KNIME WebPortal User Guide

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Introduction

KNIME WebPortal is an extension to KNIME Server. The WebPortal provides a web interface that lists all accessible workflows, allows to execute them and to investigate the results. The workflows' input and output can be parameterized using "QuickForms". In addition, report templates created with KNIME Report Designer that are uploaded together with their associated workflow to the shared repository on KNIME Server can be filled dynamically with data and downloaded in various formats.

Publishing workflows and report workflows

Workflows and the associated report templates are published on KNIME WebPortal by simply uploading the workflow from the local workspace to the server. This can be done either via the context menu in KNIME Explorer (copy/paste), or by dragging and dropping a workflow from a local workflow repository to a ServerSpace repository. Access permissions can be assigned to restrict the access to certain user groups.

Please refer to the KNIME Explorer User Guide for more information.

WebPortal browser

You can use a standard web browser to connect to KNIME WebPortal. The address (URL) to get to the login page is:

```
http://<server-address>/knime
```

The last part of the address may have been changed by your server administrator.

After providing the user’s login name and password, a listing of all available workflows is displayed. Only workflows the user can read and execute are shown.

QuickForm nodes

The nodes in the node repository category "Workflow Control → QuickForms" can be used to create flow variables and to assign them values. These values can then be used in the workflow to control the execution of nodes. There are different quick form nodes for different types of variables (e.g. "Integer Input", "String Input", "Double Input", etc.).

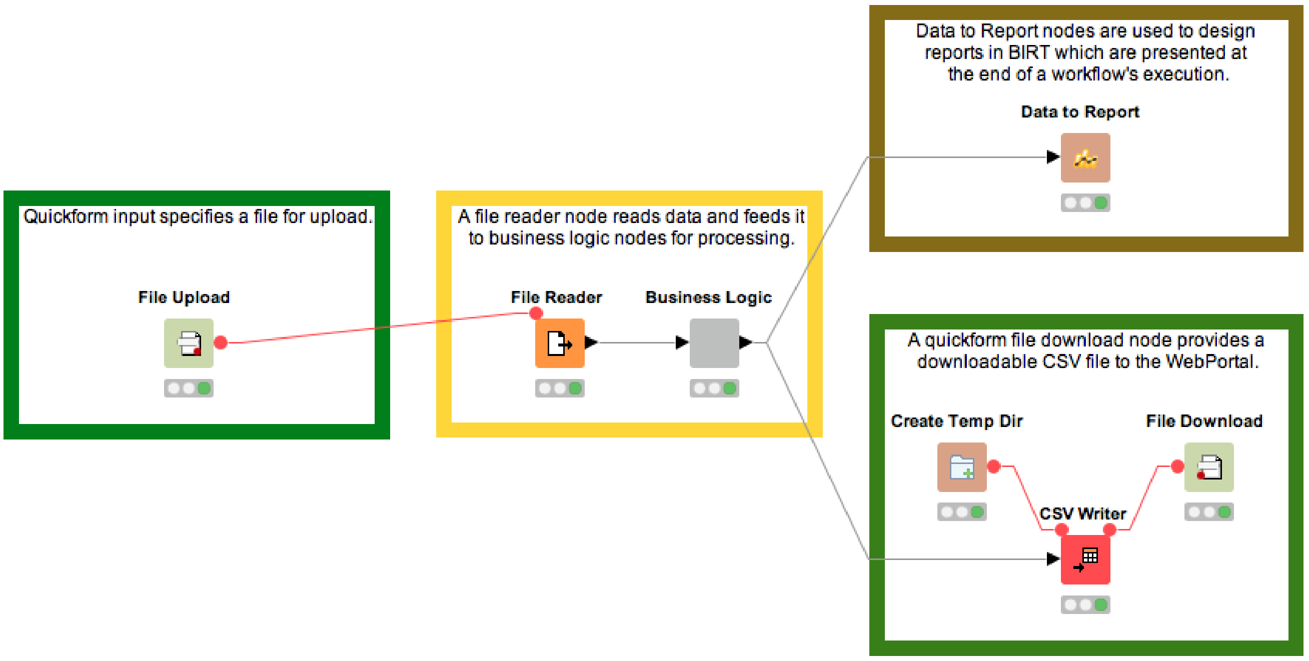
QuickForm nodes are especially useful when used in workflows designed for KNIME Server deployment via the WebPortal. When the WebPortal encounters a QuickForm node in a workflow, it prompts the user to enter new values for its variables before proceeding with the workflow execution. The new values are injected into the workflow, and used to parameterize its execution.

Example

Imagine we want to show a workflow in the WebPortal that allows the user to convert an XLS-file into a CSV-file (comma separated values text file). The workflow is very simple: just connect an Excel Reader (XLS) with a CSV Writer.

For the WebPortal, we add nodes to enable the user to upload the XLS-file and to download the result, and to write to a temporary location on the server. After the workflow is created it is uploaded to KNIME Server.

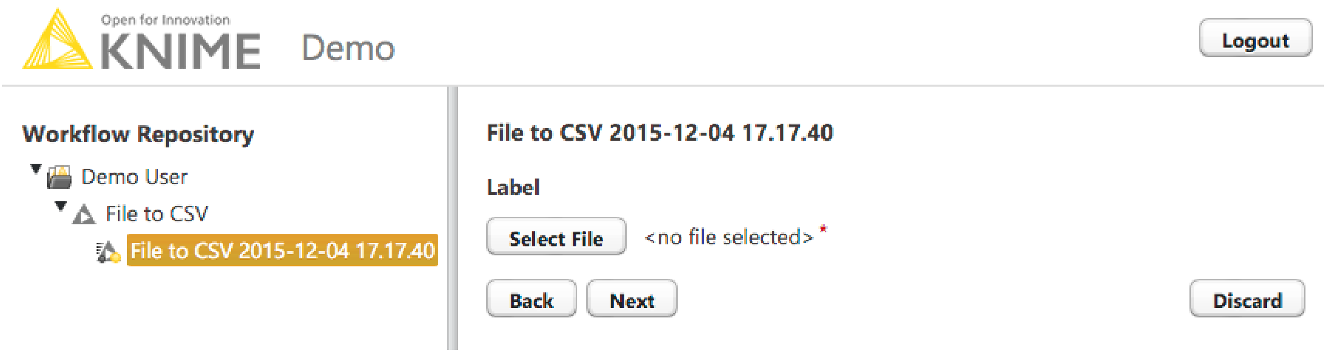
Example workflow


Data to Report nodes are used to design reports in BIRT which are presented at the end of a workflow's execution.
Data to Report
Quickform input specifies a file for upload.
File Upload
A file reader node reads data and feeds it to business logic nodes for processing.
File Reader
Business Logic
A quickform file download node provides a downloadable CSV file to the WebPortal.
Create Temp Dir
File Download
CSV Writer

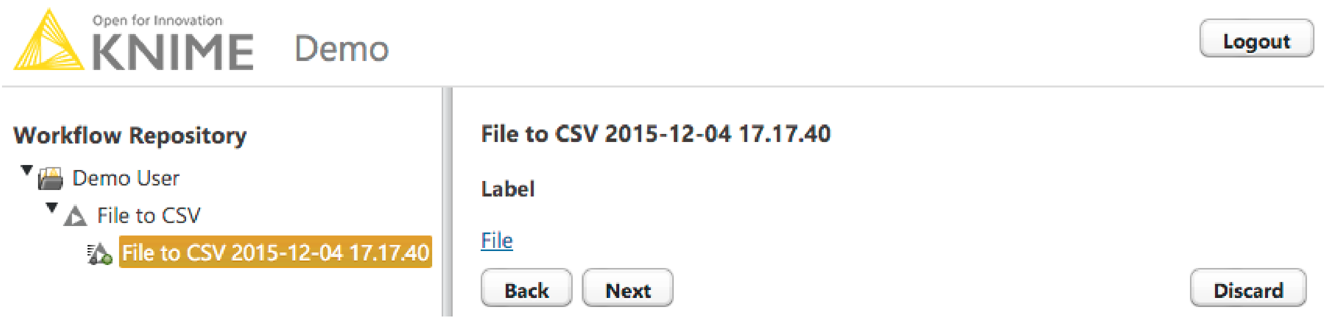
This example demonstrates a common sequence of nodes used to upload and download data using KNIME WebPortal. In addition to the "regular" nodes used for reading and analyzing the data (center, yellow) there are additional QuickForm nodes (left and lower right, green) that provide the workflow with file import and export capabilities via a browser. Please note, that a functioning workflow needs to nest the QuickForm nodes into a Wrapped Node. This has been omitted in the picture, to better show the concept.

Finally, a Data to Report node (upper right, brown) is used to send data to a predefined BIRT Report.

WebPortal page for the example workflow

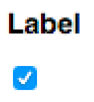


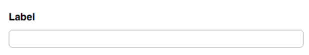
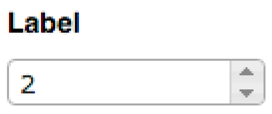
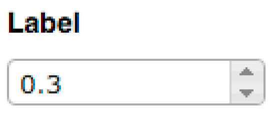
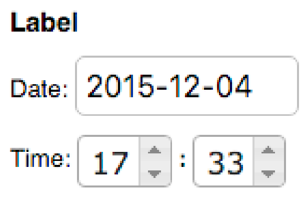
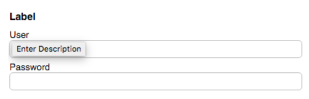
After logging in to KNIME WebPortal a user can select from available workflows. On the right pane of the page, the components corresponding to the QuickForm input nodes in the workflow are shown. After selecting a file, the workflow can be executed on the server by clicking Run. After successful execution, the QuickForm output nodes are displayed providing the user with a download link of the converted result file:

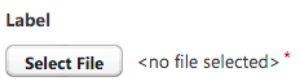
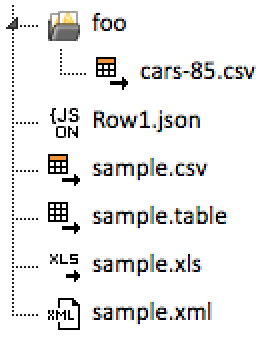
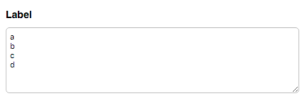
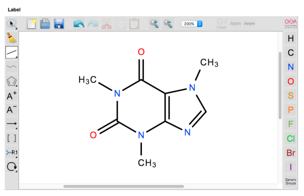
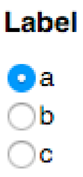


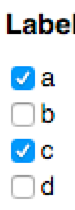
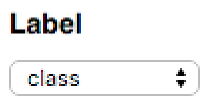
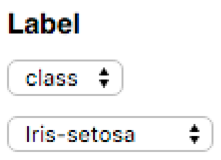
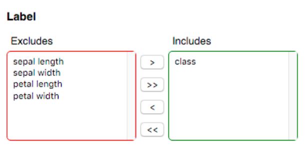
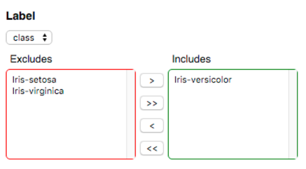
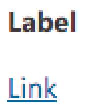
Available Quickform nodes

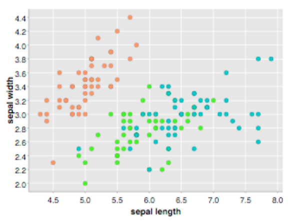
Node Name	Displayed component in KNIME WebPortal	User Input	Output
Input Nodes			

Boolean Input	 Label ✓	Boolean values	Checked = 1
			Unchecked = 0

String Input	 Label	Any user input is accepted	String
Integer Input	 Label 2	Integer values	Integer
Double Input	 Label 0.3	Floating point numbers	Double
Date Input	 Label Date: 2015-12-04 Time: 17 : 33	A date (as string) (or a selected date from the calendar form).	String
Credentials Input	 Label User Enter Description Password	User credentials (user name and password) for later use in authenticated nodes.	Credentials Flow Variable

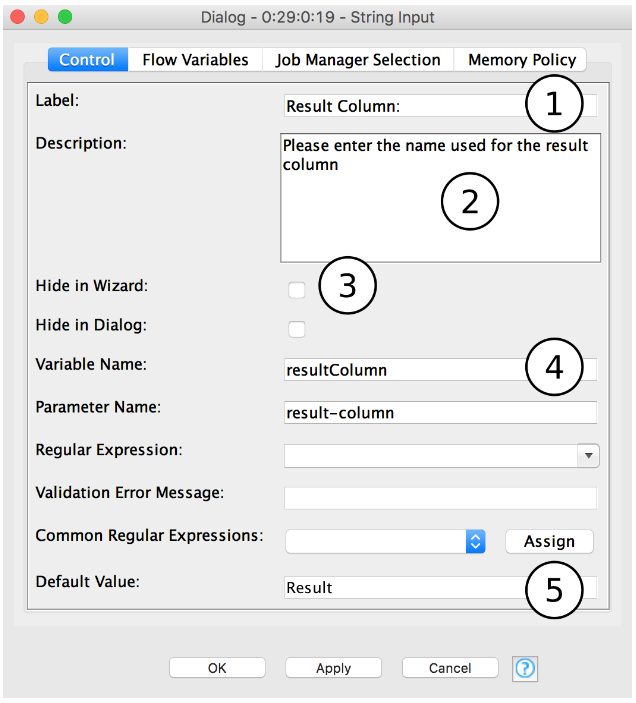
Node Name	Displayed component in KNIME WebPortal	User Input	Output
File Upload		Upload a file to the server using a temporary folder.	Path to the uploaded file
File Chooser	 foo cars-85.csv Row1.json sample.csv sample.table sample.xls sample.xml	Select one or multiple remote files, workflows or folders.	Table with paths to selected items (as knime:// protocol). First path is also output as flow variable.
List Box Input		Separate string inputs	Data Table
Molecule String Input		Molecule String	String plus SVG image of the molecule (if supported by configured sketcher)
Selection Nodes			
Single Selection		Choice of the available values. The available selection depends on the node's configuration.	String

Node Name	Displayed component in KNIME WebPortal	User Input	Output
Multiple Selections	 **Label** ✓ a, ☐ b, ✓ c, ☐ d	Multiple selections	Column of selections
Column Selection	 **Label** class	Column name	String
Value Selection	 **Label** class Iris-setosa	Value of a column	String
Filter Nodes			
Column Filter	 **Label** Excludes: sepal length, sepal width, petal length, petal width; > >> < <<; Includes: class	Select columns from a KNIME Table	Empty data table with selected columns. Often used with Reference Column Filter.
Value Filter	 **Label** class Excludes: Iris-setosa, Iris-virginica; > >> < <<; Includes: Iris-versicolor	Values of a column	Data Table
Output Nodes			
File Download	 **Label** Link	The flow variable specified must contain an absolute file path.	String

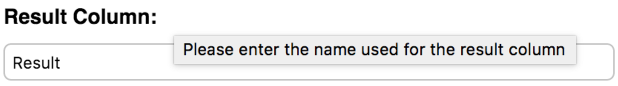
Node Name	Displayed component in KNIME WebPortal	User Input	Output
Image Output	**Label** 	KNIME Image	SVG or PNG image
Text Output	**Label** Sample output text	Any text	String or HTML content

Configuration of Quickform nodes

All QuickForm input nodes have very similar configuration dialogs. Below is as representative example of the dialog of a String Input node, the right hand picture shows the corresponding display in the WebPortal web page:


Dialog - 0:29:0:19 - String Input

Label:	Result Column:
Description:	Please enter the name used for the result column
Hide in Wizard:	☐
Hide in Dialog:	☐
Variable Name:	resultColumn
Parameter Name:	result-column
Regular Expression:	
Validation Error Message:	
Common Regular Expressions:	
Default Value:	Result


Result Column:

Result

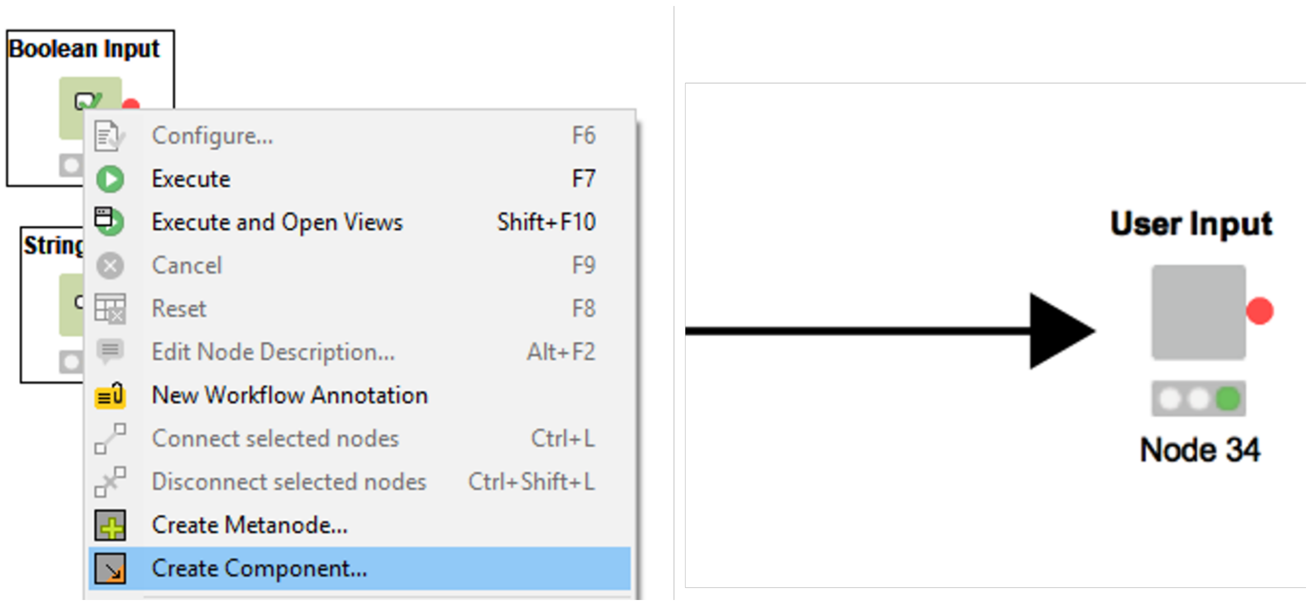
Please enter the name used for the result column

1. The text displayed above this input field.
2. The tooltip text seen on mouse over.
3. Check, if this Quickform is not supposed to be shown in KNIME WebPortal, you can use this option e.g. for injecting static input into the workflow
4. The name of the variable that carries the value of this Quick Form node. It should be a unique and will automatically be assigned a type.
5. The default value assigned to the variable named above. Used both for workflow testing and as the default value in KNIME WebPortal.

Creating workflows for KNIME WebPortal

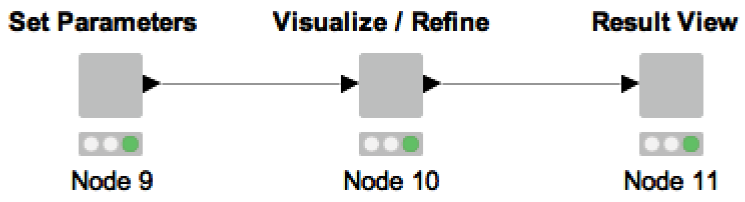
Components

A workflow execution on the WebPortal is comprised of one or more pages or wizard steps, where a user gets guided through the process. Each page or step is modelled in the workflow by the use of Components. These nodes are created by selecting the nodes to be included in a page and selecting "Create Component" from the context menu.

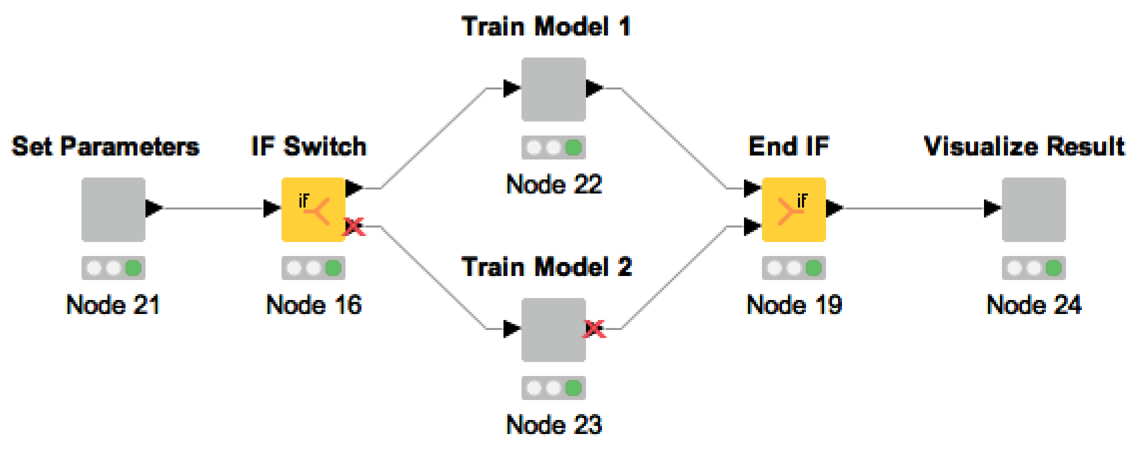


Stepping through pages - Wizard execution

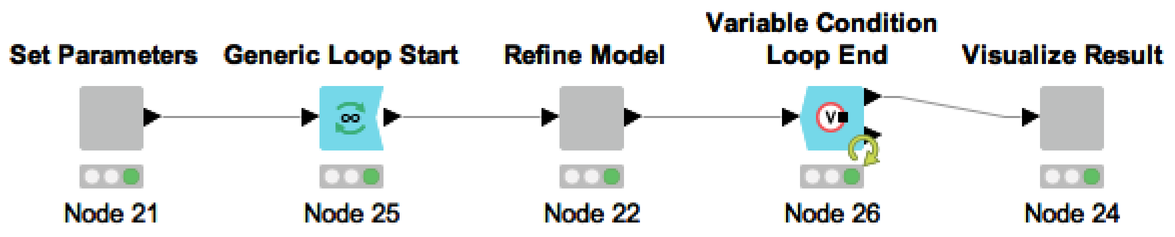
As each Component represents one WebPortal page, a series of 3 pages can be modelled as a sequence of three Components:



To dynamically show and hide pages during execution it is possible to disable a Component, e.g. by means of an IF or CASE block.



It is also possible to use Components inside loops for example to iterate over an item set or recursively refine a model.



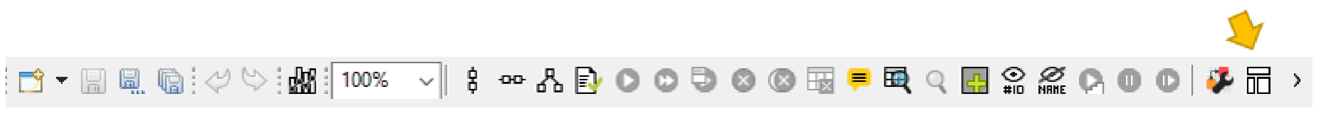
JavaScript visualizations

Each component that can be displayed in the WebPortal is a JavaScript-based node visualization.

This can be a Quickform node, but also an interactive chart or other component. KNIME provides a basic set of additional JavaScript-based interactive nodes in the KNIME Labs category JavaScript views. If not present these nodes can be installed, by selecting *Install KNIME extension*, browsing to *KNIME Labs Extensions* and selecting *KNIME JavaScript views* from the installation dialog.

Layouting for Components

Any Component that contains at least one Quickform or JavaScript-enabled view can have a layout defined, e.g. to lay out two views beside each other. To access the layout editor, open the Component and click the layout editor button in the top toolbar:



Visual layout editor

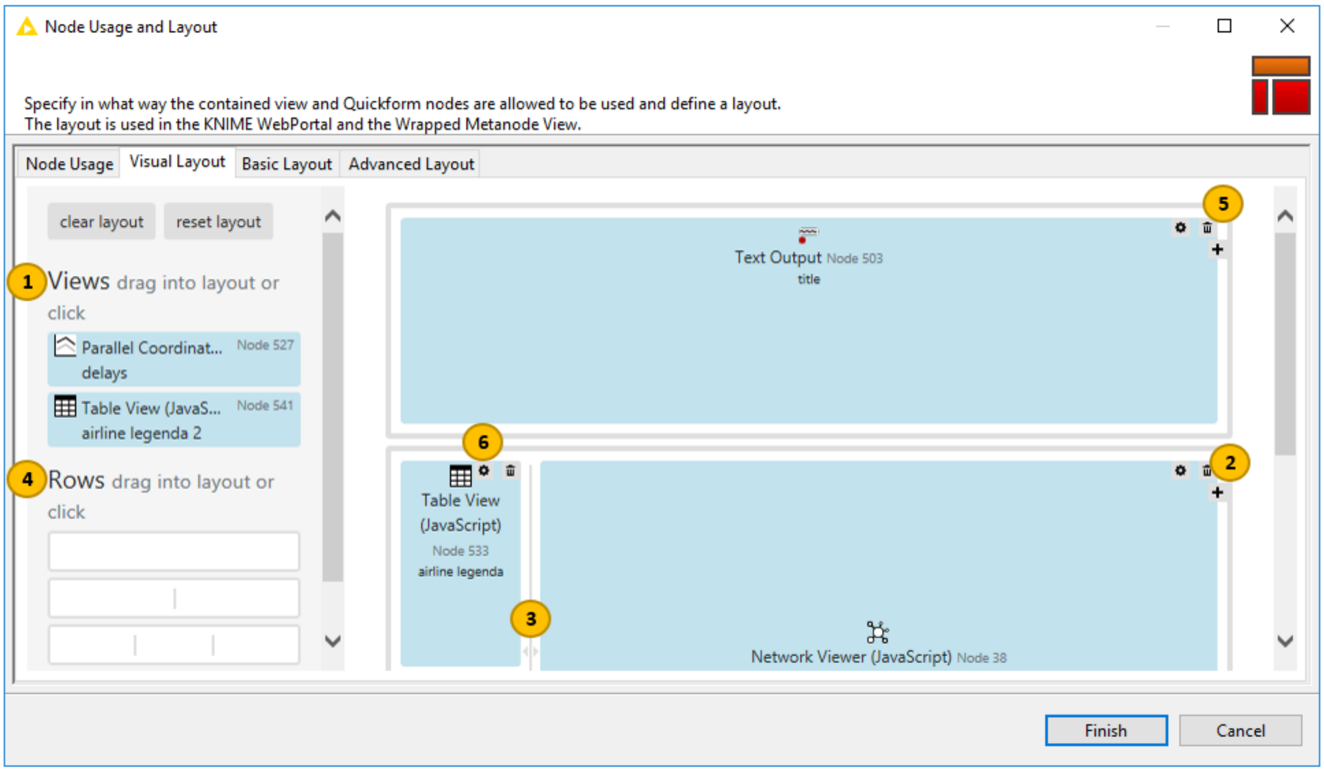
The visual layout editor allows you to create and adjust layouts using a drag & drop grid. To get started it’s important to understand three basic concepts:

- a layout consists of one or more **rows**. Each row can have up to 12 columns.
- a **column** determines the width of its components, therefore it can be resized when there is more than one column in a row.
- one or more **views** can be added to a column.

For example, to layout two views side by side you could create two columns with either equal or unequal widths and add one view to each.

All available views are initially inserted below each other into the layout.

The visual layout editor consists of a left panel which shows a list of all JavaScript views in your Component which have not yet been added to the layout and an interactive preview of the layout on the right.


Specify in what way the contained view and Quickform nodes are allowed to be used and define a layout.
The layout is used in the KNIME WebPortal and the Wrapped Metanode View.
Node Usage and Layout
Node Usage
Visual Layout
Basic Layout
Advanced Layout
clear layout
reset layout
1
Views drag into layout or click
Parallel Coordinat... Node 527
delays
Table View (JavaS... Node 541
airline legenda 2
4
Rows drag into layout or click
5
Text Output Node 503
title
6
Table View (JavaScript) Node 533
airline legenda
2
3
Network Viewer (JavaScript) Node 38
Finish
Cancel

To **add a view**, drag it from the left panel (1) to the desired position in the layout preview.

To **add a column**, click the '+' buttons in the layout preview (2).

To **resize a column**, click and move the resize handle between columns (3).

To **add a row**, drag a row template from the left panel (4) to the desired position in the layout preview. You can choose between different templates, e.g. 1-column, 2-column, 3-column; but you can also add and remove columns later on.

To **delete a view, column or row** use the trash bin button (5). This is only available for columns and rows when they are empty, i.e. do not contain views, rows, or columns.

To **move a view** into another column drag it to the layout preview. Complete rows can also be moved by dragging.

Note that **nesting is possible**: columns can contain rows as well as views, those nested rows can contain columns, and rows, and views, and so on…

Adjusting the height of views

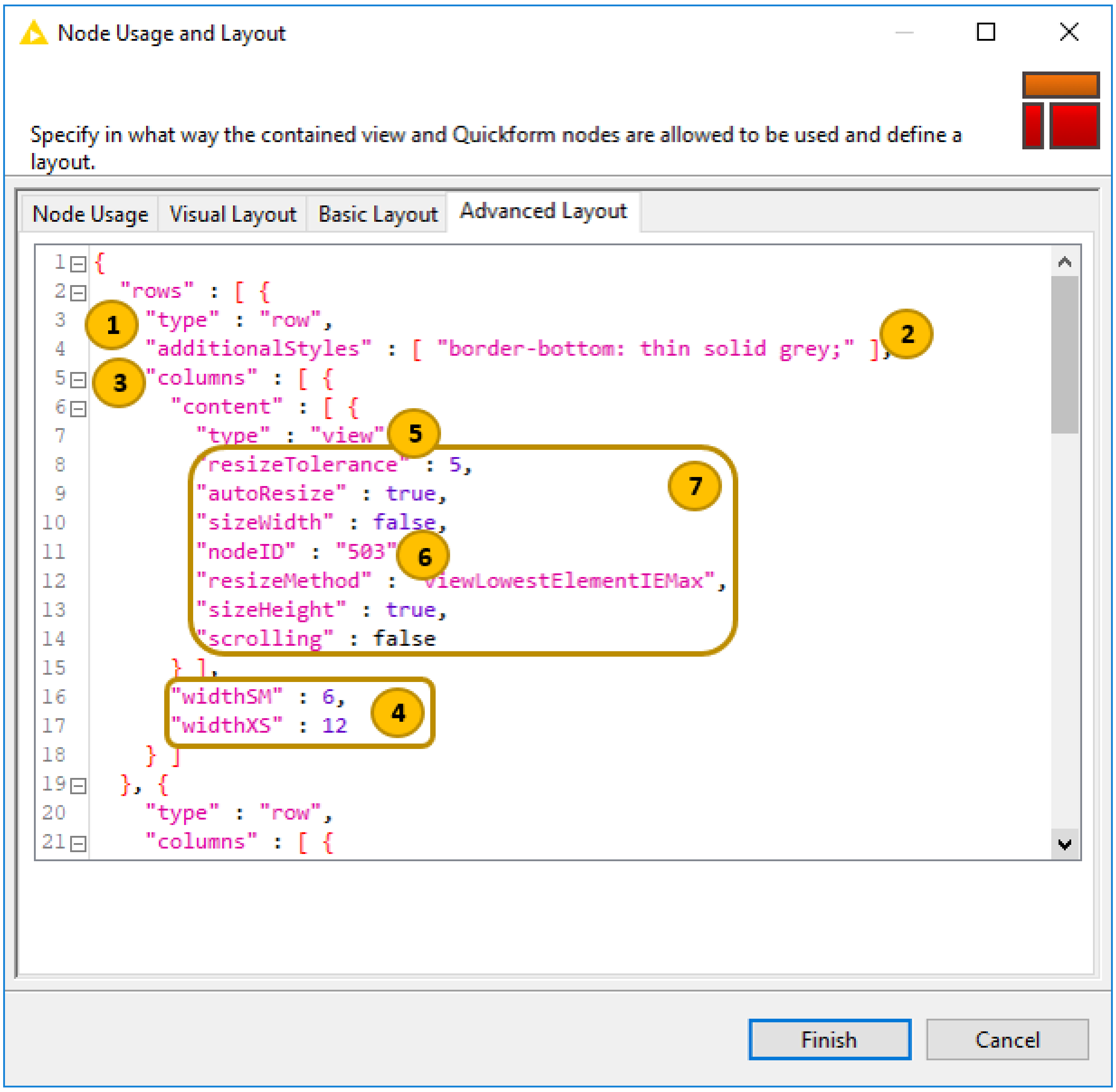
Each view has default sizing settings which can be changed via the cog icons in the layout preview (6). Basically you can choose between automatic height based on the content of the view or aspect ratio sizing (16:9, 4:3 or 1:1). When using automatic height it's possible to define minimal and maximal sizes.

Advanced layouting

The layout structure is saved in a JSON format which advanced users can edit directly in the 'Advanced layout' tab.

The layout is based on the framework Bootstrap and uses its 12 column-based, responsive grid system. For more information and documentation about Bootstrap please visit the Bootstrap website.

The JSON format generated by the visual layout editor is shown in Figure 10. It's a good starting point for understanding the structure and further customization and fine tuning.



Specify in what way the contained view and Quickform nodes are allowed to be used and define a layout.

```
{
  "rows" : [ {
    "type" : "row",
    "additionalStyles" : [ "border-bottom: thin solid grey;" ],
    "columns" : [ {
      "content" : [ {
        "type" : "view",
        "resizeTolerance" : 5,
        "autoResize" : true,
        "sizeWidth" : false,
        "nodeID" : "503",
        "resizeMethod" : "viewLowestElementIEMax",
        "sizeHeight" : true,
        "scrolling" : false
      } ],
      "widthSM" : 6,
      "widthXS" : 12
    } ]
  }, {
    "type" : "row",
    "columns" : [ {
```

Figure 1. Component Layouting in JSON Format

The summary below describes the JSON structure in a non-normative descriptive way. The numbers in parenthesis indicate where you can find the elements in the JSON format in Figure 10.

Row (1)

A row is the outer most element that can be defined and is the first element inside the layout container. The JSON structure's outer layer is an array of rows. A row contains a number of layout-columns.

To further customize a row, optional fields can be used. `additionalClasses` can be used to provide an array of class names to append to the created HTML row element, `additionalStyles` (2) is an option to directly insert CSS style commands on the element. For example, to create a visual separator between one row and the next, a bottom border can be used like this:

```
"additionalStyles" : [ "border-bottom: thin solid grey;" ]
```

The grey line that appears in the custom view output of the Component is shown in Figure 11.

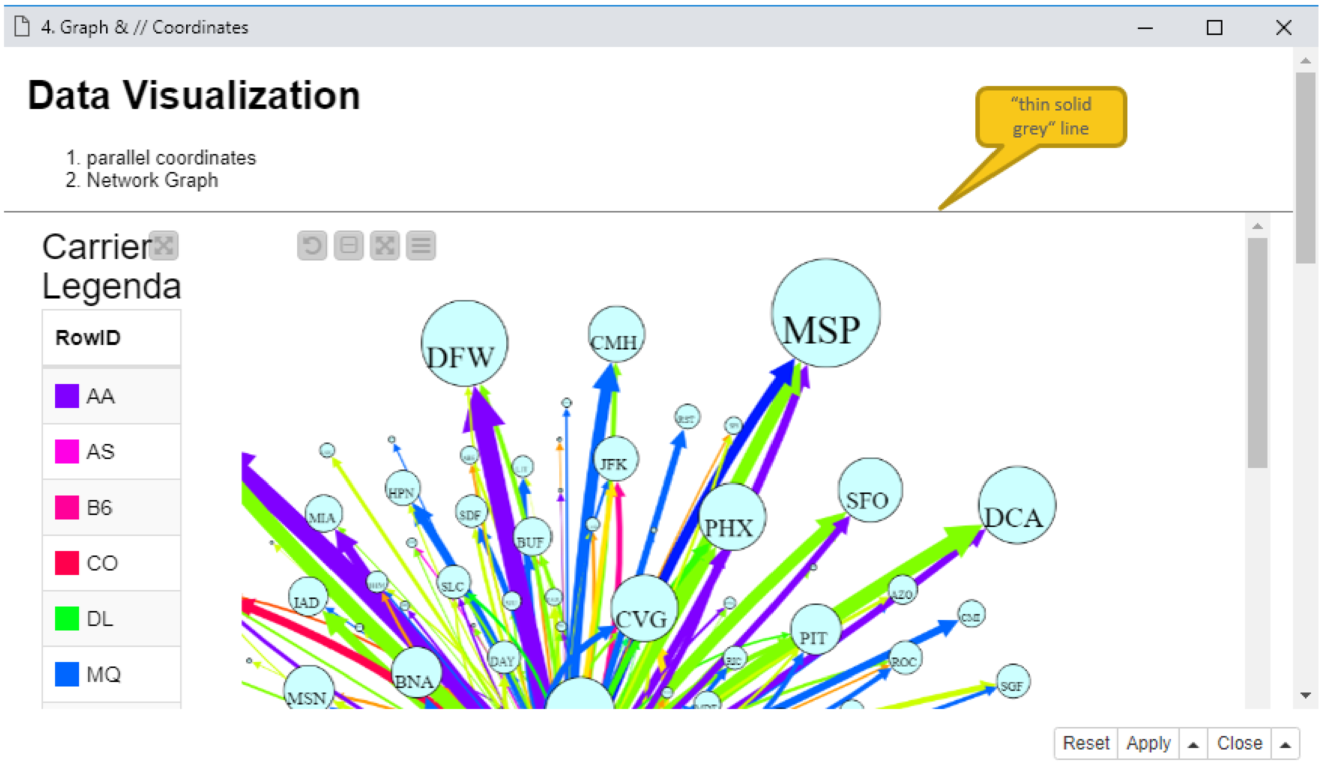


Figure 2. Custom View Output of a Component with Additional Styling

Column (3)

A column is a layout element inside a row which determines the width of its components. To define a width, a number between 1 and 12 (corresponding to the Bootstrap column widths) has to be used. 12 means taking up 100% of the width, whereas 6 would be 50% of the width. This way it is possible to define a layout with components side by side by providing their relative widths. E.g. if three components are to be laid out horizontally with equal column widths use a row with three columns of width 4. If the sum of widths for a particular row is larger than 12, the "extra" columns are wrapped onto a new line.

Responsive layouts (4)

It is also possible to define multiple widths of the columns so that they can adapt to the screen size. With this option responsive layouts can be achieved.

To define the responsive width of a column, use at least `widthXS` and one or more of the following fields: `widthSM`, `widthMD`, `widthLG` which corresponds to the Bootstrap size definitions of XS, SM, MD and LG.

The content of a column can be an array of one of three things: another set of rows (providing the possibility to create nested layouts), regular HTML content (to insert plain HTML elements into the layout), or a node reference (to embed the contents of a JavaScript-enabled KNIME node). As for rows, it is also possible to further customize the column using the optional fields `additionalClasses` and `additionalStyles`.

HTML content

It is possible to include plain HTML into the layout by placing a content element of type `html` inside a column. To insert the content a single field `value` is used. Please note that Bootstrap is present at runtime, so regular Bootstrap elements can be used. This way glyphicons, labels, badges, jumbotrons, … are available to define the layout of the page. For example:

```
[...]
"content":[{
    "type":"html",
    "value":"<h2 >Title defined in layout</h2><p><span class='glyphicon glyphicon-th' \
             aria-hidden='true' style='margin-right: 5px;'></span>Glyphicon</p>"
  }]
[...]
```

View content (5)

To embed the contents of a KNIME node inside the layout, a content element with type `view` has to be used. The element has quite a few ways to customize the sizing and behavior of the content, which are explained in the table further down.

Referencing the node is done by the field `nodeID` (6), which takes the ID-suffix of the node as a string argument. If nodes exist inside the Component which are not referenced by the layout, a warning message appears underneath the editor. Errors will also be issued for referencing nodes twice or referencing non-existing nodes.

To understand the sizing concepts better it is important to know that each node's content is wrapped in its own `iframe` element (this allows us to encapsulate the implementation and avoids reference and cross-scripting issues). As `iframe` elements do not adapt to their content's size automatically, they need to be resized to achieve the desired behavior. In principal there are three options available:

Size-based methods

This method uses an iframe-resizer library to resize the `iframe` according to the size of its contents. This means that the content has to have a concrete size explicitly or implicitly set. determining the size is possible using different approaches, which are explained on the iframe-resizer GitHub page Size-based resize methods all start with the prefix `view…` in the JSON structure.

Aspect-ratio based methods

If a node's view is set to adapt to its parent's size, rather then implicitly providing a size, the size-based methods will either not work or cause strange behavior. To allow these views to take up an appropriate amount of space in the layout an aspect ratio setting can be used. Here the width is taken as 100% of the horizontal space available at that position in the layout and the height is calculated according to the given ratio. To achieve this resizing behavior, Bootstrap's responsive embed concept is used. Aspect-ratio based resize methods start with the prefix `aspectRatio` in the JSON structure.

Manual method

It is also possible to completely manually trigger resize events at appropriate times. This requires the node's implementation to make the appropriate resize calls itself.

List of available fields (7)

Field name	Explanation / Possible Values
`nodeID`	ID-suffix of referenced node
`minWidth`	Constrain the size of the `iframe` by setting a minimum width in pixels.
`minHeight`	Constrain the size of the `iframe` by setting a minimum height in pixels.
`maxWidth`	Constrain the size of the `iframe` by setting a maximum width in pixels.
`maxHeight`	Constrain the size of the `iframe` by setting a maximum height in pixels.

Field name	Explanation / Possible Values
`resizeMethod`	The resize method used to correctly determine the size of the `iframe` at runtime. Can be any of the following values: `viewBodyOffset`, `viewBodyScroll`, `viewDocumentElementOffset`, `viewDocumentelementScroll`, `viewMax`, `viewMin`, `viewGrow`, `viewLowestElement`, `viewTaggedElement`, `viewLowestElementIEMax`, `aspectRatio4by3`, `aspectRatio16by9`, `aspectRatio1by1`, `manual`
`autoResize`	Boolean only working with size based resize methods. Use this to enable or disable automatic resizing upon window size or DOM changes. Note that the initial resize is always done.
`resizeInterval`	Number only working with size based resize methods. Sets the interval to check if resizing needs to occur. The default is `32` (ms).
`scrolling`	Boolean only working with size based resize methods. Enables or disables scroll bars inside `iframe`. The default is `false`.
`sizeHeight`	Boolean only working with size based resize methods. Enables or disables size adaption according to content height. The default is `true`.
`sizeWidth`	Boolean only working with size based resize methods. Enables or disables size adaption according to content width. The default is `false`.
`resizeTolerance`	Number only working with size based resize methods. Sets the number of pixels that the content size needs to change, before a resize of the `iframe` is triggered. The default is `0`.
`additionalClasses`	Array of additional classes added to the HTML container element.
`additionalStyles`	Array of additional CSS style declaration added to the HTML container element.

Debugging resize behavior

If the WebPortal is used in debug mode, log messages are printed to the browser’s console for all size-based resize method components. Also all JavaScript libraries will be included in a non-minified version to allow for JavaScript debugging in the browser.

Best practices for creating workflows with Quickform nodes

Quickform nodes in a workflow define points of interaction in a workflow when it is executed via the WebPortal. This allows skilled analysts to expose powerful tools to users who may not have the training or time to run a full featured workflow from KNIME Analytics Platform. This is usually done by injecting flow variables from the Quickform node into another node's settings to drive the configuration of that node on a per setting basis. Variables created by a Quickform node are available at the node's variable output port (circular and red). To use the variable, connect the Quickform variable port to the variable port of the target node whose settings you wish to override. If a target node doesn't have a flow variable port you can make it visible with *Show Flow Variable Ports* from its context menu. Alternatively, connect the output port to the upper left corner of the node (a convenient shortcut).

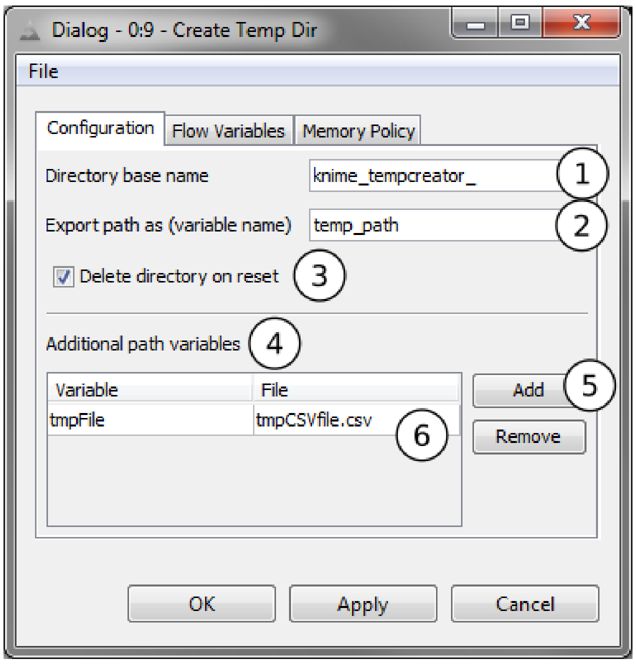
The overall process for developing a workflow looks like this:

1. Build a workflow and execute it with relevant test data.
2. Parameterize the workflow by adding Quickform nodes as needed. Use the variables generated by these nodes to override the settings of your target nodes.
3. Make the workflow portable by removing any hard-coded paths.
4. Reset the workflow, save it, and upload it to the server and set appropriate permissions.

Create Temp Dir node

The *Create Temp Dir* node creates a temporary folder when it is executed (in the Java Temp folder, set in the KNIME properties). It can also be configured to create a new temporary file in this folder and store the full absolute path to that file in a flow variable. (In fact the file is not created but the generated file path in the new temp folder certainly doesn't exist.)

This is the configuration dialog of the *Create Temp Dir* node:



Directory base name: knime_tempcreator_

Export path as (variable name): temp_path

☑ Delete directory on reset

Additional path variables

Variable	File
tmpFile	tmpCSVfile.csv

Create Temp Dir node settings:

1. Prefix for the new folder. Unique names will be created automatically.
2. Flow variable to be created containing the absolute path of the new folder.
3. If enabled, the newly created folder will be deleted when the node is reset (along with all contained files).
4. Create file paths:
5. Add a new variable and file reference.
6. For each row in this table, a new workflow variable is created. The variable name is entered on the left and the file to be created on the right. The final variable will refer to the full path including folder and filename.

With this node you can create temporary files (in unique temporary folders) and use them in writer nodes. If the variable that carries the name of the temporary file is then selected in a File Download node, the file written is made available for download in the WebPortal.

Java Edit Variable node

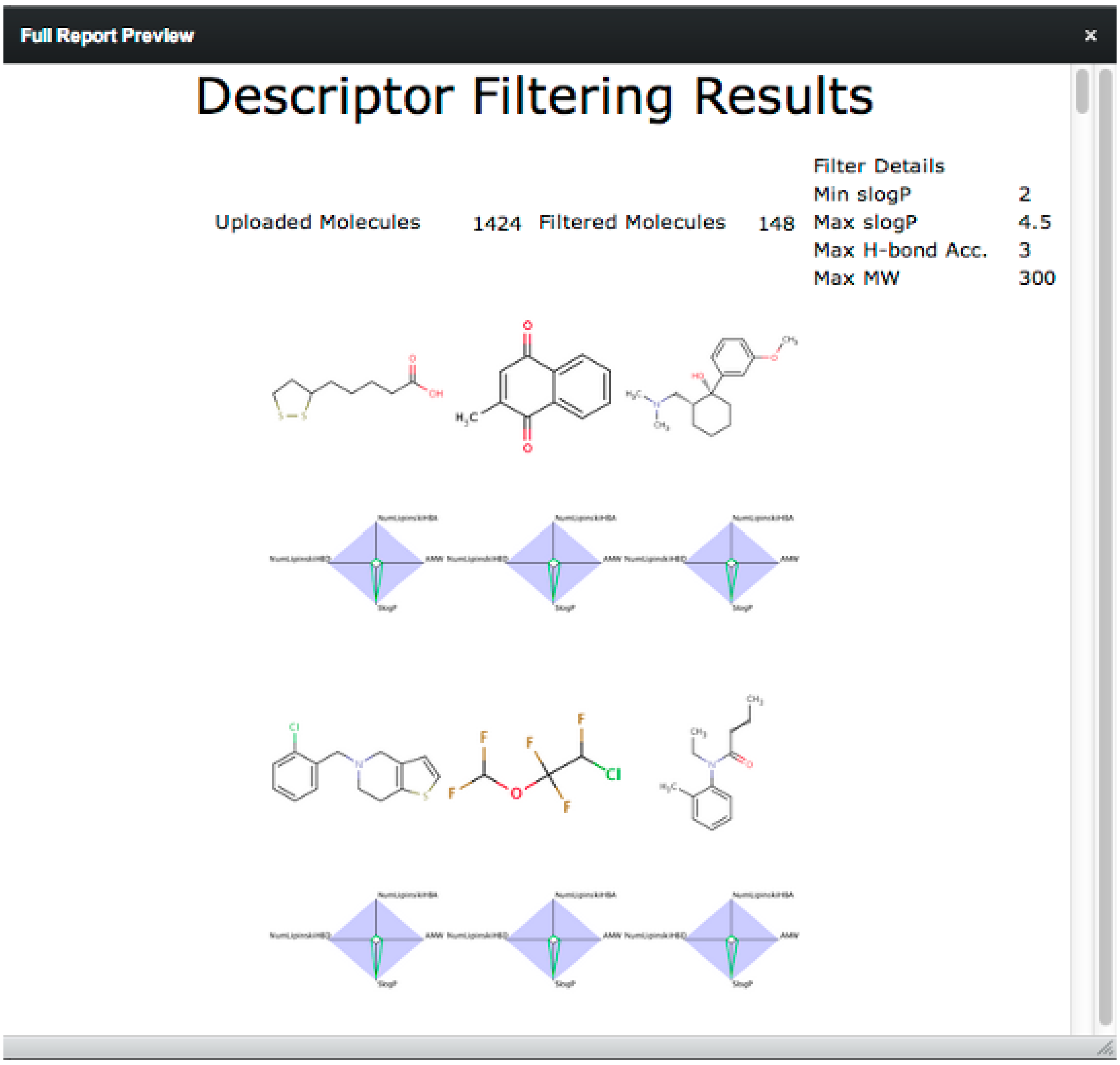
Another node that could be useful when flow variables are used is the *Java Edit Variable* node. It allows you to modify the value of an existing variable or to create a new variable and/or derive its value from another existing variable.

Java IF (Table) node

With the *Java IF (Table)* node you can selectively execute branches in the workflow, based on the value of a flow variable. Together with the String Radio Buttons node the KNIME WebPortal user could select different workflow branches for execution.

WebPortal and reports

If a workflow with a report template is uploaded to KNIME Server and accessed through the WebPortal, the report is generated and displayed after successful execution of the workflow:



Full Report Preview

Descriptor Filtering Results

				Filter Details	
				Min slogP	2
Uploaded Molecules	1424	Filtered Molecules	148	Max slogP	4.5
				Max H-bond Acc.	3
				Max MW	300

A preview of the report is shown in the result page and the HTML preview can be opened in a new window. Download links are offered for PDF, XLS, PPT and DOC format.

The WebPortal page

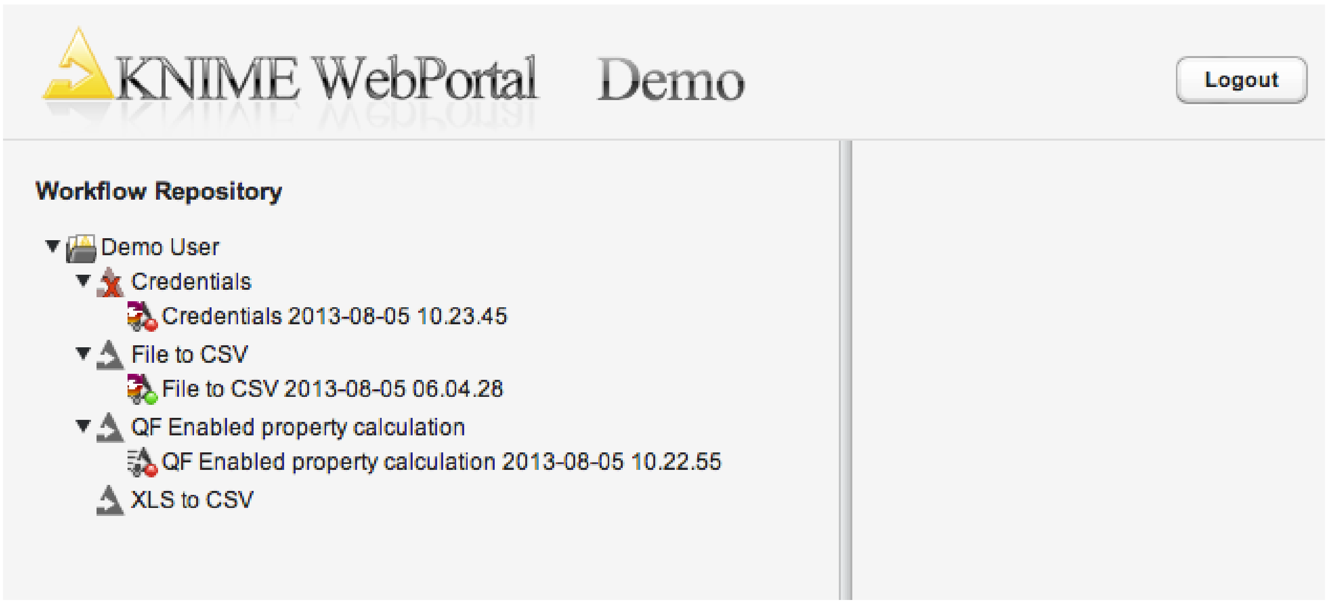
Workflows that are uploaded to KNIME Server are available through the WebPortal for execution. The WebPortal (default) entry page is:

```
http://<server-address>/knime
```

The last part of the address may have been changed by your server administrator.

Main page

After logging in, the WebPortal main page is displayed showing the available workflows displayed in a structured list in the left frame of the page. Only workflows that are both readable and executable by the logged in user will be visible.



Workflow Repository

- Demo User
  - Credentials
    - Credentials 2013-08-05 10.23.45
  - File to CSV
    - File to CSV 2013-08-05 06.04.28
  - QF Enabled property calculation
    - QF Enabled property calculation 2013-08-05 10.22.55
  - XLS to CSV

In the above example the user has only access to the flows in the workflow group "Demo User" and four workflows are available for execution in the WebPortal.

The items below a workflow (with a green or red indicator dot) are previously executed flows which are kept in memory ("workflow jobs"). They can be discarded individually with a right-click on the job, or with a right-click on the flow.

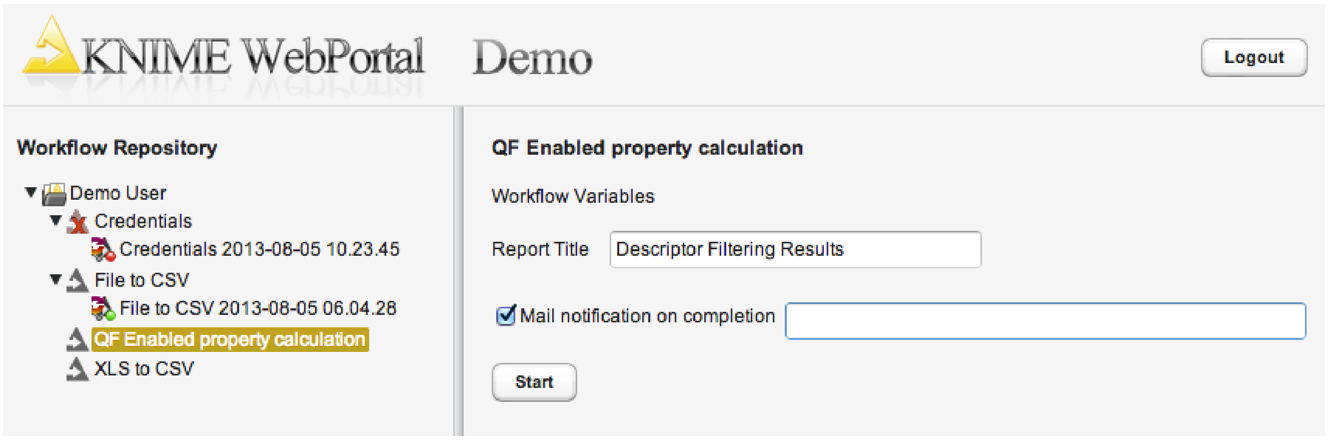
Jobs with a green indicator represent successfully executed flows. If they are selected, the result from the previous run is available.

Jobs with a red indicator represent flows previously executed but that have failed. If selected, the error message is displayed again.

If a job itself is red, this indicates that the workflow has been modified since the job was executed while if the Workflow has a red x across it, this means that the workflow which owns that job has been deleted.

Details pane

If a workflow is selected in the left section, its details page is shown in the section on the right. An example is illustrated below:


KNIME WebPortal
Demo
Logout
Workflow Repository
Demo User
Credentials
Credentials 2013-08-05 10.23.45
File to CSV
File to CSV 2013-08-05 06.04.28
QF Enabled property calculation
XLS to CSV
Start

QF Enabled property calculation

Workflow Variables

Report Title: Descriptor Filtering Results

☑ Mail notification on completion

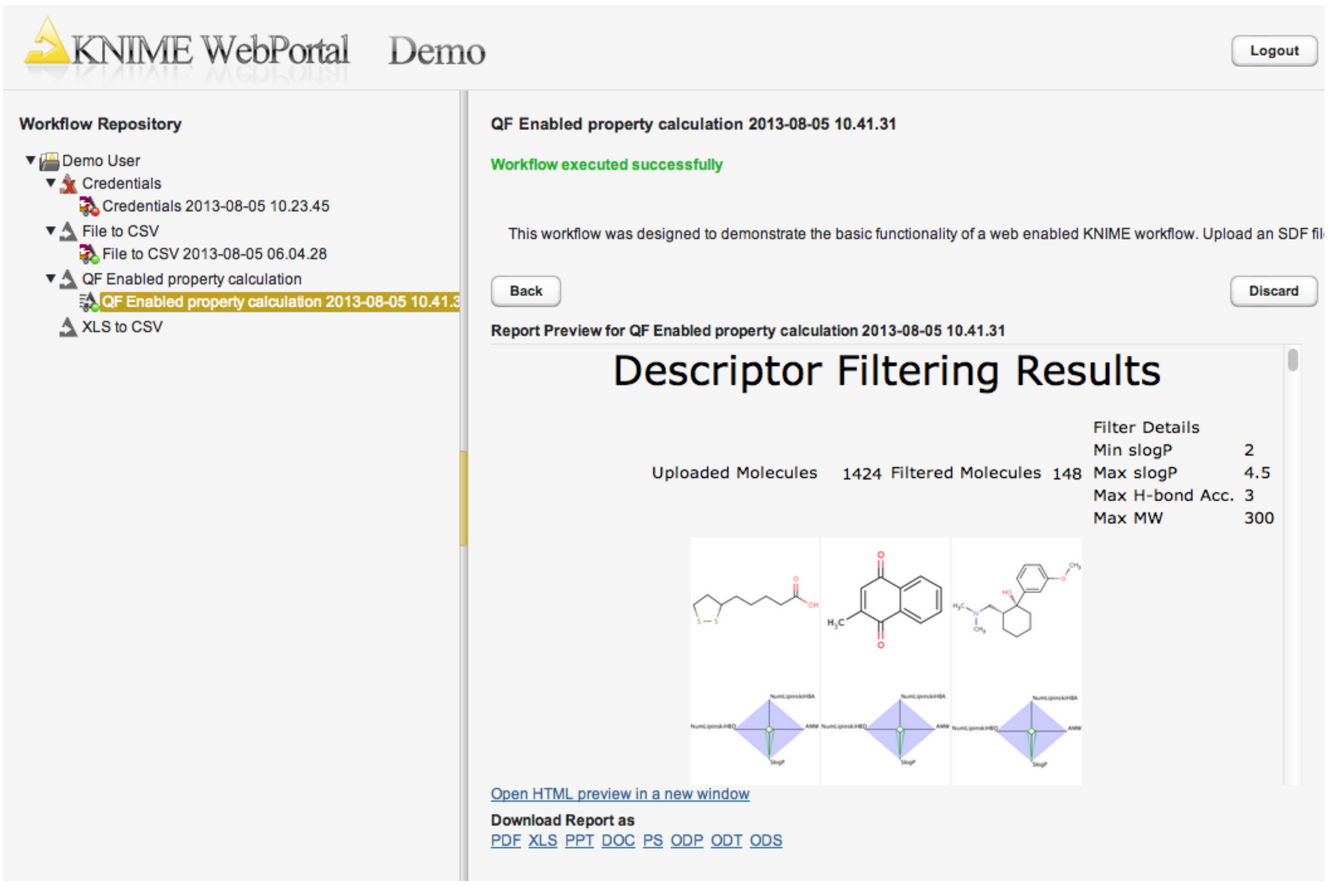
If Meta Information has been entered before the flow was uploaded, it is displayed beneath the workflow name. If the option "Mail notification on completion" option is selected, an email address must be entered. The server sends a notification email to this address as soon as the workflow execution finishes. After all information is entered, the flow execution can be initiated by clicking the "Start" button. A new job is then created.

If the job finishes the result can be inspected by selecting it in the left pane of the page. The example job shown below executed successfully (indicated by the green icon and the green line of text on the right).

Beneath these status lines the result files are available for download. The workflow contains Quick Form nodes that provide the path to two files. If the user clicks on one of the links the download of the corresponding file starts.

This example flow is generating a report. The preview is shown in the details pane. At the bottom of the pane the report can be previewed in a new window and is also available for download, either in PDF or XLS format, as PowerPoint presentation or as Word document.

If the user launches long-running jobs on the server through the WebPortal, the user can logout and come back any time later, re-connect and get the status of his jobs. The jobs can be canceled, or finished jobs can be inspected and the results can be downloaded.


KNIME WebPortal Demo
Logout
Workflow Repository
Demo User
Credentials
Credentials 2013-08-05 10.23.45
File to CSV
File to CSV 2013-08-05 06.04.28
QF Enabled property calculation
QF Enabled property calculation 2013-08-05 10.41.3
XLS to CSV
Back
Discard
Open HTML preview in a new window
PDF XLS PPT DOC PS ODP ODT ODS

QF Enabled property calculation 2013-08-05 10.41.31

Workflow executed successfully

This workflow was designed to demonstrate the basic functionality of a web enabled KNIME workflow. Upload an SDF fil

Report Preview for QF Enabled property calculation 2013-08-05 10.41.31

Descriptor Filtering Results

Uploaded Molecules 1424 Filtered Molecules 148

Filter Details	
Min slogP	2
Max slogP	4.5
Max H-bond Acc.	3
Max MW	300

Download Report as

The job (and all its results) can be discarded by clicking the "Discard" button. Its icon will disappear from the left Workflow Repository view and server resources will be freed. Jobs can also be discarded by right-clicking on their icon in the Workflow Repository (on the left). All jobs of a flow can be removed by right-clicking on the flow. Please note that jobs stay in the server’s main memory until they are discarded. If too many users keep too many jobs alive, the server will run out of memory.

Settings page

The settings page allows one to change the password of the currently logged-in user. It can be accessed via the "Settings"-link in the upper-right corner of the WebPortal’s main page.

Using legacy Quickform nodes

If a workflow contains legacy Quickform nodes and no regular Quickform or Wrapped nodes it will still be executed in the same manner, as in previous versions of KNIME Server. Please see the WebPortal User Guide for KNIME Server 4.1 for documentation on the nodes and execution behavior. Note that legacy Quickforms will have to be separately installed on the server executor and any client designing or executing legacy workflows. The plugin is found under *KNIME & Extensions* → *KNIME Quick Forms (legacy)* in the "Install KNIME Extensions" dialog.

Accessibility support

KNIME WebPortal provides full support of screen reader software as well as complete keyboard-only access.

Any screen reader that follows ARIA guidelines can be used for the work in the WebPortal. The recommended screen reader software includes JAWS (v.16), NVDA (v.2016.3) and ChromeVox (v.53.0.2784.1).

The WebPortal can be completely controlled by using keyboard only, implementing the ARIA best practices on keyboard navigation:

- *Tab* (*Shift + Tab*) key moves the focus to the next (previous) element.
- *Enter* key performs the default action on focused element.
- To navigate in the Workflow Repository tree the following shortcuts are available:
  - *Up arrow* and *Down arrow* keys move between the tree nodes.
  - *Left arrow* key on an expanded node closes the node.
  - *Left arrow* key on a closed or end node moves focus to the node's parent.
  - *Right arrow* key expands a closed node, moves to the first child of an open node, or does nothing on an end node.
  - *Enter* key expand/collapse a workflow group or activate a workflow.
  - *Home* key moves to the top node in the tree view.
  - *End* key moves to the last visible node in the tree view.

To operate with UI components of the WebPortal standard shortcuts can be used. For more details see the ARIA specification page.

Direct linking to workflows in the WebPortal

It is possible to link directly to specific workflows in KNIME WebPortal. URLs are generally set up like:

```
http://<server-address>/knime/#/<ItemPath>&<WorkflowParameters>
```

- `<ItemPath` is the path to a workflow, workflow group, or workflow job. A workflow job is referenced with its ID like: `WorkflowGroup/Workflow?exec=job_id`.
- `<WorkflowParameters>` can appear in any order, but have to be after the `<ItemPath>`. Parameters are always appended with a leading `&`.

Available workflow parameters

`&single` — Single mode: hides the workflow tree, so that only the selected item is visible.

`&run` — Auto run: If appended to workflow path, a new job is automatically executed.

`&root=<RootPath>` — Set root of workflow tree: If set to a valid path, only items underneath the given `<RootPath>` are available.

`&pm:<name>=<value>` — Set quickform parameters: Sets the named quickform parameter to the specified value. Please see more specific explanation about this feature on the following page.

`&emails=sample@mail.com` — Enable email notification: enables email notification and sets the specified comma separated list of email addresses.

`&formats=<formats>` — Set report formats: sets the report formats included as attachments in the notification email specified by a comma separated list. Available formats are: pdf (enabled by default), html, doc, docx, xls, xlsx, ppt, pptx, ps, odt, ods and odp. This list might have been changed by your server administrator to reduce the number of options available.

`&user=<username>` — Set the user name for login to the WebPortal. Use in conjunction with `&pw` to automatically log in.

`&pw=<password>` — Set the password for login to the WebPortal. Use in conjunction with `&user` to automatically log in. Please note that the password is transmitted in plain text.

A complete URL might look like:

```
http://localhost:8080/knime/#/demo/file%20to%20csv&pm:title=foo&emails=sample@mail.com&r
un&single
```

Setting Quickform parameters

With the `&pm`-parameter it is possible to override the default value of most Quickform nodes. They are addressable by using the same name as the one set in the "Parameter name" field in the configuration dialog of the corresponding node.

It is best practice to keep those names unique, however it is possible to address nodes, when there are multiple of the same parameter names in the workflow by appending the node id (e.g. `param-name-32:34`).

There are a few nodes, which require a special format, which are listed in the following.

Quickform Node	**Format Remarks**
Date Input	Use `yyyy-MM-dd'T'HH:mm:ss` as date format, alternatively other ISO-conform formatting strings can be used to just address date, time or zoned date & time components.
File Chooser	Use absolute `knime://` protocol path
Boolean Input	Use `true` or `false`
Double Input	Use American number notation
Credentials Input	Use `username:password` as value. Please note that the credentials and user name cannot contain the "=" and ":" symbols and that the password is transmitted in plain text.

Quickform nodes that are not configurable over URL parameters are:

- Multiple Selections
- Value Selection
- Column Filter
- Value Filter

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