

CA Endevor[®] SCM v18

Release Update and Sandbox Overview

June 2017

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Meeting Notes

- **Endevor v18 status**

- All planned v18 features have been published (pending Eclipse UI) –
- 18.0.09 is the current Increment
 - GA-Complete pending “under-the-cover” refactoring tasks
 - ETA to be determined as effort is still being sized
- 18.0.10 will be published in June 2017 (Final v18 Eclipse UI enhancements)

- **Summary of published Endevor v18 features**

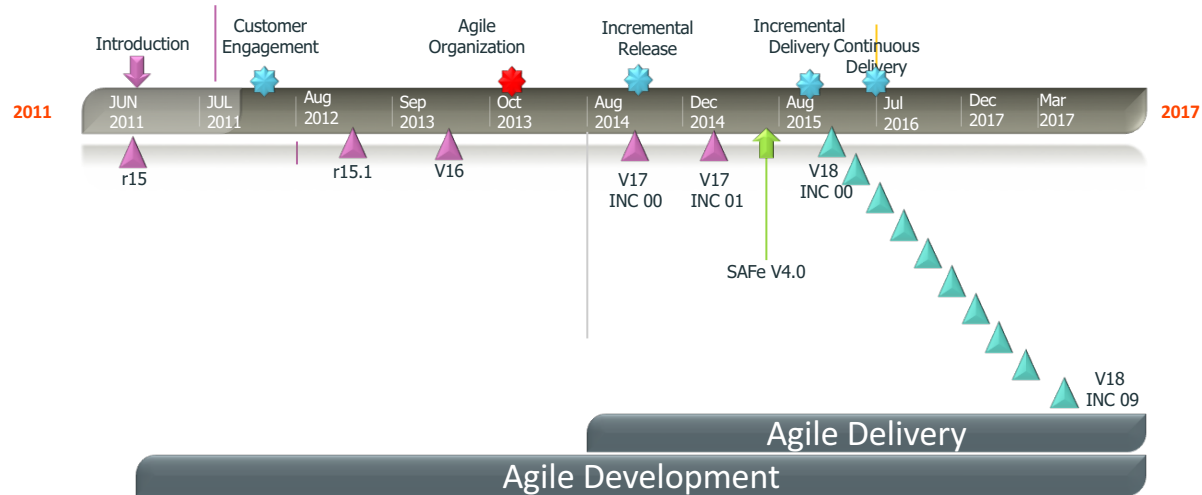
- **Endevor Sandbox Overview**

Release Status

RELEASE	GA	END OF SERVICE
V16.0	GA September 2013	June 30, <u>2016</u>
V17.0 Complete	GA December 2014	Not Announced
V18 Incremental base (18.0.00)	GA August 2015	-----
V18.0 Incremental 1	GA October 2015	-----
V18.0 Incremental 2	GA December 2015	-----
V18.0 Incremental 3	GA March 2016	-----
Version 18.0.04	GA March 2016	-----
Version 18.0.05	GA May 2016	-----
Version 18.0.06	GA July 2016	-----
Version 18.0.07	GA September 2016	-----
Version 18.0.08	GA December 2016	-----
Version 18.0.09	GA March 2017	-----
Version 18.0.10 / 18.0 Complete	ETA June 2017 / TBD	-----

Our Agile Journey

Aligning Delivery with Development and Transition to Continuous Delivery*



*The CA Endavor SCM Product Team transitioned to a continuous delivery model using CA Endavor SCM; delivering 8 IR deliveries in 14 months!

CA ENDEVOR SCM VERSION 18

Feature summary

Version 18 Feature Summary

- **Enhanced Eclipse UI**
- **Endevor “Classic” and Quick Edit ISPF long-Element name support**
- **Audit Control Options & Guidelines**
- **Streamlined Processes for Concurrent Development**
- **Web Services-related Improvements**
- **Miscellaneous enhancements**

Enhanced Eclipse UI

CA Endeavor v18 Feature Review

- Package Action Support
 - Eclipse Package View
 - Associate Package to project (sandbox)
 - Availability of All* Package Actions
- Element View Tool Tips
 - Intuitive icons that provide visual status information (max rc, sign-out, etc.) that provide additional information when moused-over
- Refactoring “Add-to-Project” functionality (18.0.10)
 - Greater control when fetching Elements to local projects and when checking them back in
 - Elements placed at entry stage with Add / Update – NOT Transfer action

Eclipse-Based UI Package View

CA Endevor SCM - MyProcessors/GCIINBL2/GCIINBL2.v0102.listing - CA Development Environment for z Systems (enhanced by IBM® Developer for z Systems™)

File Edit Navigate Search Project Data Run CA Mainframe Application Tuner CA File Master Plus CA Endevor SCM Window Help

Activity: Other Activity Quick Access

Rep... Proj... Proj...

DE25

- DE25
 - ADMIN
 - FINANCE
 - FINANCE2
 - FINANCEP
 - DE241142
 - TSO1
 - CA32
 - CA06

Property Value

Info

CA Endevor SCM WS Host: mvsde25

Data source: ENDVENWS

Local Repository Name: DE25

Mainframe User Id: OCLEO01

port: 19025

GCIINBL2.v0102.listing

```

1 *****
**
** GGGGGGGGGG CCCCCCCCCC IIIIIIIIII IIIIIIIIII NN NN BBBBBBBBBB LL 2222222222 *
** GGGGGGGGGGG CCCCCCCCCC IIIIIIIIII IIIIIIIIII NNN NN BBBBBBBBBB LL 22222222222 *
** GG GG CC CC II II NNNN NN BB BB LL 22 22 *
** GG CC CC II II NN NN NN BB BB LL 22 *
** GG CC CC II II NN NN NN BB BB LL 22 *
** GG GGGG CC II II NN NN NN BBBBBBBBBB LL 22 *
** GG GGGG CC II II NN NN NN BB BB LL 22 *

```

CA Endevor SCM Log Element View Package View Data Window Data Source Explorer

quick-access filter options

Package Id type filter text

Status Exec

St	PKG ID	SITE ID	DESCRIPTION	PKG TYPE	SHR ...	BACKOUT FLG	WINDOW STA...	WINDOW END...	STATUS	CREATE TIMES...	CREATE USRID	UPDT
	AKB	0	TEST	STANDARD	false	Y	2013-11-20T00...	2019-12-31T00...	EXECUTED	2013-11-20T05...	DAMJO02	2013-
	BANKINTER3	0	promotion	STANDARD	true	Y	2016-06-03T00...	2019-12-31T00...	EXECUTED	2016-06-03T03...	DAMJO02	2016-
	BANKINTER6	0	test	STANDARD	true	Y	2016-06-06T00...	2019-12-31T00...	EXECUTED	2016-06-06T06...	DAMJO02	2016-
	BINTER1	0	test	STANDARD	true	Y	2016-05-26T00...	2019-12-31T00...	EXECUTED	2016-05-26T05...	DAMJO02	2016-
	BINTER2	0	test	STANDARD	true	Y	2016-05-26T00...	2019-12-31T00...	EXECUTED	2016-05-26T06...	DAMJO02	2016-
	BREDDMO	0	FOR JULY3R	STANDARD	true	Y	2015-07-01T00...	2019-12-31T00...	EXECFAILED	2015-07-01T10...	DAMJO02	2015-
	DEC13	0	comment	STANDARD	true	Y	2013-12-13T00...	2019-12-31T00...	EXECUTED	2013-12-13T05...	DAMJO02	2014-
	DEC13NR2	0	dec13	STANDARD	true	Y	2013-12-13T00...	2019-12-31T00...	EXECUTED	2013-12-13T06...	DAMJO02	2013-
	DEC17NR1	0	COMMENT	STANDARD	true	Y	2013-12-17T00...	2019-12-31T00...	EXECUTED	2013-12-17T06...	DAMJO02	2013-
	DEMOJ30	0	TEST	STANDARD	true	Y	2015-06-30T00...	2019-12-31T00...	EXECUTED	2015-06-30T04...	DAMJO02	2015-
	DNB1	0	test dnb	STANDARD	true	Y	2015-01-21T00...	2019-12-31T00...	EXECUTED	2015-01-21T09...	DAMJO02	2015-
	EOINTPGNE21...	0	TESTING PACKAGE SUPPORT	STANDARD	true	Y	2015-07-14T00...	2019-12-31T00...	EXECUTED	2015-07-14T05...	OCLEO01	2015-

Eclipse UI - Tooltips

The screenshot displays the Eclipse IDE interface for CA Endevor SCM. The main editor shows a COBOL program with the following structure:

```
000100 IDENTIFICATION DIVISION.  
000200 PROGRAM-ID. FINAP01.  
000300 AUTHOR. KEVIN MCNAMON.  
000400 *****ASBLINUM CORPORATION*****  
000500 *****ROBIN S TOMLINSON*****  
000600 *****JANOSTH *****  
000700 *****CHANGE *****  
000800 *****NEW BRD TEST *****  
000900 ENVIRONMENT DIVISION.  
001000 INPUT-OUTPUT SECTION.  
001100 FILE-CONTROL  
001200 SELECT PRINTOUT ASSIGN U-T-SYSOUT.  
001300 DATA DIVISION.  
001400 FILE SECTION.  
001500 FD PRINTOUT  
001600 BLOCK CONTAINS 0 RECORDS  
001700 RECORDING MODE IS F  
001800 LABEL RECORDS ARE STANDARD  
001900 DATA RECORD IS PRINT-OUT.  
002000 WORKING-STORAGE SECTION.  
002100 01 WS-DATA PIC X(02) VALUE 'XX'.  
002200 LINKAGE SECTION.  
002300 COPY FINAP01.  
002400 *****  
002500 PROCEDURE DIVISION.  
002600 MOVE '*** CONGRATULATIONS, FINAP01 SUCCESSFULLY EXECUTED ***'  
002700 TO WS-DATA.  
002800 STOP-ROUTINE.  
002900 GOBACK.
```

The left sidebar shows the Project Explorer and Properties view. The bottom right shows a table of elements with a tooltip explaining the meaning of an icon.

SI	P	Full-Element Name	SOURCED	ENV NAME	STG	ST	SYS NAME	SES NAME	TYPE NAME	PR
Y		FINAP01	Y	SMPLTEST	QA	2	FINANCE	ACCTPAY	COBOL	CI
Y		FINAP02	Y	SMPLPR...	PROD	2	FINANCE	ACCTPAY	COBOL	CI
Y		FINAP03	Y	SMPLTEST	QA	2	FINANCE	ACCTPAY	COBOL	CI
Y		FINAP04	Y	SMPLTEST	QA	2	FINANCE	ACCTPAY	COBOL	CI
Y		SSSS	Y	SMPLTEST	TEST	1	FINANCE	ACCTPAY	JAVA	CI
Y		FAPCOB02	Y	SMPLTEST	TEST	1	FINANCE	ACCTPAY	COBOL	CI
Y		FINAP01	Y	SMPLTEST	TEST	1	FINANCE	ACCTPAY	COBOL	CI
Y		BRED	Y	SMPLTEST	QA	2	FINANCE	ACCTPAY	JAVA	CI
Y		BRED	Y	SMPLTEST	TEST	1	FINANCE	ACCTPAY	JAVA	CI
Y		DEMOCR	Y	SMPLTEST	QA	2	FINANCE	ACCTPAY	JAVA	CI
Y		EARV2	Y	SMPLTEST	QA	2	FINANCE	ACCTPAY	JAVA	CI
Y		javapgn	Y	SMPLTEST	QA	2	FINANCE	ACCTPAY	JAVA	CI

Element was not generated

Hover over an icon to reveal it's meaning

Hover over an icon to reveal it's meaning

Endevor “Classic” and Quick Edit ISPF long-Element name support

CA Endevor v18 Feature Review

- Long (and mixed-case) Element names can be specified on all Classic & QE panels
- Capability to Add/Update from and Retrieve to USS directories
- Mixed-case name-matching option
- Available for Foreground, Batch and Package Element Action panels

Long-named Elements

```
----- Display Elements/Component Lists -----
OPTION  ==>

blank - Display selection list      B - Browse element current level
S - Display summary of levels      C - Display changes current level
M - Display element master info    H - Display history current level

LL - List Listing

Enter SX, BX, CX or HX to display component list information

FROM LOCATION:                     LIST OPTIONS:
ENVIRONMENT ==> DEV                  DISPLAY LIST                ==> Y (Y/N)
SYSTEM      ==> ESCM                 APPLY LIST FILTERS          ==> N (Y/N)
SUBSYSTEM   ==> QATEST               BUILD USING MAP              ==> N (Y/N)
TYPE        ==>                     DISPLAY SYS/SBS LIST         ==> N (Y/N)
STAGE       ==> 1      1 - UNITTEST  CASE-SENSITIVE ELM NM       ==> N (Y/N)
                                   2 - UTC
ELEMENT     ==>
UPPERCASE   ==> Y (Y/N)                                     +
```

- Element field is “long” (moved down)
- Has an indicator to show it’s scrollable/expandable
- Option to control Uppercase of Element name
- Case-Sensitive controls list options

Embedded blanks Element name

New SCL Syntax allows trailing spaces...

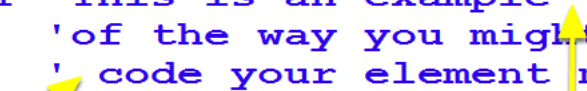
Allowable characters for the Element and USS file are:

blank, ., \$, -, _, #, @, a-z, {, A-Z, and 0-9

Allowable characters for the path name are:

blank, ., \$, -, _, #, @, a-z, {, A-Z, 0-9, / and +

```
ADD ELEMENT 'This is an example ',  
            'of the way you might',  
            ' code your element name'
```

Two yellow arrows point to the trailing spaces in the element name. One arrow points to the space after 'might', and the other points to the space after 'name'.

This new syntax method was created so that blanks can be inserted at the end and/or beginning of a line and have them retained in the name. When specifying the value for the name it must begin and end with a quote. If the name will span multiple lines, there needs to be a comma after the ending quote to indicate continuation of the name value. The last line containing the name value without a comma after the ending quote indicates the end of the name value.

See discussion at <https://communities.ca.com/ideas/108792404> (Endevor should support ALL valid Longnames and Paths)

Long-Named Mixed-Case Element Support

- UPPERCASE field added to more action panels.
- Certain report request panels are updated for long-named mixed-case Elements.
- ISPF List Elements for batch supports long-named mixed case Elements.

```
TO LOCATION:                                RETAIN SIGNOUT      ==> Y (Y/N)
ENVIRONMENT ==> SMPLPROD                     SIGNOUT TO         ==>
SYSTEM      ==> CATSNDVR
SUBSYSTEM   ==> UTILITY
TYPE        ==> REXX
STAGE       ==> E

LIST OPTIONS:
DISPLAY LIST      ==> Y (Y/N)
APPLY LIST FILTERS ==> N (Y/N)
BUILD USING MAP   ==> Y (Y/N)
CASE-SENSITIVE ELM NM ==> Y (Y/N)

FROM ELEMENT ==>
TO ELEMENT   ==>
UPPERCASE    ==> N (Y/N) Applies to both FROM/TO ELEMENT
```

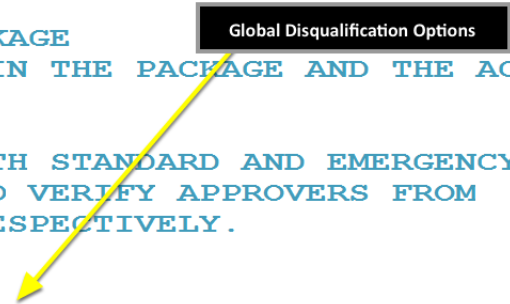
Audit Control Options & Guidelines

CA Endeavor v18 Feature Review

- Optional Automatic Approver Disqualification (configuration option)
 - Endeavor can detect and prevent people from approving their own changes
 - Their own Element modifications or their own Packages
 - Option activated by Approver Group

Package Approver Disqualification

```
file  Edit  Edit_Settings  Menu  Utilities  Compilers  Test  Help
T      CADEMO.ENDV.RUN.CSIQSRC (ENCOPTBL) - 01.02      Columns 00001 000
mand ==>      Scroll ==> CS
464 *
465 * -----*
466 *      ENHOPT ALLOW_NON_PKG_ACTIONS=(ON,00)
467 *
468 * *****
469 * 00007182
470 * THIS OPTION WILL DISQUALIFY AN APPROVER FROM APPROVING OR DENYING
471 * A PACKAGE IF THEY HAVE EITHER:
472 * 1) CREATED, UPDATED, OR CAST THE PACKAGE
473 * 2) MODIFIED ANY OF THE ELEMENTS WITHIN THE PACKAGE AND THE ACTION
474 *      REQUIRES APPROVAL
475 *
476 * SPECIFY 'A' TO VERIFY APPROVERS FOR BOTH STANDARD AND EMERGENCY
477 * PACKAGES. SPECIFY EITHER 'S' OR 'E' TO VERIFY APPROVERS FROM
478 * STANDARD OR EMERGENCY PACKAGES ONLY, RESPECTIVELY.
479 *
480 * EXAMPLES:
481 *      ENHOPT APPROVER_DISQUALIFIED=(ON,A)      ALL STANDARD & EMERGENCY
482 *      ENHOPT APPROVER_DISQUALIFIED=(ON,S)      STANDARD PACKAGES ONLY
483 *      ENHOPT APPROVER_DISQUALIFIED=(ON,E)      EMERGENCY PACKAGES ONLY
484 * -----*
485 *      ENHOPT APPROVER_DISQUALIFIED=(ON,A)
486 *
```



Package Approver Disqualification

CREATE ----- APPROVER GROUP DEFINITION -----
COMMAND ==>

APPROVER GROUP: AB_DISQAL ENVIRONMENT: SMPLEST
TITLE ==> Demo
QUORUM SIZE ==> 00001 DISQUALIFICATION ==> Y

UPDATED: BY

APPROVER	REQ'D (Y/N)	APPROVER	REQ'D (Y/N)
==> DAMJO02	==>	==> OCLEO01	==>
==> BUCFR01	==>	==>	==>
==> @ITAUDIT	==>	==>	==>
==>	==>	==>	==>
==>	==>	==>	==>
==>	==>	==>	==>
==>	==>	==>	==>
==>	==>	==>	==>
==>	==>	==>	==>

Fully qualified Userids, validated at CAST,
Groups validated at Approve/Deny

New Disqualification Option,
Per approver group

Audit Control Options & Guidelines

CA Endeavor v18 Feature Review

- SMF logging of Endeavor Administrative Action activity
 - Can also, optionally log activity to a z/OS sequential data set
 - API/CSV utility enhanced to extract and format log data for reporting


Enable Admin Action activity logging

```
Menu Utilities Compilers Help
BROWSE CADEMO.ENDV.RUN.CSIQSRC (C1DEFLT) - 01.1 Line 0000000079 Col 001 080
Command ==> Scroll ==> CSR
*-----*
* DEFINITION FOR ENVIRONMENT SMPLTEST *
* STAGE 1 ID: T *
* STAGE 1 NAME: TEST *
* STAGE 2 ID: Q *
* STAGE 2 NAME: QA *
*-----*
C1DEFLT TYPE=ENVRNMNT, X
ENDBACT=N, ENDBR DB BRIDGE OPTION (Y/N) X
ENDBAVL=N, ENDBR DB BRIDGE OPTION (Y/N) X
ENTRSTG#=1, ENTRY STAGE IS STAGE 1 X
ENVNAME='SMPLTEST', ENVIRONMENT NAME (8 CHAR) X
ENVTTTL='SAMPLE TEST ENVIRONMENT', TITLE (40 CHAR) X
JRNLGRP=, PTR JOURNAL GROUP ID X
NEXTENV=(SMPLPROD,P), NEXT ENV/STG ID IN MAP (8,1) X
SMFACT=Y, SMF ACTIVITY OPTION (Y/N) X
SMFENV=Y, SMF ADMIN ACTION OPTION (Y/N) X
SMFSEC=Y, SMF SECURITY OPTION (Y/N) X
STG1ID='T', X
STG1NME='TEST', X
STG1PSAS=N, OM STOP AT STG (Y/N) X
STG1TTL='UNIT TEST', X
STG1VSM='CADEMO.ENDV.RUN.CSIQSRC', X
STG2ID='Q', X
```

Enable SMF Admin logging at the
Environment level in C1DEFLT

Optional: Admin Action Log Dataset

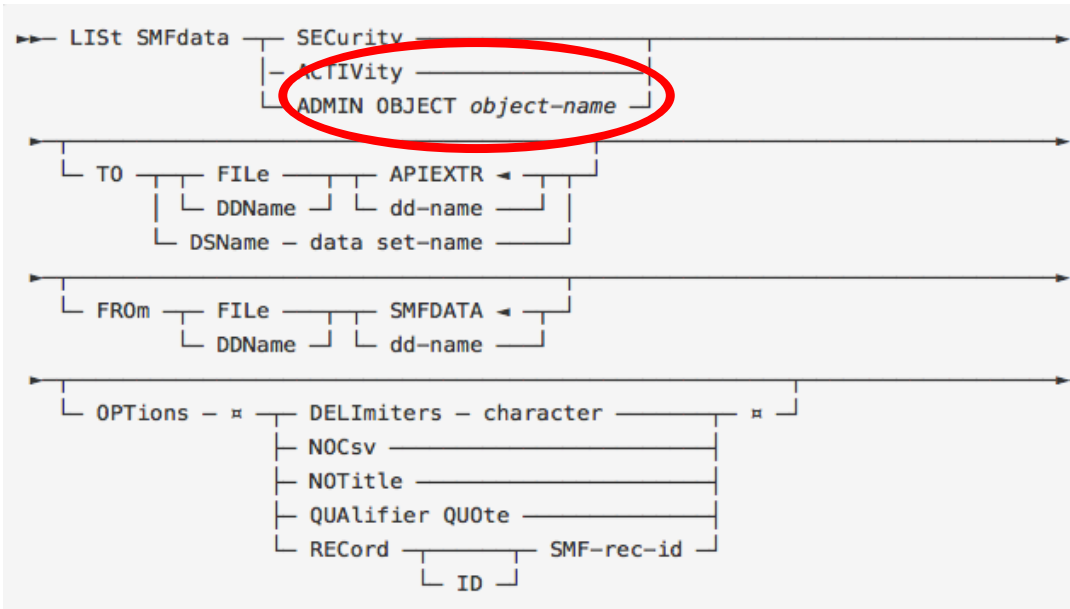
```
Menu  Utilities  Compilers  Help
-----
BROWSE      CADEMO.ENDV.RUN.CSIQSRC(C1DEFLT) - 01.1 Line 0000000013 Col 001 080
Command ===> Scroll ===> CSR
C1DEFLT TYPE=MAIN,
ACCSTBL=BC1TNEQU,      ACCESS SECURITY TABLE NAME
ACMROOT='CADEMO.ENDV.APPL.ACMROOT', ACMROOMT
ACMXREF='CADEMO.ENDV.APPL.ACMXREF', ACMXREF
ALOGDSN='CADEMO.ENDV.APPL.ALOGDSN', ADMIN LOG DATASET
APRVFLG=Y,             APPROVAL PROCESSING (Y/N)
ASCM=Y,                ACM CONTROL OPTION
AUTHTBLS=REQUIRED,    ALLOW|IGNORE
BATCHID=1,             FROM JOBNAME/USER=
CA7CCINODE=,           SPACE NODE (CAICCI)
CA7JCLDSN=,            CA7JCLID/CA7JCLLIB DSNNAME
-----
```



Optionally specify a login dataset
(in addition to SMF log)

DSORG=PS,RECFM=VB,LRECL=3000,BLKSIZE=27988,...

List SMF Admin Action Data



Object Types:

APPRGRP, APPRREL,
PROCGRP, PROCSYM,
SYSTEM, SUBSYS, TYPE,
TYPEDSN, DEST, DSNMAP,
USSMAP, and CLONE

List SMF Admin Action Data (raw)

```
File Edit Edit Settings Menu Utilities Compilers Test Help
VIEW PUBLIC.QAPRS335.CSV.TYPE Columns 00001 00124
Command ==> Scroll ==> CSR
***** Top of Data *****
000001 "RCD TYPE" "SMF REC ID" "UPDT DATE" "UPDT TIME" "CPU ID" "UPDT USRID" "ADM OBJECT" "ADM FUNCTION" "SITE ID" "ENV NAME" "SMF
000002 "E" "222" "2017/06/14" "13:37:54:24" "CA31" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "ASMMAC" "ASMMAC" "TYPE FOR MACR
000003 "E" "222" "2017/06/14" "13:37:54:62" "CA31" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "ASMMAC" "ASMMAC" "TYPE FOR MACR
000004 "E" "222" "2017/06/14" "13:37:55:29" "CA31" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "TEXT" "TEXT" "TEXT LIBRARY" "N
000005 "E" "222" "2017/06/14" "13:37:55:59" "CA31" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "TEXT" "TEXT" "TEXT LIBRARY" "N
000006 "E" "222" "2017/06/14" "13:37:57:20" "CA31" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "TEXTFIX" "TEXTFIX" "fixed TEXT
000007 "E" "222" "2017/06/14" "13:37:57:45" "CA31" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "TEXTFIX" "TEXTFIX" "FIXED TEXT
000008 "E" "222" "2017/02/23" "10:45:49:22" "CA11" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "ASMMAC" "ASMMAC" "TYPE FOR MACR
000009 "E" "222" "2017/02/23" "08:09:04:35" "CA11" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "ASMMAC" "ASMMAC" "TYPE FOR MACR
000010 "E" "222" "2017/02/13" "08:09:04:92" "CA11" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "TEXT" "TEXT" "TEXT LIBRARY" "N
000011 "E" "222" "2017/02/13" "08:09:05:32" "CA11" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "TEXT" "TEXT" "TEXT LIBRARY" "N
000012 "E" "222" "2017/02/13" "08:09:05:56" "CA11" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "TEXTFIX" "TEXTFIX" "fixed TEXT
000013 "E" "222" "2017/02/13" "08:09:07:33" "CA11" "GIFRM01" "TYPE" "DEFINE" "0" "ENV1" "S" "ADM1" "TEXTFIX" "TEXTFIX" "FIXED TEXT
000014 "E" "222" "2017/02/13" "08:14:15:21" "CA11" "RICAR01" "TYPE" "DELETE" "0" "ENV1" "E" "ADM3CLON" "ASMMAC" "ASMMAC" "TYPE FOR
000015 "E" "222" "2017/02/13" "08:14:16:04" "CA11" "RICAR01" "TYPE" "DELETE" "0" "ENV1" "E" "ADM3CLON" "TEXT" "TEXT" "TEXT LIBRARY"
000016 "E" "222" "2017/02/13" "08:14:18:89" "CA11" "RICAR01" "TYPE" "DELETE" "0" "ENV1" "E" "ADM3CLON" "TEXTFIX" "TEXTFIX" "FIXED T
000017 "E" "222" "2017/02/13" "08:14:33:21" "CA11" "RICAR01" "TYPE" "DELETE" "0" "ENV1" "E" "ADM3CLON" "ASMMAC" "ASMMAC" "TYPE FOR
000018 "E" "222" "2017/02/13" "08:14:33:85" "CA11" "RICAR01" "TYPE" "DELETE" "0" "ENV1" "E" "ADM3CLON" "TEXT" "TEXT" "TEXT LIBRARY"
000019 "E" "222" "2017/02/13" "08:14:34:52" "CA11" "RICAR01" "TYPE" "DELETE" "0" "ENV1" "E" "ADM3CLON" "TEXTFIX" "TEXTFIX" "fixed T
***** Bottom of Data *****
```

In View mode, data is hard to read, columns don't line up, it's hard to find the column header etc.

List SMF Admin Action Data (Column-ised)

File Edit Edit_Settings Menu Utilities Compilers Test Help

VIEW PUBLIC.QAPRS335.CSV.TYPE

Columns 000 Not CSV

Command ==> ColmEyes

Scroll ==> CSR

***** Top of Data *****

000001	RCD	TYPE	SMF REC ID	UPDT DATE	UPDT TIME	CPU ID	UPDT USRID	ADM OBJECT	ADM FUNCTION	SITE ID	ENV NAME	SMF WRITER	SYS NAME	T
000002	E		222	2017/06/14	13:37:54:24	CA31	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	A
000003	E		222	2017/06/14	13:37:54:62	CA31	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	A
000004	E		222	2017/06/14	13:37:55:29	CA31	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	T
000005	E		222	2017/06/14	13:37:55:59	CA31	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	T
000006	E		222	2017/06/14	13:37:57:20	CA31	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	T
000007	E		222	2017/06/14	13:37:57:45	CA31	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	T
000008	E		222	2017/02/23	10:45:49:22	CA11	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	A
000009	E		222	2017/02/23	10:45:49:69	CA11	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	A
000010	E		222	2017/02/23	10:45:50:31	CA11	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	T
000011	E		222	2017/02/23	10:45:50:59	CA11	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	T
000012	E		222	2017/02/23	10:45:52:57	CA11	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	T
000013	E		222	2017/02/23	10:45:52:90	CA11	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	T
000014	E		222	2017/02/13	08:09:04:35	CA11	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	A
000015	E		222	2017/02/13	08:09:04:92	CA11	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	A
000016	E		222	2017/02/13	08:09:05:32	CA11	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	T
000017	E		222	2017/02/13	08:09:05:56	CA11	GIFRM01	TYPE	DEFINE	0	ENV1	S	ADM1	T
000018	E									0	ENV1	S	ADM1	T
000019	E									0	ENV1	S	ADM1	T
000020	E									0	ENV1	E	ADM3CLON	A
000021	E									0	ENV1	E	ADM3CLON	T
000022	E		222	2017/02/13	08:14:33:18	CA11	RICAR01	TYPE	DELETE	0	ENV1	E	ADM3CLON	T
000023	E		222	2017/02/13	08:14:33:21	CA11	RICAR01	TYPE	DELETE	0	ENV1	E	ADM3CLON	A
000024	E		222	2017/02/13	08:14:33:85	CA11	RICAR01	TYPE	DELETE	0	ENV1	E	ADM3CLON	T
000025	E		222	2017/02/13	08:14:34:52	CA11	RICAR01	TYPE	DELETE	0	ENV1	E	ADM3CLON	T

***** Bottom of Data *****

Simply invoke the COLMEYES edit macro and the "," sequences are converted to vertical bars, and each column is reformatted to it's maximum width making it much easier to read...

Admin Action Log Dataset

File Edit Edit_Settings Menu Utilities Compilers Test Help

VIEW CADEMO.ENDV.APPL.ALOGDSN Columns 00011 00124

Command ==> Scroll ==> CSR

=====+-----2-----+-----3-----+-----4-----+-----5-----+-----6-----+-----7-----+-----8-----+-----9-----+-----0-----+-----1-----+-----2-----

***** Top of Data *****

000001 DE25 SMPLTESTOCLEO01 Ø UPDATE TYPE 0SMPLTESTT1E2016062915072216CADEMO.ENDV.APPL.SMPLTEST.MC

000002 DE25 SMPLPRODDAMJO02 UPDATE APPRGRP 0SMPLPROD E2016080807411478CADEMO.ENDV.APPL.SMPLEMER.MC

000003 DE25 SMPLPRODDAMJO02 UPDATE APPRGRP 0SMPLPROD E2016080807413763CADEMO.ENDV.APPL.SMPLEMER.MC

***** Bottom of Data *****

System

Environ

UserId

Action

Rec Typ

Rec Data

One record per admin action, Create, Update, Delete...

Audit Control Options & Guidelines

CA Endevor v18 Feature Review

- ESI (External Security Interface) enhanced to allow security permission rules to control Alter Action metadata updates (i.e. prevent processor group changes)

External Security Interface for Alter Action – Enable...

```
NAMEQU ACTION_INITIATION,  
    CLASS='DATASET',  
    WARN=NO, (DEFAULT)  
    LOG=NONE,  
    L1=( 'C1' ),  
    L2=(ENVIRONMENT),  
    L3=(SYSTEM),  
    L4=(SUBSYSTEM),  
    L5=(MENUITEM)
```

```
NAMEQU ACTION_INITIATION,  
    CLASS='DATASET',  
    WARN=NO, (DEFAULT)  
    LOG=NONE,  
    L1=( 'C1' ),  
    L2=(MENUAUTH),  
    L3=(ALTERFLD)
```

Note: for non-alter actions, the ALTERFLD node is not expanded to allow compatibility with existing rules

External Security Interface for Alter Action – Trace...

```
NAMEQU ACTION_INITIATION,  
  CLASS='DATASET',  
  WARN=NO, (DEFAULT)  
  LOG=NONE,  
  L1=('C1'),  
  L2=(ENVIRONME  
  L3=(SYSTEM),  
  L4=(SUBSYSTEM  
  L5=(MENUITEM)
```

```
NAMEQU ACTION_INITI  
  CLASS='DATASE  
  WARN=NO, (DE  
  LOG=NONE,  
  L1=('C1'),  
  L2=(MENUAUTH)  
  L3=(ALTERFLD)
```

```
ENCS101I Entity=C1.ENVIRON.SMPLPROD  
ENCS101I User OCLE001 access is allowed from SAF in WARN mode  
ENCS101I RACROUTE RC=0000 RACHECK RC=0000 Reason=0000  
ENCS101I Format=0004 Pass=0000 Auth=ALTR ACEE=00000000 C1BM4210 XALTRUTN+005A6E  
ENCS101I Class=DATASET Log=NONE Func=ALTER  
ENCS101I Scale=0....+....1....+....2....+....3....+....4....+....5....+....6  
ENCS101I Entity=C1.SMPLPROD.FINANCE.ACCTPAY.ALTER  
ENCS101I User OCLE001 access is allowed from SAF in WARN mode  
ENCS101I RACROUTE RC=0000 RACHECK RC=0000 Reason=0000  
ENCS101I Format=0005 Pass=0000 Auth=ALTR ACEE=00000000 C1BM4210 XALTRUTN+005A6E  
ENCS101I Class=DATASET Log=NONE Func=ALTER  
ENCS101I Scale=0....+....1....+....2....+....3....+....4....+....5....+....6  
ENCS101I Entity=C1.ALTER.ALTRDES  
ENCS101I User OCLE001 access is allowed from SAF in WARN mode  
ENCS101I RACROUTE RC=0000 RACHECK RC=0000 Reason=0000  
ENCS101I Format=0004 Pass=0000 Auth=ALTR ACEE=00000000 C1BM4210 XALTRUTN+005A6E  
ENCS101I Class=DATASET Log=NONE Func=ALTER  
ENCS101I Scale=0....+....1....+....2....+....3....+....4....+....5....+....6
```

Note: Both Action_Initiation rules are fired for each field that is being altered...

Audit Control Options & Guidelines

CA Endevor v18 Feature Review

- IT Audit Guidelines for Endevor article with accompanying video

IT Audit Guidelines (now with Video)

CA Endeavor® SCM - 18.0

Documentation powered by DocOps



Search and Replace Element Text
Strings and Component List
Output Data Set Names

ELIB Data Sets

Unload, Reload, and Validate

Unused Processor Symbolic
Overrides Utility

Catalog Utilities

CCIDs and Comments for
Product Management

Using Element Registration

Site Symbolics

SMF Recording

BSTPCOMP for Comparing
Members or Files

BC1PFUPD Creates IEBUPDTE
Control Statements

BSTXCOPY Utility Copies
Between Load Libraries

CONCALL Utility Invokes
Programs from Non-authorized
Libraries

Expand Includes Utility

Library Conversion Utilities for
CA Panvalet or CA Librarian

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IT Audit Guidelines

Last update March 10, 2017

An IT Audit of CA Endeavor SCM evaluates whether b
with this article.

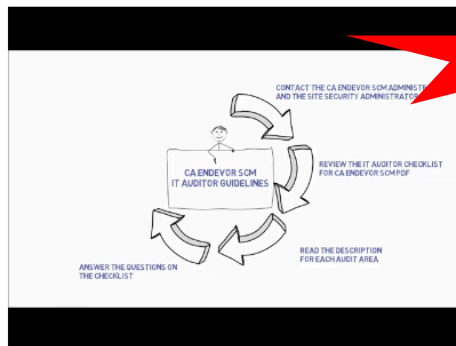
- How to Perform an IT Audit of CA Endeavor SCM
- Report Resources for an IT Audit
- Best Practices for Data Security and Integrity
- Data Set and Action Authorization Security
- Control of Administrator Files and Privileged A
- System Management Facility (SMF) Recording
- Backup and Recovery
- Package Facility
- Footprint Synchronization
- User Exits
- Change Control Identifiers (CCIDs) and Com
- Element Registration

Watch PDF EPUB Versions Language

Generally, the purpose of an IT audit is to evaluate whether CA Endeavor SCM is safeguarding assets and maintaining data integrity. The target audience for this article and its companion video is the role of the IT auditor. However, the information presented in this documentation provides a benefit to the wider audience that wants to understand CA Endeavor SCM best practices for data security and integrity, how they are implemented through product configuration, and how to verify their implementation and use.

- The video provides an overview of the recommended IT audit procedure. It also describes best practices for data security and integrity and explains why they are important.
- The article describes the audit procedure and best practices in further detail, along with how to verify that the best practices are implemented and used as recommended. A checklist is provided to help the auditor determine whether best practices are being followed. The checklist can also serve to record the results of an audit.

View the IT Audit Guidelines video here:




New


<https://docops.ca.com/ca-endeavor-SCM/18/en/administrating/it-audit-guidelines>

IT Audit Guidelines (Checklist)


Auditors+checklist.pdf



1



2



3

IT Auditor Checklist for CA Endevor SCM

Note: In the status column, the number of exclamation marks (!) indicates the value of the item to the audit, where !!! is critical and !! is important.

Data Set Security

Value (Critical/Important)	Audit Question	Where to verify the setting or usage	Recommended setting or usage	Found setting or usage if different from recommendation
!!!	Is the Alternate ID enabled?	CDCLTS table Type=MAIN section	ACCLD=alternateID=none	
!!!	If used, is the Alternate ID enabled for USS files and directories?	ENCOPTRL, Options table	ENABLE_ALTID_USS_SECURITY=ON=yes Enables Alternate ID support for UNIX USS files.	
!!!	Verify with the security administrator that the security software profiles protect the CA Endevor SCM data sets and that update authority has been granted to the Alternate ID for those libraries.	Security administrator		
!!!	Is the alternate ID enabled for internal reader jobs?	ENCOPTRL, Options table	INTRD_ALTID=y	
!!!	Is the Alternate ID enabled for the Package Ship feature?	ENCOPTRL, Options table	PACKAGE_SHIP_WITH_ALTID=y	
!!!	Is the alternate ID turned off for Exits and Package Exits?	exit table CUEXITS parameter USS_ALTID=	USE_ALTID=N indicates that the alternate ID is turned off. USE_ALTID=Y indicates that the alternate ID is used to access data sets, but switches back to the user ID for all other processing during the exit. USE_ALTID=+ indicates that the alternate ID is used to access data sets and for all other processing during the exit, so that your internal reader jobs are submitted under the alternate ID.	
!!!	Is the alternate ID turned off in processors?	Processor JCL EXEC statement	ALTID=N indicates that the alternate ID is turned off for this processor.	
!!!	Is the alternate ID turned off for DB2?	DB2 is in use, review with the administrator.		

Action Authorization (Functional) Security

Value (Critical/Important)	Audit Question	Where to verify the setting or usage	Recommended setting or usage	Found setting or usage if different from recommendation
----------------------------	----------------	--------------------------------------	------------------------------	---

<https://docops.ca.com/ca-endavor-SCM/18/en/files/361531701/394444685/1/1486583096874/Auditors+checklist.pdf>

Streamlined Processes for Concurrent Development

CA Endeavor v18 Feature Review

- Endeavor Sandbox Processors refreshed
 - Alternate ID used for Define (and Delete) Sandbox Subsystem Processor Steps
- New Endeavor Processor JCL DD parameter ALLOC=COND
 - Provides capability to “tell” Endeavor that some Processor data sets are optional
 - Makes sharing Processors across Applications (Systems, Subsystems) easier – fewer Processors to maintain
- New “How to Configure Endeavor for Concurrent Development” article
 - Provides why, and how you can set up Endeavor to facilitate concurrent development work with Sandboxes at your site

Processor CONDitional Allocates

```
//DD1 DD DSN=NDVQAS.&C1SY..&C1SU..&C1EN(1,1) &C1S#...&LIB,  
//      DISP=SHR,ALLOC=(LMAP,COND)  
//DD2 DD DSN=NDVHLQ.&C1SY..&C1SU..&C1EN(1,1) &C1S#...&LIB,  
//      DISP=OLD,ALLOC=(COND,PMAP)  
//DD3 DD DSN=TEST.DATASET3,DISP=SHR,ALLOC=(COND)  
//      DD DSN=TEST.DATASET4,DISP=OLD,ALLOC=COND  
//      DD DSN=PROD.DATASET,DISP=OLD,ALLOC=NOCOND
```

"Map Based" conditional alloc

Include if found...

MUST be found...

Sample Informational Message & Processor Syntax Error:

```
C1A0015I ALLOC=COND DATA SET NOT ALLOCATED: DDNAME=DD3, DSN=TEST.DATASET4  
C1X0240I      3 //C1INIT01 DD DISP=(NEW,CATLG),ALLOC=COND,  
C1X0250E STMT 3      INVALID--"ALLOC=COND" PARAMETER REQUIRES DISP=SHR/OLD
```

New datasets can't be conditional!

Most common use case – make low level libraries, sandpit datasets optional...

Processor CONDitional Allocates

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
TESTDD TO: SUPNDVR/3/ADMIN/ADMIN/PROCESS Columns 00001 00080
Command ==> Scroll ==> CSR
000001 //*****
000002 //*
000003 //* Test processor to show how new alloc=cond keyword can
000004 //* be used along with a utility to test DD status
000005 //* to build conditional step execution.
000006 //*
000007 //* In Brief - the TESTDDNM utility takes a single parameter,
000008 //* the name of a DD to be tested. It sets RC based on;
000009 //* RC:1 Means that the DDname was allocated
000010 //* RC:0 Means that the DDname was not allocated
000011 //* RC:12 invalid Parm (e.g. too long)
000012 //*
000013 //* When combined with ALLOC=COND processor keyword the processor
000014 //* can test whether a dataset or ddname is allocated and
000015 //* react accordingly. The dataset can be passed in a
000016 //* variable/symbol (e.g &C1COMMENT) or hard coded. If the
000017 //* dataset is not catalogued (or is invalid) info messages
000018 //* are written to the log, but it does not cause the processor
000019 //* toabend/exit.
000020 //*
000021 //*****
-- -- -- -- --
000063 //TESTDSN EXEC PGM=TESTDDNM, PARM='ALLOCD S'
000064 //STEPLIB DD DISP=SHR,DSN=BST.QA.BERNIE.CSIQLOAD
000065 //ALLOCD S DD DISP=SHR,DSN=BST.QA.BERNIE.CSIQLOAD.NOTFND,ALLOC=COND
000066 //RUTHERE DD *
000067 THIS TEST SHOULD GET RC:00 ALLOCATED DS IS FOUND NOT FOUND
000068 /*
000069 //*****
000070 //* Sample conditional execution steps testing the RC from prior...
000071 //*****
000072 //IFON IF TESTDSN.RC = 0 THEN
000073 //SENDMSG EXEC PGM=IEFBR14,PARM='RC OF ZERO FROM NOT FOUND TEST'
000074 //IFON ENDIF
-- -- -- -- --
***** ***** Bottom of Data *****

```

Set RC based on whether a dataset exists (is catalogued or not) and then conditionally execute a step...

52 Line(s) not Displayed

Concurrent Development Process (Sandboxes)

CA Endevor® SCM - 18.0

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Search this product



+ Package Administration

Perform a Best Practice Implementation

Performance and Maintenance Best Practices

Performance and Tuning

Point in Time Recovery

Search and Replace Element Text Strings and Component List Output Data Set Names

ELIB Data Sets

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Unused Processor Symbolic Overrides Utility

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BC1PFUPD Creates IEIBUPDTE Control Statements

BSTXCOPY Utility Copies Between Load Libraries

CONCALL Utility Invokes Programs from Non-authorized Libraries

Expand Includes Utility

Library Conversion Utilities for CA Panvalet or CA Librarian

Load Utility

Trace Facilities

- Concurrent Development Configuration

Deploy for Test Sandbox Creation

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Concurrent Development Configuration

Last update March 6, 2017

Sandbox Subsystems facilitates concurrent development, which supports agile development.

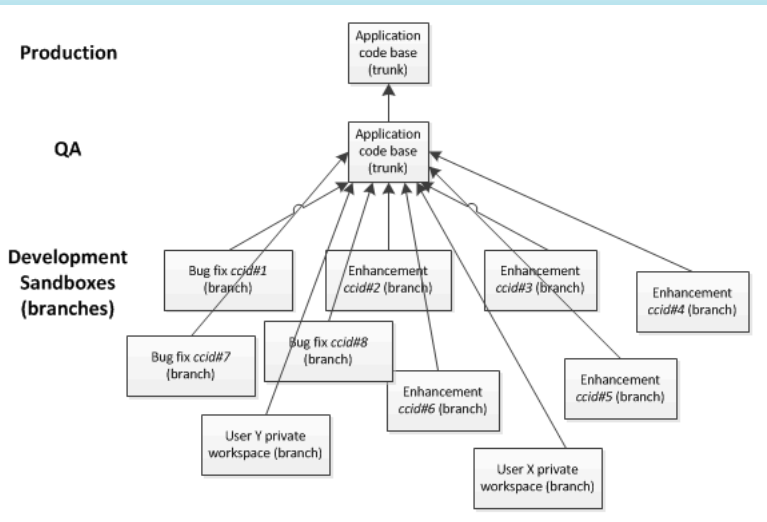
- [Agile Development Using Code Branches](#)
- [Modify an Application in Production](#)
- [Resolve Conflicting Changes](#)
- [Configure CA Endevor SCM for Concurrent Development](#)
 - [Requirements](#)
 - [Recommendations](#)
- [Create a Type Sandbox](#)

Agile Development Using Code Branches

The Agile software development methodology enables rapid and flexible response and requires that the application code base (trunk) always exists in a buildable state changes in code branches. With CA Endevor® SCM, code branches are implemented: a sandbox serves as a branch, that is, a separate development work area that maps to the CA Endevor SCM sandbox development method for concurrent development.

After the user creates a sandbox for a project, they copy the Elements that require generated, the generate processor automatically uses (concatenates) the unchanged processor creates an executable form of the Element, together with any associated application trunk stable.

In the following graphic, three branches (development sandboxes) map to an application trunk to support concurrent development.



[//docops.ca.com/ca-endevor-SCM/18/en/administrating/concurrent-development-configuration](https://docops.ca.com/ca-endevor-SCM/18/en/administrating/concurrent-development-configuration)

Streamlined Processes for Concurrent Development

CA Endeavor v18 Feature Review

- Deploy for Test feature –
 - Using Endeavor Sandboxes to provide your developers for extended testing
 - Extension to Sandbox implementation
 - Administrator can define one to “n” Test location Sandboxes (a one-time type of task)
 - Typically use-cases are CICS or DB2 subsystems, specific level of testing – integration, acceptance, model office)
 - Developers –
 - Specify “DT” comand From Quick Edit Element selection list
 - Select Test Location (Sandbox) from Deploy for Test Panel, refine Element selection, Package options
 - DT automatically builds Package Transfer actions for selected Elements
 - Developer executes Package to populate Test Sandbox
 - Move Processor populates Test Sandbox execution libraries by copying executables – (can be later Shipped)

Deploy to Test

- Select a target to Deploy to (next subsys: "DEPLOY4T")
- Option
 - Deploy
 - Cleanup
 - Report
- Deploy options:
 - Automatic Package Name
 - Optionally select elements
 - [optional] approval

```

----- Deploy for Test -----
Command ==> _____ Target Selected...
                                Scroll ==> CSR
                                More: +
Target... CICSTST3 (Enter/Pick Target from list)
Action... DEPLOY (Deploy/Cleanup/Report)
CCID.... OCLE001
Comment.. Deploy to test CICS T3

Package Options:
Name... X#RFNL0238920501 For 9 Elements:
Cast..... Y (Y/N) Select Elements.... N (Y/N)
Validate.... Y (Y/N) Override Signout... N (Y/N)
Execute..... N (Y/N) Signout to.....

Complete the JOB card info and press ENTER to submit
or press END to CANCEL.

//OCLE001S JOB (108400000),'ENDEVOR ISREDDHI ',
// NOTIFY=&SYSUID,TYPRUN=SCAN
//*
//*

Target Description (Move the cursor and press ENTER to select)
-----
CICSQTST CICSQTST SANDBOX SUBSYSTEM
CICSTEST CICSTEST SANDBOX SUBSYSTEM
CICSTST1 CICSTST1 SANDBOX SUBSYSTEM
CICSTST2 CICSTST2 SANDBOX SUBSYSTEM
CICSTST3 CICSTST3 SANDBOX SUBSYSTEM
EOINV Long SubSystem Description-(50)---+---4---+---5
NEWTST2 NEWTST2 SANDBOX SUBSYSTEM
TRICKLE1 TRICKLE1 SANDBOX SUBSYSTEM
TRICKLE2 TRICKLE2 SANDBOX SUBSYSTEM
    
```

Deploy to Test /contd.

Element Selection

- Select or Un-select
- Primary command, select all...

```
----- Element Selection List ----- Select Elms for Deploy
Enxdeploy SMPLPROD/CATSNDVR/BUNDLE/*/BUNDLE Package: X#RFNL0238920501
Command ==> _____ Scroll ==> CSR

Element Options:      Select Element names to process and then
  S Select          U Un-Select      Press END to Submit, or CANCEL to Exit.

-----
```

Element	+ Message	Type	Environ	Sta	System	Subsys	WLL	ProcGrp	UserID	NDRC	PRRC	Signout	CCID	NS
— Long Spacey Eleme +		CFG	SMPLTEST	T	CONCURNT	#0000004	0100	*NOPROC*	OCLE001	0000		OCLE001		
— LongElementName		CFG	SMPLTEST	T	CONCURNT	#0000004	0100	*NOPROC*	OCLE001	0000		OCLE001		
— PG000041		COBOL	SMPLTEST	T	CONCURNT	#0000004	0102	BATCH	WALJ011	0000	0004	WALJ011	DEMO	
— PG000042		COBOL	SMPLTEST	T	CONCURNT	#0000004	0102	BATCH	WALJ011	0000	0004	WALJ011	DEMO	
— PG000043		COBOL	SMPLTEST	T	CONCURNT	#0000004	0101	BATCH	WALJ011	0000	0004	WALJ011	DEMO	
— PG000044		COBOL	SMPLTEST	T	CONCURNT	#0000004	0100	BATCH	WALJ011	0000	0004	WALJ011	OLDWAY	
— PG000046		COBOL	SMPLTEST	T	CONCURNT	#0000004	0100	BATCH	WALJ011	0000	0004	WALJ011	OLDWAY	
— PG000047		COBOL	SMPLTEST	T	CONCURNT	#0000004	0100	BATCH	WALJ011	0000	0004	WALJ011	OLDWAY	
— PG000048		COBOL	SMPLTEST	T	CONCURNT	#0000004	0100	BATCH	WALJ011	0000	0004	WALJ011	OLDWAY	

```
-----
```

Web Services-related Improvements

CA Endeavor v18 Feature Review

- Reduce errors and wasted time by making Endeavor Web Services configuration more bullet-proof with enhanced validation of chosen configuration options
- Reduce (eliminate) unexpected downtime by using the Endeavor Web Services Installation validation “echo” utility program to confirm the distributed end point-to-mainframe end point is flowing properly BEFORE going “live”

Validation utility for of Endeavor Web Services (enwscv.zip)

```
C:\Users\ocleo01\enwscv>java -jar enwscv.jar -url http://mvsde25.ca.com:19025 -i ENDVENWS -u ocleo01 -v
CA Endeavor SCM - Web Services Validator, 18.0.0, CA Technologies, 2015

Used parameters:
URL:          http://mvsde25.ca.com:19025
User name:    ocleo01
Endevor Instance:  ENDVENWS
-----

Missing password - you will be required to enter password from command line.
>> Enter the password:
>>Testing server's availability...
>>Host is available
>>Requesting list of available Endeavor instances...
>>Request url: http://mvsde25.ca.com:19025/EndevorService/rest/
>>Response code: 200 OK
>>Number of found instances: 2

>>Validating instance #: 1
-----
--      Endeavor Instance - basic information
-----
Name:          ENDVENWS
Description:    Endeavor demo on MVSDE25 (Demo)
Status:        Available
Job Name:      ENDVENWS
Host Name:     DE25TAMI
-----

>>Initiating request for Listing Systems...
>>Request url: http://mvsde25.ca.com:19025/EndevorService/rest/ENDVENWS/*//*/*
>>Response code: 200 OK
>>That took 1611 milliseconds
>>List System - base information
--> Siteid > Environment > Stage id > System > title
--> 0 > SMPLEST > TEST > FINANCE > FINANCIAL APPLICATIONS
--> 0 > SMPLEST > QA > FINANCE > FINANCIAL APPLICATIONS
--> 0 > SMPLEST > TEST > FINANCEP > FINANCIAL APPLICATIONS for parallel development
```

Miscellaneous enhancements

CA Endeavor v18 Feature Review

- Endeavor's ISPF Changes Panel
 - Provides (hot) link to Endeavor's product documentation
- Incremental Delivery PTF & Release Identifier
 - End-of-Sprint review feedback from our validation partners – “too many feature PTFs – need a way to group them and reference them”
 - Solution – continue to publish each feature deemed ready individually
 - When all feature PTFs are published, roll up into a single “Incremental Delivery” PTF
 - Also include all previously published feature PTFs and fix PTFs
 - Then label it VV.R.xx (where xx) is the Increment Delivery sequence number
 - 18.0.04 18.0.05 18.0.09
 - Prominently display the release identifier on screens and reports
 - Benefit – instantly bring your Endeavor implementation up to date by installing an Incremental PTF

Endevor ISPF “Changes” panel

```
----- CA Endevor SCM - New Features -----
Option ==>
Page 1 of 3

These panels provide information about features and enhancements
introduced in CA Endevor SCM Version 18

Enter one of the following options for more information:      Increment:

1 - Product Interfaces and Obsolete Feature Removal          18.0.00
2 - APPROVER_DISQUALIFIED Site-Wide Optional Feature         18.0.04
3 - Element Action SCL Syntax Allows Blanks in Element and USS Names 18.0.04
4 - Alter Action Field Level Security Enhancement             18.0.04
5 - Web Services Configuration Enhancements                  18.0.04
6 - Disqualification Option for Approver Group Definition     18.0.04
7 - SMF Recording/Monitoring for Admin Action Activity        18.0.05
8 - Conditional Allocation of Processor Data Sets              18.0.06
9 - ISPF Long-Named Element Support                           18.0.07
10 - Eclipse-Based UI Package View                            18.0.07

See the CA Endevor SCM documentation at http://docops.ca.com/Endevor
for detailed information

(Press ENTER for more options or END to exit)
```

Incremental Delivery PTF

```
----- CA Endeavor SCM Version 18.0.06 -----
OPTION ==>

0  DEFAULTS      - Specify product ISPF default parameters
1  DISPLAY      - Perform display functions
2  FOREGROUND   - Execute foreground Actions
3  BATCH        - Perform batch action processing
4  ENVIRONMENT  - Define or modify environment information
5  PACKAGE      - Perform foreground package processing
6  BATCH PACKAGE - Perform batch package SCL generation
U  USER MENU    - Display user option menu
T  TUTORIAL     - Display product tutorial
C  CHANGES     - Display summary of changes for the current release
```

Endeavor Incremental Release level

```
...+...10...+...20...+...30...+...40...+...50...+...60...+...70...+...80...+...90...+...100...+...110...+...12
CA Endeavor SCM Version 18.0.06 Copyright (C) 1986-2015 CA. All Rights Reserved. 08/31/16 12:59:06 P
*** CADEMO.ENDV.RUN.CSIQSRC(C1DEFAULTS) *** CA Endeavor SCM
```

C1BR2000: INPUT PARAMETERS:

```
REPORT 02 .
ENVIRONMENT SMPLPROD .
STAGE T .
DAYS 7 .
```

C1BR2000: SELECTION SUMMARY:

```
REPORT(S) : 02
EXTRACT(S) :
ENVIRONMENT : SMPLPROD
SYSTEM : *****
SUBSYSTEM : *****
TYPE : *****
STAGE : T
```

```
C1BR2000: E002 ENVIRONMENT SMPLPROD AND/OR STAGE ID T ARE NOT DEFINED
ELEMENT : *****
DAYS : 00007
```

Endeavor Incremental Release level

Miscellaneous enhancements

CA Endeavor v18 Feature Review

- **Footprint Source Output Member with Generate timestamp**
 - This option addresses the Package Element component validation conflict that can be caused when input component Footprints are updated when they are promoted (Moved) and re-Footprinted at the target location)
- **CA Endeavor Integration for the Natural Environment (CA Endeavor INE)**
 - Various miscellaneous enhancements were introduced for the EINE product user interface (EINE provides integration of Software AG's Natural product with Endeavor)
- **CA Application Lifecycle Conductor Compatibility**
 - End-to-end DevOps – Endeavor can be configured to log Package Action activity so the the web hook server component, that is distributed with CA ALC, can pick up the activity information and publish it to product interfaces that have registered to receive the Endeavor activity data
- **List Packages by Approver ID with the Comma Separated Value Utility**
 - Used by Endeavor Eclipse UI to provide Package Approvers with a list of Packages awaiting their approval

CA Endevor® SCM Sandbox Implementation Overview

June 2017

Sandbox value and Subsystem Implementation

- Isolated Developer Work & Test Areas
 - Can code/test changes without impacting other peoples' work
- Support for Concurrent Development
 - Separate Sandboxes can (should) be used for each new feature (or fix)
 - No unintentional dependencies created (as happens with shared development areas)
- Common Generate & Delete Processors used to create / remove Sandboxes
 - Add Element placeholder to “Sandbox” Type
 - Generate Processor defines/maps Sandbox Subsystem also creates Base, Processor Output libraries
 - Delete Sandbox Element placeholder
 - Delete Processor deletes Base, Processor Output libraries and deletes Sandbox Subsystem
- Existing Generate, Delete and Move Processors can be used for development Sandboxes

Sandbox Implementation Considerations

- Uses Subsystem name for Sandbox Name in Development Environment
 - Sandbox Name = Subsystem Name, NEXT SUBSYSTEM = actual Subsystem
 - Actual Subsystems can have 1-n sandboxes associated to them
- Data set naming conventions required
 - Allows Processors (both Sandbox and regular Type (i.e. COBOL) to be shared
- “Shared” Sandbox can be used to manage shared copy members, programs
- Above may require some one-time Endevor implementation adjustments
- Automation bonus – Delete Processor (executed during production move) can be enhanced to automatically clean up (delete) Sandboxes (Delete Sandbox Element)

Sandbox foundation for additional benefits

- Concurrent Development – natural fit
 - Out-of-Sync alerts sent to Sandbox Element Owners when other Sandbox work jumps ahead
 - Use manual edits, PDM, etc. to resolve out-of-sync issues in Sandbox
 - Package Component Validation used to ensure no regression errors – no surprises will occur
- Reduced “Bottleneck” exposure
 - Developers perform most of their testing with Sandbox/Deploy for Test libraries BEFORE promotion to QA
 - QA Environment used for QUICK application regression tests (automated tests!)
 - Ready to promote to Production as soon as regression tests completed
- V18 “Deploy for Test” feature works well with Sandbox implementation
 - Copies Elements to “Test” Sandbox – Copies executables to predefined test libraries
 - Developer Sandboxes fit well with this model

A day in the life of a Sandbox

- Developer receives work assignment (CCID / Package ID)
 - Creates Sandbox – Add Element P123832 Type Sandbox to System ACCT/FINREC
 - Creates/Maps P123832 Subsystem and Endevor data sets (hlq.ACCT.P123832.D1.COBOLO, etc.)
- Developer makes changes in P123832 Sandbox
 - Specifies ACCT as System, P123832 as Subsystem
 - Mapping makes production ACCT/FINREC Elements visible
- When work complete, promotes all Elements promoted to D2 in ACCT/P123832
- Can use Deploy for Test to send all P123832 Elements to selected Test Sandbox
- When ready, Package P123832 created to promote Elements from Sandbox to QA
 - Recommend use of Promotion Packages
- Promotion to Production also performs Delete of Sandbox Element (for clean-up)

Concurrent Development Process (Sandboxes)

CA Endevor® SCM - 18.0

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Perform a Best Practice Implementation

Performance and Maintenance Best Practices

Performance and Tuning

Point in Time Recovery

Search and Replace Element Text Strings and Component List Output Data Set Names

ELIB Data Sets

Unload, Reload, and Validate

Unused Processor Symbolic Overrides Utility

Catalog Utilities

CCIDs and Comments for Product Management

Using Element Registration

Site Symbolics

SMF Recording

BSTPCOMP for Comparing Members or Files

BC1PFUPD Creates IEIBUPDTE Control Statements

BSTXCOPY Utility Copies Between Load Libraries

CONCALL Utility Invokes Programs from Non-authorized Libraries

Expand Includes Utility

Library Conversion Utilities for CA Panvalet or CA Librarian

Load Utility

Trace Facilities

- Concurrent Development Configuration

Deploy for Test Sandbox Creation

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Concurrent Development Configuration

Last update March 6, 2017

Sandbox Subsystems facilitates concurrent development, which supports agile development.

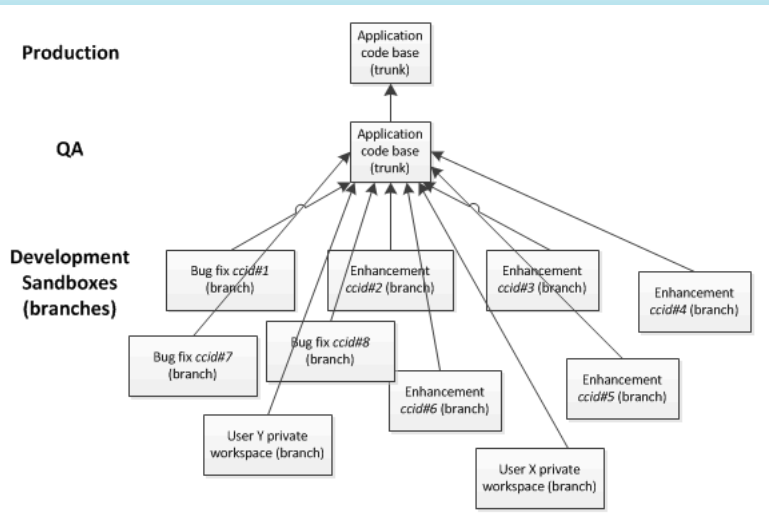
- Agile Development Using Code Branches
- Modify an Application in Production
- Resolve Conflicting Changes
- Configure CA Endevor SCM for Concurrent Development
 - Requirements
 - Recommendations
- Create a Type Sandbox

Agile Development Using Code Branches

The Agile software development methodology enables rapid and flexible response and requires that the application code base (trunk) always exists in a buildable state changes in code branches. With CA Endevor® SCM, code branches are implemented: a sandbox serves as a branch, that is, a separate development work area that maps to the CA Endevor SCM sandbox development method for concurrent development.

After the user creates a sandbox for a project, they copy the Elements that require generated, the generate processor automatically uses (concatenates) the unchanged processor creates an executable form of the Element, together with any associated application trunk stable.

In the following graphic, three branches (development sandboxes) map to an application trunk to support concurrent development.



[//docops.ca.com/ca-endevor-SCM/18/en/administrating/concurrent-development-configuration](https://docops.ca.com/ca-endevor-SCM/18/en/administrating/concurrent-development-configuration)



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