

Customizing OpenEdge Architect

For non-Java Developers

*“Progress Development Studio for OpenEdge®”
in OpenEdge 11*

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Consultingwerk Ltd.

- Independent IT consulting organization
- Focusing on **OpenEdge** and **.NET**
- Located in Cologne, Germany
- Vendor of tools and consulting programs
- 22 years of Progress experience (V5 ... OE11)
- GUI for .NET early adaptor (since 10/2006)
- Recently started with iPhone/iPad development

OpenEdge® application modernisation solutions

- WinKit
- **SmartComponent Library**
- Dynamics4.NET
- Tools can be used together or separately
- Share common code base
- SmartComponents.Mobile,
SmartComponents.Web
- SmartBPMAdapter for OpenEdge BPM/Savvion

Agenda

- A (short) review of OpenEdge Architect
- Views and perspectives
- Some useful keyboard shortcuts
- (Personal) preferences in OpenEdge Architect
- Configuring custom file types
- Run configurations
- External tools
- Plugin installation
- Customizing OpenEdge Architect Templates
- Open files from ABL code

OpenEdge Architect

- 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 is integrated
- Extensible using 3rd party plug-ins (commercial, community based)
- Windows only (Linux support for OE11 dropped)

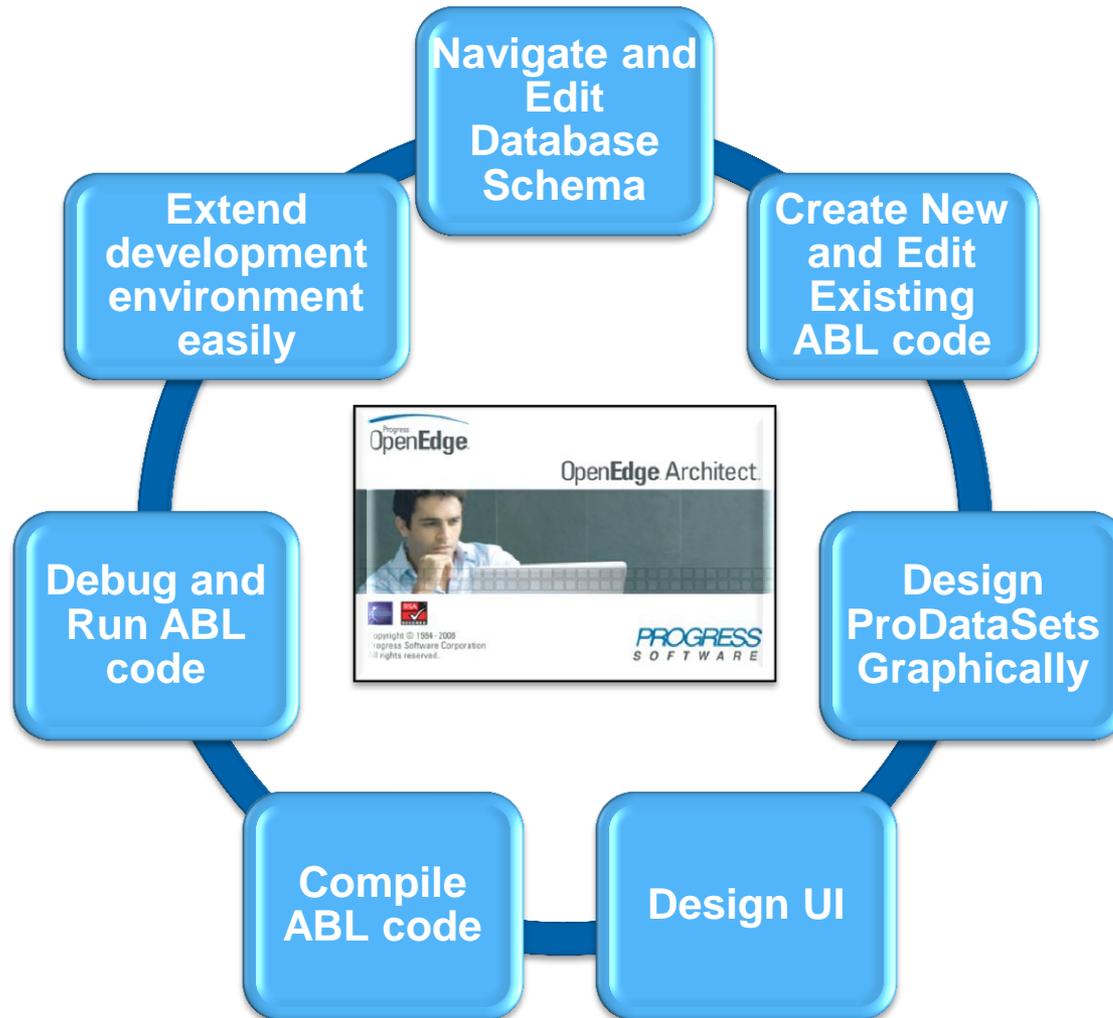
Reasons to migrate to OpenEdge Architect

- GUI for .NET
 - Visual Designer, Class Browser
- object-oriented coding
 - no class template in AppBuilder, class browser
- AppServer Development (10.2B, 11.0)
- Progress Tools Strategy
 - other development tools also Eclipse based (i.e. Sonic MQ, Sonic ESB, Savvion, OpenEdge BPM, ...)

OpenEdge Architect

- Eclipse is a Java Application
- Progress has created plugins for OpenEdge specific functionality
- Features (collection of plugins) and branding
- Progress compiler executed in `prowin32.exe` (AVM) or `_progres.exe` (for TTY code)
- Communication between Java and AVM via Network sockets
- ADE legacy tools (Data Dictionary) available via integrated AVM

What is OpenEdge Architect

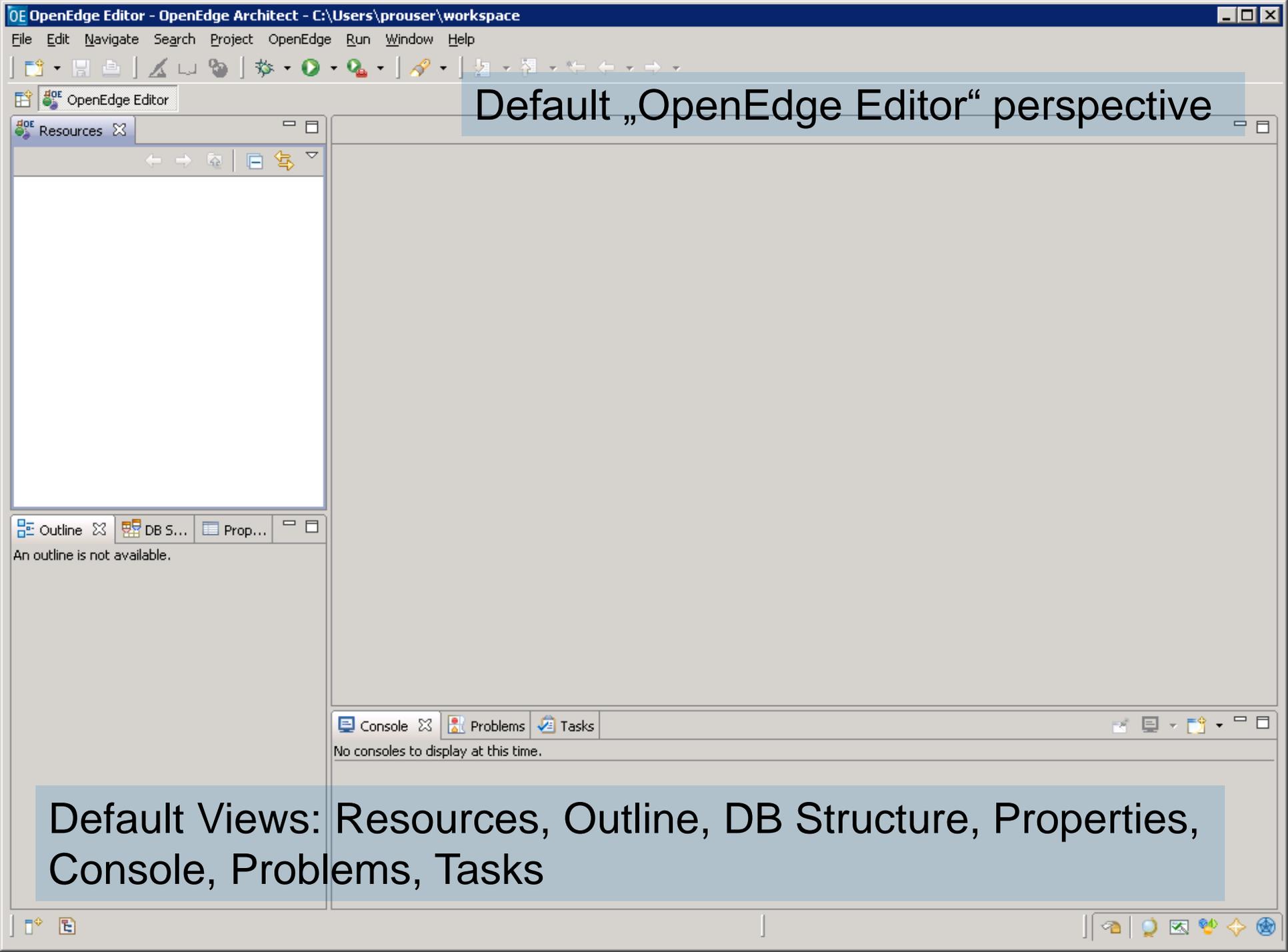


Demo of integrated features

- Class Browser
- Visual Designer
- Search & Replace
- Integrated Debugger (set break point)
- ABL online help (turn it into a fast view)
- Open Resource Dialog (CTRL-SHIFT-R)
- Outline / Quick Outline Dialog (CTRL-O)
- Hyperlink opening of files (include file, RUN, class reference)

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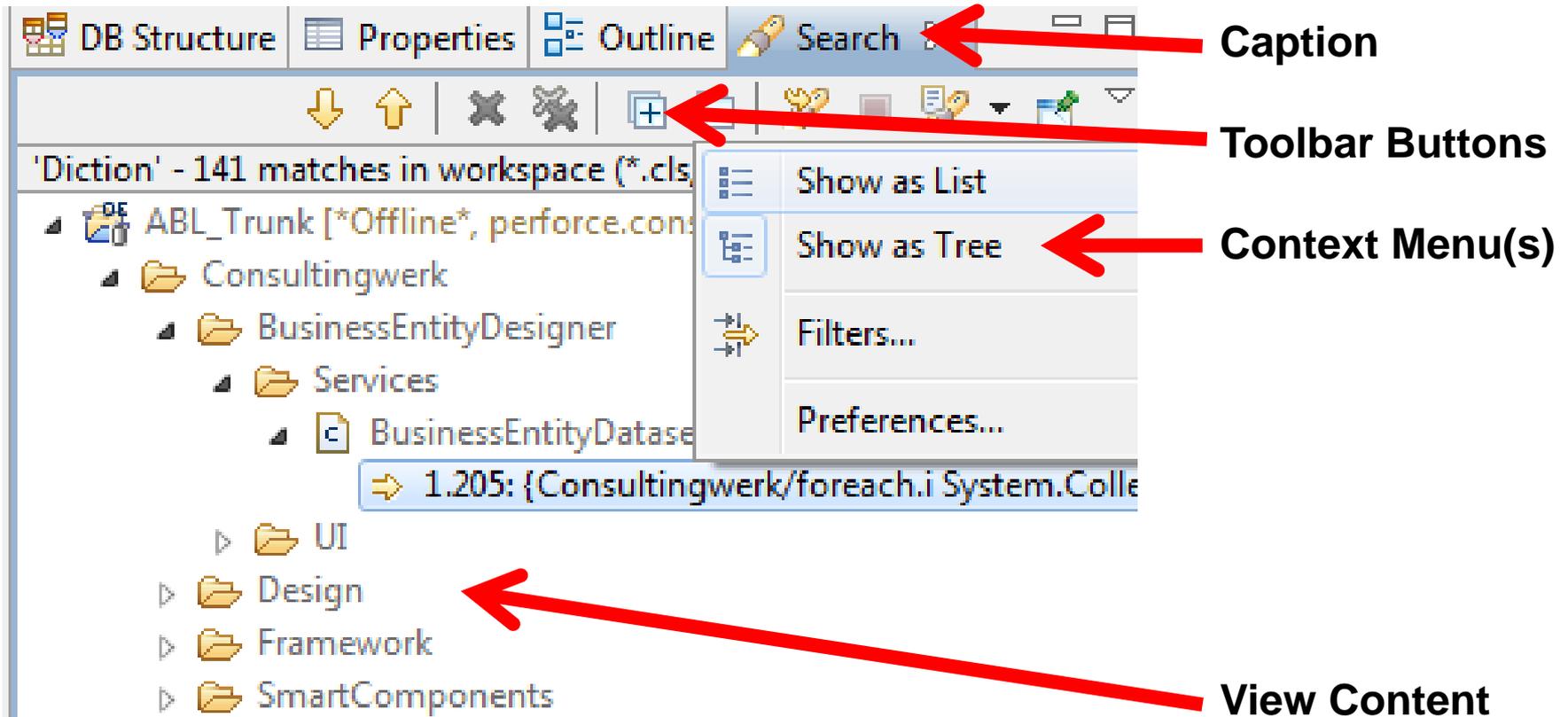
Default „OpenEdge Editor“ perspective

Default Views: Resources, Outline, DB Structure, Properties, Console, Problems, Tasks

Views

- Views support the developer by navigating to code, reviewing status information, access to IDE or plug-in functionality, ...
- Views can be opened and closed
- Window – Show View Dialog
- Views can be grouped together as tabs
- The views area can be split as needed
- Views or groups of views can be dragged out of the main workbench window

Elements of a View



Fast view

- Views that temporarily overlap the workbench window
- Accessed from a button in the workbench status area
- „Closed“ when loosing focus, just click somewhere else – don't „X“ them
- Each view can become a „fast view“
- Useful for reference style views: Class browser, online help, ...

Demo

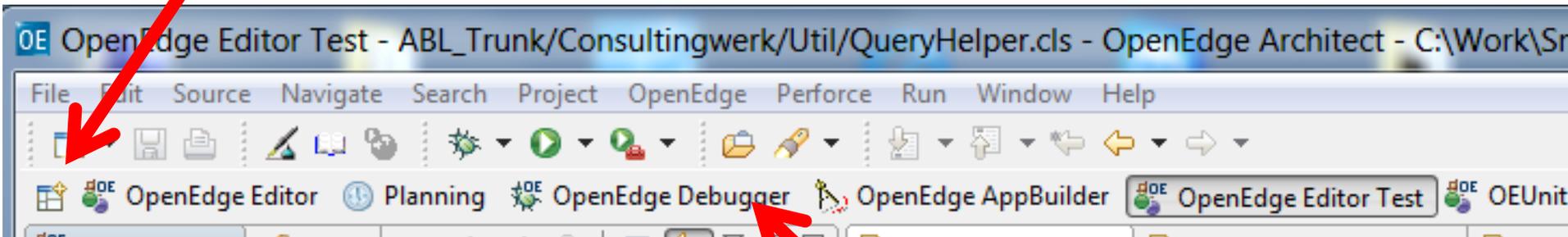
- Rearranging Views
- Class browser as fast view
- Making the ABL help a fast view

Perspectives

- Stored layout of views
- Organizing the workbench for different tasks:
 - Coding
 - Visual Designer / AppBuilder
 - Debugging
 - MyLyn planning
- Window – Open Perspective Dialog

Perspectives

Open Perspective Dialog



List of currently opened perspectives, allows quick switching

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A selection of keyboard shortcuts

- Ctrl-Shift-R: Open Resource
- Ctrl-O: Quick Outline in code editor
- Ctrl dot: Toggle between errors in code editor
- Ctrl-Shift-C: Check syntax
- Ctrl-S: Safe
- Ctrl-3: Open view, menu item, editor, ... (almost everything)
- Alt-Shift-P, Alt-Shift-F: New procedure, function
- Alt-Shift-M, Alt-Shift-Y: New method, new prop.

Ctrl-Shift-L

- Lists even more shortcuts
- Not all may be relevant to OpenEdge Architect

Activate Editor	F12
Add Constructor	Alt+Shift+C
Add Constructors from Super Class	Alt+Shift+S
Add Destructor	Alt+Shift+R
Add Event	Alt+Shift+E
Add Function	Alt+Shift+F
Add Method	Alt+Shift+M
Add Procedure	Alt+Shift+P
Add Property	Alt+Shift+Y
Add Static Constructor	Alt+Shift+T
Backward History	Alt+Left
Build All	Ctrl+B
Check syntax	Ctrl+Shift+C
Close	Ctrl+W
Close All	Ctrl+Shift+W
Collapse	Ctrl+Numpad_Subtract
Collapse All	Ctrl+Shift+Numpad_Divide
Content Assist	Ctrl+Space
Context Information	Ctrl+Shift+Space
Copy	Ctrl+C
Copy Lines	Ctrl+Alt+Down
Correct Case	Ctrl+Shift+L

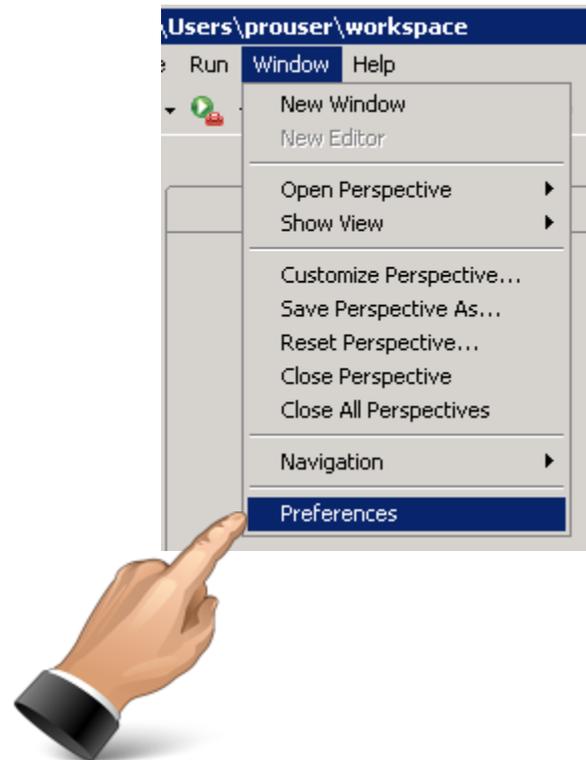
Press "Ctrl+Shift+L" to open the preference page.

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Workspace preferences in OEA

- Main menu-bar, Window -> Preferences



Workspace preferences in OEA

- General – Editors – Text Editors
 - Insert spaces for Tabs, Tab width, show line numbers, ...
- General – Search
 - Reuse editors ... turned off
- OpenEdge Architect – Editor
 - As you type: Case (upper or lower), case keywords, depending on your style: expand keywords

Workspace preferences in OEA

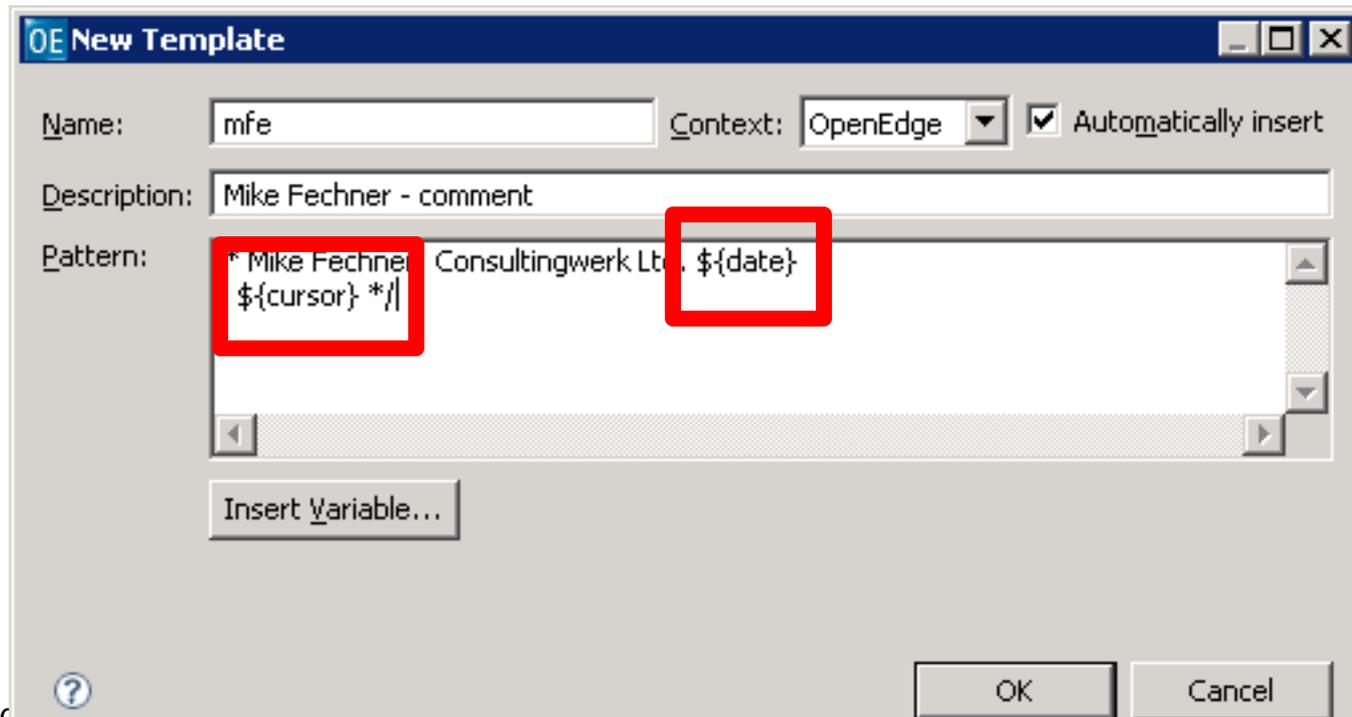
- General – Workspace
 - Refresh automatically (on fast machines, local source code)
- Refreshing causes Eclipse to search the file system for new, deleted, modified files
- Sync's Eclipse's view of the world
- Files not in sync will be skipped on compile, search, etc...
- Alternative is manual refresh (e.g. F5 key)

Workspace preferences in OEA

- OpenEdge Architect – Editor – Build
 - Auto check syntax (while typing)
 - Maximum number of errors reported per build: much higher than 100 (e.g. 100,000) when you have
 - templates or scratch files
 - migration routines that typically never compile
 - just never cleaned up source source code (Copy of test.p, test_backup.p)

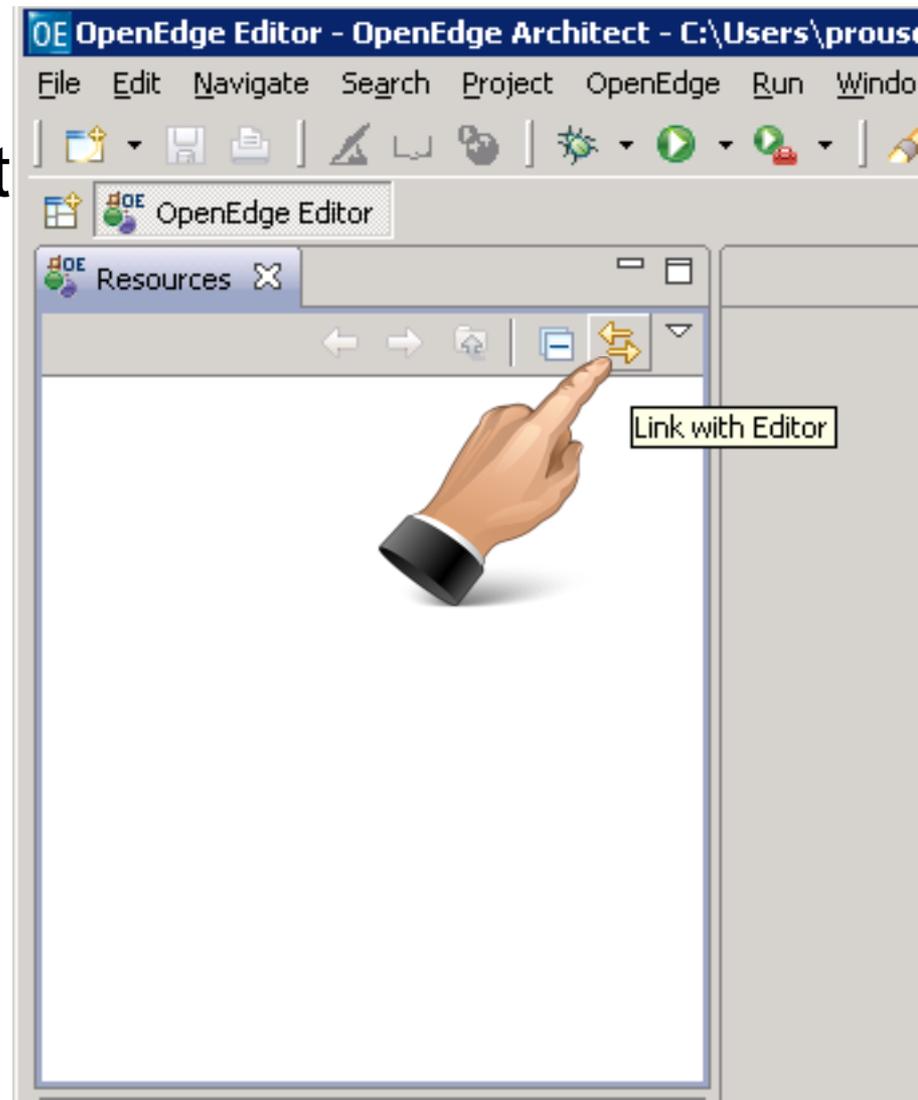
Workspace preferences in OEA

- OpenEdge Architect – Editor – Templates
 - Fix MES Template (Message statement)
 - mfe Template



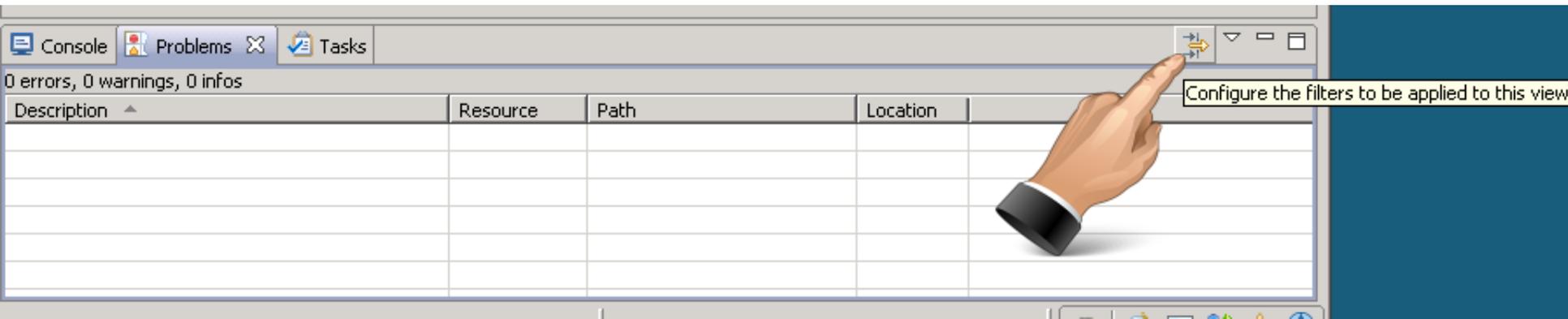
Link with Editor (Resource view)

- Keeps resource view (file browser) and current editor in sync when switching editor tabs



Error filters

- Use error filters dialog to configure filters
 - default (show all) usually not helpful on large projects
 - my preference is ‘selected element and its children’
 - or use working sets



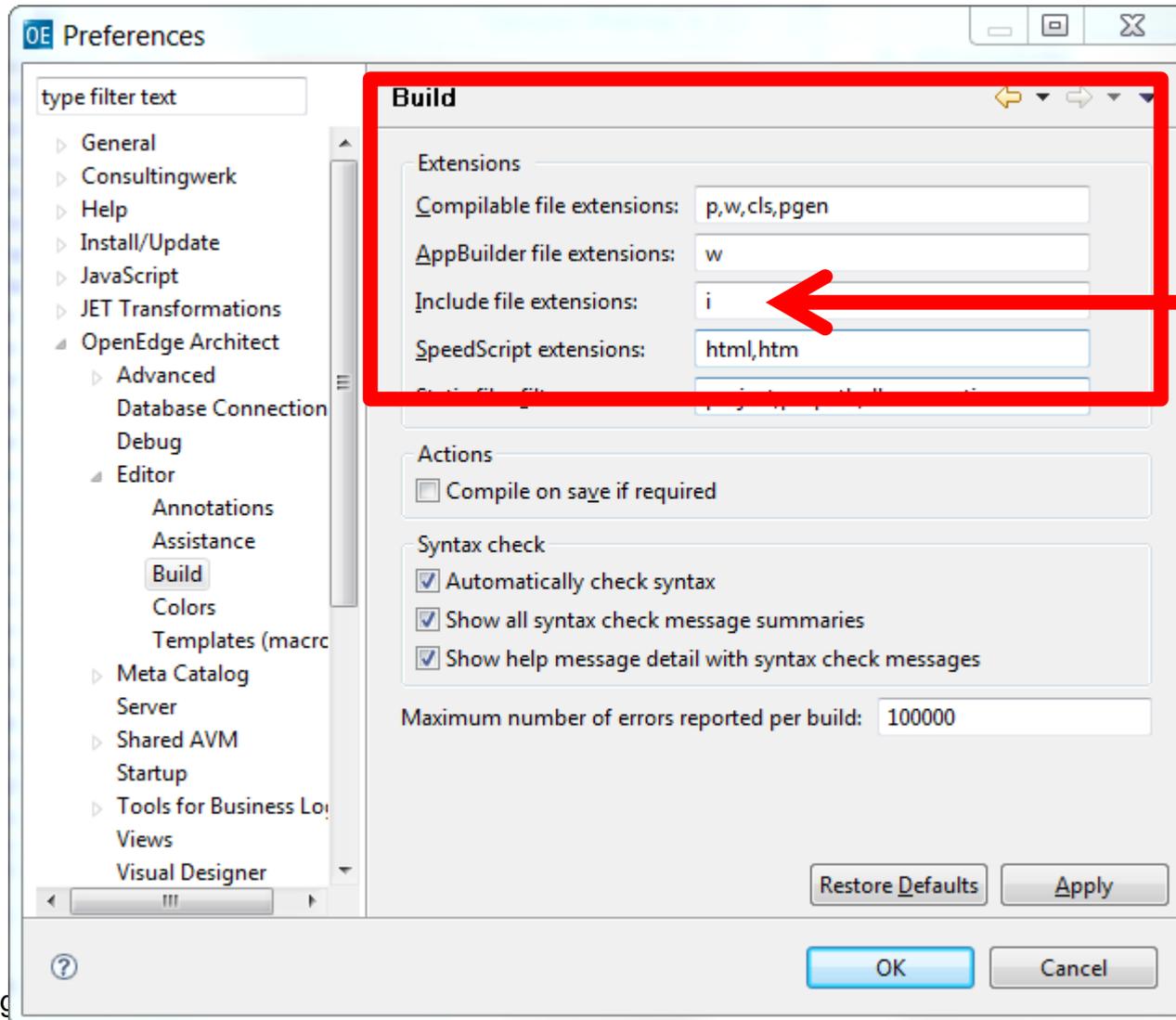
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Configuring custom file types

- Purpose of configuring custom file types
 - Defining the editor choices and defaults
 - Color coded source code editor for custom file extensions (.f include files etc.)
 - Configuring compilable file types
 - Include file tracking, hyperlink navigation

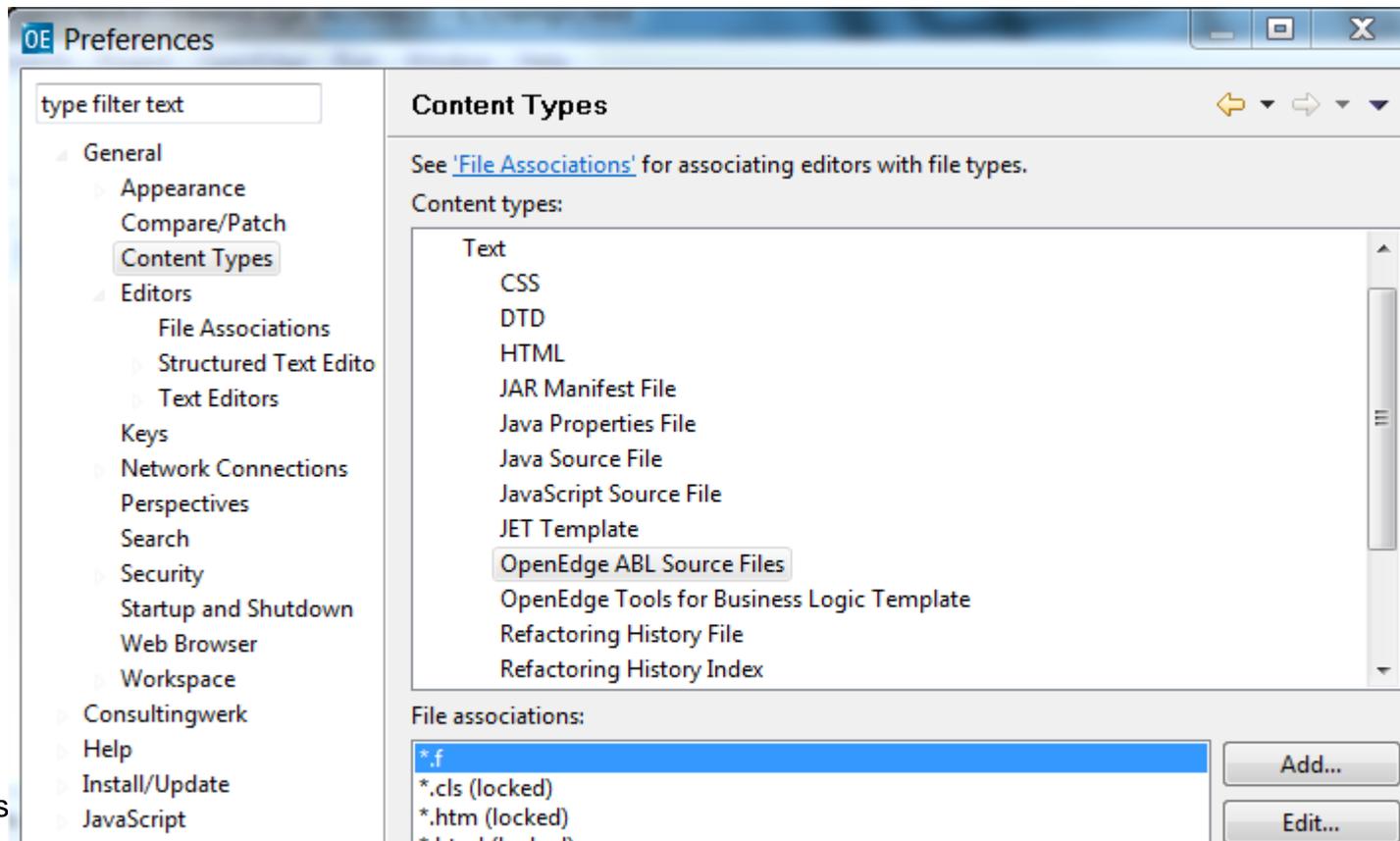
Open Edge Builder Properties



add custom
include
file extension

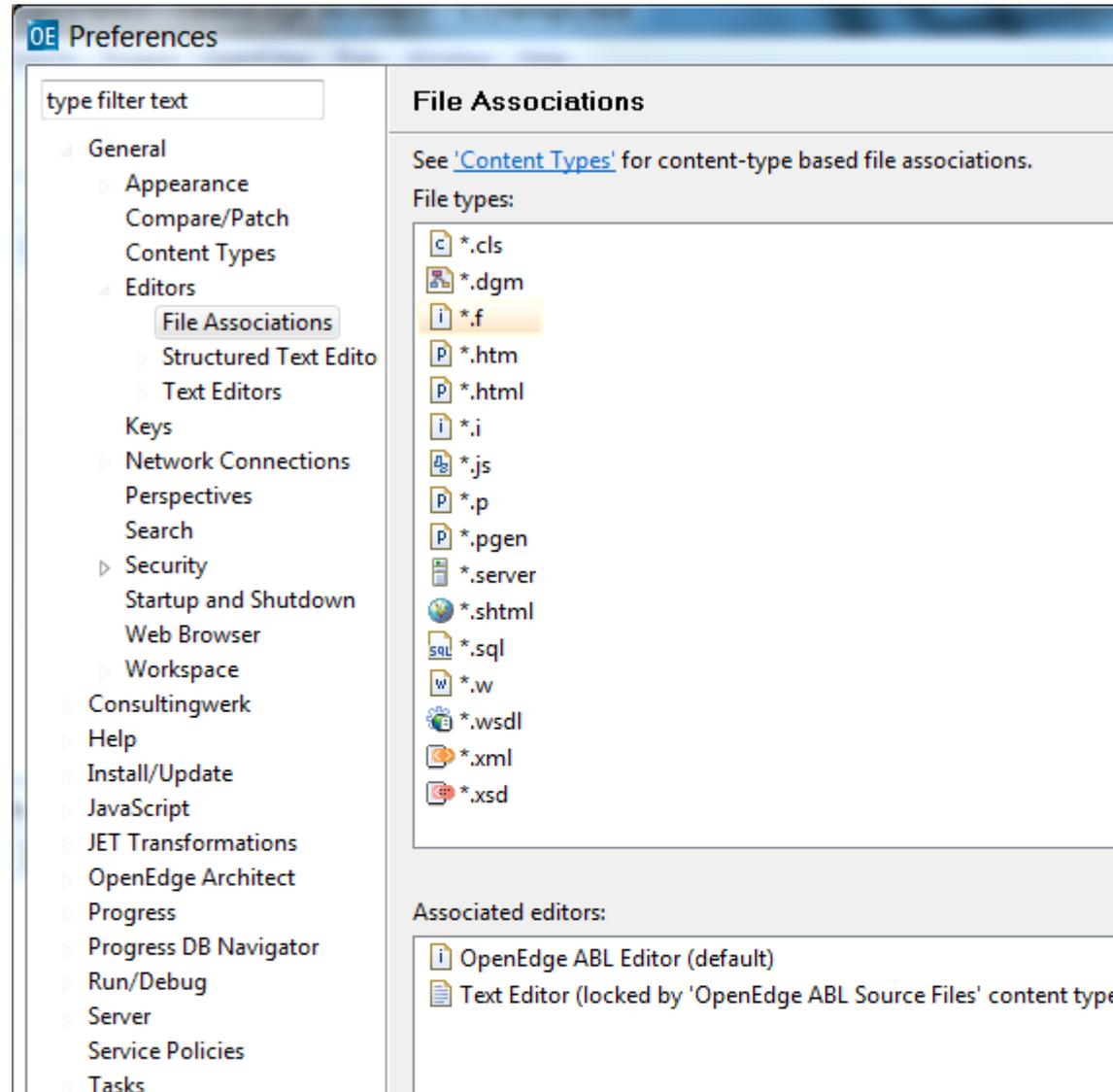
Content type definition

- Add extension to „OpenEdge ABL Source Files“ content types to enable color coding



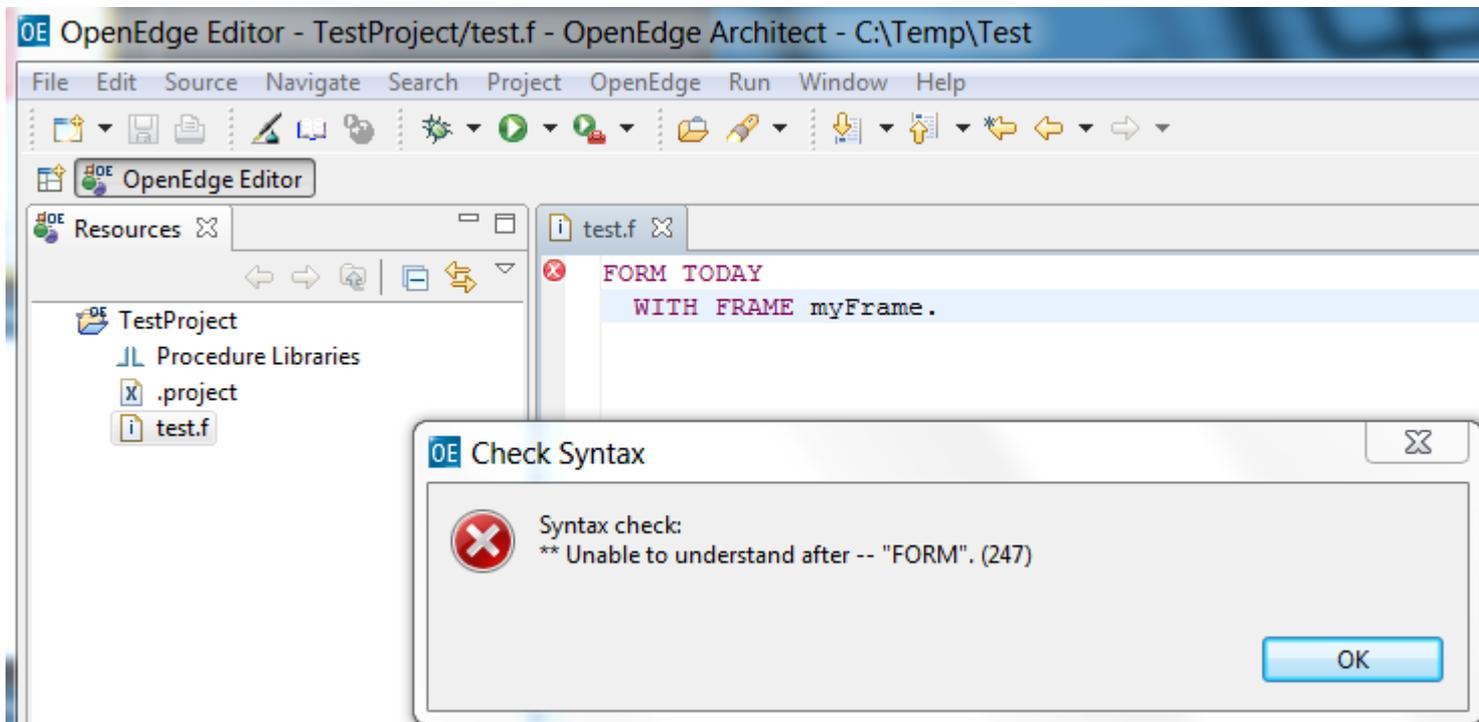
File Associations

- Add associated editors
- Define default editor for file type



Sample custom file type .f (Form include)

- Syntax color coding and syntax check
- Double click in resources view to open ABL code
- Include file icon in resources tree

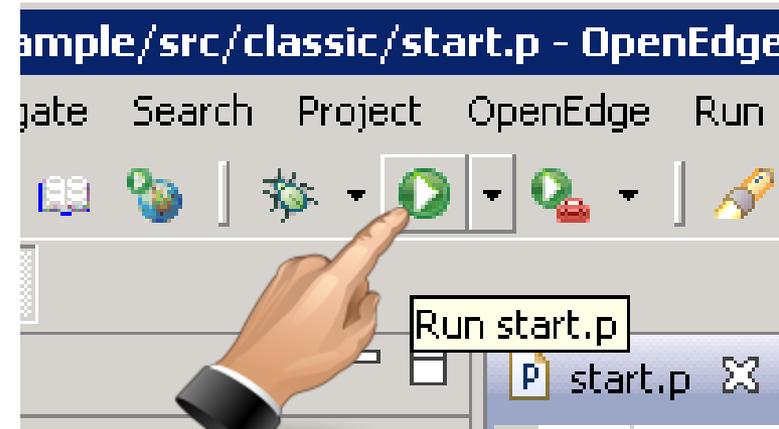


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Run configurations

- Create a default “Run Configuration” by running a .p, .cls, .w from the run button
- Can be customized using Run Configurations Dialog
- Defaults to project settings
- Typically starts new AVM for each run

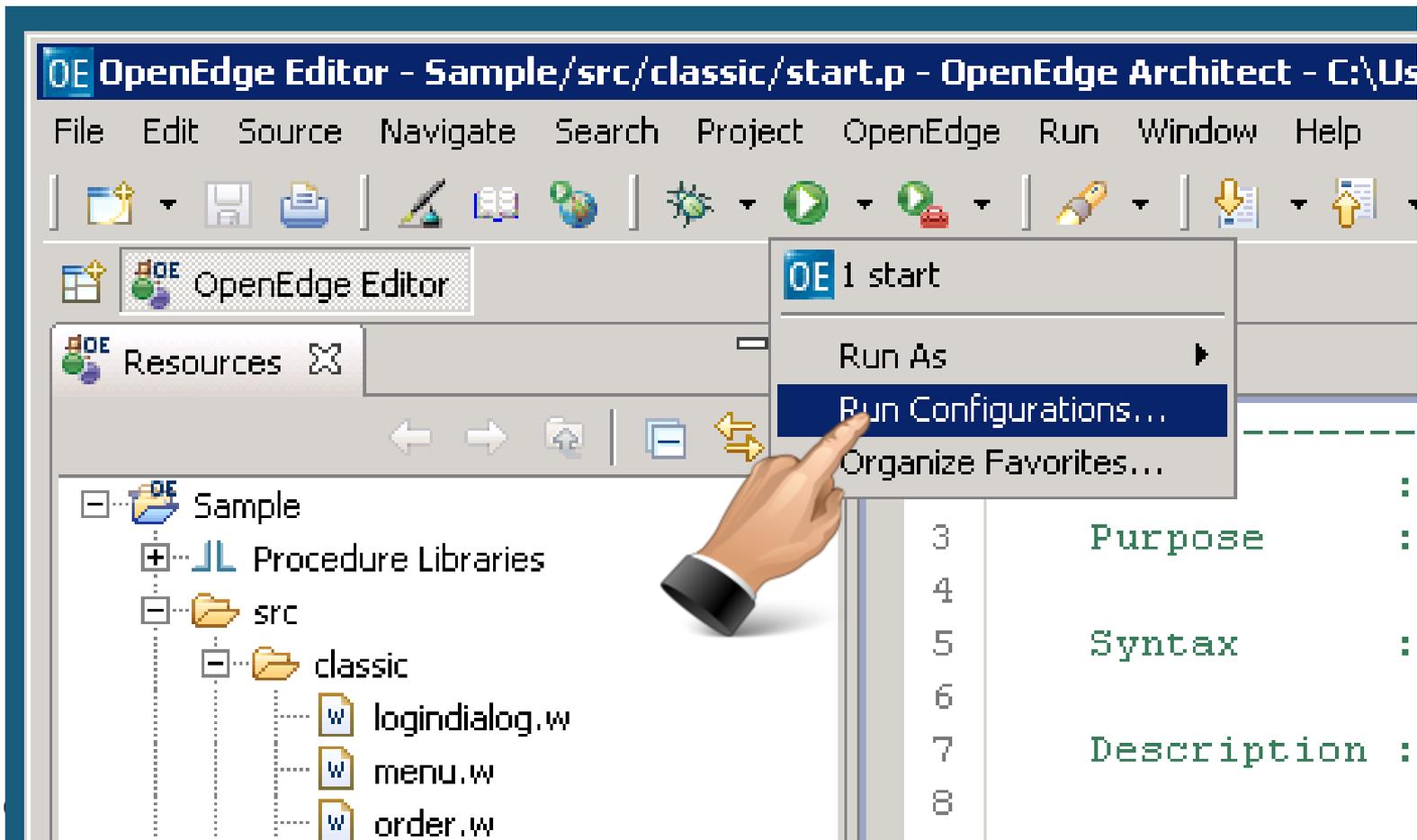


Run configurations

- Define how ABL code is executed
- Database connections
- Propath definition
- Startup parameters
- Graphical dialog
- Log file setting
- Progress version
- TTY/GUI

Review Run configuration

- Open “Run Configurations” Dialog



Review Run configuration

OE Run Configurations

Create, manage, and run configurations

Create a configuration to launch an OpenEdge application.

Name: start

OE Main Startup PROPATH Databases ABL Culture Performance Logging >>2

Project: Sample [Browse...] [Copy Project Settings...]

Startup program:
 Run this program Run selected program in workspace
src\classic\start.p [Workspace...] [File System...] [Variables...]

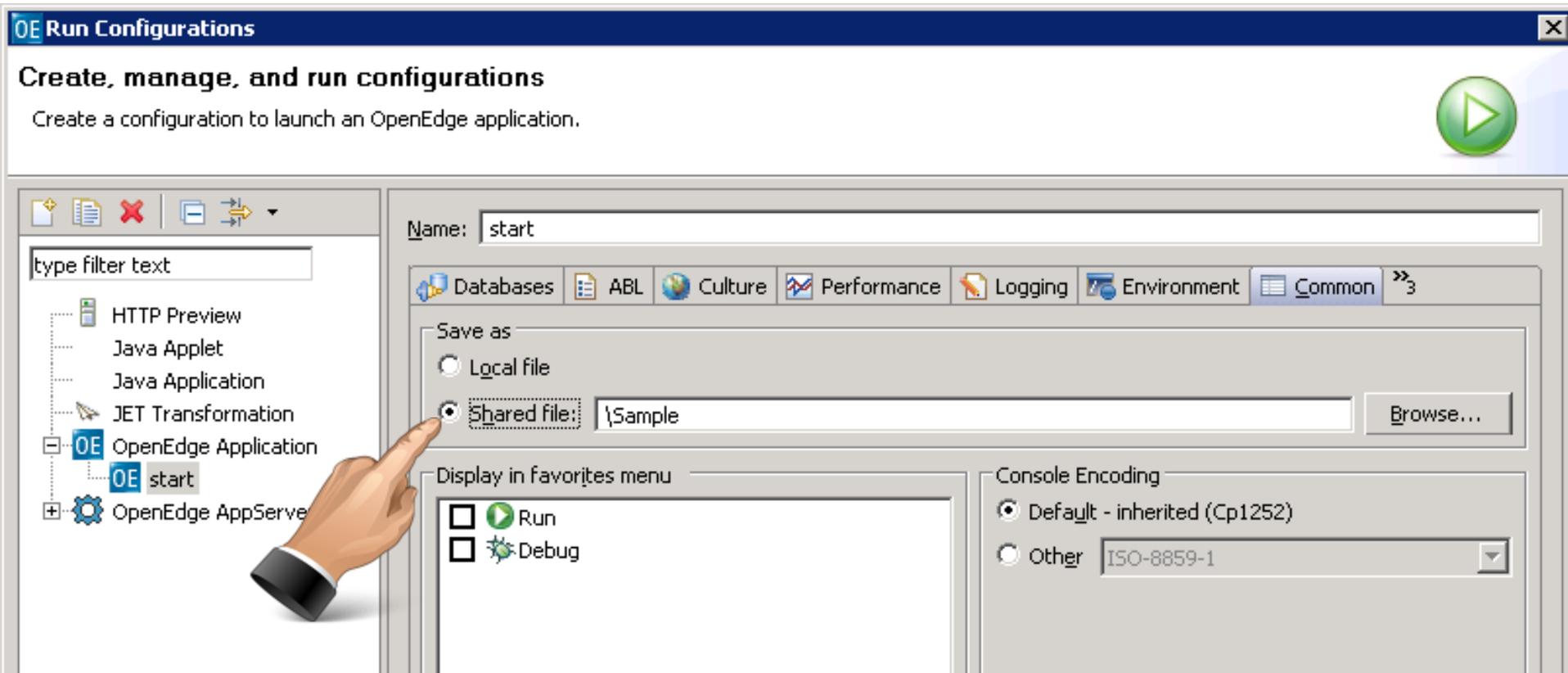
Working directory:
C:\Work\AppBuilderSample\AppBuilderSampleDev [Workspace...] [File System...] [Variables...]

OpenEdge AVM
 Use OpenEdge project runtime
 Start new OpenEdge AVM
OpenEdge version: 10.2B [v]
 Use TTY for runtime
 Batch mode

Automatically start this launch configuration
 Automatically restart this launch configuration

Shared File

- A Shared File may be used to distribute Run Config to team members (.launch file checked in to SCM)



The screenshot shows the Eclipse IDE's Run Configurations dialog for an OpenEdge application. The window title is "OE Run Configurations". The main heading is "Create, manage, and run configurations" with a sub-heading "Create a configuration to launch an OpenEdge application." and a green play button icon.

The left sidebar shows a tree view of configurations: "HTTP Preview", "Java Applet", "Java Application", "JET Transformation", "OpenEdge Application" (expanded), "start" (selected), and "OpenEdge AppServer". A hand icon points to the "start" configuration.

The main area shows the configuration name "start". Below it are tabs for "Databases", "ABL", "Culture", "Performance", "Logging", "Environment", and "Common".

The "Save as" section has two radio buttons: "Local file" (unselected) and "Shared file:" (selected). The "Shared file:" text box contains "\Sample" and has a "Browse..." button next to it.

The "Display in favorites menu" section has two checkboxes: "Run" (checked) and "Debug" (unchecked).

The "Console Encoding" section has two radio buttons: "Default - inherited (Cp1252)" (selected) and "Other" (unselected). The "Other" option has a dropdown menu showing "ISO-8859-1".

Using Run configuration

- Testing with different DB's, or no DB at all
- Changing client logfile settings
- Prefer to start new OpenEdge AVM (not use the project AVM for your own launches)

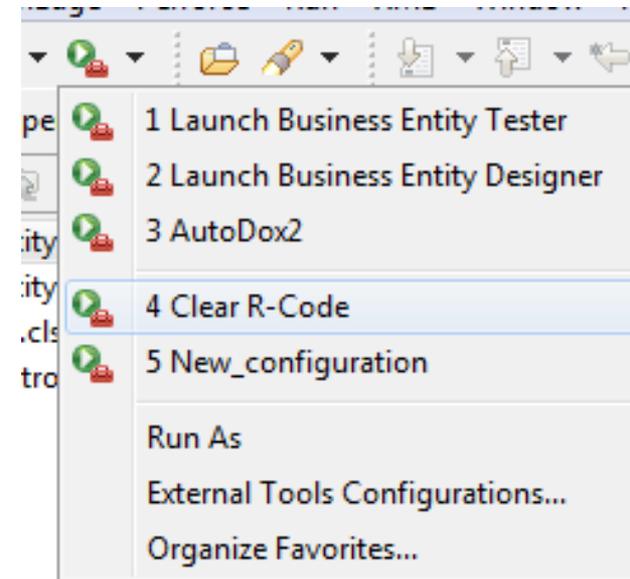
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External Tools configuration

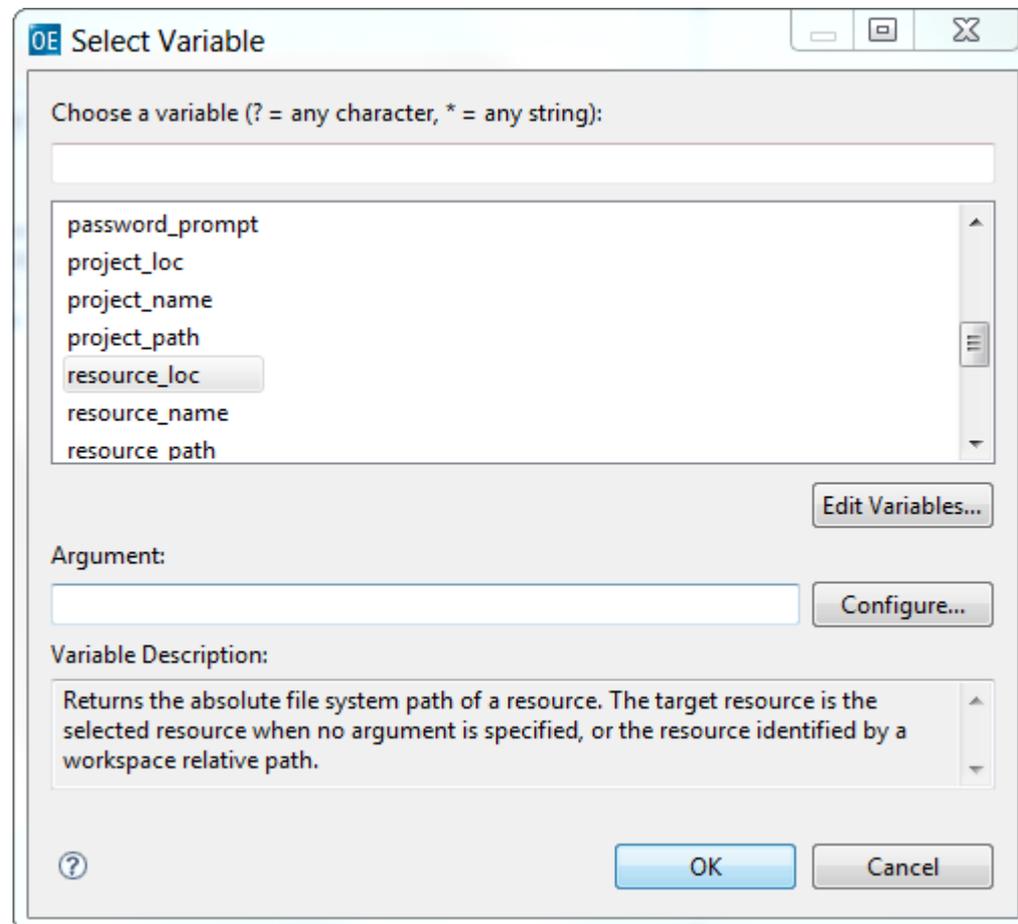
- Similar to Run Configuration but for OS commands, scripts, executables
- Command may receive parameters from Eclipse (selected file, folder etc.)
- Build possible before launch
- Refresh possible after launch
- Console output may be captured by Eclipse

- Poor man's Eclipse plugin



Portable through the use of variables

- Location of workspace resources, projects, files, ... variable
- Reuse in multiple projects



Demo: External Tools configuration

- Integrating AutoDox2 (from Joanju)
- Remove R-Code batch file

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Eclipse Plugins

- Java classes following Eclipse specs
- Typically provide additional functionality to the IDE
- Plugins may provide additional functionality to other plugins
- Plugins may have dependencies to other Plugins
- Plugin installation using Eclipse wizards or copy of Java binaries and further files

Typical Eclipse Plugins

- Eclipse community projects
 - Mylyn, Bug tracking integration, Task focussed UI, time tracking
- Commercial vendors
 - Tugboat, Roundtable TSMS, Roundtable Team
 - Perforce
- Open source Community
 - NTail
 - Grep console

Eclipse Plugin Installation

- ... follow instructions of the Plugin vendor
- Help -> Software Updates
- Help -> Classic Software Updates -> Find an Install
- Installation from “Update sites”
- Eclipse community project update sites typically already known to the workbench

Software Updates and Add-ons

Installed Software Available Software

mylyn

Name	Version
<ul style="list-style-type: none"> ▲ <input type="checkbox"/> Ganymede Update Site <ul style="list-style-type: none"> ▲ <input type="checkbox"/> C and C++ Development <ul style="list-style-type: none"> <input type="checkbox"/> Mylyn Bridge: C/C++ Development 5.0.2.200902130801 ▲ <input type="checkbox"/> Collaboration Tools <ul style="list-style-type: none"> <input type="checkbox"/> Dynamic Languages Toolkit - Mylyn Integration (Incubation) 0.95.1.v20080626-2043-08T07w31191_1402545 <input type="checkbox"/> Mylyn Bridge: C/C++ Development 5.0.2.200902130801 <input type="checkbox"/> Mylyn Bridge: Eclipse IDE 3.0.5.v20090218-1800-e3x <input type="checkbox"/> Mylyn Bridge: Java Development 3.0.5.v20090218-1800-e3x <input type="checkbox"/> Mylyn Bridge: Plug-in Development 3.0.5.v20090218-1800-e3x <input type="checkbox"/> Mylyn Bridge: Team Support 3.0.5.v20090218-1800-e3x <input type="checkbox"/> Mylyn Connector: Bugzilla 3.0.5.v20090218-1800-e3x <input type="checkbox"/> Mylyn Focused UI (Recommended) 3.0.5.v20090218-1800-e3x <input type="checkbox"/> Mylyn Task List (Required) 3.0.5.v20090218-1800-e3x ▲ <input type="checkbox"/> http://www.perforce.com/downloads/http/p4-eclipse/install/3.5 <ul style="list-style-type: none"> ▲ <input type="checkbox"/> Perforce Team Provider (P4Eclipse) - Optional <ul style="list-style-type: none"> <input type="checkbox"/> Perforce Mylyn Connector 2010.1.275861 	

Install...

Properties

Add Site...

Manage Sites...

Refresh

- Show only the latest versions of available software
- Include items that have already been installed

Open the ['Automatic Updates'](#) preference page to set up an automatic update schedule.



Close

Eclipse Plugins Demonstration

- Examples of Eclipse Plugins and their installation
 - Mylyn
 - <http://www.eclipse.org/mylyn/>
 - Perforce SCM (Team Provider)
 - http://www.perforce.com/product/components/eclipse_plugin
 - Grep Console
 - http://marian.musgit.com/projects_greconsole.php

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Customizing Templates made easy

- OpenEdge Architect Author name for new files defaults to OS-login (e.g. Administrator)
- Use `vmargs -Duser.name` Startup parameter to override this
- <http://blog.consultingwerk.de/consultingwerkblog/2011/08/customizing-openedge-architect-templates-made-easy-personalization/>

```
C:\Progress\OpenEdge102B\oeide\eclipse
e\eclipse.exe -showlocation -vm
"C:\Progress\OpenEdge102B\jre\bin\jav
aw.exe" -vmargs -Duser.name="Mike
Fechner / Consultingwerk Ltd."
```

Customizing Templates made easy

OE New ABL Procedure

Create an ABL procedure file
Specify a name for the procedure file.

Container: \ABL_Trunk

File name: custom.p

Description:

Purpose:

Author: Mike Fechner / Consultingwerk Ltd.

Add routine-level error handling

Customizing Templates using 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
 - Currently only supported for .p file extension (functional limitation)
 - Might be relaxed in 11.1

Customizing Templates

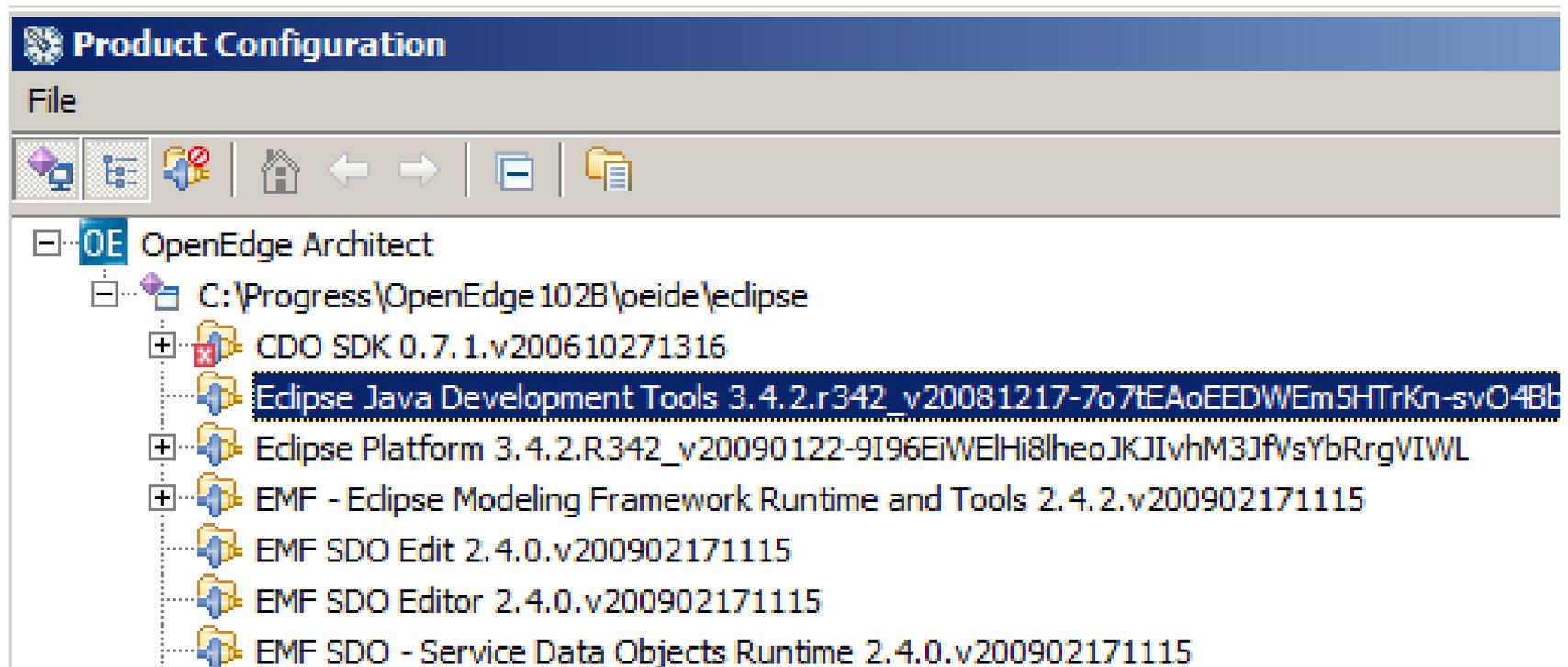
- <http://communities.progress.com/pcom/docs/DOC-16387>
- Documentation a bit outdated (10.1B)
- Works with 10.2B and OE11 with a little tweaking and creativity 😊
- Use existing templates as a starting point, create copies of files in `DLC\oeide\eclipse\plugins\com.openedge.pdt.text_<version>\templates`

Customizing Templates

- Eclipse templates based on JET: Java Emitter Template
- Plugin installation required: Java Development Tools (JDT) and Eclipse Modeling Framework (EMF)
- Use version appropriate for your OpenEdge Architect installation ... (Eclipse version used)
- JDT and EMF Plugins only required for the developer that creates templates, not those using them

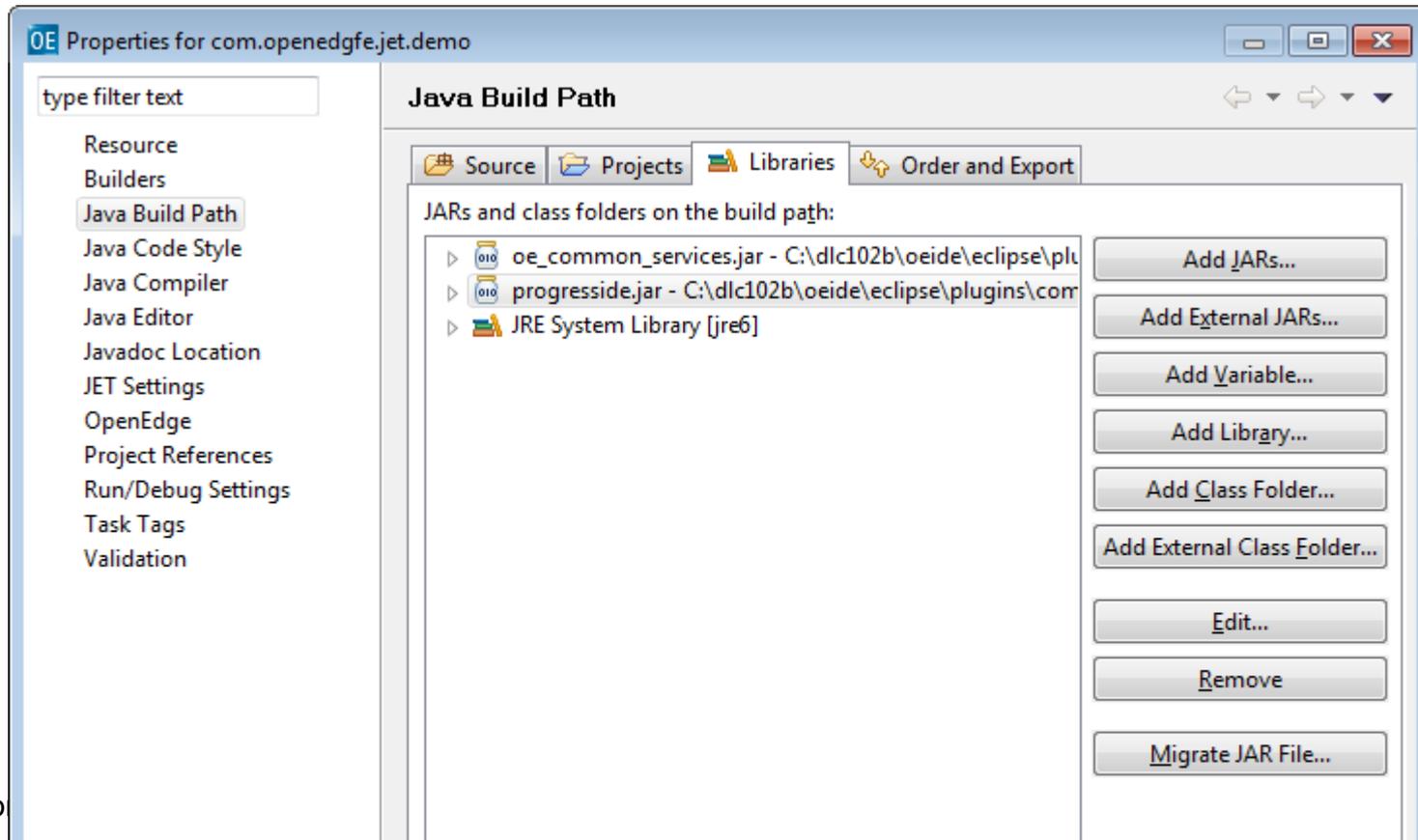
Eclipse Plugins

- Eclipse Plugins for my 10.2B06 installation

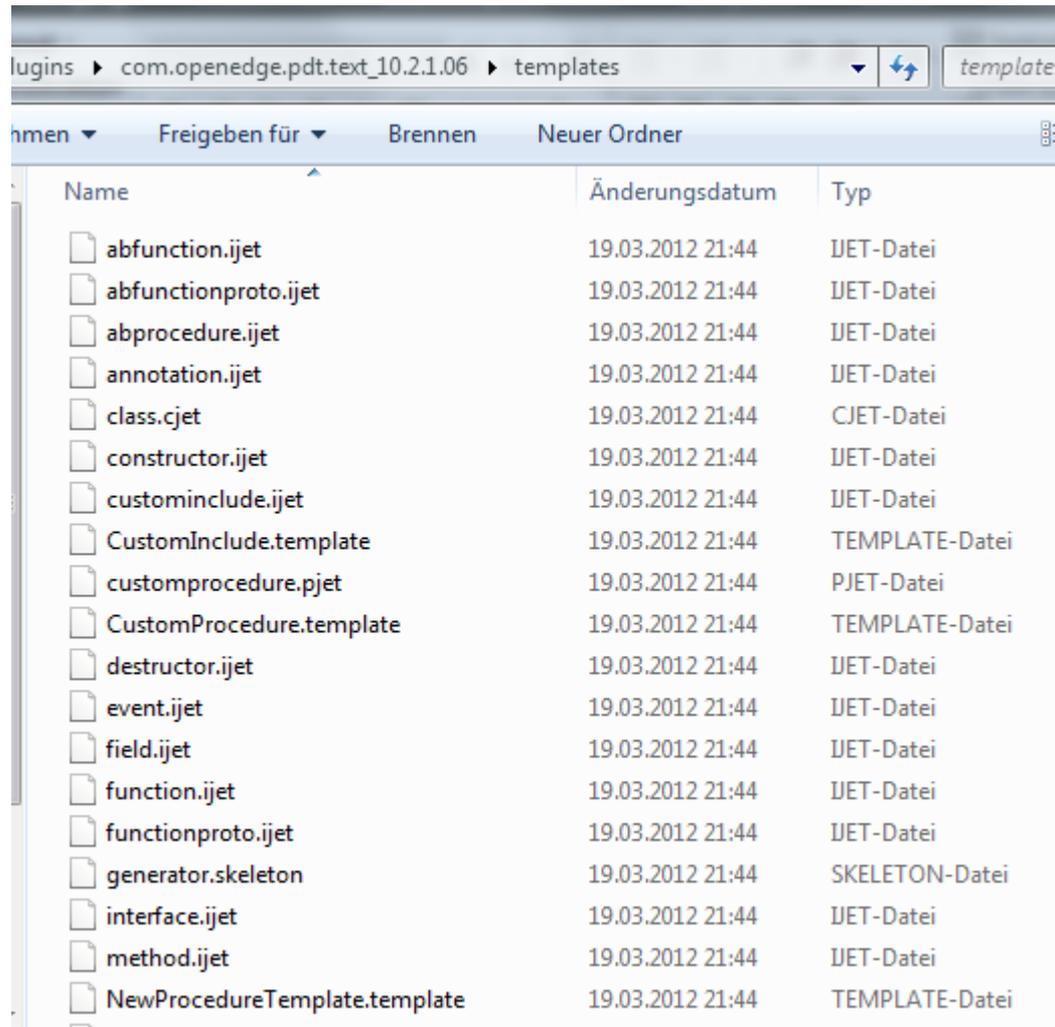


Java Build Path

- Java Build Path from documentation needs additional .jar file in 10.2B/11.0



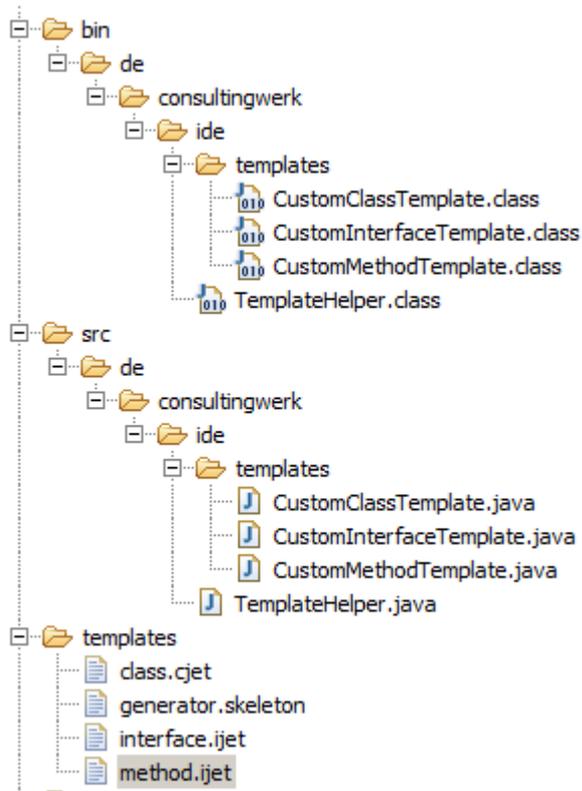
OpenEdge Architect Templates



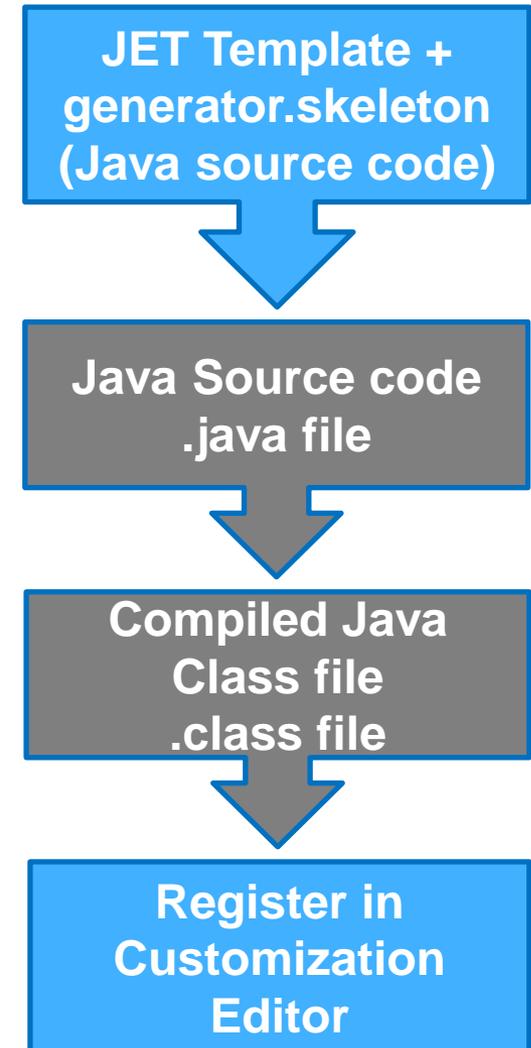
Name	Änderungsdatum	Typ
abfunction.ijet	19.03.2012 21:44	IJET-Datei
abfunctionproto.ijet	19.03.2012 21:44	IJET-Datei
abprocedure.ijet	19.03.2012 21:44	IJET-Datei
annotation.ijet	19.03.2012 21:44	IJET-Datei
class.cjet	19.03.2012 21:44	CJET-Datei
constructor.ijet	19.03.2012 21:44	IJET-Datei
custominclude.ijet	19.03.2012 21:44	IJET-Datei
CustomInclude.template	19.03.2012 21:44	TEMPLATE-Datei
customprocedure.pjet	19.03.2012 21:44	PJET-Datei
CustomProcedure.template	19.03.2012 21:44	TEMPLATE-Datei
destructor.ijet	19.03.2012 21:44	IJET-Datei
event.ijet	19.03.2012 21:44	IJET-Datei
field.ijet	19.03.2012 21:44	IJET-Datei
function.ijet	19.03.2012 21:44	IJET-Datei
functionproto.ijet	19.03.2012 21:44	IJET-Datei
generator.skeleton	19.03.2012 21:44	SKELETON-Datei
interface.ijet	19.03.2012 21:44	IJET-Datei
method.ijet	19.03.2012 21:44	IJET-Datei
NewProcedureTemplate.template	19.03.2012 21:44	TEMPLATE-Datei

Template generation sequence

- Sequence executed whenever source file is modified



Customizing OpenEdge Architect



Demo

- Template customization environment
- Customized method template
- Customized new class template
- Review Java functions
- Review code in JET Template that checks for class properties

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- **Open files from ABL code**

Opening files from ABL code

- Eclipse (Java) and ABL runtime separate processes
- Communication via network protocol
 - Java to AVM (compile command)
 - AVM to Java (certain UI operations)
- ABL code may use OS-GETENV („OEA_PORT“) to determine the network port

Opening files form ABL code

- Public API's defined in `adecomm/oeideservice.i`
- Supports querying basic project properties, opening views for ABL windows (like `OEUnit` does) and opening files
- `getProjectName ()`
- `openEditor ()`

Sample Open Debug Listing

```

ROUTINE-LEVEL ON ERROR UNDO, THROW.

DEFINE INPUT  PARAMETER pcFileName AS CHARACTER NO-UNDO.

{adecomm/oeideservice.i}

/* ***** Main Block ***** */

DEFINE VARIABLE cFileName AS CHARACTER          NO-UNDO .
DEFINE VARIABLE cProject  AS CHARACTER          NO-UNDO .
DEFINE VARIABLE oFileInfo AS System.IO.FileInfo NO-UNDO .

DEFINE VARIABLE cDebugList AS CHARACTER NO-UNDO.

ASSIGN cProject  = getProjectName ()
      cFileName = SUBSTRING (pcFileName, 2)

      oFileInfo = NEW System.IO.FileInfo (cFileName)

      cDebugList = /*createLinkedFile ("":U, ".p")*/
                  SESSION:TEMP-DIRECTORY + "debuglist-":U + oFileInfo:Name.

COMPILE VALUE (cFileName)
  SAVE = FALSE
  DEBUG-LIST VALUE (cDebugList)
  NO-ERROR .

```

```

openEditor
  (?
  cDebugList,
  "UNTITLED",
  ?) .

```

**Function prototype defined
in oeideservice.i**

Sample Open Debug Listing

The screenshot shows the 'OpenEdge Customization Options' dialog box. The 'Available Extension Points' list on the left includes 'Menu / Toolbar Entries', 'Debug Listing', 'Editor Context Menu', 'New Templates', and 'Template Overrides'. The 'Action Details' section on the right is configured as follows:

- Name*: Debug Listing
- Accelerator:
- Icon: icons/oelogo16.gif (with a 'Browse...' button)
- Tooltip:
- Program name*: Consultingwerk/Studio/DebugList/debug-list.p (with a 'Browse...' button)
- Parameters:
- Configuration: (dropdown menu)
- Send file name of the current selection
- Show on menu Show on toolbar Show on menu and toolbar
- Run persistent

The 'Send file name of the current selection' checkbox is highlighted with a red rectangle. At the bottom, the 'Plugin Details' section shows 'Version*: 1.0.0' and a 'Main' tab.

_idestartup.p

- Optional ABL procedure file (create it when needed)
- Will be executed once when Project AVM is started
- May be used to initialize developers Framework code, when required for Visual Designer or AppBuilder, etc.

More info...

- Getting started videos

<http://communities.progress.com/pcom/docs/DOC-101140>

- Top OpenEdge Architect FAQ, Sunil Belgaonkar

<http://communities.progress.com/pcom/community/psdn/exchange/trackprod6>

- Consultingwerk blog – openededge-architect tag

<http://blog.consultingwerk.de/consultingwerkblog/tag/openedge-architect/>

Questions



Thank you!