

## **File Manager: Introduction**

z/OS Mainframe Utilities  
& Development Tools

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## **Performance Objectives**

You will learn:

- The features and facilities of the File Manager.
- Difference between File Manager and ISPF.
- Browse and Edit a dataset.
- Create and use a template from a copybook.

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## File Manager: Introduction

### File Manager

- Data can be manipulated and processed via File Manager.
- The functions include:
  - Display
  - Edit
  - Update
  - Create
  - Copy
  - Compare
  - Print
  - Erase data

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### Data Sets and File Manager

- Process unformatted or formatted data with copybook or dynamic templates.
- Data set comparisons.
- Find and change data strings in multiple data sets.
- Create new data sets and data set records.
- Use DFSORT control statements to control the Data Set Copy and Data Set Print functions.
- Automate tasks.

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## File Manager: Introduction

### Template

- Templates provides a logical view of a data set, based upon field definitions in a COBOL or PL/I copybook, or else created dynamically.
- A File Manager template is a file that provides a particular interpretation of a data set.
- Different templates can be applied to the same data, in order to achiev different purposes.

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### Tape Utilities

- Tape files can be copied, inclusive of optionally changing the block size and record format.
- Tape records can be updated on-screen, while copying the records from one tape to another
- Tapes can be compared on a byte-by-byte basis.
- Tape blocks can be bypassed with data-check errors.
- The contents of a tape can be summarized.

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## File Manager: Introduction

### Template

Templates can be used to:

- Format records.
- Reformat records.
- Identify record types and select records within those types.
- Create data.

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### Starting and Stopping

- File Manager is an ISPF-developed application and is usually run from within an ISPF session.
- Exiting from File Manager returns to the ISPF session.
- In order to display the full version information for File Manager, enter VER on the Command line of any panel.
- In order to display details about the current COBOL compiler, enter SHOWCOB on the Command line of any panel. File Manager displays details about the current COBOL compiler in a window.

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## File Manager: Introduction

### Primary Option Menu

```
• File Manager          Primary Option Menu
•
• 0 Settings           Set processing options           User ID . . : USERID
• 1 Browse             Browse data                       System ID  : MVS8
• 2 Edit               Edit data                          Appl ID   : FMN
• 3 Utilities          Perform utility functions          Version . . : 6.1.0
• 4 Tapes              Tape specific functions           Terminal. : 3278
• 5 Disk/VSAM          Disk track and VSAM CI functions   Screen. . : 1
• 6 OAM                Work with OAM objects             Date. . . : 2006/09/24
• 7 Templates          Template and copybook utilities    Time. . . : 14:52
• 8 HFS                Access Hierarchical File System
• X Exit               Terminate File Manager

• Command ==>>> _____
```

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### File Manager Interface

- The File Manager interface is similar to the ISPF model.
- Tasks are performed by processing a function, together with its applicable parameters.
- Most functions can be specified to be processed in either "foreground" or "batch" mode.

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# PL/1 Programming File Manager: Introduction

## More Screens

- Some File Manager panels have more information than can be seen in a single screen.
- When this happens, a message is displayed in the top right corner of the panel. Press F8 to scroll down.

```
File Manager Data Create Utility           More: +  
Output Partitioned, Sequential or VSAM Data Set, or  
HFS file:
```

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## Data Set and a Member Name

- In the Data set name field, enter a fully-qualified data set name or a name pattern.
- The name may include a member name or name pattern in parenthesis.
- If the member is specified here, the associated Member field must be empty.

```
Input Partitioned, Sequential or VSAM Data Set, or HFS file:  
Data set name . . . . . _____  
Member . . . . . _____ Blank or pattern for member list  
Volume serial . . . . . _____ If not cataloged
```

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## File Manager: Introduction

### Member Name Pattern

- A member name pattern can consist of any characters that are valid in a member name and the following two special pattern characters:
  - **asterisk (\*)**  
Represents any number of characters.
  - **percent sign (%)**  
A place-holding character representing a single character.

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### Hexadecimal Values

- In order to convert a decimal value to its equivalent hexadecimal value, enter DX followed by the decimal value.
- In order to convert a hexadecimal value to its equivalent decimal value enter XD followed by the hexadecimal value.

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## File Manager: Introduction

### Default Processing Options

- Default processing values can be updated by selecting Option 0 from the primary panel.

Process Options Help

---

File Manager Set Processing Options

- 1 Print Print settings
- 2 System System settings
- 3 Tape Tape processing options
- 4 Batch Job card specifications
- 5 LANG Compiler language selection
- 6 COBOL COBOL Compiler specifications
- 7 PL/I PL/I Compiler specifications
- 8 EDIT Edit/Browse options
- 9 Sharing VSAM Edit sharing options

Command ==> \_\_\_\_\_ F1=Help  
F2=Split F3=Exit F4=CRetrieve F7=Backward F8=Forward F9=Swap F10=Actions F12=Cancel

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### View Data

- In order to view data, use the Browse Utility
- In order to edit data, use the Edit Utility.

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## File Manager: Introduction

### Displaying Data Sets

- Data can be viewed as logical records, in an unformatted or formatted state.
- Records that are structured into fields are particularly suitable for viewing in a formatted state using a template.

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### Browse or Edit

- Specify the data set name or name pattern.
- If required, specify a **Starting position** for the data, then select a **Start position type** from the Processing Options.
- If required, specify a record limit.
- If required, select the **Record Sampling** field.
- Type 3 (None) in the **Copybook/template usage** field.
- Press Enter

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# PL/1 Programming File Manager: Introduction

## Browse Screen

```
Browse          FMN.V7R1M0.SFMNSAM1 (FMNCCPY)          Rec 0 of 34
                Record 0      Col 1      Format CHAR
-----1-----2-----3-----4-----5-----6-----7-----
**** Top of data **** *** *****
* IBM File Manager for z/OS Version 7                    0000100
* Licensed Materials - Property of IBM                    0000200
*                                                           0000300
* 5655-R47                                                0000400
*                                                           0000500
* (c) Copyright IBM Corp. 1986, 2006. All Rights Reserved. 0000600
*                                                           0000700
* US Government Users Restricted Rights - Use,            0000800
* duplication or disclosure restricted by GSA ADP          0000900
* Schedule Contract with IBM Corp.                        0001000
*                                                           0001100
* Sample COBOL copybook to demonstrate the File Manager  0001200
* field level processing.                                 0001300
* The associated template is FMNCTMPL and the sample      0001400
* DATA described by this copy book is FMNCDATA.         0001500
* Changes: PQ96594 Fix sequence numbers.                 0001600
*** *****
01 REC-TYPE01.                                           0001700
03 REC-TYPE PIC XX.                                       0001800
03 REC-ID REDEFINES REC-TYPE PIC XX.                     0001900
03 NAME PIC X(20).                                        0002000
03 EMPLOYEE-NO PIC 9(4) BINARY.                           0002100
Command ==>                                             0002200
F1=Help F2=Zoom F3=Exit F4=CRetriev F5=RFind F6=RChange F7=Up F8=Down F9=Swap F10=Left F11=Right
F12=Cancel                                             Scroll PAGE
```

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## Displaying Data with a Template

- In the **Copybook or Template** section of the panel, specify the data set in which the copybook template or dynamic template is stored, or use a wildcard character to select from a list.
- In the **Copybook/template usage** field, type **1** to select the Above option.
- Alternatively, if a template has been previously used with the input data set, option **2. Previous** can be selected.
- The Previous option instructs File Manager to ignore the contents of the **Copybook or Template** fields, and instead use the template that has been most recently associated with the input data set.

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# PL/1 Programming File Manager: Introduction

## Using a Template TABL Display Format

```
Browse FMN.V7R1M0.SFMNSAM1(FMNCDATA) Rec 0 of 40
Record 1 Format TABL
REC-TYP REC-ID NAME EMPLOYEE-NO AGE SALARY MONTH(1)
#2 #3 R # #4 #5 #6 #7 #8
AN 1:2 AN 1:2 AN 3:20 BI 23:2 BI 25:2 PD 27:4 BI 31:4
<> <> <-----1-----> <---+> <---+> <-----> <-----1>
01 01 Grant Smith 7712 35 75000 6
01 01 Andrew Apple 6645 53 78500 30
01 01 Graham Prestcott 5583 28 48000 7
01 01 Bill Somers 4418 33 68000 5
01 01 Ted Dexter 3327 52 60250 14
01 01 Roddy Armstrong 5683 34 77000 28
01 01 Cliff Roberts 2265 57 100000 44
01 01 James Browne 1117 46 125000 47
01 01 Silvia Carrot 2308 29 61400 1
01 01 Dan Peters 4479 54 63000 38
01 01 John Laws 3422 21 46750 14
01 01 Liz Childs 3439 55 66000 44
01 01 Bill McCork 4565 40 76200 10
01 01 Keith Sampson 2329 40 71550 26
01 01 John Neptune 3486 40 69000 30
01 01 Brian Van Der Velde 4574 30 84500 34
01 01 Ann Norwich 7838 33 67000 2
01 01 Michael Bevan 5455 46 83250 10
01 01 Mary Sands 7790 36 58000 18
01 01 Antony Burke 7732 46 102000 6
02 02 Grant Smith 50309 42373 ***** 2571124800
Command ==>> Scroll PAGE
```

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## Template: Removing or Changing

- In order to stop using a template, and remove the logical view of the data, enter TVIEW OFF on the Command line.
- In order to edit a template, and change the logical view of the data, enter TEDIT on the Command line.
- In order to select or create a template for the data, enter TVIEW on the Command line.

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## File Manager: Introduction

### Listing Statistics

- In order to list statistics for the current viewing session (Browse or Edit), use the RECSTATS primary command.
- RECSTATS shows:
  - The number of records in the current Edit or Browse session.
  - For an Edit session, the number of pending inserts and changes.
  - The total data bytes.
  - The average record length.
  - The minimum record length encountered.
  - The maximum record length encountered.

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### Primary Commands

- Scroll the data
  - BOTTOM
  - DOWN
  - LEFT
  - NEXT
  - PREVIOUS
  - RIGHT
  - TOP
  - UP
- Scroll to a particular record number or text
  - LOCATE
- Find a string
  - FIND
  - RFIND
- Turn off highlighting of found strings
  - RESET
- Find fields in error
  - FE
- Print a record
  - RD
  - RP
- Hide or show shadow lines
  - SHADOW

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## File Manager: Introduction

### Primary Commands

- Group or ungroup record sets:
  - SHOW
- Zoom in to see all of one record:
  - ZOOM
- View suppressed records:
  - VIEW
- Display data in hexadecimal format:
  - HEX
- Show or hide the Field Reference and Redefines columns when in SNGL display:
  - REFS

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### Primary Commands

- Show or hide the Field Type and Length columns when in SNGL display:
  - TYPE
- Remove or change the logical view:
  - TEDIT
  - TVIEW
- Adjust the order of lines:
  - SORT
- Display the RBA and record length information:
  - RBALEN

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## File Manager: Introduction

### Display Format

- Set the **Initial Display** option on the Edit/Browse Options panel to the display format.
- In order to change the display format, position the cursor in the **Format** field and enter one of the following:
  - **CHAR** Character display format.
  - **HEX** Hexadecimal updown format
  - **LHEX** Unformatted hexadecimal
  - **SNGL** Single-record format (with template only)
  - **TABL** Tabular format (with template only)

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### Zooming

- In CHAR, HEX or LHEX display format, if there is a requirement to show all of the data in a particular record without having to scroll left or right, it is possible to “zoom in” by moving the cursor to the record, then pressing the Zoom function key (F2).

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## PL/I Programming File Manager: Introduction

### Creating and Editing Templates

- For many tasks performed with File Manager, a view of a data set can be manipulated by applying a template.
- Templates can be pre-built for later use or prepared "on the fly" within File Manager panels.

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### Template Types and Structure

- A File Manager template is a collection of information that can be used for selecting and formatting records and fields in an application data set.
- Templates can be based upon the definitions in COBOL copybooks and PL/I INCLUDE members.
- Record structure descriptions can be extracted from complete COBOL or PL/I source programs.
- A record structure description can be created in a dynamic template.

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# PL/1 Programming

## File Manager: Introduction

### Template Contents

- **The template contain:**
  - Record type selection
  - Record identification criteria
  - Record selection criteria
  - Field selection
  - Field sequence
  - Key sequence
  - Field headings
  - Field attributes
  - Field use attributes
  - Field create attributes
  - Field mapping

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### Create Template from Copybook

- In order to create a new copybook template, it will be necessary to begin with one or more copybooks containing COBOL data description entries or PL/I DECLARE statements that describe the record structure of the data.
- When the copybook is specified on a panel, File Manager compiles the descriptions into a template that can be saved and reused with any application data set that has the same record structure.

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# PL/1 Programming

## File Manager: Introduction

### Segmented Data Templates

- File Manager offers template support for segmented records.
- A segmented record is a record that contains one or more logical segments; each of which is defined and identified by a copybook layout.

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### Template Workbench

- Open the Template Workbench panel by selecting option **7. Templates** from the Primary Options Menu panel or selecting option **1. Workbench** from the Copybook and Template.
- The TVIEW primary command can be entered on either the Browse or the Edit panel.
- In the **Data set name** field in the **Copybook** section, type the name of the data set in which the copybook is stored.
- In the **Data set name** field in the **Template** section, type the name of an existing data set, into which the new template is to be saved.
- On the **Command Line**, type the CC command and press Enter.
- File Manager validates the copybook by compiling it with a default compiler and, if successful, generates and saves the template.

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## PL/1 Programming File Manager: Introduction

### **Edit an Existing Copybook Template**

An edit can be performed on an existing copybook template from a Browse or Edit panel in any of the following ways:

- **T**Edit Template Edit
- **C**Edit (or **C**Edit **SEL** or **D**Edit)  
Criteria Edit
- **CE ID** Criteria Edit (Identification)

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### **Edit an Existing Dynamic Template**

- **TE** Template Edit
- **DE** (or **CE**, **CE SEL** or **CE ID**)  
Dynamic Edit

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## PL/1 Programming File Manager: Introduction

### Selecting and Deselecting Fields

- The display of a record type can be changed to only show selected for display and printing purposes.
- If fields are selected, then only those fields are displayed or printed.
- If fields are not selected, then File Manager displays or prints all fields.

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### Changing the Field Display Order

- By default, fields are displayed in the order in which they occur in the data set.
- By entering numbers in the **Seq** field (on the Field Selection/Edit panel), you can override this order.
- Any fields with sequence numbers are displayed before fields without sequence numbers.
- Fields with sequence numbers are displayed in the relative order of the sequence numbers.
- Sequence numbers do not need to start at 1, or be consecutive.

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# PL/1 Programming File Manager: Introduction

## Changing the Field Display Order

```
File Manager Field Selection/Edit
  1 Specify Record Identification by field.
  2 Specify Record Selection by field.
Cmd Seq SHC Ref Rdf Field Name          Type Start Length
**** Top of data ****
___ ___ 1          1 REC-TYPE01         AN      1      80
___ ___ S 2          2 REC-TYPE         AN      1       2
___ ___ S 3          2 NAME             AN      3      20
___ ___ 4          2 EMPLOYEE-NO       BI     23       2
```

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## Changing Field Headings

- By default, File Manager uses the field names from the original copybook or from the dynamic template as field headings in SNGL and TABL display format.
- In order to change the field heading:
  - Enter the E (edit) line command in the Cmd field adjacent to the field that is to be renamed.
  - Enter the new field heading in the **Heading** field on the Field Attributes panel.
  - Press the Exit function key (F3) to save the changes and return to the Field Selection/Edit panel.
  - Repeat for all field headings that are to be changed.

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# PL/1 Programming

## File Manager: Introduction

### Changing Records

- When editing a data set, it is possible to change or copy the data contained within the data set records and insert, copy, delete and otherwise modify records within the data set.
- The File Manager Edit function provides the capability for editing data as logical records, in an unformatted or formatted state.
- Records that are structured into fields are particularly suitable for editing in a formatted state using a template.

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### Edit Session

- From the File Manager Primary Options Menu panel, select **2 Edit**.
- Specify the data set name.
- If required, specify a **Starting position** for the data, then select a **Start position type** from the Processing Options.
- If required, specify a record limit in order to only update records in the data set, without inserting or deleting records.

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