

# IBM SolutionsConnect 2013

L'IBM TechSoftware nouvelle génération

28, 29 et 30 août  
IBM Client Center Paris



#solconnect13

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IBM Software Group

# RAT08 : Plan de convergence Pacbase – Nouveautés RPP

Olivier Le Louer : RPP Development Team Leader

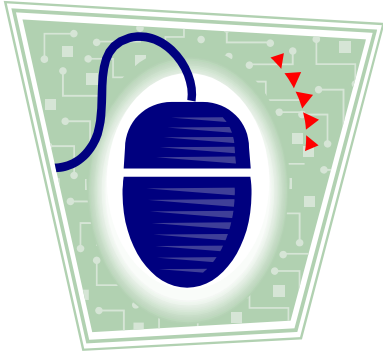
**Rational** software

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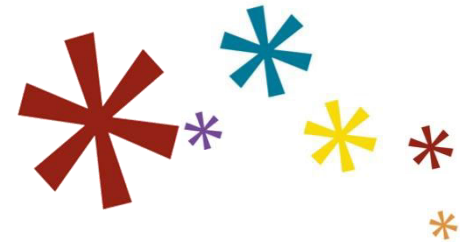
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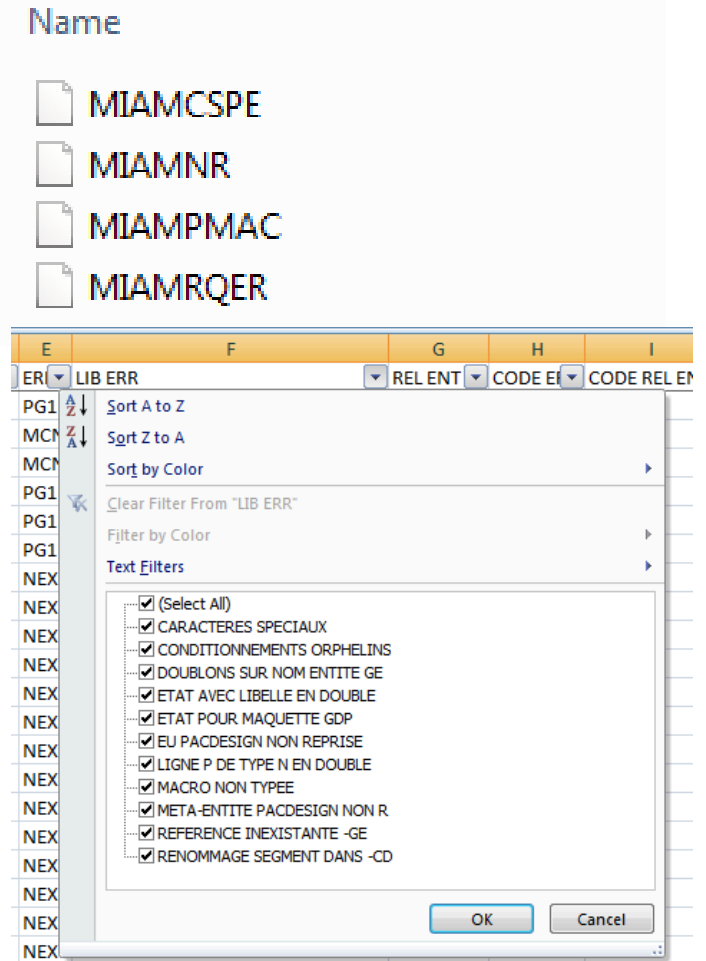
# RPP 9.0



# Objective : Improvement of Migration

- Action scope of MIAM refined
  - ▶ Special characters, reserved words,
  - ▶ Entities not to be migrated,
  - ▶ MSP coding,
  - ▶ Miscellaneous errors,

BIBDIAXX	F
BIBECRXX0010	F
BIBDIAYY	FV
BIBECRYY0010	FV
BI1ETAAAA	
BI1ETAAAB	
BI2PGMXAA000	
BI3PGMXAA000	
BI1MEC.AGE	
BI2\$1GXXXXXX	.AGE
BI1MEC.ZZZZ	
BI3\$1KYYYYYY	.ZZZZ



# Objective : Improvement of Migration

- Management of entities counter in MIBR
  - ▶ Number of entities per type
  - ▶ Overrides taken into account
- Obsolete generation Variants
- Post migration controls optimized
  - ▶ No more validation step if no difference is detected

```
SEVA Pac 3.5 V08      COMPTE RENDU D'EXTRACTION
RECAPITULATIF PAR TYPE D'ENTITE

-----
I TYPE  NB OCC I
-----
I BIB           61 I
I MET          2624 I
I TXT          16312 I
I SDO           2340 I
I SEG          19691 I
I ETA           2560 I
I DBD            347 I
I DIA            141 I
I ECR           6021 I
I PGM          15454 I
I FOG            215 I
I RAP           4552 I
I MEC            38 I
I $TT           1504 I
I RLC            153 I
I RUB          41518 I
-----
```





# Objective : Improvement of Migration

- `--generate` : commande de génération COBOL.
- `--import` : commande d'import.
- `--importJournal` : commande d'import du journal.
- `--migrationHelp` : commande d'aide à la migration.
- `--automaticMigration` : commande d'automatisation de la migration.
- `--generateErrorMsgs` : commande de génération des libellés d'erreur.
- `--generateDataBlockBase` : commande de génération des Blocs Base de Données.
- `--generateCopyBook` : commande de génération des Copybooks.
- `--dispatchMacro` : commande de répartition des Macros.
- `--copy` : commande de copie.
- `--refresh` : commande d'actualisation de l'espace de travail,
- `--zCompCreation` : commande de création des projets et dossiers
- `--commands` : exécution d'une liste de commande.

- Generation of batch command files for migration

## ■ Options migrationHelp command

- ▶ zProject and zComponent
- ▶ Separation of design files and Cobol sources files

Options	Commentaires
<code>--data</code>	Option Rational Developer for System z pour l'espace de travail utilisé
<code>--log</code>	Nom du fichier journal
<code>--project</code>	Nom du projet
<code>--name</code>	Nom de l'instance dans le référentiel
<code>--type</code>	Type d'entité
<code>--cobolFolder</code>	Répertoire des fichiers COBOL
<code>--controlCobolFolder</code>	Répertoire des fichiers COBOL de contrôle
<code>--reportFolder</code>	Répertoire des rapports de génération
<code>--csvSep</code>	Séparateur pour rapports <code>csv</code>
<code>--csvTextSep</code>	Séparateur de texte pour rapports <code>csv</code>
<code>--clean</code>	Suppression des fichiers <code>.cbl</code> et <code>.cblpdp</code>
<code>--cleanTemplates</code>	Réinitialisation des fichiers de modèles de modifications (appelés <i>templates</i> )
<code>--flowposition</code>	(Option cachée) Uniquement pour un fichier de commandes Optimisation de la lecture et de l'écriture des fichiers
<code>--destProject</code>	Nom du projet COBOL en sortie
<code>--destFolder</code>	Nom du répertoire COBOL en sortie
<code>--verbose</code>	Augmentation de la proximité de la sortie



## Objective : Completion of Migration

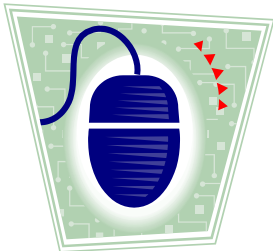
- Migration of “Inter-Library”
- Migration of Input Aids
- Screen Simulation





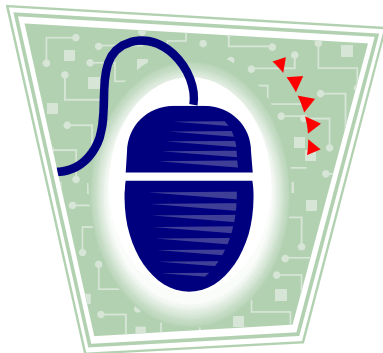
# Objective : Improvement / Addition of functionalities

- Migration
- Input Aid
- Comparison
- Dependence Relationships
- Code Insertion Wizard
- Quality Control
- Endeavor Integration

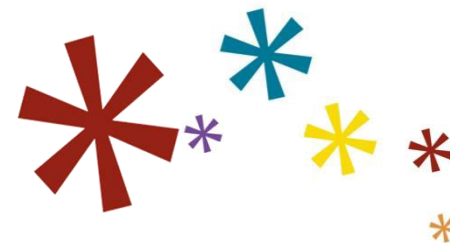


## DEMONSTRATION



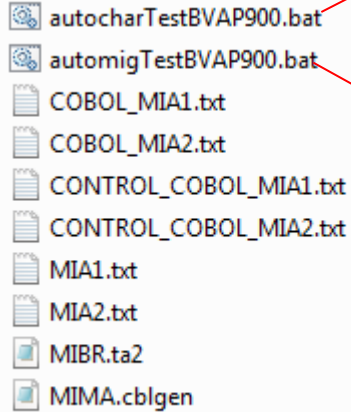


# MIGRATION



# MIGRATION

## Input : Command files



autocharTestBVAP900.bat  
automigTestBVAP900.bat  
COBOL\_MIA1.txt  
COBOL\_MIA2.txt  
CONTROL\_COBOL\_MIA1.txt  
CONTROL\_COBOL\_MIA2.txt  
MIA1.txt  
MIA2.txt  
MIBR.ta2  
MIMA.cblgen

```
rpp --commands --data "C:\Bee\Workspace\BVAP"  
--log "C:\bee\Output\TestBVAP900\Chargt.log"  
--file "C:\Bee\Softwares\Sources\BVAP\TestMigr\TestBVAP900.txt"
```

```
rpp --automaticMigration --data "C:\Bee\Workspace\BVAP"  
--log "C:\bee\Output\TestBVAP900\automatic.log"  
--from "C:\Bee\Softwares\Sources\BVAP\TestMigr"  
--location BVAP --separateCobolProject  
--cobolProjectType Z  
--separateMetadataFiles  
--pdpRootPath design  
--scmtoolsEntriesFile "C:\Bee\Softwares\Sources\BVAP\TestMigr\scmtoolsEntries.bat"
```



# MIGRATION

- Input : Data

The screenshot shows a file explorer window with the following files listed:

- autocharTestBVAP900.bat
- automigTestBVAP900.bat
- COBOL\_MIA1.txt
- COBOL\_MIA2.txt
- CONTROL\_COBOL\_MIA1.txt
- CONTROL\_COBOL\_MIA2.txt
- MIA1.txt
- MIA2.txt
- MIBR.ta2
- MIMA.cblgen

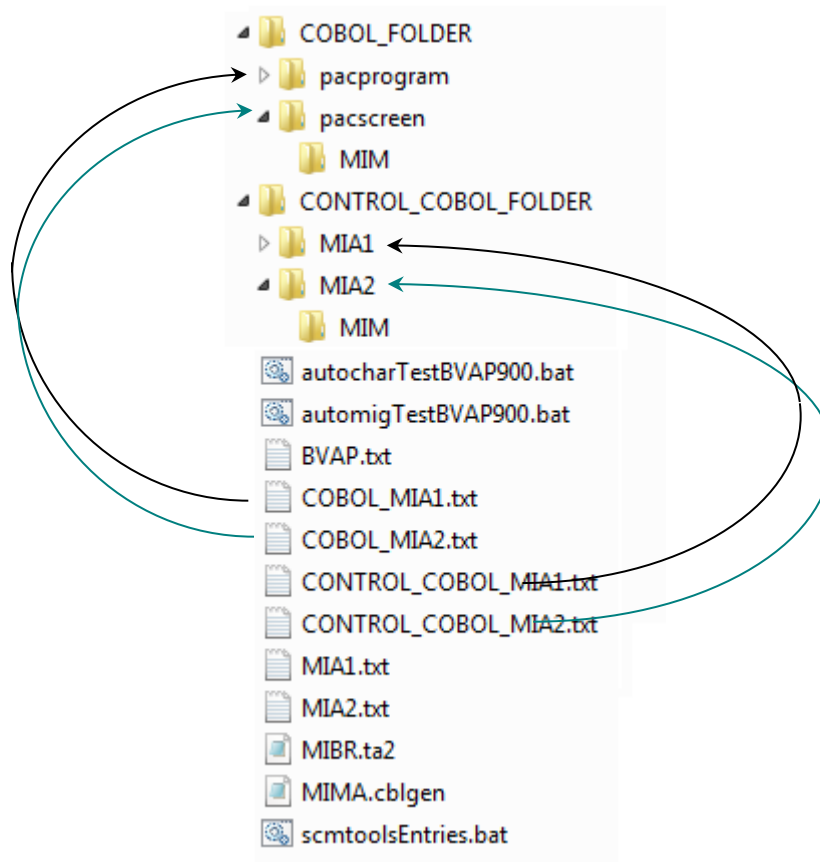
Red boxes and lines provide the following descriptions for the files:

- A red box surrounds the files **COBOL\_MIA1.txt**, **COBOL\_MIA2.txt**, **CONTROL\_COBOL\_MIA1.txt**, and **CONTROL\_COBOL\_MIA2.txt**. A red line points to this group with the text: "Files containing the results of the MIAx procedures".
- A red box surrounds the files **MIA1.txt** and **MIA2.txt**. A red line points to this group with the text: "Files containing the list of generated programs".
- A red line points to the file **MIBR.ta2** with the text: "File containing the models".
- A red line points to the file **MIMA.cblgen** with the text: "Files containing the generated Macro structures".



# MIGRATION

- Result of automaticMigration command – Split of sources in directories



# MIGRATION

- Result of automaticMigration command – Command lines for Workspace loading

The image shows a file explorer on the left and a terminal window on the right. A red circle highlights the 'BVAP.txt' file in the file explorer and the corresponding command lines in the terminal.

**File Explorer Contents:**

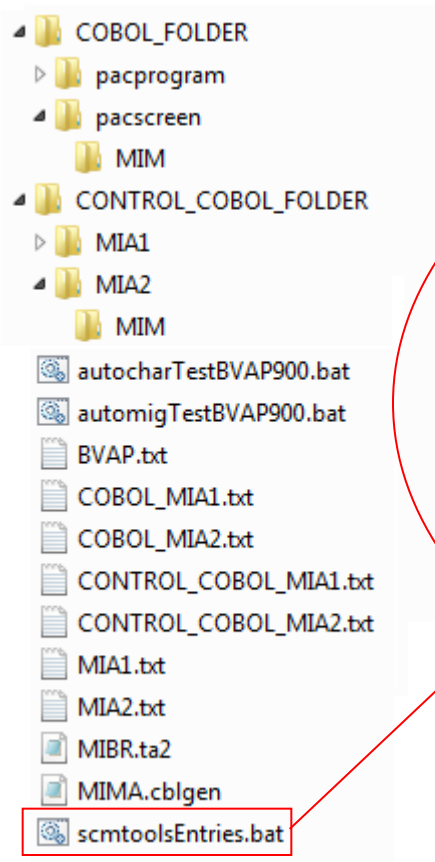
- COBOL\_FOLDER
  - pacprogram
  - pacscreen
    - MIM
  - CONTROL\_COBOL\_FOLDER
    - MIA1
    - MIA2
      - MIM
  - autocharTestBVAP900.bat
  - automigTestBVAP900.bat
  - BVAP.txt**
  - COBOL\_MIA1.txt
  - COBOL\_MIA2.txt
  - CONTROL\_COBOL\_MIA1.txt
  - CONTROL\_COBOL\_MIA2.txt
  - MIA1.txt
  - MIA2.txt
  - MIBR.ta2
  - MIMA.cblgen
  - scmttoolsEntries.bat

**Terminal Command Lines:**

```
--import --fromFile "C:/Bee/Softwares/Sources/BVAP/TestMigr/MIBR.ta2" --location BVAP --importType
--dispatchMacro --fromFile "C:/Bee/Softwares/Sources/BVAP/TestMigr/MIMA.cblgen" --location BVAP
--zCompCreation --zProject "BVAP.TZZ.COB" --zFolder "pacprogram" --separateMetadataFiles --pdpRoot
--zCompCreation --zProject "BVAP.TMB.COB" --zFolder "pacprogram" --separateMetadataFiles --pdpRoot
--zCompCreation --zProject "BVAP.TZC.COB" --zFolder "pacdialog" --separateMetadataFiles --pdpRootP
--zCompCreation --zProject "BVAP.TSL.COB" --zFolder "pacprogram" --separateMetadataFiles --pdpRoot
--zCompCreation --zProject "BVAP.CIC.COB" --zFolder "pacprogram" --separateMetadataFiles --pdpRoot
--zCompCreation --zProject "BVAP.ADA.COB" --zFolder "pacprogram" --separateMetadataFiles --pdpRoot
--zCompCreation --zProject "BVAP.MDF.COB" --zFolder "pacprogram" --separateMetadataFiles --pdpRoot
--zCompCreation --zProject "BVAP.MIM.COB" --zFolder "pacprogram" --zFolder "pacscreen" --separateM
--migrationHelp --project BVAP.ADA --name "BATCHA" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.ADA --name "BATCHB" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.ADA --name "BATCHC" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.ADA --name "BATCHD" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.ADA --name "BATCHE" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.ADA --name "BATCHF" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.ADA --name "BATCHG" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.ADA --name "BATCHH" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.CIC --name "GVSE01" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.MDF --name "JPNATB" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.MDF --name "JPNATC" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.MDF --name "JPNATD" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.MDF --name "JPNATF" --type pacprogram --cobolFolder "C:/Bee/Softwar
--migrationHelp --project BVAP.MDF --name "JPNATG" --type pacprogram --cobolFolder "C:/Bee/Softwar
```

# MIGRATION

- Result of automaticMigration command – Command lines for RTC loading

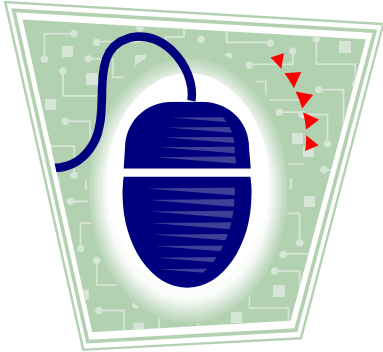


```

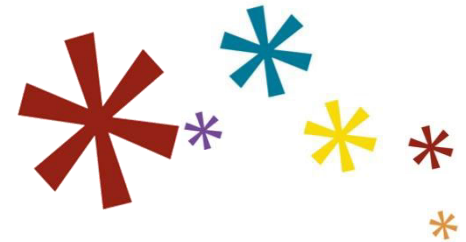
REM Fill the following line to add the folder containing the lscm command
SET path="C:\Program Files\IBM\SDP\scmtools\eclipse";%PATH%
REM Name of the repository workspace
SET jazz_wsp=RepWks001
REM Fill the following line with your Jazz user id
SET jazz_id= your_Jazz_user_ID
REM Fill the following line with the Jazz uri
SET jazz_uri=https://localhost:9443/ccm/
REM Fill the following line with the project area name
SET project_area=""
REM Fill the following line with the Jazz stream
SET jazz_Stream=
REM Fill the following line with the snapshot name
SET Snapshot=
REM Fill the following line with the changeset comment
SET Comment="xx"
SET LocalLWS=C:\Bee\Workspace\BVAP
CD %LocalLWS%
IF EXIST %LocalLWS%\metadata\scmtoolsentries.log DEL %LocalLWS%\metadata\scmtoolsentries.log
time /T >> %LocalLWS%\metadata\scmtoolsentries.log
CALL lscm login -r %jazz_uri% -n Batch -u %jazz_id% -c
SET jazz_uri=Batch
CALL lscm create ws -u %jazz_id% -r %jazz_uri% -s "%jazz_Stream%" "%jazz_wsp%" >> %LocalLWS%\metadata\
IF %ERRORLEVEL% NEQ 0 ECHO La creation de l'espace de travail a echoue : %jazz_wsp%
ECHO Creation du composant BVAP.INTER.
CALL lscm create comp -r %jazz_uri% "BVAP.INTER" "%jazz_wsp%" >> %LocalLWS%\metadata\scmtoolsentries.l
IF %ERRORLEVEL% EQU 0 GOTO PROPERTY_BVAP.INTER
IF %ERRORLEVEL% EQU 3 GOTO WARNING_BVAP.INTER_EXISTS
ECHO La creation du composant BVAP.INTER a echoue. : Code %ERRORLEVEL%.
ECHO La creation du composant BVAP.INTER a echoue. : Code %ERRORLEVEL% >> %LocalLWS%\metadata\scmto
GOTO CREATE_BVAP.INTER_END
:PROPERTY_BVAP.INTER
CALL lscm component propertyset visibility public BVAP.INTER -r %jazz_uri% >> %LocalLWS%\metadata\scm
CALL lscm component propertyset visibility public BVAP.INTER -r %jazz_uri% >> %LocalLWS%\metadata\scm

```



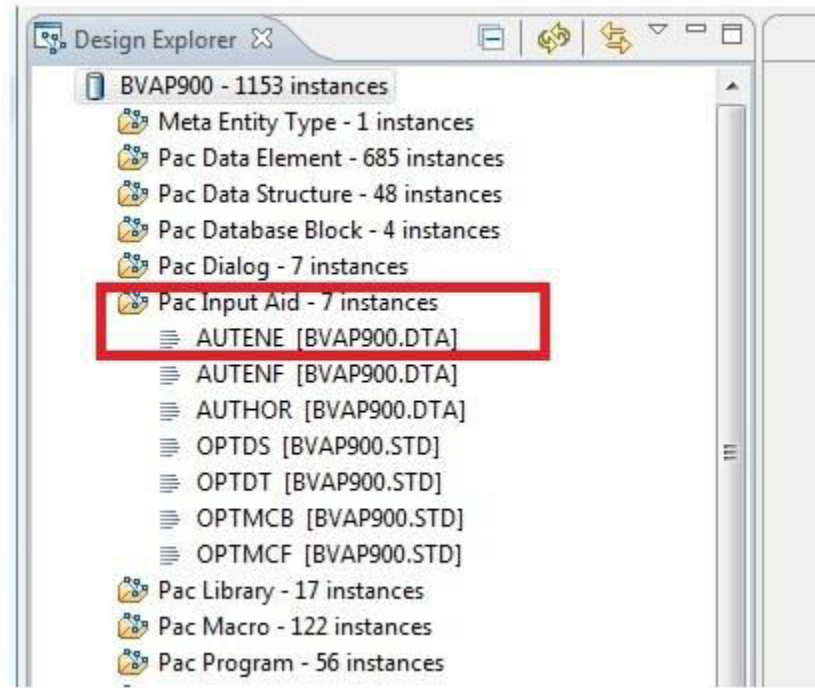


# INPUT AID



# INPUT AID

- New entry in the list of entities presented in Design Explorer view



# INPUT AID

- Overview tab : -D and Symbolic Values migrated

**Design Explorer**

- BVAP900 - 1153 instances
  - Meta Entity Type - 1 instances
  - Pac Data Element - 685 instances
  - Pac Data Structure - 48 instances
  - Pac Database Block - 4 instances
  - Pac Dialog - 7 instances
  - Pac Input Aid - 7 instances
    - AUTENE [BVAP900.DTA]
    - AUTENF [BVAP900.DTA]
    - AUTHOR [BVAP900.DTA]
    - OPTDS [BVAP900.STD]
    - OPTDT [BVAP900.STD]
    - OPTMCB [BVAP900.STD]
    - OPTMCF [BVAP900.STD]
  - Pac Library - 17 instances
  - Pac Macro - 122 instances
  - Pac Program - 56 instances
  - Pac Report - 8 instances
  - Pac Screen - 30 instances
  - Pac Segment - 108 instances
  - Pac Server - 46 instances
  - Pac Server Dialog - 8 instances

**Outline**

- PacInputAid: AUTENE
  - label = AUTHOR OF ENTITY

**AUTENE Pac Input Aid**

**Alerts and Action Items**

**General Information**

This section describes general information about this Pac Input Aid.

Working Context: BVAP900.DTA [Hierarchy...](#)

Name: AUTENE

Label: AUTHOR OF ENTITY

**Definition**

Specify the definition for this Pac Input Aid.

Type: C: Comments

**Keywords**

The following keywords are defined for this Pac Input Aid.

- ADPS
- ENGLISH

[More...](#)

**-D Lines**

The following -D lines are defined for this Pac Input Aid.

- Date of creation :MM-JJ-S
- Author's name : 30
- Title : 20
- C : \$AD :Administrat
- C : \$CP :Project man
- C : \$AN :Analyst 0
- C : \$AP :Programmer

[More...](#)

**Symbolic Values Lines**

The following Symbolic Values Lines are defined for this Pac Input Aid.

- SYA Yao Assou
- SRB Rémy Baranger
- SFB Fernand Bonaguidi
- SMB Maurice Boudot

Overview | -D Lines | Symbolic Values | -G Lines | Lignes -CR | Keywords

# INPUT AID

- D tab

AUTENE X

## AUTENE Pac Input Aid - D Lines

► Description Alert

### -D Lines

The following -D lines are defined for this Pac Input Aid.

Type	Fixed label	Variable label	Symb. val.	Lgth	Call type	Xref key
	Date of creation	: MM-JJ-SSAA		10		
	Author's name	:		30		
	Title	:		20		
C	\$AD	: Administrator		0		
C	\$CP	: Project manager		0		
C	\$AN	: Analyst		0		
C	\$AP	: Programmer		0		

Overview -D Lines Symbolic Values -G Lines Lignes -CR Keywords



# INPUT AID

- Symbolic Values tab

AUTENE Pac Input Aid - Symbolic Values Lines

**Symbolic Values Lines**

The following Symbolic Values Lines are defined for this Pac Input Aid.

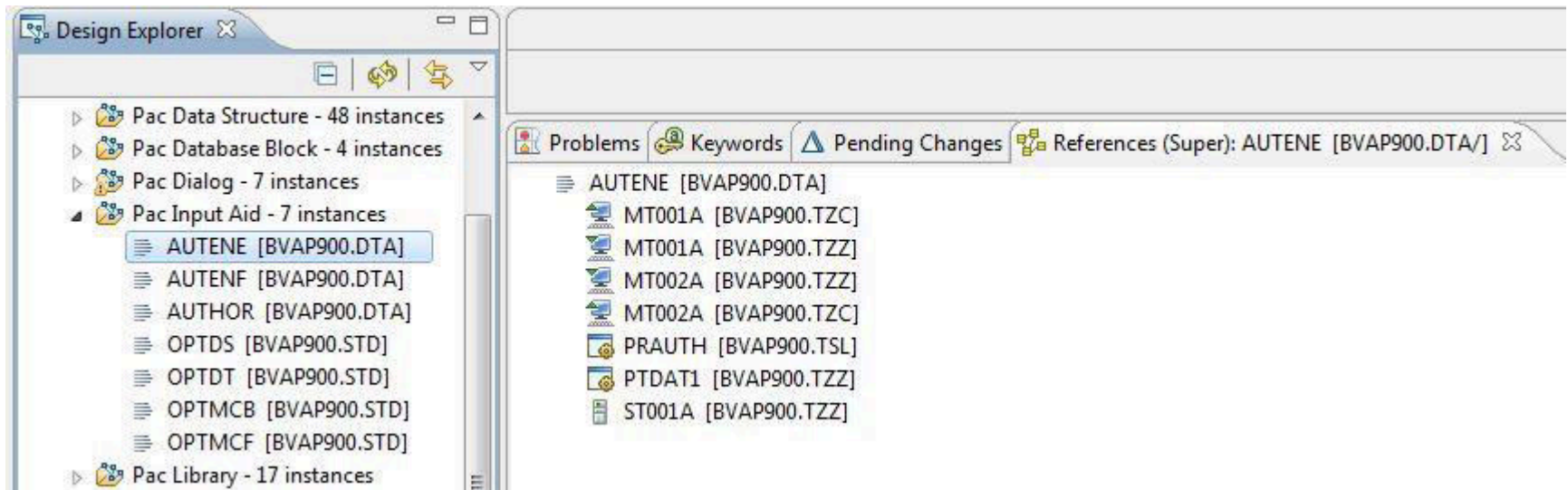
Parameter	Value
\$BE	Bernard Etienne
\$AD	Administrator
\$CP	Project manager
\$AN	Analyst
\$AP	Programmer

Buttons: Add..., Remove, ↑, ↓

Navigation tabs: Overview | -D Lines | **Symbolic Values** | -G Lines | Lignes -CR | Keywords

# INPUT AID

- Super References



# INPUT AID

- Update Warning

**AUTENE Pac Input Aid - D Lines**

**Description Alert**

This input aid has references in local workspace.  
Modification is not allowed when the input aid is used.

**-D Lines**

The following -D lines are defined for this Pac Input Aid.

Type	Fixed label	Variable label	Symb. val.
☞	Date	DATE	SSAA
☞	Autho		
☞	Title		
☞ C			trator
☞ C			manager
☞ C			mer
☞ C			

Overview -D Lines

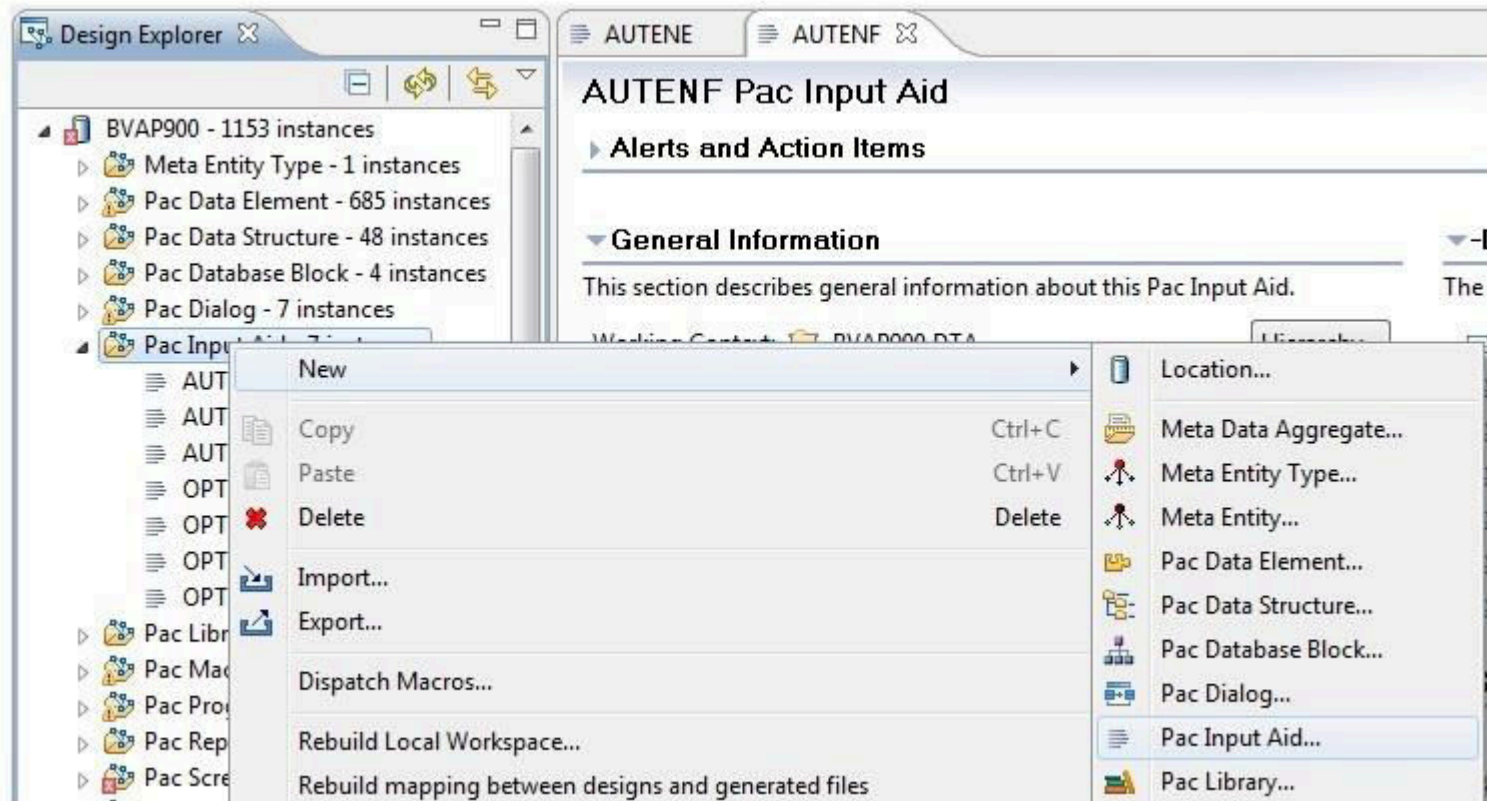
Problems 52 errors, 36 warnings





# INPUT AID

- Creating a new Input Aid (1/5)



# INPUT AID

- Creating a new Input Aid (2/5)

**New Pac Input Aid**

**Pac Input Aid definition**  
Create a new Pac Input Aid

Project: BVAP900.DTA

Package:

Type: C: Comments

Name: Format Guide de demo

Label: Format Guide utilisé pour la Démonstration

Open editor on finish

Finish Cancel



# INPUT AID

- Creating a new Input Aid (4/5)

\*FORMAT GUIDE DE DEMO X

## FORMAT GUIDE DE DEMO Pac Input Aid - D Lines

▶ Description Alert

### -D Lines

The following -D lines are defined for this Pac Input Aid.

Type	Fixed label	Variable label	Symb. val.	Lgth	C
	DATE :	JJ/MM/AAAA		10	
	ACTION :			30	
	C \$VA :	Validation		0	
	C \$RL :	Relecture		0	

▼ Description line

This section provides information about the selected line.

Type:

Fixed label:

Variable part

Symbolic value:

Variable label:

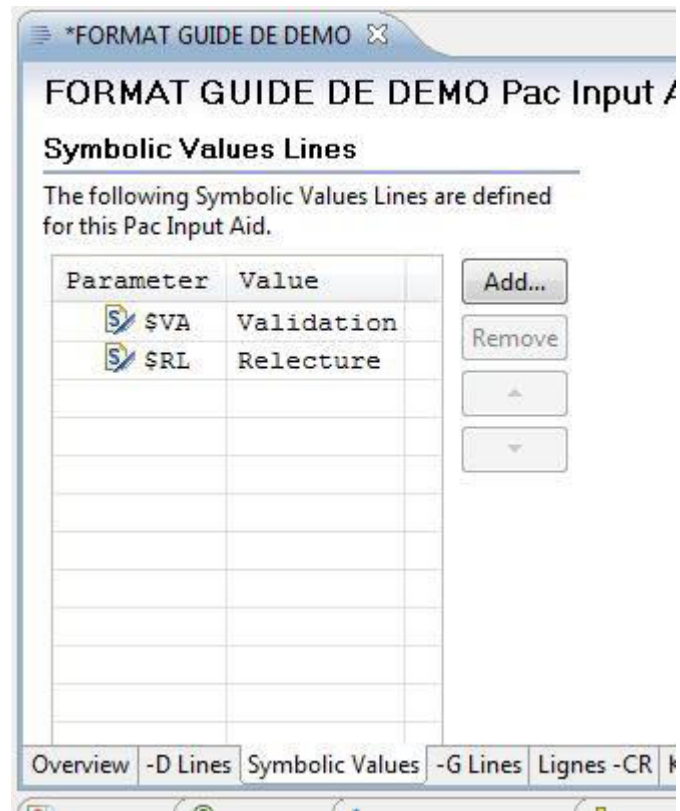
Length:

Overview -D Lines Symbolic Values -G Lines Lignes -CR Keywords



# INPUT AID

- Creating a new Input Aid (5/5)

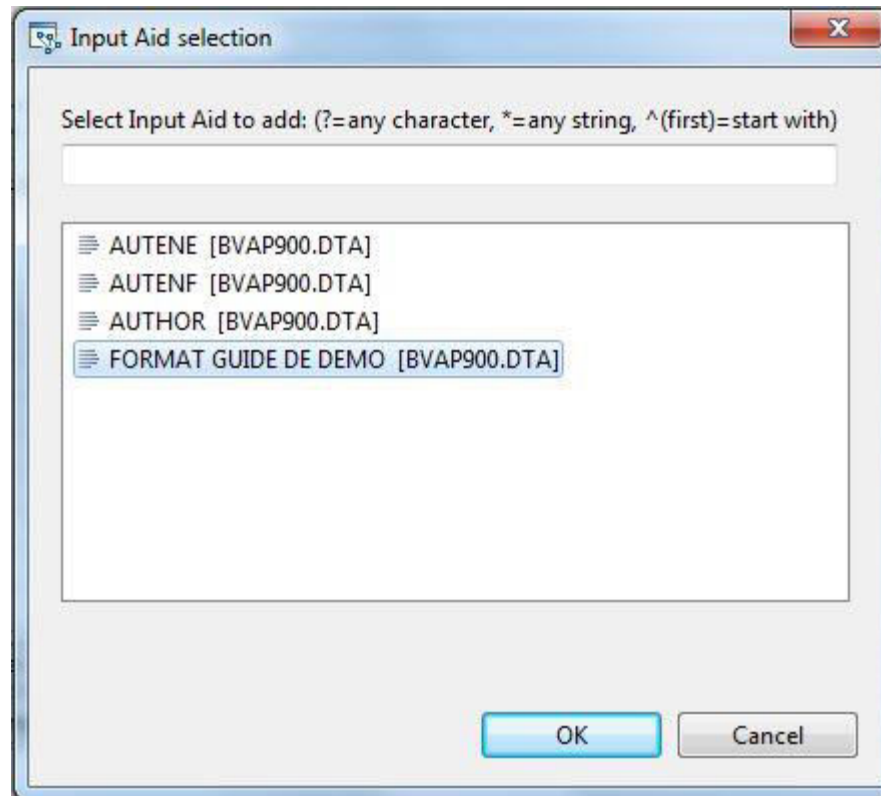






# INPUT AID

- Calling Input Aid (2/6) - Selection





# INPUT AID

- Calling Input Aid (3/6) - Open


FORMAT GUIDE DE DEMO \*AABOOK

### AABOOK Pac Macro - G Lines

-GC Lines -GE Lines

**-GC Lines**

Specify the -GC lines for this Pac Macro.

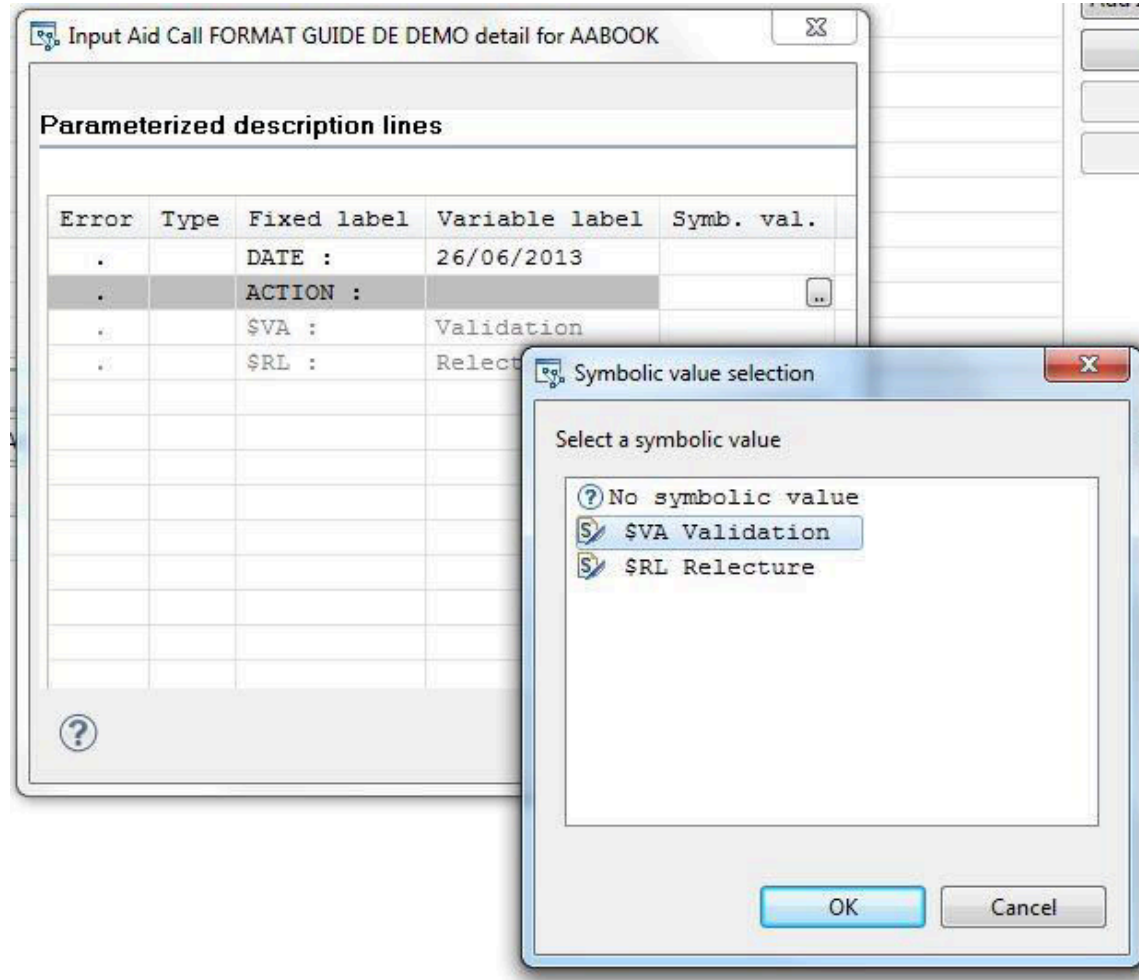
Error	Type	Description	...	Input Aid
.	I	[JJ/MM/AAAA, ]		DE DE DEMO 

Open Input Aid



# INPUT AID

- Calling Input Aid (5/6) – Enter values



# INPUT AID

- Calling Input Aid (6/6) – Enter values

The screenshot shows the 'FORMAT GUIDE DE DEMO' application window with the 'AABOOK Pac Macro - G Lines' tab selected. The main window displays a table for specifying -GC lines. An 'Input Aid' dialog box is open, titled 'Input Aid Call FORMAT GUIDE DE DEMO detail for AABOOK'. The dialog contains a table of 'Parameterized description lines'.

Error	Type	Fixed label	Variable label	Symb. val.
.		DATE :	26/06/2013	
.		ACTION :	Validation	\$VA
.		\$VA :	Validation	
.		\$RL :	Relecture	

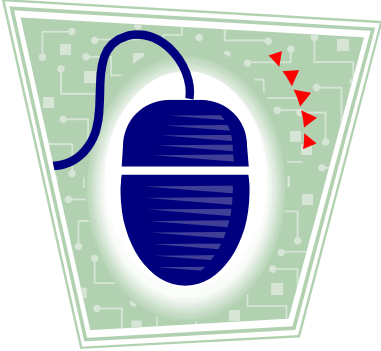
The background window shows a table with the following data:

Error	Type	Description	...	Input Aid
.	I	[26/06/2013, \$VA]		

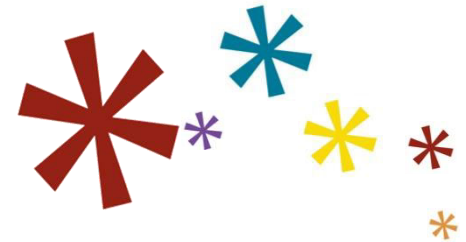
At the bottom of the background window, a 'Nodes' tree is visible with the following structure:

- 05 F20 \*C MV1B
  - N20000
  - F20000
- 25 F20BM \*A CHUP CA
  - N20BM000
  - F20BM000
- 30 F20BP
- 25 F20BT \*A CHUP CA



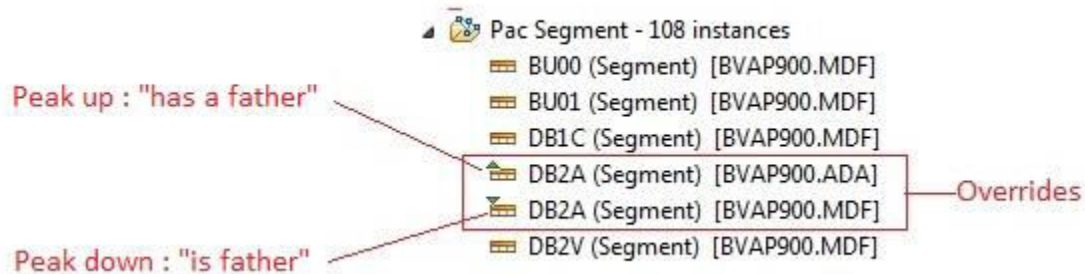


# DEPENDENCE RELATIONSHIPS



# DEPENDANCE RELATIONSHIPS - OVERRIDES

- Visualization in Design Explore view



# DEPENDANCE RELATIONSHIPS - OVERRIDES

- De-synchronization

The screenshot shows the Design Explorer interface with a project tree on the left and a table of CE Lines on the right. A red arrow points from a warning sign on a 'DB2A' segment in the tree to a 'ZZZZZZ' entry in the table.

**Design Explorer Project Tree:**

- Pac Screen - 30 instances
- Pac Segment - 108 instances
  - BU00 (Segment) [BVAP900.MDF]
  - BU01 (Segment) [BVAP900.MDF]
  - DB1C (Segment) [BVAP900.MDF]
  - DB2A (Segment) [BVAP900.ADA]
  - DB2A (Segment) [BVAP900.MDF]
  - DB2V (Segment) [BVAP900.MDF]
  - DB3B (Segment) [BVAP900.MDF]
  - DB3R (Segment) [BVAP900.MDF]
  - DB5B (Segment) [BVAP900.MDF]
  - DB5G (Segment) [BVAP900.MDF]
  - DB6B (Segment) [BVAP900.MDF]
  - DB6V (Segment) [BVAP900.MDF]
  - DB7R (Segment) [BVAP900.MDF]
  - DB9B (Segment) [BVAP900.MDF]
  - DB9E (Segment) [BVAP900.MDF]

**DB2A Segment - CE Lines Table:**

Name	Label	Internal Format
IDAUTH	Author Identifier	X(10)
LNAUTH	Author Name	X(60)
LFAUTH	Author First Name	X(60)
IDCTRY	Country Identifier	X(3)
CTAUTH	Author Type	XX
YRBRTH	Birth Year	S9999
YRDETH	Death Year	S9999
CTNOBL	Nobel prize	X
YRNOBL	Nobel Prize Year	S9999
ZZZZZZ	Data element model	X(10)

Data Element added in the "Father" description





# DEPENDANCE RELATIONSHIPS - OVERRIDES

- De-synchronization

**DB2A Segment**

**Alerts and Action Items**

There are 1 problem(s) associated with this resource.

**General Information**

This section describes general information about this Pac Segment.

**Problems**

0 errors, 1 warning, 0 others

Description	Resource	Path	Location	Type
Warnings (1 item)				
The Pac Segment 'DB2A'	DB2A.dataaggregate	/BVAP900.ADA/rpp	BVAP900.ADA	Design Synchronization

Child marked with warning

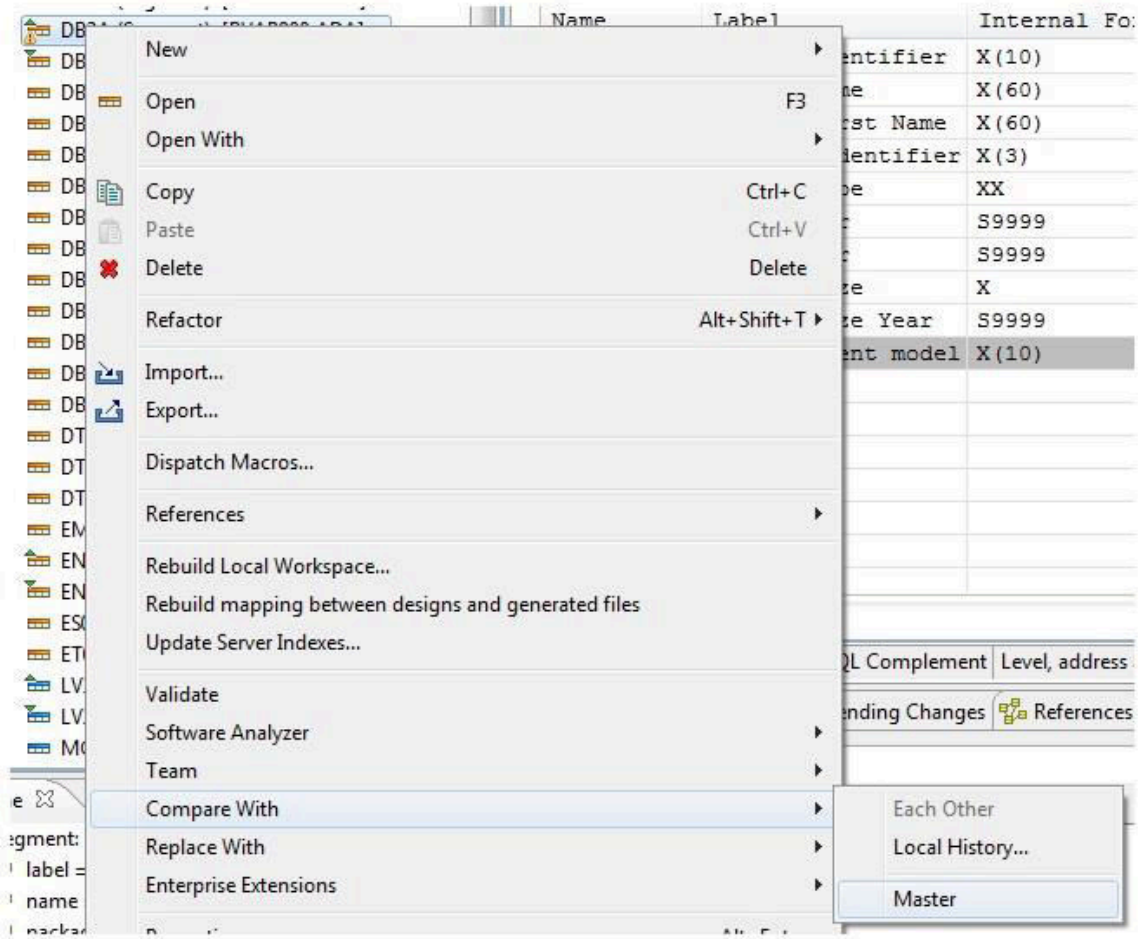
Warning on the overview tab of the Child

Message in the Problem tab



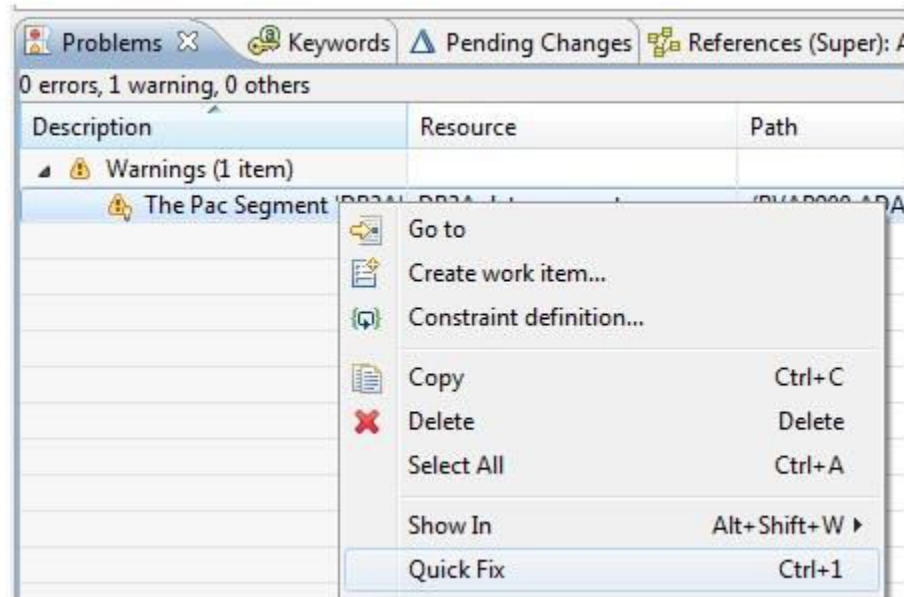
# DEPENDANCE RELATIONSHIPS - OVERRIDES

- Comparison (1/3)



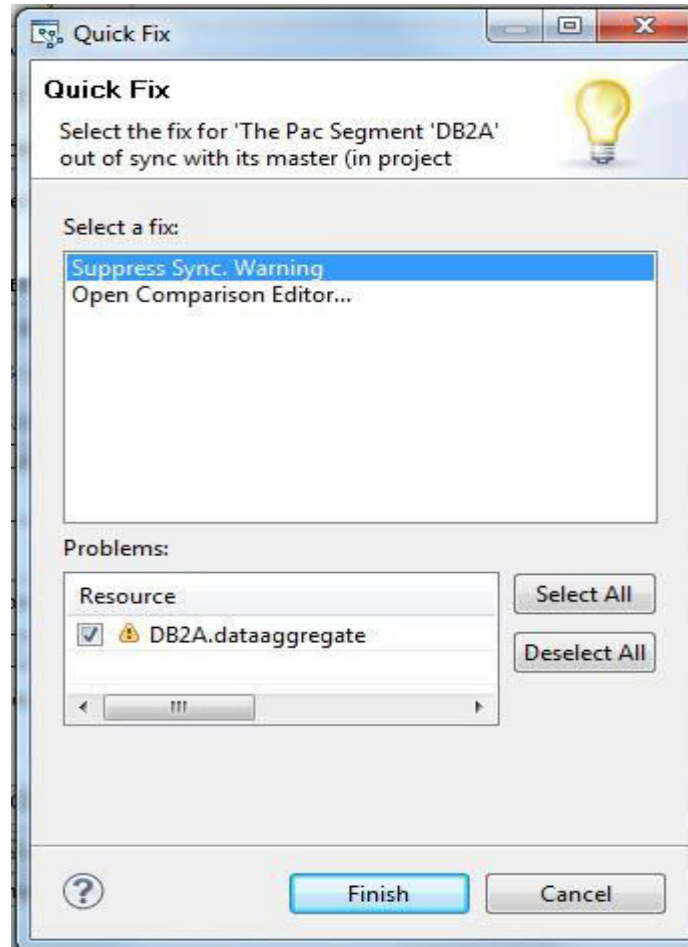
# DEPENDANCE RELATIONSHIPS - OVERRIDES

- Comparison (2/3) – Quick Fix



# DEPENDANCE RELATIONSHIPS - OVERRIDES

- Comparison (3/3) – Quick Fix



# DEPENDANCE RELATIONSHIPS - OVERRIDES

- Synchronization

The screenshot displays the 'Compare' window in IBM Rational software, comparing a Master data aggregate ('BVAP900.MDF/rpp/DB2A.dataaggregate') with a Subordinate data aggregate ('BVAP900.ADA/rpp/DB2A.dataaggregate').

**Structural Changes:**

- 4 change(s) in Segment: DB2A
  - 1 change(s) in Pac Definition
    - Relation 'set of parameters' in Pac Definition, changed from PacLibrary: ADA to PacLibrary: MDF
  - 3 change(s) in Segment Description
    - Data Element: CTNOBL added
    - Data Element: CTNOBA removed
    - Data Element: ZZZZZZ added

**Visualization of Structural Changes:**

The window is split into two panes: Master and Subordinate. Both panes show a tree view for Segment: DB2A, including description, -CE Lines, facets, and keywords.

**Master Pane (Left):**

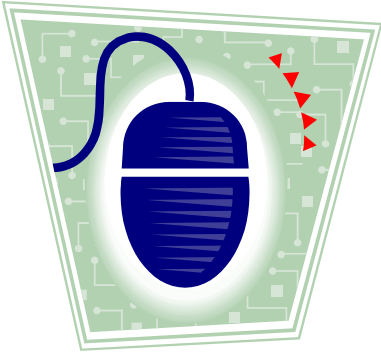
- Segment: DB2A
  - description -> Segment Description
    - CE Lines
      - Data Element: IDAUTH
      - Data Element: LNAUTH
      - Data Element: LFAUTH
      - Data Element: IDCTRY
      - Data Element: CTAUTH
      - Data Element: YRBRTH
      - Data Element: YRDETH
      - Data Element: CTNOBL
      - Data Element: YRNOBL
      - Data Element: ZZZZZZ
    - facets
    - keywords

**Subordinate Pane (Right):**

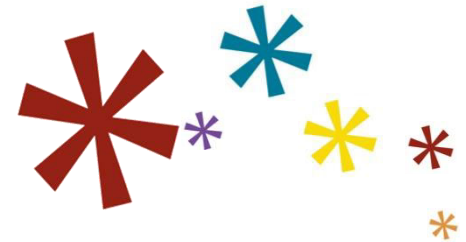
- Segment: DB2A
  - description -> Segment Description
    - CE Lines
      - Data Element: IDAUTH
      - Data Element: LNAUTH
      - Data Element: LFAUTH
      - Data Element: IDCTRY
      - Data Element: CTAUTH
      - Data Element: YRBRTH
      - Data Element: YRDETH
      - Data Element: CTNOBA
      - Data Element: YRNOBL
    - facets
    - keywords

A tooltip 'Copy Current Change from Left to Right' is visible over the synchronization arrow between the two panes.





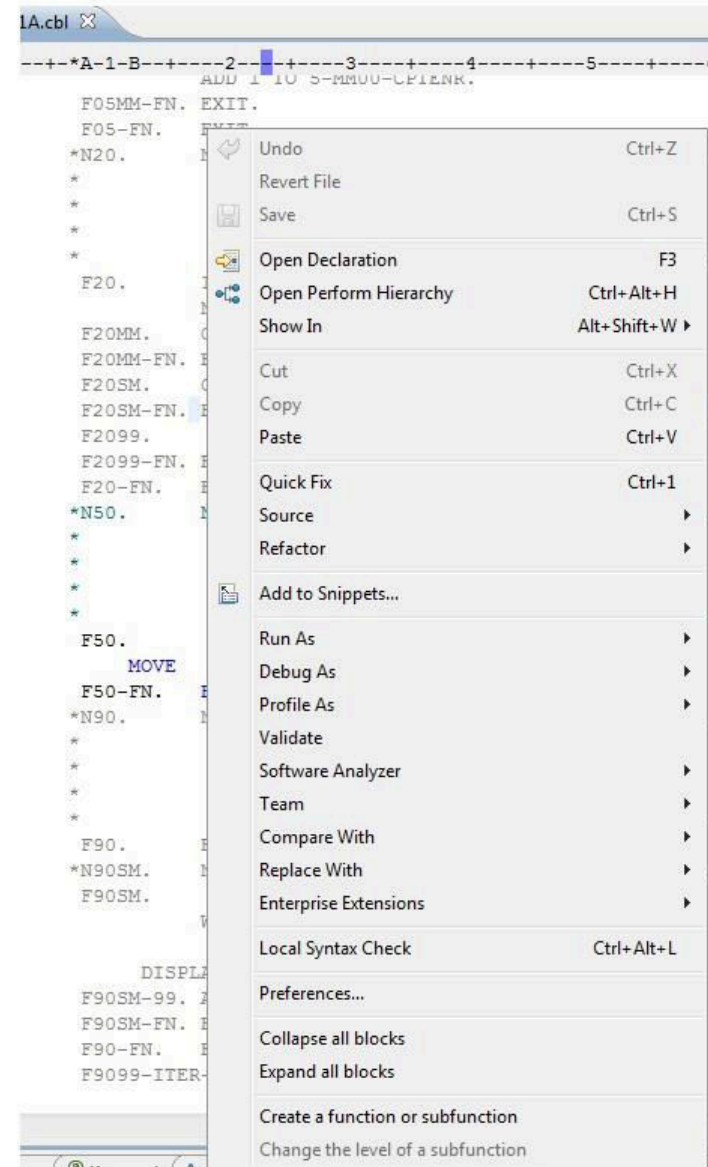
# CODE INSERTION



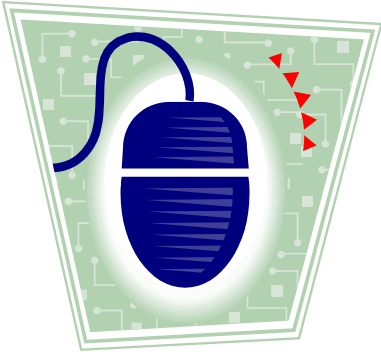


# CODE INSERTION

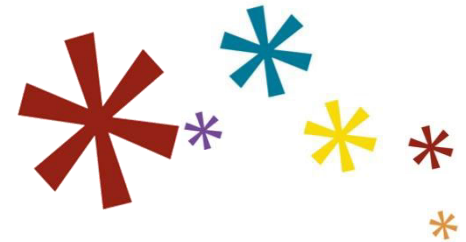
- Function/Sub-function insertion wizard







# CODE INSERTION BATCH PROGRAM



# CODE INSERTION

- Function/Sub-function insertion wizard (Batch programs)

Create a function or a subfunction

Function code: required

Function code

Subfunction code

Level

Title

Condition: None

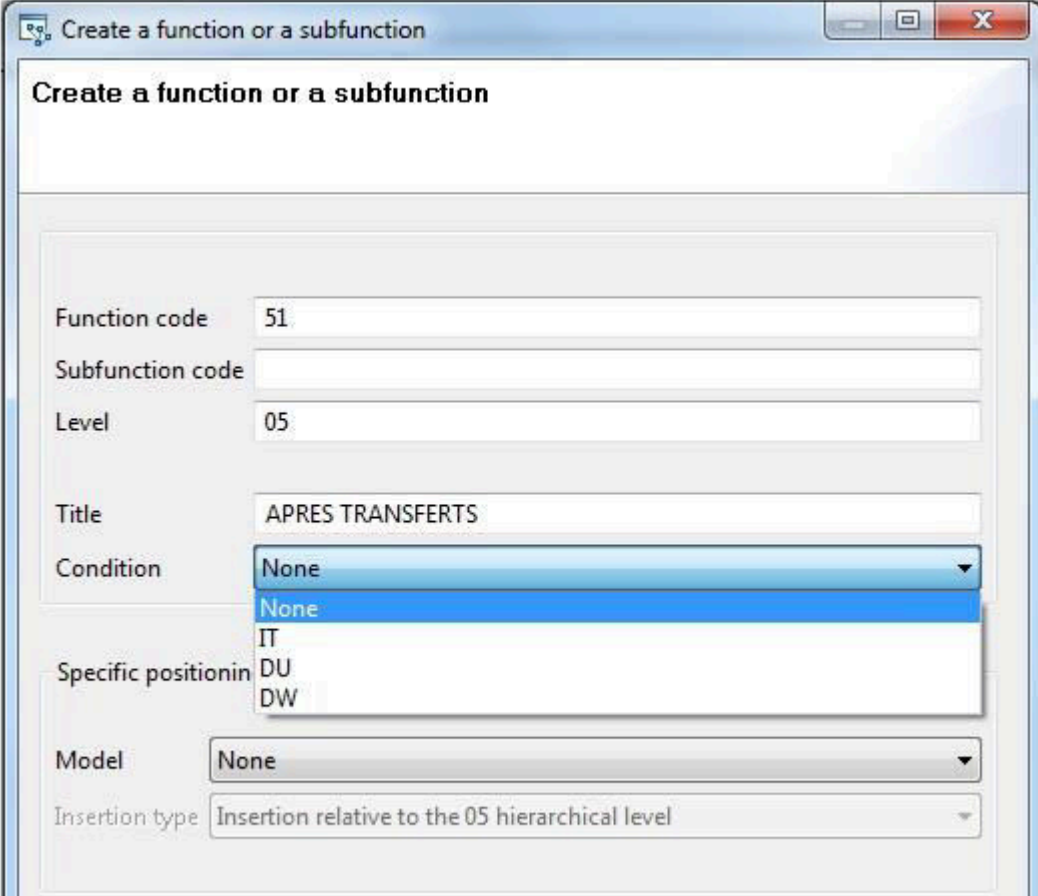
Specific positioning

Model: None

Insertion type: Insertion relative to the 05 hierarchical level

# CODE INSERTION

- Function/Sub-function insertion wizard (Batch programs)



The screenshot shows a dialog box titled "Create a function or a subfunction". The dialog contains the following fields and options:

- Function code: 51
- Subfunction code: (empty)
- Level: 05
- Title: APRES TRANSFERTS
- Condition: None (dropdown menu is open showing options: None, IT, DU, DW)
- Specific position in: (empty)
- Model: None (dropdown menu)
- Insertion type: Insertion relative to the 05 hierarchical level (dropdown menu)

# CODE INSERTION

- Function/Sub-function insertion wizard (Batch programs)

```

F20-FN. EXIT.
*N50. NOTE *****
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
F50.
MOVE MM1A TO SM1A.
F50-FN. EXIT.
*N51. NOTE *****
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
F51.
*<insert code for F51 here>
F51-FN. EXIT.
*N90. NOTE *****
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
F90. EXIT.
    
```

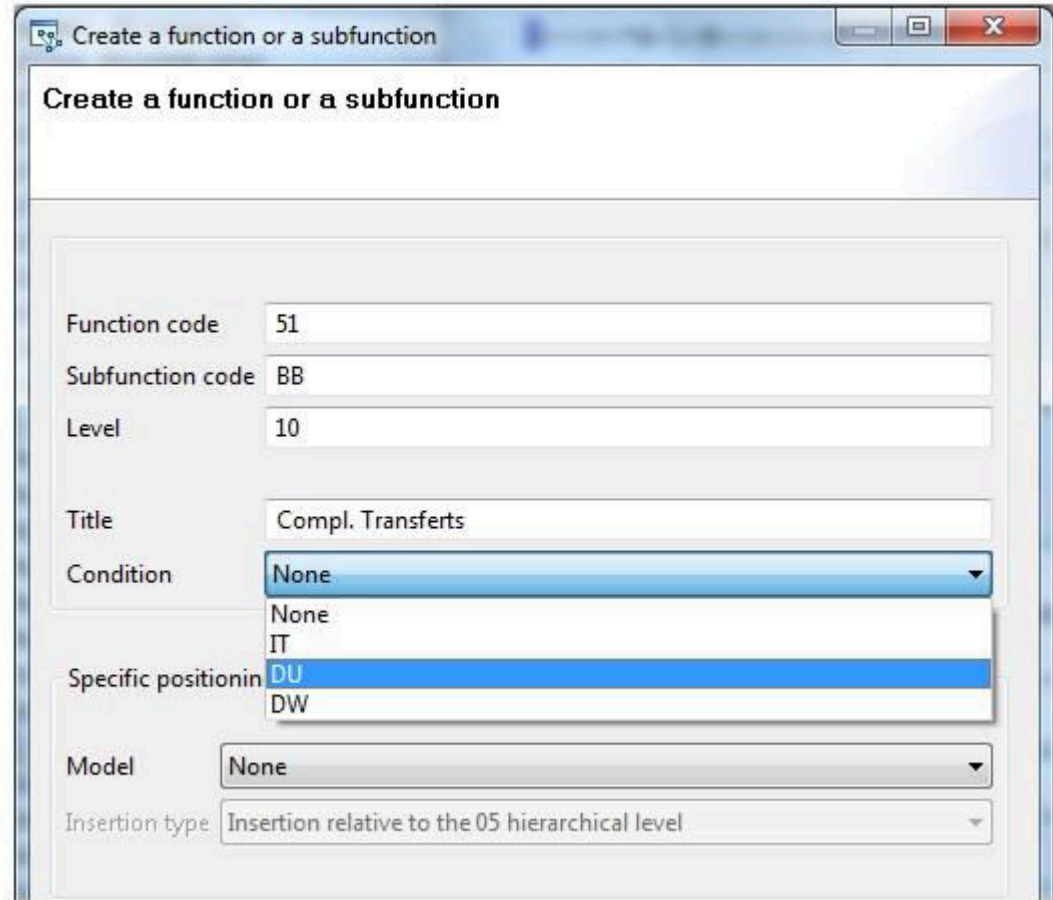
lv05

lv05



# CODE INSERTION

- Function/Sub-function insertion wizard (Batch programs)



The screenshot shows a dialog box titled "Create a function or a subfunction" with the following fields and values:

Field	Value
Function code	51
Subfunction code	BB
Level	10
Title	Compl. Transferts
Condition	None
Specific position in	DU
Model	None
Insertion type	Insertion relative to the 05 hierarchical level

# CODE INSERTION

- Function/Sub-function insertion wizard (Batch programs)

```

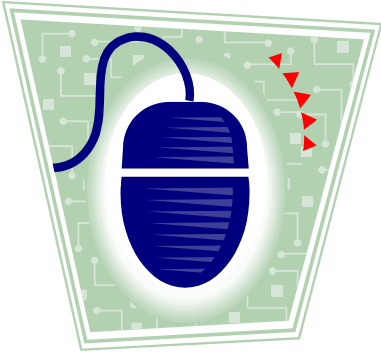
*N51.      NOTE *****
*          *
*          * APRES TRANSFERTS
*          *
*          *****
F51.
*<insert code for F51 here>
*N51BB.    NOTE * Compl.Transferts
F51BB.          GO TO      F51BB-B.
F51BB-A.
                IF      condition
                GO TO      F51BB-FN.
F51BB-B.
*<insert code for F51BB here>
F51BB-900. GO TO F51BB-A.
F51BB-FN. EXIT.
F51-FN. EXIT.
*N90.      NOTE *****
*          *
*          * ECRITURES
*          *

```

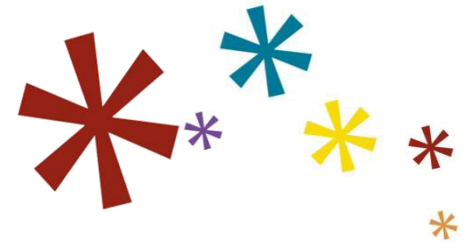
lv05

lv10





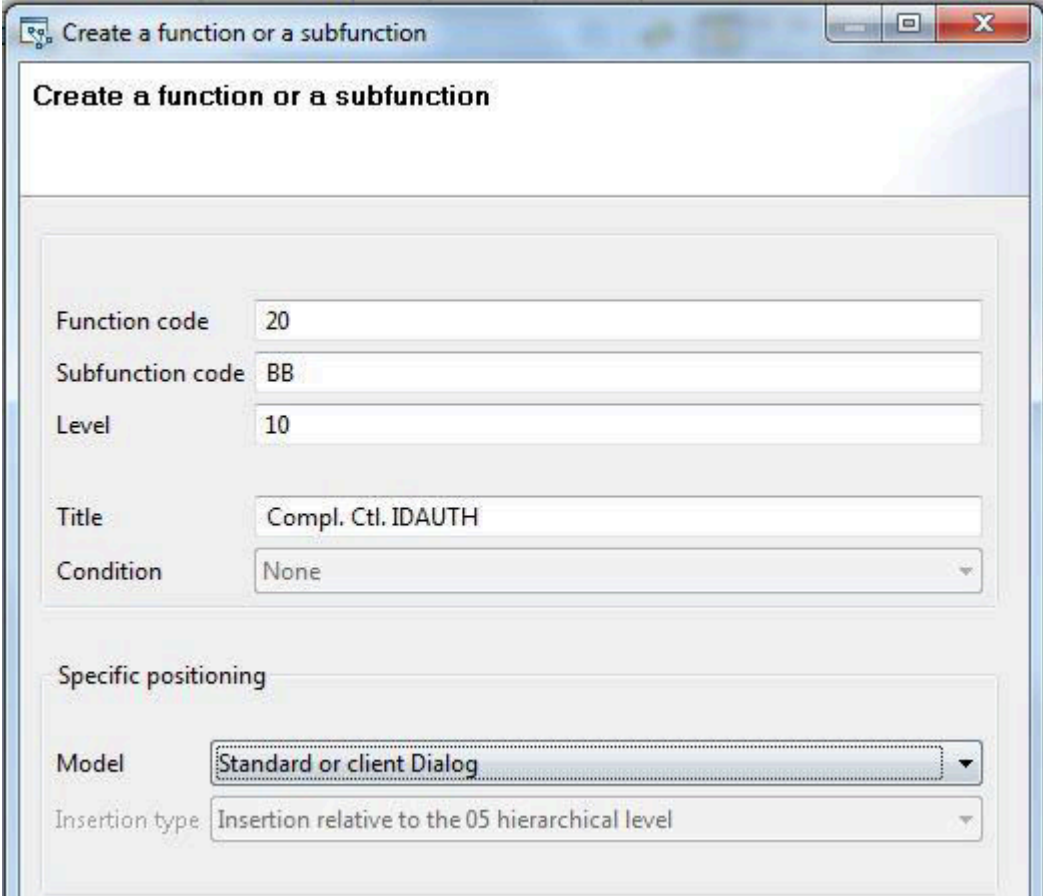
# CODE INSERTION DIALOG PROGRAM





# CODE INSERTION

- Function/Sub-function insertion wizard (Dialog program)



**Create a function or a subfunction**

Function code: 20

Subfunction code: BB

Level: 10

Title: Compl. Ctl. IDAUTH

Condition: None

Specific positioning

Model: Standard or client Dialog

Insertion type: Insertion relative to the 05 hierarchical level

# CODE INSERTION

- Function/Sub-function insertion wizard (Dialog program)

Create a function or a subfunction

Create a subfunction (Standard or client Dialog)

Subfunction code: 20BB Level: 10

Data Element code: IDAUTH Browse...

Action type

Insert before  Insert after  Replace

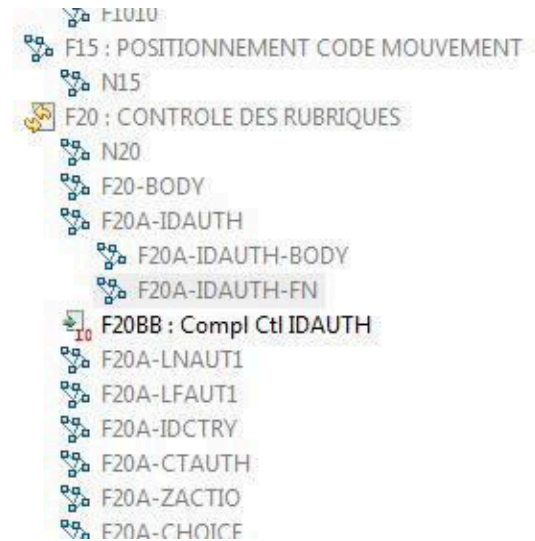
# CODE INSERTION

- Function/Sub-function insertion wizard (Dialog program)

```

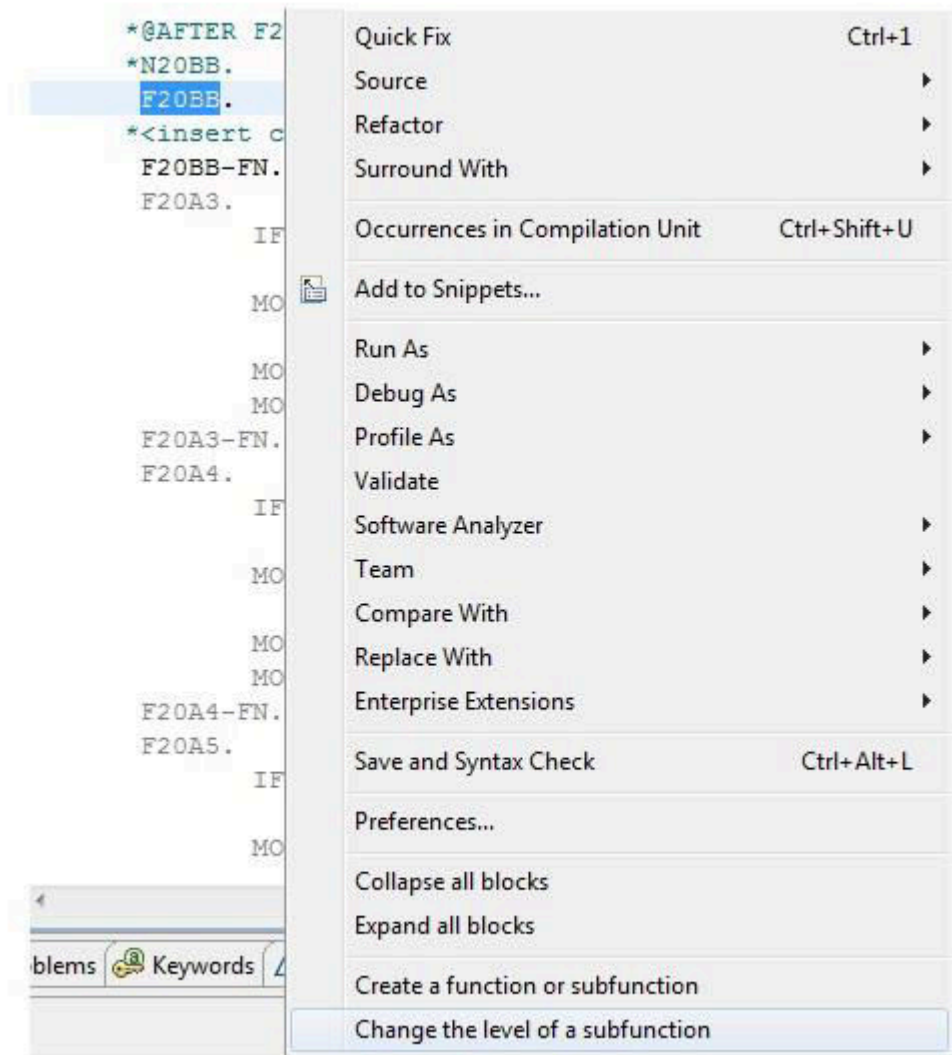
F20A2.
  IF CATM = SPACE          GO TO F20A2-FN.
    IF I-002A-IDAUTH NOT = SPACE
      MOVE '1' TO          PR-2A-IDAUTH
    ELSE
      MOVE '2' TO          PR-2A-IDAUTH
      MOVE 'E' TO CATG          GO TO F20A2-FN.
F20A2-FN.  EXIT.
*@AFTER F20A-IDAUTH
*N20BB.  NOTE * Compl. Ct1. IDAUTH      *.
F20BB.
*<insert code for F20BB here>
F20BB-FN.  EXIT.
F20A3.
  IF CATM = 'A' OR CATM = SPACE  GO TO F20A3-FN.
    IF I-002A-LNAUT1 NOT = SPACE

```



# CODE INSERTION

- Function/Sub-function insertion wizard (Dialog program)



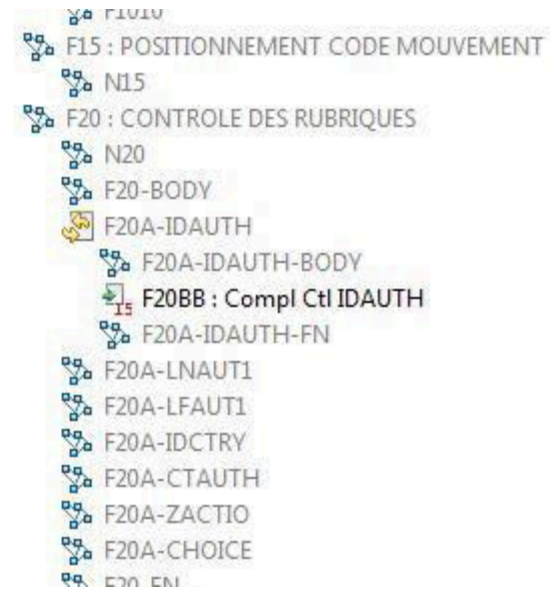
# CODE INSERTION

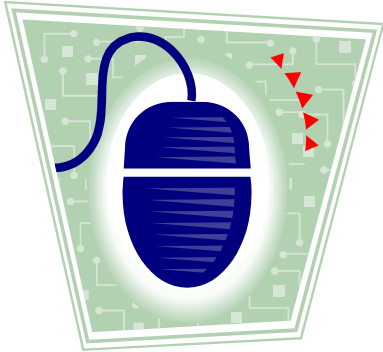
- Function/Sub-function insertion wizard (Dialog program)

```

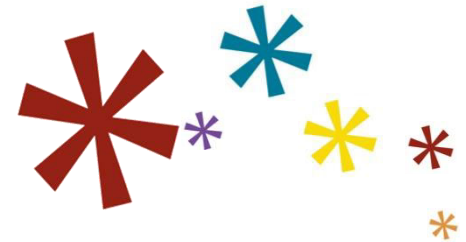
F20A2.
  IF CATM = SPACE                GO TO F20A2-FN.
    IF I-002A-IDAUTH NOT = SPACE
      MOVE '1' TO PR-2A-IDAUTH
    ELSE
      MOVE '2' TO PR-2A-IDAUTH
      MOVE 'E' TO CATG
      GO TO F20A2-FN.
*@AFTER F20A-IDAUTH
*N20BB.  NOTE * Compl. Ctl. IDAUTH
F20BB.
* <insert code for F20BB here>
F20BB-FN. EXIT.
F20A2-FN. EXIT.
F20A3.
  IF CATM = 'A' OR CATM = SPACE  GO TO F20A3-FN.
    IF I-002A-LNAUT1 NOT = SPACE
      MOVE '1' TO PR-2A-LNAUT1
  
```

lv15

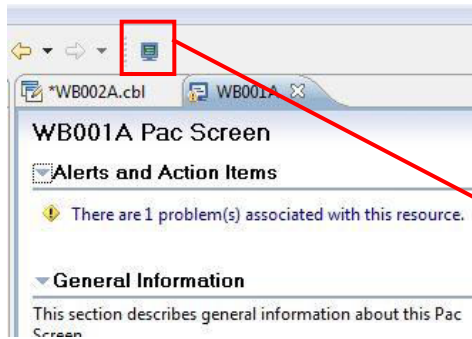




# SCREEN SIMULATION



# SCREEN SIMULATION



**Alerts and Action Items**

There are 1 problem(s) associated with this resource.

**General Information**

This section describes general information about this Pac Screen.

Working Context: BVAP900.MIM hierarchy

Name: WB002A

Label: Author for update

**Generated Code Structure**

type filter text

- N05
- F0510
- F0512
- F0520 : CONTROLE CODE OPERATION
- F10 : POSITIONNEMENT CATEGORIE
- F1010
- F15 : POSITIONNEMENT CODE MOUVEMENT
- N15
- F20 : CONTROLE DES RUBRIQUES
- N20
- EN BODY

**Screen Em**

```

Author for update

Author Code.....: ALLENDE*I
Author's Name.....: ALLENDE
Author Firstname..: Isabel
Country Code.....: USA
Author type.....: NO

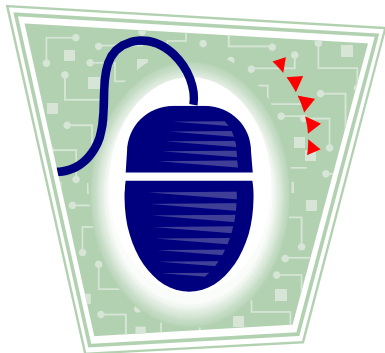
A.....: C

CHOICES ALLOWED :      UP=UPDATE      ME=Menu      EN=End of Work

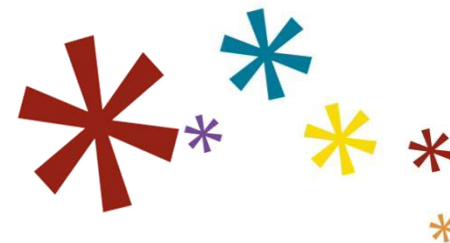
Choice.....: UP
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
MA  a                                     01/001
    
```







# COMPARISON



# COMPARISON

- Difference detection

New symbol : Model artifact updated Generation required

The screenshot shows the 'LOAD1A Pac Program' configuration window. The title bar includes 'LOAD1A' and 'LOAD1A.cbl'. A red box highlights a new symbol in the toolbar, with a red arrow pointing to the text 'New symbol : Model artifact updated Generation required'. The main content area is divided into several sections:

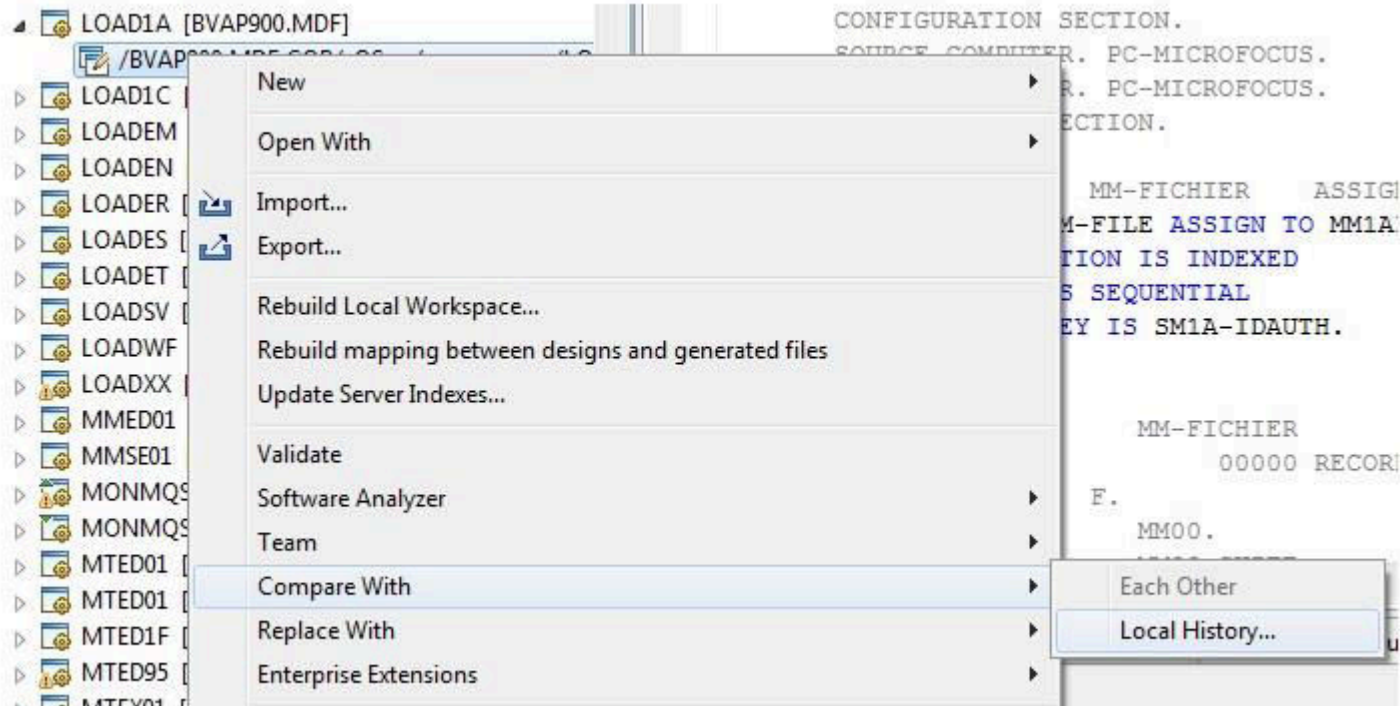
- Alerts and Action Items**: A section for managing alerts and actions.
- General Information**: This section describes general information about this Pac Program. It includes fields for 'Working Context' (BVAP900.MDF), 'Name' (LOAD1A), and 'Label' (Load MM1A for SEQ/IX Nouveau). A 'Hierarchy...' button is also present.
- Definition**: This section is set for this Pac Program. It includes a field for 'COBOL program ID' (LOAD1A).

On the right side of the window, there are additional sections: 'Generi', '-CD Li', and '-CP Li', each with a 'The followi' label.



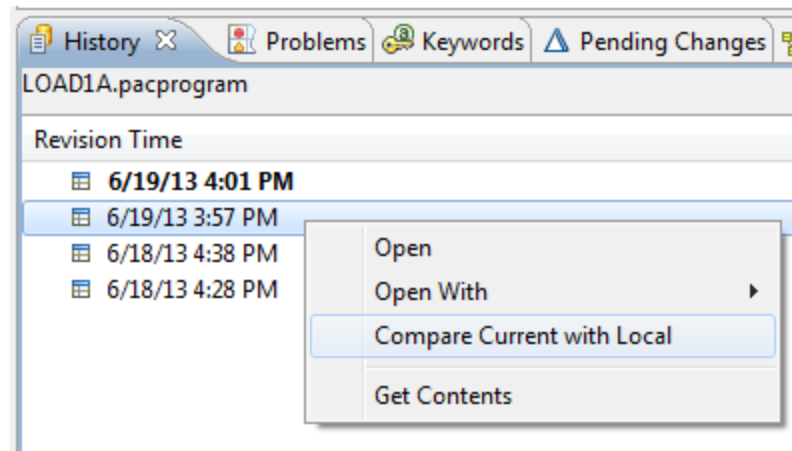
# COMPARISON

- Compare to previous/former version



# COMPARISON

- Version selection



# COMPARISON

## Model Comparison

The screenshot displays the IBM Rational software interface for comparing two versions of a program. The window title is "Compare LOAD1A.pacprogram Current and Local Revision". The interface is divided into several sections:

- Structural Changes:** Shows a single change: "Attribute 'programID' in Program: LOAD1A, changed from 'LOAD1A' to 'LOAD1AB'".
- Visualization of Structural Changes:** A dropdown menu is set to "Local: LOAD1A.pacprogram".
- Local: LOAD1A.pacprogram:** A tree view showing the structure of the current program. It includes a "set of parameters" pointing to "PacLibrary: MDF", two "-CD Lines", and various data structure calls and segment calls.
- Local history: LOAD1A.pacprogram Jun 19, 2013 3:57:44 PM:** A tree view showing the structure of the previous revision. It is identical to the current version but lacks the second "-CD Line" and its associated data structure and segment calls.



# COMPARISON

- Source Code Comparison

The screenshot displays a window titled "COBOL Structure Compare" and "COBOL Source Compare". The window shows a comparison between two versions of a COBOL program named "LOAD1A". The left pane shows the "Local: LOAD1A.cbl" version, and the right pane shows the "Local history: LOAD1A.cbl Jun 18, 2013 4:38:45 PM" version. The code is displayed in a side-by-side comparison format, with differences highlighted in blue and red. The code includes sections for IDENTIFICATION, ENVIRONMENT, CONFIGURATION, INPUT-OUTPUT, and FILE-CONTROL. A specific line in the CONSTANTES-PAC section is highlighted, showing a change in the date and time stamp from "19/06/2013 5 V0407/06/201216/05/2011" to "18/06/2013 5 V0407/06/201216/05/2011".

```

Local: LOAD1A.cbl                                     Local history: LOAD1A.cbl Jun 18, 2013 4:38:45 PM
IDENTIFICATION DIVISION.                             IDENTIFICATION DIVISION.
PROGRAM-ID. LOAD1A.                                   PROGRAM-ID. LOAD1AB.
*AUTHOR.      Load MM1A for SEQ/IX.                   *AUTHOR.      Load MM1A for SEQ/IX.
*DATE-COMPILED. 19/06/13.                             *DATE-COMPILED. 18/06/13.
ENVIRONMENT DIVISION.                                ENVIRONMENT DIVISION.
CONFIGURATION SECTION.                               CONFIGURATION SECTION.
SOURCE-COMPUTER. PC-MICROFOCUS.                       SOURCE-COMPUTER. PC-MICROFOCUS.
OBJECT-COMPUTER. PC-MICROFOCUS.                       OBJECT-COMPUTER. PC-MICROFOCUS.
INPUT-OUTPUT SECTION.                                INPUT-OUTPUT SECTION.
FILE-CONTROL.                                         FILE-CONTROL.

-----
01  CONSTANTES-PAC.
05  FILLER PICTURE X(87) VALUE
    "9999 MDF19/06/13LOAD1ADMIN
-   "19/06/20133.5 V0407/06/201216/05/2011".
01  PAC-CONSTANTES REDEFINES CONSTANTES-PAC.
05  NUGNA PICTURE X(5) .
05  APPLI PICTURE X(3) .

-----
01  CONSTANTES-PAC.
05  FILLER PICTURE X(87) VALUE
    "9999 MDF18/06/13LOAD1ADMIN
-   "18/06/20133.5 V0407/06/201216/05/2011".
01  PAC-CONSTANTES REDEFINES CONSTANTES-PAC.
05  NUGNA PICTURE X(5) .
05  APPLI PICTURE X(3) .
  
```



# COMPARISON

- Comparison between two entities

The screenshot shows a comparison window titled "Compare ('BVAP900.MDF/rpp/LOAD1A.pacprogram' - 'BVAP900.MDF/rpp/LOAD1C.pacprogram')". The window is divided into two main sections: "Structural Changes" and "Visualization of Structural Changes".

**Structural Changes:**

- 10 change(s) in Program: LOAD1A
  - Attribute 'label' in Program: LOAD1A, changed from 'Load MMLC for SEQ/IX' to 'Load MM1A for SEQ/IX'
  - Attribute 'name' in Program: LOAD1A, changed from 'LOAD1C' to 'LOAD1A'
  - Attribute 'programID' in Program: LOAD1A, changed from 'LOAD1C' to 'LOAD1AB'
- 4 change(s) in -CD Line
  - Attribute 'externalName' in -CD Line, changed from 'MM' to 'SSMM1A'
- 1 change(s) in PacCommonLineDescription
  - Attribute 'organization' in PacCommonLineDescription, changed from '\_W' to '\_S'
- 2 change(s) in PacDataStructureCall
  - PacSegmentCall added
  - PacSegmentCall removed

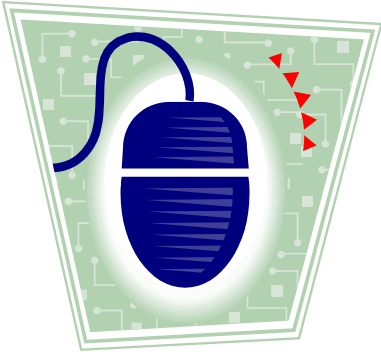
**Visualization of Structural Changes:**

The bottom section shows a side-by-side comparison of the two programs. The left pane shows "Program: LOAD1A" and the right pane shows "Program: LOAD1C". Both panes display a tree view of the program's structure, including:

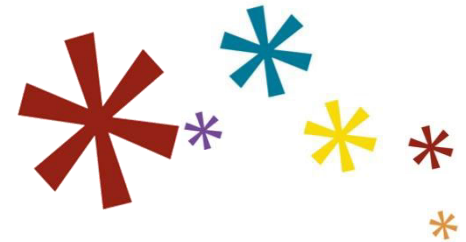
- set of parameters -> PacLibrary: MDF
- CD Lines
  - CD Line
    - commonDescription -> PacCommonLineDescription
    - dataStructureCalls
      - PacDataStructureCall
        - dataStructure -> Data Structure: SM
    - segmentCalls
      - PacSegmentCall
        - segment -> Segment: SM1A
  - CD Line

The right pane shows a similar structure for "Program: LOAD1C", with the segment name being "SM1C" instead of "SM1A".



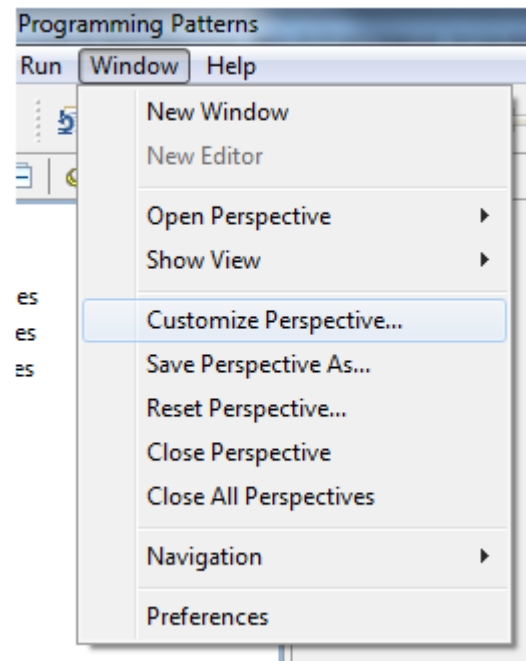


# REMINDER QUALITY CONTROL



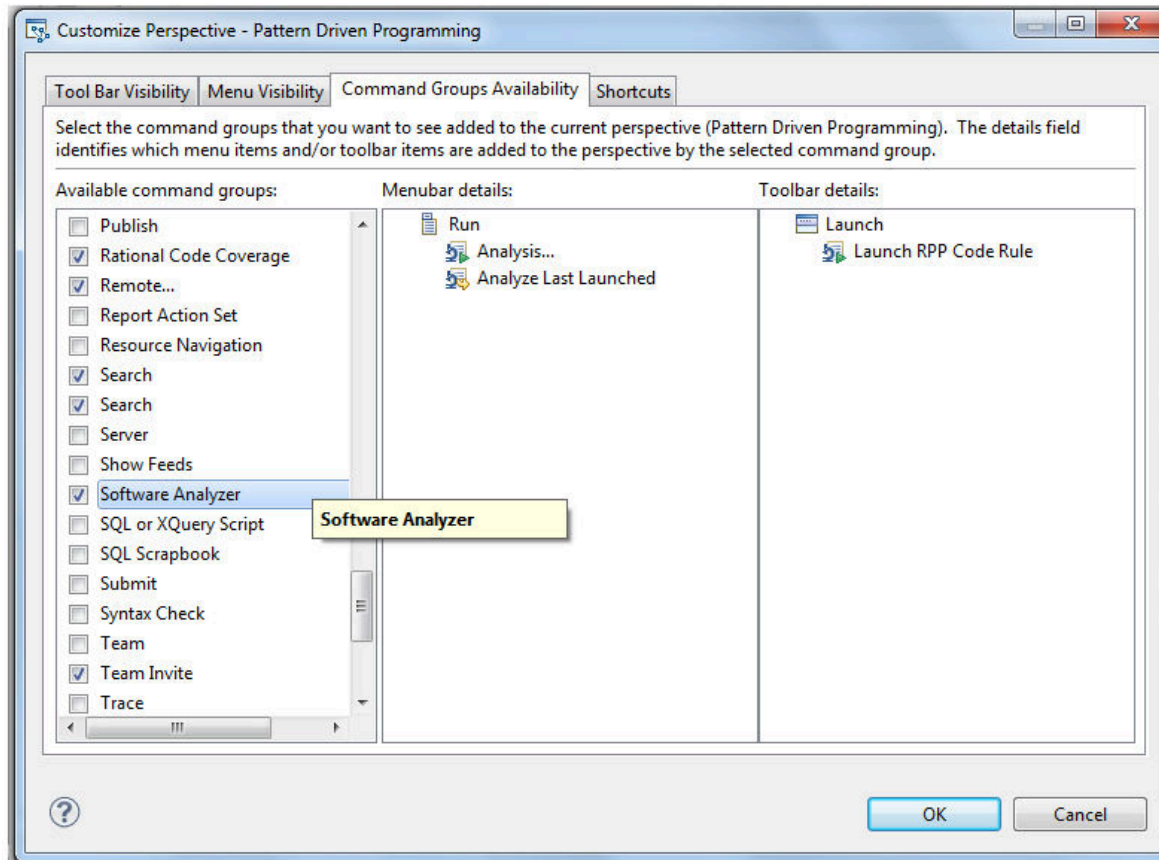
# QUALITY CONTROL

- Customize tool bar



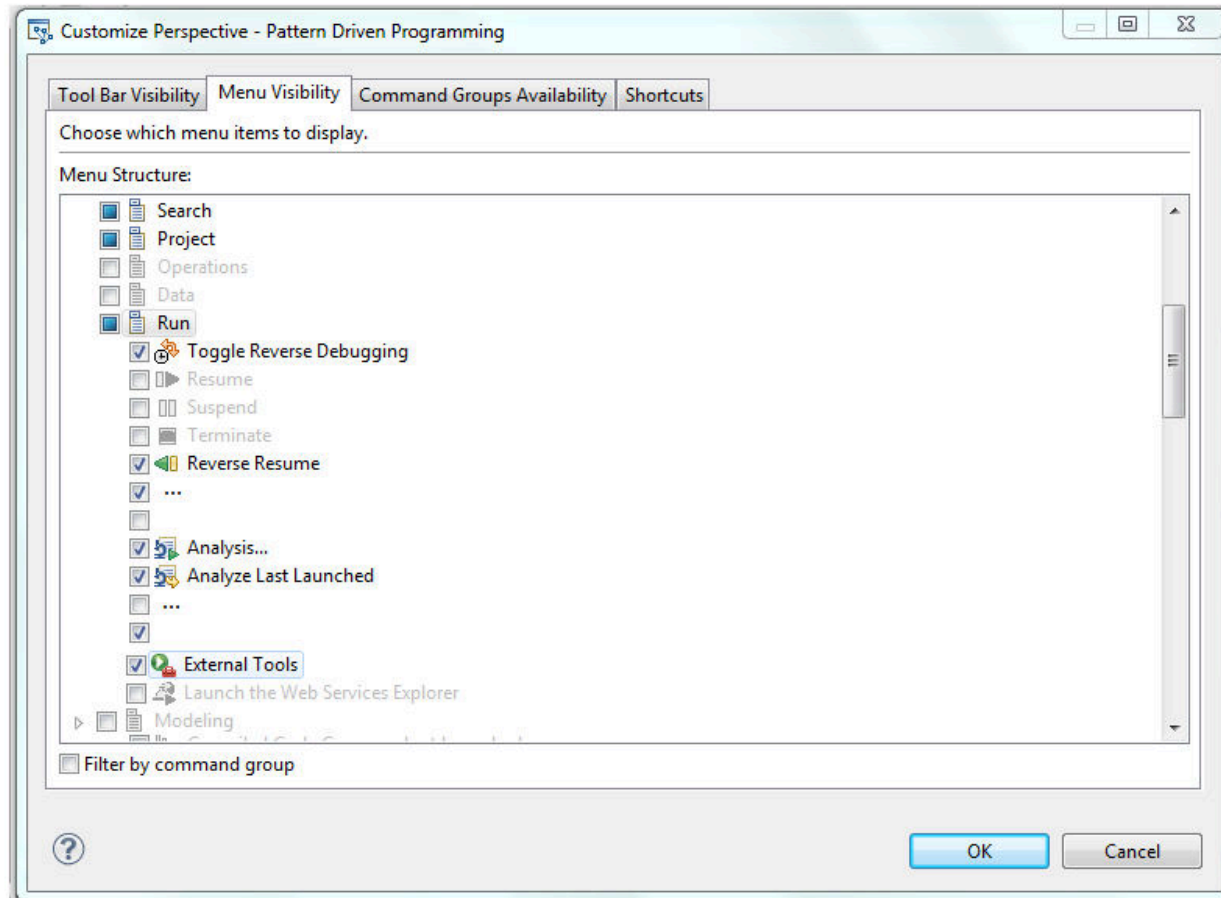
# QUALITY CONTROL

- Ensure Software Analyzer is available



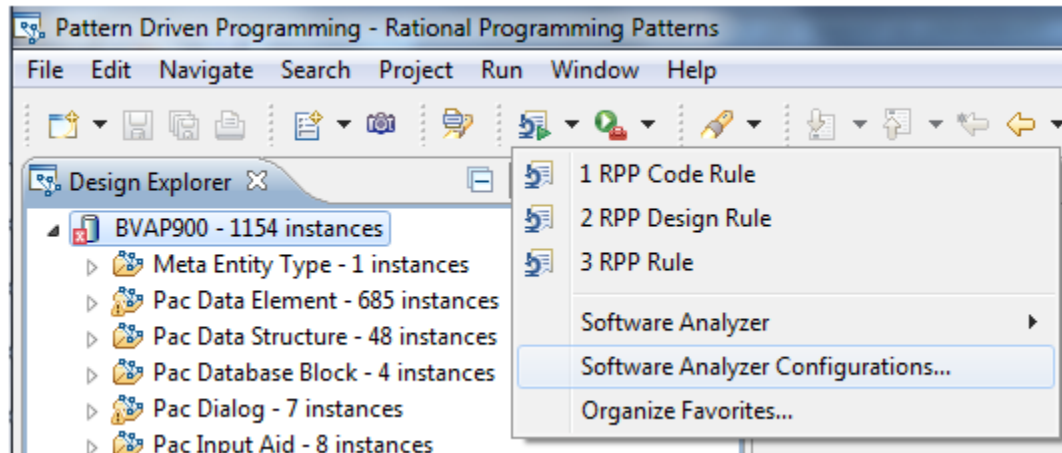
# QUALITY CONTROL

- Ensure Software Analyzer is available



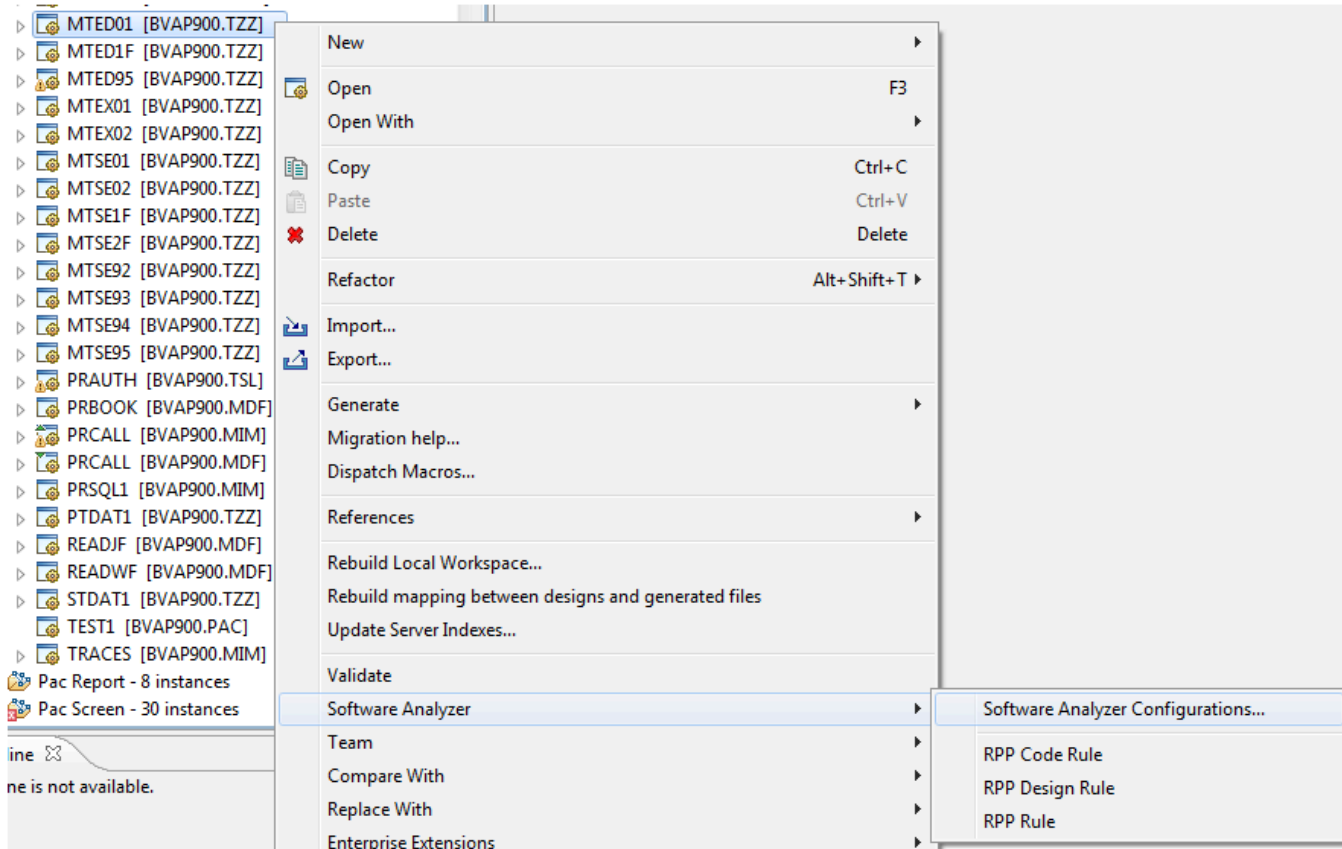
# QUALITY CONTROL

- Create rules – from tool bar



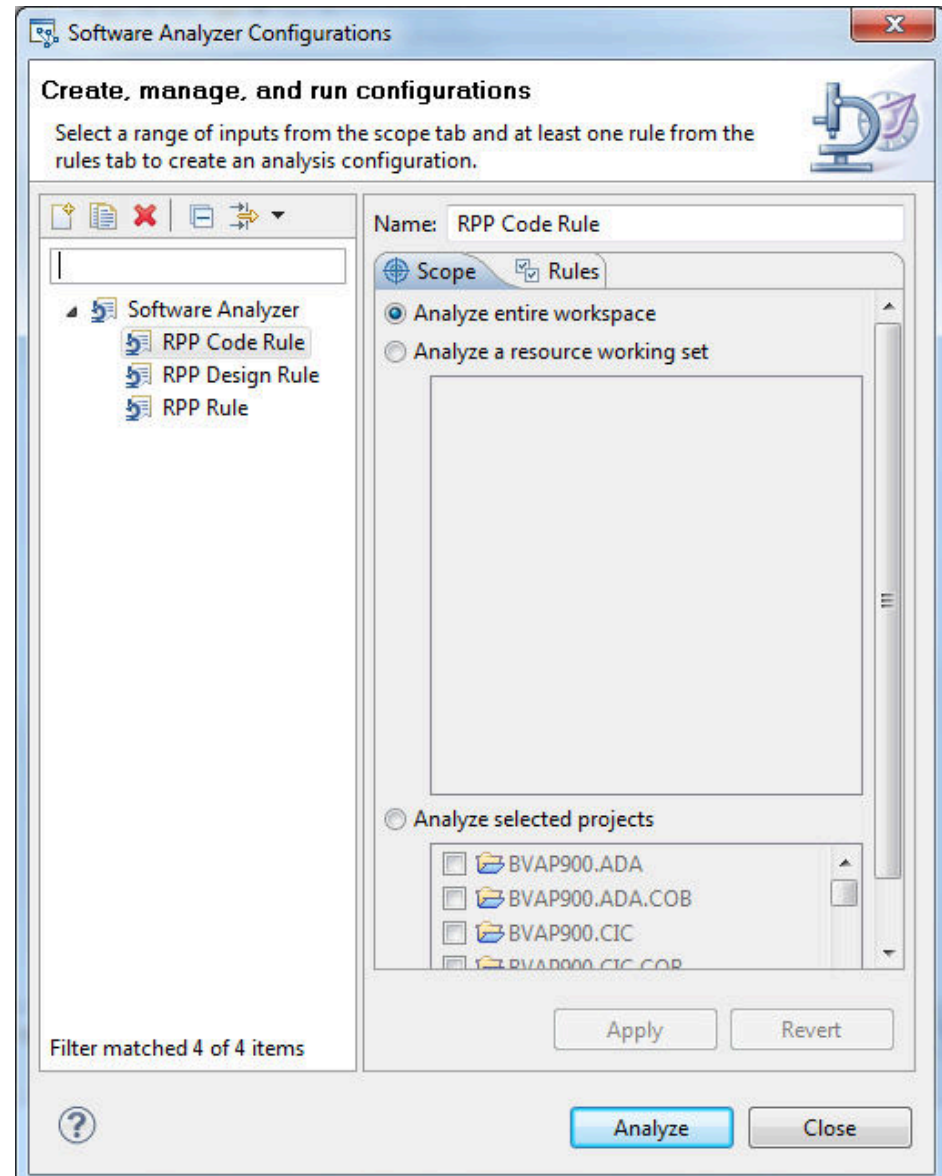
# QUALITY CONTROL

- Create rules – from Contextual menu



# QUALITY CONTROL

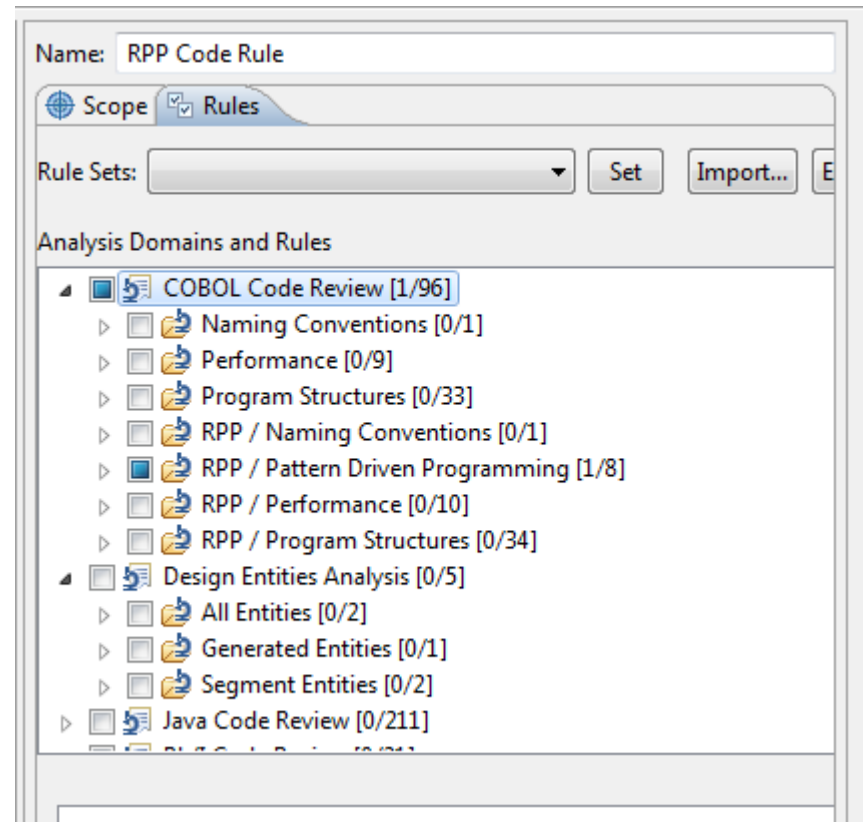
- Create rules
  - Define scope





# QUALITY CONTROL

- Create rules
- Select rule



# QUALITY CONTROL

- Run – From Tool bar or Software Analyzer window on the entire scope

The screenshot displays the IBM Rational Software Analyzer interface. The top menu bar includes options like History, Problems, Keywords, Pending Changes, References (Super): A, Macro Code Structure, and Des. The main window is titled 'Design Entities Analysis' and 'COBOL Code Review'. The left pane shows a list of RPP rules:

- RPP Rule (13/06/20 10:41:05) [35 results in 976ms]
- RPP Rule (13/06/20 09:47:34) [14 results in 1,171ms]
- RPP Rule (13/06/20 09:46:30) [1 result in 244ms]

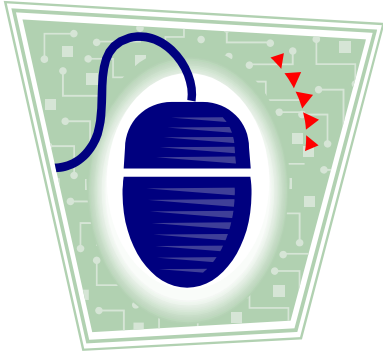
The right pane shows the results for the selected rule, 'RPP / Pattern Driven Programming [34 results in 266ms]':

- RPP / Never override a line coming from a Macro [6 results in 263ms]
  - MMSE01.cbl:429 RPP / Never override a line coming from a Macro
  - WB002A.cbl:899 RPP / Never override a line coming from a Macro
  - MTSE01.cbl:397 RPP / Never override a line coming from a Macro
  - MTSE1F.cbl:397 RPP / Never override a line coming from a Macro
  - PTDAT1.cbl:145 RPP / Never override a line coming from a Macro
  - PTDAT1.cbl:174 RPP / Never override a line coming from a Macro
- RPP / User code must be in a user function [28 results in 3ms]

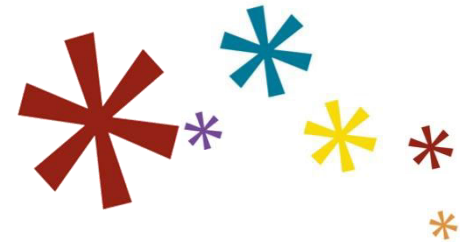
# QUALITY CONTROL

- Run – From Contextual menu in Design Explorer View

The screenshot displays the IBM Rational software interface. On the left, the Design Explorer View shows a project structure with files like MTSE02 [BVAP900.TZZ] and PRAUTH [BVAP900.TSL]. A contextual menu is open over a file, listing various actions such as 'New', 'Open With', 'Import...', 'Export...', 'Rebuild Local Workspace...', 'Rebuild mapping between designs and generated files', 'Update Server Indexes...', 'Validate', 'Software Analyzer', 'Team', 'Compare With', 'Replace With', and 'Enterprise Extensions'. The 'Software Analyzer' option is expanded, showing a list of rules including 'RPP / Pattern Driven Programming [1 result in 244ms]', 'RPP / User code must be in a user function [1 result in 244ms]', and 'RPP Code Rule'. The 'RPP Code Rule' is selected, and a tooltip displays the rule name and location: 'MTSE02.cbl:279 RPP / User code must be in a user function'. The main editor window shows code with a tooltip for 'Pending Changes' and 'References (Super): A'. The bottom toolbar contains icons for various actions like 'Find', 'Copy', 'Paste', 'Print', 'Save', 'Undo', 'Redo', and 'Run'.



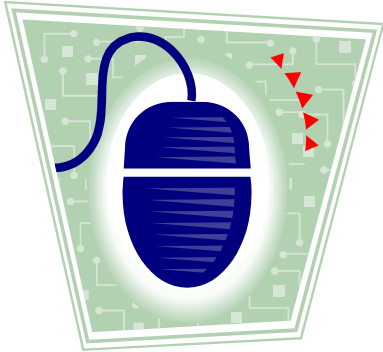
# ENDEVOR INTEGRATION



# ENDEVOR INTEGRATION

- Migration of \$7N and \$7M
- Call of a Micro Pattern containing all needed Endeavor Information
  - ▶ \*!IRPPinfo **Endeavor**
  - \*USER=
  - \*PROJECT=BPCEMIBR.FRX
  - \*ENTITY=90BE20
  - \*TYPE=pacprogram
  - \*DATE=2013/04/16
  - \*TIME=10:36:18
  - \***ENVIRONMENT=HFW**
  - \***SYSTEM=HUB**
  - \***SUBSYSTEM=FG**
  - \***TYPEPAC=COBOLP**
  - \***COMMENT=Intégration V2 V210**
  - \***CCID=191018**
- Activation of build.





# SUIVI des EVENEMENTS

