

Wonderware HMI Reports Getting Started Guide

Water Treatment Report

05/10/2006 17:03:03



Water Treatment Process

The first step in the water treatment process is to aerate the water. This is done to remove any dissolved gases in the water such as hydrogen sulfide. This also oxidizes Iron and Manganese in the water making the water appear brown in color.

In the next step the water is pumped into a detention tank where potassium permanganate is added. This helps oxidize the remaining manganese and iron. Oxidization is a process where oxygen molecules are stripped from the molecule and changes it's properties, in this case changing the manganese and iron from a soluble to an insoluble which can be filtered.

Water Factory Status on:

- Disinfection: Stand By
- Digester: Stopped
- Filtration: Stopped
- Grit Tank: Closed
- Clarifier: Stopped
- Pumps In: Stopped
- Pumps OUT: Stopped

After detention and just prior to filtration, a polymer chemical is added. This aids in the filtering out of iron and manganese.

The water is then pumped under pressure, through giant sand pressure filters which detain the iron, manganese (with help from the filter aid) and Turbidity (suspended particles). Water treated in the filters goes through at minimum of one meter of sand with the sand being no coarser than 0.5mm. During routine maintenance these filters are back washed to remove the iron, manganese deposits caught during the filtering process.

The final step is the addition of chlorine to the water for disinfection.

Last Values measured on:
05/10/2006 17:03:03



- Ph
- K
- CL
- CA
- MG
- NA

Wonderware HMI Reports

Description	Unit	Current	Previous	Variation	Comments
Ph	-	1425	1125	300	Abnormal variation - Please verify
Potential of Hydrogen	mg/L	95	75	20	Good
K	mg/L	1500	675	825	Abnormal variation - Please verify
CL	mg/L	100	45	-55	High variation
CA	mg/L	1425	1500	-75	High variation
MG	mg/L	95	100	-5	Good
NA	mg/L				

Weekly PH Evolution



Weekly CA Evolution



Weekly NA Evolution



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Introduction

Wonderware HMI Reports is an easy to use reporting system which enables you to produce informative and visually attractive reports from InTouch applications. In addition, Wonderware HMI Reports is able to connect to a variety of third-party data sources and applications, and historian databases to create, generate and distribute advanced reports for a variety of industries.

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Customer Support

You can receive technical support from your local distributor. To receive prompt support, make sure that you complete the activation form available from Wonderware HMI Reports Studio and send it to Invensys Wonderware at support@wonderware.com

System Requirements

Before you install the application verify that you have the hardware and software installed which meets the minimum requirements for your InTouch system.

The following operating systems are supported with Wonderware HMI Reports. The OS installed must also be compatible with your InTouch version.

- Windows 2000 Professional
- Windows 2000 Server
- Windows XP Professional Edition
- Windows 2003 Server
- Windows Vista SP1

The following versions of InTouch are supported with Wonderware HMI Reports. All versions should be at the latest Service Pack and/or Patch level released.

- InTouch 7.11
- InTouch 9.0
- InTouch 9.5
- InTouch 10.0
- InTouch 10.1

Optional additional software requirements are as follows.

- Adobe Acrobat Reader (for viewing reports created in Adobe PDF format)
- Microsoft Internet Information Server version 5.0 or later, if required to serve web-based reports

You should also review the latest release notes (from the product CD) for changes to this information.

About this Guide

This getting started guide is intended to introduce you to the concepts of Wonderware HMI Reports, and to enable you to quickly create your first report. You should allocate about 2 hours to install and walk through the exercise included in this guide.

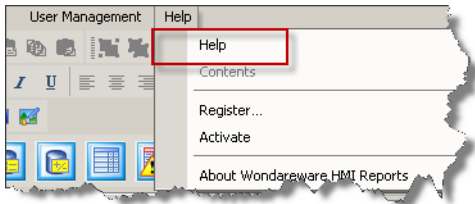
This document introduces the basic concepts of Wonderware HMI Reports, and walks you through creating a simple report. It is not intended to be a complete user guide for Wonderware HMI Reports, there is a great deal of powerful functionality in Wonderware HMI Reports which is not covered in this document. For more information and detail, refer to the online documentation.

Also available from Wonderware is both online and classroom training. For more details on this, please visit the Wonderware Training website (<http://training.wonderware.com>).

As a pre-requisite to using this guide it is assumed you are familiar with Wonderware InTouch. To follow the example in this document you will need to install InTouch and the sample Reactor Demo application.

More Information on Wonderware HMI Reports

For more information on the features of the Wonderware HMI Reports software, please see the included documentation files. You can access the documentation from the Wonderware HMI Reports Studio.



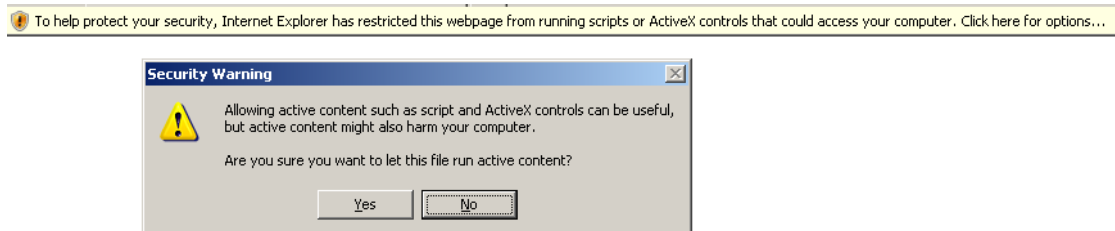
Help Menu



Help

The HMI Reports Online Help is implemented using Flash technology. Note that you may need to change your default Internet Explorer or Macromedia Flash security settings to ensure that this is displayed correctly. You will find detailed instructions on what is required, if you experience problems, from the main Help page link.

With the default IE browser settings, you may see a security warning dialog. Click Yes to allow the Help control to load.



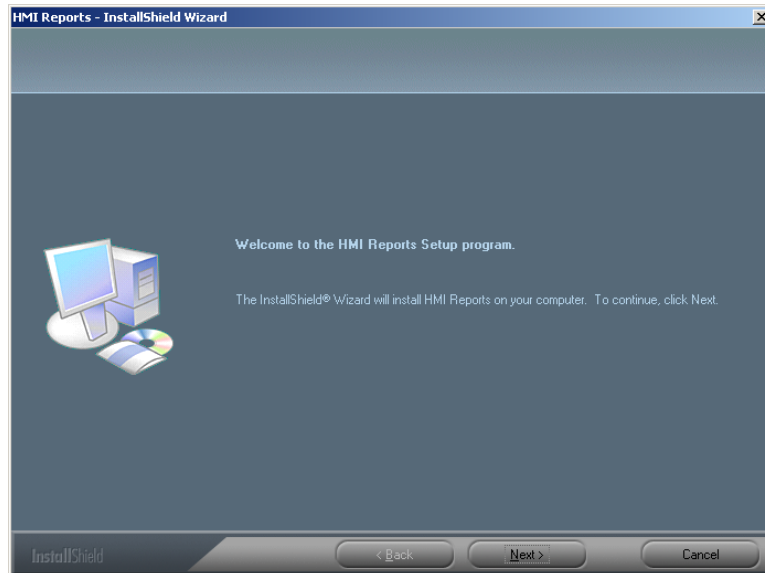
If the Flash based Help interface (including the Contents/Index/Search menu above) does not load, click the troubleshooting guide link displayed on the main page for assistance.

Product Installation and Maintenance

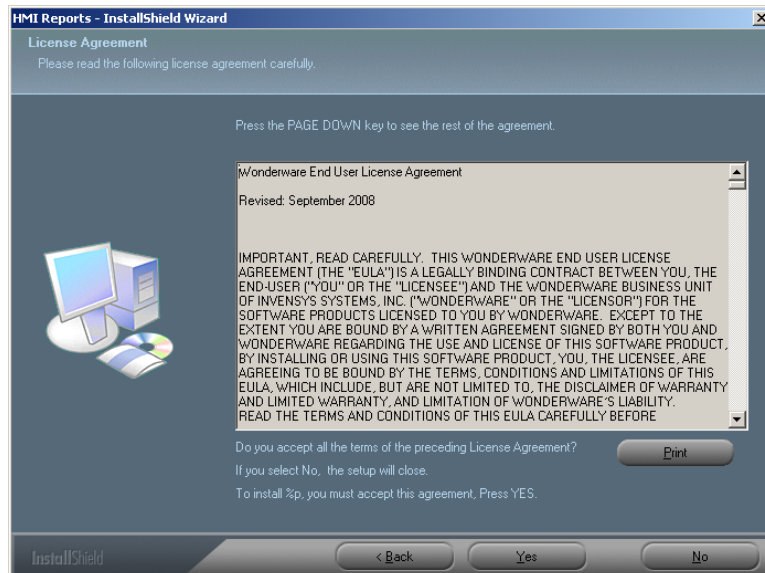
Installation

Ensure that a compatible version of InTouch is installed on this PC. This is required for the exercise that will follow.

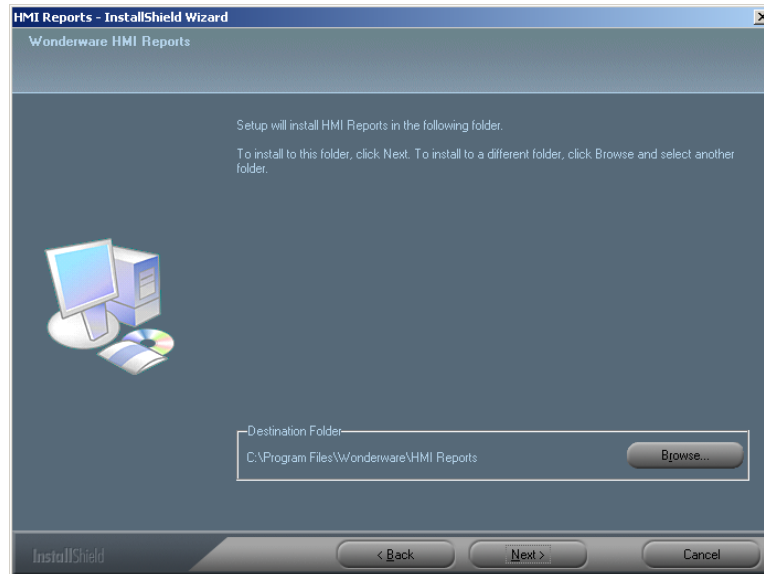
Insert the Wonderware HMI Reports CD in your PC drive. The installation program should start automatically. If not, navigate to the CD and manually run “setup.exe”.



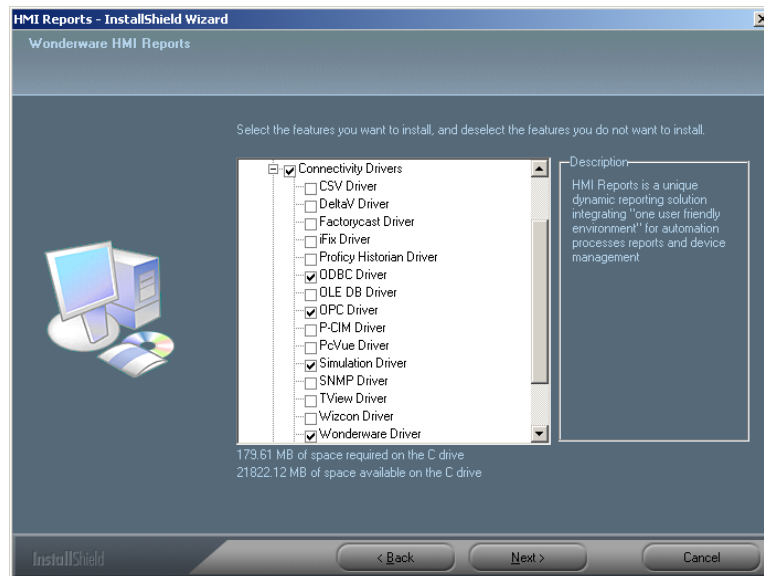
Click through the initial dialogs to accept the EULA terms.



Select an install location or accept the default (recommended), then click Next to continue.



Select the components of Wonderware HMI Reports you need. Select “Wonderware Driver” to enable connection to InTouch. Wonderware HMI Reports Design Studio is required to design reports. The defaults will be useful for most Wonderware users.



When finished, you may be asked to restart your computer.

Remove / Modify

To make later changes to your Wonderware HMI Reports system, or to remove it from your system, re-run the setup program and select the appropriate action.

Folders Organization

By default the program installs the program in: "C:\Program Files\Wonderware\Wonderware HMI Reports" and also creates the following subfolders.

Clipart	A library of Reports Backgrounds and Images
Database	Multilanguage file (lexicon.mdb)
DR_Web_Portal	For all web configuration files
Help	Documentation, including the online Flash help files
Project	Where all projects by default will be saved
Documentation	With all the latest information about this release (including the Release Notes)
Systems	System specific files
Templates	The default location for Report Templates
Utilities	Some utilities

Terminal Server

A special note if you have a Terminal Server installation. Wonderware HMI Reports should be installed and run from the Console session. In addition, the Runtime Engine (details follow) should also be configured to run within the console session only. You should not run the HMI Reports Design Studio or Runtime Engine from a client session; however you can view and generate reports from client sessions.

Licensing

Wonderware InTouch and Wonderware HMI Reports are licensed software and to be used in a production system requires installation of the appropriate license. For evaluation purposes, both products can be used without a license installed (in Demo Mode), but will have some limitations. The exercise outlined in this Getting Started Guide can be accomplished without a license installed.

The license limitations of Wonderware HMI Reports in Demo Mode are:

- HMI Reports runtime will shutdown (with a warning) after 30 minutes.
- Reports generated in Demo Mode will have a watermark red line
- There is a 25 tags and 2 web clients limit on report projects

To purchase a license for Wonderware HMI Reports, please contact your local Wonderware distributor. Your nearest distributor can be found by visiting the Wonderware web site (www.wonderware.com), or following the link offered in the startup dialog of Wonderware HMI Reports.

Wonderware HMI Reports Licensing Concepts

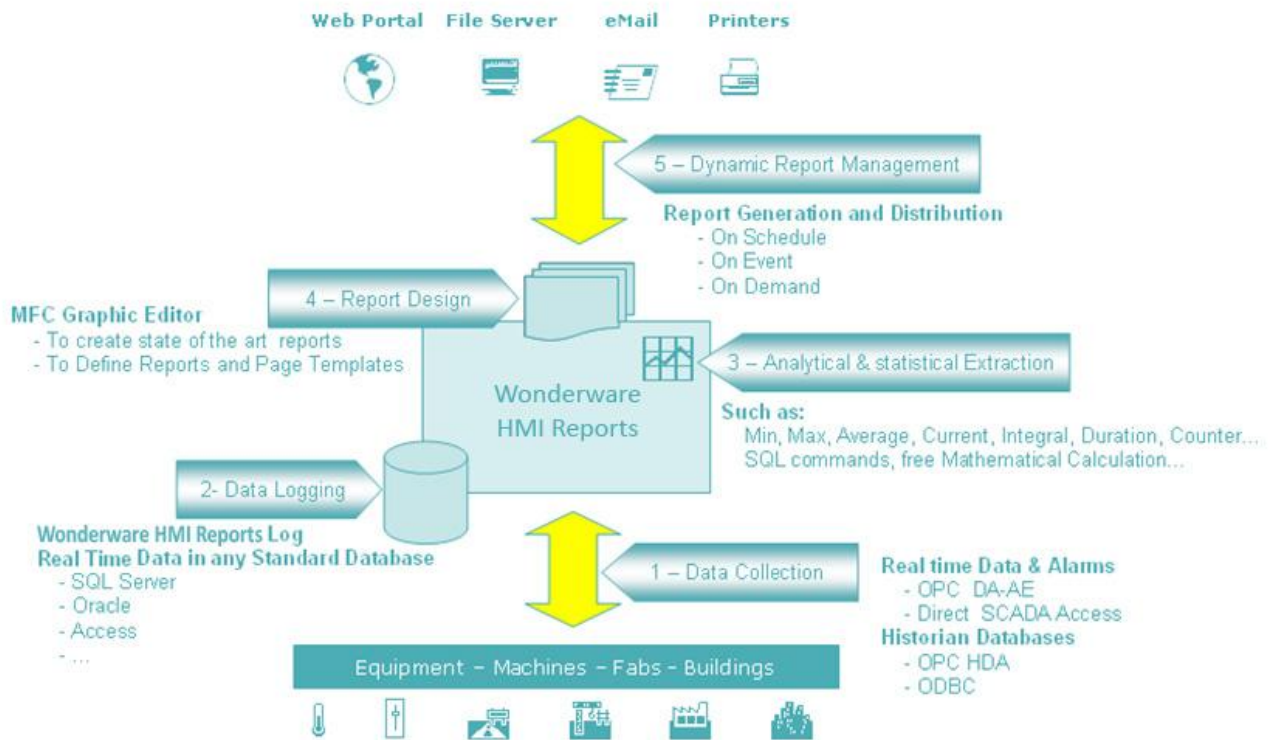
Report scheduling is configured with the Dynamic Report Generator, and each scheduled report is an *Instance*. It is the number of active report templates instances which is limited according to your license.

Note, it is therefore possible to define more reports than your license will permit to be active. This enables you to create reports which are infrequently needed but can be run on demand (subject to licensed capacity).

Product Overview

Basic Concepts

Wonderware HMI Reports consists of two main programs, the HMI Reports Design Studio and the HMI Reports Runtime Engine. A third utility, the HMI Reports Generator is also installed, to facilitate scheduling and also ad hoc report generation. As a whole, these programs provide several modules each with distinct functionality.



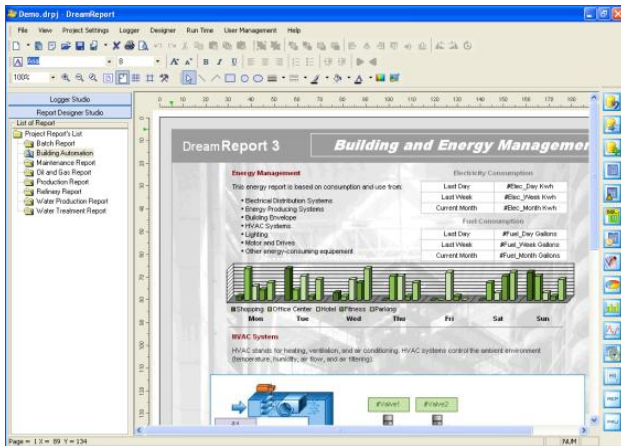
- The Data Collection layer interfaces to the process data source(s), for example InTouch or Wonderware Historian (InSQL). Other third party applications and data sources can also be connected, however for the purposes of this document we shall concentrate on a simple, single InTouch HMI application, the famous ‘Reactor Demo’.
- As data is collected, it may be logged into a database for later use. This database can be any common system, such as SQL Server, Oracle or Microsoft Access.
- Data aggregation, statistical calculations and other functions are performed in the background, to enable required calculated data values to be available on demand to a report.
- The Report Designer is a flexible and versatile editor, which allows you to create reports and link them to the data collected.
- Finally, the Dynamic Report Manager causes an active report to be generated. This can be done based on a regular schedule, such as a shift change, or a particular time of day, or based on an event, such as an alarm condition. These reports, generated in PDF format, can be stored in a common file location, or made available to web based users through the Wonderware HMI Reports web server.

Report Templates and Instances

Reports are defined as *Templates*. A Report Template is a reusable definition of a report, which can be run to generate a Report itself. Report projects are developed with the Reports Studio, saved as Report Templates, and executed with the Reports Run Time.

Wonderware HMI Reports Studio

The HMI Reports Studio is where you define and build the reports you want.

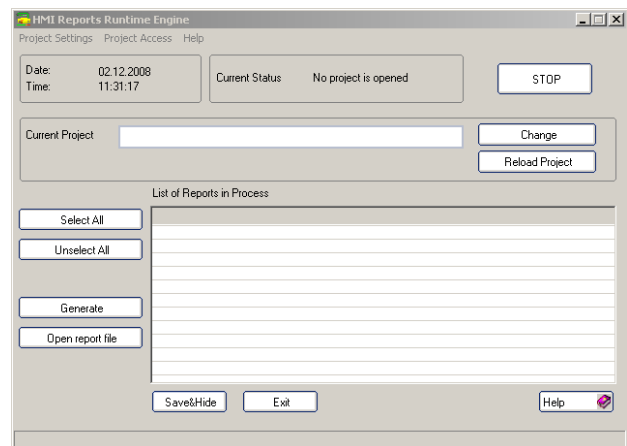


Wonderware HMI Reports Studio defines and configures:

- The Report Templates
- Connection to data sources
- Archive conditions for data
- All statistical and analytical objects
- Report generation conditions
- Report distribution
- Project settings (user management, language, web, macros, database ...)

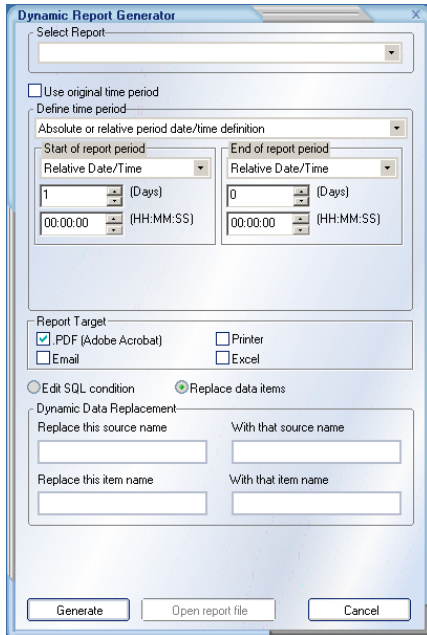
The Runtime Engine does the work behind the scenes, scheduling and generating reports. The HMI Reports Runtime executes and manages:

- Security
- Data acquisition
- Data logging
- Queries to all historian databases
- Report Generation
- Report Distribution
- The Web interface



Dynamic Report Generator

The Dynamic Report Generator lets you change report settings and execute new reports on demand without opening or making any changes from the Reports Studio.



For any report available (i.e. any active Report Template), you can:

Configure the report period (for example schedule a daily report, or configure a weekly report). Also you can enter parameters for a specific report template, for example set a batch id for a batch process report.

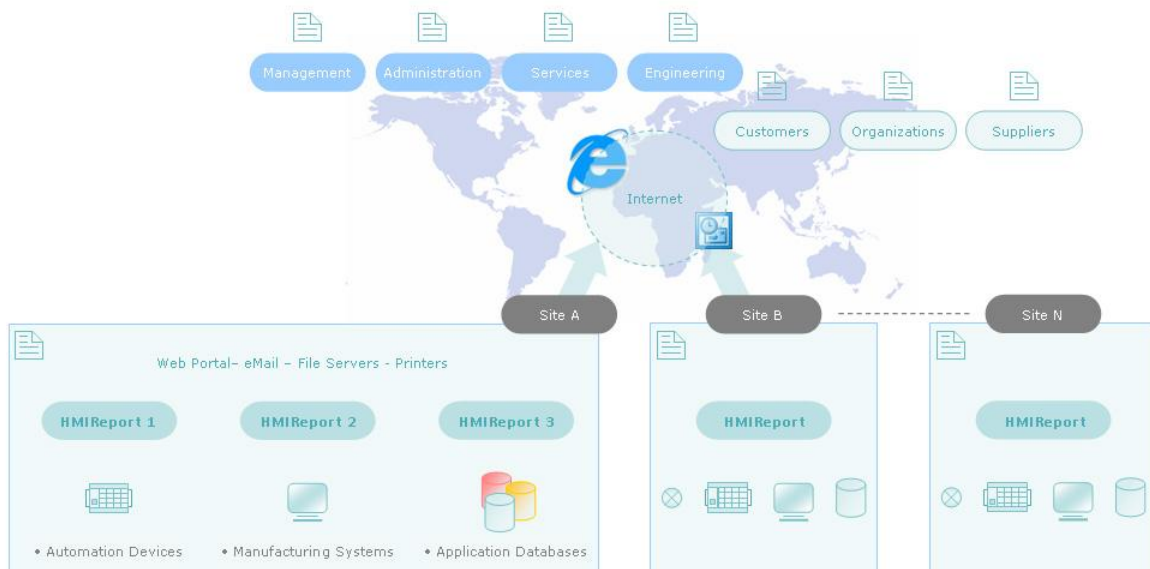
Generate an on-demand report, perhaps for data in a certain state at a specific date and time which the user selects.

Specify a different report target for currently generated report.

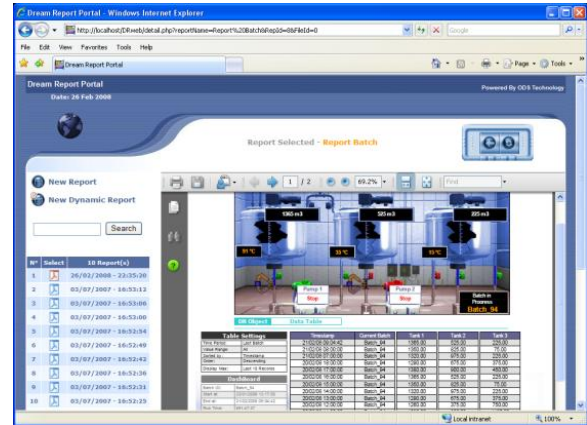
Wonderware HMI Reports Web Portal

With the Wonderware HMI Reports Web Portal any authorized user can access over an intranet or the Internet a Wonderware HMI Reports Station to:

- Visualize all reports archived
- Generate new reports on demand
- Change report settings before generation



The Wonderware HMI Reports Web Portal is ideal for distributing reports across the enterprise but also to customers, organizations, suppliers and more. It can be customized and fully integrated within Wonderware Information server, or indeed any web portal.



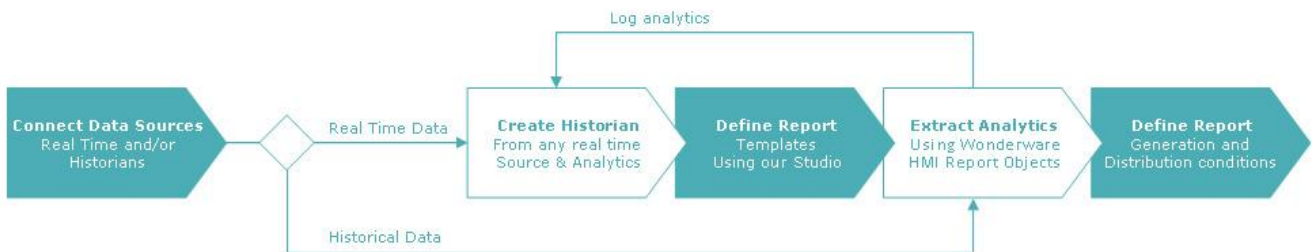
Building Your First Wonderware HMI Reports Application

This section walks you through creating an attractive and useful report from a typical InTouch application. You should have InTouch installed and the demo application “Reactor Demo” available.

Project Workflow

The typical workflow for designing a Report is as follows.

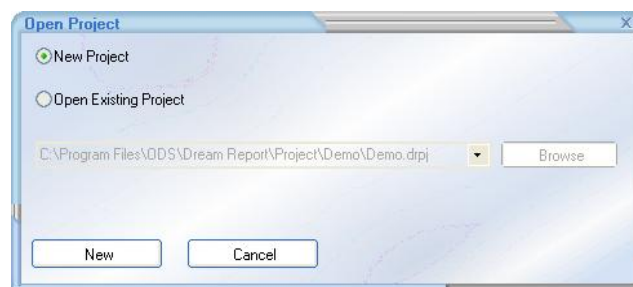
- Identify which data is to be reported. This includes all real time and historical data needed
- Define logging groups to enable the data required to be stored temporarily
- Create the report templates
- Extract all analytical values to put in reports
- Configure the automatic generation and distribution settings for the report



Creating your First Project

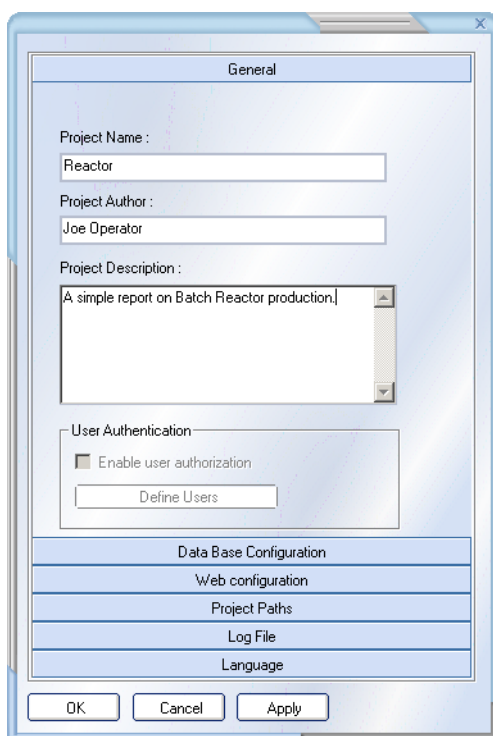


This icon will launch Wonderware HMI Reports studio. The Open Project dialog will appear. Select to create a new project.



Configuration projects are saved with the suffix *.drpj. When the project opens on your screen the name of the project appears on the top bar of the Studio.

The first time the project opens, the Project Settings dialog is shown. This allows configuration of all the report settings. For this first report, we only need to configure the basic settings, on the General tab.



Other tabs can be left to their default settings at this time. Click OK to continue, and elect to create any required folders if prompted.

Next, the Studio opens. To facilitate product project development, the studio is divided in 2 sections named **Logger** and **Report Designer**. To connect data sources you must define drivers.

Define Data Driver

Wonderware HMI Reports supports 2 types of drivers:

- Real Time Data
- History (using ODBC, HDA or custom driver access)

We will use Real Time Data for this report. From the main menu, select **Logger | Driver Configuration**.

The driver configuration Wizard appears.

Source Definition

Source Name:

Connection Parameters

Data Driver:

Alarm Driver:

History Driver:

Source Name	Driver	Data	Alarm	History
Analytics	Analytical Driver	<input checked="" type="checkbox"/> null	<input checked="" type="checkbox"/> null	<input checked="" type="checkbox"/> null

In this dialog, enter a suitable name for the data source (e.g. "InTouch"), and using the combo selector for the Data Driver select the InTouch Driver.

Source Definition

Source Name:

Connection Parameters

Data Driver:

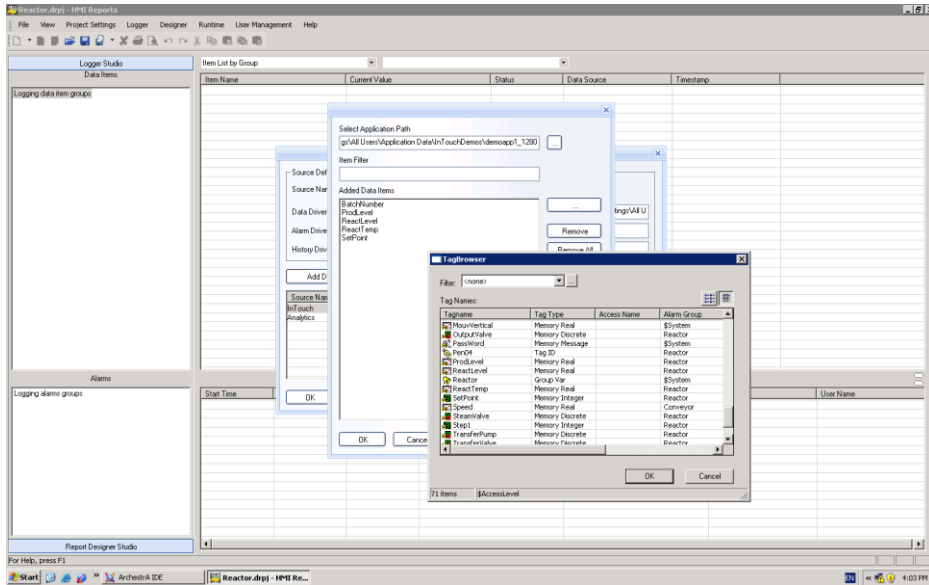
Alarm Driver:

History Driver:

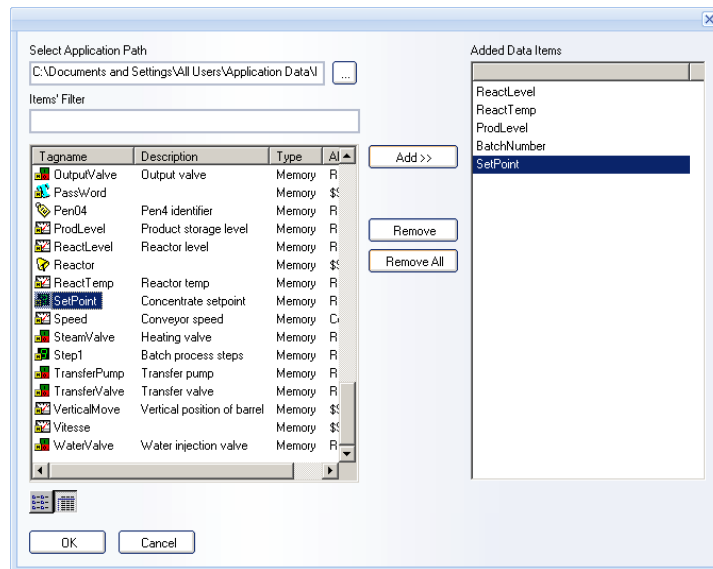
Source Name	Driver	Data	Alarm	History
Analytics	Analytical Driver	<input checked="" type="checkbox"/> null	<input checked="" type="checkbox"/> null	<input checked="" type="checkbox"/> null

Next, click the Configure button for the InTouch Data Driver. Using the Application Path selector, browse to the location of the Reactor application. You can find the path of the application from the InTouch Application Manager or from WindowViewer if you are not certain where it is. Typically it is in the Documents path for “All Users”.

Click the ellipsis (...) to open the InTouch Tag Browser.

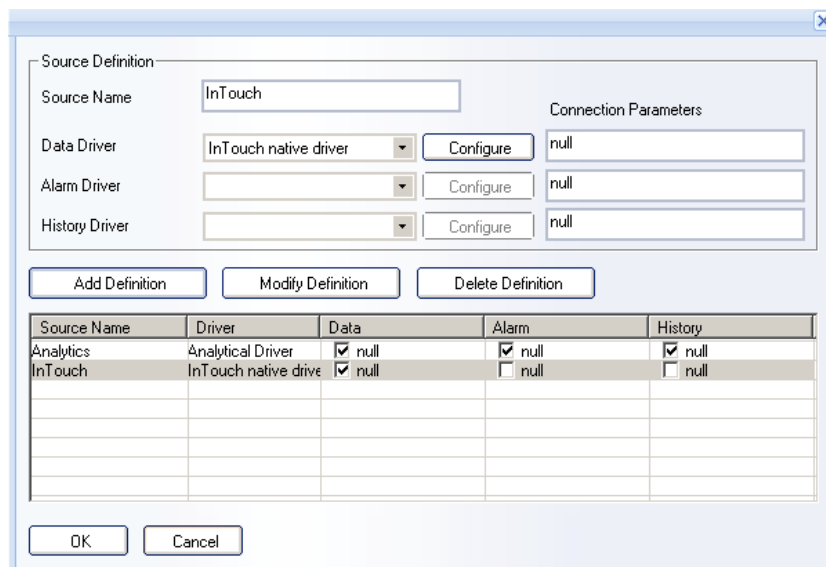


Select the tag names you want to use in your report, and add them to the data items list. We will use the ReactLevel, ReactTemp, ProdLevel, BatchNumber and SetPoint tags. Click OK to close this dialog. We could add any and all points to this driver definition, but for the purposes of this single report project we will just add the ones we are going to use.



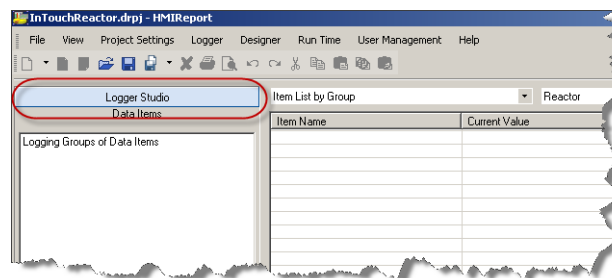
The final step is to save this definition. Click Add Definition to commit this configuration to the list.

Your final driver configuration page should look like the dialog below. Click OK to dismiss the driver configuration Wizard.



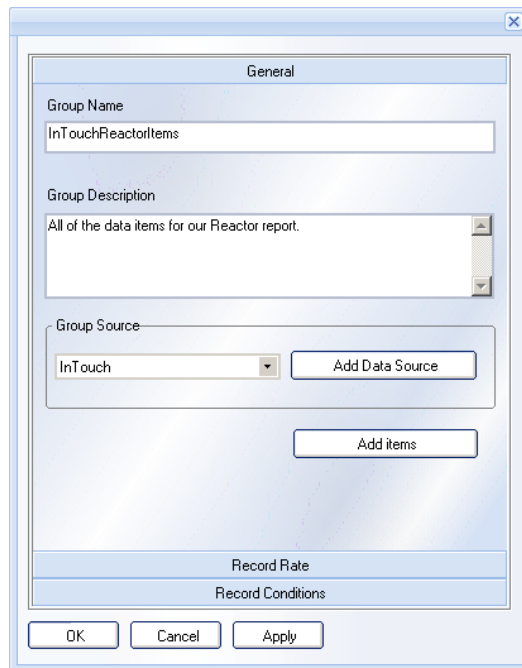
Define Data Logging

Our next step is to define the data logging groups for our report data. Switch to the Logger Studio by clicking the selector.

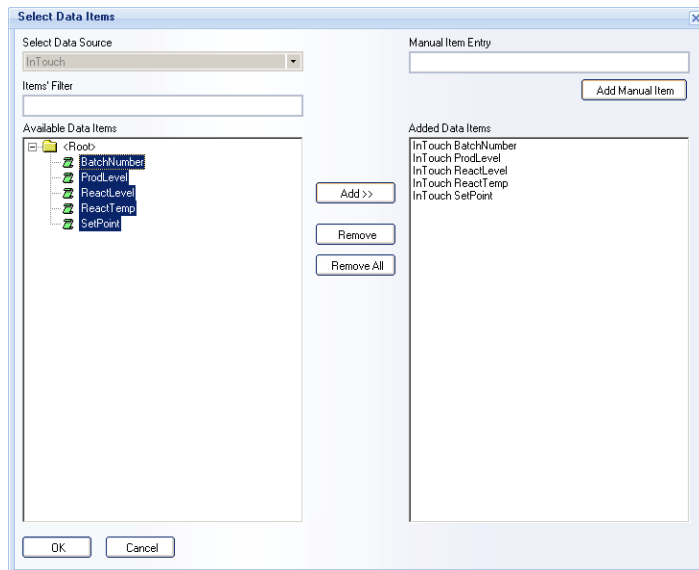


You will create a new Data Items group. This will collect together all of the tags we want to report on in a logical place. Either from the Logger menu, Select Add Group | Add Item Group, or right click in the Data Items area and select to create a new group. The Group definition dialog appears.

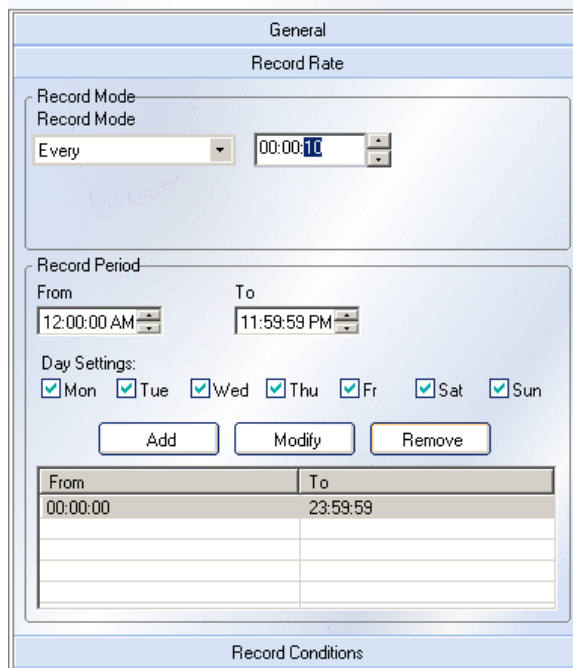
Give the group a name and optionally a description. In the Group Source combo select our InTouch data source. You should have something like the following.



Next, click Add Items. Using the Select Data Items dialog, add each available item to the list we will use. Your configuration should look like this. Click OK to close.



Next select the Record Rate pane. Configure the Record Mode to be every ten seconds, as shown in the example below. Click OK to close the dialog and save the data items definition.



This will give us a data set of process values spaced ten seconds apart. For performance reasons, it is best not to set this period too short.

If InTouch is running (WindowViewer), then you should also see the data being updated in real time in the Logger. If WindowViewer is not running, you should start it now, verify it is running the correct version of Reactor Demo which you configured, and leave it minimized.

Item Name	Current Value	Status	Data Source	Timestamp
SetPoint	0.000000		InTouch	
ReactTemp	116.000000	GOOD	InTouch	03/12/08 16:15:26
ReactLevel	2000.000000	GOOD	InTouch	03/12/08 16:15:16
ProdLevel	6292.000000	GOOD	InTouch	03/12/08 16:14:53
BatchNumber	11	GOOD	InTouch	03/12/08 16:14:54

Now that our data source configuration is done, we can get on with the main work of designing our report! Before we do that though, we should first understand a little bit more about how the Runtime component works, and interfaces to the Report Designer.

The HMI Reports Runtime

The HMI Reports Runtime Engine is a background process which is responsible for managing the data collection needed for a report project. You can manually start the HMI Reports Runtime from the Start menu or from the desktop icon created on product install, or from the Wonderware HMI Reports Studio, main menu. In general however, the Runtime Engine will be configured to auto start and run in the background.

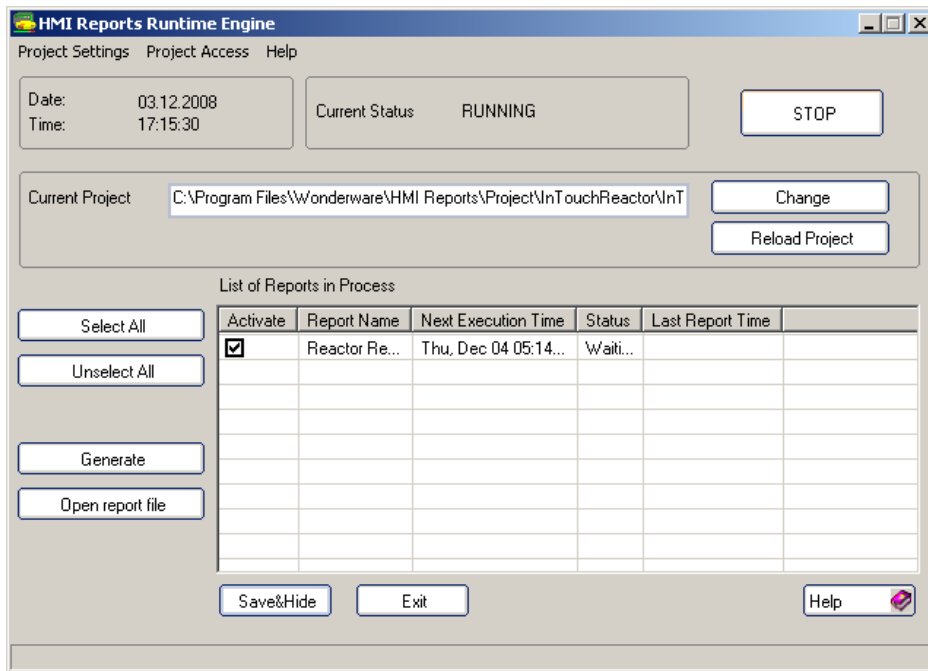


This icon will launch Wonderware HMI Reports Run Time.

When the Run Time is launched, it starts several tasks:

- It initiates and launches data acquisition
- It starts the logger and logs data in the selected database (SQL server by default)
- It loads all reports defined in the project and captures the settings for generation and distribution
- It configures IIS

The Run Time has a single dialog interface. If opened from the Report Designer then the current project will be shown, if opened externally you can browse to the report folder and open your project. Once opened the defined reports will be shown, as seen below.



From the user interface you can:

- Activate or disable report generation
- See the status of each report
- Manually generate an ad-hoc instance of a report

To generate a report on demand, click on the report name and then click the **Generate** button. A new report will be generated immediately, saved and distributed according to its settings. Report projects are saved with the suffix *.drt.

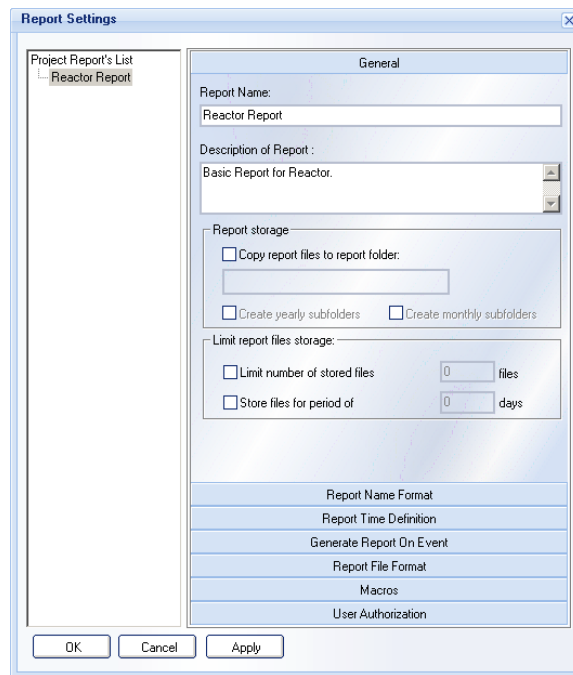
If your project is not opened, open it now, and make sure it is running. Then click the Save & Hide button to send the Runtime Engine interface to the System Tray. Return to the Design Studio.

Demo Mode

If you are running HMI Reports in Demo Mode remember that one of the limitations of the Runtime is to run for only 30 minutes. Because the exercise in this guide assumes that you may be running in this mode, then our report is designed to show at most 30 minutes of data history. This restriction is of course not present in the licensed product. If the Runtime Engine should time out on you, simply restart it as described above.

Report Design

First, switch back to the Report Designer Studio by clicking the selector at the left. By default, a blank report ("Report_0") is waiting to be designed. Open the Report Settings to give your report a meaningful name. You can also explore some of the settings and options available for reports, but for now the default settings will be all that are required.



You will design your report using report drawing primitives and with the HMI Report Elements. These are all grouped on the menu bar. HMI Reports Elements provide a wizard-like interface to dynamic report fields, tables, and charts.



Text Primitives



Drawing Primitives



HMI Reports Elements

Basic Primitives

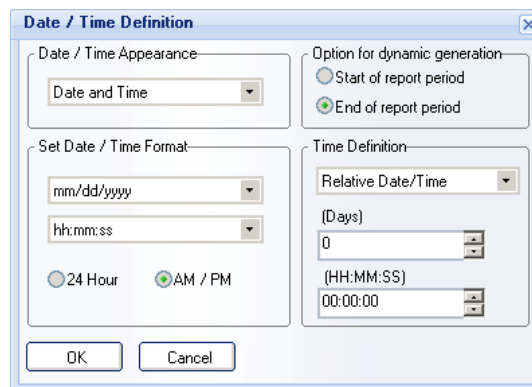
First, use a Text Box to add a title to your report. Click the text box selector, then click and drag to define the area where the text box will be. Enter text into the box, and then format it using the appropriate controls.

Next, add a Date/Time to the report header using the Date and Time Field Report Element. When you click and drag to create this field, a configuration dialog gives you a number of options to use for the value to be used at report generation time.

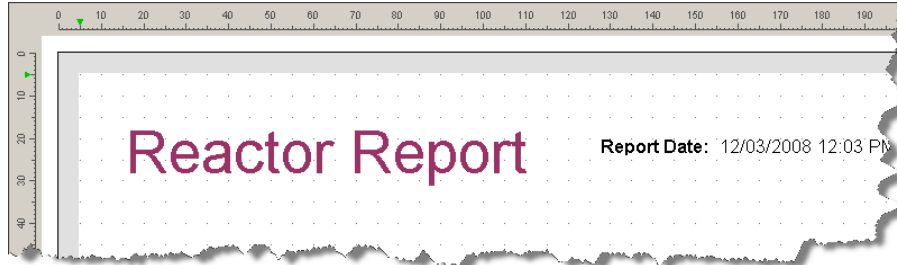


Date and Time Report Element

To use the date and time the report is generated; you can use the defaults (similar to that shown below) or set your own preferences.



After setting the fonts and sizes appropriately, your report is starting to take shape.



We want our report to show a number of useful details concerning our reactor and the batches over the last half hour. We will configure the report to show:

- The current batch number and start time
- A table with the main reactor levels sampled at five minute intervals over the last half hour
- A summary of the averages, minimum and maximum values of both our main reactor and product storage tank levels
- A graph of Reactor tank temperatures and levels for the last batch
- A bar chart of product storage tank levels

Using Data Elements

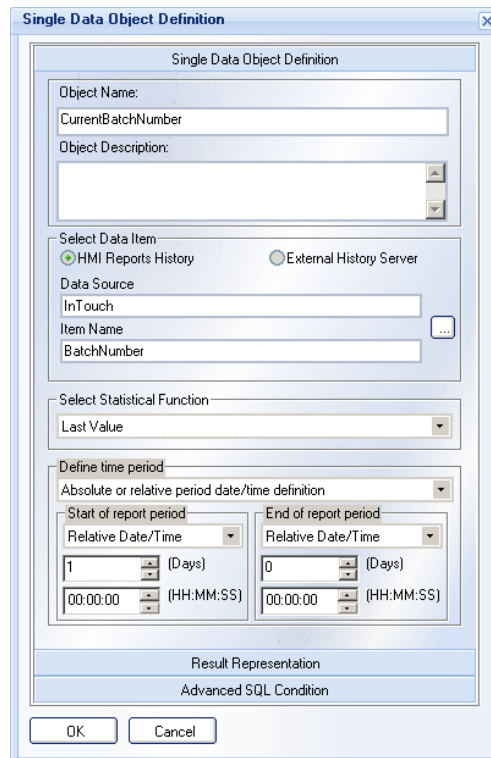
Let's start. Add two text fields for the labels for the batch number and start time.



Now we need two report elements to hold those data values. We will use the Single Data element for this. Click the button and drag to create a field. When the field is created, the definition dialog opens. Configure the CurrentBatchNumber field as follows.

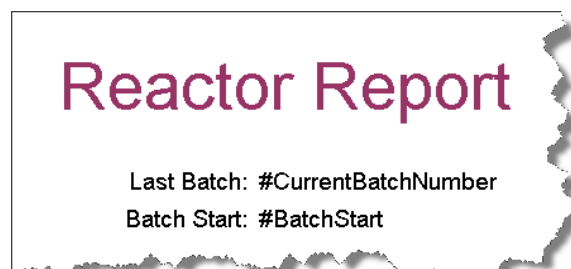


Single Data Element

A screenshot of the "Single Data Object Definition" dialog box. The "Object Name" field is set to "CurrentBatchNumber". The "Object Description" field is empty. Under "Select Data Item", "HMI Reports History" is selected. The "Data Source" is "InTouch" and the "Item Name" is "BatchNumber". The "Select Statistical Function" is set to "Last Value". The "Define time period" section is set to "Absolute or relative period date/time definition". The "Start of report period" is set to "Relative Date/Time" with a value of "1 (Days)" and "00:00:00 (HH:MM:SS)". The "End of report period" is set to "Relative Date/Time" with a value of "0 (Days)" and "00:00:00 (HH:MM:SS)". The "Result Representation" section is set to "Advanced SQL Condition". The "OK" and "Cancel" buttons are at the bottom.

Also, on the **Result Representation** pane, configure the element to have no figures after the decimal point.

Configure a second element, this time select the Last Value Timestamp to be displayed. When you have done this, we'll preview the report to see how it is looking.



Previewing a Report

Since WindowViewer and our Runtime Engine have been running and generating data for some time now, we can preview the report.

First, click the Save button on the main menu to save the project. Then switch to the Runtime Engine (you can open this from the main menu, or by double clicking the system tray icon).

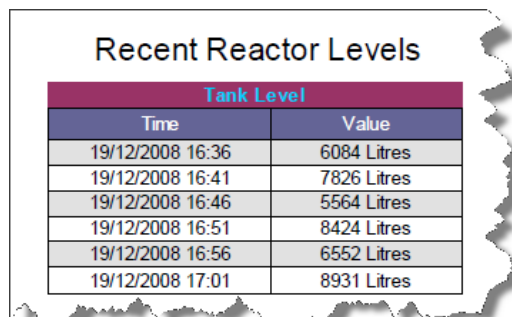
In the HMI Reports Runtime Engine application, first click Reload Project. Then select our report in the reports list (you might have to re-open the runtime application), and click the Generate button. Once this has been done you can open the report file and view the report (you will need to have Adobe Acrobat reader or another application which can open .PDF files installed).

Once you see real data in your report, we will continue designing.



Data Tables

The next thing we want to configure is a table which shows our Reactor Tank levels for the last half hour, at 5 minute intervals. We want a table which looks something like this.

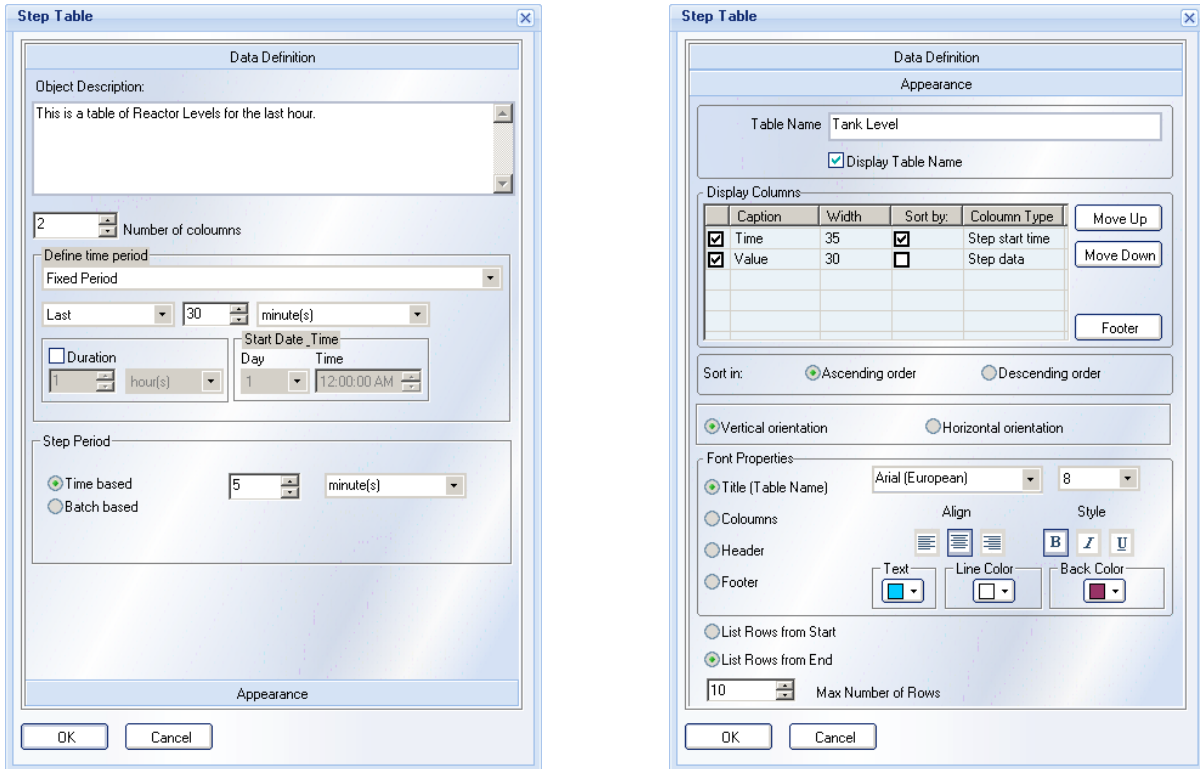


The image shows a table with a white background and a dark border. The title 'Recent Reactor Levels' is in a bold, black font. Below the title, there is a table with a dark header and a light body. The header has two columns: 'Time' and 'Value'. The body contains six rows of data, each with a timestamp and a value in litres.

Tank Level	
Time	Value
19/12/2008 16:36	6084 Litres
19/12/2008 16:41	7826 Litres
19/12/2008 16:46	5564 Litres
19/12/2008 16:51	8424 Litres
19/12/2008 16:56	6552 Litres
19/12/2008 17:01	8931 Litres

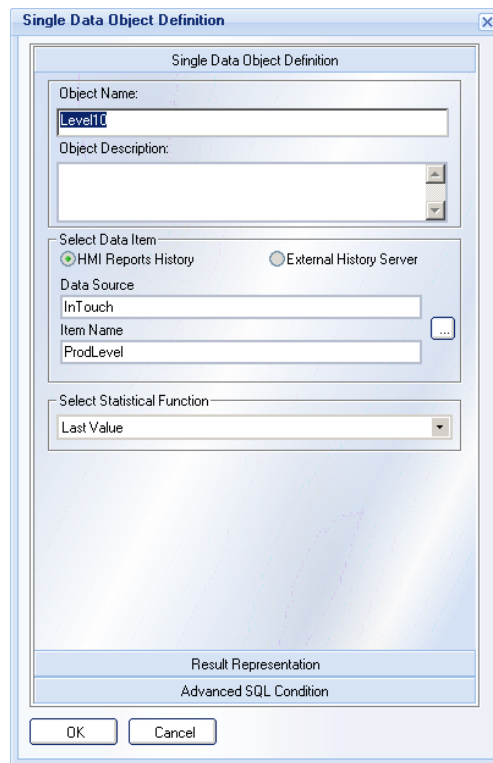
To create this, we will use a **Step Table** element.

Click on the Step Table element and click and drag to create a table. The Definition Dialog opens.

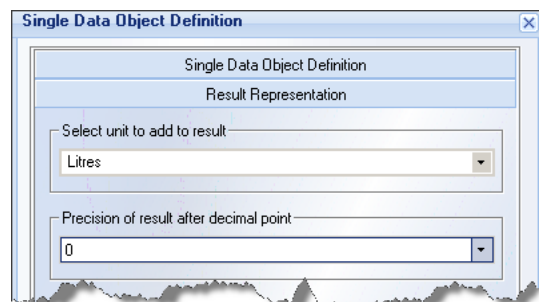


Configure the first page as shown above, and the second (Appearance) pane also. Setting the fixed period for the Last Hour is what gives us our data range, and the Step Period of 5 minutes gives us the data values. On the Appearance pane, to configure the Captions, double click in the Caption field. The Time column simply is configured for the step start time.

The key which gives our step table (and is indeed common for many Report Elements) the data it needs however is in the Value field. Click the ellipsis (...) at the right hand edge of the grid to select Step Data, and the configuration opens. (Note that the ellipsis is not visible until the data row is selected).



Set the data source as shown. You can also set the data precision and units using the Result Representation settings.



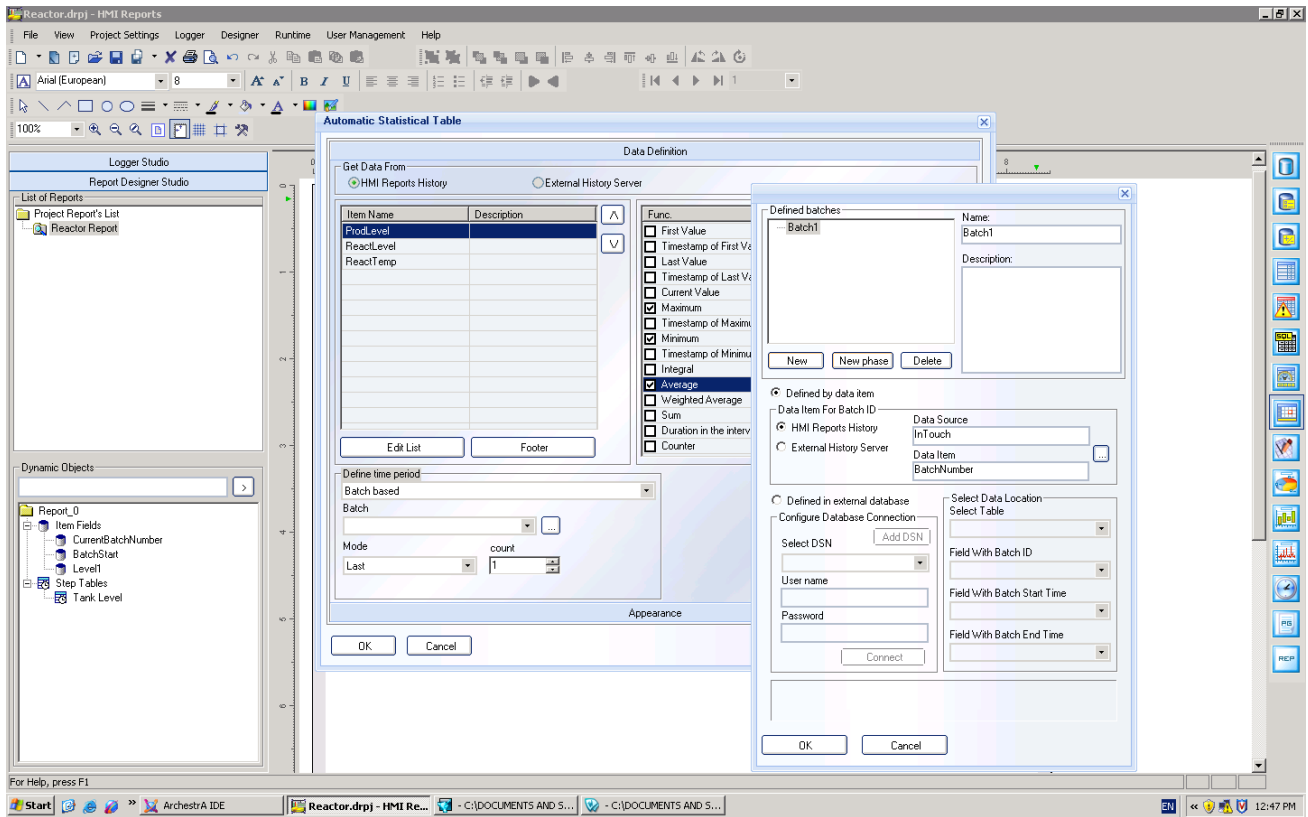
Click OK and save your field, then, as before you can save the project, reload in the runtime, and preview it.

Summary Data

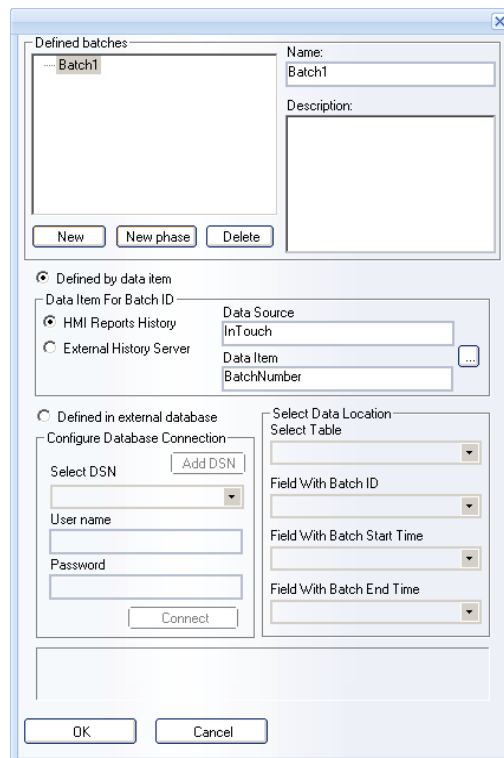
Our next report element will be a summary of data values for our Product Reactor and Storage Tank over the last batch. To implement this, we use the Statistical Table element.



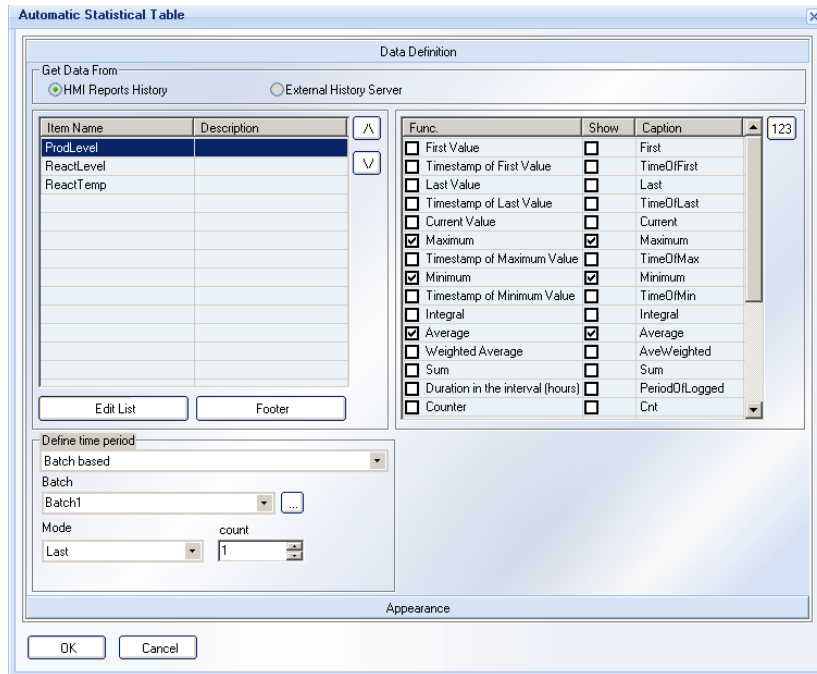
For the time period, we will select Batch based. A Batch is simply a period of data defined by a certain event. We can configure a Batch using the Ellipsis next to the batch name field ("Batch", underneath the Define Time Period combo box).



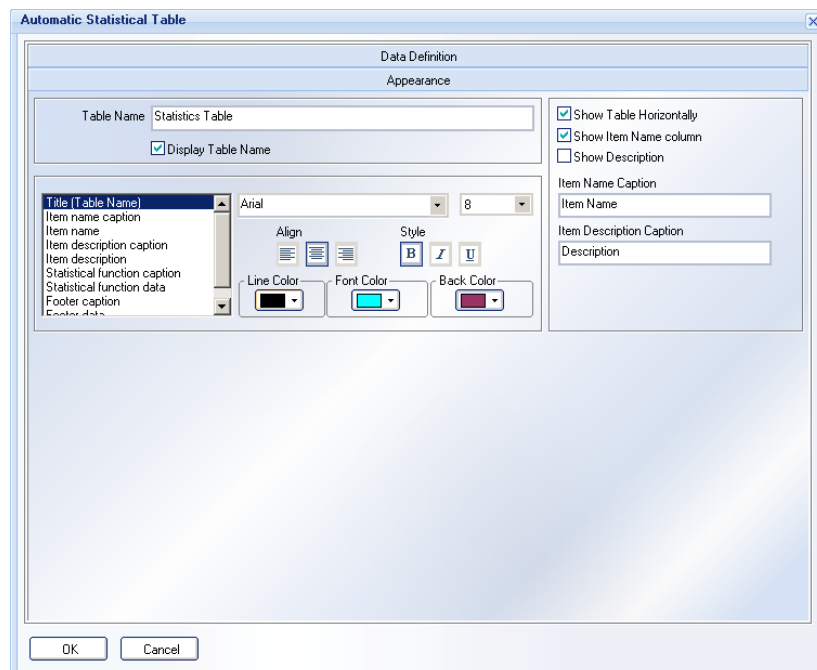
Select this and open the configuration dialog using the ellipsis (...) button. Make the data item for the Batch ID to be the BatchNumber tag. Click OK to save this batch definition.



Select the Statistical Table element and click and drag onto the report surface to create a space for the table. This will be a 3x2 table. When dropped, the Definition pane is shown. As before, using the Definition pane, configure the ProdLevel and ReactLevel tags to be shown, and select the Maximum, Minimum and Average calculations. You can also set the captions and precision to have meaningful values. The configured dialog is shown below. Set the time period batch based as shown, using the batch you just defined.



Using the Appearance pane we can fine tune how we want the table displayed.

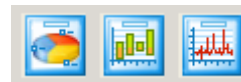


Saving and running the project as before, gives us our data table.

Batch Production Statistics			
Statistics Table			
Item Name	Maximum	Minimum	Average
ProdLevel	7150 Liters	6682 Liters	6916 Liters
ReactLevel	1820 Liters	155 Liters	995 Liters
ReactTemp	186.8 C°	101.7 C°	144.6 C°

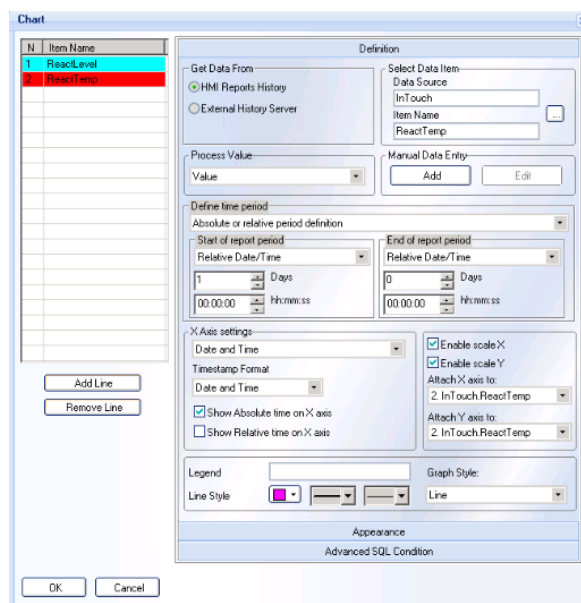
Graphs

A powerful feature of Wonderware HMI Reports is to graphically display data values in several different styles. There are three main graphing report elements, Pie, Bar and Chart.

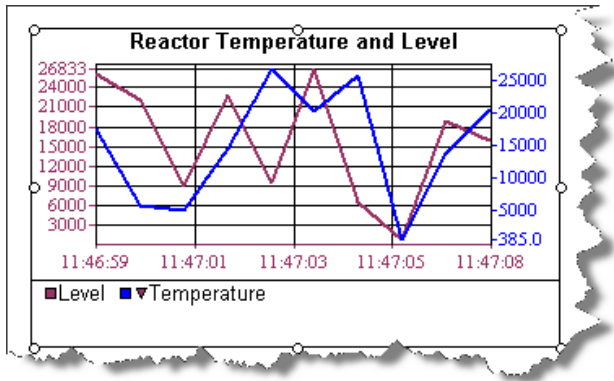


We will insert a Chart element to track our Reactor tank, and a Bar element to show our finished product levels.

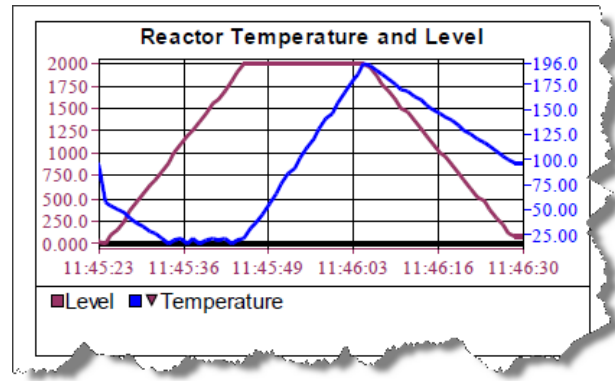
For the Reactor tank, we'll show the temperature and level for the last batch. First, we drag a Chart element onto our report, and configure it. For both the lines we need, we first add a data source, define a time period. For the time period, we again select Batch based. Click the Add Line button to save each line definition. After configuration, our Definition pane should look like the following.



Once you have added a line, you can also configure the X and Y axes. The chart should be shown in our report as below.



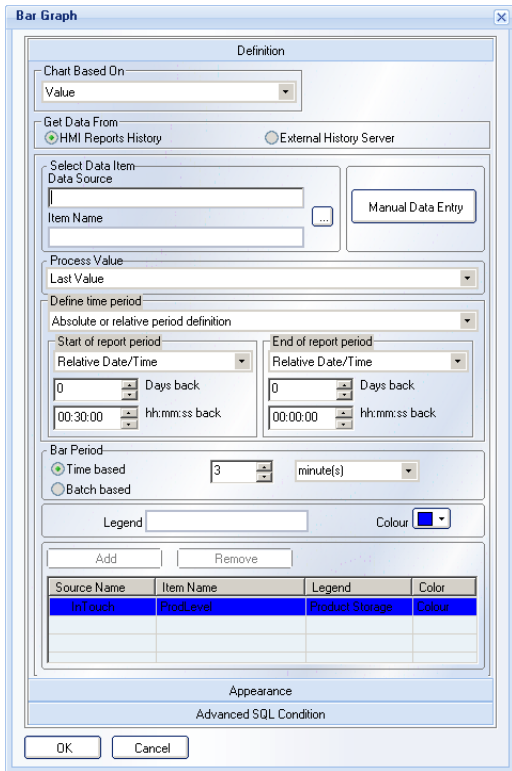
Definition View



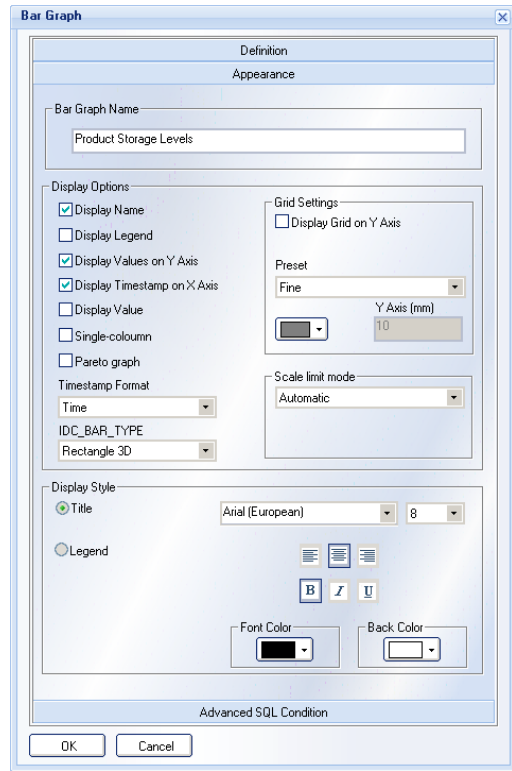
Runtime View

Our next objective is to configure a bar element chart to show our Product Storage levels over the last half hour.

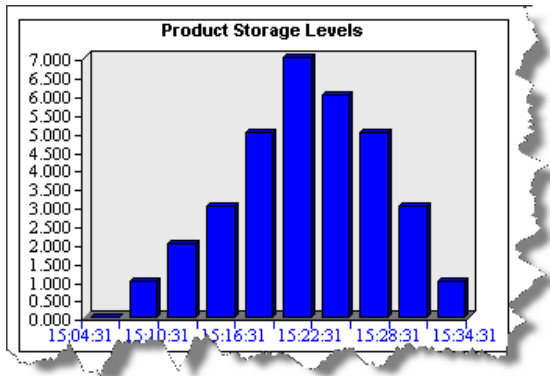
As we did for the chart, our Bar Graph definition and appearance is configured as shown below, and you can also see the definition and runtime views.



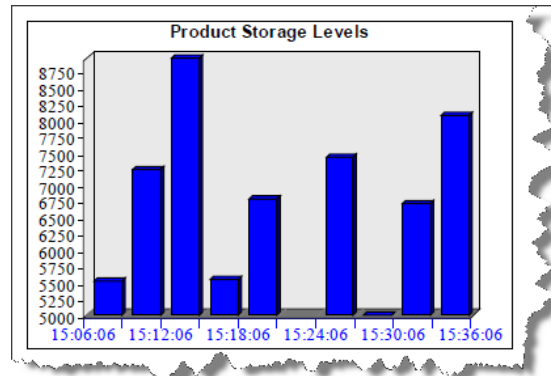
Definition Pane



Appearance Pane



Definition View



Runtime View

Select the Data Item ProdLevel from InTouch, and then click the Add button to include this data point in the list.

Note that by setting the bar period to be three minutes, and the data period for half an hour, we will get exactly 10 bars in our chart.

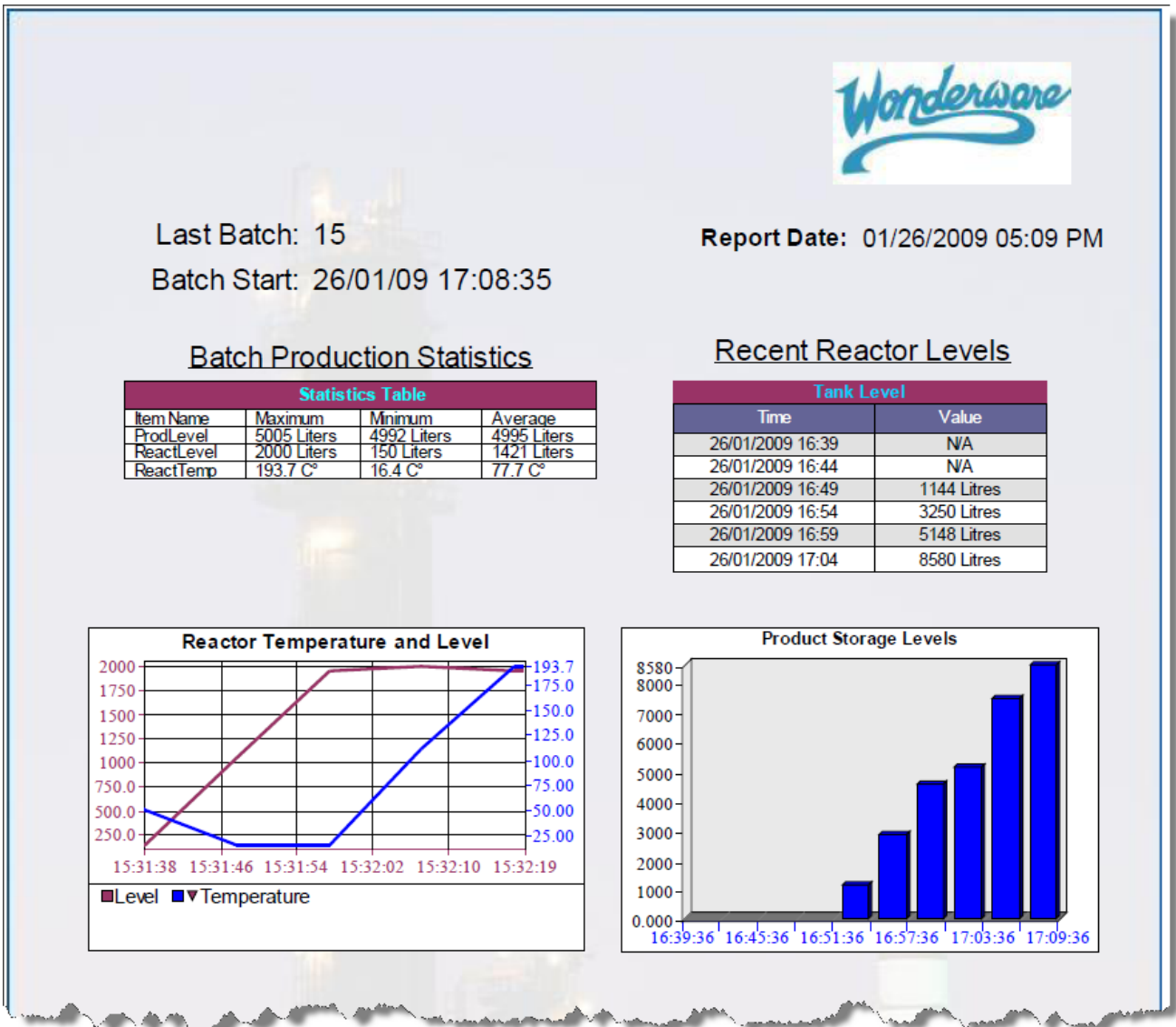
Final Touches

We can add a few final touches to our report to make it look even better.

Using the Background and Insert Picture functions, we can add a logo or other graphic to our report. We can also set a background watermark. There is a library of backgrounds and other images available for use.



In the sample below we added a logo and a Reactor background (#26) from the library. That's it! Our report is complete. Now we can run it from within the Designer Studio, or schedule it to run on a regular basis. The next section completes this guide with details of how to schedule and run reports on demand.



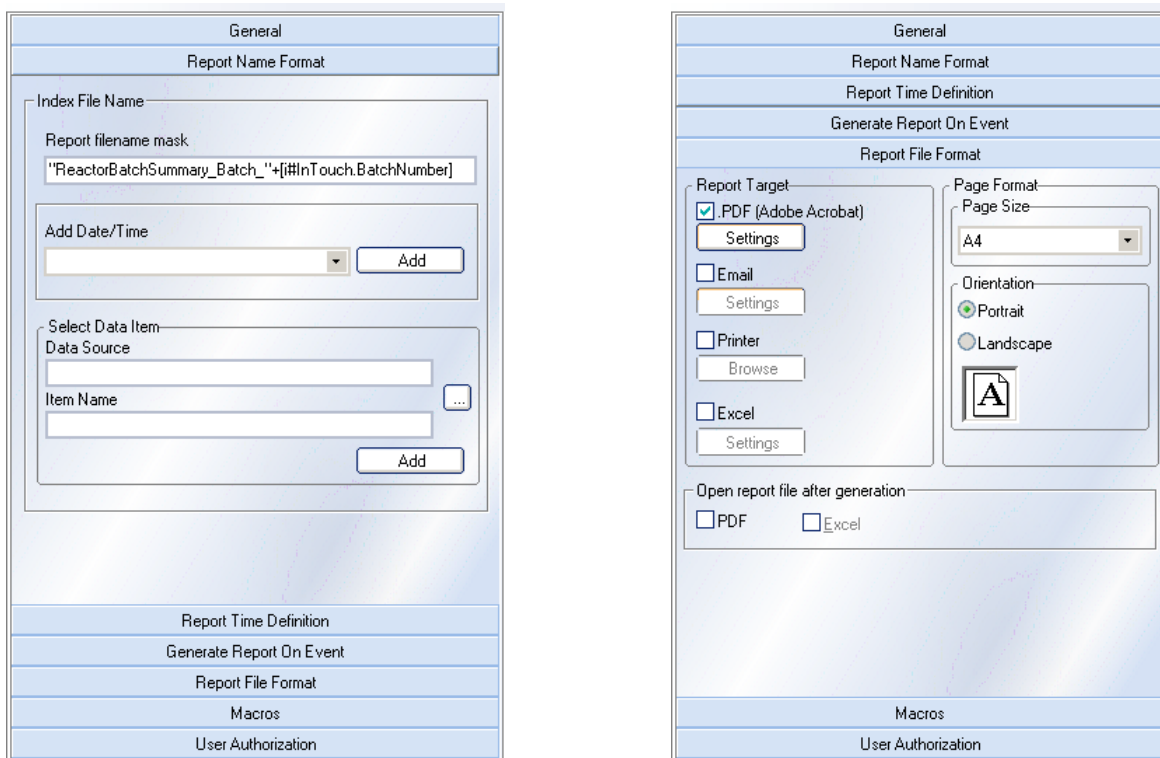
Report Generation and Distribution Settings

We have already seen and used one way of generating a report, from within the Wonderware HMI Studio. However one of the main strengths of the HMI Reports system is that reports can be not only ad-hoc generated, but also generated on a regular schedule, or on a particular event. Reports can also be generated in different formats, such as PDF files, Excel or HTML. Once generated they can be located on a network share, or on the HMI Reports web portal.

Note that our sample report contains several different reporting periods (specific batches, last hour and previous day for example), in practice you can define different reports for different specific periods, such as batches, shifts or physical time and date periods, or you can design a general report template and run it at different times.

Report Generation

To configure your report generation options, first you need to determine the format(s) of the report, and the location where the report will be saved. Two configuration menus on the Report Settings dialog, **Report Name** and **Report File**, enable this.

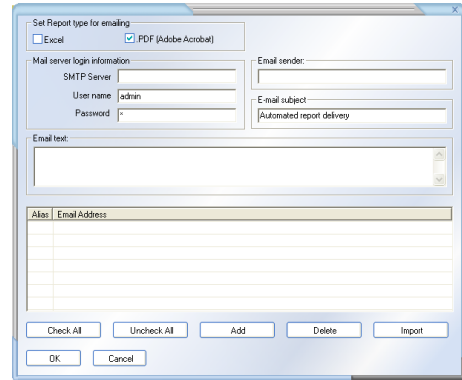


Using the Report Name dialog, you can configure the format of the filename of the generated report document. For example, above the report will be named “ReactorBatchSummary_Batch_XXXX.pdf”, where the XXXX will be replaced with the actual number of the Batch from the InTouch tag. You can also configure the report to be generated in multiple formats, or to be automatically printed (on one or multiple printers according to a distribution list) or emailed when produced. By default Wonderware HMI Reports saves reports in PDF format.

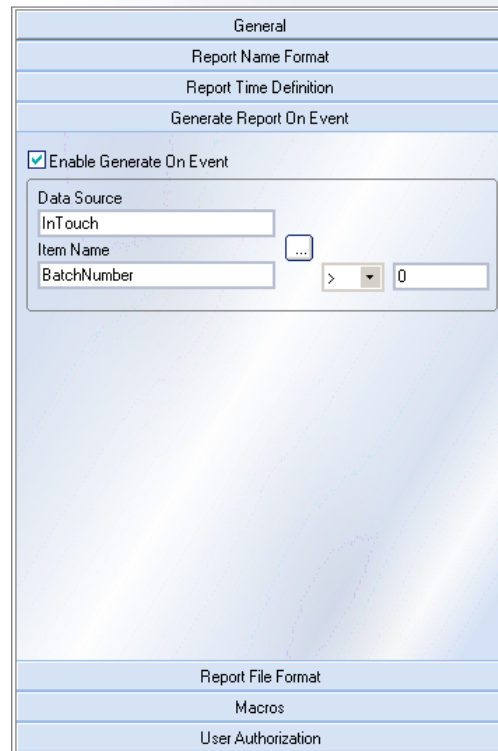
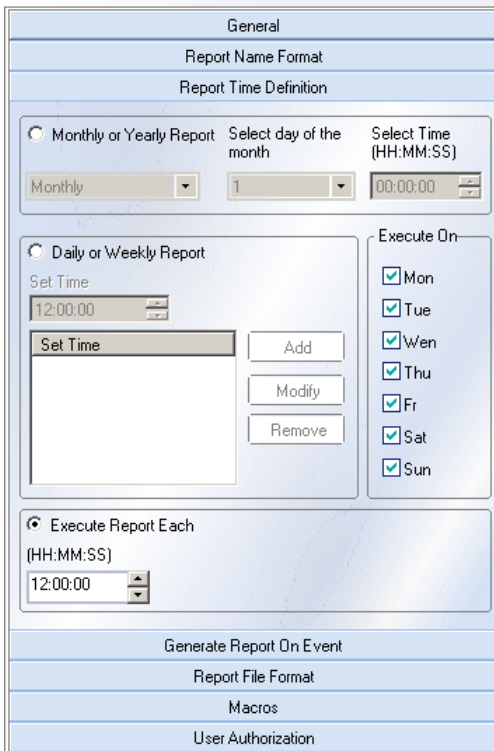
Reports can automatically be sent via email. Each report has its own recipient list.

Wonderware HMI Reports uses SMTP to send email. You will need to know the configuration settings of your email server to use this.

You can define whether to send files in PDF or Excel formats (or both).



Once you have configured this, you can then tell the runtime when to generate the report. A report can be generated at a specific time or date, or when a specific event (such as a shift change, or batch complete) is detected by the Runtime engine. You configure these using the **Time Definition** and **Report On Event** dialogs.



In the examples above, our report is scheduled to run every day at 12:00, and also whenever a change is detected in the InTouch tag **BatchNumber**.

In practice, a great deal of flexibility is available to specify when a report is generated, such as

- Yearly based
- Monthly based
- Weekly based - In this case you can set multiple combinations:
 - Every day at 17:00
 - Every Monday at 09:00
 - Every Friday at 18:00
- Time based (every hour for example)
- Event based (any event in the HMI application can be used as a trigger)

Summary

Let's look at what we have just achieved.

From an existing InTouch application we have quickly configured a flexible and attractive report, generated on a time schedule and whenever a batch is completed. We have done this without modifying or editing the InTouch application in any way.

The report is available as a PDF file, and can be viewed in the Wonderware HMI Reports web portal.

Wonderware HMI Reports is a cost effective and powerful reporting tool which can be used not just for live process data, but also for reporting from other external data sources, such as Wonderware Historian, or third party HMI and database systems.

You can easily purchase a license for Wonderware HMI Reports by contacting your local Wonderware distributor. Your nearest distributor can be found by visiting the Wonderware web site (www.wonderware.com), or following the link offered in the startup dialog of Wonderware HMI Reports.