

# 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:

```

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

+--- Detail Rpt Options ----- Detailed Logging ----- History -----+
! AutoStart ..... N      Log ..... Y      History ..... N !
! Print ..... N          File ..... RVLOG_  History Int ... ____ !
! Limit ..... 99999999   Num of Logs ..... _2  History DBID ... __123 !
! Page/Line .. _55 / 133  Log Size ..... __60  History FNR .... __45 !
!                               User Exit ... ____      History SVC ..... 234 !
!
!                               ---- Buffers to Log ---  ----- Detail Exit ----- !
!                               FB: Y      SB: Y      RB: Y      Exit name.... ____ !
!                               VB: Y      IB: Y      IO: Y
!
!
!
!
!
!
!
+-----+

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

```

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

```

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

+-- Summary Rpt Options ----- Summary Logging ----- History -----+
! AutoStart ..... N      Summary Log ..... N      History ..... N !
! Break ..... Y      Summary File .. RVSUM_      History Int ... ____ !
! Wrapping ..... N      Num of Logs ..... _2      History DBID ... __123 !
! Print ..... Y      Log Size ..... 99999      History FNR .... __45 !
! Rstrt/Intrvl Y ____      Log Full Exit _____      History SVC ..... 234 !
! Max Restarts .. 999999
! Max K ..... ____8
! ADALimit ..... ____1
! Display By .. SORTED
! Entries ..... 999999
! Limit ..... 99999999
! Page/Line .. _55 / 133
!
!
+-----+

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

Several categories of reporting options can be specified, although the options differ for detailed and summary reports. For more information, select the option category below.

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

## General Report Options

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

Report Option	Description	Possible Values	Default	Valid for Report Type?
ADALimit	Specify a minimum command count for printing on a summary report. If ADALIMIT=100, only entries with a command count of 100 or higher are printed on the report. The default value (1) means that all entries are printed.	count	1	Summary only

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

Report Option	Description	Possible Values	Default	Valid for Report Type?
Limit	<p>Specify the maximum number of entries that the detailed or summary report can print. The default value allows all entries to be printed.</p> <p>When the limit is reached, the report will remain active, but no further data will be collected.</p>	1 - 99999999	99999999	Detailed and Summary
Line	<p>This option appears on the same screen line as the Page report option. The Page option appears first on the line.</p> <p>Specify the line length, in characters, of the detailed or summary report. The default line length value is 133 characters. The appropriate value depends on the paper size and the point size and style of the typeface.</p> <p>Use "Line" in an online environment; use LINESIZE in a batch environment.</p>	72 - 160	133	Detailed and Summary
Max K	<p>Specify the maximum amount of storage available for a summary report.</p> <p>Use "Max K" in an online environment; use MAXSTORE in a batch environment.</p>	amount in 8K increments	8	Summary only
Max Restarts	Specify the maximum number of times a summary report will be restarted due to Max K	1 - 999999	999999	Summary only
Page	<p>This option appears on the same screen line as the Line report option. The Page option appears first on the line.</p> <p>Specify the number of lines allowed for the detailed or summary report . The default page length value (55 lines) provides a top and bottom margin for standard printer spacing on a total page size of 66 lines.</p>	10 - <i>nnn</i>	55	Detailed and Summary
Print	<p>For a detailed report, specify whether or not the report is printed at database termination.</p> <p>For a summary report, specify whether or not the report is printed at database termination or when its refresh/history interval is reached.</p>	Y   N	Y	Detailed and Summary

Report Option	Description	Possible Values	Default	Valid for Report Type?
Rstrt	<p>This option appears on the same screen line as the Intrvl report option. The Rstrt option appears first on the line.</p> <p>Specify whether the summary report is restarted after the specified refresh/history interval or after the MAXSTORE limit (see the Max K report option) is reached.</p> <p>If Y is specified for the Rstrt option, the summary report is refreshed automatically.</p> <p>If N is specified for the Rstrt option, the summary report will be set with status "I" (inactive). Then, when the MAXSTORE limit or the refresh/history interval are reached, the report will be closed.</p> <p>Use "Rstrt" in an online environment; use RESTART in a batch environment.</p>	Y   N	Y	Summary only
Wrapping	<p>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.</p> <p>Use "Wrapping" in an online environment; use WRAP in a batch environment.</p>	Y   N	N	Summary only

## Logging Options

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

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

This section covers the following topics:

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

## Logging Option Descriptions

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

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

Logging Option	Description	Possible Values	Default	Valid for Report Type?
Buffers to Log	See <i>Buffers to Log Options</i> .	---	---	Detailed only
File	Specify the DD/file name prefix used to identify the file to which Adabas Review will write the command log data. Each detailed report that specifies command logging must have its own file name prefix.	5-byte name	RVLOG	Detailed only
Log	Specify whether Adabas Review will write command logs for a particular detailed report (Y), or whether command logging will be ignored (N).	Y   N	N	Detailed only
Log Full Exit	Specify the name of the user exit that is called when a summary log is filled during summary report processing.  If an exit is not specified, Adabas Review closes the filled summary log file and opens the next file; no provision is made for copying the data. 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.  For complete information about the summary logging user exit, read <i>REVUXLOG: Command or Summary Logging User Exit</i>	<i>name</i>	none	Summary only

Logging Option	Description	Possible Values	Default	Valid for Report Type?
Log Size	<p>Specify the number of blocks to be allocated to each command log file (detailed reports) or summary log file (summary reports).</p> <p>Because command log records and summary log records vary in length, it is important to carefully determine the Log Size option value. The maximum length of a command or summary log record written by Adabas Review is 8 kilobytes.</p> <p>Log size is determined using the following formula:</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <math display="block">\text{number-of-tracks} * ( (\text{bytes-per-track}/9996) - 1 )</math> </div> <p>For Adabas Review command and summary logs, the blocking factor is 10,000 bytes per block.</p> <p>The following provides approximate values for tracks per cylinder and bytes per track for 3380 and 3390 devices:</p> <ul style="list-style-type: none"> <li>● 3380: 15 tracks per cylinder; 47,000 bytes per track</li> <li>● 3390: 15 tracks per cylinder; 57,000 bytes per track</li> </ul> <p>For example, the log size for 10 cylinders of a 3380 device is determined as follows:</p> <ul style="list-style-type: none"> <li>● Number of tracks is <math>15 \times 10</math>, or 150 tracks;</li> <li>● Bytes per track/blocking factor is <math>47,000 / 10,000 = 4.7</math>, or 4 blocks;</li> <li>● Log size is <math>150 \times 4</math>, or 600 blocks.</li> </ul>	nnnnn	99999	Detailed and Summary
Num of Logs	<p>Specify the number of command log files (detailed reports) or summary log files (summary reports) to be used by a report.</p> <p>For every command log file or summary log file specified in the Num of Logs option, a file name is created by appending a number to the end of the file name prefix specified in the File or Summary File option. Each log file name must be coded in the Adabas startup procedure.</p> <p>For example, if File=RVLOG and Num of Logs=2, command log data will be written to files RVLOG01 and RVLOG02. And if Summary File=RVSUM and Num of Logs=3, summary log data will be written to files RVSUM01, RVSUM02, and RVSUM03.</p>	1-99 (z/OS) 1-9 (z/VSE)	2	Detailed and Summary
Summary File	Specify the DD/file name prefix used to identify the file to which Adabas Review will write the summary log data. Each summary report that specifies summary logging must have its own file name prefix.	5-byte name	RVSUM	Summary only

Logging Option	Description	Possible Values	Default	Valid for Report Type?
Summary Log	Specify whether Adabas Review will write summary logs for a particular summary report (Y), or whether summary logging will be ignored (N).	Y   N	N	Summary only
User Exit	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 <i>REVUXLOG: Command or Summary Logging User Exit</i>	<i>name</i>	none	Detailed only

### Buffers to Log Options (Detailed Reports Only)

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

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

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



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

## Required Options for Logging

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

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

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

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

## Recommended Options for Logging

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

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

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

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

## Logging Guidelines

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

## History Options

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

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

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

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

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

History Option	Description	Possible Values	Default	Valid for Report Type?
History	Specify whether the data collected by the report is to be written to an Adabas Review repository and stored as history data. If (N), all other history options are ignored.	Y   N	N	Detailed and Summary

History Option	Description	Possible Values	Default	Valid for Report Type?
History Int	<p>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.</p> <p>If the History Int option is used, history data is written to the Adabas Review repository at the interval specified, provided the database containing the Adabas Review repository is active.</p> <p>To write history data at regular intervals (e.g., every hour), you must also set the Restart report option (Rstrt) to Y, so that the report is restarted after the interval has been reached. This option is listed in the <b>Report Options</b> column of the Report Optionsscreen.</p> <p><b>Note:</b> If the Rstrt=Y is specified, all history data for the report is written to the Adabas Review repository file if the MAX K value for the report is exceeded.</p> <p>If the History Int option is <i>not</i> used, history data is written to the Adabas Review repository at Adabas termination.</p>	number of minutes	none	Detailed and Summary
History DBID	<p>Specify the ID number of the database that is to store the history data; that is, the Adabas Review repository.</p> <p>The default is the database ID of the Adabas Review repository to which you currently have access.</p> <p>You may change this parameter, provided it specifies (in conjunction with the History FNR and History SVC options) a different Adabas Review repository.</p>	<i>dbid</i>	current DBID	Detailed and Summary

History Option	Description	Possible Values	Default	Valid for Report Type?
History FNR	<p>Specify the file number in the Adabas Review repository that is to contain the history data.</p> <p>The default is the file number in the Adabas Review repository to which you currently have access.</p> <p>You may change this parameter, provided it specifies (in conjunction with the History DBID and History SVC options) a different Adabas Review repository.</p>	<i>fnr</i>	current file number	Detailed and Summary
History SVC	<p>Specify the Adabas SVC number used to communicate with the Adabas Review repository in order to write the history data.</p> <p>The default is the SVC number of the Adabas Review repository that you are currently accessing, if that database appears on the Target Definitions screen (LT function). Otherwise, the default is the SVC number of the default database listed on the Target Definitions screen.</p> <p>You may change this parameter, provided it specifies (in conjunction with the History DBID and History FNR options) a different Adabas Review repository.</p>	<i>svc</i>	current SVC number or SVC of default DBID	Detailed and Summary

## Report Exit Options

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

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

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

For more information about these exits, read *REVUXDET: Report Exit for Detailed Reports* and *REVUXSUM: Report Exit for Summary Reports*.