Edit Module Configuration

Overview

A FactoryStudio project is organized into Modules, and the configuration of each Module is as simple as entering data in a Table. This section describes how to interact with the configuration tables.

After opening a Project, from the Main Menu, click on the "Edit" icon to access the Module configuration tables.

Working with Tags

In FactoryStudio, Tags (and their properties) are used to configure the real-time database. There are several types of Tags available by default, and new types can be created to fit your needs.

With the "Objects" tab highlighted, click on the top row in the table to define a new Tag. Double-click on any other row to edit an existing Tag.

> (i) Valid Tag types are:
>
> Digital
>
> Integer
>
> Double
>
> Decimal
> Text
>
> Timer
>
> Reference (Alias)
>
> DateTime
> TimeSpan
>
> DataTable
>
> User Defined Templates

Security

More on the QuickStartGuide

Security

In FactoryStudio, Security is used to determine which Users have access to various components of the project. These include the ability to change Tag values, open Displays, generate Reports, and more.

The Administrator-level and Guest-level user IDs have built-in attributes. The Administrator is the only user who can delete or block users and the only user who can define passwords for Database DB interfaces.

Guest Users are used for anonymous login users, and do not have passwords assigned to them.

User Sessions can be controlled so that the User is automatically logged out of the system based on inactivity, duration of the system, or both.

Both Alarm and Security online conditions are automatically replicated on redundant applications. Together with the Alarm and Event features, the Security Tools provides all the tools necessary to create FDA-CFR Part 21 compliant applications.

Devices
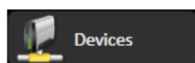
FactoryStudio supports embedded communication protocol drivers to directly access PLCs, Remote IO, Fieldbus standards, single and multi-loops, scanners, bar-codes, RFID devices and digital displays. OPC DA is also supported, but in most cases is not required. If you need to interface with a device that has a published protocol, Tatsoft can deliver a built-in driver for your device. A Protocol Driver Toolkit is also available so you can create your own add-on driver.

The Device Configuration Tool can import databases from OPC servers, CSV or text files. If the device is compatible, it automatically implements multi-threading on TCP/IP networks or multi-serial scenarios. The addressing syntax follows the naming convention of the remote device, making configuration and maintenance much easier; a complete set of performance and diagnostics tools is included. The Channels tab is where you specify the name of the protocol to be used, and its' connectivity options. The Nodes tab allows you to specify the address of a device. The Points tab is where you define data acquisition values from field Devices and maps to Tag values. Finally, AccessTypes allow you to specify with is device will be a Read or Write-only device, or both.
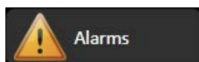
Alarms

FactoryStudio's Alarm system provides tremendous flexibility in managing Alarms in your system. Multiple alarm levels for each point/tag can be defined and a whole range of behaviors, such as logging, acknowledgement, displaying, etc. is pre-packaged to simplify the configuration. The Alarm conditions are automatically replicated on redundant servers, making certain there are no lost Alarms in the event of a computer failure. The Alarm and Event tools are part of the tools necessary to create FDA-CFR Part 21 compliant applications.

|	Name	AckRequired	Sound	Show	LogEvents	Colors	Description
	Warning	No	None	List	Active	ActiveF...	Warning messages that don't require acknowledge
	Critical	Yes	None	List	ActiveAck	ActiveF...	Critical messages that require acknowledge
	SystemEvent	No	None	None	Active	ActiveF...	System events log

By defining Alarm Groups you can assign common parameters to many Alarms, such as whether acknowledgement is required for the Alarms, if you want a Beep to be played, and more. You have full control over the colors for various Alarm conditions so that your corporate standards can be met.

Datasets
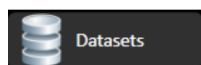
The Dataset Module, included in FactoryStudio provides an easy-to-use interface to exchange data in real-time with external Databases, XML, CSV or text files and access SQL queries and tables. For the most common databases and data sources (Microsoft SQL Server, Oracle, CSV files, Microsoft Access, PI, Firebird, Informix, Excel), FactoryStudio supplies pre-defined configurations that reduce the configuration to a mouse-click. Any database that supports ODBC, ADO.NET or OLE-DB can be accessed. A built-in Tatsoft DB SQL Database Engine is also supplied as a local database for your application(s).

The data collected with the datasets can be dynamically mapped to real-time points/tags and can be used on scripts or reports, or presented on displays using a powerful Data Grid Visual Object.
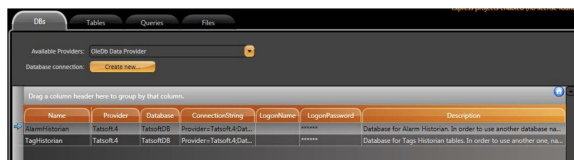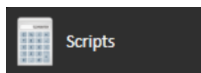

The Data Grid object supports multiple visualization themes.


Scripts

FactoryStudio fully supports Microsoft .NET languages in complete integration within the Microsoft .NET Framework. Inside the FactoryStudio framework architecture you can compile, cross-reference the objects, and access directly (using the Intellisense) the .NET classes and your project objects, including Alarms, Reports and Communication Nodes.

.NET languages provide a more powerful environment when compared with VBA or VBScript, that is as it is an interpreted language, not compiled, many errors can only be found when running your project VBA or VBScript in real-time production often times with undesirable results and consequences. The managed environment of the Microsoft.Net Framework gives one the support for finding and recovering from exceptions, thus providing a highly reliable environment for the runtime system/applications.
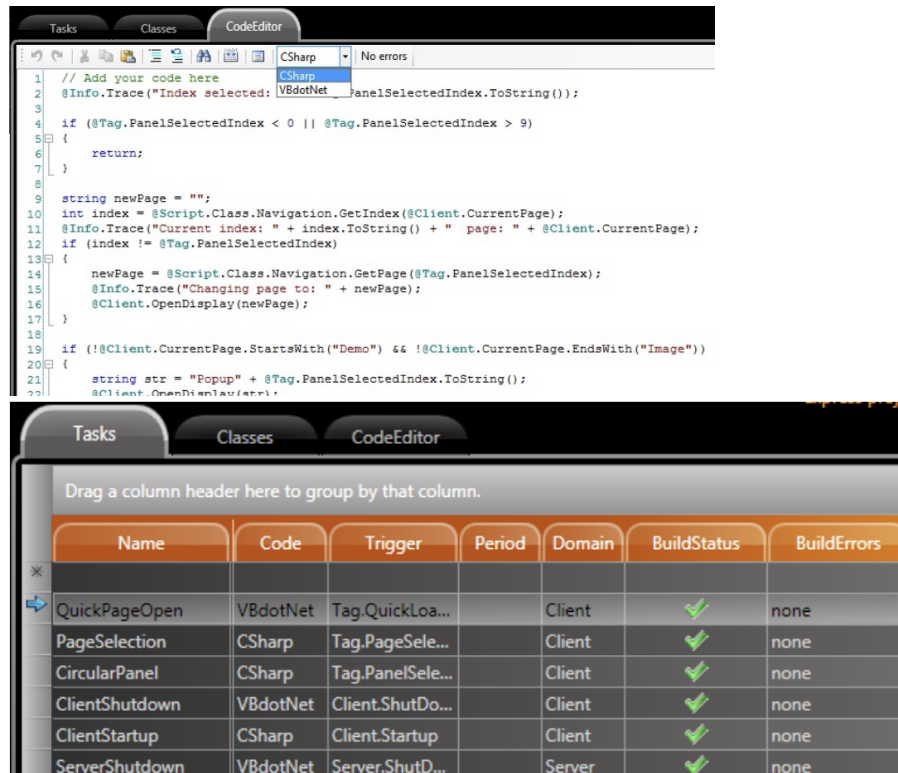
Project scripts and business logic can be written in C# or VB.NET, and a built-in language converter allows you to switch the created code dynamically between the languages.


Displays
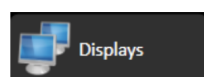
Very few products include a fully integrated Windows Presentation Foundation (WPF) graphical editor. FactoryStudio goes beyond that by delivering a state-of-art integrated WPF designer, uniquely enabled to provide the entire product configuration environment created with WPF and XAML tools. This allows users to access the full potential of currently available graphics cards and a world-class user experience for application development speed and effectiveness.

FactoryStudio is a comprehensive integrated tool to create business-intelligence applications, real-time dashboards and advanced graphical data visualization. Built-in objects for Data Grids, Alarms, Trends, XPS Report Viewer provide a "quick start" to project development.

You can read a detailed explanation of the drawing tools on the Drawing Tools page.
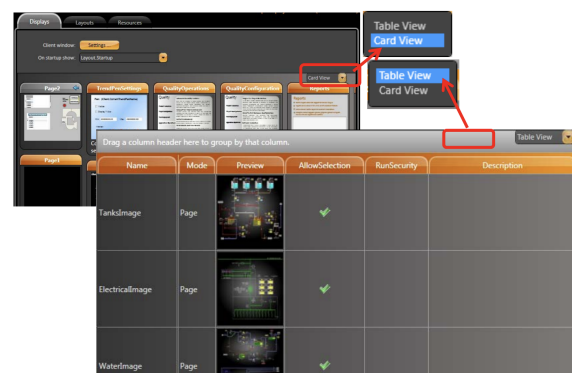
Reports
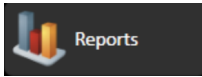
Reports

FactoryStudio supports Web-Services, XML and other data-exchange interfaces to provide data for external reporting tools. In contrast with other packages where the reports are necessarily created in another tool, FactoryStudio has its own built-in Report Editor. The Report Editor allows the inclusion of dynamic text, dynamic graphical symbol and charts, dataset and query results, in a functionality rich and easy to use editor.

The Reports can be saved in HTML, Text or XPS and easily presented in remote clients and web displays. Click on the Reports icon. FactoryStudio includes a native browser control object for visualization of Reports with no need to exit to a third party program to view previously generated reports.

Name	Padding	SaveFormat	SaveFileName	Description
Production	Compact	XPS	DaveReport{Tag....	
TransferReceipt	PadRight	Html	TXRCPT	
Report1	Compact	XPS	{Tag.colorB}:\PR...	