PDSOE – Workspace Management and Organisation

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Senior Consultant
Consultingwerk Software Services Ltd.

- Independent IT consulting organization
- Focusing on **OpenEdge** and related *technology*
- Located in Cologne, Germany, subsidiaries in UK and Romania
- Customers in Europe, North America, Australia and South Africa
- Vendor of developer tools and consulting services
- Specialized in GUI for .NET, Angular, OO, Software Architecture, Application Integration
- Experts in OpenEdge Application Modernization
Marko Rüterbories

- Senior Consultant with 23 years of experience as developer, administrator, consultant and trainer
- Started using Progress and OpenEdge more than 14 years ago and began using the OpenEdge GUI for .NET while it was still in beta in 2007.
- Currently provides consulting and training services for OpenEdge ABL and GUI for .NET related subjects
Agenda

- **Progress Developer Studio**
  - Workspace Settings
  - Multi-Project Workspace setup
  - Share Workspace / Project settings
  - External build using ANT
  - Hotkeys
  - Custom Templates
  - Eclipse Plugins: SCM, Mylyn, OEDT
  - Tips and Tricks with PDSOE
Progress Developer Studio

- Eclipse based, extensible
- Available since 10.1A (continuously enhanced since then)
- Alternative to the AppBuilder / OpenEdge Studio
- Requires a separate license (included in PSDN SDK), parallel installation possible
- AppBuilder, ADM1/2 and Dynamics integrated
- Extensible using 3rd party plug-ins (commercial or community based)
- Windows only
Reasons to migrate to PDSOE

- GUI for .NET
  - Visual Designer, Class Browser
- object-oriented coding
  - still no class template in AppBuilder, class browser
- AppServer Development (10.2B, 11.x)
- REST Adapter
- OpenEdge BPM
- Corticon Studio, …
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Workspace preferences in PDSOE

- General – Editors – Text Editors
  - Insert spaces for Tabs, Tab width, show line numbers, …

- General – Search
  - Reuse editors … turned off

- General – Workspace
  - Workspace name (shown in window title)

- General
  - Show heap status
Workspace preferences in PDSOE

- Progress OpenEdge – Advanced
  - USING Statements, Class Cache

- Progress OpenEdge – Editor
  - As you type: Case (upper or lower), case keywords, depending on your style: expand keywords

- Progress OpenEdge – Editor – Build
  - Syntax check
  - Maximum number of errors reported per build
Workspace preferences in PDSOE

- Progress OpenEdge – Shared AVM
- Progress OpenEdge – Startup
  - General settings for AVM
- Progress OpenEdge – Visual Designer
  - Toolbox
  - Untranslatable, …
Workspace preferences in PDSOE

- Error Filter
- Link with Editor (Project Explorer)
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Multi-Project Workspace setup

- Seperation of self maintained and supplier code (Framework)
  - Compile check does help in not doing unintended things
    - DB access in client code that shall use the AppServer
  - Is there a reason not to do it? 😊
Multi-Project Workspace setup

- Typical Setup
  - Framework
  - Framework customization
  - Backend code
  - Frontend code
  - Legacy Application
Multi-Project Workspace setup

- Consideration of how to setup
  - DB connection
  - PROPATH
  - Project Build
    - Internal Build
    - External Build using ANT
Multi-Project Workspace setup

- Demo
- Multiple projects
- DB connections
- PROPATH
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Share Workspace settings

- connections.xml
  - List of DB connections defined in a workspace

```xml
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<root xmlns xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="schema/databaseConnection.xsd">
  <databaseconnection identifier="sports2000">
    <name>sports2000</name>
    <description/>
    <physicalname>C:\Work\Demo\DB\sports2000.db</physicalname>
    <logicalname/>
    <password/>
    <groupId/>
    <host>localhost</host>
    <service/>
    <userID/>
    <connectionparameters/>
    <SQLIdentifier/>
    <autoStartServer>true</autoStartServer>
    <serverParameters>-db C:\Work\Demo\DB\sports2000.db</serverParameters>
    <autoShutdownServer>true</autoShutdownServer>
    <OEVersion>11.7</OEVersion>
  </databaseconnection>
</root>
```
Share Workspace settings

- template.xml
  - Editor macros for faster /easier coding and commenting

```xml
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<templates>
  <template autoinsert="true" context="com.openedge.pdt.text.editor.templates"
    deleted="false" description="Message " enabled="true"
    id="com.openedge.pdt.text.template.msg" name="MESS">MESSAGE $\{cursor\}
      VIEW-AS ALERT-BOX.
    </template>
</templates>
```
Share Workspace settings

- Custom set of templates for Methods, Properties, Classes, ...
- preferences.epf
  - All settings of a workspace
Share Project settings

- What is a Project config and why do I need one?

- PROPATH (.propath)
  - exclude from build / tooling

- project.xml
  - Parameters
  - Settings
Share Project settings

- Assemblies.xml
- Toolbox.xml
  - Initially a standard set of Tools
  - Important for deployment and licensing so you want to control what is in (write protection)
  - Tools in Toolbox can define a company standard
- “External Tools” and “Run-configurations” can be stored as shared files
Share Workspace / Project settings

- Demo
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- Tips and Tricks with PDSOE
External build using ANT

- ANT Builder allow to extend (or replace) the PDSOE Build Process (PDSOE Builder required for GUI for .NET)
- Custom Build using PCT (include dependency build)
- Compile GUI/TTY
- Custom WebSpeed E4GL Build
- Custom Cleanup Command
- Build Procedure Libraries after build
- Create AppServer package
External build using ANT

- Standard Eclipse Feature
- Single ANT Script used per Builder, 4 Phases invoking different ANT Targets (build-routines)
  - After Clean (next Build after Clean)
  - Manual Build
  - Automatic Build
  - During Clean
Edit launch configuration properties
Create a configuration that will run an Ant build file during a build.

- **Name**: Ant Builder
- **After a "Clean"**:
  - <default target selected>
- **Manual Build**:
  - <default target selected>
- **Auto Build**:
  - <Builder is not set to run for this build kind>
- **During a "Clean"**:
  - <Builder is not set to run for this build kind>
Stored in .project file
<?xml version="1.0" encoding="utf-8"?>

<project name="SmartComponent Library" basedir="."/>

<description>SmartComponent Library</description>

<property environment="env" />
<property file="build/build.props" />

<taskdef resource="PCT.properties" classpath="/Progress/PCT/ant/lib/PCT.jar" />
<taskdef resource="types.properties" classpath="/Progress/PCT/ant/lib/PCT.jar" />

<target name="HtmlCompile">

  <PCTWSComp destDir="." dlcHome="${progress.DLC}">
    <fileset dir="." includes="Advantware/SharpShooter/WebFrontend/**/*.html"/>
  </PCTWSComp>

</target>

</project>
External build using ANT

- Demo
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Hotkeys

- Ctrl – D (delete current line)
- Ctrl – F (find in current file)
- Ctrl – H (find in workspace)
- Ctrl – M (maximize editor window)
- Ctrl – Shift + R (open Resource)
- Ctrl – O (Quick Outline)
- Ctrl – S (save current file)
- Ctrl – 3 (execute menu options)
- Ctrl - . (navigate to error or warning)
Hotkeys

- Ctrl – K (search next)
- Ctrl – Shift – K (search previous)
- Ctrl – Shift – C (check Syntax)
- Alt – Shift – A (switch block selection mode)
- Alt – Shift – X / G (execute current file)
Hotkeys

- Demo
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JET Templates

- Java Emitter Templates
- Dynamic Template format
- Text files that are converted into Java source
- Compiled Java classes executed when you create a new file or new block of code

- [http://www.eclipse.org/articles/Article-JET/jet_tutorial1.html](http://www.eclipse.org/articles/Article-JET/jet_tutorial1.html)
- [http://www.eclipse.org/articles/Article-JET2/jet_tutorial2.html](http://www.eclipse.org/articles/Article-JET2/jet_tutorial2.html)
JET Templates

- Anyone remembers SpeedScript (Web Speed)?
- It’s similar (html + 4GL → pure 4GL → R-Code)

- Templates based on a skeleton file
  - Java file that contains header of generated Java class
- Typically contains import statements (Java version of USING statement)
JET Templates

- Jet Templates are executed with an input parameter
- That’s the input from the Wizard that executes them
- Data in input parameter dependent on the type of template (class, interface, method, etc.)
Template generation sequence

- Sequence executed whenever source file is modified
Customizing Templates for PDSOE

- PDSOE templates based on JET
- Overriding existing templates for new files, e.g. modifying the file header comment
- Overriding existing templates for new code blocks, e.g. new internal procedure wizard, new method, new property
- Additional new file templates
  - Still only supported for .p file extension (functional limitation)
Customizing Templates for PDSOE

- Typically custom templates based on Progress supplied templates
  - C:\Progress\DeveloperStudio3.7\eclipse\plugins\com.openedge.pdt.text_11.2.1.00\templates
  - C:\Progress\OpenEdge102B\oeide\eclipse\plugins\com.openedge.pdt.text_10.2.1.06\templates
- Contains also the skeleton file
<table>
<thead>
<tr>
<th>Name</th>
<th>Änderungsdatum</th>
<th>Typ</th>
</tr>
</thead>
<tbody>
<tr>
<td>abfunction.jet</td>
<td>19.03.2012 21:44</td>
<td>UET-Datei</td>
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<tr>
<td>abfunctionproto.jet</td>
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<td>abprocedure.jet</td>
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<td>UET-Datei</td>
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<td>IET-Datei</td>
</tr>
<tr>
<td>class.jet</td>
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<td>IET-Datei</td>
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<tr>
<td>constructor.jet</td>
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</tr>
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<td>custominclude.jet</td>
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</tr>
<tr>
<td>Custominclude.template</td>
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<td>TEMPLATE-Datei</td>
</tr>
<tr>
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</tr>
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<td>TEMPLATE-Datei</td>
</tr>
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<td>destructor.jet</td>
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</tr>
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<td>event.jet</td>
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<td>field.jet</td>
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<td>IET-Datei</td>
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</tr>
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<td>IET-Datei</td>
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<tr>
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<td>IET-Datei</td>
</tr>
<tr>
<td>method.jet</td>
<td>19.03.2012 21:44</td>
<td>IET-Datei</td>
</tr>
<tr>
<td>NewProcedureTemplate.template</td>
<td>19.03.2012 21:44</td>
<td>TEMPLATE-Datei</td>
</tr>
</tbody>
</table>
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- **Eclipse Plugins: SCM, Mylyn, OEDT**
- Tips and Tricks with PDSOE
Advantages of SCM

- Resources can be shared with other developers
- Reduces the time needed to setup new development environments
- Reduces the risk of failures in the configuration
- You can see and review what is changed
- Possibility of selective rollouts using branches
  - Trunk
  - Stable (maybe Customer)
  - Feature
  - Bugfix
- Makes you more productive 😊
Bugtracking integration with Mylyn

- Why do I need that?
- Mylyn (Eclipse Plugin) can be used as an Adapter to many Bugtracking systems
- Mylyn tracks the changed files as a context and can attach this to a bug
- Makes it easy to switch between bugs and have the same context opened again
Issue SCL-2408: `scl-gen Parameter ...` should add fluent-interface for Property SET

Attributes:
- Project: SmartComponent Library
- Priority: Major

Description:

```
NEW CustomerParameter(); CustNum (1):Name ("Lift")
```

Attachments (0)
OEDT

- Fast Code-Completion
- Dependency Build
- Compile Error Files
- https://www.omecra.de (Lars Neumeier)
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- **Tips and Tricks with PDSOE**
Eclipse on “high DPI” displays

- 3000x2000 pixels on a 13.5” display
- Eclipse versions used by PDSOE don’t scale on high DPI screens
  - https://bugs.eclipse.org/bugs/show_bug.cgi?id=421383
  - Fixed with new startup parameter for Eclipse 4.5
  - PDSOE 11.6 based on Eclipse 4.3
Eclipse on “high DPI” displays
Eclipse on “high DPI” displays
Eigenschaften von Developer Studio

Wählen Sie die hohen DPI-Einstellungen für dieses Programm aus.

Programm-DPI:
- [ ] Diese Einstellung verwenden, um Skalierungsprobleme für dieses Programm herein Anstatt in den Einstellungen zu behoben
- [ ] Erweiterte Skalierungseinstellungen öffnen

Ein Programm könnte unscharf dargestellt werden, wenn sich der DPI-Wert für die Hauptanzeige ändert, nachdem sich Sie bei Windows angemeldet haben. Windows kann versuchen, das Skalierungsproblem für dieses Programm zu behandeln. Dazu wird beim Öffnen des Programms der für Ihre Hauptanzeige festgelegte DPI-Wert verwendet, wenn Sie sich bei Windows angemeldet haben.

Weitere Informationen

Hohe DPI-Skalierung überschreiben

Verteilen bei hoher DPI-Skalierung überschreiben.

Skalierung durchgeführt von:

System
Workspace issues

- Large PDSOE workspaces can become slow over time
  - Starting Workspace
  - Initializing OpenEdge Tooling
  - Opening Class browser
  - First time code-completion
  - First time starting GUI for .NET Visual Designer
  - First time launching a run configuration
  - Build process, showing build errors
Workspace issues

- Seems to be related to PDSOE crashes or unclean shutdown
- When PDSOE seems to be hanging, don’t kill the javaw.exe process too fast
- Pay attention to the Windows Resource Manager, Disk -> Disk Activity Tab
- When javaw.exe is accessing files in the workspace directory (.metadata) or your r-code it is probably still working …
- Killing javaw.exe makes things worse
### Workspace issues

<table>
<thead>
<tr>
<th>Prozess mit Datenträgeraktivität</th>
<th>Lesen (B/s)</th>
<th>Schreiben (B/s)</th>
<th>Gesamt (B/s)</th>
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<tbody>
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<td>PID</td>
<td></td>
<td></td>
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<tr>
<td>System</td>
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<td>C:\Work\SmartComponents\WMT\Workspace\116_64\metadata\plugins\org.eclipse.core.resources\history\a839957153d78a001641318128109f5a9</td>
<td>22.757</td>
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<td>30.600</td>
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<table>
<thead>
<tr>
<th>Datenträgeraktivität</th>
<th>16 KB/4 Datenträger-E/A</th>
<th>1% Zeit mit max. Aktivität</th>
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Workspace issues

- Many of those issues seem to be related to the „Class cache“
- PDSOE’s memory about ABL classes, inheritance, their methods, properties, …
- Required for
  - Code completion
  - Launching class files (distinguish GUI for .NET Form from custom class)
  - Visual Designer
Workspace issues

- When closing PDSOE the javaw.exe may keep running for 2-3 minutes after any PDSOE windows is closed
- Windows considers PDSOE now a background process
- No prompt shown to kill the process when
  - Shutting down Windows
  - Logging off from a (RDP) session
- Killing javaw.exe now during shutdown/logoff causes workspace corruption
Keep an eye on your javaw.exe

- Task Manager
- CheckForJavaW.exe
- https://github.com/consultingwerk/CheckForJavaW
Resetting class cache, the friendly way

- Switching class cache scope from Workspace to PROPATH
- Hit “Apply” and wait for Initializing OpenEdge Tooling to Finish
- Switch class cache scope back to Workspace
- Hit “Apply” and wait for Initializing OpenEdge Tooling to Finish

- This resets the class cache (partly), enough most of the time
Resetting class cache, the friendly way
Resetting class cache, the friendly way

- Share project settings (project.xml file)
- Remove project(s) from PDSOE
- Restart PDSOE
- Import project (Import -> Existing project into workspace)
- Import project settings
- Restart PDSOE
Resetting class cache, the friendly way

- When the first method does not work …
- Shut down PDSOE (wait until it’s really shut down)
- Delete the following files:

  | .metadata\plugins\com.openedge.pdt.project (and sub folders) | All files except *.xml (in Total Commander search for *.* | *.xml) |
  | .metadata\plugins\com.openedge.pdt.ve | types.cache |
  | .metadata\plugins\org.eclipse.core.resources | .snap |

Only delete files - not folders.
Resetting class cache, the friendly way
Questions