

z/VM Basics CP and CMS

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July 2026

z/VM 7.4 CMS Primer

- Excellent for learning the entire CMS environment

z/VM 7.4 CMS User's Guide

- Focus on:
 - Chapter 1, 2, 3, 4, 5, 8
- After learning REXX, then:
 - Chapter 12, 13, 14, 15

z/VM 7.4 CP Commands and Utilities Reference

z/VM 7.4 CP Messages and Codes

z/VM creates two environments – the control program and the virtual machine

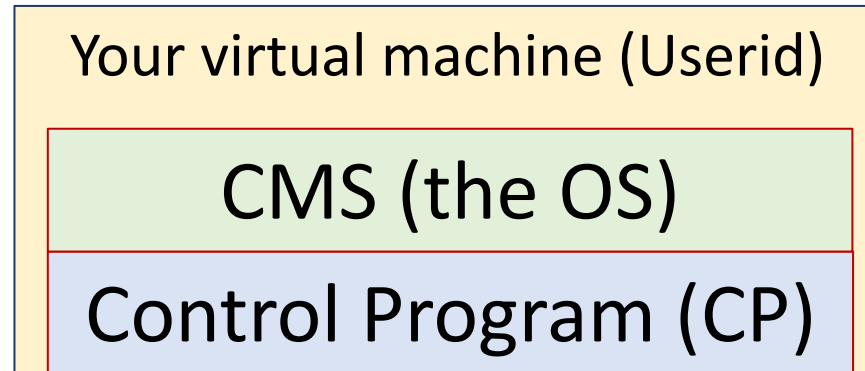
The control program (CP) is used to control the resources of your virtual machine's configuration

The virtual machine loads an operating system (CP IPL), which is normally CMS* for general users

- It could be Linux, z/OS, z/VM or any other OS that runs on Z

*CMS is the Conversational Monitoring System – originally the Cambridge Monitor System

z/VM Virtual Machine



z/VM Operating System

Your virtual machine is defined in the CP Directory

- Contains all the virtual (and real) resources your userid can use
 - CPU and Memory
 - Privilege Classes – what CP commands you are authorized to use
 - What OS to IPL by default – i.e., IPL CMS
 - DASD (disks or MDISKs / minidisks) – storage areas for your files
 - ...and more

z/VM will build your virtual machine when you logon

- Logging on via your TN3270 client (covered in the 3270 presentation)
 - Userid and Password or Passphrase

z/VM Virtual Machine (CP)

Virtual Devices normally available on your virtual machine

- 0009 or CONS – the virtual machine console (display)
- The following are known to CP as *spool* devices
 - 000C or RDR – virtual card reader
 - 000D or PUN – virtual card punch
 - 000E or PRT – virtual printer
- 0191 – default address for personal minidisk (MDISK) storage

Enter: CP QUERY VIRTUAL to see all of your virtual devices

z/VM Virtual Machine (CP)

```
STORAGE = 128M
XSTORE = ---
CPU 00 ID FF030F7885628000 (BASE) IFL CPUAFF ON
No AP Crypto Domains are available
CONS 0009 ON LDEV L0006 TERM START HOST TCPIP FROM 192.168.5.152
      0009 CL C NOCONT NOHOLD COPY 001 READY FORM STANDARD
      0009 TO JAMES RDR DIST SYSPROG FLASHC 000 DEST OFF
      0009 FLASH CHAR MDFY 0 FCB LPP OFF
      0009 3215 NOEOF OPEN 5420 NOKEEP NOMSG NAME JAMES CONSOLE
      0009 SUBCHANNEL = 0011
RDR 000C CL * NOCONT NOHOLD EOF READY
      000C 2540 CLOSED NOKEEP NORESCAN SUBCHANNEL = 0012
PUN 000D CL A NOCONT NOHOLD COPY 001 READY FORM STANDARD
      000D TO JAMES PUN DIST SYSPROG DEST OFF
      000D FLASH 000 CHAR MDFY 0 FCB
      000D 2540 NOEOF CLOSED NOKEEP NOMSG NONAME
      000D SUBCHANNEL = 0013
PRT 000E CL A NOCONT NOHOLD COPY 001 READY FORM STANDARD
      000E TO JAMES RDR DIST SYSPROG FLASHC 000 DEST OFF
      000E FLASH CHAR MDFY 0 FCB LPP OFF
      000E 1403 NOEOF CLOSED NOKEEP NOMSG NONAME
      000E SUBCHANNEL = 0014
DASD 0190 3390 M01RES R/O 214 CYL ON DASD 2223 SUBCHANNEL = 0015
DASD 0191 3390 64UV01 R/W 20 CYL ON DASD 2222 SUBCHANNEL = 0000
DASD 019D 3390 M01RES R/O 292 CYL ON DASD 2223 SUBCHANNEL = 0016
DASD 019E 3390 M01RES R/O 500 CYL ON DASD 2223 SUBCHANNEL = 0017
DASD 0319 3390 ZPR007 R/O 20 CYL ON DASD 2304 SUBCHANNEL = 0019
DASD 031A 3390 64UV01 R/O 50 CYL ON DASD 2222 SUBCHANNEL = 0018
DASD 1701 9336 FBASPL R/O 23068672 BLK ON DASD ED00 SUBCHANNEL = 0004
```

z/VM Virtual Machine (CP)

The defined OS in your directory will normally be loaded at logon
The Initial Program Load or IPL command handles this

Examples:

- IPL CMS
- IPL CMS PARM AUTOOCR
- IPL 190 or IPL 200

Without IPLing a valid OS, there isn't much you can do other than CP commands

z/VM Virtual Machine (CP)

```
l homework
```

→ Enter your password,
or

To change your password, enter: ccc/nnn/nnn
where ccc = current password, and nnn = new password

→ ICH70001I HOMEWORK LAST ACCESS AT 13:14:31 ON TUESDAY, JUNE 30, 2026

z/VM Version 7 Release 4.0, Service Level 0008 (64-bit),

→ built on IBM Virtualization Technology

There is no logmsg data

→ FILES: NO RDR, NO PRT, NO PUN

LOGON AT 13:14:40 EDT TUESDAY 06/30/26

→ z/CMS V7.4.0 2026-05-15 13:52

→ Ready; T=0.01/0.01 13:14:40

1. A login to the userid "homework"
2. RACF last-access message
3. z/VM preamble; includes the version of z/VM and log message (MOTD)

4. Userid's SPOOL files (RDR,PRT,PUN) and logon time stamp
5. CMS system info line; VM READ is possible at this point – tap ENTER
6. Any PROFILE EXEC is executed, then CMS Ready prompt is displayed

CMS

In the simplest terms, a file contains data which could be:

- Simple text, such as a list of items or a letter to someone, etc
- Script source code, usually REXX code but could be EXEC or EXEC2 code
- Program source code, such as Assembler, PL/I, etc
- Other content such as compiled code, are not directly editable

Files in CMS will have their own three-part identifier

- File Name and File Type are the first two
 - Can be any combination of letters and numbers, no longer than 8 characters each
 - The valid characters are A-Z, a-z, 0-9, \$ (dollar sign), # (pound sign), @ (at sign), + (plus sign), - (hyphen) : (colon), and _ (underscore)

* Note: The manual says "Lowercase letters within a file ID are valid" but they would be unusable. Don't do it

- **File Mode**

- The file mode will be where the file is located – on a minidisk or SFS directory accessed on your userid. It is a letter followed by a number; the number can be ignored for now
- The default File Mode is normally “A” – which is your primary storage area

Examples of CMS file name/type/mode:

- PROFILE EXEC A1
- INVENTORY LISTING C1

A few special File Types (more can be found in z/VM 7.4 CMS User's Guide)

- EXEC Executable script file (normally REXX code)
- HELPxxxx Source files for HELP facility
- MODULE Executable compiled code
- REXX CMS Pipelines stage
- TEXT A compiled text deck (from programming language)
- XEDIT An XEDIT macro

The most common way to create a new file, or update one is using XEDIT

- XEDIT will be covered in more detail in *Introduction to XEDIT*

Creating a new file or updating an existing one:

- Xedit fname ftype fmode
 - If the file *does not* exist, a new, empty one is presented to you
 - If the file *does* already exist, you will be put into an edit session with it
 - If you omit the fmode (file mode)
 - CMS will try to find the file on any accessed mode starting at A until it is found
 - If nothing was found, then the file mode defaults to A and you get a new, empty file

Managing files can be done from the command line or a utility

Some commands you can use to manage files:

- `LISTFILE fname ftype fmode` List the files found on your console
- `ERASE fname ftype fmode` Erases the specified file
- `COPYFILE infile outfile (opts` Copies the infile to the outfile; each is a “fname ftype fmode” triplet; opts include OLDDATE, REPLACE
- `RENAME infile newfile` Renames infile to newfile; each is a “fname ftype fmode” triplet
- `XEDIT fname ftype fmode` XEDIT the file to modify content

Managing files is normally done with the FILELIST command

You will likely spend a lot of time in FILELIST

This utility provides an environment listing all the files you asked for
Command syntax:

- FILELIST fname ftype fmode (options)
 - FILELIST with no parms will show you everything on your “A” disk/dir
 - Wildcards can be used for all three parms (see: HELP PATTERN)
 - FILELIST * EXEC * --would show all files with a file type of EXEC that are accessed

FILELIST

1. Shows the file name, type mode
2. Provides details on each file; structure, size and date/time
3. The Cmd area before each file allows you to type any CMS command in front of the file, using the file name, type and mode as input to the command
4. Function keys set for different actions
5. An XEDIT Command line; used to do manual navigation, find files, or run special FILELIST environment commands

```
JAMES FILELIST A0 V 169 Trunc=169 Size=307 Line=1 Col=1 Alt=0
Cmd Filename Filetype Fm Format Lrecl Records Blocks Date Time
LASTING GLOBALV A1 V 74 10 1 2026-07-03 10:47:17
xeditEARCH RESULTS A1 V 74 29 1 2026-07-02 11:41:02
VMQ EXEC A1 V 126 182 2 2026-07-02 10:29:56
SETLOGBY EXEC A1 V 76 9 1 2026-07-02 10:18:48
LCLPROF EXEC A1 V 44 8 1 2026-07-02 07:00:32
JAMES NETLOG A0 V 108 23 1 2026-06-18 08:55:04
A A A1 V 14 43 1 2026-06-02 14:25:45
PROFILE XEDIT A5 V 257 600 6 2026-05-26 10:44:06
ZOPER SCREEN A1 F 140 48 2 2026-05-21 10:27:21
SHEADER FILE A1 V 56 9 1 2026-05-13 06:49:14
MYNAME EXEC A1 V 22 2 1 2026-04-06 14:03:23
EXAMP25 EXEC A1 V 25 34 1 2026-04-06 14:03:03
PROFILE EXEC A2 V 93 400 3 2026-03-31 07:31:40
VMSERVU: DIRECT A1 F 80 5 1 2026-03-16 12:18:13
FIXPIPE $FP A1 V 100 1 1 2026-03-03 13:28:23
FILELIST PFKEYS A1 V 48 35 1 2026-03-02 11:58:52
LDAPSRCH EXEC A2 V 80 75 1 2026-02-26 08:04:56

1= Help      2= Refresh  3= Quit    4= Sort(type)  5= Sort(date)  6= Sort(size)
7= Backward  8= Forward  9= FL /n  10=          11= XEDIT/LIST 12= Cursor

====>

XEDIT 1 File
```

EXECUTE is a routine that can be used in FILELIST, RDRLIST, DIRLIST and other utilities

Used to issue commands/actions against a range of the items displayed

Example: FILELIST PROF*

- Shows two files; PROFILE EXEC A and PROFILE XEDIT A
- Entering on the command line:
EXECUTE * COPYFILE / PROFMINE ==
- Then PF2 (Refresh) will then show four files;
PROFMINE * are duplicates of PROFILE *

What is the environment called that controls your virtual devices?

Answer: **CP – Control Program**

What CMS command can be used to change the name of a file?

Answer: **RENAME**

PROFILE EXEC

The PROFILE EXEC file is automatically processed when you logon and CMS is IPL'd. It is normally found on the "A" disk/dir

It contains CP and CMS commands that you want to run at the start of a new CMS session

- Access disks and directories
- Set up your PF keys
- Set screen colors
- Set up your CMS Synonyms
- Load routines you frequently use into memory
- Etc...

A very basic PROFILE EXEC

```
/* Basic PROFILE EXEC to run a CMS demo userid */  
Address 'COMMAND'  
'CP SET RUN ON'  
  
/* Access local tools and product utilities */  
/* 'EXEC VMLINK SYSTOOLS 191 <31A L> (NOTYPE' */  
'EXEC PUBLIC'  
  
Say 'Welcome to your CMS userid!'
```

Example commands to consider for your PROFILE EXEC

- 'CP SET PFnn *command*'
 - Sets a PF key to execute a command
 - See HELP CPSET PF
 - Example: 'CP SET PF3 RETRIEVE BACKWARD'
- 'CP SET DATEFORMAT *choice*'
 - Set the default date format
 - See HELP CPSET DATEFORMAT
 - Example: 'CP SET DATEFORMAT ISODATE'

Spool - Reader Files

CP creates a 000C device, or virtual card reader (RDR) for you
Your RDR spool device is where files are sent to you. You may see:

```
RDR FILE 5452 SENT FROM OPERATOR PUN WAS 3863 RECS 0018 CPY 001 A NOHOLD NOKEEP
```

You can use CP commands to see what files you have in your RDR

CP QUERY RDR (short form: q r)

ORIGINID	FILE	CLASS	RECORDS	CPY	HOLD	FORM	DEST	KEEP	MSG
JAMES	5451	A	PUN	00000142	001	NONE	STANDARD	OFF	OFF
JAMES	5450	A	PUN	00000273	001	NONE	STANDARD	OFF	OFF
OPERATOR	5452	A	PUN	00000018	001	NONE	STANDARD	OFF	OFF
JAMES	5453	C	CON	00000035	001	NONE	STANDARD	OFF	OFF

CP QUERY RDR ALL (short form: q r all)

ORIGINID	FILE	CLASS	RECORDS	CPY	HOLD	DATE	TIME	NAME	TYPE	
JAMES	5451	A	PUN	00000142	001	NONE	2026-07-06	07:12:49	PROFILE	EXEC
JAMES	5450	A	PUN	00000273	001	NONE	2026-07-06	07:12:49	PROFILE	XEDIT
OPERATOR	5452	A	PUN	00000018	001	NONE	2026-07-06	07:14:19	PROFILE	EXEC
JAMES	5453	C	CON	00000035	001	NONE	2026-07-06	07:31:20		

Commands to manage files in your RDR

CP PURGE RDR *nnnn*|ALL

Purges the file specified by *nnnn* or ALL files in your RDR

EXEC RECEIVE *nnnn*

Receives the file specified by *nnnn* to your disk/directory. There are many other options available

EXEC RDRLIST

Displays your RDR files and allows management similar to FILELIST

RDRLIST

1. Shows the file name/type if available
2. Provides details on each file; where it came from, records and date/time
3. The Cmd area before each file allows you to type any CMS command in front of the file, using the RDR file number as input to the command
4. Function keys set for different actions
5. An XEDIT Command line; used to do manual navigation, find files, or run special RDRLIST environment commands

ie, EXECUTE * RECEIVE / = = A

```
JAMES  RDRLIST  A0  4 164 Trunc=164 Size=4 Line=1 Col=1 Alt=0
Cmd Filename Filetype Class User  at Node  Hold  Records  Date      Time
  PROFILE  XEDIT   PUN  A  JAMES   VSIVM3  NONE    273  2026-07-06 07:12:49
  PROFILE  EXEC     PUN  A  JAMES   VSIVM3  NONE    142  2026-07-06 07:12:49
  PROFILE  EXEC     PUN  A  OPERATOR VSIVM3  NONE     18  2026-07-06 07:14:19
 (none)   (none)   CON  C  JAMES   VSIVM3  NONE     35  2026-07-06 07:31:20

1= Help      2= Refresh  3= Quit      4= Sort(type) 5= Sort(date) 6= Sort(user)
7= Backward  8= Forward  9= Receive   10=           11= Peek      12= Cursor

====>

                                XEDIT 1 File
```

You can send files to other users with a CMS command

- SENDFILE fname ftype fmode TO userid (options
 - i.e., SENDFILE TICTAC EXEC A TO HOMEWORK
- Some options include:
 - NOACK – don't send an acknowledgment when the user receives it
 - NOLOG – don't put in a log entry
 - NOTYPE – don't type anything on the console when the file is sent

The user you sent the file to (HOMEWORK) would see your file in their RDR

ORIGINID	FILE	CLASS	RECORDS	CPY	HOLD	DATE	TIME	NAME	TYPE
VSITR000	5451	A	PUN	00000142	001	NONE	2026-07-06 07:12:49	TICTAC	EXEC

You can capture console messages

- CP SPOOL CONS START TO * NAME MY CONSOLE

As console messages are produced, they are collected in an Open spool file in your PRT queue

```
q prt all
```

ORIGINID	FILE	CLASS	RECORDS	CPY	HOLD	DATE	TIME	NAME	TYPE
JAMES	5454	C	CON	00000285	001	NONE	OPEN-	0009	JAMES CONSOLE

When you want to close your console spooling

- CP CLOSE CONSOLE closes, but keeps it spooled
- CP SPOOL CONS STOP closes and stops spooling

The spool file will be sent to the RDR

```
close console
```

```
RDR FILE 5454 SENT FROM JAMES      CON WAS 5454 RECS 0289 CPY  001 C NOHOLD NOKEEP
```

```
q r * all
```

ORIGINID	FILE	CLASS	RECORDS	CPY	HOLD	DATE	TIME	NAME	TYPE
JAMES	5454	C	CON	00000289	001	NONE	2026-07-06	07:32:16 MY	CONSOLE

Command Search Order

When a command is entered in CMS

- CMS scans for type EXEC first, then MODULE
 - In-memory (EXECLOAD or NUCXLOAD)
 - Disks or Directories in order of access – A through Z
- CMS internal command
- CP command

Prefixing commands

- EXEC will only look for EXEC files
- CP will do a CP command
 - In CMS, “CP” is a CMS Command that just passes the content to CP
- #CP is very special – it "breaks to CP" immediately; no searching is done

You can really confuse yourself or others

- If you create EXECs named the same as other commands, they take precedence
- Example, if I have a CP EXEC file that just types out "You wish"
 - I enter in CMS: CP QUERY TIME
 - and get "You wish" on the console

Be careful and aware!

Q TIME

- A CP command that shows date/time details

Q DISK

- A CMS command that shows your accessed disks

Both "QUERY" commands work even though one was for CP and the other CMS

Some commands like QUERY and SET will check further if the subcommand is not found in the environment

It is much easier to type the shortest form of commands

- CP QUERY TIME

- VS

- Q T

- FILELIST

- VS

- FILEL

- RDRLIST

- VS

- RL

You can set your own synonyms for commands

- i.e., JAMES SYNONYMS

Really handy when you constantly mis-type a command or just want a shorter version

- For example, I set FILELIST so I can enter 1 or more of the characters
 - Just "F" or "FF" on the command line will put me in FILELIST
- ```
FILELIST FF 2
FILELIST FILELIST 1
```

Conversely, you can protect 'short' commands

- LOGOFF will happen even if you type "LOG"
  - I set mine to require all six characters: LOGOFF LOGOFF 6

See: Using Synonyms, Chapter 5 in the z/VM 7.4 CMS User's Guide

# MDISKS / DIRECTORIES

z/VM uses storage that can be either a minidisk (MDISK) or a directory (Shared File System / SFS file space)

## MDISK

- A location on a real DASD volume which has been defined in the CP Directory
  - MDISK 0191 3390 681 50 VM1005 MR
- You normally do not need to be concerned with the location of the MDISK; they function exactly the same as real disks

## SFS Directory

- An allocation of storage that resides in a Shared File System File Pool
  - Allocation is by userid (normally the owner of the storage) and total blocks
  - i.e., SFSVM3:JAMES.
- Subdirectories can be created from the “top” directory, or root, which is normally the pool:owner.
  - i.e., SFSVM3:JAMES.TOOLS.PUBLIC
- SFS is much more flexible than MDISKs
  - More space can be added on-the-fly by the SFS admin

\* Learn more about SFS in class #2: “CMS Shared File System Usage and Administration”

# What do you have?

## QUERY DISK (CMS command)

- Shows the disks and directories you have accessed
- Q DISK [fm]

```
q disk
LABEL VDEV M STAT CYL TYPE BLKSZ FILES BLKS USED-(%) BLKS LEFT BLK TOTAL
JSV191 191 A R/W 20 3390 4096 302 1443-40 2157 3600
- DIR B R/W - - 4096 2360 - - -
SYSTLS 31A L R/O 50 3390 4096 1636 6259-70 2741 9000
SYS740 319 P R/O 20 3390 4096 119 2532-70 1068 3600
MNT190 190 S R/O 207 3390 4096 691 24855-67 12405 37260
MNT19E 19E Y/S R/O 500 3390 4096 1070 39573-44 50427 90000
Ready; T=0.01/0.01 13:06:23
```

# What do you have?

## CP QUERY VIRT DASD (CP command)

- Shows you what disks you have linked
- Q V DASD

```
q v dasd
DASD 0190 3390 M01RES R/O 214 CYL ON DASD 2223 SUBCHANNEL = 0015
DASD 0191 3390 64UV01 R/W 20 CYL ON DASD 2222 SUBCHANNEL = 0000
DASD 019D 3390 M01RES R/O 292 CYL ON DASD 2223 SUBCHANNEL = 0016
DASD 019E 3390 M01RES R/O 500 CYL ON DASD 2223 SUBCHANNEL = 0017
DASD 0319 3390 ZPR007 R/O 20 CYL ON DASD 2304 SUBCHANNEL = 0019
DASD 031A 3390 64UV01 R/O 50 CYL ON DASD 2222 SUBCHANNEL = 0018
DASD 0400 3390 ZPR007 R/O 100 CYL ON DASD 2304 SUBCHANNEL = 0001
DASD 0555 9336 (VDSK) R/W 8000 BLK ON DASD VDSK SUBCHANNEL = 0002
DASD 1700 3390 M01S01 R/O 10017 CYL ON DASD 2323 SUBCHANNEL = 0003
DASD 1701 9336 FBASPL R/O 23068672 BLK ON DASD ED00 SUBCHANNEL = 0004
DASD 9400 3390 64UV01 R/W 100 CYL ON DASD 2222 SUBCHANNEL = 000E
Ready; T=0.01/0.01 10:27:50
```

# What do you have?

## LISTDIR

(CMS command)

- Lists the SFS directories defined that you own on your default filepool

```
listdir
Fm Directory Name
- SFSVM3:JAMES.
- SFSVM3:JAMES.CONSOLELOGS
- SFSVM3:JAMES.MYFILES
Ready; T=0.01/0.01 10:29:45
```

# What do you have?

## DIRLIST

(CMS command)

- Allows you to see and manage your directories (like FILELIST/RDRLIST)

```
JAMES DIRLIST A0 V 319 Trunc=319 Size=3 Line=1 Col=1 Alt=0
Cmd Fm Directory Name
- SFSVM3:JAMES.
- SFSVM3:JAMES.CONSOLELOGS
- SFSVM3:JAMES.MYFILES

1= Help 2= Refresh 3= Quit 4= Sort(fm) 5= Sort(dir) 6= Auth
7= Backward 8= Forward 9= 10= 11= Filelist 12= Cursor

====>

X E D I T 1 File
```

# What do you have?

## QUERY ACCESSED (CMS command)

- A different view of what is accessed (MDISKS and directories)
- Q ACCESSED [fm | R/W | R/O]

```
q accessed
Mode Stat Files Vdev Label/Directory
A R/W 302 191 JSV191
B R/W 2359 DIR VSIPRV:JAMES.SHAREDTOOLS
L R/O 1636 31A SYSTLS
P R/O 119 319 SYS740
S R/O 691 190 MNT190
Y/S R/O 1070 19E MNT19E
Ready; T=0.01/0.01 10:31:43
```

## Minidisks usually requires CP commands and CMS commands

- CP LINK sourceuid sourceaddr targetaddr mode
  - CP LINK JAMES 191 310 RR
- ACCESS targetaddr fm
  - ACCESS 310 F

## Directories only require a CMS command

- ACCESS directory fm (options
  - ACCESS SFSVM3:JAMES.MYFILES G (WRITE

## MDISKS

- There is a precise way and a “lazy” way
  - RELEASE fmode
  - CP DETACH vaddr
    - RELEASE F
    - CP DETACH 310
- ...or...
- RELEASE fmode (DETACH
- ...or...
- CP DETACH 310

## Directories

- Much easier than MDISKS
  - RELEASE fm
    - i.e., RELEASE G

CMS provides a VMLINK utility that makes accessing/releasing much easier (it has *a lot* of options too)

- EXEC VMLINK JAMES 191
- EXEC VMLINK .DIR SFSVM3:JAMES.MYFILES

Some useful options:

- EXEC VMLINK .DIR SFSVM3:JAMES.MYFILES (FILELIST
- EXEC VMLINK .DIR SFSVM3:JAMES.MYFILES (INVOKE  
LISTFILE \* README .FM

VMLINK has details in the z/VM 7.4 CMS User's Guide  
and HELP VMLINK

What is the CMS command to save a file sent to you in your RDR to your own storage area?

Answer: **RECEIVE**

What CMS command would you use to view manage all the files accessed as “C”

Answer: **FILELIST \* \* C**

# HELP Facility

There is online HELP in CMS that you can refer to  
HELP by itself presents you with a panel of various functions, topics and tasks

- Place your cursor on an item and press Enter to go to it

```

HELP TASKS Task Help Information line 1 of 40
(c) Copyright IBM Corporation 1990, 2024

z/VM HELP, main panel

The help panels listed below provide information about various
z/VM functions, topics, and tasks.
To view a help panel, move the cursor to any character of the name
or description and press the ENTER key or the PF1 key.

HELP - z/VM HELP Facility topics
MENUS - z/VM help menus
TASKS - Basic z/VM tasks
AVS - AVS commands
CMS - CMS commands
CP - CP commands
DIRECTORY - CP Directory Statements
DIRMAINT - DirMaint commands
PF1= Help 2= Top 3= Quit 4= Return 5= Clocate 6= ?
PF7= Backward 8= Forward 9= PFkeys 10= 11= 12= Cursor

====> _

Macro-read 1 File

```

You can also go to menus directly

- HELP CP MENU
- HELP CMS MENU
- HELP XEDIT MENU

QUERY and SET have their own sub-menus

- HELP CPQUERY MENU and HELP CPSET MENU
- HELP CMSQUERY MENU and HELP CMSSET MENU

Most commands have HELP associated with them, for example

- HELP FILELIST
- HELP CP LINK

HELP will try to find the topic you entered without a prefix for you, so HELP LINK would present the CP LINK command

If you know the command is for a specific environment, prefixing it with the environment name helps if there is one in each environment

HELP is useful if you get an error, warning or informational message that you want more details on

HCPLNM107E JAMES 0100 not linked; not in CP directory

- Format is: **HELP xxxnnny**
  - HELP HCP107E or HELP HCPLNM107E

Some z/VM products such as RACF and TCPIP have their own HELP

- HELP RACF
- HELP TCPIP

Note: Product help is available if the product is installed and the system administrator has made the help files available

The IBMVM Listserv is a community of people there to help everyone

To sign up, send an email to

**IBMVM-subscribe-request@LISTSERV.UARK.EDU**

The body should only contain the following;  
substitute your first and last name:

**SUBSCRIBE IBMVM firstname lastname**

You will receive a welcome email with more information

For posting or replying to posts, send to

**IBMVM@listserv.uark.edu**

# A Few Extra Items

If your system has RACF/VM installed, you can change your password while logged on to your userid:

- EXEC RAC PW PASSWORD(oldpass newpass)
- EXEC RAC PW PHRASE('currentphrase' 'newphrase')

Your new password or passphrase would need to follow the rules set up by the system or security administrator

Example:

```
rac pw phrase('MyOldPhraseHere!' 'NopeAndMoreNope0$')
```

If you want to change your password at logon, enter your userid on the logo panel but not your password, then tap Enter

Enter your password,  
or

**To change your password, enter: ccc/nnn/nnn**  
where ccc = current password, and nnn = new password

If your password has expired, you will see at logon:

RPIMGR042I PASSWORD EXPIRED

**To change your password - enter: nnn/nnn** where nnn = new password  
or,  
enter LOGOFF to cancel

If you run something that goes into a loop, or you just want it to stop..

- HX – Halt eXecution; completely kills a CMS program
- HI – Halt Interpretation; terminates all REXX programs without killing environment (like HX)

If you execute a CP command and it is running amuck...

- PA1 will often stop a long-running CP command

Or, you can restart your entire virtual machine

Sometimes, you just want to start over...

When you logon, CP IPLs CMS automatically. You can IPL manually

- #CP IPL                      restarts the last thing you IPL'd
- #CP IPL CMS
- #CP IPL CMS PARM AUTOCLR
  - There is also ZCMS; CMS is 32 bit and ZCMS is 64 bit (just FYI)

#CP LOGOFF

You have some homework to do! Homework will be checked before the completion certificates are sent out after the end of the class.

## Your task:

- Logon to your class userid provided to you
- Enter the commands:
  - CP SPOOL CONS START TO HOMEWORK
  - VMLINK SYSTOOLS 191
  - QUERY ACCESSED
  - LISTFILE PROFILE \* \*
  - CP CLOSE CONSOLE

That's it! Feel free to try some of the commands and utilities you learned about, like FILELIST

# Alternate Homework!

You have some homework to do! Homework will be checked before the completion certificates are sent out after the end of the class.

## Your task:

- Logon to your own userid on your z/VM system
- Enter the commands:
  - VMLINK MAINT 193
  - QUERY ACCESSED
  - LISTFILE PROFILE \* \*
- Capture the output and send via email to [homework@velocitysoftware.com](mailto:homework@velocitysoftware.com)

That's it! Feel free to try some of the commands and utilities you learned about, like FILELIST

**Thank you for attending!**

**More questions? Send to: [questions@velocitysoftware.com](mailto:questions@velocitysoftware.com)**

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