

## Welcome to the 1st KNIME Newsletter in 2014

Welcome to the first issue of KNIME News in 2014. Last year was a tremendous one for KNIME - we saw incredible growth in KNIME usage, spread across many new application areas. But come and see for yourself: at our upcoming KNIME User Group Meeting we will have speakers talking about KNIME for game analytics, capacity forecasting, customer intelligence, enterprise wide deployment of KNIME workflows, and much more. We are also proud to have Dean Abbott in town to give both a talk and a workshop on the Friday. If you thought last year was good - this year will be even better!

This issue of KNIME News focuses on another hot topic, geospatial data analysis. Thanks to the new Open Street Map integration, we can now see where our downloads come from. We also highlight a few of the many new additions in KNIME 2.9.

Enjoy reading! The KNIME Team

## KNIME Knows the Earth and the Earth Knows KNIME

Navigational devices, smart-phones, address data or IP addresses can all provide what is known as geographic information. With more and more GPS sensors being included in mobile devices the volume of geographical data is growing rapidly. Analysts are presented with a wealth of data to investigate with the added benefit of being able to take other dimensions into consideration (e.g. dates, time of day and frequencies, etc.).

An indispensable aspect of analysis and data exploration is visualizing the results. For example, indicating locations on a map, or highlighting a particular section of a map of the world.

But where do these pictures come from? Instead of storing all kinds of maps in differing degrees of detail locally on your computer, it makes sense to download the sections you need online. A number of free web services offer this, e.g. so-called Tile map services (TMS). Another question to be answered is where these services obtain all the detailed information they need in order to render the maps (or images) they make available. One project, enjoying increasing popularity, is the Open Street Map project [www.openstreetmap.org](http://www.openstreetmap.org). It is a type of Wiki in that contributors can maintain a central map of the world, i.e. adding, deleting and modifying streets, paths or other points of interest based on aerial photography and GPS tracks they have recorded themselves. The achieved degree of detail need not fear comparison with commercial

services, it is even said to be superior!

Thanks to open access to map material and the open-source software package JOSM, KNIME has created nodes for the Open Street Map extension enabling you to explore maps interactively (OSM Map View node) and download the maps as images (OSM Map to Image node). To enter geographical locations, two columns are created for the coordinates, longitude and latitude. Depending on the kind of data, locations can be displayed on the map in different colors, shapes and sizes. Another node enables you to filter geographic coordinates according to their position within an interactively sketched polygon on the map.

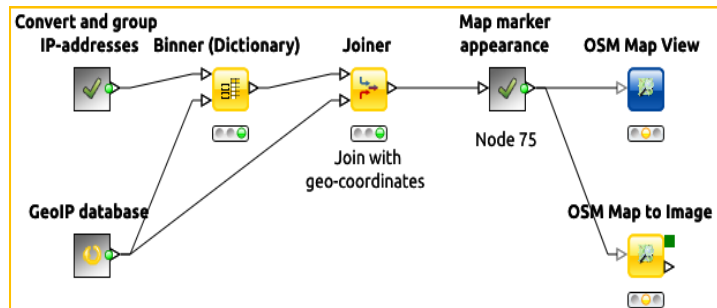


Fig. 1 KNIME workflow on the KNIME EXAMPLE Server: [www.knime.org/example-workflows/WebAnalytics & OpenStreetMap folder](http://www.knime.org/example-workflows/WebAnalytics%20&%20OpenStreetMap%20folder).

Visualizing statistics gathered from website hits is an interesting task. We built a workflow (Fig. 1) to show the geographic location (the IP addresses) of people who have visited the KNIME website.

It includes the following important elements: a database of IP addresses converted into a single number; a GeoIP database, which maps IP address intervals (represented by a number) to geographical locations; a Binner node (dictionary) to find out whether and in what intervals the IP addresses exist; and the Open Street Map node. The result is a world map showing where KNIME was downloaded from our site in 2013 (Fig. 2). The size of the map marker is proportional to the number of downloads.

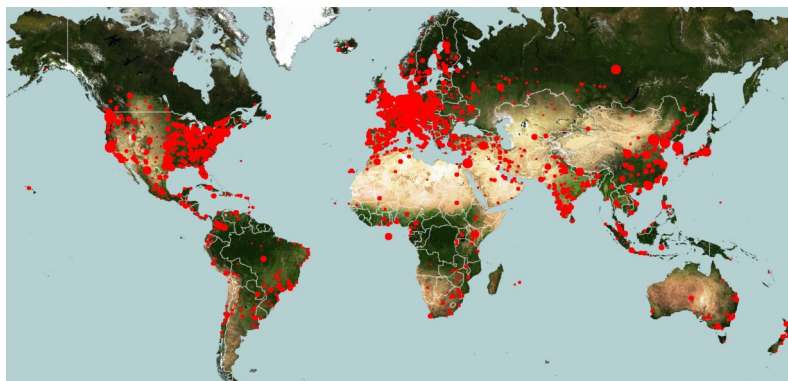


Fig. 2 KNIME download locations in 2013 based on IP addresses in the web-log.



## Upcoming Events

### KNIME UGM & Workshops

Come to our 7th UGM for some fascinating days of presentation and discussion, accompanied by a week of hands-on workshops.

**February 12-14, 2014**  
Technopark  
Zurich, Switzerland

To register, visit:  
[www.knime.org/ugm-2014](http://www.knime.org/ugm-2014)

### KNIME User Training

This is an ideal opportunity for beginners, as well as more advanced users to be introduced to KNIME. And if you register, why not stay on for the KNIME UGM on Wednesday & Thursday.

**February 10-11, 2014**  
Technopark  
Zurich, Switzerland

For more information, visit:  
[www.knime.org/events](http://www.knime.org/events)

### KNIME Developer Training

Stay on after the UGM for a comprehensive overview of the KNIME architecture. Learn how to extend KNIME by programming your own custom nodes.

**February 17-18, 2014**  
Technopark  
Zurich, Switzerland

For more information, visit:  
[www.knime.org/events](http://www.knime.org/events)

### Image Processing Webinar

Find out more about the main concepts and functionalities of image processing in KNIME. In this free webinar we will discuss basic image data handling, image pre-processing, image segmentation & analytic and more! It will be hosted by Martin Horn & Christian Dietz.

**March 25, 2014**  
The Internet  
18:00 (CET)

For more information, visit:  
[www.knime.org/events](http://www.knime.org/events)



Martin Horn is one of the key scientists behind the Image Processing extensions in KNIME. See also his upcoming Webinar!

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## KNIME Meetups Around the World

### Boston, USA

Our Boston KNIME User Day was held in Microsoft's NERD Center. The motto of the event was "Learn KNIME - Power analytics tool so easy even business executives can use it!". It featured presentations about real-life KNIME applications that reveal hidden information in data from finance, biochemistry, pharmaceuticals supply chains and marketing, to name but a few. Highlights were talks by Spencer Tang on using KNIME to classify rice grain, elimi-



Full-house in Boston's NERD Center

nating the need for human tasters and also by James Lumley on using KNIME to

enable science at Lilly. We would like to take this opportunity to thank Actian for sponsoring the catering and Nathaniel Lin for organizing it.

### Pavia, Italy

KNIME was in Pavia, Italy in October 2013, for a meetup in Italian. The event served as a platform to discuss KNIME 2.8 as well as leveraging SAS with KNIME and a talk was given on Big Data Analytics with KNIME by Stefan Weingärtner from Dymatrix. Especially popular was the live demo showing workflows with R and Cytoscape integration, by Francesco Civardi from DaisyLabs. Our appreciation goes to Francesco for the hard work in organizing this event.

### Berlin, Germany

The Hackesche Höfe are a busy conglomeration of offices and restaurants in downtown Berlin and were the venue for KNIME's meetup in November, organized to perfection by Kilian Thiel. Thanks Kilian! It focused on the topic of Social Media Analytics in KNIME and attracted a real mix of users, new and curious, big and small. What they



Hackesche Höfe, Berlin

all had in common was their shared enthusiasm for data. All of the papers presented were excellent. Thank you Dean Abbott, our special

guest, who gave a talk about Web Analytics and Behavioral Marketing from the Trenches, which triggered a lot of discussion: it turned into a very late night.

### San Francisco, USA

Our second meetup in the Bay Area was held at the Computer History Museum, Mountain View, in Santa Clara County. It was a great success thanks to some great talks by Man-Ling Lee on KNIME and Command Line Tools, while Dean Abbott held his Web Analytics speech again for our Bay Area KNIME users. Thomas Gabriel from KNIME in Zurich gave everyone a glance behind the scenes on What's

Cooking in the KNIME Labs.



Talks in the Computer History Museum, Mountain View

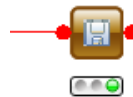
## Tips and Tricks—Some New Features of KNIME 2.9

KNIME 2.9 was released in early December and features several major new features, some of which are introduced here and discussed in more detail on the website <http://tech.knime.org/whats-new-in-knime-29>

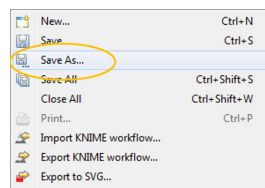
### New Workflow Nodes

The new **Save Workflow** node saves the entire workflow during execution.

#### Save Workflow



The new **Save As...** file menu option enables you to save the selected workflow under a different name and store the workflow in a different location.



The **Send Email** node sends an email to a given email address. It can be used to send updates about the workflow execution status.

#### Send Email

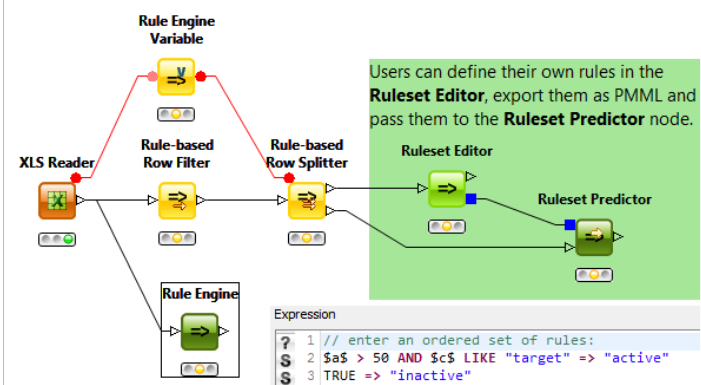


The **Extract Context Properties** node puts workflow related properties at your disposal at the variable output port. These properties include the current user name, workflow name and the working directory, to name but a few.

#### Extract Context Properties



**New Rule Nodes:** the Rule Engine has been completely rewritten and now allows complex sets of rules to be edited in a much simpler fashion. In addition, a similar editor enables users to create variables (Rule Set Variable), split up tables based on rule set evaluation (Rule-based Row Splitter), while two new nodes for PMML compliant Rulesets allow sets of rules to be created and applied to new data.



### New KNIME Server Feature: Workflow Versioning

This enables you to preserve overwritten and deleted server items (such as workflows, meta-node templates and data files). The history of these items is normally hidden but is revealed in a separate (new) view, called History or Server Recycle Bin. In this view, the user can restore items, i.e. save them in a new location, overwrite the current version, or download it providing he/she has the relevant permission for the original item.