

Adabas Review

Using Adabas Review

Version 4.5.2

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Table of Contents

1 Maintaining Report Definitions	1
Listing Report Definitions	2
Changing the DBID	4
Displaying Report Information	6
Copying a Report Definition	7
Purging a Report Definition	8
Editing the Buffer Pool Report	9
Editing Adabas Pulse Reports	10
Editing the Cluster Services Report	14
Using the Edit Report (ER) Function	16
Editing Existing Reports	29
Saving a Report Definition	34
2 Maintaining Display Programs	35
Generating a Display Program	36
Editing the Display Program	36
Regenerating a Display Program	37
Regenerating All Display Programs	37
Changing to a Different Display Program	38
3 Specifying Reporting Options	39
General Report Options	41
Logging Options	44
History Options	49
Report Exit Options	51
4 Running Reports Online	53
Starting Reports	54
Starting an Edited Report	54
Listing Started Reports	55
Displaying Active Report Information	57
Purging Reports	59
Suspending Reports	59
Reactivating Reports	60
Refreshing Reports	60
Closing Reports	60
Switching Log Files	61
5 Running Reports as Batch Jobs	63
Generating Batch Report Parameters	64
Using Batch Report Statements	66
Batch Processor Job Control Requirements	95
6 Using Adabas Review in Batch Natural	105
Identifying the Target ID, Database ID, and File Number	106
Example	107
Processing History Data in Batch Natural	109
Unloading and Restoring Report Definitions	110

- 7 Managing Report Output 111
 - Viewing Report Results 112
 - Scrolling Through Report Results in Redisplay Mode 114
 - Sorting Report Results 114
 - Printing Report Results 121
 - Downloading Report Output 121
 - Purging Accumulated Data 122
- 8 Managing History Data 123
 - Listing History Reports 124
 - Expanding the List of History Reports 126
 - Compressing Accumulated History Report Data 127
 - Purging Accumulated History Data 129
- Index 131

1 Maintaining Report Definitions

▪ Listing Report Definitions	2
▪ Changing the DBID	4
▪ Displaying Report Information	6
▪ Copying a Report Definition	7
▪ Purging a Report Definition	8
▪ Editing the Buffer Pool Report	9
▪ Editing Adabas Pulse Reports	10
▪ Editing the Cluster Services Report	14
▪ Using the Edit Report (ER) Function	16
▪ Editing Existing Reports	29
▪ Saving a Report Definition	34

This chapter discusses the Adabas Review facilities that allow you to maintain Adabas Review report definitions. After you have completed your report, you may start it immediately, or save it to be started at another time. A report must be started so that it can accumulate data. For more information, read *Running Reports*, elsewhere in this guide.

Listing Report Definitions

The `List Report Definition (LR)` function lists all reports. From the list, you can:

- Directly update the DBID and Auto Start report options. All report definitions on the screen can be updated in a single operation.
- Use commands to maintain a report. The commands are entered on the selection line preceding the name of the report.

▶ **To access the List Report Definition function:**

- Enter the code `LR` on the command line.

Or:

You can specify the report name or partial report name in the `LR` command. For example:

- Specifying `LR IO SUMMARY BY RABN*` will display the list of all report definitions, starting at the `IO SUMMARY BY RABN` report.
- Specifying `LR IO*` will display the list of all report definitions, starting with the first report with the name beginning with the word "IO". In this case, if both the `IO COUNT BY HOUR` and `IO SUMMARY BY RABN` reports are in the list, the list would start at the `IO COUNT BY HOUR` report.



Note: You must specify an asterisk at the end of the full or partial report name in the `LR` command.

The Report Definitions screen appears. In this example, no specific report name or partial report name was requested:

```

19:08:09          A D A B A S - R E V I E W          2009-06-18
                  Report Definitions                HUB=15690

                                     Sum/          Display
Sel      Report Name                DBID Auto Detail Hist Program
+-----+-----+-----+-----+-----+-----+-----+
! ___  APPLICATION FILE FIELD USAGE          N   S   N   SR-00030 !
! ___  BUFFER POOL DISPLAY                   N   S   N   BUFFPOOL !
! ___  COMMAND LOGGING                       N   D   N   SR-00025 !
! ___  COMMANDS BY HOUR                      Y   S   N   SR-00004 !
! ___  COST ACCOUNTING EXAMPLE               N   S   N   SR-00028 !
! ___  DESCRIPTOR USAGE REPORT              N   S   N   SR-00020 !
! ___  EXCEPTIONAL RESPONSE CODES           Y   S   N   SR-00002 !
! ___  FILE USAGE                           N   S   N   SR-00031 !
! ___  HOURLY DATABASE OVERVIEW              N   S   N   SR-00032 !
! ___  IO COUNT BY HOUR                     N   S   N   SR-00023 !
! ___  IO SUMMARY BY RABN                   N   S   N   SR-00022 !
! ___  IO SUMMARY BY VOLUME                 N   S   N   SR-00021 !
+-----+-----+-----+-----+-----+-----+

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11--PF12---
      Help      Exit Mod          -      +                      Menu
    
```

The columns of the Report Definitions screen are explained as follows:

Sel	Selection line. Enter commands on the selection line preceding the report name. For a list of available commands, enter a ? on the selection line.
Report Name	An arrow (>) preceding the report name indicates that the report has been started.
DBID	Database from which the report collects data. If this field is left blank, you are prompted for the DBID when you start the report.
Auto	Indicates whether the report is started automatically at database initialization.
Sum/Detail	"S" indicates a summary report; "D" indicates a detailed report.
Hist	Indicates whether the report writes history data.
Display Program	Lists the name of the program generated to display report output online.

PF7 and PF8 have been provided as scroll keys. If more than one screen of report names exists, PF8 or (+) scrolls the list forward and PF7 or (-) scrolls the list backward.

▶ **To update the values of the DBID and/or Auto Start report options:**

- 1 Press PF4 (Mod).
All DBID and Auto fields become modifiable (modify mode).
- 2 Modify the values as required.
- 3 Press PF5 (Update) to save the changes or PF3 (Exit) to abandon your changes.

Only the report definitions listed on the current screen may be modified. Pressing PF8 to move forward or PF7 to move backward cancels the modify mode.

▶ **To issue a command from the Report Definitions screen:**

- Enter one of the following commands on the selection line preceding the report name.

Command	Issue this command to...
CD	Change DBID
CP	Change display program
CR	Copy report definition
DD	Display report information
EB	Edit buffer pool report
EL	Edit Pulse Report
EX	Edit Cluster Services Report
EP	Edit display program
ER	Edit report
PR	Purge report definition
RG	Regenerate display program
ST	Start report
VW	View started report

Changing the DBID

Each report collects data from a particular database. You can change that database using the Change DBID (CD) command from the List Report Definitions (LR) function. The CD command is issued from the Report Definitions screen.

▶ **To change the database for which the report is to be created:**

- 1 Enter the CD command on the selection line preceding the report name and press ENTER.

The cursor is positioned at the DBID column for that report and the field is opened for editing.

- 2 In the DBID column, enter a valid DBID corresponding to the database to be monitored and press ENTER.

Or:

Alternatively, you may leave the DBID column blank. You are then prompted to enter the DBID when you start the report.

Mass Update of Target DBIDs

You can also change the database from which data is collected for multiple reports at the same time by issuing the `MODIFY DBIDS` command from the `List Report Definitions (LR)` function.

► **To modify the database for multiple reports at the same time:**

- Enter `MODIFY DBIDS` on the command line of the Report Definitions screen and press ENTER.

The Modify DBIDs screen appears listing as many as 24 reports:

```

19:09:14          *****  R E V I E W  *****                2009-06-18
                          Modify Reports

  DBID      Report Name                DBID      Report Name
+-----+-----+-----+-----+
! 00000 APPLICATION FILE FIELD USAGE  ! 00000 JOB OVERVIEW                !
! 00000 BUFFER POOL DISPLAY           ! 00000 LAST 500 ADABAS CALLS       !
! 00000 COMMAND LOGGING               ! 00000 LONG RUNNING COMMANDS      !
! 00000 COMMANDS BY HOUR              ! 00000 NATURAL PROGRAM TRACE      !
! 00000 COST ACCOUNTING EXAMPLE        ! 00000 NATURAL SUMMARY             !
! 00000 DESCRIPTOR USAGE REPORT       ! 00000 NATURAL TRANSACTION TRACE  !
! 00000 EXCEPTIONAL RESPONSE CODES    ! 00000 PRILOG REPORT              !
! 00000 FILE USAGE                   ! 00000 RATE OF COMMANDS AND IOS BY DA !
! 00000 HOURLY DATABASE OVERVIEW      ! 00000 RATE OF COMMANDS AND IOS BY HO !
! 00000 IO COUNT BY HOUR              ! 00000 SUMMARY REPORT BY FILE     !
! 00000 IO SUMMARY BY RABN            ! 00000 THREAD ACTIVITY            !
! 00000 IO SUMMARY BY VOLUME          ! 00000 THREAD ACTIVITY BY COMMAND !
+-----+-----+-----+-----+
                          (Press PF2 to set all reports to the same DBID)

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Same Exit      Save      -      +      Menu
  
```

▶ **To modify the DBID to be monitored for any number of reports:**

- 1 Overtyping the listed DBID for each report.
- 2 Press PF5 to save your changes; press PF3 to exit without saving your changes.

▶ **To change the DBID for all reports listed on the screen to the same DBID:**

- 1 Press PF2.
You are prompted to enter the DBID.
- 2 Enter the DBID and press ENTER.

Displaying Report Information

From the list of available report definitions, you can display (DD) a brief summary of report information. For all reports, this information includes:

Name	name of the report
Saved By	the identity of the user who saved the report
Format	whether the report provides summary or detailed information
History	whether history data is saved for the report

For each individual report the following information is included, depending on the report's particular settings:

Account	for summary reports, the order in which control breaks occur; for detailed reports, the order in which the fields are displayed
Summary	the fields for which summary values are calculated
Rate	the fields for which the rate per second for the field's value is calculated.
Minimum	the fields for which the minimum value is displayed.
Maximum	the fields for which the maximum value is displayed.
Average	the fields for which average values are calculated
Round	the fields for which the value is rounded (that is, incremented) by the amount specified in the report definition so that the result is evenly divisible by the "round" value.
Select	the fields selected for the report. A maximum of 20 fields is allowed for each report.

▶ **To display report information:**

- From the Started Reports screen, enter the DD command on the selection line preceding the report name to display a summary of report information.

The screen similar to the following appears:

```

19:12:57          ***** R E V I E W *****          2009-06-18
                    Report Information

+-----+
! Name..... APPLICATION FILE FIELD USAGE          !
! Saved By.. INSTALL                               !
! Format.... Summary                               !
! History... No                                    !
! Account... NATAPPL,FILE,FBFIELDS                !
! Summary... IOS,COMMANDS,CMDRESP,ADADURA        !
!                                                  !
!                                                  !
!                                                  !
!                                                  !
!                                                  !
!                                                  !
+-----+

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit      -      +      Menu
  
```

Copying a Report Definition

One way to create new reports is to use the Copy Report Definition (CR) command from the List Report Definitions (LR) function. The CR command is issued from the Report Definitions screen. The command allows you to copy a report definition either to another Adabas Review repository, or to the current Adabas Review repository under a new name.

▶ **To copy a report definition and generate a display program:**

- 1 Enter the CR command on the selection line preceding the report name.

Adabas Review displays the Copy Report Definition window, which contains the Report Name, the DBID, and File number of the report definition to be copied. The Report Name field is initially set to the report name to be copied.

- 2 If you are copying the report to the current Adabas Review repository, change the report name.

The DBID and the File fields indicate the repository where the report is to be copied. These fields are initially set to the current repository.

- 3 Ensure that the DBID and File indicate a valid Adabas Review repository.
- 4 Once you have made the required changes, press PF5 to copy the report definition, or press PF3 to cancel and exit the window.

After the report definition is copied, the Display Program Name will display the message

```
Need RG
```

This indicates that you must generate a display program before the new report can be displayed.

- 5 Generate a display program in one of two ways:

Enter RG on the selection line preceding the new report name; or

Edit the report using the Edit Report (ER) function; then save it. Adabas Review automatically generates a new display program reflecting the changes.

Purging a Report Definition

The Purge Reports (PR) command is issued from the Report Definitions screen (LR function). This command deletes the report definition and the corresponding display program, if the display program is not also used with a history report.

▶ To purge a report definition:

- 1 Enter the PR command on the selection line preceding the name of the report to be deleted.

Depending on your profile settings, you may be prompted to confirm the purge request before the command is executed.

- 2 Confirm the purge request, if required.

Editing the Buffer Pool Report

A sample report called "Buffer Pool Report" is created when Adabas Review is installed. The `Edit Buffer Pool Report (EB)` function uses the sample report to create, edit, and start buffer pool reports for specific databases being monitored.

Unlike other reports, a display program is *not* generated for buffer pool reports when they are saved. When viewed, these reports call the program `BUFFPOOL`, which displays a bar graph showing the buffer pool statistics.

▶ To access the Edit Buffer Pool Report function:

- Enter the `EB` command on the command line.

▶ To edit the Buffer Pool Report:

- 1 From any of the list function screens (`LR`, `LS`, and `LH`), enter either the `EB` or `ER` command on the selection line preceding the name of the buffer pool report.

The Edit Buffer Pool Report window appears as shown in the following example:

```

19:13:38                A D A B A S - R E V I E W                2009-06-18
HUB=15690                Edit Buffer Pool Report                HUB=15690

+-----+
!
! Report Name: ... _____!
!
! DBID: ..... _____!
!
! Autostarted: ... N!
!
!
!
+-----+

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit      Save  Start                               Menu

```

You can rename the report (Report Name field), and change the DBID for which the buffer pool information is collected (DBID field). You can also indicate whether the report should be autostarted (Y) or not (N).

- 2 Press PF5 to save your changes to the report; press PF6 to save the report and manually start it.

Editing Adabas Pulse Reports

Adabas Pulse Reports receive nucleus statistical data from Adabas on an interval basis. Adabas transmits a pulse record to Adabas Review once in each interval period.

Adabas Pulse Reports allows a DBA to collect statistical details about the Adabas nucleus during a user-specified time interval. The reports collect minimum, maximum, and average values for non-cumulative nucleus statistics such as:

- The current number of users
- The current amount of the work pool used
- The current number of hold queue elements

Adabas Pulse Reports also gather and calculate the delta values of cumulative nucleus statistics such as buffer waits, format overwrites, and buffer flushes. These statistics can help a DBA monitor overall database activity over a given period of time. Non-cumulative statistics are checked every minute with the average calculated at the time interval. Cumulative statistics are checked only at the time interval when deltas are calculated.

The Adabas Pulse Report timer interval can be set in the report options and must be specified in minutes. The minimum interval is one minute and the maximum is 1440 minutes (24 hours). Once a report is started, the specified interval remains in effect until the report is stopped. A new interval can be set prior to restarting the report. Only one Adabas Pulse Report is allowed per database. This feature is available on all supported platforms.

- [Defining and Running an Adabas Pulse Report](#)

Defining and Running an Adabas Pulse Report

To define an Adabas Pulse Report, you choose the DBID where the report will run and the interval (in seconds), as well as some additional settings and information. Only one Adabas Pulse Report may be started per database. In the Adabas Review hub environment, you may have several Adabas Pulse Reports active, but only one for each of the monitored databases.

▶ To access the Edit Pulse Report function:

- 1 Enter the EL command on the command line.

The Edit Adabas Pulse Report screen displays:

```

11:27:54          A D A B A S   -   R E V I E W          2009-06-18
                  Edit ADABAS Pulse Report              HUB=15690

+-----+
!
! Report Name: ... ADABAS Pulse Report                !
! DBID: ..... _____                             !
! ADABAS Collection Interval: (mins) _____       !
! Autostarted: ..... N                               !
!
! Collect History: ..... N                            !
! History Interval: (minutes) ..... _____       !
! Repository DBID: ..... _123                         !
! Repository File: ..... _45                          !
! Repository Database SVC: ..... 234                  !
+-----+

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit      Save  Start                               Menu
  
```

This screen provides the following input fields:

Field	Explanation
Report Name	The name of the report. This field cannot be modified.
DBID	The database ID of the database on which the report is to run. When a DBID is entered into this field, the DBID will be automatically appended to the report name.
Adabas Collection Interval	The number of seconds between each report. Report data will be written to the Adabas Review history file once for each interval. The minimum interval is one minute and the maximum is 1440 minutes.
Autostarted	Indicates whether the report should be started when Adabas Review is initialized.
Collect History	Indicates whether history data should be collected.
History Interval	The number of minutes between each history data collection.
Repository DBID	The database ID of the database that contains the Adabas Review history file.
Repository File	The file number of the Adabas Review history file.

Field	Explanation
Repository Database SVC	The SVC currently being used by the Adabas Review history database.

- 2 Press PF5 to save your changes to the report; press PF6 to save the report and manually start it. You will find the Adabas Pulse Report listed as a started report and, after the first collection interval is reached, you can enter the Pulse Statistics screen, as shown below:

```

12:18:55          A D A B A S - R E V I E W          2009-06-18
                  Pulse Statistics                   HUB=15690

                Select one Pulse interval and press Enter

+-----+-----+-----+-----+-----+-----+
! _ 2009-06-18 11:37:54  - _____ - _____ - _____ !
! _ 2009-06-18 11:41:29  - _____ - _____ - _____ !
! _ 2009-06-18 12:13:44  - _____ - _____ - _____ !
! _ 2009-06-18 12:18:33  - _____ - _____ - _____ !
! - _____ - _____ - _____ - _____ - _____ !
! - _____ - _____ - _____ - _____ - _____ !
! - _____ - _____ - _____ - _____ - _____ !
! - _____ - _____ - _____ - _____ - _____ !
! - _____ - _____ - _____ - _____ - _____ !
! - _____ - _____ - _____ - _____ - _____ !
! - _____ - _____ - _____ - _____ - _____ !
! - _____ - _____ - _____ - _____ - _____ !
! - _____ - _____ - _____ - _____ - _____ !
+-----+-----+-----+-----+-----+

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit                                     Menu
  
```

- 3 Selecting a pulse interval line displays an additional Pulse Statistics screen listing details about the pulse interval, as shown below:


```

12:18:55          A D A B A S - R E V I E W          2009-06-18
                  Pulse Statistics                    HUB=15690

                High           Low           Avg
Allocated Size -----
  Format Pool      7600          7600          7600
  Work Pool        0             0             0
  Table of ISNs    0             0             0
  Table of Seq Cmds 0             0             0

Allocated Entries -----
  Attached Buffers 2             2             2
  Command Queue    1             1             1
  Hold Queue       0             0             0
  User Queue       5             5             5

Buffer Efficiency -----
  Percent          5.0           5.0           5.0

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit  Delta                                Menu
  
```

4 Pressing PF4 (Delta) displays the Delta Statistics screen, as shown below:

```

12:18:55          A D A B A S - R E V I E W          2009-06-18
                  Pulse Statistics                    HUB=15690

                  Delta Statistics

+-----+
! Buffer Waits          0      User Commands          22  !
! Buffer Flushes        2      Asso Reads              0  !
! Format Overwrites     0      Asso Writes          0  !
! Format Translations   0      Data Reads           11  !
! System Commands      2      Data Writes          0  !
! Total Commands       24      Work Reads           0  !
! Throwbacks           0      Work Writes          0  !
! Thread Switches     110      Total IOS            11  !
+-----+

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit                                Menu
  
```

Editing the Cluster Services Report

A Cluster Services report displays information about cache and locks in an Adabas Cluster Services environment. Adabas writes the report information directly to the Adabas Review history file. This information is sent to Adabas Review on an interval basis that is chosen when the report definition is created. This feature is only available for the z/OS platforms.

A subtask attached as separate unit of work from the Adabas nucleus address space collects Adabas Cluster Services statistics on a user-specified timer interval. The subtask will calculate the delta of lock and cache statistics over the interval. These delta values will be written directly to the Adabas Review repository file as history data at every interval. The statistics can be viewed and maintained online through the history data menus.

Approximately 2 kilobytes of data will be written to the repository file every interval. For this reason, Software AG recommends that the DBA reexamine and closely monitor the size of this file when the report is running. Minimal data is written for those intervals that have no statistical change. The Cluster Services Report timer interval can be set in the report options and must be specified in minutes. The minimum interval is one minute and the maximum is 1440 minutes (24 hours). Once the report is started, the interval remains in effect until the report is stopped. A new interval can be set prior to restarting the report.

Only one Cluster Services Report may be started per database (cluster). In the Adabas Review hub environment, you may have several Cluster Services Reports active, but only one for each of the monitored databases.

- [Defining and Running the Cluster Services Report](#)

Defining and Running the Cluster Services Report

The Cluster Services report can be started and stopped in the same way as any other Adabas Review report (read [Saving a Report Definition](#) and [Starting Reports](#), elsewhere in this guide). However, it cannot be viewed online from the LS screen. It can only be viewed online from the LH and LH EX screens (read [Managing History Data](#), elsewhere in this guide).

To define a Cluster Services report, you choose the DBID where the report will run, and the interval (in seconds). You must also choose which database and file is to receive the report data, and which SVC to use.

▶ To access the Edit Cluster Services Report function:

- Enter the EX code on the command line.

The Edit Cluster Services Report screen appears:

```

15:37:34          A D A B A S - R E V I E W          2009-06-18
                  Edit Cluster Services Report      LOCL=00222

+-----+
| Report Name: ..... CLUSTER SERVICES REPORT      |
| DBID: ..... _____                          |
| Interval: (mins) ..... _____                |
| Autostarted: ..... N                             |
|                                                    |
| Repository DBID: ..... _____                |
| Repository File: ..... _____                |
| Repository Database SVC: ... _____           |
+-----+

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
    
```

This screen provides the following input fields:

Field	Explanation
Report Name	The name of the report. This field cannot be modified.
DBID	The database ID of the database on which the report is to run. When a DBID is entered into this field, the DBID will be automatically appended to the report name.
Interval	The number of minutes between each report. Report data will be written to the Adabas Review history file once for each interval. The minimum interval is one minute and the maximum is 1440 minutes.
Autostarted	Indicates whether the report should be started when Adabas Review is initialized.
Repository DBID	The database ID of the database that contains the Adabas Review history file.
Repository File	The file number of the Adabas Review history file.
Repository Database SVC	The SVC currently being used by the Adabas Review history database.

Using the Edit Report (ER) Function

Adabas Review report definitions are created using the `Edit Report (ER)` function. This function provides a series of fill-in-the-blank and selection screens to help you select the field information, processing rules, and report option parameters that make up a report definition.

The Edit Report screen is used to define field information; that is, the field name and order of selection. If the field type is numeric, you can specify whether the values are to be rounded, totaled, averaged, or expressed as a percentage or rate of commands per second. You can also specify that the minimum or maximum values are to be displayed.

Field information may either be entered directly on the Edit Report screen or selected from screens containing a list of fields. You can access a list of fields using `PF11`, the `FLDS` command, or the `LF` command, and then select the appropriate categories. The order of selection is indicated by typing a number in front of the field. The chosen fields are transferred to the Edit Report screen in the order specified.

New reports may be created from existing reports by editing the original report, changing the name of the report, and saving it under the new name. New reports may also be created by using the `Copy Report Definition (CR)` command from the `List Report Definitions (LR)` function.

This section covers the following topics:

- [Accessing the Edit Report Screen](#)
- [Entering the Report Name](#)
- [Entering the DBID](#)
- [Entering the Field Names](#)
- [Specifying Field Order](#)
- [Commenting Out Fields in a Report](#)
- [Specifying Numeric Options for Summary Reports](#)
- [Using the Report Processing Rules Screen](#)
- [Using the Report Options Screen](#)

Accessing the Edit Report Screen

▶ **To access the `Edit Report (ER)` function:**

- Enter the `ER` command on the command line.

▶ **To edit a report:**

- From any of the report list screens (`LR`, `LS`, and `LH` commands), enter the `ER` command on the selection line preceding the report name.

 **Note:** Entering ER for the Buffer Pool Report displays the Buffer Pool Report window.

The Edit Report screen is displayed as shown below:

```

19:20:46                A D A B A S  -  R E V I E W                2009-06-18
                        Edit Report                                HUB=15690

Detail/Summary: S
Report Name: _____ DBID to Monitor: _____

+-----+-----+-----+-----+-----+-----+-----+-----+-----+
!  Field      Order  Sum   Min   Max   Avg   Pct   Rate  Round  !
!-----+-----+-----+-----+-----+-----+-----+-----+-----+
!  _____  _____  -     -     -     -     -     -     _____  !
!  _____  _____  -     -     -     -     -     -     _____  !
!  _____  _____  -     -     -     -     -     -     _____  !
!  _____  _____  -     -     -     -     -     -     _____  !
!  _____  _____  -     -     -     -     -     -     _____  !
!  _____  _____  -     -     -     -     -     -     _____  !
!  _____  _____  -     -     -     -     -     -     _____  !
!  _____  _____  -     -     -     -     -     -     _____  !
!  _____  _____  -     -     -     -     -     -     _____  !
!-----+-----+-----+-----+-----+-----+-----+-----+-----+
Page 1
Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Optns Exit          Save  Start  -    +          Rules Flds  Menu
  
```

The following function keys are provided on the Edit Report screen:

Function Key	Command	Description
PF2	Optns	Accesses the Report Options screen.
PF5	Save	Saves the current report definition.
PF6	Start	Saves the report defined on the screen and start it.
PF10	Rules	Accesses the Report Processing Rules screen.
PF11	Flds	Accesses the Database Fields Selection screens.

The Edit Report screen provides the following input fields:

Field	Explanation
Report Name	A unique name for the report. A maximum of 32 characters is allowed.
DBID to Monitor	DBID of the database where the data is to be collected.
Field	The fields to be selected by the report. A maximum of 20 fields is allowed for each report.
Order	For summary reports, the order in which control breaks occur; at least one of the fields selected must be marked as an order field. For detailed reports, the order in which the fields are displayed.
Sum	Indicates whether the values for the field are totaled.
Min	Indicates whether the minimum value for the field is displayed.
Max	Indicates whether the maximum value for the field is displayed.
Avg	Indicates whether the average value is calculated for the field.
Pct	Indicates whether the percentage is calculated for the field.
Rate	Indicates whether the rate per second is calculated for the field.
Round	The amount by which the values of the field are rounded.

Entering the Report Name

A report name is required; otherwise, the report cannot be saved to the Adabas Review repository. A report name may be up to 32 characters long and must be unique. Alphanumeric and some special characters may be used in report names.

The following list of special characters may *not* be used in report names:

Character	Description
(')	Apostrophe
(¢)	Cent sign
(:)	Colon
(,)	Comma
(\$)	Dollar sign
(=)	Equal sign
(%)	Percent sign
(.)	Period
(/)	Slash

Entering the DBID

Use this field to identify the database for which the report is to be created. For collecting data from multiple databases simultaneously (Adabas Review in hub mode or in local mode) the artificial target ID "11111" can be used. This target ID effectively causes the system to collect data for the report from all databases that have a reporting link already established with Adabas Review; however, use of the target ID 11111 does not create such a link.

To create a link between Adabas Review and each database for which you want to simultaneously collect data for a report, you must create a report with the DBID set to "11111". You must then start the report for each database from which you want to collect data. To identify the collected data with a particular database, you need to include the report field DBID at the first level of the report definition.

Entering the Field Names

Up to 20 fields may be selected for a single report. You may enter field names directly on the Edit Report screen or you may select the fields from a list. The fields you choose from a list are transferred automatically to the Edit Report screen.

You may also **comment out fields** listed in a report. This is especially useful if you are creating and testing a new report.

- [Using the Field Category Selection Screen](#)
- [Using the Field Selection Screens](#)

Using the Field Category Selection Screen

▶ To view the field categories:

- 1 Access the field selection screens by pressing PF11 or by entering the FLDS or LF command without a category code.

The Database Field Selection screen, which lists field categories, is displayed:

```
19:22:49          A D A B A S - R E V I E W          2009-06-18
                  Database Field Selection          HUB=15690

Please Mark Categories to Select

AC - ADABAS Control Block Fields ..... _
BU - ADABAS Buffer Fields ..... _
IN - Interval and Time Fields ..... _
IO - ADABAS I/O Fields ..... _
NA - NATURAL Fields ..... _
NU - ADABAS Nucleus Fields ..... _
OP - Operating System Fields ..... _
TP - Transaction Processing Monitor Fields ... _

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit                               Menu
```

- 2 If you need a description of a field category, use the online help system by placing a ? on the line opposite the category name.

The field categories are also documented in the *Field Reference* in the *Adabas Review Reference Guide*.

- 3 Choose the field category you wish to use by typing an X in the input field opposite the category name.

Using the Field Selection Screens

▶ **To use the field categories:**

- 1 If you know the field category you wish to use, enter the FLDS command or the LF command followed by the code for the field category on the command line of the Edit Report screen.

Category codes are as follows:

Code	Field Type Category
AC	Adabas control block
BU	Adabas buffer
IN	Interval and time
IO	Adabas I/O
NA	Natural
NU	Adabas nucleus
OP	Operating system
TP	Transaction processing monitor

For example, to list the Adabas control block fields, you could enter either of the following:

```
LF AC
```

or

```
FLDS AC
```

Field lists for the chosen categories are displayed. For example, choosing the Adabas control block (AC) category displays the following screen:

```

19:25:27                A D A B A S - R E V I E W                2009-06-18
                        ADABAS Control Block Fields                Page 1 of 2

Sel Fld Name  Description                               Sel Fld Name  Description
___ ACBUSER   ACB user                                   ___ COP2       Command option 2
___ ADDIT1    Additions 1                               ___ DESUPD     Nr of desc updated
___ ADDIT2    Additions 2                               ___ DURATION   Duration (16 millisecs)
___ ADDIT3    Additions 3                               ___ ERRFLDNM   Error field name
___ ADDIT4    Additions 4                               ___ FB         Format buffer
___ ADDIT5    Additions 5                               ___ FBFIELDS   Fields in format buffer
___ CALLTYPE  Call type                                  ___ FBL        Format buffer length
___ CID       Command ID                                  ___ FILE       File number
___ CIDALPHA  CID Alpha                                  ___ FILENAME   File name
___ CMD       ADABAS command                            ___ GLOBFMID   Global format ID
___ CMDNAME   Command name                               ___ IB         ISN buffer
___ CMDSTAT   Command status                             ___ IBL        ISN buffer length
___ CMDTYPE   Command type                               ___ ISN        Internal seq number
___ CMPRECL   Compressed rec length                     ___ ISNLL      ISN lower limit
___ COMMANDS  Number of Commands                        ___ ISNQ       ISN quantity
___ COP1      Command option 1                           ___ ORGDURA   Unmodified duration

Command: _____
Enter - PF1 --- PF2 --- PF3 --- PF4 --- PF5 --- PF6 --- PF7 --- PF8 --- PF9 --- PF10 --- PF11 --- PF12 ---
      Help      Exit      Accpt -      +      Menu
  
```

- 2 If you need a description of a field on any category screen, use the online help system by placing a ? in the **Sel** column associated with the field name.

This information is also documented in the *Field Reference* in the *Entire Net-Work Administration Reference Guide*.

- 3 Choose the fields you wish to use by typing an X in the **Sel** column associated with the field name.
- 4 Specify field order by typing a number in the **Sel** column associated with the field name.

For more information, refer to the section *Specifying Field Order*, elsewhere in this section.

- 5 After completing your selections, press PF6 or enter the accept (ACCPT) command to hold your selections temporarily while you continue working on your report.

You are returned to the Edit Report screen where your field selections are transferred automatically. If you specified a field order, the numbers you entered are listed in the **Order** column.

Specifying Field Order

The order you specify for fields in your report affects the output differently depending on the type of report:

- For *detailed reports*, which are straight recordings of commands processed, the order indicates the order in which the fields are displayed.
- For *summary reports*, which display summarized data, the order indicates the order in which control breaks occur (in other words, the order in which the data is summarized).

For example, in a summary report that displays command name and response code data (in that order), the data is grouped first by command name, and within each command name group, the data is grouped by response code.

▶ To specify the field order of a report:

- Type a unique number in the **Order** column for that field and press Enter.

Duplicate order numbers are not accepted.

▶ To change the field order:

- Change the order numbers in the appropriate **Order** columns and press Enter.

The fields are displayed in the new order.

If you add or delete a field, the remaining fields are reordered accordingly.

For summary reports, at least one of the fields selected must be marked with an order number. Order numbers are not required for all fields; fields on which calculations are performed (such as a field marked as a SUM field) are generally not used as control breaks.

Commenting Out Fields in a Report

You can comment out fields in a report. This is especially useful while you are creating and testing a new report.

When a field is commented out, data for the field is not collected for the report. However, the field can still be seen in the report definition.

▶ To comment out a field in a report:

- Type an asterisk (*) as the first character of the field name. If you type the asterisk anywhere else in the field name, errors will result.

The field is commented out of the report. The next time the report is started, data will *not* be collected for the field. You must stop and restart the report to see the change.

▶ To uncomment a field in a report:

- Remove the asterisk at the start of the field name.

The comment for the field is removed. The next time the report is started, data will be collected for the field. You must stop and restart the report to see the change.

Specifying Numeric Options for Summary Reports



Note: These options are valid only for database summary reports.

- [Numeric Fields](#)
- [Calculations](#)

Numeric Fields

For the following numeric fields, the order will not affect control break or sort processing:

Option	Explanation
Commands	The number of commands accounted for in the control break.
Strtdate	The date of the first command encountered in the control break.
Strttime	The time of the first command encountered in the control break.
Enddate	The date of the last command encountered in the control break.
Endtime	The time of the last command encountered in the control break.
Seconds	The total number of seconds that the account entry has been active.

Read *Report Options* in *Specifying Reporting Options* (elsewhere in this guide) for more information about sorting reports by `COMMANDS (USAGE)`, or by `STRTDATE` or `STRTTIME (DATETIME)`.

Calculations

For numeric fields with which calculations may be performed (such as number of I/Os or command response time), the following mathematical operations may be performed for each control break on numeric field values:

Operation	At each control break, this operation...
Sum	Calculates and displays a total of the field's values.
Min	Displays the minimum value for a field.
Max	Displays the maximum value for a field.
Avg	Calculates and displays the average value for a field.
Pct	Calculates and displays the percentage for a field's values.
Rate	Calculates and displays the rate per second for a field's value.
Round	Rounds the field's values by the amount you specify in this column. A value in this column tells Adabas Review to take the actual field value and increment it by some value so that the result is evenly divisible by the round value.

► **To use the calculation operations:**

- For all operation except Round, mark the appropriate column with an X and press `Enter`.

Or:

For the Round option, type a number in the appropriate column and press `Enter`.

For example, to round the Adabas duration up to .05 of a second, type in .05 in the Round column for the `DURATION` field.

Using the Report Processing Rules Screen

Report processing rules determine how field values are selected for your report. These rules restrict the accumulated data to certain values or conditions. For example, a processing rule can be written to restrict data collection to commands that return a nonzero response code.

▶ **To access the Report Processing Rules screen:**

- From the Edit Report screen, press PF10; or enter the command RULES on the command line.


The Report Processing Rules screen appears as shown in the following example:

```

19:34:44          A D A B A S   -   R E V I E W          2009-06-18
                      Report Processing Rules              HUB=15690

                                REPORT ONE
+-----+-----+-----+-----+-----+-----+-----+-----+
!  Field   Op      Value                                     And/Or  !
!-----!-----!-----!-----!-----!-----!-----!
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
!          |         |         |         |         |         |         |
+-----+-----+-----+-----+-----+-----+-----+
                                Page 1
-----

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Optns Exit         Save  Start  -    +                FlDs  Menu
    
```

 **Note:** For each report, a total of twenty (20) lines are available for processing rules.

An explanation of the input fields on this screen is provided in the table below:

Field	Explanation
Field	The name of the field for which the restriction applies. Note: Reporting fields STARTDATE and STARTTIME cannot be used in processing rules.
Op	The conditional operand that specifies how the restriction applies. The following operands may be used: <ul style="list-style-type: none"> ■ = or EQ: equal to ■ < or LT: less than ■ > or GT: greater than ■ : or NE: not equal to
Value	The field that allows you to restrict the information accumulated by the report to a subset of the values in a particular field. Values may be specified in several formats and may be single values or ranges.
And/Or	Specifies the Boolean operators AND or OR to define the relationship between multiple processing rules.

- [Guidelines for Specifying Values](#)
- [Example Processing Rules](#)
- [Entering Processing Rules](#)

Guidelines for Specifying Values

The following guidelines describe acceptable ways to specify values in a processing rule:

- Depending on the field, a value may be numeric or alphanumeric.
- A value may be specified as a single value, a range of values, or a list of values.
- When specified as a list, values are enclosed in parentheses and separated by commas; when specified as a range, the two values are enclosed in parentheses and separated by a hyphen.
- When a hyphen (-) is used as part of a value, the whole value must be enclosed in apostrophes (').
- For alphanumeric fields, an asterisk (*) may be used to indicate wildcard prefixing and suffixing (see examples below).
- Values may be expressed in decimal or hexadecimal format. If using hexadecimal format, the value is preceded by an "X" and enclosed in single quotes.
- The length to be compared in the rule is taken from the field length, not the length of the rule value.
- When using a wildcard rule value, the length to be compared in the rule is taken from the length of the rule value.

- Rules cannot be specified for Adabas Buffer Segments fields such as VBSEG01. Use the actual buffer fields instead of the segment fields.

Example Processing Rules

The following table shows examples of processing rules:

Example	Explanation
RSP>0	Single numeric value; response code greater than zero.
CMDNAME=FINN	Single alphanumeric value; command name equal to FINN.
FNR EQ (10-50)	Numeric range value; file number equals 10 to 50.
TRANSID=(BAT1,BAT2,BAT3)	Alphanumeric list of values; transaction ID equal to BAT1, BAT2, or BAT3.
JOBNAME=*TEST	Use of wildcard prefixing; all job names ending in "TEST".
ACBUSER EQ X'00370014'	Use of hexadecimal format; ACBUSER equal to the hexadecimal value 00370014.
NATPROG='N-REVADA'	Alphanumeric value with hyphen included

Entering Processing Rules

► **To complete the Report Processing Rules screen:**

- 1 If you know which field or fields you plan to use, enter them directly on the screen in the Field column.
- 2 To choose fields using the field selection screens, press PF11 or enter the FLDS or LF command on the command line.

Refer to the section [Using the Field Selection Screens](#) for more information.

- 3 Enter the appropriate operand, using the guidelines in the tables above.
- 4 Enter the appropriate value, using the guidelines and table above.


Using the Report Options Screen

Report options describe additional processing aspects of the report; such as, whether it is a detailed or summary report, whether it will perform physical command logging, and whether the data it collects will be written to the Adabas Review repository and stored as history data.

Adabas Review is delivered with report options defaults:

- You can modify these defaults for all subsequent reports; or
- You can modify the default values for a particular report, either new or existing.

The Report Options screen lists the default settings for each option; changes may be made directly on this screen.

 **Note:** One of two different Report Options screens may appear in Adabas Review, depending on whether you have selected a summary report or a detail report. The following sample is for a summary report.

```

19:33:13          ***** R E V I E W *****          2009-06-18
                   Options for summary report: COMMANDS BY HOUR          HUB=15690

+-- Summary Rpt Options ----- Summary Logging ----- History -----+
! AutoStart ..... Y      Summary Log ..... N      History ..... N !
! Break ..... Y          Summary File .. RVSUM_      History Int ... ____ !
! Wrapping ..... N      Num of Logs ..... _2      History DBID ... __123 !
! Print ..... Y          Log Size ..... 99999      History FNR .... __45 !
! Rstrt/Intrvl Y _____ Log Full Exit _____ History SVC ..... 234 !
! Max Restarts .. 999999                                     !
! Max K ..... __8      ----- Summary Exit ----- !
! ADALimit ..... ____1      Exit Name ... _____ !
! Display By .. SORTED      Cmd ..... CL !
! Entries ..... 999999      Sum ..... Y !
! Limit ..... 99999999                                         !
! Page/Line .. _55 / 133                                         !
!                                                                 !
!                                                                 !
+-----+

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit      Accpt      Dflts      Menu
    
```

For detail information about the parameters on the **Report Options** screen, read *Specifying Reporting Options*, elsewhere in this guide.

Modifying Report Defaults

Adabas Review allows you to modify and save the default report options settings.

After the report options have been modified, all new reports will have report options that default to the new settings. This will affect all new reports created by any user.

 **To modify the report default settings:**

- 1 Create a new empty report by entering ER on the Adabas Review command line.
- 2 Press PF2 or enter the command OPTNS on the command line to display the Report Options screen.

- 3 Make any desired changes.
- 4 Press PF9 (Dflts) to save the modifications.

You are returned to the Edit Report screen.

Editing Options for a Particular Report

▶ **To change the options for a particular report:**

- 1 Create a new empty report or access an existing report by entering `ER` on the Adabas Review command line.
- 2 Press PF2 or enter the command `OPTNS` on the command line to display the Report Options screen.
- 3 Enter the changes directly on the Report Options screen.
- 4 After completing your changes, press PF6 or enter the `ACCPT` command.

The `ACCPT` command stores your selections temporarily while you continue working on your report.

You are returned to the Edit Report screen.

Editing Existing Reports

Report definitions that have been saved or started may be modified at any time.

▶ **To access a report definition:**

- If you know the report name, enter the command `ER` followed by the report name.

Or:

If you do not know the report name, access the `List Report Definition (LR)` function and enter the command `ER` in the selection column preceding the report name.

Or:

If the report has been started, you may use the `List Started Report (LS)` function and enter the `ER` command in the selection column preceding the report name.

Or:

If the report writes history data to the Adabas Review repository, you may use the List History Reports (LH) function and enter the ER command in the selection column preceding the report name.

The ER command invokes the Edit Report screen for the specified report. The following example shows the "Commands by Hour" report:

```

19:32:40          A D A B A S - R E V I E W          2009-06-18
                  Edit Report                        HUB=15690

Detail/Summary: S
Report Name: COMMANDS BY HOUR_____ DBID to Monitor: _____

+-----+-----+-----+-----+-----+-----+-----+-----+-----+
! Field      Order  Sum   Min   Max   Avg   Pct   Rate  Round  !
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
! HOUR_____ _10   -     -     -     -     -     -     -     -     !
! CMD_____ _20   -     -     -     -     -     -     -     -     !
! IOS_____   -     X     -     -     X     -     -     -     -     !
! COMMANDS   -     X     -     -     -     -     -     -     -     !
! CMDRESP_   -     X     -     -     X     -     -     -     -     !
! _____   -     -     -     -     -     -     -     -     -     !
! _____   -     -     -     -     -     -     -     -     -     !
! _____   -     -     -     -     -     -     -     -     -     !
! _____   -     -     -     -     -     -     -     -     -     !
! _____   -     -     -     -     -     -     -     -     -     !
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
Page 1

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Optns Exit          Save  Start  -    +          Rules Flds Menu
    
```

This section covers the following topics:

- [Changing Field Information](#)
- [Changing Processing Rules](#)

- [Changing Report Options](#)

Changing Field Information

▶ To change the field information displayed on the Edit Report screen:

- Type over the existing information.

▶ To change or add fields to the report:

- You may also use the field selection screens.

Refer to the section [Using the Field Selection Screens](#).

▶ To make additional changes after finishing changes on the Edit Report screen:

- You may access the Report Processing Rules screen or the Report Options screen.

▶ To finish your changes to the report definition:

- Press PF5 or enter the SAVE command on the command line.

Changing Processing Rules

If the report contains processing rules, a message is displayed at the bottom of the Edit Report screen. You may change existing rules or create new rules, if desired.

▶ To change processing rules or create new rules:

- 1 Display the Report Processing Rules screen by pressing PF10 or entering RULES on the command line.

```

19:34:44          A D A B A S - R E V I E W          2009-06-18
                  Report Processing Rules             HUB=15690

                  COMMANDS BY HOUR

+-----+-----+-----+-----+-----+
!  Field   Op      Value                                     And/Or !
+-----+-----+-----+-----+-----+
! ADADURA_ GT   3.0_____                                     AND !
! IOS_____ GT   200_____                                     _____ !
! _____ _   _____                                     _____ !
! _____ _   _____                                     _____ !
! _____ _   _____                                     _____ !
! _____ _   _____                                     _____ !
! _____ _   _____                                     _____ !
! _____ _   _____                                     _____ !
! _____ _   _____                                     _____ !
! _____ _   _____                                     _____ !
! _____ _   _____                                     _____ !
+-----+-----+-----+-----+-----+
                                  Page 1
+-----+-----+-----+-----+-----+

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Optns Exit       Save Start -      +           Flds Menu

```

- 2 Change the rules by typing over the existing information; add rules by entering them on the screen.

For more information, see section *Using the Report Processing Rules Screen*.

- 3 Edit the Report Options screen by pressing PF2 or entering OPTNS on the command line.

Or:

If no other changes to the report definition are required, press PF5 or enter SAVE on the command line.

Or:

Return to the Edit Report screen by pressing PF3 or entering EXIT on the command line.

Your changes are not deleted unless you exit the Edit Report function without first entering the SAVE command.

Changing Report Options

▶ **To change report options:**

- 1 Access the Report Options screen by pressing PF2 or entering OPTNS on the command line.

```

19:33:13          ***** R E V I E W *****          2009-06-18
                   Options for summary report: COMMANDS BY HOUR          HUB=15690

+-- Summary Rpt Options ----- Summary Logging ----- History -----+
! AutoStart ..... Y      Summary Log ..... N      History ..... N !
! Break ..... Y          Summary File .. RVSUM_    History Int ... ____ !
! Wrapping ..... N      Num of Logs ..... _2    History DBID ... __123 !
! Print ..... Y          Log Size ..... 99999    History FNR .... __45 !
! Rstrt/Intrvl Y ____    Log Full Exit _____    History SVC ..... 234 !
! Max Restarts .. 999999
! Max K ..... ____8
! ADALimit ..... ____1
! Display By .. SORTED
! Entries ..... 999999
! Limit ..... 99999999
! Page/Line .. _55 / 133
!
!
+-----+
Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
        Help           Exit           Acpt           Dflts           Menu
    
```

- 2 To change the report options, type over the existing information.

For an explanation of the report options, refer to the section [Using the Report Options Screen](#).

- 3 After making changes to the Report Options screen, use either of the following procedures:

To save the changes temporarily while you make changes to other components of the report, press PF6 or enter ACCPT on the command line.

Or:

If no other changes to the report definition are required, press PF5 or enter SAVE on the command line.

You are returned to the Edit Report screen.

Saving a Report Definition

▶ **To save a new or modified report definition:**

- Press PF5 or enter the `SAVE` command on the command line.

When a report definition is saved, it is written to the Adabas Review repository and a Natural display program is generated.

2 Maintaining Display Programs

▪ Generating a Display Program	36
▪ Editing the Display Program	36
▪ Regenerating a Display Program	37
▪ Regenerating All Display Programs	37
▪ Changing to a Different Display Program	38

When a report is saved, Adabas Review automatically generates a Natural program that is used to display the data collected by the report. When you issue the `VW` command for a history report or a report that has been started, the generated display program is executed and the data is displayed on your terminal screen.

This part of the documentation discusses the commands that enable you to process the Natural display program corresponding to a report definition.

Generating a Display Program

One way to create new reports is to use the `Copy Report Definition (CR)` command from the `List Report Definitions (LR)` function. The `CR` command is issued from the Report Definitions screen. The command allows you to copy a report definition either to another Adabas Review repository, or to the current Adabas Review repository under a new name.

After the report definition is copied, the Display Program Name on the screen will display the message "Need RG". This indicates that the display program must be generated before the new report may be displayed.

▶ To generate a display program:

- Enter `RG` on the selection line preceding the new report name; or

Or:

Edit the report using the `Edit Report (ER)` function; then save it.

Adabas Review automatically generates a new display program reflecting the changes. See the section [Regenerating a Display Program \(RG\)](#) for other reasons to use the `RG` command.

Editing the Display Program

You may edit a display program from any of the report list function screens (`LR`, `LS`, and `LH`). The `EP` command invokes the Natural program editor, enabling you to make changes to the display program in the same way that you would edit any other Natural program.

Using the `EP` command, you can customize the appearance of your report displays. Note, that a change to the display program only affects the way the collected data is presented on the screen; it does not change the data collected by the report.

If, for example, you add a display field that does not correspond to the field information collected by the report, no information will be collected for that field and it will appear blank when the display program is executed.

However, if you use the `ER` function to make changes to a report definition and save the changes, Adabas Review automatically generates a new display program reflecting the changes.

▶ **To edit the display program:**

- 1 Enter the `EP` command on the selection line preceding the specified report name.
The Natural editor is invoked and the display program is ready to be edited.
- 2 Issue either the `SAVE` or `STOW` commands to save changes, as you would when editing any other Natural program.
- 3 Issue the `QUIT` command to return to Adabas Review.

Regenerating a Display Program

If you wish to restore an edited display program to its original format, you may issue the `RG` command from the Report Definitions screen (`LR` function). Adabas Review then regenerates the display program.

▶ **To regenerate a display program:**

- Enter the `RG` command on the selection line preceding the report name.
A message is displayed when the regeneration is completed.

Regenerating All Display Programs

You can regenerate the display programs for all reports by entering `REGEN ALL` into the command line from the `LR` screen. A window will open that displays the name of each report as it is regenerated (see below). Do not press any keys during this process, as it will interrupt the process.

```
+-----+
|          Display program is now being generated          |
|  Report Name:  FILE USAGE                                |
|  Program Name: SR-00031                                  |
|                                                         |
|  <<< DO NOT PRESS ANY KEYS  >>>                        |
|                                                         |
+-----+
```

Changing to a Different Display Program

If desired, you may use a display program that is different from the one that was generated for the report by Adabas Review.

You may change the display program from the Report Definitions screen (LR function).

▶ **To change display programs:**

- 1 Enter the command `CP` on the selection line preceding the report name.
The cursor moves to the display program name.
- 2 Type the name of the new display program over the existing name and press `ENTER`.
A message appears, indicating that the display program has been changed.

3 Specifying Reporting Options

- General Report Options 41
- Logging Options 44
- History Options 49
- Report Exit Options 51

This chapter describes the Adabas Review reporting options you can specify. Adabas Review reporting options are specified on the Report Options screen. Different options are available, depending on whether the report selected is a detailed or a summary report.

For detailed reports, data is collected continuously while the database is active. Such reports are straight recordings of commands processed. Detailed reports cannot be viewed online. However, a display program is generated that may be used to view history data online if the report collects history data. Results of detailed reports are printed at database termination. For detailed reports, the following options are available:

```

22:52:49          ***** R E V I E W *****          2009-04-25
                   Options for detailed report: name          HUB=15690

+--- Detail Rpt Options ----- Detailed Logging ----- History -----+
! AutoStart ..... N      Log ..... Y      History ..... N !
! Print ..... N      File ..... RVLOG_    History Int ... ____ !
! Limit ..... 99999999  Num of Logs ..... _2  History DBID ... __123 !
! Page/Line .. _55 / 133  Log Size ..... ____60 History FNR .... __45 !
!                               User Exit ... ____      History SVC ..... 234 !
!                               -----
!                               ---- Buffers to Log ---- ----- Detail Exit ----- !
!                               FB: Y   SB: Y   RB: Y   Exit name.... ____ !
!                               VB: Y   IB: Y   IO: Y
!
!
!
!
!
!
!
!
+-----+

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help           Exit           Accpt           Dflts           Menu
    
```

Summary reports present a summary of information for a particular field (e.g., command, user ID, program, etc.). Results may be viewed online or printed at database termination. For summary reports, the following options are available:

```

22:57:04          ***** R E V I E W *****          2009-04-25
                   Options for summary report: LONG RUNNING COMMANDS          HUB=15690

+-- Summary Rpt Options ----- Summary Logging ----- History -----+
! AutoStart ..... N      Summary Log ..... N      History ..... N !
! Break ..... Y          Summary File .. RVSUM_    History Int ... ____ !
! Wrapping ..... N      Num of Logs ..... _2    History DBID ... __123 !
! Print ..... Y          Log Size ..... 99999    History FNR .... __45 !
! Rstrt/Intrvl Y ____    Log Full Exit _____ History SVC ..... 234 !
! Max Restarts .. 999999                                     !
! Max K ..... __8      ----- Summary Exit ----- !
! ADALimit ..... ____1    Exit Name ... _____ !
! Display By .. SORTED    Cmd ..... CL !
! Entries ..... 999999    Sum ..... Y !
! Limit ..... 99999999                                         !
! Page/Line .. _55 / 133                                         !
!                                                                 !
!                                                                 !
+-----+

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12---
      Help           Exit           Accpt           Dflts           Menu

```

Several categories of reporting options can be specified, although the options differ for detailed and summary reports. Each is discussed in this chapter.

Report Option Category	Describes the...
<i>General Report Options</i>	Characteristics of the report
<i>Logging Options</i>	Type of information logged and how it is collected
<i>History Options</i>	Location of history information and the frequency with which it is collected
<i>Report Exit Options</i>	Report user exits

General Report Options

The following table describes (in alphabetic order) the general report options that can appear on the Report Options screen. The "Valid for Report Type" column in the table indicates whether the option is valid for detailed reports or summary reports (or both).

Report Option	Description	Possible Values	Default	Valid for Report Type?
ADALimit	Specify a minimum command count for printing on a summary report. If ADALIMIT=100, only entries with a command count of 100 or higher are printed on the report. The default value (1) means that all entries are printed.	count	1	Summary only
Autostart	Specify whether or not a saved report is started by issuing a START command (N) or automatically when Adabas Review is activated (Y).	Y N	N	Detailed and Summary
Break	Specify whether or not subtotals are printed at control breaks (Y) or are suppressed (N) on the summary report.	Y N	Y	Summary only
Display By	Specify the order in which the data is to be displayed on a summary report. Possible display types are: <ul style="list-style-type: none"> ■ SORTED: sort in ascending order by control break; ■ USAGE: sort in descending order by command count; ■ SUMFIELD: sort in descending order by the first field marked as a summary field; ■ SORTEDDE: sort in descending order by control break; or ■ DATETIME: sort in ascending order by the start date and time of the control break interval. 	SORTED USAGE SUMFIELD SORTEDDE DATETIME	SORTED	Summary only
Entries	Specify the maximum number of entries (that is, unique control breaks) that the summary report can maintain. This option is used to restrict the amount of data collected. When the limit is reached, the report will remain active, but no further data will be collected.	1 - 999999	999999	Summary only
Intrvl	This option appears on the same screen line as the Rstrt report option. The Rstrt option appears first on the line. Specify the time interval (in minutes) for refreshing the summary report. At each interval, the summary report prints its output if PRINT=Y and stores any history data. The report is then deleted.	1 - 999999	---	Summary only
Limit	Specify the maximum number of entries that the detailed or summary report can print. The default value allows all entries to be printed. When the limit is reached, the report will remain active, but no further data will be collected.	1 - 99999999	99999999	Detailed and Summary

Report Option	Description	Possible Values	Default	Valid for Report Type?
Line	<p>This option appears on the same screen line as the Page report option. The Page option appears first on the line.</p> <p>Specify the line length, in characters, of the detailed or summary report. The default line length value is 133 characters. The appropriate value depends on the paper size and the point size and style of the typeface.</p>	72 - 160	133	Detailed and Summary
Max K	Specify the maximum amount of storage available for a summary report.	amount in 8K increments	8	Summary only
Max Restarts	Specify the maximum number of times a summary report will be restarted due to Max K	1 - 999999	999999	Summary only
Page	<p>This option appears on the same screen line as the Line report option. The Page option appears first on the line.</p> <p>Specify the number of lines allowed for the detailed or summary report . The default page length value (55 lines) provides a top and bottom margin for standard printer spacing on a total page size of 66 lines.</p>	10 - <i>nnn</i>	55	Detailed and Summary
Print	<p>For a detailed report, specify whether or not the report is printed at database termination.</p> <p>For a summary report, specify whether or not the report is printed at database termination or when its refresh/history interval is reached.</p>	Y N	Y	Detailed and Summary
Rstrt	<p>This option appears on the same screen line as the Intrvl report option. The Rstrt option appears first on the line.</p> <p>Specify whether the summary report is restarted after the specified refresh/history interval or after the MAXSTORE limit (see the Max K report option) is reached.</p> <p>If Y is specified for the Rstrt option, the summary report is refreshed automatically.</p> <p>If N is specified for the Rstrt option, the summary report will be set with status "I" (inactive). Then, when the MAXSTORE limit or the refresh/history interval are reached, the report will be closed.</p>	Y N	Y	Summary only
Wrapping	Specify whether or not the data collected for a summary report that has SEQUENCE as the first ORDER (control break) field can reuse data elements (i.e., wrap) once the total number of ENTRIES specified have been filled.	Y N	N	Summary only

Logging Options

Two kinds of logging options are available in Adabas Review, depending on the kind of report you have selected. Some logging options are shared by both types; other logging options are specific to the report type.

- **Command logging:** When running detailed reports, you can elect to create a log file of detailed command data, specific to Adabas Review, that can be processed at some later time in an Adabas Review batch run. The output of the detailed log file depends on the report definition and includes only parts of the overall Adabas commands being processed.
- **Summary logging:** When running summary reports, a summary log file can be created, containing summary data, but it cannot be processed later in an Adabas Review batch run because the summary data already has a specific layout. This layout is described in *Summary Record Layout*, in the *Adabas Review Reference Guide*.

This section covers the following topics:

- [Logging Option Descriptions](#)
- [Buffers to Log Options \(Detailed Reports Only\)](#)
- [Required Options for Logging](#)
- [Recommended Options for Logging](#)
- [Logging Guidelines](#)

Logging Option Descriptions

For command logging, the logging options determine whether command logging is performed, what information is logged, and where the command log is written. For summary report logging, the logging options determine whether summary logging is performed, what information is logged, and where the summary log is written.

The following table describes (in alphabetic order) the logging options that can appear on the Report Options screen. The "Valid for Report Type" column in the table indicates whether the option is valid for detailed reports (command logging) or summary reports (summary logging).

Logging Option	Description	Possible Values	Default	Valid for Report Type?
Buffers to Log	See Buffers to Log Options , elsewhere in this section.	---	---	Detailed only
File	Specify the DD/file name prefix used to identify the file to which Adabas Review will write the command log data. Each detailed report that specifies command logging must have its own file name prefix.	5-byte name	RVLOG	Detailed only

Logging Option	Description	Possible Values	Default	Valid for Report Type?
Log	Specify whether Adabas Review will write command logs for a particular detailed report (Y), or whether command logging will be ignored (N).	Y N	N	Detailed only
Log Full Exit	Specify the name of the user exit that is called when a summary log is filled during summary report processing. If an exit is not specified, Adabas Review closes the filled summary log file and opens the next file; no provision is made for copying the data. For complete information about the summary logging user exit, read <i>REVUXLOG: Command or Summary Logging User Exit</i> , in the <i>Adabas Review Reference Guide</i>	<i>name</i>	none	Summary only
Log Size	Specify the number of blocks to be allocated to each command log file (detailed reports) or summary log file (summary reports). Because command log records and summary log records vary in length, it is important to carefully determine the Log Size option value. The maximum length of a command or summary log record written by Adabas Review is 8 kilobytes. Log size is determined using the following formula: $\text{number-of-tracks} * ((\text{bytes-per-track}/9996) - 1)$ For Adabas Review command and summary logs, the blocking factor is 10,000 bytes per block. The following provides approximate values for tracks per cylinder and bytes per track for 3380 and 3390 devices: ■ 3380: 15 tracks per cylinder; 47,000 bytes per track ■ 3390: 15 tracks per cylinder; 57,000 bytes per track For example, the log size for 10 cylinders of a 3380 device is determined as follows: ■ Number of tracks is 15 × 10, or 150 tracks; ■ Bytes per track/blocking factor is 47,000/10,000 = 4.7, or 4 blocks; ■ Log size is 150 × 4, or 600 blocks.	<i>nnnnn</i>	99999	Detailed and Summary

Logging Option	Description	Possible Values	Default	Valid for Report Type?
Num of Logs	<p>Specify the number of command log files (detailed reports) or summary log files (summary reports) to be used by a report.</p> <p>For every command log file or summary log file specified in the Num of Logs option, a file name is created by appending a number to the end of the file name prefix specified in the File or Summary File option. Each log file name must be coded in the Adabas startup procedure.</p> <p>For example, if File=RVLOG and Num of Logs=2, command log data will be written to files RVLOG01 and RVLOG02. And if Summary File=RVSUM and Num of Logs=3, summary log data will be written to files RVSUM01, RVSUM02, and RVSUM03.</p>	<p>1-99 (z/OS) 1-9 (z/VSE)</p>	2	Detailed and Summary
Summary File	Specify the DD/file name prefix used to identify the file to which Adabas Review will write the summary log data. Each summary report that specifies summary logging must have its own file name prefix.	5-byte name	RVSUM	Summary only
Summary Log	Specify whether Adabas Review will write summary logs for a particular summary report (Y), or whether summary logging will be ignored (N).	Y N	N	Summary only
User Exit	<p>Specify the name of the user exit that is called when a command log is filled during detailed report processing.</p> <p>If an exit is not specified, Adabas Review closes the filled command log file and opens the next file; no provision is made for copying the data.</p> <p>For complete information about the command logging user exit, read <i>REVUXLOG: Command or Summary Logging User Exit</i>, in the <i>Adabas Review Reference Guide</i></p>	<i>name</i>	none	Detailed only

Buffers to Log Options (Detailed Reports Only)

The Buffers to Log options specify which command log buffers will be included in command logging. These can only be specified for detailed reports.

The basic command log record, the ACBX, and the CLEX (corresponding to the ADARUN LOGACB, LOGCLEX, and LOGUX parameters) will always be logged in the log file, regardless of the settings of the Buffer to Log options. These are included in the record internally referred to as LORECR. The Buffer to Log options make it possible to log additional buffers such as the record buffer, the format buffer, and others.

You can determine whether data is logged by your report by setting the Adabas Review logging parameter that corresponds to a particular buffer (or set of buffers). The following table briefly describes the Buffers to Log options. These options are only applicable to detailed reports:

Buffer Logging Option	Description	Corresponding ADARUN Parameter	Possible Values	Default
FB	Specify whether the format buffer is logged.	LOGFB=YES	Y N	Y
SB	Specify whether the search buffer is logged.	LOGRB=YES	Y N	Y
RB	Specify whether the record buffer is logged.	LOGSB=YES	Y N	Y
VB	Specify whether the value buffer is logged.	LOGVB=YES	Y N	Y
IB	Specify whether the ISN buffer is logged.	LOGIB=YES	Y N	Y
IO	Specify whether the Adabas I/O information is logged.	LOGIO=YES	Y N	Y

Required Options for Logging

The following detailed report option settings are required for detailed reports that will log commands:

Detailed Report Option	Setting	Explanation
Log	Y	Yes indicates that the report performs command logging.
File	name	The five-character prefix of the DD/file name for the command log files.
Num of Logs	number	The total number of command log files allocated for the report.
Log Size	number	Number of blocks per data set. Data sets for a particular report must be the same size.

The following summary report option settings are required for summary logging:

Summary Report Option	Setting	Explanation
Summary Log	Y	Yes indicates that the report performs summary logging.
Summary File	name	The five-character prefix of the DD/file name for the summary log files.
Num of Logs	number	The total number of summary log files allocated for the report.
Log Size	number	Number of blocks per data set. Data sets for a particular report must be the same size.

Recommended Options for Logging

The following detailed report option settings are suggested for efficient command logging operations:

Detailed Report Option	Setting	Explanation
AutoStart	Y	Starts the command logging report when the database is initialized.
Print	N	Prevents each detailed data line from being printed; eliminates redundant recording of data and waste of spool space.
User Exit	exit name	Filled command logs are copied to another device before they are overwritten with new command log data.

The following summary report option settings are suggested for efficient summary logging operations:

Detailed Report Option	Setting	Explanation
AutoStart	Y	Starts the summary logging report when the database is initialized.
Print	N	Prevents each summary data line from being printed; eliminates redundant recording of data and waste of spool space.
Log Full Exit	exit name	Filled summary logs are copied to another device before they are overwritten with new summary log data.

Logging Guidelines

- Using the report option parameter `PRINT=N`, the printed detailed or summary report may be suppressed for a command log or summary log report.
- Processing rules may be used to restrict the collection of data for detailed reports (command logging) to certain values; e.g., all commands that return a nonzero response code.
- Before starting a report that performs detailed command logging, command log data sets must be allocated and the corresponding job control statements must be added to the Adabas startup JCL. Likewise, before starting a report that performs summary logging, summary log data sets must be allocated and the corresponding job control statements must be added to the Adabas startup JCL.
- If you use a user exit to copy a filled command log or summary log to another device, refer to the sample user exit code in the source library member `REVvrs.SRCE(REVUXLOG)`. The command or summary log copy job is provided in JCL library member `REVvrs.JCL(REVCLCOP)`.

History Options

History data is useful for monitoring database performance for a given period of time and for performing trend analysis. History options specify whether history data is collected, when it is collected, and where (that is, in which Adabas Review repository) it is stored.

Although history data may be written for both detailed and summary reports, the report type plays a key role in determining how Adabas Review processes history data.

- A *detailed report* maintains a one-to-one correspondence between a command log record read or passed to ADARVU and an output record produced by Adabas Review. When the command processed by Adabas Review satisfies the report processing rules, Adabas Review builds the required format and record buffer using the current report definition and immediately stores a record in the Adabas Review repository.
- A *summary report* has a many-to-one relationship between processed records and the summarized output record. Multiple records are processed (i.e., summarized) to produce one output record. When the Adabas Review interactive processor is running, information is written out to the Adabas Review repository at Adabas termination, when an interval is reached, or when the report is closed. If the Adabas Review batch processor is being executed, the data is written during end-of-file (EOF) processing.
- For both types of reports, Adabas Review generates a Natural display program so that history data may be viewed online.

The history options that determine whether and how Adabas Review writes history data are set when you create or edit the report definition on the Report Options screen. If history data is to be written by a report running in batch mode, the history parameters make up the COPY statement.

The following table describes (in alphabetic order) the history options that can appear on the Report Options screen. The "Valid for Report Type" column in the table indicates whether the option is valid for detailed reports or summary reports (or both) -- although, in the case of history options, all options work for both types.

History Option	Description	Possible Values	Default	Valid for Report Type?
History	Specify whether the data collected by the report is to be written to an Adabas Review repository and stored as history data. If (N), all other history options are ignored.	Y N	N	Detailed and Summary
History Int	Specify the history interval in minutes. This is the time interval during which history data is collected by the report. At each interval, the report prints its output if PRINT=Y and stores any history data. The report is then deleted. If RESTART=Y, the report is then restarted.	number of minutes	none	Detailed and Summary

History Option	Description	Possible Values	Default	Valid for Report Type?
	<p>If the History Int option is used, history data is written to the Adabas Review repository at the interval specified, provided the database containing the Adabas Review repository is active.</p> <p>To write history data at regular intervals (e.g., every hour), you must also set the Restart report option (Rstrt) to Y, so that the report is restarted after the interval has been reached. This option is listed in the Report Options column of the Report Options screen.</p> <p>Note: If the Rstrt=Y is specified, all history data for the report is written to the Adabas Review repository file if the MAX K value for the report is exceeded.</p> <p>If the History Int option is <i>not</i> used, history data is written to the Adabas Review repository at Adabas termination.</p>			
History DBID	<p>Specify the ID number of the database that is to store the history data; that is, the Adabas Review repository.</p> <p>The default is the database ID of the Adabas Review repository to which you currently have access.</p> <p>You may change this parameter, provided it specifies (in conjunction with the History FNR and History SVC options) a different Adabas Review repository.</p>	<i>dbid</i>	current DBID	Detailed and Summary
History FNR	<p>Specify the file number in the Adabas Review repository that is to contain the history data.</p> <p>The default is the file number in the Adabas Review repository to which you currently have access.</p> <p>You may change this parameter, provided it specifies (in conjunction with the History DBID and History SVC options) a different Adabas Review repository.</p>	<i>fnr</i>	current file number	Detailed and Summary
History SVC	<p>Specify the Adabas SVC number used to communicate with the Adabas Review repository in order to write the history data.</p> <p>The default is the SVC number of the Adabas Review repository that you are currently accessing, if that database appears on the Target Definitions screen (LT function). Otherwise, the default is the SVC number of the default database listed on the Target Definitions screen.</p> <p>You may change this parameter, provided it specifies (in conjunction with the History DBID and History FNR options) a different Adabas Review repository.</p>	<i>svc</i>	current SVC number or SVC of default DBID	Detailed and Summary

Report Exit Options

Adabas Review provides two report user exits: one for detailed reports and one for summary reports.

- A detailed report user exit is called when a command log record is selected for the report. Only records that pass the processing rules are provided to the user exit. This exit may be used to create SMF records, accounting records, or for any other purpose.
- A summary report user exit is called when a specified Adabas command is selected for the report; and/or a report is summarized. You may control the conditions that trigger the exit.

When creating a report, the user exit name (1-8 characters) is specified on the Report Options screen or in the batch REPORT statement. The actual report user exit must be provided in an executable library accessible to Adabas Review.

For more information about these exits, read *REVUXDET: Report Exit for Detailed Reports* and *REVUXSUM: Report Exit for Summary Reports*, in the *Adabas Review Reference Guide*.

4 Running Reports Online

- Starting Reports 54
- Starting an Edited Report 54
- Listing Started Reports 55
- Displaying Active Report Information 57
- Purging Reports 59
- Suspending Reports 59
- Reactivating Reports 60
- Refreshing Reports 60
- Closing Reports 60
- Switching Log Files 61

A report must be started so that it can accumulate data. This chapter describes how to start and stop reports as well as how to manage running reports.

Starting Reports

A report must be started so that it can accumulate data. After you have completed your report, you may start it immediately, or save it to be started at another time. For information about saving reports, read *Saving Reports*, elsewhere in this guide.

▶ To start a new report:

- Press PF6 or enter the `START` command on the command line.

The `START` command first executes the `SAVE` command to save the report definition and generate the display program. A message is then displayed, indicating that the online report has been started.



Note: If you are trying to start a report in hub mode using batch Natural, you must issue the `MENU HUB=hubid` command prior to issuing the `START` command for the report.

▶ To start an existing (saved) report:

- Enter the `ST` command on the selection line preceding the report name from the Report Definitions screen (`LR` function).

Adabas Review responds with a message indicating that the online report has been started.

Started reports may be suspended, reactivated, closed, or refreshed. These commands are issued from the Started Reports screen (`LS` function).

Starting an Edited Report

▶ To start an edited report:

- 1 When you have finished editing the report, start the report by pressing PF6 or entering `START` on the command line from either the Edit Report screen or the Report Processing Rules screen.

If you make changes to a report that has already been started, you will be prompted to "refresh" the report when you attempt to issue the `START` command or press PF6. This is because the

name of a report that is accumulating data is the same as the report you are attempting to start. Reports with duplicate names are not permitted by Adabas Review. Refreshing the report will purge any accumulated data and will restart the report.

- 2 To "refresh" the report, answer "Y" to the prompt.

Listing Started Reports

The `List Started Reports (LS)` function lists reports that have been started. It provides commands to close, suspend, reactivate, and refresh started reports and view, download to a PC, print, and purge the report output. In addition, you may edit the report definition or its corresponding display program.

▶ To access the List Started Reports function:

- Enter `LS` on the command line.

Or:

You can specify the report name or partial report name in the `LS` command. For example:

- Specifying `LS IO SUMMARY BY RABN*` will display the list of all started reports, starting with the `IO SUMMARY BY RABN` report.
- Specifying `LS IO*` will display the list of all started reports, starting with the first report with the name beginning with the word "IO". In this case, if both the `IO COUNT BY HOUR` and `IO SUMMARY BY RABN` reports are started, the list would start at the `IO COUNT BY HOUR` report.



Note: You must specify an asterisk at the end of the full or partial report name in the `LS` command.

The Started Reports screen is displayed. In this example, no specific report name or partial report name was requested.

```

19:46:25          A D A B A S - R E V I E W          2009-06-18
                  Started Reports                    HUB=15690

Sel      Report Name          Stat  DBID  Sum/  Hst Log  Strt  Display
          |                   |      |      | Det  |      | Time | Program
+-----+-----+-----+-----+-----+-----+-----+-----+
!  ___  APPLICATION FILE FIELD USAGE      A   235   S   N           SR-00030 !
!  ___  BUFFER POOL DISPLAY                A   235   S   N           BUFFPOOL !
!  ___  COMMAND LOGGING                    A   235   D   N           SR-00025 !
!  ?                                         |           |           |           |
!                                           |           |           |           |
!                                           |           |           |           |
!                                           |           |           |           |
!                                           |           |           |           |
!                                           |           |           |           |
!                                           |           |           |           |
!                                           |           |           |           |
!                                           |           |           |           |
+-----+-----+-----+-----+-----+-----+-----+

Command: _____
Enter -PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit      -      +      Menu
    
```

An explanation of the Started Reports screen is provided in the table below:

Heading	Explanation
Sel	Selection line. Commands are entered on the selection line preceding the report name. For a list of available commands, enter a ? on the selection line.
Report Name	Name of the report.
DBID	Database for which the report collects data.
Stat	Report Status. Possible values are as follows: <ul style="list-style-type: none"> ■ "A": Active. The report has been started and is accumulating data. ■ "I": Inactive. The report has been suspended because it exceeded the storage amount specified in the MAX K report option parameter. ■ "S": Suspended. The report has been suspended because a SUSPEND command has been issued for the report.
Sum/Detail	<ul style="list-style-type: none"> ■ "S": indicates a summary report; ■ "D": indicates a detailed report.
Hst	Indicates whether the report writes history data.
Log	Indicates the number of the current log file for the report.

Heading	Explanation
Strt Time	Indicates the time at which the report started accumulating data. A time of "0" indicates that no data has been accumulated for the report.
Display Program	Lists the name of the program generated to display report output online.

PF7 and PF8 have been provided as scroll keys. If more than one screen of report names exists, PF8 or (+) scrolls the list forward and PF7 or (-) scrolls the list backward.

▶ **To issue a command from the Started Reports screen:**

- Enter the command on the selection line preceding the report name.

Cmd	Action
CL	Close the report
DD	Display report information
DL	Download report output
EP	Edit display program
ER	Edit report definition
HC	Print report output (hard copy)
IN	Display active report information
PS	Purge report output
RA	Reactivate report
RF	Refresh report
SU	Suspend report
SW	Switch CLOG data set
VW	View report output

Displaying Active Report Information

From the Started Reports screen, the command `IN` displays the Active Report Information window that provides current accounting information for the report named. The values need to be interpreted based on limits set for the report in the Report Options.

▶ **To display information about an active report's use of memory:**

- Enter the `IN` command on the selection line preceding the report name from the Started Reports screen.

The following window appears:

```

19:47:09          A D A B A S - R E V I E W          2009-06-18
                   Started Reports                   HUB=15690

                Sum/              Strt  Display
       Sel  +-----+-----+-----+-----+-----+
+-----+ |                Active Report Information |-----+
! in APP | |                                     | R-00030 !
! ___ BUF | | Report name..... APPLICATION FILE FIELD USAGE | UFFP00L !
! ___ COM | | Max storage avail... 8,192 | R-00025 !
!   ?   | | Storage used..... 2,016 |         !
!       | | Remaining storage... 6,176 |         !
!       | | Records processed... 0 |         !
!       | | Account entries..... 0 |         !
!       | | Account record len.. 88 |         !
!       | | ADT length..... 16 |         !
!       | | Number of levels.... 3 |         !
!       | | Report saved by..... INSTALL |         !
!       | | Report saved on..... 2009-06-18 |         !
+-----+ |-----+-----+-----+-----+-----+
                Press PF3 to exit

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit      -      +      Menu
  
```

The example Active Report Information window represents a summary report and indicates:

- The total storage allocation for the report as limited by the MAXSTORE report parameter, along with an indication of the amount of storage currently used and the amount remaining for use.

When the total storage allocation for a report is equal to the MAXSTORE value, the report is marked as inactive and stops accumulating data. The report is automatically restarted if the RESTART report option is set to "Y".

- The number of commands (records) processed by the report.
- The number of entries (that is, unique control breaks) that the report currently maintains. The maximum number is set by the ENTRIES report option and is used to restrict the amount of data collected.
- The length of the control break record and the length of the Account Data Table (ADT), which is an internal Adabas Review control block.
- The number of control break levels.

Purging Reports

When you purge a report, the report data is deleted and the accumulated data is not written to the output locations defined for the report. Data accumulated by the report before the PURGE command was issued may not be viewed online after the PURGE command completes.



Note: The report definition is not deleted; only the report data is deleted.

If the **report option RESTART=Y** is specified, the report is not restarted automatically after the PURGE command has been issued.

▶ To purge a started report:

- 1 Enter the PS command on the selection line preceding the report name from the Started Reports screen.

Depending on the setting of your profile, you may be prompted to confirm the purge request.

- 2 If required, confirm the purge request.

The report is purged.

Suspending Reports

By suspending a started report, you stop it from accumulating any further data; the data already accumulated is not purged.

▶ To suspend a report:

- Enter the SU command on the selection line preceding the report name from the Started Reports screen.

The status of the report on the Started Reports screen is changed from A(ctive) to S(uspended), no matter how the **RESTART report option** is set. A message indicating a change in report status is displayed.

Reactivating Reports

You may reactivate a suspended report so that it resumes collecting data.

▶ **To reactivate a suspended report:**

- Enter the `RA` command on the selection line preceding the report name from the Started Reports screen.

The status of the report on the Started Reports screen is changed from `S(uspended)` to `A(ctive)`. A message indicating a change in report status is displayed.

Refreshing Reports

When you refresh a report, you purge the accumulated data and restart the report.

You are prompted to refresh a report when you make changes to a started report and attempt to restart it. This is because the name of the report currently accumulating data matches the name of the report you are attempting to start; Adabas Review does not permit reports with duplicate names.

▶ **To refresh a report:**

- Enter the command `RF` on the selection line preceding the report name.

Adabas Review then purges the accumulated data and restarts the report, no matter how the **RESTART report option** is set; a message is displayed indicating that the report is refreshed.

Closing Reports

Closing a report means that the report is suspended, and the accumulated data is written to the output locations defined to the report. Data accumulated by the report before the `CLOSE` command was issued may not be viewed online after the `CLOSE` command completes.

If the report option `RESTART=Y` is specified, the report is restarted automatically after the `CLOSE` command has been issued.

Reports in an Active, Inactive, or Suspended status may be closed.

▶ **To close a started report:**

- 1 Enter the `CL` command on the selection line preceding the report name on the Started Reports screen.

Depending on the setting of your profile, you may be prompted to confirm the purge request. This is because the `CLOSE` command writes the data accumulated by the report to the output device, then purges the data accumulated by the report.

- 2 Confirm the purge request, if required.

If the report option `RESTART=Y` is specified in the report definition, the report is restarted, and the status is set to A(ctive).

Switching Log Files

The `SW` command is used to switch to the next command (detailed reports) or summary (summary reports) log file that has been defined for a particular report, *before* the current file is filled.

If the maximum number of log files designated for the report is exceeded by this request, Adabas Review will begin writing over the file that contains the oldest data.



Note: This command does not switch the log file for any report other than the one selected.

▶ **To switch to the next log file:**

- Enter the `SW` command on the selection line preceding the report name on the Started Reports screen.

5 Running Reports as Batch Jobs

- Generating Batch Report Parameters 64
- Using Batch Report Statements 66
- Batch Processor Job Control Requirements 95

Adabas Review may be used in batch processing mode to monitor resource usage for applications and databases by extracting data fields from the command log files generated by Adabas or Adabas Review.

To produce batch reports, the Adabas Review processor requires parameter statements and job control to run against the command log records. Report parameter statements can be manually created or they can be generated using the `GENCARD` command and subsequently edited, if required. Once the report statements are set up, the user submits the job stream for batch execution.

This part of the documentation describes how to use the `GENCARD` command to generate batch parameter statements. It also describes the statements required and presents guidelines for creating batch parameter statements without using the `GENCARD` command.

Generating Batch Report Parameters

The `GENCARD` command creates batch report parameter statements from field and report processing information you provide through the `Edit Report (ER)` function. The `GENCARD` command also uses the target database information it obtains from the `List Target Definitions (LT)` function.

By using the `GENCARD` command to generate batch report parameters, you can run any online report in batch mode.

▶ **To use the `GENCARD` command:**

- 1 Access the `Edit Report (ER)` function.
- 2 Create the report definition in the same way that you create an online report definition; then save it by pressing `PF5`.

For more information, read [Maintaining Report Definitions](#), elsewhere in this guide.

- 3 Enter the command `GENCARD` or `GC` on the command line.

The Generate Report Definition Cards window appears as shown in the example below:

```
Generate Report Definition Cards
Please enter the following information for generation

File/DDNAME for output .... RVUCARD
Report Definition Prefix .. _____
```

- 4 On the line labeled "File/DDNAME for output", type the file or DD name for the sequential file where the batch report parameter statements are to be written.

The default name RVUCARD appears on this line.

- 5 On the line labeled **Report Definition Prefix**, type the report name and press ENTER.

To generate batch parameters for a series of reports, you may use an asterisk for "wildcard" prefixing and suffixing.

For example, to generate batch parameters for all reports with names beginning with "T", enter T* on the **Report Definition Prefix** line. For all reports with names ending with "test", enter *test.

You receive a message that the generation process has been started; however, you do not receive a message when the process is complete.

- 6 To ensure that the batch parameters were generated, examine the sequential data set where the parameters were to be written.

This section covers the following topics:

- [Sample Statements](#)

Sample Statements

The following is an example of the batch statements generated by the GENCARD command for a sample report:

```

INPUT  FILETYPE=SEQUENTIAL,
        BUFFERS-4K=124,
        BUFFERS-32K=15,
        FILES=1,
        REVIEW-COMMANDS=NO
REPORT TYPE=SUMMARY,
        TITLE='GENERATE EXAMPLE',
        PROGRAM=RD-00055,
        RESTART=Y,
        HISTORY-INTERVAL=15,
        MAXSTORE=8
DISPLAY SEQUENCE,CMD,RSP,TPUSERID,NATAPPL,NATPROG
SUM      IOS,CMDRESP,ADADURA
AVERAGE IOS,CMDRESP,ADADURA
PERCENT  IOS,CMDRESP,ADADURA
INCLUDE  RSP-(0,3,17,148),JOBNAME=(JOB1*-JOB3*)
COPY     FILETYPE=ADABAS,HUB=221,FNR=002,SVC=237
LOG      DSN=RVLOG,
        EXIT=LOGEX1,
        LOGIO=YES

```

Statement	Generated using information. . .
INPUT	about the target database from the List Target function (LT).
REPORT	from several sources: the report TYPE, TITLE, and PROGRAM from the List Report (LR) function; the other parameters from the Report Options screen of the Edit Report (ER) function.
DISPLAY	about the control break fields for summary reports or the data fields to be printed for detailed reports from the Edit Report and Report Options screens of the Edit Report (ER) function.
SUM AVERAGE PERCENT	about data fields from the Edit Report screen of the Edit Report (ER) function.
INCLUDE	from the Report Processing Rules screen of the Edit Report (ER) function.
COPY	from the history parameters of the Report Options screen.
LOG	from the logging parameters of the Report Options screen.

For a more detailed description of these statements, refer to the section *Using Batch Report Statements*, elsewhere in this section.

Using Batch Report Statements

This section describes the syntax to be used if you are entering the batch statements manually or are making changes to statements generated by the GENCARD command.

Here is a summary table of the batch statements used by the Adabas Review processor. For information about the data fields used with the statements, refer to the *Field Reference* in the *Adabas Review Reference Guide*.

Statement	Use
AVERAGE	Specifies the data fields for calculating average values in summary reports.
COPY	Copies input detail records or summary data records to a sequential data set or the Adabas Review repository.
COST	Specifies the factors to be used in resource cost calculations for summary records.
DISPLAY	Defines the control break fields for summary reports, and specifies the data fields to be printed for detailed reports.
ENV	Specifies a numerical factor for adjusting values returned in the CMDRESP field.
ENVIRONMENT	Allows the user to specify CPU-ID and database ID. This information is included in output generated by a COPY statement for a report.
EXCLUDE	Defines specific input detail records to be excluded from processing for both summary and detailed reports.
INCLUDE	Defines specific input detail records to be included in processing for both summary and detailed reports.

Statement	Use
INPUT	Defines the input data to be processed by the Adabas Review processor and optional output logging parameters.
LOG	Specifies how Adabas Review performs physical command logging.
MINIMUM	Specifies the data fields for which minimum values will be printed on summary reports.
MAXIMUM	Specifies the data fields for which maximum values are to be printed on summary reports.
PERCENT	Specifies the data fields for which percentage is to be calculated for summary reports.
RATE	Specifies the data fields for which rate is to be calculated for summary reports.
REPORT	Defines the type of report to be generated along with the report format and title lines.
ROUND	Specifies the data fields for which rounding is to occur.
SUM	Specifies the data fields for which total values will be produced on summary reports.

Parameter Statement Syntax

A parameter statement consists of a statement name followed by at least one blank and one or more optional (positional or keyword) parameters separated by commas:

```
statement name parm1, parm2, parm3 ,...
```

The following syntax rules pertain to parameter statements:

- Statements may be entered in positions 1-71.
- At least one blank must separate the statement name and the first parameter.
- Multiple parameters must be separated by commas.
- Blanks are not permitted within a parameter entry, except when enclosed within apostrophes.
- A statement with multiple parameters may be continued by ending the line with a comma followed by a blank, and entering the next parameter on the next line beginning in any position between 1-71.
- Comment lines may be inserted by entering an asterisk in position 1. Comment lines may also be inserted following the blank that ends the statement.

- **Positional Parameters**

- [Keyword Parameters](#)

Positional Parameters

Positional parameters specify the data fields to be summarized and/or displayed as part of the Adabas Review report.

A positional parameter is a single value, usually an Adabas command log field name. Refer to the *Field Reference* in the *Entire Net-Work Administration Reference Guide* for information about individual data fields.

Keyword Parameters

Keyword parameters either specify input record selection criteria or define specific parameter statement options. A keyword parameter consists of a keyword name, a keyword separator, and a parameter value.

Keyword names vary depending on the particular parameter statement. Field names referencing Adabas data fields are used as keyword names when specifying input record selection criteria. When defining a specific parameter statement option, specific keyword reserved words are used as keyword names.

Valid keyword separators include:

=, <, >, and ¬

These relational symbols (equal to, less than, greater than, and not equal to, respectively) are used to define selection criteria for Adabas Review report processing.

Parameter values are numeric, alphanumeric, or hexadecimal in format. Note that a hexadecimal value must be enclosed in apostrophes and be preceded by an "X". A list of values is identified by enclosing the list in parentheses with the values separated by commas. For a range of values, a hyphen is used to separate the low and high values of the range.

AVERAGE Statement

```
AVERAGE field-name, field-name,...
```

The AVERAGE statement specifies the data fields for which average values are to be calculated for an Adabas Review summary report.

The AVERAGE statement is applicable to summary reports only. Average values are calculated only for the valid data fields specified in this statement. Average values are summarized and printed on the summary report at each control break defined by the parameter statement for all data fields for which average values have been calculated. Average values are printed to one more rounded decimal place than the field data being averaged.

Example:

Print average values for the Adabas command log fields ASSOIO, WORKIO, and DATAIO on the summary report.

```
AVERAGE ASSOIO,WORKIO,DATAIO
```

COPY Statement

```

COPY FILETYPE = {SEQUENTIAL | ADABAS}
LIMIT = numeric-value
DBID = database-id
FILE = file-number
SVC = svc

```

where `DBID`, `FILE`, and `SVC` represent the Adabas Review repository.

The `COPY` statement specifies that input detail records to be copied to an Adabas file.

The keyword parameter `FILETYPE` specifies whether the data is to be copied to a sequential data set or to Adabas. The following functions can be performed using this statement:

- **Copy detail records to a sequential data set.**

The user can select subsets of detailed log records and copy them to different sequential data sets. These data sets can then be used as future input to Adabas Review.

- **Copy detailed or summary data to Adabas.**

The user can write specified information back into the Adabas Review repository where it can be viewed using either the online history functions or Adabas applications written by the user.

The physical command log may be created with less overhead for the Adabas nucleus by using this function with the Adabas Review processor running interactively.

The keyword parameter `LIMIT` specifies the maximum number of records to be copied. The default is to copy all records.

Examples:

1. Copy all input detail records satisfying the selection criteria specified on the `INCLUDE` statement to the sequential data set `RVUCOP nn` , where nn is incremented sequentially beginning with 01 for the first copied file.

```

REPORT TYPE=DETAIL
INCLUDE ...
DISPLAY ...
COPY FILETYPE=SEQUENTIAL

```

2. Copy all summary data records to the Adabas Review repository.

```

REPORT TYPE=SUMMARY
DISPLAY ...
COPY FILETYPE=ADABAS, DBID=133, FILE=3

```

COST Statement

```
COST {field1-name arithmetic-operator cost-factor, ... | FIXED }
```

The COST statement, which is used only in summary reports, specifies the factors to be used in calculating resource costs and the data fields to which the cost factors are to be applied. The costs calculated for the specified data fields are automatically printed on the output report. If costs are calculated for more than one data field, a combined total cost column is printed as the column to the far right on the summary report. The special reserved word FIXED specifies that a fixed cost is to be applied to each input detail record.

Valid arithmetic operators are: *, +, -, and @. The first three operators specify that the value of the designated data field is to be multiplied by the indicated cost factor (*), that a constant factor is to be added to the value of the data field (+), or that a constant value is to be subtracted from the value of the data field (-). The remaining operator (@) is used only with FIXED to specify that a fixed cost is to be applied to each input detail record.

Cost factors can be positive or negative numeric values containing up to four decimal places. Negative values can be used only with the operators * and @. Costs are calculated only for those data fields for which cost factors are specified.

Examples:

1. Calculate costs by multiplying the CMDRESP field by .0025 and multiplying the total IO count by 2.50.

```
COST CMDRESP*.0025,IO*2.50
```

2. Calculate costs by applying a fixed cost of 5.00 to each input detail record.

```
COST FIXED@5.00
```

3. Calculate costs by adding 1.5 to the value of the ASSOIO field, multiplying the DATAIO field by a negative 1.25, multiplying the WORKIO field by a positive 2.

```
COST ASSOIO+1.5,DATAIO*-1.25,WORKIO*
```

DISPLAY Statement

```
DISPLAY field-name, field-name,...
```

The DISPLAY statement defines the control break fields for Review summary reports. Data is summarized at each control break specified in this statement for all data fields for which calculations have been performed.

One DISPLAY statement *must* be specified with at least one field for a summary report.

The DISPLAY statement is also used to specify the data fields to be printed on Review detailed reports.

Examples:

1. Print data summarized by Adabas COMMAND within file number (FNR) within JOBNAME on the summary report.


```
DISPLAY JOBNAME, FNR, COMMAND
```

2. Print the data fields SEQUENCE, DATE, USERID, and CMDRESP on the detailed report in the order specified.

```
DISPLAY SEQUENCE, DATE, USERID, CMDRESP
```

ENV Statement

```
ENV ENV-FACTOR = nnnnn.nnnn
```

 **Note:** Adabas Review makes no claim to be able to recover or report actual CPU time.

If you are not satisfied with the values you receive in the Adabas Review `CMDRESP` field, you can use the ENV control statement to adjust the values.

"`nnnnn.nnnn`" is the factor to be multiplied by the value reported in the Adabas Review field `CMDRESP` to adjust it to the total Adabas nucleus session CPU time reported by the operating system. All digits must be specified. The default value is 1.0000; the maximum value is 99999.9999.

▶ To implement the ENV control statement:

- 1 Run your Adabas nucleus with an autostarted Review report that shows the total of all command response time for the nucleus session (`CMDRESP` field).
- 2 When the database is stopped, examine the output report and note the total `CMDRESP` value as reported by Adabas Review.
- 3 Obtain the total CPU time used by the Adabas nucleus session as reported by the operating system.
- 4 Compare the two values and determine the relationship between them.
- 5 For the next Adabas nucleus session, you can adjust the Adabas Review value to more closely approximate the operating system value by inserting the ENV control statement into the `RVUAUT1/2` or `RVUPARM` after the `INPUT` statement and before the first `REPORT` statement.

Examples:

1. Review `CMDRESP=100.0000`; CPU time reported by the operating system=`50.0000`.

The ratio between the two values is 2:1 where the Adabas Review `CMDRESP` field value is two times the Adabas nucleus session CPU time reported by the operating system.

To adjust this for the next Adabas session, set the ENV control statement parameter `ENV-FACTOR` to 0.5000 so that Review divides the `CMDRESP` value by 2.

The `RVUAUT` statements may be similar to the following:

```
INPUT FILETYPE=SEQUENTIAL,
      BUFFERS-4K=124,
      BUFFERS-32K=15,
      FILES=1,
```

```
REVIEW-COMMANDS=YES
ENV ENV-FACTOR=0.5000
REPORT TYPE=SUMMARY,
      TITLE='TOTAL CMDRESP',
      PROGRAM=RD-00089,
      RESTART=Y,
      MAXSTORE=8
      TARGET=00nnn
DISPLAY DBNAME
SUM COMMANDS,IOS,CMDRESP
```

2. Review CMDRESP=25.0000; CPU time reported by the operating system=100.0000.

The ratio between the two values is 1:4 where the Adabas Review CMDRESP field value is one quarter of the Adabas nucleus session CPU time reported by the operating system.

To adjust this for the next Adabas session, set the ENV control statement parameter ENV-FACTOR to 4.0000 so that Review multiplies the CMDRESP value by 4.

ENVIRONMENT Statement


```
ENVIRONMENT { CPU-ID = cpu-id | DATABASE-ID = database-id }
```

The ENVIRONMENT statement specifies the identification number of the CPU or database from which the Adabas command log originated. The ENVIRONMENT statement should only be used with the COPY statement (see [COPY Statement](#) for more information).

EXCLUDE Statement

EXCLUDE *field-name relation-symbol (value, value,...), ...*

The EXCLUDE parameter statement defines specific input detail records that are to be excluded from processing, based on the values of specified *fields*.

 **Note:** EXCLUDE parameter statements with multiple field names have different logical meanings if the field names are entered as multiple EXCLUDE statements rather than as a single continuous statement. If entered as a single statement, the Boolean operator AND is implied; if entered as multiple statements, the Boolean operator OR is implied.

Relational symbols specify the test that should be conducted on a field value. Input detail records are excluded if the value of the designated data field passes the test specified by the relational symbol. For example, if the specified field is equal to, less than, greater than, or not equal to the value indicated in the parameter statement, it is excluded. Valid relational symbols that can be specified are:

	Symbols	Hex Equivalent
Equal to	=	X'7E'
Less than	<	X'4C'
Greater than	>	X'6E'
Not equal to	¬	X'5F'

 **Note:** The symbol for "not equal to" varies; it may be either "^" or "¬". The hexadecimal equivalent is the same on all machines.

Parameter *values* may be in numeric, alphanumeric, or hexadecimal format.

- Hexadecimal values must be enclosed in apostrophes and preceded by an "X". In addition, hexadecimal values should be padded with blanks (X'40') to ensure that every available field byte is specified. The blank padding can be specified either at the beginning or the end of the value specification. For example, to exclude all input detail records with a hexadecimal 8-byte NATAPPL field value of "ABC", enter the statement as:

```
EXCLUDE NATAPPL=(X'C1C2C34040404040')
```

- Alphanumeric fields may use an asterisk (*) for wildcard prefixing and suffixing. For example, to exclude all job names beginning with "A" and all job names ending with "TEST", enter the statement as:

```
EXCLUDE JOBNAME=(A*,*TEST)
```


To specify a list of values, enclose the values in parentheses and separate them with commas. For example, the following specification excludes input detail records with JOBNAME field values equal to "AAAAAAAA", "BBBBBBBB", or "CCCCCCCC":

```
EXCLUDE JOBNAME=(AAAAAAAA,BBBBBBBB,CCCCCCCC)
```

To specify a range of values, the low and high values of the range should be separated by a hyphen. For example, the following specification excludes input detail records with NATAPPL field values in the range from "AA" through "X" or with the value "AABC":

```
EXCLUDE NATAPPL=(AA-X,AABC)
```

If one of the values itself contains a hyphen, enclose it in quotes. For example, the following specification excludes input detail records with NATAPPL field value "AA-X" or with the value "AABC":

```
EXCLUDE NATAPPL=('AA-X',AABC)
```

Examples

1. The following example excludes input detail records from processing if the value of the SEQUENCE field is less than 100 AND the value of the JOBNAME field is equal to "AAAAAAAA" or is within the range "XXXXXXXX" through "ZZZZZZZZ".

```
EXCLUDE
SEQUENCE<100,JOBNAME=(AAAAAAAA,XXXXXXXX-ZZZZZZZZ)
```

2. The following example excludes input detail records from processing if the value of the SEQUENCE field is less than 100 OR the value of the JOBNAME field is equal to "AAAAAAAA" or is within the range "XXXXXXXX" through "ZZZZZZZZ".

```
EXCLUDE SEQUENCE<100
EXCLUDE JOBNAME=(AAAAAAAA,XXXXXXXX-ZZZZZZZZ)
```

INCLUDE Statement

```
INCLUDE field-name relation-symbol (value, value,...), ...
```

The INCLUDE parameter statement defines specific input detail records to be included in processing, based on the values of specified *fields*. An individual field name may only be specified once in an INCLUDE statement. For example, the following INCLUDE statement is invalid because it specifies the SEQUENCE field twice:

```
INCLUDE SEQUENCE>100, SEQUENCE=3
```



Note: INCLUDE parameter statements with multiple field names have different logical meanings if the field names are entered as multiple INCLUDE statements rather than as a single continuous statement. If entered as a single statement, the Boolean operator AND is implied; if entered as multiple statements, the Boolean operator OR is implied.

Relational symbols specify the test that should be conducted on a field value. Input detail records are included if the value of the designated data field passes the test specified by the relational symbol. For example, if the specified field is equal to, less than, greater than, or not equal to the value indicated in the parameter statement, it is included. Valid relational symbols that can be specified are:

	Symbols	Hex Equivalent
Equal to	=	X'7E'
Less than	<	X'4C'
Greater than	>	X'6E'
Not equal to	¬	X'5F'



Note: The symbol for "not equal to" varies; it may be either "^" or "¬". The hexadecimal equivalent is the same on all machines.

Parameter *values* may be in numeric, alphanumeric, or hexadecimal format.

- Hexadecimal values must be enclosed in apostrophes and preceded by an "X". In addition, hexadecimal values should be padded with blanks (X'40') to ensure that every available field byte is specified. The blank padding can be specified either at the beginning or the end of the value specification. For example, to include all input detail records with a hexadecimal 8-byte NATAPPL field value of "ABC", enter the statement as:

```
INCLUDE NATAPPL=(X'C1C2C34040404040')
```

- Alphanumeric fields may use an asterisk (*) for wildcard prefixing and suffixing. For example, to include all job names beginning with "A" and all job names ending with "TEST", enter the statement as:

```
INCLUDE JOBNAME=(A*,*TEST)
```

To specify a list of values, enclose the values in parentheses and separate them with commas. For example, the following specification includes input detail records with JOBNAME field values equal to "AAAAAAAA", "BBBBBBBB", or "CCCCCCCC":

```
INCLUDE JOBNAME=(AAAAAAAA,BBBBBBBB,CCCCCCCC)
```

To specify a range of values, the low and high values of the range should be separated by a hyphen. For example, the following specification includes input detail records with NATAPPL field values in the range from "AA" through "X" or with the value "AABC":

```
INCLUDE NATAPPL=(AA-X,AABC)
```

If one of the values itself contains a hyphen, enclose it in quotes. For example, the following specification includes input detail records with NATAPPL field value "AA-X" or with the value "AABC":

```
INCLUDE NATAPPL=('AA-X',AABC)
```

Examples

1. Include input detail records in Adabas Review processing only if the value of the SEQUENCE field is greater than 100, AND the value of the JOBNAME field is equal to "AAAAAAAA" or "ZZZZZZZZ", AND the value of the response code field (RSP) is within the range 9 through 150.



Note: The same field name may not be used more than once for a particular INCLUDE statement.

```
INCLUDE
SEQUENCE>100,JOBNAME=(AAAAAAAA,ZZZZZZZZ),RSP=(9-150)
```

2. Include input detail records in Adabas Review processing if the value of the SEQUENCE field is greater than 100, OR if the value of the JOBNAME field is equal to "AAAAAAAA" or "ZZZZZZZZ", OR if the value of the response code (RSP) field is within the range 9 through 150.

```
INCLUDE SEQUENCE>100
INCLUDE JOBNAME=(AAAAAAAA,ZZZZZZZZ)
INCLUDE RSP=(9-150)
```

INPUT Statement

```

INPUT FILETYPE = SEQUENTIAL
LIMIT = nnnn
BUFFERS-4K = nnnn, BUFFERS-32K = nnnn
FILES = nnnn
REVIEW-COMMANDS = {YES | NO}
SKIP = nnnn
    
```

1

— where FILES is used only under z/VSE.

The INPUT parameter statement defines the characteristics of the input records to be processed by the Adabas Review processor. The statement format is described in the following table:

Keyword	Specifies . . .
FILETYPE	the file type of the input records to be processed. The default and the only value currently possible is SEQUENTIAL, which implies Adabas command log record input or input from the interactive processor.
LIMIT	the maximum number of input records to be processed. The default is to process all of the input records. A value of "99999999" indicates that there is no limit.
BUFFERS-4K	<p>the number of buffer pool entries that have a length of 4096 or less. This parameter is usually specified along with the BUFFERS-32K parameter. If this parameter is not specified, any BUFFERS-32K parameter setting is ignored. The minimum allowable specification is 124.</p> <p>If the BUFFERS-4K and BUFFERS-32K parameters are not specified, the setting of the BUFFER-SEGMENTS parameter is used. If the BUFFER-SEGMENTS parameter is also not specified, a default of 124 4K buffers and 15 32K buffers is used.</p>
BUFFERS-32K	<p>the number of buffer pool entries that have a length of 4097 or greater. This parameter is usually specified along with the BUFFERS-4K parameter. If this parameter is not specified, any BUFFERS-4K parameter setting is ignored. The minimum allowable specification is 15.</p> <p>If the BUFFERS-4K and BUFFERS-32K parameters are not specified, the setting of the BUFFER-SEGMENTS parameter is used. If the BUFFER-SEGMENTS parameter is also not specified, a default of 124 4K buffers and 15 32K buffers is used.</p>
BUFFER-SEGMENTS	the number of 512-byte segments to be obtained for the Adabas Review buffer pool when running the Adabas Review interactive processor. When a value for BUFFER-SEGMENTS is specified, the total storage indicated by the specification

Keyword	Specifies . . .
	<p>is split in half between 4K buffers and 32K buffers. The minimum allowable specification is 2000.</p> <p>The BUFFERS-4K and BUFFERS-32K parameters can be used as alternates to the BUFFER-SEGMENTS parameter. The BUFFER-SEGMENTS parameter is still valid, but is ignored if the BUFFERS-4K or BUFFERS-32K parameter is specified.</p> <p>If this parameter is not specified and the BUFFERS-4K and BUFFERS-32K parameters are not specified, a default of 124 4K buffers and 15 32K buffers is used.</p> <p>Note: The BUFFER-SEGMENTS parameter is supported only for compatibility reasons. It will be removed in a future version of Adabas Review, so we recommend that you use the .BUFFERS-4K and BUFFERS-32K parameters instead.</p>
FILES	(z/VSE only) the number of input command log files to be processed.
REVIEW-COMMANDS	<p>whether commands issued by Adabas Review should be included in the command processing for all reports.</p> <p>REVIEW-COMMANDS=NO indicates that special Adabas commands for Adabas Review (for example V4 commands) are not used for accounting and monitoring. To suppress RC commands issued from the SYSREVDB application as well, set the Natural profile ADAPRM parameter ON (ADAPRM=ON).</p> <p>REVIEW-COMMANDS=YES indicates that these commands are used for accounting and monitoring.</p> <p>Note: Some fields might not be available for the commands supported by Adabas Review online system (V4 commands), especially when running in a hub environment. These fields include TP monitor fields, Natural fields, duration fields and buffer fields.</p>
SKIP	the number of command log records to bypass before Adabas Review begins processing.
REVLOGMAX	When the sum of sizes of the logged buffers for one command on the Adabas command log reaches the value of the REVLOGMAX parameter, the buffer exceeding the limit is truncated and all following buffers are omitted for internal processing. The minimum setting is 2000; the maximum setting is 32768, and this is also the default. If buffers are omitted, fields may not be filled.
REVLOGBMAX	<p>If a buffer is longer than this value, the logged buffer is truncated from the point at which its size exceeds the setting of the REVLOGBMAX parameter. The minimum setting is 0; the maximum setting is 30000, and the default value is 1024.</p> <p>If buffers are truncated, fields or parts of fields may not be filled.</p>

LOG Statement

```

LOG   DSN = dd-file-name
      EXIT = exit-name
      LOGS = numeric-value
      SIZE = numeric-value
      LIMIT = numeric-value
      LOGFB = {YES | NO}
      LOGIB = {YES | NO}
      LOGIO = {YES | NO}
      LOGRB = {YES | NO}
      LOGSB = {YES | NO}
      LOGVB = {YES | NO}

```

The LOG statement determines how Adabas Review is to perform physical command logging or summary logging; i.e., what information is to be logged and where it is to be written.

The following table describes the parameters within the LOG statement:

Parameter	Specifies . . .	Valid for Report Type
DSN	the file name prefix for the file where the logs are to be written. A number is appended to this name based on the LOGS parameter. If DSN=RVLOG and LOGS=2, the command log data is written to files RVLOG01 and RVLOG02.	Detailed and Summary
EXIT	the name of the user exit to be called when a log data set is closed and before the next log data set is opened. For complete information about the command or summary logging user exit, read <i>REVUXLOG: Command or Summary Logging User Exit</i> , in the <i>Adabas Review Reference Guide</i>	Detailed and Summary
LOGS	the number of log data sets for the report.	Detailed and Summary
SIZE	the maximum number of blocks allocated to the log data set. When the SIZE parameter value is reached, the exit specified in the EXIT parameter is called, and the next log data set is opened for output.	Detailed and Summary
LIMIT	the maximum number of records for a detailed report to be logged in the command log data set. The default is to log all detail lines. A value of "99999999" indicates that there is no limit.	Detailed only
LOGFB	whether the format buffer is to be logged for command logging for detailed reports.	Detailed only
LOGIB	whether the ISN buffer is to be logged for command logging for detailed reports.	Detailed only

Parameter	Specifies . . .	Valid for Report Type
LOGIO	whether I/O information is to be logged for command logging for detailed reports.	Detailed only
LOGRB	whether the record buffer is to be logged for command logging for detailed reports.	Detailed only
LOGSB	whether the search buffer is to be logged for command logging for detailed reports.	Detailed only
LOGVB	whether the value buffer is to be logged for command logging for detailed reports.	Detailed only

MAXIMUM Statement

```
MAXIMUM field-name, field-name,...
```

The MAXIMUM parameter statement applies only to Adabas Review summary reports. It specifies the data fields for which maximum values are to be printed on these reports. Maximum values are printed only for the valid data fields specified in this statement.

Maximum values are summarized and printed on the summary report at each control break defined by the DISPLAY parameter statement for all data fields for which maximum values have been determined.

Example:

Determine maximum values for the Adabas log fields ASSOIO, WORKIO, and DATAIO and print them on the summary report.

```
MAXIMUM ASSOIO,WORKIO,DATAIO
```


MINIMUM Statement

```
MINIMUM field-name, field-name,...
```

The MINIMUM parameter statement applies only to Adabas Review summary reports. It specifies the data fields for which minimum values are to be printed on these reports. Minimum values are printed only for the valid data fields specified in this statement.

Minimum values are summarized and printed on the summary report at each control break defined by the DISPLAY parameter statement for all data fields for which minimum values have been determined.

Example:

Determine minimum values for the Adabas log fields ASSOIO, WORKIO, and DATAIO and print them on the summary report.

```
MINIMUM ASSOIO,WORKIO,DATAIO
```

PERCENT Statement

```
PERCENT field-name, field-name,...
```

The PERCENT parameter statement applies only to Adabas Review summary reports. It specifies the data fields for which percentage values are to be printed on these reports. Percentage values are printed only for the valid data fields specified in this statement.

Percentage values are summarized and printed on the summary report at each control break defined by the DISPLAY parameter statement for all data fields for which percentage values have been determined.

Example:

Determine percentage values for the Adabas log fields ASSOIO, WORKIO, and DATAIO and print them on the summary report. The sum of the percentage values for each specified data field is 100 percent.

```
PERCENT ASSOIO,WORKIO,DATAIO
```

RATE Statement

```
RATE field-name, field-name, ...
```

The RATE parameter statement applies only to Adabas Review summary reports. It specifies the data fields for which rate values are to be printed on these reports. Rate values are printed only for the valid data fields specified in this statement.

Rate values are summarized and printed on the summary report at each control break defined by the DISPLAY parameter statement for all data fields for which rate values have been determined.

Example:

Determine rate values for the Adabas log fields ASSOIO, WORKIO, and DATAIO and print them on the summary report. The rate will be calculated as the amount of data collected per second.

```
RATE ASSOIO,WORKIO,DATAIO
```

REPORT Statement

The REPORT statement is critical in that it indicates that all of the following statements up to the next REPORT statement define the contents of the current report.

```

REPORT TYPE = { DETAIL | SUMMARY }
  [ ADALIMIT = { count | 0 } ]
  [ BREAK = { YES | NO } ]
  [ DISPLAYBY = { SORTED | SUMFIELD | USAGE | SORTEDDE | DATETIME } ]
  [ ENTRIES = { count | 999999 } ]
  [ HISTORY-INTERVAL = { minutes | 0 } ]
  [ LIMIT = { count | 99999999 } ]
  [ {LINESIZE | WIDTH} = { count | 133 } ]
  [ MAXSTORE = { kilobytes | 8 } ]
  [ {PAGESIZE | PAGE-SIZE} = { count | 55 } ]
  [ PRINT = { YES | NO } ]
  [ PROGRAM = { pgm-name | RD-DEFLT } ]
  [ REPORT-EXIT = detail-rpt-exit-name ]
  [ RESTART = { YES | NO } ]
  [ {SKIP | SKIPPING} = { 1 | 2 } ]
  [ {SPACE | SPACING} = { count | 1 } ]
  [ SUMMARY-EXIT = summary-rpt-exit-name ]
  [ TARGET = database-id ]
  [ {TITLE = " character-string " | TITLE1 = " character-string " TITLE2 = " character-string "} ]
  [ WRAP = {YES | NO } ]

```

The REPORT statement defines the type of report to be generated by the Adabas Review processor. The following table describes the parameters in the REPORT statement:

Parameter	Specifies . . .	Default	Valid for Report Type
TYPE	whether the report to be generated is a detail or summary report. Valid values are DETAIL (generate a detail report) or SUMMARY (generate a summary report). This parameter must be specified; there is no default.	---	Detailed and Summary
ADALIMIT	a minimum command count (number of times the command was processed) for printing a summary report. For example, if ADALIMIT=100, only entries with a command count of 100 or higher are printed.	0	Summary only
BREAK	whether subtotals are printed at control breaks or suppressed. Valid values are YES (print subtotals) and NO (do not print subtotals).	YES	Summary only
DISPLAYBY	the order in which the data is displayed. Valid values are: SORTED Display data in ascending order by control break.	SORTED	Summary only

Parameter	Specifies . . .	Default	Valid for Report Type
	<p>SUMFIELD Display data in descending order by the first field marked as a sum field.</p> <p>USAGE Display data in descending order by usage (e.g., most used to least used command).</p> <p>SORTEDEDE Display data in descending order by control break.</p> <p>DATETIME Display data in ascending order by the start date and time of the control break. interval.</p>		
ENTRIES	the maximum number of entries that a report will process, thus restricting the amount of data collected by the summary report.	999999	Summary only
HISTORY-INTERVAL	the frequency (in minutes) with which history data is written for a summary report.	0	Summary only
LIMIT	the maximum number of detail lines to be printed on the output report. The default is to print all detail lines. A value of "99999999" indicates that there is no limit.	99999999	Detailed only
{LINESIZE WIDTH}	the width of a report line. The line width can be stated as any numeric value of at least 72 characters and not greater than 989 characters.	133	Detailed and Summary
MAXSTORE	the maximum amount of storage (in kilobytes) available for the report.	8	Summary only
PAGESIZE	the length (in lines) of a report page. The minimum is 10 lines. The default is 55 lines, which provides a top and bottom margin for standard printer spacing on a total page size of 66 lines.	55	Detailed and Summary
PRINT	whether the report will be printed at database termination. Valid values are YES (print the report at database termination) and NO (do not print the report at database termination).	YES	Detailed and Summary
PROGRAM	the name of the display program to be used if the report results are displayed online.	RD-DEFLT	Detailed and Summary
REPORT-EXIT	<p>the name of the report user exit that is executed whenever a command log record is selected for a detailed report. There is no default for this parameter.</p> <p>For more information about these exits, read <i>REVUXDET: Report Exit for Detailed Reports</i> and</p>	no exit is called	Detailed only

Parameter	Specifies . . .	Default	Valid for Report Type
	<i>REVUXSUM: Report Exit for Summary Reports, in the Adabas Review Reference Guide.</i>		
RESTART	whether the report is reactivated after the history interval is reached, the report is closed, or the report MAXSTORE limit is exceeded. Valid values are YES (reactivate the report) and NO (do not reactivate the report).	NO	Summary only
SKIP	whether to single-space or double-space the detail lines on the output report. The default is to single-space the detail lines. Valid values are 1 (single-space the output report) and 2 (double-space the output report).	1	Detailed and Summary
SPACE	the number of spaces to allow between the data fields printed on the output report. This factor applies to all data fields on detailed reports but only to the fields defined as control breaks by the DISPLAY parameter statement on summary reports. The default is to allow one space between data fields.	1	Detailed and Summary
SUMMARY-EXIT	the name of the report user exit that is executed whenever an Adabas command or a summary record is selected for a summary report. Read <i>Report Exits in Specifying Reporting Options</i> (elsewhere in this guide for more information). There is no default for this parameter.	no exit is called	Summary only
TARGET	the database from which the report collects data. If this parameter is missing, invalid, or zero, the report is ignored and will not be started.	0	Detailed and Summary
TITLE	the title line for the report when only one line is used. A maximum of 60 characters is allowed. The default value is blanks.	blanks	Detailed and Summary
TITLE1 TITLE2	the title lines for the report when more than one line is used. A maximum of 60 characters is allowed for each title line. The default value is blanks.	blanks	Detailed and Summary
WRAP	whether wrapping (i.e., reusing data elements for the report) will occur. Valid values are YES (wrapping should occur) and NO (wrapping should not occur).	NO	Summary only

Example:

Define a summary report with the title "A Report with Exit" to collect data from database 12345. The display program RD-00001 is to be used if the report results are displayed online. The maximum storage limit for the report will be 16 kilobytes and the report will be automatically reactivated when the maximum storage limit is exceeded. The user-written exit MYEXIT will be called whenever a command log record is selected for the report.

```
REPORT TYPE=SUMMARY,TITLE='A REPORT WITH  
EXIT',  
PROGRAM=RD-00001,TARGET=12345,RESTART=Y,  
REPORT-EXIT=MYEXIT,MAXSTORE=16
```

See the section [Parameter Statement Processing](#) for another example.

ROUND Statement

```
ROUND field-name = name
```

The ROUND parameter statement applies only to Adabas Review summary reports. It specifies the data fields for which rounding is to occur on these reports. The fields specified on the ROUND statement must also be specified on the DISPLAY statement.

Example:

Round the Adabas DURATION field up to .05 of a second.

```
ROUND DURATION=.05
```


SUM Statement

```
SUM field-name, field-name, ...
```

The SUM parameter statement applies only to Adabas Review summary reports. It specifies the data fields for which value totals are to be calculated on these reports. Values are printed on the summary report at each control break defined by the DISPLAY parameter statement for all data fields that have been summed.

Example:

Print the summed values for the DURATION field, Associator IOs, Data Storage IOs, and Work IOs on the summary report.

```
SUM      DURATION, ASSOIO, DATAIO, WORKIO
```

Parameter Statement Processing

This section discusses the processing order of Adabas Review parameter statements and the effect of that order on the contents of detailed and summary reports.

- [Defining Reports](#)
- [Multiple Parameter Statements](#)
- [INCLUDE/EXCLUDE Statements](#)

Defining Reports

The most critical parameter statement is the REPORT statement. It indicates that all of the following statements up to the next REPORT statement define the contents of the current report.

Example:

```
REPORT  TYPE=DETAIL
INCLUDE ...
DISPLAY ...
```

```
REPORT  TYPE=SUMMARY
EXCLUDE ...
DISPLAY ...
AVERAGE ...
SUM     ...
```

```
REPORT  TYPE=DETAIL
DISPLAY ...
```

There are three distinct reports: the first and third reports are detailed reports; the second report is a summary report. Each report includes/excludes different input records; different statistics are compiled and printed for each report.

Multiple Parameter Statements

A parameter statement containing multiple parameter entries can be entered as one continuous statement or as several statements, each containing one or more parameter entries. For all parameter statements except the INCLUDE, EXCLUDE, and DISPLAY statements, either method will produce the same results.

Examples:

1. Print the sum for the values in the data fields COMMANDS, ASSOIO, and DATAIO on the report.

```
SUM    COMMANDS, ASSOIO, DATAIO
```

2. Example 2 produces the same results as example 1:

```
SUM    COMMANDS
SUM    ASSOIO
SUM    DATAIO
```

INCLUDE/EXCLUDE Statements

INCLUDE/EXCLUDE parameter statements with multiple parameters have different logical meanings based on whether the parameters are entered as separate statements or as a single continuous statement.

Examples:

1. In this example, logical AND is implied between the SEQUENCE parameter and JOBNAME and RSP parameters. Input detail records must satisfy *all* three conditions in order to be selected for processing:

```
INCLUDE
SEQUENCE>100, JOBNAME=AAAAA, RSP<150
```

2. In this example, logical OR is implied between each INCLUDE statement. Input detail records meet the selection criteria by satisfying *any* of the three conditions specified in the statements:

```
INCLUDE SEQUENCE>100
INCLUDE JOBNAME=AAAAA
INCLUDE RSP<150
```

3. In this example, logical AND is implied between the SEQUENCE parameter and the JOBNAME and DATE parameters entered on the first INCLUDE statement. Input detail records must satisfy *all*

three conditions in order to be selected for processing. No further checking is done on the records satisfying these conditions; they are included in the processing regardless of whether they satisfy the conditions set by the remaining parameter statements:

```
INCLUDE  
SEQUENCE>100, JOBNAME=AAAAA, DATE<90201  
EXCLUDE  RSP>0  
INCLUDE  MONTH=12, DAY>15  
EXCLUDE  FNR<101
```



Note: It is not possible to use a field (parameter) more than once in a single INCLUDE statement; that is, in a logical AND operation.

Input detail records that do not satisfy the conditions specified on the first INCLUDE statement are checked against the selection criteria specified on the next EXCLUDE statement. All records satisfying this condition (i.e., RSP>0) are excluded from processing and no further checking is done on these records.

The detail records that have not been specifically included or excluded from processing by the first two parameter statements are checked against the selection criteria specified on the next INCLUDE statement. Again, logical AND is implied between the MONTH and DAY parameters entered on this statement, and both conditions must be met in order for records to be selected for processing. No further checking is performed on the records satisfying these conditions; they are included in the processing regardless of whether they satisfy the conditions set by the final EXCLUDE statement. The remaining input detail records are then checked against the final EXCLUDE statement. All records satisfying the specified condition (i.e., FNR<101) are excluded from processing.

Note that all records not excluded by the final EXCLUDE statement are included in the processing. If the final statement is an INCLUDE statement, all records satisfying the specified conditions for inclusion are included in the processing.

Batch Processor Job Control Requirements

This section covers the following topics:

- [For z/OS Environments](#)
- [For z/VSE Environments](#)

- For BS2000 Environments

For z/OS Environments

The job shown below is contained in member REVIEWB of the Adabas Review source library and can be used to execute the Adabas Review processor in batch.

► To modify the job before submitting it:

- 1 Change *vrs* to the current version, revision, and system maintenance level of the product.
- 2 Modify the job statement, if necessary.
- 3 Modify the DD statement for RVUSEQ as necessary. Point to a command log file generated by Adabas or Adabas Review.
- 4 Add any additional RVUPRT_{xx} or RVUCOP_{xx} DD statements as necessary depending on your report definitions (where *xx* is a value from "01" through "99").

```
//REVIEWB JOB
(LOCATION), `REVIEW',MSGCLASS=X,CLASS=A
//*
//REVIEWB EXEC PGM=REVIEWB,REGION=512K
//STEPLIB DD DISP=SHR,DSN=REVIEW.Vvrs.LOAD
//          DD DSN=SHR,DSN=ADABAS.Vv.LOAD
//*
//RVUSEQ DD DSN=SHR,DSN=ADABAS.COMMAND.LOG.FILE.
//          DCB=(RECFM=VB,BLKSIZE=10000)
//RVUFLD DD DSN=SHR,DSN=REVIEW.Vvrs.SOURCE(RVUFLD)
//*
//RVUPRT00 DD SYSOUT=X,LRECL=80
//RVUPRT01 DD SYSOUT=X,LRECL=133
//RVUPRT02 DD SYSOUT=X,LRECL=133
//SYSUDUMP DD SYSOUT=X
//TRACEOUT DD SYSOUT=X,LRECL=133
//*
//RVUPARM DD *
INPUT FILETYPE=SEQUENTIAL,LIMIT=1000
*
REPORT TYPE=SUMMARY,TITLE=`SAMPLE REPORT'
AVERAGE DURATION,ASSO-IO,DATA-IO,CMDRESP
MINIMUM DURATION,ASSO-IO,DATA-IO,CMDRESP
MAXIMUM DURATION,ASSO-IO,DATA-IO,CMDRESP
DISPLAY JOB
*
/*
```

The following DD statements are required, or optional where noted, for executing the Adabas Review processor in interactive or batch mode:

DD Statement	Description
RVUPARM	A data set of control statements that specify input report parameters (LRECL=80). RVUPARM is a data set of control statements that specify input report parameters to Adabas Review's batch processor. These statements can be generated by the GENCARD command and copied from the resulting RVUCARD output into the RVUPARM data set. For more information, read <i>Generating Batch Report Parameters</i> , earlier in this section.
RVUSEQ	Sequential data set containing command log records: RECFM=VB,LRECL=9996,BLKSIZE=10000 This command log file can be generated directly by Adabas (LOGGING=YES) or by using Adabas Review's physical logging facility as described in <i>Logging Options</i> , elsewhere in this guide.
RVUCOPxx	(Optional) Copied output logs; same format as RVUSEQ (where "xx" is 01-99).
RVUPRTxx	Review logical printers (where "xx" is 01-99). LRECL is required. It may be in the range of (72-4080); LRECL=133 is typical.
RVUALT	Alternate sequential file used to save history information if the Adabas Review processor, either interactively or in batch, receives an Adabas response code 148 (Adabas not active) when attempting to save history data. This file should be allocated using the following DCB attributes: RECFM=VB,LRECL=9996,BLKSIZE=10000
RVUAUT1	(Optional in batch mode) Parameter statements for autostarted reports; LRECL=80.
RVUAUT2	(Optional in batch mode) Parameter statements for autostarted reports; LRECL=80. Note: Adabas Review uses two parameter files for the report definition control statements and alternates between them by writing to the older file. See the section Autostarted Reports on page .
RVUFLD	Parameter statements; LRECL=80. Parameters to describe user-defined fields.



Note: Command log files generated by Adabas must be in sequential (DDLOG) format. You **must not** use a dual command log file directly as input to Adabas Review. If you are using Adabas dual command logging, the command log file must first be copied out to a sequential file using the Adabas utility ADARES function CLCOPY.

For z/VSE Environments

The job shown below is contained in member REVIEWB of the Adabas Review source library and can be used to execute the Adabas Review processor in batch.

► To modify the job before submitting it:

- 1 Change "vrs" to the current version, revision, and system maintenance level of the product.
- 2 Modify the job statements, if necessary.

- 3 Modify the job control statement for RVUSEQ as necessary. Point to one of the command log files.
- 4 Add any additional RVUPRTxx or RVUCOPxx job control statements as necessary, depending on your report definitions (where "xx" is a value 01 through 99).

```
// JOB REVIEWB                               sample
Review job
// EXEC PROC=REVvrs                          Review private libraries
// ASSGN SYS005,SYSIPT                       RVUPARM - statements
// ASSGN SYS006,DISK,VOL=VVVVVV,SHR        RVUSEQ - tape
// ASSGN SYS007,IGN                         MAY be IGN for batch
// ASSGN SYS020,PRINTER                     RVUPRT0 - printer
// ASSGN SYS021,CUU                         RVUPRT1 - printer
// DLBL RVUSEQ, 'ADABAS.Vvr.COMMAND.LOG'   RVUSEQ - command
log
// EXTENT SYS006,VVVVVV
// EXEC REVIEWB,SIZE=(AUTO,64K)
INPUT FILETYPE=SEQUENTIAL,LIMIT=1000
REPORT TYPE=SUMMARY,TITLE='SAMPLE REPORT'
AVERAGE DURATION
MINIMUM DURATION,ASSO-IO,DATA-IO,CMDRESP
MAXIMUM DURATION,ASSO-IO,DATA-IO,CMDRESP
DISPLAY JOB
/*
```



Note: The logical units shown in the example above may be reassigned if there are conflicts with your site-specific logical units. Refer to the *Adabas Review z/VSE Installation Guide* documentation for more information.

The following job control statements are required, or optional where noted, for executing the Adabas Review processor in interactive mode or batch mode:

Job Control Statement	Logical Unit(s)	Description
RVUPARM	SYS005	Parameter statements; 80-byte records. RVUPARM is a data set of control statements that specify input report parameters to Adabas Review's batch processor. These statements can be generated by the GENCARD command and copied from the resulting RVUCARD output into the RVUPARM data set. For more information, read <i>Generating Batch Report Parameters</i> , earlier in this section.

Job Control Statement	Logical Unit(s)	Description
RVUSEQ	SYS006	Sequential data set containing command log records: Record Format = VB, Record Length = 9996, Block Size = 10000. This command log file can be generated directly by Adabas (LOGGING=YES) or by using Adabas Review's physical logging facility as described in section <i>Logging Options</i> , elsewhere in this guide.
RVUCOPx	SYS031-39	(Optional) Copies output logs; same format as RVUSEQ (where "x" is 1-9).
RVUPRTx	SYS020-29	Review logical printers (where "x" is 0-9).
RVUALT	SYSxxx*	Alternate sequential file used to save history information if the Adabas Review processor, either interactively or in batch, receives an Adabas response code 148 (Adabas not active) when attempting to save history data. This file should be allocated using the job DBFILES in the Adabas Review source library. * May be any unused value.
RVUAUT1 / RVUAUT2	SYS007	(Optional in batch mode) Parameter statements for autostarted reports. Adabas Review uses two parameter files for the report definition control statements and alternates between them by writing to the older file. Note: SYS007 may be assigned to IGN when running Adabas Review in batch mode.



Note: Command log files generated by Adabas must be in sequential (DDLOG) format. You **must not** use a dual command log file directly as input to Adabas Review. If you are using Adabas dual command logging, the command log file must first be copied out to a sequential file using the Adabas utility ADARES function CLCOPY.

For BS2000 Environments

The job shown below is contained in member P.REVBATCH of the Adabas Review source library and can be used to execute the Adabas Review processor in batch.

► Modify the job before submitting it, as described in the following steps:

- 1 Set &ADAL to the Adabas Library.
- 2 Set &BATCH to the output file prefix.
- 3 Set &CLOG to the command log generated by Adabas or Adabas Review.
- 4 Set &LIC to the Software AG product license required for Adabas and Adabas Review.
- 5 Set &REVL to the Adabas Review Library.
- 6 Modify the parameters following the /STA-PROG EDT statements to those required for the job.

```

/BEGIN-PROC C,PROC-PAR=( -
/ &ADAL=$SAG.ADABAS.MOD,-
/ &BATCH=BATCH,-
/ &CLOG=$SAG.DB00099.CLOGR1,-
/ &DB=00099,-
/ &DUMP=YES,-
/ &LIC=$SAG.ADABAS.LICENSE,-
/ &REVL=$SAG.REVIEW.MOD -
/ ),ESC-CHAR='&'
/REMARK
/REMARK          *****
/REMARK          *    START REVIEW BATCH                                *
/REMARK          *****
/REMARK
/MOD-TEST          DUMP=&DUMP
/DEL-F #RVUPARM
/SET-JOB-STEP
/CRE-FILE #RVUPARM ,PUB()
/SE-FILE-LINK EDTSAM ,#RVUPARM ,REC-FORM=F, REC-SIZE=80
/MOD-J-SW ON=(4,5)
/ASS-SYSDTA *SYSCMD
/STA-PROG EDT
INPUT FILETYPE=SEQUENTIAL,LIMIT=1000
REPORT TYPE=SUMMARY,TITLE='SAMPLE REPORT'
AVERAGE DURATION,ASSO-IO,DATA-IO,CMDRESP
MINIMUM DURATION,ASSO-IO,DATA-IO,CMDRESP
MAXIMUM DURATION,ASSO-IO,DATA-IO,CMDRESP
DISPLAY JOB
@W '#RVUPARM' 0
@H
/SET-JOB-STEP
/MOD-J-SW OFF=(4,5)
/SET-JOB-STEP
/DEL-F &BATCH..RVUPRT00
/SET-JOB-STEP
/CRE-FILE &BATCH..RVUPRT00 ,PUB()
/SE-FILE-LINK EDTSAM ,&BATCH..RVUPRT00 ,REC-FORM=F, REC-SIZE=80
/MOD-J-SW ON=(4,5)
/ASS-SYSDTA *SYSCMD
/STA-PROG EDT
*
@W '&BATCH..RVUPRT00' 0
@H
/SET-JOB-STEP
/MOD-J-SW OFF=(4,5)
/SET-JOB-STEP
/DEL-F &BATCH..RVUPRT01
/SET-JOB-STEP
/CRE-FILE &BATCH..RVUPRT01 ,PUB()
/SE-FILE-LINK EDTSAM ,&BATCH..RVUPRT01 ,REC-FORM=F, REC-SIZE=160
/MOD-J-SW ON=(4,5)
/ASS-SYSDTA *SYSCMD

```



```

/STA-PROG EDT
*
@W '&BATCH..RVUPRT01' 0
@H
/SET-JOB-STEP
/MOD-J-SW OFF=(4,5)
/SET-JOB-STEP
/DEL-F &BATCH..RVUPRT02
/SET-JOB-STEP
/CRE-FILE &BATCH..RVUPRT01 ,PUB()
/SE-FILE-LINK EDTSAM ,&BATCH..RVUPRT01 ,REC-FORM=F, REC-SIZE=160
/MOD-J-SW ON=(4,5)
/ASS-SYSDTA *SYSCMD
/STA-PROG EDT
*
@W '&BATCH..RVUPRT02' 0
@H
/SET-JOB-STEP
/MOD-J-SW OFF=(4,5)
/SET-JOB-STEP
*
/DEL-F #RVUFLD
/SET-JOB-STEP
/CRE-FILE #RVUFLD ,PUB()
/SE-FILE-LINK EDTSAM ,#RVUFLD ,REC-FORM=F, REC-SIZE=80
/MOD-J-SW ON=(4,5)
/ASS-SYSDTA *SYSCMD
/STA-PROG EDT
*****
NAME=USERFLD1
  LEN=1
  INTYPE=B
  OUTTYPE=H
  OFFSET=16
  DISPLEN=2
  HEADER=BUFFTYPE
  CALC=N
NAME=USERFLD2
  LEN=1
  INTYPE=B
  OUTTYPE=H
  OFFSET=18
  DISPLEN=2
  HEADER=CMDTYPE
  CALC=N
NAME=USERFLD3
  LEN=4
  INTYPE=C
  OUTTYPE=C
  OFFSET=136
  DISPLEN=4
  HEADER=ADD2CHAR

```

```

    CALC=N
@W '#RVUFLD' 0
@H
/SET-JOB-STEP
/MOD-J-SW OFF=(4,5)
/SET-JOB-STEP
/ASS-SYSLST L.REV&DB..BAT.L
/REMA ASS-SYSOUT L.REV&DB..BAT.0
/ASS-SYSDTA *SYSCMD
/SE-F-LI      RVUAUT1,*DUMMY
/SE-F-LI      RVUAUT2,*DUMMY
/SE-F-LI      RVUPRT00,&BATCH..RVUPRT00
/SE-F-LI      RVUPRT01,&BATCH..RVUPRT01
/SE-F-LI      RVUPRT02,&BATCH..RVUPRT02
/SE-F-LI      RVUSEQ,&CLOG
/SE-F-LI      RVUPARM,#RVUPARM
/SE-F-LI      RVUFLD,#RVUFLD
/REMA
/SE-F-LI      DDLIC,&LIC
/SE-F-LI      DDLIB,&ADAL
/SE-F-LI      REVLIB,&REVL
/SE-F-LI      BLSLIB00,&REVL
/SE-F-LI      BLSLIB01,&ADAL
/SET-JOB-STEP
/STA-PROGRAM  (&REVL,REVBATCH),PR-MO=A,RUN-M=ADV(A-L=YES)
/REMA SET-JOB-STEP
/ASS-SYSLST *PRIM
/REMA ASS-SYSOUT *PRIM
/ASS-SYSDTA *PRIM
/END-PROC

```

The following link statements are required (or are optional where noted), for executing the Adabas Review processor in interactive or batch mode:

Link Statement	Description
RVUPARM	Parameter statements; REC-FORM=FIXED(REC-SIZE=80). RVUPARM is a data set of control statements that specify input report parameters to Adabas Review's batch processor. These statements can be generated by the GENCARD command and copied from the resulting RVUCARD output into the RVUPARM data set. For more information, read <i>Generating Batch Report Parameters</i> , earlier in this section.
RVUSEQ	Sequential data set containing command log records. This command log file can be generated directly by Adabas (LOGGING=YES) or by using Adabas Review's physical logging facility as described in section <i>Logging Options</i> , elsewhere in this guide.
RVUCOPxx	(Optional) Copied output logs; same format as RVUSEQ (where xx is 01-99).
RVUPRTxx	Review logical printers (where xx is 01-99). Sequential file with REC-FORM=FIXED(REC-SIZE=133).

Link Statement	Description
RVUALT	Alternate sequential file used to save history information if the Adabas Review processor, either interactively or in batch, receives an Adabas response code 148 (Adabas not active) when attempting to save history data.
RVUAUT1	(Optional in batch mode) Parameter statements for autostarted reports; REC-FORM=FIXED(REC-SIZE=80).
RVUAUT2	(Optional in batch mode) Parameter statements for autostarted reports; REC-FORM=FIXED(REC-SIZE=80).

**Notes:**

1. Adabas Review uses two parameter files for the report definition control statements and alternates between them by writing to the older file. See the section Autostarted Reports. RVUFLD Parameter statements; REC-FORM=FIXED(REC-SIZE=80). Parameters to describe user-defined fields.
2. Command log files generated by Adabas must be in sequential (DDLOG) format. You **must not** use a dual command log file directly as input to Adabas Review. If you are using Adabas dual command logging, the command log file must first be copied out to a sequential file using the Adabas utility ADARES function CLCOPY.

6 Using Adabas Review in Batch Natural

- Identifying the Target ID, Database ID, and File Number 106
- Example 107
- Processing History Data in Batch Natural 109
- Unloading and Restoring Report Definitions 110

You can start and review Adabas Review reports in a batch job to obtain statistics on a batch Adabas job as output from the job itself.

To run the batch job in the correct environment, you must specify the:

- Target ID (the database or hub ID with which the subsequent program or programs will communicate). This is referred to as the DBID/Hub or current Adabas Review target in SYSREVDDB. This must be specified explicitly when running in hub mode.
- Database ID and file number where the Adabas Review repository file is located. These are referred to as the Repository DBID and Repository File in SYSREVDDB. This information is required when accessing history data in the batch job.

This chapter covers the following topics:

Identifying the Target ID, Database ID, and File Number

The default target ID is the database in which the Natural system file is located. If the LFILE parameter for logical file number 241 is specified, the DBID value from this parameter will be taken. The default for the repository database ID and file number are specified using the Natural LFILE parameter for logical file number 24..

A defined SYSREVDDB (online Natural) user profile overrides any default settings. However, the target ID setting can be specified in SYSREVDDB using the command `MENU HUB=hubid` prior to issuing the START command for a report.

However, both the Natural default settings and the SYSREVDDB user profile settings of the target ID, database ID, and file number can be overridden using the SET statement in any of the existing batch Natural job streams.

The syntax of the SET statement is:

```
SET TARGET = targetid
DBID = dbid
FILE = fn
```

The SET statement overrides the Natural default and SYSREVDDB values for the target ID, database ID, and file number. The values specified by SET remain in effect until changed by a new SET statement.

When you specify the SET statement in a batch Natural job stream, you must also specify one or more of the following: a TARGET parameter and value, a DBID parameter and value, or a FILE

parameter and value. Only one of each parameter *type* can be specified in a single SET statement (for example, you cannot specify two DBID parameters in the same SET statement). If you specify more than one of the parameters (for example, a TARGET and a DBID parameter), they can be specified in any order and should be separated with commas.

The following is an example of the SET statement in a batch Natural job stream:

```
//CMSYNIN DD *  
LOGON SYSREVDDB  
SET TARGET=558,DBID=559,FILE=24  
START REVIEW.REPORT.NAME  
FIN  
//*
```

Example

A batch Natural job (PAYROLL1) is run each night. When the job is completed, Adabas summary statistics are requested to determine the number of Adabas calls issued by the job, the files accessed, the type of Adabas commands issued, and a summary of ASSO, DATA, and WORK IOs for each command type within each file.

▶ **To implement the request for Adabas summary statistics:**

- 1 Ensure that the Review load library is in the STEPLIB concatenation.
- 2 Define the following report definition and related processing rules to Adabas Review:

```

20:47:38                A D A B A S - R E V I E W                2009-06-18
                        Edit Report                                HUB=15690

Detail/Summary: S
Report Name: TRACE PAYROLL REPORT_____ DBID to Monitor: _____

+-----+
!  Field      Order  Sum  Min  Max  Avg  Pct  Rate  Round  !
!-----!
! FILE_____  _10   -   -   -   -   -   -   -   !
! CMD_____  _20   -   -   -   -   -   -   -   !
! COMMANDS    _____ X   -   -   -   -   -   -   !
! ASSOIO_____ X   -   -   -   -   -   -   -   !
! DATAIO_____ X   -   -   -   -   -   -   -   !
! WORKIO_____ X   -   -   -   -   -   -   -   !
! _____  _____ -   -   -   -   -   -   -   !
! _____  _____ -   -   -   -   -   -   -   !
! _____  _____ -   -   -   -   -   -   -   !
! _____  _____ -   -   -   -   -   -   -   !
+-----+
                        Page 1
                        This report contains processing rules

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Optns Exit          Save Start - +          Rules FlDs Menu
  
```

```

20:47:59                A D A B A S - R E V I E W                2009-06-18
                        Report Processing Rules                    HUB=15690

                        TRACE PAYROLL REPORT

+-----+
!  Field      Op      Value                                     And/Or  !
!-----!
! JOBNAME_   EQ  PAYROLL1_____                                     !
! _____  _____ _____                                     !
! _____  _____ _____                                     !
! _____  _____ _____                                     !
! _____  _____ _____                                     !
! _____  _____ _____                                     !
! _____  _____ _____                                     !
! _____  _____ _____                                     !
! _____  _____ _____                                     !
! _____  _____ _____                                     !
! _____  _____ _____                                     !
! _____  _____ _____                                     !
+-----+
                        Page 1

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Optns Exit          Save Start - +          FlDs Menu
  
```

3 Save the report definition.

- 4 Change the PAYROLL1 job stream if necessary to produce the required results shown below:

```
LOGON SYSREVDDB          <---logon to
Review Natural library
START TRACE.PAYROLL.REPORT targetid  <---start Review report
LOGON PAYROLL
*
* PAYROLL1 NATURAL STREAM
*
LOGON SYSREVDDB          <---logon to Review Natural
library
VIEW TRACE.PAYROLL.REPORT targetid    <---to display report results
DELREP TRACE.PAYROLL.REPORT targetid  <---to delete report results
FIN
```

Processing History Data in Batch Natural

You may also use batch Natural programs to display, purge, or compress history data from the Adabas Review repository. Adabas Review provides sample jobs to perform these tasks.

▶ **To use these jobs:**

- 1 Add the report name and date range.
- 2 Enter any embedded blanks in the report name as periods.

▶ **To display history data:**

- Use the HISTVIEW job.

The following Natural statements are contained in the display history data job stream:

```
LOGON SYSREVDDB          <--logon to Review Natural library.
HISTORY A.HISTORY.REPORT start-date end-date <--report name and dates.
FIN
/*
```

▶ **To delete history data:**

- Use the HISTDEL job.

The following Natural statements are contained in the delete history data job stream:

```
LOGON SYSREVDDB          <--logon to Review Natural library.  
DELHIST A.HISTORY.REPORT start-date end-date <--report name and dates.  
FIN  
/*
```

► **To compress history reports:**

- Use the HISTCOMP job.

The following Natural statements are contained in the compress history job stream:

```
LOGON SYSREVDDB          <--logon to Review Natural library.  
COMPRESS A.HISTORY.REPORT start-date end-date et-factor <--report info.  
FIN  
/*
```

Unloading and Restoring Report Definitions

Review report definitions can be unloaded to a sequential data set for backup, archive or for the purpose of moving the definition to a different Review system. There are two batch Natural programs to accomplish this, ULDREP and LODREP. ULDREP unloads a single report definition to a sequential data set as defined by the Natural work file CWFWK01. LODREP restores the definition from the same sequential data set.

The syntax for ULDREP is:

```
ULDREP report.name
```

where *report.name* is the report name with periods between each word in the report name.

The syntax for LODREP is:

```
LODREP report.name
```

The job control statements to run ULDREP and LODREP are the same as other Review batch Natural jobs such as START, VIEW and DELHIST.

7 Managing Report Output

▪ Viewing Report Results	112
▪ Scrolling Through Report Results in Redisplay Mode	114
▪ Sorting Report Results	114
▪ Printing Report Results	121
▪ Downloading Report Output	121
▪ Purging Accumulated Data	122

This chapter describes the commands you can use to process the results of started reports.

Viewing Report Results

The `VW` command enables you to view the data accumulated by a history report or a report that has been started. The command may be issued from any of the list function screens (LR, LS, and LH).

When you issue the `VW` command, the display program associated with the report is executed, and the collected data is displayed online.

▶ **To view report results from the report list screen:**

- Enter the command `VW` on the selection line preceding the name of a history report or a report that has been started.

The results of the report appear. An example of report results available using the `VW` command is shown in the Thread Activity screen below:

```

19:57:10                APPLICATION FILE FIELD USAGE                2009-06-18
                19:56:36 2009-06-18 Thru 19:56:43 2009-06-18      HUB=15690
                                                                Page:    1
NAT-Appl  File  Fld-Name      Total          Total          Total
                Num-of-IOs      Commands      Cmd-Resp
-----
                0                0                1          0.001920
                50                0                3          0.387072
                50 OA            0                3          0.387072
                50 OB            0                3          0.387072
                50 OC            0                3          0.387072
                50 OD            0                3          0.387072
                50 OG            0                3          0.387072
                50 OH            0                3          0.387072
                50 OI            0                3          0.387072
                50 OJ            0                3          0.387072
                50 OK            0                3          0.387072
                50 OL            0                3          0.387072
                50 O1            0                3          0.387072

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Sort  Exit      --      +      ==>  Menu
    
```

You can scroll forward through the report using the PF8 key. For information on scrolling backwards and forwards through the report data, read [Scrolling Through Report Results in Redisplay Mode](#), elsewhere in this section



Note: Restrictions apply to the commands that may be issued while viewing reports. For more information, refer to the *Command Reference*, in the *Entire Net-Work Administration Reference Guide*.

- [Viewing Wide Reports](#)
- [Viewing Multiple Reports](#)

Viewing Wide Reports

When reports have more columns than will fit on a screen, PF10 and PF11 may be used to scroll the display to the left or right. When available, these keys are marked with left and right arrows. PF10 scrolls the display to the left, and PF11 scrolls the display to the right. The first column is repeated on each screen.

Viewing Multiple Reports

You can view more than one report. More than one VW command can be entered at a time on the [Report Definitions](#) or [Started Reports](#) screens. The reports are opened in the order they appear on the report list screen. You can only view them one at a time; the first report must be closed before the next one can be viewed.



Note: You cannot view multiple history reports. In other words, you cannot issue more than one VW command on the [History Reports](#) (LH) screen.

▶ To view multiple report results from the report list screen:

- 1 Enter the command VW on the selection line preceding the name of more than one report that has been started.

The results of the first report appear.

You can scroll forward through the report using the PF8 key. For information on scrolling backwards and forwards through the report data, read [Scrolling Through Report Results in Redisplay Mode](#), elsewhere in this section

- 2 When you have finished viewing the results of the first report, press PF3 to close it.

The results of the second report you selected for viewing appear.

- 3 Repeat Step 2 until all reports have been viewed and closed.

Scrolling Through Report Results in Redisplay Mode

When you view report data that spans multiple screens, you can normally only scroll forward through the data. If you need to scroll both backwards and forwards through the data, you must enter *redisplay* mode.

In redisplay mode, a copy of the most recently-collected data is displayed and is not refreshed until you leave redisplay mode. However, while you are in redisplay mode, Adabas Review continues to collect and summarize data, depending on the report definition and the frequency at which the data for the report changes. So it is possible that the report data you observe in redisplay mode may not match the data you see when you leave redisplay mode.

▶ **To enter redisplay mode and scroll backward and forward through your report data:**

- 1 While **viewing the report**, click PF7 to enter redisplay mode.

The colors of the report on the screen change.

- 2 Use the PF7 and PF8 keys to scroll forward and backward through the report data in redisplay mode.

▶ **To leave redisplay mode:**

- Press PF3 to end redisplay mode.

Redisplay mode ends and the next screen of the report (the screen after the one from which you originally entered redisplay mode) appears. If you were on the last screen of the report when you entered redisplay mode, the first screen of the report appears.

Sorting Report Results

The VIEW command has within it a SORT command that enables you to dynamically change the setting of the "Display By" report option.

The following settings are available within the SORT command:

Setting	Sorts the data in . . .	Display Option
Account (Ascend)	ascending order by control break	SORTED
Number of Commands	descending order by the "Number of Commands"	USAGE
First Summary Field	descending order by the first field designated as a summary field in the report definition	SUMFIELD
Account (Descend)	descending order by control break	SORTEDDE
Date and Time	ascending order by the start date and time of the control break interval	DATETIME
Physical Sequence	the physical sequence in which it was collected Note: This setting is not available in batch mode.	LINEAR

This section covers the following topics:

- [Using the SORT Command](#)
- [Examples of Sort Options](#)

Using the SORT Command

▶ To issue the SORT command:

- 1 Enter the `VW` command on the selection line preceding the name of a started report.
- 2 From the display of the report results, press `PF2` or enter `SORT` on the command line.

A window is displayed, listing the sort options. The option preceded by an arrow (`>`) is the current sorting sequence report option.

- 3 Change the sort option by placing the cursor on your selection and pressing `ENTER`.

The order of the data in the display is changed according to the sort option you selected.

Examples of Sort Options

The "Sample Sort Displays" report example illustrates the differences in data presentation that occur when the `SORT` command is used with the `VIEW` command. This example collects and calculates the following statistics on Adabas commands:

■ The Physical Sequence Option

The Account (Ascend) Option

Using the "Account (Ascend)" sort option (equivalent to setting the Display By parameter to "SORTED"), the results of the "Sample Sort Displays" report are displayed as follows:

```

20:16:51                                SAMPLE SORT DISPLAYS                                2009-06-18
                                20:02:01 2009-06-18 Thru 20:15:47 2009-06-18                                HUB=15690
                                                                                                            Page:    1
Time  Cmd      Total          Total          Total          Avg
      Cmd      Cmd-Resp      Num-of-IOs     Commands      Cmd-Resp
-----
20:00 RC          0.005760          0           3           0.001920
      S1          0.774144          0           6           0.129024
***** ***          0.779904          0           9           0.086656
20:15 L3          0.838656          0          12           0.069888
      RC          0.003840          0           2           0.001920
      S1          0.774144          0           6           0.129024
***** ***          1.616640          0          20           0.080832
***** ***          2.396544          0          29           0.082639

*****  E N D    O F    R E P O R T    *****

REV00245 - PF-KEY NOT DEFINED
Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Sort  Exit          --          +          ==>  Menu
    
```

Data is grouped in ascending order by the first control break, the 15M field. Within the hour group, the data is grouped in ascending order by the second control break, the CMD field.

The Number of Commands Option

Using the "Number of Commands" sort option (equivalent to setting the Display By parameter to "USAGE"), the results of the "Sample Sort Displays" report are displayed as follows:

```

16:43:10                               SAMPLE SORT DISPLAYS                               2003-07-07
                               16:28:44 04-22-1996 Thru 16:31:06 04-22-1996                               LOCL=00009
Time  Cmd      Total      Total      Total      Avg
      Response  IOs      Commands  Response
-----
16:30 N1      0.086016    747      168      0.000512
16:15 N1      0.232544    540      97       0.002397
16:30 L6      0.006640    533      24       0.000276
16:30 ET      0.028688    22       11       0.002608
16:15 L6      0.036960    261      9        0.004106
16:15 S1      0.026304    7        3        0.008768
16:15 ET      0.008320    6        3        0.002773
***** ***      0.425472    2116    315     0.001350
*****  E N D    O F    R E P O R T  *****

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Sort Exit                               +                               ==> Menu
    
```

Data is grouped in descending order by the "Number of Commands".



Note: In Adabas Review, COMMANDS is now a selectable field. The "Number of Commands" sort option may be used to sort the display, even if the COMMANDS field is not displayed in the report.

The First Summary Field Option

Using the "First Summary Field" sort option (equivalent to setting the "Display By" parameter to "SUMFIELD"), the results of the "Sample Sort Displays" report are displayed as follows:

```

16:43:21                               SAMPLE SORT DISPLAYS                               2003-07-07
                               16:28:44 04-22-1996 Thru 16:31:06 04-22-1996                               LOCL=00009
Time  Cmd      Total      Total      Total      Avg
      Response  IOs      Commands  Response
-----
16:15 N1      0.232544    540      97       0.002397
16:30 N1      0.086016    747     168      0.000512
16:15 L6      0.036960    261      9        0.004106
16:30 ET      0.028688    22       11       0.002608
16:15 S1      0.026304    7        3        0.008768
16:15 ET      0.008320    6        3        0.002773
16:30 L6      0.006640    533     24       0.000276
***** ***      0.425472    2116    315     0.001350
*****  E N D    O F    R E P O R T  *****

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Sort Exit                               +                               ==> Menu
    
```

Data is grouped in descending order by the Total Response column, because the CMDRESP field was designated as the first summary field.

The Account (Descend) Option

Using the "Account (Descend)" sort option (equivalent to setting the Display By parameter to "SORTEDDE"), the results of the "Sample Sort Displays" report are displayed as follows:

```

16:43:33                                SAMPLE SORT DISPLAYS                                2003-07-07
                                16:28:44 04-22-1996 Thru 16:31:06 04-22-1996                                LOCL=00009
Time  Cmd      Total      Total      Total      Avg
      Response  IOs      Commands  Response
-----
16:30 N1        0.086016      747        168        0.000512
      L6        0.006640      533         24        0.000276
      ET        0.028688       22         11        0.002608
***** ***      0.121344     1302        203        0.000597
16:15 S1        0.026304       7          3        0.008768
      N1        0.232544     540         97        0.002397
      L6        0.036960     261          9        0.004106
      ET        0.008320       6          3        0.002773
***** ***      0.304128     814        112        0.002715
***** ***      0.425472    2116        315        0.001350
*****  E N D    O F    R E P O R T    *****

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Sort  Exit                                +                                ==>  Menu
    
```

Data is grouped in descending order by the first control break, the 15M field. Within the 15 minute interval, the data is grouped in descending order by the second control break, the CMD field.

The Date and Time Option

Using the "Date and Time" sort option, the results of the "Sample Sort Displays" report are displayed as follows:

```

16:43:42                SAMPLE SORT DISPLAYS                2003-07-07
                        16:28:44 04-22-1996 Thru 16:31:06 04-22-1996  LOCL=00009
Time  Cmd      Total      Total      Total      Avg
      Response  IOs      Commands  Response
-----
16:15 N1      0.232544      540      97      0.002397
16:15 S1      0.026304      7        3      0.008768
16:15 L6      0.036960     261      9      0.004106
16:15 ET      0.008320      6        3      0.002773
16:30 L6      0.006640     533     24      0.000276
16:30 N1      0.086016     747    168      0.000512
16:30 ET      0.028688      22     11      0.002608
***** ***      0.425472     2116    315      0.001350
*****  E N D   O F   R E P O R T   *****

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Sort  Exit                               +                               ==>  Menu
    
```

Data is grouped in ascending order by the start date and time of the control break interval.

The Physical Sequence Option

Using the "physical sequence" sort option, the results of the "Sample Sort Displays" report are displayed as follows:

```

16:01:50                SAMPLE SORT DISPLAYS                2003-07-07
                        15:46:24 06-14-1996 Thru 16:01:46 06-14-1996  LOCL=00009
Time  Cmd      Total      Total      Total      Avg
      Response  IOs      Commands  Response
-----
15:45 L6      0.008064     123     63      0.000128
      E4      0.001344      7        6      0.000224
      E1      0.002880     54     12      0.000240
      RI      0.000800      0       25      0.000032
      CL      0.026160      7        3      0.008720
***** ***      0.583040     4188    7553      0.000077
16:00 S4      0.023760     12     135      0.000176
      A1      0.033968     125    193      0.000176
      ET      0.003040     85     95      0.000032
      L3      0.038560     156    482      0.000080
      RC      0.011296      0     706      0.000016
      L9      0.006912     22    108      0.000064
      S1      0.008832     47     69      0.000128

Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Sort  Exit                               +                               ==>  Menu
    
```

Data is grouped in the order of the physical sequence in which it was collected.

Printing Report Results

The `HC` command enables you to send report results to a printer, if the hard copy feature of Natural is available. The `HC` command may be issued from the list of history reports or the list of started reports (LH or LS functions).

▶ **To print report results:**

- Enter the command `HC` on the selection line preceding the report name.

Downloading Report Output



Notes:

1. This command requires that you have Entire Connection installed.
2. The `DL` command is not available from the View Report Results (VW) screen.

The `DL` command enables you to download report output to a personal computer. This command may be issued from the Started Reports screen (LS function) or the History Reports screen (LH function).

▶ **To download report results:**

- 1 Enter the `DL` command on the selection line preceding the report name.

Entire Connection prompts you for a file name. A default directory name is displayed; you may specify a different directory name, if desired.

- 2 Press `ENTER` to begin the download procedure.

You are notified when the download procedure is completed.

The data downloaded to your personal computer contains only the contents of the fields in the report. The headings and edit masks supplied by the display program do not appear in the downloaded data.

Purging Accumulated Data

The data accumulated by a report that has been started may be purged by issuing the PS command from the Started Reports screen (LS function). The PS command also deactivates the started report so that no further data is accumulated.

▶ **To purge accumulated data:**

- 1 Enter the PS command on the selection line preceding the report name from the Started Reports screen.

Depending on your profile setting, you may be prompted to confirm the purge request.

- 2 Confirm the purge request, if required.

8 Managing History Data

- Listing History Reports 124
- Expanding the List of History Reports 126
- Compressing Accumulated History Report Data 127
- Purging Accumulated History Data 129

If any reports are set to save history data to the Adabas Review repository, data will accumulate that needs to be managed.

Listing History Reports

The List History Reports (LH) function lists reports that have written history data to the Adabas Review repository, and provides commands to view history data, download it to a personal computer, submit it for hard copy printing, and purge it. In addition, you may edit the report definition and its corresponding display program.

▶ **To access the List History Reports function:**

- Enter the code LH on the command line.

The Adabas History Reports screen is displayed:

```

20:29:12                A D A B A S - R E V I E W                2009-06-18
                        History Reports                            HUB=15690

  Sel   Report Name                Recs   Rpts   Start Date   End Date
+-----+-----+-----+-----+-----+-----+
!  ___  APPLICATION FILE FIELD USAGE      25     2   2009-06-18  2009-06-18 !
!  ___  COMMAND LOGGING                   6     1   2009-06-18  2009-06-18 !
!                                           !
!                                           !
!                                           !
!                                           !
!                                           !
!                                           !
!                                           !
!                                           !
!                                           !
!                                           !
!                                           !
!                                           !
!                                           !
+-----+-----+-----+-----+-----+-----+

Command: _____
Enter - PF1 --- PF2 --- PF3 --- PF4 --- PF5 --- PF6 --- PF7 --- PF8 --- PF9 --- PF10 --- PF11 --- PF12 ---
        Help      Exit                               +                               Menu
    
```

An explanation of the Adabas History Reports screen is provided in the following table:

Heading	Explanation
Sel	Selection line. Commands are entered on the selection line preceding the report name. For a list of available commands, enter a "?" on the selection line.
Report Name	Name of the report.
Recs	Records. Indicates the number of records written to the Adabas Review repository by this report.
Reports	Indicates the number of times that history data was written for the report.
Date Range	Starting and ending dates in which the report was run. If the "Reports" column indicates more than one occurrence, the dates are inclusive.

PF8 has been provided as a scroll key. If more than one screen of report names exists, PF8 or (+) scrolls the list forward.

► **To issue a command from the Adabas History Reports screen:**

- Enter the command on the selection line preceding the report name.

You may use the following commands:

Cmd	Action
CH	Compress history report
DD	Display report information
DL	Download history data (from expanded list only)
EP	Edit display program
ER	Edit report definition
EX	Expand history list (from summary screen only)
HC	Print history data (hard copy)
PH	Purge history data (from expanded list only)
VW	View history data. You are prompted for a date and time range for the history data report. If you specify no date or time range, all history data is presented. If you specify a date with no time, all history data for that day is presented.

Expanding the List of History Reports

If the list of history reports (LH function) shows a report name as having more than one report, it means that the report has collected data on more than one occasion. Data has been stored on the history file each time the report was active.

▶ **To view information about each time a report has collected data:**


- Enter the command EX on the selection line preceding the report name.

The Expanded History List screen that appears is similar to the one shown below:

```
20:42:30          A D A B A S  -  R E V I E W          2009-06-18
                   History Reports (Expanded List)      HUB=15690

Sel   Report Name                               Start                               Stop
+-----+-----+-----+-----+-----+-----+
!  ___ APPLICATION FILE FIELD USAGE   2009-06-18 20:24:23 2009-06-18 20:25:09 !
!  ___ APPLICATION FILE FIELD USAGE   2009-06-18 20:26:59 2009-06-18 20:27:28 !
!                                     !
!                                     !
!                                     !
!                                     !
!                                     !
!                                     !
!                                     !
!                                     !
!                                     !
!                                     !
!                                     !
!                                     !
!                                     !
+-----+-----+-----+-----+-----+-----+

Command: _____
Enter - PF1 --- PF2 --- PF3 --- PF4 --- PF5 --- PF6 --- PF7 --- PF8 --- PF9 --- PF10 --- PF11 --- PF12 ---
      Help      Exit                               +                               Menu
```

 **Note:** A start time of CMPRSSED indicates that the report occurrence is the result of the compress history (CH) command.

Compressing Accumulated History Report Data

The compress history (CH) command causes all report occurrences within a date range to be summarized into a single report occurrence. The original report occurrences will then be purged.

This section covers the following topics:

- [Cautions](#)
- [Advantages](#)
- [Start Times for Compressed Reports](#)
- [Compression Procedure](#)

Cautions

- Using the CH command can dramatically reduce the number of records used to represent the report. However, since the individual report occurrences are deleted, you will lose the ability to view this data by different date ranges. All of the original report occurrences become one summarized report occurrence.
- If the CH command terminates abnormally for any reason, the original history data could be lost. It is recommended that a backup be made before executing this command. In the event of abnormal termination, the history file will be locked against further compression attempts for any report by any user. To remove this lock, and to clean up any unusable compressed data, enter the following into the command line of the Adabas Review Main Menu:

```
RESET HISTORY FILE
```

If history records were indeed lost, the reset program will inform you of this.

Advantages

- Once a date range has been compressed, it can be "recompressed" along with new report occurrences. For example, all occurrences of a report that happen during a month can be compressed into a monthly summary. At the end of the year, these monthly summaries can be compressed into an annual summary report.
- Unlike viewing history reports by date range, compressed reports can display percentage and rate fields, if they are viewed from the Expanded History List.

Start Times for Compressed Reports

All report occurrences that have been compressed will show a start time of `CMPRSED` on the Expanded History List.

Compression Procedure

▶ To compress accumulated history data:

- 1 From the History Reports screen, enter the `CH` command to compress history data for a specific report and press `ENTER`.

You are prompted to enter a date range for the records to be compressed.

- 2 Enter the date range and press `ENTER`.

A message is displayed, warning you that records could be lost due to abnormal termination.

- 3 Enter `"Y"` and press `ENTER` to continue

Or:

Enter `"N"` and press `ENTER` to cancel the compress command.

You are returned to the History Reports screen.

You are prompted to enter an `ET` (End Transaction) factor.

- 4 Enter an `ET` factor and press `ENTER`.

The `ET` factor describes the number of Adabas calls that will be performed before an `ET` (end transaction) is issued. There is no default value. If a value of less than 5 is entered, 5 will be assumed. A good value to start with is 25.

Or:

Press `ENTER` to accept the default value of 25.

Messages report the progress of the history data compression. The final message, "History report compression complete", indicates that the compression has completed.

Purging Accumulated History Data

The data accumulated by a history report is purged using the `PH` command.

▶ **To purge accumulated history data:**

- 1 From the History Reports screen, enter the `EX` command to expand the list so that all occurrences for the particular report are displayed.
- 2 From the expanded list, select the occurrence you want to delete, type the `PH` command on the selection line preceding the report name, and press `ENTER`.

Depending on the setting in your profile, you may be prompted to confirm the purge request.

- 3 Confirm the purge request, if required.

Index

Symbols

- + command, 3, 57, 125
- command, 3, 57
- ? command, 3, 20

A

- Account Data Table (ADT), 58
- ACCPT command, 22, 33
- Active Report Information screen
 - explained, 58
- Adabas
 - response code 148, 97, 99
- Adabas Pulse Reports
 - defining and running, 10
- Adabas Pulse reports
 - editing, 10
- ADALimit option, 42
- ADALIMIT parameter, 88
- asterisk (*), 26
- Autostart option, 42
- autostarted reports
 - setting the option, 42
- AVERAGE statement, 69

B

- batch
 - JCL requirements, 95
- batch mode processing, 63
- batch parameter statements
 - AVERAGE, 69
 - COPY, 70
 - COST, 71
 - DISPLAY, 72
 - ENV, 73
 - ENVIRONMENT, 75
 - EXCLUDE, 76
 - INCLUDE, 78
 - INPUT, 80
 - LOG, 82
 - MAXIMUM, 84
 - MINIMUM, 85
 - PERCENT, 86
 - RATE, 87
 - REPORT, 87
 - ROUND, 92

- SUM, 93
- batch statements
 - EXCLUDE, 94
 - INCLUDE, 94
 - using, 66
- Break option, 42
- BREAK parameter, 88
- Buffer Pool Report
 - editing, 9
- BUFFER-SEGMENTS parameter, 80
- Buffers to Log options, 44, 46
- BUFFERS-32K parameter, 80
- BUFFERS-4K parameter, 80
- BUFFPOOL program, 9

C

- calculations, 24
- CD command, 4
- CH command, 125, 126, 127
- change DBID (CD), 4
- CL command, 57, 60
- Cluster Services report, 14
- command logging options, 44
- COPY statement, 70
- copying report definitions (CR), 7
- COST statement, 71
- CP command, 4, 38
- CR command, 4, 7

D

- database
 - identifying the database to monitor, 19
- Database Field Selection screen, 19
- DBFILES job, 99
- DBID
 - changing in report definitions, 4
 - parameter, 70
 - specifying, 19
- DBID=11111, 19
- DD command, 4, 6, 57, 125
- Delta Statistics screen, 13
- detailed reports
 - field order effects, 22
- Display By option, 42
- DISPLAY statement, 72
- DISPLAYBY parameter, 88
- displaying report information, 6
- DL command, 57, 121, 125

DSN parameter, 82

E

EB command, 4, 9

Edit Adabas Pulse Report, 11

Edit Cluster Services Report screen, 14

Edit Display Program (EP), 36

Edit Report Definition (ER)

 editing existing reports

 field information, 31

 processing rules, 31

 report options, 33

 saving, 54

 starting, 54

 starting an edited report, 54

edit report definition (ER), 16, 29

Edit Report screen, 17

editing

 Adabas Pulse Reports, 10

 Cluster Services Report, 14

 existing reports, 29

 the Buffer Pool Report, 9

EL command, 10

Entries option, 42

ENTRIES parameter, 89

ENV statement, 73

ENVIRONMENT statement, 75

EP command, 4, 36, 57, 125

ER command, 4, 8, 36, 57, 125

ER function, 16

EX command, 14, 125, 126

EXCLUDE statement, 76, 94

EXIT parameter, 82

F

fields

 calculations, 24

 categories, 19

 numeric fields, 23

 selecting for reports, 19

 specifying field order in reports, 22

 specifying numeric options for summary reports, 23

File option, 44

FILE parameter, 70

FILES parameter, 81

FILETYPE parameter, 70, 80

FLDS command, 16, 17, 19, 27

G

GENCARD, 63

GENCARD command, 64, 97, 98, 102

Generate Report Definition Cards window, 64

H

HC command, 57, 121, 125

HISTCOMP job

 compress history reports, 110

HISTDEL job

 delete history data, 109

history data

 managing, 123

 processing in batch Natural, 109

History DBID option, 50

History FNR option, 50

History Int option, 49

History option, 49

history options

 at Adabas termination, 50

 description, 49

 for both detailed and summary reports, 49

 for detailed reports, 49

 for summary reports, 49

 timed intervals, 50

History Reports screen

 explained, 124

 issuing commands on, 125

History SVC option, 50

HISTORY-INTERVAL parameter, 89

HISTVIEW job

 display history data, 109

hyphen (-), 26

I

IN command, 57

INCLUDE statement, 78, 94

INPUT statement, 80

Intrvl option, 42

L

LF command, 17, 19, 27

LH command, 124

Limit option, 42

LIMIT parameter, 70, 80, 82, 89

Line option, 43

LINESIZE parameter, 89

List Fields (LF), 19

List History Reports (LH), 124

 screen, 124

List Started Reports (LS)

 screen, 55

listing

 report definitions, 2

LODREP, 110

Log Full Exit option, 45

Log option, 45

Log Size option, 45

LOG statement, 82

LOGFB parameter, 82

LOGIB parameter, 82

LOGIO parameter, 83

LOGRB parameter, 83

LOGS parameter, 82

LOGSB parameter, 83

LOGVB, 83

M

maintaining report definitions, 1

Max K option, 43

Max Restarts option, 43

MAXIMUM statement, 84

MAXSTORE

parameter, 89
 report parameter, 58
 MINIMUM statement, 85
 multiple reports, 113

N

Natural batch
 using Adabas Review in, 106
 using Adabas Review in processing history data, 109
 Num of Logs option, 46
 numeric fields, 23

O

options
 general reporting, 41
 logging, 44
 OPTNS command, 17, 28, 29, 32
 order of fields, 22

P

Page option, 43
 PAGESIZE parameter, 89
 parameter, 83
 PERCENT statement, 86
 PH command, 125, 129
 PR command, 4, 8
 Print option, 43
 PRINT parameter, 89
 PROGRAM parameter, 89
 PS command, 57, 59, 122
 Pulse Statistics screen, 12
 purging report definitions (PR), 8

R

RA command, 57, 60
 RATE statement, 87
 redisplay mode, 114
 report data
 scrolling backward and forward, 114
 report definitions, 110
 accessing, 29
 changing the database (DBID), 4
 copying, 7
 creating new from existing, 16
 database fields, 19
 editing, 16, 31
 editing existing, 29
 field category codes, 20
 listing, 2
 maintaining, 1, 2
 purging, 8
 specifying a report name, 18
 specifying field names, 19
 specifying field order, 22
 specifying numeric options for summary reports, 23
 specifying report options, 27
 specifying report processing rules, 25
 specifying the DBID, 19
 Report display program
 changing with the CP command, 38

regenerating with the RG command, 37
 Report Information (DD) screen, 6
 report logging
 definition, 44
 guidelines, 48
 options, 44
 recommended options, 48
 required options, 47
 report names
 invalid characters, 18
 specifying, 18
 Report Options screen, 27
 report processing rules, 25
 entering, 27
 examples, 27
 specifying values, 26
 Report Processing Rules screen, 25, 31
 REPORT statement, 87
 REPORT-EXIT parameter, 89
 reporting options, 27
 editing, 29
 modifying defaults, 28
 RESTART, 60
 specifying general report options, 41
 user exit, 51
 reports
 active reports, 56, 57
 batch job control requirements, 95
 batch mode, 63
 batch parameter statements
 defining reports, 87
 keyword parameters, 68
 multiple, 94
 positional parameters, 68
 syntax, 67
 batch statements, 65, 66
 BS2000 batch jobs, 99
 closing, 60
 command logging options, 44
 display programs
 changing to a different one, 38
 editing, 36
 generating, 36
 maintaining, 35
 regenerating, 37
 downloading report results, 121
 generating batch parameter statements with GENCARD, 63
 generating batch report statements, 64
 history
 compressing accumulated data, 127
 expanding list of, 126
 purging accumulated data, 129
 inactive reports, 56
 managing history data, 123
 MAXSTORE parameter, 58
 options, 27
 printing report results, 121
 processing batch statements, 93
 purging accumulated data, 122
 refreshing, 60
 sample batch report statements, 65
 saving, 34
 selecting field names, 19
 sorting report results, 114, 115

- start a new, 54
- start an existing, 54
- started reports
 - listing, 55
 - purging, 59
 - reactivating, 60
 - suspending, 59
- summary logging options, 44
- suspended reports, 56
- switching command or summary log files, 61
- user exit options, 51
- using batch statements to define reports, 93
- viewing multiple reports, 113
- viewing results, 112
- viewing wide reports, 113
- z/OS batch jobs, 96
- z/VSE batch jobs, 97

RESTART parameter, 90

restoring report definitions, 110

REVIEW-COMMANDS parameter, 81

REVLOGBMX parameter, 81

REVLOGMAX parameter, 81

RF command, 57, 60

RG command, 4, 8, 36, 37

ROUND statement, 92

Rstrt option, 43

RULES command, 17, 25, 31

RVUALT, 97, 99, 103

RVUAUT1, 97, 99, 103

RVUAUT2, 97, 99, 103

RVUCARD, 65

RVUCOPx (z/VSE), 99

RVUCOPxx, 97, 102

RVUFLD, 97

RVUPARM, 97, 98, 102

RVUPRTx (z/VSE), 99

RVUPRTxx, 97, 102

RVUSEQ, 97, 99, 102

S

SAVE command, 17, 34

scrolling forward and backward through report data, 114

SIZE parameter, 82

SKIP parameter, 81, 90

SORT command, 114

- account (ascend) option, 117
- account (descend) option, 119
- date and time (datetime) option, 119
- first summary field option, 118
- number of commands option, 117
- physical sequence option, 120
- using the SORT command, 115

SPACE parameter, 90

ST command, 4, 17, 54

START command, 17, 31, 32, 33, 54

Started Reports screen

- accessing, 55
- explained, 56
- issuing commands on, 57

storage, MAXSTORE report parameter, 58

SU command, 57, 59

SUM statement, 93

Summary File option, 46

Summary Log option, 46

summary logging options, 44

summary reports

- field order effects, 22
- specifying numeric options, 23

SUMMARY-EXIT parameter, 90

SVC parameter, 70

SW command, 57, 61

T

TARGET parameter, 90

TITLE parameter, 90

TITLE1 parameter, 90

TITLE2 parameter, 90

TYPE parameter, 88

U

ULDREP, 110

unloading report definitions, 110

User Exit option, 46

user exits

- report options, 51

V

viewing multiple reports, 113

viewing reports, 112

VW command, 4, 36, 57, 112, 125

W

WIDTH parameter, 89

wildcard prefixing (*), 26

WRAP parameter, 90

Wrapping option, 43