



# Templates and Components



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# Templates and Components

## Introduction

Pandora FMS performs all the checks through Modules, allowing to process different types of data depending on the element to monitor. The complete list of default Modules contained in Pandora FMS can be checked in the following section Management → Resources → Module types.

In Pandora FMS there are different types of Modules, some of them are:

- `async`: Asynchronous data.
- `generic`: Generic data.
- `keep_alive`: Special module “*keep on line*” is used to control the status of the last contact with an Agent.
- `icmp`: ICMP check (ping).
- `snmp`: SNMP check.
- `tcp`: TCP check.
- `web`: Web check.

These types of Modules *can store different types of data*, for example:

- `data`: Numerical data.
- `proc`: Boolean value, 1 is true and 0 is false.
- `string`: Text string.
- `inc`: Incremental data per time unit.
- `inc_abs`: Absolute *incremental* data showing only the incremental value since the last reading.

## Components

A component is a *Generic Module* that can be applied repeatedly on an Agent, as if it were a “master copy” of a Module, generating a Module associated to an Agent. With this tool you may create and maintain a list of the most used components to apply them to new agents.

- **Network components**: Group all remote modules (WMI, TCP, SNMP, ICMP, plugin, etc).
- **Local components**: Include the definition of the Software Agent modules, as “chunks” of text to be incorporated into the configuration file of the Agent that has the remote configuration enabled.

## Component template

Network components can be grouped in *templates*, so that multiple network components can be

applied directly on an Agent. Several modules can thus be created simultaneously through the network components associated with a template.

The **Recon server** applies the network components associated with a template on the detected hosts, adding the specified modules automatically and thus enabling automatic monitoring deployment.

## Network components

Menu Management → Configuration → Templates → Remote components.

In this list you may search for existing components (filtering by groups or by free search text), view their configuration in details, modify or create new components. To edit the properties of any module, click on its name.

If the template is modified, its values will be applied to the modules created from that moment on, not to those already created.

### Create new network components

To create a network component use the Configuration → Templates → Remote components menu, and at the bottom of the page, from the drop-down menu, select a network component from the four possible ones (Network, Plugin, Wizard, WMI) and then click Create.

*Because it is a generic component*, some parameters such as snmp community, user, password can be different according to the agents to which the Module will be applied later, in those cases they can be left blank. If a common user policy is available for the systems, the modules can be left fully configured by entering user names, passwords and other data that are common to all agents.

The same process is performed for plugin components, by selecting Plugin in the list, in the interface the fields defined in the macros of the selected plugin will appear.

## Local components

Menu Management → Configuration → Templates → Local components.

The local components refer to the components that can be applied to Software Agents. These components can be applied automatically to all the agents through policies or manually (one by one) in the remote configuration editor of the Agent. Pandora FMS has dozens of local modules to apply to policies and agents automatically, sorted by categories.

See the [policy section](#) for how to apply local components to software agents remotely.

The list of existing local modules can be filtered by different parameters (group, operating system, free text query) and you may also view, modify and create new components. To edit any module, click on its name.

## Create new local components

To create a new local component, go to the main local component management page, menu Management → Configuration → Templates → Local components and click Create at the bottom right of the page.

The page with the new local component creation form will appear. The form is filled in with the above information and click Create again to save.

## Local execution macros

It is possible to define macros in the local components. These macros will be used in the parameter `module_exec` and will have the following structure `_field1_ , _field2_ ... _fieldN_`.

The macros will appear in the Modules edit form as normal fields, transparent to the user.

If a Module component has macros, the configuration data will be hidden by default to simplify the view, but it is possible to display and modify them. If a string is defined in the Help field, a hint will appear next to the field with this string.

## Module templates

Module templates are templates that contain network checking modules. These templates, once created, can be applied directly to agents, avoiding having to add the modules one by one, or apply the templates when performing a [network recon task](#).

Menu Management → Configuration → Templates → Module templates.

From the list shown, clicking on the name of any of the templates will allow you to edit them, and clicking on the trash can icon in the right column will allow you to delete them.

The Create button is used to add a new template. The Name and PEN fields are filled in and *saved by clicking* Create again. The Add components button appears where you may filter by group, select the required components and click OK. To finish the creation process, click Update.

## Apply a module template to an Agent

To apply one of the existing monitoring module templates, or one created, go to the configuration of an agent through the Management → Resources → Manage agents menu. From the list of agents, one is selected through the corresponding Modules link. Once this screen is accessed, click on the templates tab, Module templates, at the top of the page.

The modules that the Agent already has and the existing Modules templates will be shown. Select a template and click Assign. The modules contained in that template will be automatically added. Once the template is applied, you may delete some of the modules by clicking on the trash can icon, or you may edit them by clicking on the corresponding tool icon. *The modules added will have an automatic description based on the template name.*

The templates applied on the agent are not shown, only the modules they contain.

## Private Enterprise Number

All SNMP devices have an identifying string (OID), which is unique for each make and model of device. Within these strings there is a number in the seventh position that determines which manufacturer the device belongs to.

This number is the Private Enterprise Number (PEN) of a manufacturer and it is registered in the IANA. You may configure these PENs in Pandora FMS to use them together with the module templates and thus add monitoring dynamically.

In the Management → Configuration → Templates → Private Enterprise Numbers menu you have access to the list of registered PENs. You may edit and/or delete each registered PEN by clicking on the corresponding icons in the Options column.

To register a new manufacturer, click Register manufacturer. It will only be necessary to insert the

corresponding PEN of the manufacturer, indicate its name and a description. It will then be added to the existing list.

In module templates, one or several PENs will be indicated so that when a discovery task is carried out, Pandora FMS will be able to obtain the device manufacturer and add the appropriate monitoring to it.

## Wizard Components

Within the SNMP wizard and WMI wizard capabilities, there is a type of remote components called *Wizard components*.

These components allow establishing a base configuration for the modules that will be generated in the agents when executing any of the *wizard* (SNMP or WMI). It also offers the possibility of dynamically generating several modules with only one component. For example, a component to explore the different storage units of a device or the running processes.

These components can be created from the menu Management → Configuration → Templates → Remote components.

## Component groups

To help sort and classify components, there are component groups. Components are associated into component groups when they are created.

To view the existing component groups use the menu Management → Resources → Component groups. The existing groups and their description will be displayed on the screen. You may view the details of the groups by clicking on their name, delete them by clicking on the trash can icon on the right, in the Action column, and create new ones by clicking on the bottom Create button. You may also select several of them by means of their corresponding checkbox and delete them in bulk by means of the Delete button.

With the Create button you may create a new component group. Fill in the fields in the form, provide a name for the group and select whether it has a *parent* within the existing groups. Then click Create again. Now new components can be added to the newly created component group.

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