Adabas Online System

Database Report

Version 8.1.4

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Adabas Online System

This document applies to Adabas Online System Version 8.1.4.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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Database Report

Options on the Database Report menu provide information only: none of the displayed information can be changed. However, direct commands can be entered on this menu to invoke other Basic Services functions for making changes.

Database Report functions provide both general and specific information in either table or report format. They correspond to selected functions of the Adabas ADAREP utility.

```
14:18:52          *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
                              -   Database Report  -                   PDR0002

                    Code    Service
                    ----    -------------------------------------
                     C      List files with crit. no. of extents
                     D      Display field description table (FDT)
                     F      Display file(s)
                     G      General Database layout
                     L      List VOLSER distribution of Database
                     R      Display ASSO/DATA block (RABN)
                     U      Display unused storage
                     ?      Help
                     .      Exit
                    ----    -------------------------------------

      Code ......... _
      File No ...... ______ Password ..
      Database ID .. 105    (RD-MPM105)
      VOLSER ....... ______

  Command ==>
  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help               Exit                                        Menu
```

Options allow you to view database-level general information and tables of database files, files whose extents are at or near the allowable maximum, file-specific information for any file, physical database distribution by volume/serial number (VOLSER), and available space that is not currently being used. Additional displays are available using direct commands.

The Adabas Online System Database Report documentation is organized in the following topics:

Code	Function
C	*Displaying Files with Critical Number of Extents* shows a list of the files that have a critical number of extents.
D	*Display Field Definition Table (FDT)* shows the field definition table (FDT) and special descriptor table (SDT) for the specified file.
F	*Display Files* shows file(s), either a list of all files in the specified database or detailed information about a specific file.
G	*Display General Database Layout* shows the general layout of the specified database.
L	*Display Volume/Serial Numbers for Database* shows the volume/serial number layout of the specified database.
R	*Display RABNs* shows Associator / Data Storage blocks (RABNs).
U	*Display Unused Storage* shows unused storage.
--	shows other information by using direct commands.

1 Displaying Files with Critical Number of Extents

Option **C** (**List files with crit. no. of extents**) on the **Database Report** menu provides a list of the files in the database that are at the critical number of extents. If no such files exist in the database, a message is displayed.

Note: The exact extent count is provided in the general **Display File(s) (F) option** by table type (AC, NI, UI, or DS).

2 Display Field Definition Table (FDT)

Note: For more detailed information about field definitions, see the ADACMP utility; for more information about interpreting FDTs, see the ADAREP utility; both in the *Adabas Utilities* documentation.

```
15:13:26         *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
   DBID 105                      - Display FDT -                      PDRD002

   Field Description Table: File 200   (TEST-FILE)
   ========================                              Total Fields ... 31

   *************** T o p  of  F D T ***************
   Lev  I Name I Leng  I Form  I    Options       I Predict Field Names
   -----I------I-------I-------I----------------- I-----------------------------
     1  I  AF  I  064  I    A  I  NU DE           I
     1  I  BX  I  035  I    A  I  MU NU           I
     1  I  LA  I  033  I    A  I  NU DE           I
     1  I  LB  I  002  I    B  I  NU DE           I
     1  I  LC  I  250  I    A  I  MU NU           I
     1  I  LE  I  004  I    U  I  NU DE           I
     1  I  LF  I       I       I  PE             I
     2  I  LG  I  065  I    A  I  NU              I
     1  I  LJ  I  018  I    A  I  NU DE           I
     1  I  LK  I  090  I    A  I  MU NU           I
     1  I  LL  I  018  I    A  I  NU DE           I
     1  I  LM  I  250  I    A  I  MU NU           I

  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help               Exit                --        -        +        Menu
```

For a specified file, option "D" displays the field definition table (FDT), which includes

- the total number of fields in the file;
- the level number of each field;

- the two-character name of each field;
- the length of each field in bytes;
- the data type (format) of each field: Alphanumeric, Binary, Fixed point, floatinG point, Packed decimal, Unpacked decimal, or Wide-character;
- data definition options for each field: CK for untranslatable characters, DEscriptor, FIxed storage, Long Alphanumeric, MUltiple-value field, Null/not Counted (that is, SQL null representation), Null/Not allowed, NUll value suppression, NV no conversion, PEriodic group (the fields that compose the periodic group are those that follow and have a higher level number), UniQue descriptor value;

  Note: If an online inversion of a field is in process, this information is noted in the Options column.

- equivalent Predict names, if any, for each field.

On the Display FDT screen, press PF2 to access the special descriptor table (SDT) for the file:

```
15:13:22          *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
   DBID 105                       - Display SDT -                      PDRD012


   SUB-/SUPER Table: File 200     (TEST-FILE)
   ==================

   Type  I Name I Length I Format I  Options        I Structure          I
   ------I------I--------I--------I-----------------I-------------------I
   SUPER I  H1  I    4   I    B   I DE NU           I AU (    1 -    2 )I
         I      I        I        I                 I AV (    1 -    2 )I
   PHON  I  PH  I        I        I                 I PHON( AE )         I
   SUB   I  S1  I    4   I    A   I DE              I AO (    1 -    4 )I
   SUPER I  S2  I   26   I    A   I DE              I AO (    1 -    6 )I
         I      I        I        I                 I AE (    1 -   20 )I
   SUPER I  S3  I   12   I    A   I DE NU PE        I AR (    1 -    3 )I
         I      I        I        I                 I AS (    1 -    9 )I



  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help               Exit                                          Menu
```

The SDT provides field information about all sub-/super-/hyperdescriptors, collation descriptors, phonetic descriptors, and sub-/superfields for the file.

In addition to the field's special descriptor type, two-character name, length, format (data type), and data definition options, the SDT identifies the structure of the special descriptor; that is, the component fields and field bytes of sub-/super-/hyperdescriptors and sub-/superfields; the equi-

valent alphanumeric elementary fields of phonetic descriptors; and the associated user exit of collation descriptors.

The equivalent direct commands are:

```
DISPLAY FDT file-number
```

3 Display Files

If no particular file is specified, option "F" lists all files in the specified database. If a file is specified, option "F" provides detailed layout information for the file. Physical device and file layout information is available only for a specific file.

This chapter covers the following topics:

Display a List of Files in the Specified Database

When no file number or "0" (zero) is specified in the `File No` field on the Database Report menu, a list of the files in the specified database is displayed:

```
15:24:38         *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
  DBID 105                       - Display Files -                    PDRF002

 Fnr  File Name        Loaded     Top-ISN    Max-ISN    Ext. Pad %  Ind.   %Used
                                                         NUAD  A  D ACISEXU  A  D
 ---- ---------------- ---------- ---------- ---------- ---- -- -- ------- -----
    1 EMPLOYEES        2006-07-20       1110       5511 1111  3  3 NNISNNN 68 88
    2 MISCELLANEOUS    2006-07-20       1779       5511 1111  3  3 NNISNNN 32 88
    4 AUTOMOBILES      2006-07-20       1000       5511 1111  3  3 NNISNNN 34 36
    5 PERSONNEL        2006-07-20       1000       5511 1111  3  3 NNISNNN 38 52
    6 FINANCE          2006-07-20       1000       5511 1111  3  3 NNISNNN 52 52
    7 GDMUSIC          2006-07-20       3292      16535 1111  3  3 NNNSNNN 81 95
    8 SAMPC-REV311DATA 2006-07-20      44679     100593 1111  3  3 NNNSNNN 79 99
    9 RD-NAT217-FUSER  2006-07-20     163272     175005 1111  3  3 NNISNNN 76 99
   10 RD-PRD314-FDIC   2006-07-20      60016      63387 1111  3  3 NNNSNNN 73 90
   11 REV320-DBFILE    2006-07-20       4442      11023 1111 10 10 NNNSNNN 42 82
   12 REV340-DBFILE    2006-07-20      52008      63387 1111 10 10 NNNSNNN  6 13
   13 SASRM-ZAP-TEST   2006-07-20         11       1377 1111  3  3 NNNSNNN 93  4
   14 SASRM-ZAPSYS     2006-07-20          5       1377 1111  3  3 NNNSNNN 28  4
   16 SAGDT-PRD-FDIC   2006-07-20      25649      30315 1111  3  3 NNISNNN 57 85

  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help     Repos     Exit                --       -        +        Menu
```

The PF2 (Reposition) key displays a window in which you can enter a new starting value for the file list. When you enter a file number, the Display Files list begins with that file.

The Display Files screen provides the following information for each file:

- file number and file name;
- date the file was loaded into the database;
- highest ISN currently in use in the file and the highest ISN allowed in the file;
- number of logical extents currently assigned: by Associator (*N* ormal index; *U* pper index; *A* ddress converter) and *D* ata Storage. A maximum of five logical extents may be allocated to a file.

- block padding factor percentage defined for the Associator and for Data Storage;
- indicators as follows:

A	ADAM option: A = ADAM ISN- or descriptor-selected file; N = non-ADAM file.
C	coupled (C) or non-coupled (N) file.
I	ISNs are reusable (I) or not (N).
S	Data Storage blocks are reusable (S) or not (N).
E	data files are ciphered/encrypted (E) or not (N).
X	files are expanded (X) or normal (N).
U	USERISN option: U = option is in effect for the file; N = option is not in effect.

- percentage of allocated space currently used by the file in the Associator and in Data Storage.

The equivalent direct command is

```
DISPLAY FILE
```

Display Information for a Specific File

When a valid file number is specified on the Database Report menu, the following Display File Layout information is displayed for that file (some of the items shown on the following sample screen only appear if those features are activated or used):

```
13:35:52          ***** A D A B A S  BASIC  SERVICES *****       2009-06-12
DBID 1955                    - Display File Layout -                 PDRF042
 ****************
 *  File 11     *   NAT-SYSTEM
 ****************

 Records loaded ..... 60754         Date loaded .......... 2009-02-17 19:17:04
 TOP ISN ............ 60841         Date of last update .. 2009-06-08 03:34:25
 Max ISN expected ... 80559         Max Compr Rec Lngth .. 5060
 Minimum ISN ........ 1             Asso/Data Padding .... 10%/10%
 Size of ISN ........ 3 Bytes       Highest Index Level .. 3
 Number of Updates .. 82862         RPLUPDATEONLY. No   Indx Comp ...... Yes      ↩

 ISN Reusage ........ Yes           USERISN ...... Yes  PGMREFRESH ..... No
 Space Reusage ...... Yes           MIXDSDEV ..... No   NOACEXTENSION .. No
 ADAM File .......... No            Spanned rec .. No   MU/PE indices .. 1
 Ciphered File ...... No            Replication .. No   Privileged Use . No
 Coupled Files ...... None          Universal Encoding ... Yes                   ↩

 Blk per DS Extent .. 0             Logged DSF Changes ... DS AC Index           ↩

 Blk per UI Extent .. 0             Total Changed Blks ... 28756
 Blk per NI Extent .. 0             Multi Client File .... 0
 Free space available for file extents: At least 134  Extents
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit      Refresh                               Menu
```

The information for the file can be refreshed by pressing PF4.

You can display additional information about UES codes, coupling, LOB file/fields and space allocations by pressing ENTER.

The equivalent direct command is

```
DISPLAY FILE file-number
```

The Display File Layout screen displays the following kinds of information for the file:

- the file number and name;
- the number of records currently contained in the file;
- ISN information: the highest ISN currently used in the file; the highest ISN planned for the file (see the ADALOD utility's MAXISN parameter); the lowest ISN that can be assigned to a record in the file (see the ADALOD utility's MINISN parameter); whether 3- or 4-byte ISNs are used for the file; and whether ISNs can be reused.
- the total number of updates since the file was last loaded;
- other file option settings: whether Data Storage space can be reused; whether the file was loaded with the ADAM option, the cipher option, the USERISN option; whether the file is physically coupled to another file; whether Data Storage extents can be on different device types; whether

the file can be refreshed using the E1 command; whether the file permits the MAXISN setting to be increased.

- the number of blocks allowed per Data Storage, upper index, and normal index extent;
- the date and time the file was last loaded;
- the date and time of the last update to the file;
- the maximum compressed record length permitted for the file (see the ADALOD utility's MAXRECL parameter);
- the padding factor for the Associator and for Data Storage;
- the highest index level currently active for the file;
- whether the file may be updated only by the Event Replicator Server as part of Adabas-to-Adabas replication or by other means as well (RPLUPDATEONLY);
- whether or not index compression is turned on for the file;
- whether universal encoding support (UES) is being used;
- whether the file contains spanned records;
- the number of MU/PE indices in the file;
- Whether replication has been activated for the file;
- The DSF changes being logged for the file;
- the total number of blocks in the file that have been changed by updates since the file was last loaded;
- the length of the owner ID for multiclient files.

When universal encoding support (UES) is being used, pressing ENTER from the initial Display File Layout screen lists the current code values:

```
15:33:00         *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
   DBID 105                  - Display File Layout -                  PDRF012

   Universal Encoding Support enabled for this file

   Encoding Keys:
   File Alpha Code ..............  37
   File Wide Code ...............  4095
   User Wide Code ...............  4095
```

In any case, pressing ENTER from the initial Display File Layout screen displays the following space allocation and usage information:

```
15:33:41         *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
   DBID 105                  - Display File Layout -                   PDRF022

   File 75

        IDeviceIListI  Space allocated  I     From     To     I  Unused        I
        I Type ITypeI  Blocks   / Cyls. I     RABN    RABN    I  Blocks / Cyls.I
   -----I------I----I------------------I --------------------I----------------I
        I      I    I                   I                     I                I
   ASSO I 3380 I AC I         3       0 I      724 -      726 I        0     0 I
        I 3380 I UI I        15       0 I      747 -      761 I        0     0 I
        I 3380 I NI I        20       0 I      727 -      746 I        0     0 I
        I 3380 I NI I        56       0 I      762 -      817 I        2     0 I
        I      I    I                   I                     I                I
   DATA I 3380 I DS I       116       0 I      216 -      331 I       29     0 I









  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help               Exit      Refresh                             Menu
```

If LOB flags are set, the following information will be displayed:

```
16:52:35          ***** A D A B A S  BASIC  SERVICES *****       2006-08-25

DBID 1956                   - Display File Layout -                  PDRF042

LOB File, Related file number  15
```

or

```
16:54:23          ***** A D A B A S  BASIC  SERVICES *****       2006-08-25

DBID 1956                   - Display File Layout -                  PDRF042

File has LOB Fields, Related file number  16
```

4 Display General Database Layout

Option "G" displays general database information on the Display General DB-Layout screen:

```
15:43:07         *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
   DBID 105                - Display General DB-Layout -              PDRG002

   Isolated
   Database Name ............ RD-105
   Database Number .......... 105
   Database Version ......... 8.1
   Database Load Date ....... 2006-07-20 14:40:47
   System Files ............. 19 , 0 , 0 , 0 , 0 , 0 , 0 , 0
   Maximum Number of Files .. 100
   Number of Files Loaded ... 5
   Highest File Loaded ...... 75
   Trigger File Number ...... 14
   Size of RABN ............. 4 Bytes
   Current Log Tape Number .. 5
   Delta Save Facility ...... Inactive
   Recovery Aid Facility .... Inactive
   Universal Encoding Sup. .. Yes




  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help               Exit                                        Menu
```

You can display additional information about UES codes, coupling, and space allocations by pressing ENTER.

The equivalent direct command is

```
DISPLAY DBLAYOUT
```

The Display General DB Layout screen displays the following information for the file:

- the name and number of the database;
- the version level of the Adabas database software;
- the date and time the database was loaded;
- the numbers of Adabas system files allocated to the database;
- the maximum number of files permitted for the database; the total number of files currently loaded; and the highest file number currently in use;
- whether 3- or 4-byte RABNs are being used for the file;
- the number of the most recent data protection log tape for the database;
- whether the Adabas Delta Save Facility and/or the Adabas Recovery Aid (ADARAI) are active or inactive for the database.
- whether universal encoding support (UES) is being used.

When universal encoding support (UES) is being used, pressing ENTER from the initial Display File Layout screen lists the current code values:

```
15:51:22         *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
  DBID 105                - Display General DB-Layout -              PDRG002

  Universal Encoding Support Enabled

  UES Encoding Keys:
  Alpha File Encoding ......... 37
  Wide File Encoding .......... 4095
  Alpha ASCII Encoding ........ 437
  Wide User Encoding .......... 4095
```

In any case, pressing ENTER from the initial Display File Layout screen displays the following space allocation and usage information:

```
15:52:01         *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
   DBID 105                - Display General DB-Layout -              PDRG002


       IDeviceI    Total Number of   I      Extents  in Block   I DD-Names I
       I Type I    Blocks  /   Cyls. I       From        To     I          I
  ------I------I----------------------I --------------------------I----------I
       I      I                       I                          I          I
   ASSO I 3380 I      14231        50 I          1        14231  I DDASSOR1 I
       I      I                       I                          I          I
   DATA I 3380 I       6741        50 I          1         6741  I DDDATAR1 I
       I      I                       I                          I          I
   WORK I 3380 I       3592        30 I          1         3592  I DDWORKR1 I









  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help               Exit                                        Menu
```

5 Display Volume/Serial Numbers for Database

Option "L" displays the physical volumes on which the database Associator and Data Storage files are located, sorted by VOLSER number for ASSO or DATA and including the highest RABN for each extent.

```
16:15:05         *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
   DBID 105                  -  Display Volser-Tab  -                  PDRL002

   Mark entries with 'D' to display file extents on volume :

                       I          I ASSO/ I Highest RABN I
                     M I VOLSER   I DATA  I in extent    I
                    ---------------------------------------
                       I SMS013   I  ASSO I        44988 I
                       I SMS030   I  DATA I       141370 I
                       I          I       I              I
```

If you mark one of the entries on this screen with "D" (or you entered the VOLSER number directly on the Database Report menu), the file extents of the volume are displayed indicating the RABN range and device type of each extent (table type) in each file:

```
16:15:27         *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
   DBID 105                - List File Extents on VOLSER -            PDRL022

       VOLSER =  SMS013

       I ASSO/ I   From      I   To        I Device I File  I  Table  I
       I DATA  I   Rabn      I   Rabn      I Type   I Nr.   I  Type   I
       I-------I-------------I-------------I--------I-------I---------I
       I ASSO  I        1306 I        1340 I  8391  I     0 I   DSST  I
       I       I        1341 I        1344 I  8391  I     1 I     AC  I
       I       I        1345 I        1404 I  8391  I     1 I     NI  I
       I       I        1405 I        1417 I  8391  I     1 I     UI  I
```

The equivalent direct command is

```
DISPLAY VOLSERTAB
```

6 Display RABNs

Option "R" invokes the following screen:

```
16:17:14          *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
   DBID 105                   -  Read ASSO/DATA Block  -                PDRR002

   Type .. _            RABN No .... __________   Offset .. 0000
                        Hex RABN ... 00000000

   0000  00000000 00000000 00000000 00000000
   0000  00000000 00000000 00000000 00000000
   0000  00000000 00000000 00000000 00000000
```

On this screen, enter a RABN type ("A" for Associator or "D" for Data Storage) and a RABN number (in either decimal or hexadecimal format) to display a screen similar to the following:

```
16:24:02         *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
   DBID 105                 -  Read ASSO/DATA Block  -                PDRR002

   Type .. A (ASSO)    RABN No .... 16447_____   Offset .. 0000
                       Hex RABN ... 0000403F

   0000  0FA50112 00230001 00010001 D3F8F1D7  * ?v?? ? ? ? ?L81P *
   0010  D3D6C7D6 00070102 0C871200 23000100  * LOGO ????g? ? ?  *
   0020  010001D3 F8F1D7D3 D6C7D600 0801020C  * ? ?L81PLOGO ???? *
   0030  88120023 00010001 0001D3F8 F1D7D3D6  * h? ? ? ? ?L81PLO *
   0040  C7D60009 01020C89 12002300 01000100  * GO ????i? ? ? ?  *
   0050  01D3F8F1 D7D3D6C7 D6000A01 020C8A12  * ?L81PLOGO ????«? *
   0060  00230001 00010001 D3F8F1D7 D3D6C7D6  *  ? ? ? ?L81PLOGO *
   0070  000B0102 0C8B1200 23000100 010001D3  *  ????»? ? ? ? ?L *
   0080  F8F1D7D3 D6C7D600 0C01020C 8C120023  * 81PLOGO ????ð? ? *
   0090  00010001 0001D3F8 F1D7D7D3 D6C70001  *  ? ? ?L81PPLOG ? *
   00A0  01020CA6 12002300 01000100 01D3F8F1  * ???w? ? ? ? ?L81 *
   00B0  D7D7D3D6 C7000201 020CA712 00230001  * PPLOG ????x? ? ? *
   00C0  00010001 D3F8F1F1 C4D3D6C7 00010101  *  ? ?L811DLOG ??? *
   00D0  F7D71200 23000100 010001D3 F8F1F1C4  * 7P? ? ? ? ?L811D *
   00E0  D3D6C700 020101F7 D8120023 00010001  * LOG ???7Q? ? ? ? *

  PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
  Help               Exit      RABN+1              -        +        Menu
```

Option "R" displays two-doubleword-per-screen rows of the specified RABN block from the Associator or Data Storage in hexadecimal format. Both the hexadecimal data and its alphanumeric equivalent are displayed. If the block is not assigned, zeros are displayed.

The blocks are displayed in the length of the Associator or Data Storage block length.

You can display information for the next highest RABN (that is, the current RABN number plus one) by pressing PF4.

The equivalent direct command is

```
DISPLAY RABN
```

7 Display Unused Storage

Option "U" displays a table of unused storage within the database:

```
16:30:53         *****  A D A B A S   BASIC  SERVICES  *****       2006-07-20
   DBID 105                 - Display Unused Storage -                PDRU002

         I Device I     Total Number of    I Extent           in Blk.   I
         I Type   I   Blocks     /  Cyls.  I from        -      until   I
   ------I--------I-------------------------I----------------------------I
   DATA  I  8391  I       10862       144  I      130509 -      141370  I
   ------I--------I-------------------------I----------------------------I
   ASSO  I  8391  I        8406        46  I       36583 -       44988  I
```

Separately for the Associator and Data Storage extents, the table shows the device type where the unused blocks are located, the number of unused storage blocks and cylinders, and the range of unused block numbers.

The equivalent direct command is

```
DISPLAY UNUSED
```

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