

FL8673001

Revision 02 (2025-03-12)

APP-MODBUS

RELEASE NOTES

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Revision history			
No	Date (yyyy-mm-dd)	Author	Comments
00	2023-09-30	Resologi	App-modbus 2.6.0 release (reference version for Dainsy 4.0.3)
01	2024-04-13	Resologi	App-modbus 2.6.1 release (reference version for Dainsy 4.0.4)
02	2025-03-12	Resologi	App-modbus 2.6.3 release (reference version for Dainsy 4.1.0)

Documentary references	
No	Description
FL8658001	DAINSY Linux release notes

Terms and acronyms	
No	Description

Acronyms and icons



Warning



Necessary preliminary steps



Reference to operating principles



Procedure completed



Future article



Tip or recommendation

Understanding emphasis in the document

Example Representative of Linux or DAINSY technical terminology.

Example Represents a Linux command line.

Example Represents the content of a file or the result of a Linux command line.

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1 APP-MODBUS 2.6.3

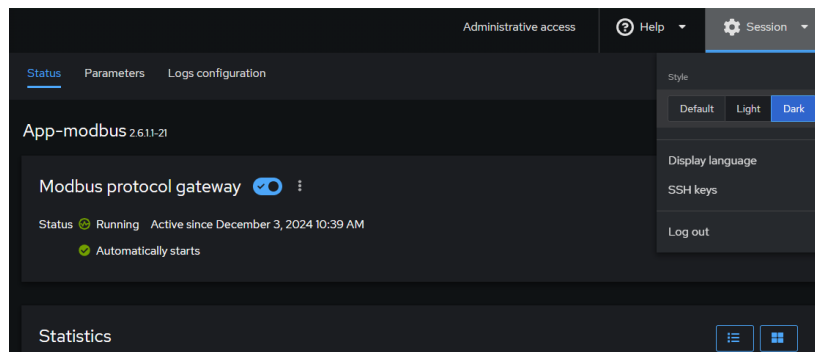
1.1 Feature updates

1.1.1 app-modbus#74 versamax plugin improvements

When the **Versamax** plugin is enabled and the remote device to which modbus is connected is a simulator (a combined modbus server and ftp server), the **Versamax** plugin can, in some situations, incorrectly handle timeouts to FTP requests. This issue has been resolved.

1.1.2 cockpit-dainsy#18 introduce the light/dark theme.

The cockpit panel can now be displayed in light or dark by selecting the style in the session menu.



1.1.3 dainsy#204 keep the firewall profile on uninstall.

When the application is removed, maintain its firewall profile on the system to avoid corrupting the firewall configuration.

1.1.4 dainsy#237 using the *dainsy* beaver historian feature.

Data published in the dictionary now uses the new historian functionality introduced in Daisy Beaver.

Time	Value	Quality	Description	Source
> 2024-12-04T01:23:20.458Z	61/61 Connected, 90/90 Operational	Good		app-modbus 2024-12-04T01:23:20.457Z
> 2024-12-04T01:23:19.453Z	61/61 Connected, 90/90 Operational	Good		app-modbus 2024-12-04T01:23:19.452Z
> 2024-12-04T01:23:18.448Z	61/61 Connected, 90/90 Operational	Good		app-modbus 2024-12-04T01:23:18.448Z
> 2024-12-04T01:23:17.444Z	61/61 Connected, 90/90 Operational	Good		app-modbus 2024-12-04T01:23:17.444Z
> 2024-12-04T01:23:16.440Z	61/61 Connected, 90/90 Operational	Good		app-modbus 2024-12-04T01:23:16.440Z

2 APP-MODBUS 2.6.1

2.1 Feature updates

2.1.1 app-modbus#70: Behavior of local address validation

When a *LocalAddress* value is specified in the configuration of a channel, and the latter does not exist on the machine, the behavior has been changed from a configuration error to a warning having no impact on the loading of the configuration. This change is necessary to allow loading of the configuration when the network is in a degraded state (ex: cable unplugged).

```
[[Channels]]
  Name = "MODBUS-SERVER"
  Type = "Slave"
  InterfaceType = "TCP"
  Address = " *.*.*"
  Port = 502
  LocalAddress = " *.*.*"
  ConnectionTimeout = 0
```

2.1.2 app-modbus#71 : Improved configuration loading time

The configuration loading time, which can be long when the quantity of variables is large, has been improved.

2.1.3 app-modbus#73 : Transmitting transactions when the channel is connected.

When *app-modbus* starts and activates the channels declared in the configuration, Modbus transactions, described under the polling groups of each session, are produced periodically. If the Modbus channels are not yet connected, Modbus transactions fail and result in log messages, which can be confusing for the user. Now, Modbus transactions are only produced when the channels are activated and connected.

```
app-modbus[6326]: [MODBUS-CLIENT-OF-UNIT2-20\Session_0] Session has timed-out, degrading related signal qualities.
app-modbus[6326]: [MODBUS-CLIENT-OF-UNIT2-22\Session_0] Session has timed-out, degrading related signal qualities.
app-modbus[6326]: [MODBUS-CLIENT-OF-UNIT2-24\Session_0] Session has timed-out, degrading related signal qualities.
app-modbus[6326]: [MODBUS-CLIENT-OF-UNIT2-26\Session_0] Session has timed-out, degrading related signal qualities.
app-modbus[6326]: [MODBUS-CLIENT-OF-UNIT2-28\Session_0] Session has timed-out, degrading related signal qualities.
app-modbus[6326]: [MODBUS-CLIENT-OF-UNIT2-00\Session_0] Session is now operational.
app-modbus[6326]: [MODBUS-CLIENT-OF-UNIT2-02\Session_0] Session is now operational.
app-modbus[6326]: [MODBUS-CLIENT-OF-UNIT2-14\Session_0] Session is now operational.
app-modbus[6326]: [MODBUS-CLIENT-OF-UNIT2-00\Session_0\PollingGroup_0] Cycle has overflowed. Target period is 1000ms, last period was 1704ms.
app-modbus[6326]: [MODBUS-CLIENT-OF-UNIT2-02\Session_0\PollingGroup_0] Cycle has overflowed. Target period is 1000ms, last period was 1703ms.
```

3 APP-MODBUS 2.6.0

3.1 Feature updates

3.1.1 app-modbus#61 do not auto-reset polling group statistics when channel disconnects.

When a client channel disconnects, its polling group statistics should not be reset. Only the statistics of the underlying transactions are needed.

Function	Range	Status	Exception	Response time (ms)
(2) Read Discrete Inputs	[0..63]	Success	No Exception	Min : 1 / Mean : 3 Max : 67 / Latest : 3
(16) Write Multiple Registers	[256..257]	Success	No Exception	Min : 11 / Mean : 12 Max : 57 / Latest : 12
(4) Read Input Registers	[128..143]	Success	No Exception	Min : 11 / Mean : 12 Max : 48 / Latest : 12

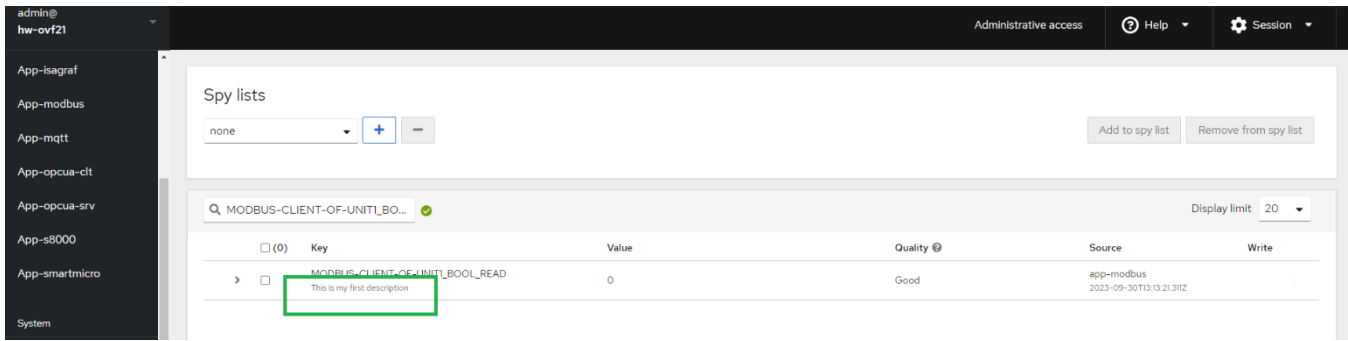
3.1.2 app-modbus#62 do not consider response times of timed out modbus transactions.

Modbus transaction time statistics are useful for analyzing operational exchange performance. When a Modbus transaction times out due to a lack of response, the measured response time is irrelevant. Therefore, it is no longer added to the statistics.

3.1.3 app-modbus#63 support for Redis key description.

Since DAINSY Linux 4.0.3, the description of Redis keys is visible in the Cockpit dictionary. A “description” field has therefore been added in the Modbus configuration to exploit this new functionality.

```
[Channels.Sessions.Database]
  [[Channels.Sessions.Database.DiscreteInputs]]
    Quantity = 1
    StartAddr = 0
    Type = "BOOL"
    CacheWriteTo = ["MODBUS-CLIENT-OF-UNIT1_BOOL_READ"]
    Description = ["This is my first description"]
```

3.1.4 app-modbus#65 Versamax plugin: offset on individual channel degradation.

In the Versamax system, the fault management system identifies which rack, slot and channel is associated with each fault. The index for channel identification does not start at 0 but rather at 1, unlike the rack or slot identifier. This change fixes a channel offset during quality degradation in the event of an error associated with a specific channel.

3.1.5 app-modbus#66 Versamax plugin: changing the status of unconfigured cards.

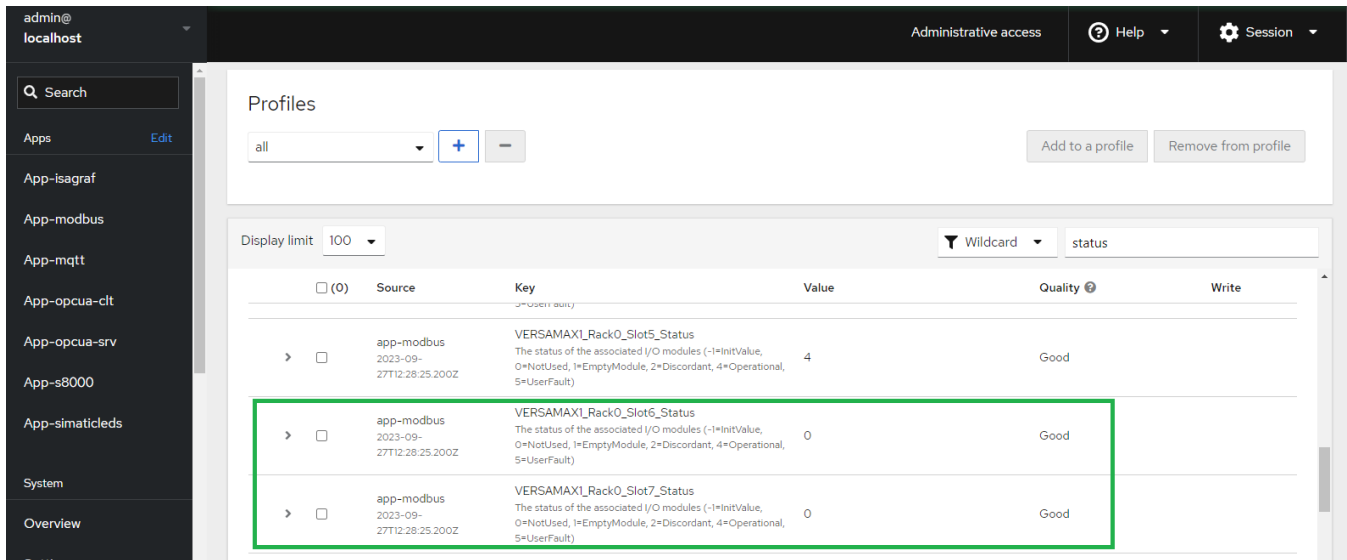
The fault management in the Versamax contains faults which concern all the cards in a Rack. When a Rack fault is applied to the card status, all statuses are modified. This can lead to confusion when certain cards in a rack are not present. They cannot have an error in this case. The logic to determine the status of a Versamax cards before was:

- Assign all cards an OPERATIONAL (4) or NOTUSED (0) state, depending on whether the card is configured or not.
- Apply faults to cards, which overwrites the state assigned in step 1.

The new logic will be as follows:

- Assign an OPERATIONAL (4) state to all cards.
- Apply faults to cards, which overwrites the state assigned in step 1.
- If a card is not configured, assign the NOTUSED state (overwrites the state assigned in step 1 and/or 2).

This way, if a card is not configured, it is always in the NOTUSED state. The rest of the Versamax status behavior has not been changed.



3.1.6 app-modbus#67 new parameter for the time spacing of channel requests.

A new optional parameter “FirstCharWait” has been added to the configuration of each Modbus channel. It is useful when using a modem or other communications device that requires a minimum time between reception and transmission.

3.1.7 app-modbus#68 validate IP addresses in configuration.

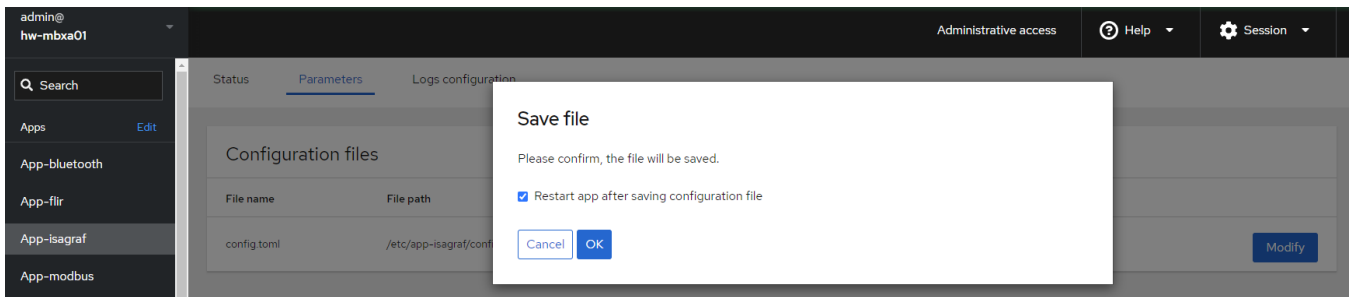
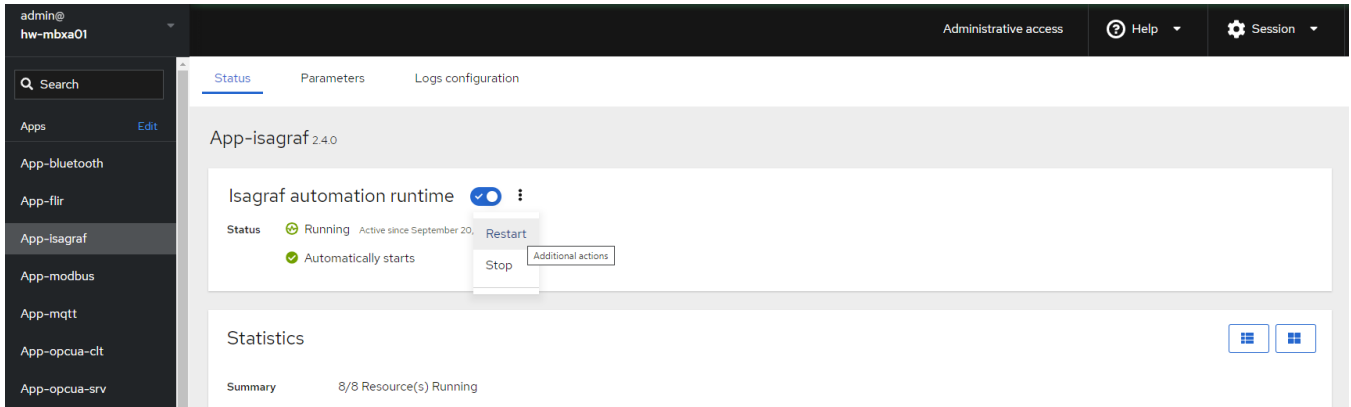
When loading the configuration, if the address field is not a valid IPv4 address, then app-modbus consider the configuration file as invalid.

3.1.8 app-modbus#69 Process only changed Redis variable into the internal logic.

Changed the internal architecture of the application so that CPU usage depends on the number of value changes per second rather than the number of variables in the configuration. This change makes it possible to substantially reduce the CPU consumption of the application process.

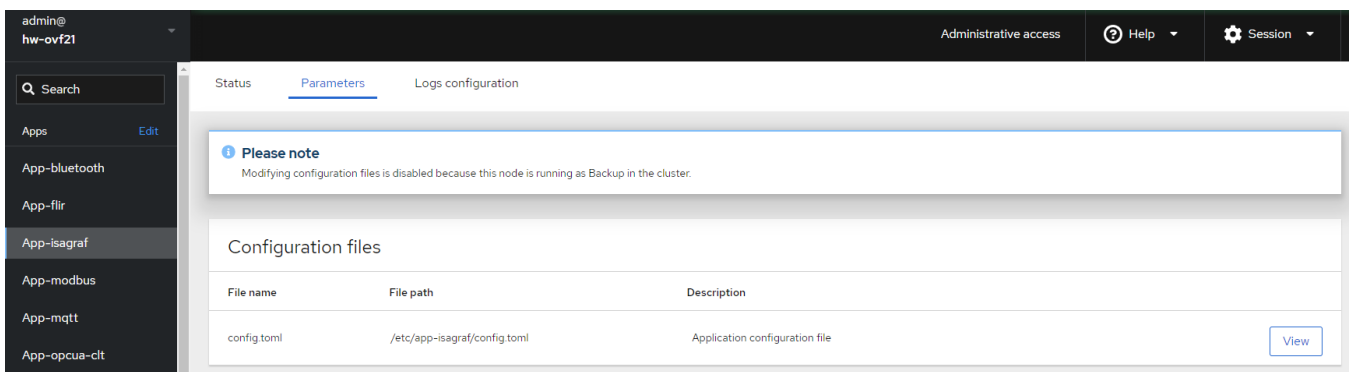
3.1.9 cockpit-app-base#19 make it easier to restart the application.

It is now possible to stop, start, activate, or deactivate the service from the Status tab. In addition, when a configuration file is modified and requires a restart of the application for the change to be applied, the user is asked to respond to the restart action if desired.



3.1.10 cockpit-app-base#21 does not allow modification of configuration files from the backup unit.

Modification of configuration files is now prohibited on the backup unit of a redundant system because the modification conflicts with the *cluster-sync* synchronization tool.



3.1.11 cockpit-app-base#24 allow resizing of logs section.

The user can now extend the size of the logs section.

The screenshot shows the Cockpit interface. On the left is a sidebar with application categories: App-isagraf, App-modbus, App-mqtt, App-opcua-ctl, App-opcua-srv, App-s8000, App-simaticleds, App-simaticwdog, App-smartmicro, App-stinson, System, Overview, Settings, Networking, and Accounts. The main area displays a table of resources (RES3-RES8) and a 'Logs' section. The logs section has a 'Display limit' of 100 and a scroll bar on the right, which is highlighted with a green box to indicate it can be extended.

Resource	Status	Usage	Limit	Free	Used	Available	Percentage	Actions
RES3	✔	250	7584	7584	0	0	1	🔄
RES4	✔	250	7579	7579	0	0	1	🔄
RES5	✔	250	7586	7586	0	1	1	🔄
RES6	✔	250	7583	7583	0	1	1	🔄
RES7	✔	250	7581	7581	0	1	1	🔄
RES8	✔	250	7577	7577	0	1	1	🔄

3.1.12 cockpit-app-base#25 manages configuration files permissions.

File access security is now enforced according to the following policies.

- Reading files is always allowed for members of the *grp-config* security group or by super-users who have activated cockpit administrative mode.
- Modification of files deployed in the /config folder is allowed for members of the *grp-config* security group or by super-users who have activated cockpit administrative mode.
- Modification of files deployed in other folders is allowed by supers-users who have activated cockpit administrative mode.

The screenshot shows the Cockpit configuration page for 'App-isagraf'. The top navigation bar includes 'Administrative access', 'Help', and 'Session'. The main content area is titled 'Configuration files' and contains a table with the following data:

File name	File path	Description
config.toml	/etc/app-isagraf/config.toml	Application configuration file

A green arrow points from the 'Administrative access' button in the top bar to the 'Modify' button in the table, indicating that administrative access is required to modify configuration files.

3.1.13 dainsy#185 use of control groups (v2) by the creation of dedicated slice for the application.

With the release of DAINSY 4.0.3, the use of control groups is now possible and allows better sharing of machine resources between the installed applications. App-isagraf is now identified in a dedicated slice under the "app" tree and will have guaranteed access to resources according to the distribution established by the DAINSY policy.

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