

Cheat Sheet: Control and Orchestration with KNIME Analytics Platform

Flow Variables allow for the parameterization of a workflow. A Flow Variable is a parameter that can assume different values at different execution points in the workflow & overwrite configuration settings in upcoming nodes.



Hidden Flow Variable Ports

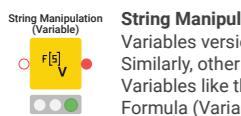
Each node has two hidden Flow Variable ports to accept incoming Flow Variables & to propagate them to the upcoming nodes. To make these ports visible, right-click the node & select **Show Flow Variable Ports**. Only ports of the same type can be connected.



Creating a Flow Variable

1. Use a Configuration or a Widget node to create a Flow Variable at any point in your workflow.
1. Use any of the nodes converting data into Flow Variables.
3. Via the node configuration window in the **Flow Variables** tab, fill in a blank box with the name of the Flow Variable.

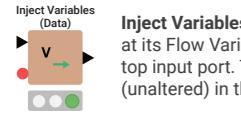
String Manipulation (Variable): This node is the Flow Variables version of the String Manipulation node. Similarly, other nodes have their own version for Flow Variables like the Rule Engine Variable node & the Math Formula (Variable) node.



Merge Variables: Combines Flow Variables from two or more separate branches. To add a branch click the three dots in the bottom left corner. If Flow Variables with the same name are collected, the Flow Variable in the top most connection is retained.



Inject Variables (Data): Adds (injects) the Flow Variables at its Flow Variable input port into the data table at the top input port. The input data table is forwarded (unaltered) in the node output port.



Extract Variables (Data): Extracts the Flow Variables coming in through the input data port & produces them as standalone Flow Variables at the output port.



A Metanode or Component is a node that contains other nodes.

Creating a Metanode or Component

Select all relevant nodes, right-click and select **Create Metanode...** for a Metanode or **Create Component...** for a Component. Right-clicking a Metanode or Component opens the context menu with a number of options such as open, expand, setup, or reconfigure, and save as template.



Widget and Configuration nodes create one or more new flow variables & make them available at the output port. Widget nodes create a UI item for the composite view or the KNIME WebPortal (textbox, radio button, etc.) to create and control the flow variable. Configuration nodes create a UI item in the configuration dialog of a component & are not visible in the composite view or the KNIME WebPortal.



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