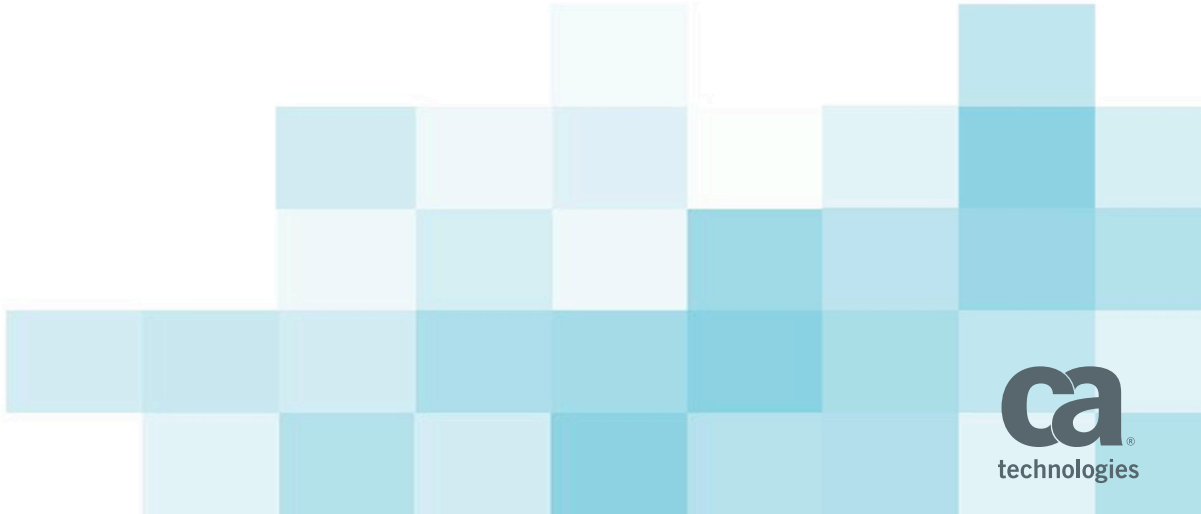


Putting Messages in their Place

- in a bottle?

Eoin O'Cleirigh

June 2017



Agenda

1

THE PROBLEM WITH MESSAGES

2

HOW COULD WE MAKE IT BETTER

3

MESSAGES OUTSIDE ENDEVOR – C1MSG3

4

ONE MORE THING...

5

TECHNICAL BITS

6

DISCLAIMER

The problem with messages...

The problem with messages...

- All look the same
or...
All look different...

All look the same...

Where is the problem?

```
Menu Utilities Compilers Help
BROWSE      OCLEO01.PUBLIC.EXAMPLEV(GENMISCC) - 01.00                      Line 00000000 Col 001 122
Command ==> f'e ' 28                                                    Scroll ==> CSR
*****1-----2-----3-----4-----5-----6-----7-----8-----9-----0-----1-----2-----
*****Top of Data*****
CA Endeavor SCM Version 18.0.07      Copyright (C) 1986-2015 CA. All Rights Reserved.      22JAN17 17:40:10      PAG
      E N D E V O R - E X E C U T I O N M E S S A G E S
      ( D U P L I C A T E D M E S S A G E S )

17:40:10 C1Y0015I STARTING PARSE OF REQUEST CARDS

      STATEMENT #1
      GENERATE ELEMENT "FINAPPR1"
      FROM ENVIRONMENT "SMPLTEST"
      SYSTEM "FINANCE" SUBSYSTEM "ACCTREC"
      TYPE "COBOL" STAGE "T"
      OPTIONS
      AUTOGEN SPAN ALL .

      STATEMENT #2
      EOF STATEMENT GENERATED
17:40:10 C1Y0016I REQUEST CARDS SUCCESSFULLY PARSED

CA Endeavor SCM Version 18.0.07      Copyright (C) 1986-2015 CA. All Rights Reserved.      22JAN17 17:40:10      PAG
      E N D E V O R - E X E C U T I O N M E S S A G E S
      ( D U P L I C A T E D M E S S A G E S )

17:40:10 C1G0340I OPTION AUTOGEN IN USE, ALL ACTIONS WILL BE RESOLVED BASED ON CURRENT INVENTORY CONTENTS
17:40:10 C1G0345I PROCESSING AUTOGEN FOR ELEMENT FINAPPR1/COBOL. TARGET IS SMPLTEST/FINANCE/ACCTREC/1

17:40:10 C1G0202I ACTION #1 / STMT #1
17:40:10 C1G0203I GENERATE ELEMENT FINAPPR1
17:40:10 C1G0204I FROM ENVIRONMENT: SMPLTEST SYSTEM: FINANCE SUBSYSTEM: ACCTREC TYPE: COBOL STAGE I
17:40:10 C1G0232I OPTIONS: AUTOGEN SPAN ALL
17:40:10 C1G0141E SYSTEM FINANCE REQUIRES A COMMENT TO BE SPECIFIED - REQUEST NOT PERFORMED
17:40:10 C1G0200I ELEMENT ACTION REQUEST PROCESSING COMPLETED, HIGHEST ENDEVOR RC WAS 0012
CA Endeavor SCM Version 18.0.07      Copyright (C) 1986-2015 CA. All Rights Reserved.      22JAN17 17:40:10      PAG
      E N D E V O R - E X E C U T I O N M E S S A G E S
      ( D U P L I C A T E D M E S S A G E S )

*DSL IST
```

F'e ' 28

All look different...

Where is the message?

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW OCLE001.PUBLIC.EXAMPLEV(GENMISCC) - 01.00 Columns 00001 00114
Command ==> F'e ' 29 Scroll ==> CSR
***** ***** Top of Data *****
000001 1CA Endeavor SCM Version 18.0.07 Copyright (C) 1986-2015 CA. All Rights Reserved. 22JAN17 17:40:1
000002 E N D E V O R - E X E C U T I O N M E S S A G E S
000003 ( D U P L I C A T E D M E S S A G E S )
000004
000005
000006 17:40:10 C1Y0015I STARTING PARSE OF REQUEST CARDS
000007
000008 STATEMENT #1
000009 GENERATE ELEMENT "FINAPPRI"
000010 FROM ENVIRONMENT "SMPLTEST"
000011 SYSTEM "FINANCE" SUBSYSTEM "ACCTREC"
000012 TYPE "COBOL" STAGE "T"
000013 OPTIONS
000014 AUTOGEN SPAN ALL .
000015
000016 STATEMENT #2
000017 EOF STATEMENT GENERATED
000018 17:40:10 C1Y0016I REQUEST CARDS SUCCESSFULLY PARSED
000019
000020 1CA Endeavor SCM Version 18.0.07 Copyright (C) 1986-2015 CA. All Rights Reserved. 22JAN17 17:40:1
000021 E N D E V O R - E X E C U T I O N M E S S A G E S
000022 ( D U P L I C A T E D M E S S A G E S )
000023
000024
000025 17:40:10 C1G0340I OPTION AUTOGEN IN USE, ALL ACTIONS WILL BE RESOLVED BASED ON CURRENT INVENTORY CONT
000026 17:40:10 C1G0345I PROCESSING AUTOGEN FOR ELEMENT FINAPPRI/COBOL. TARGET IS SMPLTEST/FINANCE/ACCTREC/
000027
000028 17:40:10 C1G0202I ACTION #1 / STMT #1
000029 17:40:10 C1G0203I GENERATE ELEMENT FINAPPRI
000030 17:40:10 C1G0204I FROM ENVIRONMENT: SMPLTEST SYSTEM: FINANCE SUBSYSTEM: ACCTREC TYPE: COBOL
000031 17:40:10 C1G0232I OPTIONS: AUTOGEN SPAN ALL
000032 17:40:10 C1G0141E SYSTEM FINANCE REQUIRES A COMMENT TO BE SPECIFIED - REQUEST NOT PERFORMED
000033 17:40:10 C1G0200I ELEMENT ACTION REQUEST PROCESSING COMPLETED, HIGHEST ENDEAVOR RC WAS 0012
=====1-----2-----3-----4-----5-----6-----7-----8-----9-----0-----1-----
000034 1CA Endeavor SCM Version 18.0.07 Copyright (C) 1986-2015 CA. All Rights Reserved. 22JAN17 17:40:1
000035 E N D E V O R - E X E C U T I O N M E S S A G E S
000036 ( D U P L I C A T E D M E S S A G E S )

*DSLST
```

F'e ' 29

Where is wally now?

```

Menu      Utilities      Compilers      Help
BROWSE    OCLE001.PUBLIC.EXAMPLEV(GENERR)                                     Line 00000294 Col 001 122
Command ==> f' e ' 18
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-1-      -2-      -3-      -4-      -5-      -6-      -7-      -8-      -9-      -0-      -1-      -2-
C1G0009I   SUBSTITUTED : CADEMO.ENDV.APPL.SMPLTEST.LISTLIB
C1G0009I   ORIGINAL    : &MONITOR
C1G0009I   SUBSTITUTED : COMPONENTS
C1G0009I   ORIGINAL    : &WRKUNIT
C1G0009I   SUBSTITUTED : SYSDA
C1G0009I   ORIGINAL    : &LISTLIB
C1G0009I   SUBSTITUTED : CADEMO.ENDV.APPL.SMPLTEST.LISTLIB
C1G0009I   ORIGINAL    : &WRKUNIT
C1G0009I   SUBSTITUTED : SYSDA
C1G0009I   ORIGINAL    : &SYSOUT
C1G0009I   SUBSTITUTED : *
11:06:43 C1X0012I STEP INIT INVOKING PROGRAM BC1PDSIN
11:06:43 C1X0010I STEP INIT PROGRAM BC1PDSIN COMPLETED, RC=0000
11:06:43 C1X0012I STEP CONWRITE INVOKING PROGRAM CONWRITE
11:06:43 C1X0013I PARM=EXPINCL(N)
11:06:43 C1G0280I ELEMENT AT LOCATION SMPLTEST/T/FINANCE/ACCTREC/COBOL SELECTED FOR PROCESSING
11:06:43 SMGR128I ELEMENT VVLL 0102 WRITTEN TO ELMOUT
11:06:43 C1X0010I STEP CONWRITE PROGRAM CONWRITE COMPLETED, RC=0000
11:06:43 C1X0012I STEP COMPILE INVOKING PROGRAM IGYCRCTL
11:06:43 C1X0013I PARM=LIB,NOSEQ,OBJECT,APOST,
11:06:44 C1X0010I STEP COMPILE PROGRAM IGYCRCTL COMPLETED, RC=0012
11:06:44 C1G0129E STEP COMPILE RC (0012) EXCEEDS THE MAX RC (0004) FOR THE PROCESSOR STEP
11:06:44 C1X0014I STEP 0004 (LKED) NOT EXECUTED BECAUSE OF CONDITION CODE(S)
11:06:44 C1X0012I STEP STORLIST INVOKING PROGRAM CONLIST
11:06:44 C1X0013I PARM=STORE
11:06:44 C1G0000I DATA SET CADEMO.ENDV.APPL.SMPLTEST.LISTLIB
11:06:44 C1G0000I MEMBER FINARP03
11:06:44 C1G0132I ELEMENT VVLL 0102 WRITTEN TO DATA SET
11:06:44 C1X0010I STEP STORLIST PROGRAM CONLIST COMPLETED, RC=0000
11:06:44 C1X0015I STEP 0006 (PRNTLIST) NOT EXECUTED BECAUSE OF AN "EXECIF" CLAUSE
11:06:44 C1G0000I ELEMENT FINARP03
11:06:44 C1C0001I BEGINNING UPDATE OF COMPONENT LIST AT STAGE TEST
11:06:44 SMGR130I COMPONENT VVLL 0108 CREATED AT LOCATION SMPLTEST/T/FINANCE/ACCTREC/COBOL
11:06:45 ACMB022I ACM INDEX UPDATES COMPLETED:
11:06:45 ACMB023I ACM ELEMENTS: 2
11:06:45 C1G0144I PROCESSOR GCINBL EXECUTION COMPLETED, HIGHEST PROCESSOR STEP RC WAS 0012
*****
***** Bottom of Data *****
*DSLIST*
```

F 'e ' 18...

There are standards...

actually there are two of them...

- Three character prefix with a four digit number
- A four character prefix with a three digit number
- Followed by Severity code
 - C1G0141E
 - C1X0010I
 - ...

F p'>->-###E'

Message Formats

Messages are formatted to indicate the product function that produced the message, a message number, and severity level.

Messages appear in one of the following formats.

Format 1:

Prefix -- message number -- suffix

All messages use this format, except for C1BM and C1BR messages.

- The prefix indicates a three- or four-letter product function.
- The message numbers are three or four digits.
- The suffix indicates a severity level.

The following examples illustrate this format:

Prefix	Message Number	Suffix	Example
abc	nnnn	x	API0000E
abcd	nnn	x	ENBE002I

Format 2:

Prefix -- module number -- suffix.

The prefix is C1BM for the SCL parser, or C1BR for the reporting utilities.

- The module number identifies the CA Endeavor SCM utility that produces the message.
- The suffix includes a severity level and message number.

The following examples illustrate this format:

Prefix	Module Number	Suffix	Example
C1BM	mmmm	:xnnn	C1BM4100:E066
C1BR	mmmm	:xnnn	C1BR3040:W001

There are exceptions...

Caution! There may be more

- BSTPPARS
- C1BM4100
- COBOL!
 - IGYPS2072-S
 - IGYGR1174-S
 - ...

```
Menu  Utilities  Compilers  Help
BROWSE      OCLE001.ERRMSG##.S1.QCA06.LISTLIB                      Line 00
Command ==>
PP 5655-S71 IBM Enterprise COBOL for z/OS 4.2.0                      ERRMSG    Date 03/31/2017   Time 12:26:
IBM Enterprise COBOL for z/OS compiler messages:

This document contains the compiler messages generated by the IBM Enterprise COBOL for z/OS compiler.
Run-time messages are not included.
The actual format of a message generated during compilation is:
nnnnnn IGYxxxxmm-1 message-text
nnnnnn : is the number of the source line to which the message refers.
IGYxxxxmm-1 : is the message header.
IGY : is the IBM Enterprise COBOL for z/OS product code.
xx : these two characters identify the phase that issued the message.
mmmm : these four characters are the message number.
1 : this character indicates the compiler message severity level or FIPS message category.

Compiler messages can have 1 of 5 levels of severity:
I (informational - return code 0) - an information-level message is an aid to the user. No action is
the user and the program will execute correctly as it stands.
W (warning - return code 4) - a warning-level message calls attention to a possible error. It is pr
program will execute correctly as written.
E (error - return code 8) - an error-level message indicates a condition that is definitely an erro
compiler has attempted to correct the error but the results of program execution may not be what
expects. The user should correct the error.
S (severe - return code 12) - a severe-level message indicates a condition that is a serious error.
unable to correct the error. The program will not execute correctly, and execution should not be
U (unrecoverable - return code 16) - an unrecoverable-level message indicates an error condition of
the compilation was terminated.

Note: Some messages numbered 0000-3999 and any messages numbered 8000-8999 may be suppressed by using
If a message is suppressed, this listing will show the severity as XX:
XX (suppressed - return code of original message) - informational and warning messages may be suppr
PP 5655-S71 IBM Enterprise COBOL for z/OS 4.2.0                      ERRMSG    Date 03/31/2017   Time 12:26:

Note: messages numbered 5000-5999 are for compiler maintenance and are not translated for national la

Messages numbered 8000-8999 are FIPS messages. These messages can have 1 of 8 categories:
I  ANS intermediate level, not in minimum level.
H  ANS high level, not in intermediate level.
D  ANS debug module level 1.
```

*FDPQE

Hint: PROGRAM-ID. ERRMSG.

How could we make it better?

Make them look different...

Who can spot the problem now...

```
Menu Utilities Compilers Help
BROWSE OCLE001.PUBLIC.EXAMPLEV(GENERR) Line 00000000 Col 001 122
Command ==> Scroll ==> CSR
***** Top of Data *****
11:03:08 C1G0167E ELEMENT IS NOT AVAILABLE. IT IS ALREADY "SIGNED-OUT" TO DAMJ002
11:04:46 C1G0275I THE "OVERRIDE SIGNOUT" OPTION IS IN EFFECT. ELEMENT IS CURRENTLY SIGNED OUT TO DAMJ002
11:04:46 SMGR139I ELEMENT FOUND AT LOCATION SMPTEST/Q/FINANCE/ACCTREC/COBOL SELECTED FOR FETCH PROCESSING
11:04:46 C1G0000I DATA SET CADEMO.ENDV.APPL.SMPTEST.SRCLIB
11:04:46 C1G0000I MEMBER FINARP02
11:04:46 SMGR155E BASE MEMBER ALREADY EXISTS FOR THIS ELEMENT
11:05:11 SMGR139I ELEMENT FOUND AT LOCATION SMPTEST/Q/FINANCE/ACCTREC/COBOL SELECTED FOR FETCH PROCESSING
11:05:11 C1G0000I DATA SET CADEMO.ENDV.APPL.SMPTEST.SRCLIB
11:05:11 C1G0000I MEMBER FINARP02
11:05:11 SMGR155E BASE MEMBER ALREADY EXISTS FOR THIS ELEMENT
11:05:13 SMGR139I ELEMENT FOUND AT LOCATION SMPTEST/Q/FINANCE/ACCTREC/COBOL SELECTED FOR FETCH PROCESSING
11:05:13 C1G0000I DATA SET CADEMO.ENDV.APPL.SMPTEST.SRCLIB
11:05:13 C1G0000I MEMBER FINARP02
11:05:13 SMGR155E BASE MEMBER ALREADY EXISTS FOR THIS ELEMENT
11:06:03 SMGR136I ELEMENT VVLL 0102 CHANGES INCLUDE 2 LINES INSERTED AND 2 LINES DELETED
11:06:03 SMGR127I ELEMENT VVLL 0102 WRITTEN TO:
11:06:03 C1G0000I DATA SET CADEMO.ENDV.APPL.SMPTEST.SRCLIB
11:06:03 C1G0000I MEMBER FINARP03
11:06:43 C1G0143I BEGINNING EXECUTION OF GENERATE PROCESSOR GCIINBL OF GROUP CIINBL.

11:06:43 C1G0246I PROCESSOR GCIINBL LOADED FROM CADEMO.ENDV.APPL.SMPLOAD
11:06:43 C1G0247I FOOTPRINT: ENV: SMPLOAD SYS: ADMIN SBS: PROCESS ELM: GCIINBL TYPE: PROCESS STG NBR: 2
11:06:43 C1G0248I VER: 0103 DATE: 26MAY16 04:31

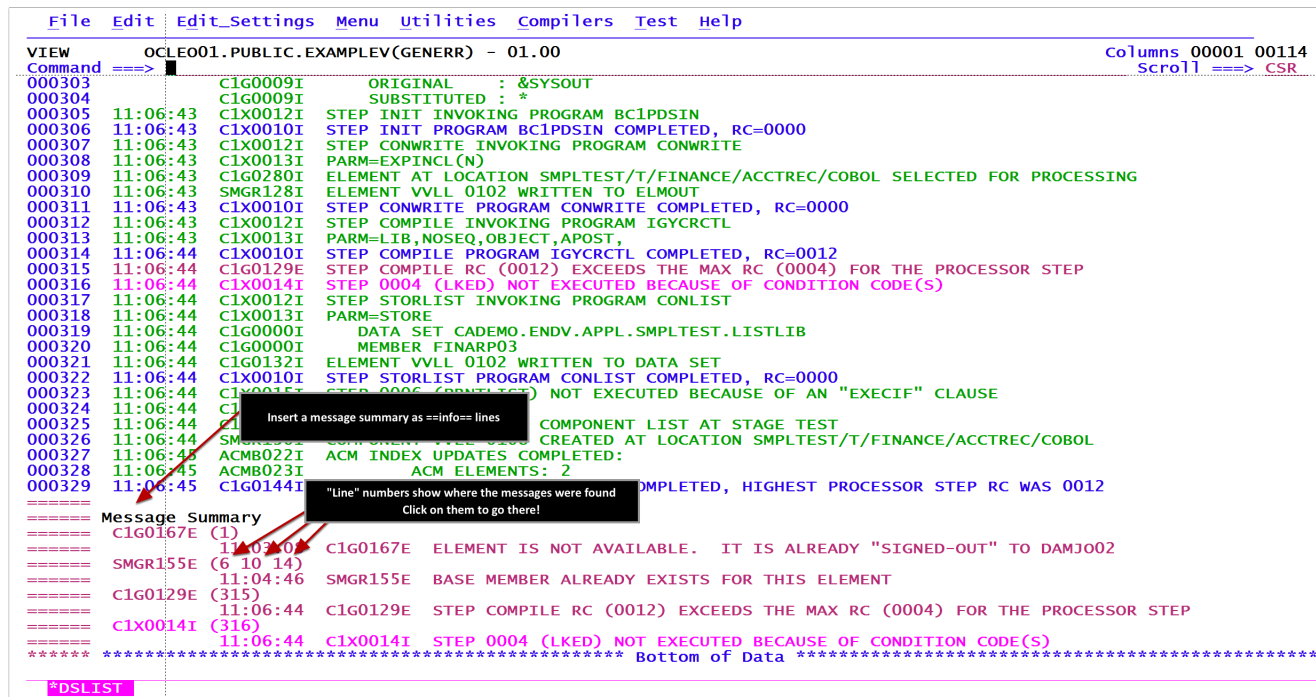
C1G0249I //*****
C1G0249I //** **
C1G0249I //** COBOL2 AND COBOL/MVS COMPILE AND LINK-EDIT PROCESSOR **
C1G0249I //*****
C1G0249I //GCIINBL PROC LISTLIB='&PROJECT..&GROUP.&C1ST..LISTLIB',
C1G0249I // CLECOMP='IGY.SIGYCOMP',
C1G0249I // CLERUN='CEE.SCEERUN',
C1G0249I // CLELKED='CEE.SCEELKED',
C1G0249I // CIILIB='CEE.SCEERUN',
C1G0249I // * CIILIB='SYS1.COB2LIB', NOT ON DE25
C1G0249I // CIICOMP='CEE.SCEELKED',

*DSLIST
```

Colour code messages

Add a Message Summary

With hot links!



The screenshot shows a COBOL compiler interface with a menu bar (File, Edit, Edit_Settings, Menu, Utilities, Compilers, Test, Help) and a status bar (Columns 00001 00114, Scroll ==> CSR). The main window displays a COBOL program listing for 'OCLE001.PUBLIC.EXAMPLEV(GENERR) - 01.00'. The listing includes various steps like INIT, CONWRITE, and COMPILER, with associated RC values and condition codes. A message summary is shown at the bottom, listing messages with their line numbers and descriptions. A red arrow points to the 'Message Summary' section, and a black box highlights the text 'Insert a message summary as ==info== lines'. Another black box highlights the text 'Line numbers show where the messages were found Click on them to go there!'. The message summary includes messages like 'C1G0167E (1) ELEMENT IS NOT AVAILABLE. IT IS ALREADY "SIGNED-OUT" TO DAMJO02' and 'SMGR155E (6 10 14) BASE MEMBER ALREADY EXISTS FOR THIS ELEMENT'. The bottom of the screen shows the text '*DSLST'.

```
VIEW OCLE001.PUBLIC.EXAMPLEV(GENERR) - 01.00 Columns 00001 00114
Command ==> Scroll ==> CSR
000303 C1G0009I ORIGINAL : &SYSOUT
000304 C1G0009I SUBSTITUTED : *
000305 11:06:43 C1X0012I STEP INIT INVOKING PROGRAM BC1PDSIN
000306 11:06:43 C1X0010I STEP INIT PROGRAM BC1PDSIN COMPLETED, RC=0000
000307 11:06:43 C1X0012I STEP CONWRITE INVOKING PROGRAM CONWRITE
000308 11:06:43 C1X0013I PARM=EXPINCL(N)
000309 11:06:43 C1G0280I ELEMENT AT LOCATION SMPTEST/T/FINANCE/ACCTREC/COBOL SELECTED FOR PROCESSING
000310 11:06:43 SMGR128I ELEMENT VVLL 0102 WRITTEN TO ELMOUT
000311 11:06:43 C1X0010I STEP CONWRITE PROGRAM CONWRITE COMPLETED, RC=0000
000312 11:06:43 C1X0012I STEP COMPILER INVOKING PROGRAM IGYCRCTL
000313 11:06:43 C1X0013I PARM=LIB,NOSEQ,OBJECT,APOST,
000314 11:06:44 C1X0010I STEP COMPILER PROGRAM IGYCRCTL COMPLETED, RC=0012
000315 11:06:44 C1G0129E STEP COMPILER RC (0012) EXCEEDS THE MAX RC (0004) FOR THE PROCESSOR STEP
000316 11:06:44 C1X0014I STEP 0004 (LKED) NOT EXECUTED BECAUSE OF CONDITION CODE(S)
000317 11:06:44 C1X0012I STEP STORLIST INVOKING PROGRAM CONLIST
000318 11:06:44 C1X0013I PARM=STORE
000319 11:06:44 C1G0000I DATA SET CADEMO.ENDV.APPL.SMPTEST.LISTLIB
000320 11:06:44 C1G0000I MEMBER FINARPO3
000321 11:06:44 C1G0132I ELEMENT VVLL 0102 WRITTEN TO DATA SET
000322 11:06:44 C1X0010I STEP STORLIST PROGRAM CONLIST COMPLETED, RC=0000
000323 11:06:44 C1X0014I STEP 0004 (LKED) NOT EXECUTED BECAUSE OF AN "EXECIF" CLAUSE
000324 11:06:44 C1X0014I STEP 0004 (LKED) NOT EXECUTED BECAUSE OF AN "EXECIF" CLAUSE
000325 11:06:44 C1X0014I STEP 0004 (LKED) NOT EXECUTED BECAUSE OF AN "EXECIF" CLAUSE
000326 11:06:44 SMGR155E STEP 0004 (LKED) NOT EXECUTED BECAUSE OF AN "EXECIF" CLAUSE
000327 11:06:44 ACMB022I ACM INDEX UPDATES COMPLETED:
000328 11:06:45 ACMB023I ACM ELEMENTS: 2
000329 11:06:45 C1G0144I STEP 0004 (LKED) NOT EXECUTED BECAUSE OF CONDITION CODE(S) COMPLETED, HIGHEST PROCESSOR STEP RC WAS 0012
=====
===== Message Summary
===== C1G0167E (1)
===== 11:06:40 C1G0167E ELEMENT IS NOT AVAILABLE. IT IS ALREADY "SIGNED-OUT" TO DAMJO02
===== SMGR155E (6 10 14)
===== 11:04:46 SMGR155E BASE MEMBER ALREADY EXISTS FOR THIS ELEMENT
===== C1G0129E (315)
===== 11:06:44 C1G0129E STEP COMPILER RC (0012) EXCEEDS THE MAX RC (0004) FOR THE PROCESSOR STEP
===== C1X0014I (316)
===== 11:06:44 C1X0014I STEP 0004 (LKED) NOT EXECUTED BECAUSE OF CONDITION CODE(S)
***** ***** Bottom of Data *****
*DSLST
```

Hint: Toggle between Browse and View mode use EEdit



Live Demo!

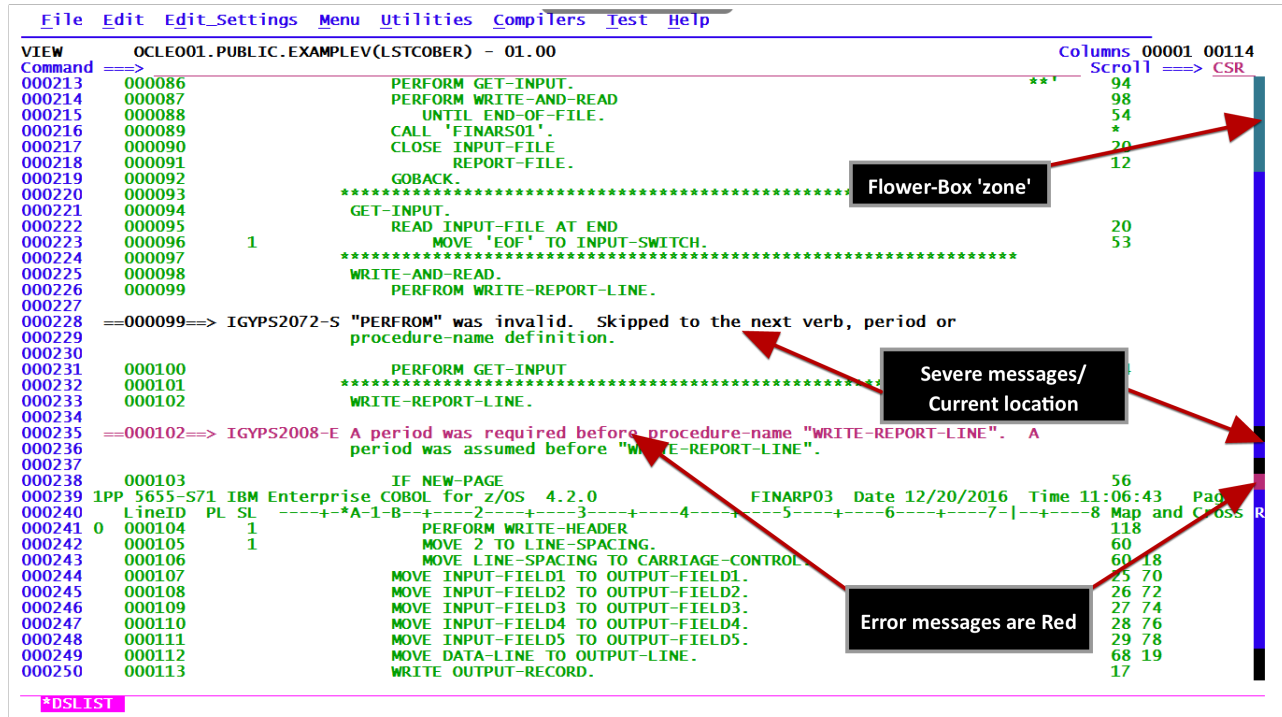
With hot links!

*DSL IST

Flower-boxes are recognized with `"** "` at the beginning of a line

What's a scrollbar?

...see where messages are, and navigate there



The screenshot shows a COBOL editor window with a menu bar (File, Edit, Edit Settings, Menu, Utilities, Compilers, Test, Help) and a status bar at the bottom. The main window displays COBOL code with line numbers on the left and column numbers on the right. A vertical scrollbar is on the right side of the code area. Three red arrows point from text boxes to the scrollbar:

- Flower-Box 'zone'**: Points to the top of the scrollbar, indicating the current position in the file.
- Severe messages/ Current location**: Points to a red line in the code, indicating the location of a severe message.
- Error messages are Red**: Points to a red line in the code, indicating that error messages are highlighted in red.

The code displayed is a COBOL program with various statements and comments. The status bar at the bottom shows the file name, line number, and column number.

Scrollbar is less useful in really large files, max 32K

Built into Endeavor

Package Cast and SCL reports can support hilite

```
DISPLAY ----- PACKAGE DISPLAY ---WS2-----
OPTION ==> r█

blank - Display Action Summary      B - Display Data Set Backout Info
A - Display Approvers              BU - Display USS Backout Information
R - Display Cast Report            SH - Display Ship Status Information
N - Display Package Notes          H - Display Promotion History
S - Display SCL

PACKAGE ID: EOINTESTPKG             STATUS: IN-EDIT           SHARABLE PKG: Y
DESCRIPTION: Force validation errors BACKOUT ENABLED: Y      ENTERPRISE PKG: N
PACKAGE TYPE: STANDARD
PROMOTION PKG: N
CA-7 SCHEDULED PKG EXEC JOB:        DEPENDENT JOB:
EXECUTION WINDOW FROM: 12DEC16 00:00 TO: 31DEC79 00:00

USER ID  DATE  TIME
CREATED: OCLE001 12DEC16 08:35
LAST UPDATED: OCLE001 22DEC16 18:38
CAST:
APPROVED/DENIED:
EXECUTED:
LAST SHIPPED:
BACKED OUT:
COMMITTED:

RC:
DEST-ID:
BACKED IN:
```

...it's less fun if there are no errors to see

Cast Errors

(Browse mode)

```
Menu Utilities Compilers Help
DISPLAY Package ID:EOINTESTPKG Li WORD 'FPVL001E' found
Command ==> Scroll ==> CSR
Description: Force validation errors Find Msg << < > >>
07:03:49 PKMR401I ACTION VALIDATION COMPLETED WITHOUT ERRORS
07:03:49 PKMR402I NO APPROVER GROUP(S) FOUND, APPLICABLE FOR PACKAGE
CA Endeavor SCM Version 18.0.08 Copyright (C) 1986-2015 CA. All Rights Reserved. 21DEC16 07:03:49 PAG
E N D E V O R P A C K A G E C A S T R E P O R T

07:03:49 PKMR791I COMPONENT VALIDATION STARTED
07:03:50 FPVL001E INPUT COMPONENT VALIDATION ERROR HAS OCCURRED FOR
07:03:50 CIG0000I ELEMENT EONLYTBL
07:03:50 PKMR801I OF ENV: DEV SYS: ESCM SUBSYS: QATEST TYPE: LNK STG: 1

07:03:50 FPVL014E PROCESSOR FAILED FLAG IS SET. INPUT COMPONENT MUST BE RE-GENERATED
07:03:50 CIG0000I INPUT COMPONENT EONLY
07:03:50 CIG0000I FROM DATA SET NDV.MOTM.ESCM.QATEST.D1.OBJLIB
07:03:50 PKMR802I FP ENV: DEV SYS: ESCM SUBSYS: QATEST TYPE: ASMPGM STG: 1

07:03:50 PKMR798E COMMENTED SCL MOVE ACTIONS ADDED TO PACKAGE
07:03:50 PKMR799I COMPONENT VALIDATION COMPLETE: HIGHEST RC = 12

07:03:50 ENMP302I PACKAGE INSPECT: ELEMENT AND MEMBER VALIDATION STARTED
07:03:51 ENMP303I ELEMENT AND MEMBER VALIDATION SUCCESSFULLY COMPLETED
***** Bottom of Data *****

ISRB106 Search for WORD p">->-###>" in cols 1 to 132 was successful. |

*CISPBR0
```

Added hot-links to locate messages using 'picture' string

Use the hot link to find the first/prev/next/last message using picture string; find p">->-###>"

Cast Errors

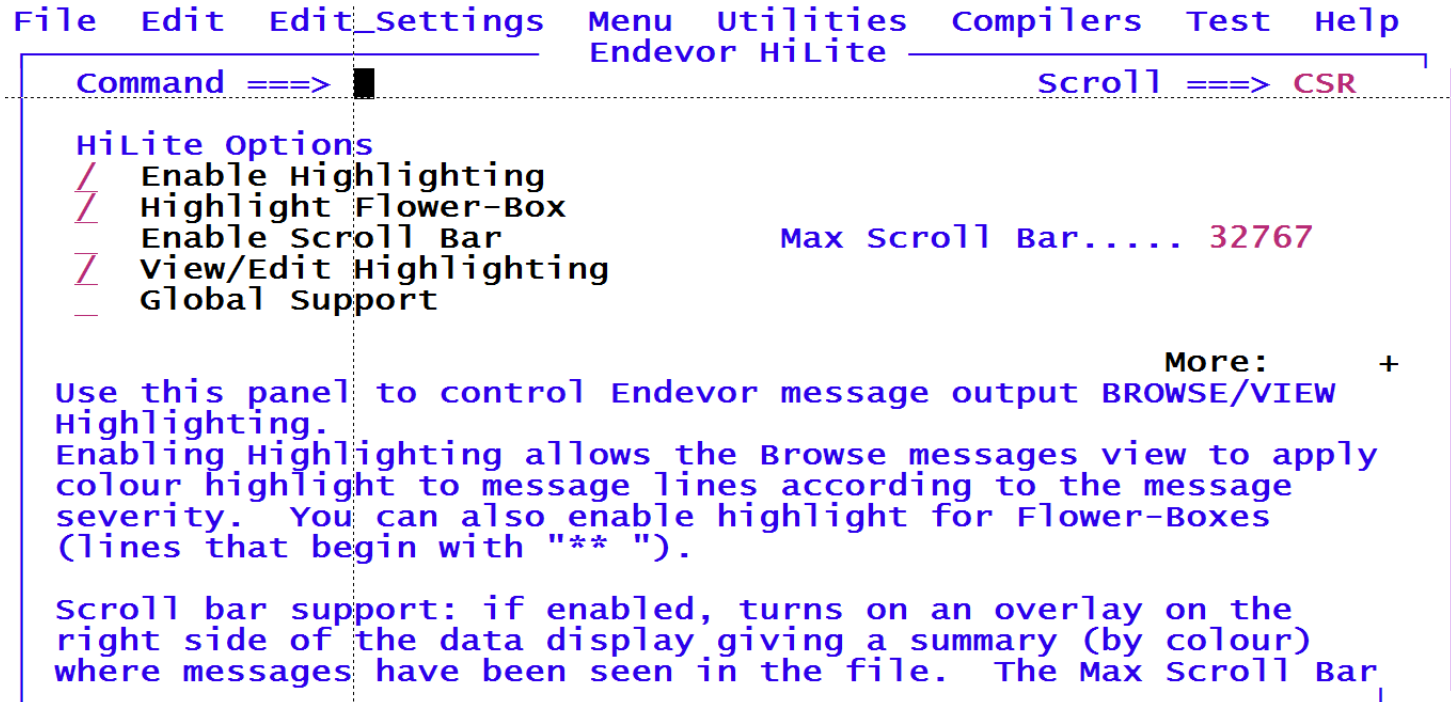
(View mode)

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW - Package ID:EOINTESTPKG WORD 'FPVL014E' found
Command ==> &F RC"[A-Z][A-Z0-9]{3}[0-9]{3}[\SEWC]|C1BM4100|BSTPPARS" word Scroll ==> CSR
Description:Force validation errors Find Msg << < > >>
000044 ENDEAVOR PACKAGE CAST REPORT
000045
000046
000047
000048 07:03:49 PKMR791I COMPONENT VALIDATION STARTED
000049 07:03:50 FPVL001E INPUT COMPONENT VALIDATION ERROR HAS OCCURRED FOR
000050 07:03:50 C1G0000I ELEMENT EONLYTBL
000051 07:03:50 PKMR801I OF ENV: DEV SYS: ESCM SUBSYS: QATEST TYPE: LNK STG: 1
000052
000053 07:03:50 FPVL014E PROCESSOR FAILED FLAG IS SET. INPUT COMPONENT MUST BE RE-GENERATED
000054 07:03:50 C1G0000I INPUT COMPONENT EONLY
000055 07:03:50 C1G0000I FROM DATA SET NDV.MOTM.ESCM.QATEST.D1.OBJLIB
000056 07:03:50 PKMR802I FP ENV: DEV SYS: ESCM SUBSYS: QATEST TYPE: ASMPGM STG: 1
000057
000058 07:03:50 PKMR798E COMMENTED SCL MOVE ACTIONS ADDED TO PACKAGE
000059 07:03:50 PKMR799I COMPONENT VALIDATION COMPLETE: HIGHEST RC = 12
000060
000061
000062 07:03:50 ENMP302I PACKAGE INSPECT: ELEMENT AND MEMBER VALIDATION STARTED
000063
000064 07:03:51 ENMP303I ELEMENT AND MEMBER VALIDATION SUCCESSFULLY COMPLETED
=====
===== Message Summary
=====
===== FPVL001E (49)
===== 07:03:50 FPVL001E INPUT COMPONENT VALIDATION ERROR HAS OCCURRED FOR
===== FPVL014E (53)
===== 07:03:50 FPVL014E PROCESSOR FAILED FLAG IS SET. INPUT COMPONENT MUST BE RE-GENERATED
===== PKMR798E (58)
===== 07:03:50 PKMR798E COMMENTED SCL MOVE ACTIONS ADDED TO PACKAGE
***** ***** Bottom of Data *****
ISRE106 Search for WORD '[A-Z][A-Z0-9]{3}[0-9]{3}[\SEWC]|C1BM4100|BSTPPARS'
in columns 1 to 133 was successful.
*CLSPVIE
```

Hint: Set a PF key to: &F RC"[A-Z][A-Z0-9]{3}[0-9]{3}[\SEWC]|C1BM4100|BSTPPARS" word

How to turn it on...

EHllite (Endevor Hi-Light)



Scrollbar is less useful in really large files, max 32K

Lots of help

Tutorial available...

TUTORIAL ----- Endeavor Hilite Help ----- TUTORIAL
Command ==>

The Endeavor Hilite option provides enhanced message highlighting when browsing or viewing Endeavor messages, or listings.
Features include;

*Enable Highlighting

You can enable or disable Endeavor message highlighting command. If enabled, messages are highlighted as follows:
White - Severe messages (Messages ending in 'S')
Red - Error messages
Pink - Caution messages
Yellow - Warning messages
Green - Notification messages
Blue - Information messages

Note: in VIEW mode BLUE and GREEN are reversed.

*Message Summary

When VIEW mode is used to display Endeavor messages, the EndvHISC (Endeavor Hilite-Scan) command can be used to scan the message file and build a summary of messages at the top of the screen along with the line numbers where the message was found. You can optionally use the IMACRO command to allow this command to run every time you open a file (determined by the final qualifier).

*Highlight Flower-Box

If enabled, Endeavor will hilite the contents of the box that start with "***" in Turquoise. Normally this box is used for location information standout, but it might cause box lines to be highlighted incorrectly. If this is the case, use the EHILite command to turn disable it.

*Scroll Bar

As you navigate through a report file, Endeavor Hilite will keep track of where messages were found and build a quick reference bar using reverse video blocks along the right side of the data. As shown here==>
In small files the bar colours will have a one-to-one correspondence to the data lines. If the file is larger, then the bar will be compressed relative to the file size and this compression may be adjusted as you scroll within the file. By positioning the cursor in the scroll bar area, and pressing ENTER you can navigate to the represented area of the file. However, with very large files this will become less accurate as each "block" will start to represent more than a page of data. Each block will change colour to represent the highest severity in the corresponding section of the file, for example, the RED blocks in the sample on the left indicate an error message near the top and bottom of the file. White is used to mark the current page, in this case, about half way down the file.

*HELP

More: +

TUTORIAL ----- Endeavor Hilite Help ----- TUTORIAL
Command ==>

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Features include;

EHilite command to turn disable it.

More: - +

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As you navigate through a report file, Endeavor Hilite will keep track of where messages were found and build a quick reference bar using reverse video blocks along the right side of the data. As shown here==>
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Note: The Scroll Bar is disabled by default, but you can enable it using the EHilite command.

*View/Edit Highlighting

Endeavor Hilite can optionally be enabled when in VIEW or EDIT modes but note, if enabled, it may conflict with normal ISPF highlighting and the results may be unpredictable. Turning off ISPF highlighting using the HILITE OFF command will enable highlighting of just the messages.

*Toggle Browse/View

The new EVEdit command can be used to switch from Browse mode to VIEW mode or vice versa. When switching to VIEW mode it will also enable the scan (EndvHISC) to build the Message Summary automatically.

*Global Support

Because the panels currently used for Browsing/Viewing/Editing messages

*HELP

Press PF1 (from EHilite screen) for help ...

That's fine for Endeavor,
but what about batch jobs...

SDSF and SYSVIEW

ESDsF and ESYsview commands...

```
GSVX000P SPF1 CA32 ----- JOBSUM.DETAIL, Job Status -----
Command =====>
-----
Formats DEFAULT EOIN EOIN2 EOIN3 PTFS SPOOL
Status      SRT NoLIM NoSEL NoDST NoPFX NoOWN NoUPD NoPRT NoCAP
Spool space used 0.01%
-----
      ALL  OCLE001*
Cmd Queue Jobname JobNr Programmer CCode Stat Esys Po Type Jo
...+...10...+...20...+...30...+...40...+...50...+...60...+...70...+...
br EXEC+ OCLE001 51610 CA32 TSU TS
OUTP+ OCLE001W 33272 ENDEVOR BATCH 12 HELD+ CA31 JOB M
OUTP+ OCLE001V 33226 ENDEVOR BATCH 12 HELD+ CA31 JOB M
OUTP+ OCLE001U 32532 ENDEVOR BATCH 12 HELD+ CA31 JOB M
***** End of Data *****
```

Hint: Enable "Global Support" and provide a panel override (LIBDEF)

SDSF and SYSVIEW

Sysview Browse...

```
Menu Utilities Compilers Help
ISRBRBROBA OCLE001W.JOB33272 Line 00002155 Col 001 122
Command ==> Scroll ==> CSR

13:16:09 C1X0012I STEP COMPILE INVOKING PROGRAM CONPARMX
13:16:09 C1X0013I PARM=ASMA90,(),$$$$DFLT,LEMBX,ENDIE102,(),Y,N
13:16:09 C1X0010I STEP COMPILE PROGRAM CONPARMX COMPLETED, RC=0008
13:16:09 C1G0129E STEP COMPILE RC (0008) EXCEEDS THE MAX RC (0004) FOR THE PROCESSOR STEP
13:16:09 C1X0014I STEP 0004 (OBJCOPY) NOT EXECUTED BECAUSE OF CONDITION CODE(S)
13:16:09 C1X0012I STEP CONLIST INVOKING PROGRAM CONLIST
A Endeavor SCM Version 18.0.08 Copyright (c) 1986-2015 CA. All Rights Reserved. 31MAR17 13:16:09 PAG
REQUESTED BY: OCLE001 E N D E V O R E X E C U T I O N R E P O R T

13:16:09 C1X0013I PARM=STORE
13:16:09 C1G0000I DATA SET NDV.MOTM.ESCM.QATEST.D1.LISTLIB
13:16:09 C1G0000I MEMBER ENDIE102
13:16:09 C1G0132I ELEMENT VVLL 0130 WRITTEN TO DATA SET
13:16:09 C1X0010I STEP CONLIST PROGRAM CONLIST COMPLETED, RC=0000
13:16:09 C1G0000I ELEMENT ENDIE102
13:16:09 C1G0000I DATA SET NDV.MOTM.ESCM.QATEST.D1.LISTLIB
13:16:09 C1G0134I ELEMENT FOOTPRINTED IN DATASET
13:16:09 C1G0000I ELEMENT ENDIE102
13:16:09 C1C0001I BEGINNING UPDATE OF COMPONENT LIST AT STAGE UNITTEST
13:16:09 SMGR130I COMPONENT VVLL 0109 CREATED AT LOCATION DEV/1/ESCM/QATEST/ASMPGM
13:16:10 ACMB022I ACM INDEX UPDATES COMPLETED:
13:16:10 ACMB023I ACM ELEMENTS: 28
13:16:10 ACMB023I ACM MEMBERS: 4
13:16:10 C1G0144I PROCESSOR GASM EXECUTION COMPLETED, HIGHEST PROCESSOR STEP RC WAS 0008
13:16:10 C1G0277I GENERATE PROCESSING TERMINATED BECAUSE OF THE PREVIOUS ERROR
13:16:10 C1G0200I ELEMENT ACTION REQUEST PROCESSING COMPLETED, HIGHEST ENDEVOR RC WAS 0012

13:16:10 C1G0202I ACTION #5 / STMT #6
13:16:10 C1G0203I GENERATE ELEMENT MARGTEST
13:16:10 C1G0204I FROM ENVIRONMENT: DEV SYSTEM: ESCM SUBSYSTEM: QATEST TYPE: ASMPGM STAGE I
13:16:10 C1G0232I OPTIONS: CCID: OCLE001
13:16:10 C1G0232I COMMENT: batch generate
13:16:10 C1G0265I PROCESSOR GROUP LEMBX FOR THIS ELEMENT WAS OBTAINED FROM PRIMARY ELEMENT RECORD
13:16:10 C1G0167E ELEMENT IS NOT AVAILABLE. IT IS ALREADY "SIGNED-OUT" TO RICAR01
13:16:10 C1G0277I GENERATE PROCESSING TERMINATED BECAUSE OF THE PREVIOUS ERROR
13:16:10 C1G0200I ELEMENT ACTION REQUEST PROCESSING COMPLETED, HIGHEST ENDEVOR RC WAS 0012

*SYSV
```

Note: You can't use EVEedit to toggle between browse/edit modes

C1MSG3

Exploit the Message Parse Engine

Scan C1MSGs1 for errors and build a summary...

```
BATCH ----- Batch Options Menu -----
OPTION ==> 5

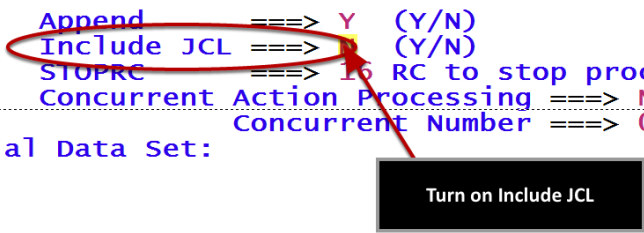
1 BUILD SCL - Build batch SCL actions
2 EDIT      - Edit request data set
3 SUBMIT     - Submit job for batch processing
4 VALIDATE  - Check request data set for syntax errors
5 BUILD JCL - Enter additional JCL to be included with the job

Request Data Set:
Project ==> BST
Group   ==> QABUGS17
Type    ==> TESTS
Member  ==> scladd

Append ==> Y (Y/N)
Include JCL ==> Y (Y/N)
STOPRC ==> 16 RC to stop processing
Concurrent Action Processing ==> N (Y/N)
Concurrent Number ==> 08 Max 25

-----
Other Partitioned or Sequential Data Set:
DSNAME ==>

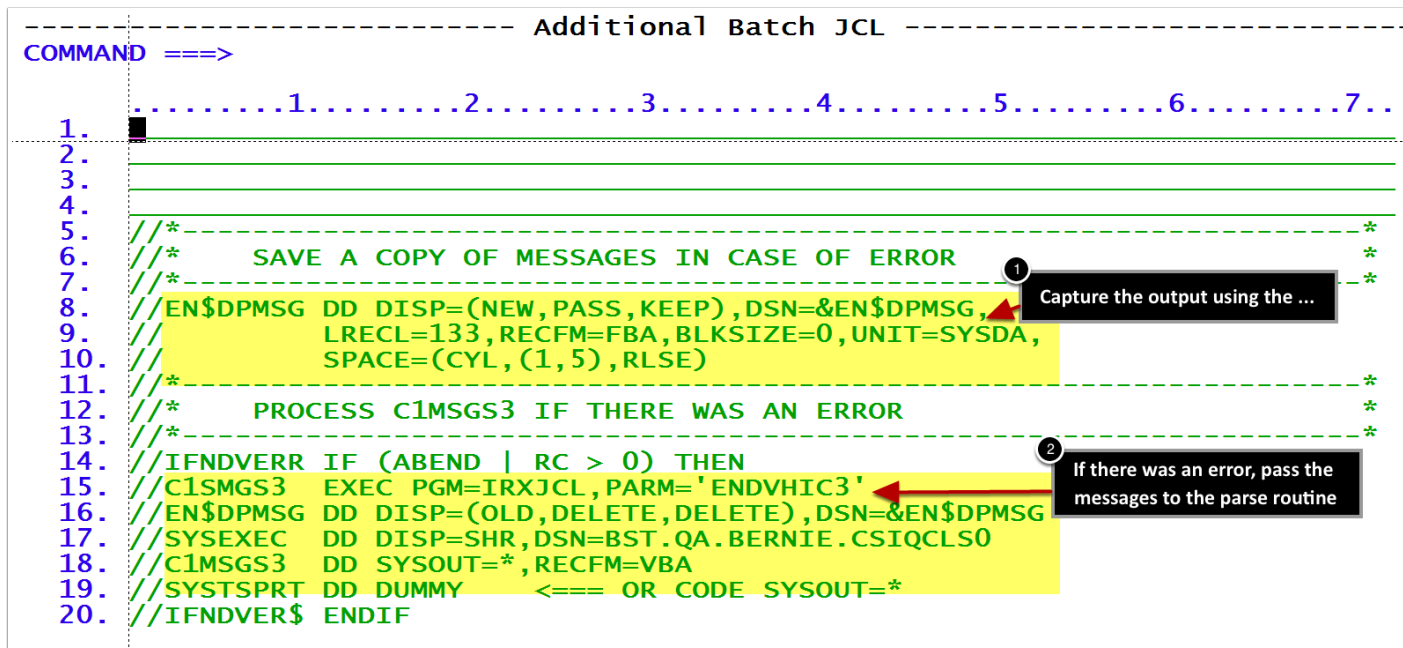
Job Statement Information:
==> //OCLEO01U JOB (108400000),'ENDEAVOR BATCH',
==> //          CLASS=M,MSGCLASS=3,NOTIFY=&SYSUID
==> //*
==> /*JOBPARM SYSAFF=*
```



Alternatively, tailor your batch submit skeletons...

Capture and pass a copy of the messages

...but ONLY if there is an error



Alternatively, tailor your batch submit skeletons...

C1MSGGS3 generated

...but ONLY if there is an error

```
SYSVIEW ISPF2 CA31 ----- LISTFILE, Job Data Sets -----
Command ==>
```

Formats	DEFAULT	EOIN								
JobName	JobId	Queue	Datasets	Lines	ExecSys					
OCLE001W	JOB33272	OUTPUT	6	2223	CA31					

Cmd	DDname	Stepname	Procstep	Status	Cpys	TotLines	OutClass	PrtY	Destination
.....	10.....	20.....	30.....	40.....	50.....	60.....	70.....	80.....	
_____	JESMSGLG	JES2		HELD	1	21	3	144	LOCAL
_____	JESJCL	JES2		HELD	1	75	3	144	LOCAL
_____	JESYSMSG	JES2		HELD	1	755	3	144	LOCAL
_____	C1MSGGS1	NDVRBAT		HELD	1	1342	3	144	LOCAL
_____	C1MSGGS2	NDVRBAT		HELD	1	12	3	144	LOCAL
_____	C1MSGGS3	C1MSGGS3		HELD	1	18	3	144	LOCAL

***** End of Data *****

Note "extra" C1MSGGS3 output

Alternatively, tailor your batch submit skeletons...

C1MSGGS3 generated

...in two parts

```
SYSVIEW ISPF2 CA31 ----- OUTPUT, Job output ----- 17/03/31 13:17:09
Command =====> Scroll *====> CSR

----- Lvl 3 Row 1-24/24 Col 1-122/131 -----
JobName Jobid Queue DDName StepName ProcStep ExecSys
OCLE001W JOB33272 OUTPUT C1MSGGS3 C1MSGGS3 CA31

...+...10...+...20...+...30...+...40...+...50...+...60...+...70...+...80...+...90...+...100...+...110...+...12
CA Endeavor SCM Version 18.0.08 Copyright (C) 1986-2015 CA. All Rights Reserved. 31MAR17 13:16:01 PAG
E N D E V O R - E X E C U T I O N M E S S A G E S
( E L E M E N T S I N E R R O R )

Summary of the
*FAILED* elements

*FAILED* GENERATE ENDIE102 PROC NDVR +----- INVENTORY INFORMATION -----+ ACTION ACTION
*FAILED* GENERATE MARGTEST 0008 0012 DEV ESCM QATEST ASMPGM 1 13:16:08
13:16:10 0012 DEV ESCM QATEST ASMPGM 1 13:16:10

CA Endeavor SCM Version 18.0.08 Copyright (C) 1986-2015 CA. All Rights Reserved. 31MAR17 13:16:01 PAG
E N D E V O R - E X E C U T I O N M E S S A G E S
( E R R O R M E S S A G E S U M M A R Y )

Message Summary (Line/Action) Summary of messages, and Line/Action#
C1G0129E (1303/4)
13:16:09 C1G0129E STEP COMPILE RC (0008) EXCEEDS THE MAX RC (0004) FOR THE PROCESSOR STEP
C1X0014I (1304/4)
13:16:09 C1X0014I STEP 0004 (OBJCOPY) NOT EXECUTED BECAUSE OF CONDITION CODE(S)
C1G0277I (1326/4 1336/5)
13:16:10 C1G0277I GENERATE PROCESSING TERMINATED BECAUSE OF THE PREVIOUS ERROR
C1G0167E (1335/5)
13:16:10 C1G0167E ELEMENT IS NOT AVAILABLE. IT IS ALREADY "SIGNED-OUT" TO RICAR01
***** End of Data *****
```

You can see the elements that failed, AND the flagged message summary, with links to the line/action#

Steak Knives...

Compiler errors...

...something went wrong

```
.....
C1G0009I      SUBSTITUTED : CADEMO.ENDV.APPL.SMPLTEST.LISTLIB
C1G0009I      ORIGINAL   : &WRKUNIT
C1G0009I      SUBSTITUTED : SYSDA
C1G0009I      ORIGINAL   : &SYSOUT
C1G0009I      SUBSTITUTED : *
L1:06:43 C1X0012I STEP INIT INVOKING PROGRAM BC1PDSIN
L1:06:43 C1X0010I STEP INIT PROGRAM BC1PDSIN COMPLETED, RC=0000
L1:06:43 C1X0012I STEP CONWRITE INVOKING PROGRAM CONWRITE
L1:06:43 C1X0013I PARM=EXPINCL(N)
L1:06:43 C1G0280I ELEMENT AT LOCATION SMPLTEST/T/FINANCE/ACCTREC/COBOL SELECTED FOR PROCESSING
L1:06:43 SMGR128I ELEMENT VVLL 0102 WRITTEN TO ELMOUT
L1:06:43 C1X0010I STEP CONWRITE PROGRAM CONWRITE COMPLETED, RC=0000
L1:06:43 C1X0012I STEP COMPILE INVOKING PROGRAM IGYCRCTL
L1:06:43 C1X0013I PARM=LIB,NOSEQ,OBJECT,APOST,
L1:06:44 C1X0010I STEP COMPILE PROGRAM IGYCRCTL COMPLETED, RC=0012
L1:06:44 C1G0129E STEP COMPILE RC (0012) EXCEEDS THE MAX RC (0004) FOR THE PROCESSOR STEP
L1:06:44 C1X0014I STEP 0004 (LKED) NOT EXECUTED BECAUSE OF CONDITION CODE(S)
L1:06:44 C1X0012I STEP STORLIST INVOKING PROGRAM CONLIST
L1:06:44 C1X0013I PARM=STORE
L1:06:44 C1G0000I DATA SET CADEMO.ENDV.APPL.SMPLTEST.LISTLIB
L1:06:44 C1G0000I MEMBER FINARP03
L1:06:44 C1G0132I ELEMENT VVLL 0102 WRITTEN TO DATA SET
L1:06:44 C1X0010I STEP STORLIST PROGRAM CONLIST COMPLETED, RC=0000
L1:06:44 C1X0015I STEP 0006 (PRNTLIST) NOT EXECUTED BECAUSE OF AN "EXECIF" CLAUSE
L1:06:44 C1G0000I ELEMENT FINARP03
L1:06:44 C1C0001I BEGINNING UPDATE OF COMPONENT LIST AT STAGE TEST
L1:06:44 SMGR130I COMPONENT VVLL 0108 CREATED AT LOCATION SMPLTEST/T/FINANCE/ACCTREC/COBOL
L1:06:45 ACMB022I ACM INDEX UPDATES COMPLETED:
L1:06:45 ACMB023I ACM ELEMENTS: 2
L1:06:45 C1G0144I PROCESSOR GCIINBL EXECUTION COMPLETED. HIGHEST PROCESSOR STEP RC WAS 0012
```

Typically when a generate fails, you also need the listings to see *WHAT* went wrong

Exploit the Message Parse Engine

Scan compiler list for errors and build a summary...

```
C1G0009I ORIGINAL : &WRKUNIT
C1G0009I SUBSTITUTED : SYSDA
C1G0009I ORIGINAL : &SYSOUT
C1G0009I SUBSTITUTED : *
15:53:56 C1X0012I STEP INIT INVOKING PROGRAM BC1PDSIN
15:53:56 C1X0010I STEP INIT PROGRAM BC1PDSIN COMPLETED, RC=0000
15:53:56 C1X0012I STEP CONWRITE INVOKING PROGRAM CONWRITE
15:53:56 C1X0013I PARM=EXPINCL(N)
15:53:56 C1G0280I ELEMENT AT LOCATION SMPTEST/T/FINANCE/ACCTREC/COBOL SELECTED FOR PROCESSING
15:53:58 SMGR128I ELEMENT VVLL 0107 WRITTEN TO ELMOUT
15:53:58 C1X0010I STEP CONWRITE PROGRAM CONWRITE COMPLETED, RC=0000
15:53:59 C1X0012I STEP COMPILE INVOKING PROGRAM IGYCRCTL
15:53:59 C1X0013I PARM=LIB,NOSEQ,OBJECT,APOST,
15:54:00 C1X0010I STEP COMPILE PROGRAM IGYCRCTL COMPLETED, RC=0012
15:54:00 C1G0129E STEP COMPILE RC (0012) EXCEEDS THE MAX RC (0004) FOR THE PROCESSOR STEP
15:54:00 C1X0012I STEP ENDVHIPR INVOKING PROGRAM IRXJCL
15:54:00 C1X0013I PARM=ENDVHIPR
15:54:00 C1X0010I STEP ENDVHIPR PROGRAM IRXJCL COMPLETED, RC=0000
15:54:00 C1X0012I STEP ENUSSMSG INVOKING PROGRAM ENUSSUTL
*****
**
** ( E R R O R M E S S A G E S U M M A R Y )
**
** Message Summary (Line)
** IGYGR1174-S (83 291)
** 13 IGYGR1174-S "OMNIPRESENT" was not defined as a data-name.
** "OMNIPRESENT" was discarded.
** IGYPS2072-S (164 295)
** 85 IGYPS2072-S "PERFROM" was invalid. Skipped to the next
** verb, period or procedure-name definition.
** IGYPS2121-S (196 297)
** 111 IGYPS2121-S "OUTPUT-FIELD9" was not defined as a
** data-name. The statement was discarded.
**
*****
15:54:01 C1X0010I STEP ENUSSMSG PROGRAM ENUSSUTL COMPLETED, RC=0000
15:54:01 C1X0014I STEP 0006 (LKED) NOT EXECUTED BECAUSE OF CONDITION CODE(S)
```

Use ENUSSUTL to 'place' the summary in-line in the C1MSG51 output...

How to do it...

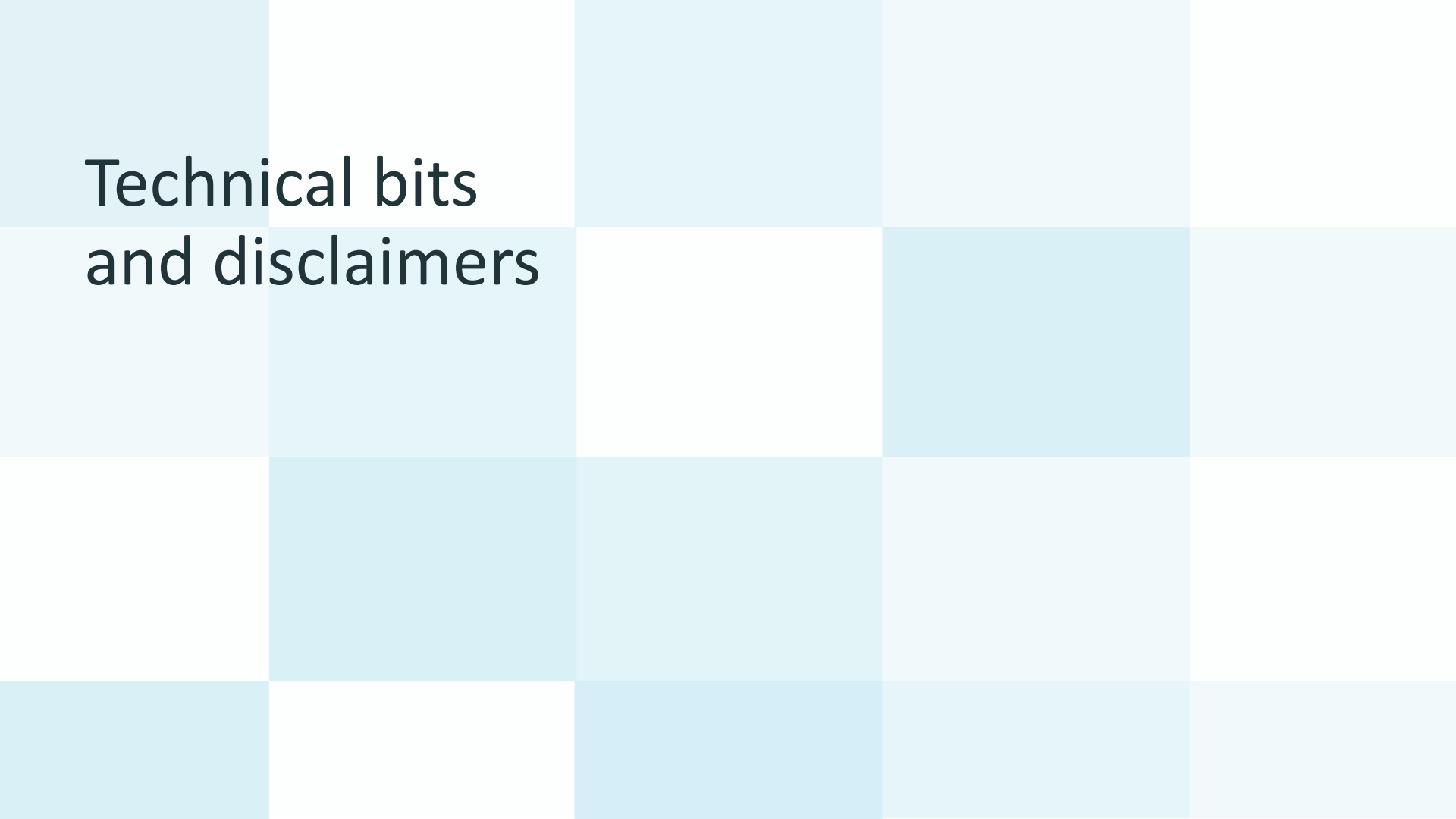
Just add the parse step to your processors

```
//SYSPRT DD DSN=Q&COBLIST,DISP=(OLD,PASS)
//*****
//**      ANY COMPILER MESSAGES?
//*****
//IFCMPERR IF (COMPILE.RC >= 0) THEN
//ENDVHIPR EXEC PGM=IRXJCL,PARM='ENDVHIPR'
//INPUT    DD DSN=&&COBLIST,DISP=(OLD,PASS)
//ENUSSIN  DD DSN=&&COBSUMM,DISP=(OLD,PASS)
//* IF SYSEXEC DS USED IN F/G DON'T NEED IT HERE FOR BATCH ADD
//*      TO SCMM@LIB OR SKELETON
//*SYSEXEC DD DISP=SHR,DSN=CAPRD.NDVR.EMER.CATSNDVR.CSIQCLS0
//SYSPRT DD SYSOUT=*
//ENUSSMSG EXEC PGM=ENUSSUTL
//ENUSSIN DD DSN=&&COBSUMM,DISP=(OLD,PASS)
//IFCMPE$ ENDIF
//*****
//**      LINK EDIT THE ELEMENT
//*****
```

The "parser" formats the lines with as 80 byte comment cards, which are then passed to ENUSSUTL

Scan compiler list for errors and build a summary...





Technical bits and disclaimers

Tailoring message colours...

Choose which messages to show/hide...

```
/* REXX - This routine is used to provide a custom list of messages
   codes and corresponding message severity override values
   so that sites can tailor the highlighting for specific
   messages as appropriate.

   Note: These overrides are in ADDITION to the standard
   message parsing where Error, Caution messages etc.
   are recognized by their suffix. But it can also be used
   to Lower the hilite severity if required.

- - - - - 7 Line(s) not Displayed
Copyright (C) 1986-2017 CA. All Rights Reserved.
*/
parse arg MsgWords " ( " MsgSever /* Start with any values passed */

/* Parser Errors */
MsgWords=MsgWords 'BSTPPARS' /* Always flag Parse errors */
MsgSever=MsgSever 'E' /* Ditto for Package SCL errors */
MsgWords=MsgWords 'C1BM4100' /* Ditto for Package SCL errors */
MsgSever=MsgSever 'E'

/* Processor Messages */
MsgWords=MsgWords 'C1G0144I' /* Hilite Endeavor Max RC */
MsgSever=MsgSever 'N' /* Hilite Override signout in effect */
MsgWords=MsgWords 'C1G0275I' /* Hilite Override signout in effect */
MsgSever=MsgSever 'N' /* Processor terminated due to prev er */
MsgWords=MsgWords 'C1G0277I' /* Processor terminated due to prev er */
MsgSever=MsgSever 'C' /* Start of Symbol Substitution */
MsgWords=MsgWords 'C1G0011I' /* Start of Symbol Substitution */
MsgSever=MsgSever 'N' /* Proc Step RC code & step bypassed */
MsgWords=MsgWords 'C1X0010I C1X0014I' /* Proc Step RC code & step bypassed */
MsgSever=MsgSever 'N C' /* Proc Step RC code & step bypassed */
- - - - - 7 Line(s) not Displayed
/* Not Really Errors... */
MsgWords=MsgWords 'ASMA047C' /* At end of Assembly, not an error */
MsgSever=MsgSever 'I'

/* Return the Message ID's and Severity codes, Separated by "("
return strip(MsgWords,"L") "(" strip(MsgSever,"L")
```

You can override the "Message Code Severity" using a common routine - ENDVHIMS

How does high-lighting work?

Based on sample IBM PANEXIT...

- Original idea by DOUG NADEL presented at Share, but then sample incorporated into ISPF samples
- Panel overrides for standard Browse and View screens
- Panel Exit (Rexx) can *read* the panel data
- ...and modify the Shadow Variable
- Can only "see" what the panel sees
- Better if;-
 - Custom panels are used
 - Endeavor could build the summary/ScrollBar as it writes the messages (avoid scan)

```
BROWSE      ISP.SISPSAMP(ISRPANX)                      Line 0000000000 Col 001 080
Command ==>                                         Scroll ==> CSR
***** Top of Data *****
/* Rexx - Name this member PANEXIT */
/* */
/* Sample panel exit to simulate HILITE of REXX in ISPF Browse. */
/* */
/* This will work in ISPF for OS/390 R10 or later. */
/* */
/* Setup: */
/* */
/* Add the following lines to panel isrbroba: */
/* */
/* In the )attr section */
/* Y TYPE (CHAR) COLOR(YELLOW) /* SYMBOLS */
/* G TYPE (CHAR) COLOR(GREEN) /* DEFAULT */
/* R TYPE (CHAR) COLOR(RED) /* KEYWORDS */
/* W TYPE (CHAR) COLOR(WHITE) /* QUOTED */
/* B TYPE (CHAR) COLOR(BLUE) /* COMMENT */
/* */
/* At the end of the )init section and the beginning of the )reinit: */
/* */
/* &SHADOW=&ZDATA */
/* PANEXIT( (ZDATA,SHADOW,ZWIDTH),REXX,%PANEXIT) */
/* */
/* In the )BODY section add a shadow variable called SHADOW by */
/* adding ,SHADOW after the word ZDATA */
/* */
/* Usage: */
/* Use Browse to browse this sample. If you created your own */
/* browse panel, use the BROWSE service with the PANEL keyword. */
/* */
/* Notes: */
/* The only Rexx keywords highlighted are those found in this */
/* sample. You can add more by adding to the variable named */
/* 'keywords' */
/* */
/* Since this is only a 'screen scraper' it will not handle words */
/* or comments that begin or end off of the visible screen. */
/* */
```

See ISP.SISPSAMP(ISRPANX) or get prototype from <https://communities.ca.com/docs/DOC-231162158>



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