

Web Services and KNIME

Adel Kassim

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- Discussion on what Nodes/functionality that would be valuable to have implemented in Knime





LIFE INSPIRING IDEAS

At AstraZeneca, we share a common aim:

- To make our best contribution to the fight against disease by providing medicines that make the most meaningful difference to patient health.
- We believe innovation isn't just about research – it's about turning good ideas into best practice across all aspects of our business ---

--- because the more good ideas we have, the more we can bring benefit for patients and add value for wider society.

SOME FACTS

- One of the world's leading Biopharmaceutical companies.
- A 70-year track record of innovation that includes the introduction of many world-leading medicines.
- Active in over 100 countries; corporate office in the UK; strong presence in key markets; growing presence in important emerging markets.
- Over 65,000 employees: 51% in Europe, 32% in the Americas and 17% in Asia, Africa and Australasia.
- 17 principal research centres in 8 countries.
- 26 manufacturing sites in 18 countries.
- Extensive sales and marketing networks worldwide.

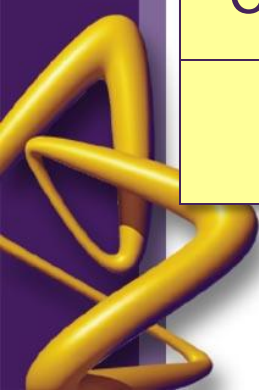
The Big Picture

Analysis/Reporting Visualisation	Scientific Vis	General Query Tools
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Large
number of
Existing AZ
Tools

Science Specifics within Tools	Third Party Collaborations	AZ Services
Scientific Workflow		

Core Workflow Orchestration	Utility	SDK	Web Services	Security
AZ Core Platform (ESB, Web Services)				



Importance of Web Services For AstraZeneca(AZ)

- Allow for interoperability
 - Different platforms can interact together
 - Ease the decommissioning and integration of existing systems
- Maximise existing investment
 - AZ has a large number of systems in different areas
- Access external services
 - Such as **EBI**
- Facilitate Service Orientated Architecture(SOA)
 - Provides IT flexibility supporting greater business flexibility in a fast changing business environment



AZ Contributions to Knime

- Basic usability nodes
 - Math Node
 - String manipulation nodes (string replacer, number to string, string to number, dictionary node)
 - Database connectivity Node (pass variable into SQL)
 - Case converter
 - Cell Splitter
 - Column Combiner
 - Numeric row splitter



AZ Contributions to Knime

- Ability to easily call Web Services
- Jar files and script
- Language Plugins
- Integration with Spotfire

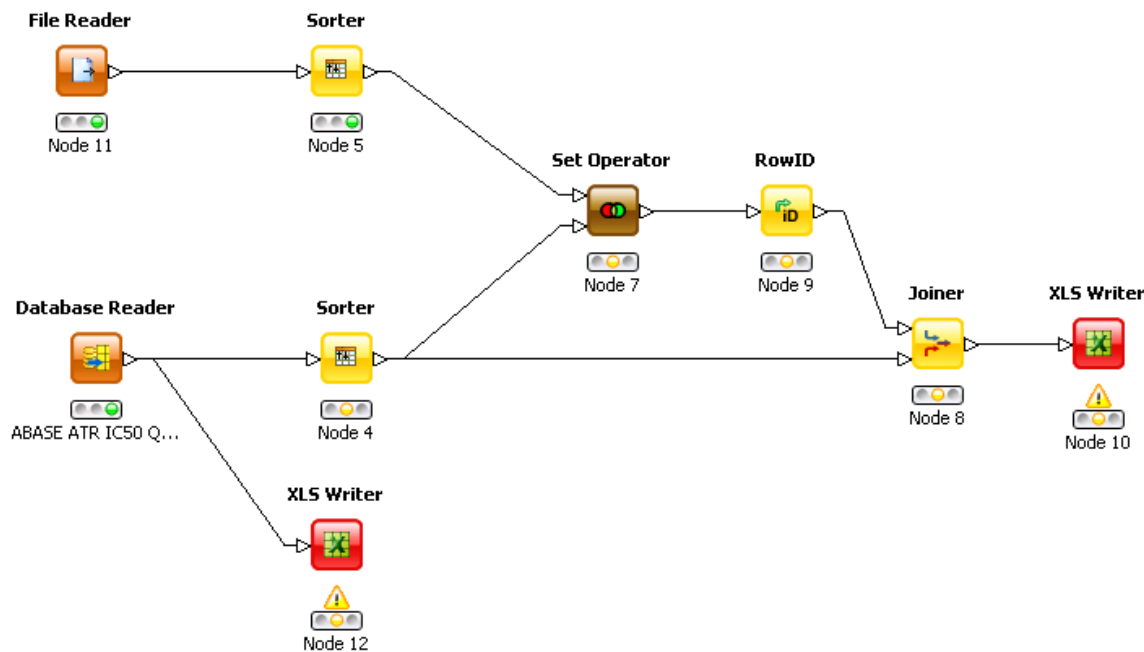


Usage of Knime At AstraZeneca

- KNIME as a prototyping environment
- Examples
 - File Parser
 - File processing for compound registration
 - Quality Analysis workflow for data Upload using Web Services node.
 - Custom node development



Example:



File Reader input is a CSV from AZ Biological Results System. Database Reader input is the appropriate query in a another Database.

General discussion on Knime

- What business questions are people looking to solve?
- What type of users do you see using Knime?
 - Experts?
- What's missing from Knime?
- What direction should Knime be heading?



How about?

- XML Reader Node with XPath access to data
- XML Writer
- Nodes for viewing data in
 - Excel, Word , ...
- Display Execution Time and Memory Usage for each Node
- File utilities, like copy move delete
- Mail Node, (Send emails)
- Scripting Nodes (Perl, Python(Update to latest version),...)
- Curve Fitting and Optimization Nodes

