

# How To Guides for IBM z/OS

## "How To" Guides for IBM z/OS

These guides are for IBM mainframe operating systems, namely z/OS and its predecessor, OS/390.

## Traditional mainframe programming environments

See also [IBM DB2](#) under [Databases](#).

## Operating System and Security Administration

[How To Guides for SMS Storage Administration](#)

[How To Guides for ACF-2 Security](#)

## Communications facilities

[How To Guides for TCP/IP on z/OS](#)

[How To Guides for VTAM on z/OS](#)

## Databases

[How To Guides for IBM DB2](#)

[How To Guides for Oracle on z/OS](#)

## UNIX System Services (USS) and LINUX for z/OS

[How To Guides for UNIX System Services](#)

[How To Guides for LINUX for z/OS](#)

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### UNIX System Services vs. LINUX

#### UNIX System Services

Uses EBCDIC character encoding  
Can access both UNIX and z/OS services  
Uses default Telnet port 23 for TN3270;  
must connect to another port for stream terminal  
emulation

#### LINUX

Uses ASCII character encoding  
LINUX only  
Uses default Telnet port 23 for stream terminal emulation

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## How To Guides for TSO

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## How To Guides for ISPF

### TSO interfaces

ISPF provides a panel-driven command interface where TSO commands and workstation commands can be executed.

TSO commands may also be executed from anywhere in ISPF by prefixing the TSO command with "TSO". For example, to execute the TSO general HELP command, enter:

```
TSO HELP
```

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## How To Guides for CICS

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## How to display CICS Messages and Codes

To display information on CICS Messages and Codes, use the CMAC transaction. For example:

```
CMAC xxxx
CMAC ASRA
CMAC DFHxx nnnn
CMAC DFHTC1060
CMAC xx nnnn
CMAC TC1060
CMAC
```

CMAC xxxx displays information on the given abend code. CMAC DFHxx nnnn or CMAC xx nnnn displays information on the given message number. CMAC by itself displays a prompt for the message component and number. Leave the message component blank when entering CICS abend codes.

## How to run CICS programs from a web browser

To run a CICS program from a web browser, the URL is entered in the following form:

```
http://hostname:port#/cics/cwba/loadmod?querystring
loadmod is the name of the executable load module (program).
```

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## Operator Commands

### Entering Operator Commands

#### Entering operator commands

There are a number of ways to enter operator commands.

Operator commands can simply be entered at the system console.

In SDSF, operator commands can be entered by preceding them with a forward slash ("/").

Console commands can be put into a batch job or JCL procedure (PROC) and then executed by submitting the job or running the PROC as a started task. This allows commands to be automatically submitted by a scheduling package.

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## Verifying the IBM z/OS system configuration.

### Verifying Subsystem Configuration

#### Verifying restartability of subsystems

Enter the following [operator commands](#):

```
F TNF,DISPLAY,NAME=*
IEE341I TNF NOT ACTIVE
EZY6023I TNF Modify Display Accepted
EZY6036I TNF Active ASIDs
EZY6037I Name ASID
EZY6038I VMCF nnnn
EZY6039I END
F VMCF,DISPLAY,NAME=*
IEE341I VMCF NOT ACTIVE
EZY6059I VMF Modify Display Accepted
EZY6077I No VMCF users exist
```

If NOT ACTIVE is displayed when the TNF and VMCF address spaces are active then the subsystems have been set up as "non-restartable". They should be changed to be restartable by removing the INITRTN parameter from the subsystem startup command (SUBSYS).

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## Converting an image to IOCA format

AFP printers use images in IOCA (Image Object Content Architecture) format. To convert an image to a page segment, follow this procedure:

Download the appropriate AFP printer driver from [IBM AFP drivers](#). The downloaded file should be a self-extracting

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archive.

Extract the files into a folder. The default name of the folder is AFP Driver.

Go to Printers and Faxes in the Control Panel or Start Menu and select Add a Printer to start the Add Printer Wizard.

Use the following options:

**Local printer attached to this computer**

(not "Plug and Play")

**Use the following port:**

File: (Print to File)

**Have Disk...**

Browse to the AFP Driver directory and select the cwbafp.inf file.

**Printers:**

Select the actual printer model or a generic one such as Generic IBM 600dpi AFP.

**Do you want to use this printer as the default printer?**

No

**Do not share this printer**

**Do you want to print a test page?**

No

Then click Finish to install the printer driver.

Create the image in any image editing tool, save it (using the image editor's native format is fine) and then print the image to a file using the installed AFP driver.

Select File then Print... from the menu bar.

Select the name of the AFP printer.

Click Properties...

Change the Output type to Page Segment.

Select Print to file in order to get the dialog box that allows browsing to a specific directory.

Click OK. Select the directory where the file is to be created and enter a file name. The file extension for an IOCA image is normally .ica

Allocate a PDS with record format VB record length 27994 and block size 27998.

Use FTP to upload the .ica file in binary format to a member of the PDS.

Reblock the file with one AFP structured field per line.

```
allocate file(sysuexec) dataset('sys1.sapsexec') shr
```

```
attlib activate user(exec)
```

```
exec 'sys1.sapsexec(afrreblk)' 'username.afpupld.ica(member) afp.test.pseglib(s1segname)'
```

Notice that the second set of quotation marks are around both parameters to the afrreblk exec.

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[Advanced Function Printing](#) ← CLICK HERE to get the standard HTML version of this document.

