software AG

Adabas Review

Using Adabas Review

Version 4.6.2

March 2013

Adabas Review

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1 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              2011-03-01
                               Report Definitions                    LOCL=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.

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

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

1   Press PF4 (Mod).

     All DBID and Auto fields become modifiable (modify mode).

2   Modify the values as required.

3   Press PF5 (Update) to save the changes or PF3 (Exit) to abandon your changes.

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

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

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

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

Changing the DBID

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

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

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

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

2   In the DBID column, enter one of the following values:

Value	Description
a valid database ID (DBID)	The report runs for the newly-specified database.
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). 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. For more information, read *Specifying the Report DBID*, elsewhere in this section.
blank	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.

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

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

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

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


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


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

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

1   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.

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  *****              2009-06-18
                               Report Information




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



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

Copying a Report Definition

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

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

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

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

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

📄   **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
- Creating a New Buffer Pool Report
- Editing a Buffer Pool Report

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              2011-03-17
                              Specialty Report Types                LOCL=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              2011-03-17
 LOCL=00559                    Edit Buffer Pool Report                LOCL=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              2011-03-17
 HUB=15690                    Edit Buffer Pool Report                 HUB=15690



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








Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit        Save  Start                           Menu   ↵
      ↵
```
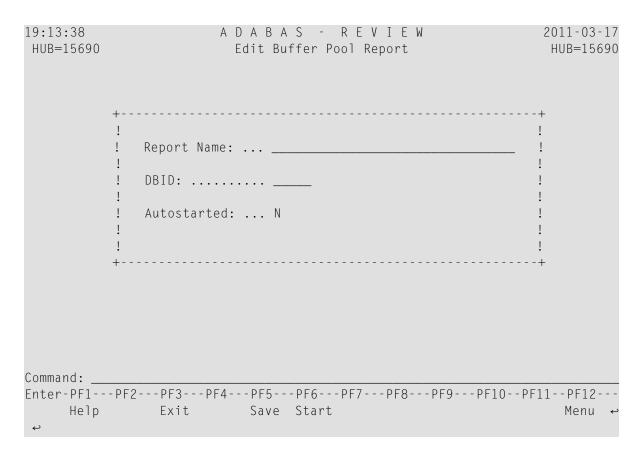
2   Supply a name for the report in the **Report Name** field.

> **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          2011-03-17
                            Specialty Report Types                LOCL=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              2011-03-17
                            Edit Adabas Pulse Report                 LOCL=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               2011-03-17
                            Edit Adabas Pulse Report                   LOCL=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              2011-03-17
                                Pulse Statistics                     HUB=15690


                       Select one Pulse interval and press Enter
+------------------------------------------------------------------------------+
! _ 2009-06-18 11:37:54        _ _____ _____       _ _____  !
! _ 2009-06-18 11:41:29        _ _____ _____       _ _____  !
! _ 2009-06-18 12:13:44        _ _____ _____       _ _____  !
! _ 2009-06-18 12:18:33        _ _____ _____       _ _____  !
! _ _____ _____         _ _____ _____       _ _____  !
! _ _____ _____         _ _____ _____       _ _____  !
! _ _____ _____         _ _____ _____       _ _____  !
! _ _____ _____         _ _____ _____       _ _____  !
! _ _____ _____         _ _____ _____       _ _____  !
! _ _____ _____         _ _____ _____       _ _____  !
! _ _____ _____         _ _____ _____       _ _____  !
! _ _____ _____         _ _____ _____       _ _____  !
! _ _____ _____         _ _____ _____       _ _____  !
+------------------------------------------------------------------------------+

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

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              2011-03-17
                                Pulse Statistics                     HUB=15690



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


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


        Buffer Efficiency ------------------------------------------------
                Percent               5.0           5.0          5.0


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

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              2009-06-18
                              Pulse Statistics                        HUB=15690


                              Delta Statistics


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



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

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
- Creating a Cluster Services Report
- Editing a Cluster Services Report

Accessing the Edit Cluster Services Report Screen

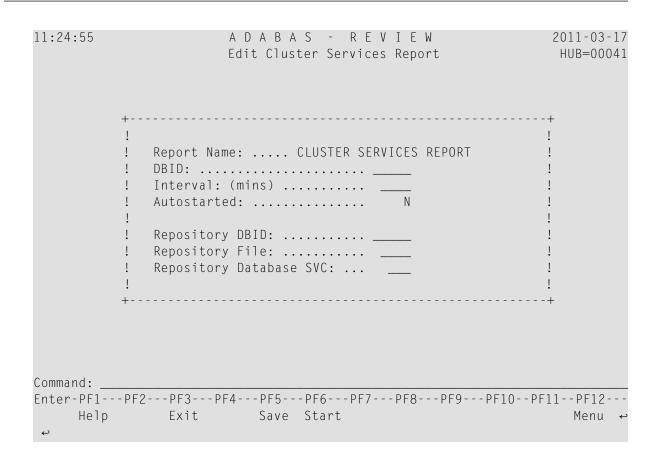▶ **To access the Edit Cluster Services Report screen:**

■ 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              2011-03-17
                             Specialty Report Types                 LOCL=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              2011-03-17
                        Edit Cluster Services Report              HUB=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              2011-03-17
                           Edit Cluster Services Report                HUB=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 Reporting Reports

Adabas Review standard database reports and client reporting 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, or expressed as a percentage or rate of commands per second. You can also specify that the minimum or maximum values are to be displayed.

Field information may either be entered directly on the 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:

- Accessing the Edit Report Screen for Standard Database Reports
- Accessing the Edit Client Report Screen for Client Reporting Reports
- Edit Report and Edit Client Report Screen Function Keys and Commands
- Edit Report and Edit Client Report Screen Input Fields
- Specifying the Report Name
- Specifying the Report DBID
- Specifying Field Names
- Commenting Out Fields in a Report
- Specifying Field Order
- Specifying Numeric Options for Summary Reports
- Using the Report Processing Rules Screen

■ 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.

```
13:10:20            A D A B A S  -  R E V I E W            2011-03-17
                            Edit Report                       HUB=00041
        Detail/Summary: S
        Report Name: _____   DBID to Monitor: _____


        +-----------------------------------------------------------------+
        !  Field      Order    Sum   Min   Max   Avg   Pct   Rate   Round  !
        !-----------------------------------------------------------------!

        !  _____     ___      _     _     _     _     _     _   _____  !
        !  _____     ___      _     _     _     _     _     _   _____  !
        !  _____     ___      _     _     _     _     _     _   _____  !
        !  _____     ___      _     _     _     _     _     _   _____  !
        !  _____     ___      _     _     _     _     _     _   _____  !
        !  _____     ___      _     _     _     _     _     _   _____  !
        !  _____     ___      _     _     _     _     _     _   _____  !
        !  _____     ___      _     _     _     _     _     _   _____  !
        !  _____     ___      _     _     _     _     _     _   _____  !
        !  _____     ___      _     _     _     _     _     _   _____  !
        +-----------------------------------------------------------------+



Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Optns Exit        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 Reporting Reports

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

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

The Edit Client Report screen appears.

```
13:14:14                  A D A B A S  -  R E V I E W                2011-03-17
                             Edit Client Report                        HUB=00041
      Detail/Summary: S
      Report Name: _____        DBID to Monitor: ALL__


      +------------------------------------------------------------------+
      ! Field         Order    Sum   Min   Max   Avg   Pct   Rate   Round !
      !------------------------------------------------------------------!
      !  _____      ___      _     _     _     _     _     _    _____  !
      !  _____      ___      _     _     _     _     _     _    _____  !
      !  _____      ___      _     _     _     _     _     _    _____  !
      !  _____      ___      _     _     _     _     _     _    _____  !
      !  _____      ___      _     _     _     _     _     _    _____  !
      !  _____      ___      _     _     _     _     _     _    _____  !
      !  _____      ___      _     _     _     _     _     _    _____  !
      !  _____      ___      _     _     _     _     _     _    _____  !
      !  _____      ___      _     _     _     _     _     _    _____  !
      !  _____      ___      _     _     _     _     _     _    _____  !
      +------------------------------------------------------------------+



Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Optns Exit        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.
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", the value "11111", 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.	
Max	Indicates whether the maximum value for the field is displayed.	*Calculations*, elsewhere in this section
Avg	Indicates whether the average value is calculated for the field.	

Field	Specify:	For more information, read:
Pct	Indicates whether the percentage is calculated for the field.	
Rate	Indicates whether the rate per second is calculated for the field.	
Round	The amount by which the values of the field are rounded.	

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 reporting 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.
11111	This artificial target ID allows you to collect data from multiple databases simultaneously (Adabas Review in hub mode). This target ID effectively causes the system to collect data for the report from all databases that have a reporting link already established with Adabas Review; however, use of the target ID "11111" does not create such a link.
	To create a link between Adabas Review and each database for which you want to simultaneously collect data for a report, you must create a report with the DBID set to "11111". You must then start another report for each database from which you want to collect data; to ensure record and buffer filtering are consistent, these new reports must have the same processing rule definition and the same buffer fields specified as the original report.
	To identify the collected data with a particular database, you need to include the report field DBID or NUCID at the first level of the report definition.
	This definition can also be used in local mode, but will then only collect data from the local database if there is a second database-specific report available.
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** that does not include (INCLUDE statement or EQ) 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.

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. The fields you choose from a list are transferred automatically to the Edit Report or Edit Client Report screen (as appropriate).

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 reporting reports.

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

```
 16:46:47                   A D A B A S  -  R E V I E W              2011-03-07
                              Report Field Selection                 LOCL=00559
                                                                          ↵

                                                                          ↵

                           Please Mark Categories to Select               ↵

                                                                          ↵

               AC ADABAS Control Block Fields .............    _          ↵

               BU ADABAS Buffer Fields ....................    _          ↵

               IN Interval and Time Fields ................    _          ↵

               IO ADABAS I/O Fields .......................    _          ↵

               NA NATURAL Fields ..........................    _          ↵

               NU ADABAS Nucleus Fields ...................    _          ↵

               OP Operating System Fields .................    _          ↵

               TP Transaction Processing Monitor Fields ...    _          ↵

                                                                          ↵

                                                                          ↵

                                                                          ↵

                                                                          ↵

                                                                          ↵

                                                                          ↵

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

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

```
22:46:38                    A D A B A S  -  R E V I E W              2011-03-16
                            Report Field Selection                   LOCL=00559
                                                                              ↵

                                                                              ↵


                         Please Mark Categories to Select                     ↵


                                                                              ↵


                AC ADABAS Control Block Fields .............    _             ↵

                IN Interval and Time Fields ................    _             ↵

                NA NATURAL Fields ..........................    _             ↵

                NU ADABAS Nucleus Fields ...................    _             ↵

                OP Operating System Fields .................    _             ↵

                TP Transaction Processing Monitor Fields ...    _             ↵

                CR Client Reporting Fields .................    _             ↵

                                                                              ↵

                                                                              ↵

                                                                              ↵

                                                                              ↵

                                                                              ↵

                                                                              ↵

                                                                              ↵

                                                                              ↵

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

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. Note that not all fields are available for client reporting reports and the client reporting-specific fields are not available for database reports. For example, the following screen shows the fields in the Adabas Control Block field category that are available for standard database reports:

```
23:01:56              A D A B A S  -  R E V I E W              2011-03-16
                       ADABAS Control Block Fields              LOCL=00559
                                                                         ↵

Sel Name      Description                   Sel Name      Description     ↵

___ ACBUSER   ACB user                      ___ DURATION  Duration (16 msecs)  ↵

___ ADDIT1    Additions 1                   ___ ERRFLDNM  Error field name  ↵

___ ADDIT2    Additions 2                   ___ FB        Format buffer    ↵

___ ADDIT3    Additions 3                   ___ FBFIELDS  Fields in FB     ↵

___ ADDIT4    Additions 4                   ___ FBL       Format buffer length ↵

___ ADDIT5    Additions 5                   ___ FILE      File number      ↵

___ CALLTYPE  Call type                     ___ FILENAME  File name        ↵

___ CID       Command ID                    ___ FNR       File number      ↵

___ CIDALPHA  CID Alpha                     ___ GLOBFMID  Global format ID ↵

___ CMD       ADABAS command                ___ IB        ISN buffer       ↵

___ CMDNAME   Command name                  ___ IBL       ISN buffer length ↵

___ CMDSTAT   Command status                ___ ISN       Internal seq number ↵

___ CMDTYPE   Command type                  ___ ISNLL     ISN lower limit  ↵

___ CMPRECL   Compressed rec length         ___ ISNQ      ISN quantity     ↵

___ COMMANDS  Number of Commands            ___ ORGDURA   Unmodified duration ↵

___ DESUPD    Nr of desc updated            ___ RB        Record buffer    ↵

                                                                         ↵

                                                                         ↵

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

Compare this screen with the following screen showing the fields in the Adabas Control Block field category that are available for client reporting reports.

```
23:03:09                    A D A B A S  -  R E V I E W              2011-03-16
                            ADABAS Control Block Fields                LOCL=00559

Sel Name     Description                  Sel Name     Description
___ CALLTYPE Call type                    ___ UCMPRECL Uncompressed rec length
___ CID      Command ID                   ___ USERID   Internal userid
___ CMD      ADABAS command
___ CMPRECL  Compressed rec length
___ COMMANDS Number of Commands
___ DURATION Duration (16 msecs)
___ ERRFLDNM Error field name
___ FILE     File number
___ FNR      File number
___ ISN      Internal seq number
___ ISNLL    ISN lower limit
___ ISNQ     ISN quantity
___ ORGDURA  Unmodified duration
___ RSPSUB   Response subcode
___ SEQ      Command sequence nr
___ SEQUENCE Command sequence nr



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

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
- Calculations

Numeric Fields

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

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

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

Calculations

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

Operation	At each control break, this operation...
Sum	Calculates and displays a total of the field's values.
Min	Displays the minimum value for a field.
Max	Displays the maximum value for a field.
Avg	Calculates and displays the average value for a field.
Pct	Calculates and displays the percentage for a field's values.

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

▶ **To use the calculation operations:**

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

Or:

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

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

Using the Report Processing Rules Screen

Report processing rules determine how field values are selected for your standard database and for your client reporting 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 screen, press PF10; or enter the command RULES on the command line.

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

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

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



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

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

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

Field	Explanation
Field	The name of the field for which the restriction applies. **Note:** Reporting fields STARTDATE and STARTTIME cannot be used in processing rules.
Op	The conditional operand that specifies how the restriction applies. The following operands may be used: ■ = or EQ: equal to ■ < or LT: less than ■ > or GT: greater than ■ : or NE: not equal to
Value	The field that allows you to restrict the information accumulated by the report to a subset of the values in a particular field. Values may be specified in several formats and may be single values or ranges.
And/Or	Specifies the Boolean operators AND or OR to define the relationship between multiple processing rules.

- Guidelines for Specifying Values
- Example Processing Rules
- Entering Processing Rules

Guidelines for Specifying Values

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

- Depending on the field, a value may be numeric or alphanumeric.

- A value may be specified as a single value, a range of values, or a list of values.

- When specified as a list, values are enclosed in parentheses and separated by commas; when specified as a range, the two values are enclosed in parentheses and separated by a hyphen.

- When a hyphen (-) is used as part of a value, the whole value must be enclosed in apostrophes (').

- For alphanumeric fields, an asterisk (*) may be used to indicate wildcard prefixing and suffixing (see examples below).

- Values may be expressed in decimal or hexadecimal format. If using hexadecimal format, the value is preceded by an "X" and enclosed in single quotes.

- The length to be compared in the rule is taken from the field length, not the length of the rule value.

- When using a wildcard rule value, the length to be compared in the rule is taken from the length of the rule value.

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

Example Processing Rules

The following table shows examples of processing rules:

Example	Explanation
RSP>0	Single numeric value; response code greater than zero.
CMDNAME=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

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 reporting 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.

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

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

+-- Summary Rpt Options ------- Summary Logging ----------- History ---------+
!  AutoStart .......... Y    Summary Log ........ N    History ............ N !
!  Break .............. Y    Summary File .. RVSUM_    History Int ... _____ !
!  Wrapping ........... N    Num of Logs ....... _2    History DBID ... __123 !
!  Print .............. Y    Log Size ....... 99999    History FNR .... ___45 !
!  Rstrt/Intrvl Y _____    Log Full Exit _____    History SVC ...... 234 !
!  Max Restarts .. 999999                                                     !
!  Max K .......... ___8                         ---- Summary Exit ----- !
!  ADALimit ...... _____1                         Exit Name ... _____ !
!  Display By ..   SORTED                         Cmd ............... CL !
!  Entries ....... 999999                         Sum ............... Y  !
!  Limit ....... 99999999                                                     !
!  Page/Line .. _55 / 133                                                     !
!                                                                             !
!                                                                             !
+-----------------------------------------------------------------------------+


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

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

Modifying Report Defaults

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

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

▶ **To modify the report default settings:**

1   Create a new empty report by entering ER on the Adabas Review command line.

2   Press PF2 or enter the command OPTNS on the command line to display the Report Options screen.

3   Make any desired changes.

4   Press PF9 (Dflts) to save the modifications.

    You are returned to the Edit Report screen.

Editing Options for a Particular Report

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

1   Create a new empty report or access 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:

```
 19:32:40              A D A B A S  -  R E V I E W               2009-06-18
                              Edit Report                        HUB=15690
       Detail/Summary: S
       Report Name: COMMANDS BY HOUR_____     DBID to Monitor: _____


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


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

This section covers the following topics:

- Changing Field Information
- Changing Processing Rules
- Changing Report Options

Changing Field Information

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

■ Type over the existing information.

> **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               2009-06-18
                              Report Processing Rules                     HUB=15690

                                  COMMANDS BY HOUR
+-------------------------------------------------------------------------------+
!  Field     Op       Value                                              And/Or !
!-------------------------------------------------------------------------------!
! ADADURA_  GT   3.0_____    AND !
! IOS_____  GT   200_____    ___ !
! _____   __   _____    ___ !
! _____   __   _____    ___ !
! _____   __   _____    ___ !
! _____   __   _____    ___ !
! _____   __   _____    ___ !
! _____   __   _____    ___ !
! _____   __   _____    ___ !
! _____   __   _____    ___ !
+----------------------------- Page 1 ---------------------------------
                                                                         



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

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

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

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

Or:

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

Or:

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

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

Changing Report Options

▶ **To change report options:**

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

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

+-- Summary Rpt Options ------- Summary Logging ----------- History ---------+
!  AutoStart .......... Y    Summary Log ........ N    History ............ N !
!  Break .............. Y    Summary File .. RVSUM_    History Int ... _____ !
!  Wrapping ........... N    Num of Logs ....... _2    History DBID ... __123 !
!  Print .............. Y    Log Size ....... 99999    History FNR .... ___45 !
!  Rstrt/Intrvl Y _____    Log Full Exit _____    History SVC ...... 234 !
!  Max Restarts .. 999999                                                     !
!  Max K .......... ___8                       ---- 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.

Or:

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

You are returned to the Edit Report screen.

Saving a Report Definition

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

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

> **Note:** You cannot name a report "ALL".

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

2 Maintaining Display Programs

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

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

Generating a Display Program

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

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

▶ **To generate a display program:**

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

Or:

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

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

Editing the Display Program

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

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

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

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

▶ **To edit the display program:**

1   Enter the EP command on the selection line preceding the specified report name.

     The Natural editor is invoked and the display program is ready to be edited.

2   Issue either the SAVE or STOW commands to save changes, as you would when editing any other Natural program.

3   Issue the QUIT command to return to Adabas Review.

Regenerating a Display Program

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

▶ **To regenerate a display program:**

■   Enter the RG command on the selection line preceding the report name.

     A message is displayed when the regeneration is completed.

Regenerating All Display Programs

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

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

Changing to a Different Display Program

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

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

▶ **To change display programs:**

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

     The cursor moves to the display program name.

2   Type the name of the new display program over the existing name and press ENTER.

     A message appears, indicating that the display program has been changed.

3   Specifying Reporting Options

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

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

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

+--- Detail Rpt Options ------- Detailed Logging ------------- History -------+
! AutoStart .......... N    Log ................ Y     History ............ N !
! Print .............. N    File ......... RVLOG_     History Int ... _____ !
! Limit ....... 99999999    Num of Logs ....... _2     History DBID ... __123 !
! Page/Line .. _55 / 133    Log Size ....... ___60     History FNR .... ___45 !
!                           User Exit ... _____     History SVC ...... 234 !
!                                                                             !
!                           ---- Buffers to Log ---   ----- Detail Exit ----- !
!                           FB: Y    SB: Y   RB: Y    Exit name.... _____  !
!                           VB: Y    IB: Y   IO: Y                            !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
!                                                                             !
+-----------------------------------------------------------------------------+


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

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

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

+-- Summary Rpt Options ------- Summary Logging ----------- History ---------+
!  AutoStart .......... N   Summary Log ........ N      History ............ N !
!  Break .............. Y   Summary File .. RVSUM_       History Int ... _____ !
!  Wrapping ........... N   Num of Logs ....... _2       History DBID ... __123 !
!  Print .............. Y   Log Size ....... 99999       History FNR .... ___45 !
!  Rstrt/Intrvl Y  _____   Log Full Exit _____       History SVC ...... 234 !
!  Max Restarts .. 999999                                                       !
!  Max K ........... ___8                            ---- Summary Exit ----- !
!  ADALimit ...... _____1                            Exit Name ... _____ !
!  Display By ..   SORTED                            Cmd ............... CL !
!  Entries ....... 999999                            Sum ............... Y !
!  Limit ....... 99999999                                                   !
!  Page/Line .. _55 / 133                                                   !
!                                                                           !
!                                                                           !
+---------------------------------------------------------------------------+




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

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

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

General Report Options

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

Report Option	Description	Possible Values	Default	Valid for Report Type?
ADALimit	Specify a minimum command count for printing on a summary report. If ADALIMIT=100, only entries with a command count of 100 or higher are printed on the report. The default value (1) means that all entries are printed.	count	1	Summary only
Autostart	Specify whether or not a saved report is started by issuing a START command (N) or automatically when Adabas Review is activated (Y).	Y | N	N	Detailed and Summary
Break	Specify whether or not subtotals are printed at control breaks (Y) or are suppressed (N) on the summary report.	Y | N	Y	Summary only
Display By	Specify the order 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
Intrvl	This option appears on the same screen line as the Rstrt report option. The Rstrt option appears first on the line. Specify the time interval (in minutes) for refreshing the summary report. At each interval, the summary report prints its output if PRINT=Y and stores any history data. The report is then deleted.	1 - 999999	---	Summary only
Limit	Specify the maximum number of entries that the detailed or summary report can print. The default value allows all entries to be printed. When the limit is reached, the report will remain active, but no further data will be collected.	1 - 99999999	99999999	Detailed and Summary

Report Option	Description	Possible Values	Default	Valid for Report Type?
Line	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 - 160	133	Detailed and Summary
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 at database termination. For a summary report, specify whether or not the report is printed at database termination or when its refresh/history interval is reached.	Y ǀ 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	Y ǀ N	Y	Summary only

Report Option	Description	Possible Values	Default	Valid for Report Type?
	MAXSTORE limit or the refresh/history interval are reached, the report will be closed. Use "Rstrt" in an online environment; use **RESTART** in a batch environment.			
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

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

- Command logging: When running detailed reports, you can elect to create a log file of detailed command data, specific to Adabas Review, that can be processed at some later time in an Adabas Review batch run. The output of the detailed log file depends on the report definition and includes only parts of the overall Adabas commands being processed.

- Summary logging: When running summary reports, a summary log file can be created, containing summary data, but it cannot be processed later in an Adabas Review batch run because the summary data already has a specific layout. This layout is described in *Summary Record Layout*, in the *Adabas Review Reference Guide*.

This section covers the following topics:

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

- Logging Guidelines

Logging Option Descriptions

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

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

Logging Option	Description	Possible Values	Default	Valid for Report Type?
Buffers to Log	See *Buffers to Log Options*, elsewhere in this section.	---	---	Detailed only
File	Specify the DD/file name prefix used to identify the file to which Adabas Review will write the command log data. Each detailed report that specifies command logging must have its own file name prefix.	5-byte name	RVLOG	Detailed only
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 *REVUXLOG: Command or Summary Logging User Exit*, in the *Adabas Review Reference Guide* | *name* | none | Summary only |
| Log Size | Specify the number of blocks to be allocated to each command log file (detailed reports) or summary log file (summary reports).

Because command log records and summary log records vary in length, it is important to carefully determine the Log Size option value. The maximum length of a command or summary log record written by Adabas Review is 8 kilobytes.

Log size is determined using the following formula: | *nnnnn* | 99999 | Detailed and Summary |

Logging Option	Description	Possible Values	Default	Valid for Report Type?
	`number-of-tracks * ( TRUNC ↵ (bytes-per-track/10000))` For Adabas Review command and summary logs, the blocking factor is 10,000 bytes per block. The following provides approximate values for tracks per cylinder and bytes per track for 3380 and 3390 devices: ■ 3380: 15 tracks per cylinder; 47,000 bytes per track ■ 3390: 15 tracks per cylinder; 57,000 bytes per track For example, the log size for 10 cylinders of a 3380 device is determined as follows: ■ Number of tracks is `15 x 10`, or 150 tracks; ■ Bytes per track/blocking factor is `47,000/10,000 = 4.7`, and `TRUNC(4.7)` is 4 blocks; ■ Log size is `150 x 4`, or 600 blocks. To determine the number of summary records that can be stored on the summary log file, the size of the summary record and the specified block size must be taken into consideration. For more information, read *Summary Record Layout*, in the *Adabas Review Reference Guide*.			
Num of Logs	Specify the number of command log files (detailed reports) or summary log files (summary reports) to be used by a report. 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. 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.	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
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

Logging Option	Description	Possible Values	Default	Valid for Report Type?
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 or Summary Logging User Exit*, in the *Adabas Review Reference Guide*	*name*	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*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 make up the COPY statement.

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

History Option	Description	Possible Values	Default	Valid for Report Type?
History	Specify whether the data collected by the report is to be written to an Adabas Review repository and stored as history data. If (N), all other history options are ignored.	Y | N	N	Detailed and Summary
History Int	Specify the history interval in minutes. This is the time interval during which history data is collected by the report. At each interval, the report prints its output if PRINT=Y and stores any history data. The report is then deleted. If RESTART=Y, the report is then restarted. 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. If the History Int option is *not* used, history data is written to the Adabas Review repository at Adabas termination.	number of minutes	none	Detailed and Summary
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.	*dbid*	current DBID	Detailed and Summary

History Option	Description	Possible Values	Default	Valid for Report Type?
	You may change this parameter, provided it specifies (in conjunction with the History FNR and History SVC options) a different Adabas Review repository.			
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*.

4 **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.

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

▶ **To start an existing (saved) report:**

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

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

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

Starting an Edited Report

▶ **To start an edited report:**

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

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

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

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

Listing Started Reports

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

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

■   Enter `LS` on the command line.

Or:

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

  ▪ Specifying `LS IO SUMMARY BY RABN*` will display the list of all started reports, starting with the IO SUMMARY BY RABN report.

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

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

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

```
15:36:34                   A D A B A S  -  R E V I E W                    2011-03-01
                                 Started Reports                          LOCL=00559


                                               Sum              Strt    Display
   Sel      Report Name             Stat DBID  Det Typ Hst Log Time     Program
 +-----------------------------------------------------------------------------+
 ! __ A STANDARD REPORT             A    559   S   D   N       14:29 RD-00010 !
 !                                                                             !
 !                                                                             !
 !                                                                             !
 !                                                                             !
 !                                                                             !
 !                                                                             !
 !                                                                             !
 !                                                                             !
 !                                                                             !
 !                                                                             !
 !                                                                             !
 +-----------------------------------------------------------------------------+



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

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

Heading	Explanation
Sel	Selection line. Commands are entered on the selection line preceding the report name. For a list of available commands, enter a ? on the selection line.
Report Name	Name of the report.
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.

Heading	Explanation
	■ "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.
DBID	Database for which the report collects data.
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").
Hst	Indicates whether the report writes history data.
Log	Indicates the number of the current log file for 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.
Display Program	Lists the name of the program generated to display report output online.

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

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

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

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

Cmd	Action
VW	View report output

Displaying Active Report Information

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

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

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

The following window appears:

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

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

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

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

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

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

■ The number of commands (records) processed by the report.

■ The number of entries (that is, unique control breaks) that the report currently maintains. The maximum number is set by the ENTRIES report option and is used to restrict the amount of data collected.

■ The length of the control break record and the length of the Account Data Table (ADT), which is an internal Adabas Review control block.

■ The number of control break levels.

Purging Reports

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

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

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

▶ **To purge a started report:**

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

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

2   If required, confirm the purge request.

    The report is purged.

Suspending Reports

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

▶ **To suspend a report:**

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

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

Reactivating Reports

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

▶ **To reactivate a suspended report:**

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

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

Refreshing Reports

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

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

▶ **To refresh a report:**

■ Enter the command RF on the selection line preceding the report name.

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

Closing Reports

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

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

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

▶ **To close a started report:**

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

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

2   Confirm the purge request, if required.

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

Switching Log Files

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

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

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

▶ **To switch to the next log file:**

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

5 Running Reports as Batch Jobs

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 Definition Prefix .. _____
                                                          ↵
                                            ↵
```

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

    The default name RVUCARD appears on this line.

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

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

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

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

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

This section covers the following topics:

  ■ Sample Statements

Sample Statements

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

```
INPUT   FILETYPE=SEQUENTIAL,
        BUFFERS-4K=124,
        BUFFERS-32K=15,
        FILES=1,
        REVIEW-COMMANDS=NO
REPORT  TYPE=SUMMARY,
        TITLE='GENERATE EXAMPLE',
        PROGRAM=RD-00055,
        RESTART=Y,
        HISTORY-INTERVAL=15,
        MAXSTORE=8
DISPLAY SEQUENCE,CMD,RSP,TPUSERID,NATAPPL,NATPROG
```

```
SUM     IOS,CMDRESP,ADADURA
AVERAGE IOS,CMDRESP,ADADURA
PERCENT IOS,CMDRESP,ADADURA
INCLUDE RSP-(0,3,17,148),JOBNAME=(JOB1*-JOB3*)
COPY    FILETYPE=ADABAS,HUB=221,FNR=002,SVC=237
LOG     DSN=RVLOG,
        EXIT=LOGEX1,
        LOGIO=YES
```

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

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

Using Batch Report Statements

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

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

Statement	Use
AVERAGE	Specifies the data fields for calculating average values in summary reports.
COPY	Copies input detail records or summary data records to a sequential data set or the Adabas Review repository.
COST	Specifies the factors to be used in resource cost calculations for summary records.
DISPLAY	Defines the control break fields for summary reports, and specifies the data fields to be printed for detailed reports.
ENV	Specifies a numerical factor for adjusting values returned in the `CMDRESP` field.

Statement	Use
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.
REPORT	Defines the type of report to be generated along with the report format and title lines.
ROUND	Specifies the data fields for which rounding is to occur.
SUM	Specifies the data fields for which total values will be produced on summary reports.

Parameter Statement Syntax

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

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

The following syntax rules pertain to parameter statements:

- Statements may be entered in positions 1-71.

- At least one blank must separate the statement name and the first parameter.

- Multiple parameters must be separated by commas.

- Blanks are not permitted within a parameter entry, except when enclosed within apostrophes.

- A statement with multiple parameters may be continued by ending the line with a comma followed by a blank, and entering the next parameter on the next line beginning in any position between 1-71.

- Comment lines may be inserted by entering an asterisk in position 1. Comment lines may also be inserted following the blank that ends the statement.

- Positional Parameters
- Keyword Parameters

Positional Parameters

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

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

Keyword Parameters

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

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

Valid keyword separators include:

```
=, <,>, and ¬ ↵
```

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

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

AVERAGE Statement

AVERAGE *field-name, field-name,...*

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

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

Example:

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

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

COPY Statement

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

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

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

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

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

■ **Copy detailed or summary data to Adabas.**
The user can write specified information back into the Adabas Review repository where it can be viewed using either the online history functions or Adabas applications written by the user.

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

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

Examples:

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

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

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

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

COST Statement

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

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

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

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

Examples:

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

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

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

```
COST FIXED@5.00
```

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

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

DISPLAY Statement

DISPLAY *field-name, field-name,...*

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

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

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

Examples:

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

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

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

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

ENV Statement

ENV ENV-FACTOR = *nnnnn.nnnn*

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

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

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

▶ **To implement the ENV control statement:**

1   Run your Adabas nucleus with an autostarted Review report that shows the total of all command response time for the nucleus session (`CMDRESP` field).

2   When the database is stopped, examine the output report and note the total `CMDRESP` value as reported by Adabas Review.

3   Obtain the total CPU time used by the Adabas nucleus session as reported by the operating system.

4   Compare the two values and determine the relationship between them.

5   For the next Adabas nucleus session, you can adjust the Adabas Review value to more closely approximate the operating system value by inserting the ENV control statement into the RVUAUT1/2 or RVUPARM after the INPUT statement and before the first REPORT statement.

Examples:

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

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

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

   The RVUAUT statements may be similar to the following:

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

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

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

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

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

ENVIRONMENT Statement

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

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

EXCLUDE Statement

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

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

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

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

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

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

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

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

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

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

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

To specify a list of values, enclose the values in parentheses 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)
```

INCLUDE Statement

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

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

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

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

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

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

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

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

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

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

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

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

To specify a list of values, enclose the values in parentheses 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)
    ```

INPUT Statement

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

—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. 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. If the BUFFERS-4K and BUFFERS-32K parameters are not specified, the setting of the BUFFER-SEGMENTS parameter is used. If the BUFFER-SEGMENTS

Keyword	Specifies . . .
	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

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

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

The following table describes the parameters within the LOG statement:

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

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

MAXIMUM Statement

MAXIMUM *field-name, field-name,...*

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

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

Example:

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

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

MINIMUM Statement

MINIMUM *field-name, field-name,...*

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

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

Example:

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

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

PERCENT Statement

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

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

Example:

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

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

RATE Statement

RATE *field-name,field-name,...*

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

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

Example:

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

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

REPORT Statement

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

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

Parameter	Specifies . . .	Default	Valid for Report Type

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 frequency (in minutes) with which history data is written for a summary report.	0	Summary only
LIMIT	the maximum number of detail lines to be printed on the output report. The default is to print all detail lines. A value of "99999999" indicates that there is no limit.	99999999	Detailed only
{LINESIZE | WIDTH}	the width of a report line. The line width can be stated as any numeric value of at least 72 characters and not greater than 989 characters. Use the **"Line"** option to supply this information in an online environment.	133	Detailed and Summary
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

Parameter	Specifies . . .	Default	Valid for Report Type
PRINT	whether the report will be printed at database termination. Valid values are YES (print the report at database termination) and NO (do not print the report at database termination).	YES	Detailed and Summary
PROGRAM	the name of the display program to be used if the report results are displayed online.	RD-DEFLT	Detailed and Summary
REPORT-EXIT	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). Use the **"Rstrt"** option to supply this information in an online environment.	NO	Summary only
SKIP	whether to single-space or double-space the detail lines on the output report. The default is to single-space the detail lines. Valid values are 1 (single-space the output report) and 2 (double-space the output report).	1	Detailed and Summary
SPACE	the number of spaces to allow between the data fields printed on the output report. This factor applies to all data fields on detailed reports but only to the fields defined as control breaks by the DISPLAY parameter statement on summary reports. The default is to allow one space between data fields.	1	Detailed and Summary
SUMMARY-EXIT	the name of the report user exit that is executed whenever an Adabas command or a summary record is selected for a summary report. Read *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. If this parameter is missing, invalid, or zero, the report is ignored and will not be started. You can specify "ALL" as a valid value to trigger a DBID=ALL report. DBID=ALL reports can only be	0	Detailed and Summary

Parameter	Specifies . . .	Default	Valid for Report Type
	triggered when running Adabas Review in hub mode. They are reports that are started for all databases running on the same SVC as the hub. 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. 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. 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.		
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

ROUND *field-name = name*

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

Example:

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

```
ROUND DURATION=.05
```

SUM Statement

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.

6 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*.

7 Using Adabas Review in Batch Natural

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

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

▪ Target ID (the database or hub ID with which the subsequent program or programs will communicate). This is referred to as the DBID/Hub or current Adabas Review target in 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:

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:

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

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 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
//*                      ↵
```

Example

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

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

1   Ensure that the Review load library is in the STEPLIB concatenation.

2   Define the following report definition and related processing rules to Adabas Review:

```
20:47:38              A D A B A S  -  R E V I E W              2009-06-18
                            Edit Report                        HUB=15690
       Detail/Summary: S
       Report Name: TRACE PAYROLL REPORT_____    DBID to Monitor: _____


       +--------------------------------------------------------------------+
       ! Field        Order   Sum   Min   Max   Avg   Pct   Rate   Round  !
       !--------------------------------------------------------------------!
       ! FILE____      _10     _     _     _     _     _     _     _____  !
       ! CMD_____      _20     _     _     _     _     _     _     _____  !
       ! COMMANDS      ___     X     _     _     _     _     _     _____  !
       ! ASSOIO__      ___     X     _     _     _     _     _     _____  !
       ! DATAIO__      ___     X     _     _     _     _     _     _____  !
       ! WORKIO__      ___     X     _     _     _     _     _     _____  !
       ! _____      ___     _     _     _     _     _     _     _____  !
       ! _____      ___     _     _     _     _     _     _     _____  !
       ! _____      ___     _     _     _     _     _     _     _____  !
       ! _____      ___     _     _     _     _     _     _     _____  !
       +------------------------------ Page 1 -----------------------------+
                    This report contains processing rules

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

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

                        TRACE PAYROLL REPORT
+--------------------------------------------------------------------------+
! Field    Op      Value                                            And/Or !
!--------------------------------------------------------------------------!
! JOBNAME_ EQ  PAYROLL1_____ ___ !
! _____  __  _____ ___ !
! _____  __  _____ ___ !
! _____  __  _____ ___ !
! _____  __  _____ ___ !
! _____  __  _____ ___ !
! _____  __  _____ ___ !
! _____  __  _____ ___ !
! _____  __  _____ ___ !
! _____  __  _____ ___ !
! _____  __  _____ ___ !
+------------------------------ Page 1 -------------------------------
Command: _____
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Optns Exit        Save  Start  -     +                 Flds  Menu
```

3   Save the report definition.

---

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

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

Processing History Data in Batch Natural

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

▶ To use these jobs:

1   Add the report name and date range.

2   Enter any embedded blanks in the report name as periods.

▶ To display history data:

■   Use the HISTVIEW job.

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

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

▶ To delete history data:

■   Use the HISTDEL job.

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

```
LOGON 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
/*
```

Unloading and Restoring Report Definitions

Review report definitions can be unloaded to a sequential data set for backup, archive or for the purpose of moving the definition to a different Review system. There are two batch Natural programs to accomplish this, ULDREP and LODREP. ULDREP unloads a single report definition to a sequential data set as defined by the Natural work file CMWKF01. LODREP restores the definition from the same sequential data set.

The syntax for ULDREP is:

```
ULDREP report.name
```

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

The syntax for LODREP is:

```
LODREP report.name
```

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

8 Managing Report Output

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

Viewing Report Results

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

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

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

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

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

```
19:57:10                 APPLICATION FILE FIELD USAGE              2009-06-18
             19:56:36 2009-06-18 Thru 19:56:43 2009-06-18            HUB=15690
                                                                    Page:    1
                             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

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

- Viewing Wide Reports
- Viewing Multiple Reports

Viewing Wide Reports

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

Viewing Multiple Reports

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

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

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

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

    The results of the first report appear.

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

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

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

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

Scrolling Through Report Results in Redisplay Mode

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

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

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

The following settings are available within the SORT command:

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

This section covers the following topics:

- Using the SORT Command
- Examples of Sort Options

Using the SORT Command

▶ **To issue the** SORT **command:**

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

2   From the display of the report results, press PF2 or enter SORT on the command line.

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

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

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

Examples of Sort Options

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

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	—

```
20:02:18              A D A B A S  -  R E V I E W              2009-06-18
                              Edit Report                      HUB=15690
      Detail/Summary: S
      Report Name: SAMPLE SORT DISPLAYS_____    DBID to Monitor: _____


      +-------------------------------------------------------------------+
      ! Field      Order    Sum   Min   Max   Avg   Pct   Rate   Round  !
      !-------------------------------------------------------------------!
      ! 15M_____    _10     _     _     _     _     _     _    _____  !
      ! CMD_____    _20     _     _     _     _     _     _    _____  !
      ! CMDRESP_     ___     X     _     _     X     _     _    _____  !
      ! IOS_____    ___     X     _     _     X     _     _    _____  !
      ! COMMANDS     ___     X     _     _     _     _     _    _____  !
      ! _____    ___     _     _     _     _     _     _    _____  !
      ! _____    ___     _     _     _     _     _     _    _____  !
      ! _____    ___     _     _     _     _     _     _    _____  !
      ! _____    ___     _     _     _     _     _     _    _____  !
      ! _____    ___     _     _     _     _     _     _    _____  !
      +------------------------- Page 1 ---------------------------+



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

- 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                    2009-06-18
                  20:02:01 2009-06-18 Thru 20:15:47 2009-06-18          HUB=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                  2003-07-07
                 16:28:44 04-22-1996 Thru 16:31:06 04-22-1996       LOCL=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                  2003-07-07
                 16:28:44 04-22-1996 Thru 16:31:06 04-22-1996       LOCL=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                    2003-07-07
                 16:28:44 04-22-1996 Thru 16:31:06 04-22-1996        LOCL=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                    2003-07-07
                16:28:44 04-22-1996 Thru 16:31:06 04-22-1996        LOCL=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                    2003-07-07
                15:46:24 06-14-1996 Thru 16:01:46 06-14-1996        LOCL=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.

Downloading Report Output

📄   **Notes:**

1. This command requires that you have Entire Connection installed.

2. The `DL` command is not available from the View Report Results (VW) screen.

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

▶ **To download report results:**

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

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

2   Press ENTER to begin the download procedure.

   You are notified when the download procedure is completed.

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

Purging Accumulated Data

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

▶ **To purge accumulated data:**

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

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

2   Confirm the purge request, if required.

9 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                2009-06-18
                               History Reports                          HUB=15690


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



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

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

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

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

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

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

   You may use the following commands:

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

Expanding the List of History Reports

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

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

■ Enter the command `EX` on the selection line preceding the report name.

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

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


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



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

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

Compressing Accumulated History Report Data

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

This section covers the following topics:

- Cautions
- Advantages
- Start Times for Compressed Reports
- Compression Procedure

Cautions

- Using the `CH` command can dramatically reduce the number of records used to represent the report. However, since the individual report occurrences are deleted, you will lose the ability to view this data by different date ranges. All of the original report occurrences become one summarized report occurrence.

- If the `CH` command terminates abnormally for any reason, the original history data could be lost. It is recommended that a backup be made before executing this command. In the event of abnormal termination, the history file will be locked against further compression attempts for any report by any user. To remove this lock, and to clean up any unusable compressed data, enter the following into the command line of the Adabas Review Main Menu:

```
RESET HISTORY FILE
```

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

Advantages

- Once a date range has been compressed, it can be "recompressed" along with new report occurrences. For example, all occurrences of a report that happen during a month can be compressed into a monthly summary. At the end of the year, these monthly summaries can be compressed into an annual summary report.

- Unlike viewing history reports by date range, compressed reports can display percentage and rate fields, if they are viewed from the Expanded History List.

Start Times for Compressed Reports

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

Compression Procedure

▶ **To compress accumulated history data:**

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

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

2   Enter the date range and press ENTER.

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

3   Enter "Y" and press ENTER to continue

     Or:

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

     You are returned to the History Reports screen.

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

4   Enter an ET factor and press ENTER.

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

     Or:

     Press ENTER to accept the default value of 25.

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

Purging Accumulated History Data

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

▶ **To purge accumulated history data:**

1 From the History Reports screen, enter the EX command to expand the list so that all occur-
rences 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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