Adabas Review

Using Adabas Review

Version 4.8.2

September 2018

ADABAS & NATURAL

This document applies to Adabas Review Version 4.8.2 and all subsequent releases.

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

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1 About this Documentation

Document Conventions

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

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2 Maintaining Report Definitions

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.

Note: You cannot name a report "ALL".

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:

```
11:26:42                A D A B A S  -  R E V I E W              2016-03-01
                             Report Definitions                 Target=00559

                                                          Sum          Display
  Sel     Report Name                        DBID Type Auto  Det   Hist   Program
+-------------------------------------------------------------------------------+
! __    A NEW                                559   D    N    S     N    RD-00008 !
! __    AAAA CLIENT                          ALL   C    N    S     N    RD-00009 !
! __ >  APPLICATION FILE FIELD USAGE              D    N    S     N    SR-00030 !
! __    BUFFER POOL DISPLAY                       D    N    S     N    BUFFPOOL !
! __    COMMAND LOGGING                           D    N    D     N    SR-00025 !
! __    COMMANDS BY HOUR                          D    Y    S     N    SR-00004 !
! __    COST ACCOUNTING EXAMPLE                   D    N    S     N    SR-00028 !
! __    DESCRIPTOR USAGE REPORT                   D    N    S     N    SR-00020 !
! __    EXCEPTIONAL RESPONSE CODES                D    Y    S     N    SR-00002 !
! __    FILE USAGE                                D    N    S     N    SR-00031 !
! __    HOURLY DATABASE OVERVIEW                  D    N    S     N    SR-00032 !
! __    IO COUNT BY HOUR                          D    N    S     N    SR-00023 !
+-------------------------------------------------------------------------------+


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	The database ID of the database from which the report data is collected. Possible values are a valid database ID, the term "ALL", or a blank. For more information, read ***Specifying the Report DBID***, elsewhere in this section.
Type	Indicates whether the report is a regular Adabas Review report ("D") or an Adabas Review client report ("C").
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. In mode `DISPLAY=BASIC` the program names start with RD or SR. In mode `DISPLAY=EDITOR` the program names start with RX or SX.

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
VX	View started report with Software AG Editor

Creating a New Report Definition

You can create a new report definition by entering all of its information on the Edit Report screen or by copying an existing report and editing its settings. This section describes how to create a new report definition by entering all of its information on the Edit Report screen. For information on copying a report definition and editing it, read *Copying a Report Definition* and *Editing Existing Reports*, elsewhere in this guide.

To create a new report definition, complete the following steps:

1 At any SYSREVDB command prompt, enter the command `ER` followed by the name of your new report.

> **Note:** If you want to create a client report, enter the command `EC` followed by the name of your new report.

Or:

Simply enter `ER` or `EC` at any SYSREVDB command prompt.

The `ER` command invokes the Edit Report screen; the `EC` command invokes the Edit Client Report screen.

If you specified the name of a report, it is filled in the Report Name field. The following example shows a blank Edit Report screen:

```
10:49:13                A D A B A S  -  R E V I E W              2016-05-21
                              Edit Report                      Target=00559
      Detail/Summary: S
      Report Name: ________________________________      DBID to Monitor: _____

+-------------------------------------------------------------------------------+
|  Field     Order   Sum   Min   Max   Avg   Pct   Rate      Cost      Round    |
|-------------------------------------------------------------------------------|
| _________   ___     _     _     _     _     _     _    _ _________   _______  |
| _________   ___     _     _     _     _     _     _    _ _________   _______  |
| _________   ___     _     _     _     _     _     _    _ _________   _______  |
| _________   ___     _     _     _     _     _     _    _ _________   _______  |
| _________   ___     _     _     _     _     _     _    _ _________   _______  |
| _________   ___     _     _     _     _     _     _    _ _________   _______  |
| _________   ___     _     _     _     _     _     _    _ _________   _______  |
| _________   ___     _     _     _     _     _     _    _ _________   _______  |
| _________   ___     _     _     _     _     _     _    _ _________   _______  |
| _________   ___     _     _     _     _     _     _    _ _________   _______  |
+-------------------------------------------------------------------------------+


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

2 Tab to the `Detail/Summary` field and indicate whether this will be a detail (D) or summary (S) report.

3 Tab to the DBID to Monitor field and specify the database ID on which the report data should be based. For more information, read *Specifying the Report DBID*, elsewhere in this guide.

4 Type the name of the report in the `Report Name` field, if you have not already specified one. For more information, read ***Specifying the Report Name***, elsewhere in this guide.

Note: Once you have specified a name for the report, you can save the report definition at any time by pressing PF5.

5 Tab to the field table for the report and specify the fields and the order of the fields for the report.

Up to 20 fields may be selected for a single database or client reporting report. You may enter field names directly on the appropriate screen or you may select the fields from lists provided on other screens (use PF11 to access these screens). The fields you choose from the screen lists are transferred automatically to the Edit Report or Edit Client Report screen (as appropriate).

A complete list of Adabas Review fields can be found in the *Field Reference*, in the *Adabas Review Reference Guide*.

Note: Alternate field names that you find in the *Field Reference* cannot be used in SYSREVDB (online) reports. Only field names that are listed on the SYSREVDB screen lists can be used.

If the field type is numeric, you can specify whether the values are to be rounded, totaled, averaged, expressed as a percentage or rate of commands per second, or whether a cost should be calculated for the field. You can also specify that the minimum or maximum values are to be displayed.

For complete information on specifying fields and field order for the report, read ***Specifying Field Names*** and ***Specifying Field Order***, elsewhere in this guide. The following additional documentation might also be useful:

- ***Commenting Out Fields in a Report***
- ***Specifying Numeric Options for Summary Reports*** and ***Numeric Field Calculations***.

6 Optionally specify processing rules for the fields in your report. Report processing rules determine how field values are selected for your standard database and client reports. These rules restrict the accumulated data to certain values or conditions. For more information, read ***Using the Report Processing Rules Screen***, elsewhere in this guide.

7 Specify reporting options for the report by pressing PF2 or entering the `OPTNS` command on the command line of the Edit Report or Edit Client Report screen. Report options describe additional processing aspects of the standard database and client reports. These include such things as whether the report will perform command or summary logging, whether the data it collects will be written to the Adabas Review repository and stored as history data, and whether and how the data it collects will be written to the Adabas Review raw log file.

For more information, read *Using the Report Options Screen* and *Specifying Reporting Options*, elsewhere in this guide.

8 Save the report definition by pressing PF5. For more information, read *Saving a Report Definition*, elsewhere in this guide.

You can now start the report if you want. For more information, read *Running Reports Online*, elsewhere in this guide.

Note: Pressing PF4 saves a report, but does not generate a display program. PF6 (Start) also saves (PF5) a report before starting it.

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 value as defined in *Specifying the Report DBID*.

If you leave the DBID blank, you will be 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.

There are two options for accomplishing mass DBID changes. Option 1 allows you to update them manually from a screen, whereas option 2 is command line driven and allows many DBIDs to be changed with a single command.

To modify the database for which the report is to be created using option 1:

- 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   *****               2016-06-18
                                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 Overtype 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.

To modify the database for which the report is to be created using option 2:

- From the LR screen, enter the following into the command line:

```
CHANGE DBID FROM fffff TO ttttt
```

Where *fffff* is the current DBID and *ttttt* is the new DBID.

Valid values for *fffff* and *ttttt* are: A numeric DBID within a range of 1 to 65535, ALL or NONE.

- Example 1:

```
CHANGE DBID FROM 11111 TO ALL
```

- Example 2:

```
CHANGE DBID FROM NONE TO 12345
```

- Example 3:

```
CHANGE DBID FROM 22222 TO NONE
```

Both DBIDs must be different or an error message will be issued.

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. **Note:** You cannot name a report "ALL".
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   *****                2016-06-18
                               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.

Note: You cannot name a report "ALL".

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.

Maintaining Buffer Pool Reports

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.

Accessing the Edit Buffer Pool Report Screen

To access the Edit Buffer Pool Report screen:

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

  Or:

  Enter the `ES` command on the command line to access the Specialty Report Types menu.

```
09:11:56                A D A B A S  -  R E V I E W              2016-03-17
                          Specialty Report Types                Target=00559



                 Code              Description
                 ----     --------------------------------
                  CM           Review Client Management
                  EB           Edit Buffer Pool Report
                  EC           Edit Client Report
                  EL           Edit Pulse Report
                  EX           Edit Cluster Services Report
                 ----     --------------------------------









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

Then enter the `EB` command on the command line.

The Edit Buffer Pool Report screen appears.

```
09:13:05                 A D A B A S  -  R E V I E W              2016-03-17
LOCL=00559                 Edit Buffer Pool Report              Target=00559



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




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

Creating a New Buffer Pool Report

To edit the Buffer Pool Report:

1 Access the Edit Buffer Pool screen, as described in *Accessing the Edit Buffer Pool Screen*, earlier in this section.

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               2016-03-17
 HUB=15690                 Edit Buffer Pool Report               Target=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  ↩
 ↩
```

2 Supply a name for the report in the **Report Name** field.

Note: You cannot name a report "ALL".

3 Optionally, supply the database ID for which buffer pool information is collect in the report using the **DBID** field.

4 Indicate whether the report should be autostarted or not in the **Autostarted** field. Specify "N" if you do not want it autostarted; specify "Y" if you do.

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

Editing a Buffer Pool Report

To edit a Buffer Pool Report:

1 Locate the report on any of the list function screens (LR, LS, and LH) and enter the ER command in the **Sel** column associated with the report.

Or:

Enter the ER *rptname* or the EB *rptname* command on the command line of any screen.

The Edit Buffer Pool Report window appears for the report you selected.

2 Optionally change the name for the report in the **Report Name** field.

Note: You cannot name a report "ALL".

3 Optionally, change the database ID for which buffer pool information is collect in the report using the **DBID** field.

4 Optionally, change the autostart selection specified by the **Autostarted** field. Specify "N" if you do not want it autostarted; specify "Y" if you do.

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

Maintaining 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.

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.

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.

- Accessing the Edit Adabas Pulse Report Screen
- Creating an Adabas Pulse Report

- Editing an Adabas Pulse Report
- Running an Adabas Pulse Report

Accessing the Edit Adabas Pulse Report Screen

To access the Edit Adabas Pulse Report screen:

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

  Or:

  Enter the `ES` command on the command line to access the Specialty Report Types menu.

```
09:11:56                  A D A B A S  -  R E V I E W              2016-03-17
                            Specialty Report Types                Target=00559



                  Code               Description
                  ----     ---------------------------------
                   CM           Review Client Management
                   EB           Edit Buffer Pool Report
                   EC           Edit Client Report
                   EL           Edit Pulse Report
                   EX           Edit Cluster Services Report
                  ----     ---------------------------------









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

  Then enter the `EL` command on the command line.

  The Edit Adabas Pulse Report screen appears.

```
10:30:34                A D A B A S  -  R E V I E W              2016-03-17
                         Edit Adabas Pulse Report              Target=00559



          +-------------------------------------------------------+
          !                                                       !
          !   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  ↩
 ↩
```

Creating an Adabas Pulse Report

To create an Adabas Pulse Report:

1 Access the Edit Adabas Pulse Report screen, as described in *Accessing the Edit Adabas Pulse Report Screen*, earlier in this section.

The Edit Adabas Pulse Report screen displays.

```
10:30:34                A D A B A S  -  R E V I E W              2016-03-17
                         Edit Adabas Pulse Report              Target=00559



          +-----------------------------------------------------+
          !                                                     !
          !   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  ↩
 ↩
```

2 Supply values for the following input fields on the Edit Adabas Pulse Report screen:

Note: You cannot manually specify the name of the Adabas Pulse Report shown in the `Report Name` field. The Adabas Pulse Report name is generated automatically by Adabas Review when you save the report. It is constructed by combining the words "Adabas Pulse Report" and the database ID of the report. Only one Adabas Pulse Report can be defined for a database.

Field	Specify:
`DBID`	The database ID of the database on which the report is to run. When a DBID is entered into this field and the report is saved, the DBID is automatically added to the report name.
`Adabas Collection 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`	Whether the report should be started when Adabas Review is initialized. Specify "N" if you do not want it autostarted; specify "Y" if you do.
`Collect History`	Whether history data should be collected. Specify "N" if you do not want history data collected; specify "Y" if you do.
`History Interval`	The number of minutes between each history data collection.

Field	Specify:
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.

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

Editing an Adabas Pulse Report

To edit an Adabas Pulse Report:

1 Locate the report on any of the list function screens (LR, LS, and LH) and enter the ER command in the **Sel** column associated with the report.

Or:

Enter the ER *rptname* or the EL *rptname* command on the command line of any screen.

The Edit Adabas Pulse Report window appears for the report you selected.

2 Optionally modify the values for the following input fields on the Edit Adabas Pulse Report screen:

Note: You cannot manually alter the name of the Adabas Pulse Report shown in the Report Name field. The Adabas Pulse Report name is generated automatically by Adabas Review when you save the report. It is constructed by combining the words "Adabas Pulse Report" and the database ID of the report. So if you change the database ID for a field, the report name will change. Only one Adabas Pulse Report can be defined for a database.

Field	Specify:
DBID	The database ID of the database on which the report is to run. When a new DBID is entered into this field and the report is saved, the new DBID automatically replaces the DBID originally included in the report name.
Adabas Collection 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	Whether the report should be started when Adabas Review is initialized. Specify "N" if you do not want it autostarted; specify "Y" if you do.

Field	Specify:
Collect History	Whether history data should be collected. Specify "N" if you do not want history data collected; specify "Y" if you do.
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.
Repository Database SVC	The SVC currently being used by the Adabas Review history database.

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

Running an Adabas Pulse Report

To define the Adabas Pulse Report, you choose the DBID where the report will run and the interval (in minutes), 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 run an Adabas Pulse Report:

1 Access the Edit Adabas Pulse Report screen, as described in *Accessing the Edit Adabas Pulse Report Screen*, earlier in this section, and press PF6.

Or:

Start the report as described in *Running Reports Online*, elsewhere in this guide.

The Adabas Pulse Report is 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              2016-03-17
                             Pulse Statistics                  Target=15690


                     Select one Pulse interval and press Enter
+-------------------------------------------------------------------------------+
! _ 2015-06-18 11:37:54     _ __________ ________      _ ____________________  !
! _ 2015-06-18 11:41:29     _ __________ ________      _ ____________________  !
! _ 2015-06-18 12:13:44     _ __________ ________      _ ____________________  !
! _ 2015-06-18 12:18:33     _ __________ ________      _ ____________________  !
! _ __________ ________     _ __________ ________      _ ____________________  !
! _ __________ ________     _ __________ ________      _ ____________________  !
! _ __________ ________     _ __________ ________      _ ____________________  !
! _ __________ ________     _ __________ ________      _ ____________________  !
! _ __________ ________     _ __________ ________      _ ____________________  !
! _ __________ ________     _ __________ ________      _ ____________________  !
! _ __________ ________     _ __________ ________      _ ____________________  !
! _ __________ ________     _ __________ ________      _ ____________________  !
+-------------------------------------------------------------------------------+

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

2 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              2016-03-17
                             Pulse Statistics                  Target=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
```

3 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              2016-06-18
                               Pulse Statistics                  Target=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
```

Maintaining Cluster Services Reports

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.

Accessing the Edit Cluster Services Report Screen

To access the Edit Cluster Services Report screen:

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

  Or:

  Enter the `ES` command on the command line to access the Specialty Report Types menu.

```
09:11:56                A D A B A S  -  R E V I E W              2016-03-17
                          Specialty Report Types                Targt=00559




                 Code               Description
                 ----     ---------------------------------
                  CM           Review Client Management
                  EB           Edit Buffer Pool Report
                  EC           Edit Client Report
                  EL           Edit Pulse Report
                  EX           Edit Cluster Services Report
                 ----     ---------------------------------









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

  Then enter the `EX` command on the command line.

  The Edit Cluster Services Report screen appears.

```
11:24:55                A D A B A S  -  R E V I E W              2016-03-17
                        Edit Cluster Services Report           Target=00041



          +-----------------------------------------------------+
          !                                                     !
          !   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---
      Help        Exit        Save  Start                            Menu  ↩
 ↩
```

Creating a Cluster Services Report

To create a Cluster Services Report:

1 Access the Edit Cluster Services Report screen, as described in *Accessing the Edit Cluster Services Report Screen*, earlier in this section.

The Edit Cluster Services Report screen displays.

```
11:24:55                A D A B A S  -  R E V I E W               2016-03-17
                         Edit Cluster Services Report            Targt=00041



          +-------------------------------------------------------+
          !                                                       !
          !   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---
      Help        Exit        Save  Start                            Menu  ↩
 ↩
```

2 Supply values for the following input fields on the Edit Cluster Services Report screen:

Note: You cannot manually specify the name of the Cluster Services Report shown in the `Report Name` field. The Cluster Services Report name is generated automatically by Adabas Review when you save the report. It is constructed by combining the words "Cluster Services Report" and the database ID of the report. Only one Cluster Services Report can be defined for a database.

Field	Specify
`DBID`	The database ID of the database on which the report is to run. When a DBID is entered into this field and the report is saved, the DBID is automatically added 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`	Whether the report should be started when Adabas Review is initialized. Specify "N" if you do not want it autostarted; specify "Y" if you do.
`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.

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

Editing a Cluster Services Report

To edit a Cluster Services Report:

1 Locate the report on any of the list function screens (LR, LS, and LH) and enter the ER command in the **Sel** column associated with the report.

Or:

Enter the ER *rptname* or the EX *rptname* command on the command line of any screen.

The Edit Cluster Services Report window appears for the report you selected.

2 Optionally modify the values for report on the Edit Cluster Services Report screen:

Note: You cannot manually alter the name of the Cluster Services Report shown in the Report Name field. The Cluster Services Report name is generated automatically by Adabas Review when you save the report. It is constructed by combining the words "Cluster Services Report" and the database ID of the report. So if you change the database ID for a field, the report name will change. Only one Cluster Services Report can be defined for a database.

Field	Specify
DBID	The database ID of the database on which the report is to run. When a DBID is entered into this field and the report is saved, the DBID is automatically added 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	Whether the report should be started when Adabas Review is initialized. Specify "N" if you do not want it autostarted; specify "Y" if you do.
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.

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

Maintaining Standard Database and Client Reports

Adabas Review standard database reports and client reports are maintained in very similar fashions, although separate SYSREVDB screens are provided to do so:

- The standard database report definitions are created using the `Edit Report` (`ER`) screen.
- The client reporting report definitions are created using the `Edit Client Report` (`EC`) screen.

These screens provide a series of fill-in-the-blank fields and allow you to access other selection screens to help you select the field information, processing rules, and report option parameters that make up the report definition.

The Edit Report and Edit Client Report screens are 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, expressed as a percentage or rate of commands per second, or whether a cost should be calculated for the field. You can also specify that the minimum or maximum values are to be displayed.

Field information may either be entered directly on the screens or selected from additional screens containing lists of fields. You can access a list of field categories using the `PF11` key, the `FLDS` command, or the `LF` command. After selecting appropriate field categories, a series of additional screens appear from which you can select fields for the report. As you select fields, you can specify the order they appear in the report by typing a number in front of the field. The selected fields are then transferred to the Edit Report or Edit Client Report screen (as appropriate) in the order specified.

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

This section covers the following topics:

- Using the Report Options Screen

Accessing the Edit Report Screen for Standard Database Reports

To access the `Edit Report` (`ER`) screen:

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

  The Edit Report screen appears.

```
10:49:13                A D A B A S  -  R E V I E W              2016-05-21
                                Edit Report                     Target=00559
      Detail/Summary: S
      Report Name: ____________________________________     DBID to Monitor: _____

+-------------------------------------------------------------------------------+
|  Field     Order   Sum   Min   Max   Avg   Pct   Rate      Cost      Round   |
|-------------------------------------------------------------------------------|
| _________   ___     _     _     _     _     _     _  _________   _______    |
| _________   ___     _     _     _     _     _     _  _________   _______    |
| _________   ___     _     _     _     _     _     _  _________   _______    |
| _________   ___     _     _     _     _     _     _  _________   _______    |
| _________   ___     _     _     _     _     _     _  _________   _______    |
| _________   ___     _     _     _     _     _     _  _________   _______    |
| _________   ___     _     _     _     _     _     _  _________   _______    |
| _________   ___     _     _     _     _     _     _  _________   _______    |
| _________   ___     _     _     _     _     _     _  _________   _______    |
| _________   ___     _     _     _     _     _     _  _________   _______    |
+-------------------------------------------------------------------------------+


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

  For more information about the function keys, commands, and input fields available on this screen, read ***Edit Report and Edit Client Report Screen Function Keys and Commands*** and ***Edit Report and Edit Client Report Screen Input Fields***, elsewhere in this section.

Accessing the Edit Client Report Screen for Client Reports

To access the `Edit Client Report` (`EC`) screen:

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

  The Edit Client Report screen appears.

```
11:13:19                A D A B A S  -  R E V I E W              2016-05-21
                            Edit Client Report                 Target=00559
      Detail/Summary: S
      Report Name: ____________________________________     DBID to Monitor: ALL__

+-------------------------------------------------------------------------------+
|  Field     Order   Sum   Min   Max   Avg   Pct   Rate      Cost      Round    |
|-------------------------------------------------------------------------------|
| _________   ___     _     _     _     _     _     _ _________   _______     |
| _________   ___     _     _     _     _     _     _ _________   _______     |
| _________   ___     _     _     _     _     _     _ _________   _______     |
| _________   ___     _     _     _     _     _     _ _________   _______     |
| _________   ___     _     _     _     _     _     _ _________   _______     |
| _________   ___     _     _     _     _     _     _ _________   _______     |
| _________   ___     _     _     _     _     _     _ _________   _______     |
| _________   ___     _     _     _     _     _     _ _________   _______     |
| _________   ___     _     _     _     _     _     _ _________   _______     |
| _________   ___     _     _     _     _     _     _ _________   _______     |
+-------------------------------------------------------------------------------+


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

For more information about the function keys, commands, and input fields available on this screen, read *Edit Report and Edit Client Report Screen Function Keys and Commands* and *Edit Report and Edit Client Report Screen Input Fields*, elsewhere in this section.

Note: For client reports, the DBID default setting is "ALL".

Edit Report and Edit Client Report Screen Function Keys and Commands

The following function keys are provided on the Edit Report and Edit Client Report screens:

Function Key	Command	Description
PF1	Help	Access help for the screen.
PF2	Optns	Accesses the Report Options screen.
PF3	Exit	Exits the screen, returning to the most recently-accessed menu.
PF4	SOnly	Saves the current report definition without generating a display program.
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.
PF12	Menu	Access the Main Menu.

Edit Report and Edit Client Report Screen Input Fields

The Edit Report and Edit Client Report screens provide the following input fields:

Field	Specify:	For more information, read:
Report Name	A unique name for the report. A maximum of 32 characters is allowed. **Note:** You cannot name a report "ALL".	*Specifying the Report Name*, elsewhere in this section
DBID to Monitor	The DBID of the database where the data is to be collected. Valid values are a valid database ID, the term "ALL" or a blank.	*Specifying the Report DBID*, elsewhere in this section
Field	The fields to be selected by the report. A maximum of 20 fields is allowed for each report. You can also comment out fields in a report.	*Specifying Field Names*, elsewhere in this section *Commenting Out Fields in a Report*, elsewhere in this section
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.	*Specifying the Field Order*, elsewhere in this section
Sum	Indicates whether the values for the field are totaled.	*Specifying Numeric Options for Summary Reports*, elsewhere in this section
Min	Indicates whether the minimum value for the field is displayed.	

Field	Specify:	For more information, read:
Max	Indicates whether the maximum value for the field is displayed.	*Numeric Field Calculations*, elsewhere in this section
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.	
Cost	The calculation to be used to determine the resource cost for the field. There are two fields on the screen to specify the cost. The first one-byte field specifies the operator for the calculation; the second field specifies the cost factor to be used for the calculation. For more information, read *Numeric Field Calculations*, elsewhere in this section. **Note:** Costs cannot be calculated for a field unless the values of the field are also totaled (Sum is also specified).	
Round	The amount by which the values of the field are rounded.	

For each report, you can also specify report processing rules (read *Using the Report Processing Rules Screen*, elsewhere in this section) and report options (read *Using the Report Options Screen*, elsewhere in this section).

Specifying the Report Name

A report name is required for both standard database reports and client reports; 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

Specifying the Report DBID

Use this field to identify the database for which the standard database report or the client reporting report is to be created. Valid values are described in the following table:

Value	Description
a valid database ID (DBID)	The report runs for the newly-specified database. A valid database ID is between 1 and 65534. The value zero will be changed automatically to blank.
ALL	A DBID=ALL report is triggered. ■ In hub mode, a DBID=ALL report collects data from all databases running on the same SVC as the hub (the databases must have been started with the ADARUN REVIEW parameter set to a hub ID). For such reports, the reporting link is automatically established with Adabas Review. You can specify DBID=ALL for user-defined reports and for most of the predefined Adabas Review reports except for the Buffer Pool reports, the Pulse reports, and the Cluster Services reports. ■ In local mode, a DBID=ALL report collects data only from the local database. **Note:** 1. Depending on your environment, a DBID=ALL report may initiate communications with many databases, all of which will then send data for the report. If too many databases send too much data at the same time, hub performance problems may result. In such cases, you might consider excluding specific databases from the DBID=ALL report. To do so, define a **report processing rule** (INCLUDE statement or EQ) that does not include some databases. 2. Once DBID=ALL reports are started, we do not recommend that you use the REVIEW=*hubid* operator command to alter the hub ID of an active database. If you do, unpredictable results will occur in the processing of the DBID=ALL reports that have been started. 3. For client reports, DBID=ALL is the default.
blank	If you leave the DBID blank, you will be prompted to enter the DBID when you start the report online via SYSREVDB. Starting such a report via AUTOSTARTED or the Natural batch command START without further specification a DBID=ALL report will be started

Specifying Field Names

Up to 20 fields may be selected for a single database or client reporting report. You may enter field names directly on the appropriate screen or you may select the fields from lists provided on other screens (use PF11 to access these screens). The fields you choose from the screen lists are transferred automatically to the Edit Report or Edit Client Report screen (as appropriate).

A complete list of Adabas Review fields can be found in the *Field Reference*, in the *Adabas Review Reference Guide*.

Note: Alternate field names that you find in the *Field Reference* cannot be used in SYSREVDB (online) reports. Only field names that are listed on the SYSREVDB screen lists can be used.

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

To select fields for the report from lists of fields:

1 On the **Edit Report** or **Edit Client Report** screen, access the field selection screens by pressing PF11 or by entering the `FLDS` or `LF` command without a category code on the command line.

Note: If you know the field category code, you can enter the `LF` or `FLDS` command followed by the category name to immediately see the fields in that category. For example, entering LF NU will immediately show you a screen displaying the fields in the Adabas Nucleus field category. If you elect to do this, skip this step and Step 2 and proceed with Step 3.

The Report Field Selection screen appears, listing the field categories appropriate for the type of report. Different field categories are available for standard database reports than are available for client reports.

For standard database reports, the following Report Field Selection screen appears:

```
07:53:59                                                        2016-03-09
                           Report Field Selection             Target=00559


                      Please Mark Categories to Select


                 ADABAS Control Block Fields ............    _

                 ADABAS Buffer Fields ...................    _

                 Interval and Time Fields ...............    _

                 ADABAS I/O Fields ......................    _

                 NATURAL Fields .........................    _

                 ADABAS Nucleus Fields ..................    _

                 Operating System Fields ................    _

                 Transaction Processing Monitor Fields ...   _








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

For client reports, the following Report Field Selection screen appears:

```
 07:52:33                                                         2016-03-09
                           Report Field Selection               Target=00559
                                                                           ↩

                                                                           ↩

                       Please Mark Categories to Select                    ↩

                                                                           ↩

                  ADABAS Control Block Fields ............    _            ↩

                  Interval and Time Fields ...............    _            ↩

                  NATURAL Fields .........................    _            ↩

                  ADABAS Nucleus Fields ..................    _            ↩

                  Operating System Fields ................    _            ↩

                  Transaction Processing Monitor Fields ...   _            ↩

                  Client Reporting Fields ................    _            ↩

                                                                           ↩

                                                                           ↩

                                                                           ↩

                                                                           ↩

                                                                           ↩

                                                                           ↩

                                                                           ↩

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

4AÛ                                                              07,064    ↩
  ↩
```

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*.

2 Choose the field category or categories containing the fields you want to use by typing an `X` in the input field associated with the category name. More than one category can be selected at a time

Field lists for the selected categories are displayed. For example, the following screen shows the fields available for standard database reports in the Natural fields category:

```
07:55:01                A D A B A S  -  R E V I E W              2016-03-09
                              NATURAL Fields                   Target=00559
                                                                          ↩

Sel Name     Description                   Sel Name     Description        ↩

___ NATAPPL  NATURAL Application ID                                       ↩

___ NATCLTID NATURAL Client ID                                            ↩

___ NATCOUNT Call nr for stmt nr                                          ↩

___ NATEXEC  NAT EXEC                                                     ↩

___ NATGRP   NAT Group                                                    ↩

___ NATLEVEL LEVEL OF NATURAL PGM                                         ↩

___ NATLIB   NATURAL Library ID                                           ↩

___ NATPROG  NATURAL program id                                           ↩

___ NATRPCCO NATURAL RPC Conv                                             ↩

___ NATRPCID NATURAL RPC Server                                           ↩

___ NATSTMT  NATURAL statement nr                                         ↩

___ NATUID   NATURAL userid (*USER)                                       ↩
                                                                          ↩
                                                                          ↩
                                                                          ↩
                                                                          ↩
                                                                          ↩
                                                                          ↩
                                                                          ↩

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit             Accpt                            Menu ↩
 ↩
```

Note: The fields available for client reports are not the same as those available for regular database reports. All fields are *not* available for client reports and client reporting-specific fields are not available for regular database reports.

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 on any field selection screen by typing an X in the **Sel** column associated with the field name.

You can also specify the 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.

4 After completing your selections for the fields in that category, press PF6 or enter the accept (ACCPT) command to hold your selections temporarily while you continue working on your report.

If you selected more than one field category in Step 2, the screen of fields for the next field category you selected appears. Use this screen to select fields from the new field category.

When you have had an opportunity to select fields from all of the categories you selected in Step 2, you are returned to the Edit Report or Edit Client Report screen (as appropriate)with all of your field selections transferred automatically. If you specified a field order, the numbers you entered are listed in the **Order** column on the Edit Report or Edit Client Report screen.

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 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). 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.

  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.

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

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.

Specifying Numeric Options for Summary Reports

Note: These options are valid only for standard database or client reporting summary reports.

- Numeric Fields

- Numeric Field 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).

Numeric Field 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. When the total of the field's value exceeds the defined field size then Adabas Review will automatically cut the needed positions after the decimal point. In case the field does not have any decimal places or there are no more positions after the decimal point to cut, then the value will be cut and a "K" for thousand or an "M" for million is displayed instead.
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. The number of seconds for this calculation is taken from the number of seconds this specific account entry was active, it is the same number that is displayed in the field SECONDS. The only exception is if the first account field is either 1M, 5M or 15M. Then the fixed value of either 60 seconds, 300 seconds or 900 seconds is used. For the Grand Total calculation of current report control break the difference between ENDTIME and STRTTIME is taken.

Operation	At each control break, this operation...
Cost	Calculates and displays the calculated resource costs of the field's values. **Note:** Costs cannot be calculated for a field unless the values of the field are also totaled (`Sum` is also specified).
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 operations except Round and Cost, 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.

  Or:

  The Cost option consists of two Edit Report screen fields: the first field is a one-character operator field; the second field is a cost factor field used with the operator to calculate the resource cost of the numeric field:

  - The operator for the calculation must be one of the following operators and be specified in the first Cost field (the one-character field): "*" (multiplication), "+" (addition), "-" (subtraction), or "@" (fixed cost). The "@" operator can only be used when the COMMANDS field name is specified in the Field column.
  - The cost factor value is specified in the second Cost field and can be a positive numeric value containing up to four decimal places. These cost factors are multiplied, added, or subtracted from the value of the data field.
  - The COMMANDS field can be used with the "@" (fixed cost) operator and a fixed cost factor to be applied to each command selected by the report. (This is the equivalent of specifying the FIXED keyword in batch reporting).

  Note: Costs cannot be calculated for a field unless the values of the field are also totaled (`Sum` is also specified).

  The following screen shows examples of a report with the following cost fields:

  - The cost factor for the CMDRESP field is determining by multiplying the value of the CMDRESP field by 2.

- The cost factor of the ASSOIO field is determined by adding 1.5 to the value of the ASSOIO field.
- A fixed cost (COMMANDS field) of 5.00 is applied to each command selected by the report.

```
10:29:17                A D A B A S  -  R E V I E W              2016-06-26
                              Edit Report                      Target=00559
      Detail/Summary: S
      Report Name: MY REPORT_____________________      DBID to Monitor: 559__

+-------------------------------------------------------------------------+
|  Field     Order   Sum   Min   Max   Avg   Pct   Rate      Cost      Round  |
|-------------------------------------------------------------------------|
| CMD_____    10_     _     _     _     _     _     _ _______    _______ |
| FILE____    20_     _     _     _     _     _     _ _______    _______ |
| CMDRESP_    ___     X     _     _     _     _       * 2_____    _______ |
| ASSOIO__    ___     X     _     _     _     _     _ + 1.5___    _______ |
| COMMANDS    ___     X     _     _     _     _     _ @ 5.00__    _______ |
| ________    ___     _     _     _     _     _     _ _______    _______ |
| ________    ___     _     _     _     _     _     _ _______    _______ |
| ________    ___     _     _     _     _     _     _ _______    _______ |
| ________    ___     _     _     _     _     _     _ _______    _______ |
| ________    ___     _     _     _     _     _     _ _______    _______ |
+-------------------------------------------------------------------------+

Command: ____________________________________________________________________
                                                                          ↩

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

Note: The number of decimal positions shown for a cost field in the output report in SYSREVDB is based on the number of decimal places assigned for the field itself. For example, if the field shows data with four decimal places normally (without the cost option), the cost value (when specified) also shows data with four decimal places.

Using the Report Processing Rules Screen

Report processing rules determine how field values are selected for your standard database and for your client reports. 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 or Edit Client 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              2016-06-18
                          Report Processing Rules              Target=15690

                                    REPORT ONE
+-------------------------------------------------------------------------------+
!  Field    Op        Value                                             And/Or !
!-------------------------------------------------------------------------------!
! _________  __  ____________________________________________________________ AND !
! _________  __  ____________________________________________________________ ___ !
! _________  __  ____________________________________________________________ ___ !
! _________  __  ____________________________________________________________ ___ !
! _________  __  ____________________________________________________________ ___ !
! _________  __  ____________________________________________________________ ___ !
! _________  __  ____________________________________________________________ ___ !
! _________  __  ____________________________________________________________ ___ !
! _________  __  ____________________________________________________________ ___ !
! _________  __  ____________________________________________________________ ___ !
+---------------------------------- Page 1 -------------------------------------



Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Optns Exit  SOnly 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: ■ = 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.

Field	Explanation
And/Or	Specifies the Boolean operators AND or OR to define the relationship between multiple 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 (').
- When mixed alphanumeric signs are 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=FIND	Single alphanumeric value; command name equal to FIND.
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
DATE=('2015-06-14'-'2015-06-26') or DATE=('2015/06/14'-'2015/06/26')	Date value range with hyphen

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 *Specifying Field Names*, elsewhere in this guide, 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 standard database and client reports. These include such things as whether the report 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. To access this screen press the PF2 key or enter the OPTNS command on the command line of the Edit Report or Edit Client Report screens.

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.

```
08:23:50                  *****   R E V I E W   *****                2016-03-09
                        Options for summary report:                Target=00559

+-- 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    -- Raw Data Output ---    --- Summary Exit ----- |
|  ADALimit ...... _____1    Write Raw Data ..... N    Exit Name ... _________ |
|  Display By ..   SORTED    Write Header ....... N    Cmd ............... CL |
|  Entries ....... 999999    Data Dlmitrs ..... N #    Sum ................ Y |
|  Limit ....... 99999999    Raw Data File .. RAWSM                            |
|  Page/Line .. _55 / 133    Num of Files ...... _2                            |
|                            Log Size ..... ___9999                            |
|                            Switch Exit . _________                           |
+------------------------------------------------------------------------------+


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 and 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:

```
10:49:13                A D A B A S  -  R E V I E W              2016-05-21
                              Edit Report                      Target=15690
      Detail/Summary: S
      Report Name: COMMANDS BY HOUR_________________      DBID to Monitor: _____

+-------------------------------------------------------------------------------+
|  Field     Order   Sum   Min   Max   Avg   Pct   Rate      Cost      Round   |
|-------------------------------------------------------------------------------|
| HOUR____    _10     _     _     _     _     _     _  _________   _______  |
| CMD_____    _20     _     _     _     _     _     _  _________   _______  |
| IOS_____    ___     X     _     _     X     _     _  _________   _______  |
| COMMANDS    ___     X     _     _     _     _     _  _________   _______  |
| CMDRESP_    ___     X     _     _     X     _     _  _________   _______  |
| ________    ___     _     _     _     _     _     _  _________   _______  |
| ________    ___     _     _     _     _     _     _  _________   _______  |
| ________    ___     _     _     _     _     _     _  _________   _______  |
| ________    ___     _     _     _     _     _     _  _________   _______  |
| ________    ___     _     _     _     _     _     _  _________   _______  |
+-------------------------------------------------------------------------------+


Command: ____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Optns Exit  SOnly 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.

  Note: You cannot name a report "ALL".

To change or add fields to the report:

- You may also use the field selection screens.

Refer to the section *Specifying Field Names*, elsewhere in this guide, for more information.

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              2016-06-18
                            Report Processing Rules              Target=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  SOnly 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   *****                2016-06-18
                Options for summary report: COMMANDS BY HOUR      Target=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  ↩
 ↩
```

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.

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. For a modified report definition, the existing display program will automatically be overwritten, unless the display program name has been changed to a user-defined display program as described under *Changing to a Different Display Program*, elsewhere in this guide.

  Or:

  Press PF4 (SOnly).

  In this case the report definition is written to the Adabas Review repository, but no Natural display program is generated.

Note: You cannot name a report "ALL".

Additional information concerning user-defined display program names

When saving a modified report definition it will be checked if the used display program has been renamed to a name which does not begin with SR-*, SX-*, RD-*, RX-*, CR-*, CX*, CS*, PU-* or BUFFERPOOL. For such a user-defined display program a pop-up window will ask for either overwriting the existing display program or generating a new display program.

If you choose the overwrite option, a new program with the existing user-defined program name will be generated. This newly generated program will overwrite the existing code – the previous changes to this program are lost.

If you choose the generate option, a new standard display program with an RD-* (or RX-* for Software AG Editor, if DISPLAY=EDITOR) name will be generated and will then be used. Your user-defined program will still exist, but it will not be used or displayed. If you like to use your user-defined program again you need to change the display program name again, see *Changing to a Different Display Program*, elsewhere in this guide.

3 Maintaining Display Programs

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 have set `DISPLAY=BASIC`, a program for the traditional display mode will be generated, starting with RD, SR or CR. When you have set `DISPLAY=EDITOR`, a program using the Software AG editor will be generated, starting with RX, SX or CX. When you issue the `VW` (for the traditional module) or the `VX` (for the Editor module) 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.

Note: We recommend that you save display programs with names unique to your environment, especially if you have edited the display program. However, be sure that the unique names do not begin with SR-*, SX-*, RD-*, RX-* or CR-*, CX-*. Using unique names for your display programs ensures that your display programs are not overwritten when migrating from release to release of Adabas Review.

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

Copy the Report and Generate 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:

  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. Depending on the DISPLAY=BASIC/EDITOR mode, a traditional or a Software AG Editor module will be edited.

Note: We recommend that you save display programs with names unique to your environment, especially if you have edited the display program. However, be sure that the unique names do not begin with SR-*, SX-*, RD-*, RX-*, CR-*, CX-*, CS*,PU-* or BUFFERPOOL. Using unique names for your display programs ensures that your display programs are not overwritten when migrating from release to release of Adabas Review and that a SAVE or REGENERATE will not automatically overwrite the user-defined display program.

To execute the user-defined display program when viewing the report, you need to change to a different display program. See the section *Changing to a Different Display Program*, elsewhere in this guide.

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 unless the display program has been changed to a user-defined display program.

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. Depending on the `DISPLAY=BASIC/EDITOR` mode, a traditional or a Software AG Editor module will be generated.

To regenerate a display program:

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

2 Enter the direct command `REGEN` *`report-name`*.

A message is displayed when the regeneration is completed.

Note: It will be checked if the used display program has been renamed to a name which does not begin with SR-*, SX-*, RD-*, RX-*, CR-*, CX-*, CS*,PU-* or BUFFERPOOL. For such a user-defined display program the REGENERATE will not change anything. If you like to change the display program use the RU command. See *Regenerating a User-Defined Display Program* below.

Regenerating a User-Defined Display Program

If you wish to restore an edited user-defined display program to its original format, you may issue the `RU` command from the Report Definitions screen (`LR` function). Adabas Review then regenerates the display program with a new standard display program with an RD-* or RX-* name (depending on the setting of `DISPLAY`) and this will be used. Your user-defined program will still exist, but it will not be used or displayed. If you like to use your user-defined program again you need to change the display program name again.

See *Changing to a Different Display Program*, elsewhere in this guide.

To regenerate a display program:

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

2 Enter the direct command `REGEN` *`report-name`*`,USER-PROGRAMS=Y`.

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` or `RG ALL` on the command line of any SYSREVDB screen. Depending on the `DISPLAY=BASIC/EDITOR` mode, a traditional or a Software AG Editor module will be generated. 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.

This process will not change any user-defined display programs. To change the user-defined display programs as well and generate standard report definitions enter either `REGEN ALL,USER-PROGRAMS=Y` or `RG ALL,USER-PROGRAMS=Y`.

```
+-----------------------------------------------------------+
|              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).

You cannot change the name of a display program for a PULSE report.

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.

Note: We recommend that you change the display program with names unique to your environment, especially if you have edited the display program. However, be sure that the unique names do not begin with SR-*, SX-*, RD-*, RX-*, CR-*, CX-*, CS*,PU-* or BUFFER-

POOL. Using unique names for your display programs ensures that your display programs are not overwritten when migrating from release to release of Adabas Review and that a SAVE or REGENERATE will not automatically overwrite the user-defined display program.

4 Specifying Reporting Options

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:

```
16:01:15                  *****   R E V I E W   *****                2016-02-28
                        Options for detailed report:               Target=00559

+--- Detail Rpt Options ------- Detailed Logging ------------- History -------+
|  AutoStart .......... N    Log ................ N    History ............ N |
|  Print .............. Y    File ............ RVDET    History Int ... ______ |
|  Limit ....... 99999999    Num of Logs ....... _2    History DBID ... __123 |
|  Page/Line .. _55 / 133    Log Size ..... __99999    History FNR .... ___45 |
|  Rstrt/Intrvl Y  ______    User Exit ... ________    History SVC ...... 234 |
|                                                                             |
|  -- Raw Data Output ---   ---- Buffers to Log ---   ----- Detail Exit ----- |
|  Write Raw Data...... N    FB: Y    SB: Y   RB: Y    Exit name.... ________ |
|  Write Header ....... N    VB: Y    IB: Y   IO: Y                           |
|  Data Dlmitrs?... N   #                                                     |
|  Raw Data File... RAWDT                                                     |
|  Num of Files....... _2                                                     |
|  Log Size ..... ___9999                                                     |
|  Switch Exit.. ________                                                     |
+-----------------------------------------------------------------------------+


Command: _____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit             Accpt            Dflts             Menu
4AÛ                                                                02,001      ↩
```

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:

```
16:13:34                  *****   R E V I E W   *****                2016-02-28
                        Options for summary report:                Target=00559

+-- 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    -- Raw Data Output ---    --- Summary Exit ----- |
|  ADALimit ...... _____1    Write Raw Data ..... N    Exit Name ... _________ |
|  Display By ..   SORTED    Write Header ....... N    Cmd ............... CL |
|  Entries ....... 999999    Data Dlmitrs ..... N #    Sum ................ Y |
|  Limit ....... 99999999    Raw Data File .. RAWSM                           |
|  Page/Line .. _55 / 133    Num of Files ...... _2                           |
|                            Log Size ..... ___9999                           |
|                            Switch Exit . _________                          |
+-----------------------------------------------------------------------------+


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...
General Report Options	Characteristics of the report. These options are available for both detailed and summary reports.
Logging Options	Command log file, summary log file, and raw log file reporting options available to you for your reports. ■ Command log file options are only available for detailed reports. ■ Summary log file options are only available for summary reports. ■ Raw log file options are available for both detailed and summary reports.
History Options	Location of history information and the frequency with which it is collected. These options are available for both detailed and summary reports.
Report Exit Options	Report user exits. Report exit options are available for both detailed and summary reports.

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). When an report is saved with AUTOSTART=Y, its report definition is automatically written to the data sets identified by the RVUAUT1 and RVUAUT2 job control statements. The next time Adabas Review is started, the report is automatically started.	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 is which the data is to be displayed on a summary report. Possible display types are: ■ 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

Report Option	Description	Possible Values	Default	Valid for Report Type?
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 closing the report. At each interval: ■ Summary reports print their output and store any history data before the report is closed. ■ Detailed reports close. Note that output data for detailed reports, including history data, is written in an ongoing fashion while the report is running. The report may be restarted, depending on the setting of the RESTART parameter. For online reporting (SYSREVDB), use the Intrvl reporting option; in batch reporting, use the INTERVAL parameter. For more information about batch reporting, read *REPORT Statement*, elsewhere in this guide.	1 - 999999	---	Detailed and Summary
Limit	For a detailed report, specify the maximum number of input records that can be collected. For a summary report, specify the maximum number of input records that can be collected. To limit the resulting records, use the Entries report option. The resulting records may be fewer than the limit because of the aggregation of the data in a summary report. If a report has a RULE specified, only records that satisfy the selection criteria will be counted. The default values allow all records to be processed. When the limit is reached, the report will remain active, but no further data will be collected. For print info see the PRINT parameter.	1 - 99999999	99999999	Detailed and Summary
Line	This option appears on the same screen line as the Page report option. The Page option appears first on the line. 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. Use "Line" in an online environment; use **LINESIZE** in a batch environment.	72 - 255	133	Detailed and Summary

Report Option	Description	Possible Values	Default	Valid for Report Type?
Max K	Specify the maximum amount of storage available for a summary report. Use "Max K" in an online environment; use **MAXSTORE** in a batch environment. For more information about how storage is used for reports, read *Storage for Reports*, in the *Adabas Review Concepts Manual*.	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	This option appears on the same screen line as the Line report option. The Page option appears first on the line. 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.	10 - *nnn*	55	Detailed and Summary
Print	For a detailed report, specify whether or not the report is printed, continuously or at Review termination. For a summary report, specify whether or not the report is printed at CL(ose) report, when its refresh/history interval is reached or at Review termination. In Local mode Review terminates when the database terminates. In Hub mode Review terminates when the Hub terminates.	Y | N	Y	Detailed and Summary
Rstrt	This option appears on the same screen line as the Intrvl report option. The Rstrt option appears first on the line. 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. If Y is specified for the Rstrt option, the summary report is refreshed automatically. 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. Use the "Rstrt" report option in an online report (SYSREVDB); use the **RESTART** parameter in a batch report. For more information about batch reporting, read ***REPORT Statement***, elsewhere in this guide.	Y | N	Y	Detailed and Summary

Report Option	Description	Possible Values	Default	Valid for Report Type?
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. Use "Wrapping" in an online environment; use **WRAP** in a batch environment.	Y | N	N	Summary only

Logging Options

Three kinds of logging are available for Adabas Review reports, 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 and, optionally, buffer data from the detailed report. This data can be processed at some later time in an Adabas Review batch run. The output of the command log file depends on the report processing rules specified for the report and includes only parts of the overall Adabas commands being processed. For complete information about the Adabas Review command log files, read *Command Log Files*, in the *Adabas Review Concepts Manual*.
- 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*. For complete information about the Adabas Review summary log files, read *Summary Log Files*, in the *Adabas Review Concepts Manual*.
- Raw logging: When running detailed or summary reports, you can elect to create a raw log file of the detailed command data or summary data collected by the report. For complete information about the Adabas Review raw log files, read *Raw Log Files*, in the *Adabas Review Concepts Manual*.

Each log file type has report options specific to its processing. This section covers the following topics:

- Logging Guidelines

Command Log Options

For command logging, the logging options determine whether command logging is performed, what information is logged, and where the command log is written. Command log options are listed under the title" Detailed Logging" on the Report Options screen.

The following table describes (in alphabetic order) the command logging options that can appear on the Report Options screen for detailed reports.

Note: Detailed reports can also log data to raw log files. For more information about raw log reporting options, read ***Raw Log Options***, elsewhere in this section.

Logging Option	Description	Possible Values	Default
Buffers to Log	See ***Buffers to Log Options***, elsewhere in this section.	---	---
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 unique file name prefix.	5-byte name	RVLOG
Log	Specify whether Adabas Review will write command logs for a particular detailed report (Y), or whether command logging will be ignored (N). When `Log=Y` is selected, a report without fields may be defined.	Y | N	N
Log Size	Specify the number of blocks to be allocated to each command log file. For more information, read ***Determining the Log Size Option Setting***, later in this section.	*nnnnnnn*	99999
Num of Logs	Specify the number of command log files to be used by a report. For every command 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 option. Each log file name must be coded in the Adabas startup procedure. For example, if File=RVLOG and Num of Logs=2, command log data will be written to files RVLOG01 and RVLOG02.	1-99 (z/OS) 1-9 (z/VSE)	2
User Exit	Specify the name of the user exit that is called when a command log is filled during detailed report processing. 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. For complete information about the command logging user exit, read *REVUXLOG: Command, Summary, or Raw Logging User Exit* , in the *Adabas Review Reference Guide*	*name*	none

The remainder of this section on command log file options covers the following topics:

- Buffers to Log Options (Detailed Reports Only)
- Required Options for Command Logging
- Recommended Options for Command Logging

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 command 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 Command Logging

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

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.

Recommended Options for Command 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.

Summary Log Options

For summary report logging, the logging options determine whether summary logging is performed, what information is logged, and where the summary log is written. Summary log options are listed under the title" Summary Logging" on the Report Options screen.

The following table describes (in alphabetic order) the summary logging options that can appear on the Report Options screen for summary reports.

Note: Summary reports can also log data to raw log files. For more information about raw log reporting options, read *Raw Log Options*, elsewhere in this section.

Logging Option	Description	Possible Values	Default
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. In addition, if a report is stopped and is restarted manually (not automatically restarted because the RESTART=Y option is specified), the first log data set will be reused and, if the previous data was not copied, it will be overwritten.	*name*	none

Logging Option	Description	Possible Values	Default
	For complete information about the summary logging user exit, read *REVUXLOG: Command, Summary, or Raw Logging User Exit* , in the *Adabas Review Reference Guide*		
Log Size	Specify the number of blocks to be allocated to each summary log file. For more information, read ***Determining the Log Size Option Setting***, later in this section.	*nnnnnnn*	99999
Num of Logs	Specify the number of summary log files to be used by a report. For every 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 Summary File option. Each log file name must be coded in the Adabas startup procedure. For example, if Summary File=RVSUM and Num of Logs=3, summary log data will be written to files RVSUM01, RVSUM02, and RVSUM03.	1-99 (z/OS) 1-9 (z/VSE)	2
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 unique file name prefix.	5-byte name	RVSUM
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

The remainder of this section on summary log file options covers the following topics:

- Required Options for Summary Logging
- Recommended Options for Logging

Required Options for Summary Logging

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 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.

Raw Log Options

For raw data logging, the logging options determine whether raw logging is performed, what information is logged, and where the raw log file is written. Raw log data can be logged for both detailed and summary reports.

The following table describes (in alphabetic order) the raw logging options that can appear on the Report Options screen for detailed and summary reports.

Logging Option	Description	Possible Values	Default
Data Dlmitrs	This option has two parts.		
	Part 1: Specify whether or not a delimiter will be used to delimit the fields in the raw log data record. Valid values are "Y" (a delimiter should be used) or "N" (a delimiter should not be used). If this is set to "N", all the fields in the record are strung together in the raw data record with no separator in between them.	Y | N	N
	Part 2: If the first part of this option is set to Y, this part specifies the character that should be used as the delimiter between fields in the raw data record.	Any EBCDIC character	blank
Log Size	Specify the number of blocks to be allocated to each raw log file. For more information, read ***Determining the Log Size Option Setting***, later in this section.	*nnnnnnn*	99999
Num of Files	Specify the number of raw log files to be used by a report. For every raw 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 Raw Data File option. Each log file name must be coded in the Adabas startup procedure. For example, if Raw Data File=RAWSM and Num of Logs=3, summary log data will be written to files RAWSM01, RAWSM02, and RAWSM03.	1-99 (z/OS) 1-9 (z/VSE)	2

Logging Option	Description	Possible Values	Default
Raw Data File	Specify the DD/file name prefix used to identify the file to which Adabas Review will write the raw log data. Each report that specifies raw logging must have its own unique file name prefix.	5-byte name	RAWDT (detailed reports) or RAWSM (summary reports)
Switch Exit	Specify the name of the user exit that is called when a raw log is filled during report processing. If an exit is not specified, Adabas Review closes the filled raw log file and opens the next file; no provision is made for copying the data. For complete information about the raw logging user exit, read *REVUXLOG: Command, Summary, or Raw Logging User Exit* , in the *Adabas Review Reference Guide*	*name*	none
Write Header	Specify whether Adabas Review will write the header record at the beginning of each raw log file.	Y | N	N
Write Raw Data	Specify whether Adabas Review will write raw logs for a particular report ■ in binary (Y) and character mixed. Fields are printed as specified in the field reference; ■ in character (C) only. Fields which are specified with Format B in the field reference table are converted to format C. or whether raw logging will be ignored (N).	Y | N | C	N

The remainder of this section on raw log file options covers the following topics:

- Required Options for Raw Logging

Required Options for Raw Logging

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

Summary Report Option	Setting	Explanation
Write Raw Data	Y	Yes indicates that the report performs raw data logging.
Raw Data File	name	The five-character prefix of the DD/file name for the raw log files.
Num of Files	number	The total number of raw 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.

Determining the Log Size Option Setting

Use the `Log Size` reporting option for the command, summary, and raw log files to specify the number of blocks to be allocated to each command log file (detailed reports), summary log file (summary reports), or the raw log file (detailed or summary reports). If more than one log is specified (`Num of Logs` option), the log will be switched when the specified log size is reached; otherwise the log file will be reused from the beginning when the specified log size is reached.

Because command log records and summary log records vary in length, the number of stored records in a defined log size varies a lot. To better estimate this, consider the following log file descriptions.

- The command log file is used by detailed reports and contains the basic record with or without any additional buffers, such as the record buffer or format buffer, depending on the report options. If only the basic record is stored, the record sizes are 1,452 bytes per record. If other buffers are logged as well the size dependent on the buffer sizes, but the maximum length of any log record written by Adabas Review is 8K (kilobytes).
- The summary log file is used by summary reports and contains summary data. Its layout is described in *Summary Record Layout*, in the *Adabas Review Reference Guide*. The record size of summary log records varies, depending on the fields specified for the report. The number of bytes used for each field can be determined by reviewing the *Field Reference* tables (in the *Adabas Review Reference Guide*).
- The raw log files are sequential data sets that contain detail or summary report data. The record size of raw log records varies, depending on the fields specified for the report and whether a header is used or not. The number of bytes used for each field can be determined by reviewing the *Field Reference* tables (in the *Adabas Review Reference Guide*).

For Adabas Review log files, the internal blocking factor used for calculations is 10,000 bytes per block. The `Log Size` value can be determined using the following basic formula:

```
number-of-tracks * records-per-track
```

The *number-of-tracks* value can be determined by multiplying number of cylinders to use by the number of tracks per cylinder (provided by the disk vendor): *number-of-tracks*= *number-of-cylinders * vendor-number-tracks-per-cylinder*.

The *records-per-track* value can be calculated by dividing the number of bytes per track (provided by the disk vendor) by the blocking factor of each record and truncating the result (*records-per-track* = TRUNC (*bytes-per-track*/10000)).

Fully expanded, this calculation looks like this:

```
(number-of-cylinders * vendor-number-tracks-per-cylinder) * (TRUNC ↩
(bytes-per-track/10000))
```

The following are approximate values for tracks per cylinder, bytes per track, and records per track for 3380 and 3390 devices:

- 3380: 15 tracks per cylinder; 47,000 bytes per track. For record block factor of 10,000 bytes, this calculates as 4 records per track (`TRUNC (47000/10000)`).
- 3390: 15 tracks per cylinder; 57,000 bytes per track. For record block factor of 10,000 bytes, this calculates as 5 records per track (`TRUNC (57000/10000)`).

Important: It is best to check your device vendor's documentation to see what they document as the number of records-per-track for a specific blocking factor for the device.

Example Using a Standard Blocking Factor

For example, the `Log Size` setting for 10 cylinders of a 3390 device with record blocking factor of 10,000 bytes is determined as follows:

- The *number-of-tracks* value is calculated by multiplying 15 tracks per cylinder by 10 cylinders (`15 x 10`), or 150 tracks.
- For a 3390 device, the *records-per-track* is calculated by dividing 57,000 bytes per track by the blocking factor (10,000 bytes), with a result of 5 records per track (`TRUNC (57000/10000)`.
- The `Log Size` value would then be calculated as `150 x 5`, or 750 blocks.

Example Using a Larger Blocking Factor

To make optimal use of your disk space, you might choose to use a larger block size. If you do this, you must be sure to base the calculation for the `Log Size` parameter setting on the larger block size to be sure to use all provided space. Remember that Adabas Review's internal algorithm uses a fixed 10,000-byte blocking factor for log records, so when calculating `Log Size` for a larger block size, you must calculate the records-per-per track using the larger block size, then calculate the total number of bytes per cylinder, adjust that value for the total number of cylinders you need, and, finally, adjust the total number of bytes per cylinder by Adabas Review's required 10,000-byte blocking factor.

Note: Adabas Review log records cannot be split over the 10,000 byte boundary. Consequently, we recommend that you leave some padding space when making your calculations.

For example, the `Log Size` setting for 10 cylinders of a 3390 device with a data set block size of 27,998 bytes is determined as follows:

- For this 3390 device, the *records-per-track* is calculated by dividing 57,000 bytes per track by the larger data set block size (27,998 bytes), with a result of 2 records per track (`TRUNC (57000/27998)`).

Important: It is best to check your device vendor's documentation to see what they document as the number of records-per-track for a specific blocking factor for the device.

- To determine the number of bytes per cylinder required, you must multiply the number of tracks per cylinder (for 3390 devices, this is 15) by the data set block size (for this 3390 device it is set to 27,998 bytes) and by the number of records per track (as previously calculated for this 3390 device, this is 2). So the total number of bytes per cylinder required can be calculated as `15 * 27998 * 2`, or 839,940 bytes per cylinder.
- This example requires 10 cylinders, so the total number of bytes needed is calculated as `10 * 839,940`, or 8,399,400 bytes.
- Finally, the `Log Size` value is determined by adjusting the total number of required bytes by the 10,000-byte blocking factor for Adabas Review log records. The calculation would be `TRUNC (8399400/10000)`, or 839 blocks.

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 REV*vrs*.SRCE(REVUXLOG). The command or summary log copy job is provided in JCL library member REV*vrs*.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 are provided on 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. 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. 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 Optionsscreen. **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.	number of minutes	none	Detailed and Summary

History Option	Description	Possible Values	Default	Valid for Report Type?
	If the History Int option is *not* used, history data is written to the Adabas Review repository at Adabas termination.			
History DBID	Specify the ID number of the database that is to store the history data; that is, the Adabas Review repository. The default is the database ID of the Adabas Review repository to which you currently have access. You may change this parameter, provided it specifies (in conjunction with the History FNR and History SVC options) a different Adabas Review repository.	*dbid*	current DBID	Detailed and Summary
History FNR	Specify the file number in the Adabas Review repository that is to contain the history data. The default is the file number in the Adabas Review repository to which you currently have access. You may change this parameter, provided it specifies (in conjunction with the History DBID and History SVC options) a different Adabas Review repository.	*fnr*	current file number	Detailed and Summary
History SVC	Specify the Adabas SVC number used to communicate with the Adabas Review repository in order to write the history data. 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. You may change this parameter, provided it specifies (in conjunction with the History DBID and History FNR options) a different Adabas Review repository.	*svc*	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*.

5 Running Reports Online

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.

  It is possible to specify a DBID after the START command using the following syntax options.

  ```
  START report.name,[dbid | DBID=dbid ]
  ```

  or

  ```
  START report.name [dbid | DBID=dbid ]
  ```

  For *report.name*, specify the name of the report you want to start. Report names must contain periods between the words of the names to allow Natural to pass the parameters to START as a continuous string. Errors will result if the report name does not contain periods between the words of the name.

  For *dbid*, specify the database ID or the value ALL for which you want the report started. The report will then collect data from the specified DBID or ALL. The comma between the report name and the DBID (as shown in the first of the above syntax options) is not required.

  Some examples of valid START commands:

  ```
  START MY.REPORT
  START MY.REPORT,123
  START MY.REPORT 123
  START MY.REPORT,DBID=123
  START MY.REPORT,ALL
  START MY.REPORT DBID=ALL
  ```

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.

```
14:08:58                A D A B A S  -  R E V I E W              2016-04-29
                              Started Reports                  Target=00559

                                                    Sum             Strt    Display
  Sel     Report Name               Stat DBID  Det Typ Hst Log Time    Program
+-------------------------------------------------------------------------------+
| __ APPLICATION FILE FIELD USAGE     A    559  S   D   N      14:08 SR-00030 |
| __ COMMANDS BY HOUR                 A    559  S   D   N      14:07 SR-00004 |
| __ EXCEPTIONAL RESPONSE CODES       A    559  S   D   N      14:08 SR-00002 |
| __ HOURLY DATABASE OVERVIEW         A    559  S   D   N      14:07 SR-00032 |
| __ LAST 500 ADABAS CALLS            A    559  S   D   N      14:07 SR-00038 |
| __ SAMPLE REPORT                    A    559  S   D   N      14:06 RD-00057 |
|                                                                               |
|                                                                               |
|                                                                               |
|                                                                               |
|                                                                               |
|                                                                               |
+-------------------------------------------------------------------------------+

Command: _____________________________________________________________________


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

PF7 (-), PF8 (+) , PF10 (<===) and PF11 (===>) 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. In addition, the PF10 (<===) and PF11 (===>) keys scroll the list left or right to provide additional information about each started report.

Note: If you are using an external application, such as a session manager like Software AG's NETPASS, that assigns PF10 and PF11 to functions of the external application, you may have problems **viewing report results (VW command)**. If this is the case, you can use PF22 instead to scroll the report results to the left and PF23 instead to scroll the report results to the right.

The following shows a list scrolled to the right:

```
14:09:51                A D A B A S  -  R E V I E W              2016-04-29
                      Started Reports (Extended Info)           Target=00559

                                    Started    Max     Used   Avail   Recs in
  Sel     Report Name                 By     Stor(K) Stor(K) Stor(K)    Rpt
+-------------------------------------------------------------------------------+
| APPLICATION FILE FIELD USAGE      USAMPC         8       5       3     503 |
| COMMANDS BY HOUR                  USAMPC         8       3       5     452 |
| EXCEPTIONAL RESPONSE CODES        USAMPC         8       5       3      37 |
| HOURLY DATABASE OVERVIEW          USAMPC         8       3       5     416 |
| LAST 500 ADABAS CALLS             USAMPC        48      39       9     402 |
| SAMPLE REPORT                     USAMPC         8       3       5     527 |
|                                                                             |
|                                                                             |
|                                                                             |
|                                                                             |
|                                                                             |
|                                                                             |
+-------------------------------------------------------------------------------+

Command: _____________________________________________________________________


Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit                    -     +          <===        Menu
```

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

Heading	Explanation
Avail Stor (K)	The available amount of storage remaining for the report, in kilobytes (K).
DBID	Database for which the report collects data.
Display Program	Lists the name of the program generated to display report output online.
Hst	Indicates whether the report writes history data.
Log	Indicates the number of the current log file for the report. For summary reports with a log file, this field will be empty until the report writes information the first time to the log files. A write to the log file is performed whenever a report is stopped.
Max Stor (K)	The total storage allocation for the report as limited by the `MAXSTORE` report parameter, in kilobytes (K). 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".
Recs in Rpt	The number of commands (records) processed by the report.
Report Name	Name of the report.

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.
Started By	The user ID of the user who started the report.
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.
Stat	Report Status. Possible values are as follows: ■ "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 or it is temporarily suspended because the report was closed (via the CL command) and not yet restarted because of low activity on the Adabas server. If there is low activity, the next Adabas command which is relevant for the Adabas Review system will activate the report again. If the report is suspended via the SU (suspend) command, it must be reactivated using the RA (reactivate suspended report) command. ■ "Z": I/O error. An attempt to write report information on an output data set resulted in an I/O error and could not be accomplished. Additional information about the I/O error is provided in a corresponding REV000xxx message. The report will still collect the data and write the data to the output data sets that are available. The report can be viewed online. Other functions, such as CL (close) and RF (refresh), are still possible for the report. ■ "P": Being purged. The report is in the "purge" status, this is at the end processing of a report. ■ "R": Restart. The report is in the "restart" phase, i.e. a report interval has ended and the interval end processing is running. After this has been finished, the report will be active again.
Sum/Det	■ "S": indicates a summary report; ■ "D": indicates a detailed report.
Typ	Indicates whether the report is a regular Adabas Review report ("D") or an Adabas Review client report ("C").
Used Stor (K)	The amount of storage currently used for the report, in kilobytes (K).

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. When you issue this command, console message REV20257 is issued.
RA	Reactivate report
RF	Refresh report
SU	Suspend report
SW	Switch CLOG data set
VW	View report output in the traditional way
VX	View report output using Software AG Editor

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:

```
14:10:20                 A D A B A S  -  R E V I E W             2013-04-29
                                Started Reports                 Target=00559
                                                                           ↩

                                             Sum             Strt    Display
  Sel                                                                Program
+--------- *============== Active Report Information ==============* ---------+
| in APPL  |                                                      |   -00030 |
| __ COMM  | Report name......... APPLICATION FILE FIELD USAGE    |   -00004 |
| __ EXCE  | Max storage avail... 8,192                           |   -00002 |
| __ HOUR  | Storage used........ 6,112                           |   -00032 |
| __ LAST  | Remaining storage... 2,080                           |   -00038 |
| __ SAMP  | Records processed... 664                             |   -00057 |
|          | Account entries..... 33                               |        ↩
|
|          | Account record len.. 88                               |        ↩
|
|          | ADT length.......... 16                               |        ↩
|
|          | Number of levels.... 3                                |        ↩
|
|          | Report saved by..... INSTALL                          |        ↩
|
|          | Report saved on..... 2013-04-10                       |        ↩
|
+----------| Report started by... USAMPC                          |----------+
           *========================================================*        ↩

Command:_____________________________________________________________________
             Press PF3 to exit                                             ↩

                                                                           ↩



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.
- The user ID of the user who last saved the report.
- The date on which the report was last saved.
- The user ID of the user who started the report.

Note: The user ID is the Natural *INIT-USER value, or INSTALL in case the report was saved during installation, AUTOSTRT in case the report was started during startup of UNKNOWN in case the value is zero.

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. When you issue this command, console message REV20257 is issued.

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. For summary reports, the switch is only executed after the first write on the file has occurred.

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.

6 Running Reports as Batch Jobs

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.

Note: Reports can also be started automatically when the Review system starts. For more information, read ***Running Autostarted Reports*** (elsewhere in this guide) and *Autostarted Reports* (in the *Adabas Review Concepts Manual*).

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 Name ............... ________________________________
```

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 Name**, 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 Name** 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.
CLASS	Defines the type of data collection being used for the report. There are two options: STANDARD (default) and CLIENT (see client reporting).
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.

Statement	Use
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.
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.
RAW	Specifies how Adabas Review performs raw logging.
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

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
```

CLASS Statement

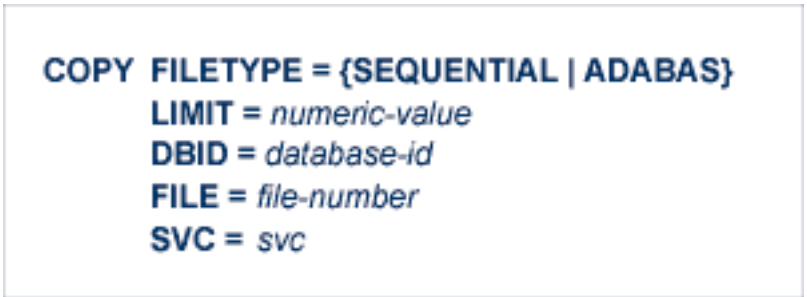
The CLASS statement specifies the data collection type being used to create a report. The two possible values are STANDARD (default) and CLIENT. This statement is only required if Client data is being reported, but it can also be used with CLIENT=STANDARD.

Example:

Running a client report from batch titled Client Report that sums CDURA.

```
TITLE='CLIENT REPORT',
PROGRAM=SR-00033,
CLASS=CLIENT,
TARGET=ALL,
LIMIT=100,
WRAP=Y,
RESTART=Y,
PAGESIZE=55,
LINESIZE=164,
MAXSTORE=100
DISPLAY SEQUENCE,JOBNAME
SUM CDURA ↩
```

COPY Statement



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

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 command selected by the report.

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 the keyword FIXED to specify that a fixed cost is to be applied to each command selected by the report. (In SYSREVDB, the equivalent functionality is available using the COMMANDS field rather than the FIXED option.)

Cost factors can be positive numeric values containing up to four decimal places. 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
```

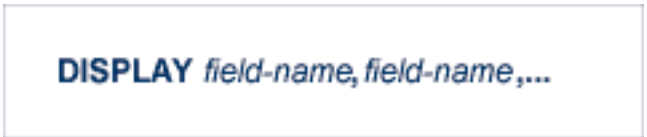
2. Calculate costs by applying a fixed cost of 5.00 to each command selected by the report.

```
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*2
```

DISPLAY Statement



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:

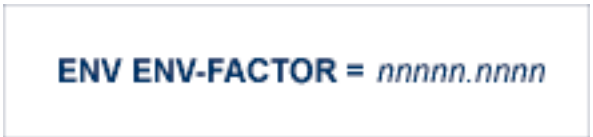
1. Print data summarized by Adabas COMMAND within file number (FNR) within JOBNAME on the summary report.

```
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



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	= / EQ	X'7E'
Less than	< / LT	X'4C'
Greater than	> / GT	X'6E'
Not equal to	¬ / NE	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 an 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)
   EXCLUDE JOBNAME NE CICS*
   ```

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	= / EQ	X'7E'
Less than	< / LT	X'4C'
Greater than	> / GT	X'6E'
Not equal to	¬ / NE	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 an 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.

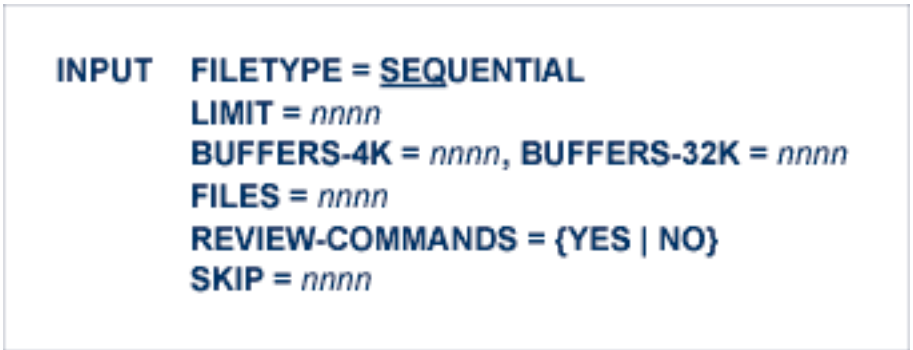
   Note: The same field name may not be used more than once for a particular INCLUDE statement.

   ```
   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)
   INCLUDE STEPNAME EQ 'CHKD'
   ```

INPUT Statement



—where FILES is used only under z/VSE.

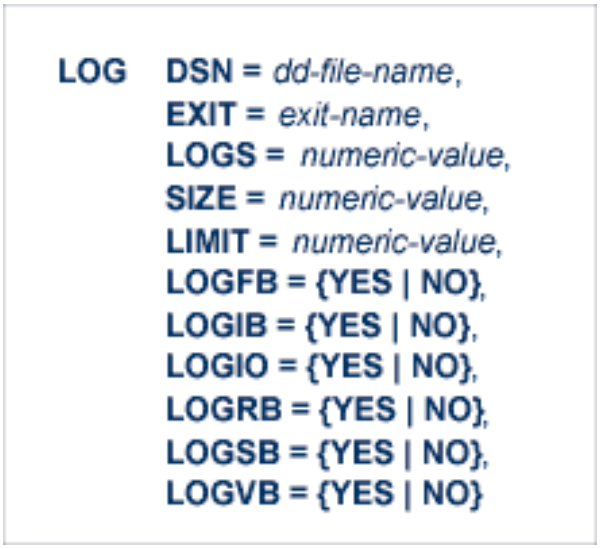
The INPUT parameter statement defines the characteristics of the input records to be processed by the Adabas Review processor. The statement format is described in the following table:

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. **Note:** This keyword is only used for batch processing.
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. **Note:** This keyword is only used for batch processing. In online processing, the individual report-specific limitations are used.
BUFFERS-4K	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. The maximum allowable specification is 65535. 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. **Note:** This keyword is only used for online processing.
BUFFERS-32K	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. The maximum allowable specification is 65535.

Keyword	Specifies . . .
	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. **Note:** This keyword is only used for online processing.
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 is split in half between 4K buffers and 32K buffers. The minimum allowable specification is 2000. 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. 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. **Note:** 1. 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. 2. This keyword is only used for online processing.
FILES	(z/VSE only) the number of input command log files to be processed. **Note:** This keyword is only used for batch processing.
REVIEW-COMMANDS	whether commands issued by Adabas Review should be included in the command processing for all reports. 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). REVIEW-COMMANDS=YES indicates that these commands are used for accounting and monitoring. **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.

Keyword	Specifies . . .
SKIP	the number of command log records to bypass before Adabas Review begins processing. **Note:** This keyword is only used for batch processing. In online processing, the individual report-specific limitations are used.
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	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. If buffers are truncated, fields or parts of fields may not be filled.

LOG Statement



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 *REVUXLOG: Command or Summary Logging User Exit*, in the *Adabas Review Reference Guide*	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

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

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.

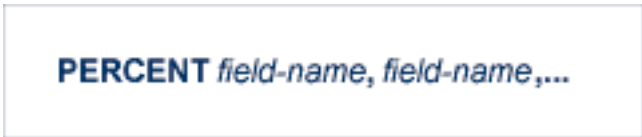
Minimum values are summarized and printed on the summary report at each control break defined by the DISPLAY parameter statement for all data fields for which minimum values have been determined.

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



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

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.

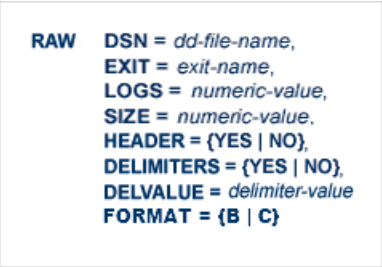
Rate values are summarized and printed on the summary report at each control break defined by the DISPLAY parameter statement for all data fields for which rate values have been determined.

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
```

RAW Statement



The RAW statement determines how Adabas Review is to perform raw detail logging or summary logging; i.e., how information is to be logged and where it is to be written.

The following table describes the parameters within the RAW statement:

Parameter	Specifies . . .	Valid for Report Type
DSN	The file name prefix for the file where the raw logs are to be written. A number is appended to this name based on the LOGS parameter. If DSN=RVRAW and LOGS=2, the command log data is written to files RVRAW01 and RVRAW02.	Detailed and Summary
EXIT	the name of the user exit to be called when a raw log data set is closed and before the next raw log data set is opened. For complete information about the command or summary logging user exit, read *REVUXLOG: Command or Summary Logging User Exit*, in the *Adabas Review Reference Guide*	Detailed and Summary
LOGS	the number of raw log data sets for the report.	Detailed and Summary
SIZE	the maximum number of blocks allocated to the raw log data set. When the SIZE parameter value is reached, the exit specified in the EXIT parameter is called, and the next raw log data set is opened for output.	Detailed and Summary
HEADER	Specify whether Adabas Review will write the header record at the beginning of each raw log file. If set to "YES", a header record will be written at the beginning of each raw log file. If set to "NO", no header record will be written at the beginning of each raw log file.	Detailed and Summary
DELIMITERS	Specify whether or not a delimiter will be used to delimit the fields in the raw log data record. Valid values are "YES" (use a delimiter) or "NO" (do not use a delimiter).	Detailed and Summary

Parameter	Specifies . . .	Valid for Report Type
	If this is set to "NO", all the fields in the record are strung together in the raw data record without a separator in between them.	
DELVALUE	Specifies the character that should be used as the delimiter between fields in the raw data record, if DELIMITERS is set to "YES".	Detailed and Summary
FORMAT	Specify whether binary data are displayed in binary or character format. Valid values are "B" (binary data are displayed in binary format) or "C" (binary data are displayed in character format). Default is "B".	Detailed and Summary

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 } ]
        [ CLASS = { STANDARD | CLIENT } ]
        [ DISPLAYBY = { SORTED | SUMFIELD | USAGE | SORTEDDE | DATETIME } ]
        [ ENTRIES = { count | 999999 } ]
        [ HISTORY-INTERVAL = { minutes | 0 } ]
        [ INTERVAL = minutes ]
        [ LIMIT = { count | 99999999 } ]
        [ {LINESIZE | WIDTH} = { count | 133 } ]
        [ MAX-RESTARTS = { count | 999999 } ]
        [ 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 | ALL } ]
        [ {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 batch 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
CLASS	whether the report to be generated is a client reporting report. Valid values are "STANDARD" (the report is a standard report) and "CLIENT" (the report is a client reporting report).	STANDARD	Detailed and Summary
DISPLAYBY	the order in which the data is displayed. Valid values are: **SORTED** Display data in ascending order by control break. **SUMFIELD** Display data in descending order by the first field marked as a sum field. **USAGE** Display data in descending order by usage (e.g., most used to least used command). **SORTEDDE** Display data in descending order by control break. **DATETIME** Display data in ascending order by the start date and time of the control break. interval.	SORTED	Summary only
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 time interval (in minutes) for closing the report. The HISTORY-INTERVAL parameter is a synonym for the INTERVAL parameter, described elsewhere in this table.	0	Summary only

Parameter	Specifies . . .	Default	Valid for Report Type
INTERVAL	the time interval (in minutes) for closing the report. At each interval: ■ Summary reports print their output and store any history data before the report is closed. ■ Detailed reports close. Note that output data for detailed reports, including history data, is written in an ongoing fashion while the report is running. The report may be restarted, depending on the setting of the RESTART parameter. For online reporting (SYSREVDB), use the Intrvl reporting option; in batch environments, use this INTERVAL parameter. For more information about online reporting options, read ***General Report Options***, elsewhere in this guide.	0	Detailed and Summary
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 255 characters. Use the **"Line"** option to supply this information in an online environment.	133	Detailed and Summary
MAX-RESTARTS	Specify the maximum number of times a summary report will be restarted due to MAXSTORE.	999999	Summary only
MAXSTORE	the maximum amount of storage (in kilobytes) available for the report. Use the **"Max K"** option to supply this information in an online environment. For more information about how storage is used for reports, read *Storage for Reports*, in the *Adabas Review Concepts Manual*.	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

Parameter	Specifies . . .	Default	Valid for Report Type
PROGRAM	the name of the display program to be used if the report results are displayed online.	RD/RX-DEFLT	Detailed and Summary
REPORT-EXIT	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. 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*.	no exit is called	Detailed only
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). For online (SYSREVDB) reports, use the **"Rstrt"** option to supply this information. For more information, read ***General Report Options***, elsewhere in this guide.	NO	Detailed and Summary
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 ***Report Exits*** in ***Specifying Reporting Options***(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. You can specify "ALL" as a valid value to trigger a DBID=ALL report. When running Adabas Review in hub mode, a report is started for all databases running on the same SVC as the hub. When running Adabas Review in local mode, the report will only collect data from the local database.	0 (ALL)	Detailed and Summary

Parameter	Specifies . . .	Default	Valid for Report Type
	You can specify "ALL" for user-defined reports and for most of the predefined Adabas Review reports except for the Buffer Pool reports, the Pulse reports, and the Cluster Services reports. **Note:** 1. A setting of "0" is converted internally by Adabas Review to "ALL". 2. Depending on your environment, a DBID=ALL report may initiate communications with many databases, all of which will then send data for the report. If too many databases send too much data at the same time, hub performance problems may result. In such cases, you might consider excluding specific databases from the DBID=ALL report. To do so, define a **report processing rule** that does not include (INCLUDE statement or EQ) some databases. 3. Once DBID=ALL reports are started, we do not recommend that you use the REVIEW=*hubid* operator command to alter the hub ID of an active database. If you do, unpredictable results will occur in the processing of the DBID=ALL reports that have been started.		
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). Use the **"Wrapping"** option to supply this information in an online environment.	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

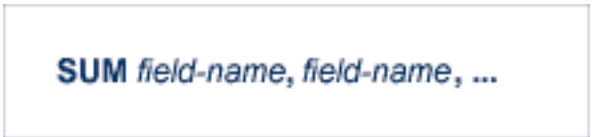
The ROUND parameter statement applies only to Adabas Review summary reports. It specifies the data fields for which rounding is to occur on these reports. The fields specified on the ROUND statement must also be specified on the DISPLAY statement.

Example:

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

```
ROUND DURATION=.05
```

SUM Statement



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=AAAAAAAA,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=AAAAAAAA
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=AAAAAAAA,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=160
//RVUPRT02 DD SYSOUT=X,LRECL=160
//SYSUDUMP DD SYSOUT=X
//TRACEOUT DD SYSOUT=X,LRECL=160
//*
//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 *Generating Batch Report Parameters*, 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 *Logging Options*, 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=160 is typical, except for RVUPRT00 where LRECL=80 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. For more information, read *Autostarted Reports* in the *Adabas Review Concepts Manual*.
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 *Generating Batch Report Parameters*, earlier in this section.
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 *Logging Options*, elsewhere in this guide.

Job Control Statement	Logical Unit(s)	Description
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' O
@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' O
@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' O
@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' O
@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' O
@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.O
/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 ***Generating Batch Report Parameters***, 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 ***Logging Options***, elsewhere in this guide.
RVUCOP*xx*	(Optional) Copied output logs; same format as RVUSEQ (where *xx* is 01-99).
RVUPRT*xx*	Review logical printers (where *xx* is 01-99). Sequential file with REC-FORM=FIXED (REC-SIZE=160 generally, excpet for RVUPRT00, with REC-SIZE of 80).

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* in the *Adabas Review Concepts Manual*.
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.

7 Running Autostarted Reports

Adabas Review reports can be started automatically when the system starts. In local mode, the database initializes the Adabas Review system; in hub mode it runs as a separate server.

To start reports automatically, they must be defined with the **AUTOSTART** set to "Y". When the report is saved it automatically updates the data sets identified by the RVUAUT1 and RVUAUT2 job control statements. Then, when Adabas Review is started the next time, the reports will be started automatically.

The syntax of autostart report definitions is the same as that used for Adabas Review reports that **run as batch jobs**. Adabas Review session parameters can also be defined in the RVUAUT1/RVUAUT2 data sets, as described in the **INPUT statement**.

For more information about autostarted reports, read *Autostarted Reports* in the *Adabas Review Concepts Manual*.

8 Using Adabas Review in Batch Natural

Using Natural batch jobs, you can start and review Adabas Review reports and perform various other Adabas Review reporting functions.

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 SYSREVDB. 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 SYSREVDB. This information is required when accessing history data in the batch job.

This chapter covers the following topics:

Summary of Supplied Batch Natural Programs

The following table summarizes the Natural batch programs and statements supplied with and supported by Adabas Review.

Program or Statement	Use to...
ACTIVATE program	Reactivate a suspended Adabas Review report in batch Natural.
CLOSE program	Close a started Adabas Review report in batch Natural. If it is a history report, history will be written.
COMPRESS program	Compress history data in a specified history report for a specified time span.
COPYREP program	Copy an Adabas Review report definition to a report definition with the specified new unique name.
DBTECH program	Print Adabas Review technical system information.
DELDEF program	Delete a specified Adabas Review report definition from the Adabas Review repository.
DELHIST program	Delete history data in a specified Adabas Review history report for a specified time span.
DELREP program	Purge started reports and report data for a specified Adabas Review report in batch Natural.
HISTORY program	Display history data in a specified history report for a specified time span using the traditional display module.
HISTORYX program	Display history data in a specified history report for a specified time span using the Software AG Editor.
NUCID program	Set the current nucleus ID. This can only be used in sysplex environments.
SET statement	Override the Natural default and SYSREVDB values for the target ID, database ID, and file number used in a batch run.
SETCM program	Turn client reporting on or off.

Program or Statement	Use to...
START program	Start an Adabas Review report in batch Natural.
SUSPEND program	Suspend an Adabas Review report in batch Natural.
SWITCH program	Force a log switch for the specified Adabas Review report in batch Natural.
TERM program	Terminate the Natural session.
ULDREP program	Unload specified Adabas Review report definitions to a sequential data set as defined by the Natural work file CMWKF01.
VIEW program	View a started Adabas Review report in batch Natural using the traditional display module.
VIEWX program	View a started Adabas Review report in batch Natural using the Software AG Editor.

Identifying the Target ID, Database ID, and File Number

The default target ID is the database in which the Natural logical 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 241.

A defined SYSREVDB (online Natural) user profile overrides any default settings. However, the target ID setting can be specified in SYSREVDB using the command `MENU HUB=`*`hubid`* prior to issuing the START command for a report. If the parameter is set to "AUTO", the first hub found on the SVC will be used.

However, both the Natural default settings and the SYSREVDB 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:

The SET statement overrides the Natural default and SYSREVDB 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

(alternatively FNR) 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 SYSREVDB
SET TARGET=558,DBID=559,FILE=24
START REVIEW.REPORT.NAME
FIN
//*                ↩
```

Setting the Nucleus ID in Sysplex Environments using Batch Natural

You can set the nucleus ID in a sysplex environment using the NUCID Natural batch program provided with Adabas Review.

NUCID operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
NUCID nucid
```

For *nucid*, specify the nucleus ID you want to use. Up to five numeric characters can be specified for the nucleus ID.

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 report definitions to a sequential data set as defined by the Natural work file CMWKF01. LODREP restores report definitions from the same sequential data set.

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

Wildcard Characters in ULDREP and LODREP Report Names

Two wildcard characters are provided that you can use to quickly specify more than one report definition name:

- An asterisk (*) wildcard character can be used to specify any string of characters. For example, specifying `Report.Number*` as the report definition name would select all report definitions with names starting with the letters "Report Number". This would select reports with names "Report Number1", "Report Number99", and "Report Number One".

  As another example, specifying `File.*.Report` would select all report definitions with names that start with the word "File" and end with the word "Report". This would select reports with the following names: "File Usage Report" and "File Detail Report", and even "File Usage Detail Report".
- A question mark (?) wildcard character can be used to specify any single character. For example, specifying `Report.Number?` as the report definition name would select all report definitions with names starting with the letters "Report Number" and one other character. This would select reports with names *`Report Number1`* through *`Report Number9`*, and even "Report NumberA", but would not select "Report Number10" (because it includes two extra characters at the end).

Combinations of these wildcard characters can be specified for a report name. For example, specifying `I/O.Summary.*.Report?` would allow you to select reports with names such as "I/O Summary by RABN Report1", "I/O Summary by RABN ReportA", and "I/O Summary by Volume Report9".

ULDREP Program Syntax

The ULDREP program allows you to specify more than one report name (with or without the use of wildcard characters), with each name on a different line. The sequence of report names ends when a period (.), the word "END", or the word "FIN" are encountered on their own line.

The syntax for ULDREP is:

```
ULDREP report.name
[report.name2]...
{. | END | FIN}
```

where *`report.name`* is the report name with periods between each word in the report name. **Wildcard characters** can be used in the report names.

The following is an example that unloads report definitions with names starting with "NATURAL SUM" as well as report definitions with names starting with "CMD".

```
ULDREP NATURAL.SUM*
CMD*
END
```

Note: Unloaded reports will show "NEED RG" as their display program, indicating that the display program for the report must be regenerated once the report has been reloaded by the LODREP program. The only exceptions are the Buffer Pool reports, which always call the display program BUFFPOOL.

LODREP Program Syntax

The LODREP program allows you to restore report definitions from a sequential data set defined by the Natural work file CMWKF01. You can only specify a single report definition name to the LODREP program, although that report definition name may use wildcard characters (which will select multiple report definitions with similar names, if they exist in the data set). However, you can specify more than one LODREP program in a run. Furthermore, the LODREP program allows you to indicate whether or not the restored report definition can overwrite and replace an already existing definition with the same name.

The syntax for LODREP is:

```
LODREP report.name [Y|N]
```

where *report.name* is the report name with periods between each word in the report name. **Wildcard characters** can be used in the report name. Specify "Y" or "N" to indicate whether existing report definitions with the same name can be replaced by the restored report definitions; the default is "N" (replacement does *not* occur).

The following examples restore and replace all report definitions with names starting with "CMD" and "FILE".

```
LODREP CMD* Y
LODREP FILE* Y ↩
```

Copying a Report Definition in Batch Natural

You can create an exact copy of a report definition and give it a new report name using the COPYREP Natural batch program provided with Adabas Review. A new report display program is also generated.

The purpose of this program is to allow you to create a uniquely named report from a template report, start the report copy, run your user programs, view the output from the report copy, and then delete the report copy. During all processing, the template report remains unchanged. An example of this is shown in *Example 2: COPYREP with DELREP* at the end of this section.

Syntax

COPYREP operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
COPYREP NAME=report.name,NEWNAME=new.report.name
```

Two additional parameters STACKPARM and GO=YES can also be used.

Parameter Descriptions

Each parameter of the COPYREP Natural batch program is described here in alphabetical order.

GO=YES

Specify GO=YES to indicate that the values of the STACKPARM parameters should be consolidated and the copy should be executed. GO=YES should only be specified if the STACKPARM parameter is also specified. If STACKPARM is not used, GO=YES should not be specified either. For more information, read about the STACKPARM parameter.

NAME

Use the NAME parameter to specify the name of the report you want to copy. Report names must have periods between the words of the names to allow Natural to pass the parameters to COPYREP as a continuous string. In addition, there should be no spaces between the report name and the equal sign. Errors will result if the report name does not have periods between the words of the name or if there is a space between the report name and the equal sign (NAME=*rptname*).

NEWNAME

Use the NEWNAME parameter to specify the unique name of the new report created by the copy processing. Report names must have periods between the words of the names to allow Natural to pass the parameters to COPYREP as a continuous string. In addition, there should be no spaces between the report name and the equal sign. Errors will result if the report name does not have periods between the words of the name or if there is a space between the report name and the equal sign (NEWNAME=*rptname*).

STACKPARM

Because report names can be up to 32 bytes in length, it is possible that the parameters and names of the report to be copied and the new report created by the copy will not fit on one line of the batch job. This is a Natural limitation. To alleviate this problem, use the STACKPARM parameter. Invoke COPYREP multiple times, passing a STACKPARM parameter with each invocation, and then invoke it one last time using only the GO=YES parameter. All of the STACKPARM parameter specifications will be remembered and then used when the GO=YES parameter is issued.

For example:

```
COPYREP STACKPARM=NAME=long.report.name.to.be.copied
COPYREP STACKPARM=NEWNAME=long.report.name.of.new.report.created.by.the.copy
COPYREP GO=YES
```

Starting a Report in Batch Natural

You can start a report using the START Natural batch program provided with Adabas Review. Optionally, you can specify a DBID using START to start the report only for the specified DBID.

Note: The specified value (either DBID or ALL) will overwrite the default definition. In case the default definition of the DBID field is blank and there is no parameter specified with the START command then a DBID=ALL report will be started.

START operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
START report.name,[dbid | DBID=dbid]
```

or

```
START report.name [dbid | DBID=dbid]
```

For *report.name*, specify the name of the report you want to start. Report names must contain periods between the words of the names to allow Natural to pass the parameters to START as a continuous string. Errors will result if the report name does not contain periods between the words of the name.

For *dbid*, specify the database ID or the value ALL for which you want the report started. The report will then collect data from the specified DBID or ALL. The comma between the report name and the DBID (as shown in the first of the above syntax options) is not required.

Some examples of valid START commands:

```
START MY.REPORT
START MY.REPORT,123
START MY.REPORT 123
START MY.REPORT,DBID=123
START MY.REPORT,ALL
START MY.REPORT DBID=ALL
```

Suspending a Report in Batch Natural

You can suspend a report using the SUSPEND Natural batch program provided with Adabas Review. Optionally, you can specify a DBID using SUSPEND to suspend the report only for the specified DBID.

SUSPEND operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
SUSPEND report.name,[dbid]
```

For *report.name*, specify the name of the report you want to suspend. Report names must have periods between the words of the names to allow Natural to pass the parameters to SUSPEND as a continuous string. Errors will result if the report name does not have periods between the words of the name.

For *dbid*, specify the database ID for which you want the report suspended. The comma between the report name and the DBID is required.

Activating a Suspended Report in Batch Natural

You can reactivate a suspended report in batch Natural using the ACTIVATE Natural batch program provided with Adabas Review. Optionally, you can specify a DBID using ACTIVATE to reactivate the report only for the specified DBID.

ACTIVATE operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
ACTIVATE report.name,[dbid]
```

For *report.name*, specify the name of the report you want to reactivate. Report names must have periods between the words of the names to allow Natural to pass the parameters to ACTIVATE as a continuous string. Errors will result if the report name does not have periods between the words of the name.

For *dbid*, specify the database ID for which you want the report reactivated. The comma between the report name and the DBID is required.

Viewing a Started Report in Batch Natural

You can view a started report using the VIEW or VIEWX Natural batch program provided with Adabas Review. Optionally, you can specify a DBID using START to view the report only for the specified DBID.

VIEW and VIEWX operate in much the same way as the other batch Natural Review programs. Their syntax is:

```
VIEW report.name,[dbid]
```

or

```
VIEWX report.name,[dbid]
```

The VIEWX command behaves exactly the same as the VIEW command. However, data will be displayed using RX-*, SX-* or CX-* modules instead of RD-*, SR-* or CR-* modules. These modules use the Software AG Editor to show the data.

For *report.name*, specify the name of the started report you want to view. Report names must have periods between the words of the names to allow Natural to pass the parameters to START as a continuous string. Errors will result if the report name does not have periods between the words of the name.

For *dbid*, specify the database ID of the report you want to view. The comma between the report name and the DBID is required.

Closing a Started Report in Batch Natural

You can close a started report in batch Natural using the CLOSE Natural batch program provided with Adabas Review. Optionally, you can specify a DBID using CLOSE to close the report only for the specified DBID.

CLOSE operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
CLOSE report.name,[dbid]
```

For *report.name*, specify the name of the report you want to close. Report names must have periods between the words of the names to allow Natural to pass the parameters to CLOSE as a continuous string. Errors will result if the report name does not have periods between the words of the name.

For *dbid*, specify the database ID for which you want the report closed. The comma between the report name and the DBID is required.

Turning Client Reporting On or Off in Batch Natural

You can turn client reporting on or off in batch Natural using the SETCM Natural batch program provided with Adabas Review.

SETCM operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
SETCM HUB=nnnnn,MODE= ON|OFF
```

For *nnnnn*, specify the hub ID you want to use. Up to five numeric characters can be specified for the hub ID.

Specify ON to turn client reporting on; specify OFF to turn it off. The comma between the hub ID and ON or OFF is required.

Forcing a Log Switch for a Report in Batch Natural

You can switch the log file for an Adabas Review report using the SWITCH Natural batch program provided with Adabas Review. Optionally, you can specify a DBID using SWITCH to switch the log file for the report only for the specified DBID.

SWITCH operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
SWITCH report.name,[dbid]
```

For *report.name*, specify the name of the report for which you want the log file switched. Report names must have periods between the words of the names to allow Natural to pass the parameters to START as a continuous string. Errors will result if the report name does not have periods between the words of the name.

For *dbid*, specify the database ID for which you want the log file switched. The comma between the report name and the DBID is required.

Printing Technical System Information for Review in Batch Natural

You can print Adabas Review technical system information using the DBTECH Natural batch program provided with Adabas Review.

DBTECH operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
DBTECH
```

There are no parameters.

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.

Notes:

1. The date/time entered refers to Interval-Start and Interval-Stop date and times. Only whole Intervals can be displayed, deleted or compressed.
2. If the entered Start or Stop date/time lays in the middle of an Interval the whole Interval will not be processed. If the Start or Stop date/time is exactly the Interval Start/Stop or it lays before or after the Interval the whole Interval will be processed.
3. A display of a report setup with the HOUR field and an Interval which spans over midnight (i.e. from 22:00 hour on the first day to 03:00 hour on the next day) lead to effects which look from outside wrong. If the HOUR field is the account field where the data will be sorted by then the first hours (00:00, 01:00, 02:00 and 03:00) of the next day will be displayed first followed from the hours (22:00, 23:00) of the previous day.
4. If two summary Intervals are displayed or compressed the output will be created using all data of these Intervals and accumulate them according to the report definition.

To use these jobs:

1 Add the report name and date or date and time range. All dates are entered in *yyyy-mm-dd* format; all times are entered in *hh:mm:ss* format.

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 SYSREVDB                       <--logon to Review Natural library.
HISTORY A.HISTORY.REPORT start-date start-time end-date end-time  <--report ↩
name, dates and times.
FIN
/*
```

  To display history data with the Software AG Editor, enter:

```
LOGON SYSREVDB                       <--logon to Review Natural library.
HISTORYX A.HISTORY.REPORT start-date start-time end-date end-time  <--report ↩
name, dates and times.
FIN
/*
```

  If no time is specified the start-time will default to 00:00:01 and the end-time will default to 23:59:59.

To delete history data:

- Use the HISTDEL job.

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

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

Deleting a Report Definition in Batch Natural

You can delete a report definition from the Adabas Review repository using the DELDEF Natural batch program provided with Adabas Review.

DELDEF operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
DELDEF report.name
```

Report names must have periods between the words of the names to allow Natural to pass the parameters to DELDEF as a continuous string.

Purging Report Data in Batch Natural

You can purge started reports and report data using the DELREP Natural batch program provided with Adabas Review.

DELREP operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
DELREP report.name
```

Report names must have periods between the words of the names to allow Natural to pass the parameters to DELREP as a continuous string.

Terminating the Natural Session in Batch Natural

You can terminate the Natural session using the TERM Natural batch program provided with Adabas Review.

TERM operates in much the same way as the other batch Natural Review programs. Its syntax is:

```
TERM
```

There are no parameters.

Examples

This section provides examples using these batch Natural programs in Adabas Review:

- Example 1: Starting and Displaying Report Results
- Example 2: COPYREP with DELREP

Note: The reports in this section are examples only, used to demonstrate the use of the Natural programs described in this section. We do not supply these reports in sample jobs in Adabas Review.

Example 1: Starting and Displaying Report Results

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 I/Os 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:

```
10:49:13                 A D A B A S  -  R E V I E W               2016-05-21
                               Edit Report                       Target=15690
      Detail/Summary: S
      Report Name: TRACE PAYROLL REPORT_____________     DBID to Monitor: __559

+-------------------------------------------------------------------------------+
|  Field     Order   Sum   Min   Max   Avg   Pct   Rate      Cost      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  SOnly Save  Start  -     +          Rules Flds  Menu  ↩
 ↩
```

```
20:47:59                 A D A B A S  -  R E V I E W               2016-05-21
                           Report Processing Rules                 Target=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  SOnly 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 SYSREVDB                        <---logon to
SET DBID=559,FILE=24,TARGET=15690
Review Natural library
START TRACE.PAYROLL.REPORT targetid     <---start Review report
LOGON PAYROLL
*
* PAYROLL1 NATURAL STREAM
*
LOGON SYSREVDB                        <---logon to Review Natural
SET DBID=559,FILE=24,TARGET=15690
library
VIEW TRACE.PAYROLL.REPORT targetid      <---to display report results
DELREP TRACE.PAYROLL.REPORT targetid    <---to delete report results
FIN
```

Example 2: COPYREP with DELREP

In the following example of a Review Natural batch program, the report named "Rate of Commands and I/Os by Date Report" is copied to a new report named "Command and I/O Rate by Date Report". Then user program XXXX is run on database 559, file 24, and target 41. The report copy is then started on database 559, file 24, and target 41 and its output is displayed, deleted, and the report copy is purged. Note that the original report, "Rate of Commands and I/Os by Date Report", remains unchanged by all processing.

```
LOGON SYSREVDB
SET DBID=559,FILE=24,TARGET=41
COPYREP STACKPARM=NAME=Rate.of.Commands.and.I/Os.by.Date.Report
COPYREP STACKPARM=NEWNAME=Command.and.I/O.Rate.by.Date.Report
COPYREP GO=YES
LOGON USERLIB
USERPROG XXXX
LOGON SYSREVDB
SET DBID=559,FILE=24,TARGET=41
VIEW Command.and.I/O.Rate.by.Date.Report
DELREP Command.and.I/O.Rate.by.Date.Report
DELDEF Command.and.I/O.Rate.by.Date.Report
FIN
```

9 Managing Started Report Output

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

Viewing Report Results

The VW or the VX 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).

The VW command starts the traditional display program generated in report mode. This module may be (re-) generated when DISPLAY is set to BASIC.

The VX command starts the display program generated in structured mode, using the Software AG Editor. This module may be (re-)generated when DISPLAY is set to EDITOR. The Software AG Editor offers extended functionality for browsing and sorting data.

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                  2016-06-18
                 19:56:36 2016-06-18 Thru 19:56:43 2016-06-18      Target=15690
                                                                     Page:    1
                              Total         Total         Total
NAT-Appl  File  Fld-Name  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

When you issue the VX 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 VX 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 VX command is shown in the Thread Activity screen below:

```
12:41:55                 APPLICATION FILE FIELD USAGE                2016-07-26
                  2016-07-26 12:34:06 - 2016-07-26 12:41:54    Columns 010 072
=====>                                                        Scroll ===>  PAGE
 ***** ****************************** top of data ******************************
 00001 -------- ----- -------- ------------ ------------- ------------------- -
 00002                                Total         Total                 Total
 00003 NAT-Appl  File Fld-Name   Num-of-IOs      Commands              CMD-Resp
 00004 -------- ----- -------- ------------ ------------- ------------------- -
 00005              0                     0            13             0.003250
 00006              7 LL                  0             2             0.002750
 00007              7 LM                  0             9             0.054000
 00008              8 LL                  0             1             0.001375
 00009              8 LM                  0             1             0.006000
 00010           1007 LC                  1             2             0.012000
 00011           1007 LG                  1             2             0.012000
 00012           1007 LL                  0             6             0.008250
 00013           1007 LM                  0            18             0.108000
 00014           1008 LM                 25             9             0.064625
 00015 ******** ***** ********           27            63             0.272250
 00016 DAEFONE      0                     0             4             0.001000
 00017           1007 LM                  0            12             0.072000
 00018           1008 LL                  0             4             0.005500
 00019           1008 LM                  0             4             0.024000
 00020 ******** ***** ********            0            24             0.102500
 00021 SMART      137 AA                  0             2             0.002250
 00022            137 AB                  0             2             0.002250

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  RVSrt Exit  Updat Rfind       -     +           <===  ===>  Canc
```

You can browse the report using Software AG Editor commands, e.g. PF7, PF8 or the main commands `TOP`, `BOT`, `+`, `++`, `-`, `--`. Enter PF1 to get help about all allowed Editor commands.

Note: Restrictions apply to the commands that may be issued while viewing reports. For more information, refer to the *Command Reference*, in the *Adabas Review Reference Guide*.

- Viewing Wide Reports
- Viewing Multiple Reports

- Viewing Reports with Numeric Calculation SUM

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.

Note: If you are using an external application, such as a session manager like Software AG's NETPASS, that assigns PF10 and PF11 to functions of the external application, you may have problems viewing report results. If this is the case, you can use PF22 instead to scroll the report results to the left and PF23 instead to scroll the report results to the right.

Viewing Multiple Reports

You can view more than one report. More than one VW or VX 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 or VX command on the **History Reports** (LH) screen.

To view multiple report results from the report list screen:

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

The results of the first report appear.

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.

Viewing Reports with Numeric Calculation SUM

The numeric field calculation SUM does calculate and display a total of a field´s value.

- In case this total value exceeds the size of the numeric field display, the total value will be cut from right.
- In case the field value has digits after the decimal point, these digits will be cut.
- If digits before the decimal point need to be cut, a K (for 1.000) or M (for 1.000.000) will be printed instead.

Scrolling Through Report Results in Redisplay Mode with the VW Command

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.

Note: After displaying 5000 lines, redisplay mode is disabled for this view.

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/VIEWX command comes with 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 for the Review Sort

To issue the SORT command:

1 Enter the VW/VX command on the selection line preceding the name of a started report.

2 From the display of the report results, press PF2. Using VW, you may also 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.

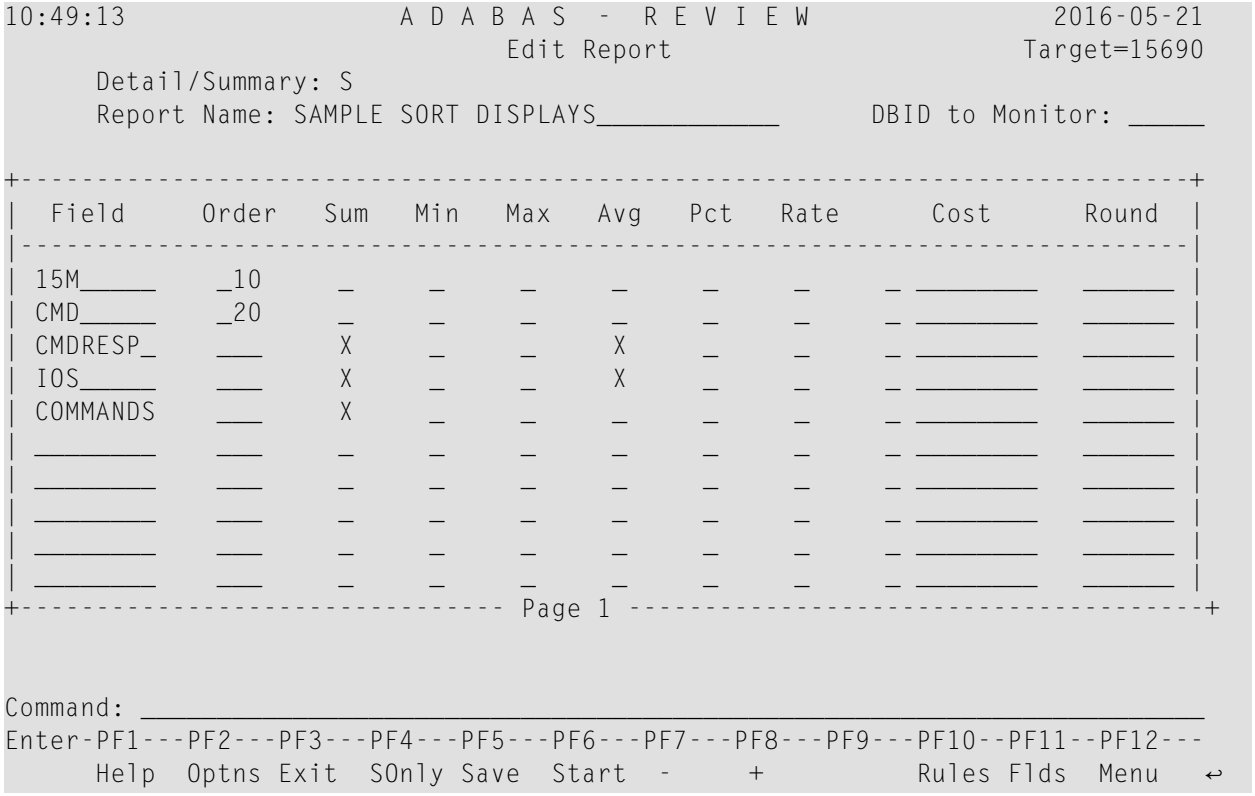
The order of the data in the display is changed according to the sort option you selected.

Note: Using VX with the Software AG Editor, you have an additional sort possibility, the Software AG Editor SORT command. This sort operates on the data in the editor area and sorts rows according to specified column and row ranges.

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/VIEWX` command. This example collects and calculates the following statistics on Adabas commands:

Field	Statistic	Designated as the . . .
`15M`	15 minute interval in which the command was issued	first control break
`CMD`	command code	second control break
`CMDRESP`	total response time for the command	first summary field
`IOS`	total number of I/Os issued by the command	second summary field
`COMMANDS`	total number of commands	third summary field
`CMDRESP`	average response time used per command	—
`IOS`	average number of I/Os issued per command	—



- The Account (Ascend) Option
- The Number of Commands Option
- The First Summary Field Option
- The Account (Descend) Option
- The Date and Time Option

- 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                       2016-06-18
                  20:02:01 2016-06-18 Thru 20:15:47 2016-06-18       Target=15690
                                                                       Page:    1
               Total          Total         Total          Avg
Time  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                    2016-07-07
               16:28:44 2016-04-22 Thru 16:31:06 2016-04-22     Target=00009
             Total          Total        Total          Avg
Time  Cmd    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                    2016-07-07
               16:28:44 2016-04-22 Thru 16:31:06 2016-04-22     Target=00009
             Total          Total        Total          Avg
Time  Cmd    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                    2016-07-07
               16:28:44 2016-04-22 Thru 16:31:06 2016-04-22     Target=00009
              Total          Total        Total          Avg
Time  Cmd    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                    2016-07-07
               16:12:44 2016-04-22 Thru 16:31:06 2016-04-22     Target=00009
              Total          Total        Total          Avg
Time  Cmd    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                    2016-07-07
               15:46:24 2016-06-14 Thru 16:01:46 2016-06-14    Target=00009
              Total          Total        Total          Avg
Time  Cmd    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.

Note: Using the mode DISPLAY=EDITOR, you can also enter a printer name. The output will be written to report 1, defined with the Natural statement DEFINE PRINTER (1) OUTPUT *<printer-id>*.

Downloading Report Output

Notes:

1. The download output will be generated from the display program that Adabas Review creates when a report is saved.
2. In mode DISPLAY=BASIC, this command requires that you have Entire Connection installed. In mode DISPLAY=EDITOR, data may be downloaded to a Natural work file too.
3. The DL command is not available from the View Report Results (VW) screen. However, it is available from the View Report Results (VX) screen using the Software AG Editor.

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).

Using the Software AG Editor the DL command additionally allows you to enter a column delimiter and route the output to a personal computer or to a Natural Work File, specified in CONFIGDB.

To download report results to a PC (work file 7):

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.

10 Managing History Data

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              2016-07-18
                              History Reports                  Target=15690


  Sel     Report Name                      Recs   Rpts   Start Date   End Date
+-------------------------------------------------------------------------------+
! __  APPLICATION FILE FIELD USAGE          25      2   2015-11-18 2015-11-18 !
! __  COMMAND LOGGING                        6      1   2013-06-18 2013-06-18 !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
+-------------------------------------------------------------------------------+


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 intervals 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 interval, the dates are inclusive from all intervals.

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. Specifying '*' as input, the start date of the first interval and the end date of the last interval of this report data will be used. The start time is always set to 00:00:01 and the end time is set to 23:59:59. If the entered start or stop date is in the middle of an interval, the whole interval will not be processed.
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. **Note:** 1. The date/time entered refers to Interval-Start and Interval-Stop date and times. Only whole intervals can be displayed, deleted or compressed. 2. If the entered start or stop date/time lies in the middle of an interval the whole interval will not be processed. If the start or stop date/time is exactly the interval start/stop or if it lies before or after the interval, the whole interval will be processed.

Cmd	Action
	3. A display of a report setup with the HOUR field and an interval which spans over midnight (i.e. from 22:00 hour on the first day to 03:00 hour on the next day) lead to effects which might look wrong from an outside view. If the HOUR field is the account field where the data will be sorted by, then the first hours (00:00, 01:00, 02:00 and 03:00) of the next day will be displayed first, followed by the hours (22:00, 23:00) of the previous day. 4. If two summary intervals are displayed or compressed, the output will be created by using all data of these intervals and accumulate them according to the report definition.
VX	As VW, however view history data with Software AG Editor.

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               2016-07-18
                             History Intervals                  Target=05690
Report: APPLICATION FILE FIELD USAGE

  Sel Interval-Start       Interval-Stop             Recs
+-------------------------------------------------------------------------------+
! __  2016-07-18 20:24:23  2016-07-18 20:25:09         86  compressed          !
! __  2016-07-18 20:24:23  2016-07-18 20:25:09         44                      !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
!                                                                               !
+-------------------------------------------------------------------------------+


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

Notes:

1. The comment "compressed" indicates that the report occurrence is the result of the compress history (`CH`) command.
2. The Interval-Start and Interval-Stop is the date/time this data portion was written to the History file. Refer to *Starting and Stopping Reports* for more information about when data is written for a report.
3. In case there are several intervals with exactly the same Interval-Start and Interval-Stop time, these intervals will be displayed as one single line in the Expanded History List, but the count of intervals on the Listing History Report (Rpts) will include each single interval.

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

- 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 the text "compressed" in 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 an interval date range for the records to be compressed.

Notes:

1. Only whole intervals can be compressed. It is not possible to process only portions of one interval. The start time is always set 00:00:01 and the end time is set to 23:59:59. If the entered start or stop date is in the middle of an interval, the whole interval will not be processed.
2. If the start or stop date exactly matches the Interval Start/Stop or if it is before or after the interval the whole interval will be processed.

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. The value has to be small enough to avoid an Adabas response code 9 / subcode 15 (LP to small).

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. You can use the PH command on the History Reports screen or on the History Reports (Expanded List) screen.

To purge accumulated history data from the History Reports screen:

1 On the History Reports screen, enter the PH command next to the particular report from which you want history data purged.

The Purge History Reports By Date Range screen appears.

```
10:42:31              *****   R E V I E W   *****                2016-10-14
                    Purge History Reports By Date Range




        +-------------------------------------------------------------+
        |  Report Name ........... COMMANDS BY HOUR_________________  |
        |  Start Date ............ __________   (YYYY-MM-DD)          |
        |  End Date .............. __________   (YYYY-MM-DD)          |
        |  Records Before ET ..... __25                               |
        +-------------------------------------------------------------+









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

2 In the Start Date field, enter the start date (in YYYY-MM-DD format) from which you want history data purged. If you want to purge history data from the beginning of all data collected for this report type, type an asterisk (*) as a wild card in the field.

3 In the End Date field, enter the last date (in YYYY-MM-DD format) to which you want history data purged. If you want to purge history data to the end of all data collected for this report type, type an asterisk (*) as a wild card in the field.

Notes:

1. Specifying an asterisk for both the `Start Date` and `End Date` fields will cause all history data for the report to be purged.
2. Only whole intervals can be purged. It is not possible to process only portions of one interval. The start time is always set 00:00:01 and the end time is set to 23:59:59. If the entered start or stop date is in the middle of an interval, the whole interval will not be processed.
3. If the start or stop date exactly matches the Interval Start/Stop or if it is before or after the interval the whole interval will be processed.

4 Once you have supplied dates for the purge operation, press PF6 to run the purge.

Confirm the purge request, if required.

To purge accumulated history data from the History Reports (Expanded List) screen:

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.

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