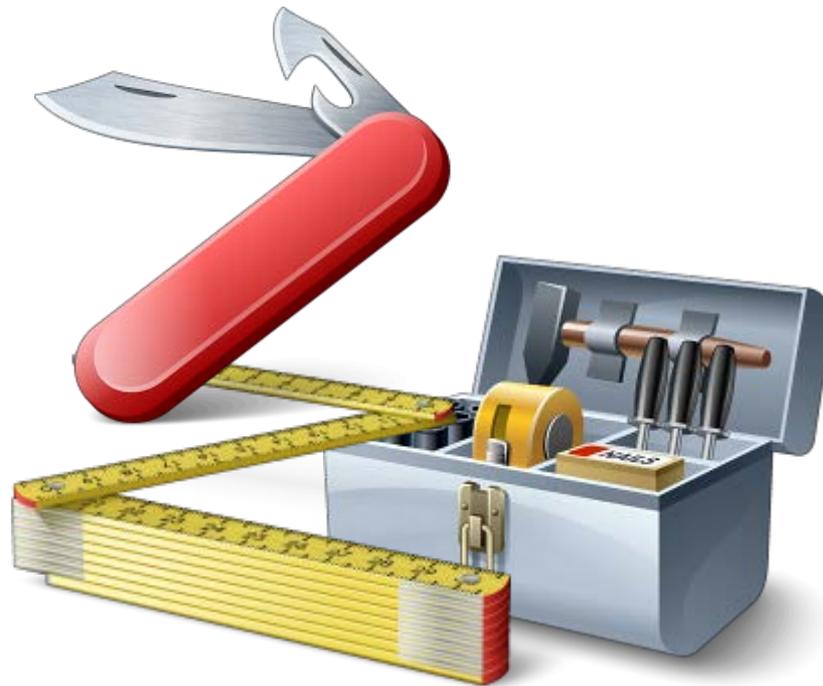


The tool developers Tool-Stack



***Mike Fechner, Consultingwerk Ltd.
mike.fechner@consultingwerk.de***

Consultingwerk Ltd.



- Independent IT consulting organization
- Focusing on **OpenEdge** and **related technology**
- Located in Cologne, Germany, subsidiary in UK
- Customers in Europe, North America, Australia and South Africa
- Vendor of tools and consulting services
- 27 years of Progress experience (V5 ... OE11)
- Specialized in GUI for .NET, Angular, OO, Software Architecture, Application Integration

Introduction

- Developer of **SmartComponent Library**
Framework for OpenEdge Entwickler
- Source code shipped to clients, 99% ABL code
- Used by over 20 customer
- Up to weekly releases (customer usually during development on maximum 3 month old release)
- Fully automated update of the framework DB at client
- Almost no regression bugs within last 8 years

Introduction

- Supported from OpenEdge 10.2B, 11.3.2 ... 11.7
- Very high quality standards
- Framework code should act as reference code
- Framework provides a large number of APIs
 - Documentation of huge importance; developers won't use API's which are unknown

Agenda

- **Progress Developer Studio**
- OEDT
- Perforce SCM
- ANT & PCT
- Jenkins
- ABLUnit and SmartUnit
- Proparse
- SonarSource and SonarLint
- JIRA and Mylyn



Progress Developer Studio

- Eclipse-based, extensible with plug-ins
- Available since OpenEdge 10.1A (permanently improved – although some releases where a step backwards)
- Available for Windows OS only
- Alternative to AppBuilder / OpenEdge Studio
- Separate license; included in OEDK) parallel installation with OE Studio is possible
- AppBuilder, ADM1/2 and Dynamics integrated
- **OpenEdge 11.7 is a very good release!**
 - Pretty recent Eclipse release

PDSOE at Consultingwerk

- Central integration hub for a number of tools
 - SCM
 - Issue-Tracking
 - Unit-Testing, Code-Quality
 - Automated Builds
 - ...
- Productivity while development
 - OEDT, Intelligent Macros, Templates
 - Integration with SmartComponent Library

Demo

- Editor-Features
 - Navigation your source code
 - Active templates, Macros
 - Block selection

Agenda

- Progress Developer Studio
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OEDT

- Extension for Progress Developer Studio for OpenEdge (PDSOE is required)
- Commercial Eclipse plug-in developed by Progress AP H&H Berlin, Germany
- <https://www.hh-berlin.de/oedt/>
- Currently in public beta (expected FCS in July 2017)

OEDT Features

- Optimized non-blocking Build-process
 - Compilation based on dependencies (.i, .cls)
 - Compilation of previously failed source
 - Preprocess/Debug listing view
- Editor with **true** code-completion
 - very fast
 - Method and procedure arguments
 - Include file names
 - CamelCaseClassNames
 - Doc Comments

Demo

- OEDT web site
- Editor Features
- Doc comments

Agenda

- Progress Developer Studio
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Requirements for the SCM Tool

- Efficient management of source & related assets
- Central hub for **every** task related to the source (I get very upset when developers mail source)
- Many integrations (Build tools, task management, code review tools, IDE's)
- Scriptable: Batch files and ANT
- Reliable und maintenance free (just like OE)
- Performant (just like OE)
- Allowing remote access to the source
- SCM means more than version control

Perforce SCM

- SCM based on a central VCS
- DVCS features (e.g. local developer branches)
- Perforce Server, Perforce Proxy, Perforce Client(s), Integrations
- Very powerful branching
 - between code-lines
 - Between individual files (Interfile-Branching)

Perforce SCM

- Powerful integration of code lines (Merge); honoring previous decisions made during merge
- Fully automatic merging
- Optional locking of sources, rarely used
 - Developers don't work on same files that often in reality
 - Merge features of Perforce take fear away from parallel changes by different developers

Revision Graph - //depot/SmartComponents4NET/117_64/ABL/Consultingwerk/OERA/BusinessEntity.cls (perforce.consultingwerkcloud.com:1666, mikefe)

File Edit View Highlight Tools Window Help

File Filter Tree

- 114
- 115
- 115_64
- 116_64
 - ABL/Consultingwerk...
 - BusinessEntity.cls**
 - 117_64
 - ABL/Consultingwerk/O...
 - BusinessEntity.cls
 - Customer
 - Customer102B
 - Demo
 - Demo110
 - DemoWOBPM
 - Documentation
 - PUGChallengeCalendar
 - Trunk
 - ABL
 - ABL_SCL1493

6 37403 37461 37493 38648 38649 38650 39643 40139 40141 40145 40352 40355 40371 40538 40699 40702 40733 40772 41028 **41030** 41037 41044 41056

37 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
38 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
39 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
40 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
41 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
42 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
43 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
51 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
52 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
53 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
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55 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
56 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
57 //depot/SmartComponents4NET/Trunk/ABL/Consultingwerk/OERA/BusinessEntity.cls
10 //depot/SmartComponents4NET/116_64/ABL/Consultingwerk/OERA/BusinessEntity.cls
11 //depot/SmartComponents4NET/116_64/ABL/Consultingwerk/OERA/BusinessEntity.cls
12 //depot/SmartComponents4NET/116_64/ABL/Consultingwerk/OERA/BusinessEntity.cls
13 //depot/SmartComponents4NET/116_64/ABL/Consultingwerk/OERA/BusinessEntity.cls
14 //depot/SmartComponents4NET/116_64/ABL/Consultingwerk/OERA/BusinessEntity.cls
15 //depot/SmartComponents4NET/116_64/ABL/Consultingwerk/OERA/BusinessEntity.cls
16 //depot/SmartComponents4NET/116_64/ABL/Consultingwerk/OERA/BusinessEntity.cls
1 //depot/SmartComponents4NET/117_64/ABL/Consultingwerk/OERA/BusinessEntity.cls
2 //depot/SmartComponents4NET/117_64/ABL/Consultingwerk/OERA/BusinessEntity.cls
3 //depot/SmartComponents4NET/117_64/ABL/Consultingwerk/OERA/BusinessEntity.cls
4 //depot/SmartComponents4NET/117_64/ABL/Consultingwerk/OERA/BusinessEntity.cls

Details Integrations Labels Preview

Revision: //depot/SmartComponents4NET/116_64/ABL/Consultingwerk/OERA/BusinessEntity.cls#16

Date submitted: 30.03.2017 06:56 Changelist: [41030](#)

Submitted by: mikefe Perforce filetype: unicode

Workspace: SurfaceBookMike File size: 39.9 KB

Action: edit

SCL-1724

Description:

Navigator Legend

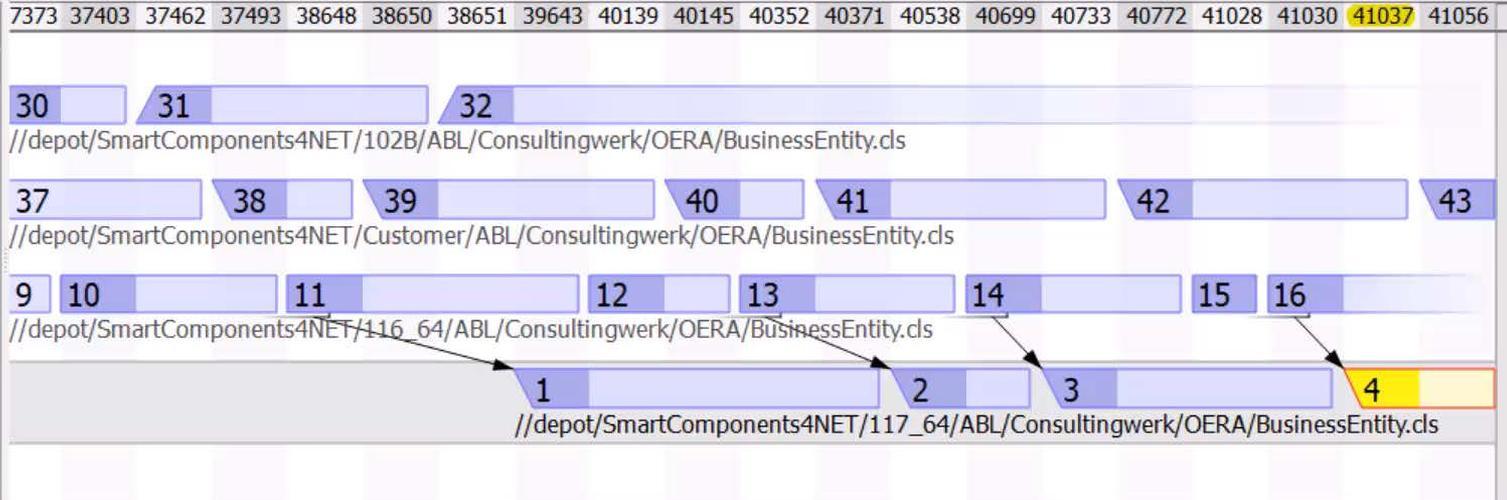
Revision Graph - //depot/SmartComponents4NET/117_64/ABL/Consultingwerk/OERA/BusinessEntity.cls (perforce.consultingwerkcloud.com:1666, mikefe)

File Edit View Highlight Tools Window Help



File Filter Tree

- Filter Options...
- ▶ 112
 - ▶ 113
 - ▶ 114
 - ▶ 115
 - ▶ 115_64
 - ▶ 116_64
 - ▼ 117_64
 - ▶ ABL/Consulting...
 - ▶ BusinessEnti...
 - ▶ Customer
 - ▶ Customer102B
 - ▶ Demo
 - ▶ Demo110
 - ▶ DemoWOBPM
 - ▶ Documentation



Details Integrations Labels Preview

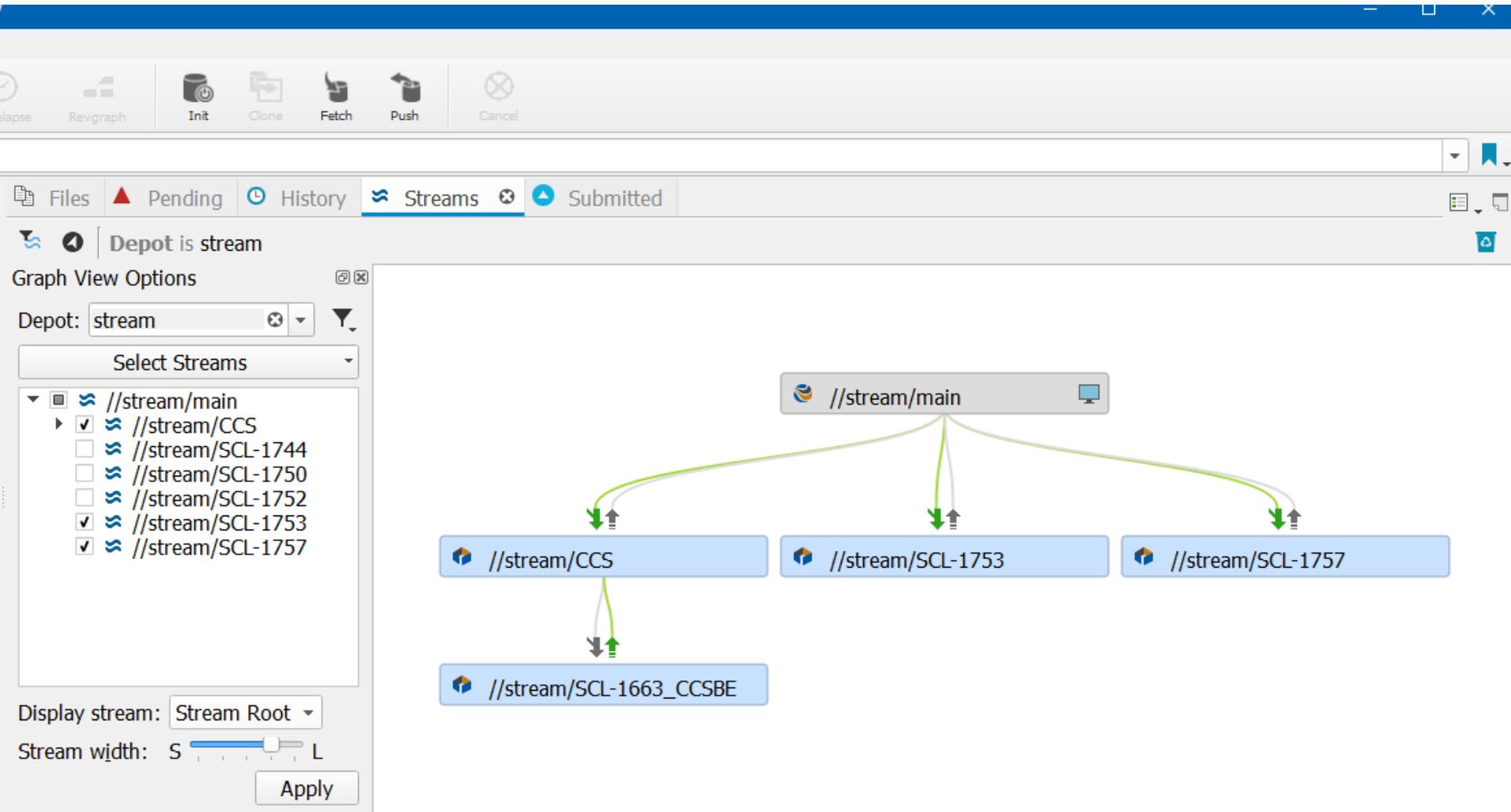
Revision: ponents4NET/117_64/ABL/Consultingwerk/OERA/BusinessEntity.cls#4
 Date submitted: 30.03.2017 07:34 Changelist: [41037](#)
 Submitted by: mikefe Perforce filetype: unicode
 Workspace: SurfaceBookMike File size: 39.9 KB
 Action: integrate
 Description: Merging using SmartComponents_117_64_116_64

Navigator Legend



//depot/SmartComponents4NET/117_64/ABL/Consultingwerk/OERA/BusinessEntity.cls#41

DVCS Features (D as in Distributed)



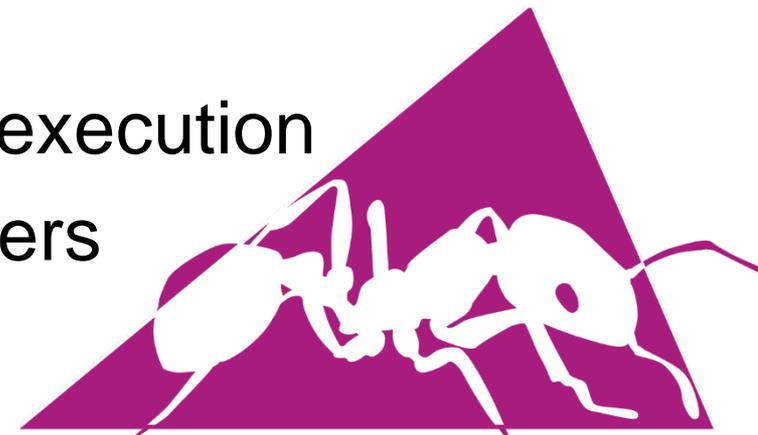
Agenda

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- **ANT & PCT**
- Jenkins
- ABLUnit and SmartUnit
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ANT

- Apache Build Scripting Language
- XML based batch file, OS-independent
- ANT-File may contain multiple targets (sub routines)
- Sub routines may have dependencies to each other
- Macros
- Error-Handling & Conditional execution
- Properties/Variables/Parameters



ANT

- Originally a Java-Build System
- Compiles Java-Code, executes JUnit Tests, etc.
- Other built in features (among many others):
 - File manipulations, copy, delete, ...
 - ZIP, UNZIP
 - SCM Interaction
- <https://ant.apache.org/manual/taskoverview.html>
- Extensible via plug-ins (offering further ANT Tasks)

File Tasks [\[Back to top\]](#)

Task Name	Description
Attrib	Changes the permissions and/or attributes of a file or all files inside the specified directories. Currently, it has effect only under Windows.
Checksum	Generates a checksum for a file or set of files. This task can also be used to perform checksum verifications.
Chgrp	Changes the group ownership of a file or all files inside the specified directories. Currently, it has effect only under Unix.
Chmod	Changes the permissions of a file or all files inside the specified directories. Currently, it has effect only under Unix. The permissions are also UNIX style, like the arguments for the <i>chmod</i> command.
Chown	Changes the owner of a file or all files inside the specified directories. Currently, it has effect only under Unix.
Concat	Concatenates multiple files into a single one or to Ant's logging system.
Copy	Copies a file or Fileset to a new file or directory.
Copydir	<i>Deprecated.</i> Use the Copy task instead.
Copyfile	<i>Deprecated.</i> Use the Copy task instead.
Delete	Deletes either a single file, all files and sub-directories in a specified directory, or a set of files specified by one or more FileSets .
Deltree	<i>Deprecated.</i> Use the Delete task instead.
Filter	Sets a token filter for this project, or reads multiple token filters from a specified file and sets these as filters. Token filters are used by all tasks that perform file-copying operations.
FixCRLF	Modifies a file to add or remove tabs, carriage returns, linefeeds, and EOF characters.
Get	Gets a file from a URL.
Mkdir	Creates a directory. Non-existent parent directories are created, when necessary.
Move	Moves a file to a new file or directory, or a set(s) of file(s) to a new directory.
Patch	Applies a "diff" file to originals.
Rename	<i>Deprecated.</i> Use the Move task instead.
RenameExtensions	<i>Deprecated.</i> Use the Move task with a glob mapper instead.
Replace	Replace is a directory-based task for replacing the occurrence of a given string with another string in selected file.
ReplaceRegExp	Directory-based task for replacing the occurrence of a given regular expression with a substitution pattern in a file or set of files.
SetPermissions	Changes the permissions of a collection of resources.
Sync	Synchronize two directory trees.
Tempfile	Generates a name for a new temporary file and sets the specified property to that name.
Touch	Changes the modification time of a file and possibly creates it at the same time.

Java2 Extensions Tasks [\[Back to top\]](#)

Task Name	Description
Jarlib-available	Check whether an extension is present in a FileSet or an ExtensionSet. If the extension is present, the specified property is set.

Demo

- Simple ANT script

Command-line Options Summary

```
ant [options] [target [target2 [target3] ...]]
```

Options:

```
-help, -h           print this message and exit
-projecthelp, -p    print project help information and exit
-version            print the version information and exit
-diagnostics        print information that might be helpful to
                    diagnose or report problems and exit
-quiet, -q          be extra quiet
-silent, -S         print nothing but task outputs and build failures
-verbose, -v        be extra verbose
-debug, -d          print debugging information
-emacs, -e          produce logging information without adornments
-lib <path>         specifies a path to search for jars and classes
-logfile <file>     use given file for log
-l <file>           ''
-logger <classname> the class which is to perform logging
-listener <classname> add an instance of class as a project listener
-noinput            do not allow interactive input
-buildfile <file>   use given buildfile
-file <file>        ''
-f <file>           ''
-D<property>=<value> use value for given property
-keep-going, -k    execute all targets that do not depend
                    on failed target(s)
-propertyfile <name> load all properties from file with -D
                    properties taking precedence
-inputhandler <class> the class which will handle input requests
-find <file>         (s)earch for buildfile towards the root of
-s <file>            the filesystem and use it
-nice number        A niceness value for the main thread:
                    1 (lowest) to 10 (highest); 5 is the default
-nouserlib          Run ant without using the jar files from ${user.home}/.ant/lib
-noclasspath        Run ant without using CLASSPATH
-autoproxy          Java 1.5+ : use the OS proxies
-main <class>       override Ant's normal entry point
```

```
#!/bin/bash
# Create a delta.df file -->
<echo />
<echo message="Creating delta.df to prepare schema update of your SmartDB ..." />
<echo />

<PCTDumpIncremental destFile="temp/delta.df" dlcHome="${dlc}"
  debugLevel="2" activeIndexes="0" removeEmptyDFFile="true" msgBufferSize="${Mm}" >

  <SourceDB dbname="temp/ref-SmartDB" singleUser="true" />
  <TargetDB dbname="${smartdb}" hostName="${smartdbhost}" dbPort="${smartdbport}" />
</PCTDumpIncremental>

<!-- Cleanup -->
<delete file="incrdump.e" />

<!-- Verify if delta.df file was created and load Schema, if there are schema changes -->
<available file="temp/delta.df" property="delta.df.present"/>

<antcall target="RemoveDropTable" />
<antcall target="LoadSchema" />
```

```
<target name="LoadSchema" if="${delta.df.present}">
```

```
  <!-- Prompt user before continue -->
  <echo /><echo />
  <echo message="We are now going to load the new schema into the SmartDB. " />
  <echo message="Please back it up first!" />
  <echo message="The pending schema changes can be reviewed in temp/delta.df." />
```

```
  <input
    message="Continue (y/n)?"
    validargs="y,n"
    addproperty="do.continue"/>

  <condition property="do.abort">
    <equals arg1="n" arg2="${do.continue}"/>
  </condition>
  <fail if="do.abort">Upgrade aborted by user.</fail>
```

Filtering of drop table

- SmartDB may be integrated into application database – so during schema update, we need to skip DROP TABLE, DROP SEQUENCE, ...

```
└
<target name="RemoveDropTable" if="${delta.df.present}">

  <copy file="temp/delta.df" tofile="temp/delta2.df">
    <filterchain>
      <linecontainsregexp negate="true" caseSensitive="false">
        <regexp pattern="drop (table|sequence) *" />
      </linecontainsregexp>
    </filterchain>
  </copy>

  <copy file="temp/delta2.df" tofile="temp/delta.df"/>
  <delete file="temp/delta2.df"/>
</target>
```

PCT

- <https://github.com/Riverside-Software/pct>
- ANT tasks for OpenEdge
- Progress Compiler Tools
- OpenSource
- „Support“ via Github Issue-Tracking

- PCT
- DlcHome
- PCTRun
- PCTCompile
- PCTWSComp
- PCTCreateBase
- Sports2000
- PCTDumpSchema
- PCTDumpSequences
- PCTLoadSchema
- PCTDumpIncremental
- PCTBinaryDump
- PCTBinaryLoad
- PCTDumpData
- PCTLoadData
- PCTSchemaDoc
- PCTLibrary
- PCTProxygen
- PCTXCode
- ProgressVersion
- PCTVersion
- ClassDocumentation
- HtmlDocumentation
- XmlDocumentation
- OEUnit
- ABLUnit
- RestGen

```
<target name="SmartComponentLibrary" description="" depends="create-icfdb,create-SmartDB,crea
  <PCTVersion />

  <PCTCompile destDir="." graphicalMode="true" dlcHome="${progress.DLC}"
    md5="true" minSize="false" cpinternal="iso8859-1" cpstream="iso8859-1"
    compileUnderscore="true" inputchars="16000" assemblies="Assemblies"
    iniFile="ini/progress.ini" token="4000" progPerc="10">

    <fileset dir="." casesensitive="false">
      <patternset refid="smartcomponents.sources.consultingwerk"/>
    </fileset>
    <fileset dir="." casesensitive="false">
      <patternset refid="smartcomponents.sources.openedge"/>
    </fileset>
    <fileset dir="." casesensitive="false">
      <patternset refid="smartcomponents.sources.allprocedural" />
    </fileset>

    <propath refid="smartcomponents.propath.demo" />
    <DBConnectionSet refid="smartcomponents.db.demo" />
  </PCTCompile>

  <deleteEmptyFolders dir="."/>
</target>
```

```
<!-- Targets for creating databases -->
<target name="create-emptydb" description="Builds an empty DB">
  <PCTCreateBase dbName="emptydb" destDir="../DB"
    blockSize="8" dlcHome="{progress.DLC}" />
</target>

<target name="create-icfdb" description="Builds an empty ICFDB">
  <PCTCreateBase dbName="icfdb" destDir="../DB"
    schemaFile="../DB/build/icfdb/icfdb.df" structFile="../DB/build/icfdb/icfdb.st"
    blockSize="8" dlcHome="{progress.DLC}" />
</target>

<target name="create-SmartDB" description="Builds an empty SmartDB">
  <PCTCreateBase dbName="SmartDB" destDir="../DB"
    schemaFile="../DB/build/SmartDB/SmartDB.df" structFile="../DB/build/SmartDB/SmartDB.st"
    blockSize="8" dlcHome="{progress.DLC}" />
</target>

<target name="create-Sports2000" description="Builds an empty Sports2000 DB">
  <PCTCreateBase dbName="sports2000" destDir="../DB"
    schemaFile="../DB/build/Sports2000/Sports2000.df" structFile="../DB/build/Sports2000/Sports2000.st"
    blockSize="8" dlcHome="{progress.DLC}" />
</target>
```

PCT

- Sample SmartComponent Library Database Upgrade Utility

ANT in PDSOE

- ANT editor with outline view and syntax validation
- Execution and configuration of ANT jobs from within the IDE
- ANT Builder

classpath- / Progress/FC110/ant/lib/FC1.jar /

Properties for ABL_117_64

type filter text

- > Resource
- Builders**
- > Progress OpenEdge
- Project Facets
- Project References
- Refactoring History
- Run/Debug Settings
- Service Policies
- > SonarLint
- Targeted Runtimes
- > Task Repository
- Task Tags
- > Validation
- > XDoclet

/?

```
/*.*r"/>
```

Edit Configuration

Edit launch configuration properties

Create a configuration that will run an Ant build file during a build.

Name:

Main Refresh Targets Classpath Properties JRE Environment Build Options

Buildfile:

Browse Workspace... Browse File System... Variables...

Base Directory:

Browse Workspace... Browse File System... Variables...

Arguments:

Variables...

Note: Enclose an argument containing spaces using double-quotes ("").

Set an Input handler

Revert Apply

OK Cancel

HTML class documentation

- ***PCTCompile*** with Debug-Listing Output
- ***PCT ClassDocumentation*** task extracts information about classes and methods into XML
- ***HtmlDocumentation*** Task generates documentation website
- ***Jenkins Post-Build activity*** performs SFTP upload to hosting webserver

- Alternative to ***ABLDoc*** included in OpenEdge

SmartComponent Library x

help.consultingwerkcloud.com/smartcomponent_library/release/

Authorization

Context

Exceptions

Localization

Menu

Routes

ListSmartFunction

ListSmartFunction_Generated

ListSmartMenu

ListSmartMenuStyle

ListSmartMenuStyle_Generated

ListSmartMenu_Generated

ListSmartModule

ListSmartModule_Generated

MenuBusinessEntity

MenuDataAccess

MenuDatasetController

MenuDatasetModel

MenuDatasetModel_Generated

MenuStyleBusinessEntity

MenuStyleDataAccess

MenuStyleDatasetController

MenuStyleDatasetModel

MenuStyleDatasetModel_Generated

ModuleBusinessEntity

ModuleDataAccess

ModuleDatasetController

ModuleDatasetModel

ModuleDatasetModel_Generated

MoveMenuStructureParameter

ProductBusinessEntity

Namespace: Consultingwerk.SmartFramework.Menu

Class MenuBusinessEntity

Parent classes: Progress.Lang.Object
 Consultingwerk.OERA.BusinessEntity
 Consultingwerk.SmartFramework.SmartBusinessEntity
 Consultingwerk.SmartFramework.Menu.MenuBusinessEntity

Inherits: Consultingwerk.SmartFramework.SmartBusinessEntity

Implements: Consultingwerk.OERA.IBusinessEntity, Consultingwerk.OERA.IBusinessService, Consultingwerk.OERA.IFetchDataByReference, Consultingwerk.OERA.IHasContextID

File: MenuBusinessEntity

Purpose: Business Entity for Menu

Author(s): Marko Rüterbories / Consultingwerk Ltd.

Created: 11.10.2012 01:41:25

Navigate to: [Methods](#) | [Constructors](#) | [Events](#) | [Properties](#)

Method Summary

Options	Name	Purpose
+	CanFind (dataset-handle, CanFindParameter)	Returns a TRUE value if a record is found otherwise it returns FALSE. CAN-FIND does the Business Entity or its caller. <i>Inherited from Consultingwerk.OERA.BusinessEntity</i>
+	CountResultRecords (dataset-handle, ICountRecordsRequest)	Counts the number of results of the query <i>Inherited from Consultingwerk.OERA.BusinessEntity</i>
#	DestroyDataAccessObject ()	Unloads the DataAccess object <i>Inherited from Consultingwerk.OERA.BusinessEntity</i>
#	FetchChildTableRecords (handle)	Populates records in the child table identifi table <i>Inherited from Consultingwerk.OERA.BusinessEntity</i>
+	FetchData (IFetchDataRequest)	Fetch data from the Data Access object

Top

37

Agenda

- Progress Developer Studio
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- **Jenkins**
- ABLUnit and SmartUnit
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- JIRA and Mylyn



Jenkins CI Server

- Continuous Integration – permanent merging of various changes
- Forked from Hudson CI
- Standard tool for centralized execution of build and test jobs
- Controlled environment for the execution of (Build or Test) „Jobs“
- Visualization of success or failure of jobs, visualization of Unit Test results
- Emails on fail or other events

Übersicht [11.7] [Jenkins] x

192.168.0.44:8080/job/11.7/

Jenkins 1 Suchen Mike Fechner | Abmelden

Jenkins > 11.7 > [AUTO-AKTUALISIERUNG EINSCHALTEN](#)

Up
 Status
 Configure
 New Item
 Delete Folder
 Benutzer
 Build-Verlauf
 Projektbeziehungen
 Fingerabdruck überprüfen
 Copy Folder
 Move
 Zugangsdaten

[Beschreibung hinzufügen](#)

All +

S	W	Name ↓	Letzter Erfolg	Letzter Fehlschlag	Letzte Dauer
		SmartComponent Library 117-64	23 Stunden - #292	5 Tage 5 Stunden - #279	10 Minuten
		SmartComponent Library 117-64 - Class Documentation Test	1 Monat 10 Tage - #1	Unbekannt	38 Minuten
		SmartComponent Library 117_64 - Checkin Classdoc	1 Tag 14 Stunden - #24	10 Tage - #19	33 Minuten
		SmartComponent Library 117_64 - Class Documentation	6 Stunden 33 Minuten - #49	5 Tage 6 Stunden - #42	56 Minuten
		Unit-Test SCL 117-64 - colon U Test	17 Stunden - #188	Unbekannt	7 Minuten 25 Sekunden
		Unit-Test SCL 117-64 - Localizable Test	16 Stunden - #188	Unbekannt	2 Minuten 32 Sekunden
		Unit-Test SCL 117-64 - Parameter Comment Validation	17 Stunden - #188	4 Tage 23 Stunden - #172	10 Minuten
		Unit-Test SCL 117_64 - Common	8 Stunden 48 Minuten - #300	4 Tage 21 Stunden - #274	1 Stunde 39 Minuten

Symbol: [S](#) [M](#) [L](#)

Legende [RSS Alle Builds](#) [RSS Nur Fehlschläge](#) [RSS Nur jeweils letzter Build](#)

Build Warteschlange (1)
 P4Review

Build-Prozessor-Status
 master
 1 11.7 » SmartComponent Library 117-64 [#293](#)

Job execution triggered by

- Manually via web site
- Manually via command line (Jenkins CLI)
- (Manually) via web service
- Timer/schedule based
- After (successful) execution of other jobs
- After every SCM-Commit, Pull Request, Shelve, ... depending on the SCM Tool

Build-Auslöser

- Builds von außerhalb starten (z.B. skriptgesteuert) ?
- Build when another project is promoted
- Builds zeitgesteuert starten ?

Zeitplan

0 6 ***

⚠ Verwenden Sie zur gleichmäßigen Lastverteilung "H 6 ***" statt "0 6 ***"

Letzter Lauf am Donnerstag, 4. Mai 2017 06:00 Uhr MESZ; Nächster Lauf am Freitag, 5. Mai 2017 06:00 Uhr MESZ.

- GitHub hook trigger for GITScm polling ?
- Perforce triggered build.
- Source Code Management System abfragen ?

Zeitplan

⚠ Meinen sie mit "*****" wirklich "jede Minute"? Vielleicht meinen Sie eher "H *****"

Letzter Lauf am Freitag, 5. Mai 2017 05:34 Uhr MESZ; Nächster Lauf am Freitag, 5. Mai 2017 05:34 Uhr MESZ.

Ignore post-commit hooks ?

- Starte Build, nachdem andere Projekte gebaut wurden ?

Speichern

Apply

Master/Slave configuration

- Supports central management of jobs on multiple hosts
- Integration of different OS's, like Linux on a VM
- Permanent verification that the backend runs on slave: Compile & Unit Tests
- Jenkins OpenEdge plug-in simplifies management of OE releases on slaves
<https://github.com/riverside-software/openedge-jenkins-plugin>

Linux [Jenkins] x

192.168.0.44:8080/computer/Linux/

Jenkins Knoten Linux

Mike Fechner | Abmelden

[Zurück zur Liste](#)

Status

- Delete Agent
- Konfigurieren
- Build-Verlauf
- Auslastung
- Script-Konsole
- Log
- Systeminformationen
- Trennen
- Monitoring

Nächste Builds

Unit-Test SCL 116_6...	05/05/2017 08:11
Unit-Test SCL Trunk...	05/05/2017 08:13

Build-Prozessor-Status

- 1 Ruhend
- 2 Ruhend
- 3 Ruhend

Agent Linux (Linux VM auf Buildserver)

[Knoten temporär abschalten](#)

Labels

linux

Projekte, die an Linux gebunden sind

S	W	Name ↓	Letzter Erfolg	Letzter Fehlschlag	Letzte Dauer
		11.6 » SmartComponent Library 116_64 - Linux	23 Stunden - #667	16 Tage - #625	6 Minuten 56 Sekunden
		11.6 » Unit-Test SCL 116_64 - Common - Linux	9 Stunden 27 Minuten - #1212	16 Tage - #1103	11 Minuten
		P4Review - Linux	5 Monate 8 Tage - #689	5 Monate 8 Tage - #932	2,2 Sekunden
		SCL-Trunk » SmartComponent Library Trunk - Linux	23 Stunden - #291	3 Monate 2 Tage - #131	8 Minuten 59 Sekunden
		SCL-Trunk » Unit-Test SCL Trunk - Common - Linux	9 Stunden 25 Minuten - #577	9 Tage 8 Stunden - #541	8 Minuten 22 Sekunden

Symbol: [S](#) [M](#) [L](#)

[Legende](#) [RSS Alle Builds](#) [RSS Nur Fehlschläge](#) [RSS Nur jeweils letzter Build](#)

Hilf uns, diese Seite zu lokalisieren.

Erstelldatum dieser Seite: 05.05.2017 05:39:03 MESZ [REST API](#) [Jenkins ver. 2.46.2](#)

Disabled

Performance considerations

- Server or Workstation
- Large number of CPU's
- Lots of RAM
- SSD
- VM-Ware for alternative OS
 - Currently Linux
 - Maybe soon we'll include different Window releases (more on next slides)
- The only physical server remaining at Consultingwerk (due to costs)

Agenda

- Progress Developer Studio
- OEDT
- Perforce SCM
- ANT & PCT
- Jenkins
- **ABLUnit and SmartUnit**
- Proparse
- SonarSource and SonarLint
- JIRA and Mylyn



A very recent example ...

- Windows 10 Creators Upgrade (April 2017) breaks INPUT THROUGH statements from Progress 8.3 - OpenEdge 11.7
- Used in a method to verify email addresses (MX record lookup), manual test not likely
- Jenkins Job alerted us around noon after the Windows update was applied to the build server
- Only two days later, discussions around the issue on Stackoverflow, Progress Communities and later in PANS – Unit Tests saved the day!

```

464 * @param pcDomain Domain string to lookup as an MX
465 * @return Returns TRUE if the MX lookup was successful
466 */
467 METHOD PROTECTED STATIC LOGICAL VerifyMXRecord (pcDomain AS CHARACTER):
468
469     DEFINE VARIABLE cOutput          AS CHARACTER NO-UNDO FORMAT "x(70)":U.
470     DEFINE VARIABLE cFilename        AS CHARACTER NO-UNDO.
471     DEFINE VARIABLE cErrorMessage   AS CHARACTER NO-UNDO.
472     DEFINE VARIABLE lReturnedValue AS LOGICAL    NO-UNDO.
473
474     DEFINE VARIABLE iValue AS INTEGER    NO-UNDO.
475     DEFINE VARIABLE cValue AS CHARACTER NO-UNDO.
476
477     IF OPSYS BEGINS "WIN":U THEN DO:
478
479         cFilename = SUBSTITUTE ("%&l~\nslookup.txt":U, SESSION:TEMP-DIRECTORY).
480
481         LogManager:WriteMessage ("Filename: ":U + cFilename, "NetworkHelper":U).
482
483         OUTPUT TO VALUE (cFilename).
484
485         PUT UNFORMATTED "set q=mx":U SKIP .
486         PUT UNFORMATTED pcDomain SKIP .
487
488         OUTPUT CLOSE .
489
490         INPUT THROUGH VALUE (SUBSTITUTE ("type &l | nslookup":U, QUOTER (cFilename)))
491
492         importLoop:
493         REPEAT ON ERROR UNDO, THROW:
494             IMPORT UNFORMATTED cOutput .
495
496             LogManager:WriteMessage ("Output: ":U + cOutput, "NetworkHelper":U).
497
498             IF INDEX (cOutput, "****":U) > 0 THEN DO:
499
500                 IF NUM-ENTRIES (cOutput, "":U) >= 2 THEN DO:
501                     cErrorMessage = TRIM (ENTRY (2, cOutput, "":U)) + " (&l)":U.
502                     LEAVE importLoop.
503                 END.
504             ELSE
505                 cErrorMessage = "Unknown Error ocured for Domain: &l":U.
506
507             END.
508         END.

```

```

466 */
467 METHOD PROTECTED STATIC LOGICAL VerifyMXRecord (pcDo
468
469     DEFINE VARIABLE cOutput          AS CHARACTER NO-U
470     DEFINE VARIABLE cError          AS CHARACTER NO-U
471     DEFINE VARIABLE cFilename       AS CHARACTER NO-U
472     DEFINE VARIABLE cErrorMessage   AS CHARACTER NO-U
473     DEFINE VARIABLE lReturnedValue AS LOGICAL    NO-U
474
475     DEFINE VARIABLE iValue AS INTEGER    NO-UNDO.
476     DEFINE VARIABLE cValue AS CHARACTER NO-UNDO.
477
478     IF OPSYS BEGINS "WIN":U THEN DO ON ERROR UNDO, T
479
480     cFilename = FileHelper:GetTempFileName().
481     cError = FileHelper:GetTempFileName().
482
483     LogManager:WriteMessage ("Filename: ":U + cF
484
485     OUTPUT TO VALUE (cFilename).
486
487     PUT UNFORMATTED "set q=mx":U SKIP .
488     PUT UNFORMATTED pcDomain SKIP .
489
490     OUTPUT CLOSE .
491
492     OS-COMMAND SILENT VALUE (SUBSTITUTE ("type &
493                                     QUOTER (cFi
494                                     QUOTER (cEr
495
496     INPUT FROM VALUE (cError) .
497
498     importLoop:
499     REPEAT ON ERROR UNDO, THROW:
500         IMPORT UNFORMATTED cOutput .
501
502         LogManager:WriteMessage ("Output: ":U +
503
504         IF INDEX (cOutput, "****":U) > 0 THEN DO:
505
506             IF NUM-ENTRIES (cOutput, "":U) >= 2
507                 cErrorMessage = TRIM (ENTRY (2,
508                 LEAVE importLoop.
509             END.
510         ELSE

```

The screenshot shows a web browser window displaying the Jenkins interface. The browser's address bar shows the URL: `192.168.0.44:8080/job/11.7/job/Unit-Test%20SCL%20117_64%20-%20Common/182/`. The Jenkins header includes the logo, the name "Jenkins", a search bar with the text "Suchen", and the user name "Mike Fechner" with a link to "Abmelden". The breadcrumb navigation shows: `Jenkins > 11.7 > Unit-Test SCL 117_64 - Common > #182`. On the right side of the header, there is a link for "AUTO-AKTUALISIERUNG EINSCHALTEN".

The main content area is titled "Build #182 (18.04.2017 13:11:22)". To the right of this title, it indicates the build was started "Vor 16 Tage" and took a duration of "48 Minuten" on the "Master". A link "Beschreibung hinzufügen" is available.

A left-hand sidebar contains navigation links: "Zurück zum Projekt", "Status", "Änderungen", "Konsolenausgabe", "Build-Informationen editieren", "Build löschen", "Label This Build", "Testergebnis", "Vorheriger Build", and "Nachfolgender Build".

The build details section includes:

- Build-Artefakte:** A file named `profiler.zip` with a size of 784,39 KB and a "view" link.
- Summary Of Changes - View Detail:** A commit by "Mike Fechner@Consultingwerk1" on "17.04.2017 21:44:05" with ID "41287". The commit message is "SCL-1740 : Implement Web Handlers that allow interacting with the session context".
- Build Trigger:** A message stating the build was started by a previous project "SmartComponent Library 117-64", Build 229, and was originally triggered by:
 - Build wurde durch eine SCM-Änderung ausgelöst.
- Testergebnis:** A message indicating "2 fehlgeschlagene Tests (+2)" with links to the test reports:
 - `Consultingwerk_UtilTest_NetworkHelperEmailValidationTest_TestAddressNonValidMX`
 - `Consultingwerk_OeraTests_ValidateTests_ValidateTests_TestValidateEmailInvalidMX`

The footer of the page contains a link "Hilf uns, diese Seite zu lokalisieren.", the creation date "Erstelldatum dieser Seite: 05.05.2017 05:51:11 MESZ", links for "REST API" and "Jenkins ver 2.46.2", and a "Disabled" notification icon.

ABLUnit

- ABLUnit Unit Test Werkzeug available since OpenEdge 11.4
- Integrated into Progress Developer Studio
- Starting OpenEdge 11.7 Unit tests can be debugged in PDOSE
- Procedural und class based tests und testsuites
- @Test Annotation, @before, @after, ...
- @Test (expected=„ErrorClassName“)
- JUnit compatible output

ABLUnit Demo

- Demo ABL Unit in Progress Developer Studio

The screenshot shows a web browser window displaying the GitHub Wiki page for the 'ABLUnit' repository. The browser's address bar shows the URL 'https://github.com/Riverside-Software/pct/wiki/ABLUnit'. The repository name 'Riverside-Software / pct' is visible at the top, along with statistics for Watch (20), Unstar (35), and Fork (23). The page title is 'ABLUnit', with a note that it was last edited by Gilles QUERRET on July 29, 2016. The 'Description' section states: 'Run an ABLUnit tests sequence. For further information, refer to the progress documentation.' The 'XML namespace' section shows the namespace '<pct:ABLUnit />'. The 'Parameters' section contains a table with three columns: 'Attribute', 'Description', and 'Default value'. The table lists parameters such as 'destDir', 'writeLog', and 'haltOnFailure'. On the right side, there is a 'Pages' sidebar with 53 items, including 'QuickStart', 'Screenshots', 'Changelog', 'InstallDocumentation', 'FAQ', and 'Tasks' with sub-items like 'PCT', 'DlcHome', 'PCTRun', etc.

11.7 » Unit-Test SCL 117 x ABLUnit · Riverside-Softv x

GitHub, Inc. [US] | https://github.com/Riverside-Software/pct/wiki/ABLUnit

This repository Search Pull requests Issues Gist

Riverside-Software / pct Watch 20 Unstar 35 Fork 23

Code Issues 5 Pull requests 0 Projects 0 Wiki Pulse Graphs

ABLUnit

Gilles QUERRET edited this page on 29 Jul 2016 · 5 revisions

Description

Run an ABLUnit tests sequence. For further information, refer to the progress documentation.

XML namespace

```
<pct:ABLUnit />
```

Parameters

Attribute	Description	Default value
destDir	Directory where to put result file. Don't use destDir under Linux, as a bug prevents results.xml from being generated	Base directory
writeLog	Creates <code>ablunit.log</code> in temp directory in case of error	False
haltOnFailure	Stop the build process if a test fails (errors are considered failures)	False

Pages 53

- QuickStart
- Screenshots
- Changelog
- InstallDocumentation
- FAQ
- Tasks
 - PCT
 - DlcHome
 - PCTRun
 - PCTCompile
 - PCTWSComp
 - PCTCreateBase
 - Sports2000
 - PCTDumpSchema
 - PCTDumpSequences
 - PCTLoadSchema
 - PCTDumpIncremental

11.7 » Unit-Test SCL 117_ x ABLUnit · Riverside-Softw x

GitHub, Inc. [US] | https://github.com/Riverside-Software/pct/wiki/ABLUnit

destDir	Directory where to put result file. Don't use destDir under Linux, as a bug prevents results.xml from being generated	Base directory
writeLog	Creates <code>ablunit.log</code> in temp directory in case of error	False
haltOnFailure	Stop the build process if a test fails (errors are considered failures as well)	False

† Only one of those attributes is mandatory ‡ Mandatory attribute

ABLUnit inherits attributes from [PCT](#) and [PCTRun](#).

Parameters as nested elements

Fileset

Support the standard Ant Fileset to get a set of test files.

Examples 1

```
<ABLUnit>
  <fileset dir="src" includes="**/*.p" />
  <fileset dir="src2" includes="**/*.cls" />
  <propath>
    <pathelement path="src" />
    <pathelement path="src2" />
    <!-- When running on OE up to 11.3, don't forget to include ablunit.pl and OpenEdge.Core
    <pathelement location="/path/to/ablunit.pl" />
    <pathelement location="/path/to/OpenEdge.Core.pl" /> -->
  </propath>
</ABLUnit>
```

- o PCTCreateBase
- o Sports2000
- o PCTDumpSchema
- o PCTDumpSequences
- o PCTLoadSchema
- o PCTDumpIncremental
- o PCTBinaryDump
- o PCTBinaryLoad
- o PCTDumpData
- o PCTLoadData
- o PCTSchemaDoc
- o PCTLibrary
- o PCTProxygen
- o PCTXCode
- o ProgressVersion
- o PCTVersion
- o ClassDocumentation
- o HtmlDocumentation
- o XmlDocumentation
- o OJUnit
- o ABLUnit
- o RestGen
- Types
 - o PCTConnection
 - o DBConnectionSet
 - o PCTAlias
 - o RCodeSelector
 - o Option
 - o Parameter
 - o OutputParameter
 - o Holder
 - o PLFileSet
 - o Profiler

SmartUnit

- Unit-Test tool by Consultingwerk
- Only class based tests supported (tests can however execute procedures)
- Developed before other OpenEdge Unit-Test tools supported OO
- OpenEdge 10.2B – OpenEdge 11.7
- compatible output
- Alternative Test-Runner, e.g. based on scenario definitions or code quality checks like validation of comments in source

SmartUnit

- @Test Annotation für Klassen
- @Test Annotation für Methoden
- @before, @after, ...
- @Test (expected=„ErrorClassName“)
- **@Test (stop-after=5)**
- Relies on PCT
- Tests compatible between ABLUnit and SmartUnit
- We are executing test within PDSOE using ABLUnit

Agenda

- Progress Developer Studio
- OEDT
- Perforce SCM
- ANT & PCT
- Jenkins
- ABLUnit und SmartUnit
- **Proparse**
- SonarSource und SonarLint
- JIRA und Mylyn



Proparse

- ABL syntax parser, abstract view on ABL source code, based on ANTLR
- Foundation for various migration routines
- Open source
 - github.com/oehide/proparse
 - github.com/consultingwerk/proparse
 - github.com/riverside-software/proparse
- Actively maintained in various forks
- Support for 11.7 ABL syntax

Proparse

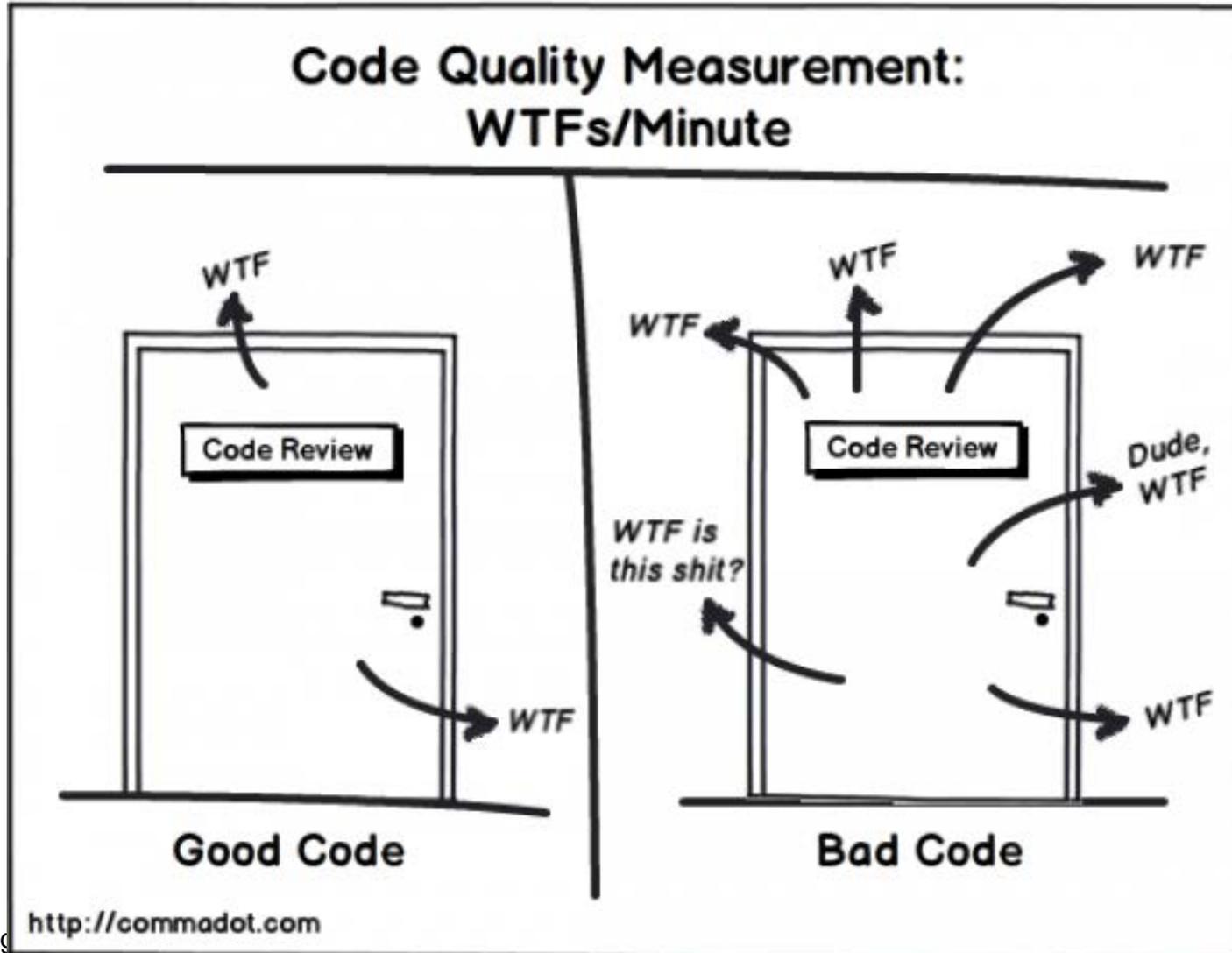
- Details skipped here – shown in my next presentation here

Agenda

- Progress Developer Studio
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- Proparse
- **SonarSource and SonarLint**
- JIRA and Mylyn



Code Quality measuring



SonarQube by SonarSource

- Frequently used Lint tool
- Support for various programming languages via plug-ins
- Java, JavaScript, C#, HTML, XML, CSS, ...
- OpenEdge Plugin developed by Riverside Software (Gilles Querret)
 - engine open source
 - rules commercial
- Available since 2016, permanently new features added

SonarQube by SonarSource

- Locates problems or potential bugs
- Violation of coding-standards
- Code duplication
- Unit-Test coverage

- Web-Dashboard
- CLI Utility (HTML or XML Reports)
- Eclipse Integration

SmartComponent Library

Quality Gate **Failed**

Coverage on New Code
26.4%
 ist weniger als 80.0%

Bugs & Vulnerabilities

Leak Period: since 41771 started vor 7 Tagen

45 **C** Bugs 0 **A** Vulnerabilities

0 **A** New Bugs 0 **A** New Vulnerabilities

Code Smells

56T **A** Debt 792 Code Smells

0 **A** New Debt 0 New Code Smells

Abdeckung

8.7% Coverage

26.4% Coverage on 220 New Lines to Cover

Duplications

2.6% Duplications 222 Duplicated Blocks

16.2% Duplications on 964 New Lines

OpenEdge **L** 409k
 Lines of Code

- XML | 21k
- CSS | 3.2k
- Web | 1.7k
- JSON | 12k

Quality Gate (Standard) SonarQube way

- Quality Profiles
- (CSS) SonarQube Way
 - (JSON) SonarQube Way
 - (OpenEdge) Sonar way (extended)
 - (OpenEdgeDB) Sonar way
 - (Web) Sonar way
 - (XML) Sonar way

- Confluence
- Jenkins
- JIRA

Schlüssel
 Consultingwerk:SCL

- Activity
- 4. Juni 2017 **41940**
 - 4. Juni 2017 Project Analyzed
 - 4. Juni 2017 Project Analyzed
 - 4. Juni 2017 Project Analyzed

```
<target name="sonarsource-standard">

  <p4jcounter name="change" property="p4.change" />
  <p4jcounter name="sonar_current_release" property="p4.sonar_current_release" />
  <!-- keep p4.change for release name -->
  <property name="sonar.projectVersion" value="{p4.sonar_current_release}"/>

  <loadproperties srcFile="standard.properties"/>

  <echoproperties>
    <propertyset>
      <propertyref prefix="sonar."/>
    </propertyset>
  </echoproperties>

  <taskdef uri="antlib:org.sonar.ant" resource="org/sonar/ant/antlib.xml" />

  <sonar:sonar />

</target>
```

```
1 sonar.projectKey=Consultingwerk:SCL
2 sonar.projectName=SmartComponent Library
3 # Or use your Continuous Integration build number
4 sonar.projectVersion=1
5 sonar.projectDescription=...
6 # Comma-separated list of directories - Dump contains .df files, and src/openedge contains source code
7 sonar.sources=dump,src/openedge
8 # Comma-separated list of patterns to be excluded
9 sonar.exclusions=src/procedures/sample/excl/**
10 sonar.sourceEncoding=iso8859-1
11 # Directory where r-code can be found
12 sonar.o binaries=build
13 # Comma-separated list of PL or directories
14 sonar.oeproath=src/openedge,src/openedge/src,src/openedge/Consultingwerk/Studio/ProductDumpHack/src,src/openedge/OERA
15 # DLC installation path (see next property)
16 sonar.oedlc=/Progress/OpenEdge117_64
17 # Append $DLC/gui, $DLC/tty and $DLC/src to the proath
18 sonar.oeproath.dlc=true
19 # Comma-separated list of full DF files
20 sonar.oedatabases=dump/smartdb.df,dump/icfdb.df,dump/sports2000.df
21 # Semi colon separated list of entries, each entry is a comma-separated list of aliases (first entry is the db name)
22 sonar.oaliases=
23 # No Copy-Paste Detection on DF files
24 sonar.cpd.exclusions=dump/**
25 # Set to true to generate token listing in .tokens subdirectory
26 sonar.oepd.debug=false
27 # Set to true to generate AST for each file in .proparse subdirectory
28 sonar.oeparse.debug=true
29
30
31 # extracted files from profiler.zip file from the unit tests jobs (artefact)
32 sonar.oeprofiler.dirs=profiler
33
```

SonarSource Demo

- Review the SonarSource web-console

SonarLint for Eclipse Demo

- Integration into Progress Developer Studio

```
/*-----  
Purpose:  
Notes:  
-----  
@VisualDesigner.  
METHOD PRIVATE VOID button1_Click( INPUT sender AS System.Object, INPUT e AS  
  
    DEFINE VARIABLE cTest AS CHARACTER NO-UNDO INIT "abc" .  
  
    cTest = "def" .  
  
    REPEAT:  
  
    END.|  
  
END METHOD.  
  
METHOD PRIVATE VOID InitializeComponent( ):
```

Development of custom rules

- Java Plugin in SonarQube, SDK
- Based on proparse or XREF, ...
- Rule requests can be issued at Github
<https://github.com/Riverside-Software/sonar-openedge/issues>
- e.g. **SUBSTITUTE ('&1 &2',
lcLongchar1, cCharacter1)**
- **Community needs to provide knowledge of critical code!!!**

Agenda

- Progress Developer Studio
- OEDT
- Perforce SCM
- ANT & PCT
- Jenkins
- ABLUnit and SmartUnit
- Proparse
- SonarSource and SonarLint
- **JIRA and Mylyn**



JIRA and Mylyn

- JIRA used as issue tracking
 - Bugs, new features, improvements, Tasks
 - Workflows
 - Agile planning
- JIRA integrated into in PDSOE via Mylyn plug-in
- JIRA synchronises with Perforce (Changes linked to tickets)
- JIRA integrates with Jenkins (Build-Problems may create JIRA tickets)

Mylyn

- Eclipse Foundation project
- Eclipse plugin with highest number of downloads
- Integrates within Eclipse and with each other
 - Task Repositories (issue tracking systems, e.g. JIRA, Bugzilla)
 - SCM Tools (Perforce, Git, SVN)
 - Build Monitoring (Jenkins)
 - Time Tracking
- Installation in OpenEdge 11.7 easy!

Task Focussed UI

- When activating a task, Mylyn automatically maintains a task context by monitoring your interaction
- The Task-Focused UI uses the task context to reduce information overload and to automate the management of editors, views, change sets and other UI elements
- This increases productivity while working on the task and also makes it much easier to multitask because task contexts can be switched with a single click

Task Focussed UI

- **Filtering uninteresting elements from views (e.g. the Package Explorer) and decorating the most interesting elements**
- Automatic expansion management in views
- Automatic code folding in editors
- Reordering of content assist proposals
- **Automatic management of open editors**
- **Automatic change set management**
- **Commit message auto-population**

Mylyn Demo

- Create JIRA Ticket
- Start Working in JIRA Ticket
- Activating and Deactivating Task Context

Mylyn Downloads

- <http://www.eclipse.org/mylyn/>
- May need to install archived version that works with your PDSOE version on 11.6
- OpenEdge 11.7 works with most recent version
- <https://confluence.atlassian.com/display/IDEPLUGIN/Installation+and+Upgrade+Guide+for+the+Eclipse+Connector>
- <https://www.perforce.com/product/components/eclipse-plugin>

Questions

