



STM32CubeMonitor:How to configure mandatory parameters before acquisition

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A quality version of this page, approved on 3 March 2020, was based off this revision.

Here are the different steps explained to configure the basic flow.



1 Select the variables to monitor

This chapter introduces the easiest way to add a variable to monitor, by adding the variable to the list manually.

In the chapter *STM32CubeMonitor:How to extract address from ELF files*, the possibility of adding variables extracted from an executable file is presented.

After opening the node "myVariables", variables can be added directly in the variable node by using the button **Add custom variable**.

The screenshot shows the STM32CubeMonitor software interface. The main workspace displays a flowchart with nodes like 'START Acquisition', 'STOP Acquisition', and 'myProbe_In'. A dialog box titled 'Edit variables node' is open, showing the configuration for a variable group named 'myVariables'. The 'Variable list' table is empty, and a red arrow points to the '+ Add custom variable' button. The 'Acquisition parameters' section includes settings for 'Sampling frequency' (sequential loop), 'Acquisition mode' (direct), 'Trigger start mode' (off), 'Trigger name' (Variable list is empty), and 'Trigger threshold' (30000). The right sidebar shows the 'Info' panel for the selected node, displaying its ID and type.

The new variable is added with default type. It is the user's responsibility to define the name, the address and optionally the type by editing each of the table fields.



The screenshot displays the 'Edit variables node' configuration interface. The 'Variable list' table is as follows:

Name	Start Address	Type
Variable1	0x20000090	Signed 8-bit

The 'Acquisition parameters' section includes:

- Sampling frequency: sequential loop
- Acquisition mode: direct
- Trigger start mode: off
- Trigger name: Variable1
- Trigger threshold: 30000

The 'Done' button is located at the top right of the configuration window, indicating the completion of the modification.

The validation of the modification in the node is done by clicking on the button "Done".

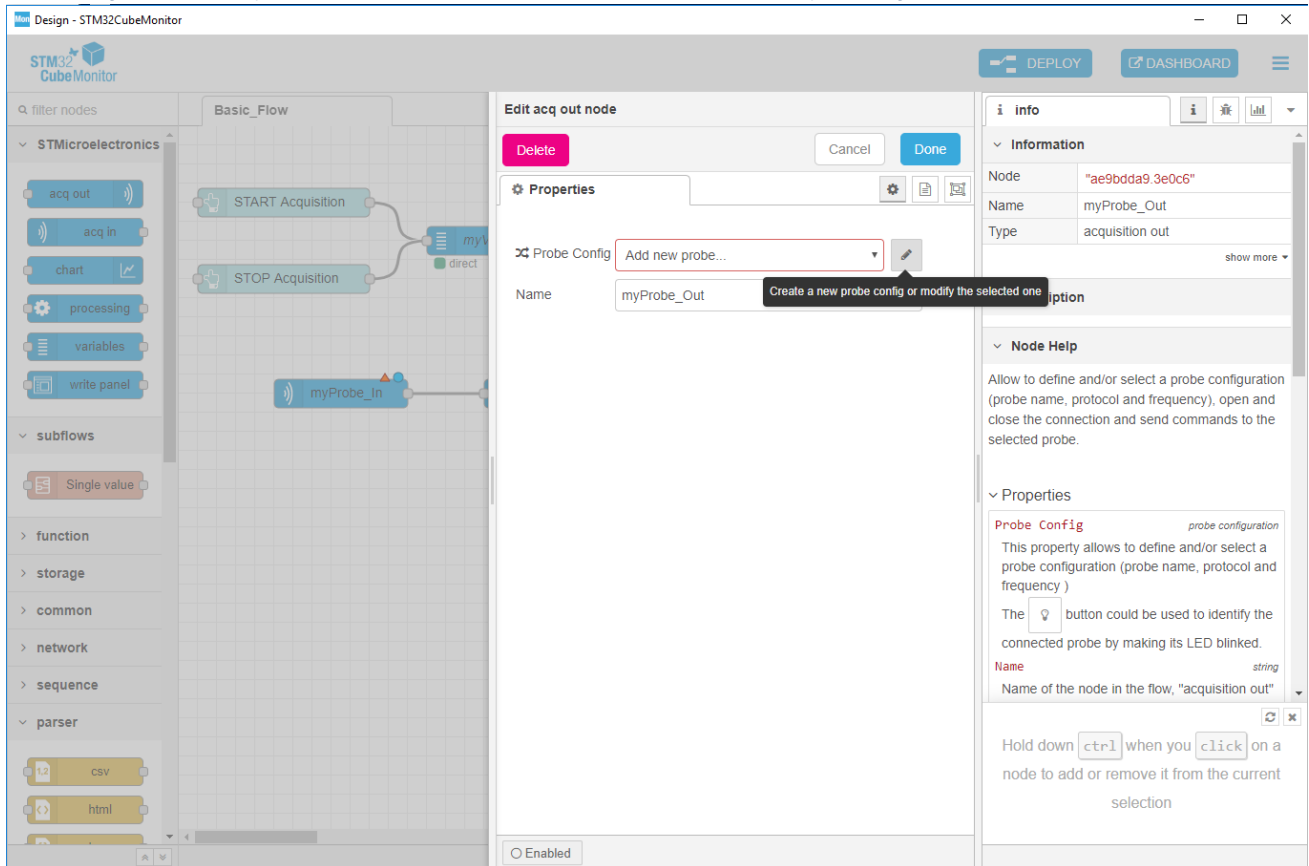


2 Select the ST-LINK used to monitor a target

Two steps are needed to select the probe which is used to perform acquisitions.

The first step is the configuration of the *acquisition out* node, which will be used to send commands to the probe. (**out** stand for "sending messages out of STM32CubeMonitor").

After opening the node "myProbeOut", selection of a new probe can be done by clicking on the specific button.



There is automatic detection of the connected probes when clicking on the picklist "Probe Name". (you need to install the driver STLINK to see the probes, see [Installing STM32CubeMonitor](#)).



The screenshot displays the STM32CubeMonitor configuration environment. On the left, a flowchart titled 'Basic_Flow' shows a sequence of nodes: 'START Acquisition', 'STOP Acquisition', and 'myProbe_In'. The 'myProbe_In' node is currently selected. A central dialog box titled 'Edit acq out node > Add new probe config node' is open, featuring a 'Cancel' button and an 'Add' button. The 'Properties' section of the dialog includes a 'Probe Name' dropdown menu with the following options: 'Select a probe', 'ST-Link v2-1B (...25216)', and 'ST-Link v2-1B (...92210)'. On the right side of the interface, an 'info' panel provides details for the selected node, including its ID ('e2ce07e28.1d789'), type ('probe'), and a 'Description' section. The 'Node Help' section explains that this node allows defining a probe configuration (name, protocol, and frequency) and lists the properties: 'Probe Name' (string), 'Protocol' (string), and 'Frequency' (string). It also includes a note about the ST-Link firmware version and an option to enable or disable tips.

When selecting a probe, the default protocol and frequency are selected. The firmware version is also available. (If the firmware version is not sufficient for the usage of all features of STM32CubeMonitor, there is a notification).



The screenshot displays the STM32CubeMonitor design environment. On the left, a palette of nodes is visible, including 'acq out', 'acq in', 'chart', 'processing', 'variables', 'write panel', 'Single value', 'function', 'storage', 'common', 'network', 'sequence', and 'parser'. The main workspace shows a 'Basic_Flow' diagram with nodes for 'START Acquisition', 'STOP Acquisition', and 'myProbe_In'. A context menu is open over the 'myProbe_In' node, showing the option to 'Add new probe config node'. The configuration dialog is open, showing the following settings:

- Probe Name:** ST-Link v2-1B (...25216)
- Protocol:** SWD
- Frequency:** 1.8 MHz - Default
- ST Link firmware version:** V2.J32

The right-hand panel shows the 'info' tab for the selected node, displaying the following information:

- Node:** "ece07e28.1d789"
- Type:** probe
- Description:** Allow to define a probe configuration : probe name, protocol and frequency
- Node Help:**
 - Probe Name:** string. Allow to select a specific probe among all connected probes.
 - Protocol:** string. Allow to select a protocol among the protocols supported by the selected probe.
 - Frequency:** string. Allow to select a frequency among the frequency supported by the selected probe.
- STlink firmware version:** Information regarding the STlink Firmware version currently used by...

At the bottom of the dialog, there are checkboxes for 'Enabled' (checked), '0 nodes use this config', and 'On all flows'.

Clicking on the button add will add this probe configuration in the tool, making it available for all the nodes which can use it (both *acquisition out* and *acquisition in* nodes). Validation of the modification in the node is done by clicking on the button "Done".



The screenshot displays the STM32CubeMonitor configuration environment. On the left, a node palette lists various components like 'acq out', 'acq in', 'chart', 'processing', 'variables', 'write panel', 'Single value', 'function', 'storage', 'common', 'network', 'sequence', and 'parser'. The central workspace shows a 'Basic_Flow' diagram with 'START Acquisition' and 'STOP Acquisition' nodes connected to a 'myProbe_In' node. The 'myProbe_In' node is selected, opening the 'Edit acq out node' dialog. This dialog features a 'Delete' button, 'Cancel', and 'Done' buttons. The 'Properties' section is active, showing a 'Probe Config' dropdown menu set to 'ST-Link v2-1B (...25216):SWD:1.8 MHz' and a 'Name' text field containing 'myProbe_Out'. The right sidebar contains an 'Info' panel with sections for 'Information', 'Description', and 'Node Help'. The 'Information' section shows the node ID 'ae9bdda9.3e0c6', name 'myProbe_Out', and type 'acquisition out'. The 'Node Help' section provides instructions on how to use the 'Probe Config' property and the 'Name' property.

The second step is the configuration of the *acquisition in* node, which will receive messages sent by the probe (**in** standing for "receiving messages in STM32CubeMonitor"). After opening the node "myProbeIn", selection of the probe configuration is done by looking for the right probe configuration in the picklist (probe configuration already created during the *acquisition out* configuration).



The screenshot displays the STM32CubeMonitor software interface. On the left, a node palette is visible with categories like 'STMicroelectronics', 'subflows', 'function', 'storage', 'common', 'network', 'sequence', and 'parser'. The main workspace shows a 'Basic_Flow' diagram with nodes for 'START Acquisition', 'STOP Acquisition', and 'myProbe_In'. An 'Edit acq in node' dialog box is open, featuring a 'Delete' button, 'Cancel', and 'Done' buttons. The 'Properties' section of the dialog includes a 'Probe Config' dropdown menu with 'ST-Link v2-1B (...25216);SWD:1.8 MHz - Default' selected. The right sidebar shows the 'Info' panel for the 'myProbe_In' node, with fields for 'Node' (ID: "2e09d385.924e5c"), 'Name' (myProbe_In), and 'Type' (acquisition in). The 'Description' and 'Node Help' sections provide additional context for the node's configuration.

Validation of the modification in the node is done by clicking on the button "Done".



3 Deploy the flow to take into account the configurations done

At this point, the configuration of the nodes only exists in the editor and must be deployed to the server.

Click the Deploy button. A message should pop up at the top saying “Successfully deployed”, it means that the tool is ready to start an acquisition with the different configurations made on each node. In addition, status is available for each node.

The screenshot displays the STM32CubeMonitor design editor interface. At the top, a green notification box states "Successfully deployed". The main workspace shows a flowchart titled "Basic_Flow" with the following nodes and connections:

- START Acquisition** (teal) connects to **myVariables** (blue).
- STOP Acquisition** (teal) also connects to **myVariables** (blue).
- myVariables** (blue) connects to **myProbe_Out** (teal).
- myProbe_In** (teal) connects to **myVariables** (blue).
- myVariables** (blue) connects to **myChart** (blue).
- myChart** (blue) connects to **Clear Graphs** (teal).

Node status indicators are visible: "direct" for myVariables, "p2p connected (STM32L47xxx/48xxx)" for myProbe_Out, and "p2p connected (STM32L47xxx/48xxx)" and "processing on" for myProbe_In.

The right-hand panel shows the "info" for the selected **myProbe_In** node:

- Information:** Node ID: "2e09d385.924e5c", Name: myProbe_In, Type: acquisition in.
- Description:** Allow to define and/or select a probe configuration (probe name, protocol and frequency), and receive data from the selected probe.
- Node Help:** This property allows to define and/or select a probe configuration (probe name, protocol and frequency). The button could be used to identify the connected probe by making its LED blinked.
- Properties:** **Probe Config** (probe configuration). This property allows to define and/or select a probe configuration (probe name, protocol and frequency). The button could be used to identify the connected probe by making its LED blinked. Name: (string).

For example, for the *acquisition in* and *acquisition out* node, the status of the connection and name of the target connected to the probe are displayed. The connection is checked every 15 seconds. This interval can be modified (see [STM32CubeMonitor: How to change general settings](#)).

To start acquisition and view the dashboard, follow this link [Start acquisition and view in the dashboard](#).