



ReportWorX64 Quick Start



APPLICATION NOTE

September 2017

Description: This application note is intended to give users a quick start guide on configuring and running reports using ReportWorX64.

General Requirement: Microsoft Excel is required to configure templates, but is not required to run reports.

Introduction

ReportWorX64 supports all the features of 32-bit ReportWorX, and integrates reports into GENESIS64 just like alarms or historical data. It uses existing features of GENESIS64 to provide new functionalities. Microsoft Excel is only needed to configure templates, so a Microsoft Excel installation is not required on the server.

ReportWorX64 includes a simple drag-and-drop interface to create flexible, interactive data visualizations, and is integrated with the new BI Server.

There is a new data source creation tool that provides an easy way to configure data sources. There is one tool to configure all data source types. This tool allows the users to configure data sources on the fly, within the same environment, without having to switch back to the Workbench application.

Users can configure their template to connect to local or remote data sources using the FrameWorX option.

ReportWorX64 has eliminated the need to pre-select Excel ranges when mapping data sources to cells in the template. The data browser allows drag and drop of data sources directly onto the report template.

The Parameter Browser allows users to configure parameters for their templates. ReportWorX64 supports all of the same parameter types that were available in 32-bit ReportWorX.

Configuring a Report Template in Excel

1. Open Microsoft Excel on a machine with GENESIS64 or ReportWorX Express 10.95 installed.
2. Open a blank workbook and check the ribbon. If you see a ribbon labeled "ReportWorX", jump to Step 6. If you do not see a ReportWorX ribbon, continue.
3. Go to Start → All Programs → ICONICS Tools. Open the tool called "ReportWorX Express Manager."
4. Check the "Enable" box, and click OK.

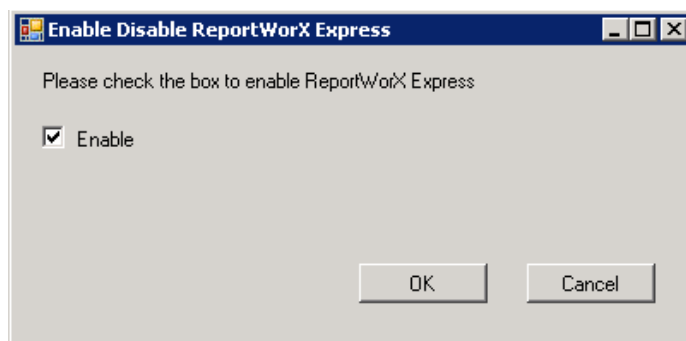


Figure 1 - ReportWorX Express Manager

5. Close and re-open Microsoft Excel – there should now be a "ReportWorX" tab. If there still isn't, check your Excel Add-ins and enable the COM Add-in for ReportWorX.
6. Click on the ReportWorX tab.

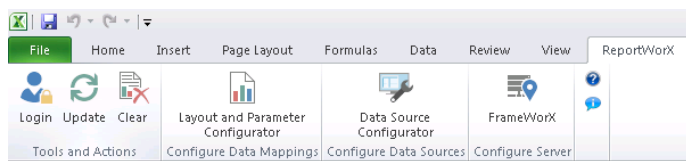


Figure 2 - ReportWorX tab in Excel

7. Click on the Layout and Parameter Configurator.
8. In this window, you can configure parameters and browse to existing data sources. You can drag and drop data sources right onto your report template. For this application note, we'll create a very simple report template.

NOTE: This application note assumes that you are configuring templates on the server machine. If your current installation is remote to the server with the data sources you want to connect to, click on the "FrameWorX" item instead. Configure this FrameWorX Server Location window to look at your remote server, and apply your changes.

9. In the Parameter configuration window at the top, click to add a new parameter.
10. Give the parameter a display name, like Now. Type in some description.
11. Set the Data Type to be Date Time.
12. Change the Parameter Type to be "Automatically evaluate a date and time".
13. Click on the '...' button under Properties.
14. Leave the Date Type as Today, and click OK.
15. Add another parameter. Name this one "5HoursAgo", and type in a description.
16. Change the Data Type to be Date Time.
17. Change the Parameter Type to be "Automatically evaluate a date and time".
18. Click on the '...' button under Properties.



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NOTE: Double check to make sure you are editing the properties of the correct parameter.

19. Configure this parameter as shown in the next figure. Set Date Type to be Today, and check "Use offset". Set the Offset Range to be Backward, 5 Hours.

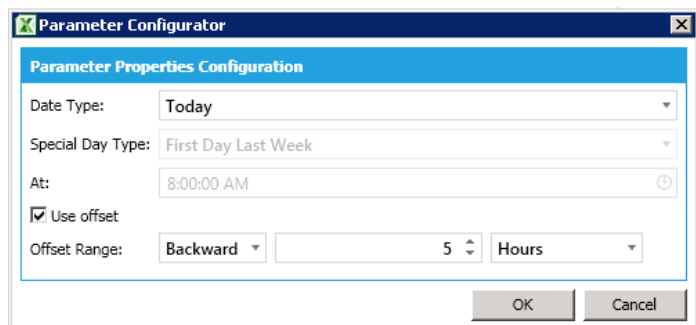


Figure 3 - Settings for parameter "5HoursAgo"

20. You can browse to and add data points to a report template. Browse to My Computer → Historical Data → Hyper Historian → Configuration → Various Signals → Ramp Fast. Drag this data point onto your report template.
21. Select the data point you just added. On the right in the Properties window you can configure this Data Source. Set "Fill Method" to be Auto.
22. Next to Start Date, check "Use Parameter", and choose the "5HoursAgo" parameter.
23. Next to End Date, check "Use Parameter", and choose the "Now" parameter.
24. Set the Processing Range to be Minutes, and the Processing Time to be 15.00. This tells the Hyper Historian tag that we want the data aggregated at a rate of 15 minutes.
25. Click OK to exist the Layout and Parameter Configurator and apply your changes.
26. Any cells with Data Mapping will be marked with a small red arrow in the corner.
27. Click File → Save As. Save the file as an Excel Workbook (.xlsx) and give it a name. Click Save. Close the file.

Adding a Report Template to Workbench

These are the steps to follow to add a report template to the Workbench after it has been configured in Microsoft Excel.

NOTE: The template can be configured on any machine with 10.95 and Microsoft Excel – it does not need to be configured on the server machine where reports will be run.

1. In the Workbench, expand Reports → Templates.

2. Right-click on Templates and select "Add Template" OR left-click on Templates and click the "Add Template" button in the Home ribbon.
3. A new template tab will open. Give your template a valid name, like "MyTestTemplate." Click Apply.
4. A popup window will appear: "Upload a new version of the template". This is the step where you select the template you configured in Excel. Click on the folder icon to browse to your template file.

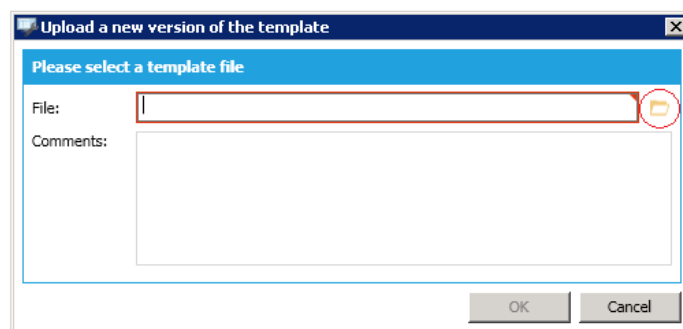


Figure 4 - Browse to existing template file

5. Browse to the template (.xlsx) that you have configured, and click Open. You can add comments, and then click OK.
6. Now your template should show one available version.

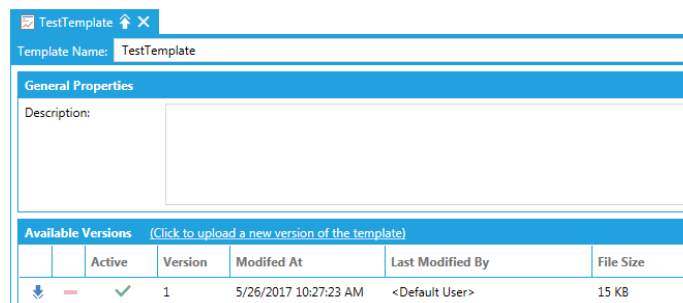


Figure 5 - Report Template added in Workbench

Creating a Report in Workbench

1. In the Workbench, expand Reports → Configurations. If you don't already have a configuration, you can add one here. Make sure to mark your configuration as the Active Configuration.
2. Right click on your configuration (like "Sample Configuration") and choose Add Report OR left-click on your configuration and click the "Add Report" button in the Ribbon on the Home tab.
3. A new report will open. Give your report a valid name, like TestReport. Click Apply.



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4. In the Report Template section of the Report Settings tab, choose your template in the "Selected template" field.
5. Check the "The report is enabled" box.
6. Click Apply to save your changes.

Executing Reports

In ReportWorX64, you can schedule reports to execute at a specific time or under specific conditions. Use Actions like workflows, schedules and triggers to execute a report. You can also manually generate reports from GraphWorX64 using the ReportWorX Navigator and the ReportWorX Viewer. The generated report is saved in a runtime database that can be separate from the configuration database. Generated reports can be downloaded in different formats, including Excel, PDF, and HTML.

Redirector commands, including Send Email, Send SMS, File Copy, Print, and Web Publishing, can be executed when the report succeeds, fails, or simply completes. ReportWorX64 has been integrated into GENESIS64 - for example, a Send Email command will forward the report to AlertWorX.

Using the Pre-Built Reporting Display

1. Open the "Reporting" GraphWorX display from Start → All Programs → ICONICS Tools.
2. The ReportWorX Navigator on the left shows the list of currently configured reports. The ReportWorX Viewer in the center shows the report details.

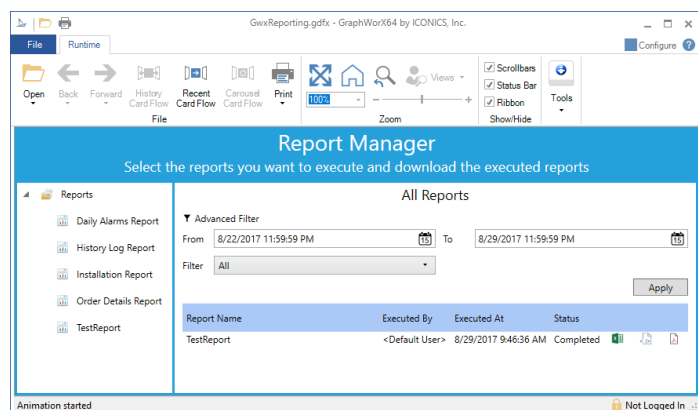


Figure 6 - Reporting GraphWorX64 Display

3. On the left pane, click on the report created in the previous steps.
4. In the center pane, click on the Execute button.

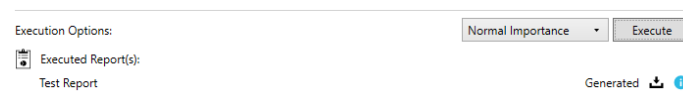


Figure 7 - Execute Button in ReportWorX Viewer

5. Once the report has been generated, the report window will update with a new line that says "Generated". Click on the icon with the down arrow to download the report and view it.

Creating Your Own ReportWorX64 Display

Rather than using the pre-built reporting display, you can also create your own.

1. Open a new GraphWorX64 display.
2. Go to the Controls ribbon. Add a ReportWorX Viewer and ReportWorX Navigator.
3. Select the ReportWorX Viewer, go to the Properties panel, and give it a CommandingName, such as "rwxview".
4. Select the ReportWorX Navigator, go to the Properties panel, and put the CommandingName from the previous step into the LoadExecutedReportsComandingTarget and LoadReportCommandingTarget fields.

NOTE: If desired, you could add two ReportWorX Viewers and use one for executing reports and another for viewing them. Give each ReportWorX Viewer a unique CommandingName and put the desired names into the different Load fields of the Navigator.

5. Go into runtime. Now, when you select a report in the ReportWorX Navigator its execution options will appear in the ReportWorX Viewer, and if you select a folder in the ReportWorX Navigator you will see the executed reports for that folder in the ReportWorX Viewer.

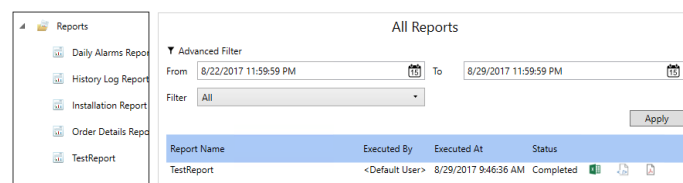


Figure 8 - ReportWorX Navigator and Viewer

Executing Reports on a Button Press or Command

You can also execute reports using a button by writing a 1 to the @@Execute tag for the report.

Add a Write Value pick action to your display. For the data source, browse under My Computer → Reports → your report → @@Execute. For the OnUpValue, put a 1.



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▼ Common	
(Name)	
Description	
▼ Data	
DataSource	rwx:Installation Report/@@Execute
▼ Data Write	
Confirm	False
▼ Dynamic Behavior	
Update	True
PickMode	Normal Button
InitialClick	False
Command	Write Value
▼ CommandParameters	
OnDownValue	
WhileDownValue	
OnUpValue	1
OnDoubleClickValue	
▼ Execution Trigger - Key	

Figure 9 - Pick Action to Execute Report

If your report has any parameters you will need to supply them in the tag path. String values may be enclosed in double quotation marks, but this is not required. An example of an @@Execute tag containing parameters is:

```
rwx:Order Details Report/@@Execute<@param1=ALFKI>
```

NOTE: If you have configured your parameters to have separate display values you must use the non-display value in the tag path. For example, for the example Order Details Report you must use the CustomerID (like "ALFKI") not the ContactName (like "Maria Anders").

Pushing that button in runtime will tell the ReportWorX64 Server to execute that report.

You can use the @@Execute button to trigger a report from anywhere that can write a value, including Workflow, BridgeWorX64, and anything that can execute a Write Value command.

NOTE: The Run Report Command was designed to run 32-bit ReportWorX reports. It will not work for ReportWorX64 reports. Use the Write Value Command and the @@Execute tag for the report.

Along with the @@Execute tag, each report also has some other helpful tags that allow you to see the state of the report and tell when it has run.

- **ExecutedTicks** – This value increments when a report has completed. This tag may reset if ReportWorX64 or FrameWorX is restarted. The actual value is usually not important, but you can tell that a report has completed by watching for this value to change.
- **LastExecuted** – The time when the report was last triggered in local time.
- **LastExecutedState** – A number that represents the state of the last triggered report. The states are:
 - -1: Unknown
 - 0: Completed
 - 1: Queued
 - 2: Running
 - 3: Failed
 - 4: Ignored
- **LastExecutedUTC** – The time when the report was last triggered in UTC time.