Rocky Enterprise Linux 9.2 Manual Pages on command 'myisampack.1'

$ man myisampack.1

MYISAMPACK(1)   MySQL Database System   MYISAMPACK(1)

NAME

    myisampack - generate compressed, read-only MyISAM tables

SYNOPSIS

    myisampack [options] file_name ...

DESCRIPTION

    The myisampack utility compresses MyISAM tables. myisampack works by compressing each

    column in the table separately. Usually, myisampack packs the data file 40% to 70%.

    When the table is used later, the server reads into memory the information needed to

    decompress columns. This results in much better performance when accessing individual

    rows, because you only have to uncompress exactly one row.

    MySQL uses mmap() when possible to perform memory mapping on compressed tables. If mmap()

    does not work, MySQL falls back to normal read/write file operations.

    Please note the following:

    ?   If the mysqld server was invoked with external locking disabled, it is not a good idea

        to invoke myisampack if the table might be updated by the server during the packing

        process. It is safest to compress tables with the server stopped.

    ?   After packing a table, it becomes read only. This is generally intended (such as when

        accessing packed tables on a CD).

    ?   myisampack does not support partitioned tables.

    Invoke myisampack like this:

        myisampack [options] file_name ...

    Each file name argument should be the name of an index (.MYI) file. If you are not in the

database directory, you should specify the path name to the file. It is permissible to omit the .MYI extension.

After you compress a table with myisampack, use myisamchk -rq to rebuild its indexes. myisamchk(1).

myisampack supports the following options. It also reads option files and supports the options for processing them described at Section 4.2.2.3, ?Command-Line Options that Affect Option-File Handling?.

?   --help, -?

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?Command-Line Format ? --help ?

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Display a help message and exit.

?   --backup, -b

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?Command-Line Format ? --backup ?

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Make a backup of each table's data file using the name tbl_name.OLD.

?   --character-sets-dir=dir_name

??

?Command-Line Format ? --character-sets-dir=dir_name ?

??

?Type   ? Directory name   ?

??

The directory where character sets are installed. See Section 10.15, ?Character Set Configuration?.

?   --debug[=debug_options], -# [debug_options]

???

?Command-Line Format ? --debug[=debug_options] ?

???

?Type   ? String   ?

???

?Default Value   ? d:t:o   ?

???

Write a debugging log. A typical debug_options string is d:t:o,file_name. The default is d:t:o.

This option is available only if MySQL was built using WITH_DEBUG. MySQL release binaries provided by Oracle are not built using this option.

? --force, -f

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?Command-Line Format ? --force ?

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Produce a packed table even if it becomes larger than the original or if the intermediate file from an earlier invocation of myisampack exists. (myisampack creates an intermediate file named tbl_name.TMD in the database directory while it compresses the table. If you kill myisampack, the .TMD file might not be deleted.) Normally, myisampack exits with an error if it finds that tbl_name.TMD exists. With --force, myisampack packs the table anyway.

? --join=big_tbl_name, -j big_tbl_name

???

?Command-Line Format ? --join=big_tbl_name ?

???

?Type   ? String   ?

???

Join all tables named on the command line into a single packed table big_tbl_name. All tables that are to be combined must have identical structure (same column names and types, same indexes, and so forth).

big_tbl_name must not exist prior to the join operation. All source tables named on the command line to be merged into big_tbl_name must exist. The source tables are read for the join operation but not modified.

? --silent, -s

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?Command-Line Format ? --silent ?

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Silent mode. Write output only when errors occur.

? --test, -t

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- ?Command-Line Format ? --test ?

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Do not actually pack the table, just test packing it.

- ? --tmpdir=dir_name, -T dir_name

??

?Command-Line Format ? --tmpdir=dir_name ?

??

?Type ? Directory name ?

???

Use the named directory as the location where myisampack creates temporary files.

- ? --verbose, -v

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?Command-Line Format ? --verbose ?

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Verbose mode. Write information about the progress of the packing operation and its

result.

- ? --version, -V

??

?Command-Line Format ? --version ?

???

Display version information and exit.

- ? --wait, -w

???????????????????????????????????????

?Command-Line Format ? --wait ?

??

Wait and retry if the table is in use. If the mysqld server was invoked with external

locking disabled, it is not a good idea to invoke myisampack if the table might be

updated by the server during the packing process.

The following sequence of commands illustrates a typical table compression session:

```
$> ls -l station.*
-rw-rw-r--  1 jones   my       994128 Apr 17 19:00 station.MYD
-rw-rw-r--  1 jones   my        53248 Apr 17 19:00 station.MYI
$> myisamchk -dvv station
```

MyISAM file: station

Isam-version: 2

Creation time: 1996-03-13 10:08:58

Recover time: 1997-02-02 3:06:43

Data records: 1192 Deleted blocks: 0

Datafile parts: 1192 Deleted data: 0

Datafile pointer (bytes):   2 Keyfile pointer (bytes):   2

Max datafile length: 54657023 Max keyfile length: 33554431

Recordlength: 834

Record format: Fixed length

table description:

Key	Start	Len	Index	Type		Root	Blocksize	Rec/key
1	2	4	unique	unsigned long		1024	1024	1
2	32	30	multip.	text	10240	1024	1

Field	Start	Length	Type
1	1	1	
2	2	4	
3	6	4	
4	10	1	
5	11	20	
6	31	1	
7	32	30	
8	62	35	
9	97	35	
10	132	35	
11	167	4	
12	171	16	
13	187	35	
14	222	4	
15	226	16	
16	242	20	
17	262	20	
18	282	20	

19	302	30
20	332	4
21	336	4
22	340	1
23	341	8
24	349	8
25	357	8
26	365	2
27	367	2
28	369	4
29	373	4
30	377	1
31	378	2
32	380	8
33	388	4
34	392	4
35	396	4
36	400	4
37	404	1
38	405	4
39	409	4
40	413	4
41	417	4
42	421	4
43	425	4
44	429	20
45	449	30
46	479	1
47	480	1
48	481	79
49	560	79
50	639	79
51	718	79

52   797   8

53   805   1

54   806   1

55   807   20

56   827   4

57   831   4

$> myisampack station.MYI

Compressing station.MYI: (1192 records)

- Calculating statistics

normal: 20 empty-space: 16 empty-zero: 12 empty-fill: 11

pre-space: 0 end-space: 12 table-lookups: 5 zero: 7

Original trees: 57 After join: 17

- Compressing file

87.14%

Remember to run myisamchk -rq on compressed tables

$> myisamchk -rq station

- check record delete-chain

- recovering (with sort) MyISAM-table 'station'

Data records: 1192

- Fixing index 1

- Fixing index 2

$> mysqladmin -uroot flush-tables

$> ls -l station.*

-rw-rw-r-- 1 jones   my   127874 Apr 17 19:00 station.MYD

-rw-rw-r-- 1 jones   my   55296 Apr 17 19:04 station.MYI

$> myisamchk -dvv station

MyISAM file: station

Isam-version: 2

Creation time: 1996-03-13 10:08:58

Recover time: 1997-04-17 19:04:26

Data records: 1192 Deleted blocks: 0

Datafile parts: 1192 Deleted data: 0

Datafile pointer (bytes):   3 Keyfile pointer (bytes):   1

Max datafile length: 16777215 Max keyfile length: 131071

Recordlength: 834

Record format: Compressed

table description:

Key	Start	Len	Index	Type	Root	Blocksize	Rec/key
1	2	4	unique	unsigned long	10240	1024	1
2	32	30	multip.	text	54272	1024	1

Field	Start	Length	Type	Huff tree	Bits
1	1	1	constant	1	0
2	2	4	zerofill(1)	2	9
3	6	4	no zeros, zerofill(1)	2	9
4	10	1		3	9
5	11	20	table-lookup	4	0
6	31	1		3	9
7	32	30	no endspace, not_always	5	9
8	62	35	no endspace, not_always, no empty	6	9
9	97	35	no empty	7	9
10	132	35	no endspace, not_always, no empty	6	9
11	167	4	zerofill(1)	2	9
12	171	16	no endspace, not_always, no empty	5	9
13	187	35	no endspace, not_always, no empty	6	9
14	222	4	zerofill(1)	2	9
15	226	16	no endspace, not_always, no empty	5	9
16	242	20	no endspace, not_always	8	9
17	262	20	no endspace, no empty	8	9
18	282	20	no endspace, no empty	5	9
19	302	30	no endspace, no empty	6	9
20	332	4	always zero	2	9
21	336	4	always zero	2	9
22	340	1		3	9
23	341	8	table-lookup	9	0
24	349	8	table-lookup	10	0
25	357	8	always zero	2	9

26	365	2		2	9
27	367	2	no zeros, zerofill(1)	2	9
28	369	4	no zeros, zerofill(1)	2	9
29	373	4	table-lookup	11	0
30	377	1		3	9
31	378	2	no zeros, zerofill(1)	2	9
32	380	8	no zeros	2	9
33	388	4	always zero	2	9
34	392	4	table-lookup	12	0
35	396	4	no zeros, zerofill(1)	13	9
36	400	4	no zeros, zerofill(1)	2	9
37	404	1		2	9
38	405	4	no zeros	2	9
39	409	4	always zero	2	9
40	413	4	no zeros	2	9
41	417	4	always zero	2	9
42	421	4	no zeros	2	9
43	425	4	always zero	2	9
44	429	20	no empty	3	9
45	449	30	no empty	3	9
46	479	1		14	4
47	480	1		14	4
48	481	79	no endspace, no empty	15	9
49	560	79	no empty	2	9
50	639	79	no empty	2	9
51	718	79	no endspace	16	9
52	797	8	no empty	2	9
53	805	1		17	1
54	806	1		3	9
55	807	20	no empty	3	9
56	827	4	no zeros, zerofill(2)	2	9
57	831	4	no zeros, zerofill(1)	2	9

myisampack displays the following kinds of information:

- ? normal

  The number of columns for which no extra packing is used.

- ? empty-space

  The number of columns containing values that are only spaces. These occupy one bit.

- ? empty-zero

  The number of columns containing values that are only binary zeros. These occupy one

  bit.

- ? empty-fill

  The number of integer columns that do not occupy the full byte range of their type.

  These are changed to a smaller type. For example, a BIGINT column (eight bytes) can be

  stored as a TINYINT column (one byte) if all its values are in the range from -128 to

  127.

- ? pre-space

  The number of decimal columns that are stored with leading spaces. In this case, each

  value contains a count for the number of leading spaces.

- ? end-space

  The number of columns that have a lot of trailing spaces. In this case, each value

  contains a count for the number of trailing spaces.

- ? table-lookup

  The column had only a small number of different values, which were converted to an

  ENUM before Huffman compression.

- ? zero

  The number of columns for which all values are zero.

- ? Original trees

  The initial number of Huffman trees.

- ? After join

  The number of distinct Huffman trees left after joining trees to save some header

  space.

After a table has been compressed, the Field lines displayed by myisamchk -dvv include

additional information about each column:

- ? Type

  The data type. The value may contain any of the following descriptors:

  - ? constant

All rows have the same value.

? no endspace

Do not store endspace.

? no endspace, not_always

Do not store endspace and do not do endspace compression for all values.

? no endspace, no empty

Do not store endspace. Do not store empty values.

? table-lookup

The column was converted to an ENUM.

? zerofill(N)

The most significant N bytes in the value are always 0 and are not stored.

? no zeros

Do not store zeros.

? always zero

Zero values are stored using one bit.

? Huff tree

The number of the Huffman tree associated with the column.

? Bits

The number of bits used in the Huffman tree.

After you run myisampack, use myisamchk to re-create any indexes. At this time, you can
also sort the index blocks and create statistics needed for the MySQL optimizer to work
more efficiently:

    myisamchk -rq --sort-index --analyze tbl_name.MYI

After you have installed the packed table into the MySQL database directory, you should
execute mysqladmin flush-tables to force mysqld to start using the new table.

To unpack a packed table, use the --unpack option to myisamchk.

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SEE ALSO

For more information, please refer to the MySQL Reference Manual, which may already be

installed locally and which is also available online at http://dev.mysql.com/doc/.

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