

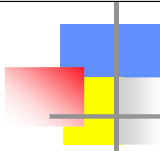
IBM File Manager for DB2

IBM File Manager

for DB2[®]

SHARE Session 8415

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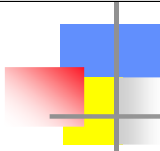
- **WHAT IS File Manager for DB2?**
 - First and foremost – ***AIMED AT APPLICATION DEVELOPERS***
 - ***Additional Feature*** of File Manager for z/OS® extending File Manager capabilities to the DB2 environment
 - Utilizes familiar interface (ISPF)
 - EDIT
 - BROWSE
 - PRINT
 - COPY

FM/DB2 is a powerful set of utility functions for editing, browsing, printing, copying, and maintaining DB2 data. For a description of the DB2 data types that FM/DB2 supports.

FM/DB2 is an "add-on" piece to the File Manager BASE product. The interfaces are the familiar ISPF screens, but the data you work with are your DB2 tables.

FM/DB2 is an ISPF-developed application and is usually run from within an ISPF session. Exiting from FM/DB2 returns you to your ISPF session.

Note: The **minimum supported TSO region size for FM/DB2 is 4MB**. However, you are less likely to experience storage-related problems when running FM/DB2 if you **use a TSO region size of 8MB or more**.



- **WHAT IS File Manager for DB2? cont'd....**
 - **Utilities provided that allow you to**
 - **List DB2 objects**
 - **Manage DB2 privileges**
 - **Generate JCL to run DB2 online utilities**
 - **Export/Import DB2 tables**
 - **To/From QSAM/VSAM**
 - **Create data to populate DB2 tables**
 - **Prototype SQL SELECT statements**

FM/DB2 provides utilities for:

- listing DB2 objects
- managing DB2 privileges
- generating JCL to run DB2 stand-alone utilities
- exporting and importing DB2 tables to or from QSAM or VSAM data sets
- creating data to populate DB2 tables
- prototyping SQL SELECT statements.

FM/DB2 is an ISPF application program. It uses panels that you can use to select options and to specify parameters, commands and program function (F) keys to simplify requests for common functions, and full-screen format for information display and editing. If data does not fit on the screen, ISPF provides scrolling in all four directions.

The screenshot shows a window titled "Session A - DemoMVSReverse - [24 x 80]" with a menu bar (File, Edit, View, Communication, Actions, Window, Help) and a toolbar. The main content area is titled "Application Development Tools" and displays a list of options:

```

OPTION ==> █

D  Debug Tool           - Debug Tool for z/OS
FA Fault Analysis      - Fault Analysis for z/OS
FM File Manager        - File Manager for z/OS
FMD File Manager/DB2  - File Manager/DB2
FMI File Manager/IMS  - File Manager/IMS

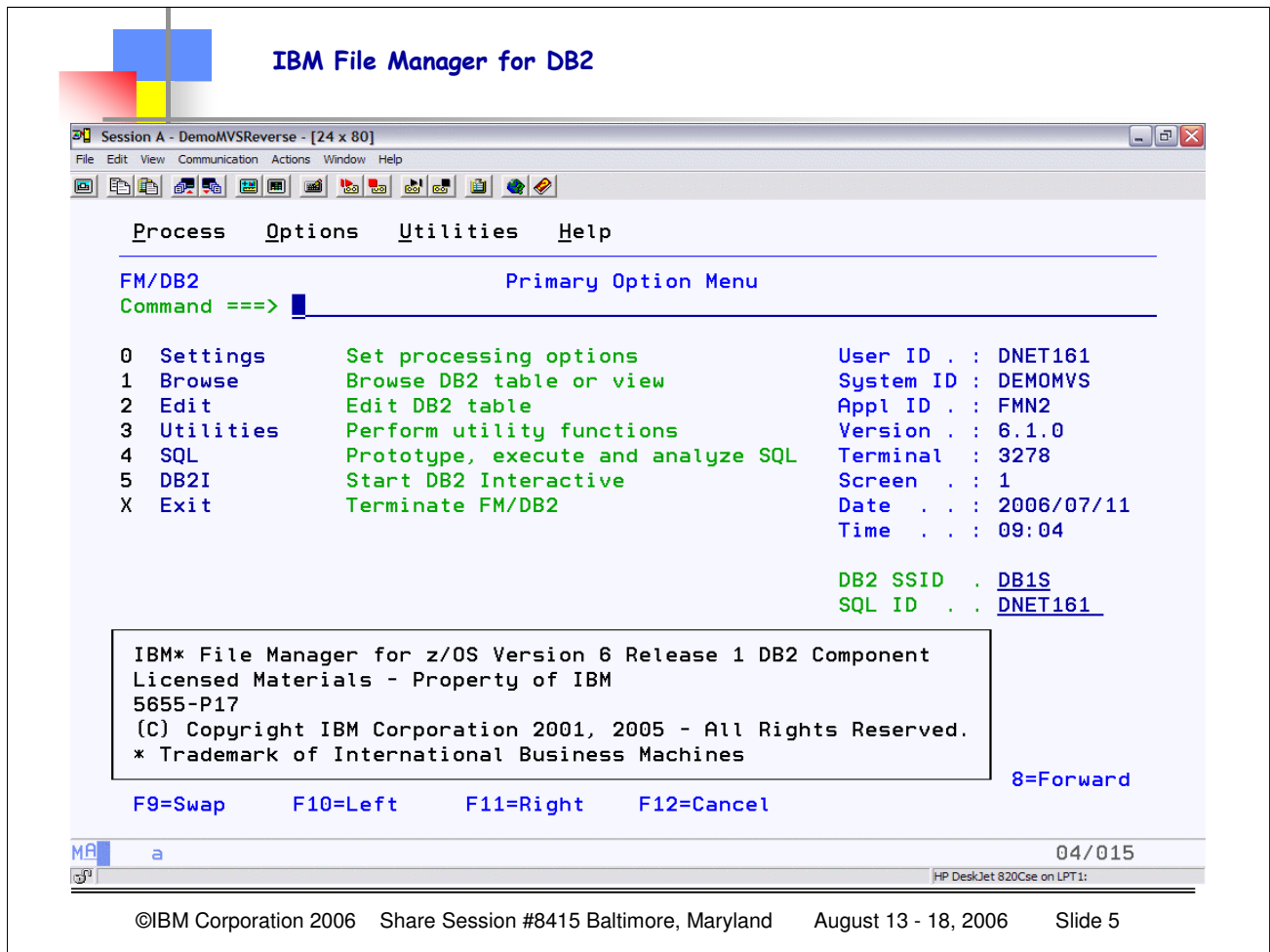
M  Merge Tool          - Merge Tool for z/OS
APA Appl Perf Anal    - Application Performance Analyzer for z/OS
W  WSIM                - Workload Simulator for z/OS
WTM WTM                - WSIM Test Manager
C  CCCA                - COBOL CICS Cmd Level Conversion Aid
SE SCLM-EAC           - SCLM Enhanced Access Control
SA SCLM-SAW           - SCLM Suite Administrator Workbench
FE File Export        - File Export for z/OS
TT TicToc             - Application Time Facility for z/OS
S  SDSF                - SDSF

L -List installed AD Tools and SMP/E maintenance.
Press PF3 to return.
PF 1=HELP      2=SPLIT      3=END      4=RETURN      5=RFIND      6=RCHANGE
PF 7=UP        8=DOWN       9=SWAP     10=LEFT      11=RIGHT     12=RETRIEVE
  
```

At the bottom of the window, there is a status bar showing "MA a" on the left, "02/015" on the right, and "HP DeskJet 820Cse on LPT1:" at the bottom right.

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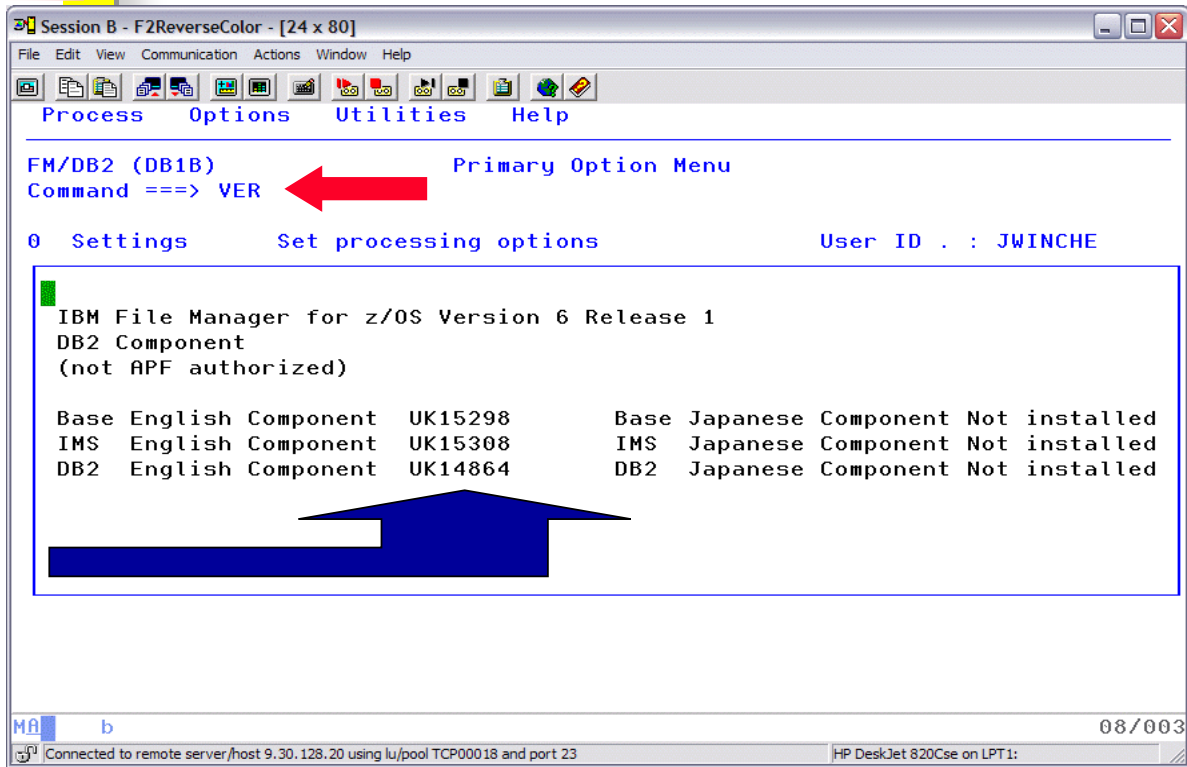
Depending on how your ISPF panels are set up, you may need to navigate to FIND your File Manager (and other) tools. This example is from our IBM DemoMVS system, and is a subselection panel from the main ISPF panels. From here, as you can see, I can select any of our problem determination tools, in this case FMD for File Manager/DB2. Check your installation setup to see where your ISPF panels are defined.



This is the initial panel when you start the FM/DB2 interface. Each installation chooses how to integrate the FM/DB2 panels into their ISPF environment, for some it may be from the main ISPF panel, others may have sub panels set up.

The initial screen identifies the VERSION and RELEASE and the DB2 component information, but that is NOT ALL that you typically will want to know. Especially if you need to report a problem or ask a question, **IBM will need to know the PTF level of your FM/DB2 component.**

IBM File Manager for DB2



```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help
FM/DB2 (DB1B) Primary Option Menu
Command ==> VER
0 Settings Set processing options User ID . : JWINCHE

IBM File Manager for z/OS Version 6 Release 1
DB2 Component
(not APF authorized)

Base English Component UK15298 Base Japanese Component Not installed
IMS English Component UK15308 IMS Japanese Component Not installed
DB2 English Component UK14864 DB2 Japanese Component Not installed

MA b 08/003
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:
```

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You can get the "additional" information about the SPECIFIC PTF LEVEL for your FM/DB2 system in several ways. You can enter VER in the primary command line from ANY of the FM/DB2 panels. Optionally you can position your cursor on the HELP text and hit enter and select option 6 "ABOUT" which will also give you the detailed information. You can also simply enter ABOUT as a "Primary command" on the COMMAND line. Note that the SPECIFIC PTF information is what IBM support will ALWAYS ask for in order to understand the level of the product installed. Notice with the VER command you get the PTF level for BOTH FM/BASE product as well as FM/DB2.

IBM File Manager for DB2

The screenshot shows the IBM File Manager for DB2 interface. The window title is "Session B - F2ReverseColor - [24 x 80]". The menu bar includes File, Edit, View, Communication, Actions, Window, and Help. The toolbar contains various icons for file operations. The main menu is open, showing options: Process, Options, Utilities, and Help. The Help menu is highlighted, and a list of help topics is displayed:

- 1. Help for help...
- 2. Extended help...
- 3. Keys help...
- 4. Help index...
- 5. Tutorial...
- 6. About...
- 7. About DB2...
- 8. News about FM/DB2...

The "About..." option (6) is selected, and a red arrow points to it. The main window displays the following information:

```
FM/DB2 (DB1B) P
Command ==>

0 Settings Set processin
1 Browse Browse DB2 ta
2 Edit Edit DB2 tabl
3 Utilities Perform utili
4 SQL Prototype, ex
5 DB2I Start DB2 Int
X Exit Terminate FM/DB2

Date . . . : 2006/07/11
Time . . . : 07:12

DB2 SSID . DB1B
SQL ID . . JWINCHE
```

The status bar at the bottom shows "MA b" on the left, "03/037" on the right, and "Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23" and "HP DeskJet 820Cse on LPT1:" in the center.

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You can get the "additional" information about the SPECIFIC PTF LEVEL for your FM/DB2 system in several ways. You can enter VER in the primary command line from ANY of the FM/DB2 panels. Optionally you can position your cursor on the HELP text and hit enter and select option 6 "ABOUT" which will also give you the detailed information. You can also simply enter ABOUT as a "Primary command" on the COMMAND line. Note that the SPECIFIC PTF information is what IBM support will ALWAYS ask for in order to understand the level of the product installed. Notice here that if we just use the ABOUT we will get JUST the PTF level for FM/DB2.

IBM File Manager for DB2

Session B - F2ReverseColor - [24 x 80]

File Edit View Communication Actions Window Help

Process Options Utilities Help

FM/DB2 (DB1B) Primary Option Menu
Command ==> ABOUT

0 Settings Set processing options User ID . : JWINCHE
1
2
3
4
5
X

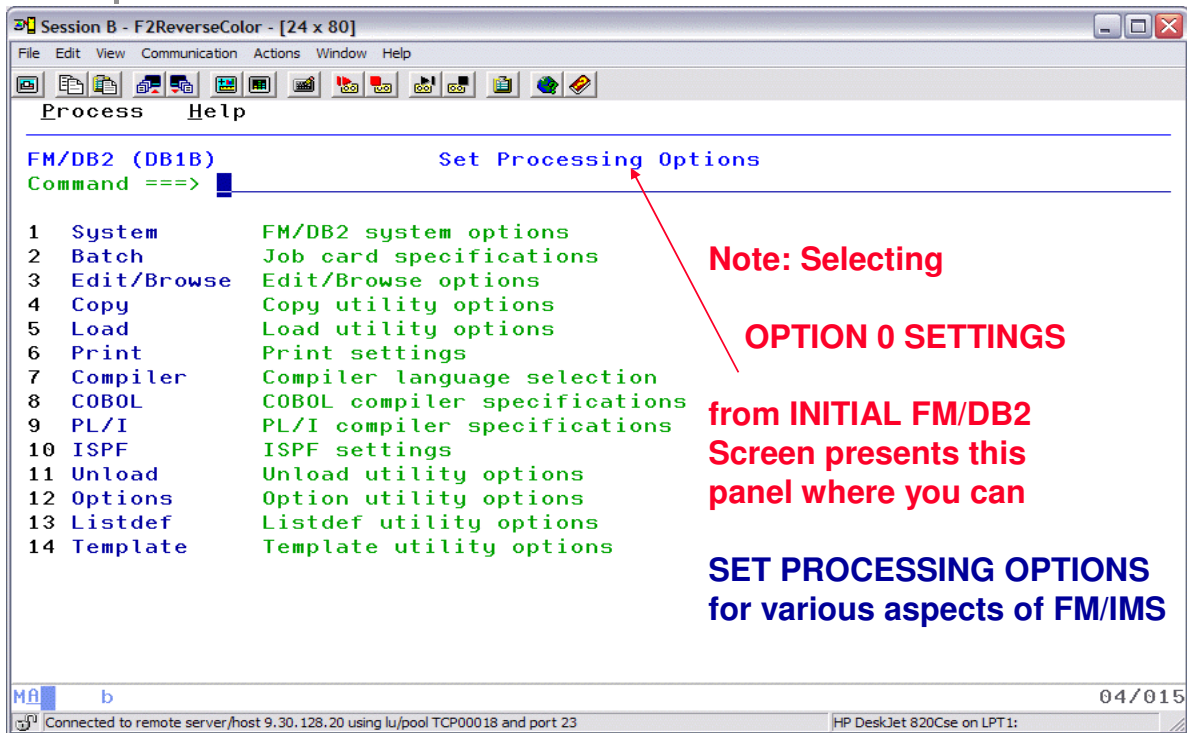
IBM File Manager for z/OS Version 6 Release 1
DB2 Component
PTF level: UK14864

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MA b 08/005
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:

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You can get the "additional" information about the SPECIFIC PTF LEVEL for your FM/DB2 system in several ways. You can enter VER in the primary command line from ANY of the FM/DB2 panels. Optionally you can position your cursor on the HELP text and hit enter and select option 6 "ABOUT" which will also give you the detailed information. You can also simply enter ABOUT as a "Primary command" on the COMMAND line. Note that the SPECIFIC PTF information is what IBM support will ALWAYS ask for in order to understand the level of the product installed. Notice here that if we just use the ABOUT we will get JUST the PTF level for FM/DB2. Whether you use the PULL-DOWN HELP menu, or type ABOUT in the command line, the resulting pop-up is THE SAME – and note, again, this ONLY shows the PTF level for File Manager/DB2 – so the preferred (by IBM) choice is to use VER so that you get the PTF level for File Manager BASE as well as File Manager DB2.



Selecting option 0 from the initial panel allows you to set up your processing options for your specific userid and interface. You can modify the various options for your specific use, and these will be saved for subsequent iterations. You can navigate around the FM/DB2 panels either by selection an option, then its suboption, etc. until you reach the panel you wish to work with, OR you can FASTPATH, just like you do in ISPF. To EXIT FM/DB2 you can X out...or F3 out...how many times depends on how your panels are set up...

IBM File Manager for DB2

```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help
FM/DB2 (DB1B) FM/DB2 System Options (1 of 5) Global Settings
Command ==>

Uppercase Translation:
Enter "/" to select option
/ Translate DB2 object names
/ Translate input SQL statements

Encapsulation of SQL Identifiers in Double Quotes:
Use double quotes
3 1. For DB2 SQL reserved words
2. For IBM and DB2 SQL reserved words
3. Always

More Options:
Enter "/" to select option
/ Arbitrary select statements, time display format, template creation
/ Object list utility options (1 of 2)
/ Object list utility options (2 of 2)
/ CCSID warning option

M& b 04/015
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:
```

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This panel is a result of selection option 0.1. Notice the "defaults" that you can specify using these series of panels. You can also always adjust the settings by using the pull-down OPTIONS menu item from any FM/DB2 panel where the OPTIONS menu item exists.

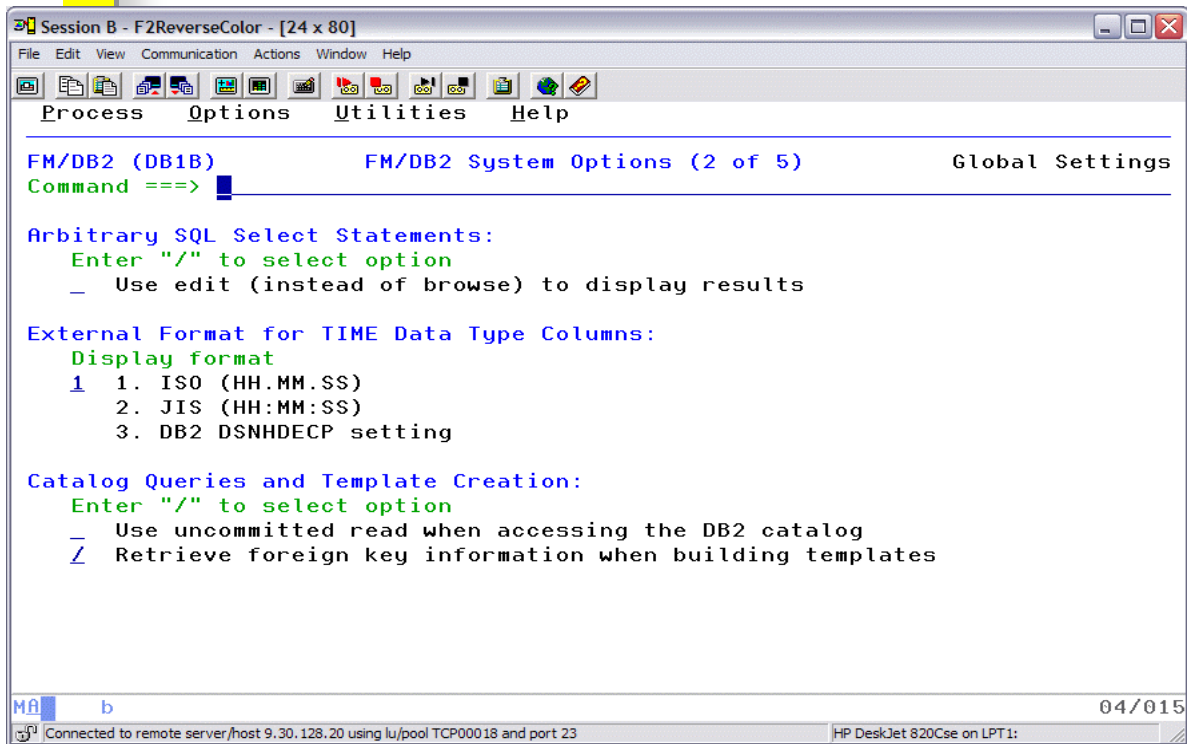
You use the FM/DB2 Systems Options (1 of 5) panel to set various options that affect the way in which FM/DB2 operates. These options are saved in your ISPF profile and persist from one FM/DB2 session to the next.

Use F11 to navigate "forward" through the 1 to 5 panels, and F10 to navigate "backward" through the 1 to 5 panels that comprise the "System Options" settings.

The effect of 'Translate DB2 Object names' has meaning when you enter names in lower case. Basically if the user enters 'dsn8810' and 'emp' these will be translated to 'DSN8810' and 'EMP' when the option is selected. If the option is NOT selected you'll get 'object not found'.

The recommendation is to have the option selected UNLESS you have DB2 object names in lower case, in which case you **must** de-select it.

IBM File Manager for DB2



The screenshot shows a terminal window titled "Session B - F2ReverseColor - [24 x 80]". The window has a menu bar with "File", "Edit", "View", "Communication", "Actions", "Window", and "Help". Below the menu bar is a toolbar with various icons. The main content area displays the following text:

```
FM/DB2 (DB1B)          FM/DB2 System Options (2 of 5)          Global Settings
Command ==>

Arbitrary SQL Select Statements:
  Enter "/" to select option
  _ Use edit (instead of browse) to display results

External Format for TIME Data Type Columns:
  Display format
  1  1. ISO (HH.MM.SS)
     2. JIS (HH:MM:SS)
     3. DB2 DSNHDECP setting

Catalog Queries and Template Creation:
  Enter "/" to select option
  _ Use uncommitted read when accessing the DB2 catalog
  / Retrieve foreign key information when building templates
```

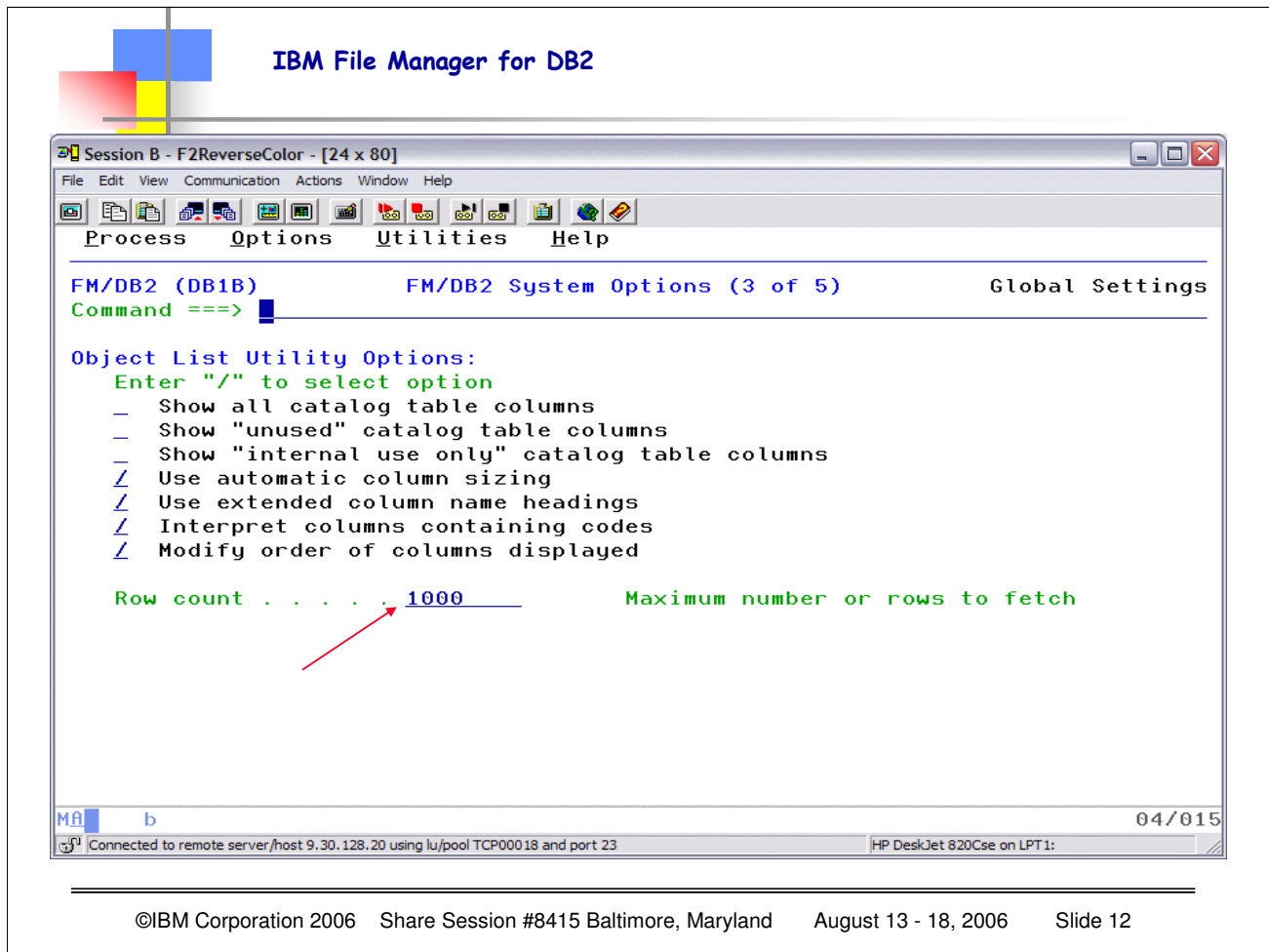
At the bottom of the window, there is a status bar showing "M b" on the left, "04/015" on the right, and "Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23" on the far left and "HP DeskJet 820Cse on LPT1:" on the far right.

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This is 2 of the 5 System Options settings.

The 'use edit instead of browse' option applies to free-form SQL SELECT statements entered by the user in, for example, options 4.1, 4.2, 4.3, 4.4.

Selecting this option **does not guarantee that you'll get an edit session however, FM/DB2 may decide that the result table cannot be edited, and substitute browse for edit. It may also decide that one or more columns cannot be changed in the edit session, so that some columns in the edit session will be not updateable.**



This is the 3rd panel of the 5 for System Options.

The third and fourth system options panel apply to the **object list utility (option 3.4) and the object privileges utility (option 3.5), also to catalog data displayed using option 3.2.**

These do NOT apply to edit, browse, print, copy, import, export etc

Modify order of columns displayed Columns in the DB2 catalog table may be re-ordered from the order as defined in the DB2 catalog. In addition certain columns may be marked as held. This feature is intended to place the most important columns from the catalog table on the left of the display, in the most logical order. These columns are held, and do not move when scrolling left and right. The default for this option is: selected.

Row count Limits the number of rows fetched from the DB2 catalog. **The value entered applies only to options 3.4, 3.5, and 4.5.** Other FM/DB2 functions, such as edit or browse, have a row count field on the function entry panel which limits the number of rows fetched for the function. **A value of 0 or ALL specifies no limit;** all rows from the relevant catalog tables are fetched and displayed.

If you experience "insufficient storage" conditions, you can specify a value to limit the number of rows fetched from DB2. Another way to limit the number of rows fetched, for option 3.4, is to **specify selection criteria on the function entry panel.**

The default for this option is: 1000

IBM File Manager for DB2

Session B - F2ReverseColor - [24 x 80]

File Edit View Communication Actions Window Help

Process Options Utilities Help

FM/DB2 (DB1B) FM/DB2 System Options (4 of 5) Global Settings

Command ==>

Display width for varying columns:
Enter minimum and maximum values for each column type

	Min	Max
Databases	_____	_____
Column names	8	30
Authorization identifiers	8	16
Object names	8	30
Other	8	30 eg REMARKS, LABEL

These settings allow you to specify the minimum and maximum *display* widths for the various column types shown on the object list panel. All values are optional. You can ENSURE a MINIMUM value is used (it can be expanded) and/or limit the MAXIMUM (the width can be SMALLER if no rows have data exceeding this)

MR b 04/015

Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:

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This is the 4th out of 5 panels for the system options.

Note that this panel (along with the previous panel) apply to the object list utility (option 3.4) and the object privileges utility (option 3.5), also to catalog data displayed using option 3.2.

These do NOT apply to edit, browse, print, copy, import, export etc

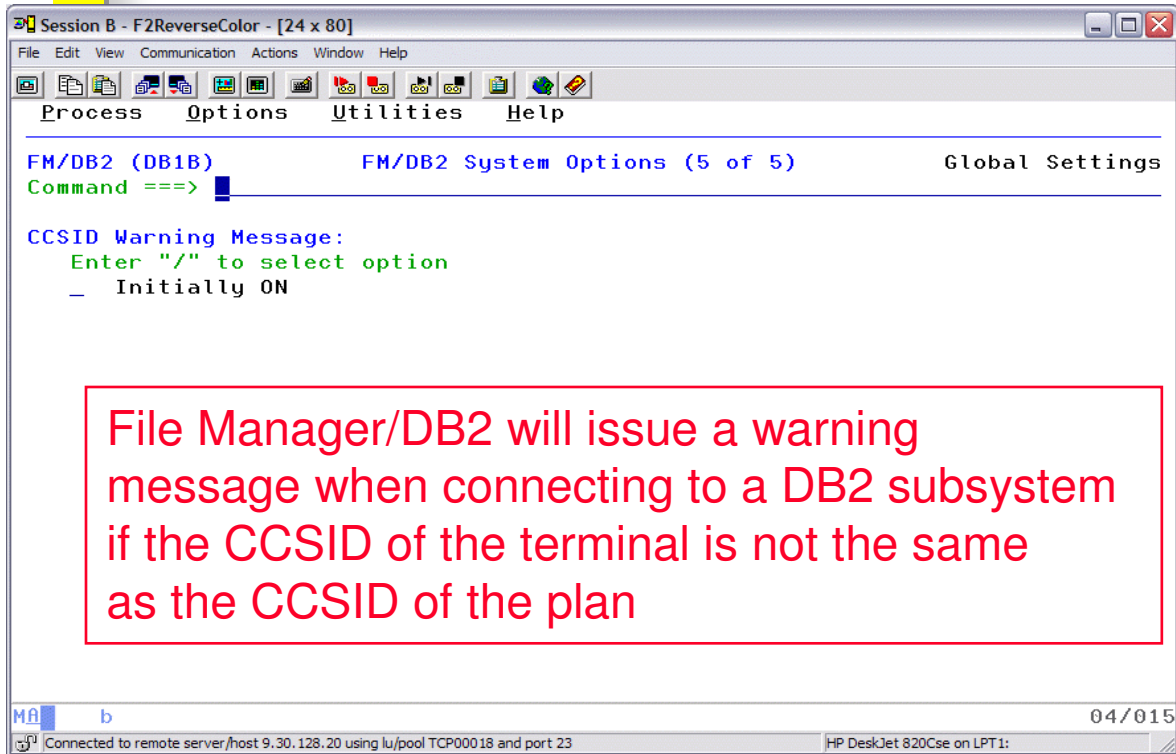
Using these settings you can specify the **minimum and maximum display widths for the various column types** shown on the object list panel.

All values are optional.

Min Ensures that the display width is at least the value specified, even if there is no displayable data for the column in all rows processed. Specifying a minimum value does not prevent the display width expanding, if needed, to accommodate longer data.

Max Limits the maximum display width to the value specified, even if data in some rows has a longer width. Specifying a maximum value does not prevent the display width being set to a smaller value, if no rows have data exceeding the value specified.

IBM File Manager for DB2



The screenshot shows a terminal window titled "Session B - F2ReverseColor - [24 x 80]". The window has a menu bar with "File", "Edit", "View", "Communication", "Actions", "Window", and "Help". Below the menu bar is a toolbar with various icons. The main area of the window displays the following text:

```
FM/DB2 (DB1B)          FM/DB2 System Options (5 of 5)      Global Settings
Command ==>

CCSID Warning Message:
  Enter "/" to select option
  _  Initially ON
```

A red rectangular box is drawn around the warning message text. At the bottom of the window, there is a status bar showing "M8 b" on the left, "04/015" on the right, and "Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23" and "HP DeskJet 820Cse on LPT1:" at the bottom.

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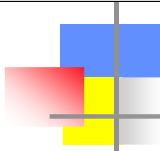
This is the 5th out of 5 panels for the system options. This option has to do with the coded character set identifiers (CCSID).

File Manager/DB2 will issue a warning message when connecting to a DB2 subsystem if the CCSID of the terminal is not the same as the CCSID of the plan.

Installation options are provided in the FMN2POPI and FMN2SSDM macros to suppress the generation of this message.

At **install time** the installer can determine whether the CCSID warning appears or does not appear. The warning appears if the CCSID used to bind the FM/DB2 plan is different to the user's ISPF terminal CCSID. When the warning appears the installer can also determine whether or not individual users can disable the CCSID warning by changing their system options. The installer can also determine that the warning cannot be disabled - in which case the user option cannot be changed.

Finally the installer can also specify CCSID pairs for which the CCSID warning does not appear. This is intended to be used when it is known that a pair of CCSIDs will not cause data corruption, therefore the appearance of the CCSID warning message is annoying and unnecessary.



- **Highlights – Browse and Edit**
 - **Browse/Edit DB2 tables with columns formatted**
 - **Select WHICH columns to display**
 - **Select ORDER of columns for display**
 - **Use SQL SELECT WHERE clause to determine specific rows for browse/edit**
 - **Order rows BY COLUMN**
 - **Scroll or sort the data**
 - **Optionally protect primary key columns from update**
 - **Browse/edit result table (produced by SQL SELECT)**

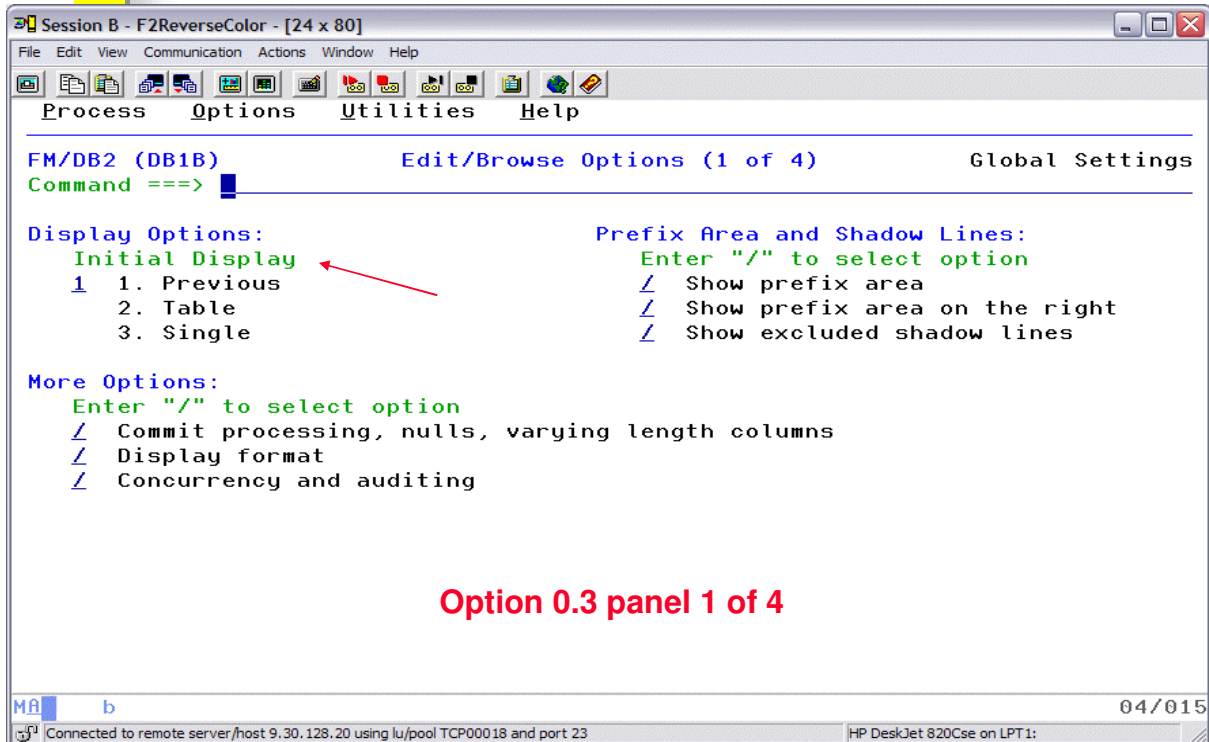
To *view* the contents of a DB2 table or view, you can use the FM/DB2 Browse Utility (option 1) or the FM/DB2 Edit Utility (option 2).

If you want to *change* the contents of a DB2 table or view, you must use the FM/DB2 Edit Utility (option 2).

If you do not **HAVE** a template, FM/DB2 can create one dynamically from the DB2 table information. The template is used to format individual column data. This allows you to work with data that might otherwise be "unprintable" or difficult to work with in "raw data" format.

If you have a COBOL copybook or a PL/I structure, you can create a template. The template is "compiled" using either COBOL or PL/I, and you can identify the language to use on the initial FM/DB2 panel. If you do **NOT** have a structure it is highly recommended that you create a "dummy" structure that can be turned into a template, **OR**, you can use the DB2 table information itself to create/generate a template.

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0.3 allow setting the Edit/Browse Options you wish as "global" defaults (1 of 4).

The Edit/Browse Options control various options used to format the display of data when browsing or editing.

Note: If you are browsing or editing data, and you use the **Options** pull-down menu to change these options, then your changes do not take effect until your next Browse or Edit session.

To temporarily change the behavior for the current Browse or Edit session only, use the **Edit options** option on the DB2 Browse or DB2 Edit panels.

Initial Display Use this section of the Edit/Browse Options panel to specify how Browse and Edit panels appear at the start of a Browse or Edit session. Set this option to one of the following:

1. **Default/Previous** The display format field (**Format**) on the Browse or Edit panel is prefilled with the value specified in the previous Browse or Edit session. This is the default setting.
2. **Table** The Browse or Edit panel is displayed in TABLE display format.
3. **Single** The Browse or Edit panel is displayed in SNGL display format. **Show prefix area** Indicate whether you want the prefix area shown on Edit panels: / Prefix area shown on Edit panels. This is the default setting.

Note: Unless the following option (**Show prefix area on right**) is selected, the prefix area is displayed on the left of Edit panels. (blank) Prefix areas not shown on Edit panels.

Show prefix area on right Indicate whether you want the prefix area shown on the right of Edit panels: / Prefix area is displayed on the right of Edit panels. (blank) Prefix area is displayed on the left of Edit panels. This is the default.

Note: If you select this option, the **Show prefix area** must also be selected for the prefix area to be shown.

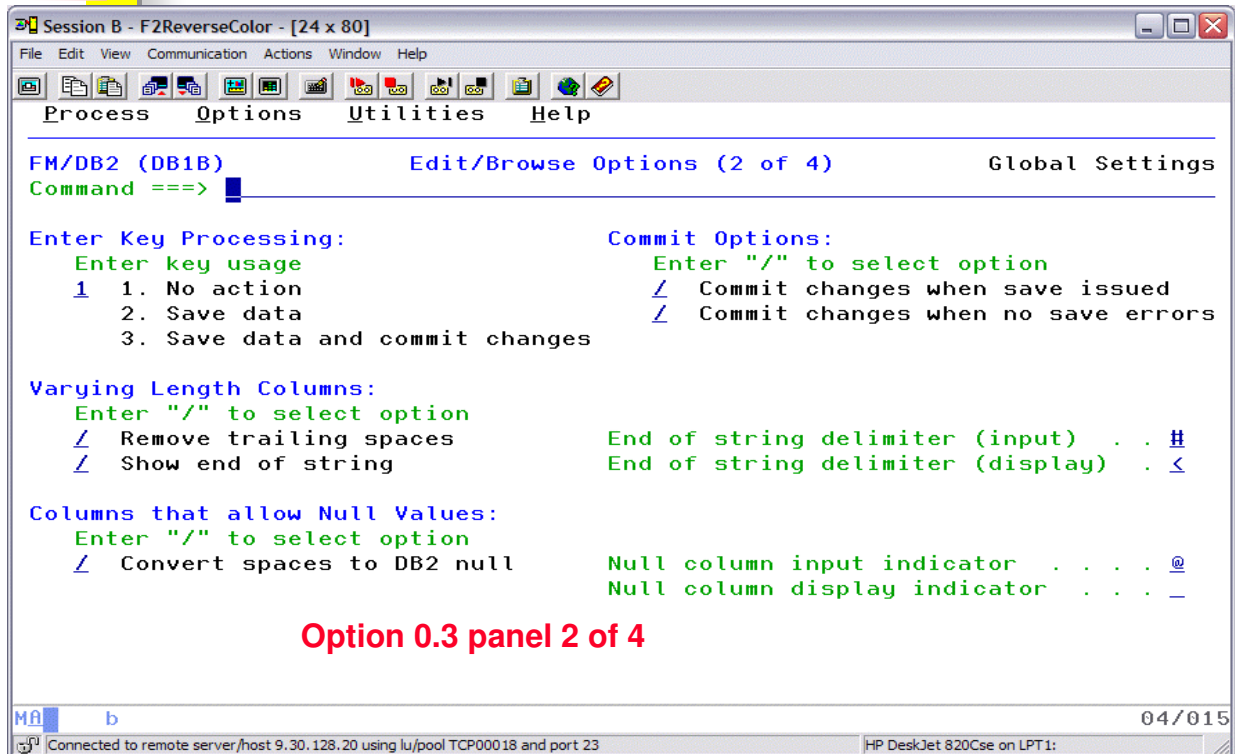
Show excluded shadow lines Indicate whether you want shadow lines (representing rows excluded by the EXCLUDE command) to appear on Edit panels: / Shadow lines shown on Edit panels. (blank) Shadow lines not shown on Edit panels.

Commit processing, nulls, varying length columns Indicates whether you want the second Edit/Browse Options panel displayed when you navigate between Edit/Browse Options panels using the NxtPage function key (F11) or the PrvPage function key (F10). / Display the second Edit/Browse Options panel (blank) Do not display the second Edit/Browse Options pane

Display format Indicates whether you want the third Edit/Browse Options panel displayed when you navigate between Edit/Browse Options panels using the NxtPage function key (F11) or the PrvPage function key (F10). / Display the third Edit/Browse Options panel (blank) Do not display the third Edit/Browse Options panel

Concurrency and auditing Indicates whether you want the fourth Edit/Browse Options panel displayed when you navigate between Edit/Browse Options panels using the NxtPage function key (F11) or the PrvPage function key (F10). / Display the fourth Edit/Browse Options panel (blank) Do not display the fourth Edit/Browse Options panel.

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Option 0.3 panel 2 of 4

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0.3 allow setting the Edit/Browse Options you wish as "global" defaults (2 of 4).

Enter Key Processing, Commit Options Use these options to specify when your changes are presented to DB2 for verification, and when data is committed to DB2. FM/DB2 provides options to assist with the verification of changes made during an Edit session. You can use the Enter key to issue an implicit save command. You can save data during an Edit session and only commit the data to DB2 at the end of the edit session, or commit your changes whenever data is saved. Finally, you can commit changes to DB2 when errors were encountered during the save process, or restrict commit processing to situations where there were no save errors.

Enter key usage Set this option to one of the following:

1.No action This is the default setting. No special action is taken when the Enter key is pressed and no other operations are pending. Any changes made during an Edit session are only presented to DB2 when an explicit SAVE command is issued, or at the end of the Edit session.

2. Save data All pending changes are submitted to DB2 for processing whenever the Enter key is pressed (and no other operations are pending). Successful changes are not committed until the end of the Edit session, unless the **Commit changes when Save issued** option is selected. Rows for which there was an unsuccessful change are marked with "=ERR", "ERR R", or the SQLCODE in the prefix area (see **Show SQLCODE in prefix area** on page 533).

3. Save data and commit changes All pending changes are submitted to DB2 for processing whenever the Enter key is pressed (and no other operations are pending). Rows for which there was an unsuccessful change are marked with "=ERR", "ERR R", or the SQLCODE in the prefix area (see **Show SQLCODE in prefix area** on page 533). FM/DB2 issues an explicit DB2 commit at the end of the save process; however, this only occurs if:

No save errors were encountered, or

Commit when no save errors is turned off.

Note that Committing the changes to DB2 is an irrevocable process.

Commit changes when save issued This is the default action. FM/DB2 issues an explicit DB2 commit at the end of the save process; however, this only occurs if:

No save errors were encountered, or

Commit when no save errors is turned off. Note that the Enter key processing options **Save data** and **Save data and commit changes** behave as though an explicit save command had been issued when the Enter key was pressed.

Commit when no save errors The default action for this option is to always commit at the end of the save process. When this option is selected, FM/DB2 only issues an explicit DB2 commit if there were no errors encountered during the save process.

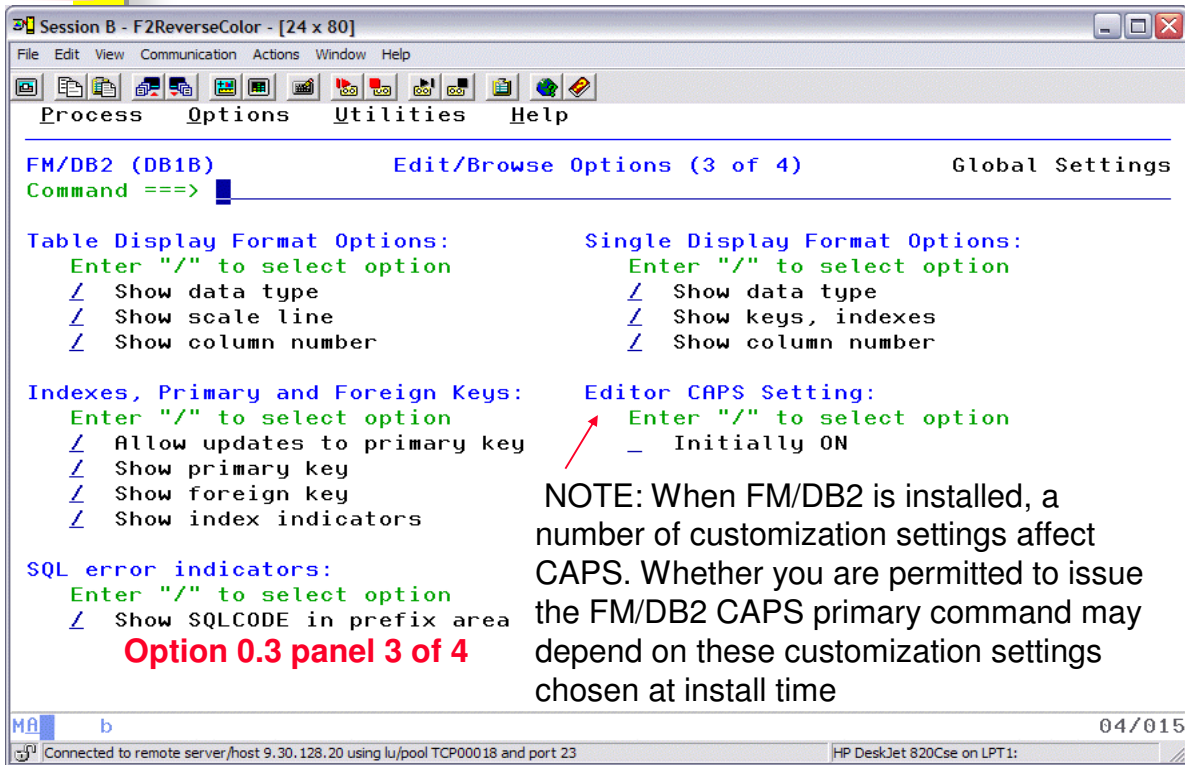
Note that Committing the changes to DB2 is an irrevocable process.

Remove trailing spaces This option only applies to the processing of varying-length (VARCHAR) input fields.

Show end of string This option only applies to the processing of varying-length (VARCHAR) input fields.

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0.3 allow setting the Edit/Browse Options you wish as "global" defaults (3 of 4).

Table Display Format Options Use this section of the Edit/Browse Options panel to specify the information you want displayed in table display format (TABL):

Show data type Indicates if you want FM/DB2 to display data type information: / Show the data type for each column displayed in table display format. FM/DB2 displays an additional line (immediately below the line containing the column reference numbers, if displayed) showing the data type for each column. **(blank)**

Do not show data type information. This is the default action.

Show scale line Indicates if you want FM/DB2 to display scale line information: / Show a scale line for each column displayed in table display format. The scale shows the left and right boundary of the data for the column and, for non-numeric data types, positioning information. FM/DB2 displays the scale line immediately above the first line of data. The scale line also displays information about primary and foreign keys, and unique indexes. **(blank)** Do not show scale line information. This is the default setting.

Show column number Indicates if you want FM/DB2 to display column number information. / Show the column number (as defined in the DB2 catalog) for each column displayed in table display format. FM/DB2 displays the column numbers immediately below the line containing the column names. **(blank)** Do not show column number information. This is the default setting.

Single display Format Options Use this section of the Edit/Browse Options panel to specify the information you want displayed in single display format (SNGL).

Show data type Indicates if you want FM/DB2 to display data type information: / Show the data type for each column displayed in single display format. FM/DB2 displays an additional column (immediately to the right of the column containing the name of the column) showing the data type for each column.

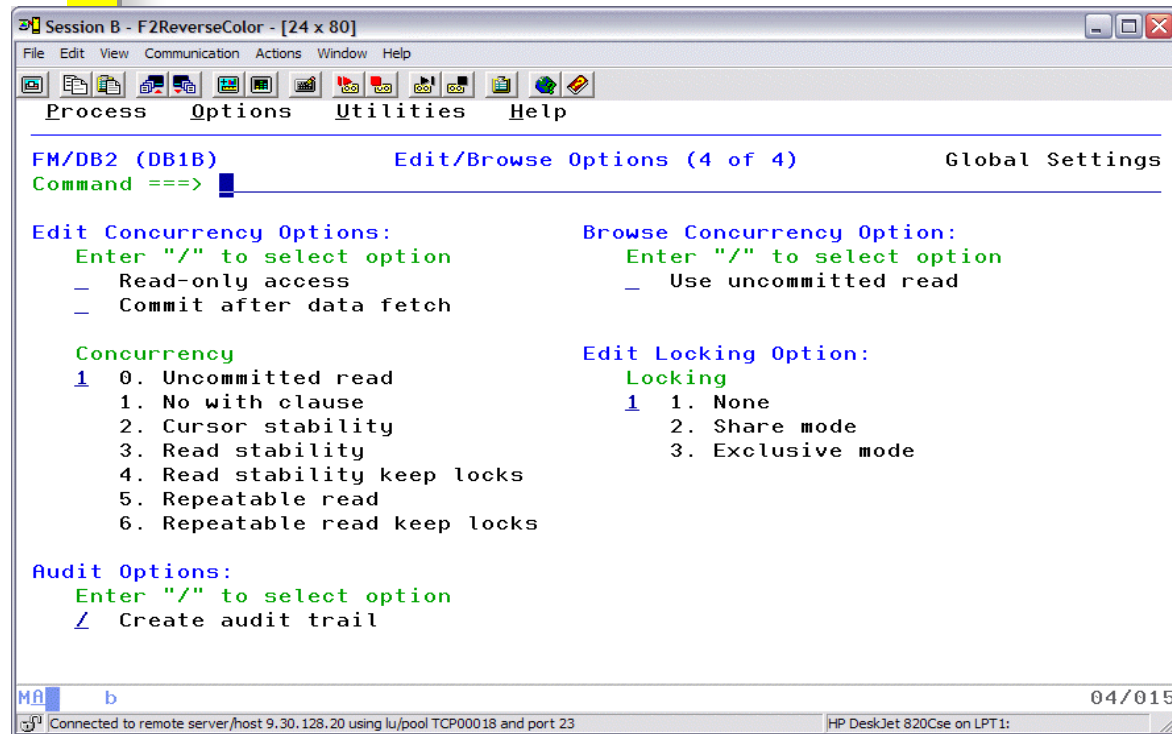
Note: When you are displaying data in single display mode, you can toggle the display of data type information by using the TYPE primary command. **(blank)** Do not show data type information. This is the default setting.

Show keys, indexes Indicates if you want FM/DB2 to display information showing if column is a part of a key or index: / Show an additional column, 4 characters wide, indicating if the column is part of a key or index.

For COMPLETE information review the User's Guide and Reference for DB2 Data from:

<http://www-306.ibm.com/software/awdtools/filemanager/library/>

IBM File Manager for DB2



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0.3 allow setting the Edit/Browse Options you wish as "global" defaults (4 of 4).

Edit concurrency and locking options For a detailed explanation about this subject, refer to the DB2 UDB for z/OS Administration Guide. Concurrency options affect the way DB2 takes row and page locks for data in a DB2 table. Locking options affect the way DB2 takes table locks. When a table locking option is specified, it overrides any concurrency option.

Processing, Commit Options in "Edit/Browse Options (2 of 4)" After each commit point, FM/DB2 re-locks the table if a table-locking option has been specified; however, other DB2 users may access the table between the time of the commit point and FM/DB2 re-locking the table.

Edit concurrency options FM/DB2 provides options for accessing data in "read-only" mode, and for reducing the life of the DB2 locks taken when data is retrieved from DB2. It also provides control over the locking mechanism used when data is retrieved from DB2.

0. Uncommitted read DB2 locking is disabled. The data retrieved from DB2 may be inconsistent if another process is rolled back after the data access. Use this option in a high concurrency environment.

1. No with clause This is the default value and recommended for most application programs. FM/DB2 does not add a WITH clause to the SELECT statement for the table. Any rows retrieved by FM/DB2 initially have a S(hare) lock. With this option it is possible that other processes can update the table you are editing.

2. Cursor stability A row or page lock is held only long enough for the cursor to move to another row or page.

3.. Read stability A row or page lock is held for rows or pages that are read by the editor at least until the next commit point.

4. Read stability keep locks A row or page lock is held for rows or pages that are read by the editor at least until the next commit point. The **Read stability** option takes an "S" or "U" lock, while this option takes an "X" lock on affected rows or pages.

5. Repeatable read A row or page lock is held for all accessed rows, qualifying or not, at least until the next commit point. FM/DB2 can return to a previously read page and read the same row again, and the data is not changed and no new rows are inserted.

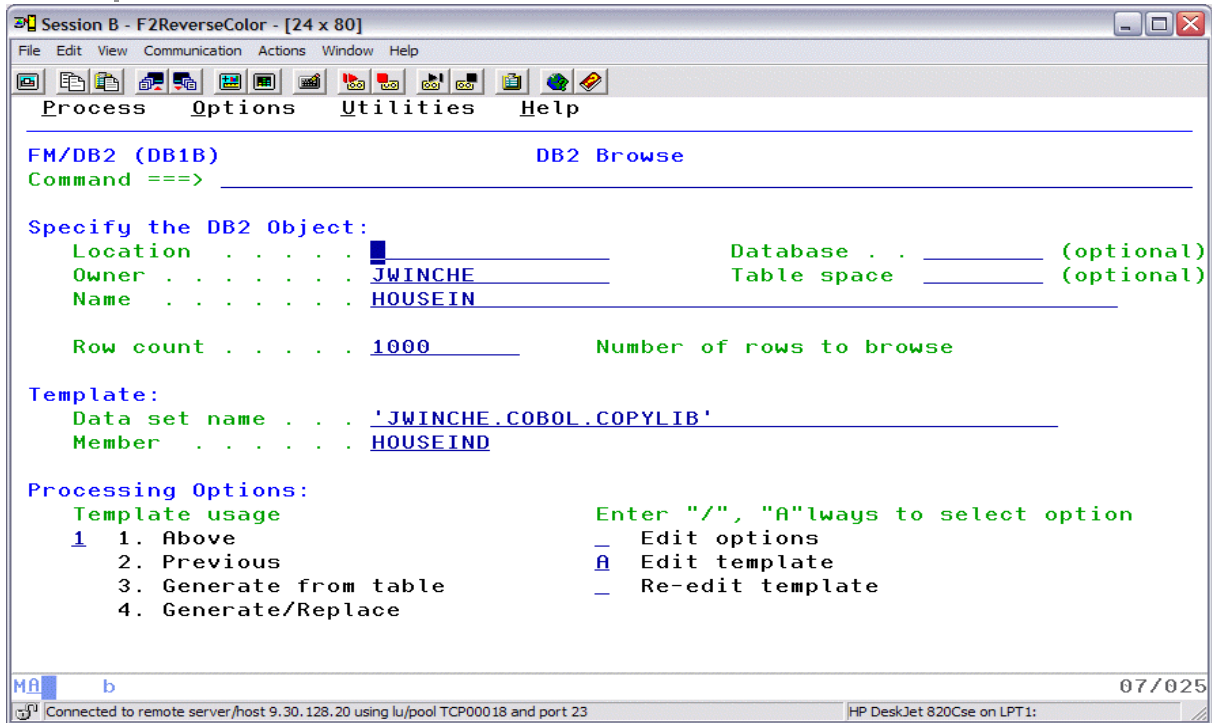
6. Repeatable read keep locks This option is similar to the **Repeatable read** option, except that FM/DB2 takes an "X" lock, rather than a "S" or "U" lock. **Locking** FM/DB2 can add a WITH clause to the SQL statement used to fetch data from DB2. When a WITH clause is specified, DB2 takes locks (of varying levels) against either rows or pages within the table, as the data is accessed.

For COMPLETE information review the User's Guide and Reference for DB2 Data from:

<http://www-306.ibm.com/software/awdtools/filemanager/library/>

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The EDIT and BROWSE options are perhaps the most frequent selections, since we are typically looking to find and/or update information in a table. Here is the BROWSE initial panel where you specify the DB2 information, along with the maximum number of DB2 rows you want returned. Notice the TEMPLATE information.

A FM/DB2 template is a collection of information that you can use to select and format tables and columns in a DB2 object. If you use a FM/DB2 function that interfaces with non-DB2 data, the corresponding template describes the records and fields in the data set.

When you associate a template with data, you can:

Manipulate columns You can select which columns you want to work with, adjust the order in which they are shown, and modify the column headings. You can select to show leading zeros for numeric columns. (By default, leading zeros for numeric columns are suppressed. For example, 00057 is displayed as 57.)

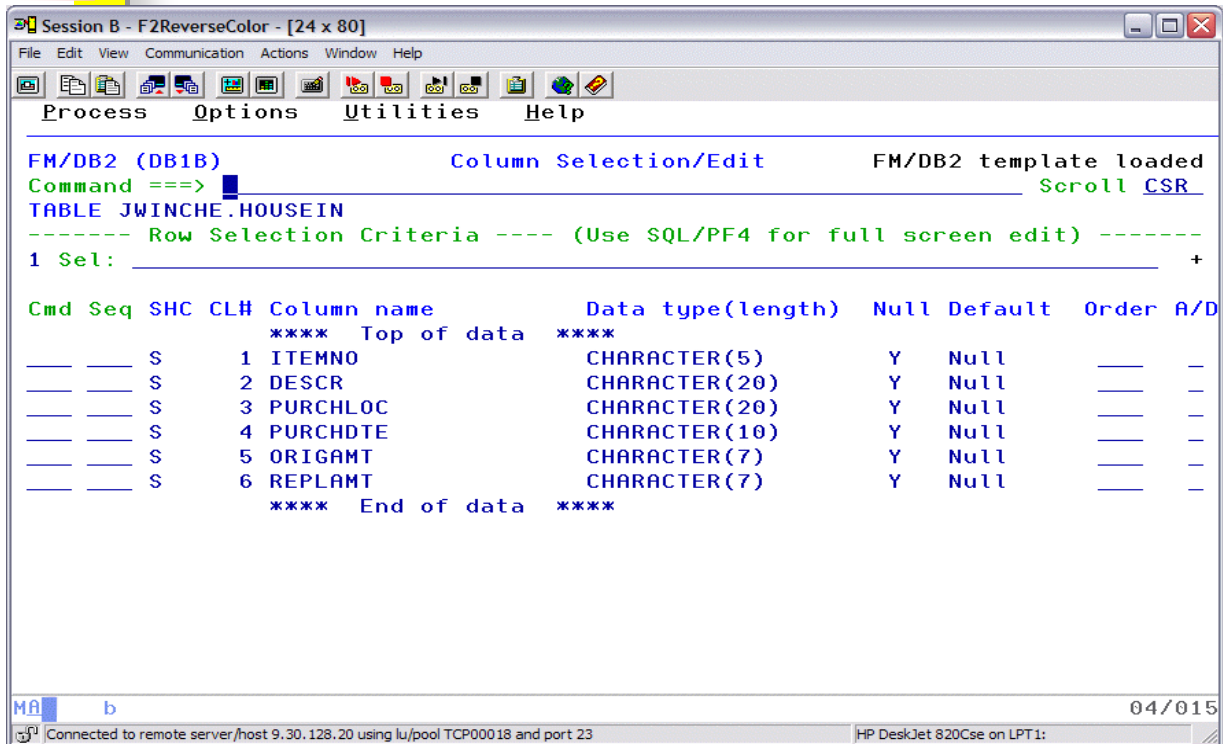
Map data If you are copying, importing, exporting, or loading data, you can “map” how data is transferred from the source to the destination.

Select rows You can specify *row selection criteria* to restrict the data to the rows you want to work with.

Create data If you are creating a new table, or adding new columns when moving data, you can specify *create attributes* that FM/DB2 uses to initialize column values.

Note that if your copybook names are NOT the same as your DB2 column names, you may need to associate the two in order to ensure correct columns are used. You can do this via the EDIT TEMPLATE MAPPING where you can specify how to correlate the names in your TEMPLATE with the actual COLUMN names in the DB2 table. Review the “rules” for MAPPING in the File Manager/DB2 User's Guide and Reference.

IBM File Manager for DB2



```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help

FM/DB2 (DB1B) Column Selection/Edit FM/DB2 template loaded
Command ==> Scroll CSR
TABLE JWINCHE.HOUSEIN
----- Row Selection Criteria ----- (Use SQL/PF4 for full screen edit) -----
1 Sel: _____ +

Cmd Seq SHC CL# Column name Data type(length) Null Default Order A/D
-----
**** Top of data ****
___ ___ S 1 ITEMNO CHARACTER(5) Y Null ___ -
___ ___ S 2 DESCR CHARACTER(20) Y Null ___ -
___ ___ S 3 PURCHLOC CHARACTER(20) Y Null ___ -
___ ___ S 4 PURCHDTE CHARACTER(10) Y Null ___ -
___ ___ S 5 ORIGAMT CHARACTER(7) Y Null ___ -
___ ___ S 6 REPLAMT CHARACTER(7) Y Null ___ -
**** End of data ****

MA b 04/015
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:
```

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Since I specified a template (created earlier from a COBOL copybook), when I hit ENTER I am presented with a screen showing the information that is contained in the TEMPLATE, and you see the confirming message that the template was loaded. Remember, for DB2 objects if you do NOT have an existing copybook or structure, you can create a template from the DB2 table information.

FM/DB2 always uses a template to display DB2 data.

You can use either of the following methods to edit a template:

On an entry panel where you can use templates:

1. Specify the template you want FM/DB2 to use (by selecting the appropriate **Template usage** option and, if required, specifying the name of the template).
2. Select the **Edit template** field.

Press Enter. FM/DB2 presents the template for editing, then runs the function after you have finished editing.

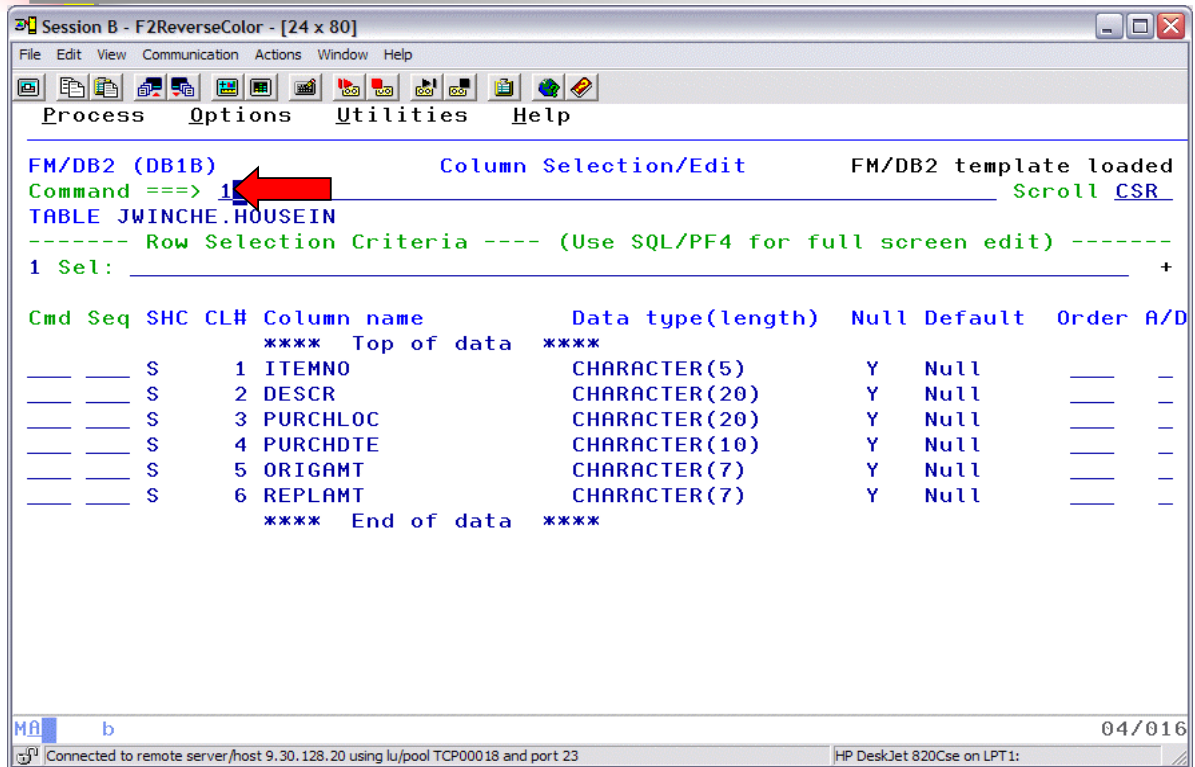
If you edit a template in this way, you can change all parts of the template (including row selection criteria).

If you are using Browse (option 1) or Edit (option 2) to browse or edit data, you can use the TEDIT primary command.

Notes:

1. You can *only* use the TEDIT primary command from within a Browse or Edit session (if you have the data displayed). You cannot use TEDIT from either the DB2 Browse or DB2 Edit function panels.
2. If you use the TEDIT primary command, you cannot change the **Order, A/D, or Row Selection Criteria** input fields. The reason you cannot alter these parts of the template is that an Edit or Browse session is in progress and the session can contain uncommitted

IBM File Manager for DB2



```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help
FM/DB2 (DB1B) Column Selection/Edit FM/DB2 template loaded
Command ==> 1 Scroll CSR
TABLE JWINCHE.HOUSEIN
----- Row Selection Criteria ----- (Use SQL/PF4 for full screen edit) -----
1 Sel: +
Cmd Seq SHC CL# Column name Data type(length) Null Default Order A/D
**** Top of data ****
___ ___ S 1 ITEMNO CHARACTER(5) Y Null ___ -
___ ___ S 2 DESCR CHARACTER(20) Y Null ___ -
___ ___ S 3 PURCHLOC CHARACTER(20) Y Null ___ -
___ ___ S 4 PURCHDTE CHARACTER(10) Y Null ___ -
___ ___ S 5 ORIGAMT CHARACTER(7) Y Null ___ -
___ ___ S 6 REPLAMT CHARACTER(7) Y Null ___ -
**** End of data ****
M b 04/016
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:
```

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To enter row selection criteria by column, type 1 on the command line on the Column Selection/Edit panel and press Enter.

FM/DB2 displays the Row Selection Criteria panel – see the NEXT page.

IBM File Manager for DB2

```

Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Help
FM/DB2 (DB1B) Row Selection Criteria Line 1 of 6
Command ==> Scroll CSR
Cmd Con ( Column name Op Value )
<-> - <-----1-----2-----+-----3-----> <-> <-----1-----2-----+-----
*** ***** Top of data *****
   AND - ITEMNO = 00005
   AND - DESCR
   AND - PURCHLOC
   AND - PURCHDTE
   AND - ORIGAMT
   AND - REPLAMT
*** ***** End of data *****
MA b 09/057
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:

```

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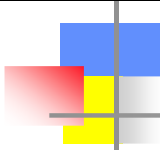
This is the Row Selection Criteria panel .

On the line for each column for which you want to specify selection criteria, you specify an operator (like = or >) in the **Op** column and, in most case, a value in the **Value** column.

For example, to select only ITEMNO '00005', on the line for the column ITEMNO type = in the Op column and 00005 (optionally enclosed in single quotes) in the Value column.

Now when you hit F3 (EXIT) you will return to the previous panel with the selection query filled in, and if you hit ENTER the query will be run and your results row(s) returned.

You can also use F6 (Run temporary) to execute your query at this point. If you use F6 then this specific query is NOT saved. You need to use the F3 to return to the "Column Selection/Edit" panel and then use F3 which will execute your query AND SAVE IT. You will get the confirming message TEMPLATE SAVED. If you use F6, your query will run, but the next time you come into Edit/Browse you will not have a "saved template" to be loaded with this query.



IBM File Manager for DB2

```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help
FM/DB2 (DB1B) Table Browse 0 of 1
Command ==> Scroll CSR
1 rows fetched Format TABL
ITEMNO DESCR PURCHLOC PURCHDTE ORIGAMT REPLAMT
#1 #2 #3 #4 #5 #6
CH(5) CHARACTER(20) CHARACTER(20) CH(10) CH(7) CH(7)
<UN-> <---+---1---+---> <---+---1---+---> <---+---> <---+> <---+>
**** Top of data ****
00005 COOKIE MONSTER JAR CHICAGO, ILLINOIS 09261976 0004500 0009000
**** End of data ****
```

The query is executed, and the rows satisfying the selection criteria (the result set) are returned. In this example we asked for a single row, only item number 00005. Notice that the format is TABL showing the linear row. You can also view the information in SNGL format by overtyping the FORMAT option with an S – it will change to SNGL, hit enter and....

IBM File Manager for DB2

```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help
FM/DB2 (DB1B) Table Browse 1 of 1
Command ==> Scroll CSR
TABLE JWINCHE.HOUSEIN Format SNGL
Top Line is 1 of 6 in Row 1
Ref Key Column Type(len) Data
#1 UN ITEMNO CH(5) 00005
#2 DESCR CH(20) COOKIE MONSTER JAR
#3 PURCHLOC CH(20) CHICAGO, ILLINOIS
#4 PURCHDTE CH(10) 09261976
#5 ORIGAMT CH(7) 0004500
#6 REPLAMT CH(7) 0009000
*** End of record ***
M@ b 04/015
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:
```

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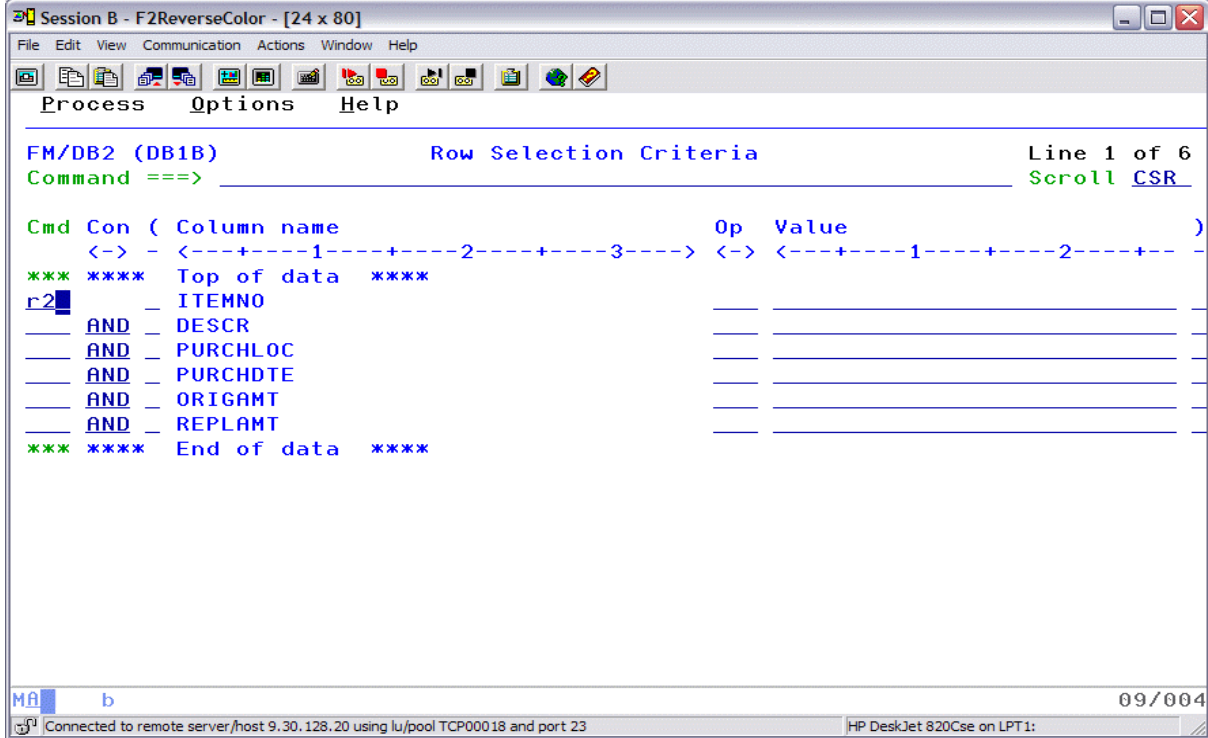
Here I changed the format to SNGL to see the SINGLE row of information (if multiple rows are returned you can move FORWARD or BACKWARD through the single format as well using F10 (forward) and F11 (backward))

You can use the LOCATE primary command to move to a particular column. You can specify either a DB2 column number, or part or all of a column name. You specify a DB2 column *number* by preceding the column number with the “#” symbol (for example, #4).

DB2 column numbers are shown on the Column Selection/Edit panel, and optionally in both TABL and SNGL display formats when you browse data. (To display column numbers, you must select the **Show column number** option on the third Edit/Browse Options panel.)

You specify a DB2 column *name* by typing all or part of the column name, with or without quotation marks. When FM/DB2 finds the specified column, it scrolls the data so that the matching column is displayed on the left of the screen (in TABL display format), or at the top of the screen (in SNGL display format). In addition, after FM/DB2 has found the specified column, in SNGL display format if you press F11 (to display the following record) or F10 (to display the preceding record), the data is scrolled to show the matching column at the top of the screen for each record displayed. If you change to TABL display format, the data is scrolled so that the matching column is displayed on the left of the screen

IBM File Manager for DB2



```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Help
FM/DB2 (DB1B) Row Selection Criteria Line 1 of 6
Command ==> Scroll CSR
Cmd Con ( Column name Op Value )
<-> - <---+---1---+---2---+---3---> <-> <---+---1---+---2---+---
*** ***** Top of data *****
r2  _ ITEMNO
_  AND _ DESCR
_  AND _ PURCHLOC
_  AND _ PURCHDTE
_  AND _ ORIGAMT
_  AND _ REPLAMT
*** ***** End of data *****
MR b 09/004
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:
```

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One way to get "multiple" selections, in this case, multiple discreet ITEMNO items, is to use the r2 (repeat 2) command for the element that you want to "expand"...when you hit enter you will then have 3 ITEMNO column names to work with.

IBM File Manager for DB2

The screenshot shows a terminal window titled "Session B - F2ReverseColor - [24 x 80]". The window has a menu bar (File, Edit, View, Communication, Actions, Window, Help) and a toolbar. Below the toolbar are tabs for "Process", "Options", and "Help". The main display area shows the following text:

```

FM/DB2 (DB1B)                               Row Selection Criteria           Line 1 of 8
Command ==>>                               Scroll CSR

Cmd  Con ( Column name                        Op  Value
<->  <-+-----1-----+-----2-----+-----3----->  <->  <-+-----1-----+-----2-----+----->
***  ***  Top of data  ***
____  ____  ITEMNO
____  AND  ITEMNO
____  AND  ITEMNO
____  AND  DESCR
____  AND  PURCHLOC
____  AND  PURCHDTE
____  AND  ORIGAMT
____  AND  REPLAMT
***  ***  End of data  ***
  
```

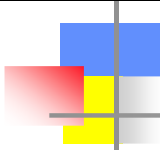
At the bottom of the window, there is a status bar showing "MA b" on the left, "04/015" on the right, and a connection message: "Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23".

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Here I have "repeated" the ITEMNO information, and hit enter, and now I can work with the column names and the operators to set up for multiple selections of different ITEMNO rows. Obviously we will need to change the AND connector to OR, and we can do this for any of the columns to build a quite complex query – Operators are used to create expressions. When you type an operator in the **Op** column, it indicates that you want FM/DB2 to form an expression using the column name on that line of the panel, the operator you have specified and, with the exception of the operators NL, -NL, and NNL, the contents of the **Value** column.

FM/DB2 supports the following operators:

- = or **EQ** True if the terms are equal (numerically, or when padded).
- ≠ or **NE** True if the terms are not equal (inverse of =) or
- > or **GT** Greater than
- < or **LT** Less than
- ≥ or **GE** Greater than or equal to
- ≤ or ≤ Not less than
- ≤ or **LE** Less than or equal
- ≥ or ≥ Not greater than
- LK** LIKE predicate. Column must not be numeric.
- LK** or **NLK** NOT LIKE. Column must not be numeric.
- BTW** BETWEEN. **Value** must be in the form *value1,value2*.
- BT** or **NBT** NOT BETWEEN. **Value** must be in the form *value1,value2*
- IN** IN. **Value** must be in the form *value1,value2,...*
- IN** or **NIN** NOT IN. **Value** must be in the form *value1,value2,...*
- NL** IS NULL. **Value** must be blank.
- NL** or **NNL** IS NOT NULL. **Value** must be blank.
- RG** Range. **Value** must be in the form *value1,value2*.



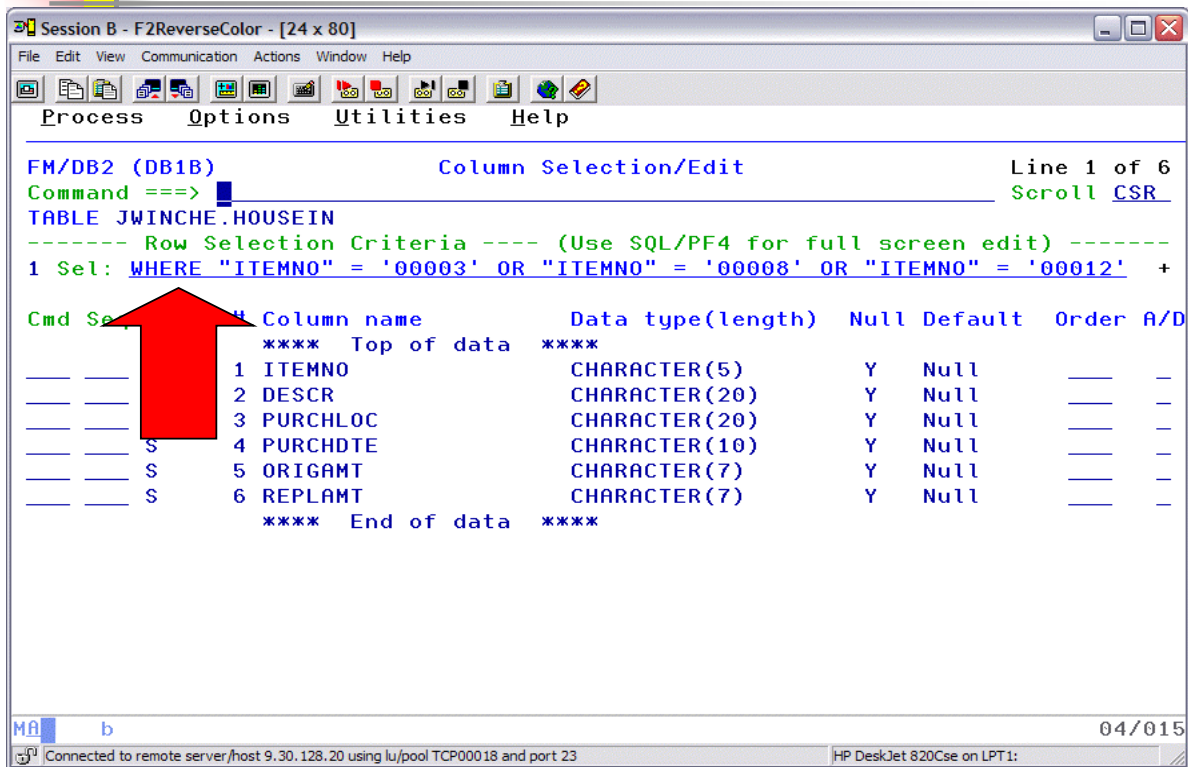
IBM File Manager for DB2

```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Help
FM/DB2 (DB1B) Row Selection Criteria Line 1 of 8
Command ==> Scroll CSR
Cmd Con ( Column name Op Value )
<-> - <---+---1---+---2---+---3---> <-> <---+---1---+---2---+---
*** **** Top of data ****
--- OR --- ITEMNO = 00003
--- OR --- ITEMNO = 00008
--- AND --- ITEMNO = 00012
--- AND --- DESCR
--- AND --- PURCHLOC
--- AND --- PURCHDTE
--- AND --- ORIGAMT
--- AND --- REPLAMT
*** **** End of data ****
M b 04/015
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:
```

As you can see I have CHANGED the connector (AND would not work, the connector needs to be OR) and I have also change the VALUE to be tested.

You can develop your logic using these column names for row selection, multiple columns, multiple criteria...once you get the correct selection criteria set, then hit F3 to return to the column selection/edit panel.

IBM File Manager for DB2



```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help

FM/DB2 (DB1B) Column Selection/Edit Line 1 of 6
Command ==> Scroll CSR
TABLE JWINCHE.HOUSEIN
----- Row Selection Criteria ----- (Use SQL/PF4 for full screen edit) -----
1 Sel: WHERE "ITEMNO" = '00003' OR "ITEMNO" = '00008' OR "ITEMNO" = '00012' +
Cmd Se Column name Data type(length) Null Default Order A/D
**** Top of data ****
1 ITEMNO CHARACTER(5) Y Null ___ -
2 DESCR CHARACTER(20) Y Null ___ -
3 PURCHLOC CHARACTER(20) Y Null ___ -
4 PURCHDTE CHARACTER(10) Y Null ___ -
5 ORIGAMT CHARACTER(7) Y Null ___ -
6 REPLAMT CHARACTER(7) Y Null ___ -
**** End of data ****

M b 04/015
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:
```

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Now you can see that the WHERE clause has been developed for my SQL query. Now when I hit F3 the query will be executed, and the results table will be returned. Also, by using F3, this specific query will be SAVED, you will see a TEMPLATE SAVED on the next panel. If you so not want to save this query, then you can use F6, which will execute the query but NOT save it.

IBM File Manager for DB2

```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help

FM/DB2 (DB1B)                               Table Browse                               Template saved
Command ==>                                Scroll CSR
3 rows fetched                               Format TABL
ITEMNO DESCR                                PURCHLOC PURCHDTE ORIGAMT REPLAMT
#1 #2 #3 #4 #5 #6
CH(5) CHARACTER(20) CHARACTER(20) CH(10) CH(7) CH(7)
<UN-> <-----1-----> <-----1-----> <-----> <-----> <----->
**** Top of data ****
00003 BERNSTEIN (AMBER) BERLIN, GERMANY 01111994 0015000 0027000
00008 WOOD FACE MASKS SAIGON, VIETNAM 08201966 0002000 0020000
00012 POTTERY PLATES ROTA, SPAIN 07311988 0000250 0005000
**** End of data ****

MA b 04/015
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23
HP DeskJet 820Cse on LPT1:
```

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Notice that I get a "number of rows fetched" message, and a message that the Template was saved (next time I come into this table I will have THIS information already set up for a query). Notice that I am in TABL format, which I can change to SNGL by overtyping the format. I set up my defaults to use the "last used" format, you can set yours so that it ALWAYS displays in a specific format, your choice.

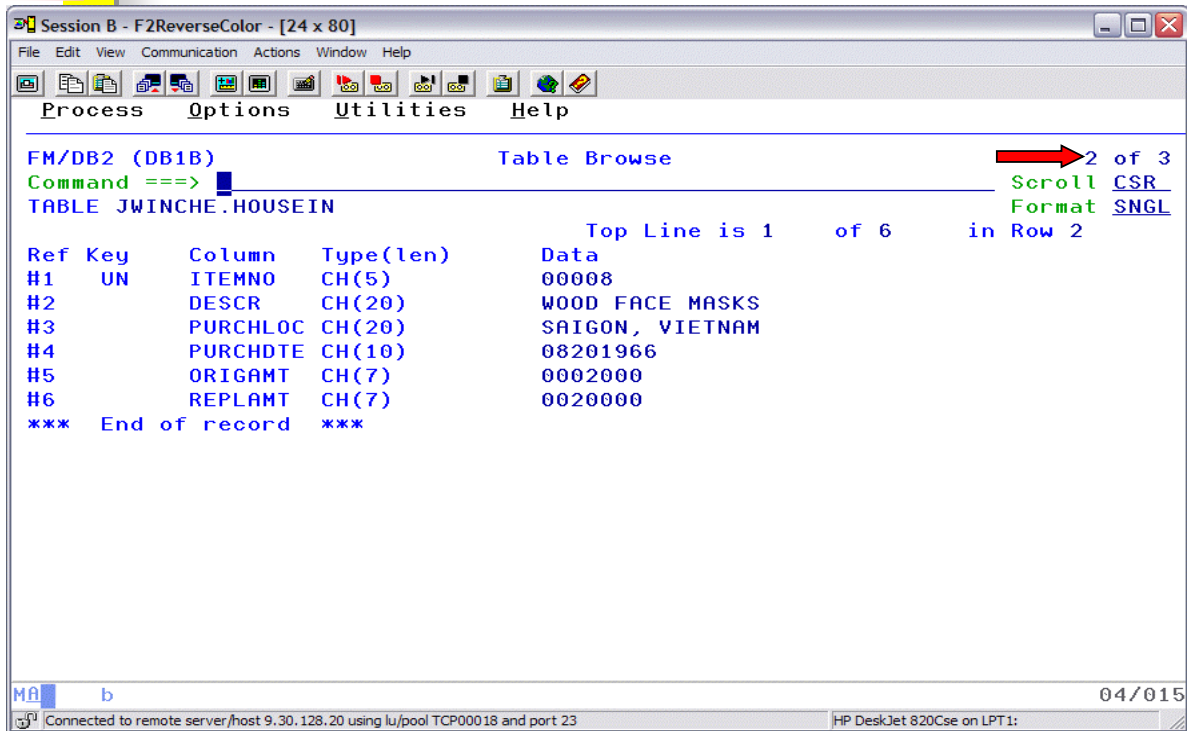
IBM File Manager for DB2

```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help
FM/DB2 (DB1B) Table Browse 1 of 3
Command ==> Scroll CSR
TABLE JWINCHE.HOUSEIN Top Line is 1 of 6 in Row 1
Format SNGL
Ref Key Column Type(len) Data
#1 UN ITEMNO CH(5) 00003
#2 DESCR CH(20) BERNSTEIN (AMBER)
#3 PURCHLOC CH(20) BERLIN, GERMANY
#4 PURCHDTE CH(10) 01111994
#5 ORIGAMT CH(7) 0015000
#6 REPLAMT CH(7) 0027000
*** End of record ***
M b 04/015
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:
```

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Here I am viewing the row of the result table in SNGL format...and notice in the upper right I have 1 of 3 (there were 3 rows returned). I can use F11 to go FORWARD, or F10 to go BACKWARD and see the detailed information for each row.

IBM File Manager for DB2



```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help
FM/DB2 (DB1B) Table Browse 2 of 3
Command ==> Scroll CSR
TABLE JWINCHE.HOUSEIN Top Line is 1 of 6 in Row 2
Format SNGL
Ref Key Column Type(len) Data
#1 UN ITEMNO CH(5) 00008
#2 DESCR CH(20) WOOD FACE MASKS
#3 PURCHLOC CH(20) SAIGON, VIETNAM
#4 PURCHDTE CH(10) 08201966
#5 ORIGAMT CH(7) 0002000
#6 REPLAMT CH(7) 0020000
*** End of record ***
Mâ b 04/015
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:
```

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Here I have scrolled forward with F11 – again, see the upper right which indicates I am viewing results row 2 of 3.

IBM File Manager for DB2

```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT      SYS06192.T092920.RA000.JWINCHE.R0100124      Columns 00001 00072
Command ==>
***** ***** Top of Data *****
=NOTE= Only changes to the WHERE clause will be recognized at the end of the
=NOTE= edit session. All other changes will be ignored.
=NOTE= Use the CREATE or REPLACE commands to take a copy of the SQL.
=NOTE=
=NOTE= Columns for "JWINCHE"."HOUSEIN"
=NOTE=      Cl# Column name           Data type(length)  Null
=NOTE=      1  ITEMNO              CHARACTER(5)       Y
=NOTE=      2  DESCR                CHARACTER(20)      Y
=NOTE=      3  PURCHLOC             CHARACTER(20)      Y
=NOTE=      4  PURCHDTE            CHARACTER(10)      Y
=NOTE=      5  ORIGAMT             CHARACTER(7)       Y
=NOTE=      6  REPLAMT             CHARACTER(7)       Y
=NOTE=
000001 SELECT *
000002 FROM "JWINCHE"."HOUSEIN"
000003 WHERE "ITEMNO" = '00003' OR "ITEMNO" = '00008' OR "ITEMNO" = '00012'
***** ***** Bottom of Data *****
M b 04/015
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23
HP DeskJet 820Cse on LPT1:
```

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Another "choice" for entering an SQL query is to choose F4 from the column selection/edit screen, which will present a "full screen" where you can enter your OWN SQL query using the standard SQL language statements.

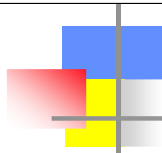
You can use the ISPF editor commands CREATE and REPLACE to take a copy of the SQL statement into another, permanent, data set. Column details for the DB2 object might be shown as note lines (=NOTE=) at the top of the ISPF edit session. These are only displayed if the WHERE clause can be changed.

The note lines (=NOTE=) at the top of the SQL Edit session indicate whether you can make changes to the SQL statement. When data is displayed in an FM/DB2 Edit or Browse session, you cannot change the SQL statement without first ending the current edit or Browse session.

To interactively test and change SQL statements, use Prototyping: Enter (option 4.3), or use the **Re-edit template** option on the DB2 Browse or DB2 Edit panel.

You can use FM/DB2 reference numbers as abbreviations for the column names.

When you exit the SQL Edit session by pressing the Exit function key (F3), FM/DB2 converts FM/DB2 reference numbers to the corresponding DB2 column name, and validates the statement. If the validation fails, FM/DB2 redisplay the SQL statement with an error message



IBM File Manager for DB2

```
Session B - F2ReverseColor - [24 x 80]
File Edit View Communication Actions Window Help
FM/DB2 Tutorial - Edit - General information
Command ==> █
Changing and saving data
In an edit session of a data set, changes are accumulated during the edit
session and the data set is replaced at the end of the session. However, in
an FM/DB2 edit session only those rows that have been changed (inserted,
updated or deleted) are presented to DB2. In addition, changes made during an
edit session may be rejected by DB2 for many reasons, including the violation
of uniqueness, referential or check constraints. Consequently it is
recommended that changes made during an FM/DB2 edit session be verified often,
to prevent unexpected errors being encountered at the end of a long edit
session.
FM/DB2 provides options that ease the burden of making frequent verification
(save) requests during an edit session. See tutorial
topic Enter key and commit options for more information. Users who have not
previously used a DB2 editor should review this information before attempting
to use the FM/DB2 editor.
FM/DB2 also provides facilities that make editing tables that are part of a
referential structure easier. See the tutorial Editing related tables for
more information.
MR b 02/015
Connected to remote server/host 9.30.128.20 using lu/pool TCP00018 and port 23 HP DeskJet 820Cse on LPT1:
```

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Ending an Edit session To end your Edit session and save any changes you have made, enter END on the command line, or press the Exit function key (F3).

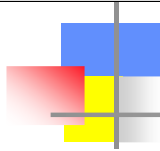
Note: If there are dependent related Edit sessions still active, you need to end these sessions before you can end the current (parent) Edit session. To save changes you have made to the current table without ending the Edit session, use the SAVE primary command.

Note: If you use the SAVE primary command, FM/DB2 commits changes according to commit options (**Commit changes when SAVE issued** and **Commit changes when no save error**) using either the global settings or as specified for this Edit session only.

To end your Edit session without saving your changes (that is, since the previous successful commit point), enter CANCEL (or CAN) on the command line, or press the Cancel function key (F12). If you have made any changes to the data, FM/DB2 displays a message box asking you to confirm that you want to discard the changes.

Note: If there are dependent related Edit sessions still active, canceling the current Edit session also cancels all the dependent related Edit sessions.

Extensive on-line help is available in the File Manager products. Here I chose to enter F1 (HELP) from my EDIT session, and then I selected option 0 "General Information" and then 2 "Changing and Saving Data". You can either chose the numbers within the help sequence, or hit enter and process through the tutorial "in order". There is no "fast path" to the tutorial information, but the information can be quite useful when you are already into a File Manager session. The same information also is available in the File Manager Manuals (where you will need to use keywords to search for the information).



- **Highlights – Print and Copy**
 - **Print DB2 tables or views (formatted based on column type)**
 - **Select which columns and which order**
 - **Select which ROWS using SQL SELECT ...WHERE clause**
 - **Provide customized headings**
 - **Copy data between DB2 tables**
 - **Reformat data during copy**
 - **Map columns in input to different columns in output table**
 - **See the "HOW DO I ...? section in the FM/DB2 User's Guide**
 - **Describes different scenarios and WHICH "method" is "best"**

FM/DB2 provides the following utilities that allow you to copy data from one place to another: **Copy Utility (3.3)** Copies data from one DB2 object to another DB2 object (that is accessible from within the same DB2 subsystem).

Import Utility (3.6) Copies data from a VSAM or QSAM file into a DB2 table or view.

Export Utility (3.7) Copies data from a DB2 table or view to a VSAM or QSAM file.

To copy data between DB2 tables, use the Copy utility function (3.3).

Notes:

1. To copy data *to* a DB2 table or view from a QSAM or VSAM data set, use the Import utility function (3.6).
2. To copy data *from* a DB2 table or view to a QSAM or VSAM data set, use the Export utility function (3.7).

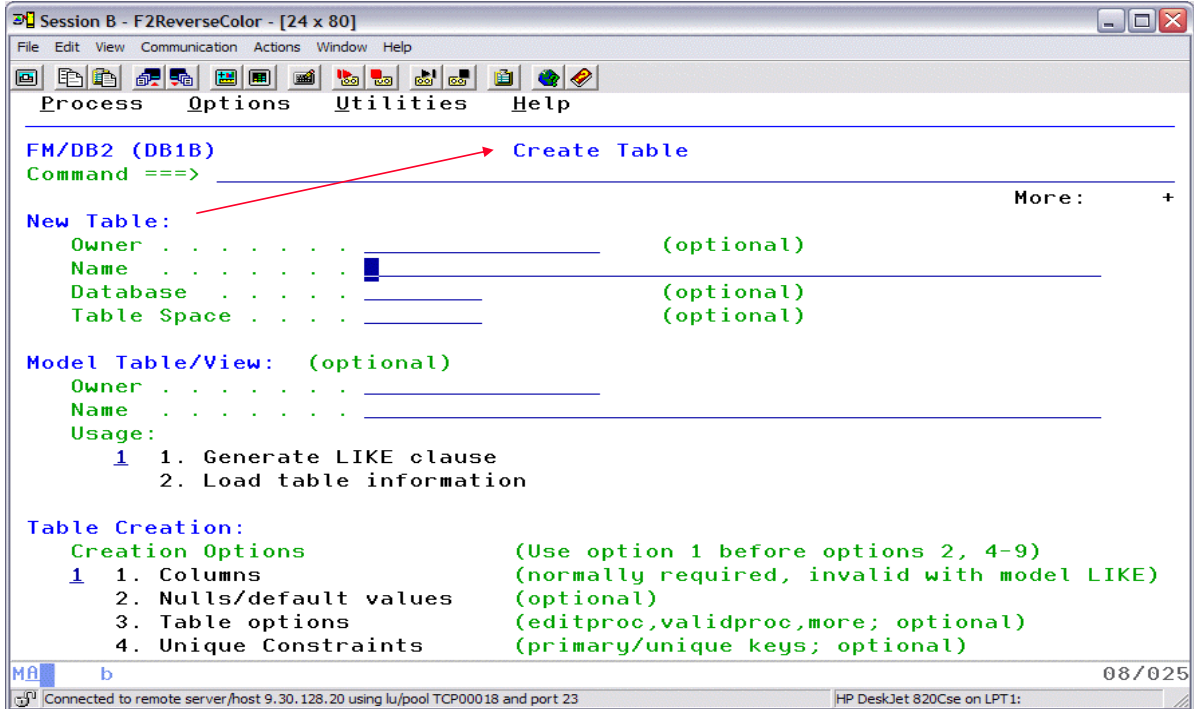
When you copy data from one DB2 object to another, you can:

- Select which rows to copy v Reformat data during the copy by mapping columns in the input table to different columns in the output table
- Initialize new columns using user-specified values or patterns
- Limit the number of rows copied

The main panel for the Copy utility is the Copy Utility ("From") panel.

To display the Copy Utility ("From") panel,

1. From the Primary Option Menu panel, enter 3 (Utilities) to display the Utility Functions panel.
2. From the Utility Functions panel, enter 3 (Copy) You can now specify details about:
 - The source table (where the data is that you want to copy). During this step, you can also edit the source template to restrict the data that is copied (if applicable).
 - The target table (where you want the data copied). During this step, you can also change the copy options, edit the template mapping for the target table, and specify if you want the copy performed in a batch job.



This is the CREATE TABLE PANEL as an example of just ONE of the many utilities available via FM/DB2 panels, and you can see the many options available.

I got to this panel via the Utilities, DB2 OBJECTS (or you can fastpath with =3.2)

The Create Table Columns panel is displayed if you select Table Creation option 1 (**Columns**) on the main Create Table panel. You use this panel to define columns for the table you are creating, or to change information for columns you have already defined. The lower section of the panel shows the columns defined for the table. (If you have not yet defined any columns, this part of the panel shows a single line of empty entry fields.) If you have used the modeling facility, the panel shows the column details for each column in the model table

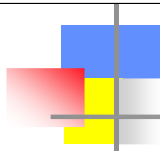
Column referential constraints and table referential constraints

You can specify referential constraints associated with individual columns (column referential constraints), or with the entire table (table referential constraints).

- A *column referential constraint* relates a column (the foreign key) in the table being created (the dependent table) to an equivalent column (the parent key) in another table (the parent table), and restricts non-null values of the foreign key column to the values of the parent key column.

- A *table referential constraint* relates a set of columns (the foreign key) in the table being created (the dependent table) to an equivalent set of columns (the parent key) in another table (the parent table), and restricts non-null values of the foreign key to the values of the parent key.

Notice that there are MORE OPTIONS than show...this is because this was done using a MOD2 3270 screens with ONLY 24 lines...for MOST of the File Manager (and other ADTOOLS) products, using at a minimum a MOD3 is HIGHLY RECOMMENDED

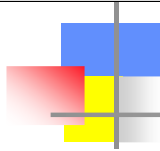


IBM File Manager for DB2

```
Session A - F2ReverseColor - [32 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help
FM/DB2 (DB1B) Create Table
Command ==>
New Table:
Owner . . . . . (optional)
Name . . . . .
Database . . . . . (optional)
Table Space . . . . . (optional)
Model Table/View: (optional)
Owner . . . . .
Name . . . . .
Usage:
1 1. Generate LIKE clause
2. Load table information
Table Creation:
Creation Options (Use option 1 before options 2, 4-9)
1 1. Columns (normally required, invalid with model LIKE)
2. Nulls/default values (optional)
3. Table options (editproc,validproc,more; optional)
4. Unique Constraints (primary/unique keys; optional)
5. Referential Constraints (foreign keys; optional)
6. Check constraints (optional)
7. Procedure exits (optional)
8. Generate values (optional)
9. Create the table (optional)
```

Look what a MOD3 emulator session gets for you!

This is the SAME example, except now I have defined my emulator session as a 3270 MOD3, and you can see what a difference those few extra lines make. Now I can see ALL the options, and I do not have to SCROLL. When you set up your emulator session for the ADTOOLS products, you will be much better served with a MOD3 terminal type (32 lines) vs the standard 24. You can use whatever terminal type best suits your DISPLAY, but at a minimum DO SET UP FOR 32 LINES!



- **Highlights – Export and Import**
 - **Export rows from DB2 table or view to QSAM or VSAM**
 - **Reformat data during EXPORT (map columns to fields in QSAM or VSAM as defined by COBOL or PL/I record description)**
 - **Select WHICH ROWS to export**
 - **Reformat data during IMPORT (map fields in input data to DB2 table column)**
 - **You MUST have a COBOL or PL/I copybook or template describing the structure for the VSAM/QSAM file**
 - **COPYBOOK will be COMPILED into a TEMPLATE**

The input to the Import utility function can be a QSAM or VSAM data set produced by:

- The FM/DB2 Export utility
- Any external source

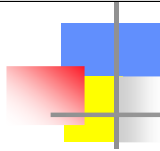
You must specify a COBOL or PL/I copybook or template that describes the record format of the data in the input QSAM or VSAM data set

If you specify a copybook, FM/DB2 compiles it to produce a template.

When you copy data to a DB2 table or view from a QSAM or VSAM data set, you can:

- Reformat data during import by mapping DB2 table columns to fields in the input QSAM or VSAM data set (as defined by a COBOL or PL/I copybook or template).
- Use a REXX procedure to enhance the way in which data is selected and imported.
- Specify the number of rows that are imported.
- Specify whether you want to run the import in foreground or batch.
- Specify that any duplicate rows are to be updated with the values in the imported row.

The main panel for the Import utility is the Import Utility ("From") panel.



- **Highlights – Other Functions**
 - **List DB2 objects (databases, table spaces, tables, indexes, schemas, triggers, functions and stored procedures)**
 - **Issue line commands from object list (browse, edit, copy, or print, alter, drop ,create, show privileges, show related objects)**
 - **Generate JCL and utility control statements**
 - **COPY, LOAD, REBUILD, RECOVER, REORG, RUNSTATS**
 - **Prototype SQL SELECT statements**
 - **With basic or advanced assistance from FM/DB2**
 - **.....and more new features with EACH RELEASE**

To generate batch JCL to execute the DB2 utility jobs listed below, use the Utilities utility function (3.9).

You do not need to know the utility control statements for these operations.

- COPY
- LOAD
- REBUILD
- RECOVER
- REORG
- RUNSTATS
- UNLOAD (DB2 Version 7 and above)

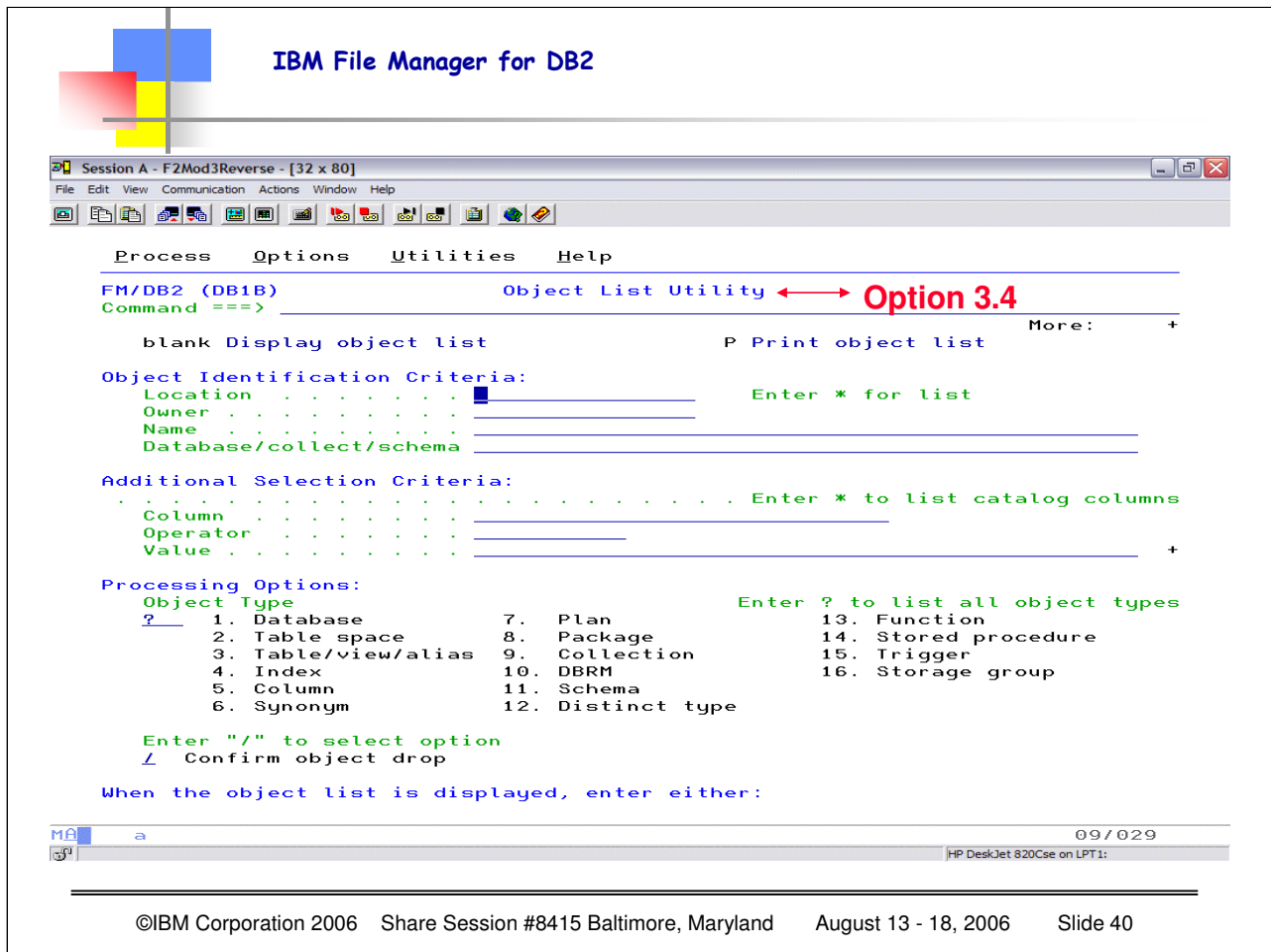
For an explanation of the uses of these DB2 utility jobs, refer to the *DB2 Utility Guide and Reference*.

Note: To successfully execute the generated utility job, you must have the appropriate DB2 privileges on any DB2 objects that are referenced.

The main panel for the Utilities utility is the DB2 Utilities panel.

To display the DB2 Utilities panel,

1. From the Primary Option Menu panel, enter 3 (Utilities) to display the Utility Functions panel.
2. From the Utility Functions panel, enter 9 (Utilities)



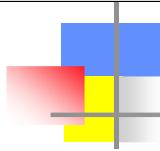
If you want to look at a group of DB2 objects, you can use the Object List utility (3.4) to list or print the objects in which you're interested. You can use the Object List utility to specify:

- Whether you want the list of objects displayed or printed.
- The type of object you want listed or printed.
- Criteria to restrict the objects listed or printed.
- Options to apply when processing the listed objects.

To display the Object List Utility panel,

1. From the Primary Option Menu panel, enter 3 (Utilities) to display the Utility Functions panel.
2. From the Utility Functions panel, enter 4 (Object List)

Now that you have the Object List Utility panel displayed, you can start specifying the sorts of DB2 objects you want to display or print.



- **Highlights – Object List Utility**
 - **Support for storage group object type**
 - **User can add new commands to object list**
 - **Wide screen support using FM/DB2 editor**
 - **Most FM/DB2 editor features/commands available**
 - **All* catalog columns shown**
 - **Key columns are "anchored" for reference**
 - **Meaningful column headings**
 - **Improved line command processing**

In addition to the 16 standard object types, there are other commands. Eg '3V' shows only views, '3T' shows only tables. '3' shows all entries in SYSIBM.SYSTABLES, including tables, views, aliases etc.

The list of commands available on the object list entry panel can be customized.

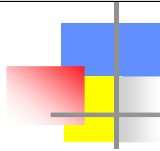
For example, you could add a command to show all plans that are marked 'invalid' in the DB2 catalog table.

To do this you would add the following statement to the option 3.4 data modules.

```
FMN2@UOP OP=7N,  
    DESC='Show invalid plans',  
    WHERECL='valid = "n",  
    Title='invalid plans'
```

The new command requires a WHERE clause that specifies a column of the table for the object type. In the above example the table is SYSIBM.SYSPLAN. The column is 'VALID', which contains information about whether a plan is valid or not.

Previously data from the DB2 catalog tables was shown on 80 byte wide panels, only selected columns were shown. Data from the catalog tables is now shown using the FM/DB2 editor, which has full wide-screen support.



- **Highlights – Object List Utility ...more new features**

In addition to the making use of the available screen size, other FM/DB2 editor facilities are available, including:

- **Scrolling left and right, to see columns that do not fit.**
- **FIND, LOCATE to quickly locate data.**
- **EXCLUDE to only show rows of interest.**
- **Single mode to show all columns for a row.**
- **TEDIT to allow changes to the data display, such as the order in which columns are displayed, whether a column should appear and which columns are held when scrolling left or right.**

When you display data with the Object List utility, you can use the LOCATE primary command to locate either a row or a column in a similar way to when you are viewing data with FM/DB2 Browse or Edit.

When you display data with the Object List utility, you can use the FIND primary command to find a specific string in a similar way to when you are viewing data with FM/DB2 Browse or Edit.

You use the operator line to specify an operator that FM/DB2 uses in conjunction with the filter pattern specified in the corresponding area on the filter line.

You can specify operators for more than one column if necessary. Normally, you only specify an operator for a column where you have also specified a filter pattern.

To enter an operator in the operator line, type the required operator anywhere within the operator area for the required column.

Processing occurs left to right. FM/DB2 only recognizes the first operator encountered and any other characters entered in the operator field are ignored.

For example, if you type “=>” in the operator field, FM/DB2 treats it as “=”, and ignores the “>”.

IBM File Manager for DB2

SEL	TABLE OWNER	TABLE NAME	ALIAS TABLE CREATOR	ALIAS TABLE NAME	TIMESTAMP WHEN CREATED	TIMESTAMP WHEN ALTERED	DATA CAPTURE OPTION	RBA WHEN TABLE CREATED
---	---	---	---	---	---	---	---	---
---	JWINCHE	CUSTOMER			2004-06-21-03.22.39.698536	2004-06-21-03.22.39.698536	No	00002062B572
---	JWINCHE	DEPT			2004-05-17-07.12.14.852184	2004-05-17-07.12.14.852184	No	00002138E1C2
---	JWINCHE	EMP			2004-05-17-07.58.40.557128	2004-05-17-07.58.40.557128	No	00002139BDD3
---	JWINCHE	EMP			2004-05-17-07.58.02.421207	2004-05-17-07.58.02.421207	No	000021389C3C
---	JWINCHE	HOUSEIN			2006-04-09-08.52.33.421903	2006-04-09-08.52.33.421903	No	00005795388F
---	JWINCHE	NEWDEPT			2004-05-17-09.06.01.614180	2004-05-17-09.06.01.614180	No	0000213F448E
---	JWINCHE	NEWPHONE			2004-05-17-09.07.37.520718	2004-05-17-09.07.37.520718	No	0000213E7D03
---	JWINCHE	PROJ			2004-05-17-07.59.32.221816	2004-05-17-07.59.32.221816	No	000021381692
---	JWINCHE	PROJACT			2004-05-17-09.06.57.118227	2004-05-17-09.06.57.118227	No	000021307498
---	KDFORD	FBI_BATCH			2004-10-04-14.52.37.387859	2004-10-04-14.52.37.387859	No	0000419FE2D6
---	KDFORD	FBI_BATCH2			2004-10-04-14.52.38.631788	2004-10-04-14.52.38.631788	No	000041A16EC6
---	KPHUME	KPHTB01			2003-12-10-21.12.19.819184	2003-12-10-21.12.19.819184	No	000011632D8E
---	LZHANG	C_CUSTOMER			2004-04-06-10.39.25.574933	2004-04-06-10.39.25.574933	No	00001360F88A
---	LZHANG	C_DISCOUNT			2004-04-06-10.39.26.070855	2004-04-06-10.39.26.070855	No	0000136DD085
---	LZHANG	C_PARTS			2004-04-06-10.39.25.873929	2004-04-06-10.39.25.873929	No	0000136DA739
---	LZHANG	C_RULE			2004-04-06-10.39.25.972253	2004-04-06-10.39.25.972253	No	0000136DC4BE
---	LZHANG	C_SITE			2004-04-06-10.39.25.774847	2004-04-06-10.39.25.774847	No	0000136D84CD
---	LZHANG	C_SUPPLIER			2004-04-06-10.39.25.674892	2004-04-06-10.39.25.674892	No	0000136D57F8
---	LZHANG	CUSTOMER			2004-04-02-17.08.17.519779	2004-04-02-17.08.17.519779	No	0000132D5765
---	LZHANG	DISTRICT			2004-04-06-10.39.33.409847	2004-04-06-10.39.33.409847	No	0000132D257A
---	LZHANG	HISTORY			2004-04-02-17.08.18.150813	2004-04-02-17.08.18.150813	No	0000132DA440
---	LZHANG	ITEM			2004-04-02-17.08.21.010979	2004-04-02-17.08.21.010979	No	00001330B8CB
---	LZHANG	M_BOM			2004-04-06-10.39.33.181869	2004-04-06-10.39.33.181869	No	00001370845C
---	LZHANG	M_INVENTORY			2004-04-06-10.39.33.409847	2004-04-06-10.39.33.409847	No	000013704A09
---	LZHANG	M_LARGEOORDER			2004-04-06-19.27.42.385736	2004-04-06-19.27.42.385736	No	00001DF934C
---	LZHANG	M_PARTS			2004-04-06-10.39.32.997330	2004-04-06-10.39.32.997330	No	0000136FD0F3
---	LZHANG	M_CUSTOMER			2004-04-06-10.39.33.206839	2004-04-06-10.39.33.206839	No	000013708E4C
---	LZHANG	NEWORDERS			2004-04-02-17.08.18.391876	2004-04-02-17.08.18.391876	No	0000132EB2F4
---	LZHANG	O_CUSTOMER			2004-04-06-10.39.39.377810	2004-04-06-10.39.39.377810	No	000013719B3D
---	LZHANG	O_ITEM			2004-04-06-10.39.39.688874	2004-04-06-10.39.39.688874	No	00001371D07A
---	LZHANG	O_ORDERLINE			2004-04-06-10.39.39.587155	2004-04-06-10.39.39.587155	No	000013719D9A
---	LZHANG	O_ORDERS			2004-04-06-10.39.39.485608	2004-04-06-10.39.39.485608	No	000013719F2D
---	LZHANG	ORDERLINE			2004-04-02-17.08.18.500733	2004-04-02-17.08.18.500733	No	0000132F2E86
---	LZHANG	ORDERS			2004-04-02-17.08.18.275350	2004-04-02-17.08.18.275350	No	0000132E1EC6
---	LZHANG	S_COMPONENT			2004-04-06-10.39.46.338857	2004-04-06-10.39.46.338857	No	000013734994
---	LZHANG	S_PURCHASE_ORDER			2004-04-06-10.39.46.823636	2004-04-06-10.39.46.823636	No	00001373CE89
---	LZHANG	S_PURCHASE_ORDER			2004-04-06-10.39.46.724985	2004-04-06-10.39.46.724985	No	000013738E1A
---	LZHANG	S_SITE			2004-04-06-10.39.46.625128	2004-04-06-10.39.46.625128	No	000013739BEA

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Here you can see the effect of the WIDE SCREEN capability with the Object List utility. I have defined my emulator session to be 48X132 (you could make this whatever your emulator allows, or WHATEVER YOUR EYESIGHT ALLOWS) Note that the key columns will be ANCHORED, the column headings have improved, and if you use a WIDE SCREEN with enough DEPTH for your lines, you can get a great deal of your object information onto single screens. From this screen you can enter commands to "subselect" and get detailed further information

Note: One of the options available at the time of installing FM/DB2 allows for views on DB2 catalog tables to be created for those tables accessed by FM/DB2.

The set of views includes only those columns within the tables that are needed by FM/DB2.

If this option has been used at installation, it may affect the results obtained when you use the Object List utility. When FM/DB2 accesses a view, it shows only the columns of the view, rather than the columns of the table. If there are fewer columns in the view than the underlying table, the information displayed will be incomplete.

Note: The system option, **Show all catalog table columns**, affects which columns FM/DB2 displays when you use the Object List utility.

When you select this option, any display of catalog table information includes every available column, including any columns marked as "unused" or "internal use only" in the *DB2 UDB for z/OS SQL Reference*.

The **default for this option is not selected**. Selecting this option overrides any settings for the **Show "unused" catalog table columns** and **Show "internal use only" catalog table columns** options.

IBM File Manager for DB2

```
Session A - F2Mod3Reverse - [32 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help
FM/DB2 (DB1B) Object List Utility
Command ==>
blank Display object list P Print object list More: +
Object Identification Criteria:
Location ..... Enter * for list
Owner ..... JWINCHE
Name ..... *
Database/collect/schema .....
Additional Selection Criteria:
..... Enter * to list catalog columns
Column .....
Operator .....
Value ..... +
Processing Options:
Object Type ..... Enter ? to list all object types
? 1. Database 7. Plan 13. Function
2. Table space 8. Package 14. Stored procedure
3. Table/view/alias 9. Collection 15. Trigger
4. Index 10. DBRM 16. Storage group
5. Column 11. Schema
6. Synonym 12. Distinct type
Enter "/" to select option
/ Confirm object drop
When the object list is displayed, enter either:
M& a A 22/006
Connected to remote server/host 9.30.128.20 using lu/pool TCP00016 and port 23 HP DeskJet 820Cse on LPT1:
```

I wanted more information about ALL the object types, so here I entered the '?' in the Selection Option location and hit ENTER.

IBM File Manager for DB2

Session A - F2Mod3Reverse - [32 x 80]

File Edit View Communication Actions Window Help

Process Options Utilities Help

FM/DB2 (DB1B) Object List Utility Object Types Row 1 to 23 of 31

Command ==> Scroll CSR

Type S against the required Object Type and press Enter.

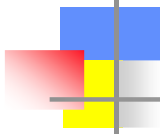
Sel	Object Type	Description
—	1	Show databases
—	1N	Show databases (except TEMP, work file)
—	1T	Show TEMP databases
—	1W	Show Work File Databases
—	2	Show table spaces
—	2B	Show table spaces that may be > 64 GB
—	2L	Show LOB table spaces
—	2M	Show table spaces with MEMBER CLUSTER option
—	2N	Show non-partitioned table spaces
—	2P	Show partitioned table spaces
—	2S	Show segmented table spaces
—	3	Show tables (all objects in SYSTABLES)
—	3A	Show aliases
—	3G	Show created global temporary tables
—	3M	Show materialized query tables
—	3T	Show tables only
—	3V	Show views
—	3X	Show auxiliary tables
—	4	Show indexes
—	5	Show columns
—	6	Show synonymms
—	7	Show plans
—	8	Show packages

Mâ a 04 / 015

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As you can see there are many "different" object types that can be selected (more than can be shown on the single panel). Since we are not in a SPECIFIC object, if we ask to SHOW COLUMNS we will get ALL COLUMNS for "JWINCHE", since that was a filter used on the initial Object List panel.



IBM File Manager for DB2

```
Session A - F2Mod3Reverse - [32 x 80]
File Edit View Communication Actions Window Help
[Icons]

Process Options Utilities Help
FM/DB2 (DB1B) Object List Utility Object Types Row 24 to 31 of 31
Command ==> Scroll CSR

Type S against the required Object Type and press Enter.

Sel Object Type Description
- 9 Show collections
- 10 Show DBRMs
- 11 Show schemas
- 12 Show distinct types
- 13 Show functions
- 14 Show stored procedures
- 15 Show triggers
- 16 Show storage groups
***** END OF DB2 DATA *****

M& a 04/015
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```

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Here are the rest of the possible entries for various object types. It is VERY USEFUL to remember the use of the QUESTION MARK to get this list. Eventually you will remember the types you work with the most, but just in case you might want to get another type, the '?' in the selection entry on the MAIN panel will give you the long list.

IBM File Manager for DB2

Session A - F2Mod3Reverse - [32 x 80]

File Edit View Communication Actions Window Help

Process Options Utilities Help

FM/DB2 (DB1B) Columns 0 of 77

Command ==>

Location:

SEL	COLUMN NAME	TABLE OWNER	TABLE NAME	POSITION OBJECT	COLUMN DATA TYPE	LENGTH ATTRIBUTE	SCALE (DECIMAL ONLY)
*	*	*	*	* *	*	*	*
----	#1--+-	-----1-----	#3--+-	H2--+-	-----#4 #5--+-	-----#6	-----#7
****	Top of data	****					
----	ACCTNO	JWINCHE	ACCOUNT	1	CHAR	12	0
----	SSN	JWINCHE	ACCOUNT	2	CHAR	9	0
----	BALANCE	JWINCHE	ACCOUNT	3	DECIMAL	15	2
----	SSN	JWINCHE	CUSTOMER	1	CHAR	9	0
----	FNAME	JWINCHE	CUSTOMER	2	CHAR	20	0
----	MI	JWINCHE	CUSTOMER	3	CHAR	1	0
----	LNAME	JWINCHE	CUSTOMER	4	CHAR	30	0
----	ADDRESS	JWINCHE	CUSTOMER	5	CHAR	30	0
----	CITY	JWINCHE	CUSTOMER	6	CHAR	20	0
----	STATE	JWINCHE	CUSTOMER	7	CHAR	2	0
----	ZIPCODE	JWINCHE	CUSTOMER	8	CHAR	5	0
----	DEPTNO	JWINCHE	DEPT	1	CHAR	3	0
----	DEPTNAME	JWINCHE	DEPT	2	VARCHAR	36	0
----	MGRNO	JWINCHE	DEPT	3	CHAR	6	0
----	ADMRDEPT	JWINCHE	DEPT	4	CHAR	3	0
----	LOCATION	JWINCHE	DEPT	5	CHAR	16	0
----	EMPNO	JWINCHE	EEMP	1	CHAR	6	0
----	FIRSTNME	JWINCHE	EEMP	2	VARCHAR	12	0

Menu Utilities Compilers Options Status Help

04/015

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HP DeskJet 820Cse on LPT1:

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Here you see ALL the columns that are part of OWNER JWINCHE, along with very useful OTHER information, table name, column data type, etc. Column Name, Table Owner, and Table Name are "anchored" so as you use F11 to move RIGHT, or F10 to move LEFT through this information you will retain the key reference information.

IBM File Manager for DB2

Session A - F2Mod3Reverse - [32 x 80]

File Edit View Communication Actions Window Help

Process Options Utilities Help

FM/DB2 (DB1B) Columns 31 of 77

Command ==>

Scroll CSR
Format TABL

SEL	COLUMN NAME	TABLE OWNER	TABLE NAME	POSITION IN OBJECT	COLUMN DATA TYPE	LENGTH ATTRIBUTE	SCALE (DECIMAL ONLY)
*	*	*	*	*	*	*	*
----	#1--+-1----	#3--+-1----	#2--+-1----	----	#4 #5--+-1----	----	#6 #7
	RID	JWINCHE	EEMP	15	CHAR	4	0
	TSTAMP	JWINCHE	EEMP	16	TIMESTMP	10	0
	EMPNO	JWINCHE	EMP	1	CHAR	6	0
	FIRSTNME	JWINCHE	EMP	2	VARCHAR	12	0
	MIDINIT	JWINCHE	EMP	3	CHAR	1	0
	LASTNAME	JWINCHE	EMP	4	VARCHAR	15	0
	WORKDEPT	JWINCHE	EMP	5	CHAR	3	0
	PHONENO	JWINCHE	EMP	6	CHAR	4	0
?	HIREDATE	JWINCHE	EMP	7	DATE	4	0
	JOB	JWINCHE	EMP	8	CHAR	8	0
	EDLEVEL	JWINCHE	EMP	9	SMALLINT	2	0
	SEX	JWINCHE	EMP	10	CHAR	1	0
	BIRTHDATE	JWINCHE	EMP	11	DATE	4	0
	SALARY	JWINCHE	EMP	12	DECIMAL	9	2
	BONUS	JWINCHE	EMP	13	DECIMAL	9	2
	COMM	JWINCHE	EMP	14	DECIMAL	9	2
	ITEMNO	JWINCHE	HOUSEIN	1	CHAR	5	0
	DESCR	JWINCHE	HOUSEIN	2	CHAR	20	0
	PURCHLOC	JWINCHE	HOUSEIN	3	CHAR	20	0

Menu Utilities Compilers Options Status Help

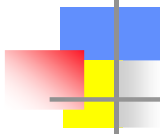
19/004

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HP DeskJet 820Cse on LPT1:

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Now I want to see more information about one specific column, but remembering which specific "option" is not always easy, so if you just remember to use the '?' next to the column in question and hit enter and then you can "discover" the various choices.



IBM File Manager for DB2

```
Session A - F2Mod3Reverse - [32 x 80]
File Edit View Communication Actions Window Help
[Icons]

Process Options Utilities Help
-----
FM/DB2 (DB1B) Object List Line Commands Row 1 to 16 of 16
Command ==> Scroll CSR

Type S against the required line command and press Enter.

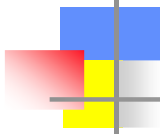
Sel Command Description
-----
- AT Show LOB column auxiliary table
- COM Create a comment/remark
- DI Show distribution statistics
- DT Show source data type
- G Grant privileges
- H Show homonyms
- I Details about column
- LAB Create a label
- P Show privileges
- PST Show partition statistics
- ROW Show all columns for this row
- SEQ Show sequence
- SEQI Show identity column information
- T Show tables
- X Show indexes
- XAL Show all indexes with column name
***** END OF DB2 DATA *****

Menu Utilities Compilers Options Status Help
-----

M&A a 04 / 015
[Icons] Connected to remote server/host 9.30.128.20 using lu/pool TCP00016 and port 23 HP DeskJet 820Cse on LPT1:
```

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Notice the options available as line commands...I am going to use ROW to show all the information from the catalog for the specific column, so I will enter ROW next to HIREDATE and hit enter...



IBM File Manager for DB2

```
Session A - F2Mod3Reverse - [32 x 80]
File Edit View Communication Actions Window Help
Process Options Utilities Help
FM/DB2 (DB1B) Display Row for SYSIBM.SYSCOLUMNS
Command ==>
Top Line is 1 of 44 in Row 1
Scroll CSR
Format SNGL

Column      Type(len)  Data
NAME        VC(18)     HIREDATE
TBNAME      VC(18)     EMP
TBCREATOR   CH(8)      JWINCHE
COLNO       SMINT      7
COLTYPE     CH(8)      DATE
LENGTH      SMINT      4
SCALE       SMINT      0
NULLS       CH(1)      Y
COLCARD     INT        N/A
HIGH2KEY    CH(8)
LOW2KEY     CH(8)
UPDATES     CH(1)      Y
IBMREQD    CH(1)      N
REMARKS     VC(254)    -

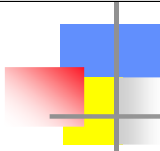
DEFAULT     CH(1)      Y
KEYSEQ      SMINT
FOREIGNKEY  CH(1)

Menu Utilities Compilers Options Status Help
M&A a 04/015
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```

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Here is the detail form the SYSCOLUMNS table within the DB2 catalog. This display resulted because I put a '?' next to the specific column. Then I saw the "choices" and I could specifically select ROW. I could also have typed the keyword ROW next to that column.

Ultimately you will find a sequence that works for you, since there are SEVERAL ways to get the information, but working through the Utility Object List set of commands makes it much easier to discover the information that is in the DB2 system catalogs.



File Manager has 3 "parts" – the BASE FILE MANAGER and the optional additional pieces for DB2 and/or IMS

FMID	COMPID	Component Name	Retain
HAB9610	5655P1700	FILE MANAGER BASE	610
JAB9612	5655P1700	FILE MANAGER DB2	612
JAB9614	5655P1700	FILE MANAGER IMS	614

- **For more details specific to File Manager go to:**
 - <http://www-306.ibm.com/software/awdtools/filemanager/library/>
- **For more details on ANY of the PDTOOLS products go to:**
 - <http://publib.boulder.ibm.com/infocenter/pdthelp/v1r1/index.jsp>

Here you see the 3 separate components for File Manager. FM/BASE is required for either the DB2 and/or IMS component as the products are "additive" not stand-alone. Also note the while the PDTOOLS Information Center (infocenter shown here) has a wealth of information, there can be a difference between the multiple sites as to which one has the most CURRENT manuals. Generally the 1st url shown gets updated "first", and the infocenter has a much larger suite of information to update and maintain. Recommendation is to always go to the 1st URL when you are looking for the LATEST manuals.