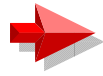




This is the tutorial for the IMS™ feature of IBM's File Manager for z/OS®, one of the IBM zSeries® problem determination tools.



### ■ **Creating templates**

- About templates and views
- Create or update a template

### ■ **Browse or edit an IMS database with a template**

- Starting the editor
- The display formats and zoom
- Display different segment types
- Find, change, scope, and locate data
- Insert, repeat, repeat all, and delete segments
- Print from the editor
- End, quit, save, undo and cancel

This section will introduce File manager IMS templates and views. You will see what they are and why you might use them. An example of creating a new template will be presented.

## Templates and views



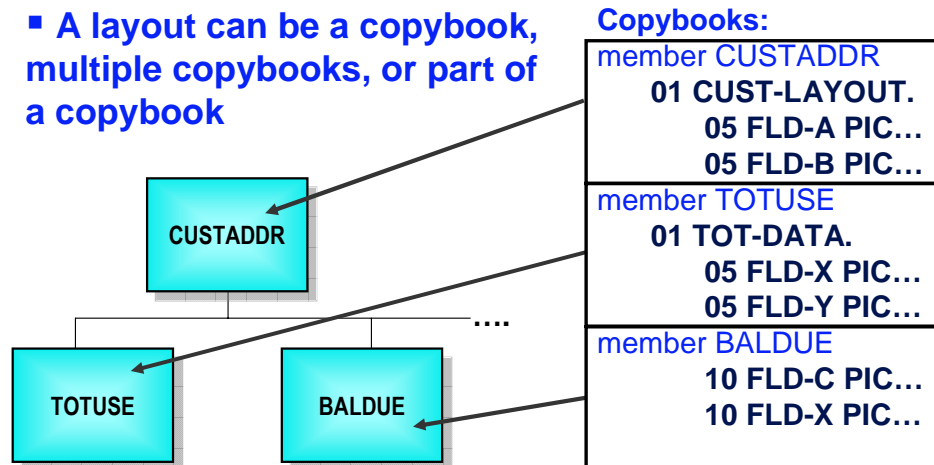
- Why use templates and views?
  - Ease of use!
    - Work with fields in a segment
    - Select for display:
      - only the required segments
      - only the required fields
- This section will give a brief overview of templates
  - Additional information will be covered in a later section

In the examples from the previous sections, the data shown in IMS segments was not broken out into fields. Segments have been displayed just as long strings of characters. You can use File Manager IMS templates and views to make it easier to visualize and work with your data. Using a template and view, you can format segments into fields. You can also specify selection criteria, so that the editor or browser will only display selected segments and fields that you want to see.

## What does a template do?



- A template maps a layout to each segment in the database
- A layout can be a copybook, multiple copybooks, or part of a copybook



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A File Manager IMS template is used to map layouts to each segment in a data base. A layout can be a COBOL or PL/I copybook, or an assembler DSECT. You can use an entire copybook, combine multiple copybooks, or use only a selected portion of a copybook as a segment layout. Templates map copybooks to segments.

## Who creates the templates?



- In many organizations, templates are created and maintained by a central group
  - Templates are stored in template libraries. Users need read access to these libraries, but not update.
  - If changes to the copybooks are made, File Manager IMS has utilities that can be used to rebuild the templates
  - The group that creates and maintains the templates will be responsible for rebuilding the templates
- Once the templates are created, users can access them to:
  - See segments broken down into fields according to their layouts
  - Create their own views of the database

Once a template has been created for a database, in theory anyone could use it. Instead of everyone duplicating effort and making everyone create their own templates, in many organizations a central group creates and maintains File Manager IMS templates.

Templates themselves can be stored in a common template library or libraries. Users need to have read access to these libraries, but do not need update access.

If changes to the copybooks are made, File Manager IMS has utilities that can be used to automatically update the templates. The group that creates and maintains the templates should be responsible for seeing that these updates are made.

Once the templates are created, users can access them to create their own views of the database.

## What does a view do?



- Once a template exists, a view can be created
- Use a view in browse or edit to:
  - **Select the types of segments** to display
    - Hide the types not required
  - **Select segments based on data content**, using selection criteria
  - **Select** which **fields** in the layout to display
  - **Change the order of fields** displayed
  - **Change field headings**
- For any DBD:
  - There is only one template
  - There can be many views, each with different selection criteria

Once there is a template for your data base, then you can also use something called a view. A view is used by the browser or editor to select the types of segments that you want to display, and hide all other segment types. It can also be used to select only certain segments based on key values and data values. It can also limit which fields are displayed, so that you only see fields of interest. And views allow you to do some other things, such as change the order of fields displayed and change field headings.

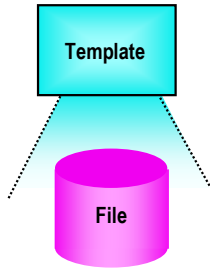
For each DBD you use to access a database, you only need to have one template. A template maps copybooks to segments, so one template is all you need for any DBD. But you can have as many views as you like, because you might want to create different views that display different segments and have different selection criteria.

# Templates, views and criteria

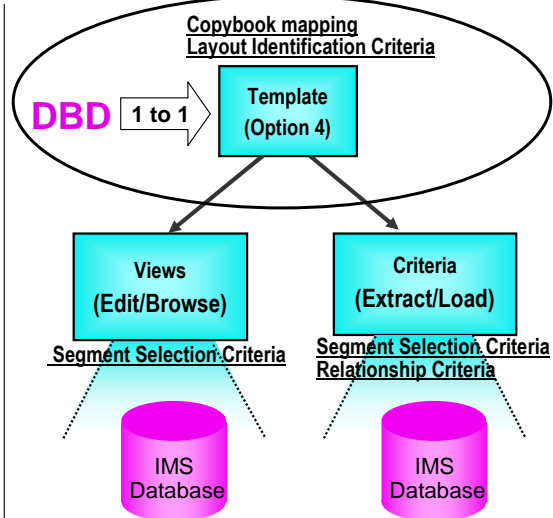


## File Manager (base)

Copybook mapping  
Record Selection Criteria



## File Manager / IMS



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If you are familiar with File Manager base, you may already be familiar with templates. But the way File Manager IMS uses templates is a little different from File Manager base. In base, a template is used both to provide a layout and to perform data selection. But in IMS, those functions are split out. A template is used only to provide layouts. And selection and formatting is done with a view.

# File Manager IMS training: sections



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- Creating templates
  - About templates and views
  - Create or update a template
- Browsing or editing an IMS database with a template
  - Starting the editor
  - The display formats and zoom
  - Display different segment types
  - Find, change, scope, and locate data
  - Insert, repeat, repeat all, and delete segments
  - Print from the editor
  - End, quit, save, undo, and cancel
  - Commands summary



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Next, you will see examples of creating a new template, and updating an existing template.




## Create a new template



```
Process  Options  Help
-----
FM/IMS                                     Primary Option Menu
Command ==> 4
-----
0 Settings      Set processing options      User ID . : DNET074
1 Browse        Browse data                  System ID : DEMOMVS
2 Edit          Edit data                    Appl ID  : FMN1
3 Utilities     Perform utility functions   Version . : 10.1.0
4 Templates     Template/view/criteria set utilities Terminal. : 3278A
X Exit          Terminate FM/IMS            Screen.  : 1
                                           Date.   : 2010/06/09
                                           Time.   : 21:11

F1=Help      F3=Exit      F5>SelectDB F10=Actions F12=Cancel
```



In this example a new template will be created. Starting from the File manager IMS menu, select option 4, templates. Enter.

## Select "Templates" from the menu



```
Process  Options  Help
-----
FM/IMS                                     Template/View/Criteria Set Menu
Command ==> 1
-----
1  Templates           Create or update template
2  Views               Create, edit, or update view
3  Criteria Sets       Create, edit or update criteria set
4  Template update     Update template(s) utility
5  View update         Update view(s) utility
6  Criteria update     Update criteria set(s) utility

F1=Help      F3=Exit      F5>SelectDB  F10=Actions  F12=Cancel

Enter
```

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The template, view, and criteria set menu is displayed. Select option 1, templates.

## Specify the template library name and the DBD name



```
Process  Options  Help
-----
FM/IMS                                     Template Entry Panel
Command ==> █
Template:
Data set name . . . 'DNET074.ADLAB.TEMPLATE'
Member . . . . . USRSCN

F1=Help    F3=Exit    F5>SelectDB F10=Actions F12=Cancel
```

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The Template Entry panel is displayed. In the "data set name" field, specify the name of a library where you want the new template to be saved. Be aware that the library must already exist. If you need to create a template library, do that before continuing. Template libraries are PDS or PDSE data sets, with a record length of 80 bytes.

The member name must be the same as the name of a DBD that will be used to access a data base. For any individual DBD, you only need one template. There is a one to one correlation between DBDs and templates. File Manager will always assume that a template has the same name as it's corresponding DBD. In this example, the DBD and template are called USRSCN. Enter is pressed to continue.

## Specify one or more DBD libraries



```
Process  Options  Help
-----
FM/IMS                                     DBD Library List
Command ==> █
DBD Library:
Data set name 1 ADLAB.DBDLIB
                2
                3
                4
                5
                6

F1=Help    F3=Exit    F5>SelectDB F10=Actions F12=Cancel
```

**Enter**

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Next, the "DBD library list" panel is displayed. You can specify a concatenation of DBD libraries where File Manager will search for the DBD. At least one library is required. Press Enter to continue.

## Specify copybook libraries



```
Process  Options  Help
-----
FM/IMS                                     Copybook Library List
Command ===> _____

Copybook Library:

Data set name 1 'DNET074.ADLAB.COPYLIB'
                2 'TEST.COPYLIB'
                3 'DEVL.COPYLIB'
                4 'PROD.COPYLIB'
                5
                6
                7
                8
                9
               10
               11
               12

F1=Help  F3=Exit  F12=Cancel
```

Specify one or more libraries where the copybooks that contain the IMS segment layouts reside

Enter

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The "Copybook library list" panel is displayed. At least one copybook library is required. This is where File Manager will look for copybooks that contain IMS segment layouts. If your copybooks reside in more than one library, you can specify a list. Enter to continue.

## Specify copybooks for each segment



The screenshot shows the 'Template Specification' panel in IBM File Manager. It features a table with columns for 'Layout member', 'Segment Lib description', and '01 Field name'. The table lists segments like CUSTADDR, TOTUSE, PRMUSE, OFFUSE, OFFDTL, BALDUE, and BALHIS. Callouts provide instructions: 'Enter the name of the copybook that will lay out each segment' points to the 'Layout member' column; 'You can optionally enter segment descriptions for your own use' points to the 'Segment Lib description' column; and 'If the copybook does not already contain a 01 level name, you can optionally specify a name: - change the "01" field to Y - enter the field name Leave it blank, and FM will make up a name if needed' points to the '01 Field name' column.

Layout member	Segment Lib description	01 Field name
CUSTADDR		N
TOTUSE		N
PRMUSE		N
OFFUSE		N
OFFDTL		N
BALDUE		N
BALHIS		N

Next, the Template specification panel is displayed. File Manager examined the DBD to determine the names of each segment, which are shown. For each segment, enter the name of the copybook that will lay out the segment in the “layout member” column. You can also enter a description for each segment in the “layout description” column, but that is optional.

File Manager will assume that each of the copybooks you provide begin with an 01 group level item. If a copybook does not start with an 01 item, you should change the N to Y in the 01 column. If you specify a Y in the 01 column, you can also optionally enter a field name that File Manager will use for the group variable name of the copybook.

## Specify copybooks for each segment



Enter the names of copybook that will lay out each segment

```
Process  Options  Help
FM/IMS      Template Specification
Command ==> |
Template DNET074.ADLAB.TEMPLATE(USRSCN)
          Scroll  CSR

          Layout      Segment
          member      description  01 Field name
Cmd RI Segment
*** **** Top of data ****
--- CUSTADDR CUSTADDR          N
--- TOTUSE  TOTUSE            N
--- PRMUSE  PRMUSE            N
--- OFFUSE  OFFUSE            N
--- OFFDTL  OFFDTL            N
--- BALDUE  BALDUE            N
--- BALHIST B*                N
*** **** End of data ****
```

To see a member list, leave the member name blank, or use a wildcard like this

Enter

F1=Help F3=Exit F12=Cancel

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In this example, the names of the copybooks were typed into the Layout member column. If you are not sure about the names of the copybooks you need, there is an easy way to see a list. If you leave a layout member field blank, or enter one with an asterisk wildcard character, a list of matching copybooks will be displayed. Notice the last copybook in the list was specified as B asterisk. Enter to continue.

## Select a copybook from the copybook member list



```
Process  Options  Help
FM/IMS          BALHIST Member Selection          Row 00001 of 00005
Command ==>>> |                               Scroll CSR
DSNAME DNET074.ADLAB.COPYLIB
Name      Prompt  Alias-of Lib  Size  Created  Changed  ID  →
B*       *      *      *      *      *      *
BALCURR
S BALDTL
- BALDUE
- BALHIST
- BALPAST
**** End of
```

Select a copybook from the list

Enter

F1=Help F3=Exit F5=RFind F10=Left F11=Right F12=Cancel

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A list of matching copybook member names is displayed. You can browse, view, or edit any member in the list with a line command. Select the copybook you want with an S line command. Enter.




## A copybook was selected



```
Process  Options  Help
-----  -
FM/IMS          BALHIST Member Selection          Row 00001 of 00005
Command ==> |                               Scroll CSR
DSNAME DNET074.ADLAB.COPYLIB
Name      Prompt  Alias-of Lib  Size  Created  Changed  ID  →
B*       *      *      *      *      *      *
- BALCURR
- BALDTL  Selected
- BALDUE
- BALHIST
- BALPAST
**** End of data ****

F1=Help  F3=Exit  F5=RFind  F10=Left  F11=Right  F12=Cancel
```



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The copybook is shown as selected. Press F3 to exit from the selection list.

# All copybooks have been specified



```
Process  Options  Help
-----
FM/IMS                               Template Specification
Command ==> _____ Scroll CSR

Template DNET074.ADLAB.TEMPLATE(USRSCN)

          Layout      Segment
Cmd RI Segment member Lib description  01 Field name
*** **** Top of data ****
___ I CUSTADDR CUSTADDR 1 _____ N _____
___ I TOTUSE  TOTUSE  1 _____ N _____
___ I PRMUSE  PRMUSE  1 _____ N _____
___ I OFFUSE  OFFUSE  1 _____ N _____
___ I OFFDTL  OFFDTL  1 _____ N _____
___ I BALDUE  BALDUE  1 _____ N _____
___ I BALHIST BALHIST 1 _____ N _____
*** **** End of data ****

F1=Help  F3=Exit  F12=Cancel
```



The selected copybook is now shown next to its' segment. At this point, all the information needed for the new template has been entered. A copybook has been named for each segment. Press F3 to exit and save the template.



## Update a template



```
Process  Options  Help
-----
FM/IMS                                     Template/View/Criteria Set Menu
Command ==> 1
-----
1  Templates           Create or update template
2  Views               Create, edit, or update view
3  Criteria Sets       Create, edit or update criteria set
4  Template update     Update template(s) utility
5  View update         Update view(s) utility
6  Criteria update     Update criteria set(s) utility

F1=Help      F3=Exit      F5>SelectDB  F10=Actions  F12=Cancel

Enter
```

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An existing template can be easily updated. From the template, view, and criteria set menu, select option 1 (for templates) again.

## Specify the name of the template to be updated



```
Process  Options  Help
-----
FM/IMS                               Template Entry Panel
Command ==> █

Template:
Data set name . . . 'DNET074.ADLAB.TEMPLATE'
Member . . . . . USRSCN

F1=Help    F3=Exit    F5>SelectDB F10=Actions F12=Cancel
```

**Enter**

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The Template Entry panel is displayed. Specify the name of the template you want to update. Enter.

## Make changes to the template as needed



```
Process  Options  Help
-----
FM/IMS          Template Specification          Template loaded
Command ==>>> |_____ Scroll CSR

Template DNET074.ADLAB.TEMPLATE (USRSCN)

          Layout          Segment
Cmd RI Segment member  Lib description  01 Field name
*** **** Top of data ****
E  I CUSTADDR CUSTADDR  1 _____ N _____
  I TOTUSE  TOTUSE    1 _____ N _____
  I PRMUSE  PRMUSE    1 _____ N _____
  I OFFUSE  OFFUSE    1 _____ N _____
  I OFFDTL  OFFDTL    1 _____ N _____
  I BALDUE  BALDUE    1 _____ N _____
  I BALHIST BALHIST    1 _____ N _____
*** **** End of data ****

Enter

F1=Help  F3=Exit  F12=Cancel
```

Frequently used line commands:  
**S** edit (select) copybook  
**V or B** view or browse copybook  
**E** edit template layout  
**X** extended copybook options  
**U** update (re-read copybooks)

The "template specification" panel is displayed, and you can make changes as needed. For example, you can change the name of a copybook. Or if a copybook has changed, you can use either an UPDATE command or a "U" line command to update the template with changes to the copybook layout or fields.

Several line commands are available. For example, "S" will select and edit a copybook, and "V" will view a copybook. In this example, an "E" line command is entered next to one of the segments, to edit the template layout information.

## You can edit a template segment layout



Typically, you will NOT make any changes here

Process Options Help

FM/IMS Template : Segment Layout Line 1 of 5

Command ==> Scroll CSR

Template DNET074.ADLAB.TEMPLATE (USRSCN)

Segment CUSTADDR

Offset 0

Cmd	Seq	Ref	Field Name	Picture	Type	Start	Length
			**** Top of data ****				
	1	1	SEGA-CUSTOMER-ACCOUNT		AN	1	90
	2K	2	SEGA-ACCOUNT-NUMBER	X(10)	AN	1	10
	3	2	SEGA-CUSTOMER-PHONE-NB	X(10)	AN	11	10
	4	2	SEGA-CUSTOMER-NAME	X(30)	AN	21	30
	5	2	SEGA-CUSTOMER-ADDRESS	X(40)	AN	51	40
			**** End of data ****				

F1=Help F3=Exit F5=RFind F11=Right F12=Cancel

F3

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The "Template segment layout" panel is displayed, where you can customize the layout. Notice that the fields that were defined by the copybook are displayed with their types and locations.

The "offset" field provides a way to make the copybook layout begin at a position other than the first byte of the segment. The default offset, zero, maps the first byte of the copybook layout to the first byte of the segment.

An "E" line command next to a field displays another panel where you can change certain field attributes, such as the field title.

By default, fields in the layout are displayed in the copybook in the order shown. But you can change the display sequence of fields by entering relative sequence numbers in the "Seq" column.

Even though these various layout updates are available, in most cases, no changes are needed on this panel.

F3 is pressed to exit.

## You can update the copybook library list with a LIBLIST command



```
Process  Options  Help
-----
FM/IMS                                     Template Specification
Command ==> LIBLIST                      Scroll  CSR

Template DNET074.ADLAB.TEMPLATE (USRSCN)

          Layout          Segment
Cmd RI Segment member  Lib description  01 Field name
*** **** Top of data ****
___ I CUSTADDR CUSTADDR  1 _____ N _____
___ I TOTUSE  TOTUSE    1 _____ N _____
___ I PRMUSE  PRMUSE    1 _____ N _____
___ I OFFUSE  OFFUSE    1 _____ N _____
___ I OFFDTL  OFFDTL    1 _____ N _____
___ I BALDUE  BALDUE    1 _____ N _____
___ I BALHIST BALHIST    1 _____ N _____
*** **** End of data ****
```

**Enter**

F1=Help    F3=Exit    F12=Cancel

In some cases, you may need to add or remove copybook libraries from the list. To do that, enter the LIBLIST command.



## Make changes to the copybook library list



```
Process  Options  Help
-----
FM/IMS                                     Copybook Library List
Command ===> _____

Copybook Library:

Data set name 1 'DNET074.ADLAB.COPYLIB'
                2 'TEST.COPYLIB'
                3 'DEVL.COPYLIB'
                4 'PROD.COPYLIB'
                5
                6
                7
                8
                9
                10
                11
                12

Libraries can be added,
removed, or renamed

F3

F1=Help  F3=Exit  F12=Cancel
```

The "Copybook library list" panel is displayed, where you can make changes to the library concatenation as needed. Every template has its' own unique library concatenation self-contained within it. F3 is pressed to exit.

## Exit and save changes




```
Process  Options  Help
-----
FM/IMS                               Template Specification
Command ==> |_____ Scroll CSR

Template DNET074.ADLAB.TEMPLATE(USRSCN)

          Layout      Segment
Cmd  RI Segment member  Lib description  01 Field name
***  *** Top of data ***
____ I CUSTADDR CUSTADDR  1 _____ N _____
____ I TOTUSE  TOTUSE    1 _____ N _____
____ I PRMUSE  PRMUSE    1 _____ N _____
____ I OFFUSE  OFFUSE    1 _____ N _____
____ I OFFDTL  OFFDTL    1 _____ N _____
____ I BALDUE  BALDUE    1 _____ N _____
____ I BALHIST BALHIST   1 _____ N _____
***  *** End of data ***

F1=Help  F3=Exit  F12=Cancel
```



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After making any needed changes to the template, press F3 to exit and save the changes. Now you have seen how to create a new template, and how to make changes to a template.

That is the end of this section, creating and updating templates.

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This is the tutorial for the IMS feature of IBM's File Manager for z/OS, one of the IBM zSeries problem determination tools.



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