
NAME

mrls - list attributes of Oracle extended SQL trace files

SYNOPSIS

```
mrls [ --all or -a ] [ --cpu or -c ] [ --cpuunit=float ] [ --csv ] [ --dashes ] [ --dep ] [ --details or -d ] [
--dformat=format ] [ --end ] [ --eula ] [ --head ] [ --help or -? ] [ --human or -h ] [ --initrc ] [ --lio or -l ]
[ --license ] [ --listrc ] [ --man ] [ --mis or -m ] [ --none ] [ --overion or -o ] [ --precision=n ] [ --rc=
file ] [ --recursive or -R ] [ --reverse ] [ --row ] [ --scanmax=n ] [ --sort=s ] [ --start ] [ --status ] [
--tags ] [ --tformat=format ] [ --tim or -t ] [ --timunit=float ] [ --trcunit=float ] [ --tz=string ] [ --units or
-u ] [ --verbose=level ] [ --version ] [ file... ]
```

DESCRIPTION

mrls writes a report on Oracle extended SQL trace files in a style reminiscent of the Unix **ls(1)** command. If one or more *file* names is listed, **mrls** reports on only those files. If no *file* argument is given, **mrls** investigates each file in the current working directory. If you want to report only on files with a *.trc* file name extension, then use **mrls *.trc**.

By default, **mrls** renders the following columns for each file on which it reports:

R

Approximate total response time represented by the file.

SIZE

Size of the file in bytes.

ORA

An Oracle version number for the file.

START

Estimated begin time of the user experience measured by the trace data, expressed in the time zone denoted by the **TZ** environment variable.

FILE

The file name.

mrls is designed to provide approximate timing information for a lot of trace files very quickly. The pursuit of quickness can come at the expense of potential diminishment of accuracy. See the *Troubleshooting* section for more information.

On Microsoft Windows, where the shell doesn't glob command line arguments for you, **mrls** uses BSD globbing upon each *file* provided in the argument list.

OPTIONS

Some of the options require careful quoting on the command line, and the definition of "careful" varies by operating system. For more information, see *COMMAND LINE QUOTING* below. Examples in this manual page use Unix quoting syntax.

--all or **-a**

Include entries whose names begin with a dot (.). It is common for such files to be considered hidden. The default value is **--noall**.

--cpu or **-c**

Report total CPU consumption listed within the trace file. The value is calculated as the sum of *c* values for database calls executed at the minimum available recursive depth within the file. The default value is **--nocpu**. Note that using **--cpu** may slow down **mrls** appreciably in directories where there are large trace files.

--cpuunit=float

Regard CPU duration values (*c* field values) in the raw trace file as being expressed in time units of *float* seconds. The default value is **--cpuunit=0**, which means to compute the timing unit automatically for each file being examined. If you prefer to override the automatic detection feature, then consider the following values:

0.01	Oracle versions prior to 9
0.000_001	Oracle versions 9 and beyond

WARNING: It is possible that the trace files being inspected by a single **mrls** execution represent two or more different trace time units. If this is the case, then any non-zero value for **--cpuunit** is guaranteed to produce incorrect results for at least one file.

--csv

Use comma-separated value output format. Using **--csv** is shorthand for **--format=csv --separator=, --nodashes --dformat=excel --tformat=excel**. If you wish to use different values for these options, then specify those options separately on the command line (or in a **--rc** file) after the **--csv** option. For example, **--csv --dformat=iso8601** will do the expected thing, but listing the options in the reverse order would cause the **--csv** option to override the **--dformat** option.

--dashes

Print dashes between the header and the body. Use **--dashes** to display the dashes. The default is **--nodashes**.

--dep

Report the recursive depth (*dep*) value of the task's topmost database call in the call stack. Negative values indicate situations that will be accompanied by warning messages emitted to STDERR.

--details or **-d**

Shorthand for specifying **--cpu --dep --lio --mis --pio --row**. Note that using **--details** may slow down **mrls** appreciably in directories where there are large trace files. The default value is **--nodetails**.

--dformat=format

Set duration format. Valid values are:

value	example	remark
-----	-----	-----
excel	206750.333	Usable by Microsoft Excel
human	2d 9h25m50.333s	Human-friendly
iso8601	P2DT9H25M50.333S	ISO 8601 duration
seconds	206750.333	Seconds

The default value is **--dformat=seconds**.

--end

Report the time at which the task ended. The default value is **--noend**.

--eula

Print the license information and exit.

--format=string

Print in the specified format. Supported values are **tab** (table) and **csv** (comma-separated values). The default value is **--format=tab**.

--head

Print a heading at the beginning of the report. Use **--nohead** to suppress the heading. The

default value is **--head**.

--help or **-?**

Print usage information and exit.

--human or **-h**

Shorthand for specifying **--dformat=human --tformat=human**.

--initrc

Use **--noinitrc** to prevent **mrls** from opening the default rcfiles in your home directory or current working directory (see *ENVIRONMENT*). The default value is **--initrc**. Use **--noinitrc** if you don't want to run the default rcfiles.

--lio or **-l**

Report total number of database buffer cache accesses listed within the trace file. The value is calculated as the sum of *cr* and *cu* values for database calls executed at recursive depth 0. The default value is **--noLIO**. Note that using **--lio** may slow down **mrls** appreciably in directories where there are large trace files.

--license

Display license content and exit.

--listrc

List rcfile names and exit. The default value is **--noListrc**.

--man

Print the **mrls** manual page and exit.

--mis or **-m**

Report total number of database library cache misses listed within the trace file. The value is calculated as the sum of *mis* values for database calls executed at recursive depth 0. The default value is **--noMis**. Note that using **--mis** may slow down **mrls** appreciably in directories where there are large trace files.

--none

Shorthand for **--noall --nocpu --nodep --noend --noLIO --noMis --nooverion --nopio --norow --nosize --nostart --notim --notiming --nounits**. Used to reset the output column list to nothing so that you can additively declare, from scratch, the columns you desire.

--overion or **-o**

Print the Oracle version number determined by **mrls** for each file. **mrls** will print a version number if it finds an Oracle version stamp in the file being investigated. If it doesn't find an Oracle version stamp, then it will print a '?' character. The default value is **--overion**; use **--nooverion** to suppress the field.

--pio or **-p**

Report total number of database blocks obtained by OS read calls listed within the trace file. The value is calculated as the sum of *p* values for database calls executed at recursive depth 0. The default value is **--noPIO**. Note that using **--pio** may slow down **mrls** appreciably in directories where there are large trace files.

--precision=n

Round durations to *n* digits to the right of the decimal point. The default value is **--precision=6**.

--rc=file

Process command line options listed in *file*. For details about how rcfiles are processed, see

the **mrskew** manual page.

--recursive or **-R**

Plunge directories recursively. The default value is **--norecursive**. Note that if you use the short **-R** form, you must specify the uppercase letter 'R' (to disambiguate from the **-r** "row" option).

--reverse

Sort in reverse order. The default value is **--noreverse**.

--row

Report total number of rows returned listed within the trace file. The value is calculated as the sum of *r* values for database calls executed at recursive depth 0. The default value is **--norow**. Note that using **--row** may slow down **mrls** appreciably in directories where there are large trace files.

--scanmax=n

Read *n* lines looking for Oracle trace file identifying information before giving up and assuming that the input file is not an Oracle extended SQL trace file. The default value is **--scanmax=250**. Using *n=0* means never give up. Note that using very large (or zero) values of *n* can cause **mrls** to run slowly, but only for files that have many lines of data prior to their first *tim* value.

--size or **-s**

Report the size of the trace file, in bytes. The default value is **--size**.

--sort=s

Sort by the field denoted by *s*. Valid values for *s* are:

cpu or **c**

Sort by CPU consumption

dep

Sort by recursive depth (*dep*) value of the task's topmost database call in the call stack

end or **t1**

Sort by task end time

file or **f**

Sort by file name

lio or **l**

Sort by number of database buffer cache accesses (LIO count)

mis or **m**

Sort by database library cache miss count

oversion or **o**

Sort by Oracle version number

pio or **p**

Sort by number of Oracle blocks obtained by OS read calls (PIO count)

r

Sort by task response time

row

Sort by database row return count

size or s

Print the size of the file in bytes. Use **--nosize** to suppress the SIZE column. The default value is **--size**.

start or t0 or t

Sort by task begin time

Naming a field in the **--sort** option also marks that field for inclusion in the output. To sort by a field but exclude it in the output, include the appropriate **--nofield** option after specifying the sort. For example, **--sort=end --noend** will sort by the END field but not include it in the output. The default value is **--sort=r**. The secondary sort field is always the file name, in ascending order.

--start

Report the time at which the task started. The default value is **--start**; use **--nostart** to suppress the column.

--status

Report the status of the **mrls** call upon its file. Empty means no errors or warnings. Status can contain the following flags:

```
e - t0 was estimated
```

--tags

Report tags associated with the file. The default value is **--notags**.

--tformat=format

Set time format. Valid values are:

value	example	remark
excel	2011/01/31 15:55:02.130	Usable by Microsoft Excel
human	2011 Jan 31 15:55:02.130+0000	Human-friendly
iso8601	2011-01-31T15:55:02.130+0000	ISO 8601 date and time
seconds	1296489302.130	Seconds since Unix epoch

The default value is **--tformat=iso8601**.

--tim or -t

Report on the beginning and ending *tim* values found in the file. The default value is **--notim**.

--timunit=float

Regard elapsed duration values (*tim*, *e*, and *ela* field values) in the raw trace file as being expressed in time units of *float* seconds. The default value is **--timunit=0**, which means to compute the timing unit automatically for each file being examined. If you prefer to override the automatic detection feature, then consider the following values:

value	Oracle versions
0.01	prior to 9
0.000_001	9 and beyond
0.000_001_024	9.0 through 11.2.0.1 for certain platforms

The Oracle kernel on some platforms convert nanoseconds (obtained from the OS) to microseconds (displayed in the trace output) by using a 10-bit right-shift operator instead of dividing by 1,000. It takes a little bit of sophisticated testing to determine whether your platform does this. However, if it does, then using **--timunit=0.00001024** will give you more accurate

output.WARNING: It is possible that the trace files being inspected by a single **mrls** execution represent two or more different trace time units. If this is the case, then any non-zero value for **--timunit** is guaranteed to produce incorrect results for at least one file.

--trcunit=float

Set both **--cpuunit** and **--timunit** to *float*.

WARNING: It is possible that the trace files being inspected by a single **mrls** execution represent two or more different trace time units. If this is the case, then any non-zero value for **--trcunit** is guaranteed to produce incorrect results for at least one file.

--tz=string

Set the time zone for which all **mrls** timestamps will be rendered. Default value **--tz=*** means to print each file's timestamps in the time zone detected for the individual file. Acceptable time zone specifications include strings like **cst**, **CST**, and **-0600**. If you specify a nonsensical time zone string like **abc**, then **mrls** will use **UTC**.

--units or -u

Print SEC/TIM, OFFSET, ZONE, ZONE-NAME, and M columns. SEC/TIM and OFFSET are the slope and intercept in the equation $\text{timestamp}(\text{ZONE}) = \text{SEC/TIM} * \text{tim} + \text{OFFSET}$. M is an internal code that describes the method with which SEC/TIM and OFFSET are calculated. The default value is **--nounits**.

--verbose=level

Print more or less information about option values. The default value is **--verbose=0**. The value of 0 suppresses everything but the tabular output. Higher level numbers yield more information.

--version

Print the **mrls** version number and exit.

.RC FILES

A .rc file allows you to change the default behavior of a Method R Tools program. For example:

```
$ cat ~/.mrls.rc
--scanmax=0
```

See the **mrskew** manual page for details.

EXAMPLES

To report only on files whose names match the pattern **.trc* and report on CPU time in addition to the standard file attributes, use this:

```
mrls --cpu *.trc
```

To show your ten worst response times in your current directory and every directory below it:

```
mrls --recursive --csv | sort -rn | head
mrls -R --csv | sort -rn | head
```

To show all the gory workload details for all your trace files:

```
mrls --details
```

To show which trace file reported the most rows returned:

```
mrls --sort=row # smallest row count first
mrls --sort=row --reverse # biggest row count first
```

To sort your **mrls** output other than by ascending response time, use **--sort**:

```
mrls -h                # friendly form, smallest R first
mrls --sort=o          # oldest Oracle version number first
mrls --sort=t          # oldest task begin time first
mrls --sort=t --reverse # newest task begin time first
mrls --sort=file       # ascending file name order
```

TROUBLESHOOTING

The **--scanmax** option allows you to sacrifice accuracy for the sake of speed in some cases. The **--scanmax** option saves a lot of time by giving up on files that don't look like Oracle trace data within a specified number of lines. However, it can cause **mrls** not to find a file's first *tim* value when it's buried deep within the file. If you see zero response times reported for files that you know contain interesting Oracle extended SQL trace data, try using a larger **--scanmax** option value.

If you see response times that are much larger than you expected for a file, check to ensure that the file contains trace data for exactly one end-user experience. The Oracle kernel sometimes appends to pre-existing trace files (especially on Microsoft Windows). When this happens, the total response time that **mrls** reports is the duration from the earliest *tim* value it finds near the top of the file to the latest *tim* value it finds near the bottom. Consider using the Oracle **trcsess** utility to chop such a trace file into smaller chunks, each representing a single end-user experience.

DIAGNOSTICS

Exit status is 0 on successful completion, and >0 if an error occurs.

estimating START and DEP in file '%s' using --scanmax=%d

mrls will print this message to STDERR if it reads %d lines from the top of your file named %s without finding a guaranteed correct task start time in the file. If you get this warning, the response time reported by **mrls** may not be precisely correct, but it is generally close enough. If the imprecision worries you, you can specify **--scanmax=0** on the command line to get full precision at the expense of a potentially unbearably long-running **mrls** execution.

no dbcalls with \$dep values found in file '%s' [%d]

mrls will print this message to STDERR if it reads the entire input file without finding any lines with *dep* values on them.

minimum \$dep not conclusively found for file '%s' using --scanmax=%d

mrls will print this message to STDERR if it reads %d lines from the top of your file and %d lines from the bottom of your file without finding a *dep=0* dbcall.

BUGS AND DEFICIENCIES

mrls does not open zip archives. One could argue that it should treat a zip archive like it treats a directory, plunging and reporting on what's inside. However, to gain a significant speed advantage for large trace files (presumably the very ones you'd be most likely to zip), **mrls** reads a little bit from the top of the file and a little bit from the bottom. To do this would require **mrls** to inflate and temporarily store each archive. This would cause such a response time problem for **mrls** that we don't presently believe it would be worth the time to try to implement the feature.

mrls does not return *the* Oracle version for a given Oracle trace file; it returns the *first* Oracle version it finds for a given Oracle trace file. The two answers are different in situations wherein a single trace file contains segments of trace data collected from more than one version of Oracle, such as will happen when Oracle reuses OS process id values.

ENVIRONMENT

.mrls.rc

By default, **mrls** will execute the options listed in the following files, in the following order, before the options you actually list on your command line:

```
~/mrls.rc  
./mrls.rc
```

If you do not wish to execute the options in these files, then specify **--noinitrc** on the command line.

MRTOOLS_RCPATH

See the **mrskew** manual page for details.

TZ

The library functions that **mrtime** calls take into account your current time zone setting defined in the **TZ** environment variable. If **TZ** is unset, **mrtime** interprets and expresses times in Coordinated Universal Time (UTC). Here are a few examples of timezone settings:

```
export TZ=CST6CDT  
export TZ=Europe/Copenhagen  
export TZ=UTC
```

AUTHORS

Cary Millsap

SUPPORT

mrls version 8.0.5.0

Contact <support@method-r.com> at Method R Corporation for support, or visit <http://method-r.com> for more information.

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