

AVEVA™
InTouch HMI
formerly Wonderware

Tag Viewer Guide



AVEVA™

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CHAPTER 1

Getting Started with Tag Viewer

Tag Viewer is an external application that allows you to watch and monitor tags and modify tag values at run time. It provides you with a list of all available tags in the application arranged hierarchically, based on their alarm groups. You can run Tag Viewer only when WindowViewer is running. Tag Viewer displays only the tags available in the local InTouch application and does not support remote references.

To use Tag Viewer, you must first enable it in WindowMaker. You can then launch the application at run time. You can open only one instance of Tag Viewer at a time.

Enabling Tag Viewer

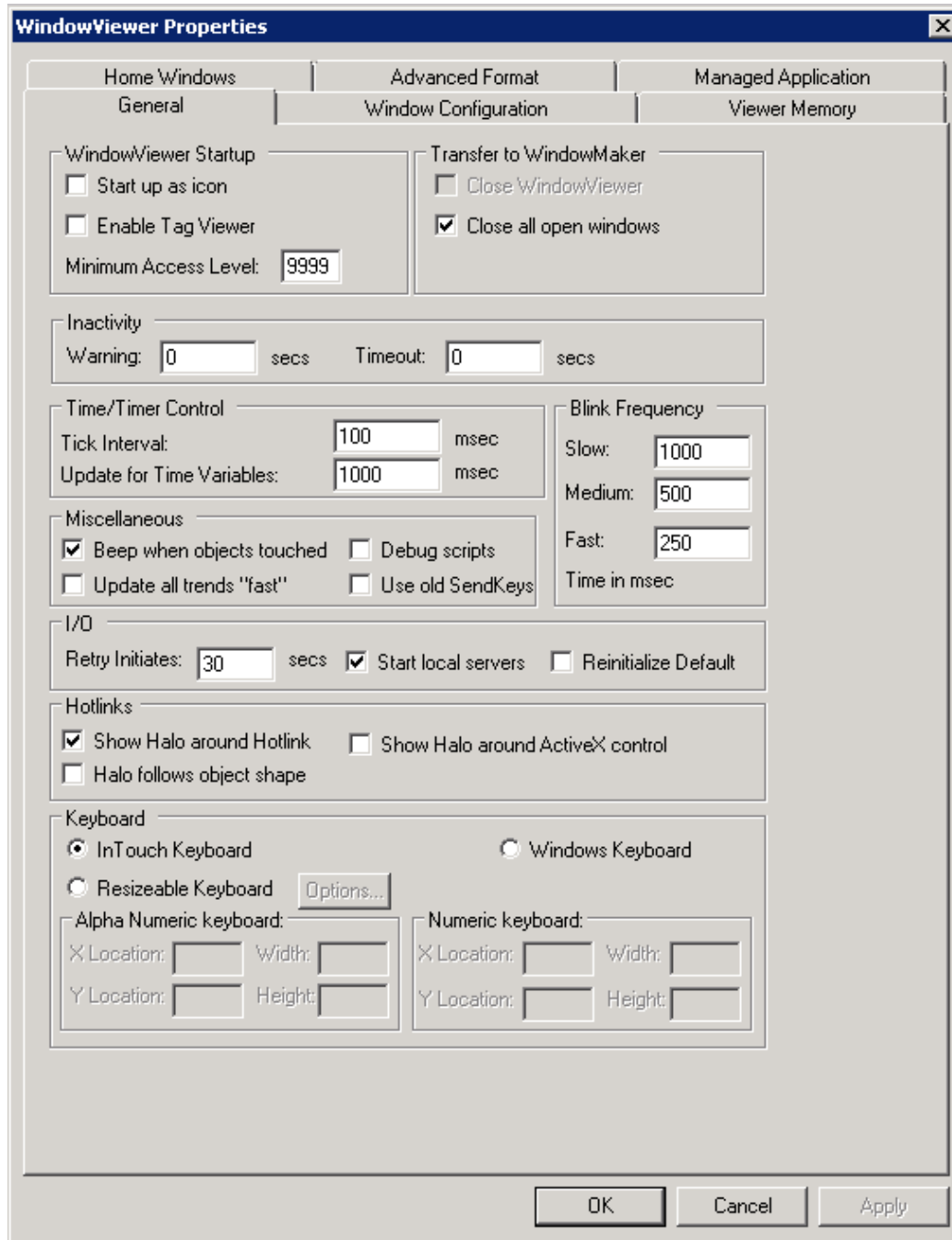
You can configure the WindowViewer properties at design time to enable Tag Viewer to run. You can also configure the WindowViewer menu so that the Tag Viewer option is displayed in the **Special** menu.

After you modify these properties, you must restart WindowViewer for your changes to become effective, if WindowViewer is already open.

To enable Tag Viewer

1. Open WindowMaker.
2. On the **Special** menu, point to **Configure**, and then click **WindowViewer**. The **WindowViewer Properties** dialog box appears.

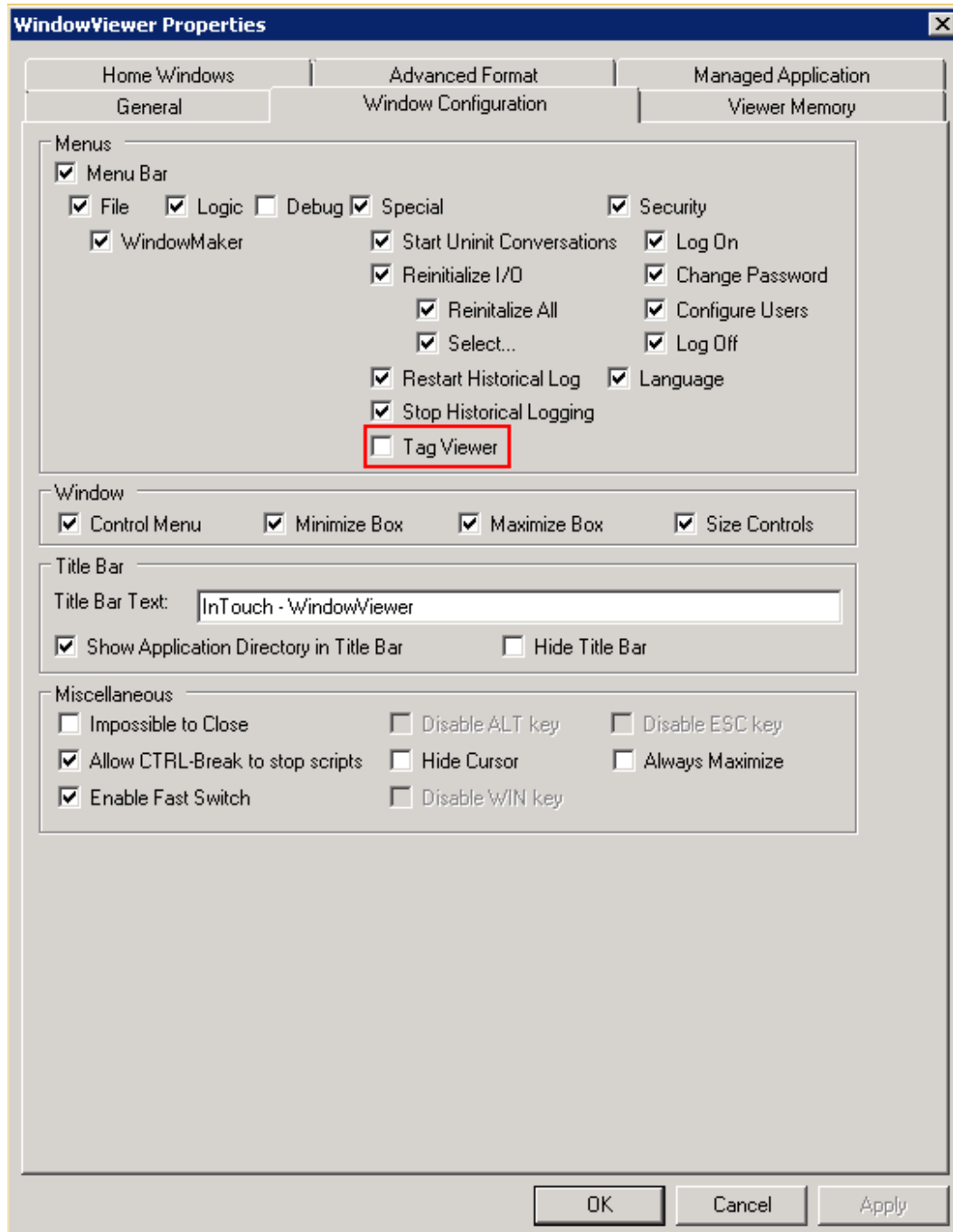
3. Click the **General** tab.



4. In the **WindowViewer Startup** area, select the **Enable Tag Viewer** check box so that you can start the Tag Viewer. This check box is not selected by default.
5. In the **Minimum Access Level** box, configure the security access level required to run the Tag Viewer application. The default value is 9999, and you can type any value between 0 and 9999.

Note: If your access level is less than the minimum access level, you cannot start Tag Viewer at run time.

6. Click the **Window Configuration** tab.



7. In the **Menus** area, select the **Tag Viewer** check box to enable the **Tag Viewer** option in the **Special** menu of WindowViewer.
8. Click **OK**.
9. After you modify any of these parameters, you must restart WindowViewer to apply your changes.

Starting Tag Viewer

You can start Tag Viewer only if WindowViewer is running, and Tag Viewer has been enabled at design time. You can launch Tag Viewer from the WindowViewer menu or from a script calling the LaunchTagViewer() function. This function can be executed from any script type, except application scripts: OnStartup and OnShutdown. If Tag Viewer is not enabled, calling the function will not start Tag Viewer and a warning message will be logged in the logger.

Security

You must have adequate security privileges to run Tag Viewer. The following tables explains the InTouch user security levels that are available.

Security Level	Description
ArchestrA	<p>If you select this option, you must do the following:</p> <ol style="list-style-type: none"> 1. In the WindowViewer Properties dialog box, set Access Level >= Minimum Access Level. 2. Log on to WindowViewer and start Tag Viewer. <p>This is applicable if you are running a managed InTouch application.</p>
InTouch	<p>If you select this option, you must do the following:</p> <ol style="list-style-type: none"> 1. In the WindowViewer Properties dialog box, set Access Level >= Minimum Access Level. 2. Log on to WindowViewer and start Tag Viewer. <p>This is applicable if you are running a stand-alone InTouch application.</p>
None	<p>If you select this option, then any user can start Tag Viewer at run time without logging on to WindowViewer.</p>
OS	<p>If you select this option, you must do the following:</p> <ol style="list-style-type: none"> 1. In the WindowViewer Properties dialog box, set Access Level >= Minimum Access Level. 2. Log on to WindowViewer and start Tag Viewer. <p>This is applicable if you are running a stand-alone InTouch application.</p>

If you are opening an InTouch application, you must log on again to re-authenticate yourself to run Tag Viewer. For more details on configuring users, see InTouch® HMI Application Management and Extension Guide, "Managing Users and Setting Their Authorization Level" section on page 144.

Note: You do not have to log on again if the security level of InTouch is None.

To log on

1. Open WindowViewer.
2. On the **Special** menu, click **Security**, and then click **Log On**.
3. Log on with a valid user ID, password and the required minimum access level.

Note: You can log on as administrator or create a user ID that has adequate privileges.

To start Tag Viewer

1. Open WindowViewer.
2. On the **Special** menu, click **Tag Viewer**. The Tag Viewer appears.

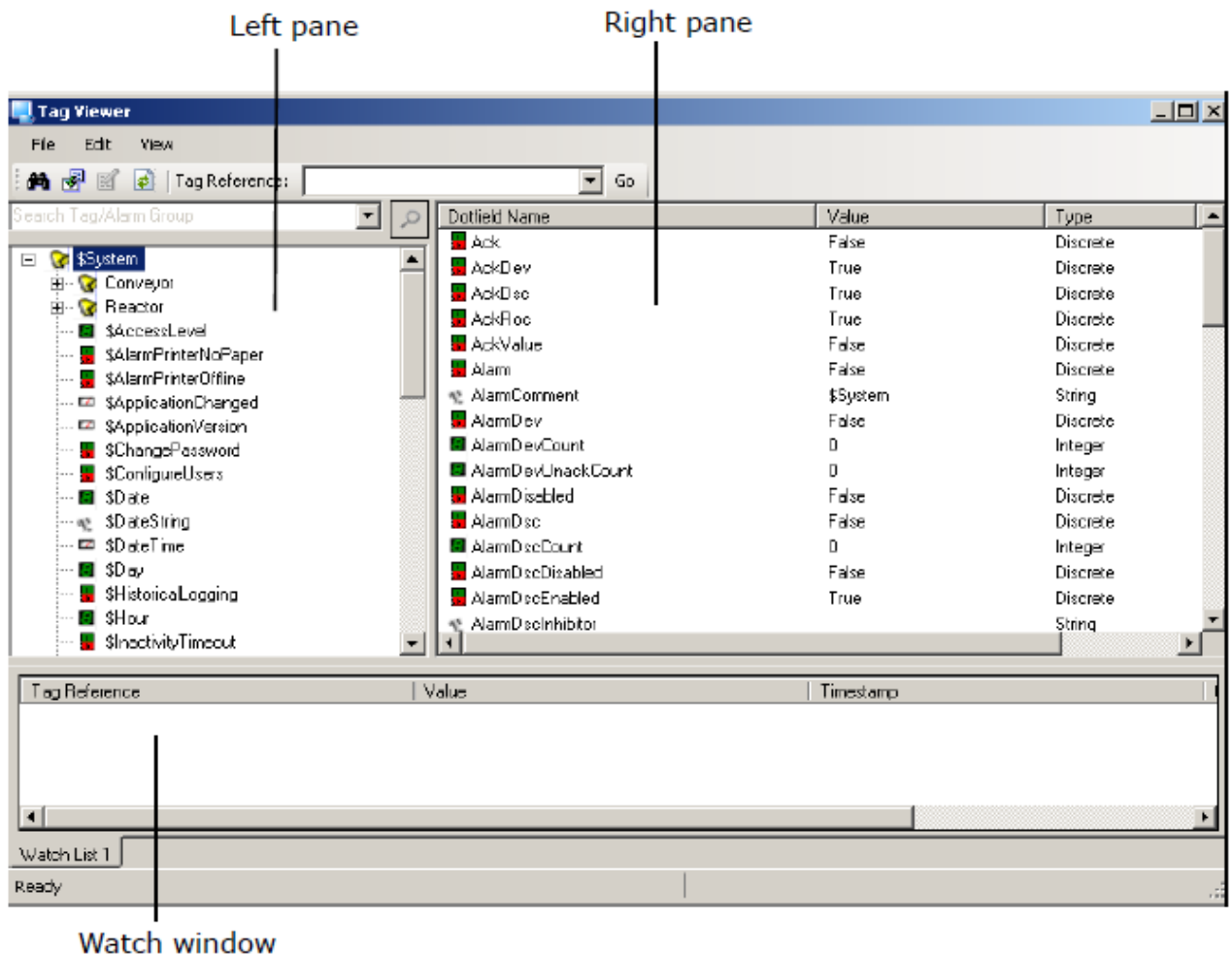
To start Tag Viewer from a script

1. Open WindowMaker.
2. Configure any script except application scripts "On Startup" and "On Shutdown" with the LaunchTagViewer() function.
3. Open WindowViewer.
4. Execute the script to start Tag Viewer.

Navigating in Tag Viewer

The Tag Viewer window contains three parts:

- The left pane, which displays the tags in a hierarchical structure, based on their alarm groups
- The right pane, which displays the list of all available dotfields for the tag or alarm group selected on the left pane
- The watch window at the bottom, which displays the run-time values of tags that you want to monitor.



Closing Tag Viewer

Tag Viewer can be closed in the following ways:

- By closing Tag Viewer
- By closing WindowViewer
- By changing the logged-on user

CHAPTER 2

Using Tag Viewer

You can use Tag Viewer at run time to:

- Search for tags
- View tags
- Modify tag properties
- Add and populate watch windows
- Manage watch windows

Searching for a Tag

You can use the **Find** dialog box to search for specific tags in WindowViewer.

To search for a tag

1. On the **Edit** menu, click **Find Tag/Alarm** group. The **Find** dialog box appears.

Tagname	Parent Alarm Group

2. In the **Find What** box, enter the name of the tag or alarm group that you want to find. By default, this displays the last tag or alarm group for which you have searched. The **Find What** box also maintains search history. If you are searching for a tag or an alarm group for the first time, the **Find What** box will be empty.

Note: The search history is removed when you close Tag Viewer.

3. In the **Search Criteria** area, select one of the following:
 - Starts with: Select this option to find a tag or alarm group that begins with the text you entered in the **Find What** box. By default, this option is selected.
 - Contains: Select this option to find a tag or alarm group that contains the text you entered in the **Find What** box.
 - Exact match: Select this option to find a tag or alarm group that matches the text you entered in the **Find What** box.
 - Ends with: Select this option to find a tag or alarm group that ends with the text you entered in the **Find What** box.
4. In the **Type** area, select one of the following:
 - Tagname: Select this option to find a tag. By default, this option is selected.
 - Alarm group: Select this option to find an alarm group.
5. In the **Parent Alarm Group** box, enter the name of the alarm group to which the tag belongs. If you retain **\$System**, which is the default value, the system does not filter the search result by any alarm group.
6. Click **Find**. The list of tags or alarm groups appears.
7. In the search result, double-click the tag name to select it in the Tag Viewer.

Note: To add the tag to the watch window, click **Add to Watch**.

Performing a Quick Search

Tag Viewer allows you to search for a tag quickly, if required.

To perform a quick search

1. In the search box above the left pane, enter all or part of the tag name.

Note: The search box also maintains search history until you close Tag Viewer.



2. Press **Enter** or click the search icon. The system selects a tag that begins with the text you entered.

Note: If the text you entered begins with a wildcard (*), the system will find any tag name that contains the text.

3. Click the search icon again to resume your search.

Note: You can also enter the text and press **F3** to perform a quick search.

Managing Tags

Tag Viewer allows you to watch tags and monitor their values at run time. You can view all tags available in the application. The tags are arranged in a tree structure, based on their alarm groups.

Viewing Tags

You can view the details of tags in Tag Viewer.

To view tags

1. Open Tag Viewer.
2. On the left pane, view the list of tags available in the application.

Note: Tag Viewer displays the tags available in the InTouch application only and does not support remote references.

3. On the left pane, click a tag to view its details on the right pane. The following information appears:
 - Dotfield Name: Displays the dotfields of the selected tag or alarm group.
 - Value: Displays the value of the dotfield. If you click the dotfield, the value is updated.
 - Type: Displays the dotfield type like integer, discrete.
 - Read/Write: Indicates whether the tag is a read-only tag or can be modified.
4. Add a tag to the **Watch** window to view its dotfield values at run time. For more information on adding tags to the **Watch** window, see *Adding a Tag or a Dotfield to a Watch Window* in this addendum.

Modifying Tag Properties

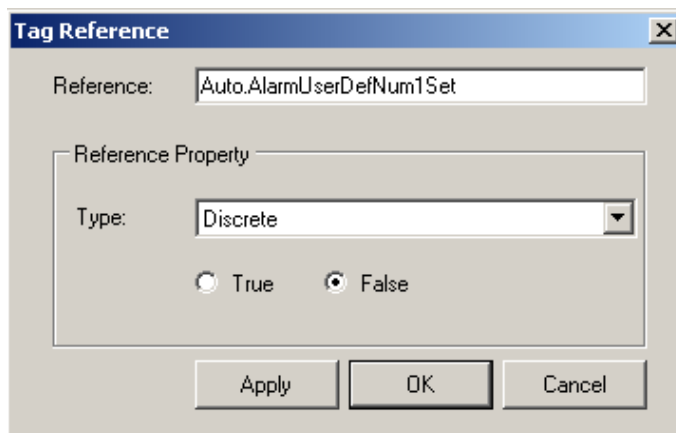
You can modify the properties of a tag in Tag Viewer. You can modify the properties of a tag only if the dotfield is marked as Read/Write or Write Only. You cannot modify any tag if you are running WindowViewer on a read-only license.

You will be asked to re-authenticate yourself if you try to modify the following:

- An indirect tag that is pointing to a Galaxy attribute, which is configured with Secured Write.
- An indirect tag that is pointing to a Galaxy attribute, which is configured with Verified Write. In this case, you must provide the log on details of the additional user too.

To modify tag properties

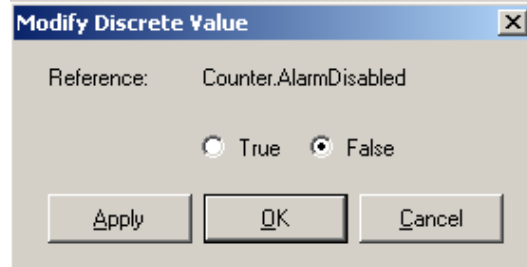
1. Open Tag Viewer.
2. On the left pane, click the tag to modify its properties. The tag details are displayed on the right pane.
3. Do any of the following:
 - On the right pane, click the property, and then click **Go** on the toolbar. The **Tag Reference** dialog box appears.



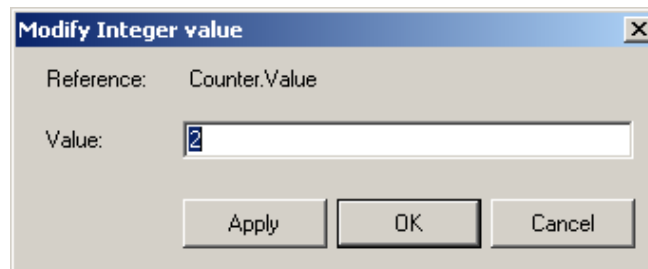
- In the **Type** list, select the tag type, and change the value.

Double-click any value on the right pane if you want to change the data type of the dotfield. The **Modify** dialog box appears. The dialog box varies depending on the data type of the dotfield. You can modify the value of the following data types:

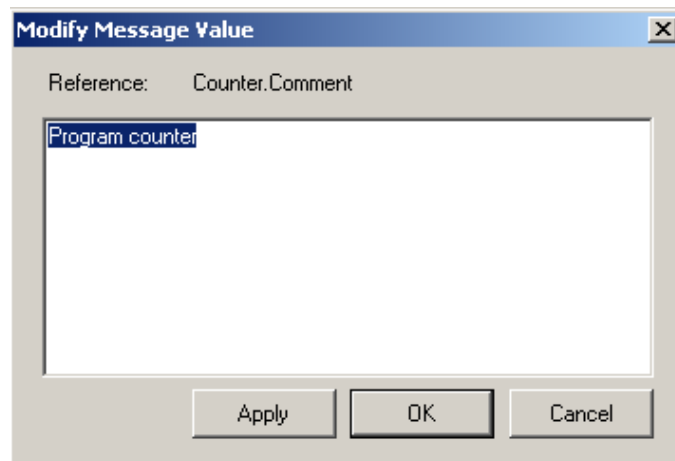
Discrete Value: You can click **True** or **False**.



Number: You can enter any number between -2147483648 and 2147483647.



Message: You can enter any text message upto 131 characters.



- Right-click the item, and then click **Modify**. The **Modify** dialog box appears. Modify the value.
4. Click **Apply**. The value is changed.

Managing Watch Windows

The watch window is displayed at the bottom of the Tag Viewer by default. You can use this window to view the value of tags at run time. You can create additional watch windows to group relevant tags together. You can also remove a watch window, if required.

Adding a Watch Window

You can create additional watch windows if you want to group tags and view them. The new watch windows are added as tabs next to the default watch window. You can create up to 50 watch windows.

To add a watch window

1. Right-click the watch window, and then click **Add Watch Window**. The new watch window is added. By default, it is called Watch List <n>.

Note: To rename the watch window, right-click the watch window tab and click **Rename Tab**.

2. Add tags to the watch window, as required.
3. Move from one watch window to another by clicking the tabs.

Adding a Tag or a Dotfield to a Watch Window

You can add tags or dotfields to a watch window to monitor their values at run time. You can add up to 2000 tags or dotfields to a watch window.

Note: If you add an alarm group to a watch window, all tags under this alarm group are added to the watch list.

To add a tag to a watch window

1. Do any of the following:
 - On the left pane, right-click the tag and click **Add to Watch**. The tag is added to the watch window.
 - On the left pane, click the tag and drag and drop it to the watch window.
 - Right-click the watch window and click **Add Tag Reference**.
 - On the right pane, right-click any dotfield and click **Add to Watch**. The dotfield is added to the watch window.

Note: You can select multiple tags or dotfields and add them to the watch window.

2. Click any column header to sort the table, based on the column in ascending or descending order.

Adding a Separator to Group Tags

You can group similar tags by adding a separator after a group of tags. If you save a watch window, the separators in the watch window are automatically saved.

To add a separator to group tags

1. On the watch window, click the row after which you want to add the separator.
2. Right-click the watch window, and click **Add Separator**. The separator is added after the selected row.
3. Select the separator along with the tag references and drag and drop them to another location to change the order of tags in the watch window.

Note: If you sort the information on the watch window the separator is removed.

Backing up and Restoring Watch Windows

You can save a set of watch windows as a back up and load them again when required.

Saving a Set of Watch Windows

You can save all the watch windows that you have opened, if required. You can later load this set of watch windows and monitor the tags.

To save a set of watch windows

- On the **File** menu, click **Save Watch List** and save the watch windows. By default, InTouch saves the watch windows in the **Watch Lists** folder in the current application directory.

Note: To save the watch windows in a different location, click **Save Watch List As** on the **File** menu.

Loading a Set of Watch Windows

You can open any watch window that you have saved earlier.

To load a watch window

1. On the **File** menu, click **Load Watch List**. The **Select a File** dialog box appears.

Note: You can also right-click the watch window and click **Load Watch List**.

2. Browse to the location where the file is saved and open the file.

Note: On opening a watch window, the existing windows are replaced with the new one. Only the references that are valid in the current application are added to the watch window.

I/O References

I/O references or indirect tags that are displayed in Tag Viewer behave like the windows in WindowViewer.

- If you remove an I/O or indirect tag from the watch window, the I/O reference is unsubscribed.
- If you have not added an I/O or indirect tag to the watch window, but its dotfield has been refreshed or you have clicked the tag on the left pane, Tag Viewer subscribes to the I/O reference. The subscription remains as long as the tag remains selected.
- If you close Tag Viewer, all I/O or indirect tags subscribed by Tag Viewer are unsubscribed.
- Closing Tag Viewer or removing tags from the watch window has no impact on tags in WindowViewer.

Persistence of Tag Viewer

Tag Viewer should be persistent with respect to its InTouch application in terms of the following:

- Location and size of the main window.
- Size of the tag tree structure on the left pane, the dotfield list on the left pane, and the watch window.

Tag Viewer should be persistent with respect to its WindowViewer session in terms of the following:

- Selected tag on the left pane
- Watch window
- Status bar and tool bar

Note: The persistence with its WindowViewer session is removed when you close WindowViewer.

Watch Window File Format

The watch window file that you have saved uses XML file format. The XML schema is:

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="InTouchTagViewer">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Watch" minOccurs="1" maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="ReferenceString" type="xs:string"
minOccurs="0" maxOccurs="unbounded"></xs:element>
              <xs:element name="Separator" minOccurs="0"
maxOccurs="unbounded"></xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```


CHAPTER 3

Understanding Error Messages

Tag Viewer displays error messages when it fails to execute a request. The message is displayed in a dialog box, which contains the description of the error.

Main Window

Feature	Description	Reason
Quick Search	The searched tagname/alarm group was not found.	System could not find a matching tagname/alarm group.
Watch window	The maximum number of references that can be added to watch window is 2000.	You have tried to add more than 2000 items to a watch window.
	The maximum number of watch windows is 50.	You have tried to add more than 50 watch windows.
	<File1> is not a valid watch list file.	You have specified an invalid file name while opening a watch window.
	<File1> already exists. Do you want to replace it?	You have specified an existing file name while saving a watch window.
	The following references does not exist in the current InTouch application and they were not added to the watch window: <List of references>	Some of the references that you loaded in the watch list are invalid or do not exist in the current InTouch application.

Add Tag Reference

Feature	Description	Reason
Add Tag Reference	Cannot find <f> in <abcd>.	You have entered a string <f> in the Substitute box and this string is not part of the string <abcd> in Tag Reference.
	The <From> value cannot be greater than <To> value.	You have entered a number in the To box that is less than the number in the From box.
	Please enter a number for <From>. Or, Please enter a number for <To>.	You have entered a string in the Substitute box , but the From box or To box is empty.

Feature	Description	Reason
	The following references does not exist in the current InTouch application and they were not added to the watch window: <List of references>	You have entered one invalid reference or multiple references and some of the references are invalid.
	The maximum number of references that can be added to watch window is 2000.	You have tried to add more than 2000 items to a watch window.

Modify Tag Value

Feature	Description	Reason
Modify Integer Value	<1a> is not a valid numeric value.	You have entered an invalid entry <1a> in the Value box and clicked Apply .
	The input value is out of valid range for integer data type.	You have entered a number that is outside the permitted range (-2147483648 and 2147483647).
Modify Real Value	The input value is out of valid range for real data type.	You have entered a value that is outside the permitted range (-3.402823466e38 and 3.402823466e38)
Tag Reference dialog box	The tag reference <InvalidReference> does not exist in this application.	You have entered a value <InvalidReference> in the Tag Reference dialog box and clicked OK .
	The data to be set was of the wrong data type.	The reference was a read-only tag, and you tried to modify the value. Or, You have entered a value that is not valid for the selected type of the tag reference. For example, you have entered a string type value while modifying an integer type tag.

Rename Watch Window

Feature	Description	Reason
Watch Window	Watch window <Watch List 1> already exists.	You have entered an existing name while renaming a watch window.
	"ReadonlyReference" is read only and cannot be modified.	You have added a read-only tag in the watch window and double-clicked the tag to modify the value.