm”.
- AnnotateLayout
- All Alarm Printer functions. These start with “APU”.
- AttemptInvisibleLogon
- ChangePassword
- ChangeWindowColor
- DialogStringEntry
- DialogValueEntry
- EnableDisableKeys
- All File Access functions. These start with “File”.
- GetAccountStatus
- GetNodeName
- Hide
- All Historical Trend functions. These start with “HT”.
- All Information functions. These start with “Info”.

- InTouchVersion
- InvisibleVerifyCredentials
- All IO functions. These start with “IO”.
- IsAnyAsyncFunctionBusy
- IsAssigendRole
- LogMessage
- Logoff
- LogonCurrentUser
- OpenWindowList
- PlaySound
- PostLoginDialog
- PrintHT
- PrintScreen
- All 16 Pen Trend functions. These start with “pt”.
- QueryGroupMembership
- All Recipe Manager functions. These start with “Recipe”.
- ReloadWindowViewer
- RestartWindowViewer
- SendKeys
- SetWindowPrinter
- ShowHome
- All SPC Pro functions. These start with “SPC”.
- All SQL Access functions. These start with “SQL”.
- StartApp
- StringCompareEncrypted
- SwitchDisplayLanguage
- All TSE-related functions. These start with “TSE”.
UTCDateTime.
- All Windows Control functions accessing the file system:
 - wcLoadList
 - wcLoadText
 - wcSaveList

- wcSaveText
- WindowState
- WWControl
- WWExecute
- WWIsDayLightSaving
- WWMoveWindow
- WWPoke
- WWRequest

Write-back to System Tags and Indirect Tags Prevented

For security reasons, you cannot write back directly to System Tags and Indirect Tags from published InTouch Windows.

Features with Limitations and Differences

This section lists all supported features with partial limitations or differences in their appearance or behavior compared to a desktop environment.

Logging to the ArcestrA Logger

The `LogMessage` command is not supported by the ArcestrA Web Exporter.

If you try to transform an ArcestrA symbol or InTouch window with a script containing a `LogMessage` command, ArcestrA Web Exporter shows a warning in the Information pane. The script is not transformed.

If you need to log messages to the ArcestrA Logger from a published display, you can do so by triggering a script on a deployed Automation object or in InTouch WindowViewer.

To write to the ArcestrA Logger from the Galaxy

- 1 Create a Boolean UDA on an Automation Object.
- 2 Create an OnTrue script on an Automation Object that is triggered by the Boolean UDA.
- 3 In the script body, you can:
 - Use the `LogMessage()` command to write to the ArcestrA Logger.
 - Reset the Boolean UDA.

To write to the ArcestrA Logger from InTouch WindowViewer

- 1 In WindowMaker, create a discrete memory tag.
- 2 Create a Conditional script that is triggered when the discrete memory tag becomes true (OnTrue).
- 3 In the condition script body:
 - Use the LogMessage() command to write to the ArcestrA Logger.
 - Set the discrete memory tag to 0;

Rotation of Windows Controls

In WindowViewer, if you rotate a group containing a Windows Control, the Windows Control outline is rotated and is labeled that it cannot be rotated.

In Information Server, if you rotate a group containing a Windows Control, the Windows Control is not rotated with the group and can still be used.

This is because of a Microsoft Silverlight limitation.

Adding Items to Windows Controls

If you add an item with the AddItem method to a combobox or listbox control in an ArcestrA Symbol, the associated reference is set to the new value.

In the InTouch HMI, if you add an item with the wcAddItem QuickScript to a combobox or listbox Wizard, the associated reference is unchanged and not written to.

The ArcestrA Web Exporter follows the behavior of InTouch in this case, and never writes values back to the associated referenced when you add items using the AddItem method or wcAddItem QuickScript.

InTouch SetProperty and GetProperty Functions

The ArcestrA Web Exporter only supports the InTouch SetProperty and GetProperty functions in connection with Windows Controls, not with any other controls.

Truncations and Line Wrapping in Windows Controls

Windows Controls in the InTouch HMI do not always show the correct font size. When the ArcestrA Web Exporter transforms Windows Controls, these may appear truncated or the text may be wrapped in the Information Server portal.

To work around this problem, increase the size of the Windows Controls in the InTouch HMI before transforming.

Differences in the Calendar Control

Because of limitations in Microsoft Silverlight, the appearance of the transformed Calendar control is different than the desktop experience of the Calendar control in WindowViewer:

- Different style
- The Fill color area is larger in Information Server than in WindowViewer
- Bolded dates do not appear in Information Server

Differences in InTouch Window Types

Windows with Overlay Window Type cannot be shown together in the portal at the same time. If you call an Overlay Window with a Show Window animation or script, it is converted the same way as a Replace Window.

If you configure an InTouch Window with script or Show Window animation to open more than one Windows of any type at the same time, in Information Server only the last Window referenced by script or last Window in the list is opened.

Show Symbol/Window Name Limitation

If you are transforming an InTouch Window with a Show Window animation and an embedded ArcestrA Symbol that uses the Show Symbol animation, both of which are calling a Window and an ArcestrA Symbol with the same name, the ArcestrA Web Exporter does not transform this correctly because of the name conflict.

Make sure you give InTouch Windows and ArcestrA Symbol unique names.

Duplicate InTouch Windows Controls Naming

You cannot transform InTouch Windows containing duplicate Windows Controls name, for example an InTouch Window containing two textboxes with the same name “TextBox_1”. The ArcestrA Web Exporter shows an error if you try to do so.

Differences in FOR NEXT Loop Execution

ArcestrA scripting supports automatic backwards execution of a FOR NEXT loop if the start value is larger than the end value. For example:

```
FOR i = 10 to 1
```

The loop is automatically executed so that the variable i progresses from 10, 9, 8, ... down to 1.

In the InTouch HMI, the same loop is not executed at all.

The ArcestrA Web Exporter follows the ArcestrA scripting approach and automatically assumes the STEP value is -1 if the start value of a loop is larger than the end value.

This applies also for transformed scripts from InTouch. Published InTouch Windows containing FOR NEXT loops with their start value larger than their end value are executed as if the STEP value is -1.

Differences in the StringFromTime function Result

The StringFromTime function returns a different result in ArcestrA scripting compared to the StringFromTime QuickScript used in the InTouch HMI.

The ArcestrA Web Exporter follows the functionality of the ArcestrA implementation of the StringFromTime function.

Appendix B

Design Recommendations

Read this section for recommendations on designing ArchestrA Symbols and InTouch Windows you want to publish to the web.

These recommendations apply depending on your target web user. The following are limiting factors:

- Connection speed: Dial-up, Internet, or local area network?
- Number of concurrent users
- Performance of user's computer

Limit the Complexity of the Symbol or Window

Limit the complexity of the Symbol or Window so that it can show in the end users browser quickly.

The complexity of a Symbol or Window contributes to the file size that needs to be copied to the user's computer for visualization.

If the Symbol or Window contains non-animated complex elements, consider using a bitmap instead.

To create a bitmap of a complex Symbol or Window

- 1 Open the ArchestrA Symbol or InTouch Window in WindowViewer.
- 2 Hold the **ALT** key and press **Print Screen**.
- 3 Open the Windows Paint program.

- 4 On the **Edit** menu, click **Paste**.
- 5 Crop the graphic to include just the window you want.
- 6 Save the bitmap as a file.
- 7 Import the bitmap into the ArcestrA Symbol Editor or InTouch Window. For more information, see the *Creating and Managing ArcestrA Graphics User's Guide* or the *InTouch HMI Visualization Guide*.

Avoid Complex Elements and Gradients

The ArcestrA Symbol Editor supports many graphical elements that require more processing power than simple elements such as the rectangle.

If you use a sufficient high number of these complex elements in your Symbol, the performance of the Symbol on the web may degrade.

To improve performance, avoid using complex elements, such as:

- Curves
- Chords
- Pies
- Polygons
- Polylines
- Paths

Instead consider using simpler elements, such as rectangles and lines.

Also avoid using groups whenever possible. As groups can be animated, this adds to the complexity of the symbol.

Consider ungrouping elements as long as this does not cause any functional issue, such as element name referencing.

Also, consider using solid colors instead of gradients in your solid elements. Solid colors can be rendered faster than gradients, as gradients need to be calculated.

Avoid Animations on Groups

Animations on groups, although supported, can degrade the performance of the Symbol on the web. Avoid using animations on groups if you see degraded performance.

Avoid Embedding of Symbols in Symbols

Whenever possible, avoid multiple levels of embedding of Symbols within Symbols. Each time a Symbol is embedded in another Symbol, data is exchanged between the Symbols at run time, which takes additional processing time.

Consider transforming an embedded symbol to a group by right-clicking on the embedded symbol, pointing to **Embedded Symbol** and clicking **Convert to Group**. If possible, you can ungroup the elements in the group to achieve better performance.

Merge Multiple Windows to One Window

If you want to publish an InTouch application with multiple concurrently showing Windows to the web, merge the content of the Windows to one single Window.

Wonderware Information Server does not support showing multiple Windows at the same time in the ArcestrA Graphics feature.

An example is the InTouch Reactor Demo which uses multiple Windows with different purposes at the same time:

- Process Visualization
- Trending
- Visualization Control

Note Instead of merging multiple Windows to one Window, you can use the Multiview feature of the Information Server to show one InTouch Window in each pane.

Index

A

- about publishing symbols to the web 9
- application logic 15
- ArchestrA symbols
 - previewing 42
 - publishing 42
 - transforming 34
- ArchestrA Web Exporter 9
 - customizing 26
 - installing 19
 - using 19
- ArchestrA Web Projects 11

C

- conventions, documentation 7

D

- data sources 14
 - ArchestrA Galaxy 14
 - InTouch WindowViewer 15
 - others 15
- displays 11
 - changing properties 33
 - deleting 33
 - managing 33
 - previewing 42
 - publishing 43
 - publishing to different portal 44

- transformed ArchestrA symbols 12
- transformed InTouch Windows 12
 - viewing published 45
- displays, organizing 13
- displays, previewing 14
- displays, publishing 16
- documentation conventions 7

F

- features
 - limited 64
 - unsupported 57
- folders 13
 - creating 28
 - deleting local copies 29
 - deleting on the portal 29
 - managing 27
 - renaming 28

I

- InTouch Windows
 - previewing 42
 - publishing 42
 - setting conversion behavior 40
 - transforming 39

N

- network configuration 18

O

offline mode 11
online mode 11

P

published displays
 interacting with 50
 viewing 47
published displays, viewing 17

Q

quality and status
 showing 49

S

scripts
 executing 49
security 17

T

TableWeaverSets 13
 creating 31
 deleting local copies 32
 deleting on the portal 32
 managing 31

 renaming 31
technical support, contacting 8

U

unresolved configuration
 resolving 37

W

web projects
 changing InTouch data source node 24
 creating 20
 managing 20
 opening 22
 renaming 24
welcome 7
WindowSets 13
 changing InTouch data node 30
 creating 27
 deleting local copies 29
 deleting on the portal 29
 managing 27
 renaming 28
write-back
 enabling 51
 inputting data 52