

TrendWorX64 Viewer - How to Configure Drilldown



Application Note

November 2019

Description: Steps to enable drill-down in TrendWorX64 Viewer using Batch Commands and TrendWorX64 Viewer Events.

Requirements: This application note assumes you are familiar with GraphWorX64, the TrendWorX64 Viewer, Hyper Historian (or another historian), and have reviewed the following application notes, or are familiar with these features:

- *Commanding - Batch Commands*
- *Commanding - Commands on Events and Context Menus*

Introduction

This application note will walk you through configuring a TrendWorX64 Viewer to drill-down, using the new batch commands and event support.

After you have walked through this application note, you will be able to click on a trend viewer bar to drill down into several pre-configured ranges, and right click to drill back up to the previous range.

This configuration could be useful to, for example, quickly display energy usage data per week, per day, and per hour. This example will use smaller time ranges for illustrative purposes, so you will not need as much logged data to see the results in action.)

We will set up three time ranges for the trend viewer:

- One hour
- Ten minutes
- One Minute

Each time a sample is clicked, the viewer will drill down to the next smallest range, and when the viewer is right clicked it will drill up to the next biggest range.

Viewer Setup

We'll add a trend viewer and configure some basic settings to get started.

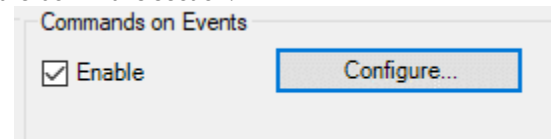
1. Open a **GraphWorX64**.
2. Add a **TrendWorX64 Viewer**.
3. Using the **Properties** panel, give the TrendWorX64 Viewer the name of **TWX**.
4. Configure the **TrendWorX64 Viewer**.
5. Select the **Plot** object in the tree.
6. Choose a **Plot Type** of **Bars**.

7. Select the **Chart** object in the tree.
8. Ensure that the **Chart** tab is selected.
9. Uncheck the box for **Context Menu**.
10. Go to the **Range** tab.
11. Enable **Start Frozen**.
12. Set **Time Range and Period** to **1 hour**.
13. If desired, select the **Pen** in the tree and choose a different pen. Ideally, you will have at least ten minutes of data logged. If you keep the default pen, make sure your Hyper Historian logger is running.

Write Time Range Values

We will use events to write the start, end, and interval of the trend viewer to some points for easy visibility.

1. Configure your **TrendWorX64 Viewer**.
2. Select the **Chart** object in the tree and make sure the **Chart** tab is selected.
3. Find the section titled **Commands on Events** and enable the box in this section.



4. Click on the **Configure** button in this section. The **Control Events Configuration** window will open.
5. Change the drop down for the **Event** field to **Time Range Updated**.
6. Add an item to the **Action** section and choose the **Write Value** command.
7. Configure the command with these settings:

PointName	@sim64:String.Static("Start").Value
ValueType	String
Value	{{x=tostringculture(todatetime({{@@chart.starttime}}))}}

8. Select your existing write value command and use the **Duplicate** button to add two more write value commands.
9. Select the second write value command and update these settings:

PointName	@sim64:String.Static("Interval").Value
Value	{{x={{@chart.timeinterval}}}}

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10. Select the third write value command and update these settings:

PointName	@sim64:String.Static("End").Value
Value	{{x=tostringculture(todatetime ({{@@chart.endtime}}))}}

11. Select **OK** and **Close**.
12. Add three process points to your display for these three points:
 - @sim64:String.Static("Start").Value
 - @sim64:String.Static("Interval").Value
 - @sim64:String.Static("End").Value

Drill Down Command

We will be using the batch command's conditional execution to ensure that we move only the appropriate level (from one hour to ten minutes, or from ten minutes to one minute).

1. Configure your **TrendWorX64 Viewer**.
2. Select the **Chart** object in the tree and make sure the **Chart** tab is selected.
3. Select the **Configure** button in the Commands on **Events** section.
4. Change the drop down for the Event field to **Sample Click**.
5. Add a new action and choose **Batch**.
6. Add a new step to the batch command.
7. Configure the first step with these settings:

Name	StepHourTo10Minutes
Execute Conditionally	Yes
Condition	x={{@@chart.timeinterval}}=="1 Hour"
Action	Command
On Success	Quit
On Fail	Quit
On Condition Fail	Go to Next step

8. For the **Command**, choose **Edit Trend Chart** with these settings:

SelectedProperties	ChartInterval ChartStart ChartTickInterval ChartTimeFormat SamplingInterval
SamplingInterval	1 Minute
ChartStart	{{x=todatetime({{@@sample.timestamp}})-fromminutes(5)}}
ChartInterval	10 Minute
ChartTimeFormat	Short
ChartTickInterval	1 Minute
Target	TWX

9. Click **OK** to the **Configure Command** dialog.
10. Select the **StepHourTo10Minutes** command and select the **Duplicate** button.
11. Change the second command with these settings:

Name	Step10MinutesTo1Minute
Condition	x={{@@chart.timeinterval}}=="10 Minute"
On Condition Fail	Quit

12. Edit the **Edit Trend Chart** command with these settings:

SamplingInterval	10 Second
ChartStart	{{x=todatetime({{@@sample.timestamp}})-fromseconds(5)}}
ChartInterval	1 Minute
ChartTimeFormat	Long
ChartTickInterval	10 Second

13. Click **OK**, **OK**, and **Close**.
14. Go into runtime and observe that you can now click on a bar to drill down.

Drill Up Command

In this section, we will configure the right-click to drill up through those same three ranges.

1. Go into configure mode.

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2. Configure your **TrendWorX64 Viewer**.
3. Select the **Chart** object in the tree and make sure the **Chart** tab is selected.
4. Select the **Configure** button in the **Events** section.
5. Change the drop down for the Event field to **Right Click**.
6. Add a new action and choose **Batch**.
7. Add a new step to the batch command.
8. Configure the first step with these settings:

Name	Step1MinuteTo10Minutes
Execute Conditionally	Yes
Condition	<code>x={{@@chart.timeinterval}}=="1 Minute"</code>
Action	Command
On Success	Quit
On Fail	Quit
On Condition Fail	Go to Next step

9. For the **Command**, choose **Edit Trend Chart** with these settings:

SelectedProperties	ChartInterval ChartStart ChartTickInterval ChartTimeFormat SamplingInterval
SamplingInterval	1 Minute
ChartStart	<code>{{x=todatetime({@@@chart.starttime}})-fromminutes(5)}</code>
ChartInterval	10 Minute
ChartTimeFormat	Short
ChartTickInterval	1 Minute
Target	TWX

10. Click **OK** to the **Configure Command** dialog.
11. Select the **Step1MinuteTo10Minutes** command and select the **Duplicate** button.
12. Change the second command with these settings:

Name	Step10MinutesTo1Hour
Condition	<code>x={{@@chart.timeinterval}}=="10 Minute"</code>

On Condition Fail	Quit
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13. Edit the Edit Trend Chart command with these settings:

SamplingInterval	10 Minute
ChartStart	<code>{{x=todatetime({@@@chart.starttime}})-fromminutes(25)}</code>
ChartInterval	1 Hour
ChartTimeFormat	Long
ChartTickInterval	10 Minute

14. Click **OK**, **OK**, and **Close**.
15. Go into runtime and observe that you can now click on a bar to drill down and right click on a bar to drill back up. You should be able to use click and right click like this to navigate between the 1 hour, 10 minutes, and 1 minute levels.