

# KNIME Server Preview Functionality

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# General introduction to KNIME Server preview functionality

With the release of KNIME Server 4.8 we included two functionalities that are available as previews. That means that the functionality is not always feature complete, or subject to change. The previews are provided to allow you to test the functionality and provide feedback that will help to shape the final product.

With the release of KNIME Server 4.8, the distributed executor functionality was completed and moved out of preview. For more details on that functionality, please consult the relevant section of the [KNIME Server Administration Guide](#)

In case you have questions about any of the functionality in the previews please contact [support@knime.com](mailto:support@knime.com).

# KNIME Server Workflow Hub usage and administration guide

## Workflow Hub: Introduction

The KNIME Server Workflow Hub Usage and Administration guide section covers in detail the options for the configuration and usage of the KNIME Server Workflow Hub – or Workflow Hub for short. If you are looking to install the KNIME Server you should first consult the KNIME Server Installation Quickstart Guide. For guides on connecting to the KNIME Server from the KNIME Analytics Platform, or using the KNIME WebPortal please refer to the guides: KNIME Explorer User Guide, KNIME WebPortal User Guide. Since the Workflow Hub sits on top of the KNIME Server, please consult the KNIME Server Administration guide for help setting up and configuring the KNIME Server.

## What is the Workflow Hub?

The Workflow Hub is a feature of the KNIME Server, providing users an overview over the workflows stored on the server as well as more in depth workflow information, such as a workflow image, meta information and required plugins. Additionally, the Workflow Hub allows users to give a rating, assign tags and comment on a workflow. With the integrated workflow search users can find workflows by title, author and assigned tags.

## Accessing the Workflow Hub

The Workflow Hub's path depends on the root path of the KNIME Server installation. With `<root>` being the root path as selected during the installation of the KNIME Server, the index page of the Workflow Hub can be accessed under:

```
http://server-address/knime/hub
```

The individual workflows are available under:

```
http://serveraddress/knime/hub/workflows/<workflow_path{gt}
```

where `<workflow_path>` is the URL encoded path of the workflow in the server's workflow repository, replacing forward slashes ("/") with colons (":"). The detail page of a workflow named "Data Analysis" in the workflow group "My Workflows" would be available under:

```
http://server-address/knime/hub/workflows/My%20Workflows:Data%20Analysis
```

## Workflows

Since the Workflow Hub is integrated into the KNIME Server, it shows all workflows which are also visible in the WebPortal, taking into account user and group permissions. As soon as a workflow is uploaded to the KNIME Server instance running the Workflow Hub, the workflow is available there as well. The workflow metadata, such as the description, can be edited in the KNIME Analytics Platform. The workflow description is interpreted as Markdown, a text formatting language designed to be readable in parsed and non-parsed form. Please refer to the section "Markdown" for a brief introduction.

## Workflow versioning

The Workflow Hub lists snapshots of a workflow as versions on its details page. Once a user creates a snapshot, the workflow's detail page shows a list of snapshots at the bottom of the right column, with version numbers and commit messages. Each snapshot can be accessed with an individual URL similar to the workflow details URL under:

`http://serveraddress/knime/hub/workflows/<workflow_path>/v<timestamp>`, where `<workflow_path>` is the URL encoded path of the workflow and `<timestamp>` is the creation time of the snapshot as Unix timestamp, i.e. the number of seconds that passed since 1<sup>st</sup> of January 1970. The URL

`http://serveraddress/knime/hub/workflows/My%20Workflows:Data%20Analysis/v1498651200` therefore points to a snapshot of the workflow "Data Analysis" in the workflow group "My Workflows" when the snapshot was created at the 28<sup>th</sup> of June 2017 at 12pm.

## Social features

Using the Workflow Hub, users can assign tags to workflows, rate workflows and write comments. All of those features are available on the workflow details page.

## Tags

Tags allow a flat categorization of workflows independently of the workflow group they are stored in. They can be assigned on a workflow's details page in the right column. To change the tags, click on the blue pencil symbol and enter the tags in the text box. Multiple tags are separated by comma. A list of all assigned tags is shown on the index page, providing users quick access to workflows of interest.

### Tags

Analysis PMML

 Save

Separate multiple tags by comma

## Ratings

Workflow ratings allow users to give feedback regarding the quality of a workflow on the KNIME Server. A rating can be given on a workflow's details page using the star symbols on the right side. Every user is allowed to rate a workflow only once. Subsequent ratings of the same user only change this user's rating.

### Rating

This workflow has not been rated yet

Rate this workflow:

☆☆☆☆☆

## Comments

Workflow comments are displayed below the workflow image on the workflow details page. The newest comment always appears on top of the list and new comments can be written in the text box above. Just like the workflow description, comments can be formatted in Markdown (see section "Markdown" for a brief introduction). Once a comment is submitted, it can be edited and deleted by the original author and any user with administrator privileges.

Your comment:

Submit

Comments support [Markdown](#)

## Workflow search

The workflow search allows the searching the workflow repository by title, tags and author. The results depend on the read permissions the user has for the individual workflows or their workflow groups. To search for terms in the workflow title, the query can be entered verbatim in the search field. To search for a tag, the prefix "tag:" can be prepended to the query and to search for workflows of a certain author, the prefix "author:" can be used. When searching for a tag or author that contains spaces, the tag or author name can be put in double quotes. When providing multiple queries at once, all workflows that match all of the queries are returned. The following table lists and explains some queries.

Query	Description
PMML	All workflows containing "PMML" in their name or the author's name
author:testuser	All workflows uploaded by user "testuser"
tag:analysis	All workflows having the tag "analysis"
author:"Test User" tag:"Data Analysis"	All workflows uploaded by user "Test User" and having the tag "Data Analysis"
PMML author:"Test User"	All workflows containing the text "PMML" in the title and were uploaded by user "Test User"

 sort by Title ▾

Title	Author	Rating	Created	Uploaded	Tags
<a href="#">PMML Poster</a>	<a href="#">Fritz</a>	★★★	13.01.2015 12:38:01	12.10.2017 10:00:27	<span>PMML</span>
<a href="#">What's new - Modular PMML (1)</a>	<a href="#">Frieda</a>	☆	28.01.2015 13:06:15	24.01.2017 09:39:07	
<a href="#">What's new - Modular PMML (2)</a>	<a href="#">Fred</a>	★★★	28.01.2015 13:06:15	25.07.2017 12:13:38	<span>Modular PMML</span> <span>PMML</span>
<a href="#">What's new - PMML to SQL and Java</a>	<a href="#">Franzi</a>	☆	17.11.2014 14:49:08	24.01.2017 09:39:07	

## Customization

The index page, the workflow details page and the pages containing legal information can be customized with HTML pages placed in the subdirectory "hub" in the extension directory of the KNIME Server installation, i.e. <server repository>/extensions/hub/<file>. The "hub"

directory is watched by the server process and changes to the files are usually applied within a few seconds. Deletion of the files `terms.html`, `copyright.html` and `imprint.html` removes those entries also from the "Legal" section in the page footer. When all three files are deleted, the legal section of the footer is completely hidden. When the file `terms.html` is present, a note is displayed under the workflow download button, advising the user that by downloading the workflow they agree to the terms and conditions. The HTML files are embedded in the Workflow Hub pages and have access to the website's stylesheets. The CSS framework used for styling is [Bootstrap 3](#).

The following table lists and explains the customization options. Please note that the custom content must be placed in files with the names as given in the table.

<b>Lead Text</b> – <code>lead.html</code> This content is displayed at the top of the index page and can be a general welcome text.
<b>News Text</b> – <code>news.html</code> This content is displayed as the first tile of the index page, next to the most recent workflows.
<b>Workflow Details</b> – <code>extrawfinfo.html</code> This content is displayed at the bottom of the right column of the workflow details page.
<b>Help</b> – <code>help.html</code> This content is shown on the help page.
<b>Terms and Conditions</b> – <code>terms.html</code> This content is shown on the terms and conditions page. Linked from the footer.
<b>Copyright</b> – <code>copyright.html</code> This content is shown on the copyright page. Linked from the footer.
<b>Imprint</b> – <code>imprint.html</code> This content is shown on the imprint page. Linked from the footer.
<b>Privacy Policy</b> – <code>privacy_policy.html</code> This content is shown on the privacy policy page. Linked from the footer.

## Markdown

For formatting text in the workflow description and the comments the Workflow Hub uses Markdown. This language allows users to make text cursive or bold, add headers and lists or embed images from URLs.

The following table explains some formatting options for Markdown.

Format	Example
Heading	# My Workflow
Sub-Heading	## My Workflow
Sub-Sub-Heading	### My Workflow
Italic text	<i>_italic_, *italic*</i>
Bold text	<b>__bold__, **bold**</b>
Monospace text	<code>`monospace`</code>
Horizontal rule	---
Bullet list	* Item 1 * Item 2 * Item 3
Numbered list	1. Item 1 2. Item 2 3. Item 3
Link to a website	[KNIME](http://knime.com)

Additionally, paragraphs can be separated by a blank line and line breaks can be inserted by appending two spaces to a line.

# KNIME Server: Remote Workflow Editor usage and installation guide

## KNIME Remote Workflow Editor: Introduction

The KNIME Remote Workflow Editor enables users to investigate the status of jobs on the server. Whenever a workflow is executed on the KNIME Server, it is represented as a job on the server. This instance of your workflow will be executed on the KNIME Server, which can be helpful in cases where the server hardware is more powerful than your local hardware, the network connection to external resources such as databases is faster, and does not require traversing firewalls/proxies.

## What is the Remote Workflow Editor

The Remote Workflow Editor looks just like your local workflow editor, apart from the fact that it is labelled and the canvas has a watermark to help identify that the workflow is running on the KNIME Server.

Most of the edit functionality that you would expect from editing a workflow locally on your machine is possible. Notable cases where it's not yet supported are: copying nodes from a local workflow to a remote workflow (and vice-versa), browse dialog for file reader/writer nodes browses the local filesystem rather than the remote filesystem.

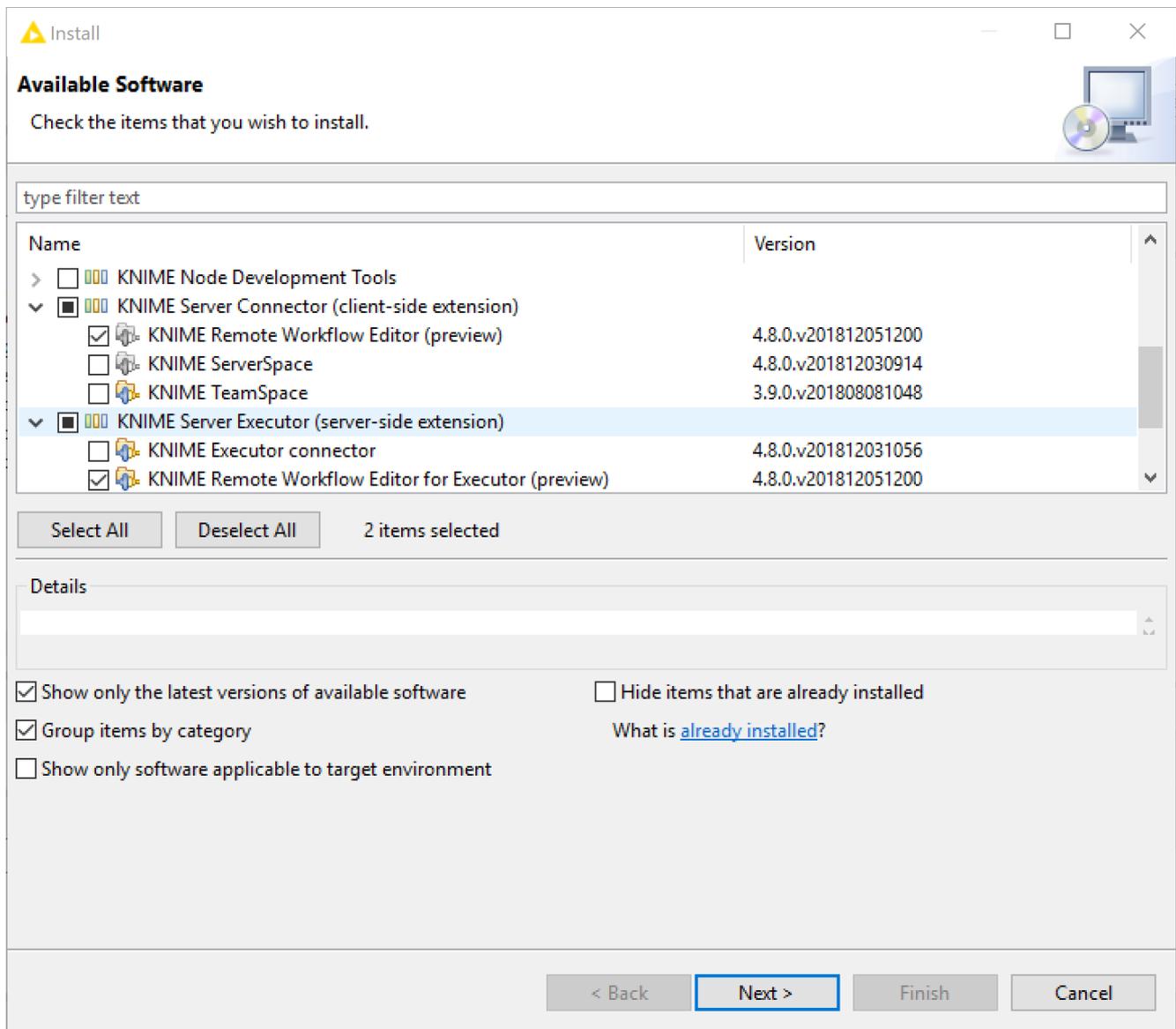
## Installing the Remote Workflow Editor

The Remote Workflow Editor is installed on the KNIME Analytics Platform as part of the KNIME Server Connector extension, and on the KNIME Server it must be installed into each executor. Detailed instructions are found below.

### Server setup

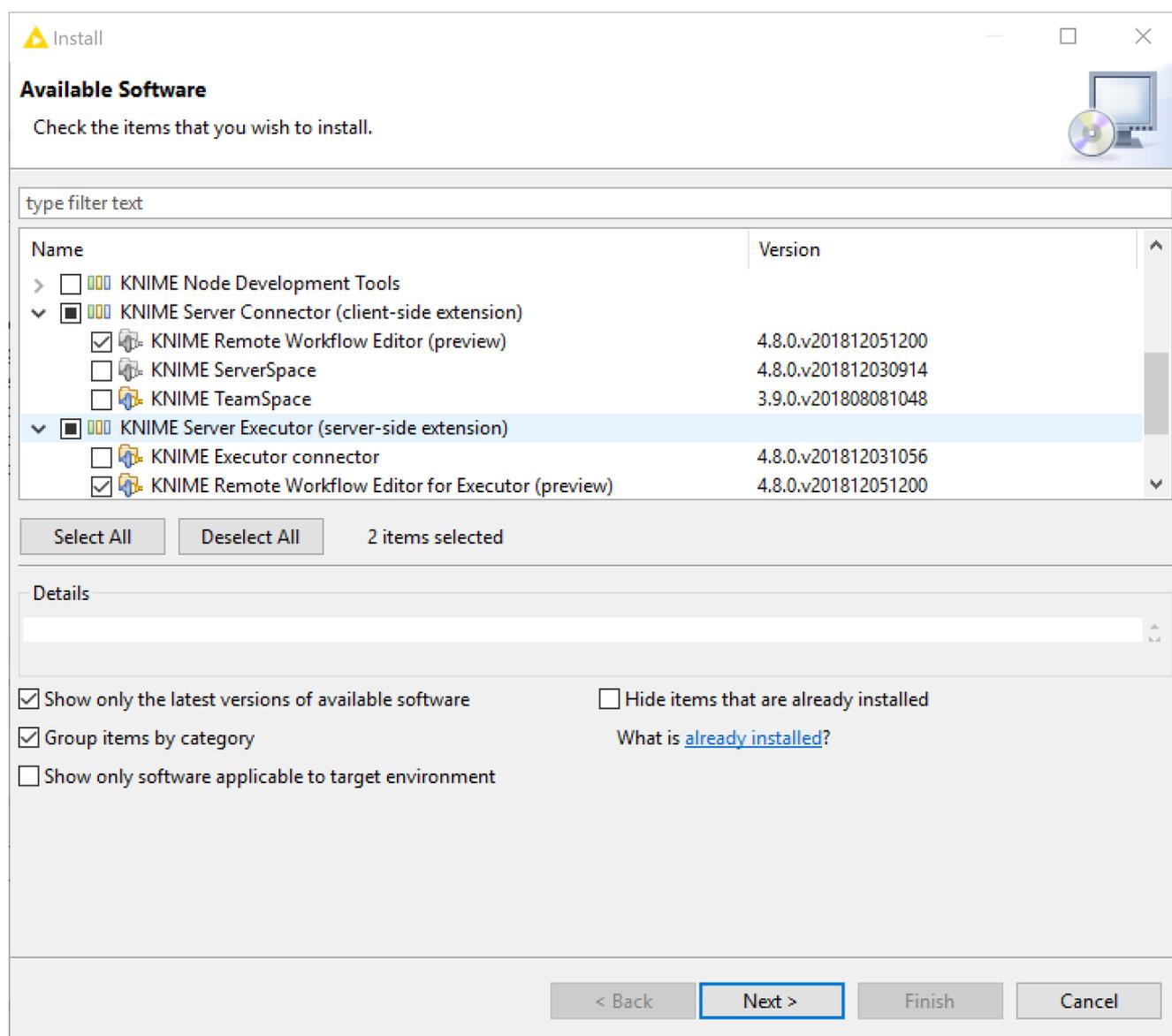
If KNIME Server is installed on Windows Server, then you may use the GUI to install the "KNIME Executor connector" from the "KNIME Server Executor (server-side extension)" feature. For Linux servers it is normally easier to use the command line to install the feature. Change to the KNIME Executor installation directory, and use the command:

```
./knime -application org.eclipse.equinox.p2.director -nosplash \
-consolelog -r +https://update.knime.com/analytics-platform/{version_exe}+ -i \
com.knime.features.gateway.remote.feature.group -d $PWD
```



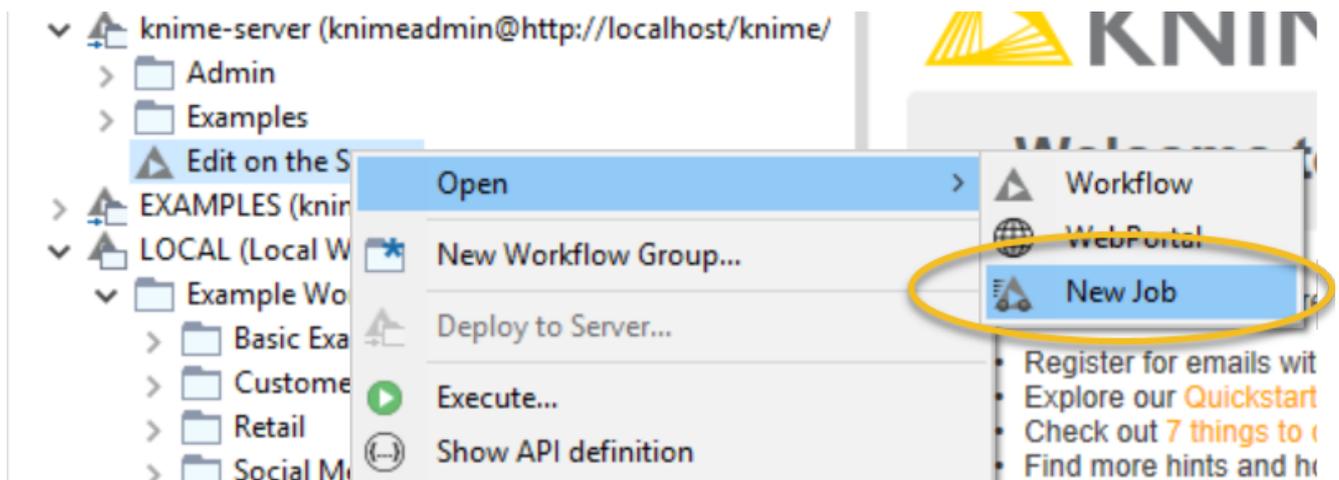
## Analytics Platform setup

The Remote Workflow Editor feature needs to be installed in the KNIME Analytics Platform. Choose File > Install KNIME Extensions, and then select "KNIME Remote Workflow Editor (preview)" from the "KNIME Server Connector (client-side extension)" category.

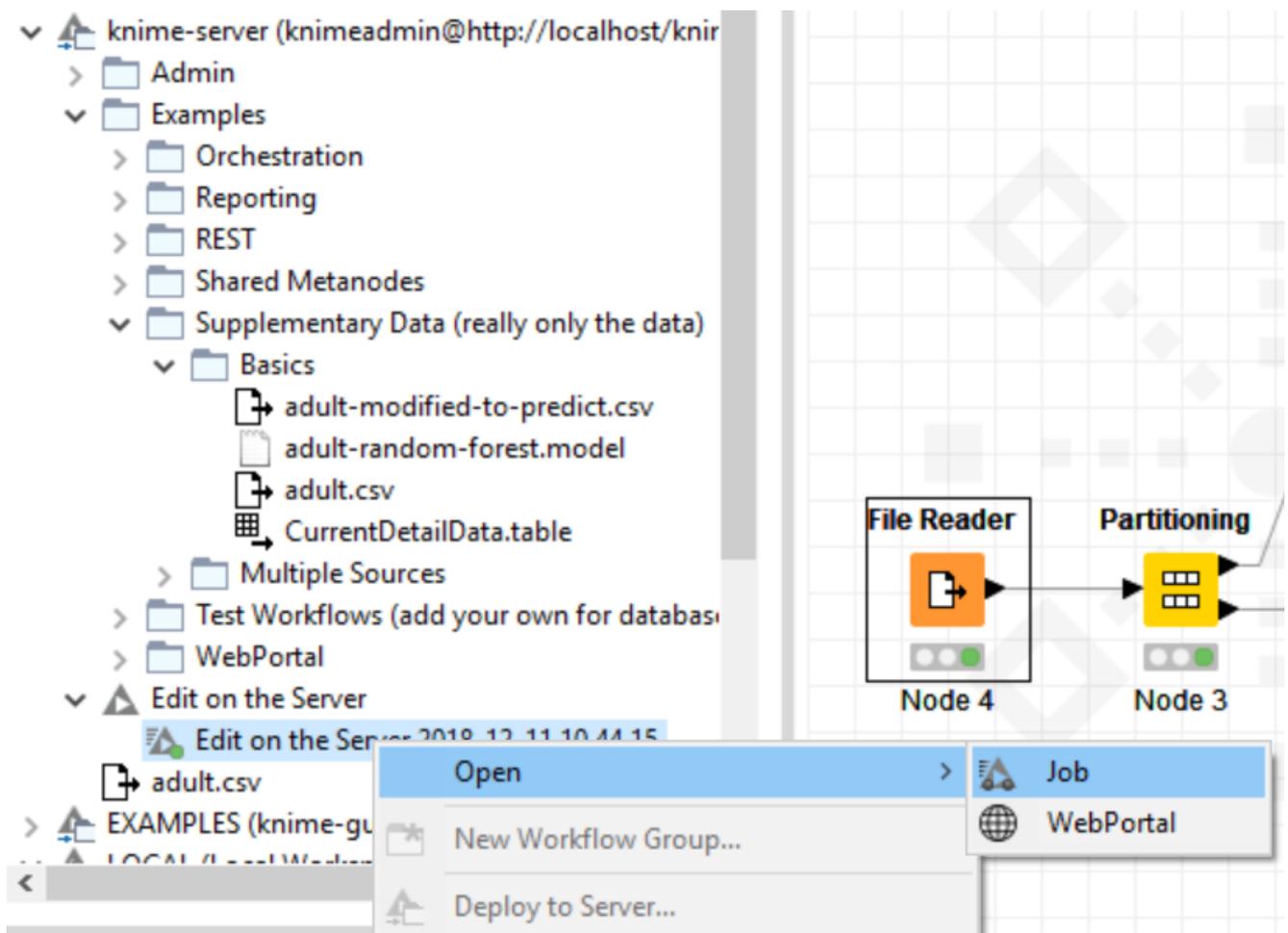


## Usage

It's possible to create and open a new job from a workflow residing on the KNIME Server, using the KNIME Analytics Platform, by using the 'Open Job' context menu. See:



Jobs that are already created, e.g. by using the Execute context menu, a scheduled job, or a job started in the WebPortal, can be visualized by selecting the job and using the 'Open Job' context menu. See:

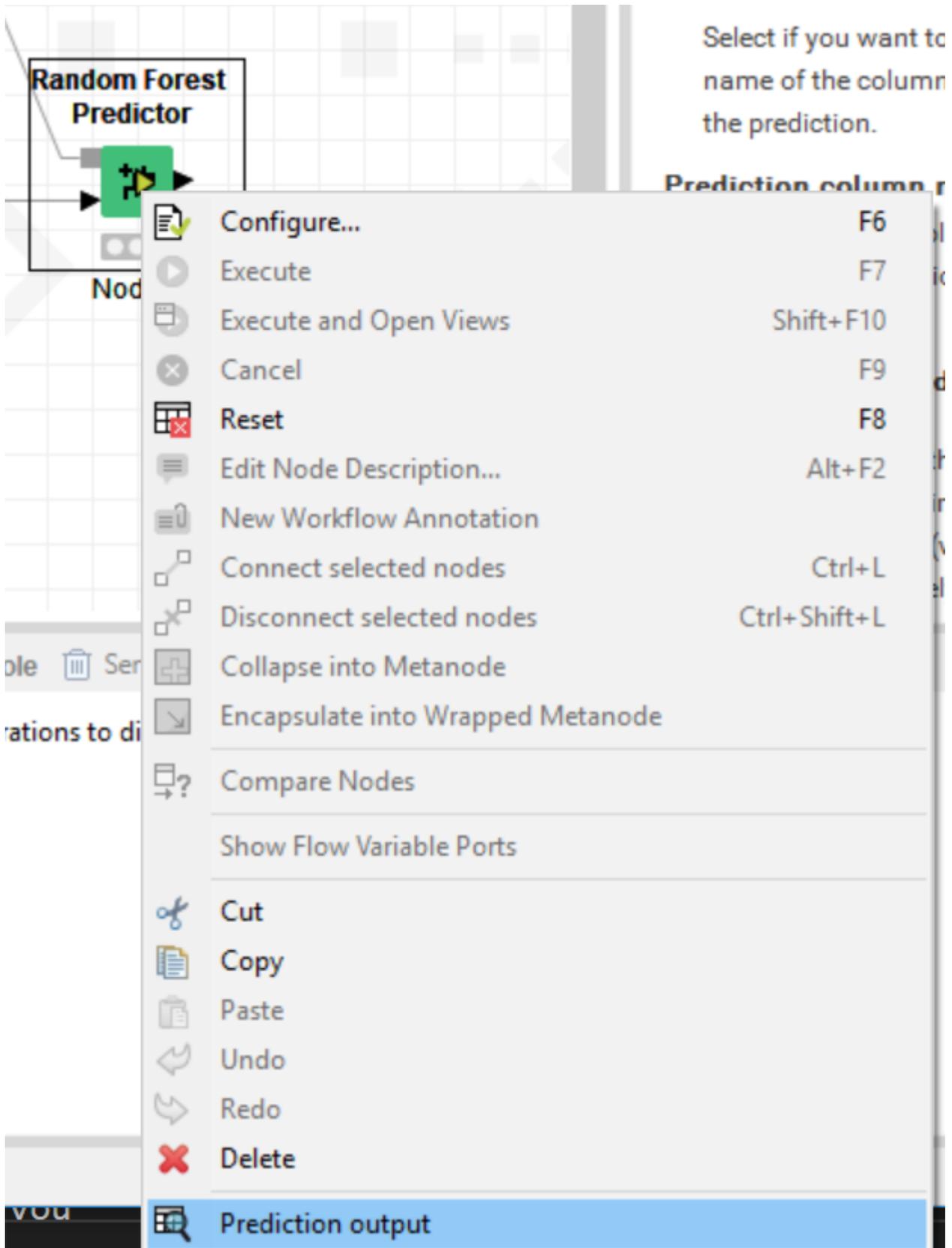


All jobs (executed from Analytics Platform, or via WebPortal) can be viewed, meaning that it's possible to see node execution progress, number of rows/columns generated, and any warning/error messages.

It's also possible to view and edit configuration settings, of most nodes as you would if the

workflow was on your local KNIME Analytics Platform. Currently it's not supported to configure file paths in some file reader nodes.

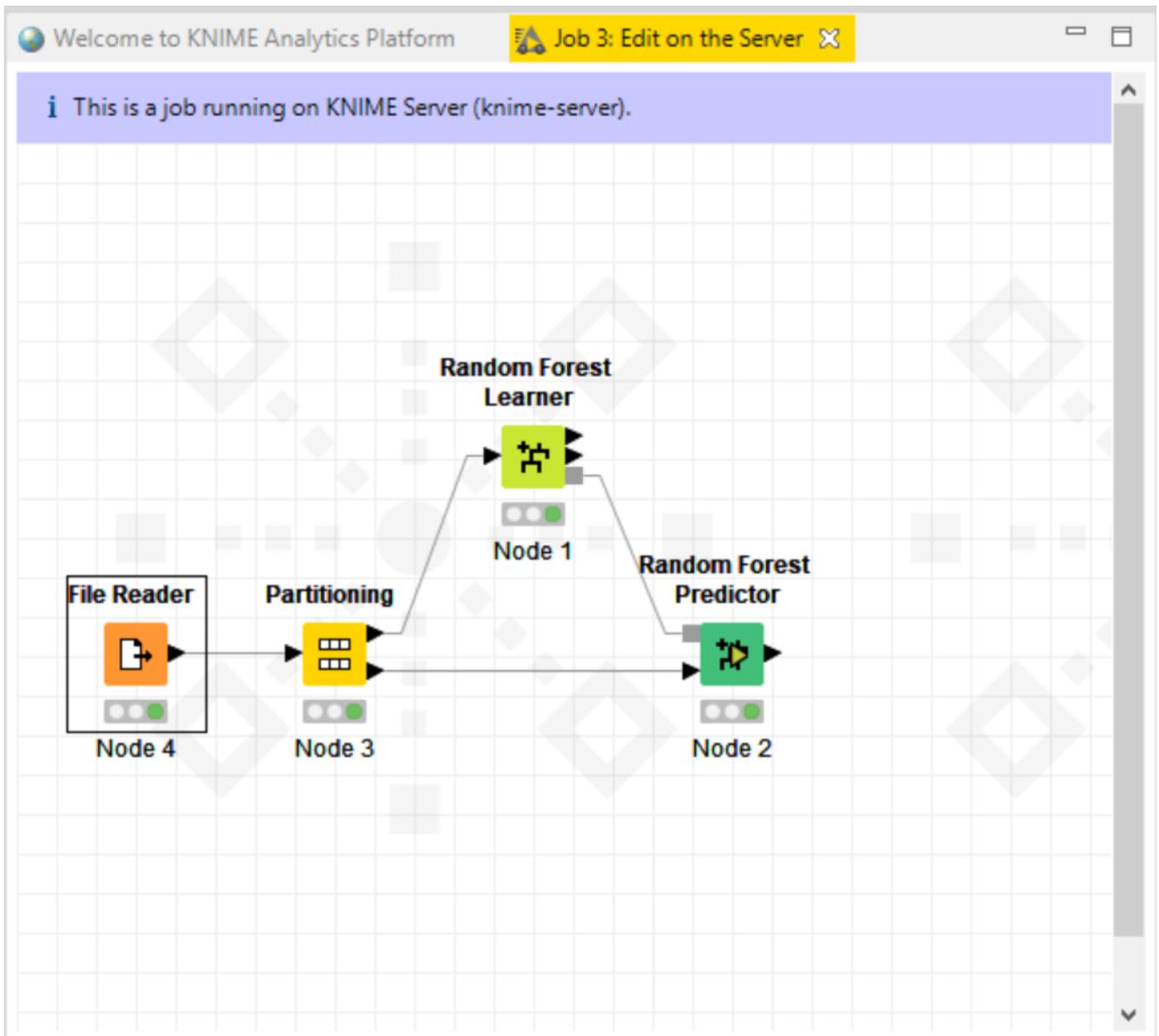
It's also possible to move, add and remove nodes from the workbench, as you would for a local workflow.



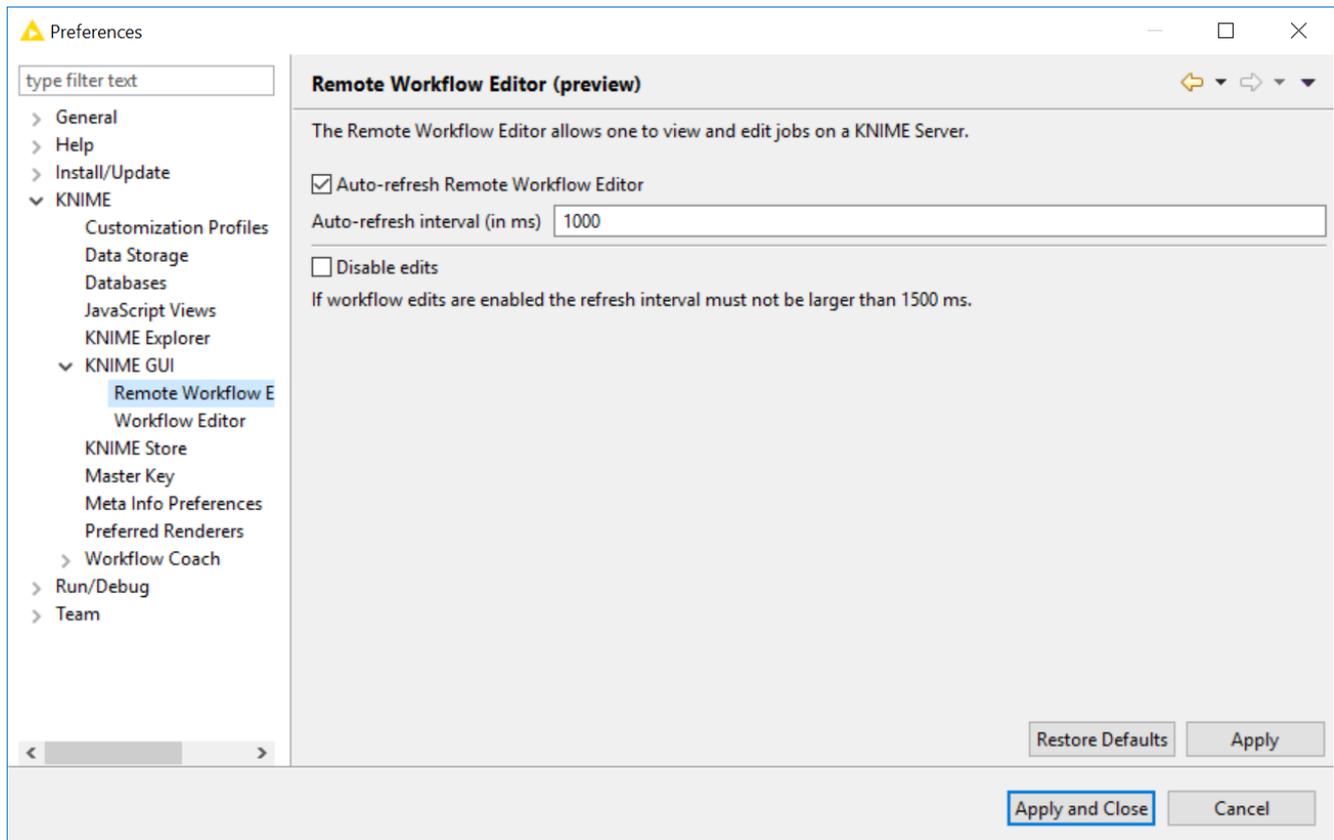
*With the KNIME Server 4.8 release it's possible to view data via the normal data view.*

The screenshot displays the KNIME Analytics Platform interface. A workflow titled "Simple Model Training for Classification" is shown, consisting of several nodes: "Partitioning", "Train a Model" (Decision Tree Learner), "Apply the Model" (Decision Tree Predictor), and "Score the Model" (Scorer (JavaScript)). A "JavaScript View" window is open, showing a table of data with columns: RowID, age, workclass, fnlwgt, education, and education-num. The table displays rows for Row7, Row16, Row29, and Row36. Other windows visible include a "Partitioning" dialog, a "Scorer View" window showing a confusion matrix and overall statistics, and a "Scatter Plot" window showing income-per-week vs age.

*It's possible to view data and views by using the JavaScript Views.*

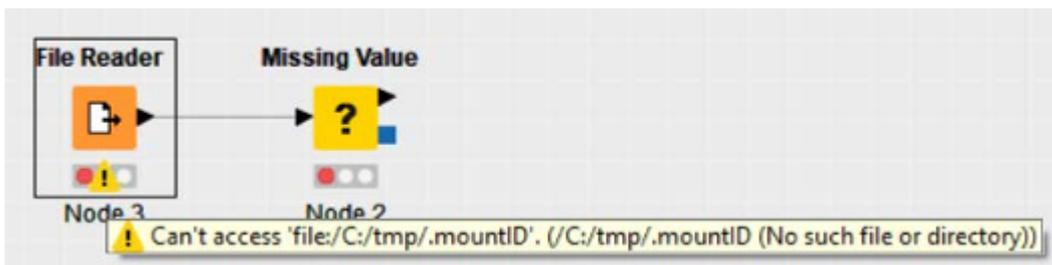


The KNIME Remote Workflow Editor enables you to view and edit workflow jobs on the KNIME Server.



*Remote Workflow Editor preferences allow to change the auto-refresh interval, and also optionally to uncheck the 'Enable job edits' to enforce view only mode for all workflows.*

You will be able to see which nodes are currently executing, which are already executed, and which are queued to be the next in execution. You can see errors and warning in the workflow by mouseover on the respective sign.



*Inside a failing job you can see the error and warning messages by mouse-over the respective sign*

With future KNIME Server releases we will continue adding functionality to the KNIME Remote Workflow Editor. If you have any ideas or thoughts, we appreciate your input via [support@knime.com](mailto:support@knime.com).

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