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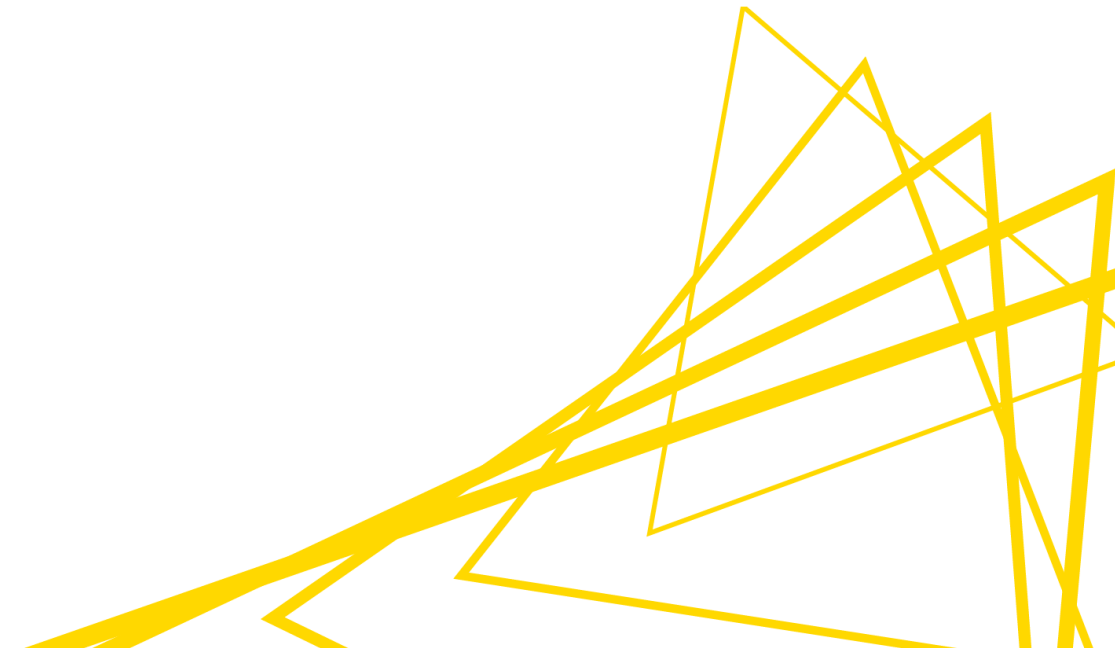# What's new in KNIME

Thorsten Meinl
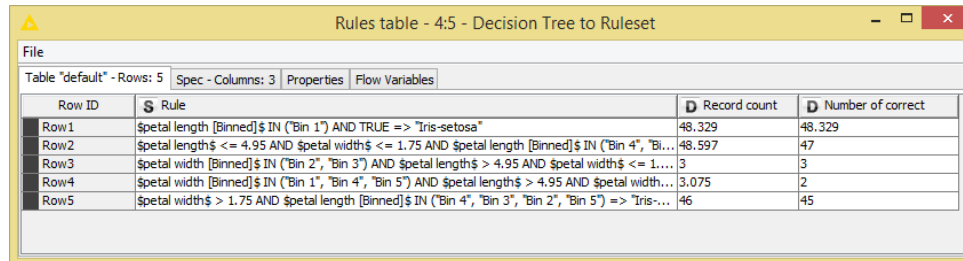
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Agenda

- New in 2.12/4.1
  - Analytics
  - Tool integration
  - Misc
  - KNIME Server and Automation
- Cooking for 3.0
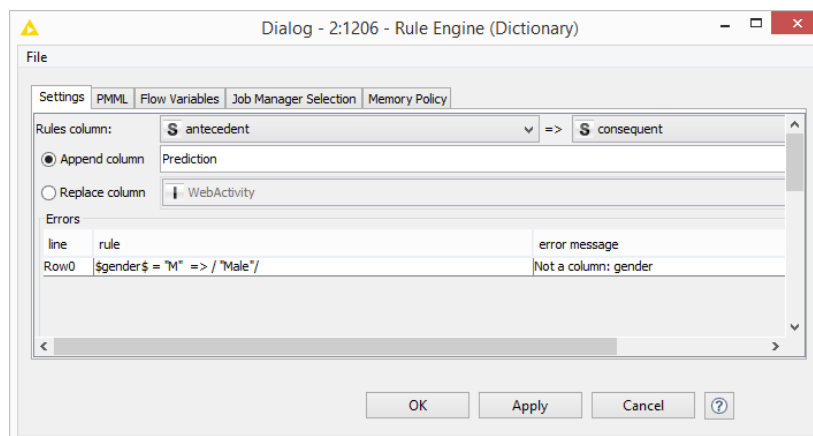 - Internal & API changes
  - New Look&Feel

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New in 2.12/4.1

Analytics I

- Decision Tree to Ruleset node

- Rule Engine (Dictionary)

Analytics II

- Statistical measures in Group By node

- More statistic nodes
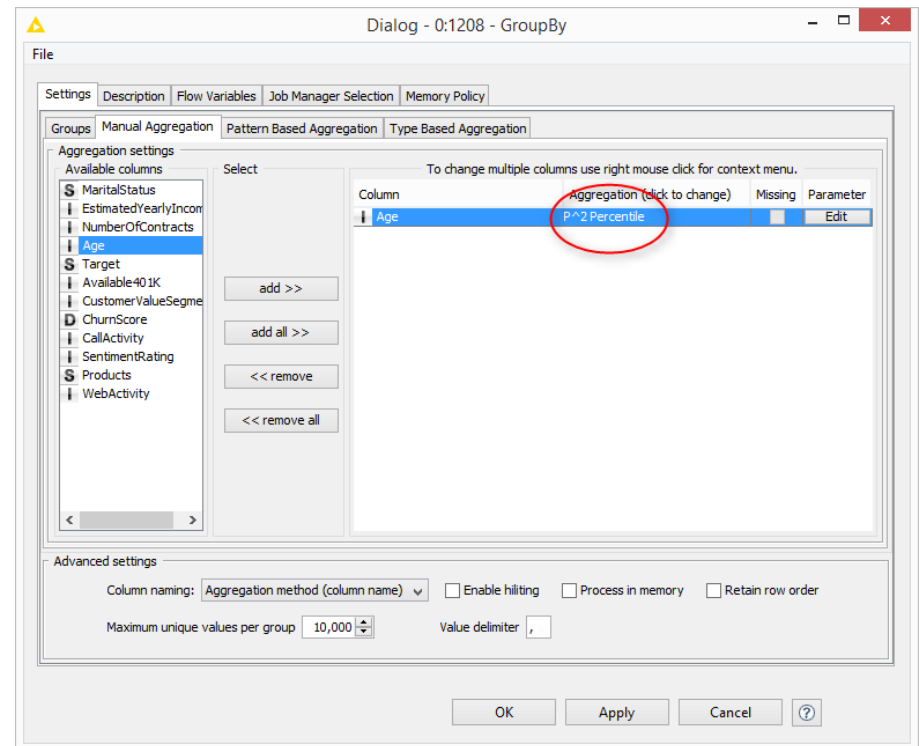
Tool integration I

- ## JavaScript integration
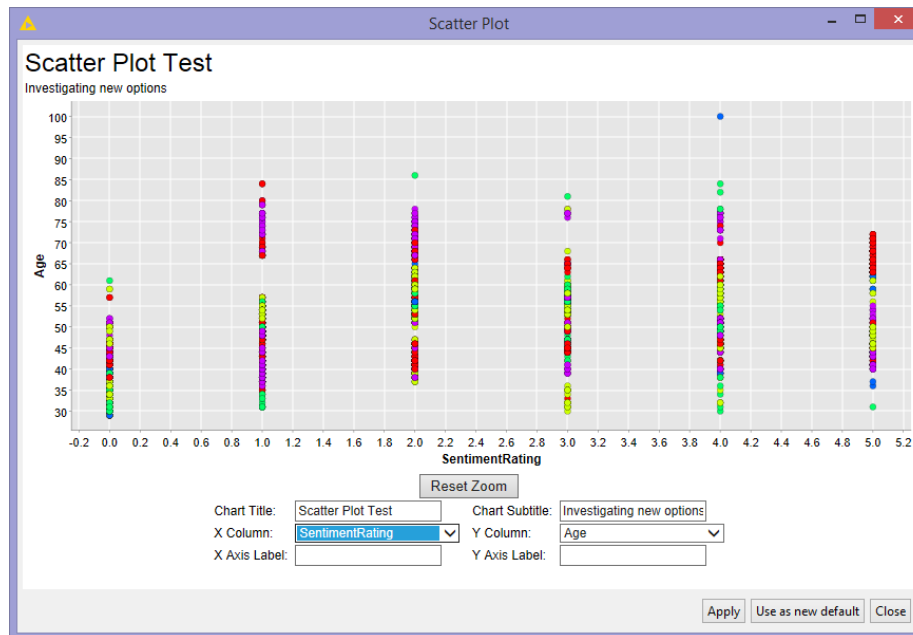
- ## MongoDB integration

Tool integration II

- More JSON nodes

- Extended XPath node
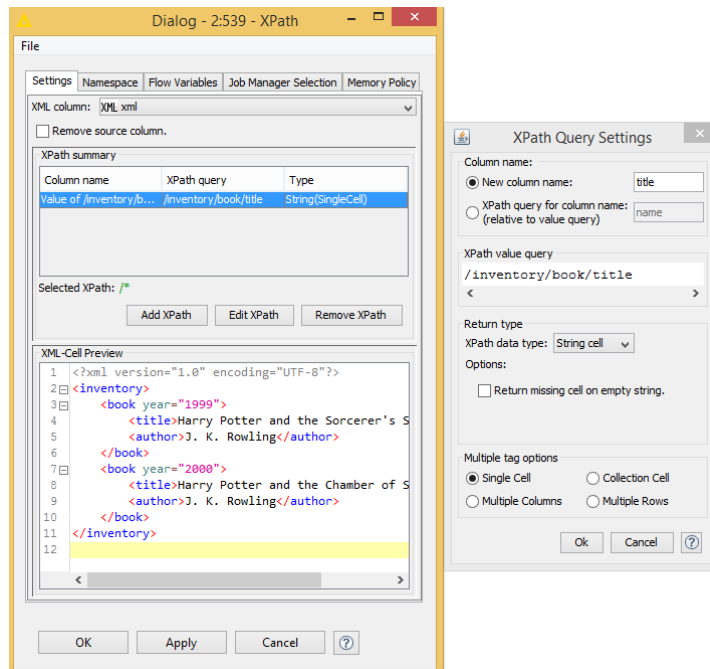
Tool integration III

- ## More Python nodes

  - Python
    - Python Edit Variable
    - Python Source
    - Python Script
    - Python Script (2:1)
    - Python View
    - Python Object Reader
    - Python Object Writer
    - Python Learner
    - Python Predictor
    - Python Script (DB)
    - Python Script (Hive)

Misc

- New CASE Switch nodes
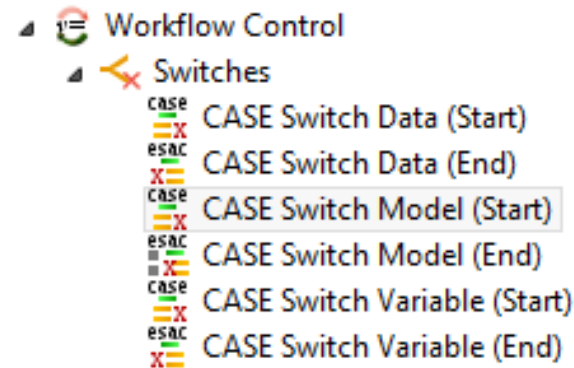
- New Sleep/Pause/Timer nodes
  - Shamelessly stolen from Vernalis

- Replacing and inserting nodes via drag&drop

KNIME Server and Automation I

- Basic REST interface
  - Repository browsing
  - Job execution

```
thor@crest ~ $ curl -X POST -u 'knime:knime' -i http://localhost:8080/com.knime.enterpris        20Demo/Predictor%20Flow:jobs
{
  "@controls" : {
    "knime:execute-job" : {
      "href" : "http://localhost:8080/com.knime.enterprise.server/rest/v4/jobs/1afee03d-1b13-41a7-a18a-a2c7b181b963{?async}",
      "isHrefTemplate" : true,
      "template" : {
        "json-input-1" : {
          "Col0" : "A12",
          "Col18" : "A191",
          "Col19" : "A201",
          "target" : "2"
        }
      },
      "type" : "application/json",
      "method" : "POST"
    }
  },
  "id" : "1afee03d-1b13-41a7-a18a-a2c7b181b963",
  "isOutdated" : false,
  "hasReportRun" : false,
  "inputParameters" : {
    "json-input-1" : {
      "Col0" : "A12",
      "Col18" : "A191",
      "Col19" : "A201",
      "target" : "2"
    }
  },
  "hasReport" : false,
  "state" : "IDLE",
  "name" : "/UGM 2015/REST Demo/Predictor Flow job 1afee03d-1b13-41a7-a18a-a2c7b181b963",
```
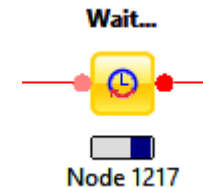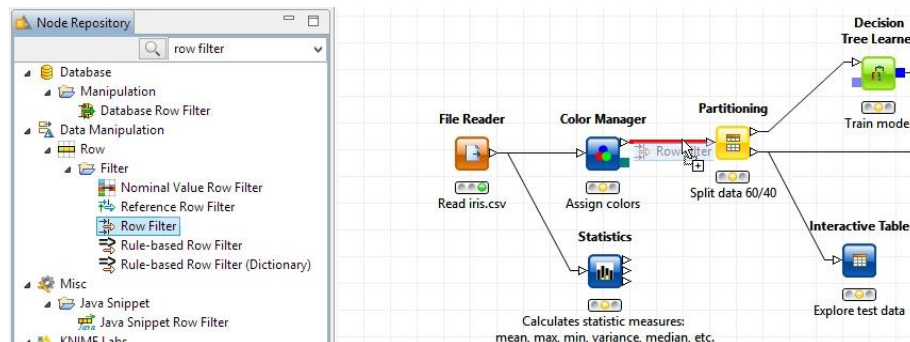
KNIME Server and Automation II

- WebPortal templates

KNIME Server and Automation III

- Call Workflow nodes
  - Remote on server via REST interface
  - Locally

Cooking for 3.0

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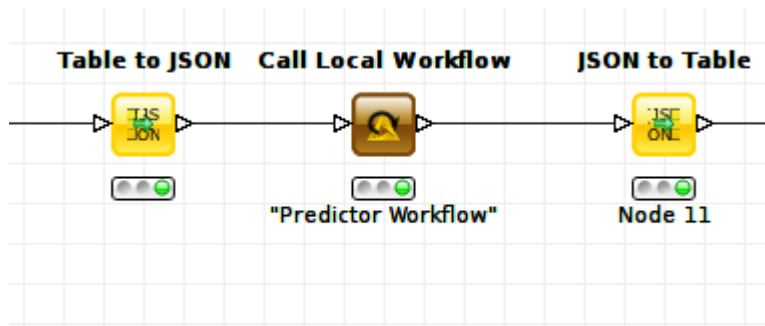
Internal changes I

- Update to Java 8

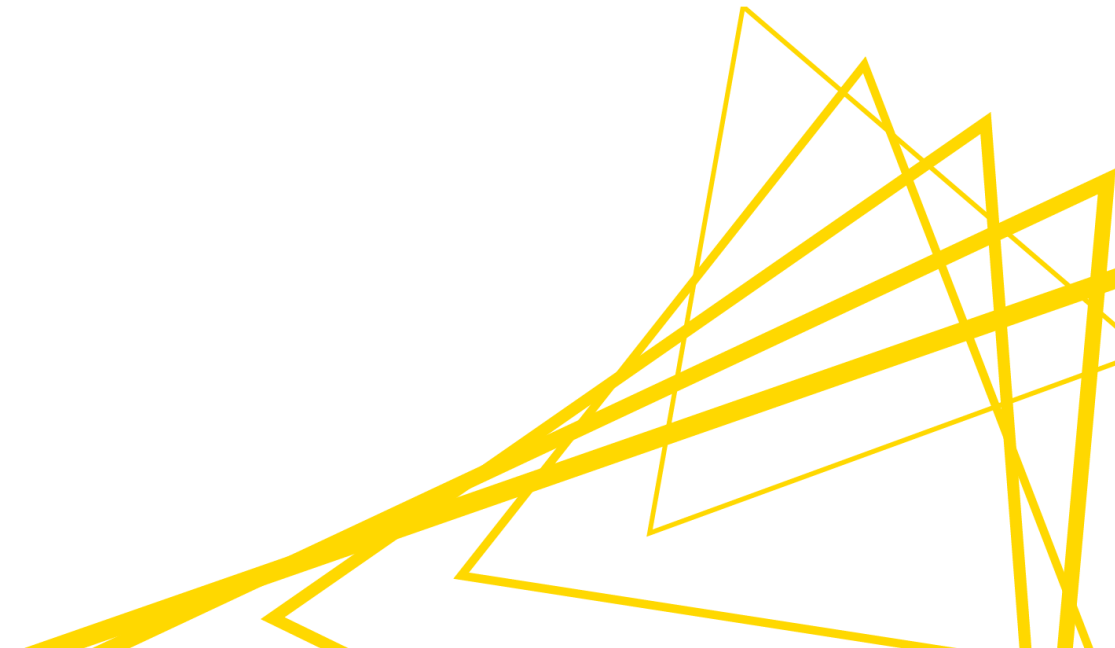- Update to Eclipse 4.5

- Support for more than 2 billion rows

  – Nodes must be adapted to new API

- Deprecated flag for nodes in extension point

  – No need to remove deprecated node from extension point any more

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Internal changes II

- ## Extension point for data types
  - – Serializers registered via extension point
  - – New data cell factories for use in input nodes

- ## Extension point for port objects
  - – Serializers registered via extension point
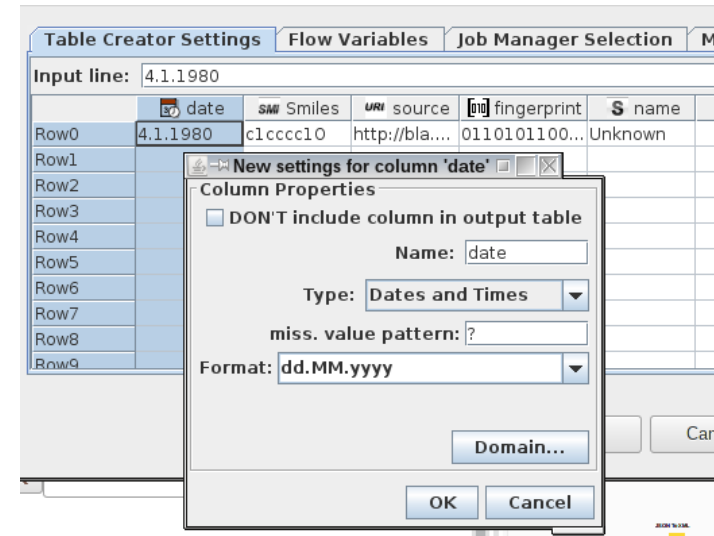
Internal changes III

- Molecule readers now create adapter cells
  - SmilesAdapterCell, SdfAdapterCell, …
  - Should have any noticeable effects
  - Molecule converters should simply add their representation to the existing adapter
  - Original format always visible

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New Look&Feel