

Refactoring XML Documents

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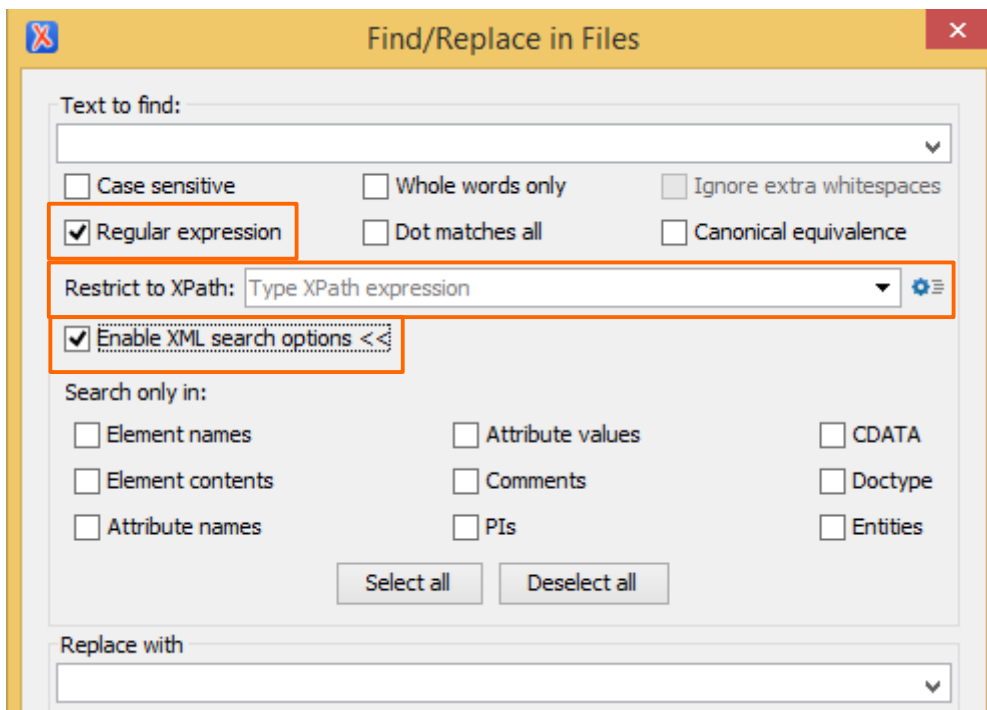
Useful Information

- Yes, we are recording this webinar.
- Please ask questions anytime during the presentation in the Questions panel.
- Use [#oXygenXML](#) for webinar-related tweets.

Why do we need this tool?



Aren't the existing tools enough?



- limited structure-aware
- complex

Aren't the existing tools enough?

Q: Isn't a more structure aware solution already here?

A: Yes, **XSLT** and **XQuery Update**

XSLT

```
<xsl:stylesheet
  xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
  version="2.0">
  <xsl:template match="node() | @*">
    <xsl:copy>
      <xsl:apply-templates select="node() | @*" />
    </xsl:copy>
  </xsl:template>
</xsl:stylesheet>
```

XQuery Update

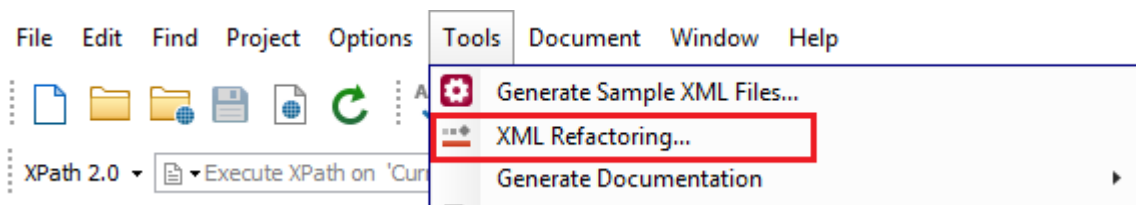
(insert node test
as first into \$node,
delete node \$attribute)

Where to find it

- Toolbar

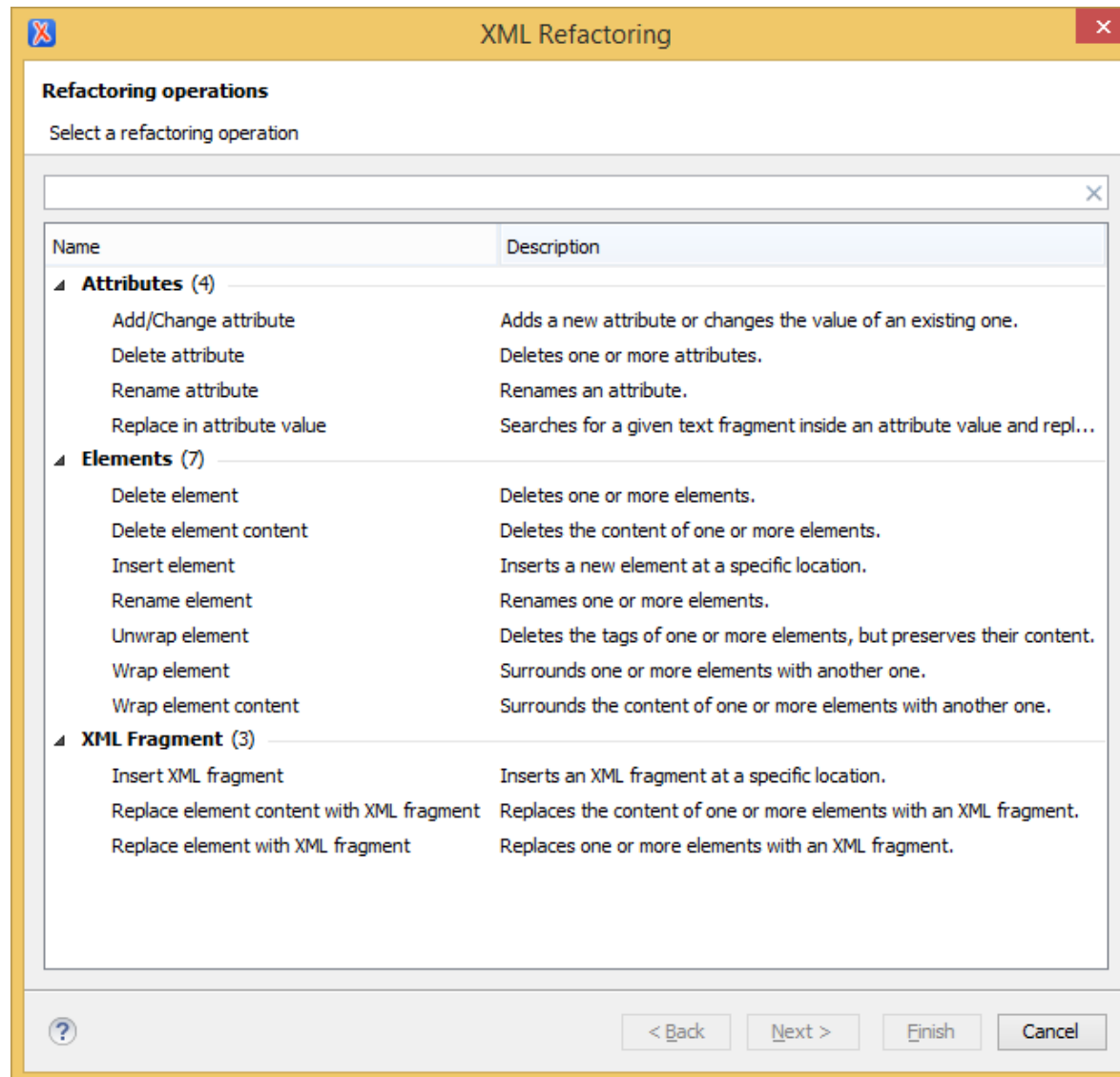


- Main menu

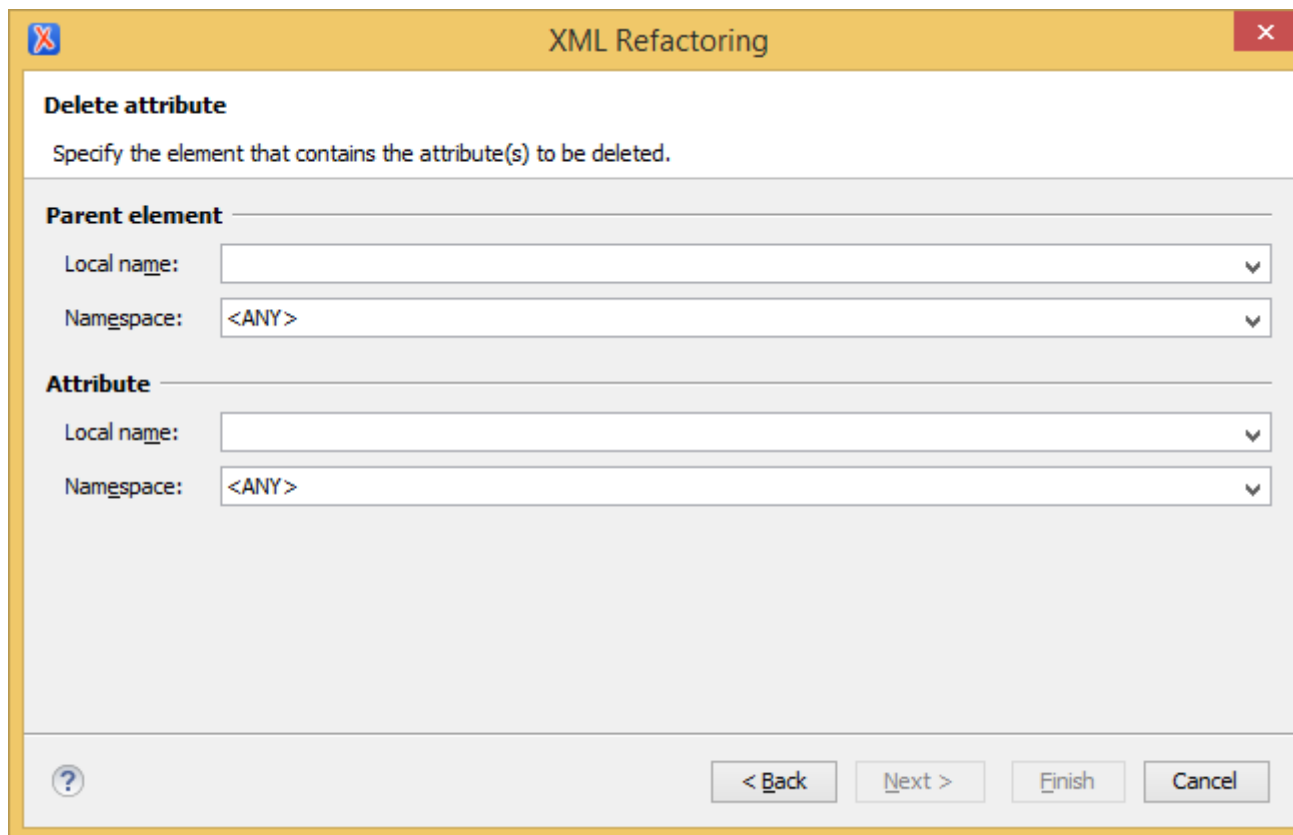


- Project view
- DITA Map Manager

Choose operation



Configure parameters

A screenshot of the "XML Refactoring" dialog box in oXygen. The dialog has a yellow title bar with a close button. It contains two sections: "Delete attribute" and "Attribute". The "Delete attribute" section has a description "Specify the element that contains the attribute(s) to be deleted." and two dropdown menus for "Parent element" (Local name and Namespace). The "Attribute" section has two dropdown menus for "Attribute" (Local name and Namespace). At the bottom, there are buttons for "< Back", "Next >", "Finish", and "Cancel", along with a help icon (?) on the left.

XML Refactoring

Delete attribute
Specify the element that contains the attribute(s) to be deleted.

Parent element

Local name:

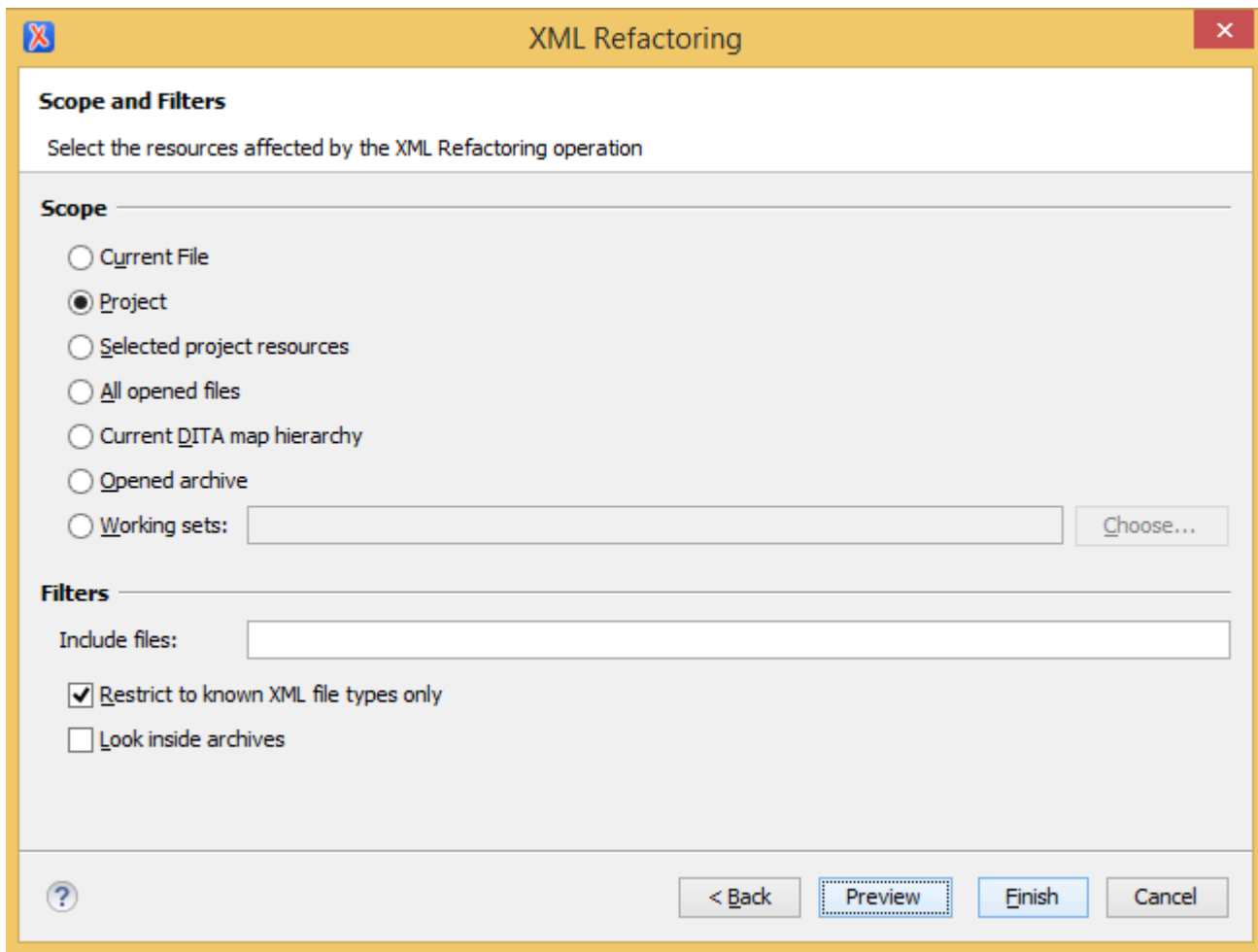
Namespace:

Attribute

Local name:

Namespace:

Select scope

A screenshot of the "XML Refactoring" dialog box in oXygen XML Editor. The dialog has a yellow title bar with a red "X" icon. It contains two main sections: "Scope and Filters" and "Filters". The "Scope and Filters" section has a subtitle "Select the resources affected by the XML Refactoring operation". Under "Scope", there are radio buttons for "Current File", "Project" (selected), "Selected project resources", "All opened files", "Current DITA map hierarchy", "Opened archive", and "Working sets" (with a text box and a "Choose..." button). The "Filters" section has a text box for "Include files:", a checked checkbox for "Restrict to known XML file types only", and an unchecked checkbox for "Look inside archives". At the bottom, there are buttons for "?", "< Back", "Preview", "Finish", and "Cancel".

XML Refactoring

Scope and Filters
Select the resources affected by the XML Refactoring operation

Scope

- ☐ Current File
- ☒ Project
- ☐ Selected project resources
- ☐ All opened files
- ☐ Current DITA map hierarchy
- ☐ Opened archive
- ☐ Working sets:

Filters

Include files:

- ☒ Restrict to known XML file types only
- ☐ Look inside archives

? < Back Preview Finish Cancel

Summary


Two parts:

1. the user perspective.
 - using **predefined operations** for various tasks
2. the developer perspective.
 - creating a **custom operation**
 - **sharing** it with the team

Change Attribute Value

Use the XML Refactoring tool to modify an entry from a multi-value attribute

```
<para os="linux;windows;mac">  
  Before installing the photo...</para>
```



```
<para os="linux;win;mac">  
  Before installing the photo...</para>
```

Predefined operations

Attribute operations

- **Add/Change** attribute
- **Delete** attribute
- **Remove** attribute
- **Replace** in attribute value

Element operations

- **Insert** element
- **Rename** element
- **Wrap** element
- **Wrap** element content
- **Unwrap** element
- **Delete** element
- **Delete** element content

XML fragment operations

- **Insert** XML fragment
- **Replace** element with XML fragment
- **Replace** element **content** with XML fragment

Convert an element

Q:How to convert the first bolded paragraph from a section to a title?

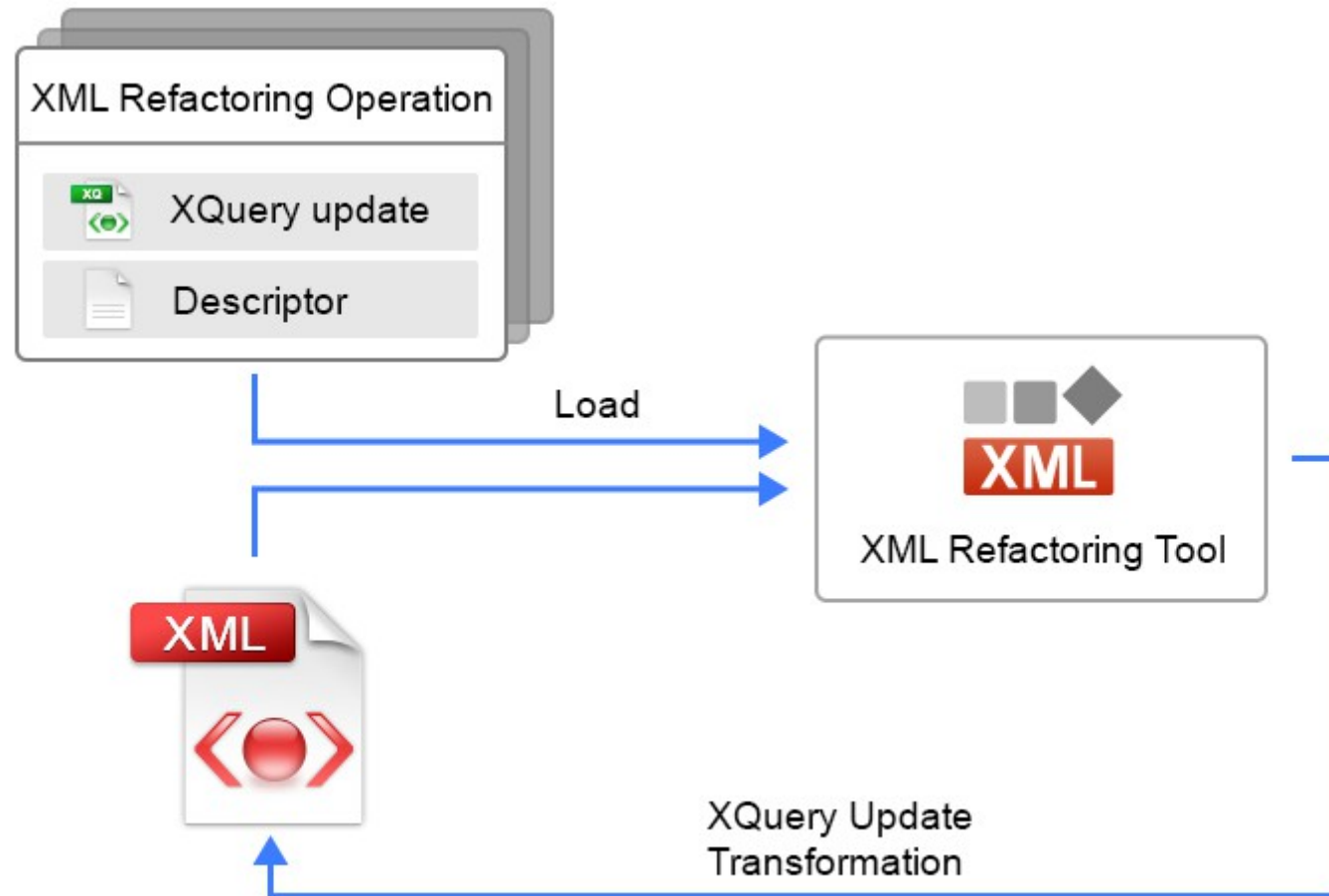
A: By combining two built-in operations:

1. **Rename** element
2. **Unwrap** element

```
<section>
  <p><b>Lock your phone</b></p>
  <p>To lock your phone, press the <term>Lock</term> key with this icon <image
    href=" ../image/Lock.jpg" id="image_pmp_g14_2g" height="1em"/>.</p>
</section>
```

```
<section>
  <title>Lock your phone</title>
  <p>To lock your phone, press the <term>Lock</term> key with this icon <image
    href=" ../image/Lock.jpg" id="image_pmp_g14_2g" height="1em"/>.</p>
</section>
```

XML Refactoring process



XML Refactoring process



- preserve attributes order
- preserve DOCTYPE
- preserve entities

Convert an attribute to an element

Q: How to convert the **alt** attribute to an element with the same name?

A: By creating a **custom operation**

```
<image  
  href="../image/insertBattery.jpg"  
  alt="Insert the battery into the battery compartment."  
  placement="break"/>
```



```
<image  
  href="../image/insertBattery.jpg"  
  placement="break">  
  <alt>Insert the battery into the battery compartment.</alt>  
</image>
```

XQuery Script

(: Local name of the attribute's parent element. :)

declare variable **\$element_localName**
as xs:string external;

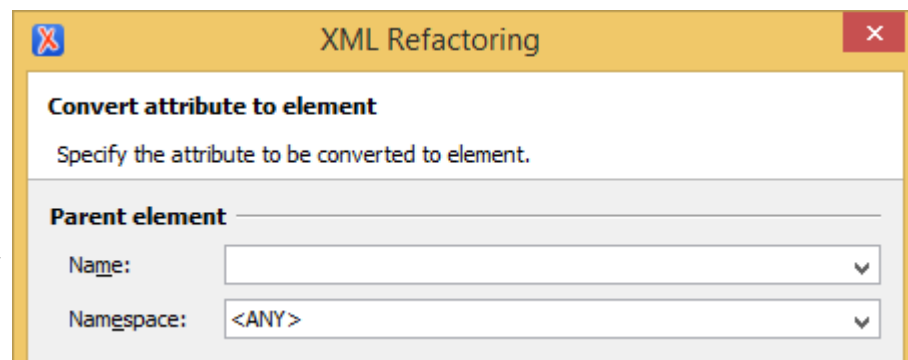
(: Namespace of the attribute's parent element. :)

declare variable **\$element_namespace** as xs:string external;

```
<refactoringOperationDescriptor
  name="Convert attribute to element">
  <description>Converts the specified attribute....</description>
  <parameters>
    <description>Specify the attribute...</description>
    <section label="Parent element">
      <elementParameter id="elemID">
        <localName
          label="Name"
          name="element_localName">
        </localName>
        <namespace
          label="Namespace"
          name="element_namespace">
        </namespace>
      </elementParameter>
    </section>
  </parameters>
</refactoringOperationDescriptor>
```

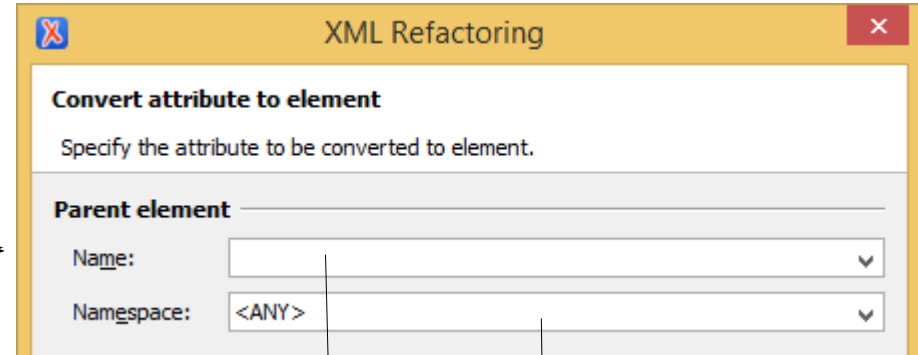
Descriptor

```
<refactoringOperationDescriptor
  name="Convert attribute to element">
  <description>Converts the specified attribute....</description>
  <parameters>
    <description>Specify the attribute...</description>
    <section label="Parent element">
      <elementParameter id="elemID">
        <localName
          label="Name"
          name="element_localName">
        </localName>
        <namespace
          label="Namespace"
          name="element_namespace">
        </namespace>
      </elementParameter>
    </section>
  </parameters>
</refactoringOperationDescriptor>
```



Working together

```
<refactoringOperationDescriptor
  name="Convert attribute to element">
  <description>Converts the specified attribute....</description>
  <parameters>
    <description>Specify the attribute...</description>
    <section label="Parent element">
      <elementParameter id="elemID">
        <localName
          label="Name"
          name="element_localName">
        </localName>
        <namespace
          label="Namespace"
          name="element_namespace">
        </namespace>
      </elementParameter>
    </section>
  </parameters>
</refactoringOperationDescriptor>
```



XML Refactoring

Convert attribute to element

Specify the attribute to be converted to element.

Parent element

Name:

Namespace:

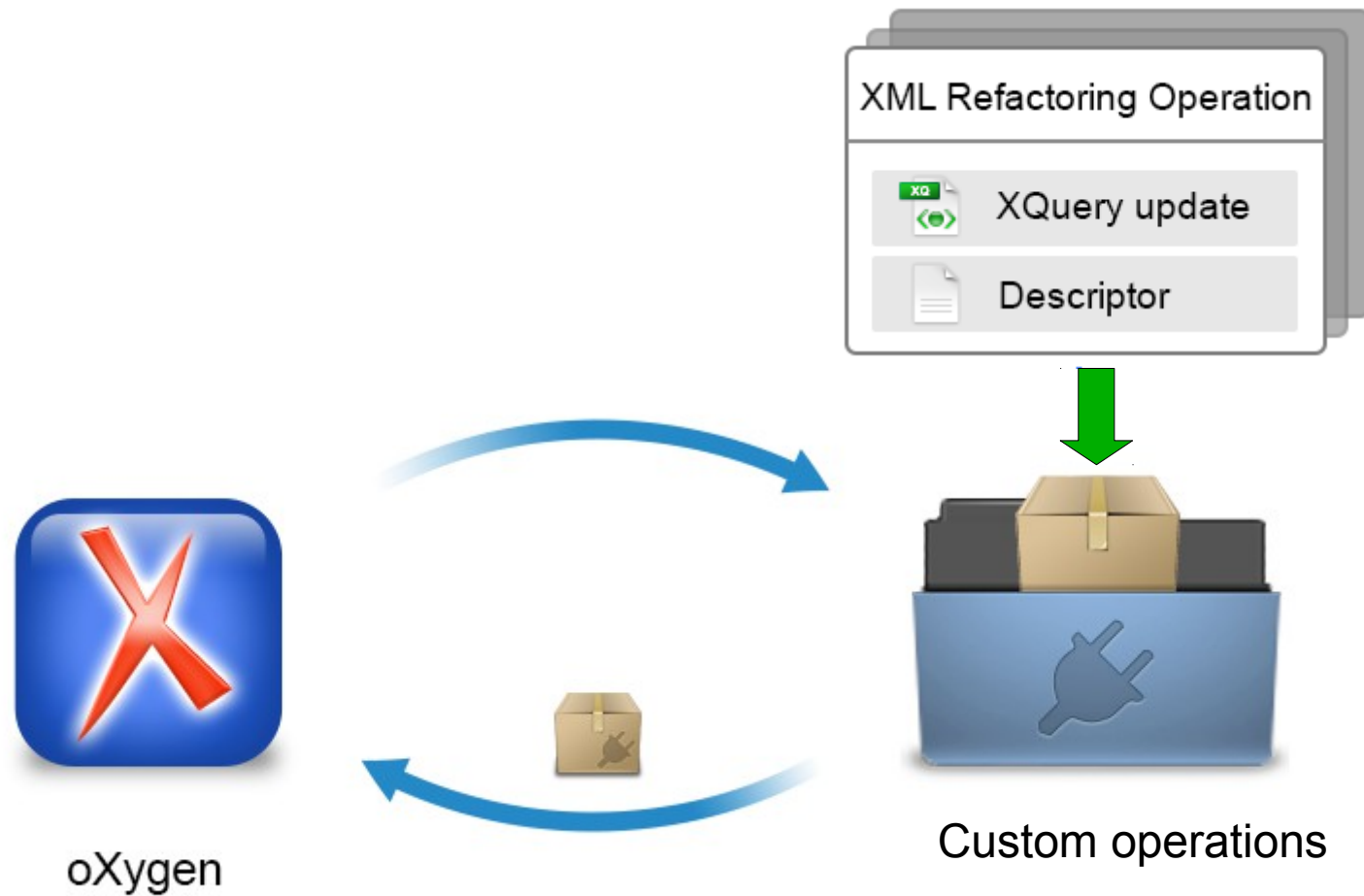
(: Local name of the attribute's parent element. :)

declare variable **\$element_localName** as xs:string external;

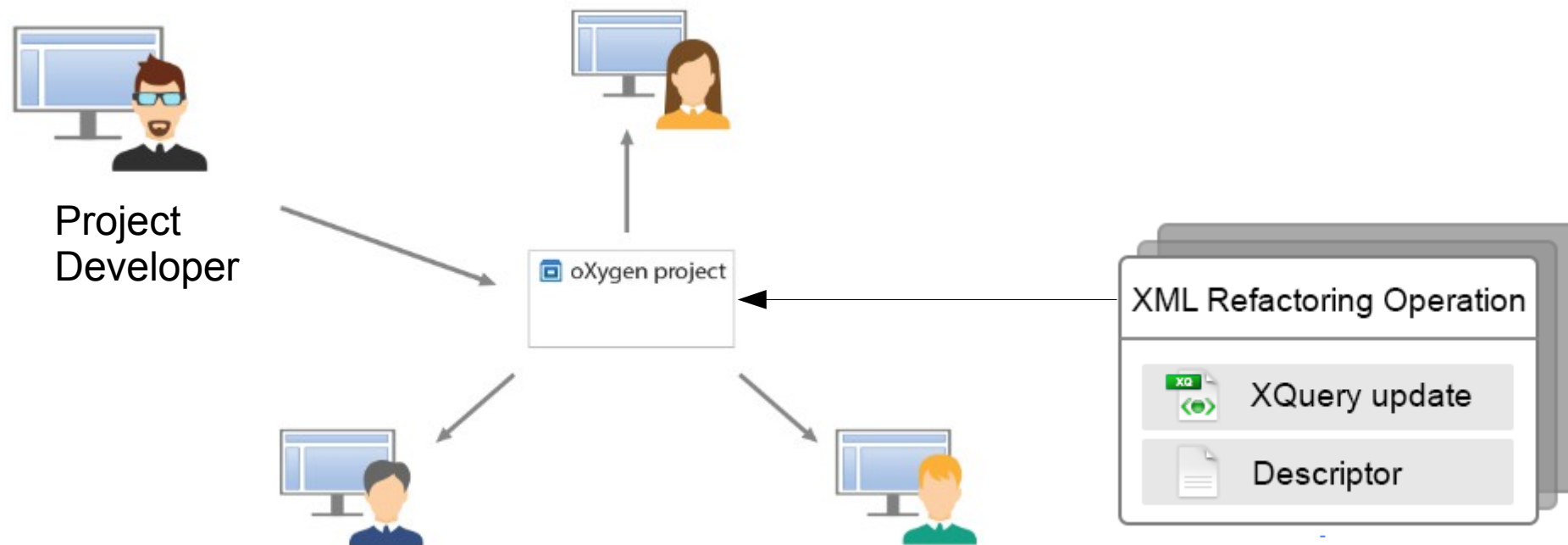
(: Namespace of the attribute's parent element. :)

declare variable **\$element_namespace** as xs:string external;

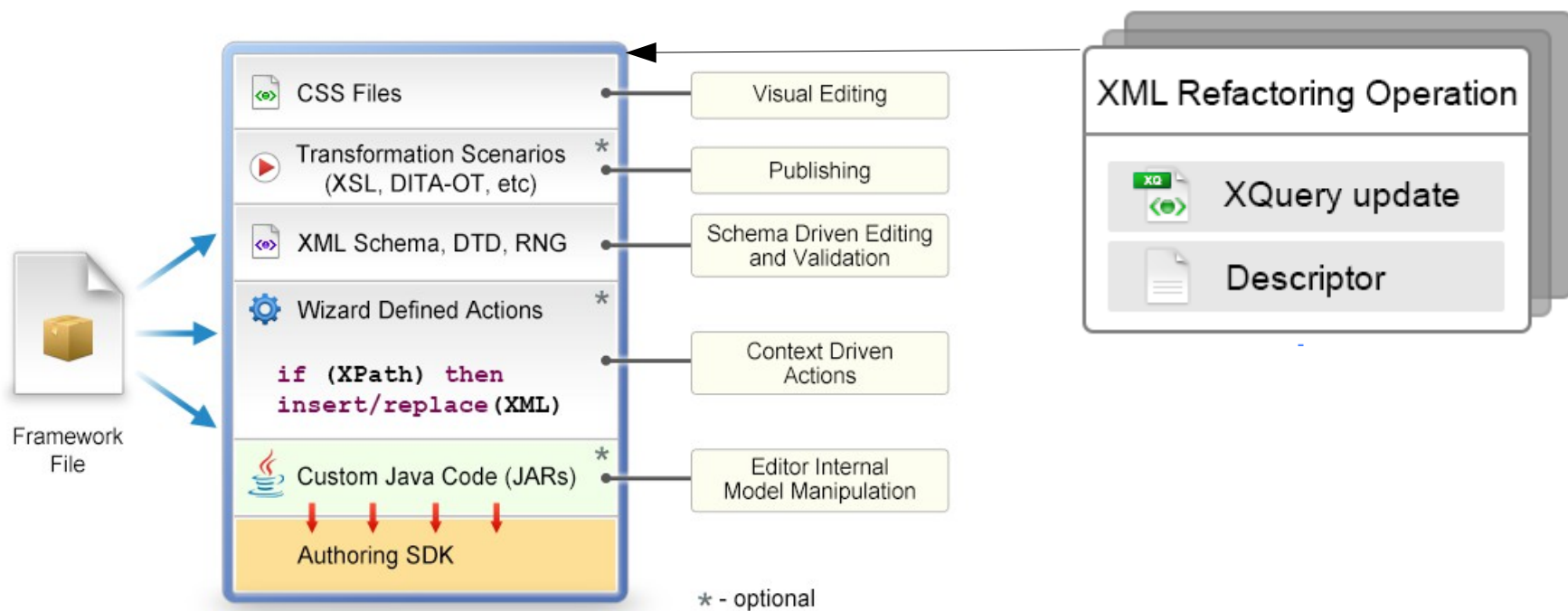
Sharing



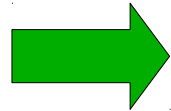
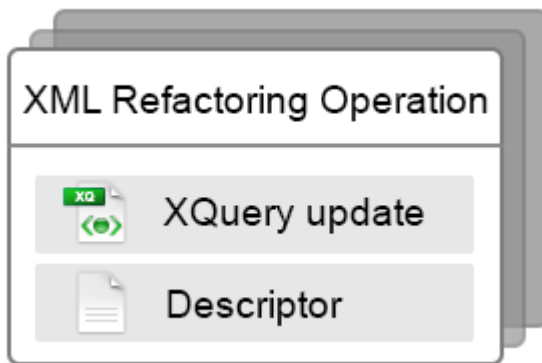
Sharing - Options/Project



Sharing - The framework

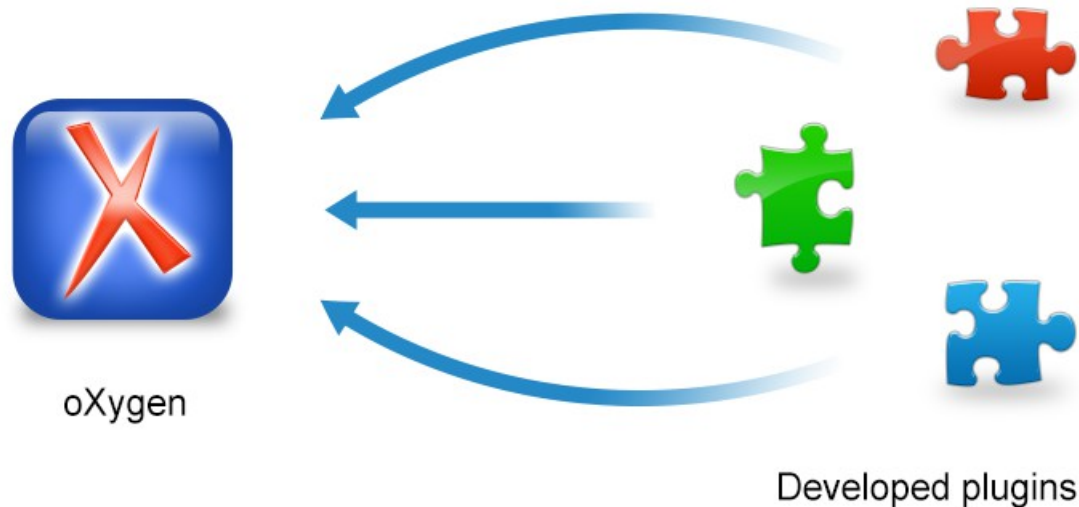


Sharing - The framework



| Name | Size | Modified |
|---------------------------------------|-------|---------------------|
| D:\projects\exml\frameworks\test_cals | N/A | 2015-05-29 12:16... |
| css | N/A | 2015-05-29 12:16... |
| refactoring | N/A | 2015-05-29 12:16... |
| convert-attribute-to-element.xml | 2331 | 2015-05-20 14:08... |
| convert-attribute-to-element.xq | 2031 | 2015-05-19 11:11... |
| root.framework | 10424 | 2015-05-06 11:02... |

Sharing - oXygen plugin



oXygen plugin descriptor

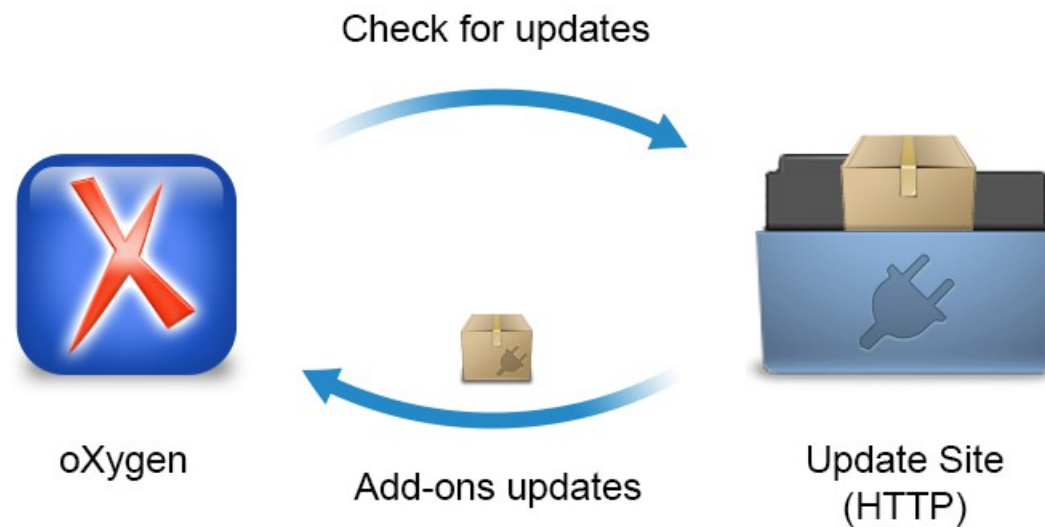
```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plugin PUBLIC "-//Oxygen Plugin" "../plugin.dtd">

<plugin
  id="refactoring.operations"
  name="Refactoring operations plugin"
  description="Contains operation descriptors and related scripts"
  version="1.0">
  <extension type="RefactoringOperationsProvider">
    <folder path="customDir"/>
    <folder path="customDir2"/>
  </extension>
</plugin>
```

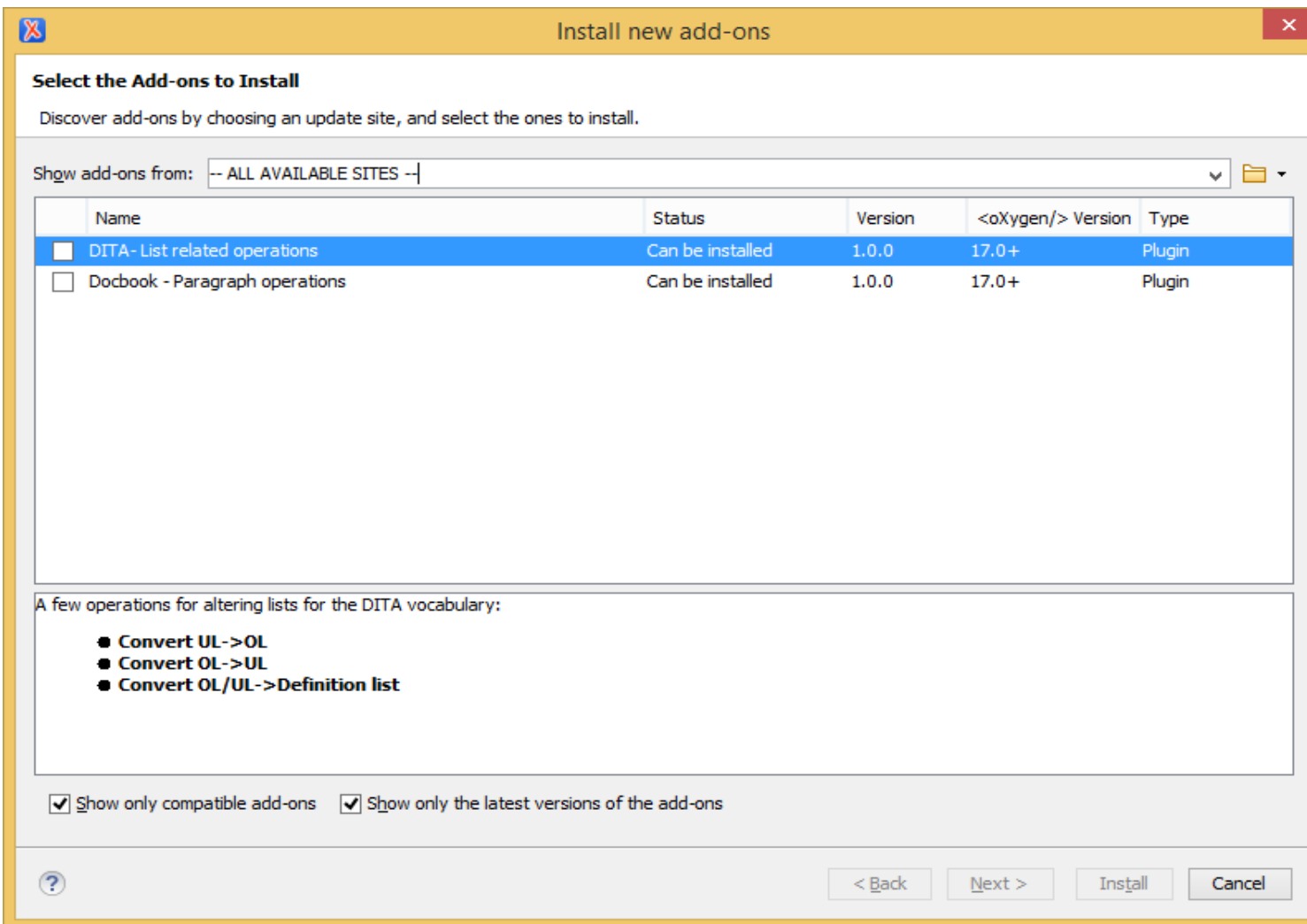
oXygen plugin descriptor

| Name | Size | Modified |
|--|------|---------------------|
| D:\Desktop\Presentations_framework\Pr... | N/A | 2015-05-29 11:34:55 |
| customDir | N/A | 2015-05-29 11:35:08 |
| convert-attribute-to-element.xml | 2331 | 2015-05-20 14:08:11 |
| convert-attribute-to-element.xq | 2031 | 2015-05-19 11:11:38 |
| customDir2 | N/A | 2015-05-29 11:35:30 |
| convert-lists.xml | 2331 | 2015-05-20 14:08:11 |
| convert-lists.xq | 2031 | 2015-05-19 11:11:38 |
| plugin.xml | 795 | 2015-05-29 11:34:41 |

Plugin/Framework → add-ons deployment



Plugin/Framework → add-ons deployment



Sharing – the other way

- [oXygen Installation Directory]/**refactoring/**

Future plans

- Define **custom operations** based on **XSLT** scripts



- Add **Favorites** support

- Editor contextual menu

- **Any sugestions???**



Upcoming Events



June 5

[oXygen Users Meetup London](#)



June 6 - 7

[XML London 2015](#)



June 10

[DITA Support](#)



June 17

[XML Authoring on the Web](#)

Thank you!

Questions?

<oXygen/> XML Editor
<http://www.oxygenxml.com>
radu_pisoi@oxygenxml.com

Q&A

If your question is not answered now, we will be in touch with an answer by email after the webinar.

The recording of the webinar will be available from our events page:
http://www.oxygenxml.com/events_programme.html#pastevents