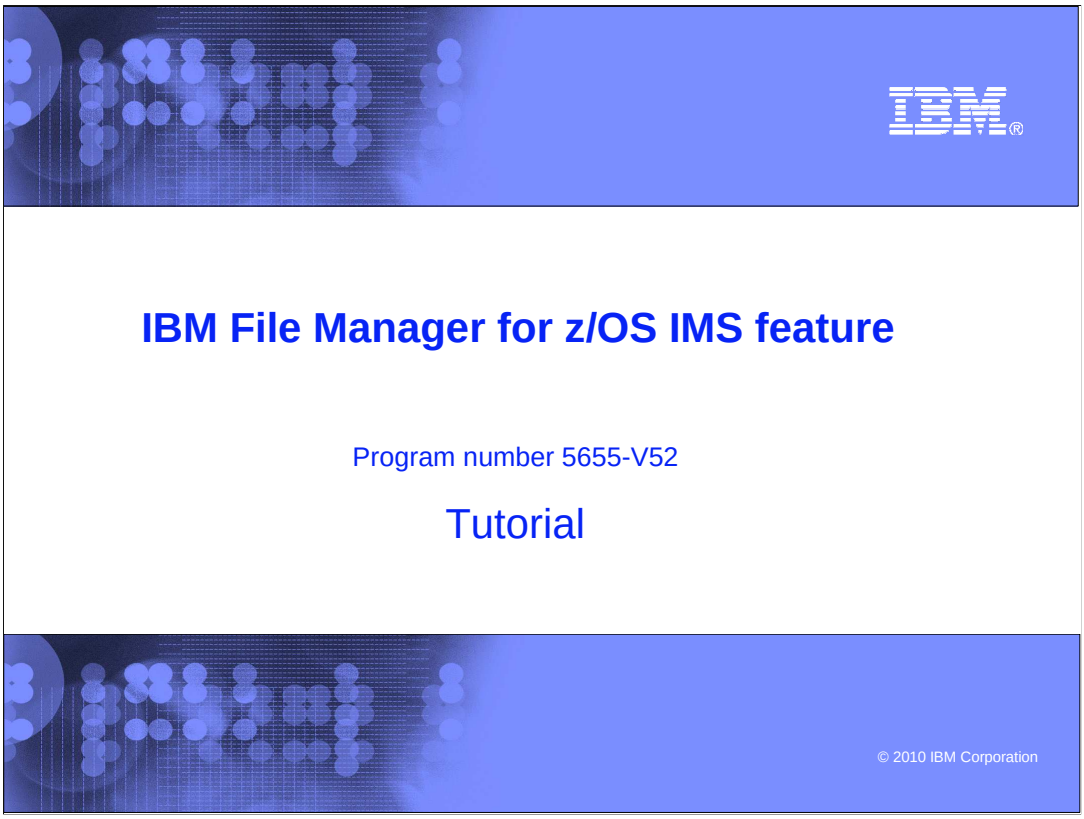
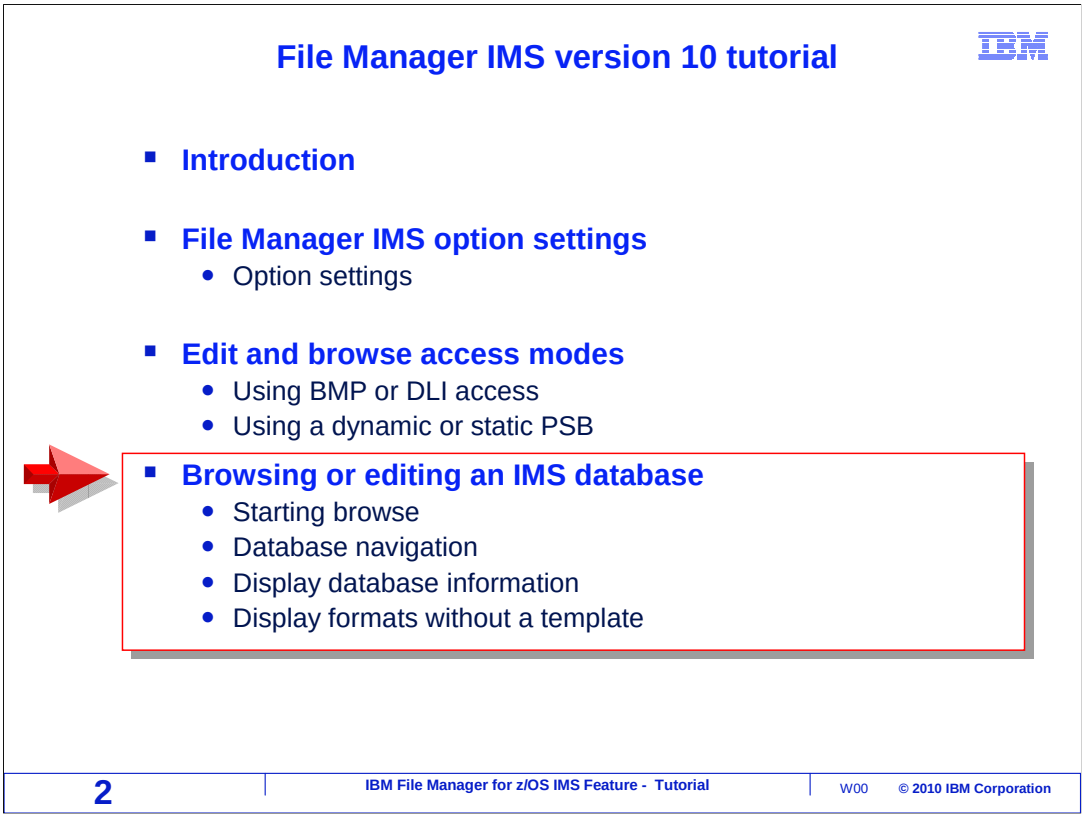


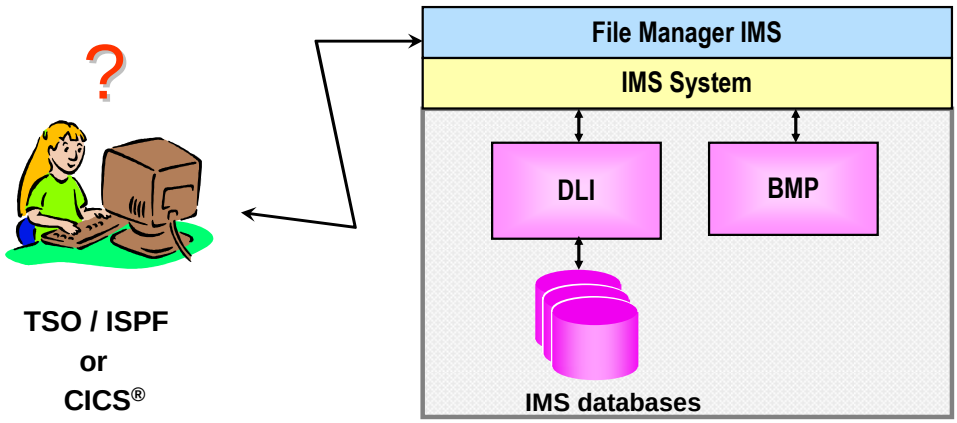
This is the tutorial for the IMS™ feature of IBM's File Manager for z/OS®, one of the IBM zSeries® problem determination tools.



In this section, you will learn the basics of using the File Manager IMS browser and editor. Take this section to learn how to start the browser, how to navigate to various segments in a database, how to get information about a database, and to see some of the display formats that are available.

Browse a database

- IMS database browse



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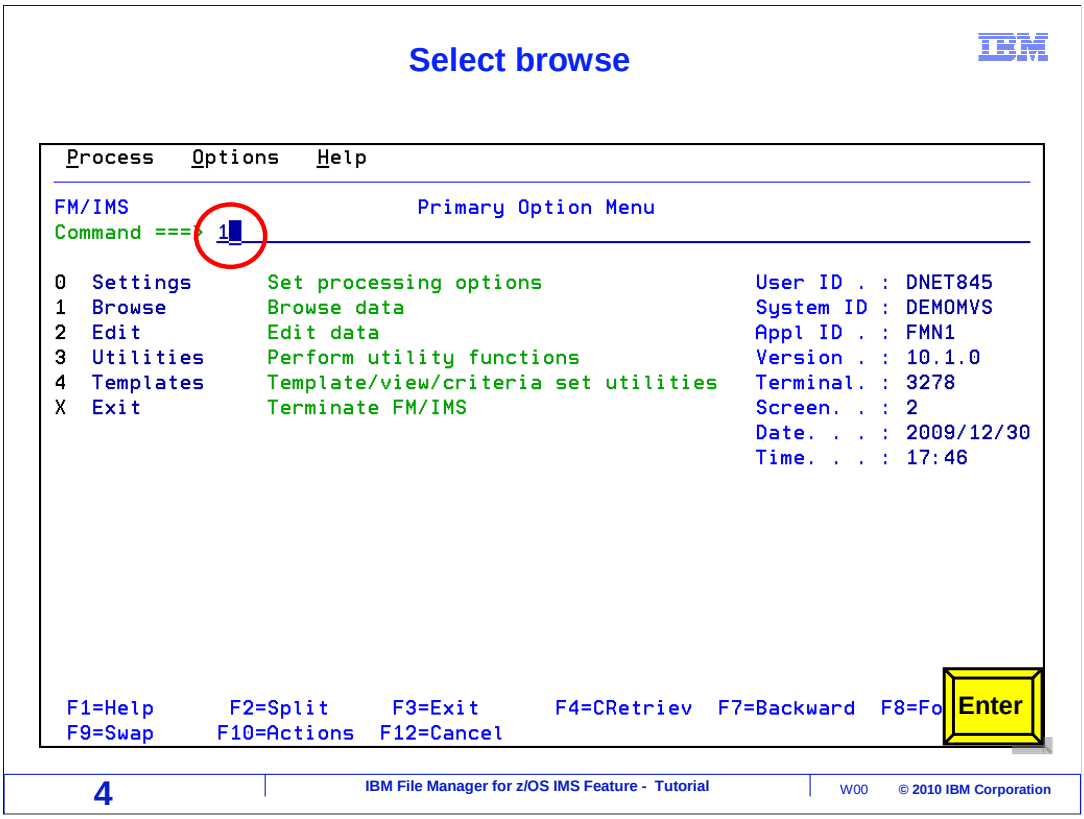
Use File Manager IMS to edit or browse an IMS database. You can use these functions from TSO, or they can optionally be accessed from CICS, if the File Manager CICS component is installed.

Select browse



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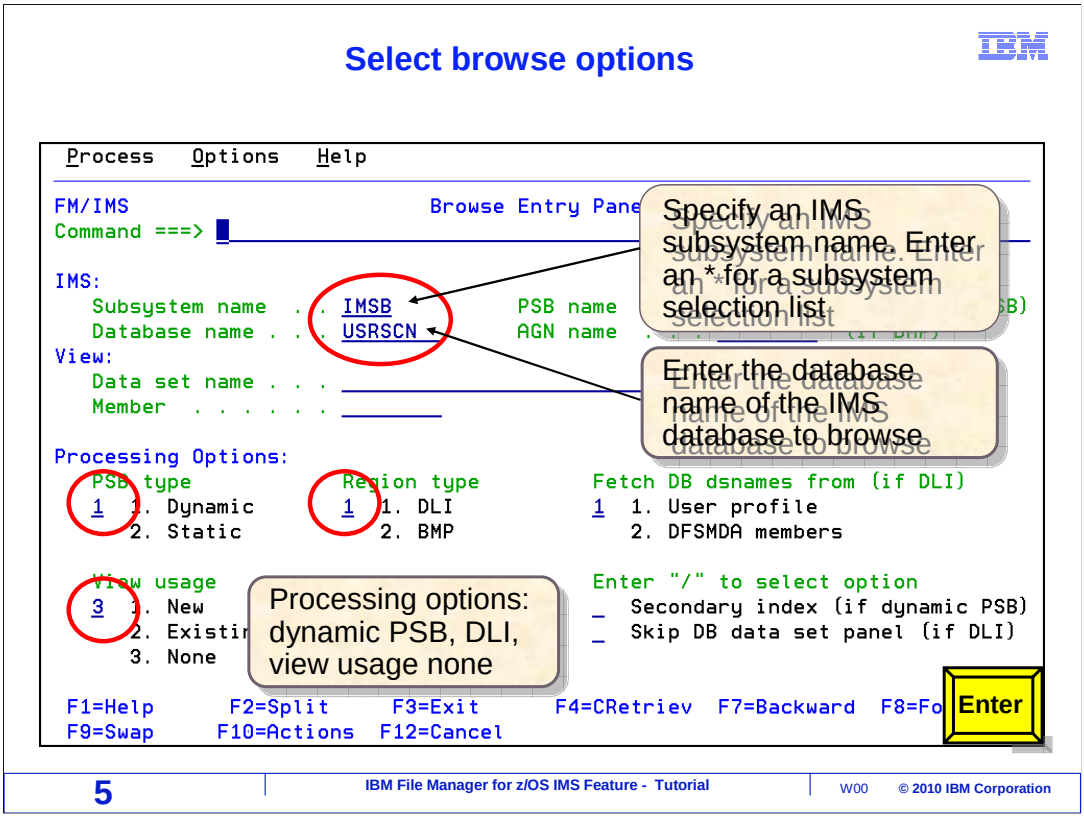
This is the File Manager IMS "Primary Option Menu". If you are not sure how to get to File Manager IMS on your system, you might want to contact your help desk or systems programmer to find out. From the menu, Option 2 is Edit, and 1 is Browse. In this example, 1 (for browse) is typed on the command line, and Enter is pressed.



The browse entry panel is displayed.

To browse an IMS database, first, in the "Subsystem name" field, specify the name of an IMS subsystem where the database resides. If you do not know what subsystems are available on your system, overtype this field with blanks and press Enter. That will display a list of available subsystems, and you can select the one you need from the list. IMS subsystem names are defined by the person who installs File Manager and by data base administrators.

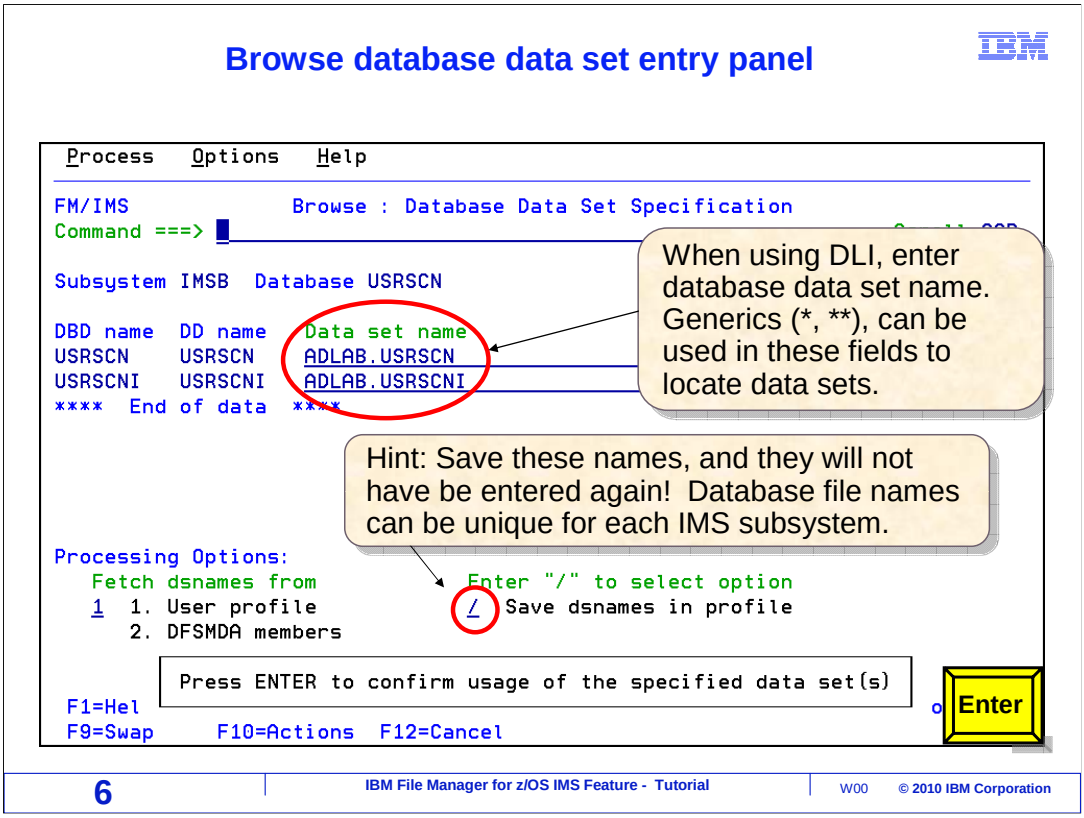
Then specify the DBD name for the database you want to access in the "database name" field. In this example, a DBD named USRSCN is used. The DBD libraries that are searched are controlled in your options settings.

Specify the access mode in the "Region Type". This will either be "1" for DLI or "2" for BMP. In this example, the database will be accessed in DLI mode.

The "PSB type" field controls whether you will use a static or dynamic PSB. In this example, a dynamic PSB is used, and File Manager will automatically create a PSB with access to all segments in the DBD.

The "View usage" field will be described in a later section. In this example, a "view" will not be used, so view usage is set to "3" (none).

Enter is pressed.



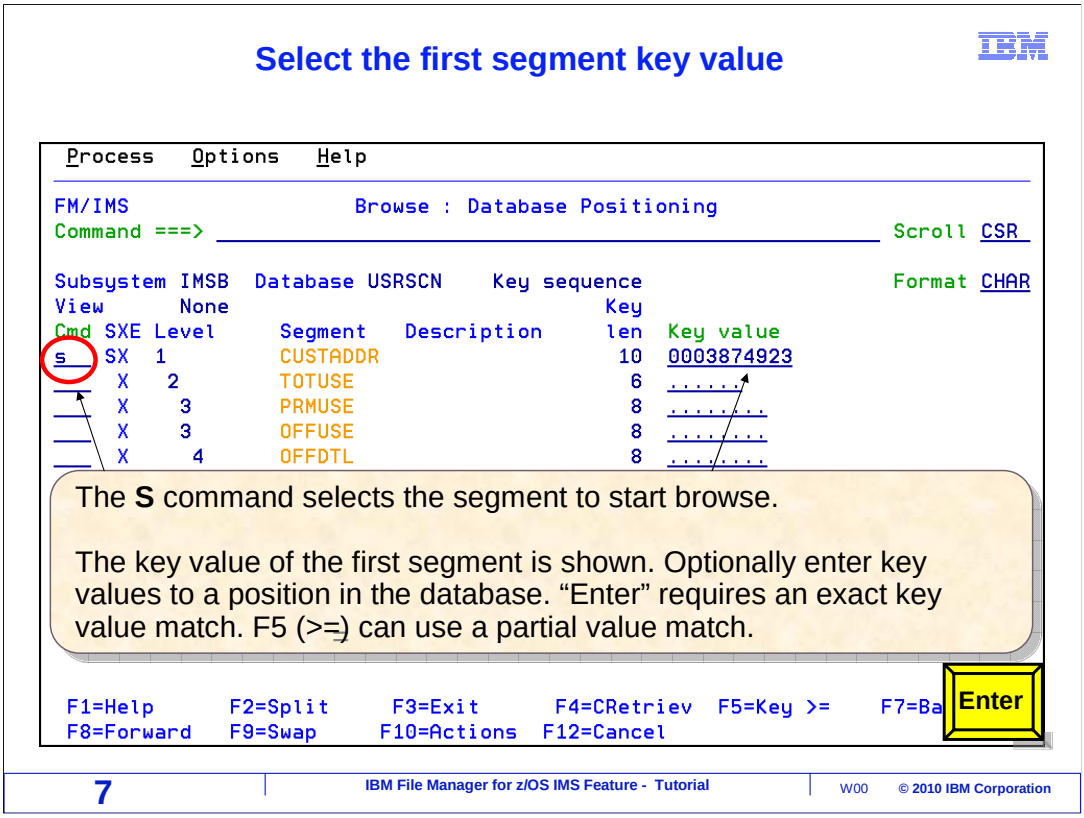
When you are in DLI mode, the "Database data set specification" panel is displayed next. This panel is not displayed when you are in BMP mode.

The names of the files that contain the database that you want to access must be specified here. The number of files needed depends on what is called for by the DBD.

There are some different ways to specify the dataset names. If you know what they are you can type them into the "data set name" fields. If the database administrator has defined them in the IMS subsystem's dynamic allocation members, you can type option "2" in the "Fetch DSnames from" field and press Enter, to retrieve the file names automatically.

Also notice the "Save DSnames in profile" field. If you select this option, by typing a slash, then the file names that you enter or retrieve will be automatically saved in your File Manager profile. Then the next time you access this database, you can have the file names retrieved automatically from your personal profile, by specifying the "1" (User profile) option in the "Fetch DSnames from" field. That is a good idea, so you do not have to retype the file names every time.

Press Enter to continue.



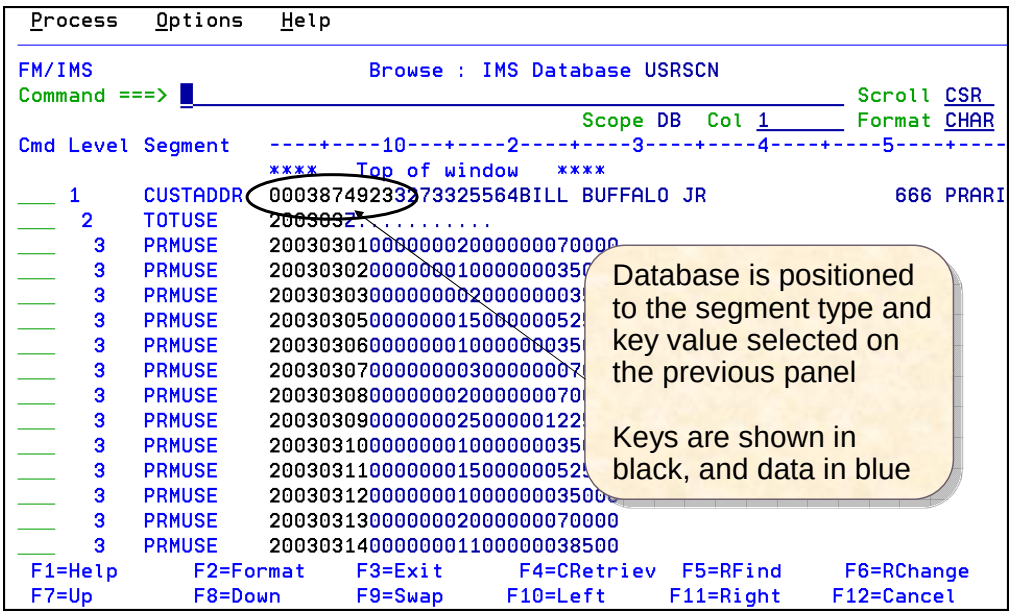
Next, the Database Positioning panel is displayed. This is used to determine where the browser will initially position in the database. You can position to any segment type, and you can optionally specify a key value.

You can type key values for the path to the segment, starting with the root, then select the segment type with an S line command. There are two ways to position to a segment based on a key value. First, if you press Enter, File Manager searches for a segment that is an exact match for the key value you entered.

The other way is to use F5. When you press F5, File Manager searches for a segment key that is greater than or equal to the value you specified.

The key value of the first root in the database may be automatically filled in, as in this example. In this database, root segments are called CUSTADDR. To navigate to the first root segment, S is typed in the prefix area for the CUSTADDR segment, and Enter is pressed.

Database is displayed in browse mode at the specified key



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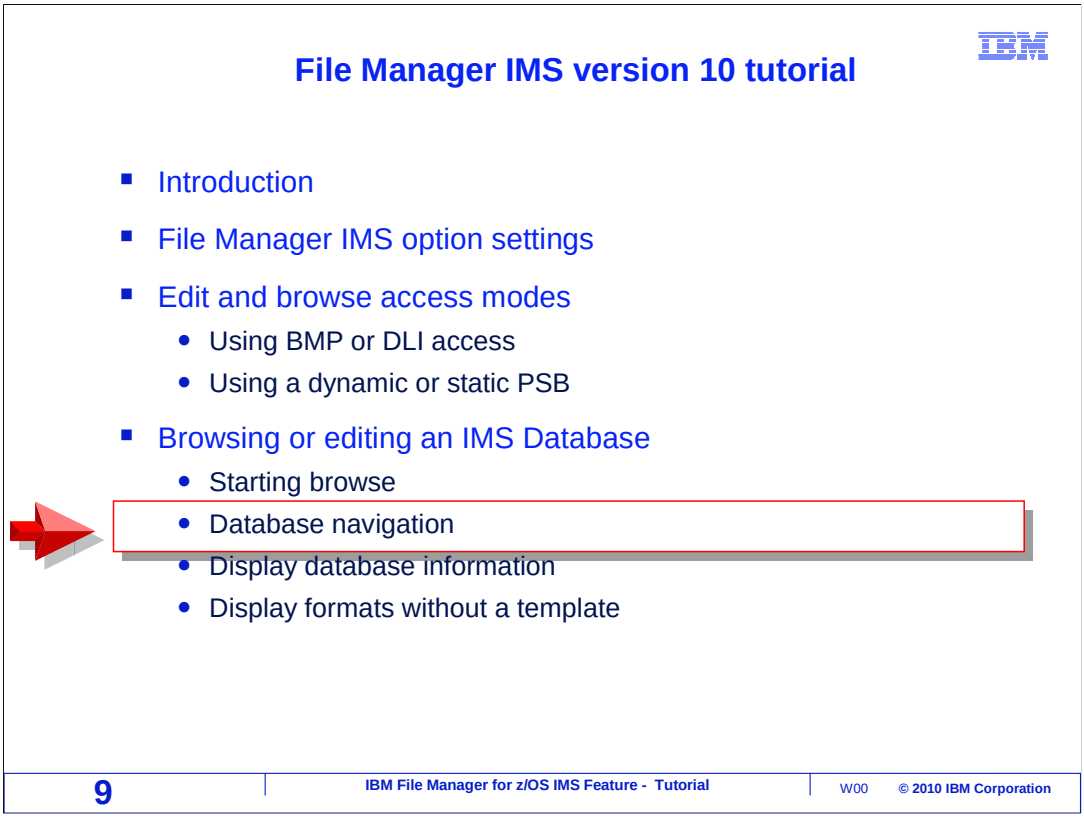
And now the browser is displayed. It positioned to the root segment based on the key value from the last screen.

Each data line shows one segment. Notice the “level” column. Root segments are denoted as level one. Children of root segments are denoted as level two. Level three segments are children of level two segments, and so on.



Next, you will see how to navigate the segments in a database.

Database navigation

Topics in this section:

- Database navigation:
  - Function keys and commands:
    - Up, Down, Next, Previous
    - Root, Parent, Child, Twin
    - Find
  - The database positioning panel
  - The key specification panel

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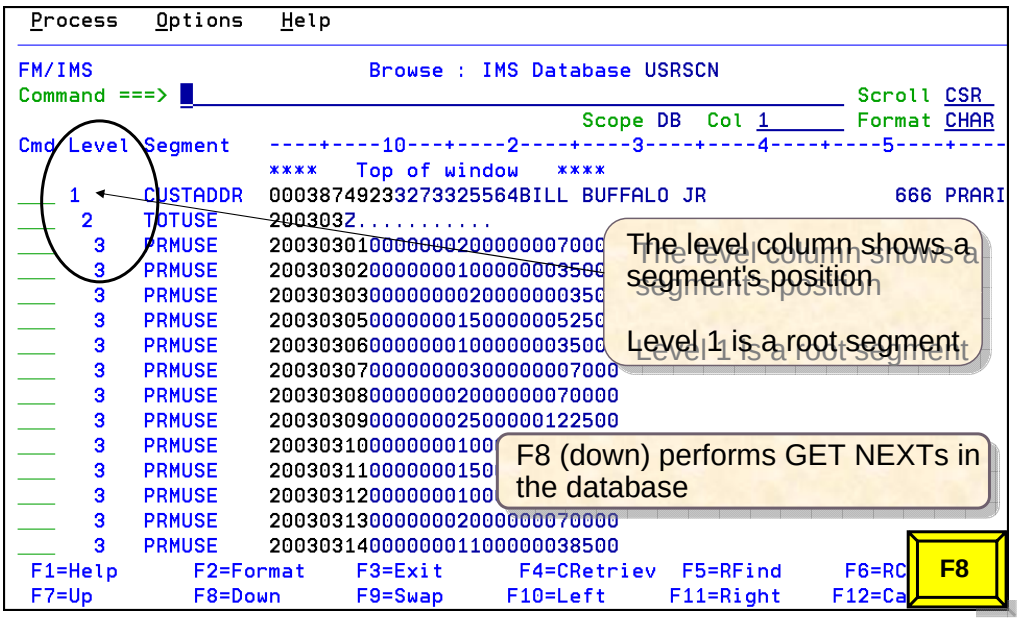
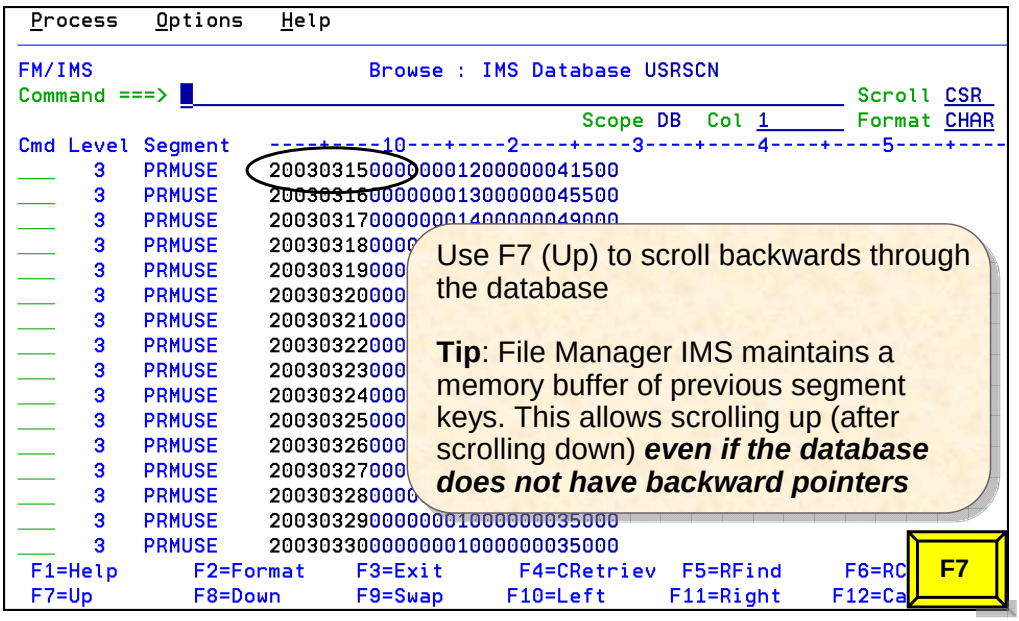
First, the navigation function keys and commands will be discussed.

Down command F8



F8 is the “down” key. It performs GET NEXT operations and scrolls down through segments. F8 is pressed.

Database has been repositioned down



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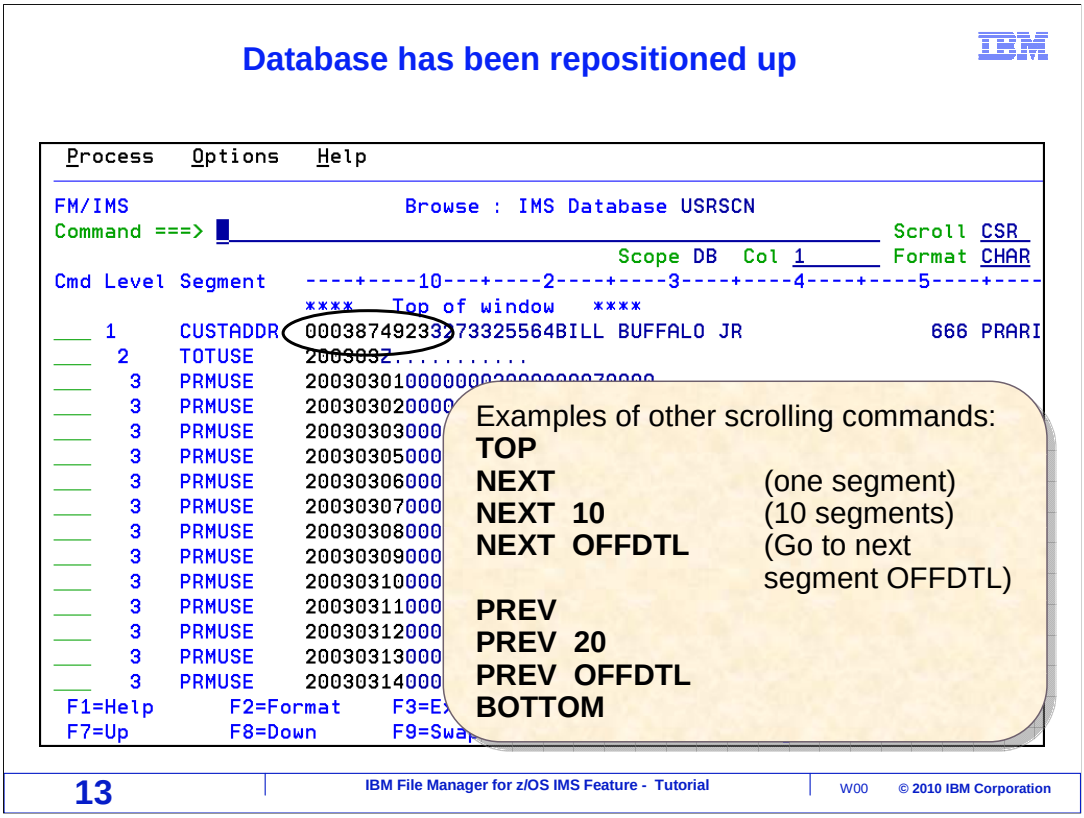
That scrolled forward in the database. F7 is the “up” key, and it scrolls backward.

Be aware that you may be able to scroll up in your database even if the database does not have backward pointers. This is a very helpful feature, and File Manager accomplishes it by maintaining a memory buffer of previous segment keys that you have already scrolled down through.

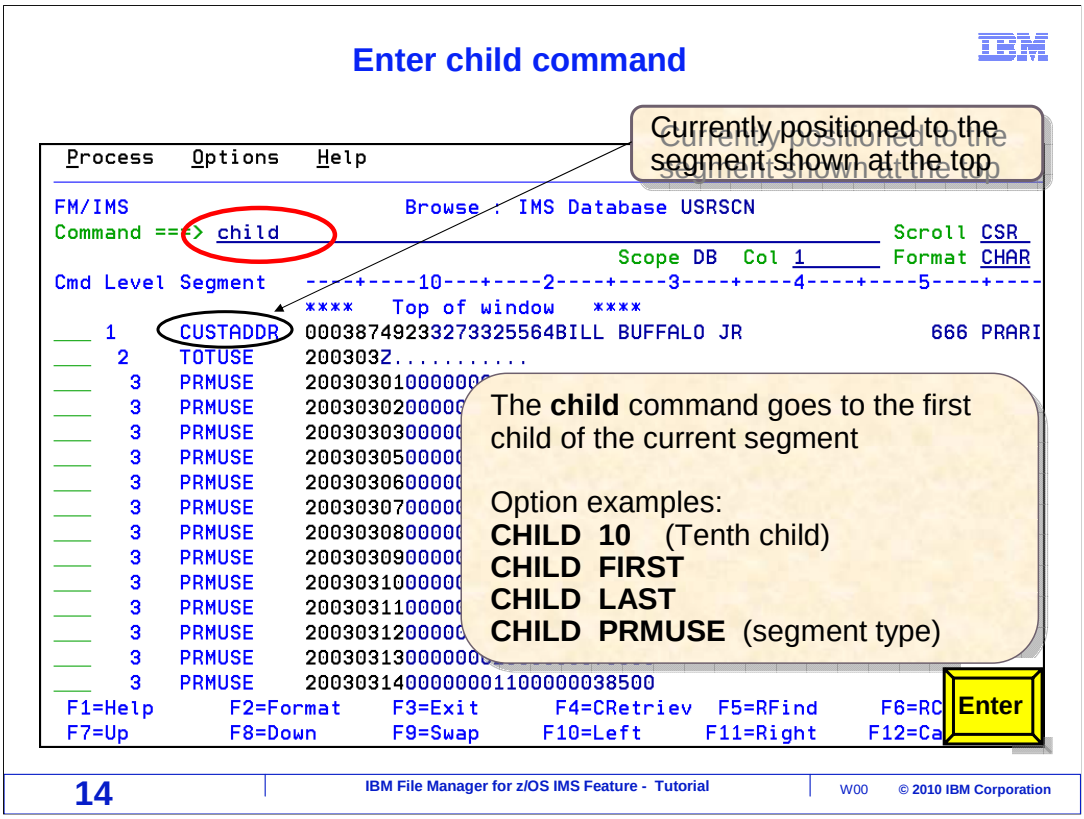
F7 is pressed.



And that scrolled back up. Here are some of the commands that you can type on the command line to navigate. The TOP command positions to the top of the scrolling window. That means that it takes you back to the place where you initially positioned, but not necessarily the first root segment in the database.

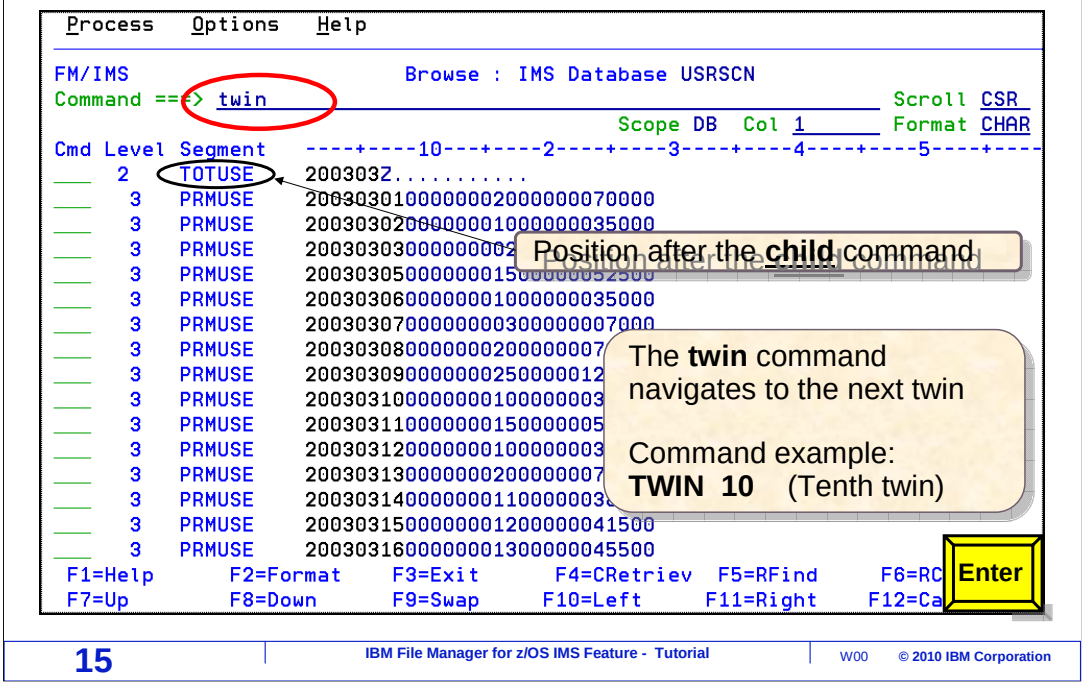
NEXT commands scroll forward. You can specify a number, such as NEXT 10, to scroll forward 10 segments. You can specify a segment name to scroll forward to the next segment of that name.

PREVious commands are similar to NEXT commands, but go up instead of down. The BOTTOM command navigates to the last logical segment in the database.



You can use a CHILD command to position to a child of the current segment. The current segment is the top line of data. In this example, CHILD is typed on the command line, and Enter.

Database has been repositioned to child of CUSTADDR



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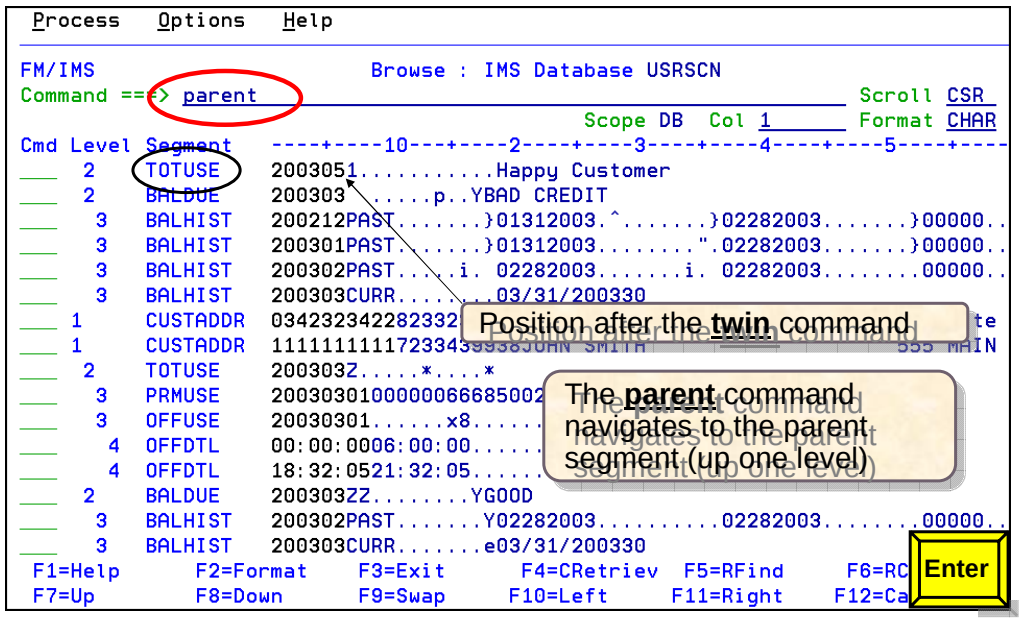
That positioned to the next child segment. You can use the TWIN command to position to a twin segment, or a segment of the same type as the current segment with the same parent. The TWIN command is entered.

Database has been repositioned to twin of TOTUSE segment



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And the browser positioned to the next twin segment. Use a PARENT command to position to the parent of the current segment. The PARENT command is entered.

Database has been repositioned to parent segment CUSTADDR

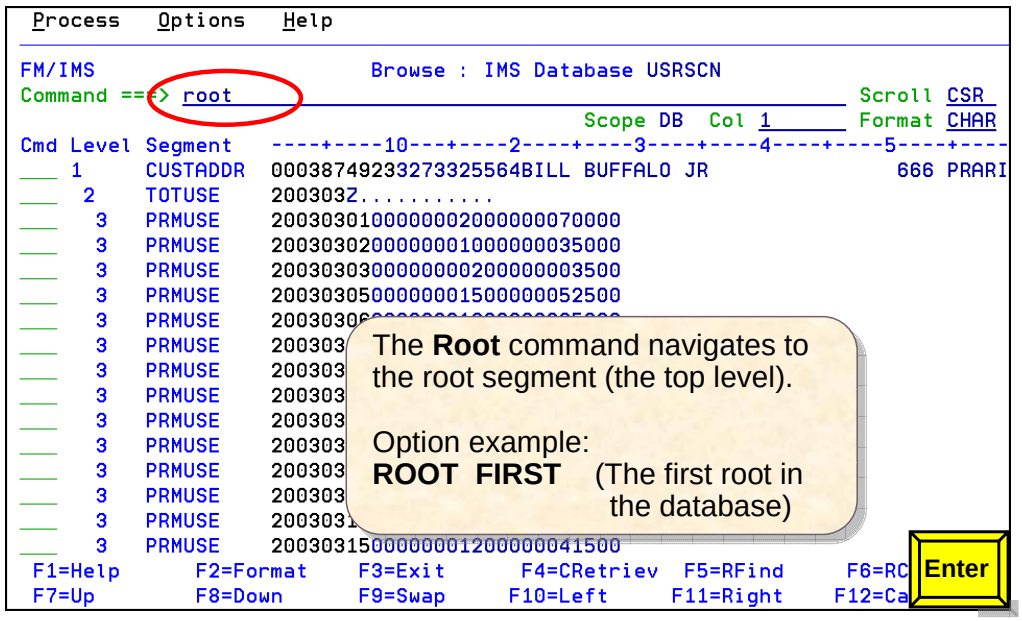
```
 Process   Options   Help
FM/IMS                      Browse : IMS Database USRSCN
Command ===>                                                  Scroll CSR
                                                 Scope DB  Col 1      Format CHAR
Cmd Level Segment   ----+----10---+----2----+----3----+----4----+----5----+----
___ 1     CUSTADDR  00038749233273325564BILL BUFFALO JR              666 PRARI
___  2    TOTUSE    200303Z.........
___   3   PRMUSE    20030301000000020000000070000
___   3   PRMUSE    20030302000000010000000035000
___   3   PRMUSE    20030303000000002000000007000
___   3   PRMUSE    20030305000000015000000052500
___   3   PRMUSE    20030306000000010000000035000
___   3   PRMUSE    20030307000000003000000007000
___   3   PRMUSE    20030308000000020000000070000
___   3   PRMUSE    20030309000000025000001225000
___   3   PRMUSE    20030310000000010000000035000
___   3   PRMUSE    20030311000000015000000052500
___   3   PRMUSE    20030312000000010000000035000
___   3   PRMUSE    20030313000000020000000070000
___   3   PRMUSE    20030314000000011000000385000
___   3   PRMUSE    20030315000000012000000415000
 F1=Help      F2=Format    F3=Exit      F4=CRetriev  F5=RFind     F6=Re
 F7=Up        F8=Down      F9=Swap      F10=Left     F11=Right    F12=Ca
```

Position after the **Parent** command

F8

And the browser positioned to the parent segment. F8 is pressed several times to scroll forward.

Enter the Root command



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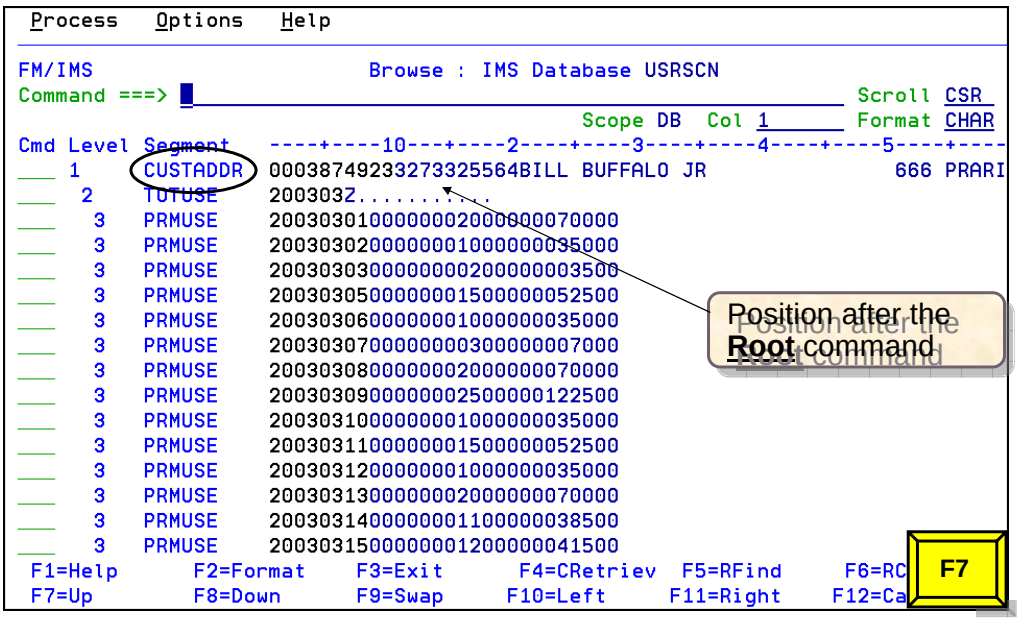
You can use a ROOT command to position to the root of the current segment. Use a ROOT FIRST command to position to the very first root segment in the database. The ROOT command is entered.

Database positioned to root segment



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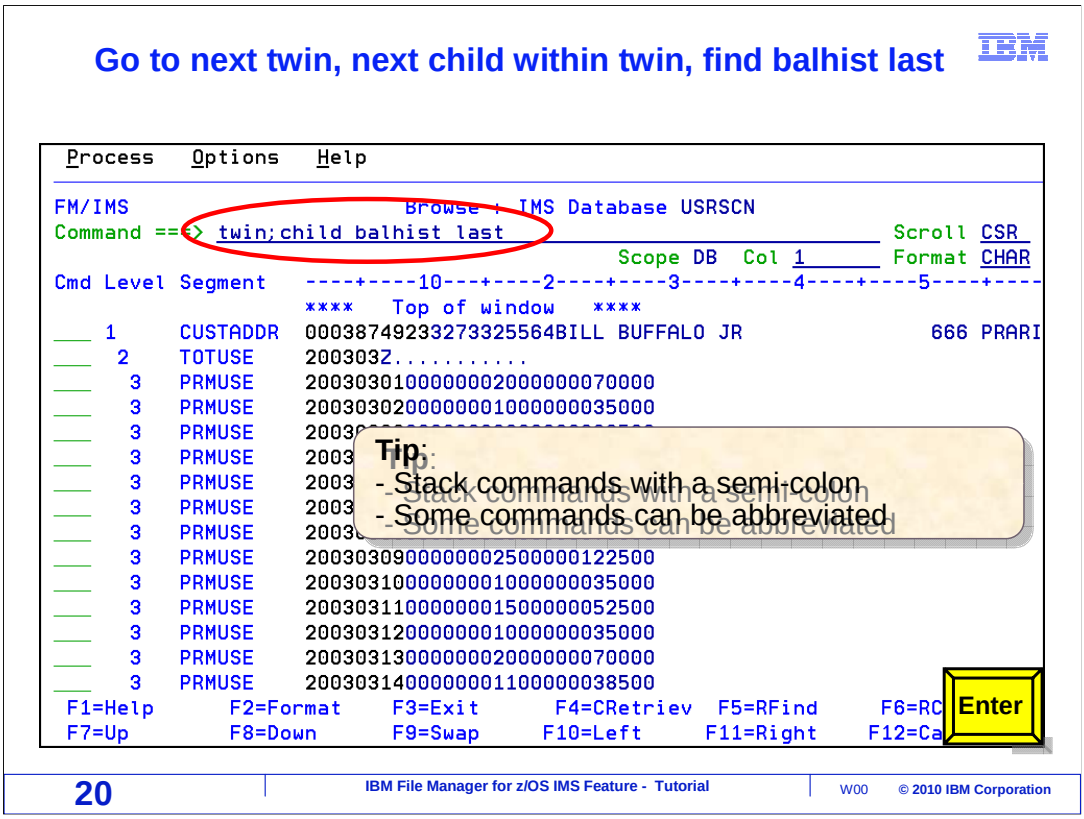
And the browser positioned to the root segment.

Go to next twin, next child within twin, find balhist last



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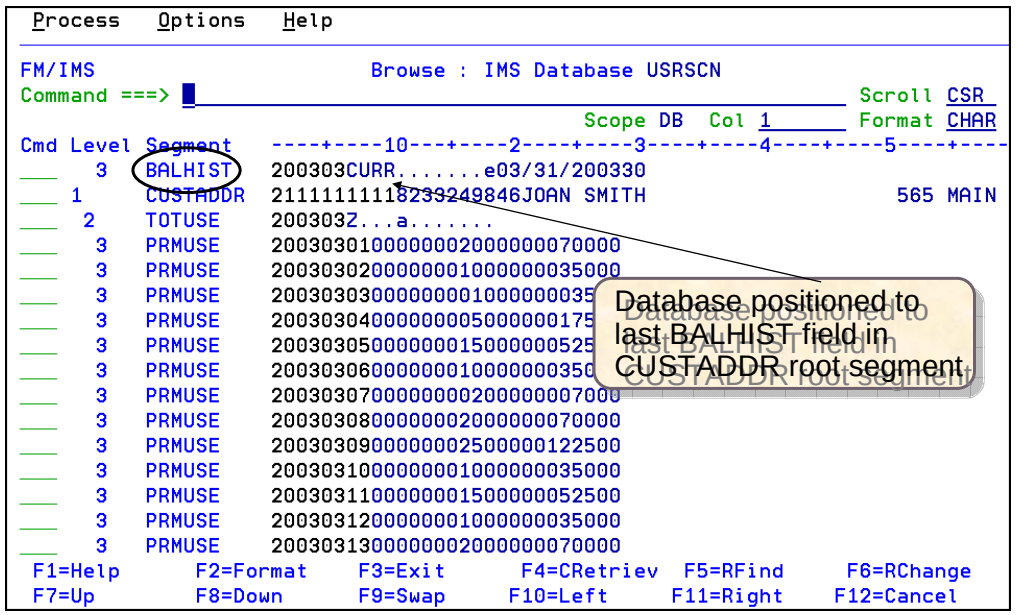
Here is a tip. You can enter more than one command at a time by separating them with semi-colons. In this example, two commands are entered. Notice that the browser is currently positioned to a CUSTADDR segment, which is a root segment. The TWIN command will position to the next twin of the current segment, which will be the next root segment in the database. The CHILD BALHIST LAST command will then position to the last BALHIST segment under that root. Enter is pressed.

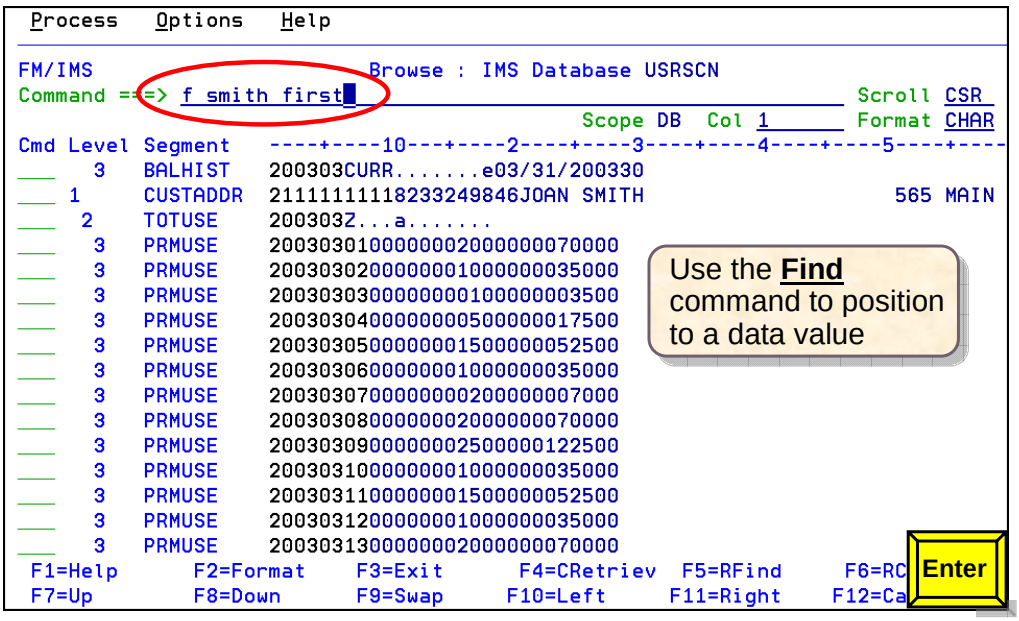
Result of stacked commands



 © 2010 IBM Corporation

And the browser is repositioned to the requested segment.

Find Smith first



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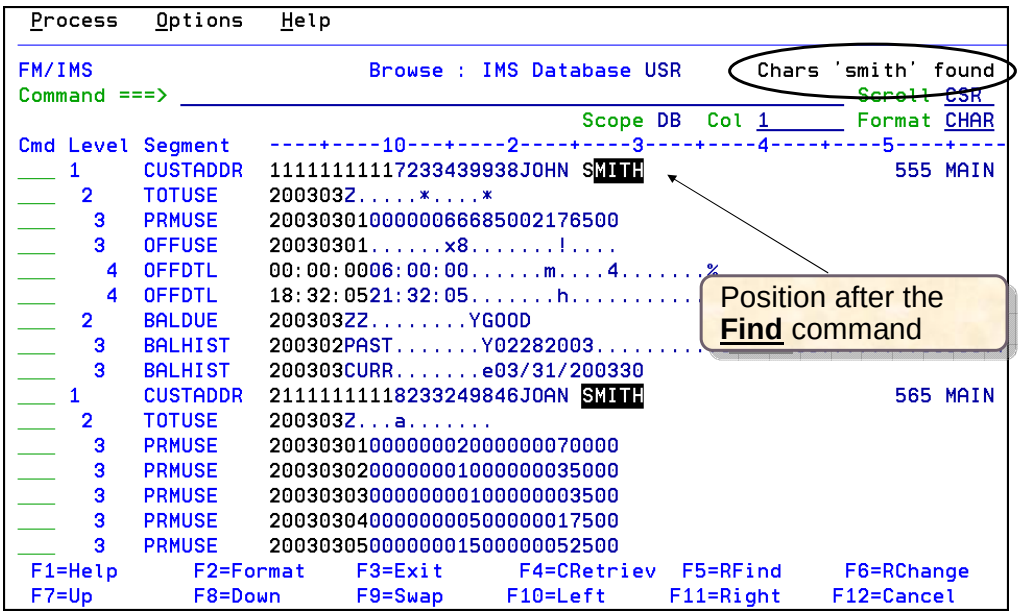
The FIND command in the File Manager IMS editor and browser is similar to the FIND command in the ISPF editor. You can use it to search for data in segments. By default, a FIND command will search forward in the database starting with the current segment. Here, the command “FIND SMITH FIRST” is entered. That will search for the character string “SMITH” starting at the beginning of the database. Enter.

Database positioned to data field smith



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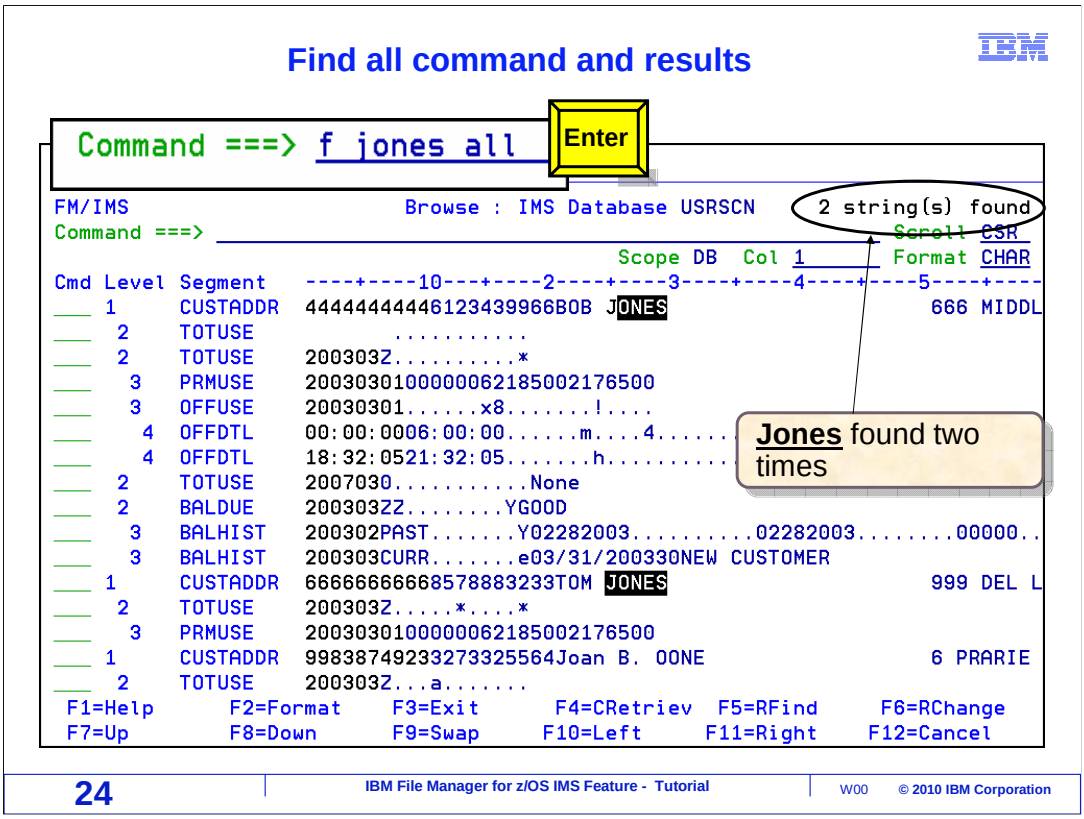
And the browser found the string and is positioned to the segment where the data was found.



You can use the ALL operand to search all segments in a database and get a count. Here, the command “FIND JONES ALL” is entered. All segments were searched, and a message is displayed showing how many times the string was found.

Database navigation

Topics in this section:

- Database navigation:
  - Fx keys and commands:
    - Up, Down, Next, Previous
    - Root, Parent, Child, Twin
    - Find
  - The database positioning panel
  - The key specification panel

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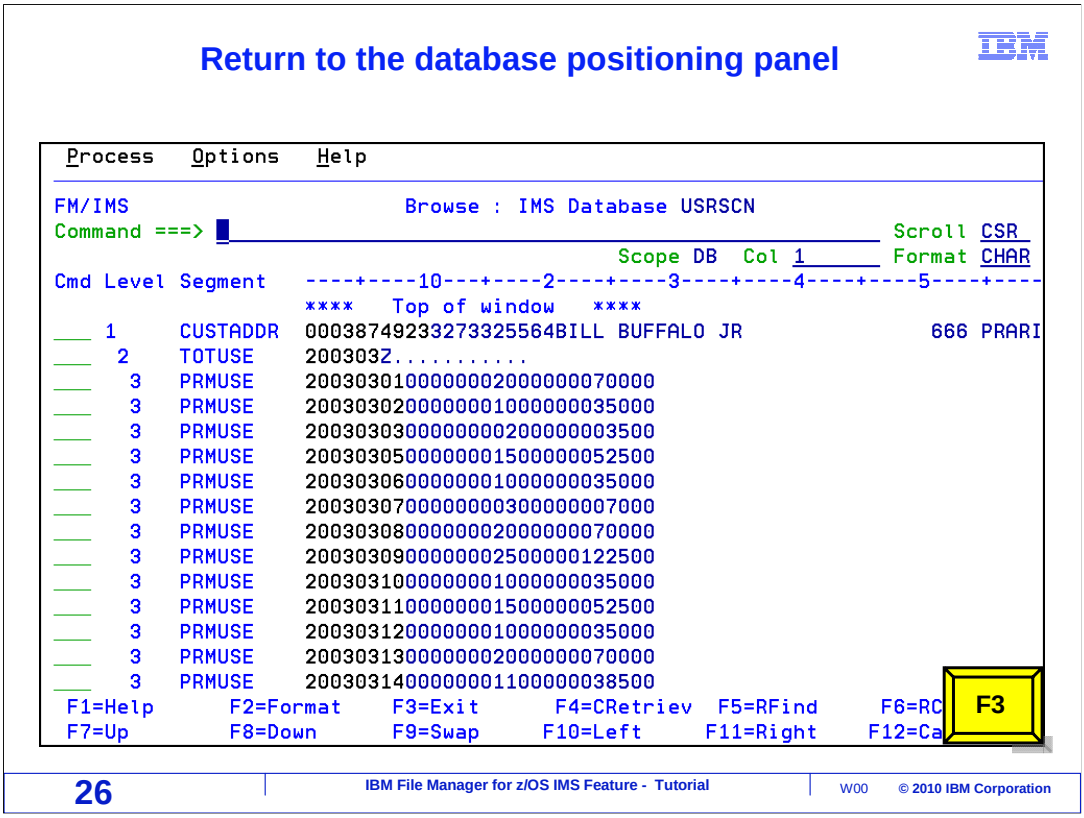
Next, you will see how to reposition in the database using the database positioning panel.

Return to the database positioning panel



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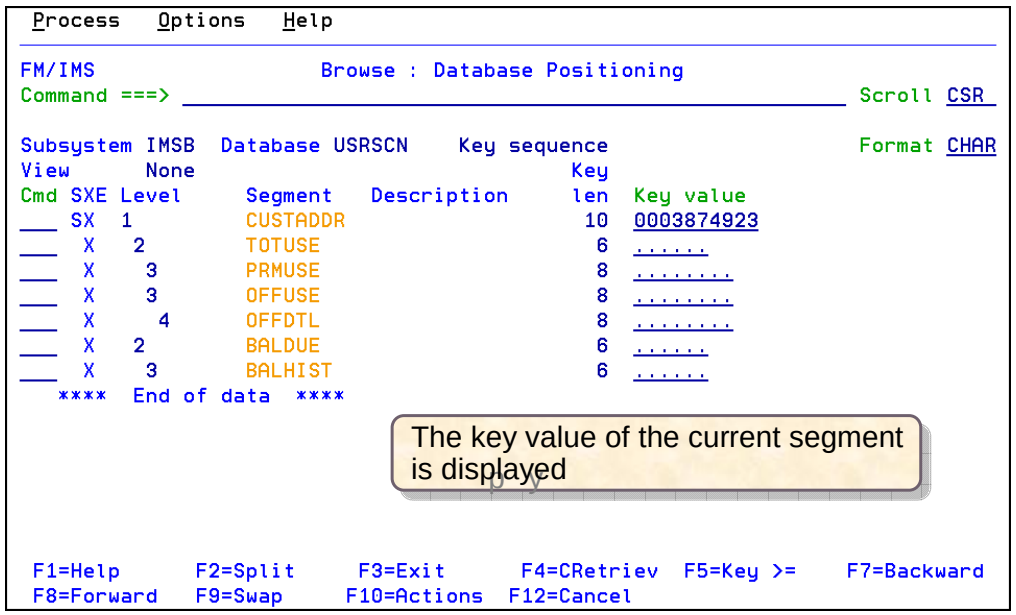
When in the editor or browser, F3 returns to the database positioning panel.

Database positioning panel



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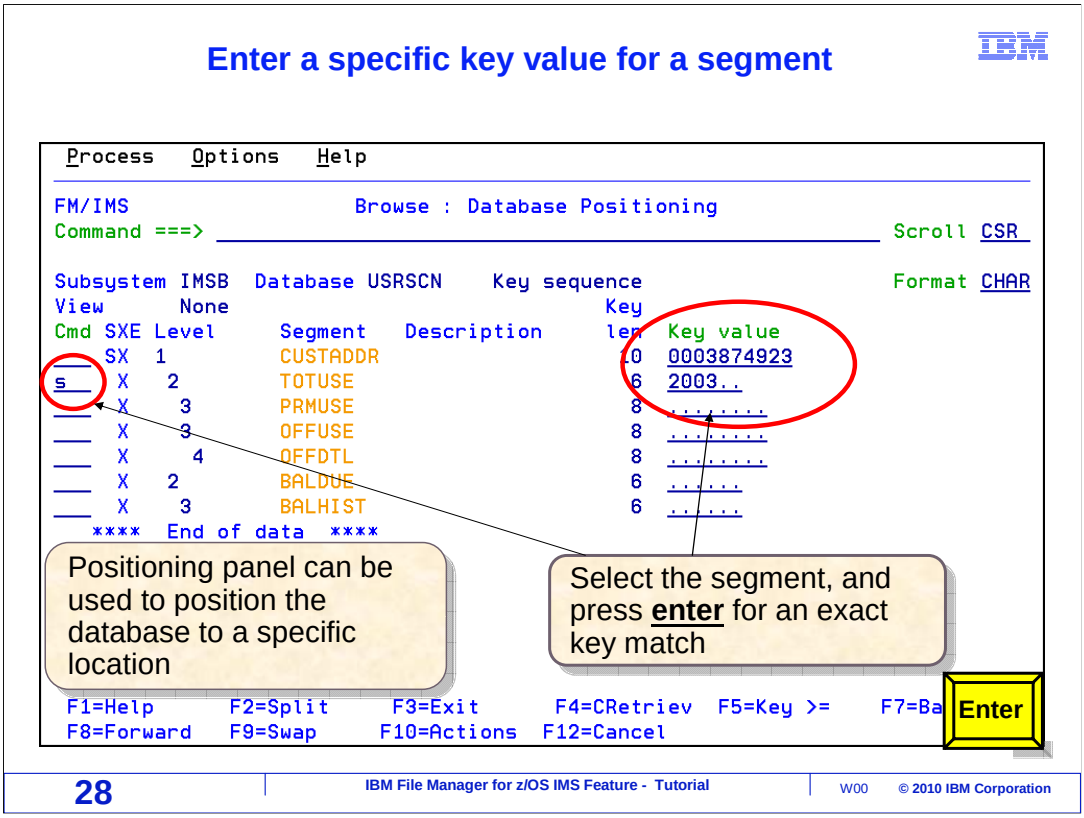
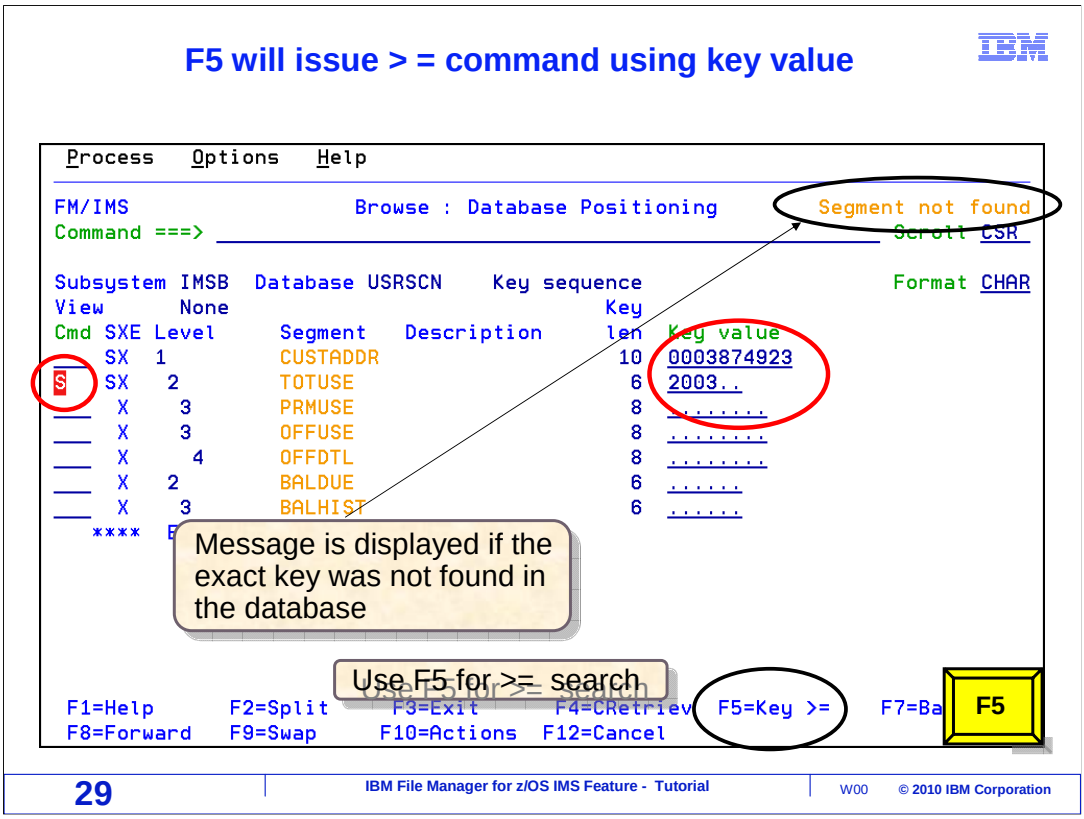
You may remember that when the browser was started, this panel, the database positioning panel, was displayed. When you exit the browser it displays again. Notice that the key value of the current segment is displayed.

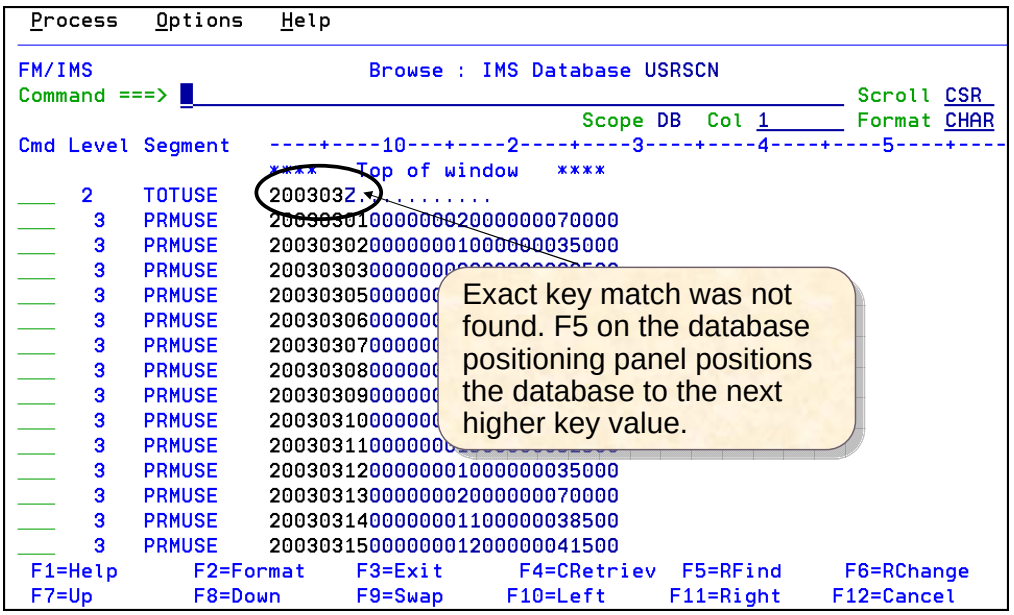


There are two ways to use this panel, with the Enter key or with an F5 key. When you use the Enter key, you are positioning to an exact match on a key value. First, type in a key value to position to a segment. In this case, a root key and a key for a TOTUSE child segment is typed in. Use an S line command to select the segment type. Notice that S is typed next to the TOTUSE segment type. Then press Enter.



If the segment is found, the browser is displayed positioned to the requested segment. But in this example, there was no exact key match for the values specified. When you use the F5 key instead of Enter, it searches for the next segment with a key value greater than or equal to the value specified. F5 is pressed.

After F5 positioned to database location of key > value



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And the browser is displayed, positioned to the requested segment type with the specified key values.

Database navigation

Topics in this section:

- Database navigation:
  - Fx keys and commands:
    - Up, Down, Next, Previous
    - Root, Parent, Child, Twin
    - Find
  - The database positioning panel
  - The key specification panel

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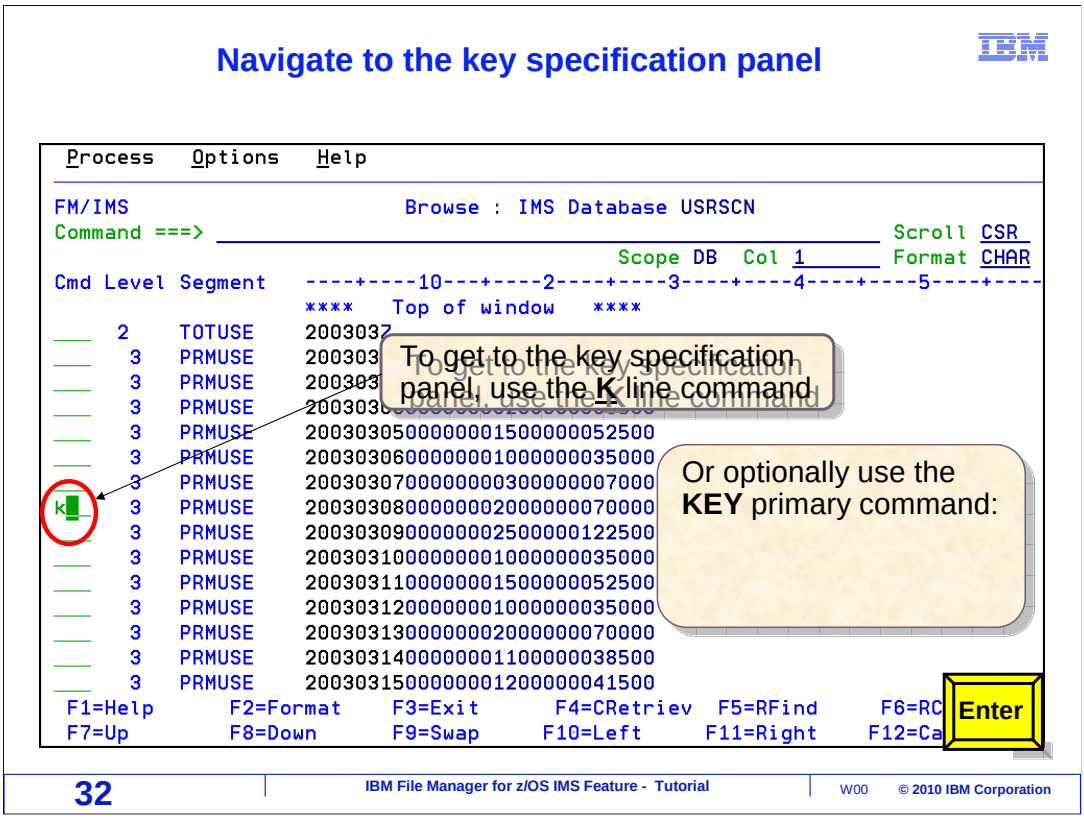
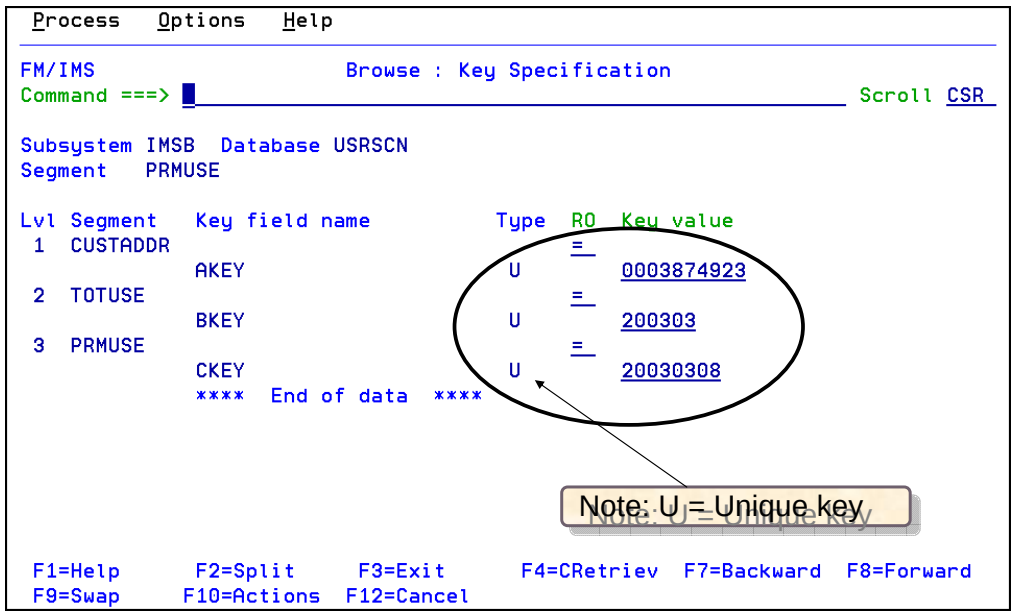
You have already seen that you can reposition in the database using commands such as TOP, BOTTOM, NEXT, PREVIOUS, ROOT, CHILD, and TWIN. And you can also reposition using the database positioning panel. And there is still one more method available, the key specification panel.



There are two ways to get to the key specification panel, either with a K line command, or with a KEY command on the command line. In this example, a K line command is typed next to a segment. Enter.

Key values of the segment are displayed



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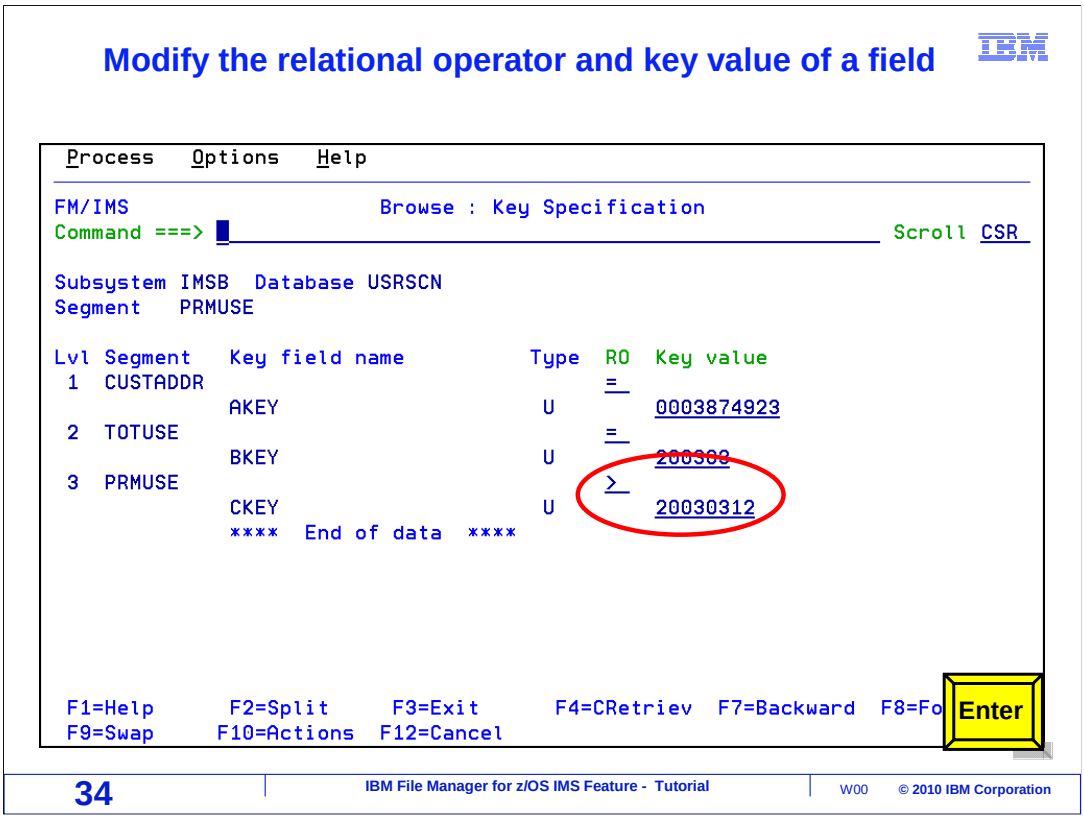
That brings up the key specification panel. This panel is similar to the database positioning panel, but here you have more options. In the RO column (RO stands for relational operator), you can enter valid IMS search relational operators such as equal, less than, less than or equal, and others.

Modify the relational operator and key value of a field



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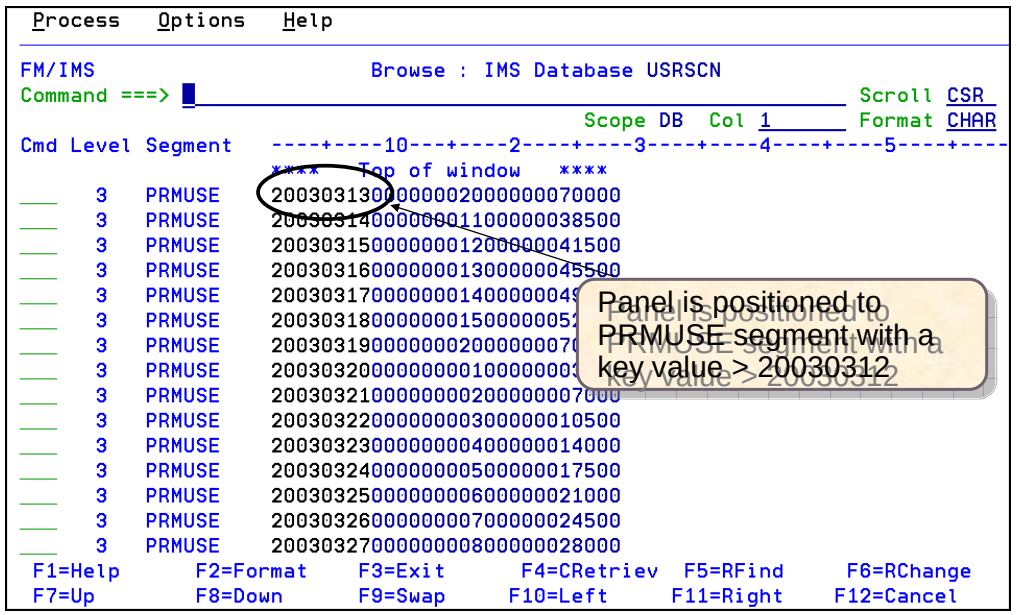
Key values and relational operators are changed to position to another segment. Enter.

Database re-positioned based on values in the key specification panel



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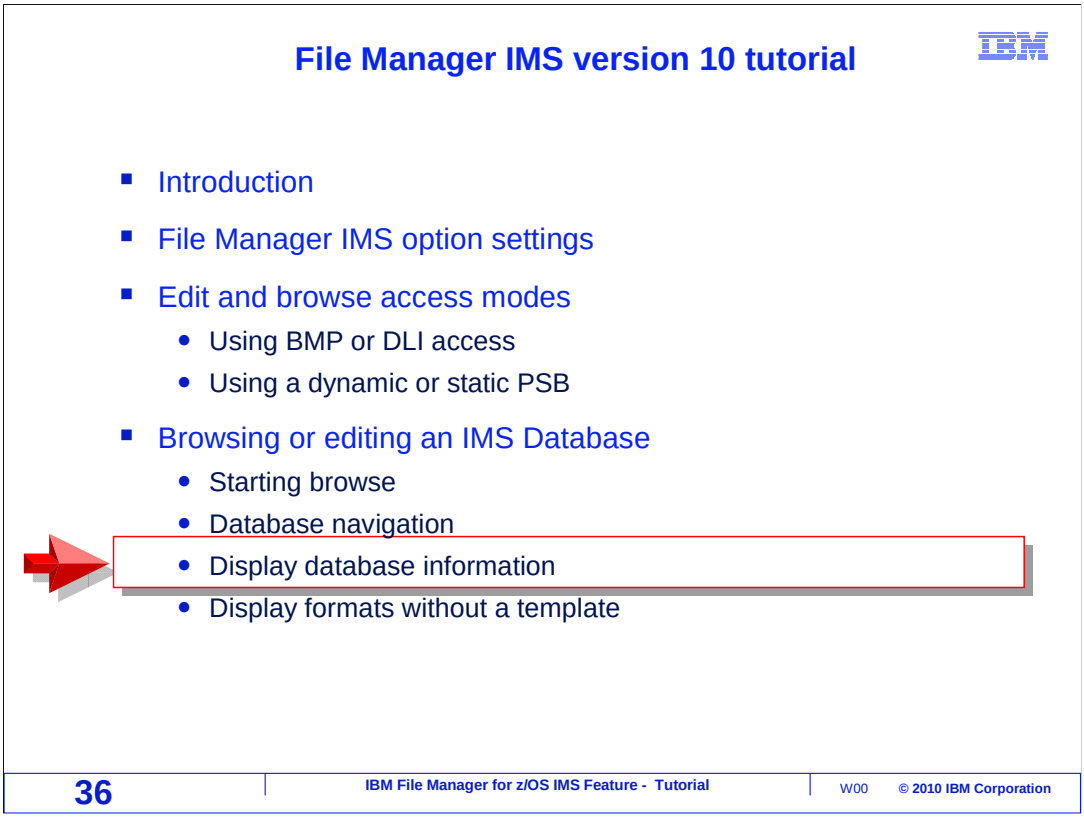
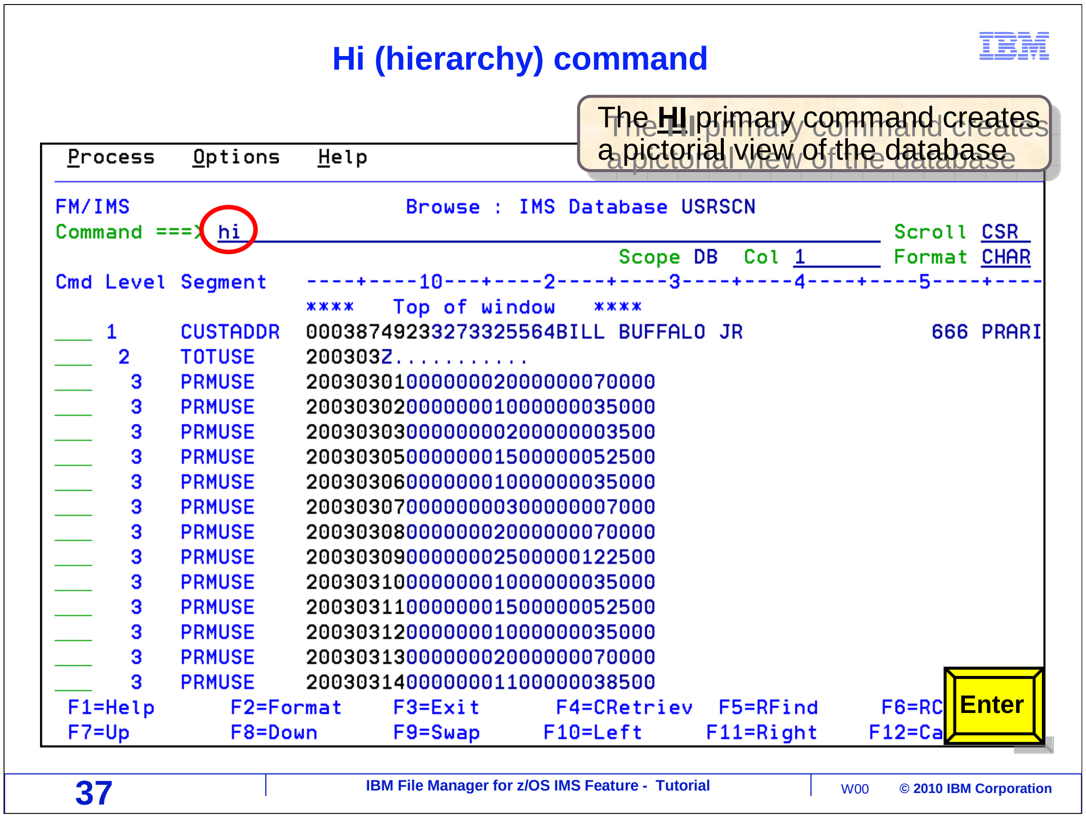
The browser is repositioned to the segment.

Now you have seen the ways to navigate a database: scrolling with function keys, using commands, from the database positioning panel, and from the key specification panel. Use which ever methods you prefer or find easiest.

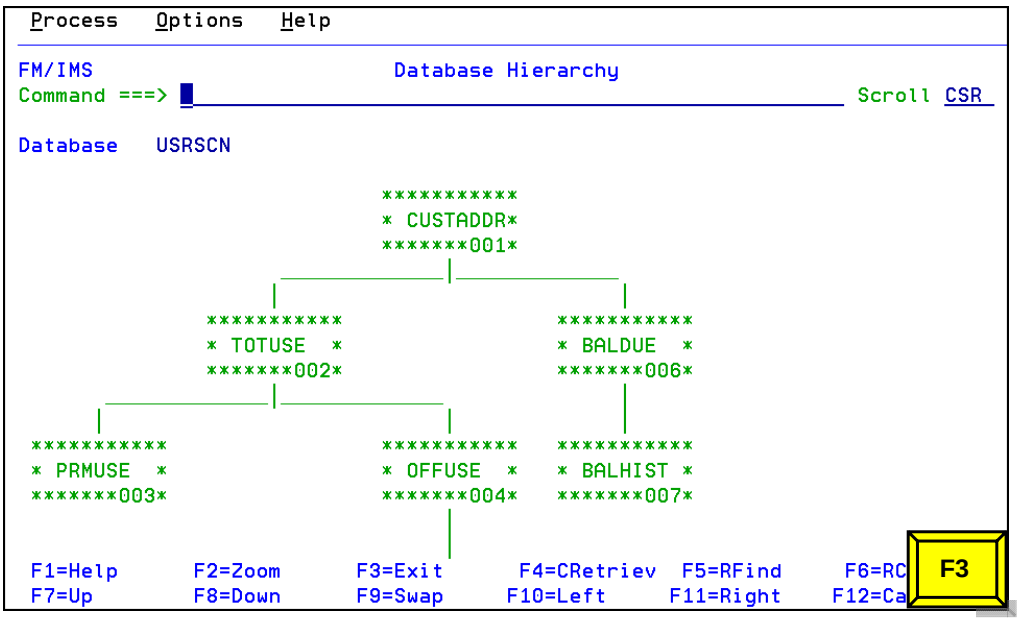


Next, you will learn about commands you can use to get information about a database.



The HI, or hierarchy, command can be used to see the database structure. HI is typed on the command line, and Enter is pressed.

Scrollable database hierarchy is displayed



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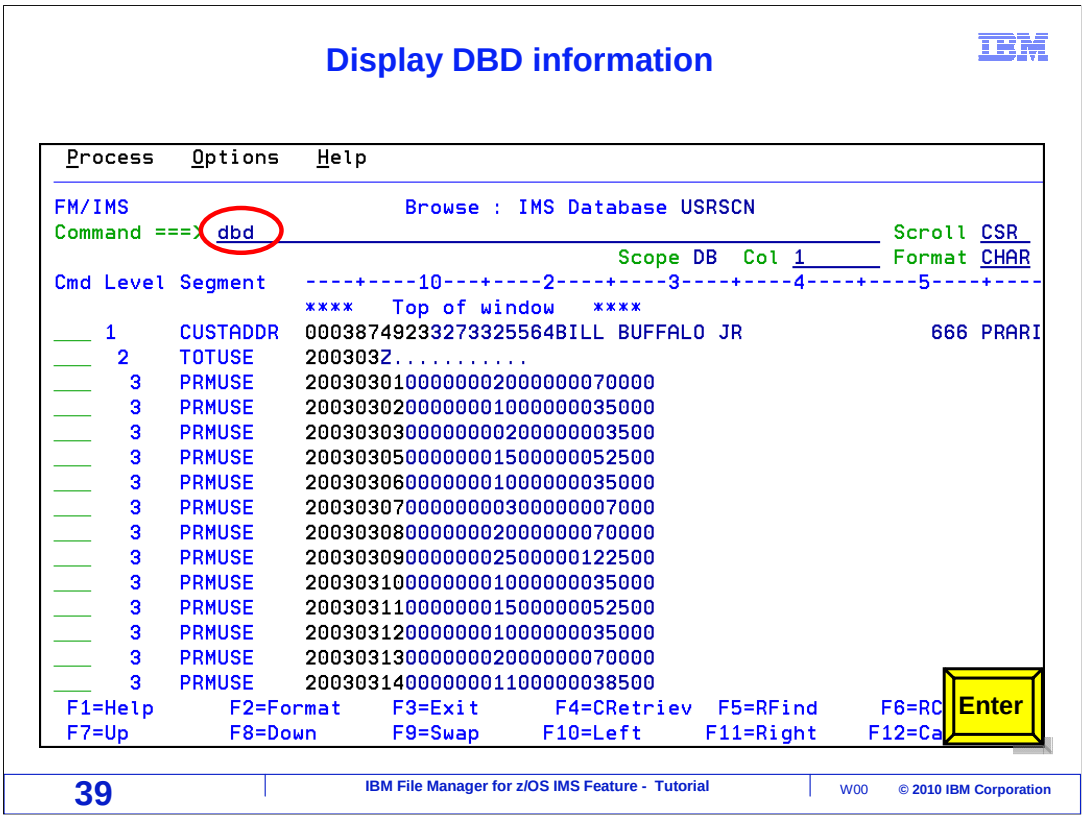
A pictorial view of the database is shown. In this example, CUSTADDR segments are root segments. TOTUSE and BALDUE segments are children of the root, and so on. If the database has a large, complex structure, the picture can be scrolled up and down and to the left and right with function keys.

Display DBD information



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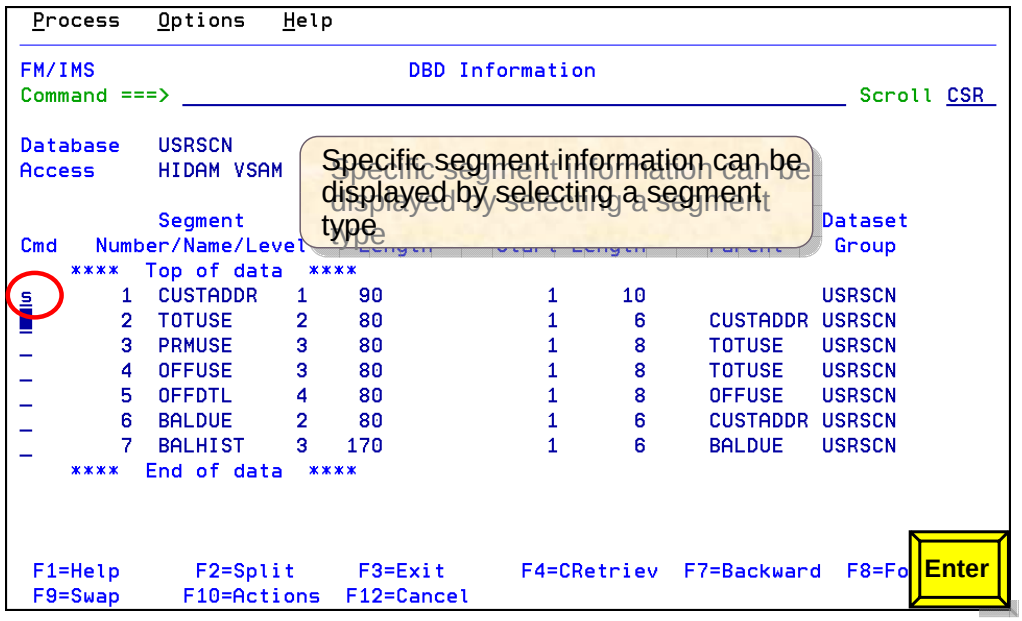
You can get information about the DBD, or database descriptor block, with the DBD command. Enter.

Result of the DBD command



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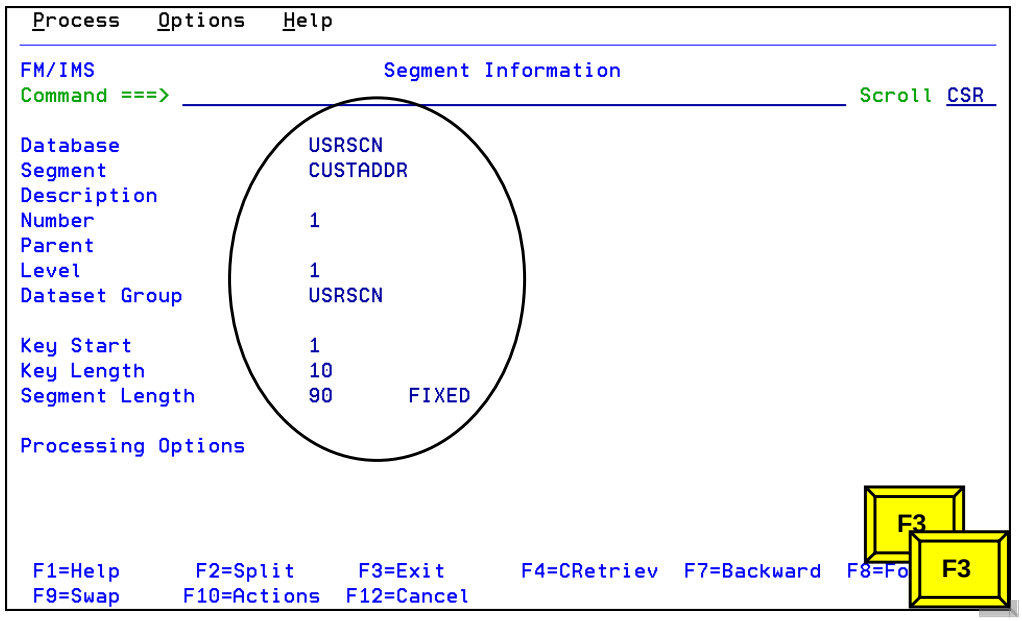
The DBD command displays the "DBD information" panel, which shows a list of the segments in the database. Segment names, lengths, key positions, and segment relationship information are shown. You can get more information about any segment. Here an S line command is typed next to one of the segment types, and Enter is pressed.

Result of segment selection from DBD panel



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That shows the segment information panel, which has detailed information about the segment type. F3 is pressed a couple of times to return to the browser.

Segment information can be accessed from browse or edit using the SEGMENT command

```
 Process   Options   Help
FM/IMS                      Browse : IMS Database USRSCN
Command ==> seg totuse                                        Scroll CSR
                                          Scope DB  Col 1     Format CHAR
Cmd Level Segment   ----+----10---+----2----+----3----+----4----+----5----+----
                    ****   Top of window   ****
___ 1     CUSTADDR  00038749233273325564BILL BUFFALO JR              666 PRARI
___  2    TOTUSE    200303Z...........
___   3   PRMUSE    20030301000000020000000070000
___   3   PRMUSE    20030302000000010000000035000
___   3   PRMUSE    20030303000000020000000003500
___   3   PRMUSE    20030305000000015000000052500
___   3   PRMUSE    20030306000000010000000035000
___   3   PRMUSE    20030307000000003
___   3   PRMUSE    20030308000000020
___   3   PRMUSE    20030309000000025
___   3   PRMUSE    20030310000000010
___   3   PRMUSE    20030311000000015
___   3   PRMUSE    20030312000000010000000035000
___   3   PRMUSE    20030313000000020000000070000
___   3   PRMUSE    20030314000000011000000038500
 F1=Help      F2=Format    F3=Exit      F4=CRetriev  F5=RFind     F6=RC
 F7=Up        F8=Down      F9=Swap      F10=Left     F11=Right    F12=Ca
```

The **SEGment** primary command will display the same information as on the previous slide.

Enter

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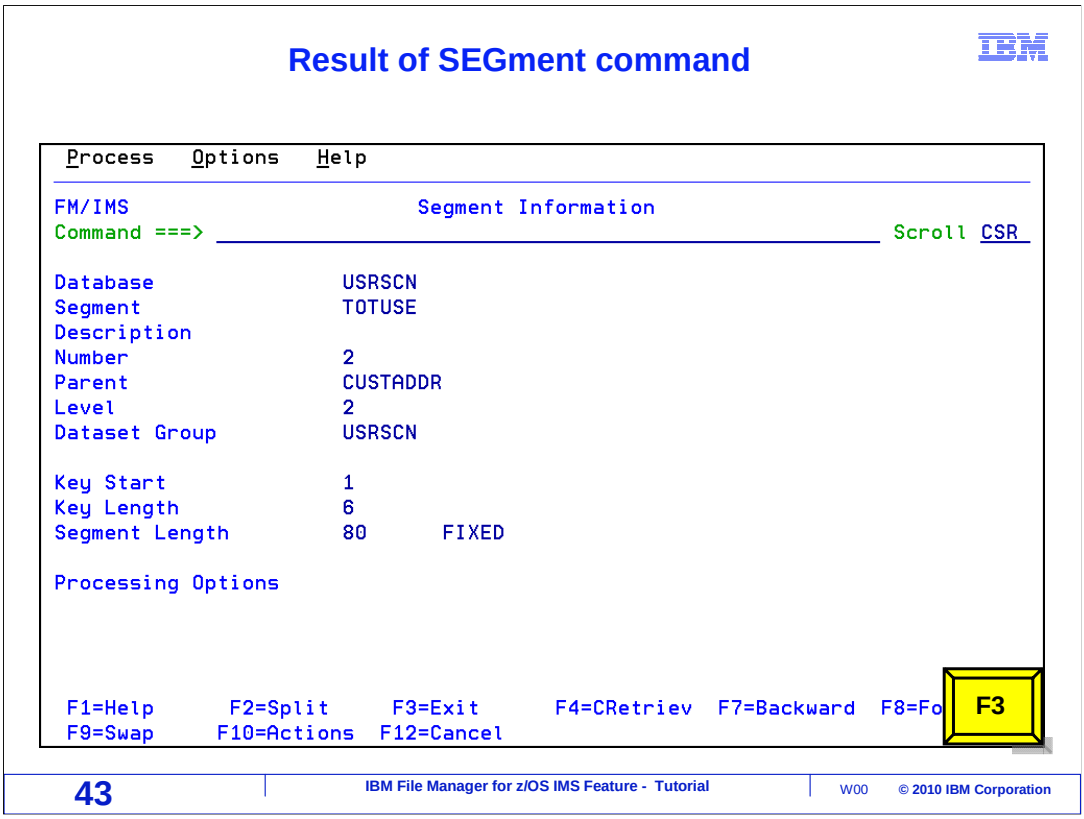
Another way to get to the segment information panel is with an SEG (segment) command. Here, an SEG TOTUSE command is entered. TOTUSE is a segment name.

Result of SEGment command



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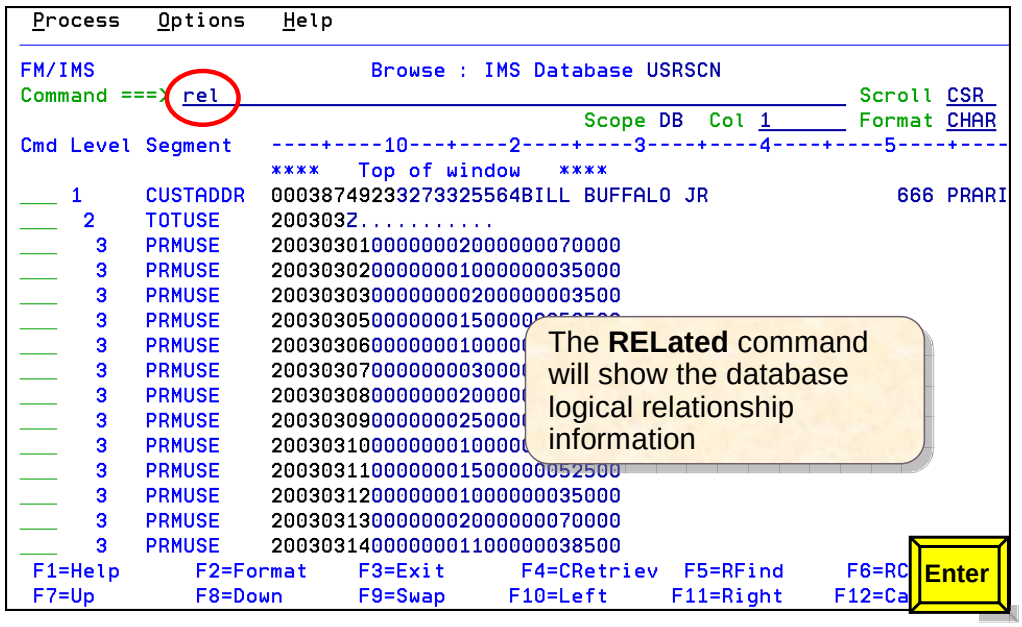
And that displayed the "segment information" panel again.

Enter RELATED command



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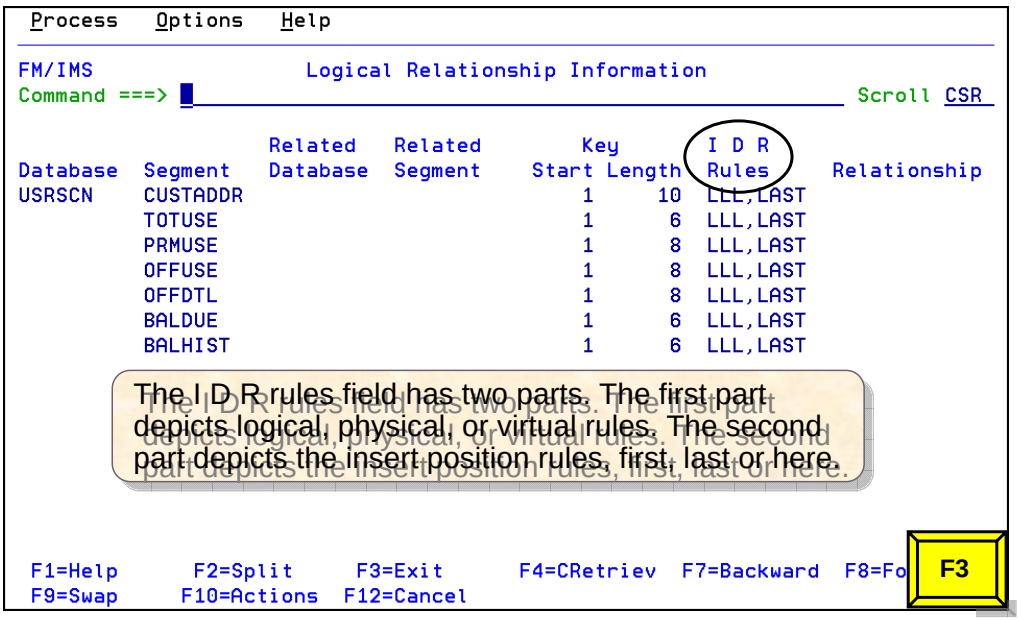
Use the REL (for related), command to get logical relationship information.

Logical relations information for the database is displayed



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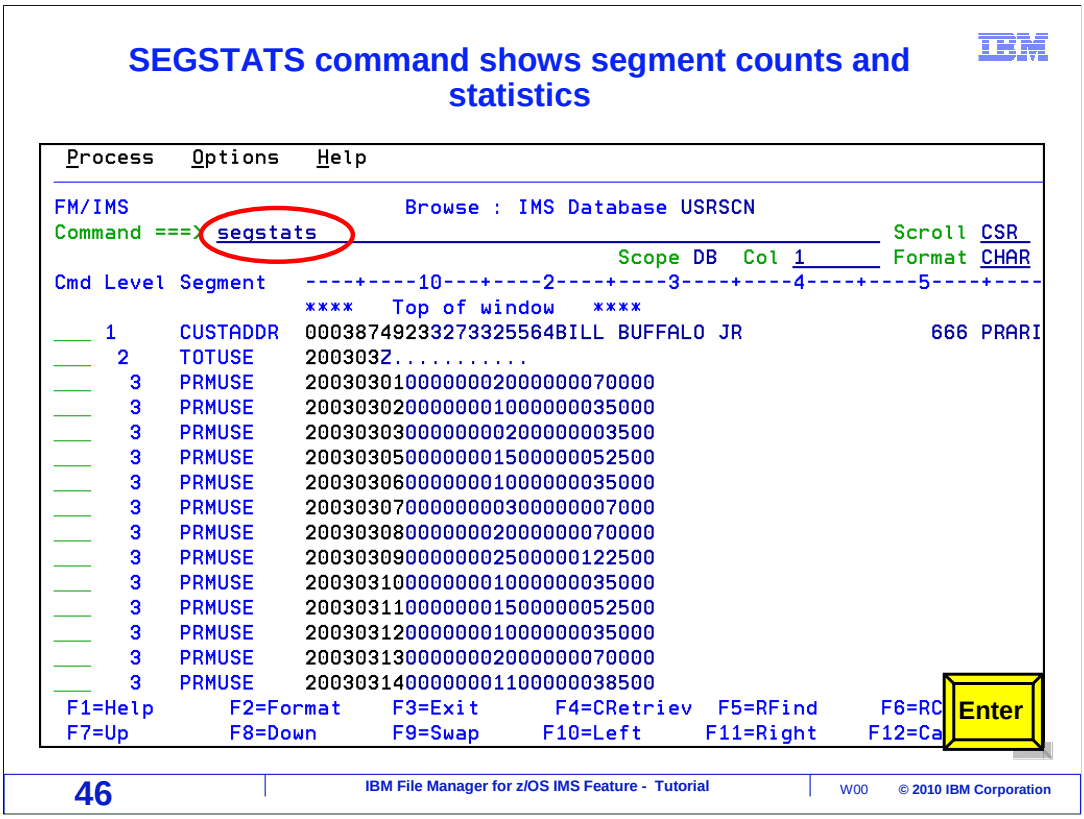
The REL command displays the "Logical Relationship information" panel, which shows related databases if any segments are defined with logical relationships. It also shows the IDR rules which control logical, physical, and virtual relationships in addition to insert rules.

SEGSTATS command shows segment counts and statistics



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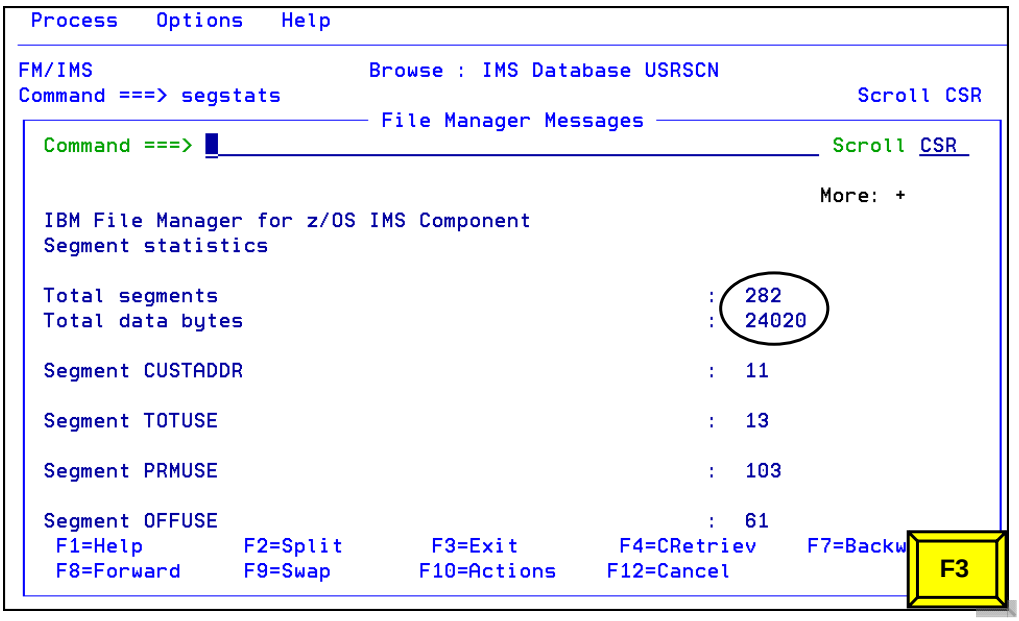
Sometimes, you may want an easy way to get statistics about the database, such as how many total segments there are, or how many of each type of segment there are. Use the SEGSTATS command to get that information. Enter.

Segment statistics for all segments are displayed



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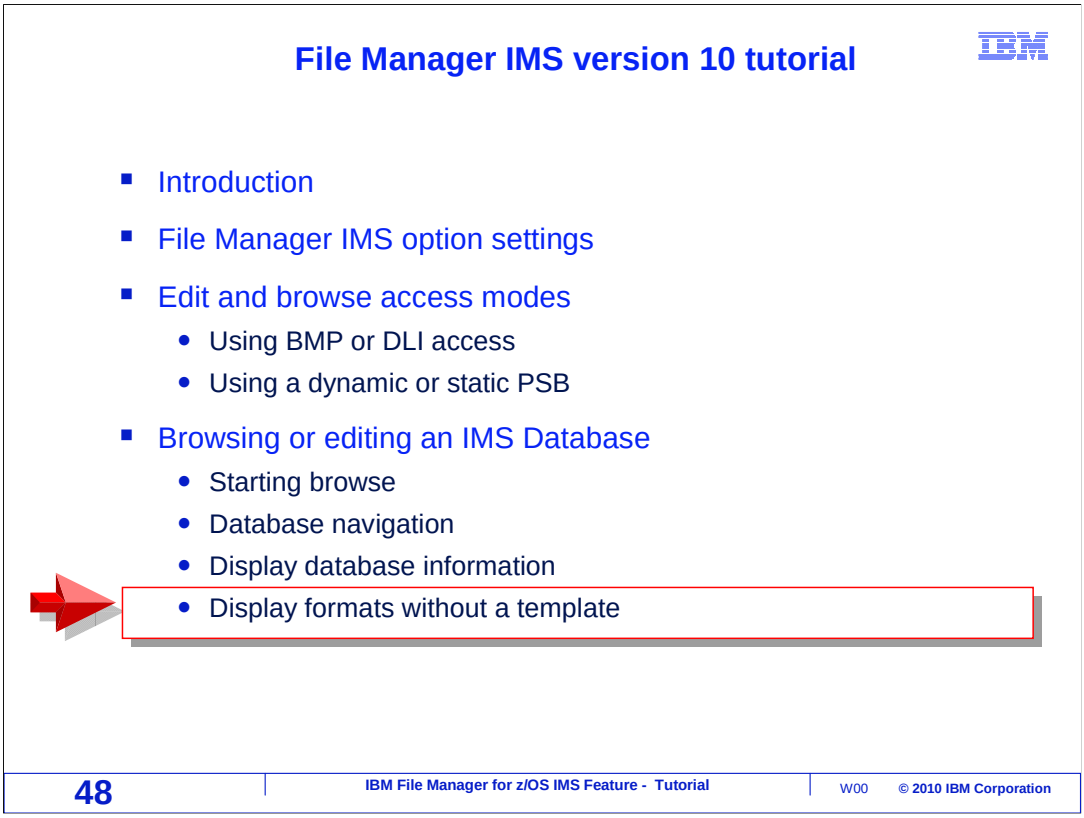
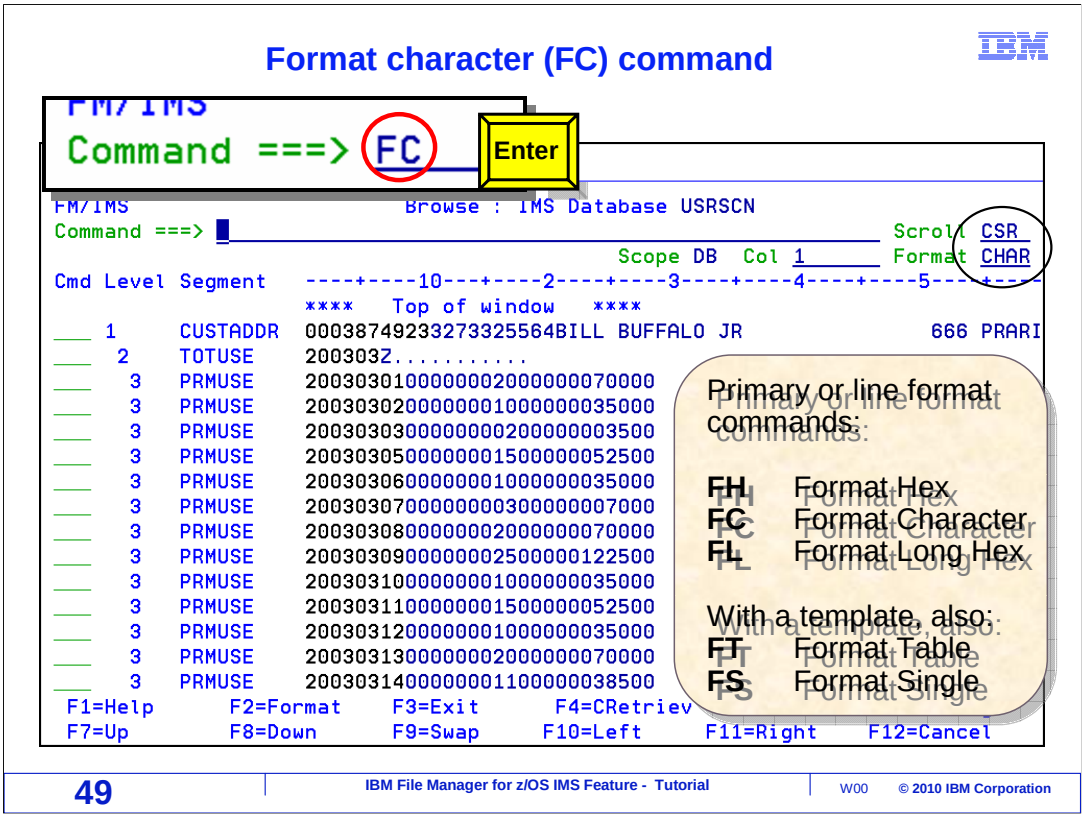
The SEGSTATS command displays the total segment count, a total byte count, and counts for each type of segment.



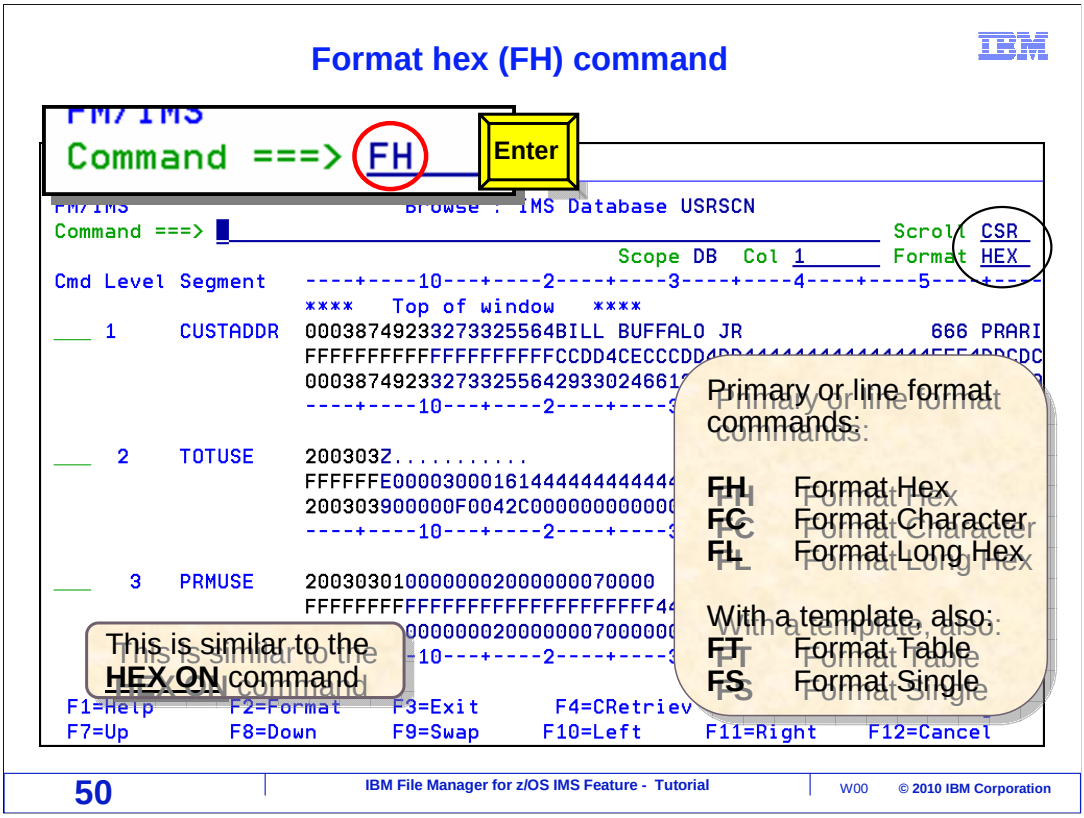
In the last topic of this section, you will learn about some of the formats available in the editor and browser.



Formats control how data is displayed by the browser and editor. Character format is being displayed now. Notice the “format” field in the upper right area of the screen. It currently has a value of CHAR, for character format. But there are several other formats. In character format, each segment is displayed on one line. You can scroll up and down to other segments with F7 and F8, and you can scroll to the right and left with F10 and F11.

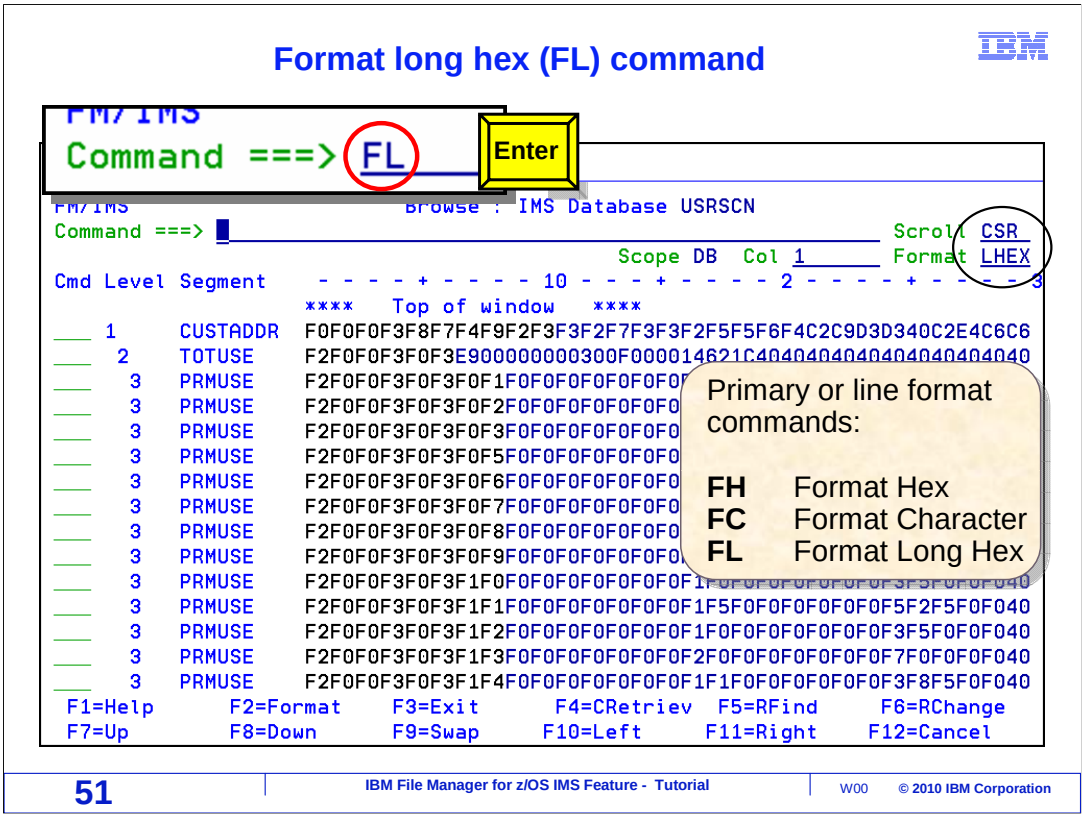
There are five formats: character, hex, long hex, table, and single. Table and single formats show the data fields within segments, but you need something called a template first. You will see those formats in a later section.

There are special commands you can use to change the format. All of the format commands start with the letter F. For example, the FC command switches to character format.



Another format is called Hex. Hex format is similar to character format, except that the hexadecimal representations of the data are displayed under the characters. Be aware that you can accomplish the same thing with a HEX ON command. The FH, for format HEX, command was entered to switch to hex format. Notice that the format field in the upper right has a value of HEX.

Format long hex (FL) command



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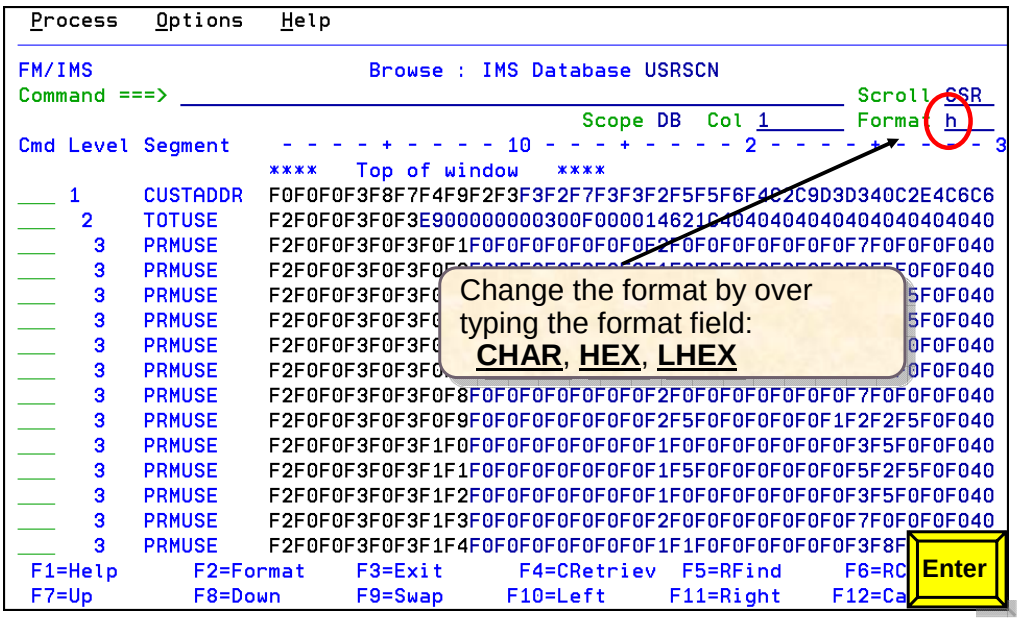
Another format is called Long hex. The FL command is used to switch to long hex format. In this format, only the hexadecimal representations are shown. Although long hex is not used as often as the others, it can be helpful if you need to type in a long string of hex characters in the editor.

Or change the format field



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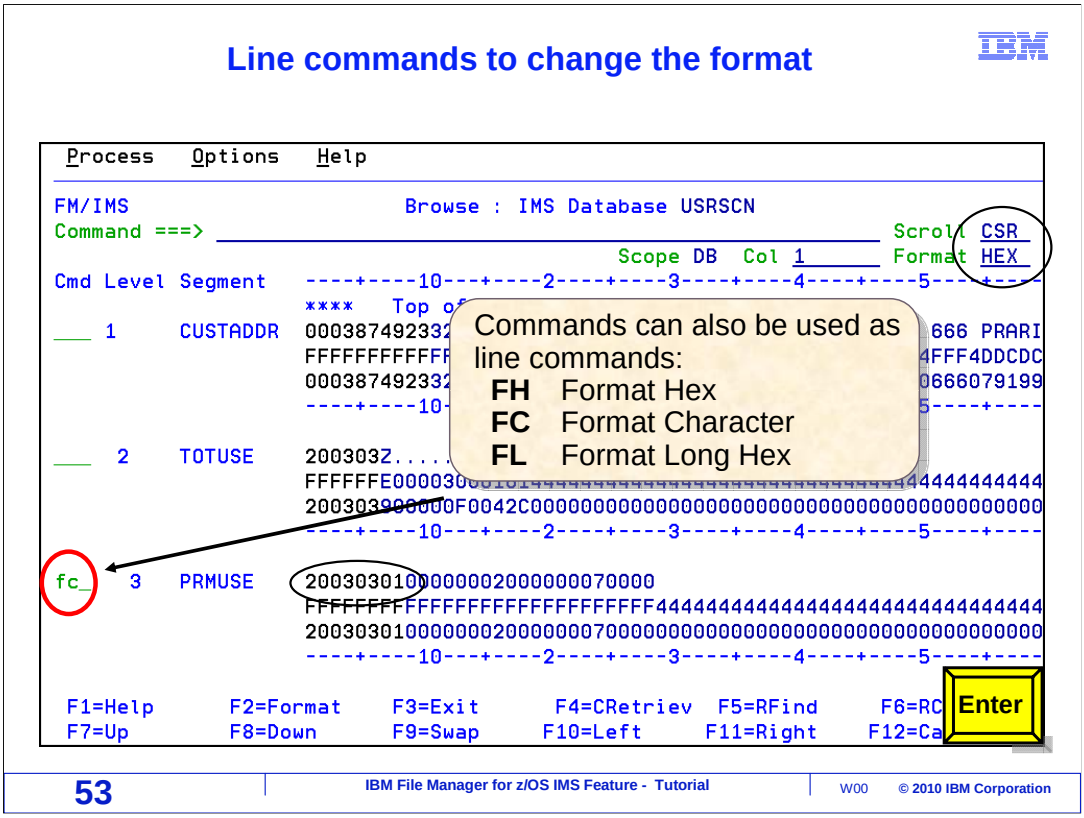
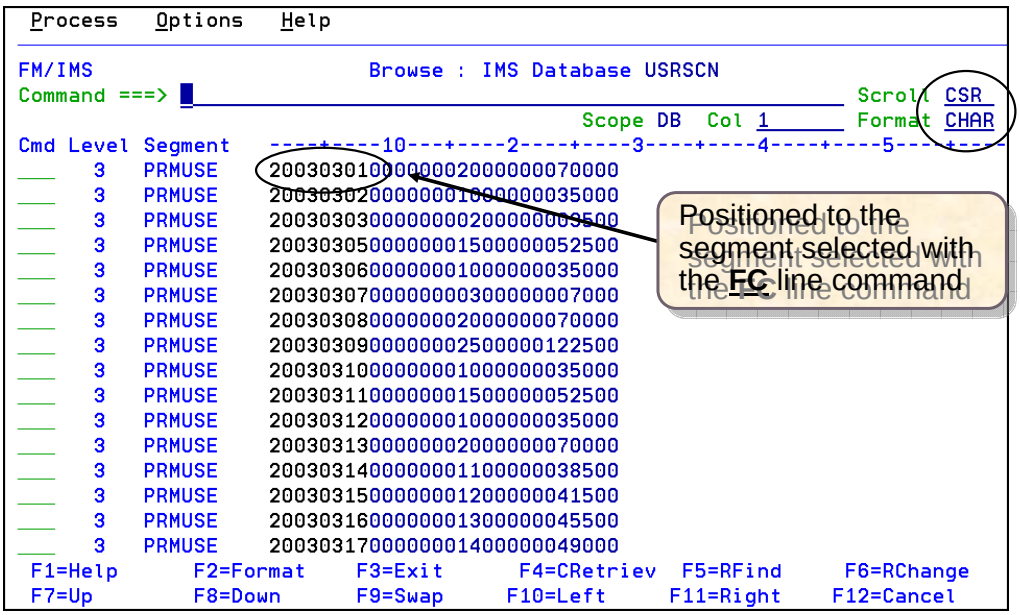
There are other ways to switch the format, other than the F commands. You can overtype the value of the format field. You can enter the entire format type, or just the first letter. In this example, the letter H is typed into the format field. Enter.



And that switched to HEX format.

You can also use the F format commands as line commands. When used as line commands, they switch the format and they also position to the segment. Here, an FC line command is typed next to a segment. Enter.

Result of using a line command to change format



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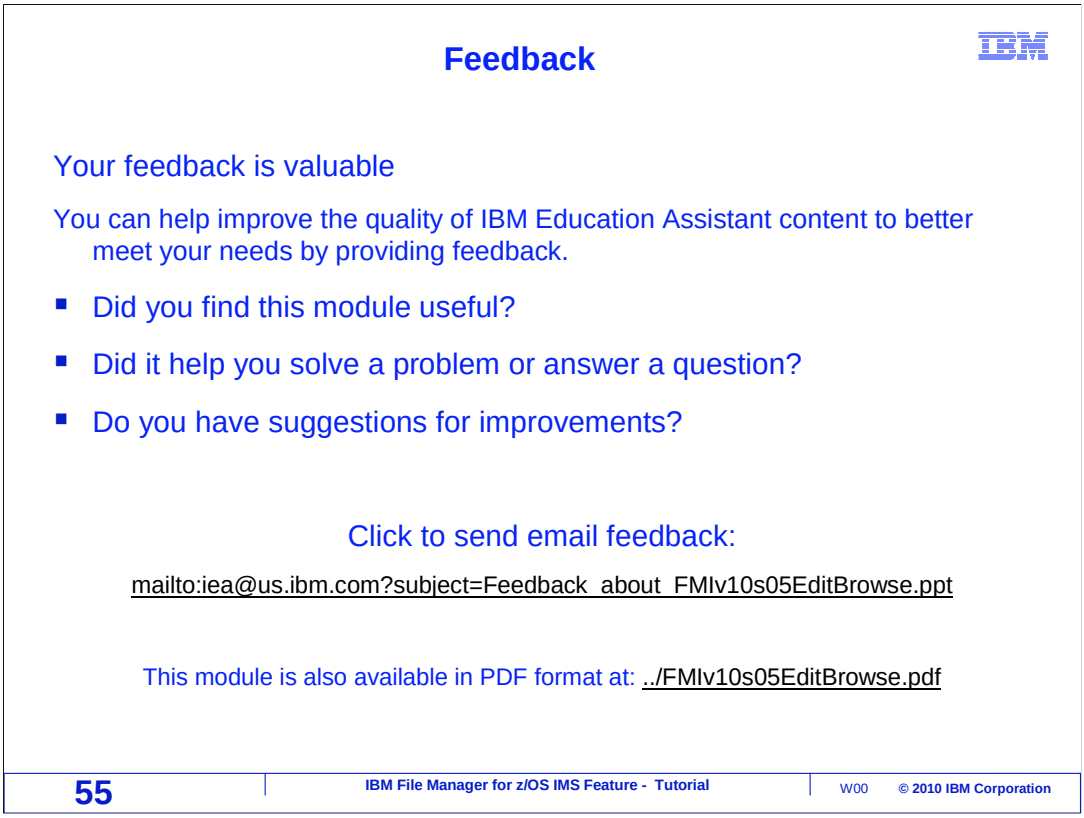
That positioned to the segment, and switched the format. You have seen that you can change the format with a command, such as FC or FH, or with a line command such as FC or FH, or by overtyping the "format" field.

That is the end of this section, an introduction to using the File Manager IMS browser and editor.



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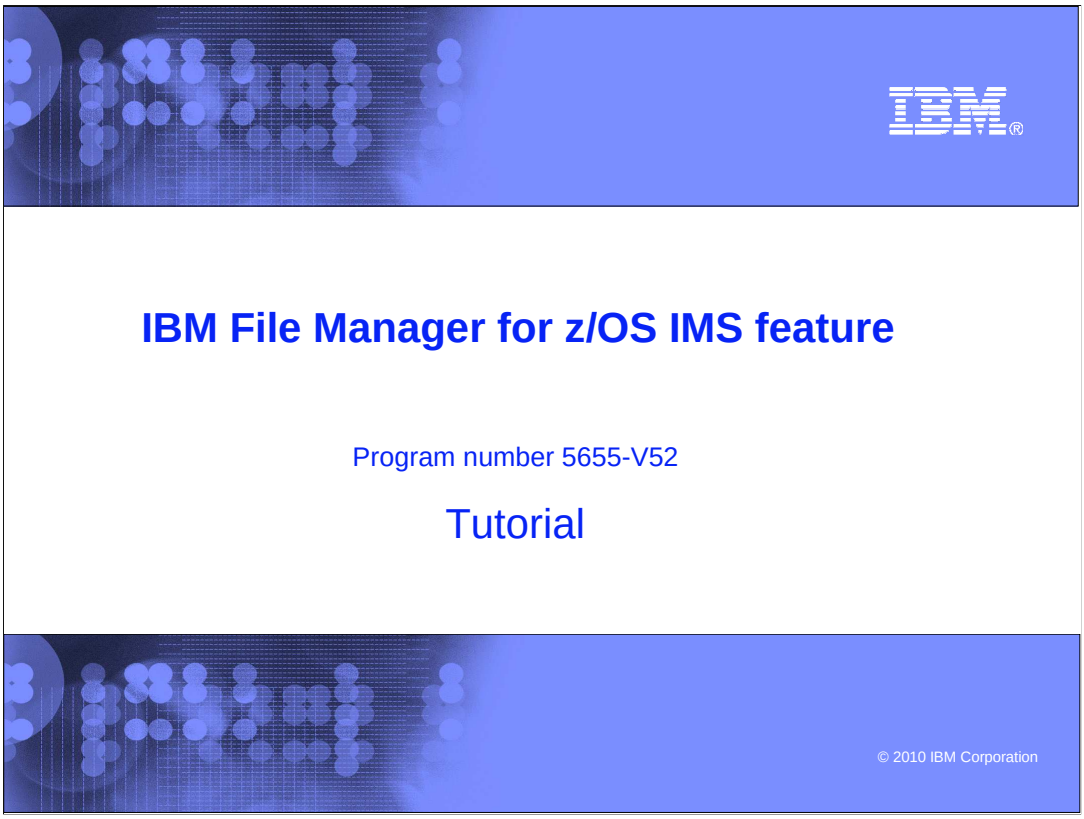

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