

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.

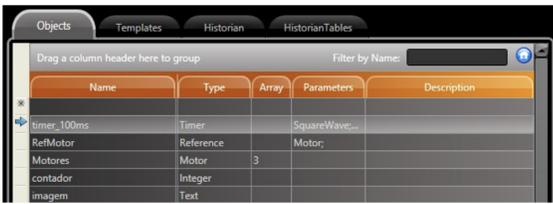
After opening a Project in the Main Menu, click on the “Edit” icon to access the module configuration tables.



Working with Tags



In FactoryStudio, tags (and their properties) are used to configure a real-time database. By default, there are several types of tags available, and new types can be created to fit your needs.



Name	Type	Array	Parameters	Description
timer_100ms	Timer		SquareWave...	
RefMotor	Reference		Motor;	
Motores	Motor	3		
contador	Integer			
imagen	Text			

At "Objects" tab, click on the blank row to add a new tag, or double-click an existing row to edit one.



Valid tag types are:

- Digital
- Integer
- Double
- Decimal
- Text
- Timer
- Reference (Alias)
- DateTime
- TimeSpan
- DataTable
- User Defined Templates

Security



In FactoryStudio, the security feature is used to determine which users have access to various components of a project. This includes the ability to change tag values, open displays, generate Reports, etc.

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 is the only user who can define passwords for the database interfaces.

The Guest level user is used for anonymous login users and do not have passwords assigned to them.

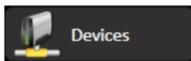


Name	Permissions	Password	PasswordHint	Policy	Blocked	Deleted	Profile
Administrator	Administrator	*****		Default			
User	Guest	*****		Critical			
Guest	Guest	*****		Default			

A user's session can be controlled so that the user can be automatically logged out of the system based on inactivity, the duration of the session, or both.

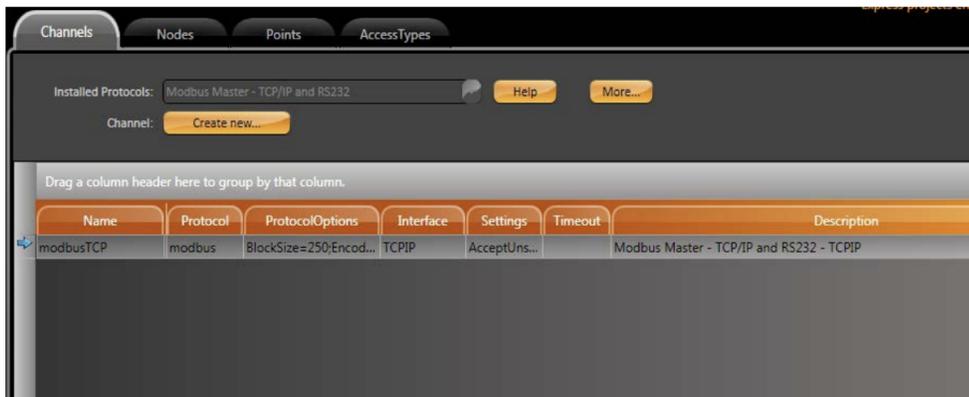
The online Alarm and Security conditions are automatically replicated in redundant applications. Together with the Alarm and Event features, the Security tools provide all the tools necessary to create FDA-CFR Part 21 compliant applications.

Devices



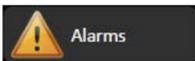
FactoryStudio supports embedded communication protocol drivers that directly access PLCs, Remote IO, Fieldbus standards, single and multi-loops, scanners, bar-codes, RFID devices, and digital displays. OPC DA is also supported but is not required in most cases. If you need to interface with a device that has a published protocol, Tatsoft can create and deliver a built-in driver for your device. A Protocol Driver Toolkit is 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 which makes 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 where you access the protocol's 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 where you map to Tag values. Finally, AccessTypes allow you to specify if a device will be a read-only, write-only, or both.



Name	Protocol	ProtocolOptions	Interface	Settings	Timeout	Description
modbusTCP	modbus	BlockSize=250;Encod...	TCP/IP	AcceptUns...		Modbus Master - TCP/IP and RS232 - TCP/IP

Alarms

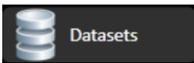


FactoryStudio's Alarm option provides you with tremendous flexibility to manage alarms in your system. Multiple alarm levels for each point/tag can be defined and a whole range of behaviors (such as logging, acknowledgement, displaying, etc.) is pre-packaged to simplify the configuration. Alarm conditions 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 two 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. These could include whether or not an acknowledgement is required for the alarms, if you want a beep to be played, etc. You have full control over the colors of various alarm conditions so that your corporate standards can be met.

Datasets



The Dataset module included in FactoryStudio provides an easy-to-use interface that allows you to exchange data in real-time with external databases, XML, CSV, or text files. It also allows you to 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 simple mouse-click. Any database that supports ODBC, ADO.NET, or OLE-DB can be accessed. A built-in Tatssoft DB SQL Database Engine is also supplied as a local database for your application.

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

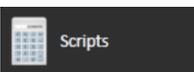


The Data Grid object supports multiple visualization themes.

Product	Quantity
Gold	27
Silver	22
Silver	12

Product	Quantity
Gold	27
Silver	22
Silver	12

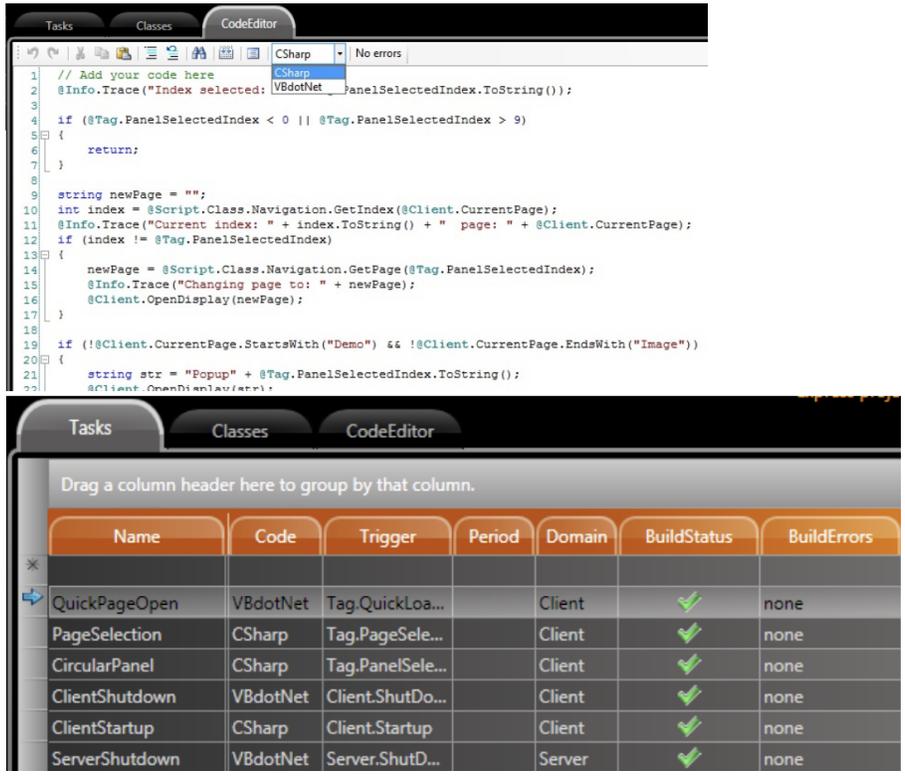
Scripts



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

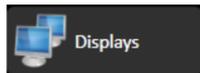
.NET languages, as interpreted languages, are more powerful than compiled languages such as VBA and VBScript. In VBA and VBScript, many errors are only discovered after running your project in real-time production, which leads to undesirable results and consequences.

The managed environment of the Microsoft .NET framework provides support for finding exceptions and recovering from them. This provides a highly reliable environment for the runtime system/application.



Project scripts and business logic can be written in C# or VB.NET. A built-in language converter allows you to dynamically switch created code between C# or VB.NET.

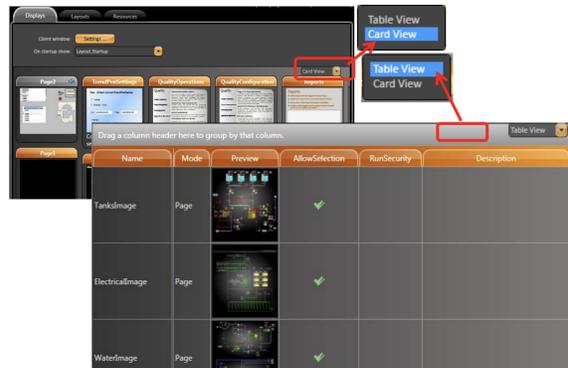
Displays



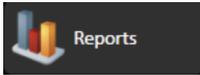
Very few products include a fully integrated Windows Presentation Foundation (WPF) graphical editor. FactoryStudio delivers a state-of-art integrated WPF designer, which makes FactoryStudio uniquely able to provide an entire product configuration environment that is created with WPF and XAML tools. This allows users to access the full potential of current graphics cards and provides a world-class user experience for application development, speed, and effectiveness.

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

You can read a detailed explanation of the drawing tools on the [Drawing Tools](#) page.



Reports



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

Reports can be saved in HTML, Text, or XPS and can be easily presented in remote clients and web displays. Click on the Reports icon to enable Reports. 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.color@}PR...	