

ISPF and JCL on z/OS

ISPF and JCL on z/OS - Course Objectives

On successful completion of this class, the student, with the aid of the appropriate reference materials, should be able to:

1. Use full-screen terminals, including the appropriate Function keys, to accomplish work under ISPF/PDF
2. Use the CUA interface (action bars, pull-downs, point-and-shoot fields, etc.), and tailor the look and feel of ISPF to meet individual preferences
3. Describe the characteristics of, and differences between, sequential data sets, partitioned data sets (PDSs), and PDSEs (Partitioned Data Set Extended)
4. View a sequential data set or a member of a PDS/PDSE
5. Allocate, rename, and delete data sets or members, and print or display the attributes or contents of a data set
6. Copy and move data sets and members
7. Use productivity features such as command stacking and split screen processing, the CMDE command and command retrieval techniques
8. Edit data sets or members: create new members or files, and modify existing members or files
9. Understand the basic flow of work in z/OS, including JES Readers, Writers, Initiators, the role of the Interpreter, and the purpose of Allocation
10. Code JCL statements as necessary to accomplish work in the z/OS environment, including JOB, EXEC, DD, OUTPUT, IF/THEN, ELSE, ENDIF, INCLUDE, SET, JCLLIB, PROC and PEND statements
11. Copy files for backup, restore, and testing purposes using the IBM utility IEBGENER and use some basic services of IDCAMS, the VSAM utility
12. Use a Sort/Merge program product to sort a sequential data set
13. Use ISPF/PDF 3.8 and / or SDSF, IOC-Flash, IOF, or (E)JES facilities for tracking jobs and examining job output
14. Code cataloged procedures, including the use of symbolic parameters and defaults, nested procedures, and private proclibs
15. Describe the implications of Storage Management Subsystem (SMS) and Partitioned Data Sets, Extended (PDSE's).

ISPF and JCL on z/OS - Topical Outline

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Sources of Information: IBM publications on the web

Section Preview

Using Mainframe Computers — An Overview

Mainframes and Applications

The Mainframe Environment

Hardware

Software

Programs

Data

Data Organizing

Records and Files

Where We Are Going

Mainframes and Applications

- People use mainframe computers for a variety of reasons

To enter data for storage and processing

To retrieve data for examination / correction / analysis

To delete data no longer needed, or back up data in case of emergency or disaster

To run programs to process data; for example:

- X Print bills, record payments and adjustments
- X Record hours and expenses, write paychecks and expense reimbursements
- X Track company inventory of property and products
- X Track sales, returns, complaints
- X Schedule installs, removals, upgrades, repairs
- X Design networks, machines, processes and products

- All these tasks come under the broad title of applications: programs and procedures to accomplish useful work

The Mainframe Environment

- An important fact of working with mainframe computers is that you are not alone**

The system is constantly being shared by hundreds, even thousands, of people

- X** Interacting with the system
- X** Running programs
- X** Creating / modifying programs
- X** Accessing data, sometimes the same data

Some of these people may be in the same room as the computer, but most of the users will be remote, in different rooms, buildings, cities, states, or even countries

- Sharing data, programs, and other resources provides great benefits of efficiency, flexibility, and accessibility**

But sharing introduces potential problems of

- X** Security - allowing access to the right people while keeping unauthorized personnel out
- X** Integrity - preventing loss of data because of overlapping updates
- X** Performance - if too many users are using the system at once, the system will be unable to keep up with all the work

Hardware

- ❑ The mainframe computers themselves, including their peripheral devices such as monitors, terminals, printers, tape drives, disk drives, networks, etc. are called hardware: machines and connections between machines

- ❑ At the heart of a computer is a hardware component called the CPU (Central Processing Unit): one or more chips that execute instructions

Instructions manipulate data in memory (for example: add, subtract, move, etc.) and send commands to other hardware components (for example, to get data from a tape into memory)

- ❑ Memory is just the magnetic / electronic equivalent of a scratch pad of paper: before an instruction can manipulate a data item, the data item must be in memory (also called internal memory, storage, or RAM (for Random Access Memory))

Data gets in memory by being keyed in by a user or by being read in from a peripheral device

- ❑ Data that is to be preserved is recorded onto external data storage, such as tape or disk or other magnetic or optical media, when it is not being used

Software

- ❑ Software in a computer system is comprised of two types of objects

Programs: stored sequences of instructions for the CPU to execute at user request

Data: information that is structured and organized for storage, retrieval, and processing by programs

Programs

- ❑ **Programs are designed, written, and tested by programmers**

When a program is working correctly (it is "debugged"), the program is saved in a disk library of programs, to be run whenever a user requests

- ❑ **Application programs are written in support of getting business work done (examples: billing, accounting, shipping, manufacturing)**

- ❑ **Environment programs are written to provide a context for application programs to run (examples: CICS, IMS/DC, ISPF)**

- ❑ **Development programs are written to provide tools to assist programmers in getting their work done (examples: compilers, linkage editor, assembler, text editors)**

- ❑ **Utility programs are written to accomplish frequently performed program tasks (examples: file copies, sorts)**

- ❑ **Data base programs are written to provide easy structuring and accessing of data through programs (examples: DB2, IMS/DB, Oracle)**

- ❑ **Operating system programs are written to manage the hardware at the direction of other programs (examples: z/OS, UNIX, Linux, Windows, VM)**

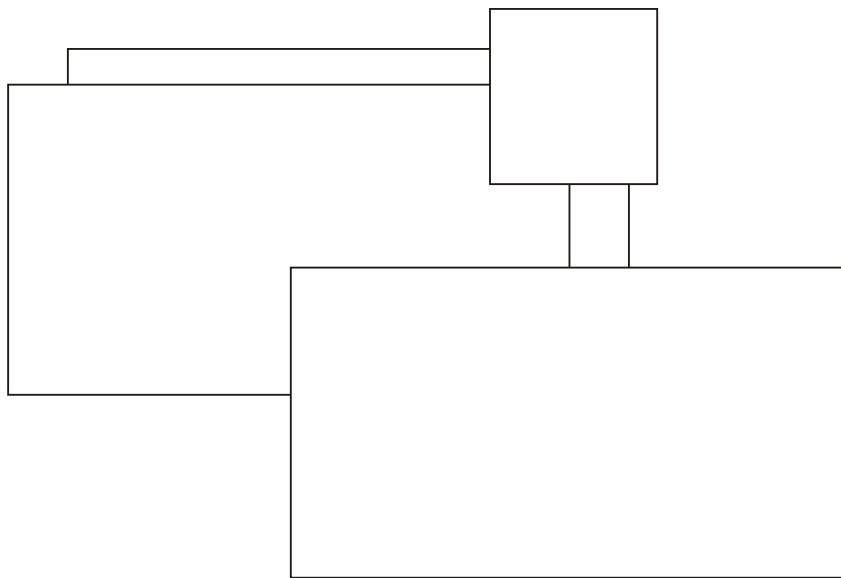
Data

- In the non-computer environment, data is most often on paper

Hand-written or typed sheets of paper / forms

Informal jottings on a scrap of paper

Could be photographs, pictures, or audio or video tapes!



- Really organized people even group data into folders

Maybe even use credenzas, filing cabinets, storage bins, and so on

Data Organizing

- ❑ Computers work best with data that is structured and organized

And in machine-readable form

- ❑ The basic structuring of data for use in a computer can be thought of as making lists

The data stored on a piece of paper that represents an item in inventory, for example, will be one entry in the list:

Inventory Item

Part Number: TUB-345/X
Quantity on hand: 50
Unit Price: 13.225
Description: Pink Tubing
Date Last Order: 06/05/200x
Quantity Last Ordered: 30
Last Price: 12.285
Supplier: BTRX-88-01
. . . .



TUB-345/X00050013225Pink Tubing	06/05/200x . . .
--	-------------------------

Where We Are Going

- ❑ **In this class, we will focus on the tools you need to do your most common tasks:**

You will use TSO / ISPF to

- X** Get space for data files on disk (ISPF utilities)
- X** Enter, modify, save, and delete data in these files (ISPF editor, and utilities)
- X** Create, copy, move, and replace members and data sets
- X** Submit jobs to run in batch
- X** Examine the output from batch jobs

- ❑ **Some notes on "jobs"; a job is**

A series of programs to run in the batch (background, not connected to a terminal session, running unattended)

Described by a series of Job Control Language (JCL) statements, including:

- X** JOB statement - mark beginning of steps in the job
- X** EXEC statement - one for each program (each is a "step" in the job)
- X** DD statements - Data Definition: one for each file referenced in each step

- ❑ **Usually JCL is coded using the ISPF editor, and the resulting job is submitted to the batch, also using the editor**

Job outputs may be examined under ISPF using various ISPF applications designed for that purpose (we'll look at several of these briefly, near the end of the course)

Section Preview

ISPF Introduction

TSO / ISPF / PDF

Keyboard Notes

The Logon Process

ISPF/PDF Primary Option Menu

Standard Panel Format

CUA Panel Formats

Running in GUI Mode

Using Action Bars

Getting Around in ISPF

Leaving ISPF

A First Encounter With ISPF / PDF (Machine Exercise)

TSO / ISPF / PDF

TSO - Time Sharing Option

A powerful but awkward-to-use facility that allows users at any kind of terminal to:

- Create, modify, delete, rename files
- Maintain libraries of programs, JCL, data
- Assemble, compile, link, run programs in the batch (background) or under immediate terminal control (foreground)
- Monitor status of batch jobs, examine output
- Communicate to operator or other users

ISPF - Interactive System Productivity Facility

An extension to TSO, for users of full-screen terminals, that vastly simplifies using TSO by providing:

- Support for creating and using screens (panels) to gather, present, and modify data
- Support for creating and displaying embedded HELP and tutorial information
- Support for using programmable function (PF) keys
- Interfaces to programming languages such as CLIST, REXX, COBOL, Assembler, and FORTRAN

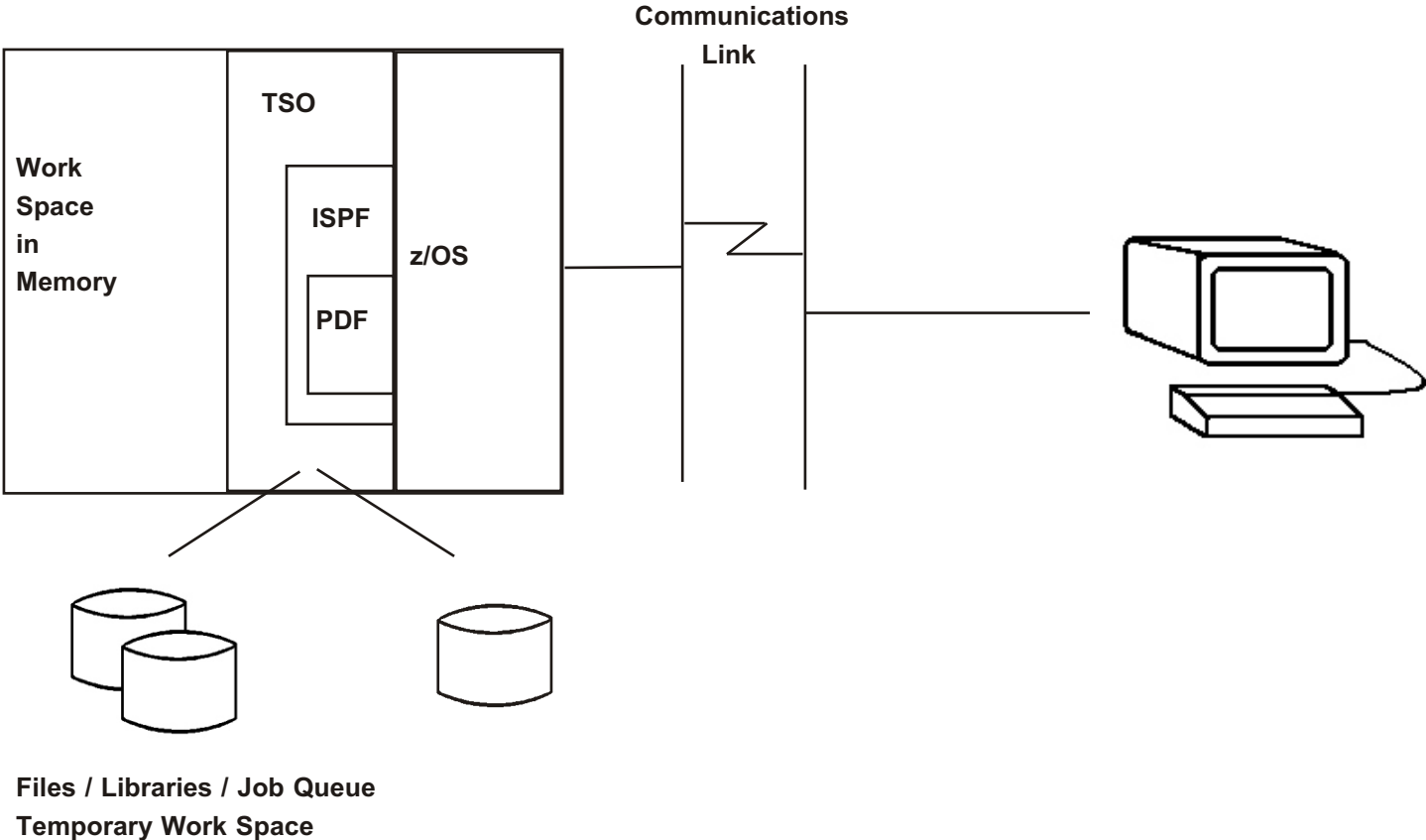
ISPF Is a Dialog Manager

PDF - Program Development Facility

A dialog that runs under ISPF that provides programmers assistance in using TSO through:

- Menu and fill-in-the-blanks approach
- Full screen editing and browsing of programs and data

The TSO / ISPF Environment



Keyboard Notes

- ❑ Every keyboard is different, it seems, these days

Yet it's important to learn certain special functions and then each time you sit down to a new keyboard to learn what keys to use to obtain the functions

- ❑ In addition to the standard alphanumeric and punctuation keys, ISPF takes advantage of these keys, if available:

Function Keys — assigned by the system or the user to command combinations, so a single keystroke can issue one or more commands

✗ Most keyboards come with 12 or 24 function keys

✗ Also called PF keys in some environments (Programmable Function keys)

Insert — insert key; puts you in insert mode for keying in data in the middle of a line

Delete — delete one character and close up line from the right

Reset — unlock keyboard when it locks up

Erase EOF — erase to End of Field; when pressed, all characters to the right of the cursor are erased

Home — sends cursor to first input field on the screen

Keyboard Notes, 2

Additional keys to know

Attn — attention; interrupts a long-running process

PA1 — Program Attention 1; use in place of Attn if not present

PA2 — Reshow; erases input from screen that has not yet been transmitted to the host

Enter — transmit screen contents back to host

New Line — move cursor to next line, do not transmit to host

Arrow keys — move cursor on screen in direction of arrow

Tab — tab cursor to next input location (Shift+Tab will tab to previous input location)

Take a few minutes now and learn what keys perform these functions on the keyboard you will be using

If you are using a PC for a terminal, you are using what's called emulator software: programs in the PC that make the PC behave like a standard mainframe terminal

Some of the available emulators let you choose what keys on the PC to use for these mainframe keyboard functions; see if you can figure out how to change keyboard mappings

Some common mappings that may be of use are:

X ϕ - Ctrl+6

X \neg - Ctrl+[

X PF13 - PF24 - shift+F1 - shift+F12

The Logon Process

- To get into ISPF, which will be our primary tool during this class, you need to accomplish these steps

Get onto the network

Logon to the correct machine (this puts you into TSO)

Get to ISPF

- Before you can do this, you must have been assigned a TSO user id (or, more commonly, just a "TSO id") and a password

The TSO id identifies you to TSO; more than one person can have the same name, but only one person can be logged onto the system using a given TSO id; TSO id's are unique to you for a given TSO system

Passwords are also unique to you; if someone knows your TSO id they could get onto the system using your id

- X** This would keep you from logging in at the same time, and give this other person access to all authorities you may have
- X** So other people may know your TSO id (for example, they may need to send messages to you, and you do this by TSO id), but **no one else should know your password**
- X** In some companies, letting anyone else know your password is a firing offense; do not take this lightly

Passwords

- Passwords are maintained by programs that maintain security, and various security programs have differing rules for making up passwords; here, the general rules are:

Length:

Composition:

- In addition, passwords automatically expire every __ days

This requires you to create a new password when you logon and your password has expired

And, since the security package keeps track of the last __ passwords you've used in addition to your current password, your new password needs to be a password you haven't used in a while

- If you forget your password, call your security administrator

After verifying you are who you say you are, they will give you a new password that is already set as expired

X Logon using the new password and then, since it has expired, the system will prompt you for a new password

X This way, once again, not even the security administrator will know your password

Passwords, continued

- If you are logging on and enter an incorrect password, after __ tries your TSO id is de-activated

It will take another call to your security administrator to have your TSO id re-activated and your password will be re-set (with an expired attribute)

This is done to prevent un-authorized personnel trying to get into the system using your TSO id and simply trying a large number of possible passwords

- Some other guidelines when making up passwords

Don't use words found in the dictionary (transliterate letters, append or insert numbers, etc.)

Don't use names: your name, your spouse's name, your children's names, your favorite city, etc.

Don't use a pattern easy to guess (e.g.: APRIL05, MAY05, ...)

Do use a string that's easy to remember but hard to guess

- Clearly it's important to know the name and phone number of your security administrator, along with your TSO id and current password
- In z/OS V1.10, pass phrases were introduced, allowing a case sensitive phrase of up to 100 characters long instead of a password

Do What I Say, Not What I Do

- All of the above being said, we will soon assign TSO id's for you to use in this class**

Everyone will know your TSO id, and everyone will start out with the same (expired) password that follows a pattern

When you logon, change your password to some string only you know

After end of class, the TSO id's will be de-activated by the training people, for use by some later class

X Before you leave, we'll show you how to copy any files you want to keep from your training TSO id to your personal TSO id

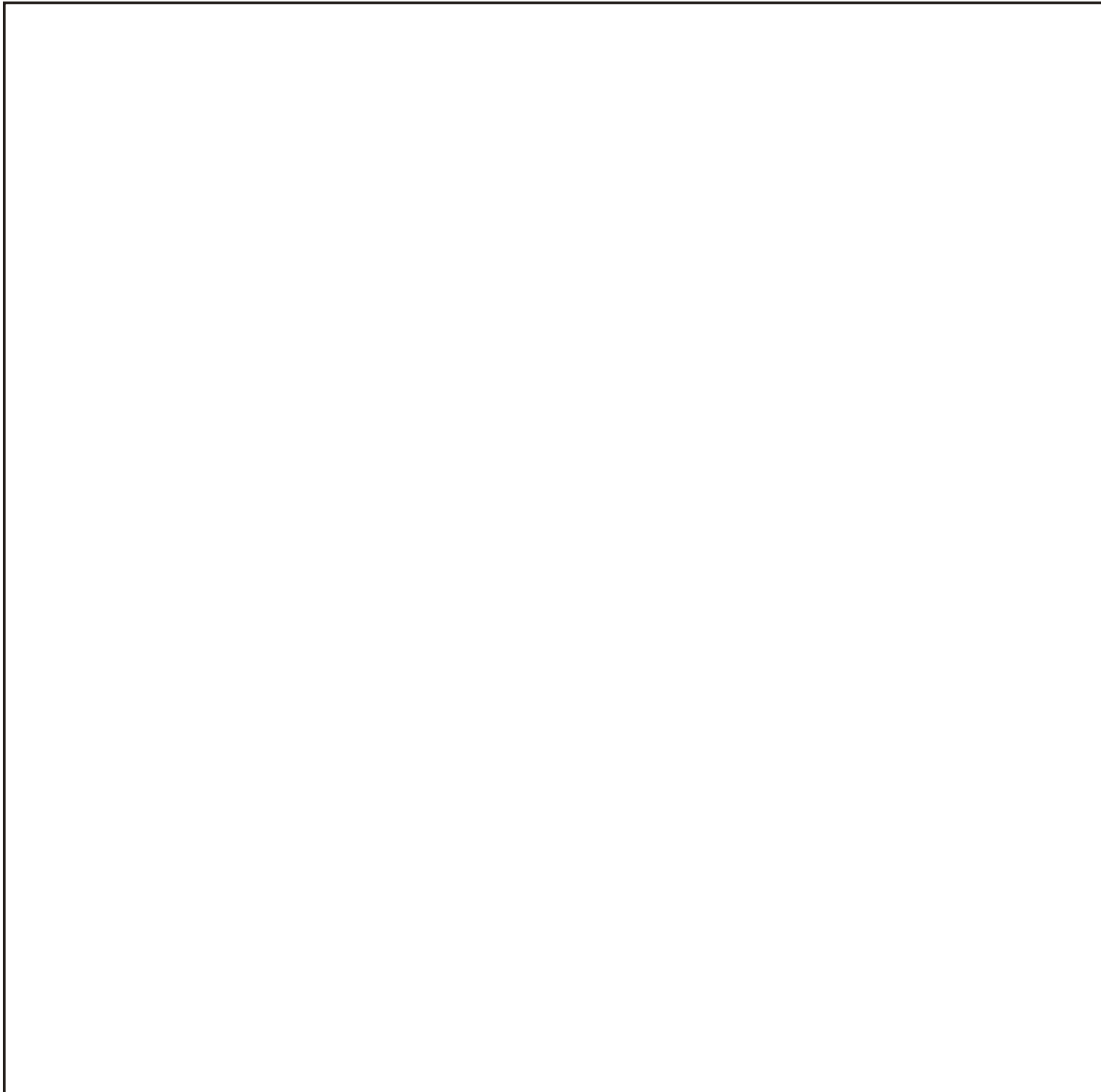
- Note: in some cases you will simply use your current personal id and password, so all of the above on this page can be ignored**

Back to the Logon Process

- ❑ **These classes are being taught in a variety of environments using a range of terminals**

For this reason, we have not included the early steps for logging on in the materials

At this point, take notes as the instructor walks you through the process of getting to the network logon screen:



Logon, continued

At this point, in some installations you'll be at the logon screen, whereas in others you may find you need to go through one or more intermediate screens

Notes:

At some point, you'll key in your TSO id and press Enter to see the next screen ...

Logon Screen

- This screen is where you enter your password

And you can enter a new password to change your current password if you would like to or if you need to

```
----- TSO/E LOGON -----  
  
Enter LOGON parameters below:                RACF LOGON parameters:  
Userid   ===> STNT329                        New Password ===>  
Password ===> _                             Group Ident  ===>  
Procedure ===> CTP  
Acct Nmbr ===> TRNG00P0  
Size     ===> 6144  
Perform  ===>  
Command  ===> ctp  
  
Enter an 'S' before each option desired below:  
-Nomail      -Nonotice    -Reconnect    -OIDcard  
PF1/PF13 ==> Help      PF3/PF15 ==> Logoff    PA1 ==> Attention    PA2 ==> Reshow  
You may request specific help information by entering a '?' in any entry field
```

On some systems you might simply see an empty screen with the instruction:

```
IKJ56476I ENTER PASSWORD:
```

- In either case, enter your password, and possibly change some of the other selections, and press Enter ...

Note: if you just saw the ENTER PASSWORD message, you might next see a screen like what's shown above, without the field for your password

Logon Messages

- After entering your password, you'll see any broadcast messages that are in effect, and possibly messages directed specifically to you

The details vary from day to day; here's an example from a recent logon:

```
ICH70001I STNT329 LAST ACCESS AT 08:28:27 ON TUESDAY, xxxxxxxx 21, 20xx
STNT329 LOGON IN PROGRESS AT 08:32:30 ON xxxxxxxx 21, 20xx
* * * * *
      THIS IS COTHOR SY6D
PLEASE CALL (nnn) 451-2108 FOR ASSISTANCE

Attn: BRUTUTIL removal has been changed to 2/28/yy. See TIB #39
* * * * *
*****
EXECUTE CLIST 'CTP' TO ENTER COMMON LOGON SCREENS
IF DB2 IS TO BE INVOKED IN THIS SESSION, DB2 MUST BE
INDICATED WHEN INVOKING THE 'CTP' CLIST. ENTER 'DB2'
AS A PARM TO THE CLIST.
EX: CTP DB2
*****
ctp
IBM TIB 16 * IMS n.n - PRODUCT UPDATE I:02/20/yy L:02/20/yy
IBM TIB 25 * REMOVAL OF PANVALET AND PANEXEC I:02/20/yy L:02/20/yy
IBM TIB 24 * NEW BINDER REPLACES LINKAGEI:02/20/yy L:02/20/yy
***
```

- Notice the three asterisks on the last line

In TSO, whenever you see a line of just three asterisks, the system is waiting for you to press Enter before going on

If the screen has entry fields, any keying you do before pressing Enter to clear the three asterisks will be ignored

- Sometimes you may have several screens of broadcast messages

Just press Enter after checking each screen

ISPF Primary Option Menu

- In some installations, again, you may have some intermediate levels, but usually by now we are at the main menu for ISPF, the Primary Option Menu:

```
Menu Utilities Compilers Options Status Help
-----
ISPF Primary Option Menu
Option ==>
0 Settings      Terminal and user parameters      User ID . . : STNT329
1 View          Display source data or listings   Time. . . . : 07:03
2 Edit          Create or change source data      Terminal. . : 3278A
3 Utilities     Perform utility functions        Screen. . . : 1
4 Foreground   Interactive language processing   Language. . : ENGLISH
5 Batch         Submit job for language processing Appl ID . . : ISR
6 Command      Enter TSO commands               TSO logon  : CTP
7 Dialog Test  Perform dialog testing           TSO prefix : STNT329
9 IBM Products IBM program development products System ID  : SYUB
                                           MVS acct. : TECHTOM0
                                           Release . : ISPF 7.5
-----
Licensed Materials - Property of IBM
5650-ZOS (C) Copyright IBM Corp. 1980, 2021.
All rights reserved.
US Government Users Restricted Rights -
Use, duplication or disclosure restricted
by GSA ADP Schedule Contract with IBM Corp.
-----hell
```

- Note that part of the panel above is obscured by a copyright notice

Press Enter to see the full screen ...

ISPF Primary Option Menu, 2

- Finally, we see the complete main menu for ISPF, the Primary Option Menu:

```
Menu Utilities Compilers Options Status Help
-----
ISPF Primary Option Menu
Option ==>
0 Settings      Terminal and user parameters      User ID . : STNT329
1 View         Display source data or listings   Time. . . : 12:25
2 Edit         Create or change source data      Terminal. : 3278
3 Utilities    Perform utility functions         Screen. . : 1
4 Foreground   Interactive language processing   Language. : ENGLISH
5 Batch        Submit job for language processing Appl ID . : ISR
6 Command      Enter TSO commands                TSO logon : CTP
7 Dialog Test  Perform dialog testing            TSO prefix: STNT329
9 IBM Products IBM program development products  System ID : SYUB
10 SCLM        SW Configuration Library Manager  MVS acct. : TECHT0M0
11 Workplace   ISPF Object/Action Workplace Shell Release . : ISPF 7.5
12 z/OS System z/OS system programmer applications
13 z/OS User   z/OS user applications

Enter X to Terminate using log/list defaults
```

- This is our real starting point for the work we do in this class

In particular, we will focus on option 2 (Edit), but we will also work with options 0, 1, 3, and 6

- The Release level identifies the release of ISPF running and implies, roughly, the version of z/OS currently running

X As of the time of this course development, ISPF release 7.5 implies z/OS V3.1, although this might change

- Just for a moment, let's step back and see how all the panels relate ...

ISPF Panel Hierarchy

Network / System logon

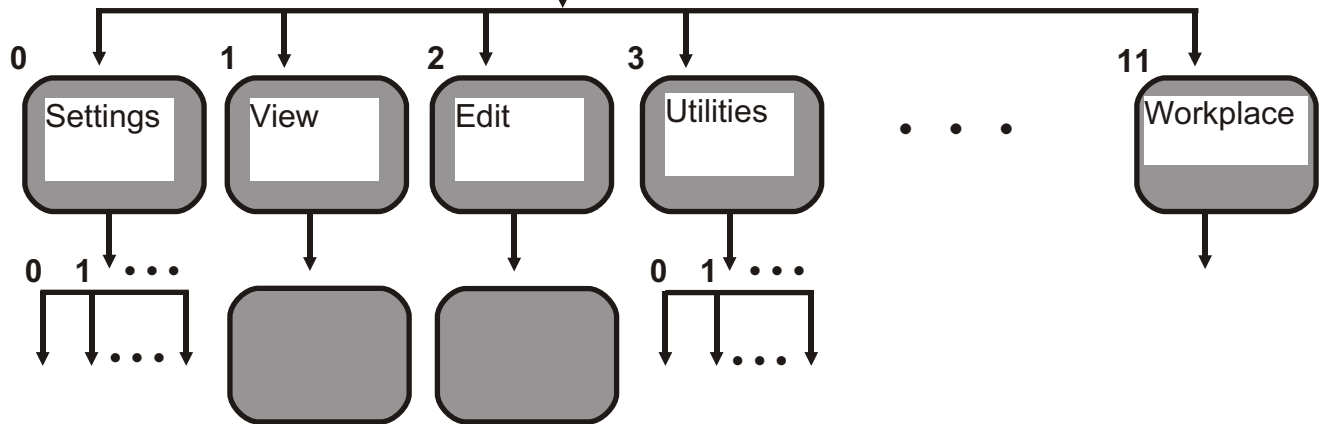
↓
Password screen

↓
TSO

↓
Primary Option Menu



X: → TSO READY: Logoff



Panel Styles

- There are a variety of panel styles in ISPF, for historical reasons

Initially, ISPF panels displayed on 3270-style terminals, using what came to be called “Standard Format”

✗ We show an example of that later

Later, IBM introduced a standard called CUA (for Common User Access)

- ✗ Initially this was an attempt for a “dumb terminal” to look and feel a little bit like working with a PC / workstation using a GUI (Graphical User Interface) such as Windows
- ✗ To provide a consistency between the old, familiar, standard look and CUA, however, the user was given lots of flexibility to modify the look and feel
 - So an ISPF session could look like a standard session, or like a CUA session, or something in between, whatever the user preferred
- ✗ If you are running on 3270-style terminal, or on a workstation that uses an emulator to act like a 3270-style terminal, this is what you will be seeing (and for these materials, our screen images will look like what you'll be working with)

Panel Styles, continued

- Because of this, screens / panels / windows look slightly different among the standard and CUA models**

Especially since everyone can tailor the look to meet their own preferences

And occasionally, there will be small functional differences (which we will point out as appropriate)

Standard Panel Format

- ❑ The first three lines of most Standard format panels have special reserved functions, leaving the rest of the screen available for use by each specific application

Line 1	title of panel	Short Message
Line 2	command / option line	
Line 3	Long Message	

The title line may include output from one of the screen labeling commands **SCRNAME**, **SYSNAME**, **PANELID**, **USERID**

Short message area used to pass information about a request (status, error, etc.)

Long message area normally used for headers, data, etc.

- ✗ But if an error message appears in the short message area, issuing a **HELP** command (or pressing the **HELP** Function key) will cause further explanation to display in the long message area
- ✗ Issuing **HELP** again will take you into the tutorial to access the information available there

CUA Panel Formats

- The standard CUA Panel Format has these components

Action Bar
Separator Line
Panel Title / short message area
Long Message Area
Panel Body
Command / Option line
Function key area

```
Menu Utilities Compilers Options Status Help
-----
                    ISPF Primary Option Menu

0 Settings          Terminal and user parameters          User ID . : STNT329
1 View             Display source data or listings          Time. . . : 12:25
2 Edit            Create or change source data          Terminal. : 3278
3 Utilities       Perform utility functions          Screen. . : 1
4 Foreground     Interactive language processing          Language. : ENGLISH
5 Batch          Submit job for language processing          Appl ID . : ISR
6 Command        Enter TSO commands                      TSO logon : CTP
7 Dialog Test    Perform dialog testing                      TSO prefix: STNT329
9 IBM Products   IBM program development products          System ID : SYUB
10 SCLM          SW Configuration Library Manager          MVS acct. : TECHTOM0
11 Workplace     ISPF Object/Action Workplace Shell        Release . : ISPF 7.5
12 z/OS System   z/OS system programmer applications
13 z/OS User     z/OS user applications

Enter X to Terminate using log/list defaults

Option ==>
F1=Help      F2=Split      F3=Exit      F7=Backward  F8=Forward  F9=Swap
F10=Actions  F12=Cancel
```

- Using the Settings choice, the command / option line can be moved below the title and the Function key display at the bottom can be removed

Which is how we display panels in this course

Other attributes of the look may be changed also

Using Action Bars

- ❑ The action bar contains a list of choices for you to consider

To select one of these choices, first get to the action bar

- ✗ Either use the arrow keys, or press F10, which is assigned to the command **Actions** (toggle between the Action bar and panel body)

- Alternatively, the Tab key will cycle you to the Action bar, and the Home key will also take you there

Use the Tab key or the right and left arrow keys to move along the action bar to the choice you are interested in

Press Enter when the cursor is positioned on the choice you want

- ✗ A pull-down menu appears, which is a numbered list of subchoices from the menu; for example, if you selected Options from the main panel, you'll see something like this:

```
Menu Utilities Compilers Options Status Help
-----
Option ==>>
0 Settings      Terminal a
1 View          Display so
2 Edit          Create or
3 Utilities     Perform ut
4 Foreground   Interactive language processing
5 Batch        Submit job for language processing
6 Command      Enter TSO commands
7 Dialog Test  Perform dialog testing
9 IBM Products IBM program development products
10 SCLM        SW Configuration Library Manager
11 Workplace   ISPF Object/Action Workplace Shell
12 z/OS System z/OS system programmer applications
13 z/OS User   z/OS user applications

1. General Settings
2. CUA Attributes...
3. Keylists...
4. Point-and-Shoot...
5. Colors...
6. Dialog Test appl ID...

ID . . : STNT329
. . . : 12:25
inal. : 3278
en. . : 1
Language. : ENGLISH
Appl ID . : ISR
TSO logon : CTP
TSO prefix: STNT329
System ID : SYUB
MVS acct. : TECHTOM0
Release . : ISPF 7.5

Enter X to Terminate using log/list defaults
```

Select a choice by typing its number and pressing Enter

Working With Pull-down Menus

- If a pull-down menu choice has an asterisk (*) next to it, that indicates the choice is not currently available

Perhaps it is already in effect, for example

- If a pull-down menu choice has an ellipsis (...) next to it, that indicates that selecting that choice will cause a pop-up window to appear

For example, the Colors... choice on the previous page causes a panel to appear that allows you to change how colors are used for your session (if your terminal / emulator supports that)

- If a pull-down menu choice has neither an asterisk nor an ellipsis, selecting that choice performs the related action immediately

This may involve simply changing an attribute, invoking a new function, or taking any action that does not require additional information or confirmation from you

- If you want to back out of a pull-down menu without selecting any choice, press F12 (Cancel)

Menu Mnemonics

- ❑ ISPF supports mnemonics in the menu (Action bar) choices

A mnemonic appears as an underlined character in an Action bar, for example:

```
Menu Utilities Compilers Options Status Help
-----
Option ==>
0 Settings Terminal a
1 View Display so
2 Edit Create or
3 Utilities Perform ut
4 Foreground Interactive language processing

1. General Settings
2. CUA Attributes...
3. Keylists...
4. Point-and-Shoot...
5. Colors...
6. Dialog Test appl ID...

ID . : STNT329
. . . : 12:25
inal. : 3278
en. . : 1
Language. : ENGLISH
```

Keying in "Actions x", where x is the mnemonic for the action, selects that action immediately

✗ If you assign Actions to a function key, then you can type in the mnemonic and press the function key

- ❑ The net effect is to speed the process of getting work done wherever mnemonics are implemented

Getting Around in ISPF

- ❑ To select an option in ISPF, there are usually several routes

From a menu, key in the option's corresponding number

From the command / option line issue a command

- ✗ Alternatively, press a Function key that has been assigned to the command

From the Action bar, select a choice then select a subchoice from the resulting pull-down menu

- ✗ If that choice is a new function (for example, if you are currently using Utilities and select Edit), your current process (Utilities) is suspended and the new process (Edit) is begun
 - Use the Exit command to terminate the current function (Edit) and return to the previous function (Utilities)
 - Use End to back up one level in the hierarchy of ISPF
 - Use Cancel to cancel a pull-down menu and return the cursor to the first action bar choice

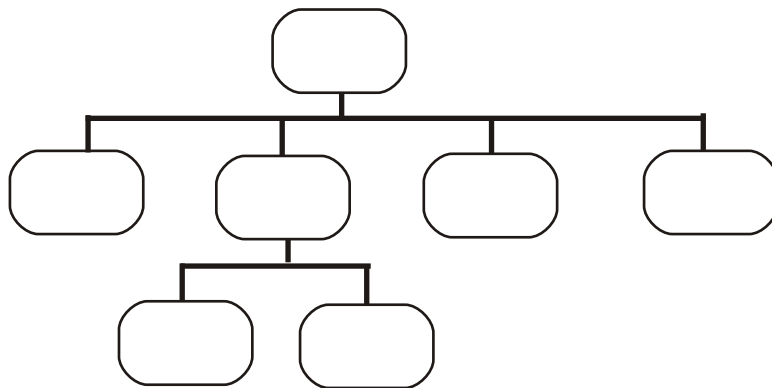
- ❑ When you are in a panel or window where you fill in the blanks, pressing Enter accepts the data / choices and moves forward into the application

Pressing F3 (Exit or End, depending on where you are) backs out of the panel without performing any action

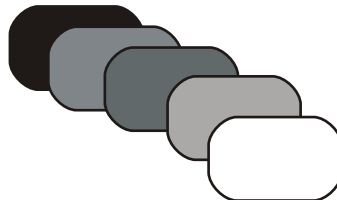
Getting Around in ISPF, 2

- ❑ Notice the difference in using the hierarchy (using menus and options) versus nesting functions (using the Action bar)

Using the hierarchy, you generally go up and down in an orderly fashion



Using nesting (the Action bar), you stack functions one on top of another



ISPF Commands

- Some commands that can be entered from the command / option line on any screen:**

Help

Request help with current screen

- X** **HELP** is context sensitive; that is, you will get help for the current panel you are on, or sometimes help for the current message, or help for the field where the cursor is located

Cancel

From a pull-down menu, the pull-down is removed and the cursor is placed on the first action bar choice

Otherwise, the command is ignored

Exit

Terminate the current function and return to the previous function, if any

End

Leave current screen, back up one level higher in screen hierarchy

Return

Back up immediately to the Primary Option Menu

Getting Around in ISPF, concluded

- From any menu, you can select an option to go forward to that option

From any screen, you can enter the **END** command to go back up one level in the hierarchy

- This is usually set to F3 and / or F15 (or Shift+F3 or Alt+F3 or Ctrl+F3, depending on your platform)

From any screen, you can enter the **RETURN** command to go back to the top of the hierarchy

- This is often set to F4 and / or F16 (or Shift+F4 or Alt+F4 or Ctrl+F4, depending)

- From any panel, you can get to the Action bar (Actions, or F10) and select a choice, resulting in a pull-down menu

From the Action bar, **CANCEL** (F12) cancels the pull-down

Selecting a choice from a pull-down may put you in a function

- EXIT** (F3) returns you to the previous function; if there is no previous function, **EXIT** works the same as **END**

- From the ISPF Primary Options Menu, option **X** gets you to the TSO **READY** prompt

- All set for you to logoff TSO ...

The LOGOFF Comand

Syntax

Logoff

Function

Terminates your TSO session, returns you to the network logon screen

Computer Exercise: A First Encounter With ISPF/PDF

If you have not yet been given your TSO id and password, the instructor will assign them now. Then sit down at a terminal and go through the following steps

1. Logon to TSO and get into ISPF/PDF
2. Select each ISPF option from the menu, to peek at the next screen for each option. Back up from each screen using END (PF3 or F3).
3. Select each Action bar choice, to see the resulting menu; use Cancel (F12) to back out of the pull-down menus.
4. Experiment with Settings (either option 0 from the Primary Option Menu, option 1 from the Menu Action bar pull-down menu, or a command (Settings) from the command / option line).

Move the command line to the bottom, and back to the top.
Leave it wherever you like most.

From the Function keys Action bar pull-down menu on the Settings window, set the function keys to show, then remove the function key display. Leave that setting wherever you like most.

5. Logoff the system.

At each point, make a note of any questions or observations, for sharing with the group after the lab.