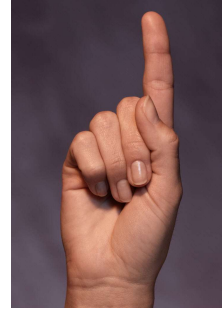


A Walk Through RDi Starting at Go! (Rational Developer for i)



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About The Speaker

With an IT career spanning over 30 years, Charles Guarino has been a consultant for most of them. Since 1995 he has been founder and President of Central Park Data Systems, Inc., a New York area based IBM midrange consulting company. In addition to being a professional speaker, he is a frequent contributor of technical and strategic articles and webcasts for the IT community. He is a proud member of COMMON's Speaker Excellence Hall of Fame and also Long Island Software and Technology Network's Twenty Top Techies of 2009. Charles currently serves as a member of COMMON's Strategic Education Team (SET) and is also Immediate Past President and monthly Q&A host of LISUG, a Long Island IBM i User's Group www.lisug.org. Charles can be reached at cguarino@centralparkdata.com. LinkedIn - <http://www.linkedin.com/in/guarinocharles>

In This Workshop ...

It was an application developer revolution when IBM first introduced WDS. However there was a slow adoption rate because of its poor client side performance.

Through the years the product evolved and took a giant step forward when it was taken over by the Rational team. Re-introduced as Rational Developer for i (Rdi) it performed significantly better than WDS.

As the product evolution continued with new functionality the case for not using it becomes weaker and weaker. The name changed to keep pace with the platform itself, morphing into Rational Developer for Power Systems Software (RDP) and now once again RDi.

The current offering easily outperforms and outmaneuvers the PDM and SEU green screen development environments. Studies have shown time and time again significant gains in development and deployment time when using the graphical workbench. NOW is the time for you to step up and code like you never have before.

www.eclipse.org

The screenshot shows the Eclipse website's download page. At the top, there's a banner for the Eclipse Installer, described as the easiest way to install and update the Eclipse Development Environment. Below this, there are links for downloading Eclipse packages for Mac OS X, Windows, and Linux. The main content area lists several packages:

- Eclipse IDE for Java EE Developers**: 275 MB, 600,763 DOWNLOADS. Tools for Java developers creating Java EE and Web applications, including a Java IDE, tools for Java EE, JPA, JSF, Mylyn...
- Enterprise-Class BIRT Report Server (Free, Not a Trial)**: Instantly enhance your Eclipse BIRT reports with interactive, real-time analytics that can be seamlessly embedded into web and mobile apps.
- Eclipse IDE for Java Developers**: 166 MB, 294,905 DOWNLOADS. The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Mylyn, Maven integration and WindowBuilder...

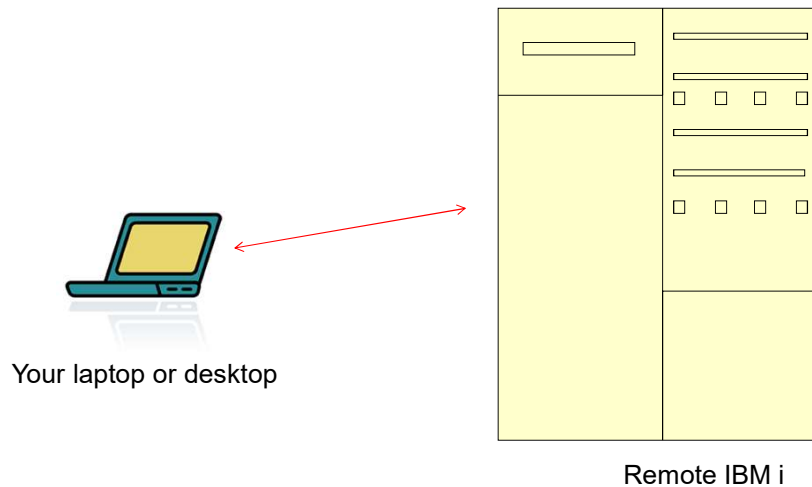
On the right side, there are sections for "RELATED LINKS" and "MORE DOWNLOADS". The "MORE DOWNLOADS" section lists "Other builds" including Eclipse Mars (4.5), Eclipse Luna (4.4), Eclipse Kepler (4.3), Eclipse Juno (4.2), and Older Versions. The Eclipse Mars (4.5) and Eclipse Luna (4.4) items are highlighted with a red box.

New Terms and Concepts (cont.)

- **Workspace**
 - Folder where your local settings are stored
 - You can use multiple workspaces one at a time
 - Recommendation – don't use default setting, create your own
- **Perspective**
 - Your current desktop each with its own toolbars
 - RSE is a perspective within RDi
- **LPEX**
 - Live Parser Extensible Editor
 - A Rich UI that significantly outperforms SEU
 - The default editor of RDi

RDi – What it is

- **Your desktop or laptop is the LOCAL system**
 - The IBM i is the REMOTE system!

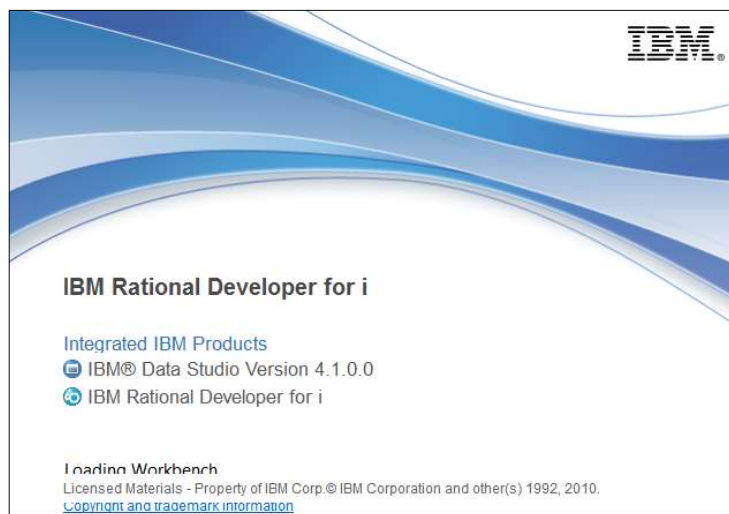


RDi – What it is NOT

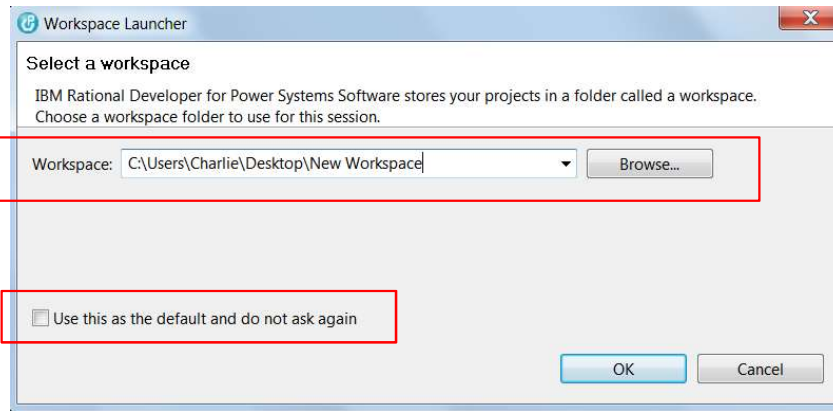
- RDi is NOT a 5250 EMULATOR
 - Entering interactive commands such as WRKSPLF will result in an error window appearing



Firing up RDi

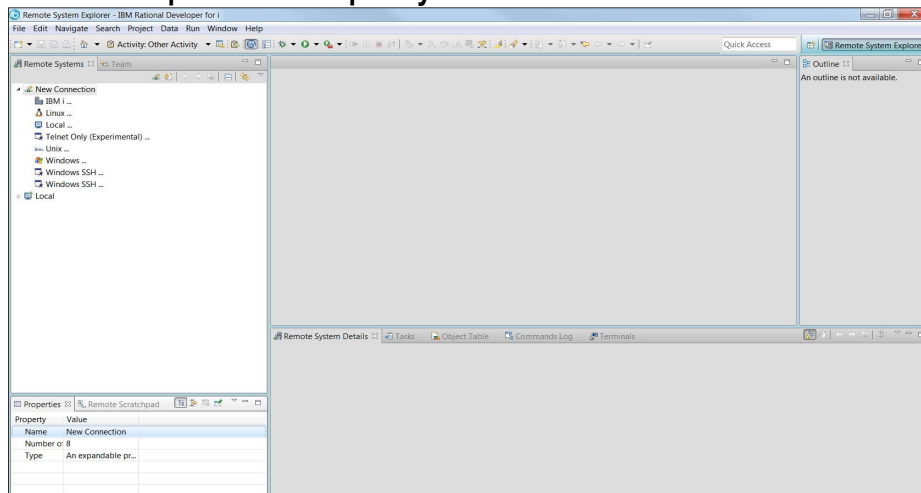


This is where the workspace is selected at startup



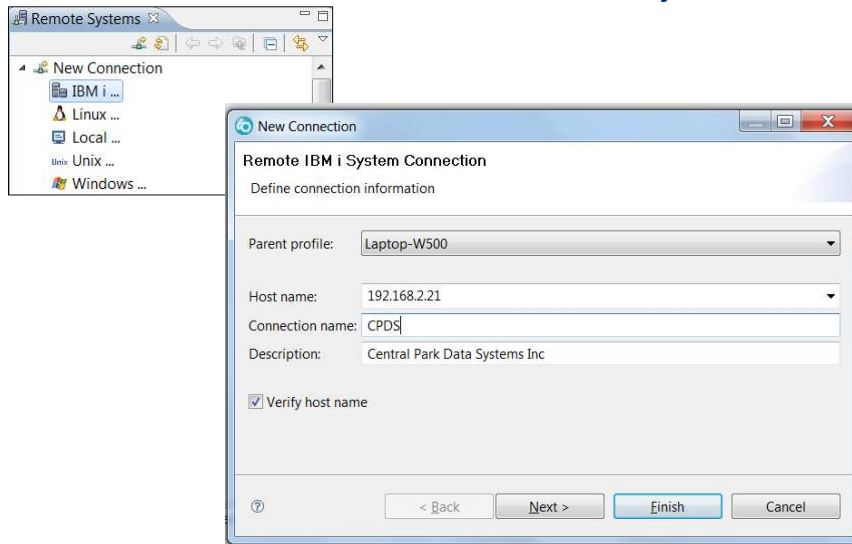
“Out-of-the-box” RSE perspective

- Default settings shown
- Perspective is completely customizable



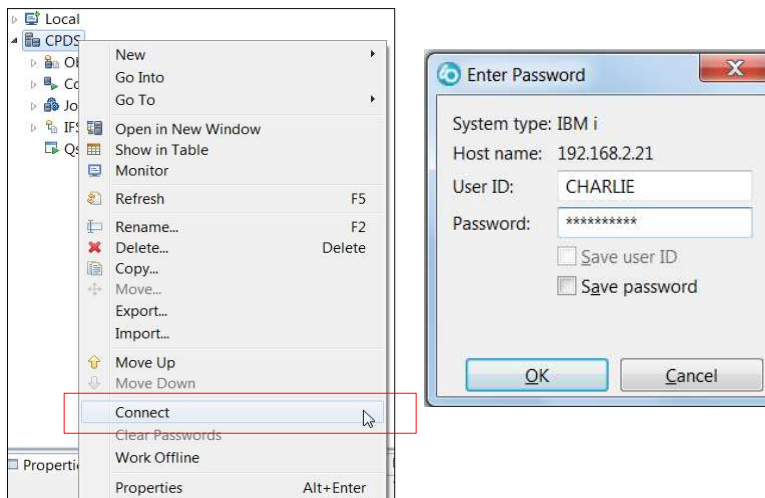
Creating a new connection to the IBM i

- Connection names can be renamed if necessary

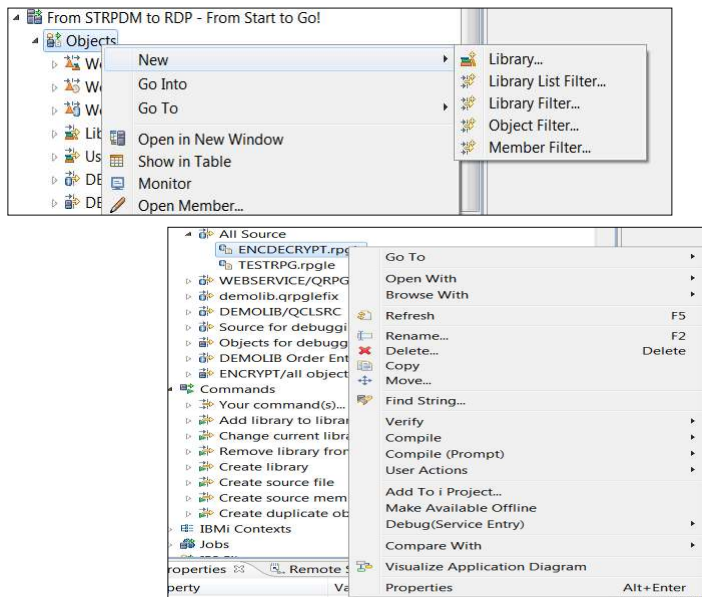


Connecting to your new connection is very simple

- Right click on Connect
- Same user authority applies while navigating in RDi

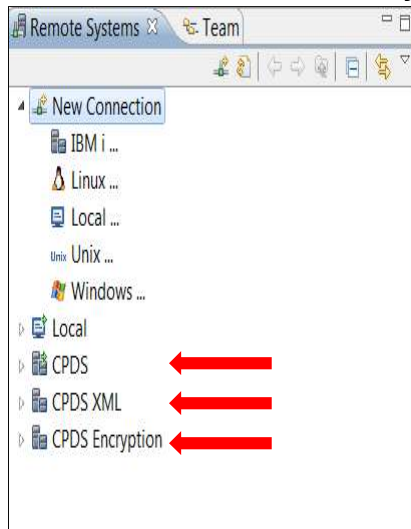


Never underestimate the power of the right click



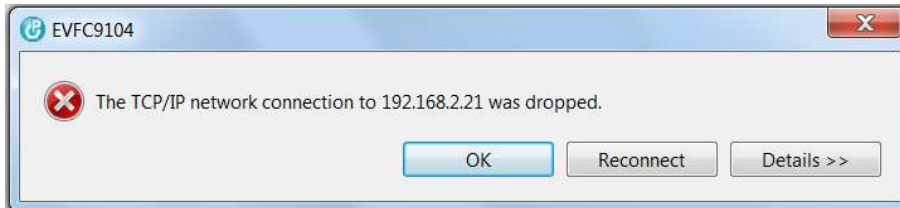
Multiple Connections to the IBM i

- Each connection is like an active session in IBM i Access
 - Each with it's own library list, job descriptions, filters, etc.



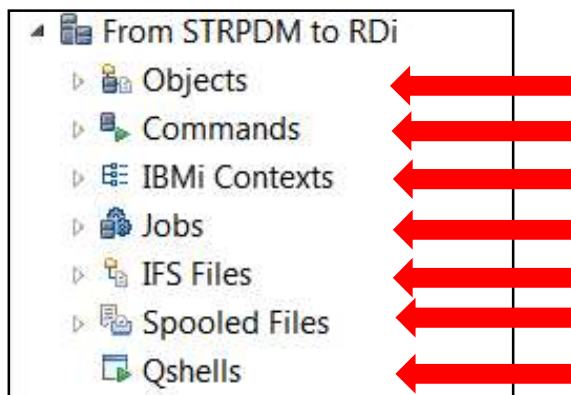
What happens if the connection drops?

- This is the **NUMBER ONE** asked question!
- RDi has remarkable restartability
- Your environment is stored in your workspace



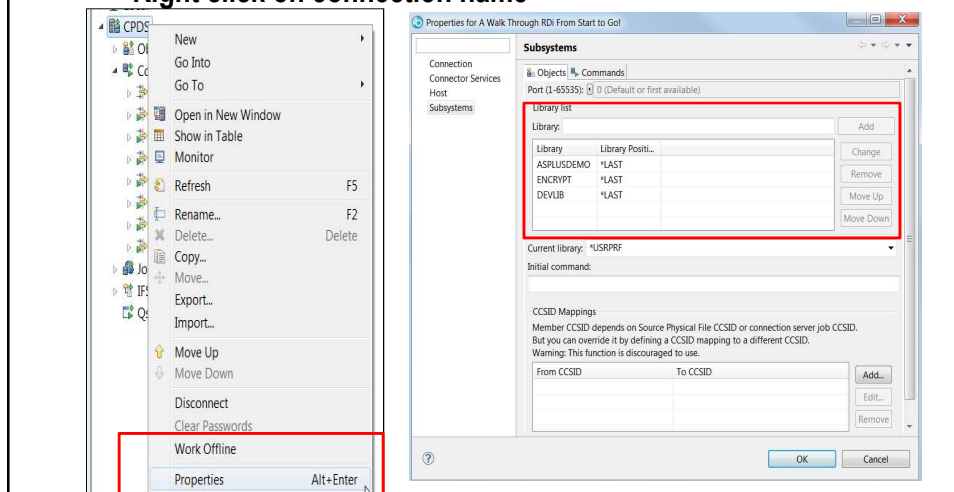
Connection Subsystems

- Automatically inserted into each connection you create
- Absolutely nothing to do with IBM i subsystems QCTL, QBATCH...



Setting up your initial connection environment

- Initial library list, current library, initial command to run
 - Initial command helpful for dynamic library lists
 - Right click on connection name



A FILTER limits what objects appear in your current selection

- You've been using filters in SEU all along

```

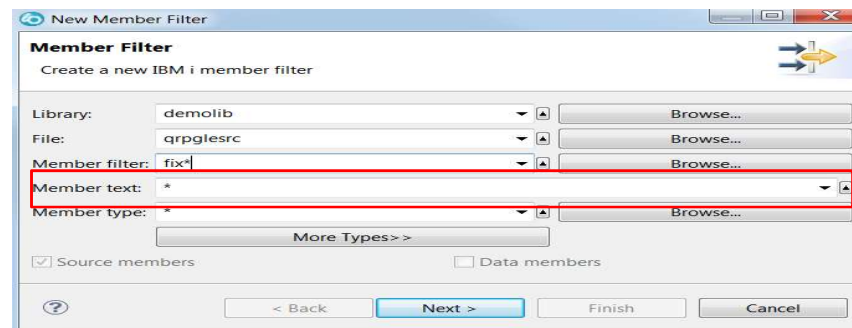
Specify Members to Work With

Type choices, press Enter.

File . . . . . qrpglesrc_ Name, F4 for list

Library . . . . . demolib_ *LIBL, *CURLIB, name

Member:
Name . . . . . FIX* *ALL, name, *generic*
Type . . . . . *ALL *ALL, type, *generic*, *BLANK
    
```



demolib.qrpglefix is the name chosen for this filter

- Click on any filter and its contents open

```

Work with Members Using PDM

File . . . . . QRPGLSRC
Library . . . . . DEMOLIB      Position to . . . . .

Type options, press Enter.
2=Edit      3=Copy  4=Delete 5=Display  6=Print
8=Display description 9=Save 13=Change text 14=Compile

Opt Member      Type      Text
---
FIXCUS          RPGL     Fixes Customer Master
FIXCUS1         RPGL     Update Customer Master
FIXDELACCT      RPGL     Deleted account purge ad
FIXFINCHG       RPGL     Fixes finance charges
FIXONHAND       RPGL     create adjustment record
FIXOPENAR       RPGL     Removes zero payment rec
FIXOPENOD2      RPGL     Adds a message to each o
FIXOPENORD      RPGL     Cancels old orders

Parameters or command
===>

```

A production scenario of using a multi-string filter

- Having all related source members in one convenient spot eliminates the need for constant “F12-ing” and retyping
- This filter shows RPGL, CLLE, DSPF and a TXT member

```

File . . . . . QRPGLSRC
Library . . . . . DEMOLIB      Position to . . . . .

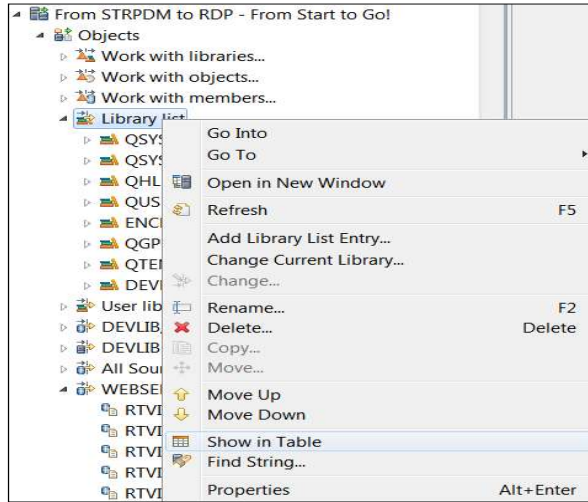
Type options, press Enter.
2=Edit      3=Copy  4=Delete 5=Display  6=Print  7=Rename
8=Display description 9=Save 13=Change text 14=Compile 15=Create

Opt Member      Type      Text
---
OEENT100        RPGL     Order Entry - header
OEENT200        RPGL     Order Entry - detail
OEENT300        RPGL     Order Entry - special charges
OEENT400        RPGL     Order Entry - comments processing
OEENT500        RPGL     Order Entry - credit card processing
OEENT600        RPGL     Order Entry - total screen processing

```

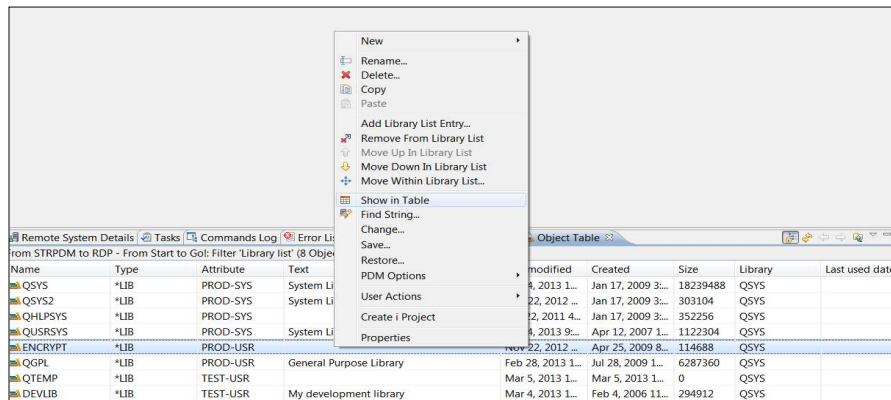
Show in Table is VERY versatile!

RDi is aware of each object table entry



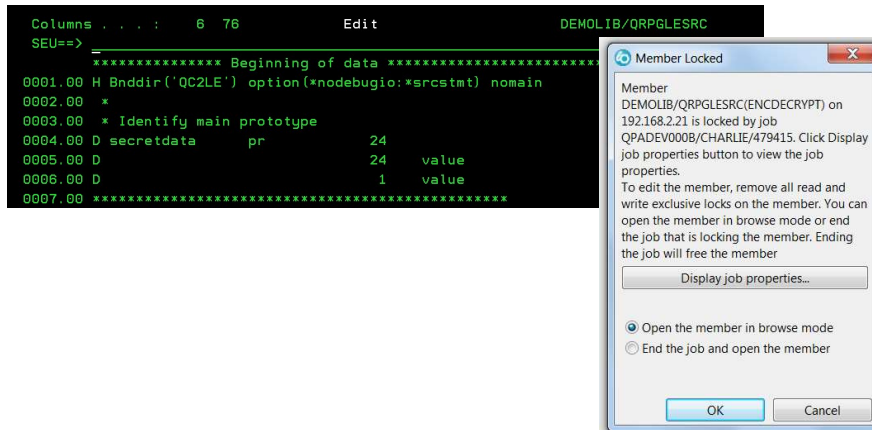
Show in Table is VERY versatile!

Can add new objects to a library or manipulate the library itself



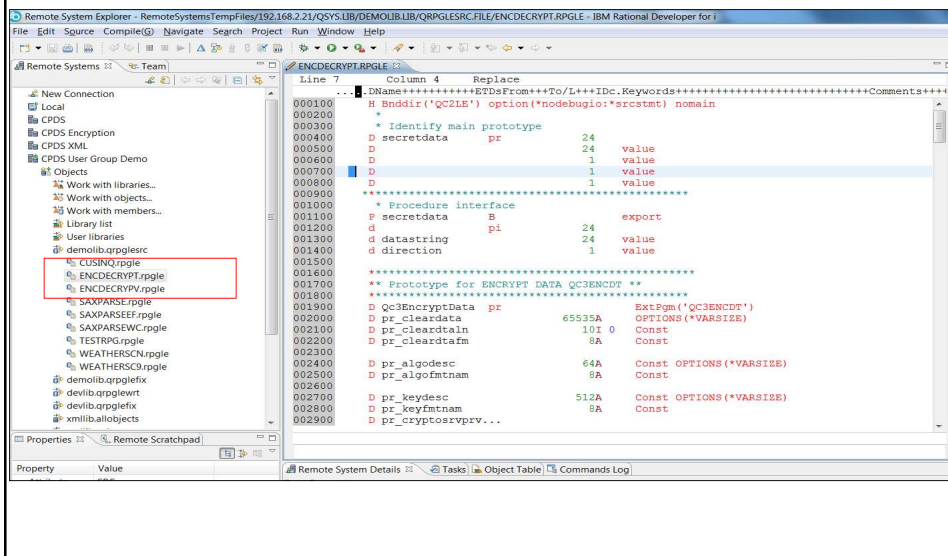
RDi respects source member locking

- The reverse situation is also true
 - Source members are NOT locked when downloaded to work offline



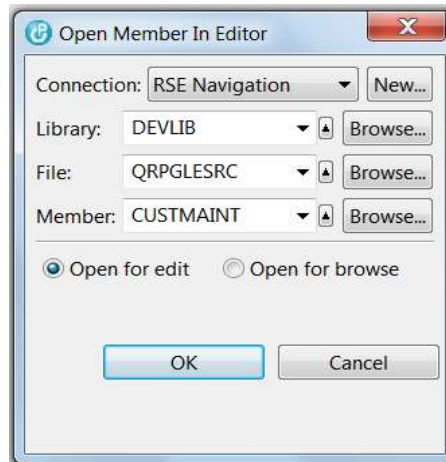
Opening up source member ENCDECRYPT in LPEX

- Can select "Open with LPEX" or just double click on member



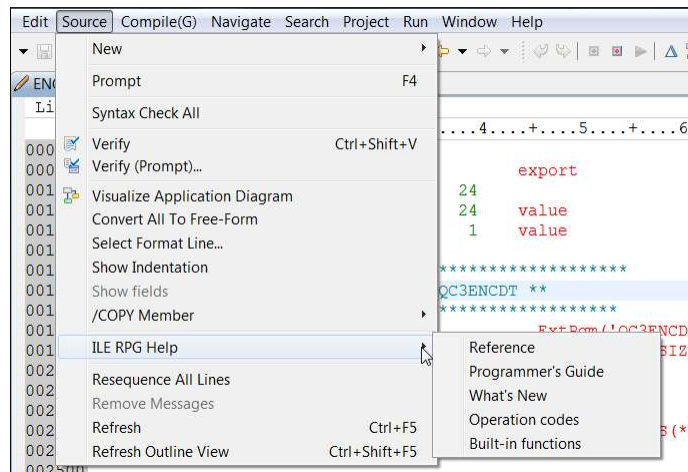
Alternate method of opening a source member

- Don't always need a filter to edit / browse a member
- Can also create a new connection on the fly
- Press CTRL-ALT-Q to display this window



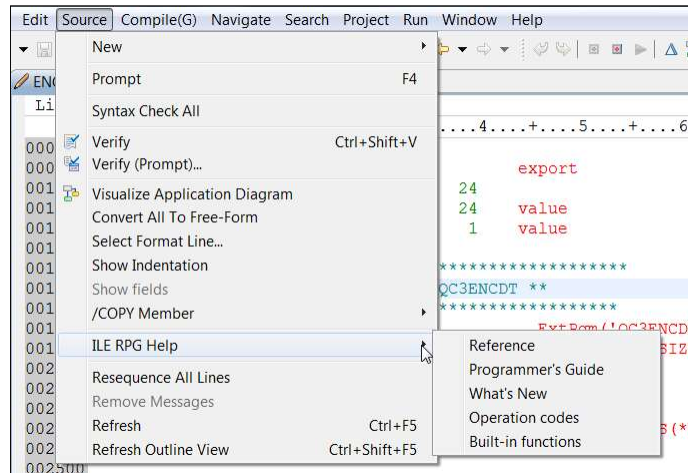
Help is always available at your fingertips

- All of the RPG manuals are loaded with RDi
- Help is also cursor sensitive – more on this later!

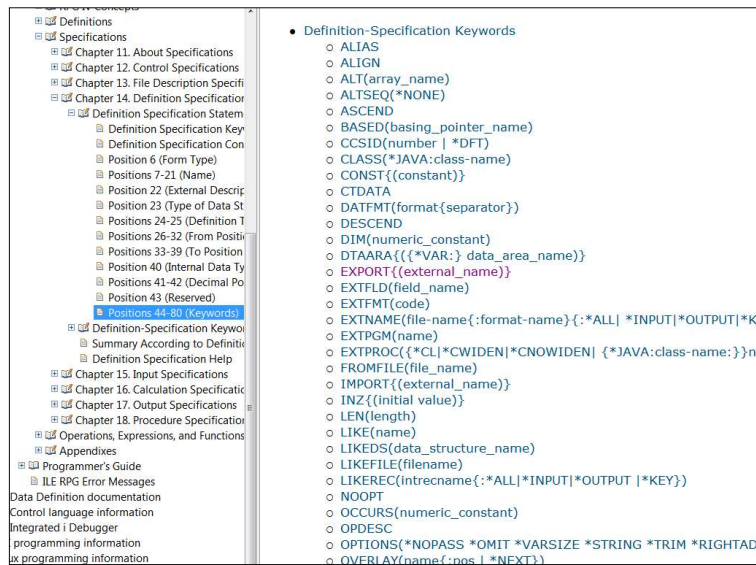


Help is always available at your fingertips

- All of the RPG manuals are loaded with RDi
- Help is also cursor sensitive – more on this later!



RDi (LPEX) shows extended information superior to SEU



To FIND a string in LPEX, press CTRL-F

```
*ENCDECRYPT.RPGLE
Line 22      Column 46      Replace 3 changes
.....DName+++++ETDsFrom+++To/L+++IDc.Keyw+ords+++++Comments+++++
001200      d          pi          24
001300      d datastring          24      value
001400      d direction          1      value
001500
001600      *****
001700      ** Prototype for ENCRYPT DATA QC3ENCDT **
001800      *****
001900      D Qc3EncryptData  pr          ExtPgm ('QC3ENCDT')
002000      D pr_cleardata    65535A     OPTIONS (*VARSIZE)
002100      D pr_cleardata1n  10I 0     Const
002200      D pr_cleardatafm  8A        Const
002300
002400      D pr_algodesc     64A        Const OPTIONS (*VARSIZE)
002500      D pr_algoformatn  8A        Const
002600
002700      D pr_keydesc     512A       Const OPTIONS (*VARSIZE)
002800      D pr_keyformatn  8A        Const
002900      D pr_cryptosrvprv...
003000      D
```

Find const [Next] [Previous] [All]

Replace [Replace] [Replace all]

Case sensitive Whole word Regular expression Wrap Select found text
 Restrict search to selection Restrict search to columns Start column 1 End column 80

SEU example **FIND const**

Popular Keyboard Shortcuts

- CTRL-Home = SEU TOP
- CTRL-End = SEU BOTTOM
- CTRL-Z = Undo
- CTRL-Y = Redo
- CTRL-P = Print
- CTRL-A = Select All
- CTRL-Q and ALT-Q – Quick Mark
- F3 = Open Declaration

Source code filtering helps you quickly locate what you need

- Right click anywhere in the source code

```
Line 138 Column 127 Replace
.....DName+++++
09400 D OldRecOff 10i 0
09500 D OldRecLen 10i 0
09600 D OldNulOff 10i 0
09700 D OldNulLen 10i 0
09800 D NewRecOff 10i 0
09900 D NewRecLen 10i 0
10000 D NewNulOff 10i 0
10100 D NewNulLen 10i 0
10200 D Skip16 16a
10300 ? // Data field must be at least 2X
10400 ? // fields:
10500 D Data 4000a
10600 ? // Second parameter of trigger cal
10700 ? // TrgBufferLen s 10
10800
10900 ? // Program Status DS:
11000 D sds
11100 D UserId 254 263
11200
11300 DCL-DS RbsLstCkey DTAARA(*AUTO :
11400 LstKey zoned(18:0);
11500 END-DS RbsLstCkey;
11600
11700 ? // Constants used for trigger veri
11800 ? // trigger time and commitment lock
11900 D TriggerEventInsert...
12000 D c const ('1')
12100 D TriggerEventDelete...
12200 D c const ('2')
```

When you select a block of code other options are available

- Select the block of code, right click and select your function

```
16100
16200 // When direction = 'E', clear data is being sent to be encrypted;
16300 // When direction = 'D', encrypted data is being sent to be cleared;
16400
16401
16403 C SELECT
16404 C WHEN ENCRYPTION = 'D'
16405 C ECSR ENCRYPT
16406 C WHEN DIRECTION = 'D'
16407 C ECSR DECRYPT
16408 C ENDSQ
16410
17100
17101 /free
17200 *inlr = *on;
17300
17400 // Subroutines
17500 // *****
17600 begsr housekeeping;
17700 // *****
17800
17900 // Initialize data structures
18000
18100 pgmalgorithm.Algorithm = Trip
18200 pgmalgorithm.blocklength = 8;
18300 pgmalgorithm.mode = mode ECB;
18400 pgmalgorithm.PadChar = X'00';
18500 pgmalgorithm.PadOption = pad PadChar;
18600 pgmalgorithm.reserved1 = X'00';
18700 pgmalgorithm.macLength = 0;
18800 pgmalgorithm.keySize = 0;
18900 pgmalgorithm.InzVector = *ALLX'00';
```


Other popular options available with selected blocks of code

- Upper to lower conversion and vice-versa
- Free-form code conversion

The screenshot shows a code editor with a context menu open over a selected code block. The code includes comments and subroutine definitions. The menu options are:

- Syntax Check Selection
- Convert Selection To Free-Form
- Save
- Cut (Ctrl+X)
- Copy (Ctrl+Insert)
- Paste (Ctrl+V)
- Select
- Selected
- Deselect (Alt+U)
- Filter view (Ctrl+W)
- Show all
- Source
- View
- Add Breakpoint
- Copy selection (Alt+C)
- Overlay with selection (Alt+Z)
- Move selection (Alt+M)
- Delete selection (Alt+D)
- Uppercase selection (Alt+K)
- Lowercase selection (Alt+I)
- SHIFT selection left (Alt+F7)
- SHIFT selection right (Alt+F8)
- Filter selection
- Exclude selection
- Find selection
- Fill selection...

Block nesting displays arrows at start and end of logic blocks

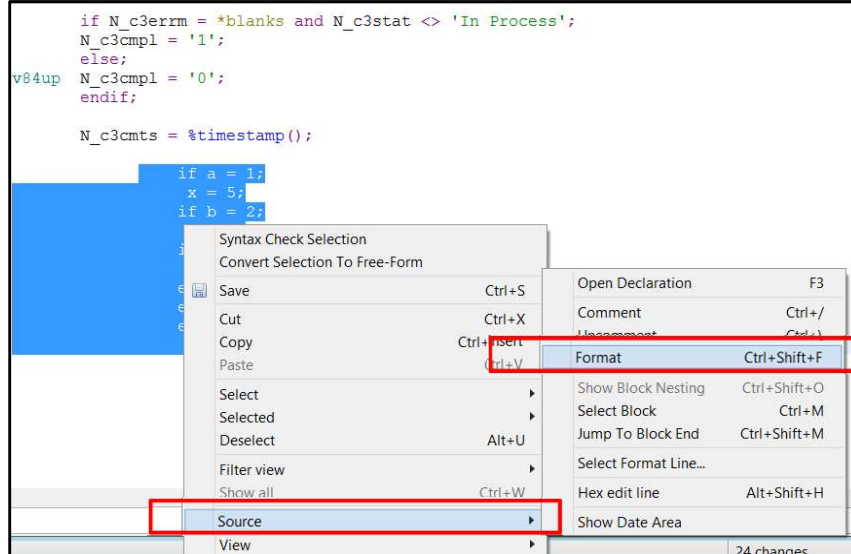
- Position on start of block>Right click>Source>Show Block Nesting

The screenshot shows a code editor with a context menu open over a selected code block. The code includes a 'When' block. The menu options are:

- Prompt (F4)
- Syntax Check Line
- Save (Ctrl+S)
- Cut (Ctrl+X)
- Copy (Ctrl+Insert)
- Paste (Ctrl+V)
- Select
- Selected
- Deselect (Alt+U)
- Filter view
- Show all (Ctrl+W)
- Source
- View
- Add/Remove Breakpoint
- Set Service Entry Point...
- Show Block Nesting (Ctrl+Shift+O)
- Select Block (Ctrl+M)
- Jump To Block End (Ctrl+Shift+M)
- Select Format Line...
- Hex edit line (Alt+Shift+H)
- Show Date Area

Reformatting of nested code!

- Position on start of block>Right click>Source>Format



Source formatting

BEFORE

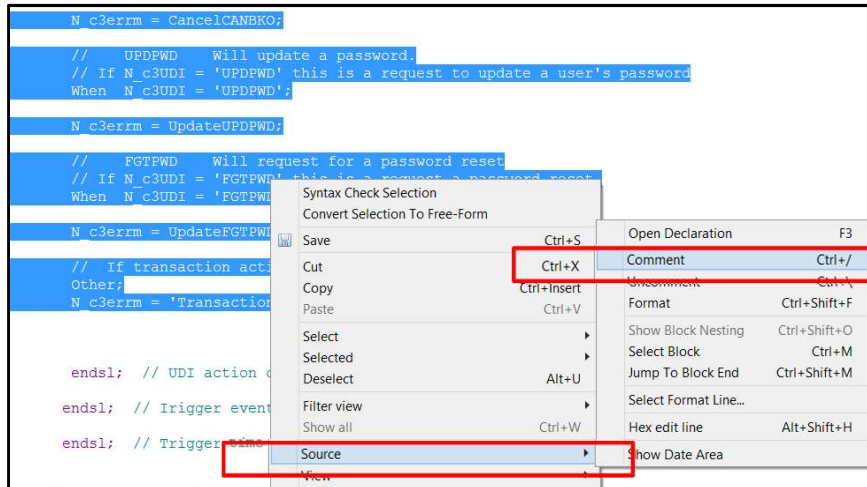
```
if hours > 40;  
overtime = hours - 40;  
overtimepay = overtime * overtimerate;  
if hours > 50;  
overtimepay = overtimepay + bonus;  
endif;  
gross = regularpay + overtimepay;  
else;  
grosspay = regularpay;  
endif;
```

AFTER

```
if hours > 40;  
overtime = hours - 40;  
overtimepay = overtime * overtimerate;  
if hours > 50;  
overtimepay = overtimepay + bonus;  
endif;  
gross = regularpay + overtimepay;  
else;  
grosspay = regularpay;  
endif;
```

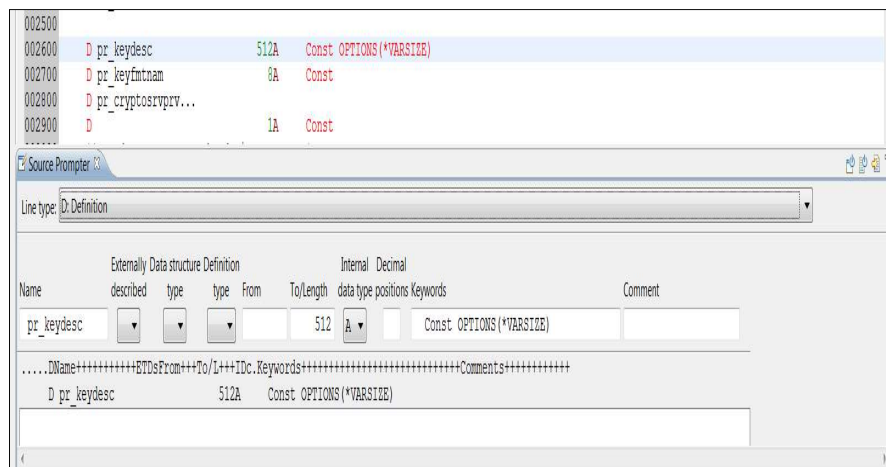
Block commenting

- Position on start of block>Right click>Source>Comment



Cursor sensitive prompting and help features are available

- Press F4 on any line to display the source code prompter



Cursor sensitive prompting and help features are available (cont.)

- Position the cursor in the spec press F1 for built-in help text
- This is the help text for the D-spec keywords section

The screenshot shows a software development environment with a help window open. The help window is titled "Positions 44-80 (Keywords)" and contains a list of keywords used for defining data areas. The keywords listed include: ALIGN, ALL (array_name), ALLSEQ (NONE), ASCEND, BASED (basing_pointer_name), CCSD (number | DCT), CLASS (*JAVA: class_name), CONST (constant), CTDATA, DATENT (format {separator}), DESCEND, DIM (numeric_constant), DTAAARA (([VAR:] data_area_name)), EXPORT (external_name), EXTFLD (field_name), EXTENT (code), EXTNAME (file_name {format_name} { *ALL | *INPUT | *OUTPUT | *KEY }), EXTPGM (name), EXTPROC (*CL | *C | *WIDEN | *C | *NOWIDEN: (*JAVA: class_name:) name), FROMFILE (file_name), IMPORT (external_name), INZ (initial_value), LEN (length), LIKE (name), LIKEDS (data_structure_name), LIKEFILE (parent_filename), LIKERECT (intrecname { *ALL | *INPUT | *OUTPUT | *KEY }), NOOPT, OCCURS (numeric_constant), OPDESC, OPTIONS (*NOPASS *OMIT *VARSIZE *STRING *TRIM *RIGHTADJ *NULLIND), OVERLAY (name {pos: | *NEXT}), PACKEVEN, and PERRCD (numeric_constant). The left pane shows a table of contents with "Positions 44-80 Keywords" selected.

Hyperlinking – A quick way to change a variable definition

Hover over any variable and LPEX displays the attributes

```
// *****
begsr encryptroutine;
// *****

cleardata = *blanks;
cleardata: cleardata : Character (24)
encdata = *blanks;
datastringlen = %len(%trimr(cleardata));
```

Press and hold CTRL and the field turns into a hyperlink

```
// *****
begsr encryptroutine;
// *****

cleardata = *blanks;
cleardata: cleardata : Character (24)
encdata = *blanks;
datastringlen = %len(%trimr(cleardata));
```

Click on the link and you are immediately brought to the definition

```
** The clear data variable
D cleardata      S          24
```

Multiple active views of the same editable source member

- Edit different sections of the SAME open source member
- Source>Select New Editor – or – press CTRL-2

The screenshot shows two instances of the same source code member, ENCDENCRYPT.RPGLE, open in separate editors. The left editor shows the 'Identify main prototype' section (lines 000200-001400) with the 'secretdata' variable highlighted. The right editor shows the 'Procedure interface' section (lines 015500-019900) with the 'padPadChar' variable highlighted. This demonstrates how different parts of the same source member can be viewed and edited simultaneously.

Dirty source code editors

- An asterisk next to the member name indicates unsaved changes
- Very useful when several members open at once
- If restored to original state or saved, no longer dirty editor

The screenshot shows a single editor window titled '*ENCDENCRYPT.RPGLE'. The asterisk next to the member name indicates that the code has been modified but not yet saved. The editor displays the 'Identify main prototype' section (lines 000200-001400) with the 'secretdata' variable highlighted. The status bar at the top indicates 'Line 16 Column 1 Replace 1 change'.

Content Assist helps you fill in the blanks

- Ideal for built in functions (bifs)
- Type a portion of the bif and press CTRL-SPACE
- Also works with your own procedures



```

25900 // *****
26000 // begsr getblockoflength;
26100 // *****
26200 // This routine will receives a random field length and
26300 // returns a value which is a multiple of 8.
26400 // Field name is datastringlen.
26500
26600     if datastringlen <= 8;
26700         datastringlen = 8;
26800     elseif datastringlen <= 16;
26900         datastringlen = 16;
27000     elseif datastringlen <= 24;
27100         datastringlen = 24;
27200     endif;
27300
27301     a = %sub
27302
27303
27304
27305
27400     enc
27500
27600 /end-free
27700

```

RNF0604E The token:

%subarr(arraystart-index numeric-field)	%SUBST(string:start-index length)
%subarr(arraystart-index numeric-field numeric-field)	%SUBST (Get Substring) returns a portion of argument string. It may also be used as the result of an assignment with the EVAL operation code.
%subdt(date time timestamp:"ms s *mn *h *d")	
%subst(string:start-index)	
%subst(string:start-index length)	

Content Assist is also aware of RPG statements

- Press CTRL-Space with or without statement starting letters

```

022000
022100     Qc3EncryptData(cleardata: cleardatalen : 'DATA0100':
022200     pgmalgorithm : 'ALGD0200' :
022300     pgmkeyds : 'KEYD0200' :
022400     cryptosrvprv : cryptodevice :
022500     encdata : %size(encdata) :
022600     returndatalen :
022700     apiError );
022701
022702     x
022703
022704
022705
022706
022707
022708
022709
022710
022711

```

x

xml-into	XML-INTO
xml-sax	The XML-INTO operation reads the data from an XML document directly into variable or into an array parameter that it passes to the procedure specified by handler. Various options may be specified to control the operation. The first operand specifies the target of the parsed data. It can contain a variable name or the %HANDLER built-in function. The second operand contains the %XML builtin function specifying the source of the XML document and any options to control how the document is parsed. It can contain XML data or it can contain the location of the XML data. The doc option is used to indicate what this operand specifies.

Content Assist helps you complete calls to subprocedures

- Press CTRL-Space with or without statement starting letters

```
// Encrypt using TripleDES encryption using API

Qc3EncryptData(cleardata: cleardatalen : 'DATA0100':
pgmalgorithm : 'ALGD0200' :
pgmkeys : 'KEYD0200' :
cryptosrvprv : cryptodevice :
encdata : %size(encdata) :
returndatalen :
apiError );
```

Qc3DecryptData
Qc3EncryptData

Qc3EncryptData
EXTPGM('QC3ENCDT')
(
char(65535)
int(10,0)
char(8)
char(64)
char(8)
char(512)
char(8)
char(1)
char(10)
char(65535)
int(10,0)
int(10,0)
LIKEDS(apierror_t)
)

17E An assignment operator is expected. L operation.

```
apiError.Errorordslength = %
returndata = encdata;
return returndata;
```

The Outline view displays all you need to know about a program

- Updates in Real-Time
- Now includes ability to subset for even better navigation

The Outline view displays a tree structure of the program's components:

- Global Definitions
 - Indicators
 - NUM
 - 165 (M)
 - Prototypes
 - secretdata : Character (24) EXPORT ('SECRETDATA')
 - Parameters
 - % : Character (24) VALUE
 - % : Character (1) VALUE
 - Subprocedures
 - secretdata : Character (24) EXPORT
 - Parameters
 - datastring : Character (24) VALUE
 - direction : Character (1) VALUE
 - Local Definitions
 - Data Structures
 - Fields

The code editor shows the following code:

```
ENCDECRYFPPGLE
Line 21 Column 26 Replace
001500 // .....2.....3.....4.....5.....6.....7.....8.....9.....0
001600 // Prototype for ENCRYPT DATA QC3ENCDT **
001700 *****
001800 Dc1-Pr Qc3EncryptData ExtPgm('QC3ENCDT');
001900 pr_cleardata Char(65535) OPTIONS(*VARSIZE);
002000 pr_cleardataIn Int(10) Const;
002100 pr_cleardatafm Char(8) Const;
002200 pr_algodesc Char(64) Const OPTIONS(*VARSIZE);
002300 pr_algofmtnm Char(8) Const;
002400
```

Source verification – Out of the park!

- Source>Verify – or – Shift-Ctrl-V
- Simulates the compiler but doesn't create an object
- Can be used while offline
- Double click on an error and RDi goes right to the line



```

ENCDECRYPT.RPGL6 83
Line 86      Column 7      Replace
.....1.....2.....3.....4.....5.....6.....7.....
008800      D AlgOption             1A
008900      D BlockLength          101 0
009000      D Mode                 1A
009100      D PadOption            1A
009200      D PadChar              1A
009300      D Reserved1            1A
009400      D MACLength            101 0
009500      D KeySize              101 0
009600      D InVector             32A
009700
009800      * Define template keyd0200_t
009900      *
010000      *
010100      *
010200      * keyd0200_t is the template for the key data structure pgmkeys
010300      D keyd0200_t          DS          Qualified Based(dummy_template)
010400      D keytype             101 0
010500      D keylength            101 0
010600      D keyformat            1A
010700      D reserved             3A
010800      D value                284A
010900      *
011000      *
011100      * Define template aperror_t
011200      *
011300      *
Syntax check action completed with no errors.
    
```

ID	Message	Severity	Line	Location	Connection
I RN7031	The name or indicator RESERVED is not referenced.	0	70	DEMOLIB/QRPGLESRC(ENCDECRYPT)	CPOS
I RN7031	The name or indicator SECRETDATA is not referenced.	0	4	DEMOLIB/QRPGLESRC(ENCDECRYPT)	CPOS
I RN7031	The name or indicator ALGORITHM is not referenced.	0	86	DEMOLIB/QRPGLESRC(ENCDECRYPT)	CPOS
I RN7031	The name or indicator BLOCKLE is not referenced.	0	87	DEMOLIB/QRPGLESRC(ENCDECRYPT)	CPOS
I RN7031	The name or indicator MODE is not referenced.	0	88	DEMOLIB/QRPGLESRC(ENCDECRYPT)	CPOS

Source verification - removing error messages

- RDi will insert error messages directly into your source code.
- Pressing CTRL-F5 will remove them when you're ready.

BEFORE:

```

ENCDECRYPT.RPGL6 83
Line 86      Column 39      Replace
.....1.....2.....3.....4.....5.....6.....7.....
007900      * Note: 'Based' name can be anything...
008000      *
008100      * Define template algd0200_t
008200      * algd0200_t is the template for algorithm data structure pgmalgor
008300      * We are using ALGD0200 because this is the requirement for Triple
008400      D ALGD0200_T          DS          Qualified Based(dummy_template)
008500      D** Algorithm values: 20 = DES; 21=TripleDES; 22=AES; 23=RC2
008600      D Algorithm             101 0
008700      RNF7031: The name or indicator ALGORITHM is not referenced.
008800      D BlockLength          101 0
008900      RNF7031: The name or indicator BLOCKLE... is not referenced.
009000      D Mode                 1A
009100      RNF7031: The name or indicator MODE is not referenced.
009200      D PadOption            1A
009300      RNF7031: The name or indicator PADOPTION is not referenced.
009400      D PadChar              1A
009500      RNF7031: The name or indicator PADCHAR is not referenced.
009600      D Reserved1            1A
009700      RNF7031: The name or indicator RESERVED1 is not referenced.
009800      D InVector             32A
    
```

AFTER:

```

ENCDECRYPT.RPGL6 83
Line 86      Column 8      Replace
.....1.....2.....3.....4.....5.....6.....7.....
007700      * Define template keyd0200_t
007800      *
007900      * Note: 'Based' name can be anything...
008000      *
008100      * Define template algd0200_t
008200      * algd0200_t is the template for algorithm data structure pgmalgor
008300      * We are using ALGD0200 because this is the requirement for Triple
008400      D ALGD0200_T          DS          Qualified Based(dummy_template)
008500      D** Algorithm values: 20 = DES; 21=TripleDES; 22=AES; 23=RC2
008600      D AlgOption             1A
008700      D BlockLength          101 0
008800      D Mode                 1A
008900      D PadOption            1A
009000      D PadChar              1A
009100      D Reserved1            1A
009200      D MACLength            101 0
    
```


RPG Procedure Wizard removes the complexity

- Source>New>Procedure
 - Creates the procedure interface as well as the prototype



RPG Procedure Wizard
Create RPG procedure

Procedure type: Subprocedure
Procedure name:
External name (EXTPROC):
Purpose:

Exportable for use with other code (EXPORT)
 Run only one thread in this procedure at any one time (SERIALIZE)

Parameters created for this procedure:

Name	Type	Length	Decimal	Keywords	Comments

Pass the operational descriptors with the parameters
 Return a value
 Refresh Outline view upon completion
 Generate free-form code

< Back Next > Finish Cancel

D-Spec wizard – Never have to remember the keywords!

- Source>New>D Specification
 - Used for standalone fields, named constants, program-described, externally-described, program-status and file-information data structures

RPG Definition Specification Wizard
Create a new RPG D-Specification.

Name:
Purpose:
Type: Standalone field
Constant value:

Where to insert the new specification

At the current cursor location
 In the D-Specifications of the current procedure
 In the global D-Specifications

Refresh Outline view upon completion
 Generate free-form code

? < Back Next > Finish Cancel

