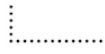




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FLOW3 Development Environment for Eclipse



DEV3 User Guide MAS-06-01.01

Abstract

Design and develop an Eclipse-based development environment for FLOW3 (an open-source PHP application framework).

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Chapter 1. New Package Wizard

The “New Package Wizard” is started by selected File > New > Other > DEV3 > FLOW3 Package.

1.1. General Page

The first page of the “New Package Wizard” collects general information about the package.

- Project: You can choose to use an existing project for this package (e.g. a PHP-project created by PDT) or to create a new (generic) project by DEV3.
- Folder: If you want to use an existing project, the path to this folder must be entered here or can be selected by clicking the “Browse...” button. Mandatory.
- Key: The unique key of the package. Mandatory. Should start with an uppercase Letter and may only consist of numbers and letters, according to the FLOW3 Coding Guidelines.
- Title: A one-line title of the package. Optional.
- Description: Free text description of the package. Optional.
- Version: Version number of the package. Should be in the format “x.x.x”. Optional.
- State: State of the package (Development, Alpha, Beta, Release Candidate, Final, Obsolete). Mandatory.
- Categories: An unlimited list of categories this package belongs to. The categories can be defined in the preference page. Optional.
- Locales: An unlimited list of categories this package is translated to. The default values can be defined in the preference page. Optional.
- Configure Defaults: Link to the property page where the categories and default locales can be changed.
- Additional Folders: A list of additional folders to be created. Optional.

New FLOW3 Package

FLOW3 Package

You must supply a key for the package.

Folder

Project: ☐ Use Existing Project ☒ Create New Project

Folder:

Package

Key:

Title:

Description:

Version:

State:

Categories:

Locales:

[Configure defaults...](#)

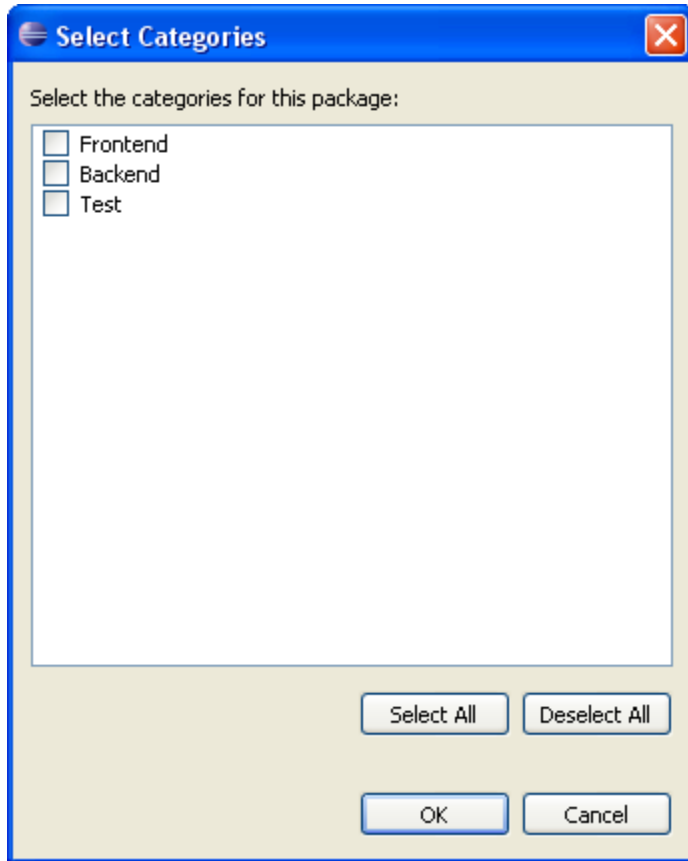
Additional Folders

Additional Folders:

“General Page” of the “New Package Wizard”

1.1.1. Select Categories

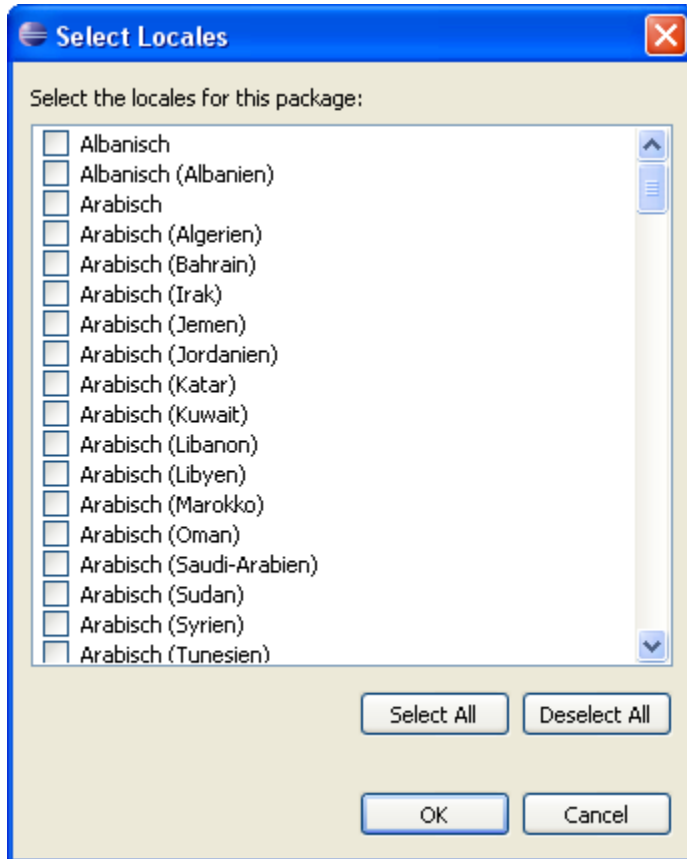
If you click on the “Select...” button for Categories, the “Select Categories” dialog is opened. This dialog shows all categories defined in the preference page. The buttons “Select All” and “Deselect All” are convenience functions for fast selection/deselection. If you click on “Cancel”, the selection is discarded. If you click on “OK”, the selected categories are transferred to the wizard.



"Select Categories" dialog "New Package Wizard"

1.1.2. Select Locales

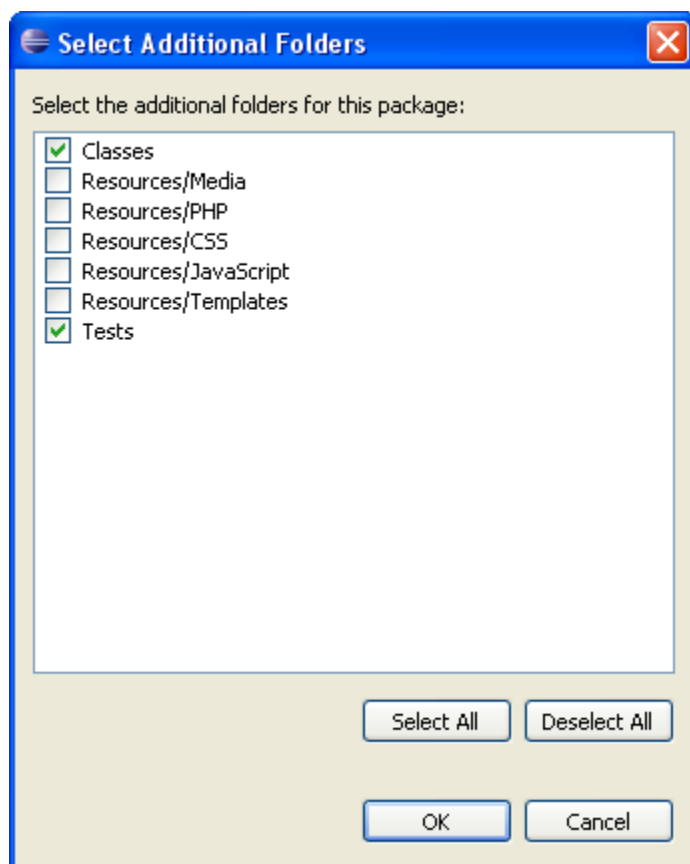
When you click on the "Select..." button for Locales, the "Select Locales" dialog is opened. This dialog shows all available locales. The preferred locales as defined in the preference page are selected. The buttons "Select All" and "Deselect All" are convenience functions for fast selection/deselection. If you click on "Cancel", the selection is discarded. If you click on "OK", the selected locales are transferred to the wizard.



“Select Locales” dialog “New Package Wizard”

1.1.3. Select Additional Folders

When you click on the “Select...” button for Additional Folders, the “Select Additional Folders” dialog is opened. This dialog shows all additional folders which can be created upon the creation of the package. By default, the folders “Classes” and “Tests” are selected. The buttons “Select All” and “Deselect All” are convenience functions for fast selection/deselection. If you click on “Cancel”, the selection is discarded. If you click “OK”, the selected additional folders are transferred to the wizard.



"Select Locales" dialog "New Package Wizard"

1.2. Involved Parties Page

The second page of the "New Package Wizard" allows you to specify the parties which are involved in the development of this package.

- Name: Full name of the lead developer of this package. Optional.
- E-Mail: E-Mail address of the lead developer of this package. If entered, the e-mail address is checked for proper format. Optional.
- Website: URL of the lead developer's website. Optional.
- Organisation: Organisation which the lead developer belongs to. Optional.
- Repository Username: Username of the lead developer for the FLOW3 repository (forge.typo3.org). Optional.
- Additional Parties: Table displaying the additional parties involved in the development of this package. Optional.

New FLOW3 Package

Involved Parties

Edit the parties involved in the creation and maintenance of this package.

Lead Developer

Name: David Brühlmeier

E-Mail: typo3@bruehlmeier.com

Website: www.bruehlmeier.com

Organisation:

Repository Username: dbruehlmeier

[Configure defaults...](#)

Additional Parties

Role	Name	E-Mail	Website	Organisation	Repository Use...

Add... Edit... Remove...

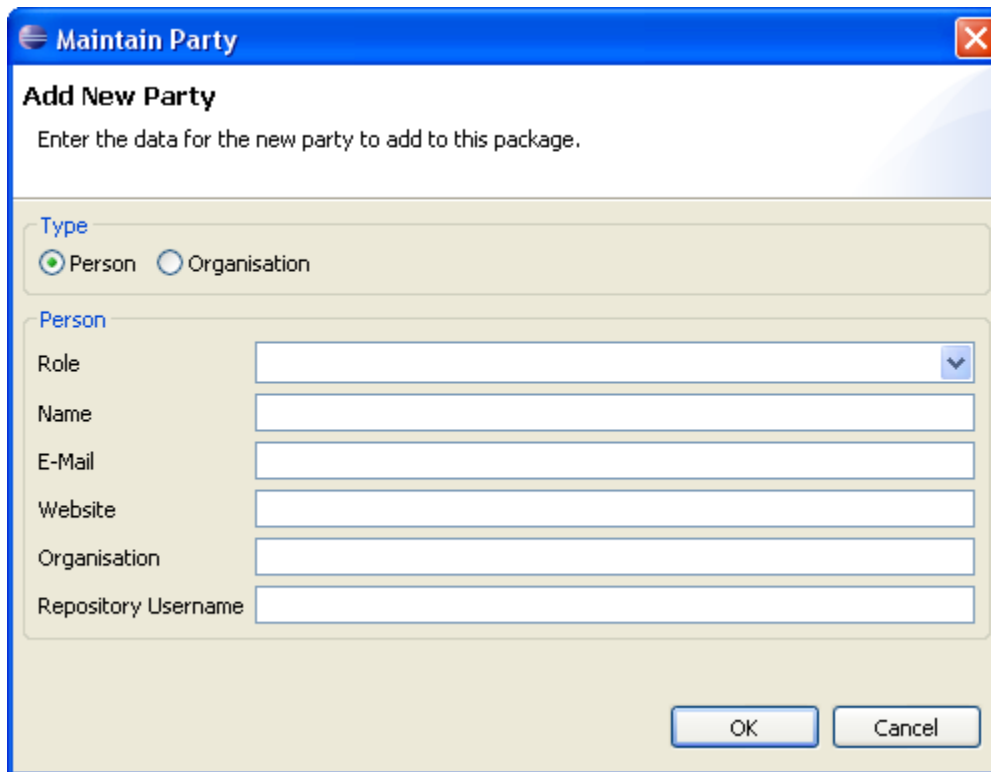
< Back Next > Finish Cancel

“Involved Parties Page” of the “New Package Wizard”

1.2.1. Add/Edit Party

When you click on the “Add...” button, the “Maintain Party” dialog is opened.

- Type: Type of the party (Person or Organisation). When you change the type to “Organisation”, the fields “Organisation” and “Repository Username” are disabled. Mandatory.
- Role: Role of the party (Co-Developer, Lead Developer, Maintainer, Sponsor) in the development of this package. Optional.
- Name: Full name of the party. Optional.
- E-Mail: E-Mail address of the party. If entered, the e-mail address is checked for proper format. Optional.
- Website: URL of the party's website. Optional.
- Organisation: Organisation which the person belongs to. Only available for persons. Optional.
- Repository Username: Username of the person for the FLOW3 repository (`forge.typo3.org`). Only available for persons. Optional.



Maintain Party

Add New Party

Enter the data for the new party to add to this package.

Type

☒ Person ☐ Organisation

Person

Role

Name

E-Mail

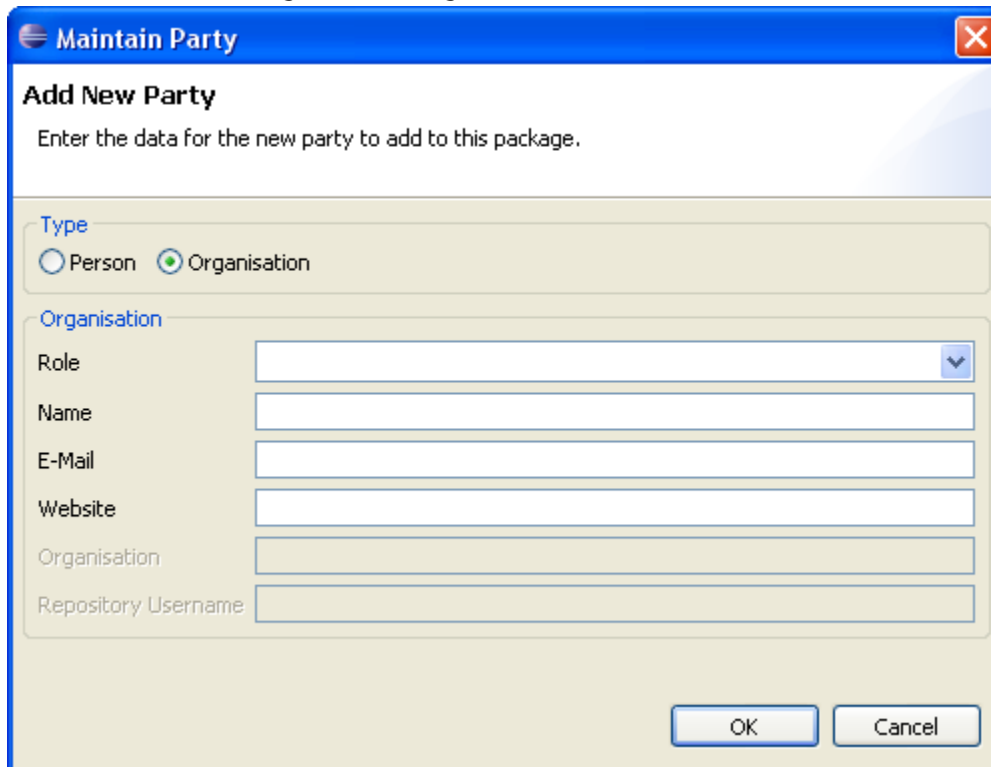
Website

Organisation

Repository Username

OK Cancel

"Maintain Person" dialog "New Package Wizard"



Maintain Party

Add New Party

Enter the data for the new party to add to this package.

Type

☐ Person ☒ Organisation

Organisation

Role

Name

E-Mail

Website

Organisation

Repository Username

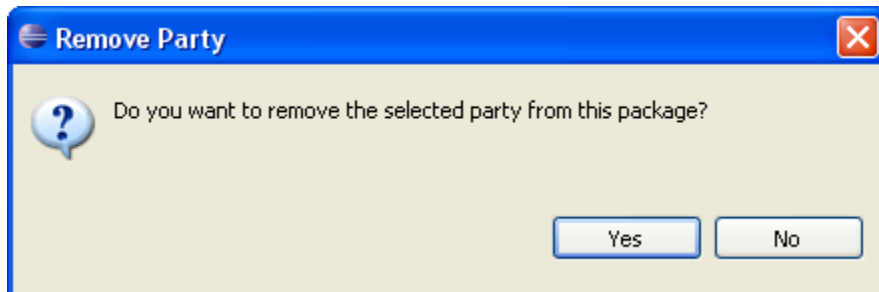
OK Cancel

"Maintain Organisation" dialog "New Package Wizard"

When you click on the “Edit...” button, the “Maintain Party” dialog is opened again, filled with the data of the selected party. If no party is selected, the “Edit...” button is disabled.

1.2.2. Remove Party

When you click on the “Remove...” button, the system asks for confirmation. If no party is selected, the “Remove...” button is disabled.



“Remove Party” dialog “New Package Wizard”

1.3. Constraints Page

The third page of the “New Package Wizard” allows you to specify constraints for this package.

- Category: Category of the constraint (Depends, Suggests or Conflicts).
- Type: For system constraints, the type is displayed (PHP, PHP Extension, Operating System, Memory, PEAR). For package constraints, the constant “Package” is displayed.
- Key: The content for this field depends on the type of the category.
 - Package constraint: The package key is displayed.
 - System constraint type PHP: Nothing is displayed.
 - System constraint type PHP Extension: The name of the PHP Extension is displayed.
 - System constraint type Operating System: The name of the Operating System is displayed.
 - System constraint type Memory: Nothing is displayed.
 - System constraint type PEAR: The name of the PEAR Extension is displayed.
- Min.: The minimum version or requirement (e.g. for memory) is displayed.
- Max.: The maximum version is displayed.

New FLOW3 Package

Constraints
Edit the constraints for this package.

Category	Type	Key	Min.	Max.
Depends	PHP		5.0.0	

Add...
Edit...
Remove...

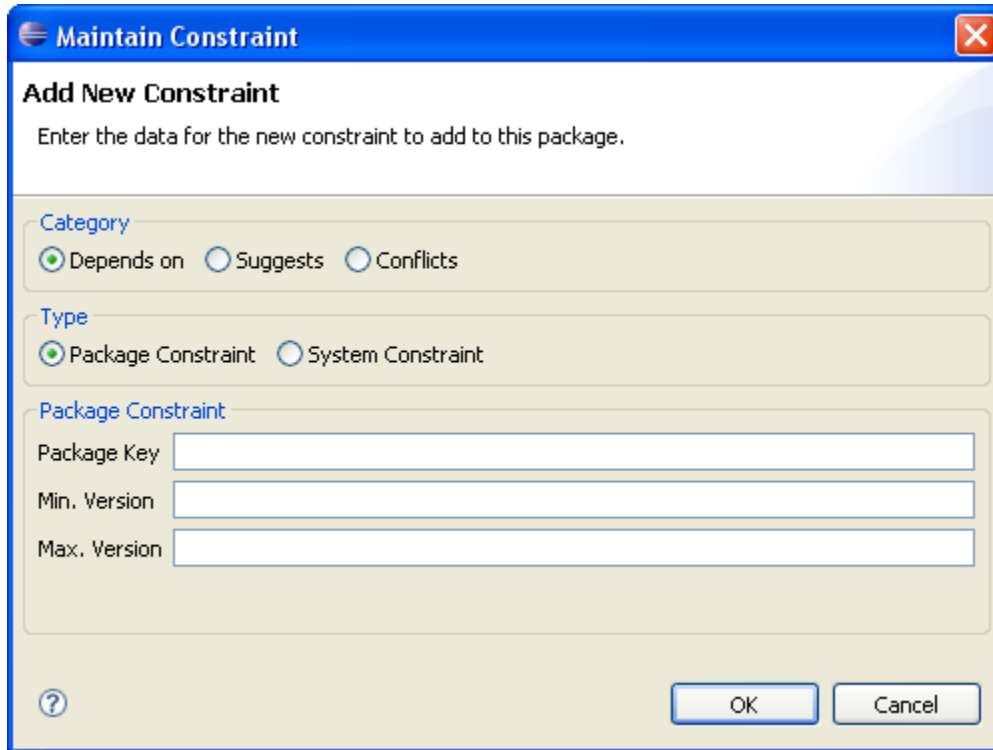
? < Back Next > Finish Cancel

"Constraints Page" of the "New Package Wizard"

1.3.1. Add/Edit Constraint

When you click on the "Add..." button, the "Maintain Constraint" dialog is opened.

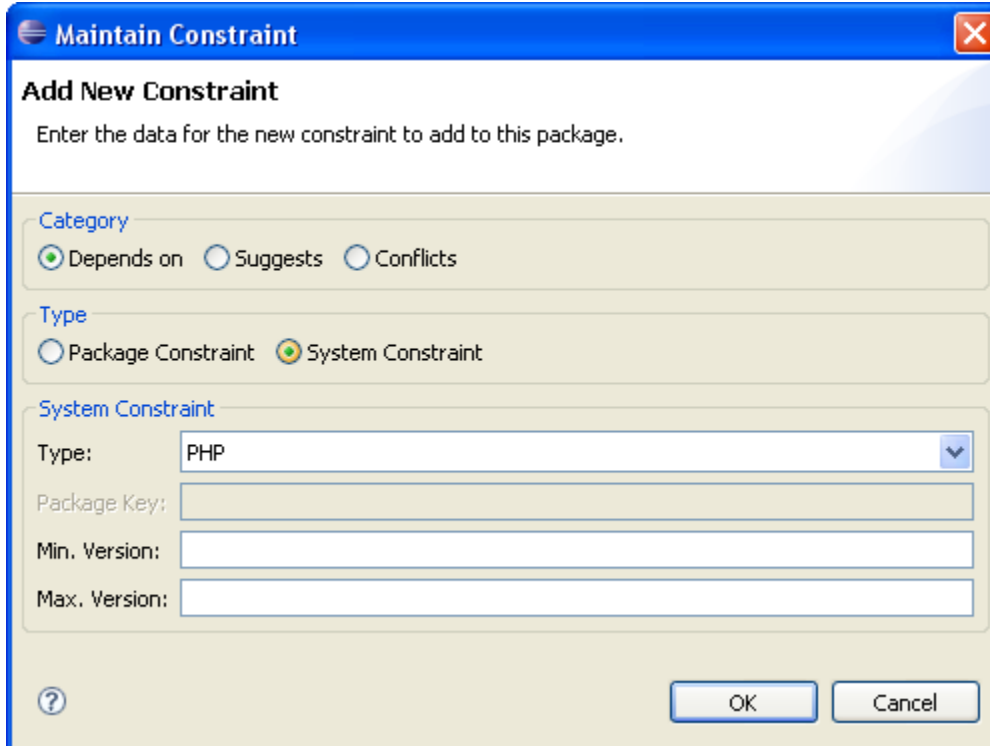
- Category: Category of the constraint (Depends on, Suggests or Conflicts). Mandatory.
- Type: Type of the constraint (Package Constraint or System Constraint). When you select "Package Constraint", the fields "Package Key", "Min. Version" and "Max. Version" are displayed. When you select "System Constraint", the fields "Type", "Package Key", "Min. Version" and "Max. Version" are displayed.
- Package Key: Key of the package for this package constraint. Mandatory for package constraints.
- Min. Version: Minimum version the package must have to fulfill the constraint. Optional.
- Max. Version: Maximum version the package must have to fulfill the constraint. Optional.



The image shows a dialog box titled "Maintain Constraint" with a close button (X) in the top right corner. The main heading is "Add New Constraint" followed by the instruction "Enter the data for the new constraint to add to this package." The dialog is divided into three sections: "Category" with radio buttons for "Depends on" (selected), "Suggests", and "Conflicts"; "Type" with radio buttons for "Package Constraint" (selected) and "System Constraint"; and "Package Constraint" which contains three text input fields labeled "Package Key", "Min. Version", and "Max. Version". At the bottom left is a help icon (question mark), and at the bottom right are "OK" and "Cancel" buttons.

"Maintain Package Constraint" dialog "New Package Wizard"

- Type: Type of the system constraint (PHP, PHP Extension, Operating System, Memory, PEAR). Mandatory.
- Key:
 - For PHP: Disabled.
 - For PHP Extension: Name of the PHP Extension.
 - For Operating System: Name of the Operating System.
 - For Memory: Disabled.
 - For PEAR: Name of the PEAR Extension.
- Min. Version: Minimum version to fulfill the constraint. For memory: Minimal amount of memory to be available. Optional.
- Max. Version: Maximum version to fulfill the constraint. Optional.



Maintain Constraint

Add New Constraint

Enter the data for the new constraint to add to this package.

Category

☒ Depends on ☐ Suggests ☐ Conflicts

Type

☐ Package Constraint ☒ System Constraint

System Constraint

Type:

Package Key:

Min. Version:

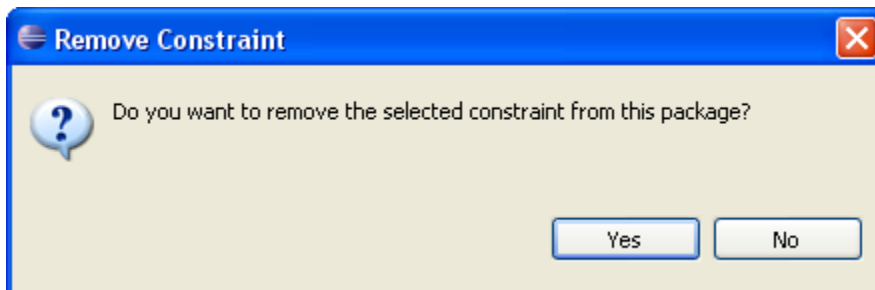
Max. Version:

Implementation of the “Maintain System Constraint” dialog “New Package Wizard”

When you click on the “Edit...” button, the “Maintain Constraint” dialog is opened again, filled with the data of the selected constraint. If no constraint is selected, the “Edit...” button is disabled.

1.3.2. Remove Constraint

When you click on the “Remove...” button, the system asks for confirmation. If no constraint is selected, the “Remove...” button is disabled.



Remove Constraint

Do you want to remove the selected constraint from this package?

“Delete Constraint” dialog “New Package Wizard”

1.4. Templates Page

The fourth and final page of the “New Package Wizard” allows you to select an unlimited amount of templates to be executed upon creation of this package.

- Name: Displays the icon and the name of the template.
- ID: Displays the ID under which the template was registered (usually a third-party extension).

The screenshot shows a window titled "New FLOW3 Package" with standard Windows window controls (minimize, maximize, close) in the top right corner. Below the title bar, the word "Templates" is displayed in bold. Underneath, a subtitle reads "Choose the templates to be used for this package." The main area of the window contains a table with two columns: "Name" and "ID". The table has one data row with a checkbox in the "Name" column, a heart icon, and the text "Sample Template 1". The "ID" column contains the text "org.typo3.forge.dev3.flow3.sampleTemplate1". At the bottom left of the window is a help icon (a question mark inside a circle). At the bottom right are four buttons: "< Back", "Next >", "Finish", and "Cancel".

Name	ID
<input type="checkbox"/> ♥ Sample Template 1	org.typo3.forge.dev3.flow3.sampleTemplate1

Implementation of the "Templates Page" of the "New Package Wizard"

Chapter 2. New Aspect Wizard

The “New Aspect Wizard” is started by selected File > New > Other > DEV3 > FLOW3 Aspect.

2.1. General Page

The first page of the “New Aspect Wizard” collects general information about the aspect.

- Name: The name of the aspect. Mandatory. Shall start with an uppercase letter and must contain only of letters and numbers, according to the FLOW3 coding guidelines.
- FLOW3 Package: The key of the package this aspect belongs to. Mandatory. Filled by the system in case a Meta/Package.xml file can be found.
- Description: Free text description of the aspect. Optional.
- Author: Name of the author of the aspect. Optional.
- Author E-Mail: E-Mail address of the aspect's author. Optional. Checked for proper format of the address.
- Configure Defaults: Link to the property page where the default author and default e-mail address can be changed.
- Pointcuts: List of pointcuts for this aspect. Optional.

New Aspect

Aspect Details

You must supply a name for the aspect.

Name:

FLOW3 Package:

Description:

Author:

Author E-Mail:

[Configure Defaults...](#)

Pointcuts

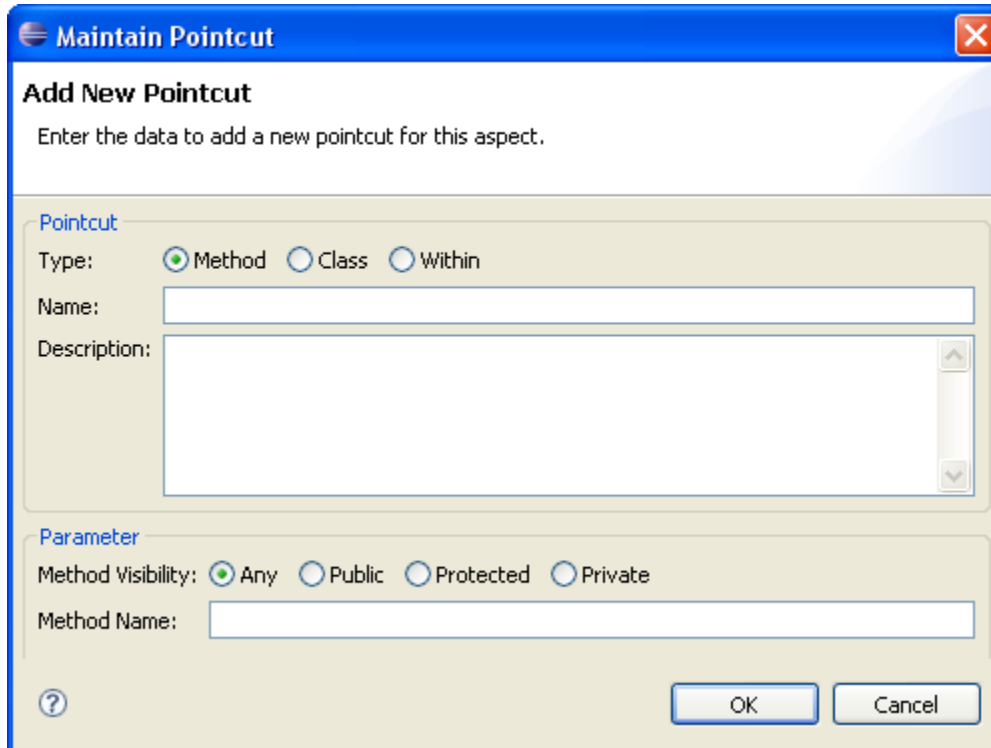
Type	Name	Expression

General Page of the "New Aspect Wizard"

2.1.1. Add/Edit Pointcut

When you click on the "Add..." button, the "Maintain Pointcut" dialog is opened.

- Type: Type of the pointcut (Method, Class or Within). Mandatory. When you change the type to "Method", the "Method Visibility" radio buttons are active, otherwise inactive.
- Name: Name of the pointcut. Optional.
- Description: Free text description of the pointcut. Optional.
- Method Visibility: Visibility of the pointcut (Any, Public, Protected, Private). Mandatory for "Method" pointcuts, not available for other pointcuts.
- Method name: Name of the method this pointcut refers to. Optional.

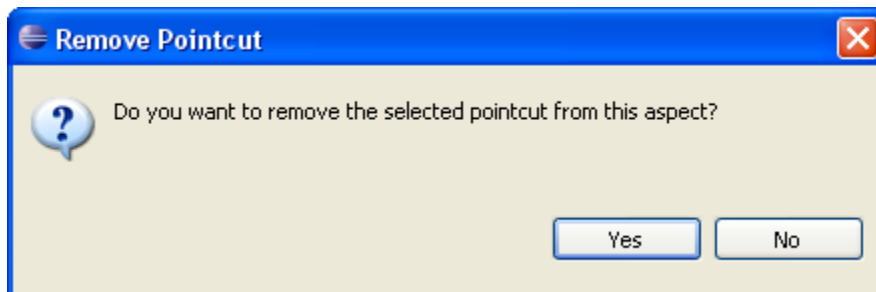
The "Maintain Pointcut" dialog box has a blue title bar with the text "Maintain Pointcut" and a close button. The main area is titled "Add New Pointcut" and contains the instruction "Enter the data to add a new pointcut for this aspect." Below this, there are two sections: "Pointcut" and "Parameter". The "Pointcut" section has a "Type:" label with three radio buttons: "Method" (selected), "Class", and "Within". Below this are "Name:" and "Description:" labels with corresponding text input fields. The "Parameter" section has a "Method Visibility:" label with four radio buttons: "Any" (selected), "Public", "Protected", and "Private". Below this is a "Method Name:" label with a text input field. At the bottom left is a help icon (question mark in a circle), and at the bottom right are "OK" and "Cancel" buttons.

"Add Pointcuts" dialog "New Aspect Wizard"

When you click on the "Edit..." button, the "Maintain Pointcut" dialog is opened again, filled with the data of the selected pointcut. If no pointcut is selected, the "Edit..." button is disabled.

2.1.2. Remove Pointcut

When you click on the "Remove..." button, the system asks for confirmation. If no pointcut is selected, the "Remove..." button is disabled.

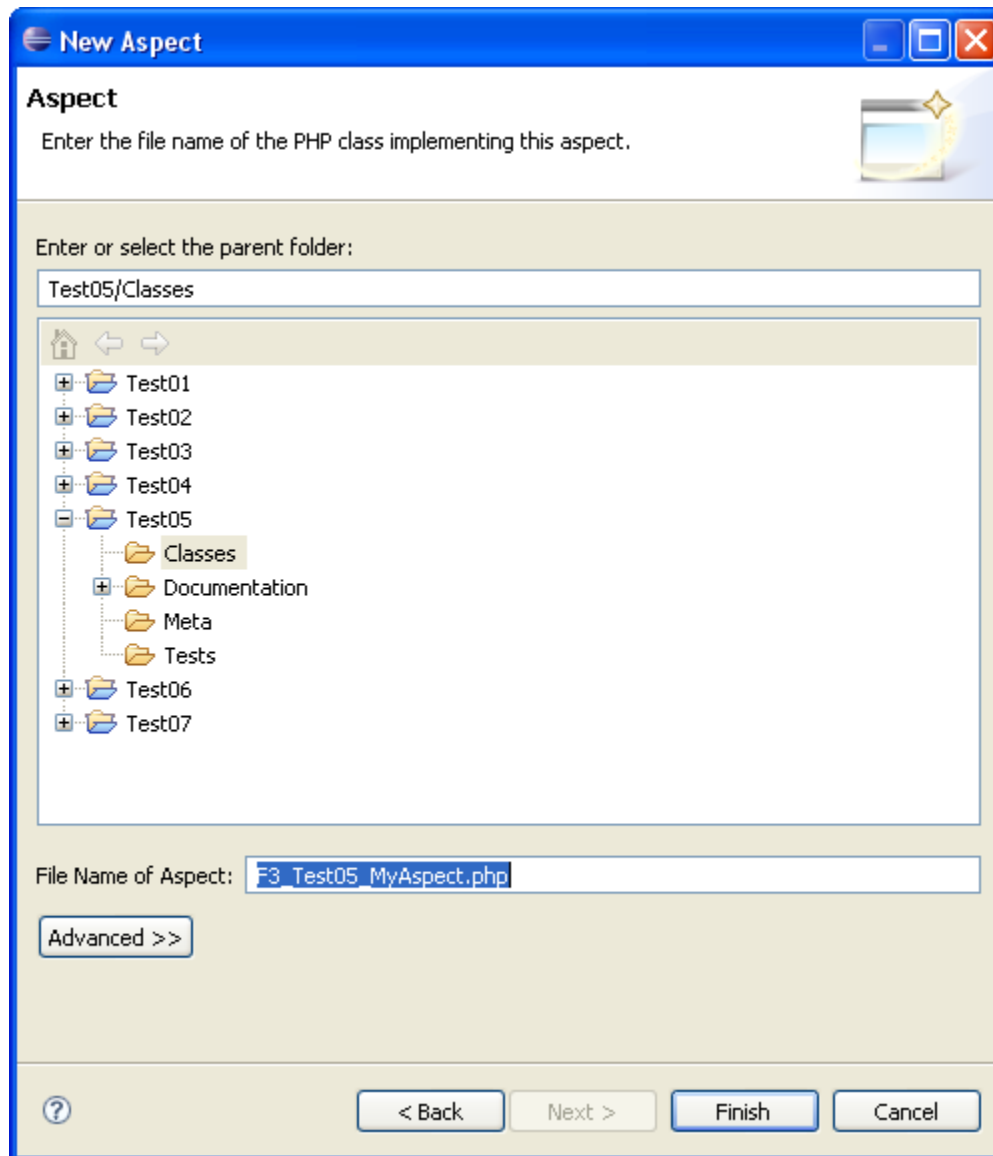
The "Remove Pointcut" dialog box has a blue title bar with the text "Remove Pointcut" and a close button. The main area has a light beige background and contains a question mark icon followed by the text "Do you want to remove the selected pointcut from this aspect?". At the bottom right are "Yes" and "No" buttons.

"Remove Pointcut" dialog "New Aspect Wizard"

2.2. File Page

The second page of the "New Aspect Wizard" is a standard "New Resource" page.

- Parent Folder: You may enter the parent folder or select it from the tree viewer below. Mandatory.
- File Name of Aspect: The file name contains a suggestion from the system, based upon the package key and the name of the aspect, prefixed with the constant "F3", as requested by the FLOW3 coding guidelines, and suffixed by the constant ".php". Mandatory.



File page of the "New Aspect Wizard"

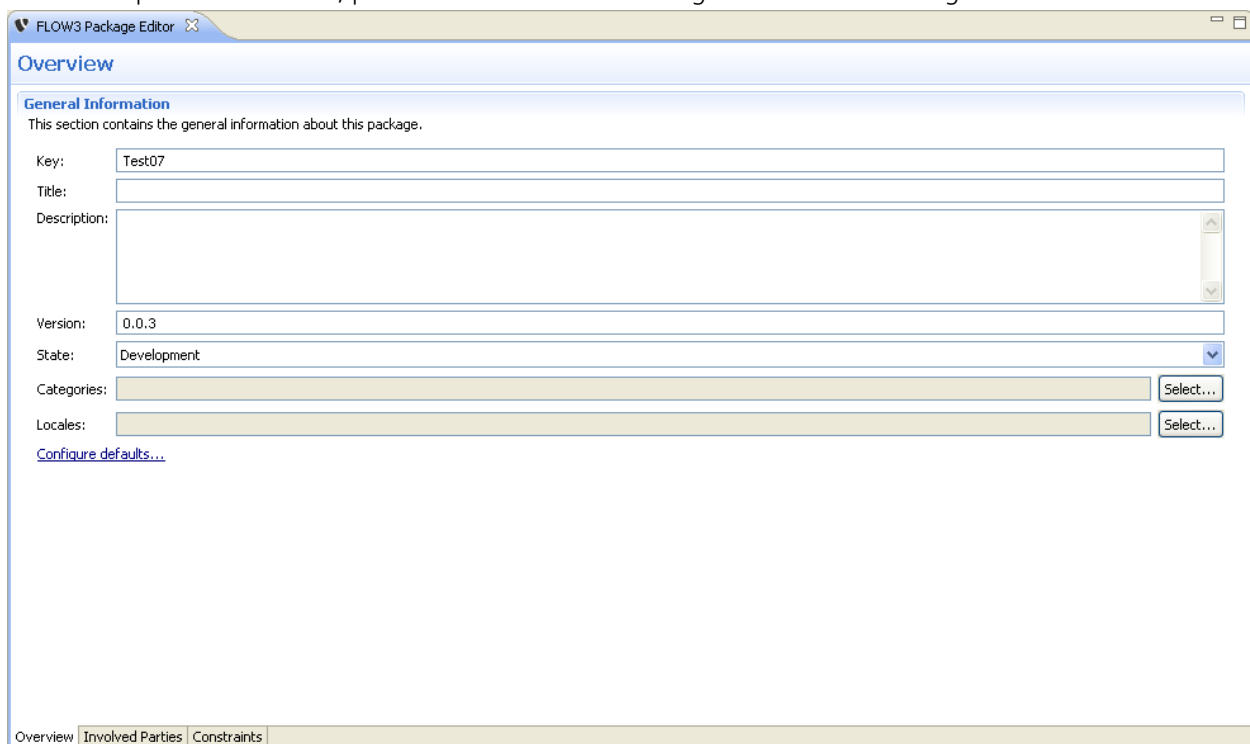
Chapter 3. FLOW3 Package Editor

The “FLOW3 Package Editor” offers a user-friendly way to edit the central FLOW3 configuration file “Plugin.xml”. It is started when double-clicking on a file called `Package.xml` or by right-clicking a file and then choosing Open with > FLOW3 Package Editor.

3.1. Overview Page

The overview page of the “FLOW3 Package Editor” displays general information about the package. The fields are the same as in the “General Page” of the “New Package Editor”, with the exception of “Project” and “Folder”. These fields make no sense for the editor, since they are determined by the existing location of the `Package.xml` file.

For a description of the fields, please refer to the New Package Wizard: General Page.



The screenshot shows the "FLOW3 Package Editor" window with the "Overview" tab selected. The "General Information" section contains the following fields:

- Key:
- Title:
- Description:
- Version:
- State:
- Categories:
- Locales:

Below the fields is a link: [Configure defaults...](#)

The bottom of the window has a tab bar with three tabs: "Overview" (selected), "Involved Parties", and "Constraints".

“Overview Page” of the “FLOW3 Package Editor”

3.2. Involved Parties Page

The “Involved Parties Page” of the “FLOW3 Package Editor” displays the parties involved in the development of the package. The fields are the same as in the “Involved Parties Page” of the “New Package Editor”.

For a description of the fields, please refer to the New Package Wizard: Involved Parties Page.

Involved Parties

Lead Developer
The lead developer is the main person in charge for this package.

Name: David Brühlmeier
E-Mail: typo3@bruehlmeier.com
Website: www.bruehlmeier.com
Organisation:
Repository Username: dbruehlmeier
[Configure defaults...](#)

Additional Parties
Enter all additional parties involved in the development or maintenance of this package.

Role	Name	E-Mail	Website	Organisation	Repository Use...	

Add...
Edit...
Remove...

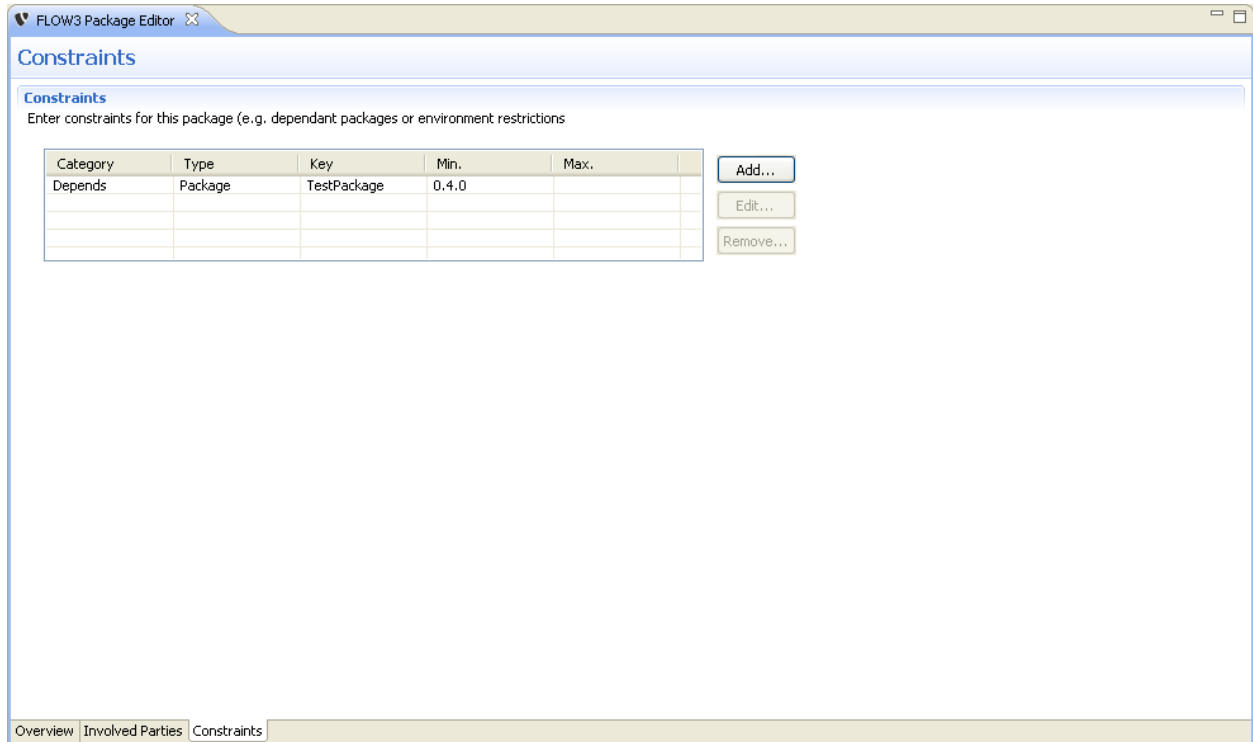
Overview Involved Parties Constraints

"Involved Parties Page" of the "FLOW3 Package Editor"

3.3. Constraints Page

The "Constraints Page" of the "FLOW3 Package Editor" displays the constraints for this package. The fields are the same as in the "Constraints Page" of the "New Package Editor".

For a description of the fields, please refer to the New Package Wizard: Constraints Page.



FLOW3 Package Editor

Constraints

Enter constraints for this package (e.g. dependant packages or environment restrictions)

Category	Type	Key	Min.	Max.
Depends	Package	TestPackage	0.4.0	

Add...
Edit...
Remove...

Overview Involved Parties Constraints

"Constraints Page" of the "FLOW3 Package Editor"

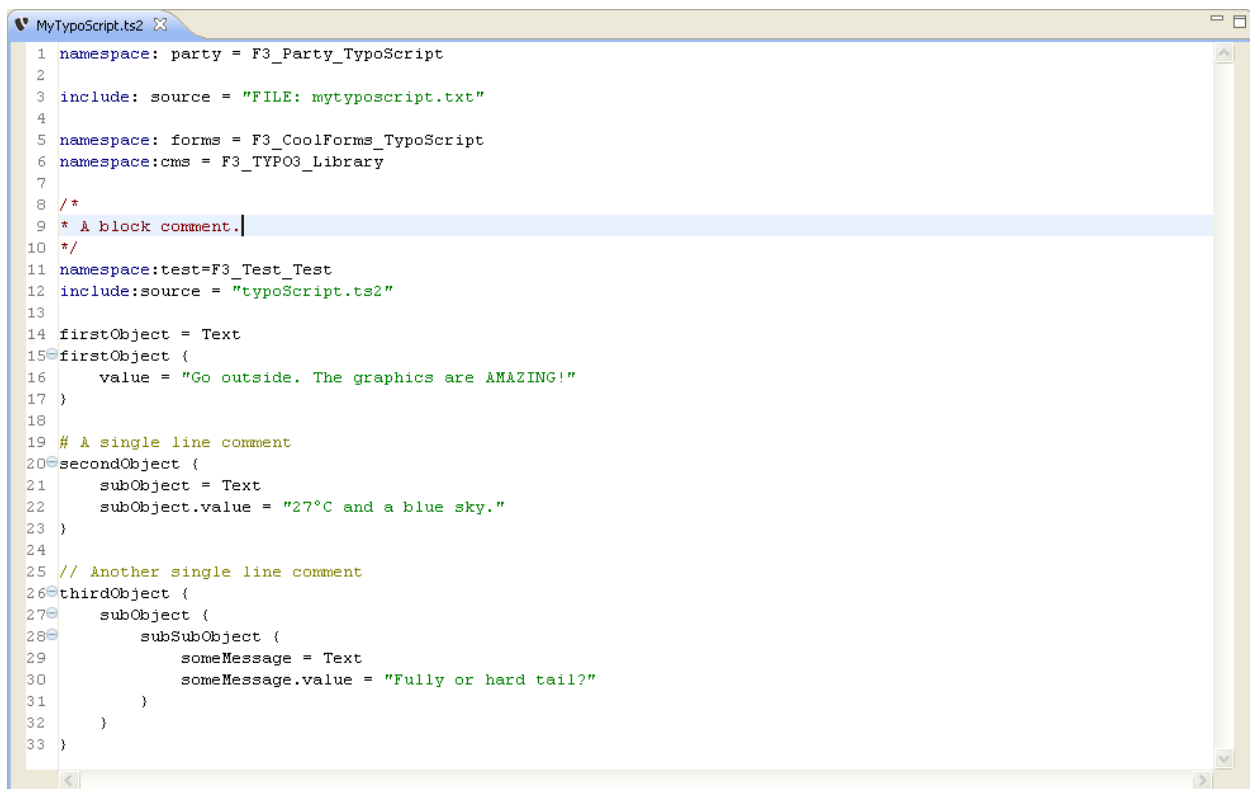
Chapter 4. TypeScript 2.0 editor

The “TypeScript 2.0 Editor” offers basic features such as syntax highlighting and folding when editing TypeScript 2.0. It also offers a prototype implementation of problem marking and code completion as well as a basic outline view. The editor started when double-clicking on a file with the extension `.ts2` or by right-clicking a file and then choosing Open with > TypeScript 2.0 Editor.

4.1. Syntax Highlighting

The editor recognizes the following TypeScript elements and highlights them in different colors:

- Block comments: Brown (RGB 128/0/0)
- Single line comments: Brown-Green (RGB 128/128/0)
- Keywords: Blue (RGB 0/0/128)
- Strings: Green (RGB 0/128/0)
- Other: Black (RGB 0/0/0)



Syntax Highlighting of the “TypeScript 2.0 Editor”

4.2. Folding

The editor can fold block comments (starting with `/*` and ending with `*/`) and confinements (starting with `{` and ending with `}`), including nested confinements.

```

25 // Another single line comment
26 *thirdObject {
33 }

```

Folding of the "TypoScript 2.0 Editor"

When hovering over a collapsed region, the invisible part is displayed as hover info.

```

25 // Another single line comment
26 *{
33 }
    subObject {
        subSubObject {
            someMessage = Text
            someMessage.value = "Fully or hard tail?"
        }
    }

```

Hovering folded regions of the "TypoScript 2.0 Editor"

4.3. Problem Marker

The TypoScript entered in the editor is parsed in the background. If an error is detected, it is displayed as a problem marker in the left margin.



Parsing currently stops at the first error detected.

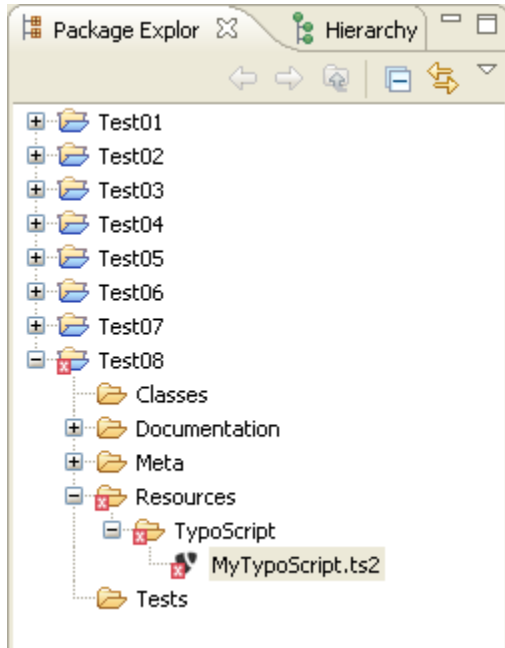
```

MyTypoScript.ts2
1 namespace: party = F3_Party_TypoScript
2
3 include: source = "FILE: mytyposcript.txt"
4
5 namespace: forms = F3_CoolForms_TypoScript
6 namespace: cms = F3_TYPO3_Library
7
8 /*
9  * A block comment.
10 */
11 namespace: test = F3_Test_Test
12 The include type must be 'source'.poScript.ts2
13

```

Problem marker of the "TypoScript 2.0 Editor"

Additionally, the TypoScript file with the parsing error is marked with a file marker and can therefore be easily recognized in the navigator view.



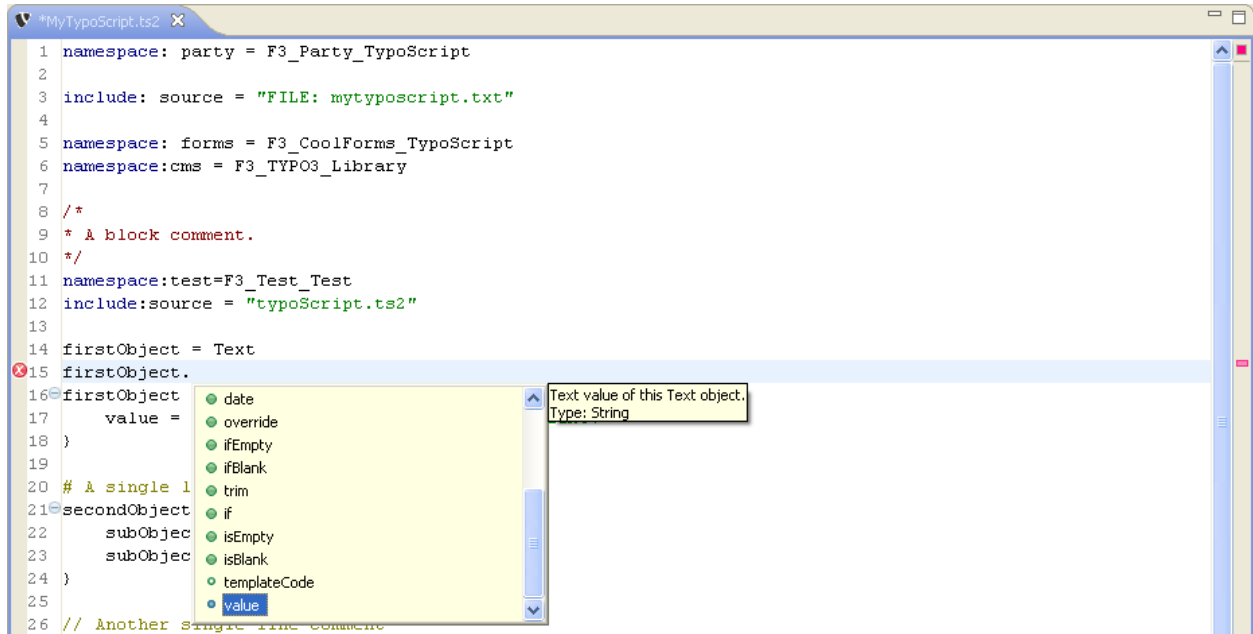
Navigator view with erroneous TypoScript file

4.4. Code Completion

The editor offers a prototype implementation of code completion. Currently, code completion is activated unconditionally whenever you type a dot. The proposals displayed are not filtered by the surrounding context. There are two types of proposals displayed:

- Properties: With a small green circle icon.
- Processors: With a large green dot icon.

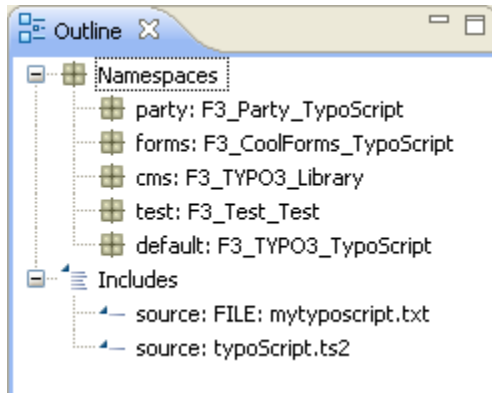
When hovering over a code completion proposal, an addition hover info is displayed with information about the property (free text and expected type) or about the processor (free text and description and type of the parameters, if any).



Code Completion of the “TypoScript 2.0 Editor”

4.5. Outline view

The outline view shows the list of namespace declarations and a list of include declarations. The “default” namespace is always displayed. If it has not been explicitly defined, the build-in default namespace of FLOW3 is displayed.



Outline view of the “TypoScript 2.0 Editor”