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Package pl.eiti.bpelcg

Class Summary

Activator

The activator class controls the plug-in life cycle.

pl.eiti.bpelcg

Class Activator

All Implemented Interfaces:

org.osgi.framework.BundleActivator

```
< Fields > < Constructors > < Methods >
```

public class Activator

extends org.eclipse.ui.plugin.AbstractUIPlugin

The activator class controls the plug-in life cycle.

Fields

PLUGIN_ID

public static final java.lang.String PLUGIN_ID

plugin

private static Activator plugin

Constructors

Activator

```
public Activator()
```

The constructor.

Methods

getDefault

```
public static Activator getDefault()
```

Returns the shared instance

Returns:

the shared instance

getImageDescriptor

```
public static org.eclipse.jface.resource.ImageDescriptor
getImageDescriptor(java.lang.String path)
```

Returns an image descriptor for the image file at the given plug-in relative path

Parameters:

path - the path

Returns:

the image descriptor

start

```
public void start(org.osgi.framework.BundleContext context)
```

Overrides:

start in class org.eclipse.ui.plugin.AbstractUIPlugin

stop

```
public void stop(org.osgi.framework.BundleContext context)
```

Overrides:

stop in class org.eclipse.ui.plugin.AbstractUIPlugin

Package pl.eiti.bpelcg.actions

Class Summary

CopyGenerateAction

Action implements workbench action delegate.

UndoAction

Action implements workbench action delegate.

pl.eiti.bpelcg.actions

Class CopyGenerateAction

All Implemented Interfaces:

org.eclipse.ui.IWorkbenchWindowActionDelegate

```
< Fields > < Constructors > < Methods >
```

public class CopyGenerateAction

extends java.lang.Object

implements org.eclipse.ui.lWorkbenchWindowActionDelegate

Action implements workbench action delegate. The action proxy will be created by the workbench and shown in the UI. When the user tries to use the action, this delegate will be created and execution will be delegated to it.

IWorkbenchWindowActionDelegate

Fields

window

private org.eclipse.ui.IWorkbenchWindow window

Constructors

CopyGenerateAction

```
public CopyGenerateAction()
```

The constructor.

Methods

dispose

```
public void dispose()
```

We can use this method to dispose of any system resources we previously allocated.

findConsole

private org.eclipse.ui.console.MessageConsole findConsole(java.lang.String
name)

Eclipse instance message console finder.

init

```
public void init(org.eclipse.ui.IWorkbenchWindow window)
```

We will cache window object in order to be able to provide parent shell for the message dialog.

run

```
public void run(org.eclipse.jface.action.IAction action)
```

The action has been activated. The argument of the method represents the 'real' action sitting in the workbench UI.

selectionChanged

Selection in the workbench has been changed. We can change the state of the 'real' action here if we want, but this can only happen after the delegate has been created.

pl.eiti.bpelcg.actions

Class UndoAction

All Implemented Interfaces:

org.eclipse.ui.IWorkbenchWindowActionDelegate

```
< Constructors > < Methods >
```

public class UndoAction

extends java.lang.Object

implements org.eclipse.ui.lWorkbenchWindowActionDelegate

Action implements workbench action delegate. The action proxy will be created by the workbench and shown in the UI. When the user tries to use the action, this delegate will be created and execution will be delegated to it.

IWorkbenchWindowActionDelegate

Constructors

UndoAction

```
public UndoAction()
```

Methods

dispose

```
public void dispose()
```

init

```
public void init(org.eclipse.ui.IWorkbenchWindow arg0)
```

run

```
public void run(org.eclipse.jface.action.IAction arg0)
```

selectionChanged

Package pl.eiti.bpelcg.analyzer

Interface Summary

IAnalysisResult

Generic analysis result structure interface.

IAnalyzer

Behavior of analyzer for model created from BPEL process.

pl.eiti.bpelcg.analyzer

Interface IAnalysisResult

< Methods >

public interface IAnalysisResult

Generic analysis result structure interface.

K key type.

V value type as List.

Methods

get

```
public java.util.List get(java.lang.Object key)
```

Gets value from map for key given as parameter.

Parameters:

key - key to read from map.

Returns:

value from map mapped by a given key.

put

Puts a value into a mapped by a key given as parameter.

Parameters:

key - key element from map. value - value to put in the map.

Returns:

value put into the map.

pl.eiti.bpelcg.analyzer

Interface IAnalyzer

< Methods >

public interface IAnalyzer

Behavior of analyzer for model created from BPEL process.

Methods

analyze

```
public <u>IAnalysisResult</u> analyze()
```

Analyze existing loaded model and give results of the analyze back.

Returns:

results of the model analyze

createCopy

```
public org.eclipse.bpel.model.Copy createCopy()
```

getAssignActivities

public java.util.List getAssignActivities()

Gets all assign blocks from BPEL process.

Returns:

list of assign block of BPEL process

getProcessVariables

public java.util.List getProcessVariables()

Gets all variables of analyzed BPEL process.

Returns:

list of variables of BPEL process

init

public void init(java.lang.String pathToBPEL)

Initial method for analyzer to prepare necessary things (load BPEL, WSDLs) to analyze.

Parameters:

pathToBPEL - BPEL process file location

Package pl.eiti.bpelcg.analyzer.impl

Class Summary

AnalysisResult

Implementation of analysis result created by Analyzer element.

Analyzer

BPEL graph model analyzer class.

pl.eiti.bpelcg.analyzer.impl

Class AnalysisResult

All Implemented Interfaces:

java.io.Serializable, java.lang.Cloneable, java.util.Map, <u>IAnalysisResult</u>

```
< Fields > < Constructors > < Methods >
```

public class **AnalysisResult** extends java.util.HashMap implements IAnalysisResult

Implementation of analysis result created by Analyzer element. Structure represented by map with assign elements as a keys and list of copy instructions as values mapped by keys.

Fields

serialVersionUID

private static final long serialVersionUID

Constructors

AnalysisResult

```
public AnalysisResult()
```

Methods

get

```
public java.util.List get(org.eclipse.bpel.model.Assign key)
```

put

Overrides:

put in class java.util.HashMap

pl.eiti.bpelcg.analyzer.impl

Class Analyzer

All Implemented Interfaces:

IAnalyzer

```
< Fields > < Constructors > < Methods >
```

public class **Analyzer** extends <u>Settings</u> implements <u>IAnalyzer</u>

BPEL graph model analyzer class. Holds references to DAO object - access to BPEL and WSDL files. Analyzes graph model representing BPEL process and finds matches between variables used in BPEL process.

Fields

FIRST

private static final java.lang.Integer FIRST

bpeIDAO

matcher

private IMatcher matcher

model

private GraphModel model

result

private IAnalysisResult result

transformer

private GraphTransformer transformer

wsdlLoader

private WSdlLoader

Constructors

Analyzer

public Analyzer()

Default analyzer constructor.

Methods

analyze

public <u>IAnalysisResult</u> analyze()

analyzeFlow

Analyzes parallel paths in graph started from flow node.

Parameters:

flowStartNode - node of flow type, has several next nodes settedVariables - list of process variables with value set analysisResult - result of analysis process graph

analyzeGraphNodes

Analyzes path of graph and retrieves possibilities to create assign activities.

Parameters:

rootNode - analyze start node of graph settedVariables - list of process variables with value set result - result of analysis as list of assign block mapped to copy elements to add to assigns

createCopy

```
public org.eclipse.bpel.model.Copy createCopy()
```

getAssignActivities

```
public java.util.List getAssignActivities()
```

getBPELProcess

```
\verb"public org.eclipse.bpel.model.Process getBPELProcess" ()
```

BPEL process getter.

Returns:

BPEL process as BPEL Designer EMF object.

getClosingFlow

private GraphNode getClosingFlow(GraphNode openFlow)

getModel

```
public GraphModel getModel()
```

Graph model of BPEL process getter.

Returns:

BPEL process graph representation.

getNextInvokes

Retrieves graph searching all of invoke type nodes following node given as parameter.

Parameters:

node - currently processing node invokeList - list of node following invoke activities

Returns:

list of following node type of invoke

getProcVariables

private java.util.List getProcVariables(org.eclipse.bpel.model.Variables
variables)

Gets all process variables list from given EObjects set Variables

Parameters:

variables - EObject variables

Returns:

list all process variables (type of Variable)

getProcessVariables

```
public java.util.List getProcessVariables()
```

getSettedVariables

private java.util.List getSettedVariables(java.util.List processVariables)

Gets list of process variables with value already set from all process variables list.

Parameters:

process Variables - all process variables list

Returns:

process variables list with value set

init

public void init(java.lang.String pathToBPEL)

saveProcess

public void saveProcess()

Delegates BPEL process save.

Package pl.eiti.bpelcg.dao

Class Summary

BPELDAO

Reader class using to load BPEL process file to object model based on org.eclipse.bpel.model package classes.

WSDLDAO

WSDL DAO (Data Access Object) closes the functionality of loading WSDL files for retrieving messages elements.

pl.eiti.bpelcg.dao

Class BPELDAO

```
< Fields > < Constructors > < Methods >
```

public class **BPELDAO** extends java.lang.Object

Reader class using to load BPEL process file to object model based on org.eclipse.bpel.model package classes.

Fields

BPELFileLocation

private java.lang.String BPELFileLocation

factory

private org.eclipse.emf.ecore.resource.Resource.Factory factory

process

private org.eclipse.bpel.model.Process process

resource

Constructors

BPELDAO

public BPELDAO()

Default constructor.

BPELDAO

public BPELDAO(java.lang.String newBPELFileLocation)

File location set constructor.

Parameters:

newBPELFileLocation - file location

Methods

getAllAssignBlocks

public java.util.List getAllAssignBlocks()

BPEL process all assign instructions getter.

Returns:

list of all assign instruction from BPEL process.

getAllReceives

public java.util.List getAllReceives()

Gets receive elements from BPEL process.

Returns:

list of receives from BPEL process.

getAllVariables

public java.util.List getAllVariables()

Gets all variables from BPEL process.

Returns:

list of BPEL process variables.

getBPELProcess

public org.eclipse.bpel.model.Process getBPELProcess()

Gets BPEL process reference.

Returns:

BPEL process reference.

getFactory

public org.eclipse.emf.ecore.resource.Resource.Factory getFactory()

Factory getter.

Returns:

factory object.

loadProcess

public void loadProcess()

BPEL process load method.

saveProcess

public java.lang.String saveProcess()

BPEL process save method.

Returns:

saved process name

setBPELFileLocation

public void setBPELFileLocation(java.lang.String newBPELFileLocation)

BPEL process file location setter.

Parameters:

newBPELFileLocation - location of BPEL process file.

pl.eiti.bpelcg.dao

Class WSDLDAO

< Fields > < Constructors > < Methods >

public class **WSDLDAO** extends java.lang.Object

WSDL DAO (Data Access Object) closes the functionality of loading WSDL files for retrieving messages elements.

Fields

factory

private org.eclipse.wst.wsdl.util.WSDLResourceFactoryRegistry factory

instance

private static WSDLDAO instance

wsdlMessages

private java.util.List wsdlMessages

Constructors

WSDLDAO

```
private WSDLDAO()
```

Default constructor.

Methods

getInstance

```
public static WSDLDAO getInstance()
```

Gets singleton instance of WSDLDAO object reference.

Returns:

reference to WSDL DAO object.

getMessage

public org.eclipse.wst.wsdl.Message getMessage(javax.xml.namespace.QName
qName)

Gets message with given qName element.

Parameters:

qName - query name.

Returns:

WSDL message element.

getMessages

```
public java.util.List getMessages()
```

Gets list of all messages loaded.

Returns:

list of messages loaded by DAO object.

load

WSDL load method.

Parameters:

importLocations - WSDL files path list absolutePath - absolute path to BPEL process file

loadWSDL

private org.eclipse.wst.wsdl.util.WSDLResourceImpl loadWSDL(java.lang.String location)

Single WSDL file load method.

Parameters:

location - absolute WSDL file path

Returns:

WSDL loaded

Package pl.eiti.bpelcg.matcher

Interface Summary

IMatcher

Behavior of element used to finding matches between BPEL process elements for generation of copy instructions in the process.

pl.eiti.bpelcg.matcher

Interface IMatcher

< Methods >

public interface IMatcher

Behavior of element used to finding matches between BPEL process elements for generation of copy instructions in the process.

Methods

createCopyForMatchedVariables

followingInvokes)

Finds all variables from given list that match (with name and type) to any input variables of invokes from given list.

Parameters:

settedVariables - list of variables that can be used as invoke call parameters followingInvokes - list of invoke activities following currently processed assign activity

Package pl.eiti.bpelcg.matcher.impl

Class Summary

DefaultMatcher

Default plugin matcher using simple rule for searching matches between variables which checks equality of names and types.

DefaultMatcher.SimpleMessageElement

Simple structure - keeps pairs of messages that match.

pl.eiti.bpelcg.matcher.impl

Class DefaultMatcher

All Implemented Interfaces:

IMatcher

```
< Fields > < Constructors > < Methods >
```

public class **DefaultMatcher** extends <u>Settings</u> implements <u>IMatcher</u>

Default plugin matcher using simple rule for searching matches between variables which checks equality of names and types.

Fields

wsdlLoader

WSDLDAO wsdlLoader

wsdlResolver

WSDLResolver wsdlResolver

Constructors

DefaultMatcher

```
public DefaultMatcher()
```

Default constructor used for get instances of singleton WSDL DAO and resolver elements.

Methods

createCopyForMatchedVariables

isMatching

Checks if simple type variables given as parameters are matching.

Parameters:

varTo - simple type variable to copy to varFrom - simple type variable to copy from

Returns:

boolean type information if parameters are matching

retrieveComplexTypeMatching

```
private java.util.List
retrieveComplexTypeMatching(org.eclipse.bpel.model.Variable varToCopyFrom,
org.eclipse.bpel.model.Variable varToCopyTo)
```

Retrieves all matchings between simple types that variables given as parameters includes.

Parameters:

```
varToCopyFrom - complex type variable to copy from varToCopyTo - complex type variable to copy to
```

Returns:

list of copy elements

retrieveSimpleToComplexTypeMatching

Retrieves all matchings between simple type variable given as parameter and complex type elements variable with additional switch that inform if it will be copy from simple to complex type or from complex to simple type.

Parameters:

simpleTypeVar - simple type variable complexTypeVar - complex type variable fromSimpleToComplex - switch that determines copy instruction direction

Returns:

list of copy elements

pl.eiti.bpelcg.matcher.impl

Class DefaultMatcher.SimpleMessageElement

< Fields > < Constructors >

private class **DefaultMatcher.SimpleMessageElement** extends java.lang.Object

Simple structure - keeps pairs of messages that match.

Fields

fromSimpleMessage

public java.lang.String fromSimpleMessage

toSimpleMessage

public java.lang.String toSimpleMessage

Constructors

DefaultMatcher.SimpleMessageElement

private DefaultMatcher.SimpleMessageElement()

Package pl.eiti.bpelcg.model

Interface Summary

IModel

Model behavior interface.

pl.eiti.bpelcg.model

Interface IModel

public interface IModel

Model behavior interface.

Package pl.eiti.bpelcg.model.graph

Class Summary

Graph

Graph implementation with root node selected.

GraphNode

Graph node element implementation.

GraphNode.State

Enumerated list of graph node states.

pl.eiti.bpelcg.model.graph

Class Graph

Direct Known Subclasses:

GraphModel

```
< Fields > < Constructors > < Methods >
```

public class **Graph** extends java.lang.Object

Graph implementation with root node selected.

T graph nodes type

Fields

root

```
private <u>GraphNode</u> root
Graph root element
```

Constructors

Graph

```
public Graph()
```

Graph default constructor.

Graph

```
public Graph(java.lang.Object data)
```

Constructor creating new node from given data.

Parameters:

data - node data element

Graph

```
public Graph(GraphNode rootNode)
```

Constructor setting given graph node as root.

Parameters:

rootNode - node element to set as root element

Methods

getRoot

```
public GraphNode getRoot()
```

Graph root element getter.

Returns:

root node

setRoot

```
public void setRoot(GraphNode rootNode)
```

Graph root element setter.

Parameters:

rootNode - node to set as graph root

pl.eiti.bpelcg.model.graph

Class GraphNode

```
< Fields > < Constructors > < Methods >
```

public class **GraphNode** extends java.lang.Object

Graph node element implementation.

T type of node data

Fields

data

private java.lang.Object data

nextNodes

private java.util.List nextNodes

previousNodes

private java.util.List previousNodes

state

private GraphNode.State state

Constructors

GraphNode

public GraphNode(java.lang.Object newData)

Graph node data set constructor.

Parameters:

newData - graph node data element to set

Methods

addNextNode

public void addNextNode(GraphNode nextNode)

Adds next node to list of next nodes.

Parameters:

nextNode - node to add.

addPreviousNode

public void addPreviousNode(GraphNode previousNode)

Adds previous node to list of previous nodes.

Parameters:

previousNode - node to add.

getData

public java.lang.Object getData()

Gets data of node.

Returns:

node data element.

getNextNodes

public java.util.List getNextNodes()

Gets next nodes list.

Returns:

list of nodes.

getPreviousNodes

```
public java.util.List getPreviousNodes()
```

Gets previous nodes list.

Returns:

list of nodes.

getState

```
public GraphNode.State getState()
```

Gets state of node.

Returns:

enumerated state.

hasNext

```
public java.lang.Boolean hasNext()
```

Next element existing check.

Returns:

next element existing bool value

hasPrevious

```
public java.lang.Boolean hasPrevious()
```

Previous element existing check.

Returns:

previous element existing bool value

isBranched

```
public java.lang.Boolean isBranched()
```

Multiple next elements check.

Returns:

many next elements existing bool value

isProcessing

```
public java.lang.Boolean isProcessing()
```

Processed check.

Returns:

if is processing

isUnvisited

public java.lang.Boolean isUnvisited()

Unvisited check.

Returns:

if was not visited

isVisited

public java.lang.Boolean isVisited()

Visited check.

Returns:

if was visited

setNextNodes

public void setNextNodes(java.util.List nextNodes)

Sets next nodes list.

Parameters:

nextNodes - list of nodes.

setPreviousNodes

public void setPreviousNodes(java.util.List previousNodes)

Sets previous nodes list.

Parameters:

previousNodes - list of nodes.

setProcessing

public void setProcessing()

Processed state setter.

setUnvisited

public void setUnvisited()

Unvisited state setter.

setVisited

public void setVisited()

Visited state setter.

pl.eiti.bpelcg.model.graph

Class GraphNode.State

All Implemented Interfaces:

java.io.Serializable, java.lang.Comparable

```
< Fields > < Constructors > < Methods >
```

static final class **GraphNode.State** extends java.lang.Enum

Enumerated list of graph node states.

Fields

PROCESSING

public static final GraphNode.State PROCESSING

UNVISITED

public static final GraphNode.State UNVISITED

VISITED

public static final GraphNode.State VISITED

Constructors

GraphNode.State

private GraphNode.State()

Methods

valueOf

public static GraphNode.State valueOf(java.lang.String name)

values

public static pl.eiti.bpelcg.model.graph.GraphNode.State[] values()

Package pl.eiti.bpelcg.model.impl

Class Summary

GraphModel

Graph model with nodes org.eclipse.bpel.model.Activity type.

pl.eiti.bpelcg.model.impl

Class GraphModel

All Implemented Interfaces:

IModel

< Constructors >

public class **GraphModel** extends <u>Graph</u> implements <u>IModel</u>

Graph model with nodes org.eclipse.bpel.model.Activity type.

Constructors

GraphModel

```
public GraphModel()
```

Default graph model constructor.

Package pl.eiti.bpelcg.resolver

Class Summary

WSDLResolver

WSDL resolver used to retrieving information about complex and simple types defined in WSDL and used to communication with service which interface describes WSDL document.

pl.eiti.bpelcg.resolver

Class WSDLResolver

```
< Fields > < Constructors > < Methods >
```

public class **WSDLResolver** extends <u>Settings</u>

WSDL resolver used to retrieving information about complex and simple types defined in WSDL and used to communication with service which interface describes WSDL document.

Fields

instance

private static WSDLResolver instance

Constructors

WSDLResolver

```
private WSDLResolver()
```

Methods

getInstance

public static WSDLResolver getInstance()

resolveMessageType

public java.util.Map resolveMessageType(org.eclipse.wst.wsdl.Message
complexMessageType)

Resolves message type to map part element to elements included in part element.

Parameters:

complexType - complex type message

Returns:

map of message part elements to list of elements within selected part element

retrieveElements

public java.util.List retrieveElements(org.eclipse.wst.wsdl.Message complexType)

Retrieves all elements of given complex type message and create concatenated information about them delimited by M_LIMITER defined in Settings class (MessagePartName/delimiter/xsdElementTypeName/delimiter/xsdElementName).

Parameters:

complexType - defined in WSDL complex type message

Returns:

list of concatenated information about elements

Package pl.eiti.bpelcg.transformer

Interface Summary

IProcessTransformer

Factory transformer of BPEL Process to model and model to BPEL Process behavior.

pl.eiti.bpelcg.transformer

Interface IProcessTransformer

< Methods >

public interface IProcessTransformer

Factory transformer of BPEL Process to model and model to BPEL Process behavior.

Methods

processToModel

public <u>IModel</u> processToModel(org.eclipse.bpel.model.Process process)

BPEL process to model declaration.

Parameters:

process - process element to transform

Returns:

model created from process

Package pl.eiti.bpelcg.transformer.impl

Class Summary

GraphTransformer

Singleton concrete factory class for producing Graph model from BPEL process, and update BPEL process from Graph model.

pl.eiti.bpelcg.transformer.impl

Class GraphTransformer

All Implemented Interfaces:

<u>IProcessTransformer</u>

```
< Fields > < Constructors > < Methods >
```

public class **GraphTransformer** extends java.lang.Object implements <u>IProcessTransformer</u>

Singleton concrete factory class for producing Graph model from BPEL process, and update BPEL process from Graph model.

Fields

instance

private static GraphTransformer instance

Constructors

GraphTransformer

```
private GraphTransformer()
```

Default constructor.

Methods

createGraphModel

Graph model creator.

Parameters:

process - process to create model from model - model element to build with a method

executeCreate

Model creation executor, recursive for complex activities.

Parameters:

previous - node created previously closingNode - complex activities complex nodes

getInstance

public static GraphTransformer getInstance()

Graph transformer instance getter.

Returns:

graph transformer instance reference

processToModel

public <u>IModel</u> processToModel(org.eclipse.bpel.model.Process process)

Package pl.eiti.bpelcg.ui

Class Summary

AnalyzerWizard

Wizard element of the plugin, lets edit BPEL process assign elements.

AssignPage

Assign instructions edit wizard page.

AssignPage.AssignSelectionListener

Instance of selection listener class that listening for select on Assign blocks list element.

AssignPage.CopySelectionListener

Instance of selection listener that listening for select on Copy elements list.

AssignPage.DeleteCopySelectionListener

Delete copy instruction command listener.

AssignPage.FromElementSelectionListener

Instance of selection listener that listening for select on copy from element.

AssignPage.FromTypeSelectionListener

Instance of selection listener that listening for select on copy from type combo.

AssignPage.MoveDownSelectionListener

Move down command listener.

AssignPage.MoveUpSelectionListener

Move up command listener.

AssignPage.NewCopySelectionListener

Add copy instruction command listener.

<u>AssignPage.ToElementSelectionListener</u>

Instance of selection listener that listening for select on copy to element.

<u>AssignPage.ToTypeSelectionListener</u>

Instance of selection listener that listening for select on copy to type combo.

InfoPage

Class AnalyzerWizard

All Implemented Interfaces:

org.eclipse.jface.wizard.lWizard

```
< Fields > < Constructors > < Methods >
```

public class AnalyzerWizard

extends org.eclipse.jface.wizard.Wizard

Wizard element of the plugin, lets edit BPEL process assign elements.

Fields

assignPage

protected AssignPage assignPage

infoPage

protected InfoPage

wizardController

private <u>AnalyzerWizardController</u> wizardController

wizardModel

private AnalyzerWizardModel wizardModel

Constructors

AnalyzerWizard

public AnalyzerWizard(java.lang.String pathToBPEL)

Constructor getting path to analyzed BPEL file.

Parameters:

pathToBPEL - path to file with process description.

Methods

addPages

public void addPages()

Overrides:

addPages in class org.eclipse.jface.wizard.Wizard

canFinish

public boolean canFinish()

Overrides:

canFinish in class org.eclipse.jface.wizard.Wizard

performFinish

public boolean performFinish()

Overrides:

performFinish in class org.eclipse.jface.wizard.Wizard

Class AssignPage

All Implemented Interfaces:

org.eclipse.jface.dialogs.IDialogPage, org.eclipse.jface.dialogs.IMessageProvider, org.eclipse.jface.wizard.IWizardPage

```
< Fields > < Constructors > < Methods >
```

public class **AssignPage** extends org.eclipse.jface.wizard.WizardPage

Assign instructions edit wizard page.

Fields

assignContainer

private org.eclipse.swt.widgets.Composite assignContainer

assignList

private org.eclipse.swt.widgets.List assignList

controller

private AnalyzerWizardController controller

copyButtonContainer

private org.eclipse.swt.widgets.Composite copyButtonContainer

copyContainer

private org.eclipse.swt.widgets.Composite copyContainer

copyElemList

private org.eclipse.swt.widgets.List copyElemList

copyFromCombo

private org.eclipse.swt.widgets.Combo copyFromCombo

copyFromComboContainer

private org.eclipse.swt.widgets.Composite copyFromComboContainer

copyFromContainer

private org.eclipse.swt.widgets.Composite copyFromContainer

copyFromLabel

private org.eclipse.swt.widgets.Label copyFromLabel

copyFromList

private org.eclipse.swt.widgets.Tree copyFromList

copyListContainer

private org.eclipse.swt.widgets.Composite copyListContainer

copyToCombo

private org.eclipse.swt.widgets.Combo copyToCombo

copyToComboContainer

private org.eclipse.swt.widgets.Composite copyToComboContainer

copyToContainer

copyToLabel

private org.eclipse.swt.widgets.Label copyToLabel

copyToList

private org.eclipse.swt.widgets.Tree copyToList

delButton

private org.eclipse.swt.widgets.Button delButton

dev

private org.eclipse.swt.widgets.Display dev

generatedMarker

private org.eclipse.swt.widgets.List generatedMarker

isExpandEvent

private java.lang.Boolean isExpandEvent

mainContainer

private org.eclipse.swt.widgets.Composite mainContainer

model

private AnalyzerWizardModel model

moveDownButton

private org.eclipse.swt.widgets.Button moveDownButton

moveUpButton

private org.eclipse.swt.widgets.Button moveUpButton

newButton

private org.eclipse.swt.widgets.Button newButton

Constructors

AssignPage

Constructor setting references to model and controller of the wizard.

Parameters:

pageName - name of wizard page. newController - wizard controller. newModel - wizard model.

Methods

addDataToCombo

createControl

public void createControl(org.eclipse.swt.widgets.Composite parent)

unexpandTree

private void unexpandTree(org.eclipse.swt.widgets.Tree treeElem)

Expands tree element.

Parameters:

treeElem - tree to expand.

Class AssignPage.AssignSelectionListener

All Implemented Interfaces:

org.eclipse.swt.events.SelectionListener

```
< Constructors > < Methods >
```

private class **AssignPage.AssignSelectionListener** extends java.lang.Object implements org.eclipse.swt.events.SelectionListener

Instance of selection listener class that listening for select on Assign blocks list element.

Constructors

AssignPage.AssignSelectionListener

private AssignPage.AssignSelectionListener()

Methods

widgetDefaultSelected

public void widgetDefaultSelected(org.eclipse.swt.events.SelectionEvent arg0)

widgetSelected

Class AssignPage.CopySelectionListener

All Implemented Interfaces:

org.eclipse.swt.events.SelectionListener

```
< Constructors > < Methods >
```

private class **AssignPage.CopySelectionListener** extends java.lang.Object implements org.eclipse.swt.events.SelectionListener

Instance of selection listener that listening for select on Copy elements list.

Constructors

AssignPage.CopySelectionListener

private AssignPage.CopySelectionListener()

Methods

createVarTree

private void createVarTree(org.eclipse.swt.widgets.Tree parent)

Creates tree element for variable of complex type.

Parameters:

parent - parent tree element.

getItemWithName

Find element with given name in tree.

Parameters:

parent - parent tree element to searching. name - name of element to find in tree.

Returns:

item with given name.

widgetDefaultSelected

public void widgetDefaultSelected(org.eclipse.swt.events.SelectionEvent arg0)

widgetSelected

public void widgetSelected(org.eclipse.swt.events.SelectionEvent arg0)

pl.eiti.bpelcg.ui

Class AssignPage.DeleteCopySelectionListener

All Implemented Interfaces:

org.eclipse.swt.events.SelectionListener

```
< Constructors > < Methods >
```

private class **AssignPage.DeleteCopySelectionListener** extends java.lang.Object implements org.eclipse.swt.events.SelectionListener

Delete copy instruction command listener.

Constructors

AssignPage.DeleteCopySelectionListener

private AssignPage.DeleteCopySelectionListener()

Methods

widgetDefaultSelected

public void widgetDefaultSelected(org.eclipse.swt.events.SelectionEvent arg0)

widgetSelected

public void widgetSelected(org.eclipse.swt.events.SelectionEvent arg0)

pl.eiti.bpelcg.ui

Class AssignPage.FromElementSelectionListener

All Implemented Interfaces:

org.eclipse.swt.events.SelectionListener

< Constructors > < Methods >

private class **AssignPage.FromElementSelectionListener** extends java.lang.Object implements org.eclipse.swt.events.SelectionListener

Instance of selection listener that listening for select on copy from element.

Constructors

AssignPage.FromElementSelectionListener

private AssignPage.FromElementSelectionListener()

Methods

widgetDefaultSelected

public void widgetDefaultSelected(org.eclipse.swt.events.SelectionEvent arg0)

widgetSelected

public void widgetSelected(org.eclipse.swt.events.SelectionEvent arg0)

pl.eiti.bpelcg.ui

Class AssignPage.FromTypeSelectionListener

All Implemented Interfaces:

org.eclipse.swt.events.SelectionListener

```
< Constructors > < Methods >
```

private class **AssignPage.FromTypeSelectionListener** extends java.lang.Object implements org.eclipse.swt.events.SelectionListener

Instance of selection listener that listening for select on copy from type combo.

Constructors

AssignPage.FromTypeSelectionListener

private AssignPage.FromTypeSelectionListener()

Methods

widgetDefaultSelected

public void widgetDefaultSelected(org.eclipse.swt.events.SelectionEvent arg0)

widgetSelected

public void widgetSelected(org.eclipse.swt.events.SelectionEvent arg0)

pl.eiti.bpelcg.ui

Class AssignPage.MoveDownSelectionListener

All Implemented Interfaces:

org.eclipse.swt.events.SelectionListener

```
< Constructors > < Methods >
```

private class **AssignPage.MoveDownSelectionListener** extends java.lang.Object implements org.eclipse.swt.events.SelectionListener

Move down command listener.

Constructors

AssignPage.MoveDownSelectionListener

private AssignPage.MoveDownSelectionListener()

Methods

widgetDefaultSelected

widgetSelected

public void widgetSelected(org.eclipse.swt.events.SelectionEvent arg0)

pl.eiti.bpelcg.ui

Class AssignPage.MoveUpSelectionListener

All Implemented Interfaces:

org.eclipse.swt.events.SelectionListener

```
< Constructors > < Methods >
```

private class **AssignPage.MoveUpSelectionListener** extends java.lang.Object implements org.eclipse.swt.events.SelectionListener

Move up command listener.

Constructors

AssignPage.MoveUpSelectionListener

private AssignPage.MoveUpSelectionListener()

Methods

widgetDefaultSelected

public void widgetDefaultSelected(org.eclipse.swt.events.SelectionEvent arg0)

widgetSelected

Class AssignPage.NewCopySelectionListener

All Implemented Interfaces:

org.eclipse.swt.events.SelectionListener

```
< Constructors > < Methods >
```

private class **AssignPage.NewCopySelectionListener** extends java.lang.Object implements org.eclipse.swt.events.SelectionListener

Add copy instruction command listener.

Constructors

AssignPage.NewCopySelectionListener

private AssignPage.NewCopySelectionListener()

Methods

widgetDefaultSelected

public void widgetDefaultSelected(org.eclipse.swt.events.SelectionEvent arg0)

widgetSelected

Class AssignPage.ToElementSelectionListener

All Implemented Interfaces:

org.eclipse.swt.events.SelectionListener

< Constructors > < Methods >

private class **AssignPage.ToElementSelectionListener** extends java.lang.Object implements org.eclipse.swt.events.SelectionListener

Instance of selection listener that listening for select on copy to element.

Constructors

AssignPage.ToElementSelectionListener

private AssignPage.ToElementSelectionListener()

Methods

widgetDefaultSelected

public void widgetDefaultSelected(org.eclipse.swt.events.SelectionEvent arg0)

widgetSelected

Class AssignPage.ToTypeSelectionListener

All Implemented Interfaces:

org.eclipse.swt.events.SelectionListener

```
< Constructors > < Methods >
```

private class **AssignPage.ToTypeSelectionListener** extends java.lang.Object implements org.eclipse.swt.events.SelectionListener

Instance of selection listener that listening for select on copy to type combo.

Constructors

AssignPage.ToTypeSelectionListener

private AssignPage.ToTypeSelectionListener()

Methods

widgetDefaultSelected

public void widgetDefaultSelected(org.eclipse.swt.events.SelectionEvent arg0)

widgetSelected

Class InfoPage

All Implemented Interfaces:

org.eclipse.jface.dialogs.IDialogPage, org.eclipse.jface.dialogs.IMessageProvider, org.eclipse.jface.wizard.IWizardPage

```
< Fields > < Constructors > < Methods >
```

public class **InfoPage** extends org.eclipse.jface.wizard.WizardPage

Fields

container

private org.eclipse.swt.widgets.Composite container

controller

private <u>AnalyzerWizardController</u> controller

model

private AnalyzerWizardModel model

Constructors

InfoPage

Methods

canFlipToNextPage

public boolean canFlipToNextPage()

Overrides:

canFlipToNextPage in class org.eclipse.jface.wizard.WizardPage

createControl

public void createControl(org.eclipse.swt.widgets.Composite parent)

getNextPage

public org.eclipse.jface.wizard.IWizardPage getNextPage()

Overrides:

getNextPage in class org.eclipse.jface.wizard.WizardPage

Package pl.eiti.bpelcg.ui.controller

Class Summary

AnalyzerWizardController

Controller of plugin wizard.

pl.eiti.bpelcg.ui.controller

Class AnalyzerWizardController

```
< Fields > < Constructors > < Methods >
```

public class **AnalyzerWizardController** extends java.lang.Object

Controller of plugin wizard.

Fields

analysisResult

private <u>IAnalysisResult</u> analysisResult

analyzer

private <u>IAnalyzer</u> analyzer

model

private AnalyzerWizardModel model

pathToBPEL

private java.lang.String pathToBPEL

updater

Constructors

AnalyzerWizardController

public AnalyzerWizardController()

Default wizard controller constructor.

AnalyzerWizardController

Custom wizard controller constructor.

Parameters:

pathToFile - path to BPEL file. newModel - wizard model reference.

Methods

addNewCopy

public void addNewCopy()

Adds new copy element.

createFromVarPart

public org.eclipse.bpel.model.From createFromVarPart(java.util.List elements)

Creates from element.

Parameters:

elements - concatenated message information.

Returns:

BPEL from element.

createToVarPart

public org.eclipse.bpel.model.To createToVarPart(java.util.List elements)

Creates to element.

Parameters:

elements - concatenated message information.

Returns:

BPEL to element.

deleteCopy

public void deleteCopy(int selectionIndex)

Deletes selected copy element.

Parameters:

selectionIndex - index of element to delete.

executeAnalyze

public void executeAnalyze()

Executes BPEL process analyze.

executeUpdate

public void executeUpdate()

Executes BPEL process update.

generateMarkers

public void generateMarkers(int index)

Generates new copy elements marker list.

Parameters:

index - assign element index.

getAssignBlockList

public java.util.List getAssignBlockList()

Gets all assign instruction from the process.

Returns:

list of assigns.

moveDownCopy

public void moveDownCopy(int copySelectionIndex)

Moves down copy elements.

Parameters:

copySelectionIndex - copy instruction to move down index.

moveUpCopy

public void moveUpCopy(int copySelectionIndex)

Moves up copy elements.

Parameters:

copySelectionIndex - copy instruction to move up index.

resolveMessageType

public java.util.Map resolveMessageType(org.eclipse.wst.wsdl.Message complexType)

Delegates resolve of the complex type message.

Parameters:

complexType - complex type message.

Returns:

resolved message information (structured form using map).

saveProcess

```
public void saveProcess()
```

Delegates BPEL process save command.

Package pl.eiti.bpelcg.ui.model

Class Summary

<u>AnalyzerWizardModel</u>

pl.eiti.bpelcg.ui.model

Class AnalyzerWizardModel

```
< <u>Fields</u> > < <u>Constructors</u> > < <u>Methods</u> >
```

public class **AnalyzerWizardModel** extends java.lang.Object

Fields

assignList

private java.util.List assignList

copyList

private java.util.List copyList

currentlyProcessingAssign

private org.eclipse.bpel.model.Assign currentlyProcessingAssign

currentlyProcessingCopy

private org.eclipse.bpel.model.Copy currentlyProcessingCopy

fromComboList

private java.util.List fromComboList

markers

private java.util.List markers

processVariables

private java.util.List processVariables

toComboList

private java.util.List toComboList

Constructors

AnalyzerWizardModel

public AnalyzerWizardModel()

Methods

asText

private java.lang.String asText(org.eclipse.emf.ecore.EObject elem)

getAssignList

public java.util.List getAssignList()

getAssignNameList

public java.util.List getAssignNameList()

getCopyList

public java.util.List getCopyList()

getCopyListNames

public java.util.List getCopyListNames(int index)

getCurrentlyProcessingAssign

public org.eclipse.bpel.model.Assign getCurrentlyProcessingAssign()

getCurrentlyProcessingCopy

public org.eclipse.bpel.model.Copy getCurrentlyProcessingCopy()

getElementNameFrom

public java.lang.String getElementNameFrom()

getElementNameTo

public java.lang.String getElementNameTo()

getFromComboList

public java.util.List getFromComboList()

getFromPartName

public java.lang.String getFromPartName()

getFromTypeCopyIndex

public java.lang.Integer getFromTypeCopyIndex(java.lang.Integer copySelectionIndex)

getFromVarIndex

public java.lang.Integer getFromVarIndex()

getMarkers

public java.util.List getMarkers()

getProcessVariables

public java.util.List getProcessVariables()

getToComboList

public java.util.List getToComboList()

getToPartName

public java.lang.String getToPartName()

getToTypeCopyIndex

public java.lang.Integer getToTypeCopyIndex(java.lang.Integer copySelectionIndex)

getToVarIndex

public java.lang.Integer getToVarIndex()

setAssignList

public void setAssignList(java.util.List assigns)

setCopyList

public void setCopyList(java.util.List copyList)

setCurrentlyProcessingAssign

public void setCurrentlyProcessingAssign(org.eclipse.bpel.model.Assign currentlyProcessingAssign)

setCurrentlyProcessingCopy

public void setCurrentlyProcessingCopy(int index)

setCurrentlyProcessingCopy

public void setCurrentlyProcessingCopy(org.eclipse.bpel.model.Copy
currentlyProcessingCopy)

setFromComboList

public void setFromComboList(java.util.List fromComboList)

setMarkers

public void setMarkers(java.util.List markers)

setProcessVariables

public void setProcessVariables(java.util.List processVariables)

setToComboList

public void setToComboList(java.util.List toComboList)

Package pl.eiti.bpelcg.updater

Interface Summary

IUpdater

Behavior of updater BPEL process elements using elements from analysis result.

pl.eiti.bpelcg.updater

Interface IUpdater

< Methods >

public interface IUpdater

Behavior of updater BPEL process elements using elements from analysis result.

Methods

createNewFrom

public org.eclipse.bpel.model.From createNewFrom()

Creates a new From element - source of value copying in copy instruction from assign BPEL element.

Returns:

instance of From element.

createNewQuery

public org.eclipse.bpel.model.Query createNewQuery()

Creates a query used to retrieve value of field of complex type variable in BPEL copy instruction.

Returns:

instance of Query element.

createNewTo

```
public org.eclipse.bpel.model.To createNewTo()
```

Creates a new To element - destination of value copying in copy instruction from assign BPEL element.

Returns:

instance of To element.

update

Updates BPEL process using analysis result elements.

Parameters:

BPELprocess - BPEL process in memory. analysis - result of process analyze.

Package pl.eiti.bpelcg.updater.impl

Class Summary

Updater

Generator updates all assign activities of given process from analysis result map - if copy elements generated exists for given assign activity.

pl.eiti.bpelcg.updater.impl

Class Updater

All Implemented Interfaces:

IUpdater

```
< Constructors > < Methods >
```

public class **Updater** extends java.lang.Object implements IUpdater

Generator updates all assign activities of given process from analysis result map - if copy elements generated exists for given assign activity.

Constructors

Updater

```
public Updater()
```

Methods

addCopyElement

Adds all copy elements to copy EList of processed assign activities.

Parameters:

```
assignActivity - actual processed activity copyElements - list of copy elements as result of process analysis
```

areQueriesEqual

Simple check equality of BPEL queries given as parameters.

Parameters:

existingQuery - query in existing copy element generatedQuery - query in generated copy element

Returns:

boolean information if queries are equal

createNewFrom

```
public org.eclipse.bpel.model.From createNewFrom()
```

createNewQuery

```
public org.eclipse.bpel.model.Query createNewQuery()
```

createNewTo

```
public org.eclipse.bpel.model.To createNewTo()
```

exists

Check generated copy element given as parameter existing in assign element given as parameter.

Parameters:

existingAssign - currently checking existing assign element generatedCopy - currently checking generated copy element to selected assign element

Returns:

boolean information if exists

update

Package pl.eiti.bpelcg.util

Class Summary

ActivityUtil

Helper element used in BPELcg plugin project.

Messages

Plugin messages.

Settings

Plugin settings.

StringElemUtil

String utility makes checks and operations on paths strings.

pl.eiti.bpelcg.util

Class ActivityUtil

```
< Fields > < Constructors > < Methods >
```

public class **ActivityUtil** extends java.lang.Object

Helper element used in BPELcg plugin project.

Fields

BASIC_ACTIVITIES

private static final java.lang.Class[] BASIC_ACTIVITIES

Constructors

ActivityUtil

```
public ActivityUtil()
```

Methods

isBasicActivity

```
public static java.lang.Boolean
isBasicActivity(org.eclipse.bpel.model.Activity act)
```

Checks if the activity given as parameter is basic (an opposite is structured activity).

Parameters:

act - activity to check.

Returns:

bool information if it is basic activity.

isFlowActivity

public static java.lang.Boolean isFlowActivity(org.eclipse.bpel.model.Activity
act)

Checks if activity given as parameter is Flow instruction.

Parameters:

act - activity to check.

Returns:

bool information if activity is Flow instance.

isVarChangeActivity

```
public static java.lang.Boolean
isVarChangeActivity(org.eclipse.bpel.model.Activity act)
```

Checks if the activity given as parameter can change value of any variable in the process.

Parameters:

act - activity.

Returns:

bool information if activity can change variable value.

pl.eiti.bpelcg.util

Class Messages

public class **Messages** extends java.lang.Object

Plugin messages.

Fields

ASSIGN BUTTON DELETE

public static final java.lang.String ASSIGN_BUTTON_DELETE

ASSIGN_BUTTON_MOVEDOWN

public static final java.lang.String ASSIGN_BUTTON_MOVEDOWN

ASSIGN_BUTTON_MOVEUP

public static final java.lang.String ASSIGN_BUTTON_MOVEUP

ASSIGN_BUTTON_NEW

public static final java.lang.String ASSIGN_BUTTON_NEW

ASSIGN_CATEGORY_ENDPOINTREF

public static final java.lang.String ASSIGN_CATEGORY_ENDPOINTREF

ASSIGN_CATEGORY_EXPRESSION

public static final java.lang.String ASSIGN_CATEGORY_EXPRESSION

ASSIGN CATEGORY LITERAL

public static final java.lang.String ASSIGN_CATEGORY_LITERAL

ASSIGN_CATEGORY_OPAQUE

public static final java.lang.String ASSIGN_CATEGORY_OPAQUE

ASSIGN_CATEGORY_PARTNERROLE

public static final java.lang.String ASSIGN_CATEGORY_PARTNERROLE

ASSIGN_CATEGORY_VARPART

public static final java.lang.String ASSIGN_CATEGORY_VARPART

ASSIGN_CATEGORY_VARPROPERTY

public static final java.lang.String ASSIGN_CATEGORY_VARPROPERTY

ASSIGN LABEL ASSIGNBLOCKS

public static final java.lang.String ASSIGN_LABEL_ASSIGNBLOCKS

ASSIGN LABEL COPYELEMENTS

public static final java.lang.String ASSIGN_LABEL_COPYELEMENTS

ASSIGN LABEL FROM

public static final java.lang.String ASSIGN_LABEL_FROM

ASSIGN_LABEL_TO

public static final java.lang.String ASSIGN LABEL TO

COPY EXPRESSION LABEL

public static final java.lang.String COPY_EXPRESSION_LABEL

DIALOG NO BPEL FILE

public static final java.lang.String DIALOG_NO_BPEL_FILE

DIALOG_TITLE_BAR

WIZARD_ASSIGN_PAGE_NAME

public static final java.lang.String WIZARD_ASSIGN_PAGE_NAME

WIZARD ASSIGN PAGE TITLE

public static final java.lang.String WIZARD_ASSIGN_PAGE_TITLE

WIZARD_INFO_PAGE_NAME

public static final java.lang.String WIZARD_INFO_PAGE_NAME

WIZARD_INFO_PAGE_TITLE

public static final java.lang.String WIZARD_INFO_PAGE_TITLE

Constructors

Messages

public Messages()

pl.eiti.bpelcg.util

Class Settings

Direct Known Subclasses:

Analyzer, DefaultMatcher, WSDLResolver

< Fields > < Constructors >

public class **Settings** extends java.lang.Object

Plugin settings.

Fields

BPEL_EXTENSION

public static java.lang.String BPEL_EXTENSION

ELEM_NAME_INDEX

public static java.lang.Integer ELEM_NAME_INDEX

ELEM_TYPE_INDEX

public static java.lang.Integer ELEM_TYPE_INDEX

ELE_IMG_PATH

public static java.lang.String ELE_IMG_PATH

MES_IMG_PATH

public static java.lang.String MES_IMG_PATH

M_DELIMITER

public static java.lang.String M_DELIMITER

M LIMITER

public static java.lang.String M_LIMITER

PART_NAME_INDEX

public static java.lang.Integer PART_NAME_INDEX

PROJECT_ID

public static java.lang.String PROJECT_ID

QUERY_BEGIN

public static java.lang.String QUERY_BEGIN

QUERY_END

public static java.lang.String QUERY_END

QUERY_LANGUAGE

public static java.lang.String QUERY_LANGUAGE

VARIABLE_ICON

public static java.lang.String VARIABLE_ICON

VARIABLE_ICON2

public static java.lang.String VARIABLE_ICON2

VAR_IMG_PATH

public static java.lang.String VAR_IMG_PATH

Constructors

Settings

public Settings()

pl.eiti.bpelcg.util

Class StringElemUtil

< Constructors > < Methods >

public class **StringElemUtil** extends java.lang.Object

String utility makes checks and operations on paths strings.

Constructors

StringElemUtil

public StringElemUtil()

Methods

getPath

```
public static java.lang.String getPath(java.lang.String filePath)
```

Gets from path given as parameter path part without file name.

Parameters:

filePath - path to cut off file name from.

Returns:

path to folder.

isRelative

```
public static java.lang.Boolean isRelative(java.lang.String path)
```

Checks if path given as parameter is realative.

Parameters:

path - path to check.

Returns:

bool information if relative.

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