IBM File Manager for z/OS DB2 Feature
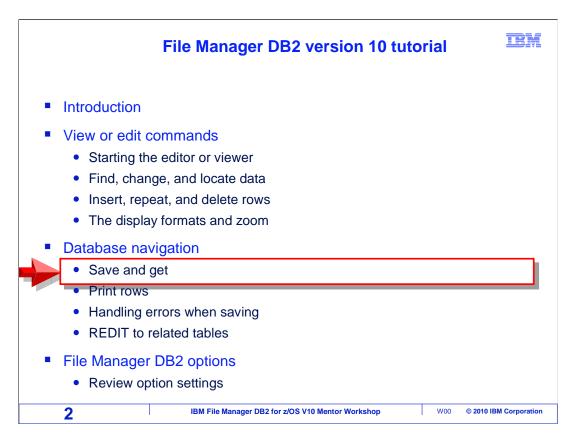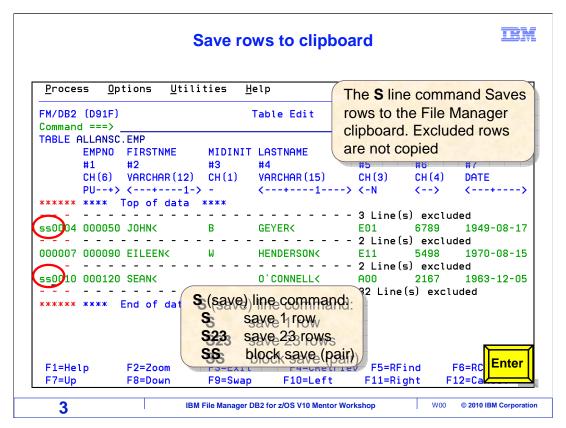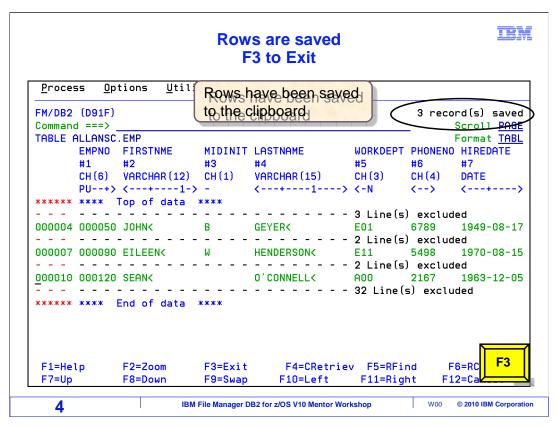
Program number 5655-V52

Tutorial

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This is the tutorial for the DB2® feature of IBM's File Manager for z/OS®, one of the IBM zSeries® problem determination tools.

File Manager DB2 version 10 tutorial

IBM

- ■ Introduction
- ■ View or edit commands
  - • Starting the editor or viewer
  - • Find, change, and locate data
  - • Insert, repeat, and delete rows
  - • The display formats and zoom
- ■ Database navigation
  - • Save and get
  - • Print rows
  - • Handling errors when saving
  - • REDIT to related tables
- ■ File Manager DB2 options
  - • Review option settings

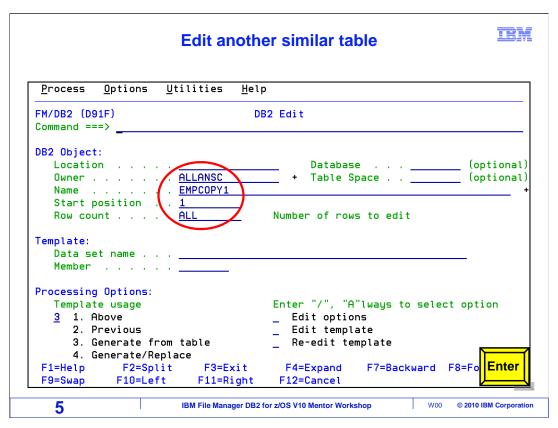| 2 | IBM File Manager DB2 for z/OS V10 Mentor Workshop | W00 | © 2010 IBM Corporation |

This section will cover database navigation. You will see a couple of commands that are similar to cut and paste: Save and Get. With them you can save rows on a virtual clipboard, and then get the rows back from the clipboard and insert them into a table.

Save rows to clipboard

IBM

```
 Process    Options    Utilities    Help

FM/DB2 (D91F)                        Table Edit
Command ===>
TABLE ALLANSC.EMP
       EMPNO   FIRSTNME    MIDINIT  LASTNAME
       #1      #2          #3       #4              #5      #6      #7
       CH(6)   VARCHAR(12) CH(1)    VARCHAR(15)     CH(3)   CH(4)   DATE
       PU--+>  <---+----1-> -       <---+----1----> <-N     <-->    <---+---->
****** ****  Top of data  ****
    -  - - - - - - - - - - - - - - - - - - - - - - - 3 Line(s) excluded
ss0004 000050 JOHN<        B        GEYER<          E01     6789    1949-08-17
- - -  - - - - - - - - - - - - - - - - - - - - - - - 2 Line(s) excluded
000007 000090 EILEEN<      W        HENDERSON<      E11     5498    1970-08-15
    -  - - - - - - - - - - - - - - - - - - - - - - - 2 Line(s) excluded
ss0010 000120 SEAN<                 O'CONNELL<      A00     2167    1963-12-05
- - -  - - - - - - -                             32 Line(s) excluded
****** ****  End of dat

   F1=Help      F2=Zoom                              F5=RFind    F6=RC   Enter
   F7=Up        F8=Down     F9=Swap     F10=Left     F11=Right   F12=Ca
```

The **S** line command Saves rows to the File Manager clipboard. Excluded rows are not copied

S (save) line command:
S   save 1 row
S23 save 23 rows
SS   block save (pair)

3   IBM File Manager DB2 for z/OS V10 Mentor Workshop   W00   © 2010 IBM Corporation

In this example, Save and Get line commands will be used to copy rows from one table into another. Some of the rows have been excluded. Rows can be excluded by entering an X (for exclude) line command. Copy rows to the clipboard with an S (for Save) line commands. Here, a block of SS line commands is entered to copy all rows from the top SS to the bottom SS. The excluded rows are not copied to the clipboard, which provides an easy way to copy only needed rows. Press Enter.

Rows are saved
F3 to Exit

```
 Process    Options    Util       Rows have been saved
                                  to the clipboard
FM/DB2 (D91F)                                          3 record(s) saved
Command ===>                                              Scroll PAGE
TABLE ALLANSC.EMP                                        Format TABL
       EMPNO  FIRSTNME    MIDINIT LASTNAME       WORKDEPT PHONENO HIREDATE
       #1     #2          #3      #4             #5       #6      #7
       CH(6)  VARCHAR(12) CH(1)   VARCHAR(15)    CH(3)    CH(4)   DATE
       PU--+> <---+----1-> -      <---+----1----> <-N     <-->    <---+---->
****** ****  Top of data  ****
- - -  - - - - - - - - - - - - - - - - - - - - - - 3 Line(s) excluded
000004 000050 JOHN<        B       GEYER<         E01      6789    1949-08-17
- - -  - - - - - - - - - - - - - - - - - - - - - - 2 Line(s) excluded
000007 000090 EILEEN<      W       HENDERSON<     E11      5498    1970-08-15
- - -  - - - - - - - - - - - - - - - - - - - - - - 2 Line(s) excluded
000010 000120 SEAN<                O'CONNELL<     A00      2167    1963-12-05
- - -  - - - - - - - - - - - - - - - - - - - - - - 32 Line(s) excluded
****** ****  End of data  ****



 F1=Help      F2=Zoom     F3=Exit     F4=CRetriev  F5=RFind    F6=RC    F3
 F7=Up        F8=Down     F9=Swap     F10=Left     F11=Right   F12=Ca
```
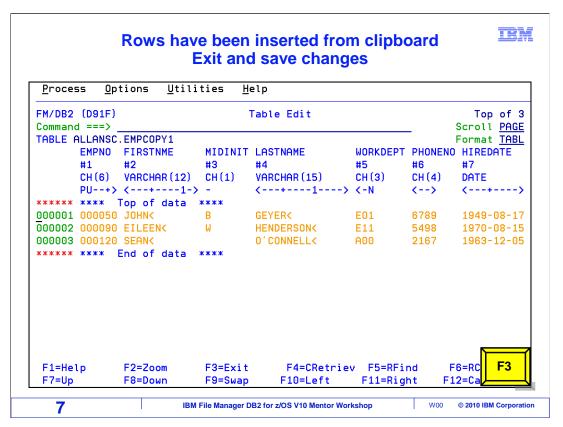
A message in the right corner of the screen, '3 records saved', indicates that rows have been saved to the clipboard. Press F3 to exit from the editor.

Edit another similar table

```
 Process    Options    Utilities    Help
 ─────────────────────────────────────────────────────────────────────
 FM/DB2 (D91F)                        DB2 Edit
 Command ===> _____

 DB2 Object:
    Location  . . . . .  _____        Database  . . . _____  (optional)
    Owner . . . . . . . ALLANSC_____   +  Table Space . . _____   (optional)
    Name  . . . . . . . EMPCOPY1_____  +
    Start position  . . 1_____
    Row count . . . . . ALL_____      Number of rows to edit

 Template:
    Data set name . . . _____
    Member  . . . . . . _____

 Processing Options:
    Template usage              Enter "/", "A"lways to select option
    3  1. Above                 _   Edit options
       2. Previous              _   Edit template
       3. Generate from table   _   Re-edit template
       4. Generate/Replace
 F1=Help      F2=Split     F3=Exit      F4=Expand    F7=Backward  F8=Fo  Enter
 F9=Swap      F10=Left     F11=Right    F12=Cancel
```

On the DB2 Edit panel, the name of a different table is specified. Press Enter

Retrieve rows from the clipboard

```
 Process    Options    Utilities    Help

FM/DB2 (D91F)                     Table Edit                        Top of 1
Command ===> _____    Scroll PAGE
1 row fetched                                               Format TABL
      EMPNO   FIRSTNME    MIDINIT LASTNAME      WORKDEPT PHONENO HIREDATE
      #1      #2          #3      #4            #5       #6      #7
      CH(6)   VARCHAR(12) CH(1)   VARCHAR(15)   CH(3)    CH(4)   DATE
      PU--+>  <---+----1-> -       <---+----1----> <-N     <-->    <---+---->
****** ****   Top of data   ****
g00001          <                    <              _       _       _
****** ****   End of data   ****

    F1=Help      F2=Zoom      F3=Exit      F4=CRetriev  F5=RFind      F6=RC  Enter
    F7=Up        F8=Down      F9=Swap      F10=Left     F11=Right     F12=Ca
```

Use the G (get) line command to copy rows from the clipboard

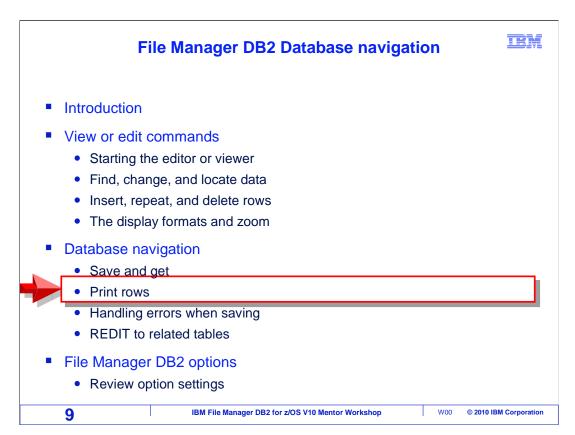IBM File Manager DB2 for z/OS V10 Mentor Workshop   W00   © 2010 IBM Corporation

The table that was selected has no rows in it. Use a G (for get) line command on row 1 to retrieve the rows from the clipboard. Press Enter.

Rows have been inserted from clipboard
Exit and save changes

```
 Process   Options   Utilities   Help

FM/DB2 (D91F)                    Table Edit                    Top of 3
Command ===> _____  Scroll PAGE
TABLE ALLANSC.EMPCOPY1                                     Format TABL
        EMPNO  FIRSTNME    MIDINIT LASTNAME       WORKDEPT PHONENO HIREDATE
        #1     #2          #3      #4             #5       #6      #7
        CH(6)  VARCHAR(12) CH(1)   VARCHAR(15)    CH(3)    CH(4)   DATE
        PU--+> <---+----1-> -      <---+----1----> <-N     <-->    <---+---->
****** **** Top of data ****
000001 000050 JOHN<        B       GEYER<         E01      6789    1949-08-17
000002 000090 EILEEN<      W       HENDERSON<     E11      5498    1970-08-15
000003 000120 SEAN<                O'CONNELL<     A00      2167    1963-12-05
****** **** End of data ****




 F1=Help      F2=Zoom      F3=Exit      F4=CRetriev  F5=RFind     F6=RC
 F7=Up        F8=Down      F9=Swap      F10=Left     F11=Right    F12=Ca
```
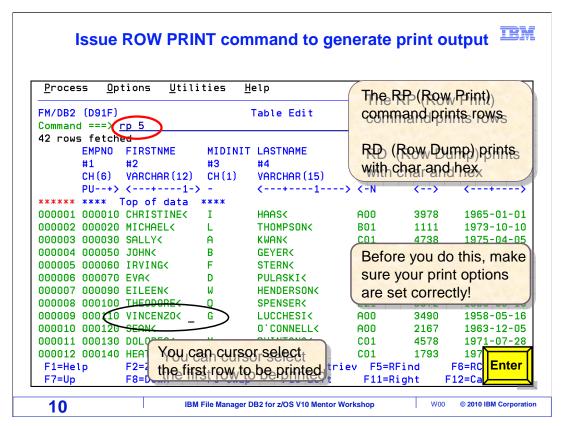
F3

Rows from the clipboard were inserted into this table after the line where the g was entered. Since this table had no rows, it now contains the three rows we copied into the clipboard. Press F3 to exit the editor and save changes.

The new rows were inserted and saved

```
 Process    Options    Utilities    Help
 _____
 FM/DB2 (D91F)                    DB2 Edit                   Commit issued
 Command ===>  _____

 DB2 Object:
    Location  . . . . . _____      Database  . . . _____  (optional)
    Owner . . . . . . . . ALLANSC_____   +  Table Space . . _____  (optional)
    Name  . . . . . . . . EMPCOPY1_____  +
    Start position  . . 1_____
    Row count . . . . . ALL_____     Number of rows to edit

 Template:
    Data set name . . . _____
    Member  . . . . . . _____

 Processing Options:
    Template usage              Enter "/", "A"lways to select option
    3  1. Above                 _  Edit options
       2. Previous              _  Edit template
       3. Generate from table   _  Re-edit template
       4. Generate/Replace
 F1=Help      F2=Split     F3=Exit      F4=Expand    F7=Backward  F8=Forward
 F9=Swap      F10=Left     F11=Right    F12=Cancel
```

8   IBM File Manager DB2 for z/OS V10 Mentor Workshop   W00   © 2010 IBM Corporation
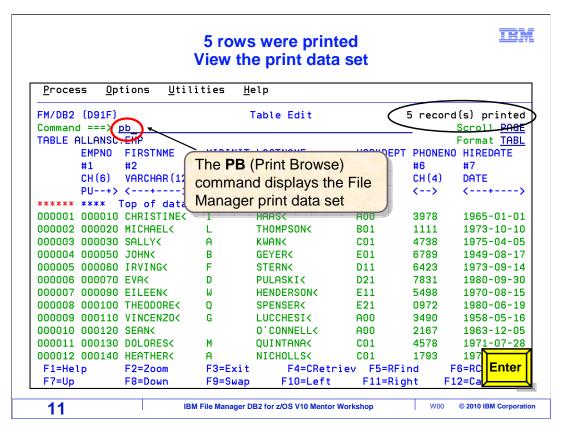
A "Commit issued" message is displayed in the right corner of the screen. The new rows were added to the second table. Use G (get) and S (save) line commands to save rows to the virtual clipboard and retrieve them.
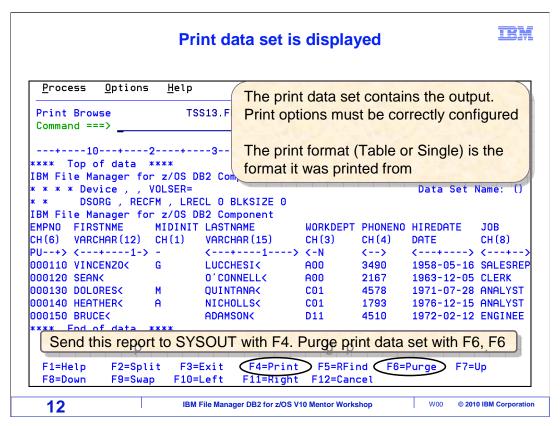
IBM

- Introduction
- View or edit commands
  - Starting the editor or viewer
  - Find, change, and locate data
  - Insert, repeat, and delete rows
  - The display formats and zoom
- Database navigation
  - Save and get
  - Print rows
  - Handling errors when saving
  - REDIT to related tables
- File Manager DB2 options
  - Review option settings

9   IBM File Manager DB2 for z/OS V10 Mentor Workshop   W00   © 2010 IBM Corporation

The next section demonstrates an easy way to print rows directly from an edit or view session.

Issue ROW PRINT command to generate print output

```
 Process   Options   Utilities   Help

FM/DB2 (D91F)                        Table Edit
Command ===> rp 5
42 rows fetched
        EMPNO   FIRSTNME     MIDINIT  LASTNAME
        #1      #2           #3       #4
        CH(6)   VARCHAR(12)  CH(1)    VARCHAR(15)
        PU--+>  <---+----1-> -        <---+----1----> <-N     <-->   <---+---->
****** ****  Top of data  ****
000001 000010 CHRISTINE<    I        HAAS<           A00     3978   1965-01-01
000002 000020 MICHAEL<      L        THOMPSON<       B01     1111   1973-10-10
000003 000030 SALLY<        A        KWAN<           C01     4738   1975-04-05
000004 000050 JOHN<         B        GEYER<
000005 000060 IRVING<       F        STERN<
000006 000070 EVA<          D        PULASKI<
000007 000090 EILEEN<       W        HENDERSON<
000008 000100 THEODORE<     Q        SPENSER<
000009 000110 VINCENZO<  _  G        LUCCHESI<       A00     3490   1958-05-16
000010 000120 SEAN<                  O'CONNELL<      A00     2167   1963-12-05
000011 000130 DOLORES<      M        QUINTANO<       C01     4578   1971-07-28
000012 000140 HEAT                   ...             C01     1793   197
 F1=Help      F2=...               ...triev  F5=RFind       F6=RC  Enter
 F7=Up        F8=Down  ...         ...t               F11=Right    F12=Ca
```

The RP (Row Print) command prints rows

RD (Row Dump) prints with char and hex

Before you do this, make sure your print options are set correctly!

You can cursor select the first row to be printed

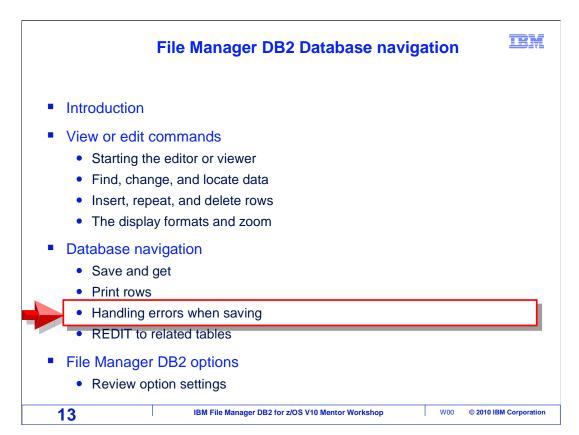10   IBM File Manager DB2 for z/OS V10 Mentor Workshop   W00   © 2010 IBM Corporation

Rows can be printed from the editor with "RP" (row print) or "RD" (row dump) commands. For example, "RP 5" has been entered on the command line. This command will print 5 rows. By default, it will print rows starting with the one at the top of the display. However, a row can be cursor selected. In this example, five rows will be printed beginning with row 9, which is where the cursor has been placed. Press Enter.

5 rows were printed
View the print data set

```
 Process    Options    Utilities    Help

FM/DB2 (D91F)                    Table Edit                 5 record(s) printed
Command ===> pb                                            Scroll PAGE
TABLE ALLANSC.EMP                                           Format TABL
        EMPNO   FIRSTNME                           WORKDEPT PHONENO HIREDATE
        #1      #2                                          #6      #7
        CH(6)   VARCHAR(12                                  CH(4)   DATE
        PU--+> <---+----1                                   <-->    <---+---->
****** ****   Top of data
000001 000010 CHRISTINE<   I        HAAS<           A00     3978    1965-01-01
000002 000020 MICHAEL<     L        THOMPSON<       B01     1111    1973-10-10
000003 000030 SALLY<       A        KWAN<           C01     4738    1975-04-05
000004 000050 JOHN<        B        GEYER<          E01     6789    1949-08-17
000005 000060 IRVING<      F        STERN<          D11     6423    1973-09-14
000006 000070 EVA<         D        PULASKI<        D21     7831    1980-09-30
000007 000090 EILEEN<      W        HENDERSON<      E11     5498    1970-08-15
000008 000100 THEODORE<    Q        SPENSER<        E21     0972    1980-06-19
000009 000110 VINCENZO<    G        LUCCHESI<       A00     3490    1958-05-16
000010 000120 SEAN<                 O'CONNELL<      A00     2167    1963-12-05
000011 000130 DOLORES<     M        QUINTANA<       C01     4578    1971-07-28
000012 000140 HEATHER<     A        NICHOLLS<       C01     1793    197
 F1=Help      F2=Zoom     F3=Exit     F4=CRetriev  F5=RFind      F6=RC  Enter
 F7=Up        F8=Down     F9=Swap     F10=Left     F11=Right     F12=Ca
```

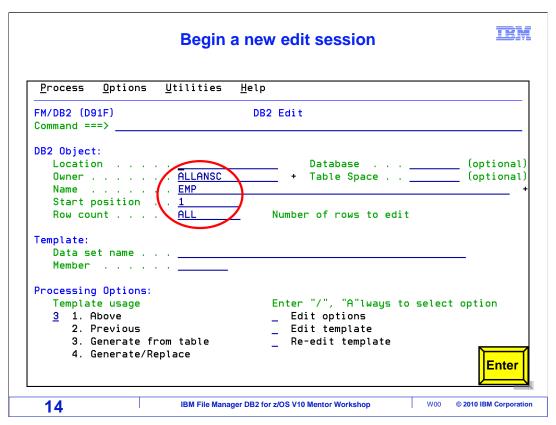The **PB** (Print Browse) command displays the File Manager print data set

A message will display in the right corner of the screen indicating the number of rows printed. We requested 5 rows to be printed. The message indicates 5 rows were printed. The rows were printed to the File Manager print data set. To see the print data set, use the pb command, which stands for Print Browse. PB is entered on the command line, press Enter.
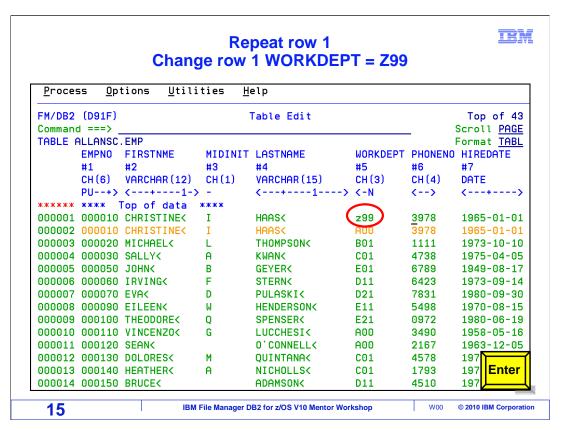
Print data set is displayed

```
 Process   Options   Help
 ────────────────────────────────────────────
 Print Browse              TSS13.F│  The print data set contains the output.
 Command ===> _             │  Print options must be correctly configured
                            │
   ---+----10---+----2----+----3--│  The print format (Table or Single) is the
 ****  Top of data  ****         │  format it was printed from
 IBM File Manager for z/OS DB2 Com└───────────────────────────────
 * * * * Device , , VOLSER=                              Data Set Name: ()
 * *     DSORG , RECFM , LRECL 0 BLKSIZE 0
 IBM File Manager for z/OS DB2 Component
 EMPNO  FIRSTNME    MIDINIT LASTNAME      WORKDEPT PHONENO HIREDATE    JOB
 CH(6)  VARCHAR(12) CH(1)   VARCHAR(15)   CH(3)    CH(4)   DATE        CH(8)
 PU--+> <---+----1-> -       <---+----1----> <-N    <-->    <---+---->  <---+-->
 000110 VINCENZO<   G       LUCCHESI<      A00      3490    1958-05-16 SALESREP
 000120 SEAN<               O'CONNELL<     A00      2167    1963-12-05 CLERK
 000130 DOLORES<    M       QUINTANA<      C01      4578    1971-07-28 ANALYST
 000140 HEATHER<    A       NICHOLLS<      C01      1793    1976-12-15 ANALYST
 000150 BRUCE<              ADAMSON<       D11      4510    1972-02-12 ENGINEE
 ****  End of data  ****
    ┌─────────────────────────────────────────────────────────────┐
    │ Send this report to SYSOUT with F4. Purge print data set with F6, F6 │
    └─────────────────────────────────────────────────────────────┘

  F1=Help    F2=Split   F3=Exit    F4=Print   F5=RFind   F6=Purge   F7=Up
  F8=Down    F9=Swap    F10=Left   F11=Right  F12=Cancel
```

12   IBM File Manager DB2 for z/OS V10 Mentor Workshop   W00   © 2010 IBM Corporation

The print dataset is displayed. From here scroll through the report. The format of the report is either Table or Single. It will have the same format that was active in the editor when the RP command was entered. Be aware that the entire report can be sent to SYSOUT with F4. Again, File Manager DB2 print settings must be configured correctly before printing from the editor or viewer.

File Manager DB2 Database navigation

IBM

- Introduction

- View or edit commands
  - Starting the editor or viewer
  - Find, change, and locate data
  - Insert, repeat, and delete rows
  - The display formats and zoom

- Database navigation
  - Save and get
  - Print rows
  - Handling errors when saving
  - REDIT to related tables

- File Manager DB2 options
  - Review option settings

This section will demonstrate how to handle errors that can happen from time to time when saving updates.

Begin a new edit session

IBM

```
 Process    Options    Utilities    Help
_____
 FM/DB2 (D91F)                      DB2 Edit
 Command ===> _____

 DB2 Object:
    Location  . . . . .  _____     Database  . . . _____  (optional)
    Owner . . . . . . .  ALLANSC_____  +  Table Space . . _____  (optional)
    Name  . . . . . . .  EMP_____  +
    Start position  . .  1_____
    Row count . . . .   ALL_____      Number of rows to edit

 Template:
    Data set name . . . _____
    Member  . . . . . .  _____

 Processing Options:
    Template usage                 Enter "/", "A"lways to select option
    3  1. Above                    _  Edit options
       2. Previous                 _  Edit template
       3. Generate from table      _  Re-edit template
       4. Generate/Replace
                                                          ┌────────┐
                                                          │ Enter  │
                                                          └────────┘
```

14   IBM File Manager DB2 for z/OS V10 Mentor Workshop   W00   © 2010 IBM Corporation

In this example, a table will be edited, and some changes made to the data. On the File Manager DB2 Edit panel, the name of the table is specified. Press Enter.

Repeat row 1
Change row 1 WORKDEPT = Z99

```
 Process    Options    Utilities    Help
─────────────────────────────────────────────────────────────────
FM/DB2 (D91F)                    Table Edit              Top of 43
Command ===> _____         Scroll PAGE
TABLE ALLANSC.EMP                                       Format TABL
        EMPNO    FIRSTNME     MIDINIT LASTNAME     WORKDEPT PHONENO HIREDATE
        #1       #2           #3      #4           #5       #6      #7
        CH(6)    VARCHAR(12)  CH(1)   VARCHAR(15)  CH(3)    CH(4)   DATE
        PU--+>   <---+----1-> -       <---+----1---> <-N    <-->    <---+---->
****** ****   Top of data   ****
000001 000010 CHRISTINE<    I       HAAS<          z99      3978    1965-01-01
000002 000010 CHRISTINE<    I       HAAS<          A00      3978    1965-01-01
000003 000020 MICHAEL<     L       THOMPSON<      B01      1111    1973-10-10
000004 000030 SALLY<       A       KWAN<          C01      4738    1975-04-05
000005 000050 JOHN<        B       GEYER<         E01      6789    1949-08-17
000006 000060 IRVING<      F       STERN<         D11      6423    1973-09-14
000007 000070 EVA<         D       PULASKI<       D21      7831    1980-09-30
000008 000090 EILEEN<      W       HENDERSON<     E11      5498    1970-08-15
000009 000100 THEODORE<    Q       SPENSER<       E21      0972    1980-06-19
000010 000110 VINCENZO<    G       LUCCHESI<      A00      3490    1958-05-16
000011 000120 SEAN<                O'CONNELL<     A00      2167    1963-12-05
000012 000130 DOLORES<     M       QUINTANA<      C01      4578    197
000013 000140 HEATHER<     A       NICHOLLS<      C01      1793    197  Enter
000014 000150 BRUCE<               ADAMSON<       D11      4510    197
```

This table has a couple of characteristics that will be taken advantage of in this example to create errors. First, there is a primary, unique key. The first column, EMPNO, has a column number directly below the column name. The EMPNO is column number 1. Below the column number is the column type, CH 6, meaning that it is a six byte character field. Below that is a scale, and the letters PU are shown. Key fields are indicated on the scale line. PU indicates that the EMPNO field is a primary, unique key.

Column number 5, WORKDEPT, also has a key indicator. It is N, meaning that it is a non-unique key. There is a "Relational Integrity", or "RI", relationship defined for WORKDEPT.

  Several changes have been made to the data. First, the value of WORKDEPT in the first row is changed to "z99". This will be a problem since there is a relationship defined on this column with another table, and "z99" is not a valid value. Also, the first row is repeated with an R line command. Enter is pressed.
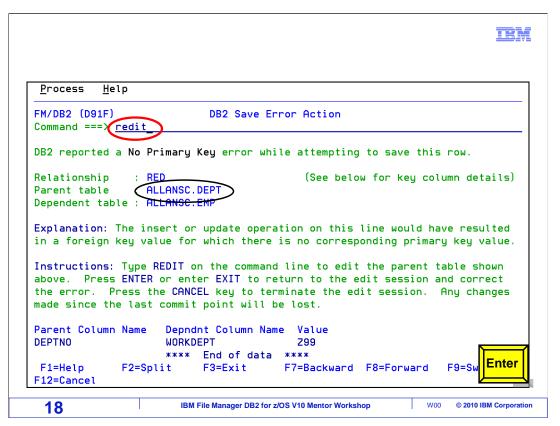
SAVE command causes errors

```
Command ===> save                              Enter

FM/DB2 (D91F)                    Tab...            Commit issued (Errors)
Command ===> _____        Scroll PAGE
TABLE ALLANSC.EMP                                     Format TABL
        EMPNO   FIRSTNME    MIDINIT LASTNAME        WORKDEPT PHONENO HIREDATE
        #1      #2          #3      #4              #5       #6      #7
        CH(6)   VARCHAR(12) CH(1)   VARCHAR(15)     CH(3)    CH(4)   DATE
        PU--+> <---+----1-> -       <---+----1----> <-N      <-->    <---+---->
****** ****  Top of data  ****
-530 R 010 CHRISTINE<     I       HAAS<            Z99      3978    1965-01-01
       010 CHRISTINE<     I       HAAS<            A00      3978    1965-01-01
-803   020 MICHAEL<       L       THOMPSON<        B01      1111    1973-10-10
000004 000030 SALLY<      A       KWAN<            C01      4738    1975-04-05
000005 000050 JOHN<       B       GEYER<           E01      6789    1949-08-17
000006 000060 IRVING<     F       STERN<           D11      6423    1973-09-14
000007 000070 EVA<        D       PULASKI<         D21      7831    1980-09-30
000008 000090 EILEEN<     W       HENDERSON<       E11      5498    1970-08-15
000009 000100 THEODORE<   Q       SPENSER<         E21      0972    1980-06-19
000010 000110 VINCENZO<   G       LUCCHESI<        A00      3490    1958-05-16
000011 000120 SEAN<               O'CONNELL<       A00      2167    1963-12-05
000012 000130 DOLORES<    M       QUINTANA<        C01      4578    1971-07-28
000013 000140 HEATHER<    A       NICHOLLS<        C01      1793    1976-12-15
000014 000150 BRUCE<              ADAMSON<         D11      4510    1972-02-12
```

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SAVE was typed on the command line and Enter was pressed. When the editor attempted to save the changes, it encountered problems, and issued error messages. It marked the rows that had save errors with the SQL return codes it received when it attempted to write the rows to the table. It also generated the message "Commit issued (Errors)" and displayed it on the right corner of the screen.
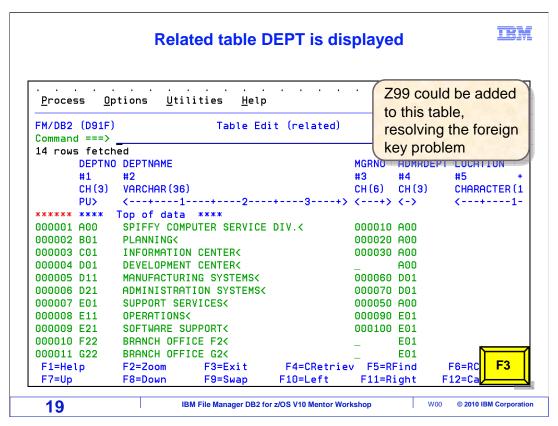
Select each SQL return code

```
  Process    Options    Utilities    Help
 _____
 FM/DB2 (D91F)                    Table Edit          Commit issued (Errors)
 Command ===> _____      Scroll PAGE
 TABLE ALLANSC.EMP                                          Format TABL
        EMPNO  FIRSTNME     MIDINIT  LASTNAME      WORKDEPT PHONENO HIREDATE
        #1     #2           #3       #4            #5       #6      #7
        CH(6)  VARCHAR(12)  CH(1)    VARCHAR(15)   CH(3)    CH(4)   DATE
        PU--+> <---+----1-> -        <---+----1---> <-N     <-->    <---+---->
 ****** ****  Top of data  ****
 e530 R 010 CHRISTINE<    I        HAAS<          Z99      3978    1965-01-01
 e803   010 CHRISTINE<    I        HAAS<          A00      3978    1965-01-01
        020 MICHAEL<       J        THOMPSON<      B01      1111    1973-10-10
 000004 000030 SALLY             Use the E line   C01      4738    1975-04-05
 000005 000050 JOHN<            command to        E01      6789    1949-08-17
 000006 000060 IRVIN           handle save errors D11      6423    1973-09-14
 000007 000070 EVA<                         <     D21      7831    1980-09-30
 000008 000090 EILEEN<    W        HENDERSON<     E11      5498    1970-08-15
 000009 000100 THEODORE<  Q        SPENSER<       E21      0972    1980-06-19
 000010 000110 VINCENZO<  G        LUCCHESI<      A00      3490    1958-05-16
 000011 000120 SEAN<               O'CONNELL<     A00      2167    1963-12-05
 000012 000130 DOLORES<   M        QUINTANA<      C01      4578    197
  F1=Help      F2=Zoom      F3=Exit      F4=CRetriev  F5=RFind     F6=Ex  Enter
  F7=Up        F8=Down      F9=Swap      F10=Left     F11=Right    F12=Ca
```

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Rows with save errors display the SQL return codes in the prefix error.

Row 1, the row with the foreign key, has -530 R next to it. Row 2, the duplicate key, has -803. An e (for error) line command is used to get more information. "E" line commands are typed on the rows with problems. In this example, an "e" was typed over the - on row 1, and it now reads 'e530' On row 2, the "e" has been entered and it now reads 'e803'. Press Enter.
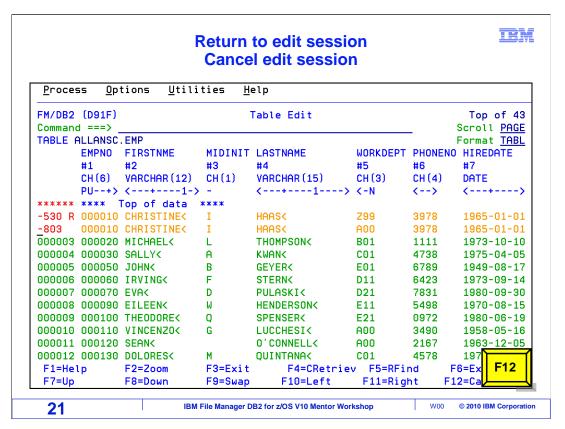
```
                                                              IBM

  Process   Help

 FM/DB2 (D91F)             DB2 Save Error Action
 Command ===> redit_____

 DB2 reported a No Primary Key error while attempting to save this row.

 Relationship   : RED                    (See below for key column details)
 Parent table     ALLANSC.DEPT
 Dependent table : ALLANSC.EMP

 Explanation: The insert or update operation on this line would have resulted
 in a foreign key value for which there is no corresponding primary key value.

 Instructions: Type REDIT on the command line to edit the parent table shown
 above.  Press ENTER or enter EXIT to return to the edit session and correct
 the error.  Press the CANCEL key to terminate the edit session.  Any changes
 made since the last commit point will be lost.

 Parent Column Name   Depndnt Column Name  Value
 DEPTNO               WORKDEPT             Z99
                      ****  End of data  ****
  F1=Help      F2=Split     F3=Exit       F7=Backward  F8=Forward   F9=Sw  Enter
 F12=Cancel
```

The E line command displays a help panel that describes the error. In this case, a value of z99 was entered in the WORKDEPT column, which has an RI relationship with a column named DEPTNO in another table named DEPT. And the related table does not have a matching value. There are a couple of remedies. You can press F3 to return to the editor and fix the value that was entered. Or you can use an REDIT command to edit the related table and fix the data there. REDIT is typed on the command line. Press Enter.
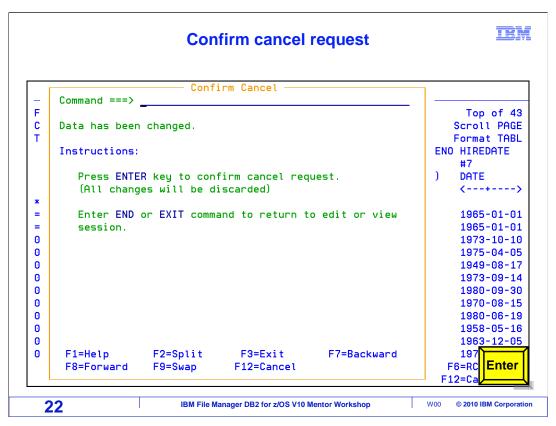
Related table DEPT is displayed

IBM

```
.  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
 Process    Options    Utilities    Help

FM/DB2 (D91F)                    Table Edit (related)
Command ===> _
14 rows fetched
         DEPTNO DEPTNAME                        MGRNO  ADMRDEPT LOCATION
         #1     #2                              #3     #4       #5        +
         CH(3)  VARCHAR(36)                     CH(6)  CH(3)    CHARACTER(1
         PU>    <---+----1----+----2----+----3----+> <---+> <-> <---+----1-
****** ****  Top of data  ****
000001 A00    SPIFFY COMPUTER SERVICE DIV.<     000010 A00
000002 B01    PLANNING<                         000020 A00
000003 C01    INFORMATION CENTER<               000030 A00
000004 D01    DEVELOPMENT CENTER<               _      A00
000005 D11    MANUFACTURING SYSTEMS<            000060 D01
000006 D21    ADMINISTRATION SYSTEMS<           000070 D01
000007 E01    SUPPORT SERVICES<                 000050 A00
000008 E11    OPERATIONS<                       000090 E01
000009 E21    SOFTWARE SUPPORT<                 000100 E01
000010 F22    BRANCH OFFICE F2<                 _      E01
000011 G22    BRANCH OFFICE G2<                 _      E01
 F1=Help     F2=Zoom     F3=Exit     F4=CRetriev  F5=RFind     F6=RC
 F7=Up       F8=Down     F9=Swap     F10=Left     F11=Right    F12=Ca
```

Z99 could be added to this table, resolving the foreign key problem

F3

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The related table is displayed in the editor. A new row could be added with a value of Z99 in the DEPTNO column to resolve the problem. F3 to end the redit.

Help panel for next error is displayed

IBM

```
                   ─── DB2 Save Error Action ───
─    Command ===> _____        ─────────────
F
C    DB2 reported an error while attempting to save this row.

D    Duplicate Row Error                                   s row.

R    The insert or update operation on this line would have  lumn details)
P    resulted in two rows with the same index key, and the
D    index is defined as unique.

E    Instructions:                                         ave resulted
i                                                          ry key value.
        Press ENTER or enter EXIT to return to the edit
I       session and correct the error in this line.        table shown
a                                                          and correct
t       Enter CANCEL to terminate the edit session.         Any changes
m       Any changes made since the last commit point
        will be lost.
P
D
     F1=Help      F2=Split     F3=Exit      F7=Backward
     F8=Forward   F9=Swap      F12=Cancel                  F9=Sw   F3
F
```

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The next save error is displayed. This one is a duplicate row error. It was caused when one of the rows was repeated, since there is a column with a unique key that was not modified. F3 to return.

Return to edit session
Cancel edit session

```
 Process    Options   Utilities   Help

FM/DB2 (D91F)                         Table Edit                    Top of 43
Command ===> _____    Scroll PAGE
TABLE ALLANSC.EMP                                               Format TABL
        EMPNO   FIRSTNME    MIDINIT  LASTNAME      WORKDEPT PHONENO HIREDATE
        #1      #2          #3       #4            #5       #6      #7
        CH(6)   VARCHAR(12) CH(1)    VARCHAR(15)   CH(3)    CH(4)   DATE
        PU--+>  <---+----1-> -       <---+----1----> <-N     <-->    <---+---->
****** ****  Top of data  ****
-530 R 000010 CHRISTINE<  I        HAAS<          Z99      3978    1965-01-01
-803   000010 CHRISTINE<  I        HAAS<          A00      3978    1965-01-01
000003 000020 MICHAEL<    L        THOMPSON<      B01      1111    1973-10-10
000004 000030 SALLY<      A        KWAN<          C01      4738    1975-04-05
000005 000050 JOHN<       B        GEYER<         E01      6789    1949-08-17
000006 000060 IRVING<     F        STERN<         D11      6423    1973-09-14
000007 000070 EVA<        D        PULASKI<       D21      7831    1980-09-30
000008 000090 EILEEN<     W        HENDERSON<     E11      5498    1970-08-15
000009 000100 THEODORE<   Q        SPENSER<       E21      0972    1980-06-19
000010 000110 VINCENZO<   G        LUCCHESI<      A00      3490    1958-05-16
000011 000120 SEAN<                O'CONNELL<     A00      2167    1963-12-05
000012 000130 DOLORES<    M        QUINTANA<      C01      4578    197
  F1=Help      F2=Zoom     F3=Exit      F4=CRetriev  F5=RFind    F6=Ex  F12
  F7=Up        F8=Down     F9=Swap      F10=Left     F11=Right   F12=Ca
```

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There are several kinds of save errors you can encounter when you attempt to save
changes. Remember to use the E line command on the marked rows to get more
information about the problems. In this case, all changes will be backed out by pressing
the F12 key, Cancel.

Confirm cancel request

IBM

```
                         ── Confirm Cancel ──
─    Command ===> _____
F                                                              Top of 43
C    Data has been changed.                                  Scroll PAGE
T                                                             Format TABL
     Instructions:                                        ENO HIREDATE
                                                              #7
        Press ENTER key to confirm cancel request.        )   DATE
        (All changes will be discarded)                       <---+---->
*
=       Enter END or EXIT command to return to edit or view    1965-01-01
=       session.                                               1965-01-01
O                                                              1973-10-10
O                                                              1975-04-05
O                                                              1949-08-17
O                                                              1973-09-14
O                                                              1980-09-30
O                                                              1970-08-15
O                                                              1980-06-19
O                                                              1958-05-16
O                                                              1963-12-05
O     F1=Help      F2=Split      F3=Exit       F7=Backward    197  ┌───────┐
      F8=Forward   F9=Swap       F12=Cancel                  F6=RC│ Enter │
                                                             F12=Ca└───────┘
```

The confirmation to cancel and discard changes panel is displayed. To return to the editor and not discard changes, enter END or F3. Press Enter to continue with cancellation.

Session changes were cancelled

```
 Process   Options   Utilities   Help
 ───────────────────────────────────────────────────────────────────
 FM/DB2 (D91F)                  DB2 Edit                  Rollback issued
 Command ===> _____

 DB2 Object:
    Location  . . . . . _____     Database  . . . _____  (optional)
    Owner . . . . . . . ALLANSC_____  +  Table Space . . _____  (optional)
    Name  . . . . . . . EMP_____  +
    Start position  . . 1_____
    Row count . . . . . ALL_____    Number of rows to edit

 Template:
    Data set name . . . _____
    Member  . . . . . . _____

 Processing Options:
    Template usage                  Enter "/", "A"lways to select option
    3  1. Above                     _  Edit options
       2. Previous                  _  Edit template
       3. Generate from table       _  Re-edit template
       4. Generate/Replace
  F1=Help     F2=Split    F3=Exit     F4=Expand    F7=Backward  F8=Forward
  F9=Swap     F10=Left    F11=Right   F12=Cancel
```

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Changes were cancelled. Message "Rollback issued" appears in the right corner of the screen.

- Introduction
- View or edit commands
  - Starting the editor or viewer
  - Find, change, and locate data
  - Insert, repeat, and delete rows
  - The display formats and zoom
- Database navigation
  - Save and get
  - Print rows
  - Handling errors when saving
  - REDIT to related tables
- File Manager DB2 options
  - Review option settings

Next, the REDIT command will be described. REDIT can be used to view data in related tables.

Begin a new edit session

```
  Process   Options   Utilities   Help
  ─────────────────────────────────────────────────────────────────────
  FM/DB2 (D91F)                      DB2 Edit
  Command ===> _

  DB2 Object:
     Location  . . . . .  _____     Database  . . . _____  (optional)
     Owner . . . . . . .. ALLANSC_____   +  Table Space . . _____   (optional)
     Name  . . . . . .  . EMP_____  +
     Start position  . . 1_____
     Row count . . . .  ALL_____        Number of rows to edit

  Template:
     Data set name . . . _____
     Member  . . . . . . _____

  Processing Options:
     Template usage                  Enter "/", "A"lways to select option
     3  1. Above                     _   Edit options
        2. Previous                  _   Edit template
        3. Generate from table       _   Re-edit template
        4. Generate/Replace
  F1=Help      F2=Split     F3=Exit     F4=Expand    F7=Backward  F8=Fo  Enter
  F9=Swap      F10=Left     F11=Right   F12=Cancel
```

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The editor is started by specifying a table name on the DB2 edit panel. Press Enter

REDIT command

```
 Process   Options   Utilities   Help

FM/DB2 (D91F)                        Table Edit
Command ===> redit
42 rows fetched
        EMPNO   FIRSTNME     MIDINIT LASTNAME
        #1      #2           #3      #4
        CH(6)   VARCHAR(12)  CH(1)   VARCHAR(15
        PU--+>  <---+----1-> -       <---+----1----> <-N      <-->    <---+---->
****** ****  Top of data  ****
000001 000010 CHRISTINE<   I       HAAS<           A00      3978    1965-01-01
000002 000020 MICHAEL<     L       THOMPSON<       B01      1111    1973-10-10
000003 000030 SALLY<       A       KWAN<           C01      4738    1975-04-05
000004 000050 JOHN<        B       GEYER<          E01      6789    1949-08-17
000005 000060 IRVING<      F       STERN<          D11      6423    1973-09-14
000006 000070 EVA<         D       PULASKI<        D21      7831    1980-09-30
000007 000090 EILEEN<      W       HENDERSON<      E11      5498    1970-08-15
000008 000100 THEODORE<    Q       SPENSER<        E21      0972    1980-06-19
000009 000110 VINCENZO<    G       LUCCHESI<       A00      3490    1958-05-16
000010 000120 SEAN<                O'CONNELL<      A00      2167    1963-12-05
000011 000130 DOLORES<     M       QUINTANA<       C01      4578    1971-07-28
000012 000140 HEATHER<     A       NICHOLLS<       C01      1793    1976-12-15
 F1=Help     F2=Zoom     F3=Exit     F4=CRetriev  F5=RFind    F6=RChange
 F7=Up       F8=Down     F9=Swap     F10=Left     F11=Right   F12=Cancel
```

Place the cursor on a value in the EMPNO column.
This requests that rows related to this value in the related table be displayed.

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In this table, the EMPNO column has a relationship defined with a column in another table. There is an easy way to see columns in the related table. The REDIT command is typed on the command line. After typing the command, the cursor is placed on one of the values in the EMPNO column. This will request that rows related to this value in the related table should be displayed. Enter.

Related tables are displayed

IBM

```
  Process   Options   Utilities   Help

 FM/DB2 (D91F)        Related tables for: ALLANSC.EMP            Top of 1
 Command ===> _____  Scroll PAGE
 Location:                                                  Format TABL
        RELATED   RELATED                         COUNT
        TABLE     TABLE   RELATIONSHIP RELATIONSHIP  OF FOREIGN DELETE
 SEL    OWNER     NAME    NAME         TYPE          KEY COLUMNS RULE
        *_____  *_____ *_____    *_____         *___ *_____
 ----   #1--+---  #2--+--- #3--+----1-- #9--+-          ----#6 #10-+---
        p of data ****
 ee     LLANSC   DEPT    RED          PARENT              1 SET NULL
        End of data ****
```

Tables with relationships to the
selected data are displayed
E command will edit the entire table
EE command will start related edit

```
 F1=Help      F2=Zoom     F3=Exit     F4=CRetriev  F5=RFind     F7=Up   Enter
 F8=Down      F9=Swap     F10=Left    F11=Right    F12=Cancel
```

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In this example there is only one table with relationships to the selected data. A selection line is available to the right of the table. Select the related table with an E line command to edit the entire table. Or use an EE command, as was done here, to start a related edit. Press Enter.

Only related rows are displayed

```
 .  .   .   .   .   .   .   .   .   .   .   .   .   .   .   .   .   .   .   .
  Process   Options   Utilities   Help
 ─────────────────────────────────────────────────────────────────────────
 FM/DB2 (D91F)                Table Edit (related)              Top of 1
 Command ===> _____       Scroll PAGE
 1 row fetched                                                Format TABL
        DEPTNO DEPTNAME                       MGRNO  ADMRDEPT LOCATION
        #1     #2                             #3     #4       #5        +
        CH(3)  VARCHAR(36)                    CH(6)  CH(3)    CHARACTER(1
        PU>    <---+----1----+----2----+----3----+> <---+> <-)    <---+----1-
 ****** ****  Top of data  ****
 000001 A00    SPIFFY COMPUTER SERVICE DIV.<        000010 A00
 ****** ****  End of data  ****
```

Edit sessions are stacked
F3 will return to the first table

```
  F1=Help      F2=Zoom      F3=Exit      F4=CRetriev  F5=RFind    F6=RC    F3
  F7=Up        F8=Down      F9=Swap      F10=Left     F11=Right   F12=Ca
```

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The editor is displayed, and only rows related to the data selected in the first table are displayed. This edit session is stacked, and pressing F3 will return you to the first table.

Differences between edit, view and browse

- Viewing and changing data
  - Editor: view, change, and save data
  - Viewer: view and change data temporarily, but not save
  - Browser: view data only

- Locking
  - When you change data in the editor, you may hold update locks
  - Other people / applications may be locked out until you save or exit
  - View and Browse will not hold update locks

- Line commands (prefix area)
  - You can use line commands in edit and view, but not browse
    - Examples: D (delete), I (insert), R (repeat)
    - No prefix area is available in browse

The previous slides covered how to use the editor and viewer. Use the editor to change and save data. Use the viewer to modify data, but not save the changes. Use the browser to view data only.

Be aware that when modifying data in the editor, an update lock will be held. Other people and applications may be locked out from accessing data until a save is issued, or the session is exited. The viewer and browser can be safer in some cases since they do not hold update locks. Line commands can be used in the editor and viewer, but not in the browser.

This ends this section on using the File Manager DB2 Database Navigation.

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