Adabas Online System

User's Guide

Version 8.6.2

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ADABAS & NATURAL

This document applies to Adabas Online System Version 8.6.2 and all subsequent releases.

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

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Using Adabas Online System (AOS)

This document describes how to use the Basic Services of Adabas Online System (AOS), including each of its Basic Services menus and screens.

This document is provided for Adabas system administrators using the Adabas Online System to maintain their Adabas databases and files.

Getting Started	Describes how to access Adabas Online System, the main menu, and describes the Adabas Online System Demo version.
Monitoring Adabas Sessions	Describes how to use AOS to perform session monitoring functions, including how to display nucleus parameters, session statistics, buffer sizes for queues and areas, and maintenance levels.
Maintaining Checkpoints	Describes how to list and delete checkpoint information using AOS.
Maintaining Files	Describes how to perform file maintenance using AOS. File maintenance allows you to maintain Adabas fields and files, including allocating file space and changing file parameters. It also allows you to control ISN/storage block reuse.
Maintaining Databases	Describes how to use AOS to control Adabas database (ASSO/DATA) file and space allocation, DIB blocks, and to recover space unused by abended utilities.
Performing System Operator Command Functions	Describes how to use AOS to perform various system operator command functions.
Reviewing the Database Report	Describes how to use AOS to review the database report, corresponding to selected functions of the report produced by the ADAREP utility.
Calculating Space Requirements	Describes how to use AOS to calculate the space requirements for your Adabas database.
Troubleshooting Options	Describes how to locate and use AOS troubleshooting options for your Adabas database.

1 Conventions

Throughout this document, the terms "Adabas Online System" and "AOS" are used interchangeably.

A product version is identified by the first two digits of the versioning number. Software AG distinguishes between major and minor versions according to the amount of functionality or technology added to the product. All other digits indicate correction levels.

In the product documentation, the notations *vrs*, *vr*, or simply *v* are often used as placeholders for the current product version, for example, in data set or module names.

Placeholder	Meaning	Definition
v	version	**Major Version** The first digit of the product version number indicates major architecture and functionality implementation or enhancement that adds value to the product.
r	release	**Minor Version** The second digit of the version number indicates new or enhanced functionality that adds value to the product.
s	system maintenance level	**Correction Level** Correction levels contain error corrections only, without new functionality, including documentation of all modifications and repairs. In case it is necessary to include functional changes into a correction level, an exception handling process ensures that corresponding quality assurance activities are triggered. These functional changes are documented. The main goal is to avoid impacts when you install such a correction level. The third number of an Adabas version denotes the system maintenance level. On certain platforms supported by Adabas, additional levels may exist, such as update package, patch level, service pack and hot fix.

2 About this Documentation

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Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
`Monospace font`	Identifies service names and locations in the format *`folder.subfolder.service`*, APIs, Java classes, methods, properties.
`Italic`	Identifies: Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
`Monospace font`	Identifies: Text you must type in. Messages displayed by the system. Program code.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
|	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the | symbol.
[ ]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

Online Information and Support

Product Documentation

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- Download products, updates and fixes.
- Search the Knowledge Center for technical information and tips.
- Subscribe to early warnings and critical alerts.
- Open and update support incidents.
- Add product feature requests.

Data Protection

Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.

3 Getting Started

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- The Main Menu 9
- Adabas Online System Demo Version 13

This chapter introduces the AOS screen system and usage conventions.

Accessing AOS

To access the Adabas Online System (AOS) screens:

1 In ISPF, invoke a Natural session.

2 On the command line of the Natural session **Main Menu**, enter:

```
LOGON SYSAOS
```

You are connected to Adabas Online System.

3 On the command line of the Natural session **Main Menu**, enter:

```
MENU
```

The Adabas Online System **Main Menu** appears.

```
14:02:28          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
Cluster                        -  Main Menu  -                      PMAIN02


             Code  Basic Services              Code  Other Services
             ----  ----------------------      ----  --------------------
              A    Session monitoring           1    Adabas Cache Facility
              C    Checkpoint maintenance       2    Delta Save Facility
              F    File maintenance             3    Trigger Maintenance
              M    Database maintenance         4    AOS Security
              O    Session opercoms             5    Transaction Manager
              R    Database report              6    Adabas Statistics
              S    Space calculation            7    Vista
              ?    Help                         8    Fastpath
              .    Exit                         9    SAF Security
             ----  ----------------------      ----  --------------------

 Code ....... _
 Database ... 1955    (WIS1955)

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

The Main Menu

From the main menu, you can access Basic Services or any Other Service that is installed on your system. Such services are highlighted on the menu.

```
13:09:58          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
Cluster                          -  Main Menu  -                    PMAIN02


             Code  Basic Services              Code  Other Services
             ----  ----------------------      ----  ---------------------
              A    Session monitoring           1    Adabas Cache Facility
              C    Checkpoint maintenance       2    Delta Save Facility
              F    File maintenance             3    Trigger Maintenance
              M    Database maintenance         4    AOS Security
              O    Session opercoms             5    Transaction Manager
              R    Database report              6    Adabas Statistics
              S    Space calculation            7    Vista
              ?    Help                         8    Fastpath
              .    Exit                         9    SAF Security
             ----  ----------------------      ----  ---------------------

 Code ....... _
 Database ... 1955    (WIS1955)

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

The Adabas Online System Main Menu allows you to perform DBA tasks within Basic Services, selectable by menu option:

Option	Task	Read
A	**Session monitoring** functions display nucleus parameters, session statistics, buffer sizes for queues and areas, and maintenance levels	*Monitoring Adabas Sessions*
C	**Checkpoint maintenance** lists and deletes checkpoint information.	*Maintaining Checkpoints*
F	**File maintenance** controls Adabas fields (increase or add a field, release a descriptor) and files (define a new file; delete a file; refresh, rename, or renumber a file; allocate file space; change file parameters). It also controls ISN / storage block reuse.	*Maintaining Files*
M	**Database maintenance** controls Adabas database (ASSO/DATA) file and space allocation, DIB blocks, and lets you recover space unused by ABENDed utilities.	*Maintaining Databases*
O	**Session opercoms** control extended error recovery, lock/unlock of files, stop user(s), session termination, and management of online utilities	*Performing System Operator Command Functions*

Option	Task	Read
R	**Database report** displays tables of "critical" extents, a file's FDT, general and specific file information, VOLSER, and general database information.	*Reviewing the Database Report*
S	**Space calculation** provides an aid to calculating database ASSO, DATA, sort, temp, and WORK space.	*Calculating Space Requirements*

This section provides more details about using the Main Menu and some general information about AOS screens:

- Specifying the Basic Services Database
- Using Program Function (PF) Keys
- Invoking Basic Services Functions
- Getting Help
- Basic Services Messages

Specifying the Basic Services Database

The database on which Basic Services is installed becomes the default database for Basic Services functions. However, you can specify the database of any active Adabas nucleus session. Subsequent Basic Services functions refer to that database until you specify another database or exit Basic Services.

If you specify a database that is also an Event Replicator Server, the main menu identifies the database as an Event Replicator Server by displaying "Replicator" in the upper left corner of the screen, as shown below. This is the only screen on which this identification explicitly occurs, but the Basic Services functions available and the information displayed for Event Replicator Server databases vary slightly from those provided regular Adabas databases.

```
13:09:58          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
Cluster                        -  Main Menu  -                      PMAIN02


             Code  Basic Services              Code  Other Services
             ----  ----------------------      ----  --------------------
              A    Session monitoring           1    Adabas Cache Facility
              C    Checkpoint maintenance       2    Delta Save Facility
              F    File maintenance             3    Trigger Maintenance
              M    Database maintenance         4    AOS Security
              O    Session opercoms             5    Transaction Manager
              R    Database report              6    Adabas Statistics
              S    Space calculation            7    Vista
              ?    Help                         8    Fastpath
              .    Exit                         9    SAF Security
             ----  ----------------------      ----  --------------------

 Code ....... _
 Database ... 1955    (WIS1955)

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

Using Program Function (PF) Keys

Available PF keys and their functions are listed at the bottom of each Basic Services screen. The following program function (PF) keys may appear on Basic Services screens:

Function Key	Description
PF1	Get help
PF3	Exit to previous screen
PF7	Page backward through a series of screens.
PF8	Page forward through a series of screens.
PF12	Return to the Adabas Online System main menu

Invoking Basic Services Functions

You can invoke AOS Basic Service functions by selecting a menu option or, for most functions, by entering a command directly on the command line.

- Selecting a Menu Option

- Entering Commands Directly

Selecting a Menu Option

To invoke function using a menu option:

- Enter the option code in the `Code` field.

  Selecting a Main Menu function displays a menu of choices for that function.

Entering Commands Directly

Most Basic Services functions can be invoked using direct commands from the command line. The only exceptions are Adabas Online System security functions.

Each direct command corresponds to a function on a Basic Services menu. You can issue a direct command for a function on a different menu from the one currently displayed. You do not have to leave the current menu to perform a function that is not displayed.

More information about the direct commands is included in the *Basic Services Direct Commands*, where the direct command equivalent to each menu function is described.

Getting Help

Two direct commands that can be issued from any Basic Services menu are `?` and `help`.

- The **?** option (you can also use PF1; see the section ***Program Functions Keys***) displays a brief comment about the current menu.
- `help` provides concise information about the individual Basic Services functions.

Basic Services Messages

Basic Services issues a message confirming each completed function. If an error occurs, a message appears containing a reference number and describing the error.

Before analyzing an error:

1. Try reviewing the Help information (option **?** or PF1) for the last step you performed to see if any requirements were overlooked.
2. Retry the operation.

Response code 22 is returned if the Adabas session is terminated and restarted while Basic Services is active. In this case, AOS should be stopped and restarted.

Adabas Online System Demo Version

The Adabas Online System (AOS) Demo version is a version of AOS with limited functionality, as described in this section. The items on each AOS menu that are not provided with the AOS Demo version have asterisks for their menu option codes. In general, you are only allowed to view information in the Demo version; to maintain parameters and settings, you must have the full version of AOS installed.

For example, on the following screen, the **Main Menu**. **Space calculation** as well as **Trigger Maintenance** options are not available.

```
12:59:18          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
Cluster                        -  Main Menu  -                      PMAIN02


             Code  Basic Services              Code  Other Services
             ----  ----------------------      ----  ---------------------
              A    Session monitoring           1    Adabas Cache Facility
              C    Checkpoint maintenance       2    Delta Save Facility
              F    File maintenance             *    Trigger Maintenance
              M    Database maintenance         4    AOS Security
              O    Session opercoms             5    Transaction Manager
              R    Database report              6    Adabas Statistics
              *    Space calculation            7    Vista
              ?    Help                         8    Fastpath
              .    Exit                         9    SAF Security
             ----  ----------------------      ----  ---------------------

 Code ....... _
 Database ... 1955    (WIS1955)

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

The rest of this section describes which AOS options are available in the Demo version and which are not.

Selecting **A** from the **Main Menu** displays the **Session Monitoring** menu. You can only select **Display parameters**, **Display installed products**, **Display queues**, **Display interval utilization**, and **Display maintenance levels** on this menu.

```
13:00:14          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                            -  Session Monitoring  -                PAC0012


 Code   Service                          Code   Service
 ----   ---------------------------      ----   ----------------------------
  *     Display cluster members           *     Current snapshot statistics
  *     Maintain user profiles            *     Maintain TCP/IP URL
  D     Display parameters                U     Display interval utilization
  I     Display installed products        *     Replicator Management
  *     Display event log buffer          *     Display session utilization
  *     Modify parameters                 *     Cluster usage
  Q     Display queues                    Z     Display maintenance levels
  *     Refresh interval statistics
  ?     Help                              .     Exit
 ----   ---------------------------      ----   ----------------------------
        Code ......... _
        Database ID .. 1955    (WIS1955)               NucID .. 1021


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

Selecting **Q** on the **Session Monitoring** menu causes the **Queue Displays** menu to appear. You can only select **Display Hold Queue** on the **Queue Displays** menu.

```
13:12:58          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                             -  Queue Displays  -                   PACQ002

                       Code    Service
                       ----    ---------------------------
                        *      Display User Queue Elements
                        *      Display Command Queue
                        H      Display Hold Queue
                        ?      Help
                        .      Exit
                       ----    ---------------------------
   Code ............... _
   Max No. Elements ... 100
   Last Activity ...... 0         (elapsed time in seconds)
   Selection Criteria
     ET-ID (User-ID) .. ________  User Type ... ___
     Job Name ......... ________
     Terminal ID ...... ________
   Database ID ........ 1955      (WIS1955)             NucID .. 1021

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

Note: The **ETI-ID (User-ID)** field on this screen can be used to select a specific ETID or security user ID (SECUID), as appropriate for your site.

Selecting **U** on the **Session Monitoring** menu causes the **Interval Utilization** menu to appear. You can only select **System status** and **Thread usage** on the **Interval Utilization** menu.

```
13:14:17          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                          -  Interval Utilization  -                PACU002

Code  Service                            Code  Service
----  -------------------------------    ----  -------------------------------
 *    Command usage                       S    System status
 *    File usage                          T    Thread usage
 *    High watermarks (pools/queues)      *    I/Os by Volser
 *    Workpool (LWP) usage                *    WORK status
 *    Nucleus File Status                 *    Display PPT
 *    PLOG status
 ?    Help
 .    Exit
----  -------------------------------    ----  -------------------------------


        Code ......... _
        File Number .. 0
        Database ID .. 1955   (WIS1955)            NucID .. 1021

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

Selecting **C** on the **Main Menu** causes the **Checkpoint Maintenance** menu to appear. You can only select **List checkpoints** on the **Checkpoint Maintenance** menu.

```
13:15:43          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                         -  Checkpoint Maintenance  -               PCP0002



                       Code    Service
                       ----    -----------------------
                        C      List checkpoints
                        *      Delete checkpoints
                        ?      Help
                        .      Exit
                       ----    -----------------------

      Code ............. _
      Date(YYYY-MM-DD) . 0000-00-00
      Ext. CP-list ..... N
      Checkpoint Name .. ALL
      Database ID ...... 1955   (WIS1955)


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

Selecting **F** on the **Main Menu** causes the **File Maintenance** menu to appear. You can only select **Define/modify FDT** on the **File Maintenance** menu.

```
13:16:33          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                             -  File Maintenance  -                  PFL0004

Code  Service                           Code  Service
----  ------------------------------- ----  -------------------------------
  C   Define/modify FDT                  *   Modify file parameters
  *   Release descriptor                 *   Reorder file online
  *   Delete existing file               *   Refresh file to empty status
  *   Define new file                    *   Allocate/deallocate file space
  *   Logically delete/undel descriptr   *   Maintain expanded files
  ?   Help                               .   Exit
----  ------------------------------- ----  -------------------------------
       Code ......... _
       File No ...... 0      Descriptor Name .. __
       Database ID .. 1955   (WIS1955)





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

Selecting **C** on the **File Maintenance Menu** causes the **FDT/SDT Definition / Modification** menu to appear. You can only select **Define new FDT** on the **FDT/SDT Definition / Modification** menu.

```
13:17:59          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                   -  FDT/SDT Definition / Modification  -          PFLC004

  Code  Service                            Code  Service
  ----  ----------------------------       ----  ----------------------------
    *   Add new field(s)                     *   Online invert
    *   Change field parameters              *   Define/add SDT
    D   Define new FDT                       *   Release UQ from descriptor
    *   Delete field from FDT                ?   Help
    *   Undelete field from FDT              .   Exit
  ----  ----------------------------       ----  ----------------------------
        Code ......... _
        File No. .....
        Field Name ... __
        File Password.
        Database ID .. 1955   (WIS1955)




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

Selecting **M** on the **Main Menu** causes the **Database Maintenance** menu to appear. In the Demo version, this menu only shows the options available when there is a licensed product installed; no options are available in Demo mode.

```
13:19:36          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                          -  Database Maintenance  -                PDM0002

                      Code    Service
                      ----    ----------------------------
                       *      Add new dataset to ASSO/DATA
                       *      Increase/decrease ASSO/DATA
                       *      List/reset DIB block entries
                       *      Recover unused space
                       *      Uncouple two ADABAS files
                       ?      Help
                       .      Exit
                      ----    ----------------------------

       Code .......... _
       File No. ...... 0
       Coupled File .. 0
       Database ID ... 1955   (WIS1955)


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

Selecting **O** on the **Main Menu** causes the **Session Opercoms** menu to appear. You can only select **Extended Error Recovery**, **Lock or unlock files**, **Stop user(s)** and **Termination Commands** on the **Session Opercoms** menu.

```
13:26:33          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                             -  Session Opercoms  -                 PACI002

 Code  Service                            Code  Service
 ----  ------------------------------     ----  ------------------------------
  *    Allocate/Deallocate CLOG/PLOG       S    Stop user(s)
  *    Issue reactivate CLOG command       T    Termination Commands
  E    Extended Error Recovery             *    Manage Online Utilities
  *    Force CLOG or PLOG switch           *    User Table Maintenance
  L    Lock or unlock files                *    Replicator Management
  *    Reset ONLINE-DUMP-Status            *    Cluster operator commands
  .    Exit                                ?    Help
 ----  ------------------------------     ----  ------------------------------
       Code ........... _
       Userid(ETID) ... ________
       CLOG/PLOG Ind .. _       Global.. _
       Database ID .... 1955   (WIS1955)            NucID .. 1021



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

Selecting **E** on the **Session Opercoms** causes the **Extended Error Recovery** menu to appear. You can only select **Add/Delete PIN modules** and **Display/modify PIN routines** on the **Extended Error Recovery** menu.

```
13:27:46          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                          -  Extended Error Recovery  -             PACIE02

                   Code    Service
                   ----    ----------------------------------
                    *      Display message buffer
                    *      Display/modify environment
                    *      Display/modify Exit routines
                    M      Add/Delete PIN modules
                    P      Display/modify PIN routines
                    *      Refresh threshold and alert exits
                    *      SNAP a nucleus dump
                    ?      Help
                    .      Exit
                   ----    ----------------------------------

   Code ........... _
   Start Address .. ________   End Address ... ________
   Database ID .... 1955   (WIS1955)              NUCID .. 1021

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

Selecting **L** on the **Session Opercoms** causes the **Lock/Unlock Files** menu to appear. You can only select **Display locked files** on the **Lock/Unlock Files** menu.

```
13:28:34          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                          -  Lock / Unlock Files  -                 PACIL02

                  Code    Service
                  ----    ----------------------------------
                   D      Display locked files
                   *      Lock file for all users
                   *      Advance lock file
                   *      Lock file except for UTI/EXF users
                   *      Unlock file from general lock
                   *      Release an advance lock
                   *      Unlock file from UTI/EXF lock
                   ?      Help
                   .      Exit
                  ----    -----------------------------------
    Code ......... _
    File Number ..
    UTI/EXF Ind .. U
    Database ID .. 1955   (WIS1955)

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

Selecting **S** on the **Session Opercoms** causes the **Stop Users** menu to appear. In the Demo version, this menu only shows the options available when there is a licensed product installed; no options are available in Demo mode.

```
13:59:40          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                                -  Stop Users  -                    PACIS02

                      Code  Service
                      ----  -----------------------
                       *    Stop users using file
                       *    Stop inactive users
                       *    Stop users by jobname
                       *    Stop a selected user
                       ?    Help
                       .    Exit
                      ----  -----------------------
    Code ............. _
    File Number ...... _____
    Last Activity .... ________ (elapsed time in seconds)
    Job Name ......... ________
    Purge UQE(s) ..... N
    Selected Userid ..
    Database ID ...... 1955     (WIS1955)             NUCID .. 1021

Command ==>
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     Disp UQ   Exit      Clear UID                             Menu        ↩
```

Selecting **T** on the **Session Opercoms** causes the **Session Termination** menu to appear. You can only select **Normal session termination** on the **Session Termination** menu.

```
14:00:25          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                           -  Session Termination  -                PACT002

                    Code    Service
                    ----    ----------------------------------
                     A      Normal session termination (ADAEND)
                     *      Cancel session immediately (CANCEL)
                     *      Stop session               (HALT)
                     ?      Help
                     .      Exit
                    ----    ----------------------------------
      Code ......... _
      Database ID .. 1955   (WIS1955)            NUCID .. 1021
                                                 Global.. _

       Current nr. of users in User Queue ... 1
       Nr. of users with open transactions .. 0
       Nr. of active nucs in Plex cluster ... 1


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

Selecting **R** from the **Main Menu** displays the **Database Report** menu. You can only select **Display file(s)** and **General database layout** on this menu.

```
14:01:13          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
                             -  Database Report  -                  PDR0002

                  Code    Service
                  ----    ------------------------------------
                   *      List files with crit. no. of extents
                   *      Display field description table (FDT)
                   F      Display file(s)
                   G      General database layout
                   *      List VOLSER distribution of database
                   *      Display ASSO/DATA block (RABN)
                   *      Display unused storage
                   *      Display used storage (DSPACE)
                   ?      Help
                   .      Exit
                  ----    ------------------------------------
    Code ......... _
    File No ...... 0_____ Password ..
    Database ID .. 1955   (WIS1955)            VOLSER .. ______

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

Note: Option F will display system files only.

4 Monitoring Adabas Sessions

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The Adabas session monitoring functions allow you to control and manage major Adabas resources. These functions are most useful when analyzing system performance or seeking the cause of performance problems. Session monitoring functions can be accessed from the **Session Monitoring** menu:

```
15:19:52          ***** A D A B A S  BASIC  SERVICES *****          2014-06-30
                            -  Session Monitoring  -                PAC0012


 Code   Service                          Code   Service
 ----   ---------------------------      ----   ----------------------------
  A     Display cluster members           S     Current snapshot statistics
  C     Maintain user profiles            T     Maintain TCP/IP URL
  D     Display parameters                U     Display interval utilization
  I     Display installed products        V     Replicator Management
  L     Display event log buffer          W     Display session utilization
  P     Modify parameters                 X     Cluster usage
  Q     Display queues                    Z     Display maintenance levels
  R     Refresh interval statistics
  ?     Help                              .     Exit
 ----   ---------------------------      ----   ----------------------------
        Code ......... _
        Database ID .. 1955    (WIS1955)               NucID .. 1021

MENU04 : 'Session Utilization'   function interrupted
Command ==>
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit                                          Menu       ↩
```

Note: In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the cluster using the `NextNucid` command. In addition, the current nucleus ID is shown in a `NucID` field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

Using the session monitoring environment you can monitor the Adabas nuclei in a multiprocessing environment. When you enter the DBID of a cluster database on the **Session Monitoring** menu, subsequent screens include a field to specify the ID of the nucleus (NUCID) in the cluster you want to monitor:

- If you do not set the nucleus ID, AOS defaults to the local nucleus.
- If you set the nucleus ID to zero for a cluster database, the selected function is performed for *all* active nuclei in the cluster.

Using the AOS session monitoring environment, you can perform the following functions, accessible by menu option:

Option	Function
A	*Displaying Cluster Members*
C	*Maintaining User Profiles*
D / P	*Displaying or Modifying Parameters*
I	*Displaying Installed Products*
L	*Displaying the Event Log Buffer*
Q	*Displaying Queues*
R	*Refreshing Interval Statistics*
S	*Obtaining Current Snapshot Statistics*
T	*Maintaining TCP/IP URLs*
U	*Monitoring Interval Utilization*
V	*Replicator Management*
W	*Displaying Session Utilization*
X	*Monitoring Cluster Usage*
Z	*Displaying Maintenance Levels*

Displaying Cluster Members

Selecting option **A** from the **Session Monitoring** menu to display cluster members produces the following screen:

```
 21:23:16          ***** A D A B A S  BASIC  SERVICES *****          2014-05-01
 DBID 1955                - Display Cluster Members -                PACA002

Total number of active(WORK not empty) nuclei in the cluster ... 5

I Sel I NucID | Image ID I Jobname  I Status   I  Available Plex Services  I
-------------------------------------------------------------------------
I  _  I  1    I DAEMVS   I ADANUC01 I Active   I All                       I
I  _  I  2    I DAEMVS   I ADANUC02 I Inactive I List,Cache               I
I  _  I  3    I DDZMVS   I ADANUC03 I Active   I All                       I
I  _  I  4    I DDZMVS   I ADANUC04 I Active   I All                       I
I  _  I 1021  | ZHST     | USAXXXRP | Active   | All                       I
I     I       |          |          |          |                           I
I     I       |          |          |          |                           I
I     I       |          |          |          |                           I
I     I       |          |          |          |                           I
I     I       |          |          |          |                           I
I     I       |          |          |          |                           I
I     I       |          |          |          |                           I

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

The screen displays a list of nuclei participating in the cluster and information about the current status of each nucleus.

To select a nucleus for additional processing:

- Enter "S" in the Sel column opposite that nucleus.

To display additional information about a nucleus:

- Enter "D" in the Sel column opposite that nucleus.

  For an Adabas cluster nucleus that has a nonzero nucleus ID, its entry in the parallel participant table (PPT) is displayed in a screen similar to the following:

```
21:23:16          ***** A D A B A S  BASIC  SERVICES *****          2014-05-01
DBID 1955                    - Display PPT Entry -                   MACA012

NucID ... 1021    Active Nucleus, PLOG(s) not copied, CLOG(s) not copied


 Name    Dataset Status              DataSet Name
 ------  --------------------------  ----------------------------------------
 WORK1                               RD.USAXXX.DB1955.WORKR1
 PLOGR1                              RD.USAXXX.DB1955.PLOGR1
 PLOGR2                              RD.USAXXX.DB1955.PLOGR2
 CLOGR1                              RD.USAXXX.DB1955.CLOGR1
 CLOGR2                              RD.USAXXX.DB1955.CLOGR2









Press 'ENTER', PF3 or PF12 to continue
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit                                          Menu       ↩
↩
```

To display the PPT for this DBID:

- Press PF2. The Display PPT screen appears.

```
16:42:08          ***** A D A B A S  BASIC  SERVICES *****          2014-05-05
DBID 1955                       - Display PPT -                     MACA022

NucID .. 1021      Active Nucleus, PLOG(s) not copied, CLOG(s) not copied
Image .. ZHST      All Sysplex Services Active

            Label Name     Dataset Name
            ----------     ----------------------------------------
              WORK1        RD.USAWIS.DB1955.WORKR1
              PLOGR1       RD.USAWIS.DB1955.PLOGR1
              PLOGR2       RD.USAWIS.DB1955.PLOGR2
              CLOGR1       RD.USAWIS.DB1955.CLOGR1
              CLOGR2       RD.USAWIS.DB1955.CLOGR2









PF1----- PF3------ PF4------ PF6------ PF7----- PF8----- PF9----- PF12-----
Help     Exit      Refresh   PrevPPT                    NextPPT  Menu       ↩
```

Maintaining User Profiles

Adabas allows you to retain user-related information from session to session in a user profile table that includes

- ET records;
- user priority;
- user-specific timeout (TNxx, TT, and TLSCMD);
- ISN buffering (NSISN, NSISNHQ);
- command ID (NQCID) values that differ from the established ADARUN values; and
- owner ID information for multiclient files.

Selecting `Maintain user profiles` (option **C**) on the **Session Monitoring** menu displays the following **Maintain User Profiles** menu:

```
15:46:52          ***** A D A B A S  BASIC  SERVICES *****          2014-05-01
                        -  Maintain User Profiles  -                PACIC02

                   Code    Service
                   ----    ---------------------------
                    L      List/modify user profile(s)
                    M      Mass function
                    X      Delete ETID-ranges
                    ?      Help
                    .      Exit
                   ----    ---------------------------
     Code ......... _
     Start UID .... ________
     Database ID .. 1957   (WIS1957)





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

From the **Maintain User Profiles** menu, you can:

- list and modify a user profile table (option **L**);
- copy a user profile to one or more other users (option **M**); and
- remove one or more ETIDs from the Adabas checkpoint file thereby deleting both profile and ET data (option **X**).

If necessary, you can supply a starting user ID. If the `Start UID` field is left empty, Basic Services displays entries starting from the beginning of the user profile table. You can use range notation for the starting value. For example, if you enter `JA*` in the `Start UID` field, the display begins with user IDs that start with the letters "JA".

If necessary, you can change the database by specifying the database ID in the `Database ID` field..

To list and modify the user profile table

- Enter **L** in the `Code` field.

  The List/Modify User Profiles screen displays the user profile table:

```
15:47:17          ***** A D A B A S  BASIC  SERVICES *****          2014-05-01
DBID 1957              -  List/Modify User Profiles  -              PACICL2

Mark entries with 'M' to  modify or 'X' to  delete :

M  Userid   Prty TNAA  TNAE  TNAX  TT    TLSCMD NSISN NISNHQ NQCID Owner-Id
-  -------- ---- ----- ----- ----- ----- ------ ----- ------ ----- ----------
_  *USAX                                                           *USAXXX
_  *USF                                                            *USF1
_  AUTO1                                                           AUTOMAT1
_  AUTO2                                                           AUTOMAT2
_  AUTO3                                                           *UTOMAT
_  BAFKE    9    100   100   100   100
_  CC       9    100   100   100   100
_  CICS
_
_
_
_


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

You can modify existing profiles and add new user ones. For each user, you can maintain

- a user priority to add "weight" to the normal, built-in priorities of Adabas commands issued by a specific user when they contend with other commands for Adabas database priority. The effect is to change the user's database access priority. An equivalent direct command is

  ```
  CHANGE PRIORITY
  ```

- nonactivity timeout values for access-only users (TNAA), ET logic users (TNAE), and EXU users (TNAX).
- transaction time limits for ET Logic users (TT).
- a time limit for executing a database query (Sx) command (TLSCMD).
- the number of ISNs allowed per TBI element (NSISN).
- the number of records that can be placed in hold status at one time (NISNHQ).
- the number of active command IDs allowed (NOCID).
- an owner ID for multiclient support.

To copy the attributes of a user profile to one or more other user profiles

- Enter **M** in the `Code` field.

```
15:48:06          ***** A D A B A S  BASIC  SERVICES *****          2014-05-01
DBID 1957                -  Maintain User Profiles  -               PACICM2

   Set the user profiles of the userids entered below to the same as
   userid .. USER1___

   Userid    Userid    Userid    Userid    Userid    Userid    Userid
   --------  --------  --------  --------  --------  --------  --------
   XYZ1      XYZ2

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

On the resulting screen, you can type in the user ID of the profile to be copied, and the names of the users whose profiles are to be taken from that user ID.

In the example, users XYZ1 and XYZ2 inherit all values from user USER1 and effectively define a group.

To delete a range of user IDs

1 Enter **X** in the `Code` field.

2 Specify a complete or partial user ID or an asterisk (all user IDs) in the `Start UID` field.

A window opens asking whether you want to delete all user IDs or select the user IDs to be deleted:

```
15:49:04          ***** A D A B A S  BASIC  SERVICES *****          2014-05-01
                         -  Maintain User Profiles  -               PACIC02


                     Code    Service
                     ----    --------------------------
                      L      List/modify user profile(s)
                      M      Mass function
                      X      Delete ETID-ranges
                      ?      Help
                      .      Exit      +-------------------------------+
                     ----    --------- |                               |
       Code ..........x                |  'Y' - Select ETIDs for       |
       Start UID .... ba*               |        Deletion               |
       Database ID .. 105    (RD-105)   |  'N' - Delete ETIDs with NO   |
                                        |        Selection              |
                                        |                               |
                                        |   Y   <==== Select Option     |
                                        |                               |
                                        |  PF1=Help    PF3=Exit         |
Command ==>                             +-------------------------------+
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit                                          Menu       ↩
```

Caution: Be careful about answering **N** (No) to the prompt. You could inadvertently delete IDs that you want to keep.

3 If you enter **N** (No) in the window's `Select Option` field, Basic Services deletes all user IDs in the specified range without any confirmation.

If you answer **Y** (Yes, the default), the Mass Delete of ET-IDs screen is displayed so that specific user IDs may be marked for retention:

```
15:50:26          *****  A D A B A S   BASIC  SERVICES  *****       2014-05-01
   DBID 1955                -   Mass Delete of ET-IDs   -              PACICD2


    Delete all ET-IDs starting with Userid =  BA*
     All entries marked 'K' (Keep) will  N O T  be deleted.

      Userid     Userid     Userid     Userid     Userid     Userid     Userid
      --------   --------   --------   --------   --------   --------   -------
      BABRAB     BABRAN     BACANT     BADBEE     BADFUE     BADKED     BADKHK
      BADNTU     BADTCS     BADWAT     BAFCKA     BAFJVS     BAGDTS     BAGJAR
      BAGJKI     BAGJVN     BAGKIT     BAGLAW     BAGNET     BAGPCT     BAGPCP
      BAGPCR     BAGPST     BAGSIR     BAGSWI     BAGTUF     BAGTON     BAGZAP
      BAHNAK     BAJLOB     BAJPJS     BAKLIM     BAKSAT     BAMCID     BAMLIP
      BAMLOT     BAMPCS     BAPEHN     BAPLAB     BARHEN     BARHER     BASHEP
      BASMOR     BASWAN     BASWIG
```

As indicated in the message on the screen, you need to mark with "k" those user IDs that you want to *keep*. Unmarked user IDs will be deleted when you press ENTER.

Note: When a user ID is deleted, both the user profile and any ET data for the user are deleted.

You can leave the screen without deleting any user IDs by using the EXIT key PF3 .

Displaying or Modifying Parameters

To view Adabas nucleus (ADARUN) parameters:

- Select option **D** on the **Session Monitoring** menu and press Enter.

  The equivalent direct command is

  ```
  DISPLAY PARAMETERS
  ```

  A series of Display Parameters screens appear. You can scroll through the screens using the PF7 (scroll backward) and PF8 (scroll forward) keys. The information on these screens and the number of screens that appear varies depending on the type database you have selected. *ADARUN Parameter Reference*, in the *Adabas Online Systems (AOS) Reference Guide*

  The following screens might display for an Adabas database in an Adabas cluster:

```
19:15:21          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                   -  Display Parameters  -                 PACPD32
NucID 1021

 -------------- Pools --------------  ------------- Queues ------------------
 Sort Area         (LS).. 19968       Command Queue          (NC) .. 20
 Int. User Buffer  (LU).. 400000      Hold Queue             (NH) .. 1200
 Buffer Pool      (LBP).. 283392      User Queue             (NU) .. 200
 Format Pool      (LFP).. 150000      ------------ Time Windows -------------
 ISN List Table    (LI).. 360000      Transaction Time       (TT) .. 4858
 Seq. Cmd. Table   (LQ).. 20000       Max Transaction Time (MXTT) .. 3600
 Work Pool        (LWP).. 1500000     Nonactivity ACC-User (TNAA) .. 4858
 Attached Buffer  (NAB).. 100         Nonactivity ET-User  (TNAE) .. 4858
 Security Pool    (LCP).. 10000       Nonactivity EXU-User (TNAX) .. 4858
 UQ-DE Pool    (LDEUQP).. 50000       Max Nonactivity Time(MXTNA) .. 3600
 Err. Recovery (MSGBUF).. 36          Time Limit Sx-Cmds (TLSCMD) .. 300
                                      Max Time for Sx-Cmds(MXTSX) .. 3600
                                      Command Time           (CT) .. 3858
                                      SYNS60 Interval    (INTNAS) .. 3600

                                                                   Page 1 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit      ABC List  Modify            +        Menu
```

```
15:28:41          ***** A D A B A S  BASIC  SERVICES *****          2018-04-04
DBID 1955                   -  Display Parameters  -                 PACPD22
NucID 1021

--------- Miscellaneous -----------     --------- Miscellaneous --------------
Read only     (READONLY).. NO           LARGEPAGE ................. NO
UTI only       (UTIONLY).. NO           V64BIT .................... NO
OPEN required   (OPENRQ).. NO           SRLOG ..................... Upd
Ignore DIB Entry(IGNDIB).. NO           LOGWARN ................... 0
Local nucleus   (LOCAL) .. NO           SECUID .................... ALLOW
Number of Threads  (NT) .. 25           INDEXCROSSCHECK ........... YES
Non DE Search  (NONDES) .. YES          Print on refresh(REFSTPRT). YES
Log AOS/DBS Upd.(AOSLOG).. NO           Number plog buffers ....... 1
Batch Support   (BATCH) .. NO           Number work1 buffers ...... 1
Data Protection Area(LP).. 1000         Event log buffer size ..... 1024
Ignore Wrk Prt4(IGNDTP) .. NO           Auto-restart buffers (ARN). 9
WORK-Part-4 Area (LDTP) .. 0            zIIP processors (ZIIP) .... YES
WORK-Part-2 Area(LWKP2) .. 160
SVC                   (SVC) .. 249

                                                                   Page 2 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit      ABC List  Modify   -        +        Menu   ↩
```

```
19:15:21          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                   -  Display Parameters  -                 PACPD32
NucID 1021

--------- Space Warning ----------------
ASSOSPACEWARN ..... 0
DATASPACEWARN ..... 0

--------- Auto Increase ------------------------------------------------
AUTOINCASSOTHRESHOLD ..... 0          AUTOINCDATATHRESHOLD ..... 0
AUTOINCASSOSIZE ... 0          CYL    AUTOINCDATASIZE ... 0          CYL
AUTOINCASSOTOTAL .. 0          CYL    AUTOINCDATATOTAL .. 0          CYL

--------- SMF --------------------------
SMF ............... NO





                                                                  Page 3 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit      ABC List  Modify   -        +        Menu
```

```
19:15:21          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                   -  Display Parameters  -                 PACPD32
NucID 1021

 ---- Command Logging ----      ------------ Command Logging --------------
 Command Logging .. YES         Log VOLSER info    (LOGVOLIO) .. NO
 LOGCB ............ NO          Max buffer size/cmd (CLOGMAX) .. 16384
 LOGFB ............ YES         Max buffer size/buf(CLOGBMAX) .. 4096
 LOGRB ............ YES         Log ABDX            (LOGABDX) .. NO
 LOGSB ............ NO          Log multifetch buffer (LOGMB) .. NO
 LOGVB ............ NO          Command log layout(CLOGLAYOUT).. 8
 LOGIB ............ NO
 LOGIO ............ NO
 LOGUX ............ NO
 LOGSIZE .......... 5064        ---------- Protection Logging -----------
 DUAL CLOG Size ... 675         PLOG required        (PLOGRQ) .. YES
 DUAL CLOG Dev. ... 3390        DUAL PLOG Size      (DUALPLS) .. 240
 NCLOG ............ 0           DUAL PLOG Device    (DUALPLD) .. 3390
                                NPLOG ......................... 0

                                                                  Page 4 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit      ABC List  Modify   -        +        Menu
```

```
19:15:21          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                   -  Display Parameters  -                 PACPD32
NucID 1021

------------ Large Pools -------------      --------- Other Services ---------
Flush I/O Pool (LFIOP)  .. 80000            Triggers / Procedures (SPT) .. YES
                                            Delta Save Facility   (DSF) .. YES
                                            Cache Facility      (CACHE) .. NO
                                            Transaction Manager   (ATM) .. NO
-------- User Specific Limits --------      TCP/IP Support      (TCPIP) .. NO
Hold Queue Limit  (NISNHQ) .. 400           Ext. Error Recovery  (SMGT) .. YES
CIDs per User      (NQCID) .. 40            2 Phase Commit Support(DTP) .. NO
ISN per TBI Element(NSISN) .. 100
                                            Review:
------------ Buffer Pool -------------       Support  (REVIEW) .. NO
Bufferflush Dur.  (TFLUSH) .. 1
Parallel LFIOP I/O (FMXIO) .. 1              Filter ............. YES
Async. by Vol-Ser (ASYTVS) .. YES            Max bufsize cmd .... 16384
                                             Max bufsize buf .... 5120

                                                                   Page 5 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit      ABC List  Modify   -        +        Menu
```

```
19:15:21          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                   -  Display Parameters  -                 PACPD32   ↩

NucID 1021                                                                     ↩

                                                                               ↩

----- Cluster/Parallel Services -------    ---- Cluster/Parallel Services ----
Environment .......... Sysplex             MXMSG .................. 300       ↩

ARM element name .....                     MXMSGWarn .............. 0         ↩

Cache structure name . ADA_CACHE4          MXCANCEL ............... 300       ↩

Lock structure name .. ADA_LOCK4           MXCANCELWarn ........... 75        ↩

Sysplex group name ... WISPLEX             MXWtor ................. 0         ↩

Cache type ........... DSP                 MXStatus ............... 15        ↩

DIrratio ............ 4                                                       ↩

ELemratio ........... 1                   CLUPUBLPROT ............ YES       ↩

Redo Pool (LRDP) ..... 80000               CLUWORK1CACHE .......... 0         ↩

CLOGMRg ............. NO                                                      ↩

CLUCACHEUnchanged .... No                                                      ↩

CLULOCKSize .......... 0                                                       ↩

CLUCACHESize ......... 0                                                       ↩

                                                                               ↩

                                                                               ↩

                                                                   Page 6 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----   ↩

Help     NextNuc   Exit      ABC List  Modify   -        +        Menu
```

```
19:15:21          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                   -  Display Parameters  -                 PACPD32   ↩

NucID 1021                                                                     ↩
                                                                               ↩
---- Replication Parameters -------                                            ↩
Replication .......... YES                                                     ↩
RPWARNPercent ........ 0                                                       ↩
RPWARNINCrement ...... 10                                                      ↩
RPWARNINTerval ....... 60                                                      ↩
RPWARNMessagelimit ... 5                                                       ↩
RPCONNECTCount ....... 0                                                       ↩
RPCONNECTInterval .... 0                                                       ↩
RPLSORT .............. YES                                                     ↩
LRPL ................. 100000                                                  ↩
                                                                               ↩
                                                                               ↩
                                                                               ↩
                                                                               ↩
                                                                               ↩
                                                                               ↩
                                                                 Page 7 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----   ↩
Help     NextNuc   Exit      ABC List  Modify   -                 Menu
```

Notes:

1. If you press PF4 (ABC List) on any of these screens, an alphabetic list of the ADARUN parameter settings is shown.
2. In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the cluster using the `NextNucid` command. In addition, the current nucleus ID is shown

in a `NucID` field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

To modify Adabas nucleus (ADARUN) parameters:

- Choose option **P** on the **Session Monitoring** menu and press Enter. Modifiable values are highlighted (intensified) on the displays. The equivalent direct command is:

```
MODIFY PARAMETERS
```

A series of Modify Parameters screens appear. You can scroll through the screens using the PF7 (scroll backward) and PF8 (scroll forward) keys. The information on these screens and the number of screens that appear varies depending on the type database you have selected. For a description of each ADARUN parameter, read *ADARUN Parameter Reference*, in the *Adabas Online Systems (AOS) Reference Guide*.

The following screens might display for an Adabas database in an Adabas cluster:

```
19:16:32          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                  -  Modify Parameters  -                  PACP032
NucID 1021
Modify parameters below, as required:
 -------------- Pools --------------  ------------- Queues ------------------
 Sort Area         (LS).. 19968       Command Queue          (NC) .. 20
 Int. User Buffer  (LU).. 400000      Hold Queue             (NH) .. 1200
 Buffer Pool      (LBP).. 283392      User Queue             (NU) .. 200
 Format Pool      (LFP).. 150000      ------------ Time Windows -------------
 ISN List Table    (LI).. 360000      Transaction Time       (TT) .. 4858
 Seq. Cmd. Table   (LQ).. 20000       Max Transaction Time (MXTT) .. 3600
 Work Pool        (LWP).. 1500000     Nonactivity ACC-User (TNAA) .. 4858
 Attached Buffer  (NAB).. 100         Nonactivity ET-User  (TNAE) .. 4858
 Security Pool    (LCP).. 10000       Nonactivity EXU-User (TNAX) .. 4858
 UQ-DE Pool    (LDEUQP).. 50000       Max Nonactivity Time(MXTNA) .. 3600
 Err. Recovery (MSGBUF).. 36          Time Limit Sx-Cmds (TLSCMD) .. 300
                                      Max Time for Sx-Cmds(MXTSX) .. 3600
                                      Command Time           (CT) .. 3858
                                      SYNS60 Interval    (INTNAS) .. 3600

                                                                  Page 1 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit      ABC List  Display           +        Menu
```

```
19:16:32          ***** A D A B A S  BASIC  SERVICES *****          2018-09-25
DBID 1955                   -  Modify Parameters  -                  PACP032   ↩

NucID 1021                                                                     ↩

Modify parameters below, as required:                                          ↩

--------- Miscellaneous ------------    --------- Miscellaneous --------------
Read only     (READONLY).. NO           LARGEPAGE ................. NO       ↩

UTI only       (UTIONLY).. NO           V64BIT .................... NO       ↩

OPEN required   (OPENRQ).. NO           SRLOG ..................... Upd      ↩

Ignore DIB Entry(IGNDIB).. NO           LOGWARN  (LOGWARN) ........ 0        ↩

Local nucleus   (LOCAL) .. NO           SECUID  (SECUID) .......... ALLOW    ↩

Number of Threads  (NT) .. 5            INDEXCROSSCHECK  (IND) .... YES      ↩

Non DE Search  (NONDES) .. YES          Print on refresh (REFSTPRT) YES      ↩

Log AOS/DBS Upd (AOSLOG).. YES          Number plog buffers ....... 1        ↩

Batch Support   (BATCH) .. NO           Number work1 buffers ...... 1        ↩

Data Protection Area(LP).. 1000         Event log buffer size ..... 1024     ↩

Ignore Wrk Prt4(IGNDTP) .. NO           Auto-restart buffers (ARN). 9        ↩

WORK-Part-4 Area (LDTP) .. 0            AUDITLOG  (AUDITLOG) ...... CONSOLE  ↩

WORK-Part-2 Area(LWKP2) .. 180          zIIP processors (ZIIP) .... YES      ↩

SVC                   (SVC) .. 249                                             ↩

                                                                               ↩

                                                                  Page 2 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----   ↩

Help     NextNuc   Exit      ABC List  Display  -        +        Menu
```

```
19:16:32          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                  -  Modify Parameters  -                  PACP032
NucID 1021

--------- Space Warning ----------------
ASSOSPACEWARN ..... 0____________________
DATASPACEWARN ..... 0____________________

--------- Auto Increase ------------------------------------------------
AUTOINCASSOTHRESHOLD ..... 0__        AUTOINCDATATHRESHOLD ..... 0__
AUTOINCASSOSIZE ... 0_________ CYL    AUTOINCDATASIZE ... 0_________ CYL
AUTOINCASSOTOTAL .. 0_________ CYL    AUTOINCDATATOTAL .. 0_________ CYL

--------- SMF --------------------------
SMF ............... NO





                                                                  Page 3 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit      ABC List  Display  -        +        Menu
```

```
19:16:32          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                  -  Modify Parameters  -                  PACP032
NucID 1021
Modify parameters below, as required:
 ---- Command Logging ----      ------------ Command Logging --------------
 Command Logging .. YES         Log VOLSER info    (LOGVOLIO) .. NO
 LOGCB ............ NO          Max buffer size/cmd (CLOGMAX) .. 16384
 LOGFB ............ YES         Max buffer size/buf(CLOGBMAX) .. 4096
 LOGRB ............ YES         Log ABDX            (LOGABDX) .. NO
 LOGSB ............ NO          Log multifetch buffer (LOGMB) .. NO
 LOGVB ............ NO          Command log layout(CLOGLAYOUT).. 8
 LOGIB ............ NO
 LOGIO ............ NO
 LOGUX ............ NO
 LOGSIZE .......... 5064        ---------- Protection Logging -----------
 DUAL CLOG Size ... 675         PLOG required        (PLOGRQ) .. YES
 DUAL CLOG Dev. ... 3390        DUAL PLOG Size      (DUALPLS) .. 240
 NCLOG ............ 0           DUAL PLOG Device    (DUALPLD) .. 3390
                                NPLOG ......................... 0

                                                                  Page 4 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit      ABC List  Display  -        +        Menu
```

```
19:16:32          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                   -  Modify Parameters  -                  PACP032
NucID 1021

------------ Large Pools -------------      --------- Other Services ---------
Flush I/O Pool (LFIOP) ... 80000            Triggers / Procedures (SPT) .. YES
                                            Delta Save Facility   (DSF) .. YES
                                            Cache Facility      (CACHE) .. NO
                                            Transaction Manager   (ATM) .. NO
-------- User Specific Limits --------      TCP/IP Support      (TCPIP) .. NO
Hold Queue Limit  (NISNHQ) .. 400           Ext. Error Recovery  (SMGT) .. YES
CIDs per User      (NQCID) .. 40            2 Phase Commit Support(DTP) .. NO
ISNs / TBI Element (NSISN) .. 100
                                            Review:
------------ Buffer Pool -------------       Support  (REVIEW) .. NO
Bufferflush Dur.  (TFLUSH) .. 1
Parallel LFIOP I/O (FMXIO) .. 1              Filter ............. YES
Async. by Vol-Ser (ASYTVS) .. YES            Max bufsize cmd .... 16384
                                             Max bufsize buf .... 5120

                                                                     Page 5 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit      ABC List  Display  -        +        Menu
```

```
19:16:32          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                   -  Modify Parameters  -                  PACP032
NucID 1021

----- Cluster/Parallel Services -------    ---- Cluster/Parallel Services ----
Environment .......... Sysplex             MXMSG .................. 300
ARM element name .....                     MXMSGWarn .............. 75
Cache structure name . ADA_CACHE4          MXCANCEL ............... 300
Lock structure name .. ADA_LOCK4           MXCANCELWarn ........... 75
Sysplex group name ... WISPLEX             MXWtor ................. 0
Cache type ........... DSP                 MXStatus ............... 15
DIrratio ............ 4
ELemratio ........... 1                    CLUPUBLPROT ............ YES
Redo Pool (LRDP) ..... 80000               CLUWORK1CACHE .......... 0
CLOGMRg ............. NO
CLUCACHEUnchanged .... No
CLULOCKSize .......... 0
CLUCACHESize ......... 0


                                                                     Page 6 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit      ABC List  Display  -        +        Menu
```

```
19:16:32          ***** A D A B A S  BASIC  SERVICES *****          2017-09-25
DBID 1955                  -  Modify Parameters  -                  PACP032
NucID 1021

---- Replication Parameters -------
Replication .......... YES
RPWARNPercent ........ 0
RPWARNINCrement ...... 10
RPWARNINTerval ....... 60
RPWARNMessagelimit ... 5
RPCONNECTCount ....... 0
RPCONNECTInterval .... 0
RPLSORT .............. YES
LRPL ................. 100000





                                                                  Page 7 of 7
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc   Exit      ABC List  Display  -                 Menu
```

Notes:

1. If you press PF4 (ABC List) on any of these screens, an alphabetic list of the ADARUN parameter settings is shown.
2. In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the cluster using the `NextNucid` command. In addition, the current nucleus ID is shown in a `NucID` field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

The following screen might display as the last screen of the series or parameter screens for an Adabas database that operates as an Event Replicator Server:

```
02:17:45          ***** A D A B A S  BASIC  SERVICES *****          2014-06-30
DBID 1954                  -  Modify Parameters  -                  PACP022


------- Reptor Parameters -------
RPLParms ............. None
RPWARNPercent ........ 0
RPWARNINCrement ...... 10
RPWARNINTerval ....... 60
RPWARNMessagelimit ... 5
RPCONNECTCount ....... 0
RPCONNECTInterval .... 0
LRPL ................. 25000000









                                                                Page 6 of 6
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit      ABC List  Display  -                 Menu       ↩
```

Displaying Installed Products

Choose option **I** on the **Session Monitoring** menu and press ENTER to display a list of installed products.

```
02:19:08          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBid  1955             - Display Installed Products -               PACII02
NucID 1021

   -------------------------- -----    ------------------------------- ----
   Cache Facility ........... NO       Extended Error Recovery ....... YES
   Delta Save Facility ...... YES      Recovery Aid .................. YES
   Cluster Services ......... YES      Stored Procedures & Triggers .. NO
   Parallel Services ........ NO       Two Phase Commit .............. NO
   Fastpath ................. NO       TCPIP support ................. NO
   Vista .................... NO       Event Replicator .............. YES
   Transaction Manager ...... NO
   SAF Security Interface ... NO
   Review ................... LOCAL
   Adabas Online System ..... YES





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

This screen displays what is installed on the current selected Adabas

Displaying the Event Log Buffer

Selecting **Display Event Log Buffer** (option **L**) from the **Session Monitoring** menu invokes the Display Event Log Buffer screen.

The Adabas event log is a wraparound log in memory that is used to log each response code 145 (RSP145) event. The INFOBUFFERSIZE ADARUN parameter identifies the size of the Adabas event log. Each entry in the event log is currently 128 bytes, although this may change in later Adabas releases. When the Adabas event log fills up, the oldest entries in the log are overwritten.

This is the equivalent of running the ADADBS DEVENTLOG utility function.

```
16:05:10          ***** A D A B A S  BASIC  SERVICES *****          2014-05-01
DBID 11131             -  Display Event Buffer Log  -               PACL002


Sel  Nucid File  Resp  ISN        Date       Time      Aff Jobn  Causer Jobn
---  ----- ----- ----- ---------- ---------- --------  --------  --------
 _         1     145   9999       2009-08-14 20:12:18  SCAATATU  SCAATATU
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _

                                             Enter 'S' to display

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

When you enter an "S" next to an event listed on the Display Event Buffer Log screen, the Selected Event Buffer Log screen appears, allowing you to review detailed log data in the event log for the selected event.

```
16:05:10          ***** A D A B A S  BASIC  SERVICES *****          2014-05-01
DBID 11131            -  Selected Event Buffer Log  -               PACL002


 File  Resp  ISN        Date       Time      Nucid
 ----- ----- ---------- ---------- --------  ------
 1     145   9999       2009-08-14 20:12:18
 ---------------------------------------------------------
 Affected
  Jobname   ET id     SAF id
  --------  --------  --------
  SCAATATU    ???
  Userid (hex)
  0004A10E209800004040404040404000FC0100E4F0F0F200000000
 ---------------------------------------------------------
 Causer
  Jobname   ET id     SAF id
  --------  --------  --------
  SCAATATU    ???
  Userid (hex)
  0004A10E209800004040404040404000FC0100E4F0F0F100000000

                                                  Press ENTER to continue
```

Displaying Queues

Choose option **Q** on the **Session Monitoring** menu and press ENTER to display the **Queue Displays** menu.

```
16:31:49          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                             -  Queue Displays  -                   PACQ002

                       Code    Service
                       ----    ---------------------------
                        A      Display User Queue Elements
                        C      Display Command Queue
                        H      Display Hold Queue
                        ?      Help
                        .      Exit
                       ----    ---------------------------
   Code ............... _
   Max No. Elements ... 100
   Last Activity ...... 0         (elapsed time in seconds)
   Selection Criteria   (Selected User USASASW and Tid TSU03216)
     ET-ID (User-ID) .. ________  User Type ... ___
     Job Name ......... ________
     Terminal ID ...... ________
   Database ID ........ 1955      (WIS1955)             NucID .. 1021

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

Notes:

1. The **ET-ID (User-ID)** field can be used to specify an ETID or security user ID (SECUID), as appropriate for your site.
2. In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the cluster using the `NextNucid` command. In addition, the current nucleus ID is shown in a `NucID` field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

The Display Queues function shows, in table format, the contents of the user, command, or hold queue. Each displayed table entry contains a related terminal ID (TID), job name, user ID (ET-ID or security user ID, as appropriate), current status, and related information such as files currently in use and command type. These queues are a rapidly changing environment of individual entries, each with a life span of milliseconds. This can present challenges when you are scrolling through

results. For example, when you display, exit, or page forward and back, the previously displayed item might be changed or might be completed or unavailable.

If you try to display a queue that is currently empty, an appropriate message appears on the Display Queues menu.

Individual entries in the selected queues can be displayed to provide more detailed information, or selected for a later Basic Services function (the individual user-level statistics sampling described in section ***Obtaining Current Snapshot Statistics*** is an example).

When displaying user queue elements (UQE), command queue elements (CQE), or hold queue elements (HQE), you can use the program function key `PF5 Filter` to filter the displayed information. The `PF5` key envokes the `Filter` pop-up menu and enables you to select what information is displayed. For user and command queues, you can specify `Secuid` and/or `File number`, and for hold queues, you can specify `File Number` and/or `ISN`. To return to the original display of information, clear the fields in the `Filter` pop-up menu.

This section covers the following topics:

- Displaying User Queue Elements
- Displaying the Command Queue
- Displaying the Hold Queue

Displaying User Queue Elements

If you select **Display User Queue Elements** (option **A**) on the **Queue Displays** menu, you must also specify the maximum number of elements to display. Other selection criteria you may optionally specify include:

- number of seconds since last activity
- logical user ID (ETID)
- type of user (ACC, AOS, ET, EXU, EXF, UTI)
- job name
- terminal ID and
- database ID

If multiple selection criteria are specified, they are combined with logical ORs.

The equivalent display direct command is:

```
DISPLAY UQ user queue
```

```
14:42:12          ***** A D A B A S  BASIC  SERVICES *****          2015-05-20
DBID 1955  (1021)          -  Display User Queue  -                 PACQA42
SEL-CRIT: MAX-NUM = 100
                                                          Total Users .. 3
Mark entries with 'D' (Display) or 'S' (Select):
    I          I          I          I User I User   I Last     I            I
  M I TID      I ET-ID    I Jobname  I Type I State  I Active   I File(s)    I
 ---------------------------------------------------------------------------
  _ I TSU09745 I USAWIS   I USAWIS   I AOS  I        I          I None       I
  _ I CEF94B54 I          I USAWISRP I ET   I ET     I       36 I 11         I
  _ I USAWIS 1 I          I ZCOMPLET I ET   I ET     I       20 I None       I
  _ I          I          I          I      I        I          I            I
  _ I          I          I          I      I        I          I            I
  _ I          I          I          I      I        I          I            I
  _ I          I          I          I      I        I          I            I
  _ I          I          I          I      I        I          I            I
  _ I          I          I          I      I        I          I            I
  _ I          I          I          I      I        I          I            I
  _ I          I          I          I      I        I          I            I
  _ I          I          I          I      I        I          I            I

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

Note: In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the cluster using the `NextNucid` command. In addition, the current nucleus ID is shown in a `NucID` field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

The PF6 key allows you to switch columns of either having the ET-ID displayed or the security user ID (SECUID) displayed.

If you choose to display (D) an individual user ID, a user queue element information screen similar to the following appears:

```
16:55:21          ***** A D A B A S  BASIC  SERVICES *****          2015-05-20
DBID 1955  (1021)       -  Display User Queue Element  -            PACQA42

 I          I          I          I          I User I User   I Last     I
 I TID      I SECUID   I Jobname  I ETID     I Type I State  I Active   I
 ---------------------------------------------------------------------------
 I TSU09745 I USAWIS   I USAWIS   I USAWIS   I AOS  I        I        0 I
 ---------------------------------------------------------------------------
 Global Uid= 0009A10E28280000 4040404040404040 00FBE100 E3E2E4F0F9F7F4F5
 Hold Queue Limit ............ 0          ETID Hex Display .. E4E2C1E6C9E24040
 Max. parallel CIDs per User . 40
 Max. ISNs per TBI Element ... 100        Start Times
 Max. Time of Nonactivity .... 3775         Session ...... 2015-05-20 10:42:09
 Max. Transaction Time ....... 0            Transaction .. 0000-00-00
 Time Limit for Sx Commands .. 300        File List
 No. of ISNs currently held .. 0             None
 No. of CIDs currently in use: 0
 No. of Calls ............... 121
 No. of I/Os ................ 131
 Priority from ET/CP File .... 0

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

Note: The **ET-ID** column on both of these screens will show ETIDs or security user IDs (SECUIDs), as appropriate for your site. The column title will change, based on what is displayed.

Displaying the Command Queue

If you choose **Display Command Queue** (option **C**) on the **Queue Displays** menu, the current commands in the command queue and their status are listed. PF2 allows you to switch the display between "time-in" and "job name".

The equivalent display direct command is:

```
DISPLAY CQ
```

```
16:33:58          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                 -  Display Command Queue  -               PACQC12
NUCID: 1021

Mark entries with 'S' to select :

    M     TID      Secuid   Jobname    Time     Status  Cmd  File   Length
   ---I---------I---------I---------I---------I--------I---I------I-------
    _ I TSU03505  USAXXXX    USAXXXX  12:33:58  Active   UC            720
    _ I
    _ I
    _ I
    _ I
    _ I
    _ I
    _ I
    _ I
    _ I
    _ I
    _ I

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

Note: The **Secuid** column on this screen will show ETIDs or security user IDs (SECUIDs), as appropriate for your site. The column title will change, based on what is displayed.

Displaying the Hold Queue

If you choose **Display Hold Queue** (option **H**) on the **Queue Displays** menu, a list of the ISNs currently in hold status is displayed.

The equivalent display direct command is:

```
DISPLAY HQ
```

```
10:44:47          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                   -  Display Hold Queue  -                 PACQH22

Mark entries with 'S' to select a user :

  M I FNR   I ISN        I Mode I TID      I SECUID   I Jobname  I ETID
 ---------------------------------------------------------------------------
  _ I     1 I         20 I      I USAXXX 2 I USAXXX   I          I
  _ I       I            I      I          I          I          I
  _ I       I            I      I          I          I          I
  _ I       I            I      I          I          I          I
  _ I       I            I      I          I          I          I
  _ I       I            I      I          I          I          I
  _ I       I            I      I          I          I          I
  _ I       I            I      I          I          I          I
  _ I       I            I      I          I          I          I
  _ I       I            I      I          I          I          I
  _ I       I            I      I          I          I          I
  _ I       I            I      I          I          I          I


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

Refreshing Interval Statistics

Selecting **Refresh Interval Statistics** (option **R**) on the **Session Monitoring** menu displays the **Interval Statistics** screen:

```
13:18:12          ***** A D A B A S  BASIC  SERVICES *****          2014-04-29
DBID 1955                  -  Interval Statistics  -                PACR012
NUCID 1021


                  Mark each nucleus statistic to be reset:

                              _   Command Usage
                              _   File Usage
                              _   Pool Usage
                              _   Thread Usage
                              _   Counters
                              _   Time Elapsed
                              _   I/O





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

To select the statistics to be refreshed, place an "X" in the space next to the statistic type.

More than one statistic may be refreshed at the same time. The statistics selected are reset to zero.

PF3 cancels the request and returns to the **Session Monitoring** menu. PF12 cancels the request and returns to the AOS **Main Menu**.

Obtaining Current Snapshot Statistics

Selecting **Current Snapshot Statistics** (option **S**) on the **Session Monitoring** menu invokes the **Snapshot Statistics** menu:

```
13:22:10          ***** A D A B A S  BASIC  SERVICES *****          2014-04-29
                          -  Snapshot Statistics  -                 PACS002

                    Code    Service
                    ----    ----------------------------
                     G      Start General Statistics
                     R      Read General Statistics
                     S      Read User Statistics
                     U      Start User Statistics
                     ?      Help
                     .      Exit
                    ----    ----------------------------

      Code ......... _
      Duration ..... 60   seconds
      User ID ......
      Database ID .. 1955     (WIS1955)            NucID .. 1021



Command ==>
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     Disp UQ   Exit      Clear UID                           Menu       ↩
```

Snapshot statistics provide information about file and command use either for a single user (user statistics) or for all currently active users (general statistics). The statistics must first be collected by starting a sampling period for which you have specified a time period in seconds (duration).

To obtain statistics for all currently active users

- Start general statistics (option **G**) and, after the specified duration, read them (option **R**).

  The equivalent direct commands are:

  ```
  START STATISTICS
  READ STATISTICS
  ```

  For more information, read *Basic Services Direct Commands*.

  If user statistics are started (option **U**) or subsequently read (option **S** after the specified duration), a user ID must either be indicated on this screen or have been previously selected in the **Display User Queue** (PF2) or **Display Command Queue** options. PF4 is used to deselect a previously selected user ID.

This section covers the following topics:

Three screens of statistics are displayed: the first two show command usage (use PF7 and PF8 to toggle between these; the third shows file usage (use PF4 to toggle between the file usage and command usage screens):

- Command Usage Display
- File Usage Display

Command Usage Display

The following general command usage information for all currently active users is displayed:

```
 09:24:04          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
 DBID 1955           -  General Statistic:  Command Usage  -         PACSR32
 NUCID 1021
 Statistic Start Time .. 2014-05-02  05:20:42
 Total Commands ........          10,887

 CMD-Type    Nr. CMDs      CMD-Type   Nr. CMDs       CMD-Type    Nr. CMDs
 ---------------------     ---------------------     ---------------------
  A1/4               0      L2/5               1      S5                 0
  BT                 0      L3/6           2,136      S8                 0
  CL                30      L9               219      S9                 0
  C1                 0      N1/2               0      UC               503
  C3                 0      OP                36      U0                 0
  C5                 0      RC             1,569      U1                 0
  ET                 0      RE                 0      U2                 0
  E1/4               0      REST           5,288      U3                 0
  HI                 0      RI                 0      V1                 0
  LF                 3      S1/4           1,061      V2                 0
  L1/4              15      S2                 0      V3                13
                                                                  Page 1 of 2

PF1----- PF2------ PF3------ PF4------ PF7----- PF8----- PF9----- PF12-----
Help               Exit      File               +                 Menu        ↩
```

```
 09:24:04         ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
 DBID 1955          -  General Statistic:  Command Usage  -         PACSR32
 NUCID 1021
 Statistic Start Time .. 2014-05-02  05:20:42
 Total Commands ........          10,887

 CMD-Type    Nr. CMDs      CMD-Type   Nr. CMDs       CMD-Type    Nr. CMDs
 ---------------------     ---------------------     ---------------------
  V4                13
  YA                 0
  YB                 0
  YCAL               0
  YF                 0
  YP                 0

                                                                 Page 2 of 2

PF1----- PF2------ PF3------ PF4------ PF7----- PF8----- PF9----- PF12-----
Help               Exit      File      -                         Menu        ↩
```

If PF4 (**File**) is clicked, the commands used by file number are shown.

```
09:24:04          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955            -  General Statistic:  File Usage  -           PACSR32
NUCID 1021
Statistic Start Time ...... 2014-05-02  05:20:42

 File   File Name            No. Cmds    File   File Name            No. Cmds
 -----  -------------------  ---------   -----  -------------------  ---------
     0  *Cmds with no Fnr*           7      11  NAT-SYSTEM                   2

                                                     Total Commands:       10887

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

If user statistics are collected and read, the following command usage information is displayed for the specific user:

```
16:12:34          ***** A D A B A S  BASIC  SERVICES *****          2014-03-17
DBID 1957            -  User Statistics:  Command Usage  -          PACSS22

Statistic Start Time ...... 2013-03-05  11:11:15         UserID ... TSU02013
                                                                    (USAXXXX)
L1/4 - Read/Get Record ....               A1/A4 - Update Record ....
L2/5 - Read Physical ......               N1/N2 - Add Record .......
L3/6 - Read Logical .......               E1/E2 - Delete Record ....
L9   - Read Descriptor ....
LF   - Read Field Def. ....               OP    - Open User Sess ...
RE   - Read ET Data .......               CL    - Close User Sess ..
                                          ET    - End Transaction ..
S1/4 - Find Records .......               BT    - Backout Tran. ....
S2   - Find Sorted ........
S5   - Find Coupled ISN ...               RC    - Release Cmd ID ...
S8   - Process ISN List ...               UC    - Utility Command ..         9
S9   - Sort ISN List ......

                                                  Press PF8 for more

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

```
16:12:34          ***** A D A B A S  BASIC  SERVICES *****          2014-03-17
DBID 1957            -  User Statistics:  Command Usage  -          PACSS22

Statistic Start Time ...... 2013-03-05  11:11:15         UserID ... TSU02013
                                                                    (USAXXXX)
 REST - Follow up cmds ....               U0   - U0 commands .......
                                          U1   - U1 commands .......
 YA   - YA commands .......               U2   - U2 commands .......
 YB   - YB commands .......               U3   - U3 commands .......
 YC   - YC commands .......
 YP   - YP commands .......               V1   - V1 commands .......
 YCAL - YCAL commands .....               V2   - V2 commands .......
                                          V3   - V3 commands .......
                                          V4   - V4 commands .......



Thread Time (msec) ........ 0.0        100%   User's commands ..
No. of I/Os ............... 0                 Total commands ...           10

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

File Usage Display

The following general file usage information for all currently active users is displayed:

```
16:13:57          ***** A D A B A S  BASIC  SERVICES *****          2014-03-17
DBID 1957            -  General Statistic:  File Usage  -           PACSR22

Statistic Start Time ...... 2013-03-05  11:11:15

 File   File Name            No. Cmds    File   File Name            No. Cmds
 -----  -------------------  ---------   -----  -------------------  ---------
     0  *Cmds with no Fnr*          10

                                                   Total Commands:          10

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

If user statistics are collected and read, the following file usage information is displayed for the specific user:

```
16:55:50          ***** A D A B A S  BASIC  SERVICES *****          2014-03-17
DBID 1957             -  User Statistics:  File Usage  -            PACSS22
                                                                    (USAXXXX)
Statistic Start Time ...... 2013-03-05  11:17:06         UserID ... TSU02013
Thread Time (msec) ........ 0.0                           No. I/Os.. 0
 File   File Name            No. Cmds    File   File Name            No. Cmds
 -----  -------------------  ---------   -----  -------------------  ---------
 *** No Files Used ***









        Perc of all cmds ..  100%              Commands processed:

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

Maintaining TCP/IP URLs

Selecting **Maintain TCP/IP URL** (option **T**) from the **Session Monitoring** menu invokes the Display/Maintain URL screen:

```
16:09:20          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
 DBID 1955                   -  Display/Maintain URL  -               PACTC02

 Mark entries with 'O' to Open or 'C' to Close a URL:

                 M           URL            Status     Message
                 -   --------------------   -------    -------
                 _   HPS://TCPIPMVS:1962_   Closed
                 _   HPS://TCPIPMVS:1963_   Open
                 _   HPS://TCPIPMVS:1964_   Open
                 _   HPS://TCPIPMVS:1965_   Open
                 _   ____________________

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

The screen displays a list of all defined URLs and their current status: open or closed.

To change the status of a URL:

- Enter "O" to open or "C" to close a URL in the corresponding M column next to the URL entry.

To define a new URL and open it:

- Use the blank line provided at the end of the URL list.

Once you have made your changes, press PF4 (Refr) to refresh the list.

Monitoring Interval Utilization

Interval utilization displays provide a comprehensive overview of Adabas operations for an interval.

Each of the interval utilization options contain a refresh capability (PF4) that allows you to refresh the displayed values, a convenience for long-term monitoring of Adabas system functions.

Selecting **Display Interval Utilization** (option **U**) from the **Session Monitoring** menu invokes the **Interval Utilization** menu:

```
16:39:08          ***** A D A B A S  BASIC  SERVICES *****          2014-05-05
                          -  Interval Utilization  -                PACU002

Code  Service                            Code  Service
----  -------------------------------    ----  -------------------------------
 C    Command usage                       S    System status
 F    File usage                          T    Thread usage
 H    High watermarks (pools/queues)      V    I/Os by Volser
 L    Workpool (LWP) usage                W    WORK status
 N    Nucleus File Status                 Y    Display PPT
 P    PLOG status
 ?    Help
 .    Exit
----  -------------------------------    ----  -------------------------------


        Code ......... _
        File Number .. 0
        Database ID .. 1955   (WIS1955)            NucID .. 1021

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

Note: In cluster environments, the PF2 key allows you to scroll sequentially through nucleus IDs in the cluster using the `NextNucid` command. In addition, the current nucleus ID is shown in a `NucID` field on this screen. When the highest nucleus in a cluster is reached, PF2 causes AOS to cycle back to the beginning and changes the nucleus ID to the lowest nucleus ID in the cluster. Once the nucleus ID is changed, it remains in use for all Adabas Online System screens until it is changed again.

This section covers the following topics:

- Monitoring Command Usage
- Monitoring File Usage
- Reviewing High Water Marks
- Monitoring Work Pool (LWP) Usage
- Reviewing Nucleus File Status
- Reviewing Protection Log (PLOG) Status
- Reviewing System Status
- Monitoring Thread Usage
- Reviewing I/Os by Volume Serial Number
- Reviewing Work Status
- Displaying the PPT

- Displaying zIIP Statistics

Monitoring Command Usage

Selecting **Command Usage** (option **C**) on the **Interval Utilization** menu displays the Command Usage screen, which shows the total and average execution time of each Adabas command type issued during the current session and processed by the Adabas nucleus. It also shows the total of all Adabas commands issued.

The values shown on this screen are shown in compressed form. Each can display as a nine-digit value, with appropriate multiplier letters "k" (1000), "M" (1000000), "G" (1000000000), and "T" (1000000000000) (representing consecutive powers of 1000) if necessary. On any of these screens, you can press PF9 to see the actual values (without the multipliers) of the counters on the screens. In this view (full view), there are fewer statistics on each screen, so there are more screens to page through. To return to compressed view, just press PF9 again.

If the value of a counter on these screens ever exceeds the space available for the statistic, the statistic will display in red.

The equivalent direct command is:

```
DISPLAY CMDUSAGE
```

A two-screen display appears:

```
18:35:22         ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
DBID 1955                   -  Command Usage   -                   PACUC22
NucID 1021

Total Commands ..       7,228

CMD-Type I  Nr. CMDs     I Aver. Dur.   CMD-Type I  Nr. CMDs     I Aver. Dur.
-------------------------------------   -------------------------------------
 A1/4    I           0   I               BT      I           0   I
 CL      I          18   I      4.627    C1      I           0   I
 C3      I           0   I               C5      I           0   I
 ET      I           0   I               E1/4    I           0   I
 HI      I           0   I               LF      I           0   I
 L1/4    I          15   I      1.486    L2/5    I           1   I
 L3/6    I       1,633   I      3.580    L9      I         203   I      1.797
 N1/2    I           0   I               OP      I          24   I     10.539
 RC      I       1,260   I      0.008    RE      I           0   I
 REST    I       3,127   I               RI      I           0   I
 S1/4    I         678   I      7.635    S2      I           0   I
(Aver. Dur. - units of milliseconds)                              Page 1 of 2

PF1----- PF2------ PF3------ PF4------ PF7----- PF8----- PF9----- PF12-----
Help               Exit      Refresh            +        Fullview Menu        ↩
```

```
18:35:22         ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
DBID 1955                    -  Command Usage   -                   PACUC22
NucID 1021

Total Commands ..       7,228

CMD-Type I  Nr. CMDs     I Aver. Dur.   CMD-Type I  Nr. CMDs     I Aver. Dur.
-------------------------------------   -------------------------------------
 S5      I           0   I               S8      I           0   I
 S9      I           0   I               UC      I         251   I      2.291
 U0      I           0   I               U1      I           0   I
 U2      I           0   I               U3      I           0   I
 V1      I           0   I               V2      I           0   I
 V3      I           9   I               V4      I           9   I      0.009
 YA      I           0   I               YB      I           0   I
 YCAL    I           0   I               YF      I           0   I
 YP      I           0   I


(Aver. Dur. - units of milliseconds)                              Page 2 of 2

PF1----- PF2------ PF3------ PF4------ PF7----- PF8----- PF9----- PF12-----
Help               Exit      Refresh   -                 Fullview Menu        ↩
```

Adabas includes some V* and Y* commands , which you may see mentioned in Adabas shutdown statistics or in Adabas Online System (AOS) screens. These commands are used internally by Adabas and Adabas add-on products and should not be used in direct calls in your applications. Should you use them, errors will result.

Monitoring File Usage

Selecting **File Usage** (option **F**) on the **Interval Utilization** menu displays the File Usage screen , which shows one of the following things.

- If you select file number 0 (zero) on the **Interval Utilization** menu, all files of the database used during the session and the number of accesses to each file are displayed on the File Usage screen.

  The equivalent direct command is:

  ```
  DISPLAY FILUSAGE
  ```

```
18:36:33          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
DBID 1955                      -  File Usage  -                     PACUF42
Nucid: 1021
  Fnr   Tot. Cmds                 I     Fnr   Tot. Cmds                 I
 ----------------------------------    ----------------------------------
     0                      4,714 I       11                      2,360 I
    12                        158 I       19                         17 I



PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     Repos     Exit      Refresh   --                        Menu
Û                                                                19,009      ↩
```

- If you select an actual file number on the **Interval Utilization** menu, the File Usage screen shows the users that are currently active on the file. A maximum of five users are displayed.

```
18:36:33          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
DBID 1955                      -  File Usage  -                     PACUF32

 Usage Numbers for File 11    :    ACC Users .. 1        EXU Users ..
           (EMPLOYEES)             UPD Users .. 1        UTI Users ..

                                -- USERS --
         M I TID/User I SECUID   I Jobname  I ETID     I Open Mode
         ------------------------------------------------------------
           I USAXXX 2 I          I ZCOMPLET I          I UPD ACC
           I          I          I          I          I
           I          I          I          I          I
           I          I          I          I          I
           I          I          I          I          I
           I          I          I          I          I
           I          I          I          I          I
           I          I          I          I          I
           I          I          I          I          I
           I          I          I          I          I
                     Mark entry with a 'S' to select a User
Total Users for file: 2  Showing only 1                            Page 1 of 1
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit      Refresh                     +        Menu
```

Reviewing High Water Marks

Selecting **High Water Marks** (option **H**) on the **Interval Utilization** menu displays the use of major Adabas pools and queues. It shows the size of each pool or queue as well as the highest amount or the pool or queue used and the current amount in use.

Note: The Replication Pool may appear as "Replication N/A" on this screen if the database is not an Event Replicator Server or if replication is not activated for the database.

The **HW Used** column and the **%Used** column following it show the highest size (in bytes) and highest percentage of the pool or queue reached in the current session. These counters may be doubleword fields. They are shown as nine digits with an optional multipler letter: "k" (1000), "M" (1000000), "G" (1000000000), and "T" (1000000000000), representing consecutive powers of 1000.

These values are a good starting point when looking for a problem with limited buffer, pool, or queue space, or if you are looking for unused storage resources.

The equivalent direct command is:

```
DISPLAY HWM
```

A multiple-screen report appears.

```
18:38:32          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
DBID 1955                    -  High Watermarks  -                   PACUH22
NucID: 1021

Sel    Pool / Queue      I    Size     I   HW Used   %Used I   Current   %Used
-------------------------------------------------------------------------------
 _ Attached Buffer(NAB)  I    409600   I     33536     8.1 I         0     0.0
 _ Command Queue  (NC)   I      3840   I       192     5.0 I       192     5.0
 _ Unique DE Pool (DUQ)  I     50000   I         0     0.0 I         0     0.0
 _ Format Pool    (LFP)  I    150000   I      8416     5.6 I      8416     5.6
 _ Hold Queue     (NH)   I     41600   I         0     0.0 I         0     0.0
 _ PLOG Prot buf(NPLOGB) I         1   I         1   100.0 I         0     0.0
 _ Redo Pool      (LRDP) I     80000   I        28     0.0 I         0     0.0
 _ Replication Pool(LRP) I    100000   I         0     0.0 I         0     0.0
 _ Security Pool  (LCP)  I     10000   I         0     0.0 I         0     0.0
 _ ISN List Tab   (LI)   I    360000   I         0     0.0 I         0     0.0
 _ Seq. Cmd. Table(LQ)   I     20000   I       508     2.5 I         0     2.5
 _ User Queue     (NU)   I     74256   I      1820     2.4 I      1456     1.9
 _ UQ File List   (UQF)  I     19584   I       216     1.1 I       144     0.7
                                                                Page 1 of 2

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

```
18:38:32          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
DBID 1955                    -  High Watermarks  -                   PACUH22
NucID: 1021

Sel    Pool / Queue      I    Size     I   HW Used   %Used I   Current   %Used
-----------------------------------------------------------------------------
 _ Work Prt1 Prot bf(NW) I         1   I         1   100.0 I         0     0.0
 _ Work Pool       (LWP) I   1500000   I     62788     4.1 I      8016     0.5
 _ Work Part 1      (LP) I      1000   I         1     0.1 I         0     0.0
 _ Work Part 2   (LWKP2) I       158   I         0     0.0 I         0     0.0
 _ Work Part 3 (WORKPT3) I      6932   I         0     0.0 I         0     0.0
 _ ATM Trans. IDs  (XID) I         0   I         0     0.0 I         0     0.0
                         I             I                     I
                         I             I                     I
                         I             I                     I
                         I             I                     I
                         I             I                     I
                         I             I                     I
                         I             I                     I
                                                                Page 2 of 2

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

You can select each line to see the full values of the pool or queue, since only nine digits can be displayed. Simply enter an "s" to the left of the pool or queue and a popup window appears showing you the full values for that pool or queue. The following sample shows detailed high-water statistics for the hold queue.

Note: You can select more than one pool or queue at a time; multiple popup windows will appear in sequence (you only need to press any key to move to the next one). When all the popups have been displayed once, you are returned to the High Water Marks selection screen.

```
 Selected pool / queue .. Hold Queue(NH)
  Available ............                    41,600
  High watermark ........                        0
  High watermark % used .                      0.0
  High watermark date ...                 2014-04-30
  High watermark time ...                   14:06:52
  Current used ..........                        0
  Current % used ........                      0.0

 Press any key
                                                                            ↩
```

The time and date values on this popup window show you when the highest value was reached. Values may be zero when the pool/queue is not used. For the attached buffer pool, no time and

date value are given. Also, note that Work part 3 values show the leftover amounts after the Work allocation of Work parts 1 and 2.

Monitoring Work Pool (LWP) Usage

Selecting **Work Pool (LWP) Usage** (option **L**) on the **Interval Utilization** menu displays the length of the used and unused parts of the work pool as well as the length of the longest single unused part. These numbers can be used to tune the work pool length for the next session.

The equivalent direct command is:

```
DISPLAY LWPUSAGE
```

```
18:40:38          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
DBID 1955                    -  Workpool Usage  -                   PACUL02
NUCID 1021

Workpool (LWP)
   Used part ............       8016 Bytes
   Unused part ..........    1481312 Bytes
   Biggest unused part ..    1480336 Bytes









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

Reviewing Nucleus File Status

Selecting **Nucleus File Status** (option **N**)on the **Interval Utilization** menu is the equivalent of entering the DNFV operator command. The following display appears:

```
18:41:18          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
DBID  1955                 - Nucleus File Status -                  PACUN02
NucID 1021

            Locking
      File   NucID  Access count   Update count   State
      -----  -----  -------------  -------------  ----------------------
      11                        0              0  Access
      12                        0              0  Access
      19                        0              0  Access









 Last page
PF1----- PF2----- PF3----- PF4----- PF7----- PF8----- PF9-------  PF12-----
Help     Repos    Exit     Refresh   -        +                   Menu ↩
```

In an Adabas cluster environment, the file may be locked for exclusive use by another cluster nucleus. If this is the case and the file is in the nucleus file status table, the Locking NucID column for the file shows the ID of the nucleus that has exclusive control.

The Access count and Update count columns display the number of access or update users, respectively, that refer to the specified file in their user queue elements (UQEs). These users either have specified the file in an OP command with the "R" option or are using the file in an as yet incomplete transaction.

The State column indicates when the file is used for access only or for access and update. It indicates to what extent a nucleus can use a file on its own. If the requested use exceeds the given state, the nucleus must first communicate with the other nuclei in the cluster in order to upgrade the state.

Reviewing Protection Log (PLOG) Status

Selecting **Protection Log (PLOG) Status** (option **P**) on the **Interval Utilization** menu displays the status of dual protection logs, if used.

The equivalent direct command is:

```
DISPLAY PLOGSTATUS
```

```
18:41:52          ***** A D A B A S  BASIC  SERVICES *****          2014-04-30
DBID 1955                      -  PLOG Status  -                    PACUP02
NucID: 1021

      The nucleus is currently writing on ............ PLOGR1

      Size of one PLOG area (in BLKs.) ...............      240
      Last block written .............................       46  (  19 %)

      Number of switches since nucleus start .........        0
      Date/Time of last switch ....................... 0000-00-00 00:00:00

      Number of switches due to coordinated switch....          0
      Number of writes forced by the merge process....          0

      Number of switch requests before threshold met..          0
      Threshold setting .............................. 75%

      Number of PLOGs ................................   2


PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit      Refresh            PrevNuc  NextNuc  Menu
Û                                                                 02,001      ↩
```

Reviewing System Status

Selecting **System Status** (option **S**) on the **Interval Utilization** menu displays I/O counts for the ASSO, DATA, WORK, and PLOG data sets; remote and local call distribution; and other current session status information.

The equivalent direct command is:

```
DISPLAY SYSTEMSTATUS
```

The values shown on this screen are shown in compressed form. Each can display as a nine-digit value, with appropriate multiplier letters "k" (1000), "M" (1000000), "G" (1000000000), and "T" (1000000000000) (representing consecutive powers of 1000) if necessary. On any of these screens, you can press PF9 to see the actual values (without the multipliers) of the counters on the screens. In this view (full view), there are fewer statistics on each screen, so there are more screens to page through. To return to compressed view, just press PF9 again.

If the value of a counter on these screens ever exceeds the space available for the statistic, the statistic will display in red.

Note: The values on the sample screens in this section have been artificially enhanced.

```
21:07:32          ***** A D A B A S  BASIC  SERVICES *****          2016-12-05
DBID 1955                      -  System Status  -                   PACUS12
NucID: 1021
 Physical    Reads          Writes                Call Distribution
        ----------------------------  ---------------------------------------
 ASSO           997               7    No. of HQEs active .........          0
 DATA           287               0    No. of UQEs in User Queue ..          2
 WORK             2               3    No. of CQEs waiting in CQ ..          0
 PLOG            15               3    No. of PLOG switches .......          0
 CLOG            19               2    No. of CLOGs ...............          2
                                       No. of PLOGs ...............          2
 PLOG protection blks .           2
 PLOG protection I/Os .           2    Format translations .....          22
 PLOG  different blks .           2    Format overwrites .......           0
 WORK1 protection blks.           2    Auto-restarts ...........           0
 WORK1 protection I/Os.           2    Throw-backs for ISN .....           0
 WORK1 different blks .           1    Throw-backs for Space....           0

 Logical reads ........       1,482
 Buffer efficiency ....           1.1                              page 1 of 5

PF1---- PF2---- PF3----- PF4----- PF6----- PF7----- PF8----- PF9----- PF12----
Help            Exit     Refresh                     +        FullView Menu    ↩
```

Pressing PF8 displays additional system status statistics.

```
21:07:32          ***** A D A B A S  BASIC  SERVICES *****          2016-12-05
DBID 1955                      -  System Status  -                   PACUS12
NucID: 1021

         Call Distribution                          Commands
------------------------------------      ----------------------------
User sessions ........           3        Remote ........           0
Buffer flushes .......           0        Local .........         287
Flush phases .........           0        Internal ......          18
Blocks flushed .......           0        Operator ......           0
Flush I/Os ...........           0        Total .........         305


       Flush Requests Returned                     Time Elapsed
------------------------------------      ---------------------------------
Immediately ..........           0        Duration .... 0 day, 00:13:51
After logical flush ..           0        Wait-time ... 0 day, 00:13:49
After entire flush ...           2        CPU time .... 0 day, 00:00:00

                                                                 page 2 of 5

PF1---- PF2---- PF3----- PF4----- PF6----- PF7----- PF8----- PF9----- PF12----
Help            Exit     Refresh           -        +        FullView Menu     ↩
```

Pressing PF8 again will display an additional screen that indicates if one or more of the following are in progress:

- Online database save running;
- ADAEND in progress;
- Online file save running;
- READONLY/UTIONLY transition;
- READONLY status;
- Update processing suspended;
- ET-sync in progress;
- UTIONLY status; and
- Exclusive-DB-control utility running.

Otherwise, "Adabas operation normal" is displayed.

```
21:07:32          ***** A D A B A S  BASIC  SERVICES *****          2016-12-05
DBID 1955                     -  System Status  -                   PACUS12
NucID: 1021

                              Nucleus Status Flags
                      ------------------------------------
                      Adabas operation normal

                                                                  page 3 of 5

PF1---- PF2---- PF3----- PF4----- PF6----- PF7----- PF8----- PF9----- PF12----
Help            Exit     Refresh           -        +        FullView Menu      ↩
```

Note: The following screens are only visible in a cluster environment.

```
21:07:32          ***** A D A B A S  BASIC  SERVICES *****          2016-12-05
DBID 1955                      -  System Status  -                  PACUS12
NucID: 1021

 Cluster Nucleus
 ----------------------------------------
 WORK1 publishing blocks ..           0
 WORK1 publishing I/Os ....           0
 WORK1 publishing waits ...           0
 Buffer flush V2 timeouts .           0









                                                                  page 4 of 5

PF1---- PF2---- PF3----- PF4----- PF6----- PF7----- PF8----- PF9----- PF12----
Help            Exit     Refresh           -        +        FullView Menu       ↩
```

```
21:07:32          ***** A D A B A S  BASIC  SERVICES *****          2016-12-05
DBID 1955                      -  System Status  -                  PACUS12
NucID: 1021               Cluster WORK I/O Statistics
NucID      Read I/Os     Write I/Os      Nucid      Read I/Os     Write I/Os
-----  -------------  -------------      -----  -------------  -------------
 1021            1              0 ==>  1021            1              0 ==>
 1022            1              0 ==>  1022            1              0 ==>
 1023            1              0 ==>  1023            1              0 ==>
 1024            1              0 ==>  1024            1              0 ==>
 1025            1              0 ==>  1025            1              0 ==>
```

Monitoring Thread Usage

Selecting **Thread Usage** (option **T**) on the **Interval Utilization** menu displays a table of all defined Adabas threads, the status of each, the command type currently in process in each active thread, and the number of commands processed by each thread in the current session.

The equivalent direct command is:

```
DISPLAY THREADUSAGE
```

The values shown on this screen are shown in compressed form. Each can display as a nine-digit value, with appropriate multiplier letters "k" (1000), "M" (1000000), "G" (1000000000), and "T" (1000000000000) (representing consecutive powers of 1000) if necessary.

If the value of a counter on these screens ever exceeds the space available for the statistic, a greater than symbol (>) appears as the multiplier letter.

```
20:59:55          ***** A D A B A S  BASIC  SERVICES *****          2015-05-01
DBID 1955                     -  Thread Usage  -                    PACUT12
NucID: 1021
Nr. I Thread Status     I Command Type    I Wait Event        I Nr. CMDs
-------------------------------------------------------------------------------
  1 I Active            I Simple Cmd.     I                   I       6,576
  2 I Not active        I                 I                   I         103
  3 I Not active        I                 I                   I  71,981,983 K
  4 I Not active        I                 I                   I   5,792,340 M
  5 I Not active        I                 I                   I   8,462,628 M
  6 I Not active        I                 I                   I           0
  7 I Not active        I                 I                   I  16,777,215 T
  8 I Not active        I                 I                   I  16,777,215 >
  9 I Not active        I                 I                   I           0
 10 I Not active        I                 I                   I           0
 11 I Not active        I                 I                   I           0
 12 I Not active        I                 I                   I           0
 13 I Not active        I                 I                   I           0
 14 I Not active        I                 I                   I           0
 15 I Not active        I                 I                   I           0

PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF9----- PF12-----
Help               Exit      Refresh                     Fullview Menu       ↩
```

Press the Enter key to scroll through the Thread Usage screens.

You can press PF9 to see the actual values (without the multipliers) of the counters. A pop-up window appears showing the actual values aligned to the right. To return to compressed view, just press Enter again.

```
  Thr      Command Counts

    1                        6,576
    2                          103
    3              73,709,551,615
    4           6,073,709,551,615
    5           8,873,709,551,615
    6                            0
    7  18,446,744,073,709,551,614
    8  18,446,744,073,709,551,614
    9                            0
   10                            0
   11                            0
   12                            0
   13                            0
   14                            0
   15                            0
Enter-
Continue
                                  ↩
```

Reviewing I/Os by Volume Serial Number

Selecting **I/O by Volser** (option **V**) on the **Interval Utilization** menu displays a table of the read and write I/Os performed by volume serial number on the I/O by Volser screen. It also shows the highest RABN on each volume.

The equivalent direct command is:

```
DISPLAY IOVOLSER
```

The I/O counts shown on this screen are shown in compressed form. Each can display as a nine-digit value, with appropriate multiplier letters "k" (1000), "M" (1000000), "G" (1000000000), and "T" (1000000000000), representing consecutive powers of 1000, if necessary.

```
16:07:17          ***** A D A B A S  BASIC  SERVICES *****          2014-05-01
DBID 1955                      -  I/O by Volser -                   PACUV02
NucID 1021
Volser    Type I Read I/Os     I Write I/Os    I Highest RABN
-------------------------------------------------------------
SMSZ11    ASSO I       2,583   I         202   I        53,982
SMSZ11    DATA I       2,854   I          65   I        89,989
               I               I               I
               I               I               I
               I               I               I
               I               I               I
               I               I               I
               I               I               I
               I               I               I
               I               I               I
               I               I               I
               I               I               I
               I               I               I
               I               I               I
               I               I               I

PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF9----- PF12-----
Help               Exit      Refresh                     Fullview Menu       ↩
```

Press the Enter key to scroll through the I/O by Volser screens.

You can press PF9 to see the actual I/O counts (without the multipliers). A pop-up window appears showing the actual values aligned to the right. To return to compressed view, just press Enter again.

```
  Read I/O                     Write I/O

                      2,583                          202
                      2,854                           65
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
  ___________________________  ___________________________
 Enter-
 Continue
                                                          ↩
```

Reviewing Work Status

Selecting **WORK Status** (option **W**) on the **Interval Utilization** menu displays the Work area sizes (in blocks) for the:

- data protection area (Work part 1; ADARUN LP parameter);
- work part 1B (Work part 1B; ADARUN CLUWORK1CACHE parameter);
- area used for intermediate ISN lists (Work part 2; ADARUN LWKP2 parameter);
- area used for resulting ISN lists (Work part 3);

The equivalent direct command is:

```
DISPLAY WORKSTATUS
```

```
21:01:15          ***** A D A B A S  BASIC  SERVICES *****          2016-12-05
DBID 1955                     -  WORK Status  -                     PACUW02
NucID 1021

                  W O R K  Dataset
          +-------------------------------------------------------+
          I  Protection Area                              1000 Blks I
          I-------------------------------------------------------I
          I  Work Part 1B (CLUWORK1CACHE)                    0 Blks I
          I-------------------------------------------------------I
          I  Intermediate ISN Area                         176 Blks I
          I-------------------------------------------------------I
          I  Resulting ISN Area                           9614 Blks I
          I-------------------------------------------------------+
          I  Distributed Transaction Processing Area         0 Blks I
          +-------------------------------------------------------+





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

If you have DTP=RM in your `ADARUN` parameter settings, and press PF4 on the new screen, then the new screen DTP Work Area displays (shown below):

```
16:08:09          ***** A D A B A S  BASIC  SERVICES *****          2014-05-01
                            -  DTP Work Area -                      PACUK02

                    Code    Service
                    ----    ---------------------------------------
                     D      Display PET-status users
                     H      Display heuristically terminated users
                     R      Display DTP rabns
                     U      Work Part 4 usage
                     X      Force heuristic BT/ET
                     ?      Help
                     .      Exit
                    ----    ---------------------------------------
 Code ............. _
 Selected User ....
 Database ID ...... 1955   (WIS1955)

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

The DTP Work Area menu performs the following functions:

Option	Function	Action
D	Display PET-status users	Displays the current environment of PET-status users. You can select one or more to display additional information.
H	Display heuristically terminated users	Displays a list of the heuristically terminated users. You can select one or more to display additional information.
R	Display DTP Rabns	Displays a list of allocated RABNs. You can select a user, display additional information, issue BT or ET, and display total RABNs for a user.
U	Work Part 4 Usage	Displays the breakdown of information of the Work Part 4.
X	Force Heuristic BT/ET	Issues a BT or ET for a selected user. Select the user through the "Display DTP RABNs" menu item.
---	PF2	Clears the selected user.

If you select Display PET-status users, the screen Display PET-Status Users displays (shown below):

```
16:08:09        ***** A D A B A S BASIC SERVICES *****           2014-05-01
DBID 1955            - Display PET-Status Users -                PACUKD2

Mark entries with 'D' (Display):

M I Global ID                                                  I RMID hex I
---------------------------------------------------------------- - -------- -
_ I 000F710020640000B96353B18528B38200000000B96353B185286F02 I 044E0059 I
_ I                                                            I          I
_ I                                                            I          I
_ I                                                            I          I
_ I                                                            I          I
_ I                                                            I          I
_ I                                                            I          I
_ I                                                            I          I
_ I                                                            I          I
_ I                                                            I          I

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

Displaying the PPT

Selecting **Display PPT** (option **Y**) on the **Interval Utilization** menu displays the PPT. The labels and corresponding data set names are listed.

The equivalent direct command is:

```
DISPLAY PPT
```

```
16:40:12          ***** A D A B A S  BASIC  SERVICES *****          2014-05-05
DBID 1955                       - Display PPT -                     MACA022

NucID .. 1021      Active Nucleus, PLOG(s) not copied, CLOG(s) not copied
Image .. ZHST      All Sysplex Services Active

            Label Name     Dataset Name
            ----------     ----------------------------------------
              WORK1        RB.USAWIS.DB1955.WORKR1
              PLOGR1       RB.USAWIS.DB1955.PLOGR1
              PLOGR2       RB.USAWIS.DB1955.PLOGR2
              CLOGR1       RB.USAWIS.DB1955.CLOGR1
              CLOGR2       RB.USAWIS.DB1955.CLOGR2









PF1----- PF3------ PF4------ PF6------ PF7----- PF8----- PF9----- PF12-----
Help     Exit      Refresh   PrevPPT                     NextPPT  Menu        ↩
```

Use the PF6 and PF9 fields to scroll between the PPTs.

Displaying zIIP Statistics

Selecting **zIIP Statistics** (option **Z**) on the **Interval Utilization** menu allows you to review zIIP statistics for the ongoing session. The **zIIP Statistics** screens display.

Note: This option is only available for selection when Adabas was started with `ZIIP=YES`.

```
15:00:06          ***** A D A B A S  BASIC  SERVICES *****          2018-04-04
DBID 1955                    -  zIIP Statistics  -                   PACUZO2

Counts / Times                                                   zIIP mode SRB
-------------------------------------------------------------------------------
zIIP normalization factor .........                10.97
Integrated inform. processor(zIIP).                    1
 zIIP SMT threads ................                     1
General central processors (GCP) ..                    2

Total enclave CPU time ............          0:00:23.455
 Enclave GCP CPU time .............          0:00:11.058
 Enclave zIIP CPU time ............          0:00:12.397
 Enclave zIIP CPU time(%) .........                52.85

Eligible zIIP CPU time ............          0:00:12.398
 Enclave zIIP CPU time ............          0:00:12.397
 Eligible zIIP CPU time on GCP ....          0:00:00.001
 Eligible zIIP CPU time on GCP(%) .                 0.00


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

```
15:00:06          ***** A D A B A S  BASIC  SERVICES *****          2018-04-04
DBID 1955                    -  zIIP Statistics  -                   PACUZO2

Counts / Times
-------------------------------------------------------------
Switches into SRB mode ............                     60,138
Switches into TCB mode ............                     60,137
Parallel requests .................                     15,039
 No free element for request ......                          0
 Parallel requests per TCB pause ..                       1.16

Extended statistics

Pause   SRB .......................                         15
Release SRB .......................                          0
Pause   TCB .......................                     12,864
Release TCB .......................                     12,878
Pause   for wait ..................                     86,358
Release from wait .................                     86,961


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

```
15:00:06          ***** A D A B A S  BASIC  SERVICES *****          2018-04-04
DBID 1955                    -  zIIP Statistics  -                  PACUZ02

SRB/TCB Scheduling by type of work
------------------------------------- ----------------------------------------
EXCPs                           15040
Miscellaneous                      65
Sequential writes                 253
Timer services                 119956









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

Replicator Management

The Replicator management screens are only visible if the Event Replicator for Adabas is installed and active. If the **V** option on the **Session Monitoring** menu is not highlighted, the Event Replicator is *not* installed and this option cannot be selected. For more detailed information concerning Replicator Management screens, refer to the Event Replicator for Adabas documentation.

Displaying Session Utilization

Selecting **Display session utilization** (option **W**) on the **Session Monitoring** menu displays the **Session Utilization** menu:

```
18:06:16          ***** A D A B A S  BASIC  SERVICES *****          2018-04-04
                          -  Session Utilization  -                 PACW002

                      Code  Service
                      ----  ------------------------------
                        C   Command usage
                        F   File usage
                        H   High watermarks (pools/queues)
                        S   System status
                        T   Thread usage
                        Z   zIIP statistics
                        ?   Help
                        .   Exit
                      ----  ------------------------------
          Code ......... _
          File Number .. 0
          Database ID .. 1955   (WIS1955)            NucID .. 1021



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

This menu provides access to command usage, file usage, high watermark, system status, and thread usage statistics for the ongoing session. If you elected to refresh these statistics during your Adabas session, the numbers presented in this area of Adabas Online System may be different than the interval statistics. Otherwise, they should be identical. For examples of the session utilization statistics that are collected and displayed, read the following sections:

- Displaying Session Command Usage Statistics
- Displaying Session File Usage Statistics
- Displaying Session High Water Mark Statistics
- Displaying Session System Status Statistics
- Displaying Session Thread Usage Statistics
- Displaying Session zIIP Statistics

Displaying Session Command Usage Statistics

Selecting **Command Usage** (option **C**) on the **Session Utilization** menu allows you to review command usage statistics for the ongoing session. The **Session Command Usage** screen displays.

```
18:06:37         ***** A D A B A S  BASIC  SERVICES *****          2014-06-30
DBID 1955                -  Session Command Usage  -                PACWC22
NucID 1021

Total Commands ..       3,058

CMD-Type I  Nr. CMDs     I Aver. Dur.   CMD-Type I  Nr. CMDs     I Aver. Dur.
-------------------------------------   -------------------------------------
 A1/4    I           0   I               BT      I           0   I
 CL      I          15   I      4.565    C1      I           0   I
 C3      I           0   I               C5      I           0   I
 ET      I           0   I               E1/4    I           0   I
 HI      I           0   I               LF      I           0   I
 L1/4    I           0   I               L2/5    I           0   I
 L3/6    I       1,000   I      5.272    L9      I         180   I      1.201
 N1/2    I           0   I               OP      I          20   I     10.017
 RC      I         710   I      0.010    RE      I           0   I
 REST    I         500   I               RI      I           0   I
 S1/4    I         549   I      6.185    S2      I           0   I
(Aver. Dur. - units of milliseconds)                              Page 1 of 2

PF1----- PF2------ PF3------ PF4------ PF7----- PF8----- PF9----- PF12-----
Help               Exit      Refresh            +        Fullview Menu        ↩
```

This screen shows the number of times a command was issued during the session and the average duration of each command. The statistics are displayed in two sets of repeated columns, unless you press the PF9 key, when they are displayed in longer form.

You can scroll forward and backward between the screens of command statistics using the PF8 (forward) and PF7 (backward) keys.

Displaying Session File Usage Statistics

Selecting **File Usage** (option **F**) on the **Session Utilization** menu allows you to review file usage statistics for the ongoing session. The **Session File Usage** screen displays.

```
18:09:29          ***** A D A B A S  BASIC  SERVICES *****          2014-06-30
DBID 1955                   -  Session File Usage  -                 PACWF42
Nucid: 1021
  Fnr   Tot. Cmds                 I     Fnr   Tot. Cmds                 I
 ----------------------------------    ----------------------------------
     0                      1,343 I       11                      1,747 I



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

This screen shows the number of commands issued against a file during the session.

You can scroll forward and backward between the screens of file statistics using the PF8 (forward) and PF7 (backward) keys.

Displaying Session High Water Mark Statistics

Selecting **High watermarks** (option **H**) on the **Session Utilization** menu allows you to review high watermark (pool and queue) statistics for the ongoing session. The **Session High Watermarks** screens display.

```
18:09:55          ***** A D A B A S  BASIC  SERVICES *****          2014-06-30
DBID 1955                -  Session High Watermarks  -               PACWH22
NucID: 1021

Sel    Pool / Queue      I    Size     I   HW Used   %Used I   Current   %Used
-------------------------------------------------------------------------------
 _ Attached Buffer(NAB)  I    409600   I     32768     8.0 I         0     0.0
 _ Command Queue  (NC)   I      3840   I       192     5.0 I       192     5.0
 _ Unique DE Pool (DUQ)  I     50000   I         0     0.0 I         0     0.0
 _ Format Pool    (LFP)  I    150000   I         0     0.0 I      6528     4.3
 _ Hold Queue     (NH)   I     41600   I         0     0.0 I         0     0.0
 _ PLOG Prot buf(NPLOGB) I         1   I         1   100.0 I         0     0.0
 _ Redo Pool      (LRDP) I     80000   I        28     0.0 I         0     0.0
 _ Replication Pool(LRP) I    100000   I         0     0.0 I         0     0.0
 _ Security Pool  (LCP)  I     10000   I         0     0.0 I         0     0.0
 _ ISN List Tab   (LI)   I    360000   I         0     0.0 I         0     0.0
 _ Seq. Cmd. Table(LQ)   I     20000   I         0     0.0 I         0     0.0
 _ User Queue     (NU)   I     74256   I      1820     2.4 I      1456     1.9
 _ UQ File List   (UQF)  I     19584   I       216     1.1 I       144     0.7
                                                                Page 1 of 2

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

```
20:54:19          ***** A D A B A S  BASIC  SERVICES *****          2016-12-05
DBID 1955                - Session High Watermarks  -                  PACUH22
NucID: 1021

Sel    Pool / Queue      I    Size     I   HW Used   %Used I   Current   %Used
-------------------------------------------------------------------------------
 _ Work Prt1 Prot bf(NW) I         1   I         1   100.0 I         0     0.0
 _ Work Pool       (LWP) I   1500000   I     53364     3.5 I         0     0.0
 _ Work Part 1      (LP) I      1000   I         1     0.1 I         0     0.0
 _ Work Part 2   (LWKP2) I       176   I         0     0.0 I         0     0.0
 _ Work Part 3 (WORKPT3) I      9614   I         0     0.0 I         0     0.0
 _ ATM Trans. IDs  (XID) I         0   I         0     0.0 I         0     0.0
 _ Work Part 1B(CLUWOR.) I         0   I         0     0.0 I         0     0.0
                         I             I                   I
                         I             I                   I
                         I             I                   I
                         I             I                   I
                         I             I                   I
                         I             I                   I
                                                                Page 2 of 2

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

This screen shows the size, amount used, percentage used, current usage, and current percentage used of each pool, queue, and Work part. T

You can scroll forward and backward between the screens of high watermark statistics using the PF8 (forward) and PF7 (backward) keys.

Displaying Session System Status Statistics

Selecting **System status** (option **S**) on the **Session Utilization** menu allows you to review system status usage statistics for the ongoing session. The **Session System Status** screens display.

```
18:10:32          ***** A D A B A S  BASIC  SERVICES *****          2014-06-30
DBID 1955                -  Session System Status  -                PACWS12
NucID: 1021

 Physical    Reads          Writes                Call Distribution
        ----------------------------  ---------------------------------------
 ASSO         1,310              28    No. of HQEs active .........          0
 DATA         2,025               7    No. of UQEs in User Queue ..          1
 WORK             2              33    No. of CQEs waiting in CQ ..          0
 PLOG             6              24    No. of PLOG switches .......          0
 CLOG            20               4    No. of CLOGs ...............          2
                                       No. of PLOGs ...............          2
 PLOG protection blks .          23
 PLOG protection I/Os .          23    Format translations .....          39
 WORK1 protection blks.          33    Format overwrites .......           0
 WORK1 protection I/Os.          33    Auto-restarts ...........           0
                                       Throw-backs for ISN .....           0
 Logical reads ........      12,292    Throw-backs for Space....           0
 Buffer efficiency ....           3.6
                                                                 page 1 of 3

PF1---- PF2---- PF3----- PF4----- PF6----- PF7----- PF8----- PF9----- PF12----
Help            Exit     Refresh                     +        FullView Menu    ↩
```

```
18:10:32          ***** A D A B A S  BASIC  SERVICES *****          2014-06-30
DBID 1955                -  Session System Status  -                PACWS12
NucID: 1021

         Call Distribution                          Commands
------------------------------------      ----------------------------
User sessions ........          25        Remote ........           0
Buffer flushes .......           7        Local .........       2,612
Flush phases .........           7        Internal ......         505
Blocks flushed .......          28        Operator ......           0
Flush I/Os ...........          28        Total .........       3,117


       Flush Requests Returned                     Time Elapsed
------------------------------------      ----------------------------------
Immediately ..........           0        Duration .... 0 day, 07:29:54
After logical flush ..           0        Wait-time ... 0 day, 07:29:52
After entire flush ...           9        CPU time .... 0 day, 00:00:04

                                                                  page 2 of 3

PF1---- PF2---- PF3----- PF4----- PF6----- PF7----- PF8----- PF9----- PF12----
Help            Exit     Refresh           -        +        FullView Menu
Û                                                                 02,001      ↩
```

```
18:10:32          ***** A D A B A S  BASIC  SERVICES *****          2014-06-30
DBID 1955                -  Session System Status  -                PACWS12
NucID: 1021

                              Nucleus Status Flags
                      ------------------------------------
                      Adabas operation normal









                                                                  page 3 of 3

PF1---- PF2---- PF3----- PF4----- PF6----- PF7----- PF8----- PF9----- PF12----
Help            Exit     Refresh           -                 FullView Menu    ↩
```

These screens show various system statistics for the session and span three screens, with statistics on some of the screens displayed in two sets of repeated columns. If you press the PF9 key, they are displayed in a single column,

You can scroll forward and backward between the screens of system status statistics using the PF8 (forward) and PF7 (backward) keys.

Displaying Session Thread Usage Statistics

Selecting **Thread usage** (option **T**) on the **Session Utilization** menu allows you to review thread usage statistics for the ongoing session. The **Session Thread Usage** screens display.

```
18:12:54          ***** A D A B A S  BASIC  SERVICES *****          2014-06-30
DBID 1955                -  Session Thread Usage  -                 PACWT12
NucID 1021
Nr. I Thread Status     I Command Type    I Wait Event        I Nr. CMDs
-----------------------------------------------------------------------------
  1 I Active            I Simple Cmd.     I                   I       3,155
  2 I Not active        I                 I                   I           6
  3 I Not active        I                 I                   I           0
  4 I Not active        I                 I                   I           0
  5 I Not active        I                 I                   I           0
  6 I Not active        I                 I                   I           0
  7 I Not active        I                 I                   I           0
  8 I Not active        I                 I                   I           0
  9 I Not active        I                 I                   I           0
 10 I Not active        I                 I                   I           0
 11 I Not active        I                 I                   I           0
 12 I Not active        I                 I                   I           0
 13 I Not active        I                 I                   I           0
 14 I Not active        I                 I                   I           0
 15 I Not active        I                 I                   I           0

PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF9----- PF12-----
Help               Exit      Refresh                     Fullview Menu       ↩
```

This screen shows the threads in numerical order and indicates the thread status, command type, wait event, and number of commands processed by the thread in the session. To see a smaller, more summarized view of the thread usage statistics, press the PF9 key. A popup window appears listing only the thread number and number of commands processed by the thread in the session.

Press ENTER to see the next screen of threads. When you press ENTER on the last screen, the **Session Utilization** menu appears again.

Displaying Session zIIP Statistics

Selecting **zIIP Statistics** (option **Z**) on the **Session Utilization** menu allows you to review zIIP statistics for the ongoing session. The **zIIP Statistics** screens display.

Note: This option is only available for selection when Adabas was started with `ZIIP=YES`.

```
15:46:59          ***** A D A B A S  BASIC  SERVICES *****          2018-04-04
DBID 1955                    -  zIIP Statistics  -                   PACWZ02

Counts / Times Session                                            zIIP mode SRB
-------------------------------------------------------------------------------
zIIP normalization factor .........                10.97
Integrated inform. processor(zIIP).                    1
 zIIP SMT threads ................                     1
General central processors (GCP) ..                    2

Total enclave CPU time ............          0:00:23.558
 Enclave GCP CPU time .............          0:00:11.105
 Enclave zIIP CPU time ............          0:00:12.453
 Enclave zIIP CPU time(%) .........                52.86

Eligible zIIP CPU time ............          0:00:12.454
 Enclave zIIP CPU time ............          0:00:12.453
 Eligible zIIP CPU time on GCP ....          0:00:00.001
 Eligible zIIP CPU time on GCP(%) .                 0.00


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

```
15:46:59          ***** A D A B A S  BASIC  SERVICES *****          2018-04-04
DBID 1955                   -  zIIP Statistics  -                   PACWZO2

Counts / Times Session
-------------------------------------------------------------
Switches into SRB mode ............                     60,420
Switches into TCB mode ............                     60,419
Parallel requests .................                     15,083
 No free element for request ......                          0
 Parallel requests per TCB pause ..                       1.16

Extended statistics

Pause   SRB .......................                         15
Release SRB .......................                          0
Pause   TCB .......................                     12,907
Release TCB .......................                     12,921
Pause   for wait ..................                     86,722
Release from wait .................                     87,325


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

```
15:46:59          ***** A D A B A S  BASIC  SERVICES *****          2018-04-04
DBID 1955                   -  zIIP Statistics  -                   PACWZO2

SRB/TCB Scheduling by type of work Session
------------------------------------- ----------------------------------------
EXCPs                           15082
Miscellaneous                      67
Sequential writes                 255
Timer services                 120518


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

Monitoring Cluster Usage

Note: This option is only active in an Adabas nucleus cluster environment.

Selecting **Cluster usage** (option **X**) on the **Interval Utilization** menu displays nucleus cluster statistics that are equivalent to those displayed using the DXCACHE, DXLOCK, and DXFILE operator commands. These statistics are made available through selections on the **Cluster Usage** menu. For more information, read the *Adabas Cluster Services* or *Adabas Parallel Services* documentation.

The equivalent direct command is:

```
DISPLAY CLUSTERSTATUS
```

```
14:05:08          ***** A D A B A S  BASIC  SERVICES *****          2014-06-19
                              -  Cluster Usage -                    PACUX02

                       Code    Service
                       ----    ------------------
                        C      Cache statistics
                        F      File statistics
                        L      Lock statistics
                        M      Message statistics
                        ?      Help
                        .      Exit
                       ----    ------------------
          Code ......... _
          File Number .. 0
          Database ID .. 1955   (WIS1955)            NucID .. 1021





Command ==>
PF1----- PF2----- PF3------ PF4------ PF6----- PF9----- PF10----- PF12-----
Help     NextNuc  Exit                         Fuse     Flist     Menu
```

This section covers the following topics:

- Cache Statistics
- File Statistics
- Lock Statistics

- Message Statistics

Cache Statistics

Choosing **Cache Statistics** (option **C**) on the **Cluster Usage** menu displays the **Cache Statistics** menu:

```
10:47:57          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                            - Cache Statistics -                    PACUX12

                  Code   Service
                  ----   -----------------------
                    K    Cast-out / Directory
                    P    Publishing requests
                    X    Individual cache blocks
                    .    Exit
                    ?    Help
                  ----   -----------------------

     Code ......... _
     Database ID .. 1955   (WIS1955)            NucID .. 1021









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

On all subscreens of cache statistics, displayed counters may include a unit code, with the following possible values:

Unit Code	The total shown is in . . .
blank	bytes
k	1000 bytes
M	1,000,000 bytes
G	1,000,000,000 bytes
T	1,000,000,000,000 bytes

If a value has a unit code shown, it has been divided by the unit measurement to convert it to bytes, showing the significant digits to nine places with no decimal point.

Press PF9 to see the entire value. This value is the exact count up to 20 digits in length.

- Cast-out / Directory

- Publishing Requests
- All Cache Blocks

Cast-out / Directory

Choosing **Cast-out / Directory** (option **K**) on the **Cache Statistics** menu display the following:

```
10:47:57          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID  1955                 - Cast-out / Directory -                 PACUX12
NucID 1021

        Cast-out Directory Reads          Directory Reads
        ----------------------------      ----------------------------
        Total .......         170         Total .......           1
           Sync .....         107            Sync .....           0
           Async ....          63            Async ....           1

        Unlock Cast-out Calls
        ----------------------------
        Total .......          85
           Sync .....           0
           Async ....          85





PF1----- PF2----- PF3----- PF4----- PF7----- PF8----- PF9-------  PF12-----
Help              Exit     Refresh                    Detail      Menu        ↩
```

Publishing Requests

Choosing **Publishing Requests** (option **P**) on the **Cache Statistics** menu displays the following:

```
10:49:46          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID  1955                 - Publishing Requests -                  PACUX12
NucID 1021
                     Publishing Request Category
                     ---------------------------------
                     Update sync .......          85
                     BT or CL or ET ....           2
                     Redo threshold ....           0
                     Full bufferpool ...           0
                     All blocks ........          86
                     Specific RABN .....           0
                     File DS blocks ....           0
                     All DSST blocks ...          85
                     File NI blocks ....           0









PF1----- PF2----- PF3----- PF4----- PF7----- PF8----- PF9-------  PF12-----
Help              Exit     Refresh                    Detail      Menu        ↩
```

All Cache Blocks

Choosing **Individual Cache Blocks** (option **X**) on the **Cache Statistics** menu displays the following:

```
10:50:17          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID  1955                  - All Cache Blocks -                    PACUX12
NucID 1021
  Reads                                 Writes
  --------------------------------      ----------------------------------
  Total ............       6,378        Total ..............         347
     Sync ..........         963           Sync ............         153
     Async .........       5,415           Async ...........         194

     In cache ......          85           Written .........         347
     Not in cache ..       6,293           Not written .....           0
     Struc. full ...           0           Struc. full .....           0

  Cast-out Reads                        Other
  --------------------------------      ----------------------------------
  Total ............         340        Validates ..........      37,896
     Sync ..........         340           Invalid .........           0
     Async .........           0        Deletes ............           0
                                           Timeouts ........           0
                                        Redo processes .....           0

PF1----- PF2----- PF3----- PF4----- PF7----- PF8----- PF9-------  PF12-----
Help     Repos    Exit     Refresh  PrevBlk  NxtBlk   Detail      Menu        ↩
```

Use PF7 and PF8 to scroll through the cache blocks; use PF2 to reposition.

Statistics are displayed for the following:

- All cache blocks;
- Address converter (AC) cache blocks;
- Data Storage (DS) cache blocks;
- Data Storage space table (DSST) cache blocks;
- File control block (FCB) cache blocks;
- Normal index (NI) cache blocks;
- Upper index (UI) cache blocks.
- Work cache blocks.

File Statistics

Choosing **File Statistics** (option **F**) on the **Cluster Usage** menu for file 25 displays the following screen:

```
10:51:09          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID  1955                - File 12 Statistics -                    PACUX22
NucID 1021
  Reads                                 Writes
  --------------------------------      ----------------------------------
  Total ............          86        Total ..............           0
     Sync ..........           4           Sync ............           0
     Async .........          82           Async ...........           0

     In cache ......           0           Written .........           0
     Not in cache ..          86           Not written .....           0
     Struc. full ...           0           Struc. full .....           0

  Cast-out Reads                        Other
  --------------------------------      ----------------------------------
  Total ............           0        Validates ..........       1,502
     Sync ..........           0           Invalid .........           0
     Async .........           0        Deletes ............           0
                                           Timeouts ........           0
                                        Redo processes .....           0

PF1----- PF2----- PF3----- PF4----- PF7----- PF8----- PF9-------  PF12-----
Help     Repos    Exit     Refresh                    Detail      Menu        ↩
```

Lock Statistics

Choosing **Lock Statistics** (option **L**) on the **Cluster Usage** menu displays the **Lock Statistics** menu:

```
10:51:28          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                             - Lock Statistics -                    PACUX39

Code  Service              Code  Service               Code  Service
----  ------------------   ----  ------------------    ----  ------------------
  A   Buffer flush           L   Global ET sync          W   Replicat handshake
  B   Cancel                 M   Glbl upd cmd sync       X   Security
  C   Checkpoint             N   Hold ISN                Y   Spats
  D   Container              O   LOB tracker             Z   Unique descriptor
  E   Delta Save (DSF)       P   Net-wrk DBID asgmt      1   User
  F   Distributed tranID     Q   New-Data-RABN           2   Wkpt4 RABN index
  G   ETID                   R   Online save             3   Wkpt4 PET user tbl
  H   File-lock-table        S   Parameter               .   Exit
  I   Format-addr-conver     T   Record read             ?   Help
  J   Free space table       U   Recovery (online)
  K   GCB                    V   Recovery log(RLOG)
----  ------------------   ----  ------------------    ----  ------------------
             Code ......... _
             Database ID .. 1955   (WIS1955)             NucID .. 1021


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

Each of the options on the **Lock Statistics** menu displays statistics for a particular lock. For each lock, the screen displays obtain-and-release information about the various types of that lock that are currently in use by a cluster nucleus:

- The system may obtain locks conditionally or unconditionally, synchronously or asynchronously. A conditional request for a lock may be granted or rejected.
- Releases may be issued synchronously or asynchronously.
- The system may alter locks conditionally or unconditionally, synchronously or asynchronously, A conditional request to alter a lock may be granted or rejected. An unconditional request to alter a lock may be deadlocked and rejected.

For example, choosing **Hold ISN Lock** (option **N**) on the **Lock Statistics** menu displays the Hold ISN Lock screen:

```
10:51:28          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID  1955                    - Hold ISN Lock -                     PACUX39
NucID 1021

     Obtains                              Alters
     ------------------------------       ------------------------------------
     Conditional ....            86       Conditional ..........             0
        Granted .....            86         Granted ............             0
        Rejected ....             0         Rejected ...........             0
     Unconditional ..             0       Unconditional ........             0
                                            Rejected-deadlock ..             0
     Sync ...........             3
     Async ..........            83       Sync ................             0
                                          Async ...............             0
     Releases
     ------------------------------
     Issued .........            86
        Sync ........             8
        Async .......            78


PF1----- PF2----- PF3------ PF4------ PF6----- PF7------ PF8----- PF12-----
Help     Repos    Exit      Refresh            PrevLok   NxtLok   Menu        ↩
```

Use PF7 and PF8 to scroll through the lock displays; use PF2 to reposition to a different lock display.

Message Statistics

Choosing **Mesage Statistics** (option **C**) on the **Cluster Usage** menu displays the **Message Statistics** screens. There are two message statistics screens; use PF8 and PF7 scroll forward and backward between them.

Note: These screens display the same information you would see if you entered the Adabas DXMSG command.

```
14:08:50          ***** A D A B A S  BASIC  SERVICES *****          2014-06-19
DBid  1955                 - Message Statistics -                   PACUX50
Nucid 1021

Message Control Block Statistics          Statistics for ACMD-type messages
-------------------------------------     ----------------------------------
Allocated ..........        25,094        Messages sent ......     183,378
Used ...............             4        Messages arrived ...     146,411
Total ..............       329,789        Messages accepted ..     146,411
                                            Replies sent .......     146,358









Number of message type areas ...   1
Number of transport areas ......   1                            Page   1 of   2


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

```
14:13:55          ***** A D A B A S  BASIC  SERVICES *****          2014-06-19
DBid  1955                 - Message Statistics -                   PACUX50
Nucid 1021         Statistics for SMM transport messages
            Msgs subject MXMSG    Msgs not subj. MXMSG     Total all Msgs
            ------------------     ------------------      ------------------
Minimum ..            0.000011               0.000011                0.000011
Maximum ..           12.807110              53.605695               53.605695
Mean .....            0.021852               0.069410                0.033985
Std Dev ..            0.227699               1.436602                0.194475

Msg Count              4,292                  1,470                   5,762
>  1000  s    0%           0         0%           0          0%           0
>   100  s    0%           0         0%           0          0%           0
>    10  s    0%           1         0%           1          0%           2
>     1  s    0%           3         0%           3          0%           6
>   100 ms    2%          81         1%          21          2%         102
>    10 ms   24%       1,015        33%         483         26%       1,498
>     1 ms   22%         942        11%         168         19%       1,110
>   100 us   33%       1,418        37%         549         34%       1,967
<=  100 us   19%         832        17%         245         19%       1,077
                                                                Page   2 of   2
PF1----- PF2----- PF3-----  PF4------ PF6----- PF7----- PF8----- PF12-----
Help     NextNuc  Exit                                   +       Menu
```

Displaying Maintenance Levels

Note: This function is only available for Adabas version 8 or above databases.

Selecting **Display Maintenance Levels** (option **Z**) on the **Session Monitoring** menu displays information about the Adabas nucleus modules:

```
10:52:25          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955             -  Display Maintenance Levels  -              PACZ002
NucID .. 1021

 Select Module Name:  ________
 ---------------------------------------------------------------------------
   ADARUN   RUNMVS   Date 2013-09-17, Version 8.3, SP 8
            RUNIND   Date 2014-03-21, Version 8.3, SP 8
   ADANCX            Date 2014-04-21, Version 8.3, SP 8
   ADAXCF            Date 2012-04-19, Version 8.3, SP 8
   ADAXEC            Date 2012-10-11, Version 8.3, SP 8
   ADAXEL            Date 2013-10-21, Version 8.3, SP 8
   ADACLU            Date 2014-04-15, Version 8.3, SP 8
   ADAMXI            Date 2013-12-10, Version 8.3, SP 8
   ADAMIM            Date 2014-03-21, Version 8.3, SP 8
   ADARVU            Date 2014-03-21, Version 8.3, SP 8
   ADACLX            Date 2013-12-30, Version 8.3, SP 8
   ADARMT            Date 2014-03-19, Version 8.3, SP 8


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

Maintenance levels for each module are displayed. Any zaps that are applied to the module are also listed.

The list of modules can be limited by entering a specific module name in the `Select Module Name` field at the top of the screen. An asterisk (*) can also be used as a wildcard value in this field. For example, specifying "ADARUN" displays information for the ADARUN module only. Specifying "ADAR*" lists all modules with names that begin with "ADAR", which would include ADARUN as well as ADARVU and other modules.

5 Maintaining Checkpoints

- Listing Checkpoints 102
- Deleting Checkpoints 104

Selecting **Checkpoint Maintenance** (option **C**) from the Adabas Online System**Main Menu** invokes the **Checkpoint Maintenance** menu:

```
12:31:41          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                         -  Checkpoint Maintenance  -               PCP0002



                       Code    Service
                       ----    -----------------------
                        C      List checkpoints
                        D      Delete checkpoints
                        ?      Help
                        .      Exit
                       ----    -----------------------

      Code ............. _
      Date(YYYY-MM-DD) . 0000-00-00
      Ext. CP-list ..... N
      Checkpoint Name .. ALL
      Database ID ...... 1955   (WIS1955)


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

Using the AOS checkpoint maintenance environment, you can perform the following functions, accessible by menu option:

Option	Function
C	*Listing Checkpoints* lists checkpoints currently in the checkpoint file.
D	*Deleting Checkpoints* allows you to remove all checkpoint file entries up to a specified date.

Listing Checkpoints

Selecting **List checkpoints** (option **C**) on the **Checkpoint Maintenance** menu lists checkpoints currently in the checkpoint file.

The result can be either a basic or an extended list, depending on the setting of the `External CP-list` field, which can be used to override the `CPEXLIST` operating control parameter.

You can start the list of checkpoints on a particular day by entering the date in the `Date` field in exactly the format shown.

You can specify the database for which the checkpoint list is to be written.

You can restrict the list to a particular checkpoint name by changing the ALL designation in the `Checkpoint Name` field to one of the following:

Type	Description
SYNC	nucleus initialization
SYNF	user open EXF
SYNP	utility, without nucleus
SYNS	ADARES
SYNV	volume ID change
SYNX	utility
SYN1	ADASAV DB begin
SYN2	ADASAV DB end
SYN4	ADASAV file begin
SYN5	ADASAV file end

For more information about checkpoint names, refer to your *Adabas Utilities* documentation.

The following screen displays a normal checkpoint list:

```
12:33:25          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                      - List Checkpoints -                  PCPC012

  CP   CP     Date      Time      PLOG     Block      Vol/Ser   User Job Name
 Name Type                        Number    Number      Number   Type
 ---- ---- ---------- --------   ------  ----------   --------  ---- --------
 SYNC  01  2010-12-14 11:29:34                                        USAWISCR
 SYNS  5B  2010-12-14 11:29:34                                   EXU  ADAEND
 SYNP  07  2010-12-14 11:30:19        2           1   DUAL           USAWISRE
 SYNC  01  2010-12-14 11:30:45        2           2   DUAL           USAWISRP
 SYNS  61  2010-12-14 11:32:40        2         417   DUAL           ADABAS
 SYNS  5B  2010-12-14 11:42:43        2       29341   DUAL      EXU  ADAEND
 SYNC  01  2010-12-14 11:43:26        3           1   DUAL           USAWISRP
 SYNS  60  2010-12-14 16:05:31        3        1524   DUAL           ADABAS
 SYNS  60  2010-12-15 10:08:02        3        1525   DUAL           ADABAS
 SYNS  60  2010-12-15 11:53:37        3        1526   DUAL           ADABAS
 SYNS  60  2010-12-15 12:56:37        3        1527   DUAL           ADABAS
 SYNS  60  2010-12-15 13:59:37        3        1528   DUAL           ADABAS
 SYNS  60  2010-12-15 15:02:37        3        1529   DUAL           ADABAS
 SYNS  60  2010-12-15 16:05:37        3        1530   DUAL           ADABAS
 SYNS  60  2010-12-15 17:08:42        3        1531   DUAL           ADABAS
PF1----- PF2------ PF3------ PF4------ PF6----- PF7 ----- PF8----- PF12-----
Help               Exit                Top      -        +        Menu       ↩
```

You can get an extended checkpoint list by setting the **Ext. CP-list** field to "Y" on the **Checkpoint Maintenance** menu. The following screen illustrates an extended checkpoint list providing additional information about each checkpoint:

```
12:34:40          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                      - List Checkpoints -                  PCPC012

  CP   CP     Date      Time      PLOG     Block      Vol/Ser   User Job Name
 Name Type                        Number    Number      Number   Type
 ---- ---- ---------- --------   ------  ----------   --------  ---- --------
 SYNC  01  2010-12-14 11:29:34                                        USAWISCR
      SESSION OPEN        IGNDIB = N , FORCE = N
 SYNS  5B  2010-12-14 11:29:34                                  EXU  ADAEND
      REFRESH STATS
 SYNP  07  2010-12-14 11:30:19        2           1   DUAL           USAWISRE
      RESTORE FILE(S)     1, 3, 6, 7, 9, 10, 11, 12, 13, 20, 21, 22,
 SYNC  01  2010-12-14 11:30:45        2           2   DUAL           USAWISRP
      SESSION OPEN        IGNDIB = N , FORCE = N , SESSION = 2
 SYNS  61  2010-12-14 11:32:40        2         417   DUAL           ADABAS
      FILE SPACE ALLOC    FNR=11,NI,FROM=16220,TO=16528
 SYNS  5B  2010-12-14 11:42:43        2       29341   DUAL      EXU  ADAEND
      REFRESH STATS
 SYNC  01  2010-12-14 11:43:26        3           1   DUAL           USAWISRP
      SESSION OPEN        IGNDIB = N , FORCE = N , SESSION = 3
 SYNS  60  2010-12-14 16:05:31        3        1524   DUAL           ADABAS
PF1----- PF2------ PF3------ PF4------ PF6----- PF7 ----- PF8----- PF12-----
Help               Exit                Top      -        +        Menu        ↩
```

Deleting Checkpoints

You can remove all checkpoint file entries up to the date you specify in the `Date` field by selecting **Delete checkpoints** (option **D**) on the **Checkpoint Maintenance** menu. The following screen appears:

```
12:36:09          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                   -  Delete Checkpoints  -                 PCPD002




               All checkpoint entries up to .. 2014-05-02 (YYYY-MM-DD)
               will be deleted.

               Confirm by pressing the 'ENTER' key or
               modify the date and then press 'ENTER'.









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

6 Maintaining Files

- Defining or Modifying the FDT 109
- Releasing a Descriptor 120
- Deleting an Adabas File 122
- Defining a New File 123
- Logically Deleting or Undeleting a Descriptor 125
- Modifying File Parameters 127
- Reordering a File Online 131
- Refreshing a File to Empty Status 133
- Allocating or Deallocating File Space 134
- Maintaining Expanded Files 135

Selecting **File Maintenance** (option **F**) from the Adabas Online System **Main Menu** invokes the **File Maintenance** menu:

```
12:37:27          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                            -  File Maintenance  -                  PFL0004

Code  Service                           Code  Service
----  ------------------------------- ----  --------------------------------
  C   Define/modify FDT                   M   Modify file parameters
  D   Release descriptor                  O   Reorder file online
  E   Delete existing file                R   Refresh file to empty status
  F   Define new file                     S   Allocate/deallocate file space
  L   Logically delete/undel descriptr    X   Maintain expanded files
  ?   Help                                .   Exit
----  ------------------------------- ----  --------------------------------
       Code ......... _
       File No ...... 0      Descriptor Name .. __
       Database ID .. 1955   (WIS1955)





Command ==>
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit                                          Menu
Û                                                                14,025      ↩
```

Options **C** (Define/modify FDT) and **X** (Maintain expanded files) on this menu display additional menus. The other file maintenance options require you to enter a valid file number and database ID. Option **D** (Release descriptor) also requires that you specify the name of the descriptor to be released.

From the **File Maintenance** menu, you can perform any of the following functions, selectable by menu option:

Option	Function
C	*Defining or Modifying the FDT* allows you to change the length of a field; add a field to a file; create a new field definition table (FDT); or create a special descriptor table (SDT).
D	*Releasing a Descriptor* allows you to release a field from descriptor status by freeing the specified field's inverted list in the Associator.
E	*Deleting an Adabas File* allows you to free extents used by an existing Adabas file.
F	*Defining a New File* allows you to define a new database file for which an FDT has already been created.
L	*Logically Deleting or Undeleting a Descriptor* allows you to logically delete or undelete a descriptor field.

Option	Function
M	*Modifying File Parameters* allows you to modify the padding factor, the maximum compressed record length, file number, file name, extent allocation for NI/UI/AC/DS, ISN reusage, and DS reusage.
O	*Reordering a File Online* allows you to start a process to reorder the Associator, Data Storage, or the entire file.
R	*Refreshing a File to Empty Status* allows you to delete all file records and assign a single extent to each file component.
S	*Allocating or Deallocating File Space* allows you to create or remove extents for the address converter, normal and upper index, and Data Storage of a file.
X	*Maintaining Expanded Files* allows you to insert or remove a component file into/from an expanded file chain.

Defining or Modifying the FDT

Selecting **Define/Modify FDT** (option **C**) on the **File Maintenance** menu displays the **FDT/SDT Definition / Modification** menu:

```
12:37:59          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                   -  FDT/SDT Definition / Modification  -          PFLC004

  Code  Service                           Code  Service
  ----  ----------------------------      ----  ----------------------------
    A   Add new field(s)                    I   Online invert
    C   Change field parameters             S   Define/add SDT
    D   Define new FDT                      U   Release UQ from descriptor
    F   Delete field from FDT               ?   Help
    G   Undelete field from FDT             .   Exit
  ----  ----------------------------      ----  ----------------------------
        Code ......... _
        File No. .....
        Field Name ... __
        File Password.
        Database ID .. 1955   (WIS1955)




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

This section covers the following topics:

- Adding One or More Fields
- Changing Field Parameters

- Defining a New Field Definition Table (FDT)
- Deleting a Field from the FDT
- Undeleting a Field from the FDT
- Inverting a File Online
- Defining a Special Descriptor Table (SDT)
- Releasing the UQ Option from a Descriptor

Adding One or More Fields

Selecting **Add New Field(s)** (option **A**) on the **FDT/SDT Definition / Modification** allows you to add one or more fields to an existing Adabas file.

The **Add New Field(s)** function corresponds to the Adabas ADADBS NEWFIELD utility function. The equivalent direct command is:

```
ADD FIELD
```

To add a new field definition to the field definition table (FDT) of an existing file:

1. In the `Code` field, select option **A** (add new fields) on the **FDT/SDT Definition / Modification** menu.
2. Specify the number of the existing file in the `File No` field.
3. Specify a unique two-character field name that is not currently being used by the specified file in the `Field Name` field.
4. Press Enter.

   Note: You can view the FDT of the existing file by selecting option **R**, *Database Report* from the Adabas Online System **Main Menu**.

   An Add New Field(s) screen similar to the following is displayed providing input fields for defining a new field:

```
12:41:36          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                    -  Add New Field(s)  -                  PFLCA22

 File = 1     (EMPLOYEES)                            In Parallel .. YES

 Enter Password if file is security protected ...

 Level I Name I Length I Format I Options         I DT and SY fields
 ---------------------------------------------------------------------------
   __  I  __  I   ___  I   _    I  __ __ __ __ __ I ________________________
   __  I  __  I   ___  I   _    I  __ __ __ __ __ I ________________________
   __  I  __  I   ___  I   _    I  __ __ __ __ __ I ________________________
   __  I  __  I   ___  I   _    I  __ __ __ __ __ I ________________________
   __  I  __  I   ___  I   _    I  __ __ __ __ __ I ________________________
   __  I  __  I   ___  I   _    I  __ __ __ __ __ I ________________________
   __  I  __  I   ___  I   _    I  __ __ __ __ __ I ________________________
   __  I  __  I   ___  I   _    I  __ __ __ __ __ I ________________________
   __  I  __  I   ___  I   _    I  __ __ __ __ __ I ________________________
   __  I  __  I   ___  I   _    I  __ __ __ __ __ I ________________________
                                                                Continue: _

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

5 Specify the field level, name, length, format and any appropriate field options in the appropriate fields on the Add New Field(s) screen. For complete information on defining new fields, refer to the description of field definition statements in your Adabas ADACMP utility documentation.

If the file is password-protected, be sure to supply the password in the appropriate place at the top of the screen.

Caution: The `In Parallel` field allows you to specify whether processing should continue against a file while the function you have selected modifies the file. Specify "YES" to allow file processing to continue; specify "NO" to give Adabas exclusive file control while performing the function. With this option set to "YES", Adabas performs the function while all applications executing against the file are temporarily quiesced and suspended. File integrity is always maintained. For this reason, your applications that are executing against the file may experience difficulty. Please maintain an awareness of the impact on your environment and the consequences of performing your selected functions against a file when using this option. With this option set to "NO" (the default), Adabas requires exclusive file control (that is, no applications can be executing against the file) when performing the function.

The `DT and SY fields` area can be used to specify a valid date-time edit mask for binary, packed, or unpacked fields. Valid edit masks are: DATE, TIME, DATETIME, TIMESTAMP, NATDATE, NATTIME, UNIXTIME, and XTIMESTAMP. For complete information about these edit masks, refer to your Adabas documentation.

Changing Field Parameters

Selecting **Change Field Parameters** (option **C**) on the **FDT/SDT Definition / Modification** allows you to change the parameters of an existing field in an Adabas file.

This function corresponds to the Adabas utility function ADADBS CHANGE. The equivalent direct command is:

```
CHANGE FIELD file-number field-name
```

To change the parameters of an existing field in an existing file:

1. In the `Code` field, select option **C** (change field parameters) on the **FDT/SDT Definition / Modification** menu.
2. Specify the number of the existing file in the `File No` field.
3. Specify the two-character field name of the field to be changed in the `Field Name` field.

   Note: You can view the FDT of the existing file by selecting option **R**, *Database Report* from the Adabas Online System **Main Menu**.

4. Press Enter.

   The Change Field Parameters screen appears.

```
20:34:13          ***** A D A B A S  BASIC  SERVICES *****          2018-07-17
DBID 1955               -  Change Field Parameters  -               PFLCC32


Enter New Field Length or Option:

   File ........... 102
   File Name ...... TEST-102
   Field Name ..... YF                        Change Field Option:

   Field Format ... A                         NB .... NO
   Field Length ...                           NC .... NO
   Field Option ... __                        NN .... NO
                                              NU .... NO
                                              NV .... YES
   In Parallel .... NO
   File Password ..




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

If the field is a binary, packed or unpacked date and time field, fields appear on this screen allowing you to change the edit mask and the time zone (TZ) setting:

```
12:59:22          ***** A D A B A S  BASIC  SERVICES *****          2018-07-17
DBID 1955               -  Change Field Parameters  -               PFLCC32   ↩
                                                                              ↩
                                                                              ↩
Enter New Field Length or Option:                                             ↩
                                                                              ↩
   File ........... 102                                                       ↩
   File Name ...... TEST-102                                                  ↩
   Field Name ..... AK                        Change Field Option:            ↩
                                                                              ↩
   Field Format ... P                         NB .... NO                      ↩
   Field Length ... 10                        NC .... NO                      ↩
   Field Option ... __                        NN .... NO                      ↩
   DT= editmask ... ___________               NU .... NO                      ↩
   TZ setting ..... NO_                       NV .... NO                      ↩
   In Parallel .... NO                                                        ↩
   File Password ..                                                           ↩
                                                                              ↩
                                                                              ↩
                                                                              ↩
                                                                              ↩
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----   ↩
Help                Exit      Rel UQ                                Menu
```

5 On the Change Field Parameters screen, you can change:

- the standard length of an Adabas field. To do this, enter the new value in the `Field Length` field.
- a normal alphanumeric (A) field to a long-alpha (LA) field. To do this, enter "LA" in the `Field Option` field (if it appears on the screen).
- the default field format from unpacked (U) to packed(P). To do this, overwrite the "U" in the `Field Format` field with "P".

  An elementary field defined as format "U" can only be changed to "P" if the field:

  - has not been defined with the field option "FI" (fixed storage length);
  - is not the parent of a sub-/super-/hyperdescriptor; and
  - is not within an expanded file chain.
- the edit mask for a date-time field. To do this, change the value in the `DT= editmask` field (if it appears on the screen). Valid edit masks are: DATE, TIME, DATETIME, TIMESTAMP, NATDATE, NATTIME, UNIXTIME, and XTIMESTAMP. For complete information about these edit masks, refer to your Adabas documentation.
- the setting of NB, NC, NN, NU, and NV, according to the allowed settings
  - NU and NC cannot be set at the same time, but a change from one to the other is possible.
  - If NC is set, existing records' empty values will appear as null values, and for a new record, a value will be suppressed when the null value indicator is set to NULL, otherwise an empty value will not be suppressed and is stored.
  - If NU is set, empty values will be suppressed and not stored (e.g., blanks in an alpha field).

If the field you selected has been defined with the UQ (unique descriptor) option, you can press PF4 (Rel UQ) to remove it.

No modifications to records in Data Storage are made by this function. You are, therefore, responsible for preventing references to the field that would cause invalid results because of an inconsistency between the new parameter value as defined to Adabas and the actual value contained in the record.

6 If the file is protected, enter the password in the `File Password` field before you press Enter.

Caution: The `In Parallel` field allows you to specify whether processing should continue against a file while the function you have selected modifies the file. Specify "YES" to allow file processing to continue; specify "NO" to give Adabas exclusive file control while performing the function. With this option set to "YES", Adabas performs the function while all applications executing against the file are temporarily quiesced and suspended. File integrity is always maintained. For this reason, your applications that are executing against the file may experience difficulty. Please maintain an awareness of the impact on your environment and the consequences of performing your selected functions against a file when using this option. With this option set to "NO" (the default),

Adabas requires exclusive file control (that is, no applications can be executing against the file) when performing the function.

Defining a New Field Definition Table (FDT)

Selecting **Define New FDT** (option **D**) on the **FDT/SDT Definition / Modification** allows you to define a new FDT for an Adabas file.

This function corresponds to the Adabas utility function ADACMP COMPRESS. The equivalent direct command is:

```
DEFINE FDT
```

To define a new FDT:

- In the `Code` field, select option **D** (define new FDT) on the **FDT/SDT Definition / Modification** menu.

  The Define FDT screen appears, which can be used to define a new FDT for a new file:

```
12:46:24          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                        -  Define FDT  -                   PFLCD12

File Number .... 90                            New FDT ... Y

Enter Field Description(s) ::

I Levl I Name I Length I Format I Options        I Date/time and System fields
I-------------------------------------------------------------------------
I  __  I  __  I  ___   I   _    I __ __ __ __ __ I ________________________
I  __  I  __  I  ___   I   _    I __ __ __ __ __ I ________________________
I  __  I  __  I  ___   I   _    I __ __ __ __ __ I ________________________
I  __  I  __  I  ___   I   _    I __ __ __ __ __ I ________________________
I  __  I  __  I  ___   I   _    I __ __ __ __ __ I ________________________
I  __  I  __  I  ___   I   _    I __ __ __ __ __ I ________________________
I  __  I  __  I  ___   I   _    I __ __ __ __ __ I ________________________
I  __  I  __  I  ___   I   _    I __ __ __ __ __ I ________________________
I  __  I  __  I  ___   I   _    I __ __ __ __ __ I ________________________
I  __  I  __  I  ___   I   _    I __ __ __ __ __ I ________________________


PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     Def SDT   Exit      Def File  Disp FDT                   Menu       ↩
```

  FDTs for existing files cannot be redefined with this option.

Deleting a Field from the FDT

Selecting **Delete field from FDT** (option **F**) on the **FDT/SDT Definition / Modification** allows you to logically delete a field from the FDT for a file.

This function corresponds to the Adabas ADADBS DELFN utility function.

The **Delete Field** screen appears.

```
12:48:40          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                    -  Delete Field  -                     PFLCF02



    Field Name ....... AA
    File Number ...... 1
    File Name ........ EMPLOYEES

    Enter 'DELETE' to confirm ...  ______









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

To delete the field:

- Press PF6 to delete the field.

  Or:

  Type "DELETE" in the space provided and press Enter.

  The field is deleted from the FDT.

Note: Fields marked for deletion are identified in the **Field Definition Table (FDT)** section of the **Database Report**.

Undeleting a Field from the FDT

Selecting **Undelete field from FDT** (option **G**) on the **FDT/SDT Definition / Modification** allows you to logically undelete a field you had previously deleted from the FDT for a file.

This function corresponds to the Adabas ADADBS UNDELFN utility function.

The Undelete Field screen appears.

```
12:48:40          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                   -  Undelete Field  -                    PFLCG02



    Field Name ....... AA
    File Number ...... 1
    File Name ........ EMPLOYEES

    Enter 'UNDELETE' to confirm .. ________









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

To undelete the field:

- Press PF6 to undelete the field.

  Or:

  Type "UNDELETE" in the space provided and press Enter.

  The field is undeleted from the FDT.

Inverting a File Online

Selecting **Online Invert** (option **I**) on the **FDT/SDT Definition / Modification** displays the Online Invert screen.

The equivalent direct command is:

```
ONLINE INVERT
```

```
13:02:04          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                    -  Online Invert  -                    PFLCI02

File Number .... 1      EMPLOYEES
Password .......

Enter the definition, using the syntax of the ADADBS ONLINVERT utility:

  ____________________________________________________________________
  ____________________________________________________________________


Note:  Only one Invert Process can be active for a file at any time.


Examples:
 FIELD='AA'                          HYPDE='01,HD,20,A,NU,MU=AA,AB'
 SUBDE='SB=AA(1,5)'                  PHONDE='PH(AA)'
 SUPDE='SP=AA(1,5),BB(1,2),CC(3,5)'  COLDE='1,CD=AA'

Enter Descriptor information and press 'enter'
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit                                          Menu       ↩
```

The specified file must be currently loaded.

Specify the definition in the space provided, using the ADADBS ONLINVERT syntax. PF1 provides help information for this syntax; see the *Adabas Utilities* documentation for additional information.

Only one descriptor can be specified per process.

Only one invert process can be active for a file at any time. If an attempt is made to start a second invert process before the first one has completed, a response code 64 is returned.

Defining a Special Descriptor Table (SDT)

Selecting **Define/add SDT** (option **S**) on the **FDT/SDT Definition / Modification** menu allows you to define special descriptors in an existing FDT for a new file. This option is available only if an FDT exists but no file control block (FCB) exists for the file (for example, if the FDT has been created but no records loaded, or if the file was deleted with the option to retain the FDT).

This function corresponds to the Adabas utility function ADACMP COMPRESS. The equivalent direct command is

```
DEFINE STD
```

The Define SDT screen appears.

```
13:02:42          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                        -  Define SDT  -                   PFLCH12

File Number .... 1
Password .......

Enter SDT-Definition, using the syntax of the ADACMP Utility:

    ______________________________________________________________________
    ______________________________________________________________________
    ______________________________________________________________________
    ______________________________________________________________________
    ______________________________________________________________________
    ______________________________________________________________________
    ______________________________________________________________________
    ______________________________________________________________________
    ______________________________________________________________________
    ______________________________________________________________________
    ______________________________________________________________________

Enter SDT information and press 'enter'
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     Def File  Exit      Refresh                              Menu       ↩
```

Use ADACMP syntax (see the *Adabas Utilities* documentation) on this screen.

Releasing the UQ Option from a Descriptor

Selecting **Release UQ from descriptor** (option **U**) on the **FDT/SDT Definition / Modification** menu after specifying the file number and descriptor field on the menu allows you to release the UQ (unique descriptor) option from the descriptor field.

The Release UQ screen appears.

```
13:08:00          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                      -  Release UQ  -                     PFLCU02



Confirm Release of UQ:

   File ........... 41
   File Name ...... BIGFDT2
   Field Name ..... AA

   File Password ..

   Enter 'RELEASE' to confirm ...  _______









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

Releasing a Descriptor

Selection option **D**, **Release Descriptor**, on the **File Maintenance** menu allows you to remove a descriptor by freeing the specified field's inverted list in the Associator. Field names listed in the field definition table (FDT) with an option of "DE" are descriptors.

Note: You can view the FDT of the existing file by selecting option **R**, *Database Report,* from the AOS main menu.

This function corresponds to the Adabas utility function ADADBS RELEASE. The equivalent direct command is

```
RELEASE DESCRIPTOR file-number descriptor
```

To release a descriptor:

1 Select option **D** (Release Descriptor) on the **File Maintenance** menu.

2 Specify the number of the existing file.

3 Specify the name of the existing descriptor to be released.

4 Press ENTER.

5 Confirm the release on the Release Descriptor screen:

```
13:48:20          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                  -  Release Descriptor  -                 PFLD022



    Descriptor Name .. AA
    File Number ...... 1
    File Name ........ EMPLOYEES
    Password .........
    In Parallel ...... NO_

    Enter 'RELEASE' to confirm .. _______









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

Press PF6 to release the descriptor.

Or:

Type "RELEASE" in the space provided and press Enter.

The descriptor is released.

Deleting an Adabas File

Selecting option **E** (Delete existing file) on the **File Maintenance** menu allows you to free extents used by an existing file for use by other existing files or newly added files.

You have the option to save the field definition table (FDT) so that the field description of the deleted file remains in the database and can be used for a subsequent new file definition.

If the file to be deleted is a coupled file, it must first be uncoupled using option **U** on the **Database Maintenance** menu or the `UNCOUPLE` direct command.

This function corresponds to the utility function ADADBS DELETE.

The equivalent direct command is

```
DELETE FILE file-number
```

To delete an Adabas file:

1. Select option **E** (Delete existing file) on the **File Maintenance** menu.
2. Specify the number of the existing file.
3. Press ENTER.

   The Delete File screen appears.

```
13:48:50          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                      -  Delete File  -                    PDMD002




       File Number ......................... 1
       File Name ........................... EMPLOYEES

       Enter File Name to confirm delete ...

       Save Field Description Table ........ N

       File Password ......................




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

4 Tab to the `Enter File Name to confirm delete` field and type in the name of the file.

5 Tab to the `Save Field Description Table` field and type "Y" to save the FDT for the file or "N" to delete the FDT.

6 Tab to the File Password field and specify the file password, if any.

7 Press Enter to delete the file.

The file is deleted.

Defining a New File

Before option **F** (Define new file) on the **File Maintenance** menu can be used to add a new file to the specified database, an FDT must be defined for the file. Alternatively, you may choose to use an already existing FDT (retained from a Delete File function run with the "SAVE FDT" option).

This function corresponds to the utility function ADALOD LOAD.

The equivalent direct command is

```
DEFINE FILE file-number
```

To define a new FDT for a file, read *Defining a New Field Definition Table (FDT)* , elsewhere in this guide.

To add a new file for which an FDT has been defined:

1 Select option **F** (Define new file) on the **File Maintenance** menu.

2 Specify the number of the file to be added.

3 Specify the database to which it will be added.

4 Press Enter.

If the file already exists in that database, a message is displayed at the top of the menu. Otherwise, the Define File screen appears.

```
13:49:15          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                      -  Define File  -                    PFLF012

File Name ......... TEST-90_________
MAXISN ............ __________                          ACRABN .....
Datastorage Size .. __________  B  (BLKs/CYLs)          DSRABN .....
Normalindex Size .. __________  B  (BLKs/CYLs)          NIRABN .....
Upperindex Size ... __________  B  (BLKs/CYLs)          UIRABN .....

MINISN .......* 1          ISN Size .......... 3 Byte  Anchor Fnr .....
ISN Reuse ....* N          MIXDSDEV .......... N       Ciphering ...... N
DS Reuse .....* Y          Spanned Records ... N       Alpha Code .....
DATA device ..* 3390       MU / PE > 191 ..... N       Wide Code ......
ASSO padding .* 10 %       LOB file .......... N       User Wide Code .
DATA padding .* 10 %       Rel. LOB file # ...         Reptor upd only. N
                                                       SYFMAXUV ....... 0
Max Blks:                  Max comp. rec.len . 5060
  DS extents ..            Index Compression . N      Multi Client
  NI extents ..            No AC Extension ... N       Support ........ N
  UI extents ..            Program Refresh ... N       Owner-ID Len ... 8

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

5 Supply values for the `MAXISN`, `Datastorage Size`, `Normalindex Size`, and `Upperindex Size`, at a minimum. Alter any other fields as appropriate for the file.

6 When all field values have been specified, press Enter to define the file.

To specify parameters for an ADAM file:

1 Press PF7 (ADAM).

The following ADAM File Information window appears:

```
  ADAM File Information:

ADAMDE (field/ISN).
ADAMPARM ..........
ADAM Overflow .....
ADAM Dataform ..... Y

                                    ↩
```

2 Supply values for all fields and press Enter.

Logically Deleting or Undeleting a Descriptor

You can use AOS to logically delete and undelete a descriptor. Logically deleting a field from a file removes the field from the FDT, but retains the field data in the database. Logically undeleting a field that was previously logically deleted reinstates the field in the FDT.

Selecting **Logically delete/undel descriptr** (option **L**) on the **File Menu** allows you to logically delete a descriptor from a file.

This function corresponds to the Adabas ADADBS DELDE, DELFN, UNDELDE, and UNDELFN utility functions.

The Logically Delete Undelete Descriptor screen appears.

```
13:50:16          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955         -  Logically Delete Undelete Descriptor  -        PFLL002



Descriptor Name ................. AA
File Number ..................... 29
File Name ....................... TEST-29
Password .......................
Delete (yes) or Undelete (no) ... NO

    Enter 'LDELETE' to confirm .. _______









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

- Deleting a Descriptor
- Undeleting a Descriptor

Deleting a Descriptor

To delete the descriptor:

Be sure that a valid descriptor is correctly identified on the **File Maintenance** menu.

1 Tab to the `Delete (yes) or Undelete (no)` field and type "YES".

2 Press PF6 to confirm the descriptor deletion.

Or:

Type "LDELETE." in the space provided and press Enter.

The descriptor is logically deleted.

Undeleting a Descriptor

To undelete a descriptor:

Be sure that a valid descriptor is correctly identified on the **File Maintenance** menu.

1 Tab to the `Delete (yes) or Undelete (no)` field and type "NO".

2 Press PF6 to confirm the descriptor undeleting.

   Or:

   Type "LDELETE." in the space provided and press Enter.

   The descriptor is logically undeleted.

Modifying File Parameters

Note: AOS is not able to modify file parameters for Adabas files incorporated in Predict. This is because AOS cannot modify the FCB of these files. Error messages are produced when such an attempt is made. We recommend that you use Predict 4.5.1 to make file parameter updates for Adabas files incorporated in Predict.

You can use AOS to modify file parameters unless they are incorporated in Predict.

This function corresponds to the utility function ADADBS MODFCB. The equivalent direct command is

```
MODIFY FILE file-number
```

To modify parameters for a file

1 Select option **M** (Modify file parameters) on the **File Maintenance** menu.

2 Specify the number of the file to be modified.

3 If the file is protected, supply the password.

4 Press Enter.

   The Modify File Parameters screen appears:

```
15:46:43          ***** A D A B A S  BASIC  SERVICES *****          2016-07-15
DBID 1974                 -  Modify File Parameters  -               PFLM032

File No. ... 21
File Name .. FILE-1974-21                     in Parallel ....... YES
--------------------------------------------------------------------------------
ASSO PFAC ......... 10                 Max. UI Blks per extent .. 0
DATA PFAC ......... 10                 Max. NI Blks per extent .. 0
Max. RECL .........  5060              Max. DS Blks per extent .. 0
                                       ISN Reuse ................ OFF
New File Name ..... FILE-1974-21____          with RESET ........ ___
New File No. ...... 21                             SETISN ....... 0
User ISN .......... OFF                DS Reuse ................. ON_
File Password .....                           with RESET ........ ___
Filereadonly ...... OFF                Mixed DS Device .......... OFF
Spanned Records ... OFF                Program Refresh .......... OFF
MU/PE indices ..... 1                  Max occur system fields .. 0
Reptor update only. OFF                Replication .............. OFF__
AlphaNum Encoding . 0
WideChar Encoding . 0

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

If large object (LOB) flags are set (if the file is a LOB file) and you press PF4 on the screen when it displays a LOB file, a pop-up window appears showing detailed information about the file:

```
- LOB File Information -

   *****************

   * File   16     *

   *****************

  File Info: LOB file
  Related LOB File Number ....... 15___

   PF3---
   Cancel
```

5 Update file parameters as described in the rest of this section

- Change Padding Factors
- Changing Maximum Allocation
- Changing Record Length
- Renaming or Renumbering the File
- Supplying a Password for the File
- Setting ISN and Data Storage Block Reuse

- Making the File Read-Only
- Activating Spanned Record Support
- Selecting File Options
- Changing Code Pages
- Changing Replication Parameters

Change Padding Factors

Using the `ASSO PFAC` and the `DATA PFAC` fields on the Modify File Parameters screen, you can change the Associator and Data Storage padding factors for the file.

The "padding factor" is the percentage (%) of each Associator or Data Storage block that is reserved; that is, not loaded. This area is used to create new records later. The range is from 3 to 90 percent. The factor size allocated should depend on the amount of updating that is expected. The number of bytes left in the Associator after padding must exceed the largest descriptor value by at least 10.

Changing Maximum Allocation

Using the `Max Allocation` fields on the Modify File Parameters screen, you can change the maximum number of blocks that can be allocated for Data Storage (field `DS Blks per extent`), the normal index (field `NI Blks per extent`), or the upper index extent (field `UI Blks per extent`).

The value specified must be specified in blocks. If one of the parameters is either not specified or specifies "0", the maximum secondary extent allocation for that component has no limit.

In all cases, however, Adabas enforces minimum secondary allocations for these parameters:

```
DS Blks per extent=6
NI Blks per extent=6
UI Blks per extent=15
```

If you specify a value lower than these minimum allocations, the Adabas-enforced minimum value is used.

Changing Record Length

Using the `Max. RECL` field on the Modify File Parameters screen, you can change the maximum compressed record length allowed.

Renaming or Renumbering the File

Using the `New File Name` and `New File No.` fields on the Modify File Parameters screen, you can change the name or number of the file.

The equivalent direct commands are

```
RENAME FILE file-number
```

```
RENUMBER FILE file-number
```

Supplying a Password for the File

Use the `File Password` field to specify a password for the file.

Setting ISN and Data Storage Block Reuse

`ISN Reuse` and *DS Reuse* determine whether ISNs and Data Storage blocks for deleted records are reused as new records are added to the file. The equivalent direct commands are

```
REUSE ISNS file-number
```

```
REUSE DS file-number
```

When setting either of these two options to "ON", you can also set the RESET option "ON" to start the search for an unused ISN or Data Storage block at the beginning of the file.

Making the File Read-Only

If you want this file to be accessed only in read-only mode, set the `Filereadonly` field to ON. This is useful if you need to maintain them while the rest of the database is up.

Activating Spanned Record Support

To activate spanned record support for a file, set the `Spanned Records` field to ON. Once spanned record support is turned on, you can create spanned records in that file; if spanned record support is *not* turned on, you cannot create spanned records in a file.

Selecting File Options

You can also turn off or on several file options on this screen:

```
User ISN
ISN Reuse ...with RESET
DS Reuse ...with RESET
Mixed DS Device
MU PE Indices
Program Refresh
```

Changing Code Pages

If the file was loaded using universal encoding support (UES), the code values may be changed on this screen using the `AlphaNum Encoding` and `WideChar Encoding` fields.

Changing Replication Parameters

You can change the settings of several replication parameters:

Parameter	Description
Reptor update only	Indicates 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.
Replication	Indicates whether replication has been turned on for the Adabas file.

Reordering a File Online

Notes:

1. This function is not available in the Adabas Cluster Services or Adabas Parallel Services environments. It cannot be started for the checkpoint or security files.
2. You cannot use this option to reorder a spanned file. Reordering of spanned files cannot be done online; you must use Adabas batch utilities to reorder a spanned file.

Selecting Reorder File Online (option **O**) on the **File Maintenance** menu displays the Online Reorder File screen, which can be used to start an online reorder process for the specified file.

The equivalent direct command is

```
ONLINE REORDER
```

```
14:14:17          ***** A D A B A S  BASIC  SERVICES *****          2025-09-08
DBID 1955                  -  Online Reorder File  -                PFL0002



Reorder for file... 1      EMPLOYEES
       Password....

--------------------------------------------------------------------------------

           Type of Reorder...... _

Options:   Asso Padding Factor.. __
           Data Padding Factor.. __
           Sort Sequence........ ___





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

To select the type of reorder to be performed:

1 Enter one of the following reorder type codes in the `Type of Reorder` field:

Reorder type	Corresponds to ADADBS function...	Reorders ...
B (both)	ONLREORFILE	the entire file
A (Associator)	ONLREORFASSO	the Associator for the file only
D (Data Storage)	ONLREORFDATA	Data Storage for the file only

The only file level parameters that can be changed using this function are the padding factors. If these fields are left blank, the current parameter settings are used during the reorder.

When reordering Data Storage for a file, you can specify a sort sequence. The default is physical sequence or "PHY". Other possible options include "ISN" if the file is to be sorted in ISN order, or the two character descriptor name to sort the file according to the value of the specified descriptor.

2 Press Enter.

3 Monitor the progress of the reorder via the Console messages listed for the executing Adabas.

Or:

From the AOS **Main menu,**, choose option **O** (**Session Opercoms**), and then option **U** (**Manage Online Utilities**) to check the status of the reorder (or press PF4 if available).

Refreshing a File to Empty Status

Option **R**, (Refresh file to empty status) on the **File Maintenance** menu deletes all file records and assigns a single extent to each file component.

This function corresponds to the utility function ADADBS REFRESH. The equivalent direct command is

```
REFRESH FILE file-number
```

To refresh a file to empty status:

1. Select option **R** (Refresh file to empty status) on the **File Maintenance** menu.
2. Specify the number of the existing file in the specified database.
3. Press Enter.

   The Refresh File screen appears.

```
13:56:13          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                      -  Refresh File  -                    PFLR002









   File Number ... 29
   File Name ..... TEST-29
   Password ......

   Enter File Name to confirm ...











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

4. Tab to the `Password` field and enter a password for the file, if necessary.
5. Tab to the `Enter File Name to confirm` field and enter the name of the file.
6. Press Enter to confirm the refresh on the Refresh File screen.

Allocating or Deallocating File Space

Option **S**, (Allocate/deallocate file space) on the **File Maintenance** menu allows you to allocate or deallocate extents for the address converter, normal index, upper index, and Data Storage of a file. You can specify the allocation in blocks or in cylinders, a starting relative Adabas block number, and the device where the allocated space should be located.

This function corresponds to the utility functions ADADBS ALLOCATE and ADADBS DEALLOCATE.

Note: If an attempt is made to allocate AC beyond MAXISN, Adabas will detect this and only allocate up to MAXISN.

The equivalent direct commands are

```
ALLOCATE SPACE file-number
```

```
DEALLOCATE SPACE file-number
```

To allocate or deallocate space for a file:

1. Select option **S** (allocate/deallocate file space).
2. Specify the file to be modified.
3. Press Enter.

   The Allocate/Deallocate File Space screen appears.

```
13:56:35          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955            -  Allocate/Deallocate File Space  -           PFLS002

File Number ............. 29
File Name ............... TEST-29

Enter Parameters :                     Possible values:

   Allocate/Deallocate ... _             (A/D)
   Table Type ........... __             (AC/A2/DS/NI/UI)
   Size .................
   Blocks or Cylinders ... B             (B/C)
   Start RABN ........... _________
   Device Type .......... ____

File Password ...........




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

4 Indicate whether you are allocating or deallocating space in the `Allocate/Deallocate` field. Specify "A" to allocate space and "D" to deallocate space.

5 Tab to the `Table Type` field and specify the type of space you are allocating or deallocating (address converter, Data Storage, normal index, or upper index)>

6 Specify the amount of space that should be allocated or deallocated using the `Size` field.

7 Specify whether the space should be allocated or deallocated in blocks (B) or cylinders (C) using the `Blocks or Cylinders` field.

8 Optionally specify a starting RABN in the `Start RABN` field.

9 If the file is protected, supply the password in the `File Password` field.

10 Press Enter to perform the allocation or deallocation.

Maintaining Expanded Files

Selecting option **X** and a file number (`File No` field) on the **File Maintenance** menu displays the **Expanded File Maintenance** menu:

```
13:57:18          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                        -  Expanded File Maintenance  -             PFLX002



                     Code    Service
                     ----    ----------------------
                      I      Insert file into chain
                      R      Remove file from chain
                      ?      Help
                      .      Exit
                     ----    ----------------------
       Code .........
       File No. ..... 29
       Master Fnr ...
       Password .....
       Database ID .. 1955   (WIS1955)



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

The functions available on this menu correspond to the utility functions ADALOD LOAD and ADALOD UPDATE.

To insert an existing file into an expanded file chain:

1. Select option **I** on the **Expanded File Maintenance** menu.
2. Specify the number of the file to be inserted (`File No` field).
3. Specify the number of the master file of the expanded file chain into which the file is being inserted (`Master Fnr` field).
4. If the file is protected, supply the password in the `File Password` field.
5. Press Enter.

Note: If the file to be inserted is to be the first (master) file of the chain, both `File No` and `Master Fnr` fields must be set to the same value.

To remove a component file from an expanded file chain:

1. Select option "R" on the **Expanded File Maintenance** menu.
2. Specify just the number of the file to be removed (`File No` field) from the chain.

   If the file to be removed is the master file, the next file in the chain will become the new master file.

3 If the file is protected, supply the password in the `File Password` field.

4 Press Enter.

7 Maintaining Databases

- Adding a New Associator or Data Storage Extent 141
- Increasing or Decreasing Associator or Data Storage Data Set Size 142
- Displaying and Resetting DIB Block Entries 143
- Recovering Unused Space 143
- Uncoupling Adabas Files 143

The AOS Database Maintenance function controls Adabas database (ASSO/DATA) file and space allocation. You can:

- add data sets, increase or decrease the size of the last data set;
- uncouple Adabas files;
- display or reset entries in the data integrity block (DIB); and
- recover space previously allocated but not used by Adabas utilities that ended abnormally.

Database maintenance tasks can be performed from the **Database Maintenance** menu:

```
13:58:00          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                          -  Database Maintenance  -                PDM0002

                      Code    Service
                      ----    ----------------------------
                       A      Add new dataset to ASSO/DATA
                       I      Increase/decrease ASSO/DATA
                       R      List/reset DIB block entries
                       S      Recover unused space
                       U      Uncouple two ADABAS files
                       ?      Help
                       .      Exit
                      ----    ----------------------------

       Code .......... _
       File No. ...... 29
       Coupled File .. 0
       Database ID ... 1955   (WIS1955)


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

Database maintenance includes the following functions:

Option	Function
A	*Adding a New Associator or Data Storage Extent* allows you to add a preformatted data set to the Associator or Data Storage.
I	*Increasing or Decreasing Associator or Data Storage Data Set Size* allows you to change the size of an existing Associator or Data Storage data set.
R	*Displaying and Resetting DIB Block Entries* allows you to display and reset the data integrity block (DIB) entries for each Adabas utility currently operating.
S	*Recovering Unused Space* allows you to recover unused space from utility operations that ended abnormally.
U	*Uncoupling Adabas Files* allows you to remove the physical coupling between files.

Adding a New Associator or Data Storage Extent

Option **A** (**Add new dataset to ASSO/DATA**) on the **Database Maintenance** menu is used to add a preformatted data set to the Associator or Data Storage. Before using this option, the data set to be added must be formatted using the ADAFRM utility.

Option **A** should be used only if the new data set is located on a different physical device.

This function corresponds to the utility function ADADBS ADD.

The equivalent direct commands are:

```
ADD ASSO
```

```
ADD DATA
```

The Add Dataset screen appears.

```
13:58:28          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                     -  Add Dataset  -                     PDMA002


Enter Parameters to Add either a DATA OR ASSO dataset:


                    ASSO Device ....... ____
                    ASSO Size ......... __________

                    DATA Device ....... ____
                    DATA Size ......... __________

                    Blocks/Cylinders .. B









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

Increasing or Decreasing Associator or Data Storage Data Set Size

Option **I** (**Increase/decrease ASSO/DATA**) on the **Database Maintenance** menu is used to change the size of an existing data set for the specified component. If the component has more than one data set, option **I** changes the size of the last data set.

Since this option only changes the Adabas general control block entry, you must also ensure that the needed space is physically allocated and formatted when the data set is being increased.

When the Data Storage component has been increased four times, an ADAORD REORASSO utility function must be executed to reorder the DSST extents in the Associator component.

This function corresponds to the utility functions ADADBS INCREASE and ADADBS DECREASE.

The equivalent direct commands are:

```
INCREASE ASSO
```

```
INCREASE DATA
```

```
DECREASE ASSO
```

```
DECREASE DATA
```

The Increase/Decrease screen appears.

```
13:58:46          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                  -  Increase/Decrease  -                  PDMI002



Enter Parameters :                              Possible values:

                   Increase/Decrease .. _           (I/D)

                           ASSO/DATA .. _           (A/D)
                                Size .. __________
                 Blocks or Cylinders .. B           (B/C for Increase)
                                                    (B for Decrease)


Note:  After an INCREASE operation is completed, the nucleus session will
    be automatically ended to allow for the necessary Associator or Data
    Storage formatting.



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

Displaying and Resetting DIB Block Entries

The data integrity block (DIB) comprises entries for each Adabas utility currently operating, describing the resources each utility is using.

Option **R** (**List/reset DIB block entries**) on the **Database Maintenance** menu allows you to list and remove any unwanted entries from the DIB.

This function corresponds to the utility function ADADBS RESETDIB. It can also be accomplished using the operator command DDIB.

The equivalent direct commands are:

```
DISPLAY DIB
```

```
RESET DIB
```

Recovering Unused Space

Space allocated for utility operations that ended abnormally remains unavailable unless it is intentionally recovered.

Option **S** (**Recover unused space**) on the **Database Maintenance** menu is used to purposely reclaim such space for use. A message is returned indicating that the space has been successfully recovered.

This function corresponds to the utility function ADADBS RECOVER.

The equivalent direct command is:

```
RECOVER SPACE
```

Uncoupling Adabas Files

Option **U** (**Uncouple two ADABAS files**) on the **Database Maintenance** menu is used to remove the physical coupling between the specified files by erasing the coupling inverted lists from each file's Associator. No change is made to the field definition tables (FDTs) or descriptors for the specified files.

This option must be executed before either of the specified files is deleted.

To determine if a file is physically coupled, check the **C** (coupling) indicator in the Database Report option's **Display File** screen. Using the same function for those selected files, you can see the

specific coupling information; that is, the specific fields in one file and their coupling to fields in other files.

This function corresponds to the utility function ADADBS UNCOUPLE.

The equivalent direct command is

```
UNCOUPLE FILES file1 file2
```

8 Performing System Operator Command Functions

- Allocating/Deallocating CLOG and PLOG Data Sets 147
- Reactivating Command Logging 150
- Extended Error Recovery Functions 150
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- Locking / Unlocking Files 158
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- Stopping Users 164
- Termination Commands 168
- Managing Online Utilities 169
- Maintaining the User Table 170

Selecting **Session Opercoms** (option **O**) from the **Main Menu** displays the **Session Opercoms** menu:

```
16:14:44          ***** A D A B A S  BASIC  SERVICES *****          2024-01-11
                            -  Session Opercoms  -                  PACI002

 Code  Service                            Code  Service
 ----  ------------------------------     ----  ------------------------------
  A    Allocate/Deallocate CLOG/PLOG       R    Reset ONLINE-DUMP-Status
  C    Issue reactivate CLOG command       S    Stop user(s)
  E    Extended Error Recovery             T    Termination Commands
  F    Force CLOG or PLOG switch           U    Manage Online Utilities
  L    Lock or unlock files                V    User Table Maintenance
  M    CLOG/PLOG dataset status            X    Replicator Management
  .    Exit                                ?    Help
 ----  ------------------------------     ----  ------------------------------
       Code ........... _
       Userid(ETID) ... ________
       CLOG/PLOG Ind .. _                            Global.. _                ↩

       Database ID .... 1955   (WIS1955)             NucID .. 1021



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

Note: A zero value in the NucID field indicates that the command applies to all nuclei in the cluster (global). A non-zero value for NucID indicates that the command applies only to the cluster nucleus specified.

System operator command functions you can perform are accessed from the Session Opercoms menu by entering the appropriate code, as follows:

Option	Function
A	*Allocating/Deallocating CLOG and PLOG Data Sets*
C	*Reactivating Command Logging*
E	*Extended Error Recovery Functions*
F	*Forcing Dual/Multiple CLOG/PLOG Switch*
L	*Locking / Unlocking files*
M	*CLOG/PLOG dataset status*
R	*Resetting Online Dump Status*
S	*Stopping Users*
T	*Termination Commands*
U	*Managing Online Utilities*

Option	Function
V	*Maintaining the User Table* **(nucleus cluster environments only)**
X	Displays the **Replication Management** menu, which allows you to access the Adabas Event Replicator Subsystem (SYSRPTR) as well as to activate and deactivate subsystem definitions, run the RPLCHECK, RPLCLEANUP, or RPLREFRESH utilities, and display subsystem parameters and definitions. **Note:** This option is only available if the database you have selected is an Event Replicator Server database. For more information about the Adabas Event Replicator Subsystem or any of the functions you can perform from the Replication Management menu, refer to your Event Replicator for Adabas documentation.

Allocating/Deallocating CLOG and PLOG Data Sets

Option **A** (**Allocate/Deallocate CLOG/PLOG**) on the **Session Opercoms** menu is used to dynamically add and delete CLOG and PLOG data sets without terminating your current nucleus session. Using this function, you can specify up to eight CLOG or PLOG data sets. This will reduce the chances of a wait condition in the nucleus, when the nucleus waits for an available CLOG or PLOG. You might find this particularly useful during busier times of the month or year.

This function corresponds to the utility functions ADADBS ADDCLOG, ADDPLOG, DELCLOG, and DELPLOG.

When you select option **A**, the **Allocate/Deallocate CLOG/PLOG** menu appears.

To add a CLOG or PLOG data set dynamically, the nucleus must know about its JCL at startup time. To use this functionality in AOS, you must set up your Adabas nucleus startup jobs to include definition statements for the maximum number of CLOG and PLOG data sets as you plan to use, but limit the actual usage of the PLOGs using the ADARUN NCLOG and NPLOG parameters. For example, you might start a nucleus with eight PLOG definitions in the Adabas startup JCL, but limit the number of PLOGs actually used during nucleus processing to three PLOGs by setting the NPLOG parameter to "3". When the nucleus starts up, only three PLOGs will be opened and logged in the PPT, even though eight are defined in the JCL. The additional PLOG data sets can then be dynamically added using this ADADBS ADDPLOG utility or the functions provided on the AOS **Allocate/Deallocate CLOG/PLOG** menu.

Note: Any CLOG or PLOG data sets you add dynamically will not be retained once you recycle your Adabas nucleus. To retain these new data sets when Adabas is stopped and restarted, alter the Adabas startup JCL as well, ensuring that the number of PLOG definition statements in the JCL matches the increased number of PLOG data sets and that the NPLOG ADARUN parameter setting includes the new PLOG data sets.

```
15:13:17          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                     - Allocate/Deallocate CLOG/PLOG -              PACIA02

                       Code    Service
                       ----    ---------------
                        A      Allocate CLOG
                        D      Deallocate CLOG
                        P      Allocate PLOG
                        S      Deallocate PLOG
                        ?      Help
                        .      Exit
                       ----    ---------------
       Code ........... _
       Dataset number . _
       Dataset Name ... ____________________________________________

       Database ID .... 1955  (WIS1955)             NucID .. 1021



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

This section covers the following topics:

- Allocating CLOG Data Sets
- Deallocating CLOG Data Sets
- Allocating PLOG Data Sets
- Deallocating PLOG Data Sets

Allocating CLOG Data Sets

Option **A** (**Allocate CLOG**) on the **Allocate/Deallocate CLOG/PLOG** menu is used to dynamically add CLOG data sets without terminating your current nucleus session.

This function corresponds to the utility function ADADBS ADDCLOG.

To allocate a CLOG data set:

1. Select option **A** on the **Allocate/Deallocate CLOG/PLOG** menu.
2. In the `Dataset number` field, specify the number of the CLOG data set, as defined in your Adabas startup JCL.
3. In the `Dataset Name` field, specify the data set name of the CLOG data set, as defined in your Adabas startup JCL.
4. Press Enter.

   The CLOG data set is allocated and can immediately be used.

When you select option **A**, the **Allocate/Deallocate CLOG/PLOG** menu appears.

Deallocating CLOG Data Sets

Option **D** (**Deallocate CLOG**) on the **Allocate/Deallocate CLOG/PLOG** menu is used to dynamically delete CLOG data sets without terminating your current nucleus session.

This function corresponds to the utility function ADADBS DELCLOG.

To deallocate a CLOG data set:

1. Select option **D** on the **Allocate/Deallocate CLOG/PLOG** menu.
2. In the `Dataset number` field, specify the number of the CLOG data set, as defined in your Adabas startup JCL.
3. In the `Dataset Name` field, specify the data set name of the CLOG data set, as defined in your Adabas startup JCL.
4. Press Enter.

   The CLOG data set is deallocated and can no longer be used.

Allocating PLOG Data Sets

Option **P** (**Allocate PLOG**) on the **Allocate/Deallocate CLOG/PLOG** menu is used to dynamically add PLOG data sets without terminating your current nucleus session.

This function corresponds to the utility function ADADBS ADDPLOG.

To allocate a PLOG data set:

1. Select option **P** on the **Allocate/Deallocate CLOG/PLOG** menu.
2. In the `Dataset number` field, specify the number of the PLOG data set, as defined in your Adabas startup JCL.
3. In the `Dataset Name` field, specify the data set name of the PLOG data set, as defined in your Adabas startup JCL.
4. Press Enter.

   The PLOG data set is allocated and can immediately be used.

Deallocating PLOG Data Sets

Option **S** (**Deallocate PLOG**) on the **Allocate/Deallocate CLOG/PLOG** menu is used to dynamically delete PLOG data sets without terminating your current nucleus session.

This function corresponds to the utility function ADADBS DELPLOG.

To deallocate a PLOG data set:

1. Select option **S** on the **Allocate/Deallocate CLOG/PLOG** menu.
2. In the `Dataset number` field, specify the number of the PLOG data set, as defined in your Adabas startup JCL.
3. In the `Dataset Name` field, specify the data set name of the PLOG data set, as defined in your Adabas startup JCL.
4. Press Enter.

   The PLOG data set is deallocated and can no longer be used.

Reactivating Command Logging

Option **C** (**Issue reactivate CLOG command**) on the **Session Opercoms** menu is used to reactivate command logging in an active nucleus where it had been disabled previously as a result of an I/O error. The cause of the I/O error needs to be corrected before running this function or command logging will simply fail again and will not be reactivated.

This function corresponds to the utility function ADADBS REACTLOG.

When you select option **C**, a request to reactivate command logging is issued.

Extended Error Recovery Functions

Selecting option **E** (Extended Error Recovery) on the **Session Opercoms** menu displays the **Extended Error Recovery** menu:

```
15:21:46          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                          -  Extended Error Recovery  -             PACIE02

                   Code    Service
                   ----    ----------------------------------
                    B      Display message buffer
                    D      Display/modify environment
                    E      Display/modify Exit routines
                    M      Add/Delete PIN modules
                    P      Display/modify PIN routines
                    R      Refresh threshold and alert exits
                    S      SNAP a nucleus dump
                    ?      Help
                    .      Exit
                   ----    ----------------------------------

   Code ........... _
   Start Address .. ________   End Address ... ________
   Database ID .... 1955   (WIS1955)              NUCID .. 1021

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

Note: Option **R** (Refresh threshold and alert exits) is no longer a functional option.

From this menu you can:

- display the message buffer
- display or modify the parameters controlling the extended error handling environment;
- display or modify parameters for invoking the error handling exits;
- add or delete PIN modules;
- display, activate, or deactivate specific PIN routines;
- SNAP a dump image of nucleus memory.

This section covers the following topics:

- Display Message Buffer
- Display/Modify Environment
- Display/Modify Exits
- Add/Delete PIN Modules
- Display/Modify PIN Routines
- Refresh Threshold and Alert Exits

- SNAP a Nucleus Dump

Display Message Buffer

Selecting option **B** (**Display Message Buffer**) on the **Extended Error Recovery** menu displays the contents of the message buffer on the Display Message Buffer screen.

These functions are the same as the error handling operator commands:

```
SMGT,DISPLAY=MSGBUF
```

```
15:19:47          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                 -  Display Message Buffer  -              PACIEB2
NUCID .. 1021
Select starting message ________
  Msg Num    Time   Msg ID             Message
---------- -------- ------ ---------------------------------------------------
      2307    10584254+00E0  00000000 00000000 00000000 00000000  *..........
      2308    10584264+00F0  00000000 00000000 00000000 00000000  *..........
      2309    10584274+0100  00000000 10584284 1058428C 10584284  *.......d..
      2310
      2311
      2312    Snap Basic System Status flags:
      2313
      2314    00067746+0000  00000004 00000000 00000001 00000027  *..........
      2315
      2316 11:09:49 ADAH51 Dump format completed
      2317 11:09:49 ADANX1 ********End  P I N R S P  Output *******
      2318 11:09:49


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

Press PF4 to refresh the screen and show the latest messages added to the buffer.

The Msg Num column contains the sequential record number for each item in the message buffer. Enter a record number in the field `Select starting message` to position the display to a particular record.

Display/Modify Environment

Selecting option **D** (**Display/modify environment**) on the **Extended Error Recovery** menu displays the current setting of several extended error handling parameters on the Display/Modify Environment screen.

The functions on this screen mirror the error handling operator commands:

```
SMGT,{ON | OFF}
SMGT,ABNORMALTERM={ON | OFF}
SMGT,DUMP={ON | OFF}
SMGT,MSGBUF={ON | OFF}
SMGT,DISPLAY=LAST
```

```
15:22:18          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955              -  Display/Modify Environment  -             PACIED2
NUCID .. 1021

             ------- Parameters ----------- Status - Executions -
             Extended Error Recovery (SMGT)  ON                0
             Message Buffering ............  ON
             Abnormal Term. Handler .......  ON                0
             Response Code Handler ........  ON                0
             Full System Dump (DUMP) ......  OFF



             ----------- Most Recent Recovery Action -----------
             Last error occurred at: 2014-05-02 11:09:49
             Condition: Rsp 009 Location: * N/A *





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

The parameters with "ON"/"OFF" values in the Status column can be activated and deactivated by changing the value.

Display/Modify Exits

Selecting option **E** (**Display/modify Exit routines**) on the **Extended Error Recovery** menu displays the status of the exits currently loaded on the List/Modify Exit Routines screen.

These functions are the same as the error handling operator commands

```
SMGT,DISPLAY=EXITS
SMGT,{XACTIVATE | XDEACTIVATE}=exit-code
SMGT,XLOAD=exit-code
SMGT,XLOAD=(exit-code,module-name)
SMGT,{XCRITICAL | XNOTCRITICAL}=exit-code
```

```
15:22:42          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955               -  List/Modify Exit Routines  -             PACIEE2
NUCID .. 1021
Mark with 'A' Activate, 'D' Deactivate, 'L' Load, 'C' Critical, 'N' Not Crit

 M  Exit  Program    Status   Critical  M  Exit  Program    Status   Critical
 -  ----  --------  --------  --------  -  ----  --------  --------  --------
 _  UX08  UX8ST     Active    Critical  _
 _                                      _
 _                                      _
 _                                      _
 _                                      _
 _                                      _
 _                                      _
 _                                      _
 _                                      _
 _                                      _
 _                                      _
 _                                      _

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

The exit code, the name of the program invoked by the exit, the current status, and the criticality are listed for each exit. You can change the status and criticality of the exit from this screen.

To change the status and criticality of the exit, enter one of the following codes in the M column next to the selected exit:

Code	Description
A	Activates the exit
D	Deactivates the exit
L	Reloads the exit program in memory or to loads a new exit
C	Makes the exit critical
N	Makes the exit noncritical

After changes have been made, use PF4 to refresh this screen.

Add/Delete PIN Modules

Selecting option **M** (**Add/Delete PIN modules**) on the **Extended Error Recovery** menu displays a list of currently available PIN modules on the Add/Delete PIN Modules screen.

These functions are the same as the error handling operator commands

```
SMGT,{ADDPIN | DELPIN}=module-name
```

```
15:27:27          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                 -  Add/Delete PIN Modules  -               PACIEM2
NUCID .. 1021

Mark entries with 'A' to Add or 'D' to Delete:

          M   Module    Description                       Message
          -   --------  ------------------------------    -------
          _   ADAMXY    Standard Nucleus PIN Routines
              PINAAF    SAF Security
              PINAFP    Adabas Fastpath
              PINATM    Adabas Transaction Manager
              PINAVI    Adabas Vista
          _   PINRSP    Adabas Response Code Handler
          _   PINUES    Universal Encoding Support





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

To load a PIN module into memory:

- Enter "A" in the M column next to the module name.

  This command is successful only if the exit module exists in a library accessible to the Adabas nucleus.

To remove a PIN module from memory:

- Enter a "D" in the M column next to the module name.

  When deleting a PIN module from memory, all related PIN routines are also removed.

Display/Modify PIN Routines

Selecting option **P** (**Display/modify PIN routines**) on the **Extended Error Recovery** menu displays a list of PINs currently loaded in memory on the List/Modify PIN Routines screen.

These functions are the same as the error handling operator commands

```
SMGT,DISPLAY=PINS
SMGT,{ACTPIN | DEACTPIN}=pin-number
```

```
15:28:01          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955               -  List/Modify PIN Routines  -              PACIEP2
NUCID .. 1021
Mark entries with 'A' Activate, or 'D' Deactivate:         Total Pins: 267

 M  Condition        Error Location        Status  Uses  Module     Message
 -  --------- ---------------------------- ------- ---- --------  -----------
 _  000C1000  All Locations                Active     0   ADAMXY
 _  000C2000  All Locations                Active     0   ADAMXY
 _  000C3000  All Locations                Active     0   ADAMXY
 _  000C4000  All Locations                Active     0   ADAMXY
 _  000C5000  All Locations                Active     0   ADAMXY
 _  000C6000  All Locations                Active     0   ADAMXY
 _  000C7000  All Locations                Active     0   ADAMXY
 _  000C8000  All Locations                Active     0   ADAMXY
 _  000C9000  All Locations                Active     0   ADAMXY
 _  000CB000  All Locations                Active     0   ADAMXY
 _  000CF000  All Locations                Active     0   ADAMXY
 _  00047000  All Locations                Active     0   ADAMXY


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

For all PIN routines on the list, the screen indicates the conditions that cause them to be executed, the current status, the number of times they have been used, and the module in which they are located.

To change the status of the PINs from this screen, enter one of the following codes in the M column next to the PIN number:

Code	Description
A	Activates a PIN
D	Deactivates a PIN

After changes have been made, use PF4 to refresh the screen.

Refresh Threshold and Alert Exits

Selecting option "R" (Refresh Threshold and Alert Exits) from the Extended Error Recovery menu is no longer a functional option.

SNAP a Nucleus Dump

Selecting option **S** (**SNAP a nucleus dump**) on the **Extended Error Recovery** menu generates a formatted dump of the nucleus without error diagnostics.

This function is the same as the error handling operator command

```
SMGT,SNAP[=(start,end)]
```

To generate a dump of the whole nucleus:

1. Leave the `Start Address` and `End Address` fields on the menu blank.

   Or:

   To generate a SNAP dump of only a range of addresses, enter hexadecimal addresses in the `Start Address` and `End Address` fields on the menu.

2. Press Enter.

   The formatted dump is written to the DDPRINT data set specified in the nucleus.

Forcing Dual/Multiple CLOG/PLOG Switch

Option **F** (**Force CLOG or PLOG switch**) on the **Session Opercoms** menu allows you to immediately switch (by forcing an end-of-file) between dual or multiple command log (CLOG) or protection log (PLOG) files. Switching (that is, "toggling") changes from one CLOG or PLOG file to another.

Equivalent direct commands are:

```
FORCE CLOGSWITCH
```

```
FORCE PLOGSWITCH
```

Locking / Unlocking Files

Option **L** (**Lock or unlock files**) on the **Session Opercoms** menu is used to lock, unlock, or display locked files. Files can be locked or unlocked for all users or for all but utility or EXF users. Once locked for all users, a file cannot be unlocked for utility users only.

- Locking is immediate; a transaction in process whose file becomes locked will be backed out.
- Unlocking makes the file available again for normal use.

Equivalent direct commands are:

```
LOCK FILE
```

```
UNLOCK FILE
```

Selecting option **L** displays the **Lock/Unlock Files** menu.

```
15:28:48          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                          -  Lock / Unlock Files  -                 PACIL02

                  Code    Service
                  ----    ----------------------------------
                   D      Display locked files
                   F      Lock file for all users
                   K      Advance lock file
                   L      Lock file except for UTI/EXF users
                   N      Unlock file from general lock
                   R      Release an advance lock
                   U      Unlock file from UTI/EXF lock
                   ?      Help
                   .      Exit
                  ----    -----------------------------------
    Code ......... _
    File Number ..
    UTI/EXF Ind .. U
    Database ID .. 1955   (WIS1955)

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

For the most part, the options on this menu perform locking or unlocking functions without the use of additional AOS screens.

Option	Description
D	Displays locked files and allows you to modify their locked status on the Display Locked Files screen, as described later in this section.
F	Locks the file identified in the `File Number` field for all users.
K	Performs an advance lock on the file identified in the `File Number` field.
L	Locks the file identified in the `File Number` field for either utility functions (UTI) or EXF users, as specified in the `UTI/EXF Ind` field.
N	Unlocks the file identified in the `File Number` field for all users.
R	Releases an advance lock on the file identified in the `File Number` field.
U	Unlocks the file identified in the `File Number` field for either utility functions (UTI) or EXF users, as specified in the `UTI/EXF Ind` field.

To list and modify the locked status of files using the Display Locked Files screen:

1 Select option **D** (**Display locked files**) on the **Lock/Unlock Files** menu..

The Display Locked Files screen appears:

```
15:32:10          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                 -  Display Locked Files  -                PACID02

 Mark entries with 'U' to unlock:
 M  Fnr.   Lock Status                  M  Fnr.   Lock Status
 -  -----  -------------------------    -  -----  -------------------------
 _  1      Locked for ALL users
 _  29     Locked except for UTI









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

2 To unlock a file on the Display Locked Files, enter a "U" in the M column to the left of the file number on this screen.

Multiple files may be unlocked at the same time.

CLOG/PLOG Dataset Status

The CLOG/PLOG Dataset Status program provides current information about the individual status of the CLOG or PLOG datasets per Adabas DBID/Nucid. If you select a DBID that is an Auditing Server, the program provides information about the status of each ALOG or PLOG dataset.

To display the CLOG/PLOG dataset status, select the **M - CLOG/PLOG dataset status** option in the **Session Opercoms** menu.

```
19:52:38          ***** A D A B A S  BASIC  SERVICES *****          2023-10-31
DBID 1955               - CLOG/PLOG DATASET STATUS -                MACIM02


Switch CLOG .. ___                        Switch PLOG .. ___

CLOG file size  BLKs 675                  PLOG file size  BLKs 240
                CYLs 5                                    CYLs 2
No logs available, current > 70%
CLOG# Stat writing BLK  %used             PLOG# Stat writing BLK  %used
------ --   ----------    ---             ------ --   ----------    ---
CLOGR1 F                  100             PLOGR1 W    7             3
CLOGR2 W    501           74              PLOGR2 F                  100





Stat =>> A-Available W-Writing F-Completed(Copy needed) R-ADARES running

PF1----- PF2------ PF3------ PF4------ PF6----- PF8----- PF9----- PF12-----
Help               Exit      Refresh   CYL                PPT      Menu
```

The status of each dataset is indicated by the status of the first record of each of those datasets. The status field of each CLOG/PLOG dataset indicates if it is A-Available, W-Writing, F-Completed(Copy needed), or R-ADARES running.

The ALOG/CLOG/PLOG file size is shown in BLK, with a calculation for CYL. The `PF6` key switches the display between a cylinder calculation and the standard blocks that Adabas uses. The `%used` calculation is always based on BLK. `PF4` refreshes the information, issuing the necessary calls to gather it again. `PF9` jumps to the display of the PPT information.

You can switch between the ALOG/CLOG and PLOG by typing `YES` in the indicated `SWITCH` field.

If the program detects an error, it shows a warning message. For example, in a dual clog/plog environment, if no CLOG/PLOG is available and the current log is greater than 70% used, the program shows the message `No logs available, current > 70%`. If the environment has more than 2

CLOGs/PLOGs but none of them are available, the program shows the warning message `Warning: No logs marked available`.

```
18:42:07          ***** A D A B A S  BASIC  SERVICES *****          2023-09-01
DBID 1955               - CLOG/PLOG DATASET STATUS -                MACIM02


Switch CLOG .. ___                        Switch PLOG .. ___

CLOG file size  BLKs 675                  PLOG file size  BLKs 240
                CYLs 5                                    CYLs 2
                                          No logs available, current > 70%
CLOG# Stat writing BLK  %used             PLOG# Stat writing BLK  %used
------ --   ----------    ---             ------ --   ----------    ---
CLOGR1 W    216           32              PLOGR1 F                  100
CLOGR2 F                  100             PLOGR2 W    214           89





Stat =>> A-Available W-Writing F-Completed(Copy needed) R-ADARES running

PF1----- PF2------ PF3------ PF4------ PF6----- PF8----- PF9----- PF12-----
Help               Exit      Refresh   CYL               PPT      Menu
```

In the example, for the CLOGs, `CLOGR1` is currently being written, at writing block `216` of a total of `675` for the file. `CLOGR2` has been completed (`F`) and has not been copied yet, `100%` used, and is highlighted in red. For the PLOGs, `PLOGR2` is being written, and is at `89%` capacity, without `PLOGR1` being available for use. This causes the program to issue the warning message `No logs available, current > 70%`.

If you select a DBID that is in a cluster/parallel nucleus environment, the display starts with the currently selected Nucid.

```
13:28:20          ***** A D A B A S  BASIC  SERVICES *****          2023-10-31
DBID 62900              - CLOG/PLOG DATASET STATUS -                MACIM02
Nuc  17031

Switch CLOG .. ___   Global ___          Switch PLOG .. ___   Global ___

CLOG file size  BLKs 675                 PLOG file size  BLKs 240
                CYLs 5                                   CYLs 2

CLOG# Stat writing BLK  %used            PLOG# Stat writing BLK  %used
------ --   ----------    ---            ------ --   ----------    ---
CLOGR1 F                  100            PLOGR1 F                  100
CLOGR2 F                  100            PLOGR2 F                  100
CLOGR3 F                  100            PLOGR3 F                  100
CLOGR4 F                  100            PLOGR4 W    3             1
CLOGR5 W    3             1              PLOGR5 A
CLOGR6 A                                 PLOGR6 A
CLOGR7 A                                 PLOGR7 A
CLOGR8 A
Stat =>> A-Available W-Writing F-Completed(Copy needed) R-ADARES running

PF1----- PF2------ PF3------ PF4------ PF6----- PF8----- PF9----- PF12-----
Help     Next Nuc  Exit      Refresh   CYL                PPT      Menu
```

The status of each dataset, the log file sizes, and the function keys perform the same way as in a dual CLOG/PLOG environment. You can switch between the ALOG/CLOG and PLOG by typing `YES` in the indicated `SWITCH` field. In the cluster/parallel nucleus environment, you can also specify a `Global` switch to apply the command to all Nucids in that environment.

Press `PF2` to switch to the next Nucid in the system. When more than 2 logs occur for an environment but no log is available, the program shows a warning message.

```
13:28:20          ***** A D A B A S  BASIC  SERVICES *****          2023-10-31
DBID 62900              - CLOG/PLOG DATASET STATUS -                MACIM02
Nuc  22021

Switch CLOG .. ___   Global ___          Switch PLOG .. ___   Global ___

CLOG file size  BLKs 675                 PLOG file size  BLKs 240
                CYLs 5                                   CYLs 2
Warning: No logs marked available
CLOG# Stat writing BLK  %used            PLOG# Stat writing BLK  %used
------ --   ----------    ---           ------ --   ----------    ---
CLOGR1 F                  100            PLOGR1 F                  100
CLOGR2 F                  100            PLOGR2 F                  100
CLOGR3 F                  100            PLOGR3 F                  100
CLOGR4 W    3             1              PLOGR4 W    3             1
CLOGR5 F                  100            PLOGR5 A



Stat =>> A-Available W-Writing F-Completed(Copy needed) R-ADARES running

PF1----- PF2------ PF3------ PF4------ PF6----- PF8----- PF9----- PF12-----
Help     Next Nuc  Exit      Refresh   CYL                PPT      Menu
```

If you select a DBID that is an Auditing Server, the program provides information about the status of each ALOG instead of each CLOG:

```
19:37:19          ***** A D A B A S  BASIC  SERVICES *****          2023-09-01
DBID 1956               - ALOG/PLOG DATASET STATUS -                MACIM02


Switch ALOG .. ___                       Switch PLOG .. ___

ALOG file size  BLKs 675                 PLOG file size  BLKs 240
                CYLs 5                                   CYLs 2

ALOG# Stat writing BLK  %used            PLOG# Stat writing BLK  %used
------ --   ----------    ---           ------ --   ----------    ---
ALOGR1 F                  100            PLOGR1 F                  100
ALOGR2 W    9             1              PLOGR2 W    3             1







Stat =>> A-Available W-Writing F-Completed(Copy needed) R-ADARES running

PF1----- PF2------ PF3------ PF4------ PF6----- PF8----- PF9----- PF12-----
Help               Exit      Refresh   CYL                PPT      Menu  ↩
```

ALOG also replaces CLOG on the **Session Opercoms** menu. If you are using SAF for security, you must apply zaps to add the CLOG/PLOG function. For Adabas SAF Security version 8.3.1 apply AX831004 and for Adabas SAF Security version 8.4.1 apply AX841004.

Resetting Online Dump Status

Option **R** (**Reset ONLINE-DUMP-Status**) on the **Session Opercoms** menu is used to reset the online dump status for use when an ADASAV online dump operation has abended.

An equivalent direct command is:

```
RESET ONLINESTATUS
```

Stopping Users

Selecting option **S** (**Stop user(s)**) on the **Session Opercoms** menu displays the **Stop Users** menu.

```
19:43:12          ***** A D A B A S  BASIC  SERVICES *****          2015-05-19
                                -  Stop Users  -                    PACIS12

Code  Service                           Code  Service
----  ------------------------------    ----  ------------------------------
 F    Stop users using file              S    Stop all selected Secuid
 I    Stop inactive users                U    Stop a selected user
 J    Stop users by jobname
 ?    Help                               .    Exit
----  ------------------------------    ----  ------------------------------
    Code ............. _
    File Number ...... _____
    Last Activity .... ________ (elapsed time in seconds)
    Job Name ......... ________
    Purge UQE(s) ..... N
    With Resp 22/54 .. N
    Selected Secuid ..               Selected Userid ..
    Database ID ...... 1955     (WIS1955)


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

You can stop a specific user, all users from a specific job, all users using a specific file, or all inactive users. Any open transactions of the stopped users are backed out. When the `Purge UQE(s)` field is set to "Y", the stopped users are also deleted. Note that EXF and UTI users are not stopped or deleted.

The following table describes what each of the screen options allows you to do and how to use them effectively:

Option	Description
F	Stops all users who are using a specific file. When you use this option, specify the file number in the **File Number** field. This is the equivalent of running the Adabas STOPF operator command. The nucleus backs out all open transactions of any users of the file. If the **Purge UQE(s)** field is set to "Y", the stopped users are also deleted. If the **Purge UQE(s)** field is set to "N" or Adabas is running with ADARUN OPENRQ=YES, a stopped user who returns (by sending a command) will receive response code 9. **Caution:** If Adabas is running with ADARUN OPENRQ=NO (specifying that users are not required to issue an OP as the first command of the session), select this option with the `Purge UQE(s)` field set to "Y" only if you are certain that the users to be deleted are no longer active. If a user with an open transaction is deleted, but then returns (by sending a command), no indication is given about the transaction backout. If the user continues the transaction, logical inconsistencies in the database could occur.
I	Stops all users who have not executed a command during a specific time interval. When you use this option, specify the inactivity time (in seconds) in the **Last Activity** field. This is the equivalent of running the Adabas STOPI operator command. The nucleus backs out all open transactions of the affected users. If the **Purge UQE(s)** field is set to "Y", the stopped users are also deleted. If the **Purge UQE(s)** field is set to "N" or Adabas is running with ADARUN OPENRQ=YES, a stopped user who returns (by sending a command) will receive response code 9. **Caution:** If Adabas is running with ADARUN OPENRQ=NO (specifying that users are not required to issue an OP as the first command of the session), select this option with the `Purge UQE(s)` field set to "Y" only if you are certain that the users to be deleted are no longer active. If a user with an open transaction is deleted, but then returns (by sending a command), no indication is given about the transaction backout. If the user continues the transaction, logical inconsistencies in the database could occur.
J	Stops and deletes all users from a specific job. When you use this option, specify the job name in the **Job Name** field. This is the equivalent of running the Adabas STOPU operator command with a job name specified. The nucleus backs out any open transactions from the job and deletes the users (purges their user queue elements), regardless of the setting of the **Purge UQE(s)** field. No response code is issued, when the field **With Resp 22/54** is set to "N"; the next time a stopped user issues a command, a new user queue element (UQE) is created. If the field **With Resp 22/54** is set to "Y", this is the equivalent of running the Adabas STOPUR operator command with a job name specified. The nucleus backs out any open transactions from the job and deletes the users (purges their user queue elements), regardless of the setting of the **Purge UQE(s)** field. However, the stopped users are only deleted after they have issued a subsequent command and response code 22 (ADARSP22), subcode 54 has been issued in response to that command. This response code/subcode combination

Option	Description
	is used to notify users that their Adabas activity has been halted and their user session resources have been freed. Only after the response code/subcode combination has been issued will the user queue element of the stopped users be deleted. **Caution:** If Adabas is running with ADARUN OPENRQ=NO (specifying that users are not required to issue an OP as the first command of the session), select this option only if you are certain that the users to be deleted are no longer active. If a user with an open transaction is deleted, but then returns (by sending a command), no indication is given about the transaction backout. If the user continues the transaction, logical inconsistencies in the database could occur.
S	Stops and deletes all specific security user IDs. When you use this option, specify the security user ID (secuid) of the user you want to stop in the **Selected Userid** field. You can do this by selecting a user from the current user queue (select PF2 on this screen) and specifying "N" in the **With Resp 22/54** field. This is the equivalent of running the Adabas STOPSU operator command with a security user ID specified. The nucleus backs out any open transaction of the user and deletes the user (purges the user queue element), regardless of the setting of the **Purge UQE(s)** field. No response code is issued; the next time a stopped user issues a command, a new user queue element (UQE) is created. If the field **With Resp 22/54** is set to "Y", this is the equivalent of running the Adabas STOPSUR operator command with a security user ID specified. The nucleus backs out any open transactions from the job and deletes the users (purges their user queue elements), regardless of the setting of the **Purge UQE(s)** field. However, the stopped users are only deleted after they have issued a subsequent command and response code 22 (ADARSP22), subcode 54 has been issued in response to that command. This response code/subcode combination is used to notify users that their Adabas activity has been halted and their user session resources have been freed. Only after the response code/subcode combination has been issued will the user queue element of the stopped users be deleted. **Caution:** If Adabas is running with ADARUN OPENRQ=NO (specifying that users are not required to issue an OP as the first command of the session), select this option only if you are certain that the user to be deleted is no longer active. If a user with an open transaction is deleted, but then returns (by sending a command), no indication is given about the transaction backout. If the user continues the transaction, logical inconsistencies in the database could occur.
U	Stops and deletes a specific ET-ID user. When you use this option, specify the user ID (ET-ID) of the user you want to stop in the **Selected Userid** field. You can do this by selecting a user from the current user queue (select PF2 on this screen and then press PF6 to show ET-ID). The nucleus backs out any open transaction of the user and deletes the user (purges the user queue element), regardless of the setting of the **Purge UQE(s)** field. However, the stopped user is only deleted after they have issued a subsequent command and response code 22 (ADARSP22), subcode 54 has been issued in response to that command. This response code/subcode combination is used to notify users that their Adabas activity has been halted and their user session resources have been freed. Only after the response code/subcode combination has been issued will the user queue element of the stopped user be deleted.

Option	Description
	Caution: If Adabas is running with ADARUN OPENRQ=NO (specifying that users are not required to issue an OP as the first command of the session), select this option only if you are certain that the user to be deleted is no longer active. If a user with an open transaction is deleted, but then returns (by sending a command), no indication is given about the transaction backout. If the user continues the transaction, logical inconsistencies in the database could occur.
?	access online help for this screen.
.	exit this screen.

The following table describes the use of the fields on this screen:

Field	Description
`Code`	Specify the code of the function you wish to perform, as described in the table above.
`File Number`	When selecting the **F** option (stop users of a specific file), specify the file number; all users of the file will be stopped.
`Last Activity`	When selecting the **I** option (stop inactive users), specify the inactivity time of the users (in seconds); users who have not executed a command during the specified time interval will be stopped.
`Job Name`	When selecting the **J** option (stop and delete users from a specific job), specify the job name; all users from that job will be stopped and deleted.
`Purge UQE(s)`	When selecting the **F** or **I** options specify (with "Y" or "N") whether the user queue elements (UQEs) of the stopped users should be purged. Users stopped via the **J** or **U** options are always purged. **Caution:** If Adabas is running with ADARUN OPENRQ=NO (specifying that users are not required to issue an OP as the first command of the session), select this option only if you are certain that the users to be deleted are no longer active. If a user with an open transaction is deleted, but then returns (by sending a command), no indication is given about the transaction backout. If the user continues the transaction, logical inconsistencies in the database could occur.
`With Resp 22/54`	When selecting the **J**, **S**, or **U** options specify (with "Y" or "N") whether the user queue elements (UQEs) of the stopped users should be purged or have a response 22, subcode 54, returned.
`Selected Secuid`	Lists the selected security user ID. To change the security user ID, press the PF2 key and select a new security user ID from the current user queue. To clear a security user ID from this field, press the PF4 key. If no specific user is listed in this field, all users are assumed. This field is used only when the **S** Code (stop a specific secuid) is selected.
`Selected Userid`	Lists the selected user ID. To change the user ID, press the PF2 key (and PF6 for ET-ID) and select a new user ID from the current user queue. To clear a user ID from this field, press the PF4 key. If no specific user is listed in this field, all users are assumed. This field is used only when the **U** Code (stop a specific user) is selected.
`Database ID`	Specify the database ID of the database for which the users are stopped.

The following special function keys are also available for use on this screen:

- Press PF2 (Disp UQ) to display the current user queue. You can select a user from the current user queue list.
- Press PF4 (Clear UID) to clear the `Selected Userid` field.

An equivalent direct command is:

```
STOP USERS
```

Termination Commands

Selecting option **T** (**Termination Commands**) on the **Session Opercoms** menu invokes the **Session Termination** menu from which you can choose to terminate a session normally (ADAEND), cancel a session immediately (CANCEL), or stop a session (HALT).

```
15:56:48          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                           -  Session Termination  -                PACT002

                    Code    Service
                    ----    -----------------------------------
                     A      Normal session termination (ADAEND)
                     C      Cancel session immediately (CANCEL)
                     H      Stop session               (HALT)
                     ?      Help
                     .      Exit
                    ----    -----------------------------------
      Code ......... _
      Database ID .. 1955   (WIS1955)            NUCID .. 1021
                                                 Global.. _

       Current nr. of users in User Queue ... 1
       Nr. of users with open transactions .. 0
       Nr. of active nucs in Plex cluster ... 1


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

In all cases, you are prompted to confirm your termination request before the action is taken.

An equivalent direct command is:

```
TERMINATE SESSION
```

Managing Online Utilities

Selecting option **U** (**Manage Online Utilities**) on the **Session Opercoms** menu displays the Manage Online Processes screen:

```
15:58:02         *****  A D A B A S   BASIC  SERVICES  *****       2014-05-02
 DBID 1955                - Manage Online Processes -               PACIP02

 Total Processes...
 Mark entries with 'S' (Suspend), 'R' (Resume), or 'X' (Stop):
    I       I  Process  I Sort I Current   I  Throw-  I  Process I           I
  M I  FNR  I    Type   I Seq  I RABN/ISN  I  Backs   I    ID    I  Status   I
 ---------------------------------------------------------------------------
  _ I    50 I Reor Data I Phy  I     3345  I        6 I 000003FC I Active    I
  _ I    61 I Invert DE I AA   I      286  I        1 I 000003FF I Suspended I
  _ I   101 I Reor Asso I BJ   I           I        1 I 000000C2 I Active    I
  _ I       I           I      I           I          I          I           I
  _ I       I           I      I           I          I          I           I
  _ I       I           I      I           I          I          I           I
  _ I       I           I      I           I          I          I           I
  _ I       I           I      I           I          I          I           I
  _ I       I           I      I           I          I          I           I
  _ I       I           I      I           I          I          I           I
  _ I       I           I      I           I          I          I           I
  _ I       I           I      I           I          I          I           I

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

From this screen, you can manage (that is, monitor, suspend, resume, and stop) online utility processes.

All online processes currently in the database nucleus are listed, up to a maximum of 40. You can use PF6 (back to the start of the list), PF7 (back one screen), and PF8 (forward one screen) to scroll among the processes.

The equivalent direct command is:

```
DISPLAY PROCESS
```

To maintain the processes, enter one of the following maintenance codes in the M column to the left of the process named in the Process Type column:

Code	Description
S	Suspends an active process
R	Resumes a suspended process
P	Stops a process

You can maintain multiple processes at the same time.

The equivalent direct command is

```
MANAGE PROCESS
```

The sort sequence used by a process is indicated in the Sort Seq column:

For process type . . .	Sort Seq. contains the descriptor currently being . . .
reorder Data Storage	reordered*
invert descriptor	inverted
reorder Associator	reordered

* When reordering Data Storage for a file, the default sort sequence is physical sequence or "PHY". Other possible options include "ISN" if the file is to be sorted in ISN order, or the two character descriptor name to sort the file according to the value of the specified descriptor.

The Current RABN/ISN column shows the progress of work:

For process type . . .	Current RABN/ISN displays the current . . .
reorder Data Storage	RABN being processed
invert descriptor	ISN, as this function works in ISN sequence
reorder Associator	(left blank)

Maintaining the User Table

Note: This option is available in Adabas nucleus cluster environments only.

When option **V** (**User Table Maintenance**) is selected on the **Session Opercoms** menu, the **User Table Maintenance** menu appears:

```
15:58:04          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                         - User Table Maintenance -                 PACIV02

                      Code    Service
                      ----    -------------------------
                       C      Begin CLUFREEUSER process
                       ?      Help
                       .      Exit
                      ----    -------------------------
         Code ......... _
         TNA .......... 0______
         UID .......... ___________________
         Force ........ _
         Global ....... _

         Database ID .. 1955  (WIS1955)              NucID .. 1021




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

The `CLUFREEUSER` command is only valid in cluster environments. It can be issued against the local nucleus only or, with the Global option, against all active and inactive nuclei in the cluster.

The command is used to delete leftover user table elements (UTEs) in common storage that are no longer associated with user queue elements (UQEs) in a nucleus where:

Screen Field	Description
TNA	A decimal number specifying the timeout value in seconds. UTEs that are not used during the time specified may be deleted if other conditions are fulfilled. If TNA is not specified, UTEs may be deleted without regard to their recent use.
UID	A character string or hexadecimal byte string as follows: cccccccc — where the argument is 1-8 letters, digits, or embedded '-' signs without surrounding apostrophes. 'cccccccc' — where the argument is 1-8 characters with surrounding apostrophes. X'xxxxxxxxxxxxxxxx' — where the argument is an even number of 2-16 hexadecimal digits enclosed by apostrophes and preceded by an X. A character string must be enclosed in apostrophes if it contains characters other than letter, digits, or embedded '-' signs. If a specified character string is less than 8 characters long, it is implicitly padded with blanks. If a specified hexadecimal string is shorter than 16 hexadecimal digits, it is implicitly padded with binary zeros. If the last 8 bytes of a user's 28-byte communication ID match a specific user ID or user ID prefix, that user's UTE may be deleted

Screen Field	Description
	if other conditions are fulfilled. If UID not specified, UTEs may be deleted regardless of their user IDs.
FORCE	Indicates whether leftover UTEs should be deleted even if the users are due a response code 9, subcode 20. If FORCE is not specified, such UTEs are not deleted. Before using the `FORCE` parameter, ensure that the users owning the UTEs to be deleted will not expect any of their transactions to remain open. Specify `FORCE` on this screen by marking the Force field with any character.
GLOBAL	Indicates whether leftover UTEs should be deleted throughout the Adabas cluster if they are no longer associated with UQEs and are eligible according to the other specified parameters. Additionally and subject to the other rules, delete leftover UTEs if their assigned nuclei have terminated since their last use. If `GLOBAL` is not specified, only UTEs assigned to the local nucleus and used since the nucleus start are eligible for deletion. Specify `GLOBAL` on this screen by marking the `Global` field with any character.

9 Reviewing the Database Report

- Displaying Files with Critical Number of Extents 175
- Displaying Field Definition Table (FDT) 175
- Displaying Files 178
- Displaying General Database Layout 185
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- Displaying ASSO/DATA/WORK Block (RABN) 188
- Displaying Unused Storage 190
- Displaying Used Storage 191

Selecting **Database report** (option **R**) from the **Main Menu** displays the **Database Report** menu:

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 Adabas Online System (AOS) 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.

```
16:11:48          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                            -  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
                   V      Display used storage (DSPACE)
                   ?      Help
                   .      Exit
                  ----    ------------------------------------
    Code ......... _
    File No ...... 0_____ Password ..
    Database ID .. 1955   (WIS1955)            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 **Database Report** provided in AOS includes the following information, selected using the appropriate option code, as follows:

Option	Function
C	*Displaying Files with Critical Number of Extents* shows a list of the files that have a critical number of extents.
D	*Displaying Field Definition Table (FDT)* shows the field definition table (FDT) and special descriptor table (SDT) for the specified file.
F	*Displaying Files* shows file(s), either a list of all files in the specified database or detailed information about a specific file.

Option	Function
G	*Displaying General Database Layout* shows the general layout of the specified database.
L	*Displaying Volume/Serial Numbers for Database* shows the volume/serial number layout of the specified database.
R	*Displaying ASSO/DATA/WORK Block (RABN)* shows Associator / Data Storage blocks (RABNs).
U	*Displaying Unused Storage* shows unused storage.
V	*Displaying Used Storage* shows how much space is defined and used for the Associator (ASSO) and Data Storage (DATA) areas of your databases.

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).

Displaying Field Definition Table (FDT)

Option **D** (**Display field description table (FDT)**) on the **Database Report** menu provides a list of the field definitions in the FDT. The Display FDT screen appears.

Note: For more detailed information about field definitions, read your Adabas ADACMP utility documentation; for more information about interpreting FDTs, read your Adabas ADAREP utility documentation. Both are available in the *Adabas Utilities* documentation.

```
16:12:15          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                      - Display FDT -                      PDRD032

 Field Description Table: File 1     (EMPLOYEES)
 ========================                Total Fields without SDT ... 30
 *************** T o p  of  F D T ***************
 Lev  I Name I Leng  I Form  I    Options       I Predict Fld Name or DT / SY
 -----I------I-------I-------I----------------- I-----------------------------
   1  I  AA  I  008  I    A  I  DE              I
   1  I  AB  I       I       I                  I
   2  I  AC  I  020  I    A  I  NU              I
   2  I  AE  I  020  I    A  I  DE              I
   2  I  AD  I  020  I    A  I  NU              I
   1  I  AF  I  001  I    A  I  FI              I
   1  I  AG  I  001  I    A  I  FI              I
   1  I  AH  I  006  I    P  I  DE NC           I
   1  I  A1  I       I       I                  I
   2  I  AI  I  020  I    A  I  MU NU           I
   2  I  AJ  I  020  I    A  I  DE NU           I
   2  I  AK  I  010  I    A  I  NU              I

PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help     Disp SDT  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. In addition, if the field has been deleted online, this information in noted in the Options column.

- equivalent Predict names, if any, for each field or, if the field is a date or time, the edit mask used for the field. A complete description of edit masks can be found in your Adabas documentation.

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

```
16:12:50          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                      - Display SDT -                      PDRD012

 SUB-/SUPER Table: File 1     (EMPLOYEES)
 =================

 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 DE              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     Disp FDT  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 equivalent alphanumeric elementary fields of phonetic descriptors; and the associated user exit of collation descriptors.

The equivalent direct commands are:

```
DISPLAY FDT file-number
```

Displaying Files

If no particular file is specified, option **F** (**Display file(s)**) on the **Database Report** menu 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 section covers the following topics:

- Display a List of Files in the Specified Database
- Display Information for a Specific File

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 on the Display Files screen:

Note: If a file was unsuccessfully loaded (ADALOD) , stored (ADAORD) or restored (ADASAV) and the file number of the file is higher than the previous highest-loaded file number, then this file will not be shown until the next time the database is started. If you want to see the file specifics, run an ADAREP report.

```
 16:13:21          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
 DBID 1955                      - Display Files -                    PDRF032

Fnr   File Name        Loaded   Top-ISN    Max-ISN    Extents     Ind.    %Used
                       YY-MM-DD                       NI UI AC DA ACISEXU  A  D
----- ---------------- -------- ---------- ---------- -- -- -- -- ------- -----
    1 EMPLOYEES        09-02-17       1107       1695  1  1  1  1 NNISNNN 77 92
    2 SECURITY         12-09-12          2       2543  1  1  1  1 NNNSNNN 12  5
    3 MISCELLANEOUS    09-02-17       1779       2543  1  1  1  1 NNISNNN 86 53
    6 EXPANDED         09-02-17       1107       1600  1  1  1  1 NNISNXN 74 46
    7 EXPANDED         09-02-17       3107       3600  1  1  1  1 NNISNXN 74 46
    9 TEST-9           10-08-06          0       1695  1  1  1  1 NNNSNNN  0  0
   10 TRIGGER-FILE     09-02-17          1       1695  1  1  1  1 NNISNNN 23 10
   11 NAT-SYSTEM       09-02-17      99317     100063  1  1  1  1 NNISNNU 52 74
   12 NAT-USER         09-02-17        940      30527  1  1  1  1 NNISNNN 80 43
   13 NAT-FDIC         09-02-17         47       5087  1  1  1  1 NNISNNN 33 14
   14 SPAN-TEST-14     13-08-30          1       1695  1  1  1  1 NNNSNNN 55  5
   19 CHECKPOINT       10-12-14      25334      26287  1  1  1  2 NNNSNNN  2 86
   20 FILE-1955-20     09-03-04         16       1695  1  1  1  1 NNNSNNN  0 20
   21 FILE-1955-21     09-03-04          7       1695  1  1  1  1 NNNSNNN  0 10

 PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
 Help     Repos     Exit      Extents   --        -        +        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.

If the extents (NI, UI, AC, and DA) listed on this screen exceed 99 and you want to see their actual values or if you would like to see the value of any secondary AC extent, press the PF4 (Extents) key. The window changes slightly to show the expanded values of the extents, although, due to screen space, the indicators are removed.

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

Indicator	Description
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 screen appears for that file (some of the items shown on the following sample screen only appear if those features are activated or used):

```
16:17:01          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                   - Display File Layout -                 PDRF043
 ****************
 *  File 3      *   MISCELLANEOUS
 ****************

 Records loaded ..... 1779          Date loaded .......... 2009-02-17 19:08:00
 TOP ISN ............ 1779          Date of last update .. 2010-12-14 11:30:19
 Max ISN expected ... 2543          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 .. 0             RPLUPDATEONLY. No
 ISN Reusage ........ Yes           USERISN ...... No   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
 Blk per DS Extent .. 0             Logged DSF Changes ... DS AC Index
 Blk per UI Extent .. 0             Total Changed Blks ... 87
 Blk per NI Extent .. 0             Multi Client File .... 0
                                    Press Enter to display more information
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit      Refresh                               Menu        ↩
```

```
16:17:18          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                   - Display File Layout -                 PDRF043
 ****************                                                     Page 2
 *  File 3      *   MISCELLANEOUS
 ****************

 Last format AC ISN .. 2543
 File readonly mode .. No           Date FDT modified .... 2009-08-25 02:05:08
 FDT deleted field ... No
 File has l/c fields . No
 FDT has F,8 field ... No
 FDT w/datetime mask . No
 FDT w/system fields . No           SYFMAXUV value ....... 0

 Free space available for file extents: At least 134  Extents





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

```
16:17:40         ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                  - Display File Layout -                PDRF043


 File has LOB Fields, Related file number  0

















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

```
 16:17:57         ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
 DBID 1955                 - Display File Layout -                PDRF052
 File 3

    I Dev  LiI  Space allocated  I      From         To    I Unused
    I Type TyI  Blocks   / Cyls. I      RABN         RABN  I BLOCKS  /  Cyls.
----I--------I-------------------I ------------------------I------------------
    I        I                   I                         I
ASSOI 3390 ACI        3        0 I       5227 -       5229 I        0        0
ASSOI 3390 UII        5        0 I       5261 -       5265 I        0        0
ASSOI 3390 NII       31        0 I       5230 -       5260 I        5        0
    I        I                   I                         I
DATAI 3390 DSI      100        0 I         71 -        170 I       47        0










 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.
- the maximum number of occurrences of MU system fields that can be stored in the file.

If the file is a spanned file, the following additional information will be displayed in the sequence of Display File Layout screens:

```
19:03:36          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                   - Display File Layout -                 PDRF043


 TOP AC2 ISN ............... 4
 Max AC2 ISN ............... 1695
 Min AC2 ISN ............... 1
 Last formatted AC2 ISN ... 1695









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

When universal encoding support (UES) is being used, the following additional information will be displayed in the sequence of Display File Layout screens:

```
15:33:00         *****  A D A B A S   BASIC  SERVICES  *****       2009-08-25
   DBID 1955                 - 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
```

If LOB flags are set, the following additional information will be displayed in the sequence of Display File Layout screens:

```
16:52:35          ***** A D A B A S  BASIC  SERVICES *****       2009-08-25
DBID 1955                   - Display File Layout -                 PDRF042

LOB File, Related file number  29









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

or

```
16:17:40          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                   - Display File Layout -                 PDRF043


 File has LOB Fields, Related file number  29









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

If the file is part of an expanded file chain, the following information will be displayed at the top of the first Display File Layout screen:

```
>> Part of Expanded File Chain        <<
>> Anchor file        = 6             <<
>> Last file of Expanded File Chain   << ↩
```

Displaying General Database Layout

Option **G** (**General database layout**) on the **Database Report** menu displays general database information on the Display General DB-Layout screen.

The equivalent direct command is

```
DISPLAY DBLAYOUT
```

```
19:14:01          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                - Display General DB-Layout -              PDRG012


 Database Name ............ WIS1955
 Database Number .......... 1955
 Database Version ......... 8.3
 Database Load Date ....... 2010-12-14 11:29:33

 System Files ............. 19 , 2 , 10 , 0 , 0 , 0 , 0
 Maximum Number of Files .. 1000
 Number of Files Loaded ... 33
 Highest File Loaded ...... 400
 Trigger File Number ...... 10

 Size of RABN ............. 3 Bytes
 Current Log Tape Number .. 429
 Delta Save Facility ...... Inactive     Replication Facility ..... Yes
 Recovery Aid Facility .... Inactive
 Universal Encoding Sup. .. Inactive

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 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 General DB-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 General DB-Layout screen displays the following space allocation and usage information:

```
19:14:42          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                - Display General DB-Layout -              PDRG012

      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 3390 I      53982       200 I          1        53982  I DDASSOR1 I
      I      I                      I                           I          I
 DATA I 3390 I      44990       300 I          1        44990  I DDDATAR1 I
 DATA I 3390 I      44999       300 I      44991        89989  I DDDATAR2 I
      I      I                      I                           I          I
 WORK I 3390 I       8091        60 I          1         8091  I DDWORKR1 I









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

Displaying Volume Serial Numbers for Database

Option **L** (**List VOLSER distribution of database**) on the **Database Report** menu 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.

The equivalent direct command is

```
DISPLAY VOLSERTAB
```

The Display Volser-Tab screen appears.

```
19:15:22          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                  -  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 SMSZ11    I  ASSO I        53982 I
                  _ I SMSZ11    I  DATA I        89989 I
                  _ I           I       I              I
                  _ I           I       I              I
                  _ I           I       I              I
                  _ I           I       I              I
                  _ I           I       I              I
                  _ I           I       I              I
                  _ I           I       I              I
                  _ I           I       I              I
                  _ I           I       I              I
                  _ I           I       I              I

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

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 on the List File Extents on VOLSER screen:

```
19:15:53          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                - List File Extents on VOLSER -            PDRL022

     VOLSER =  SMSZ11

     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        5031 I        5048 I  3390  I     0 I   DSST  I
     I       I        5049 I        5066 I  3390  I     0 I   DSST  I
     I       I        5099 I        5100 I  3390  I     1 I     AC  I
     I       I        5101 I        5185 I  3390  I     1 I     NI  I
     I       I        5186 I        5198 I  3390  I     1 I     UI  I
     I       I        5199 I        5201 I  3390  I     2 I     AC  I
     I       I        5202 I        5221 I  3390  I     2 I     NI  I
     I       I        5222 I        5226 I  3390  I     2 I     UI  I
     I       I        5227 I        5229 I  3390  I     3 I     AC  I
     I       I        5230 I        5260 I  3390  I     3 I     NI  I
     I       I        5261 I        5265 I  3390  I     3 I     UI  I
     I       I        5266 I        5267 I  3390  I     6 I     AC  I

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

Displaying ASSO/DATA/WORK Block (RABN)

Option **R** (**Display ASSO/DATA block (RABN)**) on the **Database Report** menu invokes the Read ASSO/DATA Block screen.

The equivalent direct command is

```
DISPLAY RABN
```

```
19:16:23          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                  -  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
 0000  00000000 00000000 00000000 00000000
 0000  00000000 00000000 00000000 00000000
 0000  00000000 00000000 00000000 00000000
 0000  00000000 00000000 00000000 00000000
 0000  00000000 00000000 00000000 00000000
 0000  00000000 00000000 00000000 00000000
 0000  00000000 00000000 00000000 00000000
 0000  00000000 00000000 00000000 00000000
 0000  00000000 00000000 00000000 00000000
 0000  00000000 00000000 00000000 00000000
 0000  00000000 00000000 00000000 00000000
 0000  00000000 00000000 00000000 00000000
Enter RABN details and press 'Enter' to display
PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit                                          Menu        ↩
```

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:

```
19:18:28          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                  -  Read ASSO/DATA Block  -               PDRR002

 Type .. A (ASSO)    RABN No .... 5150______   Offset .. 00F0
                     Hex RABN ... 0000141E
 00F0  0000E90D C4D44000 00000000 0062000F  *   Z?DM       Â ? *
 0100  02020000 F3000136 0DC4D440 00000000  * ??  3 ???DM      *
 0110  00006200 0F030100 00F60DC4 D4400000  *   Â ???  6?DM    *
 0120  00000000 62100F03 01000120 0DC4D440  *     Â???? ???DM *
 0130  00000000 00006250 0F050100 018B0DC4  *       Â&??? ?»?D *
 0140  D4400000 00000000 64000F03 010000E2  * M       À ???  S *
 0150  0DC4D440 00000000 00006400 0F040100  * ?DM       À ???  *
 0160  018B0DC4 D4400000 00000000 64100F02  * ?»?DM       À??? *
 0170  01000120 0DC4D440 00000000 00006450  * ? ???DM       À& *
 0180  0F010100 00DE0DC4 D4400000 00000000  * ???   ?DM        *
 0190  64600F01 0100018D 0DC4D440 00000000  * À-??? ?ý?DM      *
 01A0  00006480 0F010100 012D0DC4 D4400000  *   ÀØ??? ???DM    *
 01B0  00000000 65000F03 010000D2 0DC4D440  *     Á ???  K?DM *
 01C0  00000000 00006540 0F010200 012F0001  *       Á ??? ?? ? *
 01D0  7E0DC4D4 40000000 00000065 500F0101  * =?DM       Á&??? *

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 scroll through the RABN display using the PF7 (scroll backward) and PF8 (scroll forward) keys. When using DISPLAY RABN, the offset switches to FF*xx* when you page past end-of-block. The display just continues to show the next block, until the offset reaches FFFF, when it returns to the first page.

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

If the ADARUN AOSLOG parameter is set to "YES" and you access this screen, a message is printed to DDPRINT that includes the SECUID, type of RABN (ASSO, DATA or WORK), and the RABN number. This message looks like this:

```
****** A O S / UTILITY OPERATOR COMMAND ****** SECUID=secuid
yyyy-mm-dd hh:mm:ss DISPLAY type RABN rabn  ↩
```

Displaying Unused Storage

Option **U** (**Display unused storage**) on the **Database Report** menu displays a table of unused storage within the database. The Display Unused Storage screen appears.

The equivalent direct command is

```
DISPLAY UNUSED
```

```
19:18:49          ***** A D A B A S  BASIC  SERVICES *****       2014-05-02
DBID 1955                  - Display Unused Storage -                PDRU012

       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  3390  I          10           0  I       50783 -       50792  I
       I  3390  I       37490         249  I       52500 -       89989  I
 ------I--------I------------------------- I----------------------------I
 ASSO  I  3390  I          31           0  I       20889 -       20919  I
       I  3390  I       29291         108  I       24692 -       53982  I









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

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.

Displaying Used Storage

Option **V** (**Display used storage (DSPACE)**) on the **Database Report** menu displays how much space is defined and used for the Associator (ASSO) and Data Storage (DATA) areas of your databases.. The Display Used Space screen appears.

The equivalent direct command is

```
DISPLAY DSPACE
```

```
19:19:11          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                  -  Display Used Space  -                 PDRV002


-------- ASSO ----------------------  -------- DATA ----------------------
Percent.. 45%                          Percent.. 58%
Bytes                                  Bytes
  Used ..                 62,735,040     Used ..                265,804,296
  Alloc .                137,330,208     Alloc .                455,704,296
Blocks                                 Blocks
  Used ..        24,660                  Used ..        52,489
  Alloc .        53,982                  Alloc .        89,989
Cylinders                              Cylinders
  Used ..            92                  Used ..           350
  Alloc .           200                  Alloc .           600





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

This screen shows how much space is used and defined for the Associator and Data Storage areas of your database.

10 Calculating Space Requirements

- Estimating Associator Space 195
- Estimating Sizes for Directory and Data Structures in a Cluster Environment 197
- Estimating Data Storage Space 201
- Estimating Space for the DD/FILEA Sequential Data Set 202
- Estimating Sort Data Set Space 203
- Estimating TEMP Data Set Space 207
- Estimating Work Data Set Space 211

Option **S** (**Space calculation**) on the **Main Menu** displays the **Space Calculation** menu:

```
15:59:09          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                            -  Space Calculation  -                 PSP0002

                            Code    Service
                            ----    ------------------
                             A      ASSO
                             C      Cluster-Cache/Lock
                             D      DATA
                             F      DDFILEA
                             S      SORT
                             T      TEMP
                             W      WORK
                             ?      Help
                             .      Exit
                            ----    ------------------
              Code .......... _
              Database ID ... 1955   (WIS1955)



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

The space calculation function is a planning tool for adding new components or recalculating existing space requirements. Each calculation provides a block or cylinder estimate according to information you provide. In general, you must provide the:

- maximum estimated record count;
- average number of MU or PE occurrences, when used as descriptors;
- average descriptor, compressed record, or normal record length;
- estimated padding factor;
- device type where the Adabas component being estimated resides.

In many cases, the results are "best guess" estimates; other than a device type, no defaults are assumed. Because no values are actually changed by the Space Calculation function, unrealistic estimates cause no harm.

Calculations are provided in both cylinders and blocks. In some cases, the block values are required by other Adabas Online System/Basic Services functions such as **Define New File** or **Modify File Parameters**. All values are lost when you exit from the estimating function, regardless of the cause of the exit. You may want to write down any values you wish to use later.

By changing individual estimated values one at a time, you can see the effect on the calculated result. For example, you can change the device type without re-entering the other values; the revised estimate for that device appears when you press Enter.

There are equivalent direct commands for each space calculation function.

Space calculations are selectable by code and include:

Code	Function
A	*Estimating Associator Space*
C	*Estimating Sizes for Directory and Data Structures in a Cluster Environment*
D	*Estimating Data Storage Space*
F	*Estimating Space for the DD/FILEA Sequential Data Set*
S	*Estimating Sort Data Set Space*
T	*Estimating Temp Data Set Space*
W	*Estimating Work Data Set Space*

Estimating Associator Space

Option **A** (**ASSO**) on the **Space Calculation** menu calculates one of two Associator component values: the address converter (AC) space, or the normal (NI) and upper (UI) index space.

The equivalent direct command is

```
CALCULATE ASSO
```

The **ASSO Space Calculation** menu appears.

```
15:59:35          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                         -  ASSO Space Calculation  -               PSPA002



                          Code    Service
                          ----    -------------------
                           A      Address Converter
                           I      Normal/Upper Index
                           ?      Help
                           .      Exit
                          ----    -------------------
            Code ..........
            Database ID ... 1955   (WIS1955)





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

AC space is based on the device type and the estimated number of records in the related Data Storage file.

```
15:59:53          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                   -  Address Converter  -                 PSPAA02




 Maximum number of records ... 0
 ASSO Device-Type ............ 3390
 Block Size .................. 2544

 Required number of blocks ... 0
 Required number of cyls. .... 0









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

NI/UI calculates index values for a *single* descriptor, requiring you to estimate such things as the average descriptor length, the number of multiple descriptors you expect to have, the total number of unique descriptor values for that field, an Associator padding factor, and a device type if other than the default.

```
16:00:14          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                   -  Normal/Upper Index  -                 PSPAI02

Computation for one Descriptor  -

    Maximum number of records for the file ........ 0
    Average number of DE-values per record ........ 1.0
    Average length of DE-value in bytes ........... 0
    Number of different DE-values in the file ..... 0

    Padding factor for ASSO ....................... 10 %
    ASSO Device Type .............................. 3390
    ASSO Block Size ............................... 2544

                                I Normal Index I Upper Index I
    I-------------------------------------------------------
    I Required number of blocks I            0 I           0 I
    I Required number of cyls.  I            0 I           0 I
    I-------------------------------------------------------
                                                        Use ? for Help

PF1----- PF2------ PF3------ PF4------ PF6----- PF7----- PF8----- PF12-----
Help               Exit                                          Menu
Û                                                                07,055      ↩
```

Estimating Sizes for Directory and Data Structures in a Cluster Environment

Option **C** (**Cluster-Cache/Lock**) on the **Space Calculation** menu calculates the estimated sizes for directory and data structures in a cluster environment. The cache structure should be made large enough to provide sufficient space:

- for tracking all blocks kept in the buffer pools of all connected cluster nuclei (directory elements) and
- for keeping all changed blocks until they are written to the database (data elements).

The assignment of total cache space into directory and data elements is done via the `DIRRATIO` and `ELEMENTRATIO` ADARUN parameters.

```
16:00:40          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955             -  Cache Structure Calculator  -              PSPC002

Smallest block size in DB ....... 2544
Largest block size in DB ........ 5724
Buffer pool size (LBP) .......... 80896_______
Size proper for caching blocks .. 100000______
Max nuclei in cluster ........... 3
Directory element size .......... 400
Cache structure size (in KB) .... _________

For minimum calculation, leave cache structure size field empty.
Modify values, press Enter to provide estimates below.

Cache CFRM SIZE/INITSIZE ........ 2650        ( 2.5        MB)
ADARUN DIRRATIO ................. 67
ADARUN ELEMENTRATIO ............. 48
Cache directory elements ........ 135
Cache data elements ............. 97
Cache data element size ......... 1024

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

Input fields:

Field	Description
Smallest block size	Value between 1024 and 32768. Default taken from current AOS DBid.
Largest block size	Value between 1024 and 32768. Default taken from current AOS DBid. If Smallest block size exceeds this value, then Smallest block size is swapped in.
Buffer pool size	Value between 80,000 and 999,999,999,999. Default taken from `LBP` parameter of current AOS Dbid.
Size proper for caching blocks	Value between 100000 - 999,999,999,999. Default taken from `LBP` parameter of current AOS Dbid, rounded down to nearest 100000. "Size proper" means that this does not include the overhead in the cache structure required for administering these blocks. Thus this value specifies how much space should be available in the cache structure for keeping changed blocks between buffer flushes and for buffering blocks so that the cluster nuclei do not have to read them from the database.
Max Nuclei in cluster	Value between 2 and 32. Defaults to 3.
Directory element size	Value between 100 and 999. Specifies how much space (including the overhead for the access paths) each directory element will take in the cache structure. Defaults to 400.
Cache Structure size	Blank for minimum calculation, or a value between 100 and 999,999,999 (KB). Although this value is given as an output field, you may want to propose a cache structure size, to see how to allocate the cache space (dir & data elements).

Output fields:

Field	Description
Cache CFRM SIZE/INITSIZE	The recommended cache structure `SIZE` or `INITSIZE` specification in the coupling facility resource management policy.
ADARUN DIRRATIO/ELEMENTRATIO	The recommended ADARUN parameter settings for the cluster nuclei.
Cache directory/data elements	The estimated directory and data element counts resulting from the `SIZE/INITSIZE, DIRRATIO`, and `ELEMENTRATIO` settings.
Cache data element size	This (accurate) value depends only on the largest Asso/Data/Work block size in the database.

By pressing `PF4`, you can use the Lock Structure Calculator.

Lock Structure Calculator

The Lock Structure Calculator screen calculates an estimated size for the Cache `CFRM SIZE` or `INITSIZE` specification in the coupling facility resource management policy.

The lock structure must be made large enough to provide sufficient space

- for keeping the lock record elements for all locks held at the same time, and
- for avoiding too much false contention on lock structure size as an input field.

The Number of lock table entries and record elements are shown for comparison with the related cluster nucleus message (ADAX70) and to aid users' own calculations.

```
16:28:17          ***** A D A B A S  BASIC  SERVICES *****          2021-05-26
DBID 1958               -  Lock Structure Calculator  -             PSPL002

Cluster/Parallel Services (C/P) ....... C
Max files in database (MAXFILES) ...... 100
Max number of parallel users (NU) ..... 200_____
Number of hold queue elements (NH) .... 1600
Number of threads (NT) ................ 5
Unique descriptor pool size (LDEUQP) .. 50000
Lock record element size .............. 400
Lock structure size (in KB) ...........

For minimum calculation, leave lock structure size field empty.
Modify values, press Enter to provide estimates below.

Lock CFRM SIZE/INITSIZE ............... 3413      ( 3.3       MB)
Number of lock table entries .......... 32768
Number of lock record elements ........ 6831       Required min .. 6238



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

Input fields:

Field	Description
Cluster/Parallel Services	Value is `C` or `P`, default taken from current DBID for SYSAOS.
Max files in database	Value between 3 and 5000. The same as `MAXFILES` parameter of ADADEF and ADAORD. Taken from the current AOS DBID.
Max number of parallel users	Value between 20 and 16,777,215. Default taken from `NU` parameter of current AOS DBID.
Number of hold queue elements	Value between 20 and 16,777.215. Default taken from `NH` parameter of current AOS DBID.
Number of threads (NT)	Value between 4 and 250. Default taken from `NT` parameter of current AOS DBID.
Unique descriptor pool size	Value between 1 and 999,999,999. Default taken from `LDEUQP` parameter of current AOS DBID.
Lock record element size	Value between 100 and 999. Specifies how much space (including the overhead for the access paths) each lock record element will take in the lock structure. Defaults to 400.
Lock structure size	Blank for minimum calculation, or a value between 100 and 9,999,999 (KB). Although this value is given as an output field, you may want to propose a lock structure size, to see the estimated number of lock table entries and lock table elements.

Output fields:

Field	Description
Lock CFRM SIZE/INITSIZE	The recommended lock structure `SIZE` or `INITSIZE` specification in the coupling facility resource management policy.
Number of lock table entries	The calculated count of lock table entries resulting from the `SIZE/INITSIZE` setting.
Number of lock record elements	The estimated count of lock record elements resulting from the `SIZE/INITSIZE` setting. One has to actually start a cluster nucleus with the specified parameters to see how many lock record elements it gets from the lock structure. The number on the right side is the minimum number of lock record elements that the starting cluster nuclei require to be available.

Estimating Data Storage Space

Option **D** (**DATA**) on the **Space Calculation** menu calculates Data Storage based on values you provide for estimated maximum record count, the average length of a compressed record, a Data Storage padding factor, and device type. Results are specified in both blocks and cylinders.

The equivalent direct command is

```
CALCULATE DATA
```

The Data Storage screen appears.

```
16:04:06          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                      -  Data Storage  -                   PSPD002



 Maximum number of records for the file .. 0_________
 Average compressed record length ........ 0
 Padding factor for DATA ................. 10 %
 DATA device-type / blk. size ............ 3390 /  5064


 Required number of blocks ............... 0
 Required number of cyls. ................ 0









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

Estimating Space for the DD/FILEA Sequential Data Set

Option **F** (**DDFILEA**) on the **Space Calculation** menu calculates the space required for the DD/FILEA sequential data set when it is used with the ADAORD utility. (The data set is also used with the ADALOD utility.)

The equivalent direct command is

```
CALCULATE DDFILEA
```

The DDFILEA Storage screen appears.

```
16:04:25          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                            -  DDFILEA Storage  -                   PSPF012
                  Code  Reorder                  Maximum Space Required
                  ----  -------------            ----------------------
DB -Function   :   A    Asso
                   B    Data                     Bytes .....
                   C    DB                       Blocks ....
                   D    Restruct DB              Cylinder ..

FILE -Function :   E    FAsso                    Blocksize ..
                   F    FData
                   G    File
                   H    Restruct File
                   .    Exit
                  ---- --------------
        Code ..... _
        File .....
        Device ... 3390
        DB-ID .... 1955   (WIS1955)


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

Estimating Sort Data Set Space

Option **S** (**SORT**) on the **Space Calculation** menu displays the **SORT Storage** menu:

```
16:04:43          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                             -  SORT Storage  -                     PSPS002

                         Code    Service
                         ----    -------------
                          I      ADAINV
                          L      ADALOD load
                          U      ADALOD update
                          ?      Help
                          .      Exit
                         ----    -------------


            Code ......... _
            File Number ..
            Database ID .. 1955   (WIS1955)




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

The functions on this menu are used to estimate the storage needed on the sort data set for the utility function chosen.

This section covers the following topics:

- ADAINV Sort Size
- ADALOD LOAD Sort Size
- ADALOD UPDATE Sort Size

ADAINV Sort Size

Option **I** (**ADAINV**) on the **SORT Storage** menu displays the **Sort Storage - ADAINV** screen. The storage needed on SORT for the ADAINV utility function is estimated using this screen.

```
16:05:04          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                     -  SORT Storage     - ADAINV -     -           PSPSS22


 File Number ................................... 29
 Number of records ( Default:  TOPISN ) .......             (reduce number
 Name of the field to be processed ...........               if field is NU)
 Average compressed descr. length (in Bytes)
 of the biggest descriptor ....................
 Occurrences of periodic groups ............... 1
 Occurrences of multiple fields ............... 1
 SORT device-type ............................. 3390
 LWP-parameter ................................ 1000000
 Database-ID .................................. 1955
 Password (if required) .......................
-------------------------------------------------------------------------
 Required number of blocks (minimum) ..........
 Required number of cyls.  (minimum) ..........



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

PF4 (**Dis Field**) invokes a field selection window:

```
   Please mark with 'X':

               Field
   Selection   Name      Length
   ---------   ----      ------
      _         AA         4__
      _         BB         4__
      _         BC         4__
      _         AE         4__
      _         AF         4__
      _         SF         8__
      _         SH         16_
      _         SS         16_
      _         SG         3__
      _         SQ         8__
      _         XX         ___
      _         RA         12_

   Enter----PF3------PF7-----PF8-
            Back      <       >
                                  ↩
```

ADALOD LOAD Sort Size

Option **L** (**ADALOD load**) on the **SORT Storage** menu displays the **Sort Storage - ADALOD LOAD** screen. .

For the ADALOD LOAD calculation, the default number of records is MAXISN rather than TOPISN as it is for the ADAINV function.

```
16:05:46          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                     -  SORT Storage  - ADALOD LOAD -   -           PSPSS22


 File Number ................................... 29
 Number of records ( Default:  MAXISN ) ....... 847         (reduce number
                                                             if field is NU)
 Average compressed descr. length (in Bytes)
 of the biggest descriptor ...................
 Occurrences of periodic groups ............... 1
 Occurrences of multiple fields ............... 1
 SORT device-type ............................. 3390
 LWP-parameter ................................ 1000000
 Database-ID .................................. 1955
 Password (if required) ......................
-------------------------------------------------------------------------
 Required number of blocks (minimum) ..........
 Required number of cyls.  (minimum) ..........



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

ADALOD UPDATE Sort Size

Option **U** (**ADALOD update**) on the **SORT Storage** menu displays the **Sort Storage - ADALOD UPDATE** screen. .

For the ADALOD UPDATE calculation, the default number of records is 0:

```
16:06:12          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                     -  SORT Storage - ADALOD UPDATE -  -           PSPSS22


 File Number ................................... 29
 Number of records ( Default:  0      ) .......             (reduce number
                                                             if field is NU)
 Average compressed descr. length (in Bytes)
 of the biggest descriptor ....................
 Occurrences of periodic groups ............... 1
 Occurrences of multiple fields ............... 1
 SORT device-type ............................. 3390
 LWP-parameter ................................ 1000000
 Database-ID .................................. 1955
 Password (if required) .......................
-------------------------------------------------------------------------
 Required number of blocks (minimum) ..........
 Required number of cyls.  (minimum) ..........



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

Estimating TEMP Data Set Space

Option **T** (**TEMP**) on the **Space Calculation** menu displays the **TEMP Storage** menu:

```
16:06:46          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                             -  TEMP Storage  -                     PSPT002

                         Code    Service
                         ----    ------------------
                          I      ADAINV
                          L      ADALOD load/update
                          U      ADALOD delete
                          ?      Help
                          .      Exit
                         ----    ------------------

            Code ......... _
            File No. ....: 29
            Database ID .. 1955   (WIS1955)




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

The functions on this menu are used to estimate the storage needed on TEMP for the utility function chosen.

This section covers the following topics:

- ADAINV TEMP Size
- ADALOD LOAD/UPDATE TEMP Size
- ADALOD DELETE TEMP Size

ADAINV TEMP Size

Option **I** (**ADAINV**) on the **TEMP Storage** menu displays the TEMP Storage - ADAINV screen:

```
16:06:59          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                    -  TEMP Storage - ADAINV -           -          PSPTI22


File Number ................ 29
Field-Name to be inverted ..
Average descriptor-length ..             ( Default = Field-Length )
Max. Number of records .....             ( Default = TOPISN       )
Occurrences/periodic groups. 1
Occurrences/multiple fields. 1
Device Type ................ 3390
No. of records to delete ...             ( ADALOD Delete only     )
DBID ....................... 1955         (WIS1955)
Password (if required) .....

-----------------------------------------------------------------
Required TEMP-Blocks ......
              Cylinder ....



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

PF4 (**Dis Field**) invokes a field selection window.

```
   Please mark with 'X':

               Field
   Selection   Name      Length
   ---------   ----      ------
      _         AA         4__
      _         BB         4__
      _         BC         4__
      _         AE         4__
      _         AF         4__
      _         SF         8__
      _         SH         16_
      _         SS         16_
      _         SG         3__
      _         SQ         8__
      _         XX         ___
      _         RA         12_

   Enter----PF3------PF7-----PF8-
            Back      <       >
                                  ↩
```

ADALOD LOAD/UPDATE TEMP Size

Option **L** (**ADALOD load/update**) on the **TEMP Storage** menu displays the **TEMP Storage - ADALOD LOAD** screen.

The TEMP Storage - ADALOAD LOAD screen differs from the TEMP Storage - ADAINV screen in that a message is added reminding the user to multiply TOPISN by *all* occurrences of periodic groups and multiple value fields:

```
16:07:46          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                    -  TEMP Storage - ADALOD LOAD -      -          PSPTI22


File Number ................ 29
Field-Name to be inverted ..
Average descriptor-length ..             ( Default = Field-Length )
Max. Number of records .....             ( Default = TOPISN       )
Occurrences/periodic groups. 1
Occurrences/multiple fields. 1
Device Type ................ 3390
No. of records to delete ...             ( ADALOD Delete only     )
DBID ....................... 1955         (WIS1955)
Password (if required) .....

----------------------------------------------------------------
Required TEMP-Blocks ......
              Cylinder ....



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

ADALOD DELETE TEMP Size

Option **U** (**ADALOD delete**) on the **TEMP Storage** menu displays the **TEMP Storage - ADALOD DELETE** screen.

```
16:08:13          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                    -  TEMP Storage - ADALOD DELETE -    -          PSPTI22


File Number ................ 29
Field-Name to be inverted ..
Average descriptor-length ..             ( Default = Field-Length )
Max. Number of records .....             ( Default = TOPISN       )
Occurrences/periodic groups. 1
Occurrences/multiple fields. 1
Device Type ................ 3390
No. of records to delete ...             ( ADALOD Delete only     )
DBID ....................... 1955         (WIS1955)
Password (if required) .....

-----------------------------------------------------------------
Required TEMP-Blocks ......
              Cylinder ....



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

The TEMP Storage - ADALOD DELETE screen is identical to the TEMP Storage - ADAINV.

Estimating Work Data Set Space

Option **W** (**WORK**) on the **Space Calculation** menu displays the **Work Storage** screen.

The Work data set requires the most estimating. Although many initial values may be arbitrary, keep a record of them to ensure that subsequent tuning of the Work parameters has a realistic basis. Results comprise block estimates for the three parts of the Work area. A total of these values in blocks and cylinders is also provided.

```
16:08:36          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
DBID 1955                      -  Work Storage  -                   PSPW002

 Average compr. record length of an updated record ... 0
 Average number of descr. updated per update cmd. .... 0
 Average length of an updated descriptor value ....... 0

 Average number of update cmds. per second ........... 0
 Average duration of a transactions in seconds ....... 0

 TOPISN of the biggest file in the database .......... 0

 WORK device type / WORK blk. size ................... 3390 /  5724

 Required space (blocks) :   Protection Area (LP) ....        0
 -------------------------   Intermediate ISN lists           0
                             Resulting ISN lists ....>        0
                                                     ? ---------
                         Total (Blocks / Cyls.)....          0 /  0
                                                      + LTPET + LREPL

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

11 Troubleshooting Options

- Displaying Database Status Information 214
- Displaying Active Targets 215
- Forcing a Database Abend 216
- Stopping a Utility 216

This chapter describes Adabas Online System troubleshooting options you can use to display diagnostic information.

Displaying Database Status Information

To display database status information for a specific database, select option **I** on the **Main Menu** (with the database ID specified) or enter the following direct command:

```
DISPLAY ADAINFO
```

The **Database Status Info** drop-down report appears:

```
  --- Database Status Info ---

DBID ........ 1955   1021
DB Name ..... WIS1955
Version ..... 8.3.8
Start Date .. 2014-04-28
Start Time .. 16:33:42
DSF Status .. Active
SPT Status .. Inactive
CSH Status .. Inactive

                                        ↩
```

Status information includes:

- the database number and name
- the version of the Adabas software
- the date and time the database was started
- whether the Adabas Delta Save Facility, the Triggers and Stored Procedures Facility, and/or Adabas Caching Facility are active or inactive on the database.

Displaying Active Targets

From the main menu, the following direct command displays active targets for a specified database.

```
DISPLAY IDT
```

The Display Active Targets screen appears.

```
16:10:11          ***** A D A B A S  BASIC  SERVICES *****          2014-05-02
                         -  Display Active Targets  -

 CPU ......... 0009A10E28180000                Entries for SVC No. .. 249
 Default-DB .. 1955   (WIS1955)                Max. No. Of Entries .. 10
                                               Max. Active Entries .. 2
  M I Tgt-ID I Target Flag     I Target Mode     I CQH Flag I
 ------------------------------------------------------------
    I  1954  I Isolated-DB     I                 I     10   I
    I  1021  I Isolated-DB     I Local service   I     11   I
    I        I                 I                 I          I
    I        I                 I                 I          I
    I        I                 I                 I          I
    I        I                 I                 I          I
    I        I                 I                 I          I
    I        I                 I                 I          I
    I        I                 I                 I          I
    I        I                 I                 I          I
    I        I                 I                 I          I
 Mark a DB-entry with 'X' to Select for processing

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

The Target Flag column may have the following values:

Target Flag Value	Description
Communicator	Entire Net-Work node
Non-DB target	Entire System Server, XDCOM, or Entire Net-Work node
Isolated-DB	ADARUN parameter ISO=YES is used for the database

The Target Mode column may have the following values:

Target Mode Value	Description
AB required	attached buffers are required
IDTE forced	ADARUN parameter FORCE=YES is used during initialization
Anchor service	no command queue; anchor target only; e.g., buffer pool manager
Local service	ADARUN parameter LOCAL=YES; no remote calls

Forcing a Database Abend

The direct command, CATCH RSP-CODE forces an abend of the specified database. The syntax of the command is:

```
CATCH RSP-CODE
```

Stopping a Utility

Option **Q** on the **Main Menu** displays a window for stopping a batch utility job and resetting the DIB.

The equivalent direct command is:

```
RESET UTILITY-ABEND
```

The following pop-up screen appears:

```
Enter JOBNAME of Utility to
reset DIB and to Stop the user.

    Jobname ... ________
    Confirm ... _  (Y or N)

-PF1-------PF3-------PF12------
           Exit      Menu
                              ↩
```

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