

folgende Begriffe sollen definiert werden:

Visual Programming Language

Grammatik

Domain Specific Language

Schleifen

(Fixpunktberechnung)

test

$\langle \text{ActivityModel} \rangle ::= \langle \text{Activity} \rangle^* \langle \text{ActivityConnection} \rangle$
 $\langle \text{Activity} \rangle ::= \langle \text{ActivityStart} \rangle \mid \langle \text{ActivityAction} \rangle \mid \langle \text{ActivityCondition} \rangle \mid \langle \text{ActivityDisplay} \rangle$
 $\langle \text{ActivityStart} \rangle ::= \epsilon$
 $\langle \text{ActivityAction} \rangle ::= \langle \text{ActivityFlowCall} \rangle \mid \langle \text{ActivityPitaBuildInforRequest} \rangle \mid \langle \text{ActivityLoadExternalData} \rangle$
 $\langle \text{ActivityFlowCall} \rangle ::= \text{ref}(\text{FlowTemplate}) \langle \text{ActivityPortValue} \rangle^* \langle \text{TemplateParameterValue} \rangle^* \langle \text{ValueTransformation} \rangle^*$
 $\langle \text{ActivityPitaBuildInforRequest} \rangle ::= \langle \text{string } abdFilename \rangle \langle \text{string } requestAlias \rangle \langle \text{string } expectedSystems \rangle^* \langle \text{number } timeout \rangle$
 $\langle \text{ActivityLoadExternalData} \rangle ::= \langle \text{Type } dataType \rangle \langle \text{string } dataSource \rangle$
 $\langle \text{ActivityPortValue} \rangle ::= \langle \text{FlowPortValue} \rangle \mid \langle \text{ActivityPortRefernce} \rangle$
 $\langle \text{FlowPortValue} \rangle ::= \langle \text{string} \rangle \mid \langle \text{number} \rangle \mid \langle \text{bool} \rangle \mid \langle \text{date} \rangle \mid \langle \text{FlowPortValue} \rangle^*$
 $\langle \text{ActivityPortRefernce} \rangle ::= \text{ref}(\text{ActivityAction}) (\text{ValueTransformation})^*$
 $\langle \text{ValueTransformation} \rangle ::= \langle \text{string } objectReference \rangle \mid \langle \text{number } listIndex \rangle$
 $\langle \text{ActivityCondition} \rangle ::= \langle \text{ActivityBinaryCondition} \rangle \mid \langle \text{ActivityValidityCondition} \rangle$
 $\langle \text{ActivityBinaryCondition} \rangle ::= \text{ref}(\text{FlowTemplate}) \langle \text{ActivityBinaryConditionOperator} \rangle \langle \text{ActivityPortValue left} \rangle \langle \text{ActivityPortValue right} \rangle$
 $\langle \text{ActivityValidityCondition} \rangle ::= \langle \text{ActivityPortValue} \rangle^*$
 $\langle \text{ActivityBinaryCondition} \rangle ::= '=' \mid '\neq' \mid '<' \mid '\leq' \mid '>' \mid '\geq'$
 $\langle \text{ActivityDisplay} \rangle ::= \langle \text{ActivityDisplayField} \rangle^*$
 $\langle \text{ActivityDisplayField} \rangle ::= \langle \text{string label} \rangle \langle \text{string color} \rangle \text{ref}(\text{ActivityAction})$

Grammatik TODO Aktivitätsmodell

$\langle \text{FlowInstance} \rangle ::= \langle \text{FlowOutputPort } \lambda \text{ambdaArguments} \rangle^* \langle \text{FlowInputPort } \lambda \text{ambdaArguments} \rangle^*$

$\langle \text{FlowLambda} \rangle ::= \langle \text{FlowOutputPort } \lambda \text{ambdaArguments} \rangle^* \langle \text{FlowInputPort } \lambda \text{ambdaArguments} \rangle^*$

$\langle \text{FlowInputPort} \rangle ::= \langle \text{string name} \rangle \langle \text{Type} \rangle \langle \text{bool acceptsError} \rangle$

$\langle \text{FlowOutputPort} \rangle ::= \langle \text{string name} \rangle \langle \text{Type} \rangle \langle \text{bool producesError} \rangle$

Grammatik TODO Flow-Instanz

$\langle \text{FlowTemplate} \rangle ::= \langle \text{Flow} \rangle \langle \text{TemplateParameter} \rangle^*$

$\langle \text{Flow} \rangle ::= \langle \text{LibraryFlow} \rangle \mid \langle \text{FlowModel} \rangle$

$\langle \text{LibraryFlow} \rangle ::= \epsilon$

$\langle \text{TemplateParameter} \rangle ::= \text{'String'} \mid \text{'Number'} \mid \text{'Bool'} \mid \langle \text{TemplateParameterList} \rangle$

$\langle \text{TemplateParameterList} \rangle ::= \langle \text{TemplateParameter} \rangle$

Grammatik TODO Flow-Template

$\langle \text{FlowModel} \rangle ::= \langle \text{FlowInstance} \rangle \langle \text{FlowNode} \rangle^* \langle \text{FlowConnection} \rangle^*$

$\langle \text{FlowNode} \rangle ::= \langle \text{FlowNodeOutput} \rangle \mid \langle \text{FlowNodeInput} \rangle \mid \langle \text{FlowNodeLambda} \rangle \mid \langle \text{FlowNodeFlowCall} \rangle$

$\langle \text{FlowNodeOutput} \rangle ::= \text{ref}(\text{FlowOutputPort}) \langle \text{FlowPortValue} \rangle$

$\langle \text{FlowNodeLambda} \rangle ::= \text{ref}(\text{FlowLambda}) \langle \text{FlowPortValue} \rangle^*$

$\langle \text{FlowNodeFlowCall} \rangle ::= \text{ref}(\text{FlowTemplate}) \langle \text{FlowPortValue} \rangle^* \langle \text{TemplateParameterValue} \rangle^*$

$\langle \text{FlowConnection} \rangle ::= \text{ref}(\text{FlowOutputPort source}) \text{ref}(\text{FlowOutputPort target})$

$\langle \text{FlowConnection} \rangle ::= \text{ref}(\text{FlowOutputPort source}) \text{ref}(\text{FlowOutputPort target})$

$\langle \text{TemplateParameterValue} \rangle ::= \langle \text{string} \rangle \mid \langle \text{number} \rangle \mid \langle \text{bool} \rangle \mid \langle \text{TemplateParameterValueList} \rangle$

$\langle \text{TemplateParameterValueList} \rangle ::= \langle \text{TemplateParameterValue} \rangle^*$

Grammatik TODO Flow-Modell

$\langle Type \rangle ::= \langle TypePrimitive \rangle \mid \langle TypeOptional \rangle \mid \langle TypeList \rangle \mid \langle TypeObject \rangle$

$\langle TypePrimitive \rangle ::= 'String' \mid 'Number' \mid 'Bool' \mid 'Data' \mid 'PtiaResponse'$

$\langle TypeOptional \rangle ::= \langle Type \rangle '?'$

$\langle TypeList \rangle ::= \langle Type \rangle '[]'$

$\langle TypeObject \rangle ::= '\{ (\langle string\ key \rangle ':' \langle Type \rangle)^* \}'$

$\langle TypeGeneric \rangle ::= '\$' \langle string\ genericName \rangle$

$\langle TypeReference \rangle ::= \text{ref}(\text{Type})$

Grammatik TODO Typ-Definition mit generischen und Referenz-Typen