

# **Adabas for UNIX, Windows and OpenVMS**

## **Adabas Extended Operation**

Version 6.3.1

April 2013

This document applies to Adabas for UNIX, Windows and OpenVMS Version 6.3.1.

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

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# Preface

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This document describes Adabas Extended Operation (AEO), which is a mode of operation that greatly simplifies the day-to-day administration of Adabas.

Adabas Extended Operation is intended for experienced DBAs. By using Adabas Extended Operation, many situations which would normally require the intervention of the DBA can be detected and resolved automatically.

This document is organized as follows:

- *Introduction*
- *Configuration Files*
- *Action Templates*
- *Administration Commands*

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# 1 Introduction

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A typical example of when to use AEO is when additional disk space has to be allocated because a database is almost full. Without AEO, the DBA must constantly monitor how much disk space is available, and be prepared to allocate more disk space for the database when a certain critical limit is reached. With AEO, the DBA can let the monitoring and the allocation of additional disk space be done automatically. The DBA can specify a default action to be taken when a certain limit is reached (for example, allocate more disk space when the database is 90 percent full), and AEO will automatically allocate the required additional disk space when the specified limit is reached.

This is just one example of the many routine database administration tasks which can be assigned to AEO. As well as freeing the DBA from many such administration tasks, AEO makes the database environment more reliable by ensuring that human error or oversight is reduced to a minimum, and that necessary administration actions are carried out exactly when required.

AEO can be used in the following areas:

- troubleshooting
- logging of response codes
- creating automatic database backups
- performance analysis
- management of database configuration

## How Adabas Extended Operation works

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A standard Adabas environment is composed of the following components:

- the Adabas nucleus
- the Adabas utilities
- the database container files
- the nucleus startup utility, called Adabas (PC platforms only)
- the database log file adanuc.log
- sequential database files, for example NUCPLG, NUCCLG

AEO extends this environment by adding the following components:

- an event analyser
- a log filter
- an action filter
- a configuration file for each Adabas database



- a configuration file common to all Adabas databases
- a set of administration commands, e.g. for starting and stopping databases

In the AEO environment, the database log file is no longer important, since its contents are also written to the common log file ADABAS.LOG (see below).

### The Event Analyser

The event analyser (also called the AEO analyser or simply the analyser) is the component of AEO which receives event messages generated by the Adabas nucleus or Adabas utilities and passes them on to the *log filter* or the *action filter*, depending on the nature of the event.

Database *events* such as creating files and records are reported to the event analyser. Events are passed to the log filter if they are simply status messages which do not require any immediate action to be carried out.

Events are passed to the action filter if they indicate that a change has taken place in the database which requires some immediate database administration action.

### The Log Filter

The log filter receives events from the event analyser and writes them to the log file ADABAS.LOG, where they can be analysed later.

### Adabas Configuration File (ADABAS.INI)

In order for AEO to work in an Adabas environment, a single configuration file ADABAS.INI must be available. This file contains global information used by AEO, whenever any database is started, in order to set up parameters for AEO operation during the database session. If there is a DBnnn.INI file (see below) for a particular database, the information contained there overrides the information specified in ADABAS.INI. The administration of ADABAS.INI and the description of its contents is described in [Configuration Files, ADABAS.INI](#).

### Database Configuration Files (DBnnn.INI)

In order for AEO to work with a database DBnnn in an Adabas environment, where nnn is the database number, a corresponding configuration file DBnnn.INI must be available. This file contains information used by AEO when the database is started, in order to set up parameters for AEO operation during the database session. The information specified in these files overrides any information specified in the Adabas configuration file ADABAS.INI. The administration of the DBnnn.INI files and the description of their contents is described in [Configuration Files, DBnnn.INI](#).

## Actions and the Action Filter

Most of the topics and subtopics within the configuration files ADABAS.INI and DBnnn.INI start an associated *action*. Such actions are provided in the form of templates. In general, an action is started if the appropriate event occurs. Such an action could be, for example, to call one of the Adabas utilities automatically to perform necessary reorganization of the database. Another action could be to output a warning message to the DBA's terminal to indicate a situation that requires DBA intervention. An event is initiated either by the Adabas nucleus or by an Adabas utility. Normally, these actions are started under the control of AEO. The exceptions to this rule are the two actions ARCHIVE\_LOGFILE and SAVE\_DB.

The action filter receives events from the event analyser and, depending on the nature of the event, causes the appropriate predefined action to be activated.

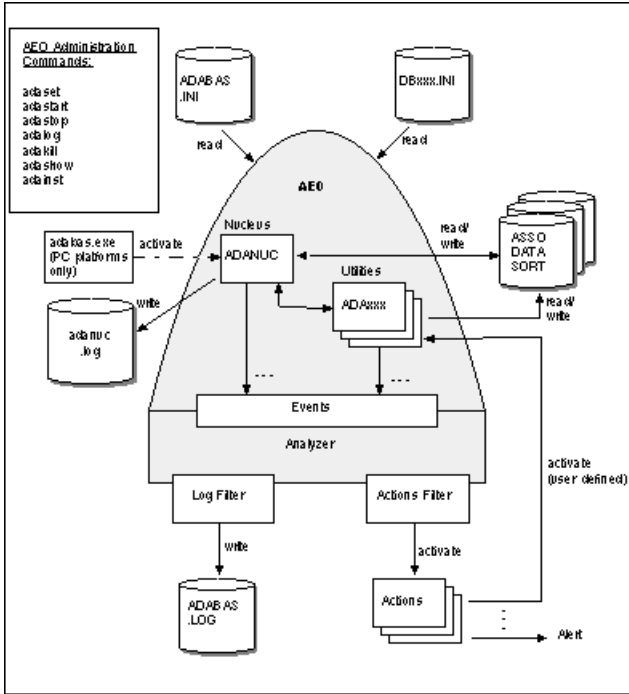
## Administration Commands

AEO provides a set of commands which simplify the administration of a database. The following commands are available:

adaini    to retrieve and modify information stored in the configuration files  
adainst    to create and update the file ADABAS.INI  
adakill    to stop a database immediately  
adalog    to display the Adabas log file  
adaset    to set a default database number required by the other administration scripts  
adashow    to display general information about a database  
adastart    to start a database  
adastop    to stop a database in an orderly manner



**Important:** The item ACTION in the topic NODE\_PARAMETER, subtopic ANALYSER must be set to 'yes' in order to activate AEO. Please refer to the administration command [adaini](#) in the section *Administration Commands* for further information.



Adabas Extended Operation environment

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# 2 Configuration Files

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Configuration parameters are required for each database in an Adabas Extended Operation (AEO) environment. These configuration parameters tell AEO about special criteria which have been defined for the database by the DBA, and therefore about how AEO should react when certain database events occur.

The configuration parameters are stored in configuration files. One configuration file, named ADABAS.INI, contains configuration parameters that apply to all databases in the Adabas environment on that node. In addition, for each database, there must be a file DBnnn.INI, where nnn is the database number.

The files ADABAS.INI and DBnnn.INI contain definitions such as container assignments, nucleus parameters, default values for the DBA Workbench and control parameters for AEO. They are ASCII files, so they can be edited with a standard text editor. However, a text editor does not guarantee that the configuration files are syntactically correct. Therefore, it is recommended to use the graphical tools Adabas Manager or the DBA workbench; these tools also maintain the configuration files. In order to maintain the AEO-specific entries in the configuration files, we recommend that you use the administration command `adaini`.

## Format Of Configuration Files

---

Each configuration file is divided into topics, with the following syntax:

```
[topic name]                # start of topic "topic name"
  item1 name = item1 value  # name and value of item 1
  item2 name = item2 value  # name and value of item 2
  ....
[topic name-END]           # end of topic
```

Each topic contains item definitions and/or subtopics. There can be several nesting levels, but usually there are not more than 2 levels, i.e. the main topic level and one subtopic level.

Topic names, item names and values are case sensitive. Comment lines start with the character "#".

Empty lines are ignored. White space, i.e. blanks and tabs, surrounding topic names, item names and values are also ignored. If a value contains white space, it must be enclosed by single or double quote delimiters. Delimiters that occur within a value must be typed twice.



**Note:** You cannot use environment variables/logical names as values within the configuration file. They must be substituted by their explicit values.

The following is an example of a configuration file with two nesting levels and one comment line:

```

[topic1 name]                # start of topic on nesting level 1
item1 name = item1 value    # name and value of item 1

# Start of topic2           # comment line
 [topic2 name]              # start of topic on nesting level 2
   item2 name = item2 value # name and value of item 2
 [topic2 name-END]         # end of topic 2

[topic1 name-END]           # end of topic 1

```

## ADABAS.INI

The configuration file ADABAS.INI contains information that applies to all databases in an AEO environment. If there is a file DBnnn.INI for a particular database, the information in that file overrides the information in the ADABAS.INI file. ADABAS.INI can be modified using the DBA Workbench (UNIX and Windows platforms only) or with a standard text editor or with the administration command `adaini` (OpenVMS). See the `adaini` online help for the utility syntax.

ADABAS.INI contains the following information:

1. Database-independent information, e.g. default nucleus parameters and environment information for new databases being created. Also general information such as the location of ADABAS.LOG (log file for all databases on the local node), what to do if a report utility (`adarep`, `adafin`, `adapri`, `adaclp`, `adaplp`, `adaerr`, `adatst`) or display function (`adaopr/adadbm display=...`) is run.
2. Basic database definitions, e.g. location of the individual DBnnn.INI files and the database ID.

### Location of ADABAS.INI


On UNIX and Windows platforms, ADABAS.INI must be in the subdirectory *etc* of the directory that is pointed to by the environment variable `ADADIR`. If there is no ADABAS.INI file in this directory, AEO is automatically disabled and only the standard Adabas functionality is available.

On OpenVMS, ADABAS.INI must be in the subdirectory `SAG$ROOT:[ADABAS.ETC]`. If there is no ADABAS.INI file in this directory, AEO is automatically disabled and only the standard Adabas functionality is available.

## Structure of ADABAS.INI

ADABAS.INI is divided into sections, with one topic per section. Each section of ADABAS.INI starts with a line containing the name of the topic enclosed in square brackets, using the syntax *[topic-name]*. The topics relevant to AEO are:

- DB\_DEFAULTS (with various subtopics)
- DB\_LIST (with one subtopic per DBID)
- MISCELLANEOUS
- NODE\_PARAMETER, with the subtopics
  - ALERT
  - ANALYSER
  - ARCHIVE\_LOGFILE
  - LOGGING

 **Important:** The item ACTION in the topic NODE\_PARAMETER, subtopic ANALYSER must be set to 'yes' in order to activate AEO. Please refer to the administration command [adaini](#) in the section *Administration Commands* for further information.

These topics are described in the following sections.

### Topic: DB\_DEFAULTS

The topic DB\_DEFAULTS contains default definitions used by the DBA Workbench or by adainst to create DBnnn.INI. Its contents are copied to DBnnn.INI without the enclosing lines [DB\_DEFAULTS] and [DB\_DEFAULTS-END]. For further information, refer to the section DBnnn.INI later in this section.

```
# configuration                                # recommended values
[DB_DEFAULTS]
...
[NUCPARMS]
...
[NUCPARMS-END]
...
[DB_PARAMETER]
...
[DB_PARAMETER-END]
...
[ENVIRONMENT]
...
[ENVIRONMENT-END]
...
[DB_DEFAULTS-END]
```



**Topic: DB\_LIST**

The topic DB\_LIST lists the numbers and names of the available databases, as well as the name and location of the associated DBnnn.INI file. The details for each database are given in a separate subtopic DBID\_<dbid> within the topic DB\_LIST.

```
# configuration                                     # recommended values

[DB_LIST]

  [DBID_<dbid>]                                     PC platforms:
  INI_FILE = <configuration file name              %ADADIR%\db<dbid>\DB<dbid>.INI
              for this database>                   UNIX:
                                                    $ADADIR/db<dbid>/DB<dbid>.INI
                                                    OpenVMS:
                                                    ↵

SAG$ROOT:[ADABAS.DB<dbid>]DB<dbid>.INI

  NAME = <database name>
  [DBID_<dbid>-END]

[DB_LIST-END]
```

**Notes:**

1. You cannot use environment variables/logical names as parameters in the configuration file. You must therefore substitute the ADADIR environment variable/logical name by its full expanded name in the INI\_FILE item.
2. On OpenVMS, the WCP kernel sees only those databases that are listed under the topic DB\_LIST in the file ADADAS.INI. The polling to find active databases on the node in question is turned off in WCP.

**Topic: MISCELLANEOUS**

The topic MISCELLANEOUS contains database-independent information for this node. The item NODE\_NAME is used for the logging that is activated by the subtopic LOGGING of the topic NODE\_PARAMETERS (see later in this section).

On UNIX platforms you can use the UNIX command "uname -n" to get the system node name.

The syntax for the topic MISCELLANEOUS is as follows:

```
# configuration                                     # recommended values

[MISCELLANEOUS]
  NODE_NAME = <node name>
[MISCELLANEOUS-END]
```

**Topic: NODE\_PARAMETER**

The topic NODE\_PARAMETER contains AEO definitions for all databases on this node.

**Subtopic: ALERT**

```
# configuration                                     # recommended values

[NODE_PARAMETER]
  [ALERT]
    ACTION = <yes/no>
    ACTION_ROUTINE = <action routine>           ada_alrt
    MINIMUM = <minimum severity required       E
              to call the action>
  [ALERT-END]
[NODE_PARAMETER-END]
```

The recommended action routine is ada\_alrt, which has the following parameters:

Parameter	Description
1	utility name
2	process ID
3	DBID
4	user login name
5	node name
6	severity
7	message header key
8	message header
9	message text

The ALERT action is used to inform the DBA (and possibly other users) when an Adabas event occurs, for example, Adabas could "mail" all messages with severity E (error) and F (fatal) automatically to the DBA.

The subtopic ALERT of the topic NODE\_PARAMETER defines the Adabas alert action. If the ALERT action is enabled (ACTION=yes), the severity of each Adabas message is checked, and if it is greater than or equal to the defined MINIMUM severity, the action routine specified by AC-

TION\_ROUTINE is started asynchronously. The severity priority is: I (information) < W (warning) < E (error) < F (fatal). Thus, if MINIMUM=E, only messages with severity E and F will call the ALERT action.

The list of recipients of the alert is determined by the contents of the environment variable/logical name ADA\_ALERT\_LIST, which is a concatenation of one or more user specifications that are separated by blanks. The user specifications depend on the platform. On Windows, it is the name of a computer, e.g. pcABC1 if the machine is in the same domain or /DOMAIN:pcABC1 if the computer is in another domain. On UNIX, it is the user name or an e-mail address.

### Example

```
set ADA_ALERT_LIST = "pcABC1 /DOM-HQ:pcABC2"    (for Windows)
setenv ADA_ALERT_LIST "abc user.xyz@myCompany.com"  (for C shell)
```

### Subtopic: ANALYSER

The subtopic ANALYSER of the topic NODE\_PARAMETER enables/disables the AEO analyser. If the analyser is disabled, all Adabas actions, including LOGGING and ALERT, are automatically disabled.



**Note:** This is the global switch which enables/disables AEO.

```
# configuration                                # recommended values
[NODE_PARAMETER]
  [ANALYSER]
    ACTION = <yes/no>
  [ANALYSER-END]
[NODE_PARAMETER-END]
```



**Caution:** If "ACTION=no" is set, all other AEO settings will be ignored, and AEO will be disabled.

**Subtopic: ARCHIVE\_LOGFILE**

```
# configuration                                     # recommended values

[NODE_PARAMETER]

  [ARCHIVE_LOGFILE]
    ACTION = <yes/no>
    ACTION_ROUTINE = <action routine>           ada_svlg
    MAXIMUM = <maximum number of               7
               archive generations>
  [ARCHIVE_LOGFILE-END]

[NODE_PARAMETER-END]
```

The recommended action routine is `ada_svlg`, which has no parameters.

Each logging message is appended to the end of the Adabas log file. To prevent uncontrolled growth of this file, you can submit the command specified by the item `ACTION_ROUTINE` with an external scheduler every day. This routine reads the item `ACTION` and exits without doing anything if `ACTION=no`. If `ACTION=yes` and `MAXIMUM=0`, the log file is deleted without archiving. If `ACTION=yes` and `MAXIMUM` is greater than 0 and less than 100, `MAXIMUM` number of generations of log files (one generation per execution of `ada_svlg`) are archived. This is done by appending a generation number in the range 1 ... `MAXIMUM` for PC platforms or 01 ... `MAXIMUM` for UNIX to the log file name, for example, `ADABAS.LOG.1` for PC platforms or `ADABAS.LOG.01` for UNIX. Log files with a generation equal to `MAXIMUM` are erased during the next run of `ada_svlg`.



**Note:** `ada_svlg` cannot run while the log file is in use by other tools, for example, `adalog -t`.

**Subtopic: LOGGING**

```
# configuration                                     # recommended values

[NODE_PARAMETER]

  [LOGGING]
    ACTION = <yes/no>
    FILTER_MESSAGES_WITHOUT_HEADER = <yes/no>
    FILTER_REPORT_UTILITIES = <yes/no>
    LOG_FILE = <log file name>
                                     PC platforms:
                                     %ADADIR%\etc\ADABAS.LOG
                                     UNIX:
                                     $ADADIR/etc/ADABAS.LOG
                                     OVMS:
                                     SAG$ROOT:[ADABAS:ETC].ADABAS.LOG

  [LOGGING-END]

[NODE_PARAMETER-END]
```



**Note:** You cannot use environment variables/logical names as parameters in the configuration file. You must therefore substitute the ADADIR environment variable/logical name by an explicit path name in the INI\_FILE item.

The subtopic LOGGING of the topic NODE\_PARAMETER defines parameters for the logging of Adabas messages. Adabas messages (normally written to standard output exclusively) are analyzed and appended to the AEO log file if the associated logging filter conditions are true. Additionally, AEO logs new Adabas messages (that are not written to standard output), which contain special event and action information.

The name of the log file is given by the item LOG\_FILE.

The item ACTION enables/disables AEO logging for all databases on this node. If logging is enabled, each Adabas utility appends its logging information to the sequential file defined with item LOG\_FILE. The writing of logging messages is synchronized using an Adabas semaphore. The logging filter recognizes two conditions:

Messages without a header are ignored (i.e. not logged), if:  
FILTER\_MESSAGES\_WITHOUT\_HEADER = yes

Messages from Adabas report utilities are ignored (i.e. not logged), if:  
FILTER\_REPORT\_UTILITIES = yes

The Adabas report utilities are: adaclp, adafin, adaplp, adapri, adarep, adatst.

Each entry in the log file has following format:

<process id> <yymmddhhmmss> <dbid> <user ID> <Adabas message>

where yymmdd and hhmmss are the current date and time, respectively.

The items in the log file entry are separated by blanks.

Example:

```
003522 050807142608 00000 sag %ADANUC-I-STARTED,07-AUG-2005 14:26:08, Version 5.1
```

In this example, the process ID is 003522, the date is August 07, 2005, the time is 14:26:08, the database ID is 0 because it is not yet known at this point in time, the user name is sag and the Adabas message is %ADANUC-I-STARTED, 07-AUG-2005 14:26:08, Version 5.1.

## DBnnn.INI

---

For each database that is to be administered by AEO, there must be a DBnnn.INI file, where nnn is the database number. The DBnnn.INI file contains information that applies to the database number nnn, and overrides the information in the ADABAS.INI file.

If there is no DBnnn.INI file for a database, AEO does not work with the database, so only the standard Adabas functionality can be used. Also, there must be an INI\_FILE entry in the DB\_LIST section of ADABAS.INI for the database nnn.

DBnnn.INI contains the following:

1. Database information, e.g. container assignments, nucleus parameters
2. User definitions which describe the permissions to run actions
3. Default field values for use with the DBA Workbench (UNIX and Windows platforms only).

### Location of DBnnn.INI

The location of the DBnnn.INI files is defined by the item INI\_FILE in the DB\_LIST topic of ADABAS.INI.

On UNIX and Windows platforms, the DBA Workbench supplies functionality for creating the DBnnn.INI files. See the DBA Workbench online help for more details.

On OpenVMS, the utility `adaini` should be used to modify the contents of DBnnn.INI. See the `adaini` online help for the utility syntax.

### Structure of DBnnn.INI

DBnnn.INI is divided into sections, with one topic per section. Each section starts with a line containing the name of the topic enclosed in square brackets, using the syntax `[topic-name]`. The available topics are:

- CONTAINER
- DB\_PARAMETER, with the subtopics
  - ACTION\_DBA
  - ADANUC\_STARTED
  - ADANUC\_TERMINATED
  - DELETE\_CHECKPOINTS
  - OFFLINE\_CHECKPOINTS
  - RECOVER\_LOST\_BLOCKS

- REORDER\_FILE
- SAVE\_DB
- TERMINATE\_ADANUC
- ENVIRONMENT
- NUCPARMS
- RESERVED\_LOCATION
- TEMPORARY\_LOCATION

### Information stored by the DBA Workbench (UNIX and Windows Platforms only)

In addition to the sections listed above, with general importance, the DBA Workbench writes information into the DBnnn.INI file when certain database or file operations such as backup, load or unload are carried out. Such information has the format (e.g. for backup):

```
[BACKUP]...[BACKUP-END]
```

The information stored allows the DBA Workbench to provide the user with default values the next time the same DBA Workbench operation (i.e. backup, load, unload, ...) is carried out. If these sections are not already present in the DBnnn.INI file, the DBA Workbench will create them whenever the appropriate operation is carried out. If the sections are already present, the DBA Workbench will update them each time the operation is carried out. The content of such sections is of importance to the DBA Workbench only, so they are not further described here.

### Topic: CONTAINER

```
# configuration                                # recommended values

[CONTAINER]

ASSOx = <ASSOx device>                          # n lines for ASSO1 ... ASSOx
DATAx = <DATAx device>                          # n lines for DATA1 ... DATAx
WORK1 = <WORK1 device>                          # 1 line for WORK1
SORTx = <SORTx device>                         # n lines for SORT1 ... SORTx
TEMPx = <TEMPx device>                          # n lines for TEMP1 ... TEMPx
NUCCLGx = <NUCCLG device>
NUCPLGx = <NUCPLG device>

[CONTAINER-END]
```

The Adabas containers ASSOx, DATAx, WORK1, SORTx and TEMPx are defined in this topic. Additionally, the Adabas sequential files NUCCLGx and NUCPLGx are defined in this topic.

If explicit external environment definitions for these items exist, their values override the DBnnn.INI values. Therefore, you can use the items in DBnnn.INI to define default values.

Important: If you enable the INCREASE\_<container> actions in the DB\_PARAMETER topic, AEO must be informed of the disk location to use if a new container is required. You do this by appending at least one *extra* DATAx and ASSOx to your lists, and these define the location that AEO will use if the INCREASE\_<container> action is started.

**Topic: DB\_PARAMETER**

The topic DB\_PARAMETER defines actions and other definitions for AEO.

**Subtopic: ACTION\_DBA**

The topic ACTION\_DBA contains the names of all users for whom AEO will start actions if required. Adabas and all utilities will also work for other users, but all actions defined in the topic DB\_PARAMETER are only initiated for users defined as ACTION\_DBA.

UNIX and OVMS: The user name is case-sensitive.

PC platforms: If no user is defined and AEO is enabled, the respective actions will be initiated for any user.

```
# configuration                                # recommended values

[DB_PARAMETER]

  [ACTION_DBA]
    <user name 1>                                (see platform-specific notes given ↵
above)
    <user name 2>
    ...
  [ACTION_DBA-END]

[DB_PARAMETER-END]
```

**Subtopic: ADANUC\_STARTED**

```
# configuration                                # recommended values

[DB_PARAMETER]

  [ADANUC_STARTED]
    ACTION=<yes/no>
    ACTION_ROUTINE=<action routine>              ada_nsta
  [ADANUC_STARTED-END]

[DB_PARAMETER-END]
```

The recommended action routine is ada\_nsta, which has the following input parameters:



Parameter	Description
1	utility name = ADANUC
2	process ID
3	DBID
4	DB status = ONLINE
5	user login name
6	node name
7	session number

The action routine is submitted by the Adabas utility ADANUC only if the nucleus started successfully.

The ACTION\_ROUTINE will only be submitted if ACTION=yes.

**Subtopic: ADANUC\_TERMINATED**

```
# configuration # recommended values

[DB_PARAMETER]

  [ADANUC_TERMINATED]
    ACTION=<yes/no>
    ACTION_ROUTINE=<action routine>          ada_nsto
  [ADANUC_TERMINATED-END]

[DB_PARAMETER-END]
```

The recommended action routine is ada\_nsto, which has the following input parameters:

Parameter	Description
1	utility name = ADANUC
2	process ID
3	DBID
4	DB status = ONLINE
5	user login name
6	node name
7	termination status (= TERMINATED or ABORTED)

The action routine is submitted by the Adabas utility ADANUC when the nucleus terminates.

The ACTION\_ROUTINE will only be submitted if ACTION=yes.

**Subtopic: DELETE\_CHECKPOINTS**

```
# configuration # recommended values
[DB_PARAMETER]
[DELETE_CHECKPOINTS]
ACTION=<yes/no>
ACTION_ROUTINE=<action routine>          ada_d1cp
MINIMUM=<minimum age (in days) for checkpoints
to be deleted>                          100
[DELETE_CHECKPOINTS-END]
[DB_PARAMETER-END]
```

The recommended action routine is `ada_d1cp`, which has the following input parameters:

Parameter	Description
1	utility name = ADANUC
2	process ID
3	DBID
4	DB status = ONLINE
5	user login name
6	node name
7	date string for ADADBM command DELCP

The action routine is submitted by the Adabas utility ADANUC when

- the nucleus starts
- the nucleus writes a checkpoint and the last time a checkpoint was written is at least one day ago (this case will occur for databases which are usually always online)

The `ACTION_ROUTINE` will only be submitted if `ACTION=yes`.

`MINIMUM` must be greater than 0. This value defines the minimum age (in number of days) for checkpoints to be deleted.

**Subtopic: INCREASE\_<container>**

```
# configuration                                     # recommended values

[DB_PARAMETER]

  [INCREASE_<container>]                               ASSO or DATA
    ACTION=<yes/no>
    ACTION_ROUTINE=<action routine>                     ada_iass or ada_idat
    MINIMUM=<minimum free space (in percent)>           15
    EXTEND_RATE=<minimum extend rate (in percent)>      10
    MESSAGE = (I=<i>,W=<w>,E=<e>,F=<f>)                 (I=40,W=20,E=10,F=5)
  [INCREASE_<container>-END]

[DB_PARAMETER-END]
```

The recommended action routines are `ada_iass` (for ASSO) and `ada_idat` (for DATA), each of which has the following input parameters:

Parameter	Description
1	utility name (upper case)
2	process ID
3	DBID
4	DB status (ONLINE or OFFLINE)
5	user login name
6	node name
7	current number of ASSO/DATA extents (e.g. 7)
8	new extent name (e.g. ASSO8)
9	extent size in MB

The action routine is submitted by the following Adabas utilities:

- ADAREP submits the action asynchronously when executing "adarep dbid=<dbid> free"
- ADANUC submits the action asynchronously after space allocation
- ADAFDU, ADABCK, ADAFRM, ADAREC, ADAORD submit the action asynchronously after space allocation when ADANUC is offline
- ADAMUP, ADAINV submit the action synchronously during space allocation when adanuc is offline

The message DBFREE is logged by adarep and by every Adabas utility which performs space allocation.

The ACTION\_ROUTINE will only be submitted if ACTION=yes.

The Analyser compares the current free space (in percent) with the configured MINIMUM (valid range: 5-50 percent). If the amount of free space is less than the specified minimum value, the Analyser computes how much additional space is required and starts the action to allocate the additional space.

The calculation of additional space is done in two steps:

1. Additional space equal to the current size of the database multiplied by the value of EXTEND\_RATE (valid range: 5-100 percent) is calculated. This definition ensures that the additional space is relative to the current size. The additional space calculated here is added to the value resulting from step 2.
2. It may be that even with the additional space calculated in step 1, the ratio of the free space to the total database space would be less than the percentage specified by MINIMUM. This can happen if a large block was allocated, thus causing the limit for the required minimum amount of free space to be not only reached but also greatly fallen short of. In this case, a second allocation of space is required, so that the ratio specified by MINIMUM is reached.

The amount of additional space to be allocated is therefore the result of adding the values from steps 1 and 2.

Adabas is able to increase ASSO/DATA while the nucleus is active. When the nucleus is active, space allocation (even for utilities) is done from ADANUC. The action routine takes the new container definition from the topic CONTAINER, so be sure to define one or more CONTAINER items for this action. If such a definition is missing, the action stops without increasing the size of the database.

You may use DBA Workbench (select Containers from the Profile menu) to predefine locations of containers on disk (UNIX and Windows platforms only).

The Analyser also compares the computed free space ratio with the defined percentage values i, w, e, f in the item MESSAGE. These values must be in the range 1-100 and in descending order, i.e.  $i > w > e > f$ . The message DBFREE is logged if the free space is equal to or smaller than one of these values.

**Subtopic: OFFLINE\_CHECKPOINTS**

```
# configuration                                     # recommended values
[DB_PARAMETER]
  [OFFLINE_CHECKPOINTS]
    MESSAGE = (I=<i>,W=<w>,E=<e>,F=<f>)                (I=50,W=20,E=5,F=2)
  [OFFLINE_CHECKPOINTS-END]
[DB_PARAMETER-END]
```

The item MESSAGE defines the severity for the Adabas message CPBFREE. If Adabas is offline, the AEO Analyser is called every time an Adabas checkpoint is written into the checkpoint block. It evaluates the number of free entries in the checkpoint block and compares it with the numeric values (which must be greater than 0) of the MESSAGE parameters i, w, e and f. These values must be defined in decreasing order, i.e.:  $i > w > e > f$ . Thus, if there are 10 free entries and MESSAGE=(I=50,W=20,E=5,F=2), an Adabas message CPBFREE with severity W is written.



**Note:** The message CPBFREE is logged for every Adabas utility that writes checkpoints while the nucleus is offline.

**Subtopic: RECOVER\_LOST\_BLOCKS**

```
# configuration # recommended values
[DB_PARAMETER]
  [RECOVER_LOST_BLOCKS]
    ACTION=<yes/no>
    ACTION_ROUTINE=<action routine>          ada_rlst
  [RECOVER_LOST_BLOCKS-END]
[DB_PARAMETER-END]
```

The recommended action routine is ada\_rlst, which has the following input parameters:

Parameter	Description
1	utility name (upper case)
2	process ID
3	DBID
4	DB status (ONLINE or OFFLINE)
5	user login name
6	node name

The action routine is submitted by

- the Adabas utility ADANUC when Adabas return code 77 occurs and the associated command is an Adabas utility command
- the Adabas utility ADAREP: "adarep dbid=<dbid> layout"
- the Adabas utility ADAVFY: "advfy dbid=<dbid> lost"

The ACTION\_ROUTINE will only be submitted if ACTION=yes.

Lost blocks can only occur only in a utility context. If AEO was not active in this situation and lost blocks already exists, you may use ADAREP or ADAVFY to find lost blocks and to submit this action.



**Note:** RECOVER\_LOST\_BLOCKS does an implicit reset of UCB entries for the given database.

**Subtopic: REORDER\_FILE**

```
# configuration                                     # recommended values
[DB_PARAMETER]
[REORDER_FILE]
ACTION=<yes/no>
ACTION_ROUTINE=<action routine>                      ada_reor
MAXIMUM=<maximum number of AC/NI/UI/DS extents>      12
MESSAGE =(I=<i>,W=<w>,E=<e>,F=<f>)                    (I=5,W=8,E=12,F=14)
[REORDER_FILE-END]
[DB_PARAMETER-END]
```

The recommended action routine is ada\_reor, which has the following input parameters:

Parameter	Description
1	utility name = ADAREP
2	process ID
3	DBID
4	DB status (ONLINE or OFFLINE)
5	user login name
6	node name)
7 - 106	Adabas file number list

The action routine is submitted within the context of the SAVE\_DB action by a call of the Adabas utility ADAREP with the following parameters: adarep dbid=<dbid> content

The message FIFREE is logged by every Adabas utility which performs space allocation.

The ACTION\_ROUTINE will only be submitted if ACTION=yes.

The ADAREP utility calls the AEO Analyser, which checks all database user files (Adabas system files are ignored) for their number of AC/NI/UI/DS extents. If one extent number is greater than or equal to the defined MAXIMUM (valid range: 3 - 32), this file will be reordered. The action is started once to reorder all such files (see action parameters 7 - 106). So the reorder task is performed one file after the other sequentially.

**Important:** This ACTION\_ROUTINE is not directly submitted when Adabas allocates an extent, because at this time Adabas is still using the file, and this would result in an access conflict with the reorder action. This action may only be started after the database has been successfully saved. Therefore the action REORDER\_FILE checks if the action SAVE\_DB (see section Subtopic:

SAVE\_DB) has successfully finished. This is done by comparing the value of environment variable/logical name ADA\_SAVE\_DB with input parameter 3. If they match, the reorder is started. In every other context the action terminates without reordering a file.

Every time Adabas allocates file extents, the Analyser compares the current extent number with the defined message values i, w, e and f. These values must be greater than 1 and in ascending order, i.e.  $i < w < e < f$ . The Adabas operations message FIFREE is logged for any file for which one extent type (AC,NI,UI,DS) is equal to or greater than one of the defined message values i, w, e or f.

### Subtopic: SAVE\_DB

```
# configuration                                     # recommended values
[DB_PARAMETER]
  [SAVE_DB]
    ACTION=<yes/no>
    ACTION_ROUTINE=<action routine>                ada_svdb
  [SAVE_DB-END]
[DB_PARAMETER-END]
```

The recommended action routine is ada\_svdb, which has the following input parameter:

Parameter	Description
1	database ID = dbid

The action routine should be started with an external scheduler via ada\_actn. It takes the following steps:

- checks the action definitions ( ACTION must be yes)
- expands the backup file name with extension <dbid>.<nn> to
  - (PC platforms:) BCK001=%ADADIR%\db<dbid>\BCK001.<dbid>.<nn>where <nn> is in the range 01 ... 99 and one higher than the last backup file found in that directory
  - (UNIX:) BCK001=\$ADADIR/db<dbid>/BCK001.<dbid>.<date>.<time>where <date> is in the form yymmdd (years, months, days) and <time> is in the form hhmm (hours, minutes).
  - (OVMS): SAG\$ROOT:[ADABAS.DB<dbid>]BCK01.dbid\_nn
- starts backup with the DUMP option
- (after successful backup:) sets the environment variable/logical name ADA\_SAVE\_DB=<dbid>
- starts "adarep dbid=<dbid> content" to check the conditions for the action REORDER\_FILE.



**Note:** If you want to modify a backup option or the location of the backup, customize `ada_svdb` to your specific requirements.

**Subtopic: TERMINATE\_ADANUC**

```
# configuration                                     # recommended values
[DB_PARAMETER]
[TERMINATE_ADANUC]
  SHUTDOWN=<n1>                                     0
  CANCEL=<n2>                                        12
  ABORT=<n3>                                         12
[TERMINATE_ADANUC-END]
[DB_PARAMETER-END]
```

The topic `TERMINATE_ADANUC` contains information for `adastop`. The item values `n1`, `n2` and `n3` must be numeric (greater than or equal to 0). If `n1` is 0, `adastop` does not try to stop the database with the "shutdown" option of `adaopr`. If `n1` is greater than 0 and the database is online, `adastop` uses "adaopr dbid=<dbid> shutdown" once to stop the database. After this, `adastop` waits up to `n1` time intervals of 5 seconds (for `n1=12` the maximum wait period is 60 seconds) for the database to shut down. If the database does not stop, `adastop` takes the next shutdown option (first `CANCEL`, then `ABORT`) to stop the database. The values `n2` and `n3` are processed in the same way as `n1`.

**Topic: ENVIRONMENT**

You may define all Adabas environment variables/logical names in this topic (with exception of the nucleus container and SAM files). If explicit external environment definitions for these items exist, the external values override the `DBnnn.INI` values. Therefore, you can use these items in `DBnnn.INI` to define default values.

The item `ADAVERS` is used in `adaset` to extend the `PATH` environment variable/logical name.

```
# configuration                                     # recommended values
[ENVIRONMENT]                                     # Any Adabas environment variable may
                                                # be defined here.
ADAVERS = ...                                     # path extension for ADADIR to the
                                                # current Adabas version directory
ADAUEX_n = ...                                    # Adabas user exit
ADATRT = ....                                     # file name of the shared library (UNIX)
                                                # or dynamic link library (PC) containing
                                                # the Adabas translation table
```



```

ADAHYX_n                # Adabas hyperexit
[ENVIRONMENT-END]

```

These environment settings are used by the Adabas utilities when the corresponding environment variables/logical names are not defined.

### Topic: NUCPARMS

```

# configuration          # recommended values
[NUCPARMS]
PLOG                    # Any nucleus parameter may be defined here.
NU=100
...
[NUCPARMS-END]

```

The topic NUCPARMS defines any nucleus parameter with the exception of DBID. These values are used by adastart when starting the database. The DBID is passed to the nucleus by adastart, which itself takes it as a parameter.

### Topic: RESERVED\_LOCATION

```

# configuration          # recommended values
[RESERVED_LOCATION]
LOCATIONx = <path name>   # n lines for disk locations with free space
[RESERVED_LOCATION-END]

```

When an auto expand of the database is necessary and a new container is to be created, Adabas searches for free space in the locations specified.

### Topic: TEMPORARY\_LOCATION

```

# configuration          # recommended values
[TEMPORARY_LOCATION]
TEMPLOCx = <path name>   # n lines for disk locations with free space
[TEMPORARY_LOCATION-END]

```

When Adabas needs temporary disk space for the nucleus or utilities, Adabas searches for free space in the locations specified.



# 3 Action Templates

---

The following table lists the templates of the AEO actions that are delivered with the distribution kit. The templates are in the directory `%ADADIR%\%ADAVERS%\tools` (Windows) `,$ADADIR/$ADAVERS/tools` (UNIX) and `ADABAS$TOOLS` (OVMS).



**Note:** It may be necessary to customize these templates to suit your environment.

It is strongly recommended to start only the subtopics `ARCHIVE_LOGFILE` and `SAVE_DB` via `ada_actn`. All other actions should be used under the control of AEO itself.

Most action templates are implemented as batch files. They may, however, be replaced by binary executables.

Action Template	Description
ada_actn	Start an Adabas action; read the action routine name and start this routine (see for example the description of the subtopics <code>SAVE_DB</code> and <code>ARCHIVE_LOGFILE</code> ).
ada_alrt	Notify all users listed in the environment variable/logical name <code>ADA_ALRT_LIST</code> .
ada_dlcp	Use "adadbm dbid=<nnn> delcp=" to delete old checkpoints
ada_iass	Check if the new container is defined in the topic <code>CONTAINER</code> ; if so, call "adadbm dbid=<nnn> add_container" to add a container
ada_idat	Check if the new container is defined in the topic <code>CONTAINER</code> ; if so, call "adadbm dbid=<nnn> add_container" to add a container

Action Template	Description
ada_inuc	<p>Compute new values for nucleus parameters using the following formula:  <math>\text{new value} = (\text{current value}) * 1.1 + (\text{default value}) / 10;</math>            (For a list of the default values of the nucleus parameters, see the chapter adanuc in the Adabas Utility Manual .)            Modify the nucleus parameter in DB&lt;nnn&gt;.INI;            For the nucleus parameters TNAA, TNAE, TNAX and TT use adaopr to increase the parameter for the current nucleus session.            The calculation of the new parameter value is done in the program adainuc.exe, which is included in source (adainuc.c in the EXAMPLE\AEO directory) to be modified to any other value computation.</p>
ada_nsta	empty
ada_nsto	empty
ada_reor	<p>Check if this action is running after a successful database backup action SAVE_DB by checking the environment variable/logical name ADA_SAVE_DB (otherwise abort this action)            For every file in the file list (parameters 7 - 106) do the following:            -/tab/use "adaord dbid=&lt;dbid&gt; export=&lt;fnr&gt;" to save the file            -/tab/use "adadbm dbid=&lt;dbid&gt; delete=&lt;fnr&gt;" to delete the file            -/tab/use "adaord dbid=&lt;dbid&gt; import=&lt;fnr&gt;" to load the file</p>
ada_rlst	<p>Check if adanuc is online (DB Status must be ONLINE);            call "adadbm dbid=&lt;nnn&gt; recover".</p>
ada_svdb	<p>Check definitions in SAVE_DB;            expand the backup file name to            BCK001=%ADADIR%\db&lt;nnn&gt;\BCK001.&lt;dbid&gt;.&lt;xx&gt; where &lt;xx&gt; is a number in the range 01 ... 99;            perform the backup;            xx is a two-digit number, and ada.svdb will search for the lowest value where the file %BCK001 does not exist            if the backup is successful, set environment variable/logical name ADA_SAVE_DB and start "adarep dbid=&lt;nnn&gt; content" to check the action conditions for REORDER_FILE (adarep will start the action REORDER_FILE if this action is enabled and the conditions are true)</p>
ada_svlg	<p>Check the definitions in the topic ARCHIVE_LOGFILE;            read the item LOG_FILE in the topic LOGGING and check the write permission;            If the log file is empty, do nothing;            Delete the oldest log file (filename is &lt;LOG_FILE&gt;.&lt;MAXIMUM&gt;);            Rename all the other log files in the range 1 to &lt;MAXIMUM-1&gt; so that the log number is increased by 1, e.g. &lt;LOG_FILE&gt;.05 becomes &lt;LOG_FILE&gt;.06;            Rename the latest log file from &lt;LOG_FILE&gt; to &lt;LOG_FILE&gt;.01</p>

# 4 Administration Commands

---

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This chapter describes the general purpose commands of Adabas Extended Operation (AEO).

## Retrieve and Modify Information Stored in the Configuration Files: `adaini`

---

Usage: `adaini [DBID=<dbid>] {<add> | <del> | <show>}`

<dbid> is a numeric value between 0 and 255. If the DBID parameter is not specified, or if DBID=0 has been specified, the ADABAS.INI file is processed; otherwise the DB<dbid>.INI file is processed.

### Adding or Modifying Information in a Configuration File

<add> is used to add or modify one or more items in a configuration file, and has the following syntax:

```
{ADD | MOD[IFY]} <topic_list> <item_value_list>
```



**Note:** ADD and MOD[IFY] are equivalent; you can also use ADD to modify items and MOD[IFY] to add items.

<topic\_list> has the following syntax:

```
{ TOPIC=<topic> } ...
```

where <topic> is the name of a topic. If the item(s) to be processed belong to a subtopic, the complete hierarchy of topics to which the item(s) belong must be specified.



**Note:** Topic names are converted to upper case.

<item\_value\_list> has the following syntax:

```
{ITEM=<item>[=<value>]} ...
```

where <item> is the name of an item and <value> the value of the item.



#### Notes:

1. Items can be defined either with a value or without a value.
2. Unlike topic names, item names and item values are not converted to upper case.
3. `adaini` does not check whether the topics or items specified are really used by Adabas, and whether the item values specified are valid; `adaini` only guarantees the syntactical correctness of the configuration files.

**Example**

```
adaini mod topic=node_parameter topic=analyzer ACTION=no
```

This command sets the item ACTION in the topic NODE\_PARAMETER, subtopic ANALYZER to no, and hence deactivates AEO.

**Deleting Information from a Configuration File**

<del> is used to delete one or more items from a configuration file and has the following syntax:

```
DEL[ETE] <topic_list> <item_list>
```

<topic\_list> is used in the same way as for <add>.

<item\_list> has the following syntax:

```
{ITEM= *} | {ITEM = <item>} ...
```

where <item> is the name of an item. The specified items are deleted; if you specify '\*', all items and the topic to which they belong are deleted.

**Notes:**

1. In Unix shells, '\*' is a special character, therefore you must precede it by a backslash or put it in quotes or double quotes.
2. If you specify all items that belong to a topic explicitly, only the items are deleted, but the topic to which the items belong remains as an empty topic in the configuration file. In order to delete the topic as well, you must specify ITEM=\*

**Example**

```
adaini dbid=36 topic=environment del item=ADAHYX_4
```

This command deletes the environment setting for ADAHYX\_4 and hence deactivates hyperexit 4.

## Showing Information from a Configuration File

<show> is used to show one or more items stored in a configuration file and has the following syntax:

```
show [<format>] <topic_list> [<item_list>]
```

<format> has the following syntax:

```
FORMAT={ BAT | BSH | CMD | CSH }
```

If you specify FORMAT, statements for the specified shell are generated, which create an environment variable with the item names to be processed as name and the item values as values.

<topic\_list> is used in the same way as for <add>.

<item\_list> has the same syntax as for <del>. If ITEM=\* has been specified, all items belonging to the topic specified are displayed; if <format> has not been specified, they are displayed in the format <item>=<value>, followed by a line feed. If items are specified explicitly by their name, these items are displayed; if <format> has not been specified, only the values of the items are displayed, followed by a line feed.

If <item\_list> has not been specified, all items belonging to the topic are displayed; if format has not been specified, they are displayed in the format <item>=<value>. Subtopics are also displayed; the layout is shown in the following example.

### Examples

The command

```
adaini show topic=db_list
```

might generate the following output:

```
[DBID_001]
INI_FILE=C:\Program Files\Software AG\Adabas\db001\DB001.INI
NAME=V33-DATABASE
STRLVL=12
[DBID_001-END]

[DBID_002]
AUTOSTART=V616
INI_FILE=C:\Program Files\Software AG\Adabas\db002\DB002.INI
NAME=P289591
STRLVL=12
[DBID_002-END]

[DBID_003]
INI_FILE=C:\Program Files\Software AG\Adabas\db003\DB003.INI
```



```

NAME=DEFAULT-DATABASE
STRlvl=15
[DBID_003-END]

[DBID_004]
INI_FILE=C:\Program Files\Software AG\Adabas\db004\DB004.INI
NAME=TEST-ICU
STRlvl=15
[DBID_004-END]

[DBID_005]
INI_FILE=C:\Program Files\Software AG\Adabas\db005\DB005.INI
NAME=ADA618-DB
STRlvl=15
[DBID_005-END]

[DBID_012]
INI_FILE=C:\Program Files\Software AG\Adabas\db012\DB012.INI
NAME=GENERAL_DATABASE
STRlvl=15
[DBID_012-END]

[DBID_036]
AUTOSTART=NO
INI_FILE=C:\Program Files\Software AG\Adabas\db036\DB036.INI
NAME=GENERAL_DATABASE
STRlvl=15
[DBID_036-END]

[DBID_062]
AUTOSTART=NO
INI_FILE=C:\Program Files\Software AG\Adabas\db062\DB062.INI
NAME=GENERAL_DATABASE
STRlvl=16
[DBID_062-END]

```

### The command

```
adaini dbid=36 show format=bat topic=backup item=BCK001 item=BCK002 item=BCK003
```

might generate the following output:

```

set BCK001=C:\Program Files\Software AG\Adabas\db036\BCK001.036
set BCK002=C:\Program Files\Software AG\Adabas\db036\BCK002.036
set BCK003=C:\Program Files\Software AG\Adabas\db036\BCK003.036

```

## Install Configuration Files: *adainst*

---

### On PC platforms:

Usage: *adainst*

*adainst* creates or updates *%ADADIR%\etc\ADABAS.INI*.

The following steps are done by this script:

- copy the template file *%ADADIR%\EXAMPLE\AEO\ADABAS.INI* to *%ADADIR%\etc\ADABAS.INI* if this does not yet exist.
- if *%ADADIR%\etc\ADABAS.INI* did already exist, check whether it already contains the topic *NODE\_PARAMETER* and the *DB\_PARAMETER* subtopic of the *DB\_DEFAULTS* topic. If not, copy from the template.
- substitute the following values if required:  
*NODE\_NAME* in topic *MISCELLANEOUS*  
*LOG\_FILE* in subtopic *LOGGING* within topic *NODE\_PARAMETERS*.

To substitute *NODE\_NAME*, the environment variable *%COMPUTERNAME%* is used.

### On UNIX:

Usage: *adainst* <*dbid*>

If <*dbid*> is missing and *ADABAS.INI* does not exist in *\$ADADIR/etc*, *adainst* creates *\$ADADIR/etc/ADABAS.INI*.

The following steps are done by this script:

- create directory *\$ADADIR/etc*
- copy the template file *\$ADADIR/\$ADAVERS/ADABAS.INI* to *\$ADADIR/etc/ADABAS.INI*
- substitute the following values in the copied file:  
*NODE\_NAME* in topic *MISCELLANEOUS*  
*LOG\_FILE* in topic *LOGGING* (*NODE\_PARAMETER*).

If <*dbid*> is specified and the topic *DBID\_<dbid>* does not exist in *ADABAS.INI*, *adainst* creates *ADADIR/db<dbid>/DB<dbid>.INI*. The following steps are done by this script:

- read the topic *DB\_DEFAULTS* from *ADABAS.INI* and copy it to *DB<dbid>.INI*.
- search for *assign.\*sh* and *adanuc.\*sh* files in the directory *\$ADADIR/db<dbid>* and copy container definitions into the topic *CONTAINER*

- search for adanuc.\*sh files in directory \$ADADIR/db<dbid> and copy nucleus parameters into the topic NUCPARMS
- ask for user names in the topic ACTION\_DBA
- display enabled/disabled actions
- use adarep dbid=<dbid>summary to get the database name and insert the item NAME into the topic DBID\_<dbid> of ADABAS.INI

## On OVMS

Usage: *adainst* <dbid>

The following steps are done by this script:

- create directory SAG\$ROOT:[ADABAS]ETC.DIR.
- copy the template file ADABAS\$VERSION:ADABAS.INI to SAG\$ROOT:[ADABAS.ETC]ADABAS.INI.
- substitute the following values in the copied file:  
     NODE\_NAME in topic MISCELLANEOUS  
     LOG\_FILE in topic LOGGING (NODE\_PARAMETER).

If <dbid> is specified and the topic DBID\_<dbid> does not exist in ADABAS.INI, *adainst* creates SAG\$ROOT:[ADABAS.DB<dbid>]DB<dbid>.INI. The following steps are done by this script:

- read the topic DB\_DEFAULTS from ADABAS.INI and copy it to DB<dbid>.INI.
- search for assign.\*sh and adanuc.\*sh files in the directory SAG\$ROOT:[ADABAS.DB<dbid>] and copy container definitions into the topic CONTAINER
- search for adanuc.\*sh files in the directory SAG\$ROOT:[ADABAS.DB<dbid>] and copy nucleus parameters into the topic NUCPARMS
- ask for user names in the topic ACTION\_DBA
- display enabled/disabled actions
- use the ADAPRI utility to get the database name and structure level and insert the item NAME into the topic DBID\_<dbid> of ADABAS.INI

## Kill Database: adakill

---



**Note:** This command is not available on OpenVMS.

Usage: *adakill* <dbid>

adakill stops the Adabas nucleus for the database <dbid> as follows:

- (PC platforms:) by sending an interrupt (CTRL/BREAK). The parameter <dbid> must be specified.
- (UNIX:) with UNIX signal 15. The parameter <dbid> must be specified.



**Caution:** This command should only be used if adastop with the option ABORT is not able to stop the nucleus. Adabas will write a memory dump and will perform an AUTORESTART at the next startup.

The following steps are done by this command:

- get the process ID for adanuc
- send interrupt

## Show Log File: adalog

---

Usage: *adalog* [<dbid>] [-t]

adalog displays the Adabas log file.

If <dbid> is specified, all entries for this database are displayed. If <dbid> is not specified, entries of all databases are displayed. If the option -t is used, adalog displays the end of the log file and continuously appends new lines from the log file to the display.

## Write A Message To The Log File: adamsg

---

Usage: *adamsg* DBID=<dbid> PID=<process ID> UTILITY=<utility name> MESSAGE=<message ID>  
TEXT=<message text>

The following message IDs are supported:

- ABORTED

For this message ID, TEXT contains the abort reason.

- INCNUCP

For this message ID, TEXT=nucleus parameter=<parameter>, current size=<current size>, new size=<new size>. This option is used in the action `ada_inuc` (increase nucleus parameter).

- INP

For this message ID, TEXT=parameter assignment.

- STARTED

For this message ID, TEXT is empty.

- TERMINATED

For this message ID, TEXT is empty.

`adamsg` is the interface from batch files to the Adabas log file. Every batch file (as well as AEO actions) may use this interface to log messages. The order of the parameters is free, except that the TEXT parameter must be last in the parameter list. All parameter values except the TEXT parameter will be converted to upper case.

**Example:**

```
adamsg DBID=77 PID=4711 UTILITY=my_uti MESSAGE=ABORTED TEXT=file abc is empty
```

will generate following message line at the end of the log file:

```
004711 <date + time> 00077 <user name> %my_uti-F-ABORTED, file abc is empty
```

Furthermore, the ID of the current user (if available) is inserted into the ACTION\_DBA topic.

## Define Default Database: `adaset`

Usage (PC platforms): `[CALL] adaset <dbid>`

Usage (UNIX and OpenVMS): `adaset <dbid>`

`adaset` defines the following environment variables/logical names:

- `ADADBID=<dbid>`This is the default database ID.
- (PC platforms:) `ADADBDIR=%ADADIR%\db<dbid>`  
(UNIX:) `ADADBDIR=$ADADIR/db<dbid>`This is the database working directory of the default database.

- ADAVERS=<as defined in topic ENVIRONMENT of DB<dbid>.INI> This is the Adabas version for the default database.



**Note:** Usually ADAVERS is not defined in the topic ENVIRONMENT of <dbid> of <dbid>.INI; in which case ADAVERS and PATH remain unchanged. If you enter ADAVERS in <dbid>.INI, it is your responsibility to keep ADAVERS up to date, for example after installing a new Adabas update package.

## On PC Platforms

In addition, adaset expands the PATH variable as follows:

```
PATH=%ADADIR%\%ADAVERS%;%ADADIR%\%ADAVERS%\tools;%PATH%
```

Note that the CALL command must be used when adaset is executed from a batch file rather than from a command prompt.

## On UNIX

In addition, adaset expands the PATH variable as follows:

```
PATH=$ADADIR/$ADAVERS:$ADADIR/$ADAVERS/tools:$PATH
```

In a C shell context, adaset is an alias that is created by a call of adaset.csh. In a Bourne shell context, adaset is a function that is created by a call of adaset.bsh. Before you use adaset, you must issue one of the following commands:

```
. $ADATTOOLS/adaset.bsh (Bourne shell)
source $ADATTOOLS/adaset.csh (C shell)
```

These statements are already executed by adaenv.bsh (Bourne shell) or adaenv.csh (C shell).

## Show Database(s): adashow

---

Usage: *adashow* [<dbid>] [-a]

adashow displays the following information for the database <dbid>:

- Database ID : the value specified by ADADBID
- Name : NAME in the topic DBID\_<value in ADADBID>
- Version : ADAVERS in the topic ENVIRONMENT
- Config. File : INI\_FILE in the topic DBID\_<value in ADADBID>

- Status : either ONLINE, OFFLINE or ERROR

If <dbid> is missing, adashow displays the information for the default database specified by the environment variable/logical name ADADBID.

If the option -a is used, adashow displays the database ID, name, version and status for all configured Adabas databases on this node which are found in section DB\_LIST in Adabas.INI.



**Note:** If adashow fails with a syntax error in awk, the reason may be that there are different awk versions in the operating system, which are not fully compatible. If this happens, the environment variable \$AWK must be set to the awk version expected by adashow. On Solaris, this is /usr/xpg4/bin/awk.

## Start Database: adastart

---

Usage: *adastart* [<dbid>]

adastart starts the Adabas database <dbid>. If <dbid> is missing, adastart starts the default database specified by the environment variable/logical name ADADBID.

### On PC platforms:

The following steps are performed by this script:

- check if the nucleus is already online
- start the nucleus using the utility named Adabas which reads the nucleus parameters from DB<dbid>.INI
- wait until the nucleus is online or an Adabas error occurs.

### On UNIX:

The following steps are performed by this script:

- read the nucleus parameters from DB<dbid>.INI and write them into the file \$ADADBDIR/nucparms.<dbid>
- check if the nucleus is already online
- if the environment variable ADANUCLOGOLD is defined as "COPY", and the nucleus log of the previous session exists (file name \$ADADIR/db<dbid>/adanuc.log), the nucleus log is copied to \$ADADIR/db<dbid>/adanuc.log.old.
- if the environment variable ADANUCLOGOLD is defined as "APPEND", and the nucleus log of the previous session exists (file name \$ADADIR/db<dbid>/adanuc.log), the nucleus log is appended to \$ADADIR/db<dbid>/adanuc.log.old.

- start the nucleus using the parameter file \$ADADBDIR/nucparms.<dbid>
- wait until the nucleus is online or an Adabas error occurs.

## Stop Database: adastop

---

Usage: *adastop* [<dbid>]

*adastop* stops the database <dbid>. If <dbid> is missing, *adastop* stops the default database specified by the environment variable/logical name ADADBID.

The following steps are done by this script:

- check if the nucleus is online or offline
- read the topic definition TERMINATE\_ADANUC from DB<dbid>.INI
- take the defined shutdown options as defined in the topic and wait for the defined time intervals for the nucleus to stop