

# Control-M/JCL Verify User Guide



Supporting

Version 7.0.03 of Control-M/JCL Verify

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  - system hardware configuration
  - serial numbers
  - related software (database, application, and communication) including type, version, and service pack or maintenance level
- sequence of events leading to the issue
- commands and options that you used
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  - product error messages
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# About This Guide

This guide contains the information necessary to help you verify JCL jobs. The guide contains the following parts:

## **Chapter 1 – Overview**

Provides an introduction to Control-M/JCL Verify.

## **Chapter 2 – CTJVER batch utility**

Provides instructions for using the CTJVER utility to perform batch verifications of JCL jobs and Control-M job definitions.

## **Chapter 3 – CTJPLAN utility**

Provides instructions for using the CTJPLAN utility to verify the JCL statements contained in Control-M job definitions that are about to be submitted.

## **Chapter 4 – CTJVER edit macro**

Provides instructions for using the CTJVER edit macro to verify JCL jobs and Control-M job definitions.

## **Chapter 5 – Online job verification from IOA and Control-M interfaces**

Provides instructions for invoking Control-M/JCL Verify from IOA and Control-M user interfaces for verifying JCL jobs and Control-M job definitions.

## **Chapter 6 – The Control-M/JCL Verify Application Program Interface (API)**

Provides instructions for using the API so that JCL verifications can be performed from user programs.

## **Chapter 7 – CTJINIT utility**

Provides instructions for using the CTJINIT utility to boost the performance of JCL verification.

## Appendix A – Messages

Provides descriptions of three levels of messages - Information, Warning, and Error.

## Appendix B – Sample exit 4

Provides information about a sample, which is included with Control-M/JCL Verify, that uses CTJAPI.

# Conventions Used in This Guide

Notational conventions that may be used in this guide are explained below.

## Standard Keyboard Keys

Keys that appear on the standard keyboard are identified in boldface, for example, **Enter**, **Shift**, **Ctrl+S** (a key combination), or **Ctrl S** (a key sequence).



---

### — WARNING —

The commands, instructions, procedures, and syntax illustrated in this guide presume that the keyboards at your site are mapped in accordance with the EBCDIC character set. Certain special characters are referred to in this documentation, and you must ensure that your keyboard enables you to generate accurate EBCDIC hex codes. This is particularly true on keyboards that have been adapted to show local or national symbols. You should verify that

\$ is mapped to x'5B'

# is mapped to x'7B'

@ is mapped to x'7C'

If you have any questions about whether your keyboard is properly mapped, contact your system administrator.

---

## Preconfigured PFKeys

Many commands are preconfigured to specific keys or key combinations. This is particularly true with regard to numbered PF keys, or pairs of numbered PFKeys. For example, the END command is preconfigured to, and indicated as, **PF03/PF15**. To execute the END command, press either the **PF03** key or the **PF15** key.

Instructions to enter commands may include

- only the name of the command, such as, enter the END command
- only the PF keys, such as, press **PF03/PF15**
- or both, such as, press **PF03/PF15**, or enter the END command

## Command Lines and Option Fields

Most screens contain a command line, which is primarily used to identify a single field where commands, or options, or both, are to be entered. These fields are usually designated **COMMAND**, but they are occasionally identified as **COMMAND/OPT** or **COMMAND/OPTION**.

Option field headings appear in many screens. These headings sometimes appear in the screen examples as **OPTION**, or **OPT**, or **O**.

## Names of Commands, Fields, Files, Functions, Jobs, Libraries, Members, Missions, Options, Parameters, Reports, Subparameters, and Users

The names of commands, fields, functions, jobs, libraries, members, missions, options, parameters, reports, subparameters, users, and most files, are shown in standard **UPPERCASE** font.

## User Entries

In situations where you are instructed to enter characters using the keyboard, the specific characters to be entered are shown in this **UPPERCASE BOLD** text, for example, type **EXITNAME**.

## Syntax statements

In syntax, the following additional conventions apply:

- A vertical bar ( | ) separating items indicates that you must choose one item. In the following example, you would choose *a*, *b*, or *c*:

a | b | c

- An ellipsis ( . . . ) indicates that you can repeat the preceding item or items as many times as necessary.
- Square brackets ( [ ] ) around an item indicate that the item is optional. If square brackets ( [ ] ) are around a group of items, this indicates that the item is optional, and you may choose to implement any single item in the group. Square brackets can open ( [ ) and close ( ] ) on the same line of text, or may begin on one line of text and end, with the choices being stacked, one or more lines later.
- Braces ( { } ) around a group of items indicates that the item is mandatory, and you must choose to implement a single item in the group. Braces can open ( { ) and close ( } ) on the same line of text, or may begin on one line of text and end, with the choices being stacked, one or more lines later.

## Screen Characters

All syntax, operating system terms, and literal examples are presented in this typeface. This includes JCL calls, code examples, control statements, and system messages. Examples of this are:

- calls, such as

```
CALL 'CBLTDLI'
```

---

- code examples, such as

```
FOR TABLE owner.name USE option, . . . ;
```

---

- control statements, such as

```
//PRDSYSIN DD * USERLOAD PRD(2) PRINT
```

---

- system messages, both stand-alone, such as You are not logged on to database `database_name`, and those embedded in text, such as the message You are not logged on to database `database_name`, are displayed on the screen.

## Variables

Variables are identified with *italic* text. Examples of this are:

- In syntax or message text, such as  
Specify database *database\_name*
- In regular text, such as  
replace database *database\_name1* with database *database\_name2* for the current session
- In a version number, such as  
EXTENDED BUFFER MANAGER for IMS 4.1.*xx*

## Special elements

This book includes special elements called *notes* and *warnings*:

---

### **NOTE**

---

Notes provide additional information about the current subject.

---



**WARNING**

Warnings alert you to situations that can cause problems, such as loss of data, if you do not follow instructions carefully.

## Related Publications

### **INCONTROL for z/OS Administrator Guide**

Information for system administrators about customizing and maintaining INCONTROL™ products.

### **INCONTROL for z/OS Installation Guide: Installing**

Step-by-step guide to installing INCONTROL products using the INCONTROL Installation and Customization Engine (ICE) application.

### **INCONTROL for z/OS Installation Guide: Customizing**

Step-by-step guide for customizing INCONTROL products using the INCONTROL Installation and Customization Engine (ICE) application.

### **INCONTROL for z/OS Messages Manual**

Comprehensive listing and explanation of all INCONTROL and IOA messages and codes.

### **INCONTROL for z/OS Security Guide**

Step-by-step guide to implementing security in INCONTROL products.

### **INCONTROL for z/OS Utilities Guide**

Describes utilities designed to perform specific administrative tasks that are available to INCONTROL products.

### **Control-M for z/OS User Guide**

Guide for using Control-M for z/OS.





# Overview

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## Introduction

Control-M/JCL Verify is a new product in the IOA family of z/OS products. Control-M/JCL Verify validates JCL jobs, as described later in this section, and issues validation reports. While Control-M/JCL Verify is closely integrated with Control-M for z/OS, it can be installed as a standalone product on sites that are not using Control-M.

Control-M/JCL Verify is capable of validating:

- JCL jobs

Members that include JCL statements are analyzed to ensure that the JCL statements are valid.

- Control-M job definitions
  - Members, which Control-M job definitions refer to by MEMNAME and MEMLIB, are analyzed to ensure that the JCL statements are valid.
  - In-stream JCL statements, which are included in the job definition itself, are analyzed to ensure that they are valid.

Control-M/JCL Verify verifies the following issues:

- basic JCL syntax
- JES2 and JES3 statements
- dataset existence
- dataset access privileges
- load module existence

Control-M/JCL Verify consists of the following features:

- a batch utility (CTJVER) for verifying JCL jobs and Control-M job definitions
- a batch utility (CTJPLAN) for verifying Control-M jobs that are scheduled for submission
- an edit macro, which can be invoked from ISPF, for verifying a job being edited
- new Control-M/JCL Verify JV option available from the IOA Primary Option Menu
- new line options and commands for invoking Control-M/JCL Verify from Control-M panels
- a Control-M/JCL Verify application program interface (API) for performing JCL verification from user applications

# The verification process

The verification process consists of the following steps:

- Initialization
- Verification
- Termination

## Initialization

In the initialization step, the IOA and basic environment for Control-M/JCL Verify is created.

This step includes:

- setting the Control-M/JCL Verify functionality by specifying
  - the installation parameters
  - the parameters supplied during runtime
- initializing the security
- collecting resources that are required for JCL verification

Since the required resources are common for all Control-M/JCL Verify users, JCL verification performance is usually significantly increased by

1. creating the Control-M/JCL Verify Shared Object (see [Chapter 7, “CTJINIT utility”](#))
2. identifying JES2 PROCLIBs by
  - A. determining if dynamic PROCLIBs are in use
  - B. determining if mandatory PROCLIBs are in use
  - C. checking CTJPRC for static PROCLIBs. For more details on the CTJPRC member, see [“Installation” on page 22](#).

If the mandatory JES2 PROCLIBs DD statements do not exist, the Control-M/JCL Verify initialization will fail, and the verification will be stopped.

3. loading site related information into the shared objects

## Verification

The verification consists of the following stages:

- JCL and syntax verification
- Environment verification

### JCL and syntax verification

In this stage, the validity of the following items is verified:

- the JCL used in the job
- the syntax of the JES2 or JES3 statements

The verification process continues to the next stage if there are no JCL errors and no JES2 or JES3 syntax errors that would cause JES2 or JES3 to reject the job.

### Environment verification

In this stage, the validity of the following items is verified in the environment where the job is be executed:

- File Access
- File characteristics
- Program existence

#### File Access

The File Access Validation determines whether the user has access to the dataset required by the job being verified.

The user being checked, who might not necessarily be the one performing the verification, is determined by the following criteria:

- the user that is specified by the USER keyword in the JOB statement

- in Control-M, the user that is specified by the OWNER field in the job definition
- in the CTJVER utility, the user that is specified by the USER statement
- in ISPF, the user that is specified in the CTJXVER P edit macro window (see “Verification mode” on page 48)
- the user that performs the verification

The authority validations checks are base on the DISP keyword in the DD statement as listed below:

- DISP=SHR – required read permission
- DISP=OLD – required update permission
- DISP=NEW – required create permission
- DISP=MOD and the file exists – required update permission
- DISP=MOD and the file is new – required create permission
- DISP=(...,DELETE) – required delete permission
- DISP=(...,UNCATLG) – required uncatlog permission

The READ, UPDATE, CREATE, DELETE and UNCATLG permissions are logical and depend on the security package that is installed and on the z/OS release.

### File characteristics

Based on DISP, UNIT, and VOL DD statement keywords, verifies that the file

- exists
- is cataloged
- exists in the correct volume

#### NOTE



If the UNIT type is a removable type (like tape or cartridge) or if the file is migrated (by IBM/DFHSM or another product), Control-M/JCL Verify cannot validate that the file exists on the correct volume and cannot verify the file attributes.

### Program existence

The name of the module in the EXEC PGM= statement is verified that it exists in the STEPLIB, JOBLIB, or LINKLIST libraries.



**NOTE**

Control-M/JCL Verify checks program existence using IBM search order rules.

---

## Termination

1 Sets the following return codes based on the verification results:

■ Return code 4

The results contain only failures (for example, file not found) that are caused by the current environment and can be set correctly before the job is executed.

■ Return code 8

The results contain failures (for example, a JCL error) that require changes in the JCL.

■ Return code 12

The results contain failures that are caused by the Control-M/JCL Verify input, which stops the verification process.

■ Return code 16 and above

The results contain failures that are caused by Control-M/JCL Verify processing errors (for example, REGION is too small).

2 Print the verification results or prepare the results in a buffer, which can be accessed by a user application with the Control-M/JCL Verify application program interface (CTJAPI).

3 If there are no more verification requests, perform a cleanup and then release all resources.

## Installation

Follow the installation as described in the *INCONTROL for z/OS Installation Guide: Installing*.

## JES2 Static PROCLIBs

JES2 PROCLIBs can be defined in two ways:

1. PROCxx DD statements in the JES2 startup procedure. The PROC00 statement is a mandatory statement in JES2.
2. Dynamic definition in the JES PARM member or by the JES2 command \$ADD PROCLIB. When dynamic PROCLIBs are used, they override the static PROCLIBs.

Control-M/JCL Verify can identify automatically the dynamic PROCLIBs, but cannot identify the static PROCLIBs.

In order to determine the list of static PROCLIBs, Control-M/JCL Verify reads member CTJPRC in the IOA PARM library.

CTJPRC contains the list of DD statements with JES2 static PROCLIBs.

## CTJPRC format

1. JES2 PROCLIB DD name in position 1
2. Procedure library name follows after at least one blank. The library name must be a valid DSNAME.
3. "\*" (asterisk) in position 1 is a comment line.

The following system symbol can be embedded within the library name:

- &SYSNAME
- &USERID
- &SYSPLEX
- &SMFID

Note that a dot ('.') must be followed after the system name if the library name has a suffix right after the system name. For example: SYS2.&SYSNAME..PROCLIB

The following is the sample CTJPRC member that is in the IOA PARM library:

**Figure 1 Sample CTJPRC member**

```

**=====**
**
** This member contains the JES2 procedure libraries referenced
** with the associated DD names. The procedure libraries should be
** specified in the same order and with the same DD name as they
** appear in the JES2 JCL procedure.
** The rules to insert a line are:
** o DD name in position 1
** o Procedure library name follows after at least one blank
** The allowed system names are:
** o &SYSNAME
** o &USERID
** o &SYSPLEX
** o &SMFID
** Note that a dot('.') must be followed after the system name
** For example: SYS2.&SYSNAME..PROCLIB
**
**=====**
PROC00      SYS1.PROCLIB
PROC00      SYS2.&SYSNAME..PROCLIB
*
PROC01      USER.PROCLIB

```

## Customization

Follow the instructions for customizations described in the *INCONTROL for z/OS Installation Guide: Customizing*.

## Restrictions

Control-M/JCL Verify only verifies JCL in partitioned datasets (PDS or PDSE). The partitioned dataset must have a record length of 80, and a fixed record format (FB/F).



# CTJVER batch utility

The CTJVER utility is capable of verifying a JCL job before it is submitted. The utility can also verify jobs referred to from or contained inside Control-M definitions. CTJVER can either verify a single job or work in mass mode, verifying many jobs together (for example, verifying all the jobs in a library).

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# Parameters

Table 1 describes the parameters that the utility receives from the JCL procedure:

**Table 1 CTJVER PROCEDURE parameters**

Parameter	Description
JES	Whether to verify that the JES2 or JES3 statements are correct. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the JESTTMNT parameter in the CTJPARM member. Default</li> </ul>
FE	Whether to verify file existence. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the DSNEXIST parameter in the CTJPARM member. Default</li> </ul>
FA	Whether to verify file access privileges. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the DSNACCSS parameter in the CTJPARM member. Default</li> </ul>
ME	Whether to verify that the load modules exist. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the PGMCHECK parameter in the CTJPARM member. Default</li> </ul>
ML	The minimum level of message severity to be issued. Valid values are: <ul style="list-style-type: none"> <li>■ I - Information - all messages are issued.</li> <li>■ W - warning messages and errors are issued.</li> <li>■ E - Only error messages are issued</li> <li>■ D - as defined by the MSGLEVEL parameter in the CTJPARM member. Default</li> </ul>

If any of the PROCEDURE parameters are omitted, the default values are used.

Table 2 describes the keywords used in the SYSIN statements to perform various verification tasks. The table indicates which keywords are used for each task.

**Table 2 CTJVER SYSIN statement keywords**

<i>To perform this task:</i>	<i>Use these keywords:</i>	<b>Description</b>
<i>To specify which user is used in the verifications:</i>	USER	The user ID to be used in the file access privileges (FA) verifications. Valid values are: <ul style="list-style-type: none"> <li>■ <i>user_ID</i></li> <li>■ *DEFAULT - use the default user ID (either the user invoking the CTJVER utility, or in the case of a Control-M job definition, the Control-M owner)</li> </ul> <p>The default user ID is determined according the criteria described in <a href="#">“File Access” on page 20</a>.</p>
<i>To specify the odate used for odate variable resolutions:</i>	ODATE	The odate to be used in odate variable resolutions. The valid format is: <i>YYMMDD</i>  Note: The ODATE value is used in the SCHEDLIB statements that follow it, until a new ODATE is specified.
<i>To verify jobs in their library:</i>	LIB	JCL library name where the JCL job to be verified is located. Mandatory.
	MEM	Member name where the JCL job to be verified is located. Character masking is supported so that “MEM=*” indicates that all the jobs in the library are to be verified.
<i>To verify jobs referred to from or contained inside Control-M definitions:</i>	SCHEDLIB	Name of the library containing the job scheduling definition to be verified. Mandatory.
	TABLE	Name of the table containing the job scheduling definition to be verified. Character masking is supported so that “TABLE=*” indicates that all the jobs in all the tables in the scheduling library are to be verified. In this case, “JOB=*” can be omitted since “JOB=*” is assumed.
	JOB	Name of the job scheduling definition to be verified. Character masking is supported so that “JOB=*” indicates that all the jobs in the table are to be verified.
<i>To verify ordered jobs:</i>	ORDERID	Specifies the order ID of the job in the AJF that will be verified.

The SCHEDLIB, TABLE, JOB, and ORDERID keywords are available only when Control-M is installed.



**NOTE**

- If there is not enough room in the input record for the entire CTJVER statement, enter any non-blank character in position 72, to indicate that the following record is a continuation of the current record, and continue the statement in the following record.
- Regarding the SCHEDLIB statement: If MULTJOBS=Y is specified in CTMPARM, only the first job will be submitted from the JCL member by Control-M. Therefore, if the JCL member to be verified contains more than one job, only the first job will be verified.

## Activating the Utility

You can activate the utility through a batch JCL.

### Batch JCL

The following is a sample batch JCL used to invoke CTJVER:

```
// .... JOB ....
//      EXEC CTJVER,parameters
//SYSIN DD *
  statement1
  statement2
  ...
  ...
  ...
/*
//
```

## Return Codes

**Table 3** CTJVER Return Codes (part 1 of 2)

Code	Description
0	Operation performed successfully.
4	Control-M/JCL Verify discovered that the verified resource is not in the required status at the time of the verification. For example, an input dataset does not exist. Review the status and decide if there is a need to make a change in the job.
8	Control-M/JCL Verify discovered a problem in the job that will cause it to fail with a JCL error or to be rejected by JES2 or JES3, either during job submission or execution. Correct the JCL in the job.

**Table 3 CTJVER Return Codes (part 2 of 2)**

Code	Description
12	Error in the CTJVER parameters or statements. Review the previous error messages in JOBLOG and SYSPRINT, and then correct the parameters or the control statements.
16 and above	Internal error in the Control-M/JCL Verify product. Try again. If the problem reoccurs, contact BMC Customer Support.

## CTJVER output report

The report includes

- the JCL listing as received from z/OS
- the messages issued by z/OS
- lines with AutoEdit variables before and after they are resolved, each on a separate line
- messages issued by JVER which are separated into 3 severity types: I-Information, W-Warning, and E-Error.

The user can choose the minimum level of messages to be issued using the CTJPARM parameter MSGLEVEL, which can be overridden from the interfaces. These messages are issued only after the job has passed the valid syntax check.

For example of output reports see [“Example 4” on page 31](#) and [“Example 5” on page 32](#).

# Examples

## Example 1

In the following example, CTJVER verifies all the jobs in the JOB1 member located in the XX.YY library.

JES2 or JES3 statements are verified or not verified depending on JESTTMNT in CTJPARM. The existence of the dataset will be verified. The M01 user is verified for file access privileges. The existence of the load modules will not be verified. The minimum level of message severity to be issued depends on how MSGLEVEL is defined in CTJPARM.

**Figure 2** CTJVER – Example 1

```
// . . . JOB . . .
//      EXEC CTJVER,JES=D,FE=Y,FA=Y,ME=N
//SYSIN DD *
      USER=M01
      LIB=XX.YY,MEM=JOB1
/*
//
```

## Example 2

In the following example, CTJVER verifies that all the jobs in all the members located in the XX.YY.ZZ library. The M01 user is verified for file access privileges. The existence of load modules will not be verified.

**Figure 3** CTJVER – Example 2

```
// . . . JOB . . .
//      EXEC CTJVER,JES=D,FE=Y,FA=Y,ME=N
//SYSIN DD *
      USER=M01
      LIB=XX.YY.ZZ,MEM=*
/*
//
```

## Example 3

In the following example, CTJVER verifies the following:

- the ODATE of all jobs is set to December 1, 2013
- all jobs from table TAB1 and library AA.CC
- all jobs from all tables in library AA.DD

The JOB's definition owner is the user ID for verifying the file access privileges.

**Figure 4 CTJVER – Example 3**

```
// . . . JOB . . .
//      EXEC CTJVER,JES=D,FE=Y,FA=Y,ME=N
//SYSIN DD *
ODATE=131201
USER=*DEFAULT
SCHEDLIB=AA.BB, TABLE=TAB1, JOB=JOB1
SCHEDLIB=AA.CC, TABLE=TAB1, JOB=*
SCHEDLIB=AA.DD, TABLE=*
/*
//
```

## Example 4

The following example shows a CTJVER output report for a job with Control-M/JCL Verify messages.

Figure 5 shows the job that is to be verified.

**Figure 5 Verified job - Sample00 – Example 4**

```
//IEFBR14 JOB ,BR14,MSGCLASS=X,NOTIFY=N18A,MSGLEVEL=(1,1)
//S1      EXEC PGM=IEFBR14,COND=EVEN
//NEWTEMP DD SPACE=(TRK,1),DSN=NEW.FILE.NO.DISP
//FILEOK  DD DISP=SHR,DSN=CTJP.V700.JCL.SAMPLES
```

Figure 6 shows the job that performs the verification.

**Figure 6 CTJVER utility – Example 4**

```
//SAMPLE00 JOB 0,YY,CLASS=A,MSGCLASS=X,
//          NOTIFY=&SYSUID
//          JCLLIB ORDER=IOAP.V700.PROCLIB
//          INCLUDE MEMBER=IOASET
//SAMPLE1  EXEC CTJVER
//SYSIN   DD *
LIB=CTJP.V700.JCL.SAMPLES MEM=IEFBR14
/*
```

The CTJVER utility output report, shown in [Figure 7](#), includes various messages. To simplify the reading and interpretation of the messages, Control-M/JCL Verify combines the messages that are issued by the system in the JESYSMSG member with the JCL statements.

The CTJVER utility output report includes CTJVER batch utility messages, which are indicated by a CTJU prefix. The first CTJU01I message displays the CTJVER PROCEDURE parameters, which in this example are specified as defined in CTJPARM. The other CTJU01I messages are input statement echo messages.

The normal JCL statements are displayed similar to how they appear in the JOB JESJCL output.

The user set the ME (Module Existence) option to the default value by setting the PGMCHECK parameter to Y in the CTJPARM member. As a result, the CTJP0GI message is displayed. The message indicates that the IEFBR14 load module exists in SYS1.LINKLIB, one of the LINKLIST libraries.

The CTJ009I message is issued for each verified job. For members with multiple jobs, the message is displayed after each job.

The CTJ003I message is issued for each control statement.

If no warning or error messages are issued, the validation ends with return code (RC) zero.

**Figure 7 CTJVER utility - SYSPRINT – Example 4**

```

CTJU01I  FA=D FE=D JES=D ME=D ML=D
CTJU01I  LIB=CTJP.V700.JCL.SAMPLES MEM=IEFBR14
CTJ002I  Start verifying member IEFBR14 DSN=CTJP.V700.JCL.SAMPLES
CTJ008I  Start verifying JOB IEFBR14 MEMBER IEFBR14
          1 //IEFBR14 JOB ,BR14,MSGCLASS=X,NOTIFY=N18A,MSGLEVEL=(1,1)
          2 //S1      EXEC PGM=IEFBR14,COND=EVEN
CTJP0GI  2 INFORMATION: PGM IEFBR14 FOUND IN LINKLIST LIBRARY SYS1.LINKLIB
          3 //NEWTEMP DD SPACE=(TRK,1),DSN=NEW.FILE.NO.DISP
          4 //FILEOK  DD DISP=SHR,DSN=CTJP.V700.JCL.SAMPLES
          5 //
CTJ009I  Processing ended RC=0000 for job IEFBR14 member IEFBR14
CTJ003I  Processing ended RC=0000 REASON 00000000 member IEFBR14 DSN=CTJP.V700.JCL.SAMPLES
CTJU02I  Control-M/JCL Verify Utility ended. RC=0000

```

## Example 5

The following example shows a CTJVER output report for a job, which if submitted, would be rejected by the system because of a JCL error.

When a JCL error is found, Control-M/JCL Verify does not perform the second verification phase because the input might be invalid. [Figure 8](#) shows the job that is to be verified.



**Figure 8 Verified job - Sample01 – Example 5**

```
//JCLERROR JOB ,BR14,MSGCLASS=X,NOTIFY=N18A,MSGLEVEL=(1,1)
//S1 EXEC PGM=IEFBR14,COND=NEVER
//DSNM DD DISP=SHR,DSM=CTJP.V700.JCL.SAMPLES(JCLERR)
//DISP= DD SPACE=(TRK,1),DSN=N18.SYSTEM.NO.OS35
```

Figure 9 shows the job that performs the verification.

**Figure 9 CTJVER utility – Example 5**

```
//SAMPLE01 JOB 0,YY,CLASS=A,MSGCLASS=X,
// NOTIFY=&SYSUID
// JCLLIB ORDER=IOAP.V700.PROCLIB
// INCLUDE MEMBER=IOASET
//SAMPLE1 EXEC CTJVER
//SYSIN DD *
LIB=CTJP.V700.JCL.SAMPLES MEM=JCLERR1
/*
```

As shown in Figure 10, IBM informational messages, usually starting with an IEFIC prefix, are displayed similar to how they appear in the JOB JESJCL output. Control-M/JCL Verify marks the IBM messages with JCLERR> at the beginning of the line.

If the job has a JCL error, or contains any error that requires changing the JCL statements, the validation ends with return code (RC) 8.

**Figure 10 CTJVER utility - SYSPRINT – Example 5**

```
CTJU01I FA=D FE=D JES=D ME=D ML=D
CTJU01I LIB=CTJP.V700.JCL.SAMPLES MEM=JCLERR
CTJ002I Start verifying member JCLERR DSNAM CTJP.V700.JCL.SAMPLES
CTJ008I Start verifying JOB JCLERROR MEMBER JCLERR
      1 //JCLERROR JOB ,BR14,MSGCLASS=X,NOTIFY=N18A,MSGLEVEL=(1,1)
      2 //S1 EXEC PGM=IEFBR14,COND=NEVER
      3 //DSNM DD DISP=SHR,DSM=CTJP.V700.JCL.SAMPLES(JCLERR)
JCLERR> 3 IEF630I UNIDENTIFIED KEYWORD DSM
      4 //DISP= DD SPACE=(TRK,1),DSN=N18.SYSTEM.NO.OS35
JCLERR> 4 IEF662I INVALID LABEL
      5 //
CTJ009I Processing ended RC=0008 for job JCLERROR member JCLERR
CTJ003I Processing ended RC=0008 REASON 00000000 member JCLERR DSNAM CTJP.V700.JCL.SAMPLES
CTJU02I Control-M/JCL Verify Utility ended. RC=0008
```

## Example 6

The following example shows a CTJVER output report for a job that is to be submitted by Control-M monitor.

The job is part of SMART table SAMPLE08.

Figure 11 shows the relevant parts of the SMART Table Entity Definition in Screen 2. The SMART Table contains variable that %%EX\_SYSTEM will be set in the JCL.

**Figure 11 SMART Table with variable %%EX\_SYSTEM – Example 6**

```

TBL SAMPLE08          CTJP.TESTS.SCHEDULE(SAMPLE08)
COMMAND ==>          SCROLL==> CRSR
-----+-----
| TABLE  SAMPLE08          GROUP
| OWNER   N18A
| APPL
| DESC  SAMPLE08 - SMART TABLE
|
| ADJUST CONDITIONS N          TBL MAXWAIT 00          STAT CAL
| SET VAR %%EX_SYSTEM=%%$SYSTEMN
| SET VAR
| DOCMEM  SAMPLE08          DOCLIB  CTMP.V700.DOC
|=====+=====
| SCHEDULE RBC JVERRBC          LEVEL TBL
| DAYS    ALL          DCAL
|
| WDAY5          AND/OR
| MONTHS  1- Y 2- Y 3- Y 4- Y 5- Y 6- Y 7- Y 8- Y 9- Y 10- Y 11- Y 12- Y
| DATES
| CONFCAL          SHIFT          MAXWAIT 00
| SCHEDULE RBC ACTIVE FROM          UNTIL
|=====+=====
    
```

Figure 12 shows the relevant parts of the JOB Definition SAMPLE08 in Screen 2. The JOB definition table contains variable that %%EXDATE will be set in the JCL.

**Figure 12 Job definition with variable %%EXDATE – Example 6**

```

JOB: SAMPLE08 LIB CTJP.TESTS.SCHEDULE          TABLE: SAMPLE08
COMMAND ==>          SCROLL==> CRSR
-----+-----
| MEMNAME SAMPLE08          MEMLIB  CTJP.TESTS.JCL
| OWNER   N18A          TASKTYPE JOB          PREVENT-NCT2          DFLT  N
| APPL          GROUP
| DESC  SAMPLE08 - JOB SUBMITTED BY CONTROL-M MONITOR
|
| OVERLIB          STAT CAL
| SCHENV          SYSTEM ID          NJE NODE
| SET VAR %%EXDATE=%%ODATE
| SET VAR
| CTB STEP AT          NAME          TYPE
| DOCMEM  SAMPLE08          DOCLIB  CTMP.V700.DOC
|=====+=====
| SCHEDULE RBC JVERRBC
| SCHEDULE RBC
| RELATIONSHIP (AND/OR) 0
| DAYS          DCAL
|
| WDAY5          AND/OR
| MONTHS  1- Y 2- Y 3- Y 4- Y 5- Y 6- Y 7- Y 8- Y 9- Y 10- Y 11- Y 12- Y
| DATES
| CONFCAL          SHIFT          RETRO N MAXWAIT 00          D-CAT
| MINIMUM          PDS
| DEFINITION ACTIVE FROM          UNTIL
|=====+=====
    
```

**Figure 13** shows JCL of the job specified in the SAMPLE08 definition above. The job contains three statements that are resolved when Control-M monitor submits the job:

- `/*ROUTE PRINT %%EX_SYSTEM` - A JES2 statement that sends the printout to a specific z/OS system.
- `//* %%SET %%SAMPLE08_OLD=%%$CALCDTE %%$ODATE -1` - A Control-M statement to resolve the day of the day before the run
- `//NEWFILE DD DISP=(,DELETE),DSN=CTJP.SAMPLE08.D%%EXDATE,` - A JCL statement that its DSN last level contains the current date.

**Figure 13 Job with three statements to be resolved – Example 6**

```
//SAMPLE08 JOB ,BR14,MSGCLASS=X,MSGLEVEL=(1,1)
/*ROUTE PRINT %%EX_SYSTEM
/*
/* %%SET %%ODATE_OLD=%%$CALCDTE %%$ODATE -1
/* %%SET %%SAMPLE08_OLD =%%SUBSTR %%ODATE_OLD 3 6
/*
//DELETE EXEC PGM=IEFBRI4,COND=EVEN
//OLDFILE DD DISP=(MOD,DELETE),
// DSN=CTJP.SAMPLE08.D%%SAMPLE08_OLD
/*
//ALLOC EXEC PGM=IEFBRI4,COND=EVEN
//NEWFILE DD DISP=(,DELETE),DSN=CTJP.SAMPLE08.D%%EXDATE,
// UNIT=SYSDA,SPACE=(CYL,(10,10),RLSE)
```

**Figure 14** shows the job that performs the verification.

**Figure 14 Verified job - Sample08 – Example 6**

```
//CTJCTMS1 JOB 0,YY,CLASS=A,MSGCLASS=X,
// NOTIFY=&SYSUID
//*****
/**
/** PARAMETERS TO CTJVER
/** ML=D/I/W/E I=INFO W=WARING E=ERROR
/** FA=D/Y/N
/** FE=D/Y/N
/** ME=D/Y/N
/** D= DEFAULT Y=YES N=NO
/** STATEMENTS
/** USER= IF NOT VERIFY THE USER THAT IS NOT
/** THE CTJVER
/** LIB= MEM= LIB IS MANDATORY
/** MEM IS OPTIONAL AND SUPPORT MASKING (* & %)
/**
//*****
// JCLLIB ORDER=IOAP.V700.PROCLIB
// INCLUDE MEMBER=IOASET
//JCLVRFY EXEC CTJVER
//SYSIN DD *
SCHEDLIB=CTJP.TESTS.SCHEDULE MEM=SAMPLE08
/*
```

The CTJVER utility output report, shown in [Figure 15](#), includes various messages. To simplify the reading and interpretation of the messages, Control-M/JCL Verify combines the messages that are issued by the system in the JESYSMSG member with the JCL statements.

**Figure 15 CTJVER utility - SYSPRINT – Example 6**

```

CTJU01I FA=D FE=D JES=D ME=D ML=D
CTJU01I SCHEDLIB=CTJP.TESTS.SCHEDULE MEM=SAMPLE08
CTJ000I Control-M/JCL Verify is starting. Level IJ10086
CTJ000I Runtime parameters: FA=Y FE=Y JES=Y ME=Y ML=I USER=N18A
CTJ002I Start verifying MEMBER SAMPLE08 DSN=CTJP.TESTS.JCLS
CTJR05I //SAMPLE08 JOB ,BR14,MSGCLASS=X,MSGLEVEL=(1,1)
CTJ008I Start verifying JOB SAMPLE08 MEMBER SAMPLE08
      1 //SAMPLE08 JOB ,BR14,MSGCLASS=X,MSGLEVEL=(1,1),
        //      USER=N18A
        // *NET ID=AESUSER
        // *---- SUBMITTED BY CONTROL-M (FROM MEMLIB)          ODATE=120628
        // *---- SCHEDULE (UNKNOWN)
        // *---- SCHEDULED DUE TO RBC:
        // *---- JCL      CTJP.TESTS.JCLS(SAMPLE08)
        // *---- CONTROL-M JOB IDENTIFICATION: ORDER ID=      RUN NO.=00001
CTJR05I /*ROUTE PRINT  %%EX_SYSTEM
        /*ROUTE PRINT  MVS3
        /*
CTJR05I /*  %%SET  %%ODATE_OLD=%%$CALCDTE  %%$ODATE -1
        /*  %%SET  %%ODATE_OLD=%%$CALCDTE  20120628 -1
CTJR05I /*  %%SET  %%SAMPLE08_OLD =%%SUBSTR %%ODATE_OLD 3 6
        /*  %%SET  %%SAMPLE08_OLD =%%SUBSTR 20120627 3 6
        /*
      2 //DELETE EXEC PGM=IEFBR14,COND=EVEN
CTJPOGI 2 INFORMATION: PGM IEFBR14 found in LINKLIST SYS1.LINKLIB
      3 //OLDFILE DD DISP=(MOD,DELETE),
CTJR05I //      DSN=CTJP.SAMPLE08.D%%SAMPLE08_OLD
        //      DSN=CTJP.SAMPLE08.D120627
CTJD06W 3 WARNING: DSN with DISP=DELETE not found. DSN=CTJP.SAMPLE08.D120627
        /*
      4 //ALLOC EXEC PGM=IEFBR14,COND=EVEN
CTJPOGI 4 INFORMATION: PGM IEFBR14 found in LINKLIST SYS1.LINKLIB
CTJR05I //NEWFILE DD DISP=(,DELETE),DSN=CTJP.SAMPLE08.D%%EXDATE,
        //NEWFILE DD DISP=(,DELETE),DSN=CTJP.SAMPLE08.D120628,
        //      UNIT=SYSDA,SPACE=(CYL,(10,10),RLSE)
      6 //
CTJ009I Processing ended RC=0004 for JOB SAMPLE08 MEMBER SAMPLE08
CTJ003I Processing ended RC=0004 REASON 00000000 MEMBER SAMPLE08 DSN=CTJP.TESTS.JCLS
CTJU02I Control-M/JCL Verify Utility ended. RC=0004

```

In the above sample:

- CTJ002I - shows from which library the JCL member was read

Note: if the MEMLIB is a DD name like GENERAL, the library name is the first library in the DD statement concatenation.

- CTJR05I - echoes the original record in the JCL member that contains Control-M AutoEdit Variables or IOA Global AutoEdit Variables. This record is replaced by the JCL statement appearing in the next record, which follows it in the SYSPRINT output. This message is also displayed if Control-M/JCL verify changes a JCL statement.

## Example 7

The following example shows a CTJVER output report for the job in SAMPLE08 (see “[Example 6](#)” on page 33), which was ordered and is now in the Control-M AJF. The orderid of the job is 020QM.

[Figure 16](#) shows the job that performs the verification.

**Figure 16** Verified job - Sample01 – Example 7

```
//CTJCTMS2 JOB 0,YY,CLASS=A,MSGCLASS=X,
//          NOTIFY=&SYSUID
//*****
//**
//**      PARAMETERS TO CTJVER
//**      ML=D/I/W/E  I=INFO W=WARING E=ERROR
//**      FA=D/Y/N
//**      FE=D/Y/N
//**      ME=D/Y/N
//**
//**      D= DEFAULT  Y=YES N=NO
//**      STATEMENTS
//**      USER=          IF NOT VERIFY THE USER THAT IS NOT
//**                    THE CTJVER
//**      LIB= MEM=     LIB IS MANDATORY
//**                    MEM IS OPTIONAL AND SUPPORT MASKING (* & %)
//**
//*****
//          JCLLIB ORDER=IOAP.V700.PROCLIB
//          INCLUDE MEMBER=IOASET
//JCLVRFY EXEC CTJVER
//SYSIN DD *
ORDERID=020QM
/*
```

The CTJVER utility output report, shown in [Figure 17](#), includes various messages. To simplify the reading and interpretation of the messages, Control-M/JCL Verify combines the messages that are issued by the system in the JESYSMSG member with the JCL statements.

**Figure 17** CTJVER utility - SYSPRINT – Example 7 (part 1 of 2)

```
CTJU01I FA=D FE=D JES=D ME=D ML=D
CTJU01I ORDERID=020QM
CTJU01I
CTJU00I Control-M/JCL Verify Utility started. Date/Time 23.07.12 / 16:01. Level 7.0.03 IJ10105
CTJU01I FA=D FE=D JES=D ME=D ML=D
CTJU01I ORDERID=020QM
```

**Figure 17 CTJVER utility - SYSPRINT – Example 7 (part 2 of 2)**

```

CTJU04I Order ID= 020QM Memname= CTMSMP01 Memlib= CTJP.V700.SAMPLE.JCLS
CTJ000I Control-M/JCL Verify is starting. Level IJ10086
CTJ00CI Runtime parameters: FA=Y FE=Y JES=Y ME=Y ML=I USER=N18A
CTJ002I Start verifying MEMBER SAMPLE08 DSN=CTJP.TESTS.JCLS
CTJR05I //SAMPLE08 JOB ,BR14,MSGCLASS=X,MSGLEVEL=(1,1)
CTJ008I Start verifying JOB SAMPLE08 MEMBER SAMPLE08
      1 //SAMPLE08 JOB ,BR14,MSGCLASS=X,MSGLEVEL=(1,1),
        //      USER=N18A
        // *NET ID=AESUSER
        // *---- SUBMITTED BY CONTROL-M (FROM MEMLIB)          ODATE=120628
        // *---- SCHEDULE CTJP.V700.SAMPLE.SCHEDULE(SAMPLE08)
        // *---- SCHEDULED DUE TO RBC:
        // *---- JCL      CTJP.TESTS.JCLS(SAMPLE08)
        // *---- CONTROL-M JOB IDENTIFICATION: ORDER ID=020QM  RUN NO.=00001
CTJR05I // *ROUTE PRINT  %%EX_SYSTEM
        // *ROUTE PRINT  MVS3
        // *
CTJR05I // * %%SET  %%ODATE_OLD=%%$CALCDTE %%$ODATE -1
        // * %%SET  %%ODATE_OLD=%%$CALCDTE 20120628 -1
CTJR05I // * %%SET  %%SAMPLE08_OLD =%%SUBSTR %%ODATE_OLD 3 6
        // * %%SET  %%SAMPLE08_OLD =%%SUBSTR 20120627 3 6
        // *
      2 //DELETE EXEC PGM=IEFBR14,COND=EVEN
CTJP0GI 2 INFORMATION: PGM IEFBR14 found in LINKLIST SYS1.LINKLIB
      3 //OLDFILE DD DISP=(MOD,DELETE),
CTJR05I //      DSN=CTJP.SAMPLE08.D%%SAMPLE08_OLD
        //      DSN=CTJP.SAMPLE08.D120627
CTJD06W 3 WARNING: DSN with DISP=DELETE not found. DSN=CTJP.SAMPLE08.D120627
        // *
      4 //ALLOC EXEC PGM=IEFBR14,COND=EVEN
CTJP0GI 4 INFORMATION: PGM IEFBR14 found in LINKLIST SYS1.LINKLIB
CTJR05I //NEWFILE DD DISP=(,DELETE),DSN=CTJP.SAMPLE08.D%%EXDATE,
      5 //NEWFILE DD DISP=(,DELETE),DSN=CTJP.SAMPLE08.D120628,
        //      UNIT=SYSDA,SPACE=(CYL,(10,10),RLSE)
      6 //
CTJ009I Processing ended RC=0004 for JOB SAMPLE08 MEMBER SAMPLE08
CTJ003I Processing ended RC=0004 REASON 00000000 MEMBER SAMPLE08 DSN=CTJP.TESTS.JCLS
CTJU02I Control-M/JCL Verify Utility ended. RC=0004

```

In the above sample, the values of the resolved variables are taken from the Control-M AJF records and they are the values that Control-M will use when the job is submitted.

# CTJPLAN utility

The CTJPLAN utility is designed as part of a procedure that is capable of verifying JCL jobs that are scheduled for submission. The procedure requires that Control-M is installed. The procedure involves using the CTMRPLN and CTJVER utilities.

The procedure can verify jobs referred to from Control-M job definitions that will be ordered on the specified date. The procedure can either verify a single job or work in mass mode, verifying many jobs together (for example, verifying all the jobs in a library).

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# Procedure for verifying scheduled JCL jobs

## To verify JCL jobs that are scheduled for submission

Run the CTJPLAN job, which consists of the following two steps:

- CTMRPLN gets the list of all the jobs that are scheduled for a specified ODATE. CTMRPLN creates the list of jobs as valid statements for CTJVER.
- CTJVER processes the scheduled jobs using the SYSIN statements generated by CTMRPLN in the preceding step.

**NOTE**



If MULTJOBS=Y is specified in the CTMPARM member, only the first job will be submitted from the JCL member by Control-M. Therefore, if the JCL member to be verified contains more than one job, only the first job will be verified.

## Parameters

Table 4 describes the parameters that the utility receives from the JCL procedure:

**Table 4 CTJPLAN PROCEDURE parameters (part 1 of 2)**

Parameter	Description
ODATE	Original scheduling date of the job, in <i>yymmdd</i> format.
JES	Whether to verify that the JES2 or JES3 statements are correct. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the JESTTMNT parameter in the CTJPARM member. Default</li> </ul>
FE	Whether to verify file existence. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the DSNEXIST parameter in the CTJPARM member. Default</li> </ul>
FA	Whether to verify file access privileges. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the DSNACCSS parameter in the CTJPARM member. Default</li> </ul>



Table 4 CTJPLAN PROCEDURE parameters (part 2 of 2)

Parameter	Description
ME	Whether to verify that the load modules exist. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the PGMCHECK parameter in the CTJPARM member. Default</li> </ul>
ML	The minimum level of message severity to be issued. Valid values are: <ul style="list-style-type: none"> <li>■ I - Information - all messages are issued.</li> <li>■ W - warning messages and errors are issued.</li> <li>■ E - Only error messages are issued</li> <li>■ D - as defined by the MSGLEVEL parameter in the CTJPARM member. Default</li> </ul>
TABLES <i>abc*</i> , <i>xyz*</i>	Enables use of generic table names to process individual or multiple tables. Use with the SYSIN statement, as shown in <a href="#">“Batch JCL” on page 41</a> . Optional.

## Activating the Utility

You can activate the utility through a batch JCL.

### Batch JCL

The following is a sample batch JCL used to invoke CTJPLAN:

```
// .... JOB ....
//      EXEC CTJPLAN,ODATE=odate
/*
//
```

In the sample, the scheduling library is the Control-M installation scheduling library.

To specify another library, override the SCHEDLIB DD statement. For example, add the following statement:

```
//SCHEDLIB DD DISP=SHR,DSN=MY.CTM.SCHEDLIB
```

When FA, FE and other parameters are not specified in the EXEC statement, CTJPLAN uses the default values according to the batch rules.

To specify an individual or multiple tables, add a SYSIN statement with the TABLES parameter. For example, adding the following statement will include all tables with either a *abc* or *xyz* prefix:

```
//SYSIN DD *  
TABLES abc*,xyz*  
/*
```

## Return Codes

The return codes for the RPLAN step are explained in the CTMRPLN utility in the *INCONTROL for z/OS Utilities Guide*.

The return codes for the CTJVER JVER step are explained in [Table 3](#) in “Return Codes” on page 28.

## CTJPLAN output report

The report includes

- the JOB definitions listing as selected by the CTMRPLN utility
- the JCL listing as received from z/OS
- the messages issued by z/OS messages issued by JVER which are separated into 3 severity types: I-Information, W-Warning, and E-Error.

The user can choose the minimum level of messages to be issued using the CTJPARAM parameter MSGLEVEL, which can be overridden from the interfaces. These messages are issued only after the job has passed the valid syntax check.

## Examples

### Example 1

In the following example, CTJPLAN verifies all jobs that are planned to be executed on June 6, 2012.

The selection is performed on the first step of the CTJPLAN procedure, which creates a list of scheduling libraries, members, and jobs for verification.

The verification is performed in the second step.

**Figure 18 CTJPLAN - sample job – Example 1**

```
//CTJPLAN JOB ,IOA630,MSGCLASS=X,CLASS=A,MSGLEVEL=(1,1)
//*
//*-----*
//*          SAMPLE USER DAILY JOB FOR SYSTEM'S JOBS.          *
//*-----*
//          JCLLIB ORDER=IOAP.V700.PROCLIB
//          INCLUDE MEMBER=IOASET
//*****
//CTJPLAN EXEC CTJPLAN,ODATE=120606
//SCHEDLIB DD DISP=SHR,DSN=IOAZ.CTJDR3.CTM.OPR.SCHEDULE
```

The verification parameters are the same as in CTJVER utility and in the above sample use the defaults.

In the first step, the CTMRPLN utility creates DAREPORT, which contains the list of the jobs that are planned to be executed on June 6, 2012.

**Figure 19 CTJPLAN - CTMRPLN planned JOBS report**

```
PRODUCED BY CONTROL-M 7.0.03          JOB PLAN REPORT          FROM 060612 UNTIL 060612
BMC SOFTWARE, INC.                    =====

JOBS PLANNED FOR          06/06/12

MEMNAME    TABLE      LIBRARY
-----
DAILYPRD   MAINDAY     IOAZ.CTJDR3.CTM.OPR.SCHEDULE
DAILYSYS   MAINDAY     IOAZ.CTJDR3.CTM.OPR.SCHEDULE
IOACLCND   MAINDAY     IOAZ.CTJDR3.CTM.OPR.SCHEDULE
IOALDNRS   MAINDAY     IOAZ.CTJDR3.CTM.OPR.SCHEDULE
```

Figure 20 shows the output report job (in slightly abbreviated form) for the jobs in the list shown in Figure 19 above.

Please note the following about the verification report shown in Figure 20:

- The RC=08 resulted because not all JCL members contained valid JCL JOB statements.
- Each job is called separately from CTJVER utility using the following code:

```
SCHEDLIB=ControlM.SCHEDULE.library          TABLE=table  +
JOB=jobname
```



Figure 20 CTJPLAN - CTJVER verification report (part 2 of 3)

```

83 XX          DD DISP=SHR,DSN=&ILPREFA..IOAENV
IEFC653I SUBSTITUTION JCL - DISP=SHR,DSN=IOAP.V700.IOAENV
XX*
84 XXDAALOCIN DD DISP=SHR,DSN=&DAALOCIN(ALCMUDAY)
IEFC653I SUBSTITUTION JCL - DISP=SHR,DSN=IOAP.V700.IOAENV(ALCMUDAY)
85 XXDAPROG   DD DISP=SHR,DSN=&OLPREFM..PARM(&PROGLST)
IEFC653I SUBSTITUTION JCL - DISP=SHR,DSN=CTMP.V700.CTM.OPR.PARM(PROGUSR)
86 XXDACHK    DD DISP=SHR,DSN=&OLPREFM..PARM(&DATREC)
IEFC653I SUBSTITUTION JCL - DISP=SHR,DSN=CTMP.V700.CTM.OPR.PARM(DATRECU)
87 XXDAOUT    DD SYSOUT=&OUT
IEFC653I SUBSTITUTION JCL - SYSOUT=*
XX*DAONAME   DD DISP=SHR,DSN=&OLPREFM..PARM(&EMUSRDLY)
88 XXSYSPRINT DD SYSOUT=&OUT
IEFC653I SUBSTITUTION JCL - SYSOUT=*
89 XXSYSABEND DD SYSOUT=&OUTDUMP
IEFC653I SUBSTITUTION JCL - SYSOUT=X
90 //DAJOB     DD DISP=SHR,DSN=&OLPREFM..SCHEDULE(TABLE1) <== CHANGE      00110001
IEFC653I SUBSTITUTION JCL - DISP=SHR,DSN=CTMP.V700.SCHEDULE(TABLE1)
CTJD00W      90 WARNING: MEMBER=TABLE1 IS NOT FOUND AT DSN=CTMP.V700.SCHEDULE
91 //          DD DISP=SHR,DSN=&OLPREFM..SCHEDULE(TABLE2) <== CHANGE      00120001
IEFC653I SUBSTITUTION JCL - DISP=SHR,DSN=CTMP.V700.SCHEDULE(TABLE2)
CTJD00W      91 WARNING: MEMBER=TABLE2 IS NOT FOUND AT DSN=CTMP.V700.SCHEDULE
92 //          00130000
CTJ009I Processing ended RC=0004 for JOB I700INLP MEMBER MAINDAY
//          00130000
CTJ003I Processing ended RC=0004 REASON 00000000 MEMBER MAINDAY DSNAME=CTMP.V700.JCL

CTJU01I SCHEDLIB=IOAZ.CTJDR3.CTM.OPR.SCHEDULE          TABLE=MAINDAY +
CTJU01I JOB=DAILYSYS
CTJ00CI Runtime parameters: FA=Y FE=Y JES=Y ME=Y ML=I USER=N18
CTJR08I Verify JCL in JOB DAILYSYS from MEMBER MAINDAY in LIBRARY IOAZ.CTJDR3.CTM.OPR.SCHEDULE
CTJ002I Start verifying MEMBER MAINDAY DSNAME=CTMP.V700.JCL
//*:66666666666666666666666666666666
CTJS03E ERROR: Invalid or missing JOB statement
//*NET ID=AESUSER
//*---- SUBMITTED BY CONTROL-M (FROM MEMLIB)          ODATE=120702
//
CTJ003I Processing ended RC=0008 REASON 00000000 MEMBER MAINDAY DSNAME=CTMP.V700.JCL
CTJU01I SCHEDLIB=IOAZ.CTJDR3.CTM.OPR.SCHEDULE          TABLE=MAINDAY +
CTJU01I JOB=IOACLND
CTJ00CI Runtime parameters: FA=Y FE=Y JES=Y ME=Y ML=I USER=N18
CTJ002I Start verifying MEMBER MAINDAY DSNAME=IOAP.V700.JC
SUB136E NO JOB CARD
//*xkdjfbglzdkfgzdkjfgkdjng
CTJS03E ERROR: Invalid or missing JOB statement
//*NET ID=AESUSER
//*---- SUBMITTED BY CONTROL-M (FROM MEMLIB)          ODATE=120702
//
CTJ003I Processing ended RC=0008 REASON 00000000 MEMBER MAINDAY DSNAME=CTMP.V700.JCL
CTJU01I SCHEDLIB=IOAZ.CTJDR3.CTM.OPR.SCHEDULE          TABLE=MAINDAY +
CTJU01I JOB=IOALDNRS
CTJ00CI Runtime parameters: FA=Y FE=Y JES=Y ME=Y ML=I USER=N18
CTJR08I Verify JCL in JOB IOALDNRS from MEMBER MAINDAY in LIBRARY IOAZ.CTJDR3.CTM.OPR.SCHEDULE
CTJ002I Start verifying MEMBER MAINDAY DSNAME=IOAP.V700.JC
SUB136E NO JOB CARD
CTJR05I //I700INLD JOB ,IOA700,MSGCLASS=X,CLASS=A,NOTIFY=K60
CTJ008I Start verifying JOB I700INLD MEMBER MAINDAY
1 //I700INLD JOB ,IOA700,MSGCLASS=X,CLASS=A,NOTIFY=K60,          00010000
// MSGLEVEL=(1,1),
// USER=PRODMNGR
//*NET ID=AESUSER

```

**Figure 20 CTJPLAN - CTJVER verification report (part 3 of 3)**

```

                /*----- SUBMITTED BY CONTROL-M (FROM MEMLIB)          ODATE=120702
                /*----- SCHEDULE (UNKNOWN)
                /*----- SCHEDULED DUE TO RBC:
                /*----- JCL      IOAP.V700.JCL(IOALDNRS)
                /*----- CONTROL-M JOB IDENTIFICATION:  ORDER ID=00012  RUN NO.=00001
                /*
                /*
                2 //          JCLLIB  ORDER=IOAP.V700.PROCLIB          00020000
                3 //          INCLUDE MEMBER=IOASET                00030000
                3 IEF002I INCLUDE GROUP IOASET WAS EXPANDED USING PRIVATE LIBRARY IOAP.V700.PROCLIB
                00030102

                73 //LOADMAN EXEC IOALDNRS                        00070001
                73 IEF001I PROCEDURE IOALDNRS WAS EXPANDED USING PRIVATE LIBRARY IOAP.V700.PROCLIB
                00070001

                75 XXIOALDNRS EXEC PGM=CTMLNR,REGION=&REG,PARM='ALL'          00120000
                IEF0653I SUBSTITUTION JCL - PGM=CTMLNR,REGION=OM,PARM='ALL'
                CTJPOEI 75 INFORMATION: PGM CTMLNR FOUND IN STEPLIB LIBRARY IOAP.V700.LOAD
                76 XX          INCLUDE MEMBER=&IOAENV                00130000
                IEF0653I SUBSTITUTION JCL - MEMBER=IOAENV
                76 IEF002I INCLUDE GROUP IOAENV WAS EXPANDED USING PRIVATE LIBRARY IOAP.V700.PROCLIB
                77 XXSTEPLIB DD DISP=SHR,DSN=IOAP.V700.TLOAD
                78 XX          DD DISP=SHR,DSN=&STEPLIB
                IEF0653I SUBSTITUTION JCL - DISP=SHR,DSN=IOAP.V700.LOAD
                79 XX          DD DISP=SHR,DSN=IOAP.V700.TLOADE
                80 XX          DD DISP=SHR,DSN=&STEPLIBE
                IEF0653I SUBSTITUTION JCL - DISP=SHR,DSN=IOAP.V700.LOADE
                81 XX          DD DISP=SHR,DSN=&CTRANS
                IEF0653I SUBSTITUTION JCL - DISP=SHR,DSN=IOAP.V700.CTRANS
                82 XXDAPARM DD DISP=SHR,DSN=&ILPREFA..PARM
                IEF0653I SUBSTITUTION JCL - DISP=SHR,DSN=IOAP.V700.PARM
                83 XX          DD DISP=SHR,DSN=&ILPREFA..IOAENV
                IEF0653I SUBSTITUTION JCL - DISP=SHR,DSN=IOAP.V700.IOAENV
                84 XXSORTIN DD DSN=&&SORTIN,UNIT=&WORKUNIT,SPACE=(CYL,(1,1))      00140000
                IEF0653I SUBSTITUTION JCL - DSN=&&SORTIN,UNIT=SYSALLDA,SPACE=(CYL,(1,1))
                85 XXSORTOUT DD DSN=&&SORTOUT,UNIT=&WORKUNIT,SPACE=(CYL,(1,1)),    00150000
                XX          DCB=(LRECL=49)                                00160000
                IEF0653I SUBSTITUTION JCL - DSN=&&SORTOUT,UNIT=SYSALLDA,SPACE=(CYL,(1,1)),DCB=(LRECL=49)
                86 XXSORTWK01 DD UNIT=&WORKUNIT,SPACE=(CYL,(1,1))          00170000
                IEF0653I SUBSTITUTION JCL - UNIT=SYSALLDA,SPACE=(CYL,(1,1))
                87 XXSORTWK02 DD UNIT=&WORKUNIT,SPACE=(CYL,(1,1))          00180000
                IEF0653I SUBSTITUTION JCL - UNIT=SYSALLDA,SPACE=(CYL,(1,1))
                88 XXSORTWK03 DD UNIT=&WORKUNIT,SPACE=(CYL,(1,1))          00190000
                IEF0653I SUBSTITUTION JCL - UNIT=SYSALLDA,SPACE=(CYL,(1,1))
                89 XXSYSPRINT DD SYSOUT=&OUT                          00200000
                IEF0653I SUBSTITUTION JCL - SYSOUT=X
                90 XXSYSOUT DD SYSOUT=&OUT                          00210000
                IEF0653I SUBSTITUTION JCL - SYSOUT=X
                91 XXSYSABEND DD SYSOUT=&OUTDUMP                    00220000
                IEF0653I SUBSTITUTION JCL - SYSOUT=X
                92 XXPRDBG DD SYSOUT=&OUTDUMP                      00230000
                IEF0653I SUBSTITUTION JCL - SYSOUT=X
                93 XXDAALOCIN DD DISP=SHR,DSN=&DAALOCIN(ALCLDNRS)      00240000
                IEF0653I SUBSTITUTION JCL - DISP=SHR,DSN=IOAP.V700.IOAENV(ALCLDNRS)
                94 XXDALNRIN DD DDNAME=SYSIN                        00250000
                WARNING 94 IEF686I DDNAME REFERRED TO ON DDNAME KEYWORD IN PRIOR STEP WAS NOT RESOLVED
                95 //
                CTJ009I Processing ended RC=0004 for JOB I700INLD MEMBER MAINDAY
                //
                CTJ003I Processing ended RC=0004 REASON 00000000 MEMBER IOALDNRS DSNAME GENERAL
                CTJU02I Control-M/JCL Verify Utility ended. RC=0008
    
```

# CTJXVER edit macro

The CTJXVER edit macro, which is capable of verifying a JCL job before it is submitted, can be invoked from the ISPF editor.

This chapter includes the following topics:

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Syntax .....	48
Verification mode .....	48
Message filter mode .....	50
Return Codes .....	50
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## Overview

The CTJXVER edit macro can be used to verify JCL jobs before they are submitted. The CTJXVER edit macro can be invoked from the ISPF editor or from any other compatible editor. In an Edit or View session of the job member, enter the CTJXVER macro on the command line or use it as a line command.

---

### NOTE



BMC Software ships the edit macro as CTJXVER, but the macro can be copied to the SYSPROC library as JVER, making it easier to run. For details, refer to the *INCONTROL for z/OS Installation Guide: Installing*, Step 23.5 - Edit Macro Customization.

---

The CTJXVER edit macro works only on a saved member. If you make a change to the JCL job without saving it, CTJXVER will not process it before first asking if you want to save the changes (see [Figure 22](#)). You must answer either Y (Yes) or N (No). If you answer Y (Yes), CTJXVER first saves the member before processing it. If you answer N (No), CTJXVER aborts the verification.

**NOTE**

The CTJXVER edit macro

- cannot work on a changed member in VIEW mode since the member cannot be saved.
- cannot work in a job edited under IBM/SDSF since the SAVE command is not permitted.

After processing, the CTJXVER edit macro displays the results in the job member. The displayed results is a simulation of the error messages that would be displayed if the job actually ran. The display is divided into the following two sections:

- header
- main body

The header section includes a summary of the number and types of messages.

The main body section contains the job member with the messages appearing immediately after the lines in the job where they are relevant.

## Syntax

The CTJXVER edit macro has the following syntax:

```
CTJXVER [?] [S] [P] [R i/w/e]
```

The CTJXVER edit macro can be invoked in one of the following modes:

- verification mode
- message filter mode

## Verification mode

In verification mode, the CTJXVER edit macro uses the following syntax:

```
CTJXVER [P]
```

When CTJXVER is invoked without the P option, the verification tests are performed using the latest default parameters.



**NOTE**

CTJXVER takes the value of VERIFICATION CRITERIA from the User IOA Profile or the site default profile member which is in the IOA Profile library (not the ISPF Profile library).

The user must to enter the JD screen in the IOA online environment to set the defaults (if needed). The user profile is saved only when the user exits the IOA online environment.

To set new default parameters, invoke CTJXVER with the P option. A window opens (see [Figure 21](#)) allowing you to set the new parameters, before the verification.

**Figure 21 Control-M/JCL Verify Definition Facility**

```

----- CONTROL-M JCL VERIFY DEFINITION FACILITY -----
ENTER THE PARAMETERS BELOW:

LIBRARY NAME => CTJP.TESTS.JCLS
MEMBER NAME => ACCEP000 USER => N05

ENTER THE VERIFICATION CRITERIA

JES SYNTAX           => (Y/N/D)
DATASET AUTHORIZED  => (Y/N/D)
DATASET EXISTENCE   => (Y/N/D)
PROGRAM EXISTENCE   => (Y/N/D)
MESSAGE LEVEL       => (I/W/E/D)

      Y - ALWAYS CHECK,  N - NEVER CHECK  D - DEFAULT (CTJPARM)
      E - ERRORS,       W - WARNING      I - INFORMATION

PRESS ENTER TO CONTINUE, END OR PF03/PF15 TO EXIT

```

The results are written to the job member, and are displayed in edit or view mode.

As described above, the JCL must be saved before the verification starts. To perform the automatic save, use the following command:

```
CTJXVER S
```

If CTJXVER found that the member was changed, but not saved, the following window pops up:

**Figure 22 Control-M/JCL unsaved job member pop-up window**

```

----- CONTROL-M JCL VERIFY -----

The member has been changed.

To perform JVER on the changes the
member has to be saved.

Save it?           (Y,N)

Hit ENTER to continue

```

Enter **Y** to save the member. The verification continues.

If you enter **N**, the member is not be saved and the CTJXVER edit macro ends.

## Message filter mode

When CTJXVER is invoked with the **R** (Redisplay) option, a verification is not performed if the message buffer exists from a previous verification. CTJXVER **R** only redisplays the message buffer according to the chosen message level option.

In message filter mode, the CTJXVER edit macro has the following syntax:

```
CTJXVER R i|w|e
```

CTJXVER **R** allows you to change the message level displayed in the editor without actually verifying the JCL. The **R** option functions as a message severity filter on the current verification, where

- **i** - displays all messages
- **w** - displays warnings and errors
- **e** - displays errors only

## Return Codes

**Table 5 CTJXVER Edit Macro Return Codes (part 1 of 2)**

Code	Description
0	Operation performed successfully.
4	Control-M/JCL Verify discovered that the verified resource is not in the required status at the time of the verification. For example, an input dataset does not exist. Review the status and decide if there is a need to make a change in the job.
8	Control-M/JCL Verify discovered a problem in the job that will cause it to fail with a JCL error or to be rejected by JES2 or JES3, either during job submission or execution. Correct the JCL in the job.
12	Error in the CTJXVER parameters or statements. Review the previous error messages in JOBLLOG and SYSPRINT, and then correct the parameters or the control statements.
16 and above (except for 24, 30, and 112)	Internal error in the Control-M/JCL Verify product. Try again. If the problem reoccurs, contact BMC Customer Support.
20	Invalid input parameter. Internal error.

**Table 5 CTJXVER Edit Macro Return Codes (part 2 of 2)**

Code	Description
24	Under ISPF: Control-M/JCL Verify is not APF-authorized.
30	Getmain failed. The user needs to increase the TSO region.
32	GETMAIN error during initialization. Increase user region size.
34	IOA INIT failed. Review the TSO user's JESLOG for additional messages, and contact BMC Customer Support.
35	CTJAPI INIT failed. Review the TSO user's JESLOG for additional messages, and contact BMC Customer Support.
36	GETMAIN error during initialization. Increase user region size.
38	A parameter scan error. One or more input parameters are not valid. Perform CTJXVER P to correct the values. If the problem reoccurs, contact BMC Customer Support.
42	Error on IKJCT441. Internal error, check TSO user's JESLOG for additional messages, and contact BMC Customer Support.
46	No data returned from the Verify function (empty buffer). Internal error, check TSO user's JESLOG for additional messages, and contact BMC Customer Support.
50	An abend occurred returning from recovery routine MLJ10034T. Review TSO user's JESLOG for additional messages, and call BMC Customer Support.
112	Under all environments except ISPF: Control-M/JCL Verify is not APF-authorized.

## Examples

### Example 1

In the following example, the CTJXVER edit macro is used to verify job ACCEP000. CTJXVER is invoked from the command line of the ACCEP000 member (located in the CTJP.TESTS.JCLS library) without options, as shown in [Figure 23](#). Since the P option is not specified, the default parameters are used.

**Figure 23 CTJXVER edit macro invoked in job member– Example 1 (part 1 of 2)**

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW          CTJP.TESTS.JCLS(ACCEP000) - 01.03          Columns 00001 00072
Command ==> CTJXVER                                     Scroll ==> PAGE
***** ***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
```

**Figure 23 CTJXVER edit macro invoked in job member– Example 1 (part 2 of 2)**

```

==MSG>          your edit profile using the command RECOVERY ON.
000001 //ACCEP000 JOB 0,YY,CLASS=A,MSGCLASS=X,
000002 //          NOTIFY=&SYSUID
000003 //*          JCLLIB  ORDER=IOAP.V700.PROCLIB
000004 //          JCLLIB  ORDER=IOAP.V700.PROCLIB
000005 //STEP1     EXEC PGM=IEFBR14
000006 //ACC1NO    DD  DISP=SHR,DSN=N18.ACCESS.NONE
000007 //ACC2YES    DD  DISP=SHR,DSN=N18.ACCESS.READ
000008 //ACC2NO     DD  DISP=OLD,DSN=N18.ACCESS.READ
000009 //ACC3NDEL   DD  DISP=(SHR,DELETE),DSN=N18.ACCESS.READ
***** ***** Bottom of Data *****

```

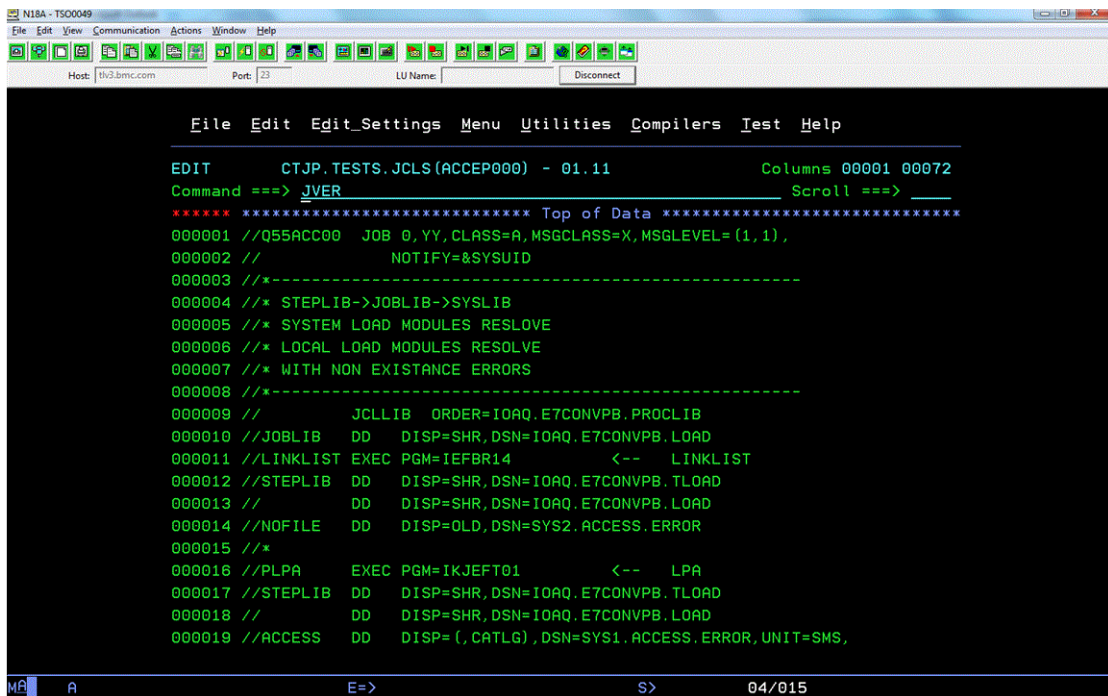
A screen capture of CTJXVER invoked from the command line of the ACCEP000 member is shown in [Figure 24](#).

**NOTE**



Figure 24 shows that the macro JVER is invoked. This assumes that the CTJXVER edit macro was copied to the SYSPROC library as JVER.

**Figure 24 CTJXVER edit macro invoked in job member screen capture – Example 1**



After the CTJXVER macro command is submitted, the output of the verification process is displayed in the job member, as shown in [Figure 25](#) and [Figure 26](#). This output can be saved by copying and pasting, or by performing a screen print.

**Figure 25 CTJXVER edit macro output– Example 1**

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW      CTJP.TESTS.JCLS(ACCEP000) - 01.03                Columns 00001 00072
Command ==>                                           Scroll ==> PAGE
***** ***** Top of Data *****
=NOTE=  RUNTIME PARARAMTERS: FA=Y FE=Y JES=Y ME=Y ML=I USER=N05
=NOTE=
=NOTE=  JOB VERIFICATION COMPLETED WITH
=NOTE=      0 ERRORS MESSAGES
=NOTE=      3 WARNINGS MESSAGES
=NOTE=      2 INFORMATION MESSAGES
=NOTE=
=NOTE=  ==> INFORMATION AT LABEL .BAAA
=NOTE=  IEF653I SUBSTITUTION JCL - 0,YY,CLASS=A,MSGCLASS=X,NOTIFY=N05
=NOTE=  ==> INFORMATION AT LABEL .BAAB
=NOTE=  INFORMATION: PGM IEFBR14 FOUND IN LINKLIST LIBRARY
===== ==> WARNING AT LABEL .BAAC
=====  WARNING: NO ACCESS WAS GRANTED FOR DSN N18.ACCESS.NONE
===== ==> WARNING AT LABEL .BAAD
=====  WARNING: UPDATE IS NOT ALLOWED FOR DSN N18.ACCESS.READ
===== ==> WARNING AT LABEL .BAAE
=====  WARNING: DELETE IS NOT ALLOWED FOR DSN N18.ACCESS.READ
000001 //ACCEP000 JOB 0,YY,CLASS=A,MSGCLASS=X,
.BAAA //          NOTIFY=&SYSUID
=NOTE=  IEF653I SUBSTITUTION JCL - 0,YY,CLASS=A,MSGCLASS=X,NOTIFY=N05
000003 //*          JCLLIB ORDER=IOAP.V700.PROCLIB
000004 //          JCLLIB ORDER=IOAP.V700.PROCLIB
.BAAB //STEP1     EXEC PGM=IEFBR14
=NOTE=  INFORMATION: PGM IEFBR14 FOUND IN LINKLIST LIBRARY
=NOTE=  SYS1.LINKLIB
.BAAC //ACC1NO   DD   DISP=SHR,DSN=N18.ACCESS.NONE
=====  WARNING: NO ACCESS WAS GRANTED FOR DSN N18.ACCESS.NONE
000007 //ACC2YES   DD   DISP=SHR,DSN=N18.ACCESS.READ
.BAAD //ACC2NO   DD   DISP=OLD,DSN=N18.ACCESS.READ
=====  WARNING: UPDATE IS NOT ALLOWED FOR DSN N18.ACCESS.READ
.BAAE //ACC3NDEL DD   DISP=(SHR,DELETE),DSN=N18.ACCESS.READ
=====  WARNING: DELETE IS NOT ALLOWED FOR DSN N18.ACCESS.READ
***** ***** Bottom of Data *****

```

The output is divided into two main sections. The header section, which begins just after the Top of Data line, displays the parameters used during the verification, a summary of the messages generated during the verification, and a list of the messages generated. The header section is following by the main body section that displays the job member line by line, with messages being displayed immediately after the lines to which they apply.

The first 6 columns in each row of the output header, which is usually reserved for indicating the line number of the job, indicates the type of message, a reference label, or other information as follows:

- ==MSG> - error message or label to job line in main body of output
- ===== - warning message or label to job line in main body of output

- =NOTE= - information message, label to job line in main body of output, or other information such as runtime parameters and job verification summary

In this example, the runtime parameters are: FA=Y FE=Y JES=Y ME=Y ML=I USER=N05. See [Table 1 on page 26](#) and [Table 2 on page 27](#) for explanations of these parameters.

In this example, the job verification summary indicates that there are no error messages, 3 warning messages, and 2 information messages. The first information message can be quickly located in the job using the label `.BAAA`. In the command line, enter the following command:

```
locate .BAAA
```

The display jumps to the following job line:

```
.BAAA //          NOTIFY=&SYSUID
```

Note that the job line number (000002) was replaced by the label (`.BAAA`) during the verification process.

The next line that is displayed is the following information message:

```
=NOTE= IEF C653I SUBSTITUTION JCL-0,YY,CLASS=A,MSGCLASS=X,NOTIFY=N05
```

The IEF prefix of the message indicates that this is an IBM generated message.

The advantage of the header becomes quickly apparent when verifying a lengthy job member. You can review the messages without scrolling through the entire job, and you can jump to the messages that interest you, using the labels.

In [figure Figure 26](#), some of the color coding is apparent. For example, the job line numbers are blue and JCL job lines are displayed in green. The first 6 characters in each row, which includes message type indicators, and labels, are red if they were inserted during the verification process. Information messages and information inserted during the verification process are displayed in blue. Warning messages are displayed in white. Error messages are displayed in yellow.

Figure 26 CTJXVER edit macro output screen capture – Example 1

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW      CTJP.TESTS.JCLS (ACCESS0) - 01.03          Columns 00001 00072
Command ==> _____ Scroll ==> PAGE
***** ***** Top of Data *****
=NOTE=  RUNTIME PARAMETERS: FA=Y FE=Y JES=Y ME=Y CTM=N ML=I USER=N05
=NOTE=
=NOTE=  JOB VERIFICATION COMPLETED WITH
=NOTE=           0 ERRORS MESSAGES
=NOTE=           3 WARNINGS MESSAGES
=NOTE=           2 INFORMATION MESSAGES
=NOTE=
=NOTE= ==> INFORMATION AT LABEL .BAAA
=NOTE=  IEF653I SUBSTITUTION JCL - 0,YY,CLASS=A,MSGCLASS=X,NOTIFY=N05
=NOTE= ==> INFORMATION AT LABEL .BAAB
=NOTE=  INFORMATION: PGM IEFBR14 FOUND IN LINKLIST LIBRARY
===== ==> WARNING AT LABEL .BAAC
=====  WARNING: NO ACCESS WAS GRANTED FOR DSN N18.ACCESS.NONE
===== ==> WARNING AT LABEL .BAAD
=====  WARNING: UPDATE IS NOT ALLOWED FOR DSN N18.ACCESS.READ
===== ==> WARNING AT LABEL .BAAE
=====  WARNING: DELETE IS NOT ALLOWED FOR DSN N18.ACCESS.READ
000001 //ACCESS0 JOB 0,YY,CLASS=A,MSGCLASS=X,

.BAAA //          NOTIFY=&SYSUID
=NOTE= IEF653I SUBSTITUTION JCL - 0,YY,CLASS=A,MSGCLASS=X,NOTIFY=N05
000003 //*          JCLLIB ORDER=IOAP.V700.PROCLIB
000004 //          JCLLIB ORDER=IOAP.V700.PROCLIB
.BAAB //STEP1     EXEC PGM=IEFBR14
=NOTE= INFORMATION: PGM IEFBR14 FOUND IN LINKLIST LIBRARY
=NOTE= SYS1.LINKLIB
.BAAC //ACC1NO   DD  DISP=SHR,DSN=N18.ACCESS.NONE
=====  WARNING: NO ACCESS WAS GRANTED FOR DSN N18.ACCESS.NONE
000007 //ACC2YES  DD  DISP=SHR,DSN=N18.ACCESS.READ
.BAAD //ACC2NO   DD  DISP=OLD,DSN=N18.ACCESS.READ
=====  WARNING: UPDATE IS NOT ALLOWED FOR DSN N18.ACCESS.READ
.BAAE //ACC3DEL  DD  DISP=(SHR,DELETE),DSN=N18.ACCESS.READ
=====  WARNING: DELETE IS NOT ALLOWED FOR DSN N18.ACCESS.READ
***** ***** Bottom of Data *****

```





# Online job verification from IOA and Control-M interfaces

Control-M/JCL Verify can be invoked from the IOA Primary Option Menu for verifying JCL jobs. When Control-M is installed, Control-M/JCL Verify can be invoked from several Control-M user interface panels.

This chapter includes the following topics:

IOA Primary Option Menu. ....	58
Control-M/JCL Verify defaults panel (JD screen) .....	60
Control-M/JCL Verify Facility (JV screen). ....	62
Job verification from Control-M interfaces .....	64
Return Codes .....	64

# IOA Primary Option Menu

When Control-M/JCL Verify is installed, the IOA Primary Option Menu provides the following options for verifying JCL jobs, as shown [Figure 27](#):

- JD - JCL Verify Defaults - for specifying verification parameter defaults
- JV - JCL Verification - for activating the verification process on job members

**Figure 27 IOA Primary Option Menu showing Control-M/JCL Verify options**

```

----- (1)
IOA PRIMARY OPTION MENU
OPTION ==>
USER      N13
DATE      03.07.12

4  COND/RES      IOA Conditions/Resources Display
5  LOG          IOA Log Display
6  UTILITIES    IOA On-Line Utilities
7  MANUAL COND  IOA Manual Conditions Display
8  CALENDAR DEF IOA Calendar Definition
IV VARIABLE DATABASE IOA Variable Database Definition Facility
JD SET USER PROFILE CTJ Setting user profile
JV JCL VERIFICATION CTJ JCL Verification

COMMANDS: X - EXIT, HELP, INFO OR CHOOSE A MENU OPTION      18.17.45

```

If Control-M is installed, the JD and JV options are provided under the Control-M column, as shown in [Figure 28](#).

Figure 28 Control-M/JCL Verify options with Control-M and Control-M/Restart

IOA PRIMARY OPTION MENU			----- (1)		
OPTION ==> _			USER N05		
IOA		Control-D/V		Control-O	
4	COND/RES	A	MISSION STATUS	OR	RULE DEFINITION
5	LOG	M	MISSION DEF	OM	MSG STATISTICS
6	UTILITIES	R	REPORT DEF	OS	RULE STATUS
7	MANUAL COND	T	RECIPIENT TREE	OL	AUTOMATION LOG
8	CALENDAR DEF	U	USER REPORTS	OA	AUTOMATION OPTS
IV	VARIABLE DATABASE	F	PC PACKET STATUS	OC	COSMOS STATUS
		DO	OBJECTS		
Control-M & CTM/Restart & Control-M/JCL Verify		Control-M/Analyzer		Control-M/Tape	
2	JOB SCHEDULE DEF	BB	BALANCING STATUS	TR	RULE DEFINITION
3	ACTIVE ENV.	BM	MISSION DEF	TP	POOL DEFINITION
C	CMEM DEFINITION	BV	DB VARIABLE DEF	TV	VAULT DEFINITION
JD	JCL VERIFY DEFAULTS	BR	RULE DEFINITION	TI	INQ/UPD MEDIA DB
JV	JCL VERIFICATION	BA	RULE ACTIVITY	TC	CHECK IN EXT VOL
COMMANDS: X - EXIT, HELP, INFO OR CHOOSE A MENU OPTION				16.48.50	

## Control-M/JCL Verify defaults panel (JD screen)

To open the Control-M/JCL Verify defaults panel (see [Figure 29](#)), enter **JD** in the option line in the IOA Primary Option Menu. Adjust the verification criteria settings or accept the current ones. The default settings are specified in the CTJPARM member.

**Figure 29** Control-M/JCL Verify defaults panel

```

----- CONTROL-M JCL VERIFY DEFINITION FACILITY - ENTRY PANEL ----- (JD)
COMMAND ===>

SPECIFY VERIFICATION CRITERIA

JES SYNTAX                ===> Y   (Y/N/D)
DATASET EXISTENCE         ===> Y   (Y/N/D)
DATASET AUTHORIZATION     ===> Y   (Y/N/D)
PROGRAM EXISTENCE        ===> Y   (Y/N/D)
MESSAGES LEVEL           ===> I   (I/W/E/D)

USE: Y - ALWAYS CHECK/RESOLVE  N - NEVER CHECK/RESOLVE  D - DEFAULT SETTINGS
     I - INFORMATORY           W - WARNING              E - ERROR              17.06.32

```

[Table 6](#) describes the criteria for verifying the JCL members.

**Table 6 Control-M/JCL Verify verification criteria**

Criteria	Description
JES SYNTAX	Whether to verify that the JES2 or JES3 statements are correct. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes, always check</li> <li>■ N - No, never check</li> <li>■ D - as defined by the JESTTMNT parameter in the CTJPARM member. Default</li> </ul>
DATASET EXISTENCE	Whether to verify file existence. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes, always check</li> <li>■ N - No, never check</li> <li>■ D - as defined by the DSNEXIST parameter in the CTJPARM member. Default</li> </ul>
DATASET AUTHORIZATION	Whether to verify file access privileges. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes, always check</li> <li>■ N - No, never check</li> <li>■ D - as defined by the DSNACCSS parameter in the CTJPARM member. Default</li> </ul>
PROGRAM EXISTENCE	Whether to verify that the load modules exist. Valid values are: <ul style="list-style-type: none"> <li>■ Y - Yes, always check</li> <li>■ N - No, never check</li> <li>■ D - as defined by the PGMCHECK parameter in the CTJPARM member. Default</li> </ul>
MESSAGES LEVEL	The minimum level of message severity to be issued. Valid values are: <ul style="list-style-type: none"> <li>■ I - Information - all messages are issued.</li> <li>■ W - warning messages and errors are issued.</li> <li>■ E - Only error messages are issued</li> <li>■ D - as defined by the MSGLEVEL parameter in the CTJPARM member. Default</li> </ul>

The criteria are associated with each user and are saved in the following profile variables:

- SJVDJES (verify that the JES2 or JES3 statements are correct)
- SJVDDSEX (verify file existence)
- SJVDDSAU (verify file access privileges)
- SJVDPGEX (load modules existence test)
- SJVDMSSL (minimum level of message severity to be issued)

# Control-M/JCL Verify Facility (JV screen)

## To verify job members

- 1 Enter **JV** in the option line of the IOA Primary Option Menu.

The Control-M/JCL Verify Facility - Entry Panel opens (see [Figure 30](#)).

- 2 In the **LIBRARY** field, enter the name of the library where the job members you want to verify are located.
- 3 In the **MEMBER** field, enter one of the options described in [Table 7](#) to indicate which job members you want to verify.

**Figure 30** Control-M/JCL VERIFY FACILITY - ENTRY PANEL

```
-----  
CONTROL-M JCL VERIFY FACILITY - ENTRY PANEL ----- (JV)  
COMMAND ==>  
  
SPECIFY LIBRARY, MEMBER  
  
LIBRARY ==> CTJP.JOBS.JCLS  
MEMBER ==>  
  
[BLANK for member selection list,  
 * for the entire library verification,  
 MASK for the members verification,  
 NAME for the member verification)  
  
USE THE COMMAND SHPF TO SEE PFK ASSIGNMENT  
17.10.39
```

Table 7 CTJVER options for MEMBER field

Enter a...	To perform...
blank	to open a list of all the job members in the specified library (Start the job verification by entering <b>E</b> or <b>S</b> in the OPT column next to the job member name. Note: <b>E</b> or <b>S</b> produce the same results.)
*	to verify all the job members in the specified library
mask	to specify a mask for verifying a group of job members
name	to specify the name of the job member to be verified

Figure 31 Control-M/JCL VERIFY FACILITY - Members list

LIST OF TABLES IN CTJP.TESTS.JCLS ----- (JV)  
 COMMAND ==> SCROLL==> CRSR

OPT	NAME	-----	VV.MM	CREATED	CHANGED	SIZE	INIT	MOD	ID
	ACJES3NK		01.00	2012/05/10	2012/05/10 17:08	167	167	0	K53AW
	ACJES3OK		01.00	2012/05/10	2012/05/10 17:08	167	167	0	K53AW
	ACPCLIST		01.02	1995/11/15	1995/11/15 15:48	5	5	1	M93A
	ACPDCE		01.01	1995/12/25	2012/03/18 10:31	22	11	0	M93A
	ACPRUN		01.03	1995/02/18	1995/11/26 17:38	36	33	0	M93
	ADDMNCND								
	ADDRBM		01.00	1998/03/15	1998/03/15 17:19	3	3	0	M93A
	ADDVOLS		01.01	1996/12/05	1996/12/05 16:19	19	16	0	M93
	AFRRUN		01.01	1995/02/16	1995/02/16 12:49	7	7	1	M93A
	ALIAS		01.01	1996/05/20	1997/11/04 15:13	7	7	0	M00
	ALLOCIOA		01.00	2011/01/20	2011/01/20 15:50	765	765	0	K56B
	ALTER		01.13	1994/10/19	2007/01/04 09:58	30	25	15	N18WA
	AMBLIST		01.18	1993/12/27	2011/10/31 09:26	11	9	6	N18B
	AMSPZAP		01.03	1996/06/04	1998/12/24 14:48	109	16	0	M93
	ANS		01.00	1999/12/07	1999/12/07 11:55	34	34	0	M93
	APAR#RPT		01.01	2012/03/06	2012/03/06 18:35	525	525	0	K53AW
	APF		01.01	2009/02/09	2009/02/09 16:55	16	15	0	M93W
	APFADD		01.00	2008/03/13	2008/03/13 16:22	1	1	0	M93
	API1000		01.01	2012/05/20	2012/05/20 11:55	2288	2288	0	N18
	APPLY		01.10	2010/09/20	2011/12/05 13:29	16	9	0	K55A

OPTIONS S/E VERIFY 09.11.32

## Job verification from Control-M interfaces

Verifies all the JCLs pointed from or in-streamed in all the job definitions in the table. The verifications are according to the defaults specified in the JD option. The output of the verifications is displayed in view mode. [Table 8](#) indicates which commands and options are available for invoking job verification from the various Control-M interfaces.

**Table 8 Options and commands for verification from Control-M interfaces**

Panel#/Description	Interface	Pop-up confirmation window	Option	Command
2 Control-M Job Scheduling Definition	Table List		E	
		Order/Force	Y (Verify JCL)	
	Job List		E	
		Order/Force	Y (Verify JCL)	
	Job Definition			JVER
View JCL			JVER	
3 Control-M Active Environment Display	Job List		E	
		Rerun/Restart	Y (Verify JCL)	
	Zoom and Save			JVER
	View JCL			JVER

### NOTE



If MULTJOBS=Y is specified in the CTMPARM member, only the first job will be submitted from the JCL member by Control-M. Therefore, if the JCL member to be verified contains more than one job, only the first job will be verified.

## Return Codes

**Table 9 Return Codes (part 1 of 2)**

Code	Description
0	Operation performed successfully.
4	Control-M/JCL Verify discovered that the verified resource is not in the required status at the time of the verification. For example, an input dataset does not exist. Review the status and decide if there is a need to make a change in the job.



**Table 9 Return Codes (part 2 of 2)**

Code	Description
8	Control-M/JCL Verify discovered a problem in the job that will cause it to fail with a JCL error or to be rejected by JES2 or JES3, either during job submission or execution. Correct the JCL in the job.
12	Error in the CTJXVER parameters or statements. Review the previous error messages in JOBLOG and SYSPRINT, and then correct the parameters or the control statements.
16 and above (except for 24, 30, and 112)	Internal error in the Control-M/JCL Verify product. Try again. If the problem reoccurs, contact BMC Customer Support.
20	Invalid input parameter. Internal error.
24	Under ISPF: Control-M/JCL Verify is not APF-authorized.
30	GETMAIN failed. The user needs to increase the TSO region.
32	GETMAIN error during initialization. Increase user region size.
34	IOA INIT failed. Review the TSO user's JESLOG for additional messages, and contact BMC Customer Support.
35	CTJAPI INIT failed. Review the TSO user's JESLOG for additional messages, and contact BMC Customer Support.
36	GETMAIN error during initialization. Increase user region size.
38	A parameter scan error. One or more input parameters are not valid. Perform CTJXVER P to correct the values. If the problem reoccurs, contact BMC Customer Support.
42	Error on IKJCT441. Internal error, check TSO user's JESLOG for additional messages, and contact BMC Customer Support.
46	No data returned from the Verify function (empty buffer). Internal error, check TSO user's JESLOG for additional messages, and contact BMC Customer Support.
50	An abend occurred returning from recovery routine MLJ10034T. Review TSO user's JESLOG for additional messages, and call BMC Customer Support.
112	Under all environments except ISPF: Control-M/JCL Verify is not APF-authorized.



# The Control-M/JCL Verify Application Program Interface (API)

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## Overview

The Control-M/JCL Verify Application Program Interface (CTJAPI) is an open interface between the application environment and Control-M/JCL Verify. CTJAPI enables your application program to interface with Control-M/JCL Verify so that you can access services and extract data from Control-M/JCL Verify into your own programs.

# Functions

The following CTJAPI functions are available:

- Initialize the Control-M/JCL Verify environment
- Perform JCL verification
- Perform cleanup when terminating the Control-M/JCL Verify environment

## CTJAPI macro and keywords

The CTJAPI macro is the interface service API for Control-M/JCL Verify. It allows the user to define the communication block and call CTJAPI to perform the requests.

The macro automatically changes keywords that must be in upper case. For example, jobname is changed to JOBNAME.

An example of the CTJAPI macro is shown in [Figure 32](#) and the macro keywords are described in [Table 10](#).

**Figure 32 CTJAPI macro example**

```
INIT      CTJAPI INIT,RAREA=APIJ
SCAN     CTJAPI SCAN,RAREA=APIJ,MCT=(R12),USER=USRID
END      CTJAPI END, RAREA=APIJ
          TITLE 'CTJAPI: CTJ COMMUNICATION AREA'
APIJ     CTJAPI APID
```

Refer to the CTJAPIA member in the IOA.SAMPLE library for an example of a program that uses the macro.

Table 10 Macro keywords (part 1 of 3)

Keyword	Description
Func	<p>Positional parameter that describes the required service. There are no defaults. Mandatory. Valid values:</p> <ul style="list-style-type: none"> <li>■ INIT - Initializes the Control-M/JCL Verify environment. See notes above. <ul style="list-style-type: none"> <li>— When Func is INIT, the block is reformatted and the fields, if not set, will contain X'00'.</li> <li>— When a keyword is not used, the macro does not change the related field.</li> </ul> </li> <li>■ SCAN - performs JCL validation</li> <li>■ END - performs cleanup when terminating the interface. See note in JMSG</li> <li>■ APID - generates the API Communication Area DSECT</li> </ul>
DSECT	<p>Defines the CTJAPI block as a DSECT. Valid values:</p> <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> </ul>
FA	<p>Whether to verify file access privileges. Valid values:</p> <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the DSNACCSS parameter in the CTJPARM member. Default</li> </ul>
FE	<p>Whether to verify file existence. The file is verified whether it is cataloged and whether it is in the volume as specified in the DD statement or in the catalog. Valid values are:</p> <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the DSNEXIST parameter in the CTJPARM member. Default</li> </ul>
JCL#	Number of JCL statements passed to CTJAPI
JCL@	<p>Address of buffer containing the JOB to be verified.</p> <p>Note: Only one job can be verified. In case the buffer contains more than one job only the first job will be handled</p>
JES	<p>Whether to verify that the JES2 or JES3 statements are correct. Valid values are:</p> <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the JESTTMNT parameter in the CTJPARM member. Default</li> </ul>

**Table 10 Macro keywords (part 2 of 3)**

Keyword	Description
JMSG	<p>Get the Control-M/JCL Verify messages for the job from the message buffer. Valid values:</p> <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> </ul> <p>After the scan is completed the following fields are set:</p> <ul style="list-style-type: none"> <li>■ JAPIMSG@ - address of message buffer. The address of the buffer is above the BAR, meaning that the address is to a double-word address area.</li> <li>■ JAPIMSG# - number of messages in buffer</li> <li>■ JAPIMSGSZ - buffer size in a double-word area</li> </ul> <p>Note: The calling program is responsible for releasing the message buffer.</p>
JOB	The name of the Control-M job scheduling definition to be verified. Control-M must be D or Y. Control-M must be installed with ICTCTM=Y.
LIB	Library containing the JCL members to be verified or Control-M Schedule job definitions library, depending on the value of the TYPE parameter. Mandatory.
MEMBER	<p>The name of the member, or masking of the members, to be verified or the Control-M schedule job definitions member, depending on the value of the TYPE parameter.</p> <p>If * or null, all members in the library will be verified.</p>
MCT	<p>MCT address. Mandatory. Valid values:</p> <ul style="list-style-type: none"> <li>■ (R12) - Default</li> <li>■ =0 - MCT field is set to 0 and the API module will initialize the IOA environment</li> <li>■ Null - the MCT field will not be changed</li> <li>■ address of MCT block</li> <li>■ (Rx) - address of MCT block in any register 2 to 12</li> </ul>

Table 10 Macro keywords (part 3 of 3)

Keyword	Description
ME	<p>Module existence. The module in EXEC PGM=<i>module_name</i> is existence is verified.</p> <ul style="list-style-type: none"> <li>■ If the PGM is not found, a warning message will be issued.</li> <li>■ If the PGM is found, an information message that contains from where the PGM (DD name or LINKLIST and library name)</li> </ul> <p>Valid values:</p> <ul style="list-style-type: none"> <li>■ Y - Yes</li> <li>■ N - No</li> <li>■ D - as defined by the PGMCHECK parameter in the CTJPARM member. Default</li> </ul>
ML	<p>The minimum level of message severity to be issued. Valid values are:</p> <ul style="list-style-type: none"> <li>■ I - Information - all messages are issued.</li> <li>■ W - warning messages and errors are issued.</li> <li>■ E - Only error messages are issued</li> <li>■ D - as defined by the MSGLEVEL parameter in the CTJPARM member. Default</li> </ul> <p>Note: JMSG=Y all messages will be available</p>
RAREA	<p>Label of CTJAPI communication block. Mandatory. Valid values:</p> <ul style="list-style-type: none"> <li>■ APID - the default name when creating a CTJAPI block using: CTJAPI APID</li> </ul>
USER	<p>The user ID to be used in the file access privileges (FA) verifications. Valid values are:</p> <ul style="list-style-type: none"> <li>■ <i>user_ID</i></li> <li>■ *DEFAULT - use the default user ID (either the user invoking the CTJVER utility, or in the case of a Control-M job definition, the Control-M owner - as specified in the OWNER field in the job definition)</li> </ul> <p>The USER is used in all the statements that follows it until a new USER is specified). If the USER statement is omitted, then USER=*DEFAULT.</p> <p>Note: If the JOB statement contains USER=, then this user is used.</p>

## CTJAPI message buffer

The application program can use the verification report information if the report records are retrieved from the message buffer. The application program requests the retrieval with the JMSG API parameter set to Y. The messages in [Table 11](#) are used to indicate the record types in the message buffer.

After the scan is completed, the following fields in the CTJAPI block are set:

- JAPIMSG@ - address of message buffer. The address of the buffer is above the BAR, meaning that the address is to a double-word address area. The program that is accessing the message buffer must run in AMODE 64.
- JAPIMSG# - number of messages in buffer
- JAPIMSGSZ - buffer size in a double-word area

The calling program is responsible for releasing the message buffer.

**Table 11 Internal messages**

Message	Description
CTJ100I	Reserved for future use.
CTJ101I	Indicates an original JCL statement or comment in the verified member.
CTJ102I	Indicates a JCL statement or comment that was added to expand the JCL procedure in the verified member. The source of the addition is indicated by one of the following symbols, which starts the JCL text, as follows: <ul style="list-style-type: none"> <li>■ xx - JCL statement from a JCL PROCEDURE or INCLUDE member</li> <li>■ xx* - JCL comment from a JCL PROCEDURE or INCLUDE member</li> <li>■ ++ - JCL statement from an instream JCL PROCEDURE</li> <li>■ ++* - JCL comment from an instream JCL PROCEDURE</li> </ul>
CTJ103I	Indicates an IBM message that normally appears in the JESJCL or JESYSMSG when the JOB is submitted and executed.
CTJ104I	Indicates a SYSIN record.
CTJ105I	Indicates a “//SYSIN DD” statement, which Control-M/JCL Verify generates when simulating JES2 or JES3. When the job is submitted, an asterisk is added as follows: //SYSIN DD *
CTJ106I	Reserved for future use.
CTJ107I	Reserved for future use.
CTJ108I	Reserved for future use.
CTJ109I	A null (//) JCL statement indicates the end of a job.



# CTJINIT utility

The CTJINIT utility boosts the performance of the JCL verifications by loading basic site related information into shared objects.

This chapter includes the following topics:

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# Overview

The CTJINIT utility boosts the performance of the JCL verifications by loading basic site related information into a shared object allocated in “above the bar” memory. The loaded information is later accessed by all subsequent invocations of Control-M/JCL Verify until the shared object is removed. The utility is optional and the user can choose whether to use it to gain the performance boost.

Each invocation of Control-M/JCL Verify scans the shared object for the information and if it exists will use it. If the shared object does not exist (either it was not loaded or already removed) then each invocation gathers its own copy of the information with transparency to the user (although a significant increase in the response time might be noticed).

The following message is issued when the shared object is not available:

```
CTJ202I Shared INFO not found. Run CTJINIT to improve verification response time
```

The information loaded into the shared object includes:

- Programs found in the system’s LINKLIST and LPA
- Mounted disk volumes
- Available device units
- JES Procedures libraries
- JES input and output classes
- JES destinations
- Printers and punches
- NJE nodes
- FCB images
- Additional JES2 or JES3 information that is required to check JCL and JES statements

The loaded data is static and is not refreshed automatically. For example, if a new module is added to the LPA after the shared object was loaded, it will not be recognized by the subsequent verifications unless the data is refreshed. Therefore, although the nature of the data kept in the shared object is static, it is recommended that the data is refreshed on a periodic basis.

# Parameters

Table 12 describes the parameters that the CTJINIT utility receives from the JCL procedure:

**Table 12 CTJINIT parameters**

Parameter	Description
REFRESH	<p>The utility loads the information and creates a new shared object allocated in “above the bar” memory.</p> <p>If a shared object already exists (as a result of a preceding REFRESH) and is not in use by a verification process, the shared object is removed, and a new shared object is created.</p> <p>If a shared object already exists and is in use by a verification process, a new shared object is created. The memory of the old shared object will not be released until one of the next REFRESH or REMOVE executions finds it unused. (Note that this is not considered a problem and therefore no error message will be issued).</p> <p>If no parameters are supplied to CTJINIT, the default value is set to REFRESH.</p>
REMOVE	<p>Removes the shared object (if it exists), provided it is not currently in use by a running verification process.</p> <p>An error message is issued if the shared object is not found or if it is found currently in use and therefore cannot be removed.</p> <p>When the shared object is in use, the user can try using REMOVE again after a few seconds or minutes. Alternatively, the user can use REMOVEF, as described below.</p>
REMOVEF	<p>Forcedly removes the shared object (if it exists) even if it is currently in use by a running verification process. An error message is issued if the shared object is not found.</p> <p><b>Warning:</b> Any running verification process that uses this shared object will abend.</p> <p>After the running REMOVEF, stop and then restart the IOAOMON monitor, if it is already started.</p>

# Activating the Utility

It is advisable to run the CTJINIT utility automatically in REFRESH mode as follows:

- Right after the system is initialized (IPLed) and JES2 or JES3 is active
- On a periodic basis (for example, on an hourly basis)

## Batch JCL

The following is a sample batch JCL used to invoke CTJINIT:

```
// .... JOB ....
//INIT EXEC CTJINIT,PARM='[REFRESH/REMOVE/REMOVEF]'
/*
//
```

Sample job CTJINITJ is located in the IOA.JCL library.

The following job is an example in which FUNCTION is set to REFRESH:

```
//CTJINIT JOB 0,YY,CLASS=A,MSGCLASS=X,
//          NOTIFY=&SYSUID
//          JCLLIB ORDER=IOAP.V700.PROCLIB
//          INCLUDE MEMBER=IOASET
//*-----*
//**                                           *
//** PARAMETERS TO CTINIT                       *
//** FUNCTION=REFRESH - loads the shared pools into shared memory*
//**                   to be available for searching routines *
//** FUNCTION=REMOVE - removes all unused shared-pools *
//** FUNCTION=REMOVEF - removes all shared-pools regardless of *
//**                   whether they are used or not *
//**                                           *
//*-----*
//INIT EXEC CTJINIT,FUNCTION=REFRESH
/*
```

The following is a sample output using FUNCTION=REFRESH:

```
19.01.53 CTJ200I CTJINIT is Starting Level 7.0.03 APAR: IJ10085
19.02.05 CTJ20BI Control-M/JCL Verify Shared Pool was created successfully
19.02.05 CTJ20AI CTJINIT Function REFRESH ended - RC=0000
```

The following job is an example in which FUNCTION is set to REMOVE:

```

//CTJINIT JOB 0,YY,CLASS=A,MSGCLASS=X,
//          NOTIFY=&SYSUID
//          JCLLIB ORDER=IOAP.V700.PROCLIB
//          INCLUDE MEMBER=IOASET
//*-----*
//**
//**  PARAMETERS TO CTINIT
//**  FUNCTION=REFRESH - loads the shared pools into shared memory*
//**                    to be available for searching routines
//**  FUNCTION=REMOVE - removes all unused shared-pools
//**  FUNCTION=REMOVEF - removes all shared-pools regardless of
//**                    whether they are used or not
//**
//*-----*
//INIT     EXEC CTJINIT,FUNCTION=REMOVE
//*

```

The following is a sample output using **FUNCTION= REMOVE**:

- Shared Pool is not use by any user

```

19.07.32 CTJ200I CTJINIT is Starting Level 7.0.03   APAR: IJ10085
19.07.32 CTJ20AI CTJINIT Function REMOVE   ended - RC=0000

```

- Shared Pool is in use by at least one user

```

19.03.06 CTJ200I CTJINIT is Starting Level 7.0.03   APAR: IJ10085
19.03.06 CTJ20DW Shared Pool is in use and was not removed
19.03.06 CTJ20AI CTJINIT Function REMOVE   ended - RC=0004

```

## Operator command

The operator can perform the various CTJINIT functions by using the following Start commands:

- *ioa*JREF - performs the CTJINIT FUNC=INIT
- *ioa*JREM - performs the CTJINIT FUNC=REMOVE
- *ioa*JREMF - performs the CTJINIT FUNC=REMOVEF

where *ioa* is the IOA installation prefix

The members must be in the system Started Task jobs library.

# Return Codes

**Table 13 CTJINIT Return Codes**

Code	Description
0	Operation performed successfully.
4	<ul style="list-style-type: none"> <li>■ FUNC=REMOVE: at least one shared object is in use</li> <li>■ FUNC=REMOVE/REMOVEF: shared object does not exist</li> </ul>
12	Parameter error in PARM.
16	CTJINIT FUNC=REMOVE was performed before CTJINIT FUNC=REFRESH was performed to create the shared object, and therefore there is nothing to remove.
20	Internal error - one of the searching routines failed. Check for previous messages in SYSPRINT or JOBLOG, and contact BMC Customer Support.
24 and above	Internal error in the Control-M/JCL Verify product. Try again. If the problem reoccurs, contact BMC Customer Support.
36	Internal error - Failed to load one of the searching routines. Check the region size and the STEPLIB statement, and try again. If the problem reoccurs, contact BMC Customer Support.

# Messages

- CTJ000I**                    **Control-M/JCL Verify is starting. Level *apar\_id***
- Explanation:* The message is issued when Control-M/JCL Verify starts the first time.
- User Response:* No action is required.
- CTJ001I**                    **Control-M/JCL Verify is ended RC= *rc***
- Explanation:* The message is issued when Control-M/JCL Verify completes the validation processing. RC is the highest return code that occurs during the validation processing.
- User Response:* If RC is not zero, it means that at least one validation has failed. Review the warning and error messages and handle them appropriately.
- CTJ002I**                    **Start verifying MEMBER *mem\_name* DSNAME= *ds\_name***
- Explanation:* The message is issued when Control-M/JCL Verify starts processing the JCL of the *mem\_name* member from the *ds\_name* dataset.
- User Response:* No action is required.
- CTJ003I**                    **Processing ended RC= *return\_code* REASON *reason\_code* MEMBER *mem\_name* DSNAME *ds\_name***
- Explanation:* The message is issued when Control-M/JCL Verify finished processing the JCL of the *mem\_name* member from the *ds\_name* dataset. RC is the highest return code that occurs during the validation processing. REASON is the reason code of the highest return code.
- User Response:* If RC is not zero, it means that at least one validation has failed. Review the warning and error messages and handle them appropriately.
- CTJ004I**                    **Verified ##### members from *lib\_name***
- Explanation:* The message is issued when Control-M/JCL Verify finished verifying the *lib\_name* library, which contains ##### members.

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*User Response:* No action is required.

**CTJ005E**      **MEMBER *mem\_name* not found in *lib\_name***

*Explanation:* The JCL verification failed because the *mem\_name* member does not exist in the *lib\_name* library. Return code is 12. Reason code is 00080014.

*User Response:* Correct the member or library name and re-submit the Control-M/JCL Verify job.

**CTJ006E**      **Library is not found DSNAME= *lib\_name***

*Explanation:* The JCL verification failed because the *lib\_name* library cannot be found. Return code is 12. Reason code is 00010014.

*User Response:* Check the library name. If necessary, change or correct the library name.

**CTJ007E**      **Empty MEMBER *mem\_name* in library *lib\_name***

*Explanation:* The JCL verification failed because the *mem\_name* member, in the *lib\_name* library, is empty. Return code is 12. Reason code is 0.

*User Response:* Check the member and library names. If necessary, change or correct the appropriate name.

**CTJ008I**      **Start verifying JOB *job\_name* MEMBER *mem\_name***

*Explanation:* The message is issued when Control-M/JCL Verify starts processing a JCL JOB from the *mem\_name* member.

*User Response:* No action is required.

**CTJ009I**      **Processing ended RC=*rc* for JOB *job\_name* MEMBER *mem\_name***

*Explanation:* The message is issued when Control-M/JCL Verify completed processing a JCL JOB from the *mem\_name* member. RC is the highest return code occurring during the validation process.

*User Response:* If RC is not zero, it means that at least one validation failed. Review the warning and error messages and handle them appropriately.

**CTJ00AI**      **Control-M/JCL Verify is not APF-authorized**

*Explanation:* Control-M/JCL Verify be must executed in an APF-authorized environment. The Control-M/JCL Verify initialization process found that the environment is not APF-authorized.

*User Response:* Verify that the JOBLIB or STEPLIB are all defined as APF-authorized. Under TSO, validate that the ISPF Edit Macro is defined as an Authorized command. Refer to the *Control-M/JCL Verify User Guide*.



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<b>CTJ00BI</b>	<p><b>Reading library's directory using mask <i>mask</i> failed reason DSNAME= <i>lib_name</i></b></p> <p><i>Explanation:</i> The Control-M/JCL Verify initialization process failed to retrieve any member from the specified library.</p> <p><i>User Response:</i> Check that the <i>mask</i> masking name is valid and results in at least one member name.</p>
<b>CTJ00CI</b>	<p><b>Runtime parameters: FA=<i>fa</i> FE=<i>fe</i> JES=<i>jes</i> ME=<i>me</i> ML=<i>ml</i> USER=<i>user</i></b></p> <p><i>Explanation:</i> Control-M/JCL Verify displays the values of the control parameters before scanning is performed. The message is issued whenever one of the parameters is changed.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJ105I</b>	<p><b>//SYSIN DD * GENERATED BY CTJVER</b></p> <p><i>Explanation:</i> The message is issued if Control-M/JCL Verify finds instream data (a.k.a. SYSIN), which is not preceded by a "DD *" statement. Control-M/JCL Verify simulates the JES2 and JES3 behaviors and generates the //SYSIN DD statement.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJ200I</b>	<p><b>CTJINIT is Starting Level xxxxxxxx APAR: yyyyyyyy</b></p> <p><i>Explanation:</i> The message is issued when CTJINIT starts.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJ201E</b>	<p><b>ERROR: xxxxxxxx tables were not initiated</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that the shared tables were not initiated.</p> <p><i>User Response:</i> Run the CTJINIT utility with FUNC=REFRESH.</p>
<b>CTJ202I</b>	<p><b>Shared INFO not found. Run CTJINIT to improve verification response time</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that the shared tables were not initiated.</p> <p><i>User Response:</i> Run the CTJINIT utility with FUNC=REFRESH.</p>
<b>CTJ203E</b>	<p><b>ERROR: Storage not available Return Code: xxxx, Reason: yyyy</b></p> <p><i>Explanation:</i> The message is issued when the application cannot allocate memory objects. The return and reason codes indicates those returned by the IARV64 system service.</p> <p><i>User Response:</i> Check the IARV64 return and reason codes in the <i>IBM MVS Authorized Assembler Services Reference</i>.</p>

- 
- CTJ204E**            **ERROR: JES sub-system is not available**
- Explanation:* The message is issued when the application cannot locate the JES Sub-System in the sub-system table.
- User Response:* Consult with your z/OS system administrator.
- CTJ205E**            **ERROR: xxxx tables cannot be accessed. Return Code: rc**
- Explanation:* The message is issued when the application cannot access the JES2 or JES3 data areas due to ALESERV failure.
- User Response:* Consult with your z/OS system administrator.
- CTJ206E**            **ERROR: Sub-System internal error**
- Explanation:* The message is issued when the JES data area does not contain the expected information.
- User Response:* This is an internal error. Retry the process and if the problem reoccurs, call BMC Customer Support.
- CTJ207E**            **ERROR: Sub-System failure. Return Codes: xxxx - xxxx**
- Explanation:* The message is issued when Control-M/JCL Verify calls the JES subsystem and the JES response is not 0.
- User Response:* Verify that the JES2 or JES3 is active. If the JES2 or JES3 is active, retry the process again. If the problem reoccurs, check the IEFSSREQ return and reason codes in the *IBM MVS Authorized Assembler Services Reference*.
- CTJ208E**            **ERROR: CTJINIT input parameters invalid. RC=rc**
- Explanation:* The message is issued because the input parameters supplied to CTJINIT in PARM are invalid.
- User Response:* Correct the parameter and re-submit the CTJINIT utility.
- CTJ209E**            **ERROR: STEPLIB dataset is not a library, DSN= dataset**
- Explanation:* The message is issued when Control-M/JCL Verify accepts a file as a LINK-LIST library, but it is not a library.
- User Response:* Correct the JCL statement and rerun the job verification.
- CTJ20AI**            **CTJINIT Function xxxxxxxx ended - RC=rc**
- Explanation:* The message is issued when CTJINIT terminates.
- User Response:* If RC is greater than 0, check for previous messages.
- CTJ20BI**            **Control-M JCL Verify Shared Pool was created successfully**
- Explanation:* The message is issued after the searching routine loads its table successfully.

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*User Response:* No action is required.

**CTJ20CE Shared Pools were not created**

*Explanation:* The message is issued if the searching routine is unsuccessful in loading its table.

*User Response:* Check for previous messages and make the necessary corrections.

**CTJ20DW Shared Pool is in use and was not removed**

*Explanation:* The message is issued while removing old shared pools and one of the shared pools is in use.

*User Response:* Re-submit the CTJINIT utility with FUNC=REMOVE, provided that no user is currently performing a JCL verification.

**CTJ20EW JES search table xxx not recognized**

*Explanation:* The message is issued while removing old shared pools and one of the shared pools is in use.

*User Response:* Re-submit the CTJINIT utility with FUNC=REMOVE, provided that no user is currently performing a JCL verification.

**CTJ20FE Control-M/JCL Verify system anchor was not created**

*Explanation:* The message is issued if CTJINIT FUNC=REMOVE is submitted before CTJINIT FUNC=REFRESH was submitted to create the shared tables, and therefore there is nothing to remove.

*User Response:* No action is required.

**CTJ20GE library library xxxxxxxxxxxxxxxxxxxxxxxxxxx data cannot be obtained**

*Explanation:* The message is issued when Control-M/JCL Verify CAB cannot be created.

*User Response:* Run CTJINIT with FUNC=REFRESH or FUNC=REMOVE.

**CTJ301E ERROR: The /\*PRIORITY statement must precede the JOB statement.**

*Explanation:* The message is issued when Control-M/JCL Verify detects that a /\*PRIORITY statement appears after a JOB statement.

*User response:* Move the /\*PRIORITY statement to appear before the JOB statement.

**CTJA01E Control-M/JCL Verify is not installed**

*Explanation:* The message is issued if Control-M/JCL Verify is not installed.

*User response:* Verify that CTJ=Y is specified in the IOAPARM member and rerun Control-M/JCL Verify.

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<b>CTJA02W</b>	<p><b>Control-M/JCL Verify ended with a WARNING</b></p> <p><i>Explanation:</i> The message is issued when a warning message is issued by Control-M/JCL Verify for the job.</p> <p><i>User Response:</i> If required, modify the JCL of the job.</p>
<b>CTJA03E</b>	<p><b>Control-M/JCL Verify ended with an ERROR</b></p> <p><i>Explanation:</i> The message is issued when an error message is issued by Control-M/JCL Verify for the job.</p> <p><i>User Response:</i> Modify the JCL of the job.</p>
<b>CTJA04S</b>	<p><b>Control-M/JCL Verify ended with an ERROR. RC=rc</b></p> <p><i>Explanation:</i> The message is issued when a severe error is encountered by Control-M/JCL Verify.</p> <p><i>User Response:</i> Refer to the Control-M/JCL Verify messages for a detailed explanation of the problem.</p>
<b>CTJD02W</b>	<p><b>WARNING: DSN with DISP=NEW, already exists. DSN= ds_name</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that the dataset, specified by DISP=NEW in the JCL, already exists.</p> <p><i>User Response:</i> Verify that the DISP and the DSN are correct.</p>
<b>CTJD03S</b>	<p><b>ERROR: CTJDSC GETMAIN error</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify starts validating the dataset, but fails to allocate workarea. The validation is aborted. This is an internal error.</p> <p><i>User Response:</i> Try again. If the problem reoccurs, call BMC Customer Support.</p>
<b>CTJD04S</b>	<p><b>ERROR: The DSN block was not found</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify starts validating the dataset, but fails to access the DSN block. The validation is aborted. This is an internal error.</p> <p><i>User Response:</i> Try again. If the problem reoccurs, call BMC Customer Support.</p>
<b>CTJD05W</b>	<p><b>WARNING: DSN with DISP=disp not found. DSN= ds_name</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that the dataset specified by DISP=OLD or DISP=SHR does not exist, or has been deleted during the job processing.</p> <p><i>User Response:</i> Verify that the DISP and the DSN are correct.</p>

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**CTJD06W**

**WARNING: DSN with DISP=DELETE not found. DSN= *ds\_name***

*Explanation:* The message is issued when Control-M/JCL Verify detects that the dataset specified by DISP=DELETE does not exist, or has been previously deleted during the job processing.

*User Response:* Verify that the DISP and the DSN are correct.

**CTJD07W**

**WARNING: Syntax error, invalid DSN= *ds\_name***

*Explanation:* The message is issued when Control-M/JCL Verify detects that the dataset name is invalid because it does not comply with the syntax rules.

The validation continues without validating this dataset.

*User Response:* Provide a valid dataset name.

**CTJD08W**

**WARNING: Request GDS file but file is not a GDS type. DSN= *ds\_name***

*Explanation:* The message is issued when Control-M/JCL Verify detects that the dataset name is invalid because it does not comply with the syntax rules.

The validation continues without validating this dataset.

*User Response:* Provide a valid dataset name.

**CTJD09S**

**ERROR: GDG validation error**

*Explanation:* The message is issued when Control-M/JCL Verify starts the dataset validation process, but the internal validation fails.

The validation is aborted. This is an internal error.

*User Response:* Provide a valid dataset name.

**CTJD0AS**

**The DSN TREE is empty**

*Explanation:* The message is issued when Control-M/JCL Verify starts the dataset validation process, but detects that the list of datasets is empty.

The validation is aborted. This is an internal error.

*User Response:* Try again. If the problem reoccurs, call BMC Software Customer Support.

**CTJD0BW**

**WARNING: DSN'S DATA CLASS *class* does not exist. DSN= *ds\_name***

*Explanation:* The message is issued when Control-M/JCL Verify checks the data SMS class, but detects that the SMS class does not exist.

*User Response:* Verify that the DATA CLASS is correct.

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<b>CTJD0CW</b>	<p><b>WARNING: DSN'S STORAGE CLASS <i>class</i> does not exist. DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify checks the storage SMS class, but detects that the SMS class does not exist.</p> <p><i>User Response:</i> Verify that the STORAGE CLASS is correct.</p>
<b>CTJD0DW</b>	<p><b>WARNING: DSN'S MANAGEMENT CLASS <i>class</i> does not exist. DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify checks the management SMS class, but detects that the SMS class does not exist.</p> <p><i>User Response:</i> Verify that the MANAGEMENT CLASS is correct.</p>
<b>CTJD0EW</b>	<p><b>WARNING: VOLSER <i>volser</i> is not in use by CATALOG DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify checks the VOLSER of a dataset, but detects that the VOLSER is different from the CATALOG information.</p> <p><i>User Response:</i> Verify that the VOLSER and DSN are correct.</p>
<b>CTJD0FW</b>	<p><b>WARNING: CATALOGED DSN, IS NOT FOUND. DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify checks if the dataset is cataloged, but it does not exist.</p> <p><i>User Response:</i> Verify that the DSN is correct.</p>
<b>CTJD0GW</b>	<p><b>WARNING: VOLSER <i>volser</i> is not mounted</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify checks the VOLSER of a dataset, but detects that the VOLSER is not mounted.</p> <p><i>User Response:</i> Verify that the VOLSER is correct.</p>
<b>CTJD0HS</b>	<p><b>WARNING: SMS CLASSES are used but SMS is not active. DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects the SMS CLASSES, while SMS is not active.</p> <p><i>User Response:</i> Check if DFSMS is active and rerun the job after DFSMS has been started.</p>
<b>CTJD0IW</b>	<p><b>WARNING: The specified SMS CLASS does not exist. DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that either the SMS CLASS does not exist or it is invalid.</p> <p><i>User Response:</i> Verify that the SMS CLASS is correct.</p>
<b>CTJD0JS</b>	<p><b>DFSMS interface function ended not OK. DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify is retrieving information from the DFSMS interface and the process ends with an error.</p>

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*User Response:* Check the previous messages from the SMS that might appear in the JOB LOG.

**CTJD0KW**            **WARNING: The specified UNIT= *unit* does not exist.**

*Explanation:* The message is issued when Control-M/JCL Verify detects that the specified UNIT does not exist.

*User Response:* Verify that the UNIT name is correct.

**CTJD0LW**            **WARNING: The specified UNIT= *unit* is OFFLINE.**

*Explanation:* The message is issued when Control-M/JCL Verify detects that the specified UNIT is offline.

*User Response:* Verify that the UNIT name is correct.

**CTJD0MW**            **WARNING: The specified VOLSER= *volser* does not match UNIT= *unit***

*Explanation:* The message is issued when Control-M/JCL Verify detects that the specified VOLSER does not match the provided UNIT.

*User Response:* Verify that the VOLSER and the UNIT are correct.

**CTJD0NI**            **INFORMATION: DATASET is migrated. DSN= *ds\_name***

*Explanation:* The message is issued when Control-M/JCL Verify detects that the dataset is migrated.

*User Response:* Verify that the dataset is correct.

**CTJD0OW**            **WARNING: MEMBER= *member* is not found in DSN= *ds\_name***

*Explanation:* The message is issued when Control-M/JCL Verify detects that the specified member does not exist in the specified dataset.

*User Response:* Verify that the member and the dataset are correct.

**CTJD0PW**            **WARNING: Direct access to VSAM *vsam* of DSN= *ds\_name***

*Explanation:* The message is issued when Control-M/JCL Verify detects that the dataset is a VSAM (index or data) component rather than a cluster.

*User Response:* Verify that the dataset is using the correct DSNAME.

**CTJD0QW**            **WARNING: Using DISP=NEW but space was not provided. DSN= *ds\_name***

*Explanation:* The message is issued when Control-M/JCL Verify detects that DISP=NEW, but SPACE was not set in the JCL statement.

*User Response:* Verify if the SPACE setting is required or the space can be set by SMS ACS routines.



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- CTJD0RE**            **ERROR: Using GDG base with DISP=OLD or SHR. DSN= *ds\_name***
- Explanation:* The message is issued when Control-M/JCL Verify detects that DISP=OLD or SHR, but SPACE was not set in the JCL statement.
- User Response:* Verify if the SPACE setting is required or the space can be set by SMS ACS routines.
- CTJD0TE**            **ERROR: DISP=OLD or SHR and VOL=SER was specified. UNIT is required for DSN= *ds\_name***
- Explanation:* The message is issued when Control-M/JCL Verify detects the above DD statement and the UNIT keyword is missing. When DISP=OLD or SHR and VOL is specified, the dataset is accessed directly without checking the catalog and therefore the UNIT is required.
- User Response:* Correct the statement and rerun the job verification.
- CTJD0UE**            **ERROR: DISP=NEW and DISP=OLD for same file in the same step. DSN= *ds\_name***
- Explanation:* The message is issued when Control-M/JCL Verify detects the above DD statement and it detects that the dataset is referred to twice; once with DISP=NEW and once with DISP=SHR/OLD. The dataset will not be found because the dataset does not exist when the system tries to allocate the dataset as an existing dataset.
- User Response:* Correct the statement and rerun the job verification.
- CTJD0VE**            **ERROR: DISP=(NEW,PASS) and twice DISP=(OLD,CATLG). DSN= *ds\_name***
- Explanation:* The message is issued when Control-M/JCL Verify detects the above DD statement and that the dataset is created with DISP=(NEW,PASS). In addition, it detects that the dataset is referred to twice in the same step with either DISP=(OLD,CATLG) or DISP=(SHR,CATLG). The second statement fails because the system removes the pass flag when handling the first DD statement. Refer to the *MVS JCL Reference and MVS JCL Guide*.
- User Response:* Correct the statement and rerun the job verification.
- CTJD0WE**            **WARNING: USING DISP=NEW but space was not provided. DSN= *ds\_name***
- Explanation:* The message is issued when Control-M/JCL Verify detects that the DISP=NEW, but SPACE was not set in the JCL statement.
- User Response:* Add the missing SPACE keyword.
- CTJJ01E**            **ERROR: Missing statement *begin\_statement* before *block\_type***
- Explanation:* While verifying a JES ENDPROCESS or ENDDATASE statement, Control-M/JCL Verify detected that a PROCESS or a DATASET statement is missing before the beginning of the PROCESS or DATASET block.
- User Response:* Either add the missing statement or remove the above statement and then rerun the job verification.



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- CTJJ02E**            **ERROR: SIGNON ERROR - NEW PASSWORD is incorrect, must be in position 35 to 42**
- Explanation:* While verifying the SIGNON JES statement, Control-M/JCL Verify detected that the new password is incorrect.
- User Response:* Correct the password and rerun the job verification.
- CTJJ03E**            **ERROR: SIGNON ERROR - NEW PASSWORD2 is incorrect, must be in position 73 to 80**
- Explanation:* While verifying the SIGNON JES statement, Control-M/JCL Verify detected that the new password2 is incorrect.
- User Response:* Correct the password and rerun the job verification.
- CTJJ04E**            **ERROR: Invalid JES statement - placement in JCL is not correct**
- Explanation:* This message is issued when Control-M/JCL Verify detects that a JES2 XMIT or JES3 ROUTE statement is incorrectly placed in the JCL.
- User Response:* Ensure that the JES2 XMIT or JES3 ROUTE statement is placed correctly after the JOB statement.
- CTJJ05E**            **ERROR: SIGNON ERROR - blanks are required after WORKSTATION name until position 21**
- Explanation:* While verifying the SIGNON JES statement, Control-M/JCL Verify detected that blanks are missing after the workstation name.
- User Response:* Add the required blanks after the workstation name, until position 21, and rerun the job verification.
- CTJJ06E**            **ERROR: SIGNON ERROR - BLANK is required in position 24**
- Explanation:* While verifying the SIGNON JES3 statement, Control-M/JCL Verify detected that position 24 is not blank.
- User Response:* Correct the statement and rerun the job verification.
- CTJJ07E**            **ERROR: SIGNON ERROR - 'A' or BLANK is required in position 22**
- Explanation:* While verifying the SIGNON JES statement, Control-M/JCL Verify detected that neither a "A" nor a blank is in position 22.
- User Response:* Correct the statement and rerun the job verification.
- CTJJ08E**            **ERROR: SIGNON ERROR - 'R' or BLANK is required in position 23**
- Explanation:* While verifying the SIGNON JES statement, Control-M/JCL Verify detected that neither a "R" nor a blank is in position 23.
- User Response:* Correct the statement and rerun the job verification.

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<b>CTJJ09E</b>	<p><b>INTERNAL ERROR CODE=100</b></p> <p><i>Explanation:</i> While verifying a JES statement, Control-M/JCL Verify detected an internal error.</p> <p><i>User Response:</i> Rerun the job verification. If the problem reoccurs, call BMC Customer Support.</p>
<b>CTJJ0AE</b>	<p><b>ERROR: Above JES statement has a keyword error</b></p> <p><i>Explanation:</i> While verifying a JES statement, Control-M/JCL Verify detected invalid data in the keyword statement.</p> <p><i>User Response:</i> Correct the keyword data and rerun the job verification.</p>
<b>CTJJ0BE</b>	<p><b>ERROR: JES statement node is unknown to JES. NODE: <i>node_string</i></b></p> <p><i>Explanation:</i> While verifying a JES statement, Control-M/JCL Verify detected a node that is not known to JES.</p> <p><i>User Response:</i> Correct the node and rerun the job verification.</p>
<b>CTJJ0CI</b>	<p><b>INFORMATION: Keyword was ignored by Control-M/JCL Verify</b></p> <p><i>Explanation:</i> While verifying a JES statement, Control-M/JCL Verify ignored the keyword.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJJ0DE</b>	<p><b>ERROR: Missing mandatory keyword</b></p> <p><i>Explanation:</i> While verifying a JES statement, Control-M/JCL Verify detected that a mandatory keyword is missing for the above type of JES statement. For more information, see the <i>IBM MVS JCL Reference</i>.</p> <p><i>User Response:</i> Add the missing keyword and rerun the job verification.</p>
<b>CTJJ0EW</b>	<p><b>WARNING: KEYWORD <i>keyword</i> has invalid value: <i>string</i></b></p> <p><i>Explanation:</i> While verifying a JES statement, Control-M/JCL Verify detected that the keyword statement contains an invalid value.</p> <p><i>User Response:</i> Correct the keyword data and rerun the job verification.</p>
<b>CTJJ0FE</b>	<p><b>ERROR: Invalid JES statement type</b></p> <p><i>Explanation:</i> While verifying a JES statement, Control-M/JCL Verify detected detected an invalid statement type.</p> <p><i>User Response:</i> Correct the statement type and rerun the job verification.</p>
<b>CTJJ0GE</b>	<p><b>ERROR: Invalid keyword: <i>keyword</i></b></p> <p><i>Explanation:</i> While verifying a JES statement, Control-M/JCL Verify detected an invalid keyword.</p>

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*User Response:* Correct the keyword and rerun the job verification.

**CTJJ0HE**      **ERROR: Invalid delimiter: *delimiter***

*Explanation:* While verifying a JES statement, Control-M/JCL Verify detected an invalid delimiter between two keywords or values.

*User Response:* Correct the delimiter and rerun the job verification.

**CTJJ0IE**      **ERROR: Multiply-defined keyword: *keyword***

*Explanation:* While verifying a JES statement, Control-M/JCL Verify detected a keyword used more than one time in the statement.

*User Response:* Correct the statement and rerun the job verification.

**CTJJ0JE**      **ERROR: Keyword *keyword* data is not numeric. DATA: *data***

*Explanation:* While verifying a JES statement, Control-M/JCL Verify detected that the keyword data is not numeric, as required by JES.

*User Response:* Correct the keyword and rerun the job verification.

**CTJJ0KE**      **ERROR: Keyword *keyword* VALUE *value* is out of range**

*Explanation:* While verifying a JES statement, Control-M/JCL Verify detected that the keyword data is not in the allowed range.

*User Response:* Correct the keyword data and rerun the job verification.

**CTJJ0LE**      **ERROR: Total number of groups is higher than 255**

*Explanation:* While verifying a JES statement, Control-M/JCL Verify detected that the total number of groups is greater than 255.

*User Response:* Correct the groups and rerun the job verification.

**CTJJ0ME**      **ERROR: Too many groups in list. Maximum allowed is 8 groups.**

*Explanation:* While verifying a JES statement, Control-M/JCL Verify detected that the number of groups is greater than the maximum allowed by JES.

*User Response:* Correct the groups and rerun the job verification.

**CTJJ0NI**      **INFORMATION: Invalid PRIORITY statement - ignored by JES2**

*Explanation:* While verifying a JES statement, Control-M/JCL Verify detected that the PRIORITY statement is invalid. JES2 will ignore the PRIORITY statement when the job is submitted.

*User Response:* If you want to use the PRIORITY statement, correct the PRIORITY statement and rerun the job verification.

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- CTJJ00E**            **ERROR: SIGNON Invalid REMOTE WORKSTATION: *string***
- Explanation:* While verifying a JES statement, Control-M/JCL Verify detected that the remote workstation name in the SIGNON statement is invalid.
- User Response:* Correct the statement and rerun the job verification.
- CTJJ0PI**            **INFORMATION: Multiple *//\*NET* statements encountered in input stream**
- Explanation:* While verifying a JES statement, Control-M/JCL Verify detected multiple *//\*NET* statements.
- User Response:* Correct the JCL and rerun the job verification.
- CTJJ0QE**            **ERROR: JES statement above has invalid USERID: *string***
- Explanation:* While verifying a JES statement, Control-M/JCL Verify detected an invalid user ID.
- User Response:* Correct the user ID and rerun the job verification.
- CTJJ0RE**            **ERROR: Unbalanced parentheses on keyword data**
- Explanation:* While verifying a JES statement, Control-M/JCL Verify detected unbalanced parentheses on keyword data.
- User Response:* Correct the parentheses on the keyword data and rerun the job verification.
- CTJJ0SE**            **ERROR: SIGNON ERROR - Must have BLANKS in position 9 to 15**
- Explanation:* While verifying a SIGNON statement, Control-M/JCL Verify detected that the data between position 9 and 15 is not BLANK, as required.
- User Response:* Correct the SIGNON statement and rerun the job verification.
- CTJJ0TE**            **INTERNAL ERROR**
- Explanation:* While verifying a JES statement, Control-M/JCL Verify detected an internal error.
- User Response:* Rerun the job verification. If the problem reoccurs, call BMC Customer Support.
- CTJJ0UE**            **ERROR: SIGNON ERROR - Must be a REMOTE name group position 16 to 24**
- Explanation:* While verifying a SIGNON statement, Control-M/JCL Verify detected that the data of the REMOTE name field is blank.
- User Response:* Correct the SIGNON statement and rerun the job verification.
- CTJJ0VE**            **ERROR: Keyword *keyword* invalid destination name.**
- Explanation:* While verifying a JES statement, Control-M/JCL Verify detected that the destination name is not valid.

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*User Response:* Correct the keyword and rerun the job verification.

**CTJJ0WE**            **ERROR: SIGNON ERROR - PASSWORD1 invalid, must be in position 25 to 32**

*Explanation:* While verifying a SIGNON statement, Control-M/JCL Verify detected that the password1 is invalid.

*User Response:* Correct the password and rerun the job verification.

**CTJJ0XE**            **ERROR: keyword/statement\_string has invalid value: value**

*Explanation:* While verifying a JES statement, Control-M/JCL Verify detected that the keyword has an invalid value.

*User Response:* Correct the keyword and rerun the job verification.

**CTJJ0YE**            **ERROR: Missing or invalid DDNAME**

*Explanation:* While verifying a JES statement, Control-M/JCL Verify detected that the mandatory keyword DDNAME is missing or has an invalid value.

*User Response:* Correct the keyword and rerun the job verification.

**CTJJ11E**            **ERROR: SIGNON ERROR - NEW PASSWORD2 is incorrect, must be in position 35 to 42**

*Explanation:* While verifying the SIGNON JES statement, Control-M/JCL Verify detected that the new password2 is incorrect.

*User Response:* Correct the password and rerun the job verification.

**CTJJ12E**            **ERROR: SIGNON ERROR - NEW PASSWORD is incorrect, must be in position 44 to 51**

*Explanation:* While verifying the SIGNON JES statement, Control-M/JCL Verify detected that the new password2 is incorrect.

*User Response:* Correct the password and rerun the job verification.

**CTJJ13W**            **WARNING: KEYWORD keyword member for value string does not exist in SYS1.IMAGELIB**

*Explanation:* While verifying a JES statement, Control-M/JCL Verify detected that the keyword statement contains an invalid value.

*User Response:* Correct the keyword data and rerun the job verification.

**CTJJ14I**            **INFORMATION: PRIORITY value priority\_string is not numeric. Statement will be ignored by JES2**

*Explanation:* While verifying a JES statement, Control-M/JCL Verify detected that the PRIORITY value is not numeric, as required. JES2 will ignore the PRIORITY statement when the job is submitted.



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<b>CTJR01I</b>	<p><b>Control-M/JCL Verify started resolving Control-M AutoEdit variables</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify begins resolving Control-M AutoEdit variables.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJR02I</b>	<p><b>AutoEdit variable list</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify is resolving Control-M AutoEdit variables. The text contains a list of the Control-M AutoEdit variables being resolved.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJR03I</b>	<p><b>Control-M/JCL Verify completed resolving Control-M AutoEdit variables</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify finishes resolving Control-M AutoEdit variables.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJR04I</b>	<p><b>Control-M/JCL Verify resolving JOB= <i>jobname</i> in LIB= <i>library</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify is resolving the Control-M AutoEdit variables in the <i>jobname</i> job located in the <i>library</i> library.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJR05I</b>	<p><b><i>text</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify is resolving Control-M AutoEdit variables and replaces the original JCL statement with a resolved JCL statement. The text contains the original JCL statement.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJR06E</b>	<p><b>Job definition(s) not supported by JCL verification</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify finds a schedule definition without one of the following Task Types: Regular job, Emergency job, or Cyclic job.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJR07E</b>	<p><b>Empty JOB <i>jobname</i> in MEMBER <i>member</i> in LIBRARY <i>lib_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify attempts to verify a JCL member, which is specified in the <i>lib_name</i> library, but the <i>member</i> member is empty.</p> <p><i>User Response:</i> Check the member and library names, and correct the incorrect name.</p>

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- CTJR08I**      **Verify JCL in JOB *jobname* from MEMBER *member* in LIBRARY *library***
- Explanation:* The message is issued when Control-M/JCL Verify is verifying the *jobname* job from the *member* member, located in the *library* library.
- User Response:* No action is required.
- CTJS00I**      **INFORMATION: JCL contains no errors**
- Explanation:* The message is issued when Control-M/JCL Verify does not detect any errors in the JCL.
- User Response:* No action is required.
- CTJS01E**      **ERROR: JCL errors found**
- Explanation:* The message is issued when Control-M/JCL Verify detects errors in the JCL.
- User Response:* Read the error messages to determine the problem.
- CTJS02E**      **Unable to open PROCLIB DDNAME**
- Explanation:* The message is issued when Control-M/JCL Verify is unable to open the JES2 or JES3 PROCLIB library, indicated by the *ddname* DD statement, to access the JCL procedure.
- User Response:* Check previous messages and additional messages in the JOBLOG.
- CTJS03E**      **ERROR: Invalid or missing JOB statement**
- Explanation:* The message is issued when Control-M/JCL Verify detects that the JCL contains an invalid or missing JOB statement.
- User Response:* Correct the JOB statement or add one in the JCL member.
- CTJS04E**      **Invalid parameter list**
- Explanation:* The message is issued when Control-M/JCL Verify receives an invalid parameter list.
- User Response:* Contact BMC Software Customer Support.
- CTJS05E**      **ERROR: Converter/Interpreter failure**
- Explanation:* The message is issued when Control-M/JCL Verify had an internal failure.
- User Response:* Contact BMC Software Customer Support.
- CTJS06E**      **ERROR: Invalid REFERBACK in the DSN= *ds\_name***
- Explanation:* The message is issued when Control-M/JCL Verify detects an error with the BACK REFERENCE in the DSN keyword.



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*User Response:* Check the BACK REFERENCE DD statement to determine the problem.

**CTJS07E            ERROR: Invalid REFERBACK in the VOL=REF=**

*Explanation:* The message is issued when Control-M/JCL Verify detects an error with the BACK REFERENCE in the VOL=REF keyword.

*User Response:* Check the BACK REFERENCE DD statement to determine the problem.

**CTJS08E            ERROR: Invalid REFERBACK in the UNIT=AFF=**

*Explanation:* The message is issued when Control-M/JCL Verify detects an error with the BACK REFERENCE in the UNIT=AFF keyword.

*User Response:* Check the BACK REFERENCE DD statement to determine the problem.

**CTJS09E            ERROR: Invalid REFERBACK in the PGM=**

*Explanation:* The message is issued when Control-M/JCL Verify detects an error with the BACK REFERENCE in the PGM= keyword.

*User Response:* Check the BACK REFERENCE DD statement to determine the problem.

**CTJS0AI            INFORMATION: DDNAME *ddname* previously allocated in this step**

*Explanation:* The message is issued when Control-M/JCL Verify detects that the specified DDNAME was previously allocated in the STEP.

*User Response:* No action is required.

**CTJS0BE            ERROR: Invalid REFERBACK in the DCB=**

*Explanation:* The message is issued when Control-M/JCL Verify detects an error with the BACK REFERENCE in the DCB= keyword.

*User Response:* Check the BACK REFERENCE DD statement to determine the problem.

**CTJS0CW            WARNING: Inconsistent dataset type and directory block specification**

*Explanation:* The message is issued when Control-M/JCL Verify detects that the user specified DSORG=PO without the directory block parameter.

*User Response:* No action is required.

**CTJS0DW            WARNING: Record length of zero is only valid if RECFM=U**

*Explanation:* The message is issued when Control-M/JCL Verify detects that the user specified LRECL=0 with RECFM=U.

*User Response:* No action is required.

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<b>CTJS0EW</b>	<p><b>WARNING: Block size must be a multiple of record length for RECFM=FB</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that the user specified LRECL=0 with RECFM set to a value other than U.</p> <p><i>User Response:</i> Change the LRECL setting, or set RECFM=U, and rerun the job verification.</p>
<b>CTJS0FW</b>	<p><b>WARNING: Record length must equal blocksize for RECFM=F</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that the user specified LRECL=BLKSIZE with RECFM=F.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJS0GW</b>	<p><b>WARNING: Record length must be less than block size for RECFM=F</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that the user specified LRECL with a value greater than BLKSIZE for RECFM=F.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJS0HW</b>	<p><b>WARNING: Block size inconsistent with record size for RECFM=V</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that the user specified LRECL with a value greater than (BLKSIZE-4) for RECFM=F.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJS0II</b>	<p><b>INFORMATION: Block size zero or missing, will be set by the system</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that the block size setting is missing or the block size is set to zero.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTJS0JI</b>	<p><b>INFORMATION: Unable to open PROCLIB DD statement</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify is unable to open the JES2 or JES3 PROCLIB library, indicated by the <i>ddname</i> DD statement, to access the JCL procedure.</p> <p><i>User Response:</i> Check previous messages and additional messages in the JOBLOG.</p>
<b>CTJSA0S</b>	<p><b>IOA security is disabled. Access validation is disabled.</b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects during initialization that the IOA security is either disabled or not installed. Therefore, the Control-M/JCL Verify file access validation feature is disabled.</p> <p><i>User Response:</i> Contact your IOA administrator to ensure that IOA security is installed and enabled.</p>

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<b>CTJSA1E</b>	<p><b>ERROR: Permission to access was not granted for DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that the user that performs the verification does not have READ access to the JCL library that contains the jobs being verified. The verification request is aborted.</p> <p><i>User Response:</i> Verify that the provided user has READ access to the JCL library.</p>
<b>CTJSA1W</b>	<p><b>WARNING: Access was not granted for DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that access was not granted to the provided user for the indicated dataset.</p> <p><i>User Response:</i> Verify that the provided user has sufficient authority for the dataset.</p>
<b>CTJSA2W</b>	<p><b>WARNING: Permission to READ was not granted for DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that read access was not granted to the provided user for the indicated dataset.</p> <p><i>User Response:</i> Verify that the correct user is being used and that the user is allowed to read the dataset.</p>
<b>CTJSA3W</b>	<p><b>WARNING: Permission to UPDATE was not granted for DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that update access was not granted to the provided user for the indicated dataset.</p> <p><i>User Response:</i> Verify that the correct user is being used and that the user is allowed to update the dataset.</p>
<b>CTJSA4S</b>	<p><b>WARNING: No authorization to commit a security query. DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that authority for committing a security query was not granted to the provided user for the indicated dataset.</p> <p><i>User Response:</i> Check if the STEPLIB or JOBLIB library are APF authorized. Retry, and if the problem is not solved, call BMC Software Customer Support.</p>
<b>CTJSA5W</b>	<p><b>WARNING: Permission to delete was not granted for DSN= <i>ds_name</i></b></p> <p><i>Explanation:</i> The message is issued when Control-M/JCL Verify detects that ALTER access was not granted to the provided user for the indicated dataset and therefore the user cannot delete the dataset.</p> <p><i>User Response:</i> Verify that the correct user is being used and that the user has ALTER authority for the dataset.</p>

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**CTJSA6W**      **WARNING: Permission to UNCATLG was not granted for DSN= ds\_name**

*Explanation:* The message is issued when Control-M/JCL Verify detects that ALTER access was not granted to the provided user for the indicated dataset and therefore the user cannot uncatalog the dataset.

*User Response:* Verify that the correct user is being used and that the user is allowed to uncatalog the dataset.

**CTJSA7W**      **WARNING: The provided user is not defined. USERID= user\_ID**

*Explanation:* The message is issued when Control-M/JCL Verify detects that the provided user is not defined in the SECURITY package (CA-ACF2, CA/Top Secrete or IBM RACF).

*User Response:* Verify that the correct user is being used.

**CTJSA8W**      **Access validation check cannot be performed by Control-M/JCL Verify**

*Explanation:* The message is issued when Control-M/JCL Verify detects that the provided user does not have a valid user ID and therefore the access validation check cannot be performed.

*User Response:* Check for previous messages in the SYSPRINT or JOBLOG.

**CTJT001I**      **Only ENTER key is valid**

*Explanation:* When Control-M/JCL Verify Edit Macro is executed for a member that has been changed, but not saved, a prompt window opens, asking if the user wants to save the changes. If the user presses any key, besides ENTER, first ISPF displays the following short message:

Invalid PF key

If the user presses PF1, ISPF displays the full CTJT001I message.

*User Response:* In the prompt window, enter "Y" or "N" and press ENTER.

**CTJT002I**      **Valid values are I, W, E or D**

*Explanation:* When Control-M/JCL Verify Edit Macro is executed with the "P" parameter, a prompt window opens, allowing the user to change parameter values. If the user enters an invalid value for the MESSAGE LEVEL field, first ISPF displays the following short message:

Invalid msg level value

If the user presses PF1, ISPF displays the full CTJT002I message.

*User Response:* Set the message level, by entering one of the valid values (I, W, E or D) in the MESSAGE LEVEL field.

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**CTJT003I****Valid values are Y, N, or D**

*Explanation:* When Control-M/JCL Verify Edit Macro is executed with the “P” parameter, a prompt window opens, allowing the user to change parameter values. If the user enters an invalid value for one or more of the following fields: JES SYNTAX, DATASET AUTHORIZED, DATASET EXISTENCE or PROGRAM EXISTENCE, first ISPF displays the following short message:

Invalid parm value

If the user presses PF1, ISPF displays the full CTJT003I message.

*User Response:* Set the parameter value, by entering one of the valid values (Y, N, or D) in the appropriate field.

**CTJT004I****USERID field can not be empty**

*Explanation:* When Control-M/JCL Verify Edit Macro is executed with the “P” parameter, a prompt window opens, allowing the user to change parameter values. If the user enters an empty value for the USERID field, first ISPF displays the following short message:

USERID field empty

If the user presses PF1, ISPF displays the full CTJT004I message.

*User Response:* Enter a valid user ID in the USERID field.

**CTJT005I****USERID should be a valid user name**

*Explanation:* When Control-M/JCL Verify Edit Macro is executed with the “P” parameter, a prompt window opens, allowing the user to change parameter values. If the user enters an invalid value for the USERID field, first ISPF displays the following short message:

Invalid USERID field

If the user presses PF1, ISPF displays the full CTJT005I message.

*User Response:* Enter a valid user ID in the USERID field.

**CTJU00I****Control-M/JCL Verify Utility started. LEVEL *apar\_id***

*Explanation:* The message is issued when Control-M/JCL Verify starts the first time. Level indicates the module APAR ID.

*User Response:* No action is required.

**CTJU01I*****echo-sysin***

*Explanation:* The message echoes the input from PARM or \*SYSIN statements to Control-M/JCL Verify.

*User Response:* No action is required.

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- CTJU02I**            **Control-M/JCL Verify Utility ended. RC= rc.**
- Explanation:* The message is issued when Control-M/JCL Verify ends. RC is the highest return code that occurs during the validation processing.
- User Response:* If RC is not zero, it means that at least one validation has failed. Review the warning and error messages and handle them appropriately.
- CTJU03I**            **Input not read from SYSIN. RC=12**
- Explanation:* The message is issued when Control-M/JCL Verify attempts to read the SYSIN file, but it is either an empty or a DUMMY file.
- User Response:* Add at least one valid statement or a comment and rerun the job verification.
- CTJU0CE**            **Keyword *keyword* is not a valid keyword**
- Explanation:* The message is issued when Control-M/JCL Verify detects an unrecognized keyword, and continues to the next input statement. Control-M/JCL Verify terminates with RC=12.
- User Response:* Correct the keyword and re-submit the Control-M/JCL Verify job.
- CTJU0EE**            **Input library not found.**
- Explanation:* The message is issued after Control-M/JCL Verify scans all statements, but detects that a SCAN or ORDER statement does not have a DSN or LIBRARY keyword or the value is null. Control-M/JCL Verify terminates with RC=12.
- User Response:* Add a DSN or LIBRARY keyword with a file name to the SCAN or ORDER statement and re-submit the Control-M/JCL Verify job.
- CTJU0FE**            **Function *function* is not a valid function**
- Explanation:* The message is issued after Control-M/JCL Verify detects a statement containing an invalid function. Control-M/JCL Verify terminates with RC=12.
- User Response:* Correct the statement and re-submit the Control-M/JCL Verify job.
- CTJU0GE**            **Keyword *keyword* contains invalid data**
- Explanation:* The message is issued after Control-M/JCL Verify detects that a keyword in one of the statements contains invalid data. Control-M/JCL Verify terminates with RC=12.
- User Response:* Correct the keyword data and re-submit the Control-M/JCL Verify job.

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<b>CTJU0HE</b>	<p><b>The requested ORDERID text</b></p> <p><i>Explanation:</i> A job, which is requested by either the ORDERID or the AJF function, is not processed because of one of the following reasons: it does not have embedded JCL statements, it is a TABLE Entity, it is a Started Task, it is not found in the AJF, or it is already deleted.</p> <p><i>User Response:</i> Verify that the requested job is correct.</p>
<b>CTMD78I</b>	<p><b>JCL VERIFICATION CAN ONLY BE DONE FOR JOBS</b></p> <p><i>Explanation:</i> Control-M/JCL Verify can only verify jobs, but not started tasks (STC).</p> <p><i>User Response:</i> No action is required.</p>
<b>CTMD79I</b>	<p><b>JCL VERIFICATION CAN'T BE DONE FOR ON-SPOOL JOBS</b></p> <p><i>Explanation:</i> Control-M/JCL Verify cannot verify on-spool jobs.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTMD7AI</b>	<p><b>JCL VERIFY OK, RERUN OF yyyyyyyy TABLE "zzzzzzz" ODATE aaaaaa PERFORMED</b></p> <p><i>Explanation:</i> JCL verification was performed while rerunning a job. The JCL verification finished OK, and the rerun was successful.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTMD7BI</b>	<p><b>JOB NOT RERUN DUE TO JCL VERIFICATION FAILURE</b></p> <p><i>Explanation:</i> JCL verification was performed before rerunning a job. The JCL did not successfully pass the verification, and therefore the job was not rerun.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTMD7CI</b>	<p><b>JCL VERIFICATION CAN'T BE DONE FOR DUMMY JOBS</b></p> <p><i>Explanation:</i> Control-M/JCL Verify cannot verify dummy jobs.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTMD7EI</b>	<p><b>JCL VERIFICATION CAN'T BE DONE FOR WARNING JOBS</b></p> <p><i>Explanation:</i> Control-M/JCL Verify cannot verify warning jobs.</p> <p><i>User Response:</i> No action is required.</p>
<b>CTMD7FW</b>	<p><b>CONTROL-M JCL VERIFY IS NOT INSTALLED</b></p> <p><i>Explanation:</i> Control-M/JCL Verify is not installed.</p> <p><i>User Response:</i> No action is required.</p>

---

**CTMD7GI**

**JOB HAS CHANGED. INVOKE JVER AFTER RE-ENTERING THIS SCREEN**

*Explanation:* This message is issued in screen 2 and screen 3. If the job scheduling definition is changed, and then the JVER command is issued, this message is displayed.

*User response:* Exit screen 2 or screen 3, and re-enter.

**IOAJV0E**

**INVALID VALUE, USE "Y", "N" OR "D"**

*Explanation:* An invalid value was specified for a verification criteria. The cursor points to the field that contains the invalid value.

*User response:* Correct invalid value.

**IOAJV1E**

**INVALID VALUE, USE "I", "W", "E" OR "D"**

*Explanation:* An invalid value was specified for a verification criteria. The cursor points to the field that contains the invalid value.

*User response:* Correct invalid value.

**IOAJV2E**

**INVALID OPTION FOR SMART TABLE**

*Explanation:* "E" (JCL VERIFY) option was entered for table entity.

*User response:* Use valid option.



## Sample exit 4

Control-M/JCL Verify is delivered with a CA Endeavor sample exit 4 (CTJAPIA) that uses CTJAPI. This exit is in the IOA.SAMPLE library. Whenever an element is checked in, exit 4 is invoked

The CA Endeavor sample (using exit 4) performs the following:

- identifies that a JCL job element is checked in
- verifies that the job definition is valid
- fails the check-in, if any errors are found



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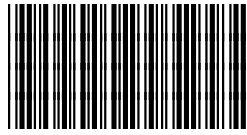
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## Notes



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