



**CBLi Interactive Environment  
Update Guide for MVS Systems**

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**This document may be downloaded from <http://www.cbl.com/cblidoc.html>**

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# CBLi Update Guide for MVS Systems

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## Documentation Notes

This document describes the steps required to update the CBLi (Interactive Environment) component of SELCOPY and CBLVCAT on an MVS system.

**CBLi Update Guide for MVS Systems** may be obtained from the CBL web pages at:

<http://www.cbl.com>

Related documentation including the **SELCOPY**, **CBLVCAT** and **CBLi** User Manuals and New Features are also available from this web site.

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## Section 01: Introduction

CBLi is eligible for install and update as part of the SELCOPY and/or CBLVCAT licence agreement.

This guide is intended as a supplement to the *CBL Software Install Guide for MVS Systems* and describes the procedure necessary for successful update of the CBLi component of SELCOPY/CBLVCAT on z/OS and OS/390. Please read it carefully and **contact CBL if you need help**.

It is assumed that a full CBL product install, as described in the *CBL Software Install Guide for MVS Systems*, has been successfully completed and that libraries, generated during the install process, have not been removed.

Throughout this update procedure, references are made to data sets with the prefix "&PREFIX". This refers to the MVS JCL symbol configured during the full product install to represent the high level qualifiers of the install target libraries and configuration data sets. The low level qualifiers used in this guide are those used at CBL.

The JCL symbol **PREFIX** and low level qualifiers are configured in the SETOPTS JCL library member at the start of the CBL software install process. The library &PREFIX..JCL including members SETOPTS and JOBCARD should already exist. If this is not the case, then a full CBL product install has not been actioned.

The target libraries and configuration data sets should be at least Read Only to all users of CBL software on your system.

## Section 02: Hardware Requirements

As part of the CBLi Update procedure for z/OS, the following target libraries and temporary data sets are created. The following table lists the minimum storage requirements for each generated data set.

Dataset Name	Org	RecFm	Block Size	Blocks	Dir Blocks
&PREFIX..PACK.CBLI%rel%	Seq	FB	22528	100	-
&PREFIX..PACK.SDEDATA	Seq	FB	22528	10	-
&PREFIX..UNPK.CBLI%rel%	Seq	VS	3620	3510	-
&PREFIX..CBLI.SDE.SAMP.F80	PDS(E)	FB	3120	10	1
&PREFIX..CBLI.SDE.SAMP.VAR	PDS(E)	VB	23476	2	1

## Section 03: CBLi Update Procedure

### Step 1: Copy Target Load Library to Distribution Library

This step is a repetition of section 4, step 28 of the full CBL product install procedure.

In order to be able to restore your existing version of CBLi, it is important to copy the existing load modules from your install target load library (&PREFIX..EXE) to your distribution load library (&PREFIX..EXE.LLD).

If this has not already been actioned, modify member &PREFIX..JCL(CBLINS15) as described in the comment data in the job and submit it to copy the contents of the target install load library &PREFIX..EXE to the already allocated, distribution library &PREFIX..EXE.LLD.

Check output &PREFIX..LST(LOADDIST).

### Step 2: Download and Unzip the CBL Software Bundle

The CBL software bundle is available to download from the CBL web site at:

<http://www.cbl.com/cblidl.html>

The download file is in a ZIP format which should be expanded using an unzip utility (e.g. PKZIP, WinZip, etc.) Extract the contents of the .zip file to a temporary directory. The following directories are included:

FileId	Description
CBL_yyyymmdd_CBLi_MVS.BIN	The CBLi Update binary bundle for MVS Platforms.
CBL_yyyymmdd_SDEData_MVS.BIN	The CBLi SDE Sample Data binary bundle for MVS Platforms.
CBLi_Update_MVS.PDF	This CBLi Update Guide.
CBLi_1.50_New_Features.PDF	New Features document for CBLi Rel 1.50
SDE_Manual.PDF	Structured Data Environment Manual. (New in CBLi 1.50)
Readme.TXT	Additional information. (e.g. Zaps created since distribution.)
CBLALL02	JCL to allocate MVS CBLi Update and SDE Sample binary data sets.
CBLUPD01	JCL to unpack (UNTERSE) the update binary.

### Step 3: FTP the Update Bundle and Job Stream to MVS

Use your local file transfer methods to import the following to your MVS system:

1. CBLALL02 and CBLUPD01 JCL job streams.  
FTP these to your existing &PREFIX..JCL library.
2. CBL\_yyyymmdd\_CBLi\_MVS.BIN update binary.  
This will be FTP'd to a new data set, &PREFIX..PACK.CBLi%rel%, where %rel% is the new release of CBLi (e.g. 150). This data set is allocated as new during the FTP upload. (LRECL=1024, RECFM=FB, BLKSIZE=22528)
3. CBL\_yyyymmdd\_SDEData\_MVS.BIN sample SDE data binary.  
This will be FTP'd to a new data set, &PREFIX..PACK.SDEDATA. This data set is allocated as new during the FTP upload. (LRECL=1024, RECFM=FB, BLKSIZE=22528)

In order to ensure that the binary bundles are properly allocated, one of the following should be executed before the binary files are transferred.

1. After uploading the CBLALL02 job stream, edit and modify the member as described in the comment data and submit the job to allocate the binary data sets.
2. Within the FTP session, execute the FTP SITE sub-command to define the default allocation parameters for uploading a new data set. (See example below which uses this technique.)  
i.e.

```
SITE LRECL=1024 RECFM=FB BLKSIZE=22528 BLOCKS PRIMARY=150 SECONDARY=20
```

Beware that, when using FTP client to transfer library members, then members of the same name that already exist in the library will be replaced without warning.

In the following example FTP session, PREFIX is set to 'SYSA.OEM.CBL', therefore, for upgrade to CBLi 1.50...

1. 'SYSA.OEM.CBL.JCL' is the CBL products & PREFIX..JCL library.
2. 'SYSA.OEM.CBL.PACK.CBLI150' is the CBLi update bundle to be allocated in MVS.
3. 'SYSA.OEM.CBL.PACK.SDEDATA' is the CBLi SDE sample data bundle to be allocated in MVS.

'c:\tmp\cbl' is the PC directory that contains the CBLi update files listed in Step 2.

```
ftp> cd 'SYSA.OEM.CBL.JCL'
      250 The working directory "SYSA.OEM.CBL.JCL" is a partitioned data set
ftp> lcd c:\tmp\cbl
      Local directory now C:\tmp\cbl.
ftp> ascii
      200 Representation type is Ascii NonPrint
ftp> put CBLALL02
      200 Port request OK.
      125 Storing data set SYSA.OEM.CBL.JCL(CBLALL02)
      250 Transfer completed successfully.
      ftp: 1254 bytes sent in 0.00Seconds 1254000.00Kbytes/sec.
ftp> put CBLUPD01
      200 Port request OK.
      125 Storing data set SYSA.OEM.CBL.JCL(CBLUPD01)
      250 Transfer completed successfully.
      ftp: 3855 bytes sent in 0.00Seconds 3855000.00Kbytes/sec.
ftp> binary
      200 Representation type is Image
ftp> quote SITE LRECL=1024 RECFM=FB BLKSIZE=22528 BLOCKS PRIMARY=100 SECONDARY=20
      200 SITE command was accepted
ftp> put CBL_20080418_CBLI_MVS.BIN 'SYSA.OEM.CBL.PACK.CBLI150'
      200 Port request OK.
      125 Storing data set SYSA.OEM.CBL.PACK.CBLI150
      250 Transfer completed successfully.
      ftp: 1741824 bytes sent in 1.83Seconds 952.86Kbytes/sec.
ftp> quote SITE PRIMARY=10 SECONDARY=10
      200 SITE command was accepted
ftp> put CBL_20080418_SDEDATA_MVS.BIN 'SYSA.OEM.CBL.PACK.SDEDATA'
      200 Port request OK.
      125 Storing data set SYSA.OEM.CBL.PACK.SDEDATA
      250 Transfer completed successfully.
      ftp: 5120 bytes sent in 0.00Seconds 5120000.00Kbytes/sec.
```

## Step 4: Unpack the Update Binary to Existing Install Libraries

The CBLUPD01 job stream must be run to perform the following tasks:

1. Execute the IBM TRSMAIN utility program to unpack the install bundle and SDEDATA bundle sequential data sets.

TRSMAIN is used to compress/decompress data exchanged with IBM and is freely available from the following URL:

<http://techsupport.services.ibm.com/390/trsmain.html>

2. Execute IEBCOPY to Load the libraries with modified members from the unpacked data set.

Modify member CBLUPD01 as described in the comment data in the job and submit it.

The following members are extracted to the existing install libraries. These libraries were allocated as part of the full product install procedure. (Note that, %rel% is the new CBLi release. e.g. 150 for CBLi 1.50)

Library	Member	Description
&PREFIX..TXT	@REP%rel%	Reports the build level information for CBLi. This file is a record of the level of CBLi that is to be installed.
&PREFIX..JCL	CBLUPD02	Link Edits the updated CBLi and associated modules.
	CBLUPD03	Allocates and loads the CBLi Help, CBLi Rexx Macro and CMX libraries.
	CBLUPD04	Copies CBLi Help, CBLi Rexx Macro and CMX updated members to the install libraries.
&PREFIX..SRC	ULCMX%rel%	Unloaded new and updated CMX files. These must be loaded into libraries with the utility CBLAVARL.
	ULEDT%rel%	Unloaded new and updated CBLi macros. These must be loaded into libraries with the utility CBLAVARL.
	ULHLP%rel%	Unloaded new and updated CBLi help files. These must be loaded into libraries with the utility CBLAVARL.
&PREFIX..OBJ	APEEINIT	The CBLi initialisation object deck.
	APEETERM	The CBLi termination object deck.
	CBLAVARL	The CBLi RECFM=V file install utility program object deck.
	CBLAVCII	The CBLVCAT Interactive (VCI) SVC install utility program object deck.
	CBLDLL	The CBL Dynamic Link Library object deck.
	CBLI	The CBL Interactive control program object deck.
	SDELIB	The CBL Interactive Structured Data Environment Library object deck.
	CBLVDUMP	The CBLi DUMP subtask object module. (MVS Only)
	CBLVIMSS	Program invoked by DFSRRC00 for interactive SELCOPY execution with IMS/DL1.
	CBLVIMST	The CBLi IMS/DL1 interface subtask control program object module.
	CBLVSQL0	The CBLi SQL interface subtask control program object module.
	CBLVSVC	The CBLVCAT Interactive (VCI) SVC object deck.
	CBLXREXX	The CBLi REXX interface subcommand environment control program object deck.
&PREFIX..CBLI.SDE.SAMP.F80	COBSALES	COBOL Copy Book for SDE sample file &PREFIX..CBLI.SDE.SAMP.VAR(DATSALES).
	COBTYPES	COBOL Copy Book for SDE sample file &PREFIX..CBLI.SDE.SAMP.VAR(DATTYPES).
&PREFIX..CBLI.SDE.SAMP.VAR	DATSALES	Sample member containing structured record sales data.
	DATTYPES	Sample member containing structured records using different field data types.

&PREFIX..JCL contains the job streams used in the subsequent product update steps.

Check output in &PREFIX..LST(UNTERSE2), &PREFIX..LST(UNTERSE3) and &PREFIX..LST(LOAD2).

## Step 5: Link Edit the Updated CBLi Program Modules

Modify member CBLUPD02 as described in the comment data in the job and submit it to Link Edit the latest CBLi product object modules. The resultant load modules are generated in &PREFIX..EXE.

As in the full CBL product install, SETCODE AC(1) is used to link the CBLi program as an authorised program.

If the &PREFIX..EXE library was also made APF authorised during the full CBL software install, then CBLi may be executed as a VTAM application (RACF logon is required.)

## Step 6: Load the Updated CBLi Help, CBLi macro & CMX members

Modify member CBLUPD03 as described in the comment data in the job and submit it to allocate and populate the following CBLi update libraries where %rel% is the new CBLi release (e.g. 150):

1. &PREFIX..CBLI.I%rel%.HELP.HTML  
Library containing new and updated help members for CBLi.
2. &PREFIX..CBLI.I%rel%.DIST.CBLE  
Library containing new and updated CBLi Rexx macros for CBLi.
3. &PREFIX..CBLI.I%rel%.DIST.CMX  
Library containing new and updated sample CoMmand eXecution (CMX) members for CBLi.

Note that members that are unchanged from the previously available CBLi release are **not** included in the update bundle.

CBLUPD03 executes CBLAVARL in the &PREFIX..EXE library to extract files from the ULHELP02, ULCBLE02 and ULCMX02 members of the &PREFIX..SRC library.

Check output in members CBLIHEL2, CBLICBL2 and CBLICMX2 of the &PREFIX..LST library.

## Step 7: Promote the Updated CBLi Help, CBLi macro & CMX members

Modify member CBLUPD04 as described in the comment data in the job and submit it to copy members from the newly allocated &PREFIX..CBLI.I%rel% libraries to the equivalent &PREFIX..CBLI production libraries.

Check output in members CBLIHEL3, CBLICBL3 and CBLICMX3 of the &PREFIX..LST library.

## Step 8: Verify Update of CBLi

Restart CBLi to verify that the update is successful. (In ISPF, execute the TSO **CBLII** REXX procedure.)

When a user first starts CBLi following a successful upgrade from CBLi 1.4x, the following pop-up message is displayed:

```

CBLi 1.50: Upgrade by USER01                                x

CBLi has detected a release upgrade since last
login by user USER01.

An introduction to the Structured Data
Environment (SDE) will be added to your HOME
command-centre.

      +-----+      +-----+
      |  OK   |      | Cancel |
      +-----+      +-----+

```

Select "OK" to introduce the latest changes to the current user's CBLiINI and personal CMX (command centre) data sets.

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The CBLi Interactive Environment is now updated - Thank you for using it.

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