

# Modules Overview

## Start Small or Large, and Grow From There

Get the functionality you need now, with the freedom to seamlessly add on to your system and match your company's ever-growing needs. The key to Ignition's flexibility is its modular architecture, which means you can buy different modules to perfectly fit your company's requirements.

Ignition is a platform that allows you to put together any system you want, and its modules are the building blocks. You can load all of them for a complete system that can do anything, or pick and choose only the ones you need right now.

## What are Modules?



Modules are additional files that allow Ignition to do more. Much like adding a new tool to the workbench, adding new modules extends Ignition's capabilities while offering new ways to approach and solve problems. Most of the main features of Ignition are actually provided by different modules such as the [Perspective](#), [Vision](#) and [SQL Bridge](#) modules.

Modules integrate seamlessly into the system and provide things like new Designer workspaces, new Gateway settings, new drivers, and much more. Newly installed modules immediately integrate with other modules, so installation is quick and painless.



## Why Modules?

The modules in Ignition offer many benefits.

- **Flexible Licensing**  
Only license the modules that you need, saving money and reducing complexity compared to big monolithic applications that try to do everything. At the same time, the modules have been designed to offer a broad swath of functionality, to avoid having too many pieces.
- **Hot-Swappable**  
Modules can be dynamically [loaded and unloaded](#), allowing you to install, remove, and upgrade them without affecting other parts of the system. This can have huge implications for big projects where up-time is important.
- **Increase System Stability**  
Building modules on a common platform means fewer bugs, better isolation, and all around increased stability.
- **Pluggable Module Architecture**  
The pluggable module architecture allows quick integration of new modules into the Ignition platform. From time to time new modules will be released which add additional features. Third-party modules that provide a wide range of functionality are also available.

## What Can Modules Do?

Modules are what drive Ignition's functionality and allow for unlimited possibilities. Here are some common examples of what modules can do:

- **Create Screens for all Occasions**  
Dashboards, detail windows, historical displays, and more can be created with the [Vision](#) module. Read real-time values from any OPC-UA server with the [OPC-UA module](#), and display the data for all users to see. Interactive screens with user-driven forms can also be created, so users can easily write back to a PLC, store data in a database, and much more!

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### About Ignition's Modules

[Watch the Video](#)

- **SCADA on the Go**  
Perspective applications can be viewed on mobile devices with the [Ignition Perspective App](#). Travel through the plant floor with quick access to all your applications. Break free from attached panels and monitors by viewing projects from tablets, phones, or any other mobile device.
- **Lightning-Speed Alarm Detection**  
Long gone are the days when an operator must monitor every aspect of the system to look for problems. Ignition can generate alarms when certain conditions are met, such as when temperature readings reach a certain point, or communication with a device has dropped out. Alarms can be easily displayed with pre-built components, and alarm events can be stored into any SQL database. Additionally, with the Notification modules, Ignition can generate messages when an alarm triggers. Send [emails](#), [SMS texts](#), or [phone calls](#) to operators once an issue is detected. Users will always know as soon as a problem occurs.
- **Easy Data Collection**  
With either the [SQL Bridge](#) or [Tag Historian](#) module, Ignition makes data logging a breeze! History collection can be enabled in just a few steps, and the data can be feed into other parts of Ignition, such as charts, tables, and even reports! All history is stored in a SQL database, so there is no need to worry about proprietary systems locking away the data. History can easily be accessed by third-party software such as ERP or SAP systems.
- **Dynamic Reports**  
Instead of printing individual tables or charts, the [Reporting module](#) creates powerful, visually stunning, reports on-demand. Historical data recorded by the Tag Historian or SQL Bridge module can be inserted into a report, but data from any SQL database can easily be visualized and presented in a report. Reports can also be scheduled to run automatically, and be delivered in a number of ways such as emails, or saving to a network drive.

## Third-Party Modules

In addition to the modules provided by Inductive Automation, several third-party companies have developed their own modules using our Module Software Development Kit. These modules add even more possibilities and functionality to help you design any project.

- **MES**  
[Sepasoft](#) offers a suite of [Manufacturing Execution Systems \(MES\) modules](#) that allow you to track OEE, implement a SPC system, track resources, and much more! The core purpose of these modules is to spot deficiencies in your process, and increase profitability by detecting problem areas, or catching problems before they become an issue.
- **MQTT**  
Modules from [Cirrus Link](#) bring the power of [MQTT](#) into Ignition. These modules expose massive amounts of data-points as tags, and allow Ignition access to data that would otherwise be lost.

Modules from our Strategic Partners can be found on our [downloads](#) page.

## Can I Create My Own Modules?

Yes! Do you want to help make Ignition better or create something custom for yourself? Check out our [SDK documentation](#) where you will find all of the resources necessary to develop your own module. Modules can be as simple as adding scripting functions or components, or as complex as creating whole new systems for Ignition.

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