

# **Adabas Fastpath**

## **Adabas Fastpath Parameters**

Version 8.2.2

April 2020

This document applies to Adabas Fastpath Version 8.2.2 and all subsequent releases.

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

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## Preface

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Adabas Fastpath optimization and operation is controlled by the following types of parameters:

- **Buffer Parameters**
- **File Parameters**
- **Client Runtime Controls**

They can be can be maintained using Adabas Fastpath Online Services, function Parameter Maintenance.

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# 1 About this Documentation

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## Document Conventions

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

## Online Information and Support

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## **Data Protection**

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## 2 Buffer Parameters

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Buffer parameters control the operation of the Adabas Fastpath buffer.

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Minimum Buffer Size
RB Length Limit
Read Ahead
Read Logical (L3)
Read Physical (L2)
Restart Every n Hours
Restart Time
Set Concurrency
Set ID Length Limit
Size

## Additional Encodings

Parameter Type	Use	Possible Values	Default
Buffer	Controls whether data in a character encoding other than that used by the database/file to hold the data can be cached.	Default None All Single byte ascii Single byte ebcdic Double byte ascii Double byte ebcdic	None

## Async Coherence Messages

Parameter Type	Use	Possible Values	Default
Buffer	This parameter indicates whether synchronous or asynchronous communication is to be used for retaining cache coherence in remote systems from where the update thread executes. There may be some performance gain by using asynchronous mode but the safest mechanism is synchronous.	Y   N	Y

## Average Item Size

Parameter Type	Use	Minimum	Maximum	Default
Buffer	All memory allocations within the Adabas Fastpath buffer are recorded in an index. This parameter is used as a divisor into the buffer size to decide how many items will be expected within the first index block.	64	32768	1024

## Coherence Limit and Suspension Period

Parameter Type	Use	Possible Values	Default
Buffer	<p>There is more overhead required by Fastpath to distribute update information across multiple systems (lpars) where distributed caching/optimization for direct-access is used. In periods of intensive update activity this can be counter-productive. These controls allow you to set a threshold where direct-access optimization is suspended for a file if the amount of inter-system update notification breaches a certain level - and then resumed at a later period automatically. This allows Fastpath to react sensibly and dynamically to "floods" of updates.</p> <p><b>Coherence Limit</b></p> <p>The number of distributed update operations to a file per second, as an average over the period of a minute, that will cause the file to temporarily suspend direct access optimization.</p> <p><b>Suspension Period</b></p> <p>The number of minutes that direct-access optimization (etc.) is suspended when the coherence limit is breached. It is automatically resumed after this period.</p> <p>If a zero value is input into the online system for either of these parameters, the default value will be used</p>	<p>Coherence Limit: 0-32767</p> <p>Suspension Limit: 0-32767</p>	<p>Coherence Limit: 64</p> <p>Suspension Limit: 10</p>

## Dataspace Name

Parameter Type	Use	Possible Values	Default
Buffer	<p>This controls where the Fastpath buffer is allocated. If a name is specified the Fastpath buffer is allocated as a dataspace.</p> <p>The Fastpath buffer can be allocated as a dataspace to alleviate shortages of shared memory, a critical resource. This feature allows you to run with the z/OS setting of USERCSAKEY=NO as recommended by IBM. For backwards compatibility the default remains shared memory (ECSA).</p>	<p>1-8 characters with no embedded blanks.</p> <p>First character must be #, @ or J-Z.</p> <p>All other characters must be letters, numbers, #, @ or \$.</p>	None

Parameter Type	Use	Possible Values	Default
	<p>If you are using Adabas System Coordinator Version 8.3.1 (or above), refer to the daemon runtime parameter DSPSCOPE for information on the type of dataspace available for use.</p> <p>For more information on dataspace please refer to <i>IBM documentation SA22-7614-00, MVS Programming: Extended Addressability Guide, second edition October 2001</i>, which applies to z/OS.</p>	The name must not begin with "SYSA" through "SYSI".	

## Default Pacing Rate

Parameter Type	Use	Possible Values	Default
File	<p>Expressed as a percentage, this parameter controls the rate at which housekeeping is performed by FASTABM.</p> <p>If a value of 0 is entered, then the Buffer parameter value is assumed.</p> <p>It is recommended this parameter is only modified when you are instructed to do so by Software AG.</p>	0-100	10

## Direct Access

Parameter Type	Use	Possible Values	Default
Buffer	<p>Defines the optimization settings at the buffer level.</p> <p>OFF prevents direct-access optimization altogether. ON enables direct-access optimization according to the file and job parameters that are defined.</p>	ON   OFF	ON

## Fast Cache Attempts

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Parameter Type	Use	Possible Values	Default
Buffer	The number of records to be cached in high-speed mode in order to accelerate the learning period of the direct-access algorithm (per set). Once this number is reached the normal asynchronous caching mechanism is used.	0-255	32

## Fast Set Create Attempts

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Parameter Type	Use	Possible Values	Default
Buffer	The number of sets to be created in high-speed mode in order to accelerate the learning period of the direct-access algorithm. Once this number is reached the normal asynchronous mechanism is used.	0-255	25

## Find (Sx/L1)

---

Parameter Type	Use	Possible Values	Default
Buffer	Defines the optimization settings for these commands at the buffer level.  OFF prevents optimization altogether. ON enables optimization according to the file and job parameters that are defined.	ON   OFF	ON

## Freespace Index

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Parameter Type	Use	Minimum	Maximum	Default
Buffer	All free memory in the Adabas Fastpath buffer is classified into a fixed-size freespace index. This parameter sets the number of different freespace categories (entries) in the index.	16	32768	512



## Histogram (L9)

Parameter Type	Use	Possible Values	Default
Buffer	<p>Defines the optimization settings for this command at the buffer level.</p> <p>OFF prevents optimization altogether. ON enables optimization according to the file and job parameters that are defined.</p>	ON   OFF	ON

## Keep

Parameter Type	Use	Minimum	Maximum	Default
Buffer	<p>Determines the number of days that the statistics log is to be retained.</p> <p>When automatic statistic logging is enabled (see the parameter <a href="#">Log</a>), any entries that are younger than <i>n</i> days will be kept for each buffer in the Configuration file. Older entries will be subject to eventual overlay.</p>	1	32768	30

## Log

Parameter Type	Use	Minimum	Maximum	Default
Buffer	<p>Controls how often the statistics log is to be written (specified in minutes).</p> <p>A statistics log record is written to the Adabas Fastpath configuration file by the Adabas Fastpath asynchronous buffer manager every <i>n</i> minutes. A value of 0 implies no automatic logging but does not prevent logs being requested by using the Adabas Fastpath Online Special Services function. See also the parameter <a href="#">Keep</a>.</p>	0	32768	60

## Maximum Jobs

Parameter Type	Use	Minimum	Maximum	Default
Buffer	<p>This parameter indicates the maximum number of optimized jobs which are to be run concurrently. The corresponding number of job areas are then reserved. If an area is not available, additional (concurrent) jobs are not optimized.</p> <p>One area is required for each individual job name operating under any of the following job types:</p> <ul style="list-style-type: none"> <li>- Batch</li> <li>- COM-PLETE</li> <li>- CICS (DTR)</li> <li>- CICS (Standard)</li> <li>- TSO</li> <li>- TIAM</li> <li>- Single-TCB</li> <li>- Multi-TCB</li> </ul> <p>For a job-type of UTM (DTR), one area is required for each concurrently active task (plus 1). For a job-type of IMS (DTR), one area is required for each application processing region (plus 1).</p> <p>Refer to the Current Activity Displays, Buffer Information, General Parameters screen in SYSAFP in order to monitor the usage of this parameter.</p>	1	9999	12

## Message Level (Hex)

Parameter Type	Use	Minimum	Maximum	Default
Buffer	<p>This parameter indicates the minimum severity of messages to be issued by Adabas Fastpath running in the daemon.</p> <p><b>Note:</b> The New Buffer message issued during Buffer initialization is always issued.</p>	1	FF	0  (all messages will be output)

## Minimum Buffer Size

Parameter Type	Use	Minimum	Maximum	Default
Buffer	<p>Defines the minimum buffer memory size (in k) to be requested from the operating system for the Adabas Fastpath buffer.</p> <p>If the value is 0, the buffer parameter <a href="#">Size</a> is the only value used.</p>	0	value	0

## RB Length Limit

Parameter Type	Use	Minimum	Maximum	Default
Buffer	<p>Restricts the size of buffer used for evaluating data for direct access optimization.</p> <p>A file parameter value can be used to restrict the buffer parameter setting. A file parameter with a value of zero is ignored.</p>	16	32768	1024

## Read-Ahead

Parameter Type	Use	Possible Values	Default
Buffer	<p>Defines the optimization settings at the buffer level.</p> <p>OFF prevents read-ahead optimization altogether. ON enables read-ahead optimization according to the file and job parameters that are defined.</p>	ON   OFF	ON

## Read Logical (L3)

Parameter Type	Use	Possible Values	Default
Buffer	<p>Defines the optimization settings for this command at the buffer level.</p> <p>OFF prevents optimization altogether. ON enables optimization according to the file and job parameters that are defined.</p>	ON   OFF	ON

## Read Physical (L2)

Parameter Type	Use	Possible Values	Default
Buffer	<p>Defines the optimization settings for this command at the buffer level.</p> <p>OFF prevents optimization altogether. ON enables optimization according to the file and job parameters that are defined.</p>	ON   OFF	ON

## Restart Every n Hours

Parameter Type	Use	Minimum	Maximum	Default
Buffer	<p>Indicates frequency of automated buffer restarts.</p> <p>If the value is not zero, it indicates the minimum number of hours that must elapse since the last buffer start/restart before auto-restart may occur.</p>	0	999	0

## Restart Time

Parameter Type	Use	Minimum	Maximum	Default
Buffer	<p>Indicates the time at which automated restarts should occur.</p> <p>Entered as hours and minutes in the 24-hour clock.</p> <p>The default is midnight.</p>	0	23:59	0

## Set Concurrency

Parameter Type	Use	Minimum	Maximum	Default
Buffer	<p>This parameter indicates the number of concurrent retrievals which can occur from each set of direct access data created by Adabas Fastpath.</p> <p>A file parameter value can be used to restrict the buffer parameter setting. A file parameter with a value of zero is ignored.</p>	1	16	2

## Set ID Length Limit

Parameter Type	Use	Minimum	Maximum	Default
Buffer	<p>Adabas Fastpath uses direct access set identifiers which contain search and format data for direct access command models. This parameter limits the size of data items within each set.</p> <p>A file parameter value can be used to restrict the buffer parameter setting. A file parameter with a value of zero is ignored.</p>	256	16384	1024

## Size

Parameter Type	Use	Minimum	Maximum	Default
Buffer	<p>This parameter defines the size (in k) of the memory to be allocated to the Adabas Fastpath buffer. When requesting the memory from the operating system, the value actually obtained depends on the setting of the parameter <a href="#">Minimum Buffer Size</a>.</p>	1MB		4MB



# 3 File Parameters

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File parameters control the optimization of specific files. Some file parameters can override buffer parameter settings when applied to a specific file.

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RB Length Limit
Read-Ahead Optimization
Set Concurrency
Set ID Length Limit
Set Limit
Start Time
S1/S2 FIND; S8/S9 Sort ISN List
Update Sensitivity

## Additional Encodings

---

Parameter Type	Use	Possible Values	Default
File	<p>Controls whether data in a character encoding other than that used by the database/file to hold the data can be cached.</p> <p>The Default of this parameter value is defined by the value of the Buffer parameter.</p>	Default None All Single byte ascii Single byte ebcdic Double byte ascii Double byte ebcdic	Buffer Parameter value



## Cache Secure File

Parameter Type	Use	Possible Values	Default
File	<p>Records cached by Adabas Fastpath become available to all sessions. Files that are password protected are not normally cached. This field may be set to Y and a password provided in the <a href="#">Password Secure DA-Caching</a> file parameter to allow the caching of such files.</p> <p>Use of this parameter is to be carefully considered and only used where the risk to secure data is acceptable.</p>	Y or N	N

## Default Pacing Rate

Parameter Type	Use	Possible Values	Default
File	<p>Expressed as a percentage, this parameter controls the rate at which housekeeping is performed by FASTABM.</p> <p>If a value of 0 is entered, then the Buffer parameter value is assumed.</p> <p>It is recommended this parameter is only modified when you are instructed to do so by Software AG.</p>	0-100	0

## Direct Access Optimization

Parameter Type	Use	Possible Values	Default
File	<p>Defines the direct access optimization settings at the file level for Adabas commands:</p> <ul style="list-style-type: none"> <li>■ L1: Get ISN</li> <li>■ L3: Read Logical</li> <li>■ L9: Histogram</li> <li>■ S1: Find</li> <li>■ S2: Find Sorted</li> </ul> <p>Each command type may have optimization set ON or OFF. In addition, this setting may have up to seven field level overrides which can be</p>	ON   OFF	OFF

Parameter Type	Use	Possible Values	Default
	<p>achieved by inserting the Adabas two-character field name(s) on the appropriate command line.</p> <p>For L3 , L9 , S1 , S2 commands, when optimization is set</p> <ul style="list-style-type: none"> <li>■ ON, field level overrides indicate that commands using that field <i>are not to be optimized</i>.</li> <li>■ OFF, field level overrides indicate that commands using that field <i>are to be optimized</i>.</li> </ul>		

## End Time

Parameter Type	Use	Minimum	Maximum	Default
File	<p>Indicates the time that optimization is to be ended.</p> <p>File start and end times define the period for which the file parameters are to be used for optimization. The start and end times are continuously monitored and the file parameters are switched on/off dynamically. It is also possible to define various file parameters each with a different start and end time period.</p> <p><b>Note:</b> The values 00:00 and 24:00 have the same meaning; that is, midnight.</p>	00:00	24:00	none

## Expanded File

Parameter Type	Use	Possible Values	Default
File	<p>This parameter must be defined (no default) and tells Adabas Fastpath whether or not the Adabas file is defined as 'expanded'. If this parameter is set to Y, direct access optimization for L3 or L9 commands for the file are not permitted.</p> <p>For more information on expanded files, refer to the Adabas documentation.</p>	Y   N	none

## Initial Status

Parameter Type	Use	Possible Values	Default
File	Controls the activation of file parameters.  If the setting is OFF, the file parameters are inactive. The setting must be changed to ON and SYSAFP must be used to stop/start the file.	ON   OFF	ON

## L1/L2/L3 Read; L9 Histogram

The use of these parameters is described in the descriptions of the following parameters:

Parameter Type	Use
File	The use of these parameters is described in the descriptions of the following parameters: <ul style="list-style-type: none"> <li>■ <a href="#">Direct Access Optimization</a></li> <li>■ <a href="#">Read-Ahead Optimization</a></li> </ul>

## Password For Secure File DA-Caching

Parameter Type	Use	Possible Values	Default
File	Used in combination with the <a href="#">Cache Secure File</a> file parameter, this field allows for specifying the 8-character password required for access to the secured file.	1-8 char	0

## RB Length Limit

Parameter Type	Use	Minimum	Maximum	Default
File	<p>Restricts the size of buffer used for evaluating data for direct access optimization.</p> <p>A file parameter value can be used to restrict the buffer parameter setting. A file parameter with a value of zero is ignored.</p>	16	32768	Buffer Parameter value

## Read-Ahead Optimization

Parameter Type	Use	Possible Values	Default
File	<p>Defines the read-ahead optimization settings at the file level for Adabas commands:</p> <ul style="list-style-type: none"> <li>■ L1: Get ISN</li> <li>■ L2: Read Physical</li> <li>■ L3: Read Logical</li> <li>■ L9: Histogram</li> <li>■ S1: Find</li> <li>■ S2: Find Sorted</li> <li>■ S8: Process ISN List</li> <li>■ S9: Sort ISN List</li> </ul> <p>Each command type may have optimization set ON or OFF. In addition, this setting may have up to seven field level overrides which can be achieved by inserting the Adabas two-character field name(s) on the appropriate command line.</p> <p>When optimization is set</p> <ul style="list-style-type: none"> <li>■ ON, field level overrides indicate that commands using that field <i>are not to be optimized</i>.</li> <li>■ OFF, field level overrides indicate that commands using that field <i>are to be optimized</i>.</li> </ul>	ON   OFF	OFF

## Set Concurrency

Parameter Type	Use	Minimum	Maximum	Default
File	<p>This parameter indicates the number of concurrent retrievals which can occur from each set of direct access data created by Adabas Fastpath.</p> <p>A file parameter value can be used to restrict the buffer parameter setting. A file parameter with a value of zero is ignored.</p>	1	16	Buffer Parameter value

## Set ID Length Limit

Parameter Type	Use	Minimum	Maximum	Default
File	<p>Adabas Fastpath uses direct access set identifiers which contain search and format data for direct access command models. This parameter limits the size of data items within each set.</p> <p>A file parameter value can be used to restrict the buffer parameter setting. A file parameter with a value of zero is ignored.</p>	256	16384	Buffer Parameter value

## Set Limit

Parameter Type	Use	Minimum	Maximum	Default
File	<p>Adabas Fastpath creates sets of direct access command models. This parameter limits the size (in KB) of data items within each set.</p>	0		0

## Start Time

Parameter Type	Use	Minimum	Maximum	Default
File	<p>Indicates the time that optimization is to be started.</p> <p>File start and end times define the period for which the file parameters are to be used for optimization. The start and end times are continuously monitored and the file parameters are switched on/off dynamically. It is also possible to define various file parameters each with a different start and end time period.</p> <p><b>Note:</b> The values 00:00 and 24:00 have the same meaning; that is, midnight.</p>	00:00	24:00	none

## S1/S2 FIND; S8/S9 Sort ISN List

Parameter Type	Use
File	<p>The use of these parameters is described in the descriptions of the following parameters:</p> <ul style="list-style-type: none"> <li>■ <a href="#">Direct Access Optimization</a></li> <li>■ <a href="#">Read-Ahead Optimization</a></li> </ul>

## Update Sensitivity

Parameter Type	Use	Possible Values	Default
File	<p>This parameter is used to control how update type commands are to be processed for a file.</p> <p>The effect of these parameter values differ based on the location of the Fastpath Buffer Manager relative to the file, as follows:</p> <p><b>Fastpath Buffer Manager local to the file:</b></p>	N   R   F   D	R
	<p>N (none)</p> <p>Update type commands are ignored for data held in the Fastpath Buffer.</p> <p><b>Caution:</b> Do not use this setting if using direct-access optimization.</p>		

Parameter Type	Use	Possible Values	Default
	F (file level)	Update type commands will cause removal of all file-related data held in the Fastpath Buffer.	
	R (record level) D (distributed record level)	Update type commands will cause removal of the affected data held in the Fastpath Buffer.	
	<b>Fastpath Buffer Manager remote to the file:</b>		
	N (none) F (file level) R (record level)	Update type commands will not cause removal of data held in the Fastpath Buffer so direct-access optimization will be disabled.	
	D (distributed record level)	Update type commands will cause removal of the affected data held in the Fastpath Buffer.	
	Special Note for D (distributed record level)	This setting is automatically set at runtime for ALS databases. Otherwise use only on advice from Software AG.  Refer to Update Processing for information on how Adabas Fastpath processes update type commands.	





# 4 Client Runtime Controls

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▪ Maximum read-ahead rate .....	31

Client Runtime Controls define which sessions participate in Adabas Fastpath optimization and provide dynamic control for the user.

Fastpath shares some runtime controls with Adabas System Coordinator. When a new runtime control is added a panel appears with a title System Coordinator Runtime Controls. Please refer to Adabas System Coordinator for further information on the controls appearing in this panel.

Client Runtime Controls	Overridable
Command Time	Y
Direct Access	Y
Fastpath On/Off	Y
Job End Statistics	Y
Read-Ahead Memory Limit	Y
Read-Ahead Optimization Control	Y
System Coordinator Group Name	Y
Maximum read-ahead unit size(k)	Y
Maximum read-ahead rate	Y

## Command Time

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Parameter Type	Use	Possible Values	Default
Client runtime control	If a command time is specified, then any commands that are successfully optimized by Fastpath will have this command time.	0-99999999	00000000

## Direct Access

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Parameter Type	Use	Possible Values	Default
Client runtime control	Controls direct access optimization at the job level.  If this job parameter is set to OFF, direct access optimization is not performed, regardless of the settings in the buffer and file parameters.	ON   OFF	ON

## Fastpath ON/OFF

Parameter Type	Use	Possible Values	Default
Client runtime control	<p>Controls whether any Fastpath optimization should be attempted for this session.</p> <p>If this parameter is set to OFF, Fastpath optimization is not attempted, regardless of the settings in the buffer and file parameters.</p>	ON   OFF	ON

## Job End Statistics

Parameter Type	Use	Possible Values	Default
Client runtime control	<p>Controls whether the optimization statistics for a job are to be saved or printed.</p> <p>Possible values are:</p> <ul style="list-style-type: none"> <li>■ None: No information will be displayed or saved.</li> <li>■ Daemon messages: Fastpath performance information will be sent to the operator console by the Adabas Fastpath asynchronous buffer manager using the AFP-0040 to AFP-0042 messages for the named job(s).</li> <li>■ File history: Statistics will be saved in the configuration file.</li> </ul> <p><b>Note:</b> File History is only an option for wholly named jobs (it is not an option offered for *default jobs or jobs that use a wildcard).</p>	<p>None</p> <p>Daemon messages</p> <p>File history</p>	None

## Read-Ahead Memory Limit

Parameter Type	Use	Minimum	Maximum	Default
Client runtime control	Limits the amount of memory that can be used for read-ahead optimization for a job.	0		0

## Read-Ahead Optimization Control

Parameter Type	Use	Possible Values	Default
Client runtime control	<p>Controls read-ahead optimization at the job level.</p> <p>If this job parameter is set to OFF, read-ahead optimization is not performed, regardless of the settings in the buffer and file parameters.</p> <p>In addition, you can choose between the batch (BAT) or TP monitor (TP) algorithm for setting the incremental multifetch factor. The batch algorithm accelerates the read-ahead rate more than the TP algorithm.</p>	OFF   BAT   TP	<p>ON</p> <p><b>Note:</b> Default settings are Batch=BAT and TP Monitor=TP.</p>

## System Coordinator Group Name

Parameter Type	Use
Client runtime control	<p>Identifies the Adabas System Coordinator group that is to manage the job.</p> <p>For clustered applications (job types CICS Cluster, IMS, UTM), this name is required to link all the instances of the job in the cluster. If the job is running in a single image (for example, UTM), the name is still required.</p> <p>Refer to the <i>Adabas System Coordinator</i> documentation for more information.</p>

## Maximum read-ahead unit size(k)

Parameter Type	Use	Possible Values	Default
Client runtime control	<p>Sets the limit for the amount of memory that may be allocated for a single read-ahead operation.</p> <p>If a zero value is input into the online system, the default value will be used.</p> <p><b>Caution:</b> Large settings require Adabas ADARUN LU and NAB settings to be reviewed to avoid response code 152.</p>	For batch: 0-256	64
		For TP: 0-64	16

## Maximum read-ahead rate

Parameter Type	Use	Possible Values	Default
Client runtime control	Sets the limit for the number of records that may be processed in a single read-ahead operation.  If a zero value is input into the online system, the default value will be used.  <b>Caution:</b> Large settings require Adabas ADARUN LU and NAB settings to be reviewed to avoid response code 152.	For batch: 0-8192	4096
		For TP: 0-255	32

