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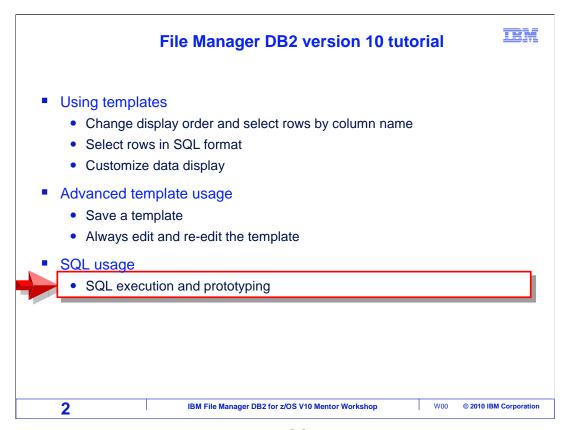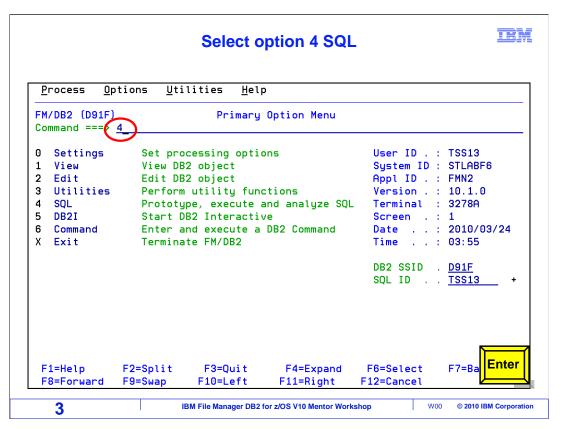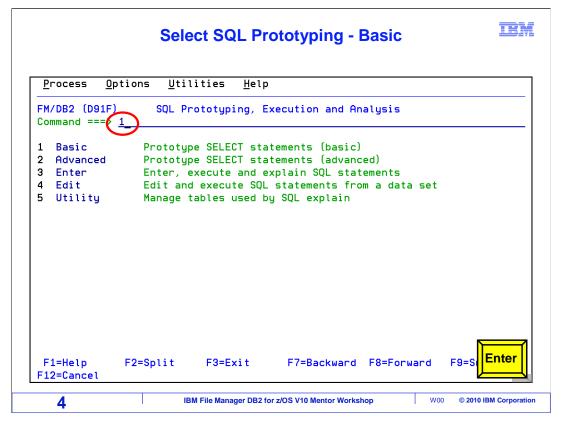
Program number 5655-V52

Tutorial

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

- Using templates
  - Change display order and select rows by column name
  - Select rows in SQL format
  - Customize data display

- Advanced template usage
  - Save a template
  - Always edit and re-edit the template

- SQL usage
  - SQL execution and prototyping

This section will cover how to enter and run SQL statements using File Manager DB2. The Basic Prototyping utility will be used to write a new SQL statement, run it, and save it in a file.
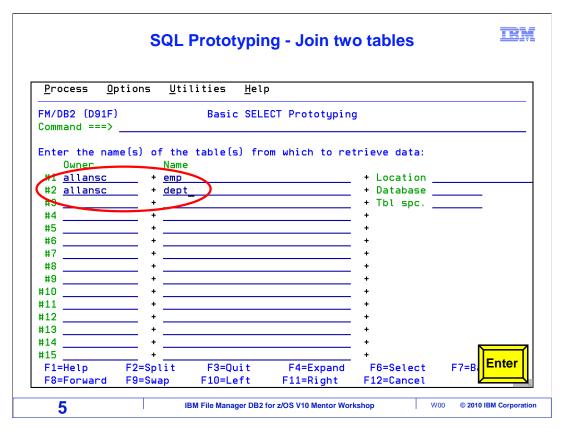
Select option 4 SQL

```
  Process    Options    Utilities    Help

 FM/DB2 (D91F)              Primary Option Menu
 Command ===> 4_

 0   Settings      Set processing options          User ID . : TSS13
 1   View          View DB2 object                 System ID : STLABF6
 2   Edit          Edit DB2 object                 Appl ID . : FMN2
 3   Utilities     Perform utility functions       Version . : 10.1.0
 4   SQL           Prototype, execute and analyze SQL   Terminal  : 3278A
 5   DB2I          Start DB2 Interactive           Screen  . : 1
 6   Command       Enter and execute a DB2 Command   Date  . . : 2010/03/24
 X   Exit          Terminate FM/DB2                Time  . . : 03:55

                                                  DB2 SSID  . D91F
                                                  SQL ID  . . TSS13     +




    F1=Help      F2=Split     F3=Quit     F4=Expand    F6=Select    F7=Ba   Enter
    F8=Forward   F9=Swap      F10=Left    F11=Right    F12=Cancel
```

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To get to the SQL Execution and Prototyping menu, select option 4 from the File Manager DB2 main menu.

Select SQL Prototyping - Basic

IBM

```
  Process   Options   Utilities   Help

 FM/DB2 (D91F)      SQL Prototyping, Execution and Analysis
 Command ===> 1

 1  Basic        Prototype SELECT statements (basic)
 2  Advanced     Prototype SELECT statements (advanced)
 3  Enter        Enter, execute and explain SQL statements
 4  Edit         Edit and execute SQL statements from a data set
 5  Utility      Manage tables used by SQL explain




  F1=Help      F2=Split     F3=Exit      F7=Backward  F8=Forward   F9=S    Enter
 F12=Cancel
```

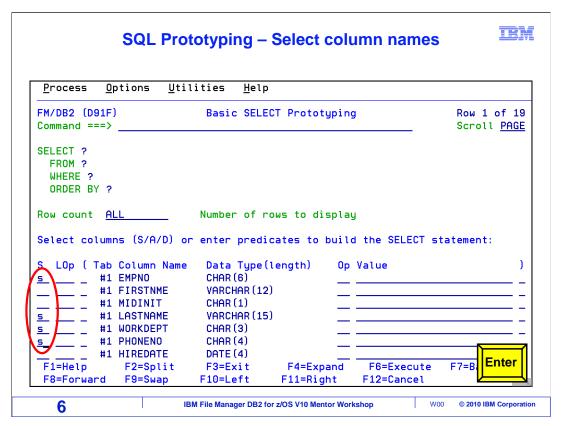**4**   IBM File Manager DB2 for z/OS V10 Mentor Workshop   W00   © 2010 IBM Corporation

The prototyping utilities can be used to write new SQL statements. The utilities assist with syntax when creating SQL statements. There are two prototyping utilities: Basic and Advanced. Basic prototyping is a quick and easy way to create a simple SQL statement.

Advanced Prototyping can be used to create more complex SQL statements. It is especially helpful in cases where the SQL code syntax is not known. It is also a good learning aid, as it steps through various coding options as the SQL statement is built. Advanced prototyping is beyond the scope of this tutorial.

Basic Prototyping will be used to create a new SQL statement. Option 1 is entered on the command line. Enter is pressed.

SQL Prototyping - Join two tables

IBM

```
 Process    Options    Utilities    Help
_____
 FM/DB2 (D91F)              Basic SELECT Prototyping
 Command ===> _____

 Enter the name(s) of the table(s) from which to retrieve data:
     Owner           Name
 #1 allansc       +  emp_____  + Location _____
 #2 allansc       +  dept_____  + Database _____
 #3 _____   +  _____  + Tbl spc. _____
 #4 _____   +  _____  +
 #5 _____   +  _____  +
 #6 _____   +  _____  +
 #7 _____   +  _____  +
 #8 _____   +  _____  +
 #9 _____   +  _____  +
 #10 _____   +  _____  +
 #11 _____   +  _____  +
 #12 _____   +  _____  +
 #13 _____   +  _____  +
 #14 _____   +  _____  +
 #15 _____   +  _____  +
  F1=Help      F2=Split     F3=Quit      F4=Expand    F6=Select    F7=Ba
  F8=Forward   F9=Swap     F10=Left     F11=Right    F12=Cancel
```

Enter

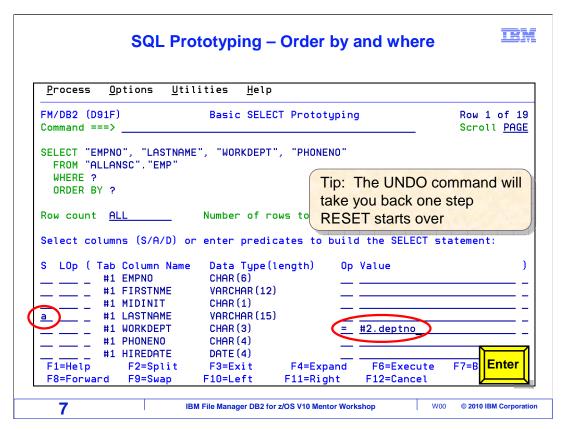| 5 | IBM File Manager DB2 for z/OS V10 Mentor Workshop | W00 | © 2010 IBM Corporation |

The "basic select prototyping" panel is displayed, which is prompting for the table or tables to be accessed in the new SQL statement. Specify one or more tables. In this example, a table join on two tables is being done. The Owner and Name of each table is entered. Press Enter.

SQL Prototyping – Select column names

```
 Process   Options   Utilities   Help

FM/DB2 (D91F)              Basic SELECT Prototyping          Row 1 of 19
Command ===> _____      Scroll PAGE

SELECT ?
  FROM ?
  WHERE ?
  ORDER BY ?

Row count  ALL_____     Number of rows to display

Select columns (S/A/D) or enter predicates to build the SELECT statement:

S  LOp ( Tab Column Name   Data Type(length)    Op Value                 )
s_ ___ _  #1 EMPNO         CHAR(6)              __ _____ _
__ ___ _  #1 FIRSTNME      VARCHAR(12)          __ _____ _
__ ___ _  #1 MIDINIT       CHAR(1)              __ _____ _
s_ ___ _  #1 LASTNAME      VARCHAR(15)          __ _____ _
s_ ___ _  #1 WORKDEPT      CHAR(3)              __ _____ _
s_ ___ _  #1 PHONENO       CHAR(4)              __ _____ _
__ ___ _  #1 HIREDATE      DATE(4)              __ _____
 F1=Help     F2=Split    F3=Exit     F4=Expand   F6=Execute   F7=B    Enter
 F8=Forward  F9=Swap    F10=Left    F11=Right   F12=Cancel
```

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Information about the columns in the tables was retrieved from the DB2 catalog. A full list of the columns is shown. In the TAB column, column #1 will appear for columns in the first table, and #2 for columns in the second. File Manager has already started building the SQL statement at the top of the screen. The table names are in the FROM clause.
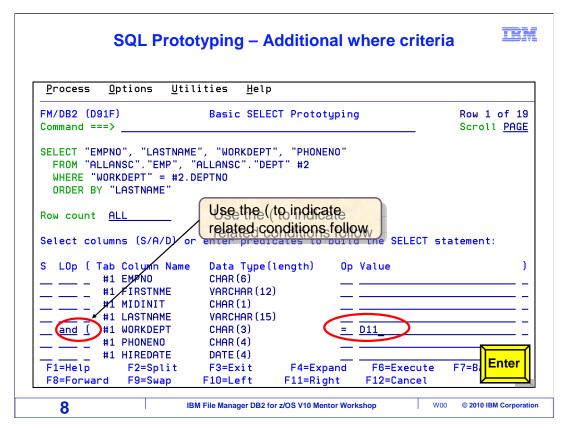
Next, select columns. Type "s" line commands in the select field next to the columns that should be in the select statement. Press Enter.

SQL Prototyping – Order by and where

```
  Process   Options   Utilities   Help
 ─────────────────────────────────────────────────────────────────
 FM/DB2 (D91F)              Basic SELECT Prototyping         Row 1 of 19
 Command ===> _____        Scroll PAGE

 SELECT "EMPNO", "LASTNAME", "WORKDEPT", "PHONENO"
   FROM "ALLANSC"."EMP"
   WHERE ?                    ┌─────────────────────────────┐
   ORDER BY ?                 │ Tip:  The UNDO command will  │
                              │ take you back one step       │
 Row count  ALL_____    Number│ RESET starts over          │
                              └─────────────────────────────┘
 Select columns (S/A/D) or enter predicates to build the SELECT statement:

 S  LOp ( Tab Column Name   Data Type(length)    Op Value                    )
 __ ___ _  #1 EMPNO         CHAR(6)              __ _____ _
 __ ___ _  #1 FIRSTNME      VARCHAR(12)          __ _____ _
 __ ___ _  #1 MIDINIT       CHAR(1)              __ _____ _
 a  ___ _  #1 LASTNAME      VARCHAR(15)          __ _____ _
 __ ___ _  #1 WORKDEPT      CHAR(3)              =  #2.deptno_____ _
 __ ___ _  #1 PHONENO       CHAR(4)              __ _____ _
 __ ___ _  #1 HIREDATE      DATE(4)              __ _____ _
  F1=Help     F2=Split    F3=Exit     F4=Expand    F6=Execute   F7=B │Enter│
  F8=Forward  F9=Swap    F10=Left    F11=Right    F12=Cancel
```

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The UNDO command will go back one step. Multiple UNDO commands will back out changes one at a time. The RESET command starts over.
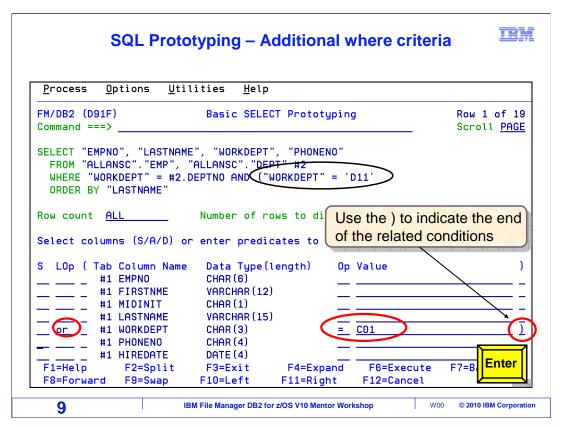
The selected columns now appear in the Select statement. Optionally, specify an ORDER BY using an A line command for Ascending, or D for Descending. Here, an A is typed next to the "LASTNAME" column for an ascending "order by".

To define the table join, criteria are specified in the "Op" (for operator) and "Value" fields. Here, it is specified that the value of WORKDEPT in table one must be equal to the DEPTNO column in table two. Press Enter
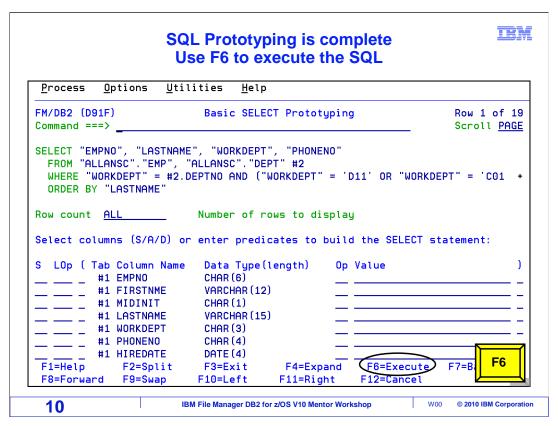
SQL Prototyping – Additional where criteria

```
Process   Options   Utilities   Help

FM/DB2 (D91F)            Basic SELECT Prototyping          Row 1 of 19
Command ===> _____   Scroll PAGE

SELECT "EMPNO", "LASTNAME", "WORKDEPT", "PHONENO"
  FROM "ALLANSC"."EMP", "ALLANSC"."DEPT" #2
  WHERE "WORKDEPT" = #2.DEPTNO
  ORDER BY "LASTNAME"

Row count   ALL          Use the ( to indicate
                         related conditions follow
Select columns (S/A/D) or enter predicates to build the SELECT statement:

S  LOp ( Tab Column Name   Data Type(length)   Op Value                )
__ ___ _    #1 EMPNO       CHAR(6)             __ _____ _
__ ___ _    #1 FIRSTNME    VARCHAR(12)         __ _____ _
__ ___ _    #1 MIDINIT     CHAR(1)             __ _____ _
__ ___ _    #1 LASTNAME    VARCHAR(15)         __ _____ _
__ and ( )  #1 WORKDEPT    CHAR(3)             =  D11_                  _
__ ___ _    #1 PHONENO     CHAR(4)             __ _____ _
__ ___ _    #1 HIREDATE    DATE(4)             __ _____ _
 F1=Help     F2=Split    F3=Exit     F4=Expand    F6=Execute   F7=B   Enter
 F8=Forward  F9=Swap    F10=Left    F11=Right    F12=Cancel
```

The SQL statement at the top now has an Ascending Order By LASTNAME. And the condition has been added to the WHERE clause.

At this point, there is a working SQL statement, other conditions can be added as required. An additional condition is entered selecting rows where WORKDEPT is equal to D11. The "AND" operator was entered in the Lop field, followed by a left parenthesis. This indicates there are more conditions for this clause. Press Enter
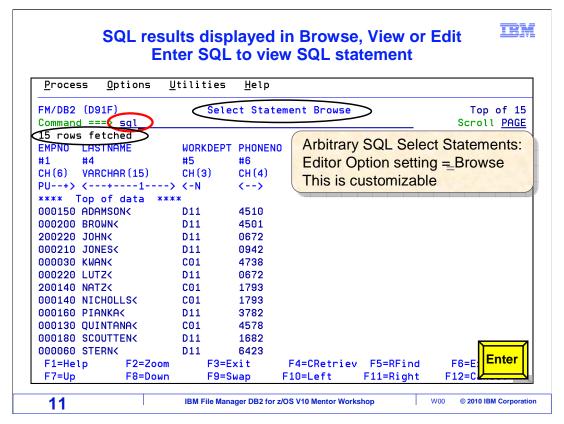
SQL Prototyping – Additional where criteria

```
 Process   Options   Utilities   Help

FM/DB2 (D91F)              Basic SELECT Prototyping            Row 1 of 19
Command ===> _____     Scroll PAGE

SELECT "EMPNO", "LASTNAME", "WORKDEPT", "PHONENO"
   FROM "ALLANSC"."EMP", "ALLANSC"."DEPT" #2
   WHERE "WORKDEPT" = #2.DEPTNO AND ("WORKDEPT" = 'D11'
   ORDER BY "LASTNAME"

Row count  ALL            Number of rows to di┌──────────────────────────┐
                                              │ Use the ) to indicate the end │
Select columns (S/A/D) or enter predicates to │ of the related conditions     │
                                              └──────────────────────────┘
S  LOp ( Tab Column Name    Data Type(length)   Op Value                    )
__ ___ _  #1 EMPNO          CHAR(6)              __ _____ _
__ ___ _  #1 FIRSTNME       VARCHAR(12)          __ _____ _
__ ___ _  #1 MIDINIT        CHAR(1)              __ _____ _
__ ___ _  #1 LASTNAME       VARCHAR(15)          __ _____
__ or  _  #1 WORKDEPT       CHAR(3)              =  C01                       )
__ ___ _  #1 PHONENO        CHAR(4)              __ _____
__ ___ _  #1 HIREDATE       DATE(4)
 F1=Help     F2=Split     F3=Exit      F4=Expand    F6=Execute   F7=B┌─────┐
 F8=Forward  F9=Swap     F10=Left      F11=Right    F12=Cancel        │Enter│
                                                                      └─────┘
```

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A new condition is added to the WHERE clause. Continuing, the LOp column is set to OR, WORKDEPT OP is set to = and the value to C01. A right parenthesis is entered in the rightmost field, to match the earlier left parenthesis and complete the statement. Press Enter.

SQL Prototyping is complete
Use F6 to execute the SQL

```
 Process   Options   Utilities   Help
 ───────────────────────────────────────────────────────────────────────
 FM/DB2 (D91F)             Basic SELECT Prototyping          Row 1 of 19
 Command ===> _____        Scroll PAGE

 SELECT "EMPNO", "LASTNAME", "WORKDEPT", "PHONENO"
   FROM "ALLANSC"."EMP", "ALLANSC"."DEPT" #2
   WHERE "WORKDEPT" = #2.DEPTNO AND ("WORKDEPT" = 'D11' OR "WORKDEPT" = 'C01  +
   ORDER BY "LASTNAME"

 Row count  ALL          Number of rows to display

 Select columns (S/A/D) or enter predicates to build the SELECT statement:

 S  LOp ( Tab Column Name    Data Type(length)    Op Value                   )
 __ ___ _  #1 EMPNO          CHAR(6)              __ _____ _
 __ ___ _  #1 FIRSTNME       VARCHAR(12)          __ _____ _
 __ ___ _  #1 MIDINIT        CHAR(1)              __ _____ _
 __ ___ _  #1 LASTNAME       VARCHAR(15)          __ _____ _
 __ ___ _  #1 WORKDEPT       CHAR(3)              __ _____ _
 __ ___ _  #1 PHONENO        CHAR(4)              __ _____ _
 __ ___ _  #1 HIREDATE       DATE(4)              __ _____
  F1=Help     F2=Split     F3=Exit     F4=Expand   F6=Execute   F7=B┌──────┐
  F8=Forward  F9=Swap      F10=Left    F11=Right   F12=Cancel    │  F6  │
                                                                 └──────┘
```

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The WHERE clause now reads "WORKDEPT" = #2.DEPTNO AND (WORKDEPT = 'D11' OR WORKDEPT = 'C01').

The SQL statement is complete. You can edit or run the new SQL statement. F6 is "Execute". The SQL statement will be executed and results will be returned. Press F6.

SQL results displayed in Browse, View or Edit
Enter SQL to view SQL statement

```
 Process   Options   Utilities   Help

FM/DB2 (D91F)              Select Statement Browse            Top of 15
Command ===> sql                                            Scroll PAGE
15 rows fetched
EMPNO  LASTNAME        WORKDEPT PHONENO      Arbitrary SQL Select Statements:
#1     #4              #5       #6           Editor Option setting = Browse
CH(6)  VARCHAR(15)     CH(3)    CH(4)        This is customizable
PU--+> <---+----1----> <-N      <-->
****  Top of data  ****
000150 ADAMSON<        D11      4510
000200 BROWN<          D11      4501
200220 JOHN<           D11      0672
000210 JONES<          D11      0942
000030 KWAN<           C01      4738
000220 LUTZ<           D11      0672
200140 NATZ<           C01      1793
000140 NICHOLLS<       C01      1793
000160 PIANKA<         D11      3782
000130 QUINTANA<       C01      4578
000180 SCOUTTEN<       D11      1682
000060 STERN<          D11      6423                          Enter
 F1=Help     F2=Zoom     F3=Exit     F4=CRetriev  F5=RFind    F6=E
 F7=Up       F8=Down     F9=Swap     F10=Left     F11=Right   F12=C
```

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The SQL statement ran, and the result set is displayed in a File Manager DB2 browse session.

The Arbitrary SQL Select Statements: Editor Option setting controls whether the results are shown in Edit, View, or Browse. It is in the second panel of the "System Options". This is covered in the Options section of the training.

If the results are displayed in edit, then you may be able to modify some of the data that is returned.

Once your SQL statement is set up the way you need it, you can save it to a file. First, type SQL on the command line and press Enter.

Save SQL

The SQL command displays the ISPF editor, populated with the new SQL statement. The generated SQL statement can be saved to a file.

Type CRE on the command line, and specify the lines you want to copy with C or CC line commands. Here c99 was entered on the first line command prefix area. This will copy the first 99 lines, in this example, the entire SQL statement. Press Enter.
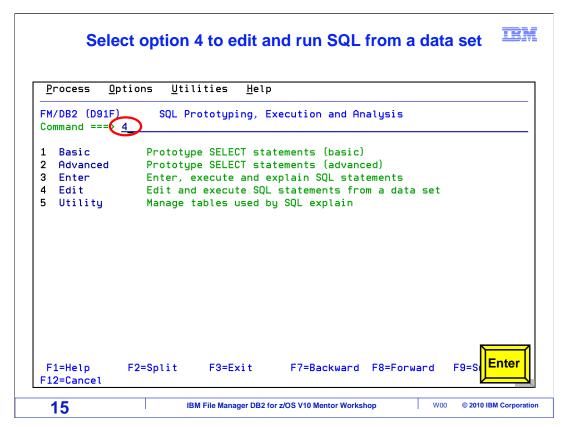
Enter SQL save location

```
   Menu  RefList  Utilities  Help

                          Edit/View - Create
Command ===> _____
                                                         More:      +
"Current" Data Set: SYS10083.T040239.RA000.TSS13.R0133216

To ISPF Library:
    Project . . . _____
    Group . . . . _____
    Type  . . . . _____
    Member  . . . _____

To Other Sequential Data Set, Partitioned Data Set Member, or z/OS UNIX file:
    Name . . . . . 'tss13.adlab.files(sql003)'                           +
    Volume Serial . . _____    (If not cataloged)

Data Set Password  . .          (If password protected)

Enter "/" to select option
_   Specify pack option for "CREATE" Data Set


 F1=Help     F2=Split     F3=Exit      F7=Backward  F8=Forward   F9=Sw Enter
F10=Actions  F12=Cancel
```

This will display the edit/view - create panel, where you are prompted for the name of the file. Specify the name of the file and press Enter.

Your new SQL statement is saved in the file. Now you have seen an example of Basic prototyping. It is designed to let you quickly build a new SQL statement with the basic elements.

Next, you will see an easy way to continue to edit your new SQL statement from the file and test your changes.

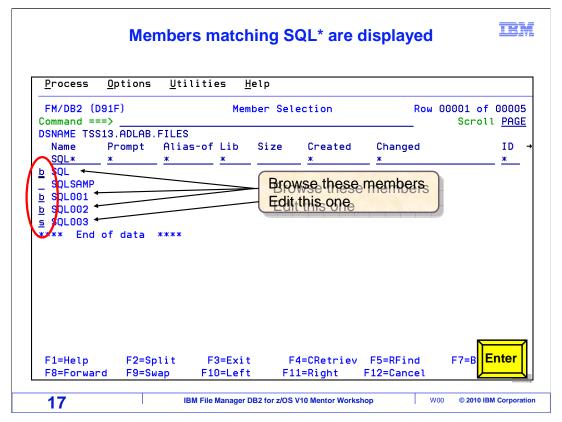F3 is pressed until the SQL Prototyping and Execution menu is displayed again.

Select option 4 to edit and run SQL from a data set

```
 Process   Options   Utilities   Help
─────────────────────────────────────────────────────────────
FM/DB2 (D91F)      SQL Prototyping, Execution and Analysis
Command ===> 4

1  Basic       Prototype SELECT statements (basic)
2  Advanced    Prototype SELECT statements (advanced)
3  Enter       Enter, execute and explain SQL statements
4  Edit        Edit and execute SQL statements from a data set
5  Utility     Manage tables used by SQL explain




 F1=Help      F2=Split     F3=Exit      F7=Backward  F8=Forward   F9=S[ Enter ]
 F12=Cancel
```

There are two utilities for running SQL statements. They are called "Enter", and "Edit". The "Enter" utility is a simple panel where you can type in, or cut and paste in, an SQL statement and run it. The results are shown in a File Manager DB2 edit, browse, or view session, depending on your options settings.

Use the "Edit" utility to edit and run an SQL statement that is in a file. To get to it, select option 4 on the command line, and press Enter.
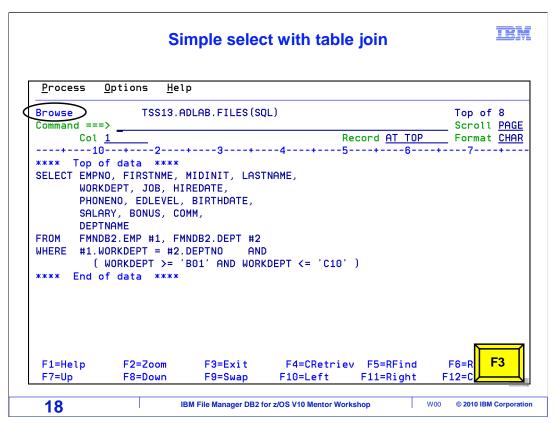
Run SQL from a file

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

 Input Data Set:
    Data set name . . . 'tss13.adlab.files'_____
    Member  . . . . . . sql*____
    Volume  . . . . . . _____

 SELECT statement options:
    Row count . . . . . ALL_____     Number of rows to browse

 Processing Options:
    Execution options               Enter "/" to select option
    ___   First column              /  Edit data set
    ___   Last column               /  Execute SQL from data set
    --    Comment chars             /  Re-edit data set after execution
```

-- has been specified in the "comment chars" field
This makes comments compatible with SQL coded
using DB2 SPUFI panels

Enter

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Specify the name of the file where the SQL statement resides, or give it a new PDS member name to start from scratch. A wildcard character, asterisk, can be used in the member name. It will produce a member list that matches the wildcard pattern. Selections can be made from the list.

Two dashes have been specified in the "comment characters" field. This makes the comments compatible with how SQL is commonly coded when using the DB2 SPUFI panels. Typically, the three options on the right will be selected. "Edit data set" means that the SQL statement will be displayed in the ISPF editor first. It can be reviewed and changed. "Execute SQL from data set" means that the SQL statement will run automatically when the editor is exited. "Re-edit data set after execution" means that the editor will be automatically displayed again when exiting from viewing the result data. Press Enter to continue.
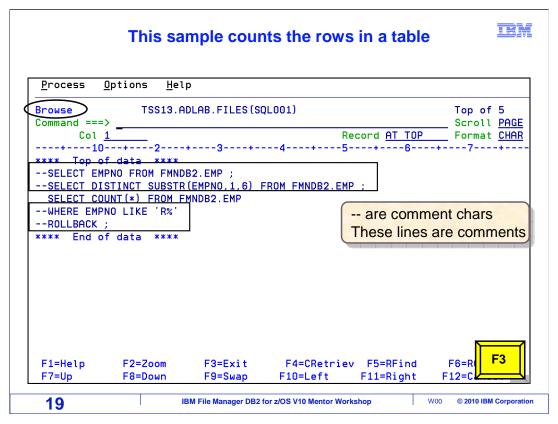
Members matching SQL* are displayed

IBM

```
  Process    Options    Utilities    Help

 FM/DB2 (D91F)                Member Selection          Row 00001 of 00005
 Command ===> _____    Scroll PAGE
 DSNAME TSS13.ADLAB.FILES
   Name      Prompt    Alias-of Lib   Size      Created    Changed              ID  →
   SQL*      *         *        *      _____    *          *                   *
 b SQL
 _ SQLSAMP
 b SQL001
 b SQL002
 s SQL003
 ****  End of data  ****
```

Browse these members
Edit this one

```
 F1=Help      F2=Split     F3=Exit      F4=CRetriev  F5=RFind      F7=B
 F8=Forward   F9=Swap      F10=Left     F11=Right    F12=Cancel
```

Enter

Because the member name was specified with a wildcard character, a member list is displayed. Browse members with B line commands, and select a member with an S line command.

In this example we are selecting the SQL, SQL001 and SQL002 members with a "b" in the line command field, to browse them. We are selecting the SQL003 member with an "'s", to edit it. Press Enter.
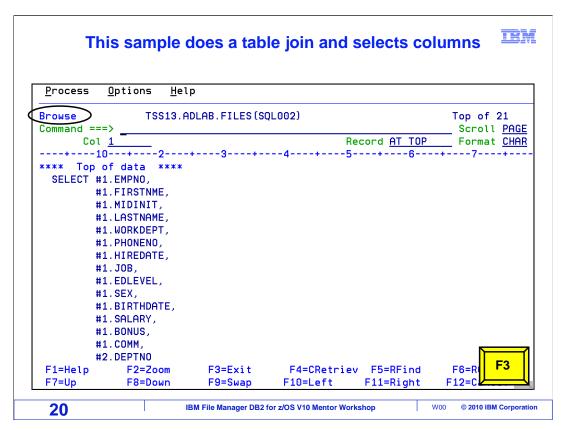
```
 Process   Options   Help

 Browse            TSS13.ADLAB.FILES(SQL)                   Top of 8
 Command ===> _____    Scroll PAGE
       Col 1_____                           Record AT TOP  Format CHAR
 ----+----10---+----2----+----3----+----4----+----5----+----6----+----7----+----
 ****  Top of data  ****
 SELECT EMPNO, FIRSTNME, MIDINIT, LASTNAME,
        WORKDEPT, JOB, HIREDATE,
        PHONENO, EDLEVEL, BIRTHDATE,
        SALARY, BONUS, COMM,
        DEPTNAME
 FROM   FMNDB2.EMP #1, FMNDB2.DEPT #2
 WHERE  #1.WORKDEPT = #2.DEPTNO     AND
        ( WORKDEPT >= 'B01' AND WORKDEPT <= 'C10' )
 ****  End of data  ****




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

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The SQL member is displayed in browse mode. This member shows a simple select with a table join. Press F3 to exit.

This sample counts the rows in a table

```
 Process    Options    Help

 Browse           TSS13.ADLAB.FILES(SQL001)              Top of 5
 Command ===>  _                                         Scroll PAGE
       Col 1                             Record AT TOP   Format CHAR
 ----+----10---+----2----+----3----+----4----+----5----+----6----+----7----+----
 ****  Top of data  ****
 --SELECT EMPNO FROM FMNDB2.EMP ;
 --SELECT DISTINCT SUBSTR(EMPNO,1,6) FROM FMNDB2.EMP ;
   SELECT COUNT(*) FROM FMNDB2.EMP
 --WHERE EMPNO LIKE 'R%'                 -- are comment chars
 --ROLLBACK ;                            These lines are comments
 ****  End of data  ****




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

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The SQL001 member is also displayed in browse mode.

Several of the lines start with two dashes, indicating they are comments. This SQL statement counts the rows in a table.
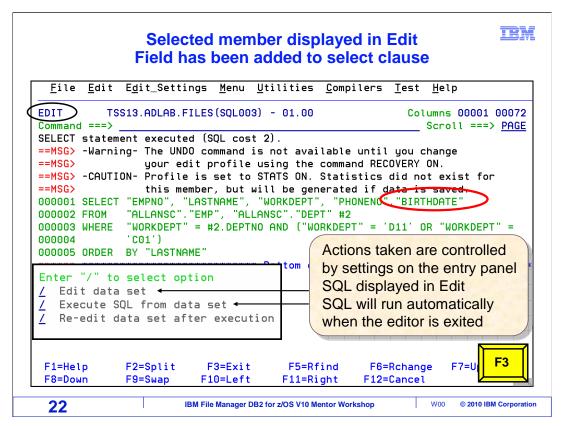
Press F3 to exit.

This sample does a table join and selects columns

```
 Process   Options   Help
────────────────────────────────────────────────────────────────
 Browse           TSS13.ADLAB.FILES(SQL002)              Top of 21
 Command ===> _____   Scroll PAGE
       Col 1_____                          Record AT TOP   Format CHAR
 ----+----10---+----2----+----3----+----4----+----5----+----6----+----7----+----
 ****  Top of data  ****
   SELECT #1.EMPNO,
          #1.FIRSTNME,
          #1.MIDINIT,
          #1.LASTNAME,
          #1.WORKDEPT,
          #1.PHONENO,
          #1.HIREDATE,
          #1.JOB,
          #1.EDLEVEL,
          #1.SEX,
          #1.BIRTHDATE,
          #1.SALARY,
          #1.BONUS,
          #1.COMM,
          #2.DEPTNO
 F1=Help     F2=Zoom     F3=Exit     F4=CRetriev  F5=RFind     F6=R    F3
 F7=Up       F8=Down     F9=Swap     F10=Left     F11=Right    F12=C
```

SQL002 is also displayed in browse mode.

This member does a table join on two tables and selects certain columns.

Press F3 to exit.

Returned to SQL data set
F12 to end and save changes

```
   File  Edit  Edit_Settings  Menu  Utilities  Compilers  Test  Help

EDIT       TSS13.ADLAB.FILES(SQL003) - 01.00            Columns 00001 00072
Command ===> _____ Scroll ===> PAGE
SELECT statement executed (SQL cost 2).
==MSG> -Warning- The UNDO command is not available until you change
==MSG>           your edit profile using the command RECOVERY ON.
==MSG> -CAUTION- Profile is set to STATS ON. Statistics did not exist for
==MSG>           this member, but will be generated if data is saved.
000001 SELECT "EMPNO", "LASTNAME", "WORKDEPT", "PHONENO","BIRTHDATE"_
000002 FROM   "ALLANSC"."EMP", "ALLANSC"."DEPT" #2
000003 WHERE  "WORKDEPT" = #2.DEPTNO AND ("WORKDEPT" = 'D11' OR "WORKDEPT" =
000004        'C01')
000005 ORDER  BY "LASTNAME"
****** ***************************** Bottom of Data ****************************
 Enter "/" to select option
 /  Edit data set
 /  Execute SQL from data set             Editor displayed when
 /  Re-edit data set after execution      exiting the SQL result


  F1=Help     F2=Split     F3=Exit     F5=Rfind    F6=Rchange    F7=U|  F12
  F8=Down     F9=Swap     F10=Left    F11=Right    F12=Cancel
```

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The "Re-edit" option was turned on in the first panel, when F3 was pressed n the SQL results panel, the SQL data set will be re-displayed. This allows interactive edit, allowing changes to the SQL, run it to test. Back to the SQL, allowing editing and running until the results are as expected. Press F12 to exit and save member.

This ends the section using File Manager DB2 to run and prototype SQL statements.

Selected member displayed in Edit
Field has been added to select clause

```
   File   Edit   Edit_Settings   Menu   Utilities   Compilers   Test   Help
─────────────────────────────────────────────────────────────────────────────
EDIT       TSS13.ADLAB.FILES(SQL003) - 01.00              Columns 00001 00072
Command ===> _____     Scroll ===> PAGE
SELECT statement executed (SQL cost 2).
==MSG> -Warning- The UNDO command is not available until you change
==MSG>           your edit profile using the command RECOVERY ON.
==MSG> -CAUTION- Profile is set to STATS ON. Statistics did not exist for
==MSG>           this member, but will be generated if data is saved.
000001 SELECT "EMPNO", "LASTNAME", "WORKDEPT", "PHONENO","BIRTHDATE"
000002 FROM   "ALLANSC"."EMP", "ALLANSC"."DEPT" #2
000003 WHERE  "WORKDEPT" = #2.DEPTNO AND ("WORKDEPT" = 'D11' OR "WORKDEPT" =
000004        'C01')
000005 ORDER  BY "LASTNAME"
────────────────────────────────────── Bottom ──
 Enter "/" to select option
 /   Edit data set
 /   Execute SQL from data set
 /   Re-edit data set after execution
```

> Actions taken are controlled by settings on the entry panel
> SQL displayed in Edit
> SQL will run automatically when the editor is exited

F3

```
 F1=Help     F2=Split    F3=Exit     F5=Rfind    F6=Rchange   F7=U
 F8=Down     F9=Swap     F10=Left    F11=Right   F12=Cancel
```

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The SQL003 member was selected with an "S" line command from the member list. This is the statement that was just created using Basic Prototyping. Changes can be made. Here, the "BIRTHDATE" column has been added to the select clause. Since the "Execute SQL from data set" field was selected on the entry panel, F3 will run the SQL automatically. Press F3.

Results of SQL

```
 Process   Options   Utilities   Help

FM/DB2 (D91F)                Select Statement Browse           Top of 15
Command ===> _                                              Scroll PAGE
15 rows fetched
EMPNO  LASTNAME       WORKDEPT PHONENO BIRTHDATE
#1     #4             #5       #6      #11
CH(6)  VARCHAR(15)    CH(3)    CH(4)   DATE
PU--+> <---+----1----> <-N     <-->    <---+---->
****  Top of data  ****
000150 ADAMSON<       D11      4510    1947-05-17
000200 BROWN<         D11      4501    1941-05-29
200220 JOHN<          D11      0672    1948-03-19
000210 JONES<         D11      0942    1953-02-23
000030 KWAN<          C01      4738    1941-05-11
000220 LUTZ<          D11      0672    1948-03-19
200140 NATZ<          C01      1793    1946-01-19
000140 NICHOLLS<      C01      1793    1946-01-19
000160 PIANKA<        D11      3782    1955-04-12
000130 QUINTANA<      C01      4578    1925-09-15
000180 SCOUTTEN<      D11      1682    1949-02-21
000060 STERN<         D11      6423    1945-07-07
 F1=Help    F2=Zoom    F3=Exit    F4=CRetriev  F5=RFind    F6=E
 F7=Up      F8=Down    F9=Swap    F10=Left    F11=Right    F12=C
```

SQL statement ran automatically when the editor was exited

Arbitrary SQL Editor
Option = Browse
This is customizable

F3

The SQL statement ran, and the result set is displayed. The BIRTHDATE column has been selected and is displayed.

A system option controls whether the results are shown in browse, view, or edit.

Since the "Re-edit" option was selected on the entry panel, when F3 is pressed, the SQL statement will be re-displayed. This is a great way to interactively edit, test, and make changes to your SQL. You can then run it and check the results.

Press F3.

Returned to SQL data set
F12 to end and save changes

```
  File  Edit  Edit_Settings  Menu  Utilities  Compilers  Test  Help

EDIT       TSS13.ADLAB.FILES(SQL003) - 01.00           Columns 00001 00072
Command ===> _____  Scroll ===> PAGE
SELECT statement executed (SQL cost 2).
==MSG> -Warning- The UNDO command is not available until you change
==MSG>          your edit profile using the command RECOVERY ON.
==MSG> -CAUTION- Profile is set to STATS ON. Statistics did not exist for
==MSG>          this member, but will be generated if data is saved.
000001 SELECT "EMPNO", "LASTNAME", "WORKDEPT", "PHONENO","BIRTHDATE"_
000002 FROM   "ALLANSC"."EMP", "ALLANSC"."DEPT" #2
000003 WHERE  "WORKDEPT" = #2.DEPTNO AND ("WORKDEPT" = 'D11' OR "WORKDEPT" =
000004        'C01')
000005 ORDER  BY "LASTNAME"
****** **************************** Bottom of Data *****************************
Enter "/" to select option
/  Edit data set
/  Execute SQL from data set                  Editor displayed when
/  Re-edit data set after execution           exiting the SQL result


 F1=Help      F2=Split     F3=Exit      F5=Rfind     F6=Rchange    F7=U| F12
 F8=Down      F9=Swap      F10=Left     F11=Right    F12=Cancel
```

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The SQL data set is re-displayed.

Press F12 to exit and save the member.

This ends the section using File Manager DB2 to run and prototype SQL statements.

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