

# Report Description

The ADAREP database status report contains general database information followed by information about the status, allocation, and definition of each file in the database. Although the report is designed for printing from the SYSLST (BS2000), DDRUCK (z/OS), or SYS009 (z/VSE) data set, the following figures show examples of the report output displayed at a terminal. The examples display sections in the order they appear in the report; a description of each part is provided with them.

## Note:

Individual Adabas add-on products may supplement the information displayed on the ADAREP report. For example, if the database supports replication (via the Event Replicator for Adabas), additional statistics appear in various areas of this report. For complete information on the impact of the add-on products to this report, refer to the documentation for the Adabas add-on product.

This chapter covers the following topics:

- General Database Information
- File Information
- Checkpoint Information

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## General Database Information

The first section contains general information about the database and its physical layout:

```
*****
* *
* Data Base Report * yyyy-mm-dd hh:mm:ss
* *
*****
Data Base Name = EXAMPLE-DB
Data Base Number = 238
Date Loaded = yyyy-mm-dd
Time Loaded = hh:mm:ss
Checkpoint File = 5
Security File = 4
Maximum number of files = 255
Number of files loaded = 130
Current Log Tape Number = 184
RABNSIZE = 3
Recovery Aid = No
Universal Encoding Sup. = No
Replication = Yes
```

Additionally, if universal encoding support (UES) is enabled (Universal Encoding Sup. = Yes), the following information is displayed:

Universal Encoding Sup.	=	Yes
ALPHA FILE ENCODING	=	37
WIDE FILE ENCODING	=	4095
ALPHA ASCII ENCODING	=	437
WIDE USER ENCODING	=	4095
Replication	=	No

If UES=NO, this information is suppressed.

Field	Explanation
ALPHA ASCII ENCODING	Current user encoding set for alphanumeric (A) format fields in the database. Must be ASCII-compatible.
ALPHA FILE ENCODING	Current file encoding set for alphanumeric (A) format fields in the database. Must be EBCDIC-compatible.
CURRENT LOG TAPE NUMBER	Number of the most recent data protection log for the database.
DATABASE NAME	Name assigned to the database. See the ADADEF utility, DBNAME parameter.
DATABASE NUMBER	Number (ID) assigned to the database. See the ADADEF utility, DBIDENT parameter.
DATE LOADED	Date the database was initially defined.
MAXIMUM NUMBER OF FILES	Maximum number of files permitted for the database. See the ADADEF utility, MAXFILES parameter.
NUMBER OF FILES LOADED	Number of files currently in the database.
RABNSIZE	Length of the blocks in the database. RABNSIZE=3 indicates 24-bit blocks; RABNSIZE=4 indicates 31-bit blocks.
RECOVERY AID	Whether the Adabas Recovery Aid (ADARAI) is active for the database.
Replication	Whether or not replication (using Event Replicator for Adabas) is active for the database.
Replicator File	Identifies the file number of the Replicator system file if one is loaded on an Event Replicator Server.
Reptor SLOG File	Identifies the file number of the SLOG system file if one is loaded on an Event Replicator Server.
SYSTEM FILES	File numbers of Adabas system files.
TIME LOADED	Time of day when the database was initially defined.
TRIGGER FILE	If the database contains a trigger file, this entry displays the file number. If no trigger file exists in the database, this line does not print.
UNIVERSAL ENCODING SUPPORT	Whether universal encoding support (UES) is active for the database.

Field	Explanation
WIDE FILE ENCODING	Current file encoding set for wide-character (W) format fields in the database.
WIDE USER ENCODING	Current user encoding set for wide-character (W) format fields in the database.

## Space Allocated to Database Components

The "physical layout" table lists the space allocations for the major components of the database (Associator, Data Storage, and Work).

The "unused storage" table lists the unused space in the Associator and Data Storage areas. This space is not assigned to any file in the database.

P H Y S I C A L L A Y O U T													
DD- NAMES	I I	DEV TYPE	I I	NMBR OF CYLS	I I	NMBR OF BLOCKS	EXTENTS FROM TO	IN I	BLK. I	BLOCK LNGLTH	I I	NMBR OF M-BYTE	I I
-----I-----	I	-----I-----	I	-----I-----	I	-----I-----	-----I-----	I	I	-----I-----	I	-----I-----	I
ASSOR1	I	3380	I	100	I	28481	1 28481	I	I	2004	I	54	I
DATAR1	I	3380	I	200	I	26991	1 26991	I	I	4820	I	124	I
WORKR1	I	3380	I	40	I	5391	1 5391	I	I	4820	I	24	I
-----I-----	I	-----I-----	I	-----I-----	I	-----I-----	-----I-----	I	I	-----I-----	I	-----I-----	I
U N U S E D S T O R A G E													
DD- NAMES	I I	DEV TYPE	I I	NMBR OF CYLS	I I	NMBR OF BLOCKS	EXTENTS FROM TO	IN I	BLK. I	BLOCK LNGLTH	I I	NMBR OF M-BYTE	I I
-----I-----	I	-----I-----	I	-----I-----	I	-----I-----	-----I-----	I	I	-----I-----	I	-----I-----	I
ASSOR1	I	3380	I	98	I	28134	328 28461	I	I	2004	I	54	I
DATAR1	I	3380	I	198	I	26811	131 26941	I	I	4820	I	124	I

The columns in these tables provide the following information:

<b>Column</b>	<b>Explanation</b>
DDNAMES	The job/task control name (without the DD prefix) that defines the Associator, Data Storage, or Work component of the database.
DEV TYPE	The physical device containing the Associator, Data Storage, or Work component.
NMBR OF CYLS	The DASD cylinders allocated to the Associator, Data Storage, and Work components. If less than one full cylinder has been allocated, "0" is shown in this column.
NMBR OF BLOCKS	The total number of blocks assigned to the Associator, Data Storage, or Work component. Please note that for Data Storage, Associator, and Work, the first track is not used. ADAREP only shows the number of blocks that are used by Adabas, and not the blocks that are allocated and formatted for use.
EXTENTS IN BLK	The extents, listed by block range.
BLOCK LNGTH	The block size. The block size depends on the component and the device type.
NUMBER OF M-BYTES	The component storage size, in megabytes.

### **Contents of PPT Table**

When the parallel participant table (PPT) information is included in the report, it appears in the General Database Information section of the report, immediately following the subsection "Space Allocated to Database Components". The PPT information appears as follows:

```

*****
*           *
* Contents of PPT *           2009-04-20  2
*           *
*****

PPT RABN Range           =      2413 to      2444
PPT RABN                 =      2413
NUCID                   =      0000
Session Status          =  NUCLEUS ACTIVE OR FAILED (WORK NONEMPTY
                          PLOG(S) NOT YET COPIED
                          CLOG(S) NOT YET COPIED

Number of entries       =          5
Last Session number    =      0002
Last PLOG block written =          0 NOT INITIALIZED
Next block number      =          0

PPT Entry number       =      1
  Dataset              =  /USATSM/TSMATA/WORKR1/
  Dataset Type        =  DDWORK1

PPT Entry number       =      2
  Dataset              =  /USATSM/TSMATA/PLOGR1/
  Dataset Type        =  DDPLOGR1

PPT Entry number       =      3
  Dataset              =  /USATSM/TSMATA/PLOGR2/
  Dataset Type        =  DDPLOGR2

PPT Entry number       =      4
  Dataset              =  /USATSM/TSMATA/CLOGR1/
  Dataset Type        =  DDCLOGR1

PPT Entry number       =      5
  Dataset              =  /USATSM/TSMATA/CLOGR2/
  Dataset Type        =  DDCLOGR2
    
```

The columns in these tables provide the following information:

Statistic	Explanation
PPT RABN Range	The range of RABNs in the PPT.
PPT RABN	The current RABN.
NUCID	The nucleus DBID.
Session Status	The status of the session.
Number of entries	The number of entries in the PPT.
Last Session number	The number of the last session.
Last PLOG block written	The last PLOG block written.
Next block number	The block number of the next block in the PPT.
PPT Entry number	The number of a PPT entry.
Dataset	The data set name associated with the PPT entry.
Dataset Type	The type of data set associated with the PPT entry.

## Contents of the Database: General File Status

The next section contains information on the status of each file in the database. Here is an example:

```

*****
* Contents of Database      99 (EXAMPLE-DB)      *          yyyy-mm-dd  hh:mm:ss
*****

```

File	Name	Loaded	TOP-ISN	MAX-ISN	EXTENTS			
					N	U	A	D
1	EMPLOYEEES	2001-12-28	1107	1695	1	1	1	1
2	MISCELLANEOUS	2001-12-28	1779	2543	1	1	1	1
3	VEHICLES	2001-12-28	773	1695	1	1	1	1

Here is another example showing a database that uses a LOB file:

```

*****
* Contents of Database      99 (EXAMPLE-DB)      *          yyyy-mm-dd  hh:mm:ss
*****

```

File	Name	Loaded	TOP-ISN	MAX-ISN	EXTENTS			
					N	U	A	D
1	SQLNC	2006-02-17	0	1377	1	1	1	301 *
2	BASEFILE	2006-09-01	45	1377	1	1	1	1
3	LOBFILE	2006-09-01	3	1377	1	1	1	1
6	abcdefghijklmnop	2006-07-17	0	4133	1	1	1	300

Warning: \* indicates less than 10 file extents remain for use

When LAYOUT=1 is specified for the ADAREP utility run, this section includes padding factor information merged with all the information in the File Space Allocation section of the report.

The columns in this table provide the following information:

Column	Explanation
FILE	Adabas file number.
NAME	File name (see the ADALOD utility, NAME parameter). If the file cannot build at least ten further extents, it is marked with an asterisk (*) to the right of the name.
LOADED	Date the file was loaded.
TOP-ISN	Highest ISN currently used in the file.
MAX-ISN	Highest ISN that can be assigned to a record in the file (see the ADALOD utility, MAXISN parameter).
EXTENTS	Number of logical extents currently assigned to the normal index (N), upper index (U), address converter (A), and Data Storage (D). The maximum number of logical file extents that you can now define is derived from the block size of the first Associator data set (DDASSOR1). The extent information is stored in a variable section of the FCB. New extents can be added now until the used FCB size reaches the block size of the Associator data set. If the extent limit has been reached, reorder the file (using ADAORD REORFILE or the ADAULD, ADADBS DELETE, ADALOD LOAD utility sequence) before the last extent fills, or Adabas will lock the file.
PADD	The block padding factor defined for the Associator (A%) and Data Storage (D%) (read about the ASSOPFAC and DATAPFAC parameters of the ADALOD LOAD utility for more information).  <b>Note:</b> This column appears only when LAYOUT=1 is specified.

## File Options

The next section lists the file options that are active for each file in the database. Here is an example:

```

*****
* File Options *
*****

          ADAM File
          . Coupled File
          . . ISNREUSE
          . . . DSREUSE
          . . . . CIPHERED File
          . . . . . Expanded File
          . . . . . . USERISN
          . . . . . . . NOACEXTENSION
          . . . . . . . . MIXDSDEV
          . . . . . . . . . PGMREFRESH
          . . . . . . . . . . Multi-Client File
          . . . . . . . . . . . Index Compressed
          . . . . . . . . . . . . 2-Byte MU/PE Index
          . . . . . . . . . . . . . Spanned Record
          . . . . . . . . . . . . . . Replicated
          . . . . . . . . . . . . . . . Priv Use
File Name
-----
1 EMPLOYEES      . . I D . . . . .
2 64BIT-1       . . . D . . . . .
3 MISC          . . I D . . . . .
19 CHECKPOINT-FILE . . . D . . . . .
    
```

Here is another example showing a database that uses a LOB file:



```

*****
* File Options *
*****

          ADAM File
          . Coupled File
          . . ISNREUSE
          . . . DSREUSE
          . . . . Ciphered File
          . . . . . Expanded File
          . . . . . USERISN
          . . . . . NOACEXTENSION
          . . . . . MIXDSDEV
          . . . . . PGMREFRESH
          . . . . . Multi-Client File
          . . . . . Index Compressed
          . . . . . 2-Byte MU/PE Index
          . . . . . Spanned Record
          . . . . . Replicated
          . . . . . Contains LOB Fields
          . . . . . Privileged Use
          . . . . . LOB File
File Name
-----
  2  BASEFILE      . . I D . . . . . C . . . L . .
  3  LOBFILE      . . I D . . . . . C . . . . . L
 11  UES-EMPLOYEES . . . D . . . . . . . . . . .
 13  UES-TEST     . . . D . . . . . . . . . . .
 14  DBCS3035    . . . D . . . . . . . . . . .
 15  COLLATION1  . . I D . . . . . P . . . . .
 18  SECURITY     . . . D . . . . . . . . . . .
 19  CHECKPOINT  . . . D . . . . . . . . . . .
 23  EMPL23-EXT  . . . D . . U . . P . . . . .
 24  SAGABS_MYFILEXX . . I D . . . . . M . . C . . . .
 50  EMPL50-EXT  . . . D . . U . . . . . . . . .
 88  BASEF-LBLA  . . . D . . . . . . . . . L . .
 89  LOBF-LBLA   . . . D . . . . . . . . . C . . . L
101  file101     . . I D . . . . . M . . C . . . .
266  UES-EMPLOYEES . . . D . . . . . . . . . . .
267  UES-EMPLOYEES . . . D . . . . . . . . . . .
    
```

Options that are active for a file are indicated by the following codes in the row containing the file name:

Code	Explanation
A	ADAM file. The file was loaded with the ADAM option.
C	Coupling, ciphering, or index compression. The file is coupled to one or more files, and/or the file data is ciphered, and/or the file index is compressed.
D	Space reuse. Space which has been released within a block as a result of a record deletion may be used for a new record.
I	ISN reuse. ISNs of deleted records may be reassigned to new records.
L	If this appears in the "Contains LOB Fields" column, the file contains LB fields (it is a base file). If this appears in the "LOB File" column, the file is a LOB file, not a base file.  <b>Note:</b> These two columns are mutually exclusive; an "L" will only appear in one of them, if it appears at all.
M	MIXDSDEV active (multiple Data Storage device types) and/or a multicient file.
N	File is defined with the NOACEXTENSION option.
P	PGMREFRESH is active. "P" is also used in the Priv Use column to indicate that the file is locked by the nucleus for privileged use. The privileged use information is also available in the <i>File Information</i> section of the ADAREP report.
R	Replication (Event Replicator for Adabas processing) is active for the file.
S	Spanned record support is activated for the file.
T	Two-byte MU/PE indexes (when MU/PE occurrences exceed 191) are active for the file.
U	File was loaded with the USERISN option.
X	File is a component of an expanded file.

## File Space Allocations

The next section shows the space allocated for each file in the database. Here is an example:

```

*****
* FILE SPACE ALLOCATIONS *
*****

FILE      NAME      ALLOC. : NI      UI      AC      DATA/CYL
      UNUSED:

1      EMPLOYEES      100      30      03      80/0
1              24      17              31/0
2      VEHICLES      10      20      03      30/0
2              03      02              12/0
10     CHECKPOINT    10      01      01      20/0
10              05      0              11/0
    
```

Here is another example showing a database that uses a LOB file:

```

*****
* File Space Allocations *
*****

```

File	Name	Alloc.:	NI	UI	AC	Data/Cyl
		Unused:				
2	BASEFILE		10	5	1	10/0
2			10	5		9/0
3	LOBFILE		10	5	1	100/1
3			9	3		99/1
11	UES-EMPLOYEES		47	20	1	75/1
11			0	4		53/0
13	UES-TEST		30	20	1	10/0
13			25	14		9/0
14	DBCS3035		60	22	1	30/0
14			22	9		8/0
15	COLLATION1		6	3	1	1/0
15			4	0		0/0
18	SECURITY		1	1	1	1/0
18			1	0		1/0
19	CHECKPOINT		30	3	4	90/1
19			30	2		53/0
23	EMPL23-EXT		60	24	2	30/0
23			52	19		27/0
24	SAGABS_MYFILEXX		24	4	1	5/0
24			24	0		5/0
50	EMPL50-EXT		80	49	2	100/1
50			25	28		75/1
88	BASEF-LBLA		10	5	1	10/0
88			10	4		10/0
89	LOBF-LBLA		10	5	8	411/5
89			10	4		411/5
101	file101		7	14	2	72/0
101			6	12		71/0
266	UES-EMPLOYEES		30	20	1	75/1
266			30	18		75/1
267	UES-EMPLOYEES		63	20	1	75/1
267			16	4		53/0

When LAYOUT=1 is specified, this section is merged into the Contents of Database section of the report.

Each file listed has two rows in the file space allocations table. The first row shows the number of blocks and cylinders *allocated*. The second row shows the number of blocks and cylinders currently *unused*.

The first two columns give the number and logical name of the file. The remaining columns provide the following information:

Column	The number of . . .
NI	blocks for the normal index.
UI	blocks for the upper index.
AC	blocks for the address converter.
DATA/CYL	blocks and cylinders for Data Storage.

## LOB File

If a database includes a LOB file, an additional section describing the LOB file is included in the report. Here is an example:

```

*****
*                               *
* LOB Files *                               yyyy-mm-dd  hh:mm:ss
*                               *
*****

File with I Associated I
LOB fields I LOB file I
-----I-----I
      2 I          3 I
-----I-----I
      88 I         89 I
-----I-----I
    
```

The columns provide the following information:

Column	Lists:
File with LOB fields	The file numbers of files containing LB fields.
Associated LOB file	The number of the LOB file in which the actual LB field values are stored.

## Physical Layout of the Database

The next section lists all space allocations for the database in RABN sequence. RABNs allocated to the Associator are listed first, followed by RABNs allocated to Data Storage.

```

*****
*                               *
* Physical Layout of the Database *                               yyyy-mm-dd  hh:mm:ss
*                               *
*****

      From      To      Number  Dev  Table File VOLSER
      Blk       Blk    of Blks Type Type      Number
      -----
      131      -   162         32 3390   PPT    0 ADA001
      163      -   163          1 3390  DSST    0 ADA001
      164      -   164          1 3390   AC     19 ADA001
      165      -   174         10 3390   UI     19 ADA001
      175      -   224         50 3390   NI     19 ADA001
      225      -   242         18 3390   AC      2 ADA001
      243      -   243          1 3390  AC2     2 ADA001
      244      -   254         11 3390 UNUSED    0 ADA001
      255      -   259          5 3390   AC      1 ADA001
    
```

**Note:**

Normally, a gap in the physical layout table is accompanied by an error message pointing to the gap. However, this is not the case for the physical layout of a file save. Since the file save contains only the FCBs of the saved files, there will be gaps in the physical layout table and these are reported as 'unknown' ranges.

The columns in this table provide the following information:

Column	Explanation
FROM BLK	The RABN of the first block in the logical extent.
TO BLK	The RABN of the last block in the logical extent.
NUMBER OF BLKS	The number of blocks contained within the extent.
DEV TYPE	The physical device type.
TABLE TYPE	The element for which the allocation was made: AC                      address converter NI                      normal index UI                      upper index DS                      Data Storage DSF                     Delta Save logging area DSST                    Data Storage Space Table UNUSED                available space
FILE	The file for which the allocation was made. Zero indicates that the extent is not related to a particular file.
VOLSER NUMBER	The serial number of the volume on which the extent is contained. This is shown for Data Storage only if the Data Storage data sets are present in the JCL.

## File Information

### General Characteristics

Detailed information on each file in the database is provided after the database information. This information can be limited to certain files or omitted altogether. The first part of this section displays information about the file's characteristics. Here is an example of a file containing spanned records:

```

*****
*
* File      1 (BASE-FILE      ) *
*
*
*****

TOP-ISN           =      198,972      Highest Index Level = 3
MAX-ISN Expected  =      229,807      Padding Factor ASSO = 50%
Records Loaded    =           100      Padding Factor DATA = 0%
MIN-ISN           =           1       Length of Client NR = 0
TOP AC2 ISN       =           30
MAX AC2 ISN Exp.  =           847
MIN AC2 ISN       =           1
MAX-ISN formatted =      229,807
MAX-2nd-ISN form. =           847
Number of Updates =           0       ISNSIZE           = 4

MAX COMP REC LEN  =           N/A      Date Loaded         = 2009-08-25
BLK/ADD DS EXT    =           10      Time Loaded         = 00:53:51
BLK/ADD UI EXT    =           6
BLK/ADD NI EXT    =           3

ADAM File         No
Ciphered File     No
ISN Reusage       Yes
Space Reusage     Yes
Coupled Files     None
Expanded File     No
USERISN           No
NOACEXTENSION     No
MIXDSDEV          No
PGMREFRESH        No
Multi Client File No
Privileged usage  No
Online INVERT     None
Index Compressed  Yes
Spanned Rec Supp Yes
Two Byte MU/PE    Yes
LOB file          No
Contain LOB fields Yes
RPLUPDATEONLY     No
READONLY-MODE     No

```

Here is an example of the general characteristics of the *base file* of a base file-LOB file pair:

```

*****
*
* File      2 (BASEFILE      ) *
*
*
*****

TOP-ISN           =           45      Highest Index Level = 0
MAX-ISN Expected =       1,377      Padding Factor ASSO = 10%
Records Loaded   =           44      Padding Factor DATA = 10%
MIN-ISN          =             1      Length of Client NR = 0
Number of Updates =       55,937      ISNSIZE              = 3

MAX COMP REC LEN =       10,792      Date Loaded           = 2006-09-01
BLK/ADD DS EXT  =             0      Time Loaded           = 14:16:57
BLK/ADD UI EXT  =             0      Date of last update  = 2007-01-23
BLK/ADD NI EXT  =             0      Time of last update  = 07:00:52

FILE ALPHA CODE  =             37
FILE WIDE CODE   =           4,095
USER WIDE CODE   =           4,095
    
```

Here is an example of the general characteristics of the *LOB file* of a base file-LOB file pair:

```

*****
*
* File      3 (LOBFILE      ) *
*
*
*****

TOP-ISN           =             3      Highest Index Level = 3
MAX-ISN Expected =       1,377      Padding Factor ASSO = 10%
Records Loaded   =             0      Padding Factor DATA = 10%
MIN-ISN          =             1      Length of Client NR = 0
Number of Updates =             0      ISNSIZE              = 3

MAX COMP REC LEN =       10,792      Date Loaded           = 2006-09-01
BLK/ADD DS EXT  =             0      Time Loaded           = 14:16:58
BLK/ADD UI EXT  =             0
BLK/ADD NI EXT  =             0

FILE ALPHA CODE  =   DB DEFAULT
FILE WIDE CODE   =   DB DEFAULT
USER WIDE CODE   =   DB DEFAULT
    
```

The following information can be provided on this report (although all of these fields may not appear on the sample above):

Field	Explanation
BLK/ADD DS EXT	Maximum number of blocks which may be allocated for each Data Storage secondary extent. See the ADALOD utility, MAXDS parameter.

Field	Explanation
BLK/ADD NI EXT	Maximum number of blocks which may be allocated for each secondary normal index extent. See the ADALOD utility, MAXNI parameter.
BLK/ADD UI EXT	Maximum number of blocks which may be allocated for each secondary upper index extent. See the ADALOD utility, MAXUI parameter.
Collect before images of updates	Indicates whether or not before images of data storage are collected for replication (if replication is activated) during the update of a record on a file. This information is shown whether or not a file is replicated with a primary key defined.
DATE LOADED	Date the file was loaded.
DATE OF LAST UPDATE	Date the file was last changed.
FILE ALPHA CODE	Current file encoding set for alphanumeric fields in the file. This information is not displayed if UES=NO.
FILE WIDE CODE	Current file encoding set for wide-character fields in the file. This information is not displayed if UES=NO.
HIGHEST INDEX LEVEL	Highest index level currently active for the file.
ISNSIZE	Whether the file contains 3-byte or 4-byte ISNs.
LENGTH OF CLIENT NR	Length of the owner ID for a multiclient file.
MAX AC2 ISN EXP	The highest secondary ISN expected in the file. This statistic is given only if spanned records are activated for the file.
MAX COMP REC LEN	Maximum compressed record length permitted for the file. See the ADALOD utility, MAXRECL parameter. If spanned record support is enabled for the file, the value for this field is shown as "N/A".
MAX-2nd-ISN form.	The highest secondary ISN formatted for the file.
MAX-ISN EXPECTED	Highest ISN planned for the file. See the ADALOD utility, MAXISN parameter.
MAX-ISN FORMATTED	Highest ISN formatted for the file.
MIN AC2 ISN	The lowest secondary ISN in the file. This statistic is given only if spanned records are activated for the file.
MIN-ISN	Lowest ISN that can be assigned to a record in the file. See the ADALOD utility, MINISN parameter.
Number of Updates	Number of updates that have been applied to the file after it was loaded.
PADDING FACTOR ASSO	Associator padding factor. For more information, read about the ADALOD LOAD ASSOPFAC parameter or the ADAORD REORASSO and REORFASSO functions.



Field	Explanation
PADDING FACTOR DATA	Data Storage padding factor. For more information, read about the ADALOD LOAD DATAPFAC parameter or the ADAORD REORDATA and REORFDATA functions.  <b>Note:</b> If spanned records are used, the padding factor is ignored, in an attempt to fully use the block. So it is frequently listed as zero in this report. The padding factor is only used in the last, short, segment of a spanned record.
Primary key of replicated records	Identifies the primary key for replication, if replication is activated. This information is shown only if a file is replicated with a primary key defined.
Records Loaded	Number of records currently contained in the file.
Replicator target ID	Identifies the database ID of the Event Replicator Server used for replication, if replication is activated. This information is shown whether or not a file is replicated with a primary key defined.
TIME LOADED	Time the file was loaded.
TIME OF LAST UPDATE	Time the file was last changed.
TOP AC2 ISN	The highest secondary ISN in use in the file. This statistic is given only if spanned records are activated for the file.
TOP-ISN	Highest ISN currently used in the file.
USER WIDE CODE	Current user encoding set for wide-character fields in the file. This information is not displayed if UES=NO.

## Options

File option settings for the file are displayed next. Here is an example showing that spanned records are used:

ADAM File	No
Ciphered File	No
ISN Reusage	No
Space Reusage	Yes
Coupled Files	None
Expanded File	No
USERISN	No
NOACEXTENSION	No
MIXDSDEV	No
PGMREFRESH	No
Multi Client File	No
Privileged usage	No
Online INVERT	None
Index Compressed	No
Spanned Rec Supp	Yes
Two Byte MU/PE	No

ADABAS version needed for this file: V71 or later

Here is an example of the *base file* of a base file-LOB file pair, showing that the file contains LB fields:

ADAM File	No
Ciphered File	No
ISN Reusage	Yes
Space Reusage	Yes
Coupled Files	None
Expanded File	No
USERISN	No
NOACEXTENSION	No
MIXDSDEV	No
PGMREFRESH	No
Multi Client File	No
Privileged usage	No
Online INVERT	None
Index Compressed	Yes
Spanned Rec Supp	No
Two Byte MU/PE	No
LOB file	No
Contain LOB fields	Yes

Here is an example of the *LOB file* of a base file-LOB file pair, showing that the file is itself a LOB file:

ADAM File	No
Ciphered File	No
ISN Reusage	Yes
Space Reusage	Yes
Coupled Files	None
Expanded File	No
USERISN	No
NOACEXTENSION	No
MIXDSDEV	No
PGMREFRESH	No
Multi Client File	No
Privileged usage	No
Online INVERT	None
Index Compressed	Yes
Spanned Rec Supp	No
Two Byte MU/PE	No
LOB file	Yes
Contain LOB fields	No

Field	Indicates . . .
ADAM File	whether the file was loaded with the ADAM option.
Ciphered File	whether the file was loaded with the cipher option.
ISN Reusage	whether the file ISNs can be reused.
Space Reusage	whether the file Data Storage space can be reused.
Coupled Files	the file(s) to which this file is physically coupled.
Expanded File	whether the file is part of an expanded file; if so, the number of the expanded file is displayed.
USERISN	whether the file was loaded with the USERISN option.
NOACEXTENSION	whether the file permits increasing the MAXISN setting.
MIXDSDEV	whether the file Data Storage extents can be on different device types.
PGMREFRESH	whether the file can be refreshed using the E1 command.
Multiclient File	whether the file can contain records belonging to multiple owners/owner IDs.
Privileged usage	whether the file was locked by the nucleus for privileged usage; if so, only Adabas utilities are allowed to access the file.
Online INVERT	the descriptor(s) being inverted online.
Index Compressed	whether the file index is compressed.
Spanned Rec Supp	whether spanned record support is activated for the file.
Two Byte MU/PE	whether two-byte MU/PE indexes (when MU/PE occurrences exceed 191) are active for the file.
LOB file	whether the file is a LOB file.
Contain LOB fields	whether the file contains one or more LB fields (it is a base file).

## Delta Save Change Flags

If the Delta Save Facility is installed on the database and delta save logging is enabled, ADAREP shows the delta save change flags for each file:

```

DELTA SAVE CHANGE FLAGS:
SAVE ENTIRE INDEX      = [YES | NO]
SAVE ENTIRE ADDR CONV = [YES | NO]
SAVE ENTIRE DATA STOR = [YES | NO]
TOTAL CHANGES BY UTILITIES = nnn BLOCKS

```

Each flag indicates whether all of the index, address converter, or Data Storage, respectively, of the file have been changed by a utility and will be saved entirely in the next delta save operation.

The "TOTAL CHANGE BY UTILITIES" include the blocks within extents that will be saved entirely as well as the blocks changed by ADALOD UPDATE executions.

## Space Allocation

The next section lists the space allocations for the file. Here is an example showing space allocations when spanned records are used:

List	Dev	Block	Space Alloc.	From	To	Unused	Space			
Type	Type	Lngh	Blocks	Cyl	RABN	RABN	Blocks			
AC	I	3390	2544	I	18	0I	225	242I		
AC2	I	3390	2544	I	1	0I	243	243I		
NI	I	3390	2544	I	500	1I	524	1023I	499	1I
UI	I	3390	2544	I	100	0I	1024	1123I	98	0I
DSST	I	3390	2544	I	1	0I	163	163I		
DS	I	3390	5064	I	1500	10I	473	1972I	1397	9I

Here is an example of the space allocation of a *base file* in a base file-LOB file pair:

List	Dev	Block	Space Alloc.	From	To	Unused	Space			
Type	Type	Lngh	Blocks	Cyl	RABN	RABN	Blocks			
AC	I	8391	4136	I	1	0I	1717	1717I		
NI	I	8391	4136	I	10	0I	1988	1997I	10	0I
UI	I	8391	4136	I	5	0I	1718	1722I	5	0I
FDT	I	8391	4136	I	4	0I	335	338I		
DSST	I	8391	4136	I	1	0I	1563	1563I		
DS	I	8391	10796	I	10	0I	176	185I	9	0I

Here is an example of the space allocation of a *LOB file* in a base file-LOB file pair:

List Type	Dev Type	Block Lngth	Space Alloc. Blocks	Alloc. Cyl	From RABN	To RABN	Unused Space Blocks	Unused Space Cyl
AC	I 8391	4136 I	1	0I	1998	1998I		
NI	I 8391	4136 I	10	0I	1732	1741I	9	0I
UI	I 8391	4136 I	5	0I	1999	2003I	3	0I
FDT	I 8391	4136 I	4	0I	339	342I		
DSST	I 8391	4136 I	1	0I	1563	1563I		
DS	I 8391	10796 I	100	1I	403	502I	99	1I

The space allocations table provides the following information:

Column	Explanation
LIST TYPE	The database component: AC address converter AC2 secondary address converter extents (for spanned records) NI normal index UI upper index DS Data Storage DSF File-specific delta save logging area DSST Data Storage Space Table UNUSED Available space
DEV TYPE	Physical device containing the component.
BLOCK LNGTH	Block length depends on the component and device type.
SPACE ALLOC.	Total number of blocks and cylinders allocated to the component; "0" indicates less than one full cylinder.
FROM RABN	RABN of the first block in the logical extent.
TO RABN	RABN of the last block in the logical extent.
UNUSED SPACE	Number of allocated blocks and cylinders but currently unused; "0" indicates less than one full cylinder.

### Field Definition Table

The Field Definition Table (FDT) is displayed next. This information can be omitted. Here is a general example of the FDT section of the report:

FIELD DESCRIPTION TABLE									
LEVEL	I	I	I	I	I	I	I	I	PARENT OF
	I	I	I	I	I	I	I	I	
	I	I	I	I	I	I	I	I	
1	I	AA	I	8	I	A	I	DE, UQ	
1	I	AB	I		I		I		
2	I	AC	I	20	I	A	I	NU	
2	I	AE	I	20	I	A	I	DE	SUPERDE, PHONDE
2	I	AD	I	20	I	A	I	NU	
1	I	AF	I	1	I	A	I	FI	
1	I	AG	I	1	I	A	I	FI	
1	I	AH	I	6	I	U	I	DE	
1	I	A2	I		I		I		
1	I	AO	I	6	I	A	I	DE	SUBDE, SUPERDE
1	I	AQ	I		I		I	PE	
2	I	AR	I	3	I	A	I	NU	SUPERDE
2	I	AS	I	5	I	P	I	NU	SUPERDE
1	I	A3	I		I		I		
2	I	AU	I	2	I	U	I		SUPERDE
2	I	AV	I	2	I	U	I	NU	SUPERDE

Here is an example of part of the FDT associated with the *base file* of a base file-LOB file pair, showing the LB fields in the base file.

Field Description Table							
Level	I	I	I	I	I	I	I
	Name	Length	Format	Options	Parent of		
-----	-----	-----	-----	-----	-----	-----	-----
1	I	AA	I 6	A	I NU	I	I
1	I	AP	I 2	P	I NU	I	I
1	I	A1	I 0	A	I NU	I	I
1	I	A2	I 0	A	I NU,NV	I	I
1	I	A3	I 0	A	I MU,NU	I	I
1	I	A4	I 0	A	I MU,NU,NV	I	I
1	I	A5	I 0	A	I NC	I	I
1	I	A6	I 0	A	I NC,NV	I	I
1	I	B1	I 0	A	I LA,NU	I	I
1	I	B2	I 0	A	I LA,NB,NU	I	I
1	I	B3	I 0	A	I LA,NU,NV	I	I
1	I	B4	I 0	A	I LA,NB,NU,NV	I	I
1	I	B5	I 0	A	I LA,MU,NU	I	I
1	I	B6	I 0	A	I LA,NB,MU,NU	I	I
1	I	B7	I 0	A	I LA,MU,NU,NV	I	I
1	I	B8	I 0	A	I LA,NB,MU,NU,NV	I	I
1	I	C1	I 0	A	I LB,NU	I	I
1	I	C2	I 0	A	I LB,NB,NU	I	I
1	I	C3	I 0	A	I LB,NU,NV	I	I
1	I	C4	I 0	A	I LB,NB,NU,NV	I	I
1	I	C5	I 0	A	I LB,MU,NU	I	I
1	I	C6	I 0	A	I LB,NB,MU,NU	I	I
1	I	C7	I 0	A	I LB,MU,NU,NV	I	I
1	I	C8	I 0	A	I LB,NB,MU,NU,NV	I	I
1	I	D1	I 0	W	I NU	I	I
1	I	D2	I 0	W	I NU,NV	I	I
1	I	D3	I 0	W	I MU,NU	I	I
1	I	D4	I 0	W	I MU,NU,NV	I	I
1	I	D5	I 0	W	I NC	I	I
1	I	D6	I 0	W	I NC,NV	I	I
1	I						

Here is an example of an FDT report showing logically deleted fields (fields W4 and W9 have been logically deleted):

Field Description Table							
Level	Name	Length	Format	Options	Parent of		
1	W1	4	B	DT=E (DATE)			
1	W2	10	A	NU			
1	W3	20	A	NU			
1	W4	20	A	NU			
				DELETED FIELD			
1	W5	20	A	NU			
1	W6	2	A	NU			
1	W7	9	U	NU			
1	W8	4	U	NU			
1	W9	12	U	NU			
				DELETED FIELD			

FDT sections are not printed for *LOB files*.

Field	Explanation
LEVEL	Field level.
NAME	Field name.
LENGTH	Field length, in bytes.
FORMAT	Field's data type: A            alphanumeric B            binary F            fixed point P            packed decimal G            floating point U            unpacked decimal W            wide-character



Field	Explanation
OPTIONS	DE     Descriptor FI     Fixed storage LA     Long alphanumeric LB     Large object field MU     Multiple-value field NB     No blank compression NC     Null/not counted NN     Null not allowed NU     Null value suppression NV     Not converted (alpha and wide-character fields) PE     A periodic group. The fields composing the periodic group are those which follow and have a higher level number. UQ     Unique descriptor XI     Index (occurrence) number excluded from UQ in PE
PARENT OF	Shows whether this field is a parent field for a collation descriptor, sub/superfield, sub/superdescriptor, hyperdescriptor, or phonetic descriptor.

## Special Descriptors

The next section displays information about any special descriptors (collation descriptors, subdescriptors, subfields, superdescriptors, superfields, phonetic descriptors, and hyperdescriptors) in the file:

SPECIAL DESCRIPTOR TABLE						
I	I	I	I	I	I	I
TYPE	NAME	LENGTH	FORMAT		OPTIONS	STRUCTURE
I	I	I	I	I	I	I
-----I	-----I	-----I	-----I	-----I	-----I	-----I
I	I	I	I	I	I	I
SUPER	H1	4	B	I	DE,NU	AU ( 1 - 2 )
I	I	I	I	I	I	AV ( 1 - 2 )
SUB	S1	4	A	I	DE	AO ( 1 - 4 )
SUPER	S2	26	A	I	DE	AO ( 1 - 6 )
I	I	I	I	I	I	AE ( 1 - 20 )
SUPER	S3	12	A	I	DE,NU,PE	AR ( 1 - 3 )
I	I	I	I	I	I	AS ( 1 - 9 )
I	I	I	I	I	I	I
PHON	PH	I	I	I	I	PH = PHON(AE)
I	I	I	I	I	I	I
COL	Y1	20	W	I	DE	CDX 8,PA
COL	Y2	12	A	I	DE,NU,PE	CDX 1,AR
I	I	I	I	I	I	I
I	I	I	I	I	I	I
-----I	-----I	-----I	-----I	-----I	-----I	-----I

Along with the name, length, and format of each special descriptor, this table provides the following information:

Column	Explanation
TYPE	SUB      Subfield/subdescriptor SUPER    Superfield/superdescriptor PHON     Phonetic descriptor HYPER    Hyperdescriptor COL      Collation descriptor
OPTIONS	DE      Descriptor field FI      Fixed point LA      Long alphanumeric MU      Multiple-value field NC      Null not counted (SQL null representation) NN      Null not allowed NU      Null value suppression NV      Not converted (alpha and wide-character fields) PE      Periodic group UQ      Unique descriptor XI      Index (occurrence) number excluded from UQ in PE
STRUCTURE	The component fields and field bytes of the sub-, super-, or hyperdescriptor. Phonetic descriptors show the equivalent alphanumeric elementary fields. Collation descriptors show the associated collation descriptor user exit and the name of the parent field.

## Checkpoint Information

Checkpoint information is also provided if the CPLIST or CPEXLIST parameters are specified:

```

*****
* CHECK-POINT-LIST *
*****
                                yyyy-mm-dd hh:mm:ss

CP      CP      DATE      TIME      PLOG      BLOCK      JOBNAME
NAME    TYPE
        USER TYPE
        VOLSER NR....

SYNP    30      1995-06-03  14:07:38  47        1          DUAL GA0TB1
        LOAD
        VOLSER = WRK001
SYNC    01      ET  1995-06-03  14:08:16  48        2          DUAL GANUC70A
        SESSION OPEN IGNDIB=N FORCE=N
SYNP    1C      UTI 1995-06-03  14:08:36  48        3          DUAL GA0TB1
        RESTRUCT
    
```

The columns in this table provide the following information:

Column	Explanation
CP-NAME	<p>CP-NAME is the checkpoint identifier. In the case of a user non-synchronized checkpoint, this is the checkpoint identifier supplied by the user program. Checkpoint names starting with "SYN" are reserved for the Adabas nucleus and utilities:</p> <ul style="list-style-type: none"> <li>● SYNC -- A synchronized checkpoint made during nucleus initialization, including the status of the ADARUN IGNDIB and FORCE parameters.</li> <li>● SYN F -- A checkpoint taken by a user program or utility that requires exclusive (EXF) control of one or more files.</li> <li>● SYN P -- A checkpoint from a utility that requires privileged control. Such a utility can perform updating without using the Adabas nucleus.</li> <li>● SYN S -- A checkpoint from Adabas Online System (SYSAOS) or ADADBS with three exceptions from the nucleus. The function identified by this checkpoint is implemented without user intervention during regeneration.  Exceptions include a second SYN S 5B recorded at the end of a nucleus session, SYN S 60 recorded at an interval specified by the ADARUN INTNAS parameter, and SYN S 61 recorded when more space is allocated for a file.</li> <li>● SYN V -- Indicates that a volume ID changed during sequential write to a data set is being closed.</li> <li>● SYN X -- A checkpoint from a utility requiring exclusive control (EXU) of one or more files.</li> <li>● SYN 1 -- A checkpoint made at the beginning of online ADASAV execution (SAVE database function).</li> <li>● SYN 2 -- A checkpoint made at the end of online ADASAV execution (SAVE database function).</li> <li>● SYN 4 -- A checkpoint made at the beginning of online ADASAV execution (SAVE files operation).</li> <li>● SYN 5 -- A checkpoint made at the end of online ADASAV execution (SAVE files operation).</li> </ul>
CP TYPE	The checkpoint number. See the following table of checkpoints for the possible checkpoint numbers.

Column	Explanation
USER TYPE	The Adabas user type that set the checkpoint. The user types are: ET      ET user EXF    exclusive-file-control user or utility (privileged user) EXU    exclusive-file-update user or utility UTI    utility-update-control utility (privileged user) UTS    Online ADASAV SAVE file (privileged user)
DATE TIME	The date and time the checkpoint was taken.
PLOG NR.	The number of the data protection log in use when the checkpoint was written to the checkpoint file.
BLOCK NR.	The block number of the data protection log in which the checkpoint was written.
VOLSER-NUMBER	The volume serial number of the sequential protection (DD/SIBA) log. The volume serial number is "DUAL" if dual logging is used and "MULTI" if multiple logging is used.
JOBNAME	The name of the job that created the checkpoint.

The following table describes the checkpoints written by the Adabas nucleus or utilities:

Type	Name	Originator	Description
01	SYNC	ADANUC	Written by nucleus at start of nucleus session.
01	SYNF	User/Utility	User/utility session OPEN with files used in EXF (exclusive use) mode.
01	SYNX	EXU user	EXU user open.
02	SYNV	ADANUC	VOLSER entry. Written at volume switch on DD/SIBA and at the end of the session if sequential logging is used.
03	SYNF	User/Utility	Close checkpoint for an EXF user.
03	SYNX	EXU	Close checkpoint for an EXU user.
05	SYNP	ADASAV	SAVE file(s)-start of operation
06	SYNP	ADASAV	SAVE database-start of operation
07	SYNP	ADASAV	RESTORE file(s)-end of operation
08	SYNP	ADASAV	RESTPLOG-end of operation
09	SYNV	ADASAV	SAVE file(s), VOLSER entry. Written at volume change on DD/SAVE and at SAVE-operation end.
0A	SYNV	ADASAV	SAVE database, VOLSER entry. Written at volume switch on DD/SAVE and at SAVE-operation end.

Type	Name	Originator	Description
0B	SYNP	ADASAV	SAVE DELTA-end of operation
0C	SYNP	ADASAV	RESTORE DELTA-end of operation
0D	SYNP	ADASAV	MERGE-end of operation
0E	SYNV	ADASAV	SAVE DELTA, VOLSER entry
0F	SYNV	ADASAV	MERGE, VOLSER entry
10	SYNP	ADAINV	COUPLE files
11	SYNP	ADAINV	INVERT field(s)
15	SYNP	ADAORD	REORDER Associator database
16	SYNP	ADAORD	REORDER Data Storage database
17	SYNP	ADAORD	REORDER database
18	SYNP	ADAORD	REORDER Associator file
19	SYNP	ADAORD	REORDER Data Storage file
1A	SYNP	ADAORD	REORDER file
1B	SYNP	ADAORD	STORE
1C	SYNP	ADAORD	RESTRUCTURE
1D	SYNP	ADADEF	DEFINE NETWORK
1E	SYNP	ADADEF	MODIFY default character encodings
22	SYNX	ADARES	REGENERATE file
23	SYNX	ADARES	BACKOUT file
24	SYNX	ADARES	REGENERATE all; CPEXLIST lists excluded files
25	SYNX	ADARES	BACKOUT all; CPEXLIST lists excluded files
26	SYNP	ADARES	REPAIR Data Storage
27	SYNV	ADARES	COPY sequential protection log
28	SYNP	ADARES	PLCOPY function successfully completed
28	SYNV	ADARES	PLCOPY dual or multiple protection log
29	SYNV	ADARES	CLCOPY dual or multiple command log
2A	SYNP	ADARES	PLCOPY MERGE function successfully completed
2A	SYNV	ADARES	PLCOPY MERGE dual or multiple protection log
2B	SYNP	ADARES	CLOG MERGE function successfully completed
2B	SYNV	ADARES	CLOG MERGE dual or multiple command log
30	SYNP	ADALOD	LOAD file
31	SYNP	ADALOD	Mass update
35	SYNX	ADAULD	Unload file

Type	Name	Originator	Description
3F	SYNP	ADAZAP	Successful VERIFY - REPLACE
40	SYNS	SYSAOS	Add extent
41	SYNS	SYSAOS	CHANGE default field length
42	SYNS	SYSAOS	DECREASE database size
44	SYNS	SYSAOS	Delete file
45	SYNS	SYSAOS	INCREASE database size
47	SYNS	SYSAOS	RECOVER space
48	SYNS	SYSAOS	Refresh file
49	SYNS	SYSAOS	Remove component file from expanded-file chain
4A	SYNS	SYSAOS	Release descriptor
4B	SYNS	SYSAOS	RENAME file
4C	SYNS	SYSAOS	RENUMBER file
4D	SYNS	SYSAOS	RESET DIB
4E	SYNS	SYSAOS	Reuse ISN
4F	SYNS	SYSAOS	Reuse Data Storage
50	SYNS	SYSAOS	UNCOUPLE files
51	SYNS	SYSAOS	ALLOCATE file extent
52	SYNS	SYSAOS	DEALLOCATE file extent
53	SYNS	SYSAOS	Delete checkpoint
54	SYNS	SYSAOS	Set user priority
55	SYNS	SYSAOS	Modify FCB
57	SYNS	SYSAOS	DEFINE file
58	SYNS	SYSAOS	Write FDT
59	SYNS	SYSAOS	DEFINE new field
5B	SYNS	ADADBS	Write refreshed statistics (some or all per user request)
5B	SYNS	ADANUC	Write (all) statistics at end of nucleus session
5B	SYNS	ADARES	Write refreshed statistics (command, file, and thread usage; DRES and DSTAT)
5C	SYNS	SYSAOS	CHANGE default field format
5D	SYNS	SYSAOS	Change file encoding
5E	SYNS	ADADBS	ADADBS REPTOR function (refer to your Event Replicator for Adabas documentation)
60	SYNS	ADANUC	Nucleus statistic checkpoint
61	SYNS	ADANUC	Allocate file space



Type	Name	Originator	Description
64	SYNS	ADASCR	Protect files
65	SYNS	ADASCR	Protect fields
66	SYNS	SYSAOS	Link component file into expanded-file chain
68	SYNS	SYSAOS	Set USERISN on/off
69	SYNS	SYSAOS	Set MIXDSDEV on/off
6A	SYNS	SYSAOS	Install Delta Save DLOG area
6B	SYNS	SYSAOS	Change Delta Save DLOG area
6C	SYNS	SYSAOS	Remove Delta Save DLOG area
6E	SYNS	ADADBS	ADADBS REPLICATION function (refer to your Event Replicator for Adabas documentation)
6F	SYNS	SYSAOS	Online process initiated
70	SYNS	SYSAOS	Online invert process
71	SYNS	SYSAOS	Online reorder process
73	SYNC	ADANUC	Nucleus (nuclei) successfully quiesced.
74	SYNC	ADANUC	Nucleus (nuclei) have resumed normal processing.
75	SYNS	ADANUC	Delete heuri-user-entry after Response 72 was detected during nucleus startup.
76	SYNS	ADANUC	Delete heuri-user-entry after Response 72 was detected during nucleus session.
77	SYNS	ADADBS	Enable spanned record support.
78	SYNS	ADADBS	Enable or disable extended MU or PE fields
7A	SYNS	ADADBS	Delete field from the FDT
7D	SYNS	ADADBS	Add or delete CLOG
7E	SYNS	ADADBS	Add or delete PLOG
7F	SYNS	ADANUC	Change fields
81	SYNS	ADANUC	Modify FCB