Slides contain material from www.yawlfoundation.org
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THE YAWL DATA PERSPECTIVE

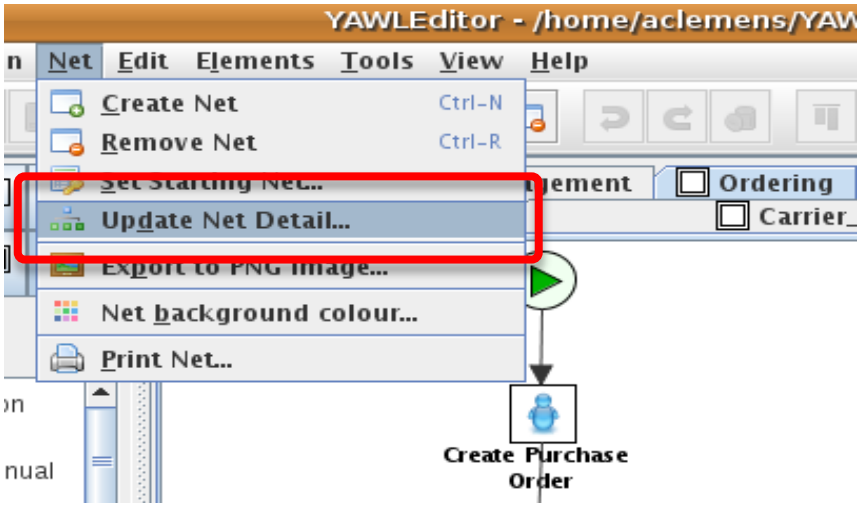
Business 2710 – Class 18

Net and Task Data ("Decompositions")

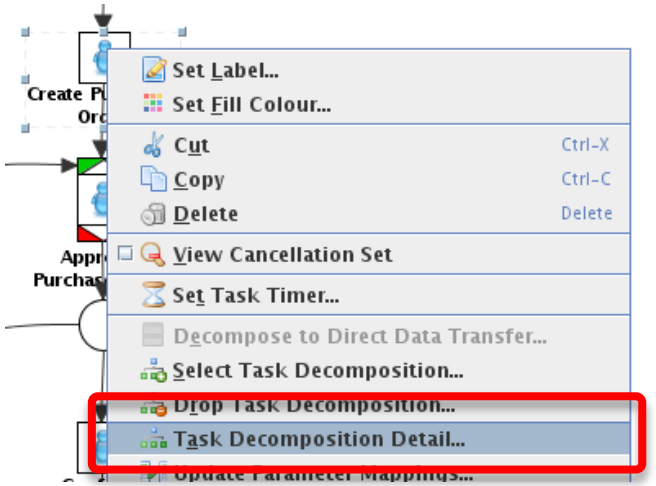
- Decompositions Specify
  1. Information ("variables") managed at the net- or task-level
     - Name of variable
     - Type of variable
     - Usage of variables (input, output, both)
     - Initial values
  2. How information is transferred from net-level to task-level variables at the start of a work item ("input mapping")
  3. How information is transferred from task-level to net-level variables at the completion of a work item ("output mappings")

Net and Task Data in the YAWL Editor

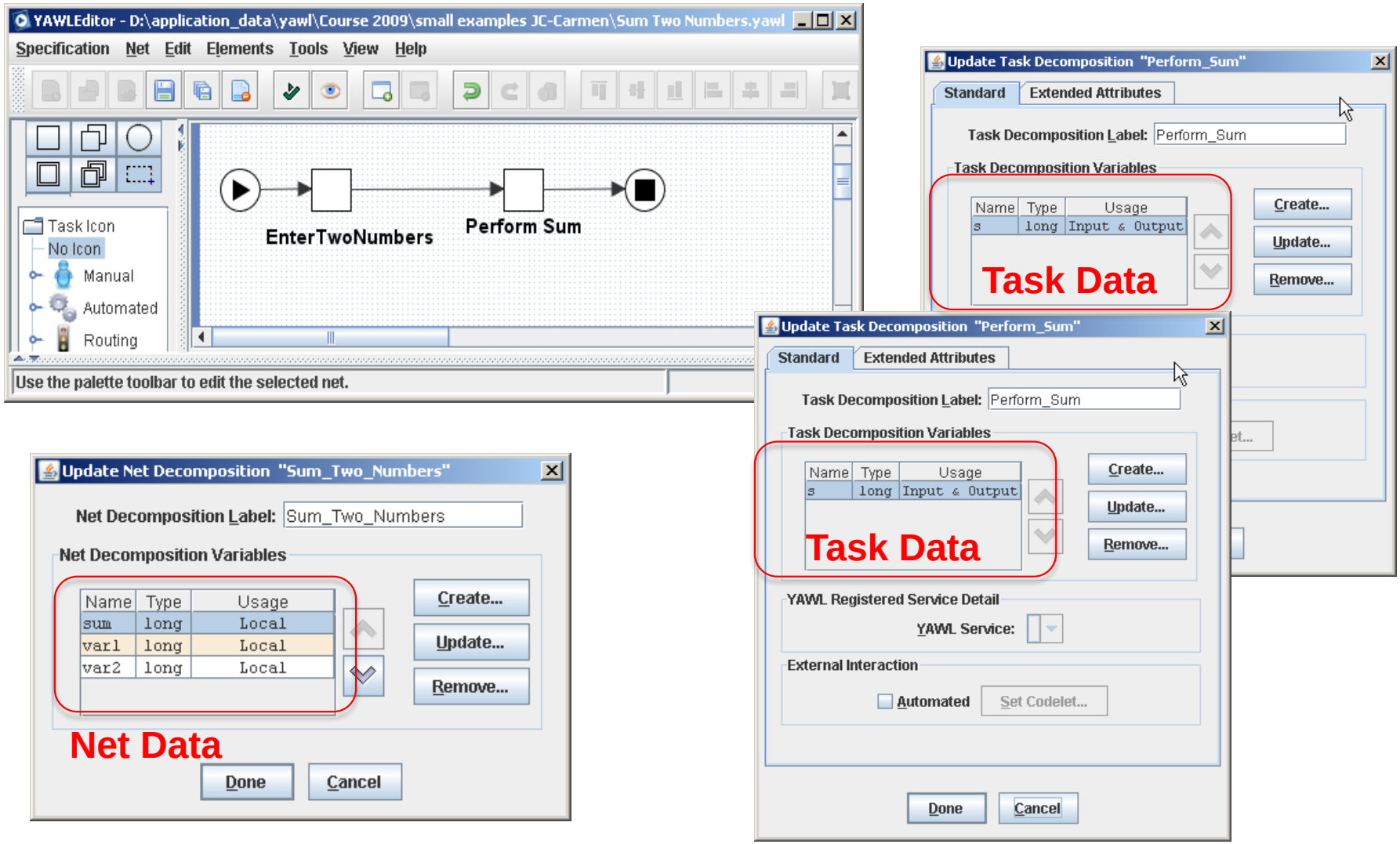
Net decomposition: Net → Update Net Detail…



Task decomposition: Context menu of a task → Task Decomposition



Net and Task Data in the YAWL Editor



XML and YAWL

- When you define a net-level variable (“element”) a net, e.g. variable “sum” for the net called “sum_of_two_numbers”, there is a document in YAWL that looks like this:

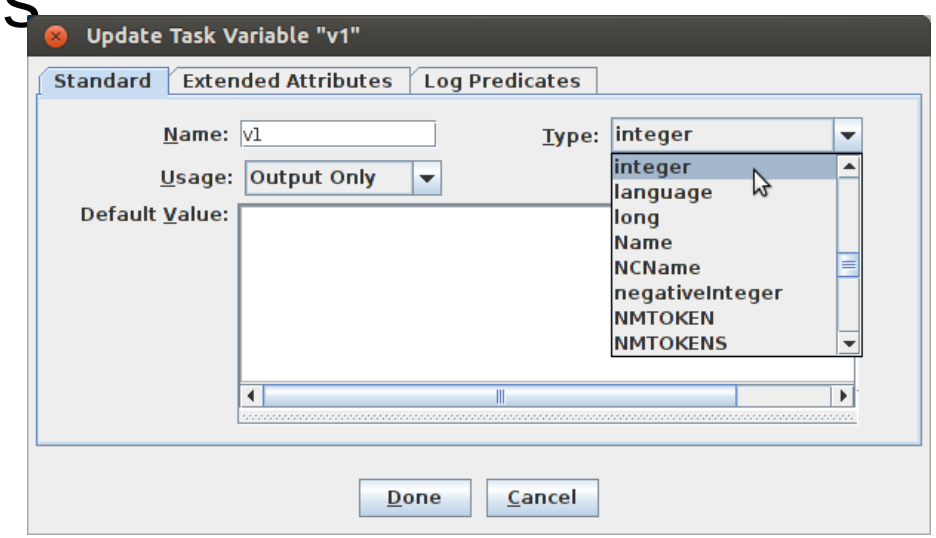
```
<sum_of_two_numbers>
  <sum>13</sum>
</sum_of_two_numbers>
```

- When you define a task-level variable (“element”) for a task, e.g. variable “S” for a task called “PerformSum”, there is a document in YAWL that looks like this:

```
<PerformSum>
  <S>9</S>
</PerformSum>
```

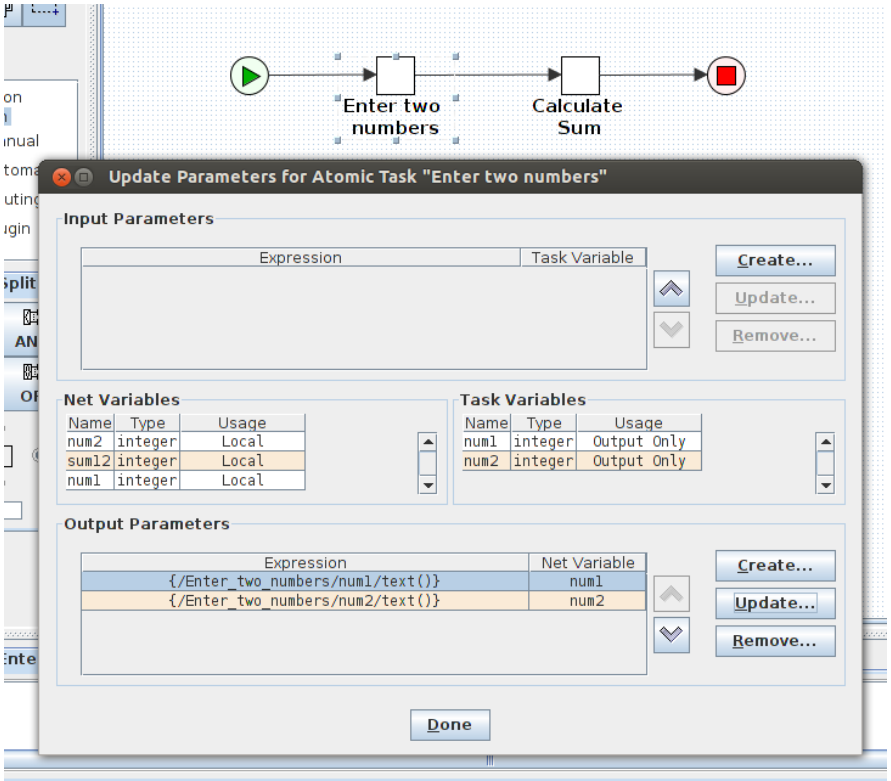
Variable Details

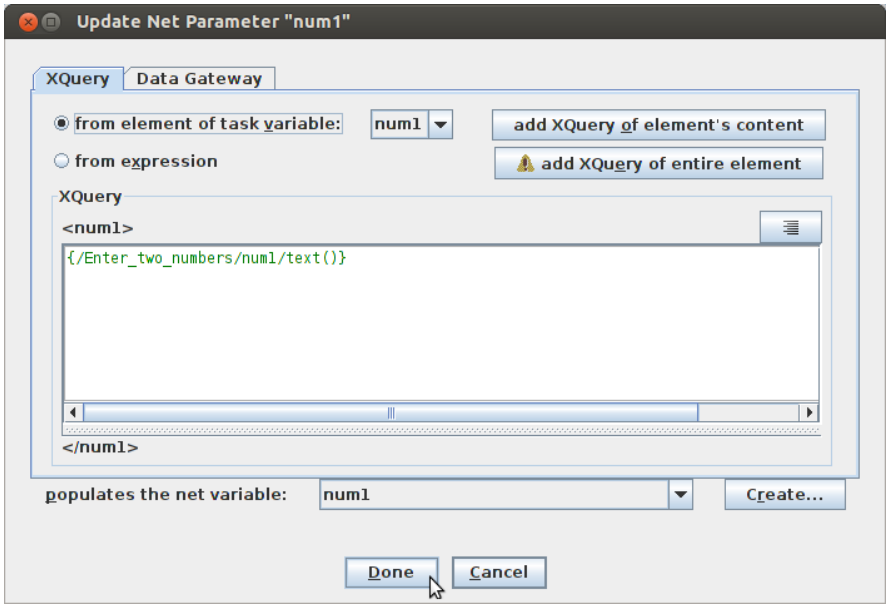
- Net- and Task-Decomposition dialogs allow to specify
  - Decomposition label (unique identifier)
  - Variable names
  - Data types (simple or complex)
  - Type of data usage (input and/or output)
  - Default/initial values



Decomposition - Mapping

- In- and output mapping defines how data is transferred between net and task variables
- The mapping is based on XPATH expressions





XML and YAWL

- The *input mapping(s)* for a task specify how the task-level document is created from the net-level document when the task (work item) is *started*. For example, an input mapping like this:

```
<PerformSum>
<v1>{/sum_of_two_numbers/Variable1/text()}</v1>
</PerformSum>
```

- selects the content of the net-level element “Variable1” of net “sum_of_two_numbers” into task-level element “v1” of task “PerformSum”.

- Note the XQuery expressions containing simple XPath expressions.

XML and YAWL

- The *output mapping(s)* for a task specify how the net-level document is updated from the task-level document when the work item is *completed*. For example, an output mapping like this:

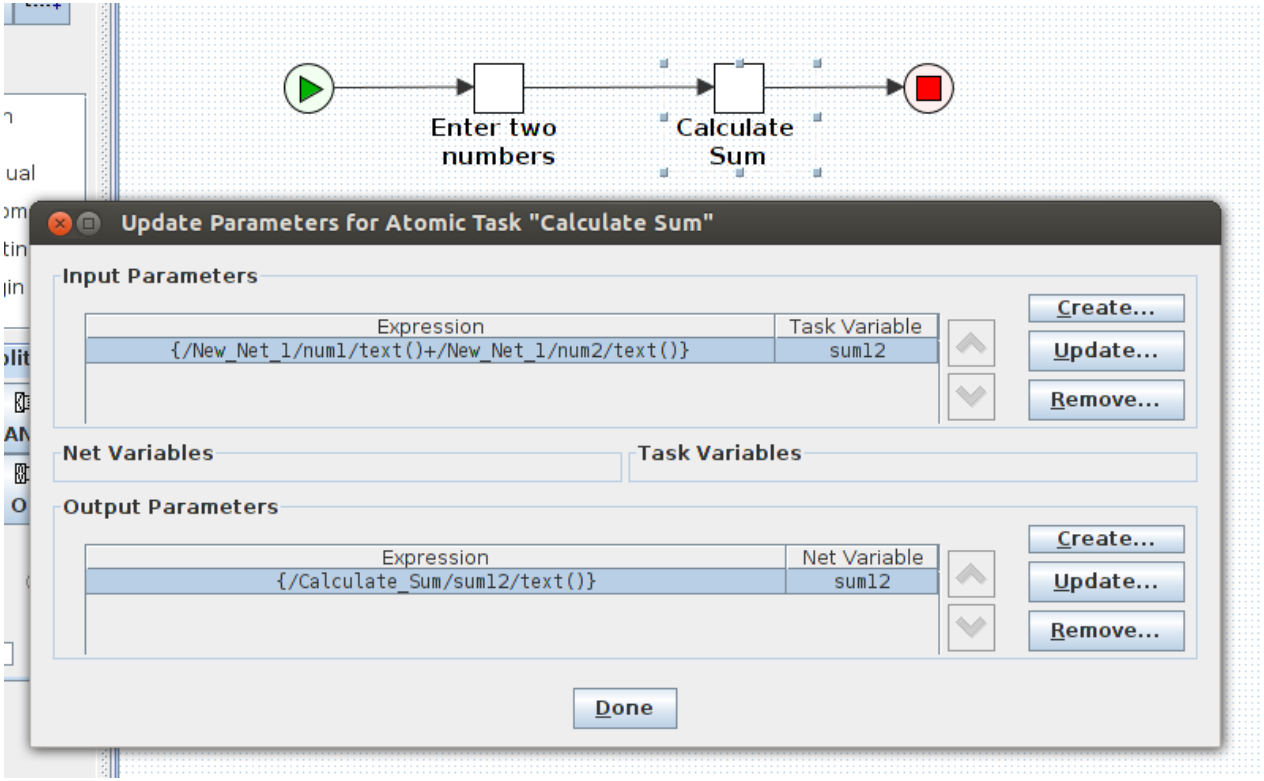
```
<sum_of_two_numbers>
<Variable1>{/EnterTwoNumbers/Var1/text()}</Variable1>
</sum_of_two_numbers>
```

- selects the content of the task-level element “Var1” of task “EnterTwoNumbers” into net-level element “Variable1” of net “sum_of_two_numbers”.

- Note the XQuery expressions containing simple XPath expressions.

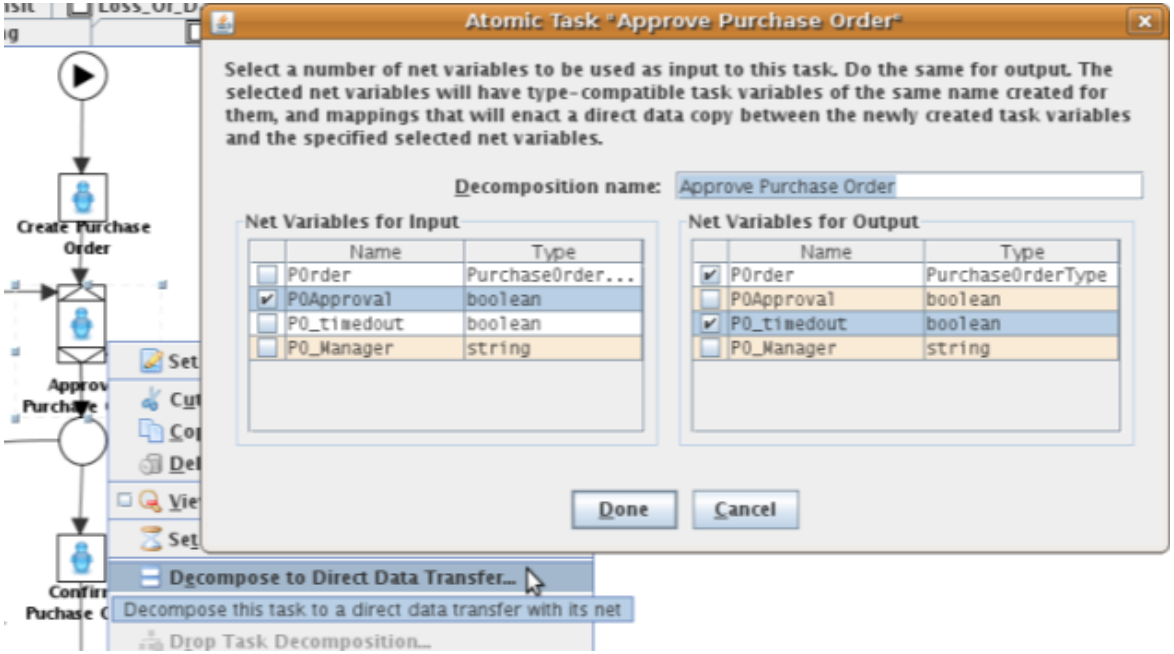
Data Transformation

- As part of the in- and output mapping, data can be transformed



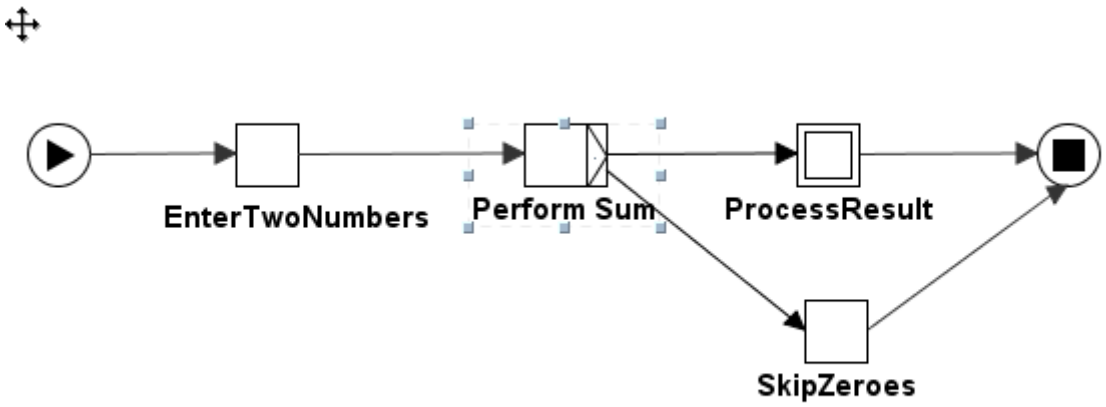
Decomposition – The Lazy Way

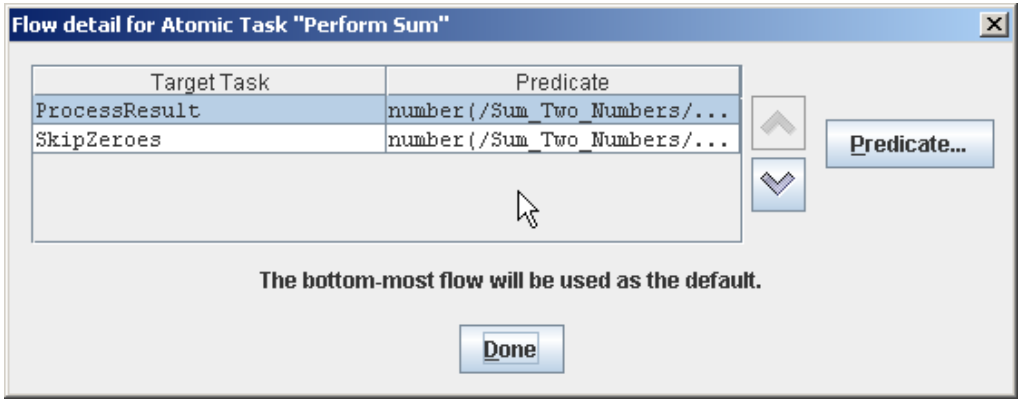
- The “Decomposition to direct data transfer” dialogue allows to quickly create a task decomposition
- The respective task should not already have a decomposition
- A set of net variables can be selected and used as template for the task variables
- Variables, data types, in- and output mappings are automatically generated

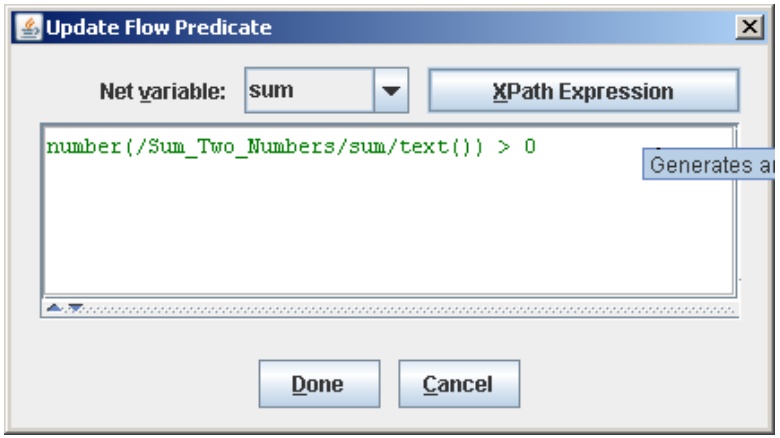


Data-based Routing in YAWL

For all XOR and OR splits!

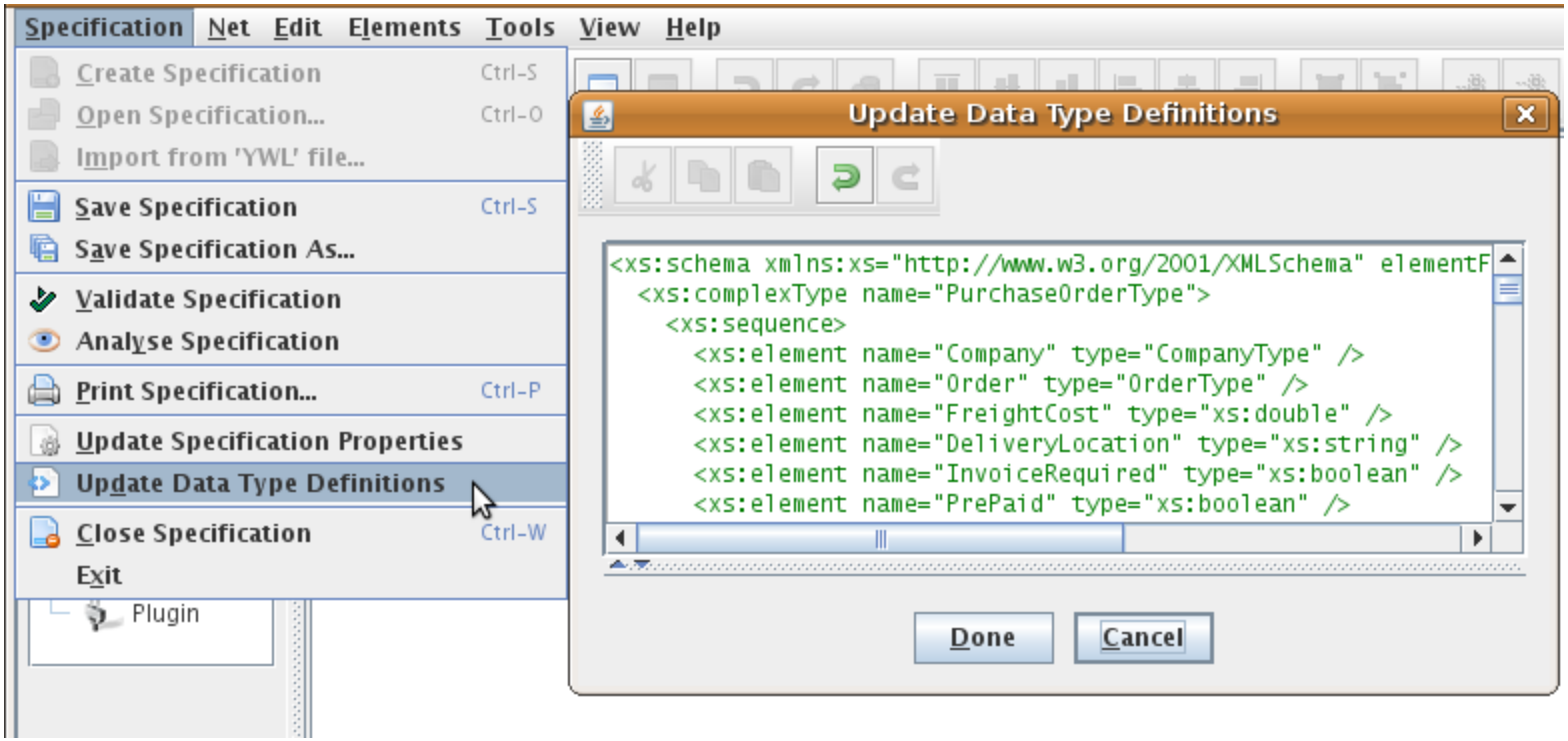






XML Schema Type Definition

- Editor provides support for
  - Simple XML Schema types
  - Complex XML Schema types



Error Reporting

- Verification of XQuery and Xpath expressions
- Suggestion for error resolution