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Manticore Search

Manticore Search is an Open Source database for search that was created in 2017 as a continuation of Sphinx Search engine (Started in 2001). It is integrated with Tiki Wiki CMS Groupware and one of the components of WikiSuite. This is especially interesting for the Tiki Trackers database web app builder. Manticore Search is very appreciated by its community.

Status:

- Experimental in Tiki 25.0
- Beta in Tiki 25.2
- Will be stable in Tiki 26

You can check out benchmarks at: https://db-benchmarks.com/

```
mysql> create table movies(title text, description text, year int) morphology='lemmatize_en';
Query OK, 0 rows affected (0.00 sec)

mysql> insert into movies values(0,'Hate', '24 hours in the lives of three young men in the F
rench suburbs the day after a violent riot.', 1995),(0, 'The Godfather', 'The aging patriarch
 of an organized crime dynasty in postwar New York City transfers control of his clandestine
empire to his reluctant youngest son.', 1972);
Query OK, 2 rows affected (0.00 sec)

mysql> select title, highlight(), year from movies where match('control transfer')\G
*************************** 1. row ***************************
      title: The Godfather
highlight(): The aging patriarch of an organized crime dynasty in postwar New York City <b>tr
ansfers control</b> of his clandestine empire to his reluctant youngest son.
       year: 1972
1 row in set (0.00 sec)

mysql> select title, highlight(), year from movies where match('young man')\G
*************************** 1. row ***************************
      title: Hate
highlight(): 24 hours in the lives of three <b>young men</b> in the French suburbs the day af
ter a violent riot.
       year: 1995
1 row in set (0.01 sec)

mysql> 
```

How to install

It is normally this:

```
sudo apt-get install wikisuite-manticore
```

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How to verify version

This confirms if it installed properly, but it doesn't mean it's running in the background (see next section)

```
root~# searchd -v
Manticore 6.0.2 89c7a5139@230210 (columnar 2.0.0 a7c703d@230130) (secondary 2.0.0
a7c703d@230130)
Copyright (c) 2001-2016, Andrew Aksyonoff
Copyright (c) 2008-2016, Sphinx Technologies Inc (http://sphinxsearch.com)
Copyright (c) 2017-2023, Manticore Software LTD (https://manticoresearch.com)
```

Start service at server reboot

For Manticore to be available for applications like Tiki Wiki CMS Groupware, you want to enable

```
sudo systemctl enable manticore
```

In some newer operating systems it can fail with error "Failed to enable unit: Unit ... is transient or generated.". In this can you can remove the generator and try again. It's unlikely you need the generator ever again after Manticore is installed.
In Debian-based operating systems run:

```
sudo rm /lib/systemd/system-generators/manticore-generator
sudo systemctl daemon-reload
sudo systemctl enable manticore
```

For more detail, please see:
https://manual.manticoresearch.com/Starting_the_server/Linux#Starting-and-stopping-using-systemd

To check if the Manticore service is set to run at boot

```
sudo systemctl is-enabled manticore
```

Then reboot to test

```
sudo reboot
```

It is not recommended to use this unless you are a developer, but if you prefer "Nightly" (development) versions, please see: https://manual.manticoresearch.com/Installation/Debian_and_Ubuntu#APT-repository

Restart Manticore with the debug logging level

```
sudo systemctl set-environment _ADDITIONAL_SEARCHD_PARAMS='--logdebug'
sudo systemctl restart manticore
```

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To undo it, run:

```
sudo systemctl set-environment _ADDITIONAL_SEARCHD_PARAMS=''
sudo systemctl restart manticore
```

Note : -- logdebug, **-- logreplication**, **-- logdebugv**, and **-- logdebugvv** options enable additional debug output in the server log. They differ by the logging verboseness level. These are debugging options and should not be normally enabled, as they can pollute the log a lot. They can be used temporarily on request to assist with complicated debugging sessions.

Restart manticore after writing a bad index

The offending index must be deleted from the disk (/var/lib/manticore/) and then manticore restarted.
To find out exactly which index is bad and should be deleted, logs must be analyzed

Note : By default, Manticore logs all runtime events in a searchd.log file in the directory where searchd was started. In Linux by default, you can find the log at /var/log/manticore/searchd.log.

Indicate to Tiki to use Manticore Search

1. Pick Manticore as **Unified search engine** at tiki-admin.php?page=search
2. Rebuild index
   - Small sites, via GUI
   - Medium and large sites, via CLI `php console.php index:rebuild --log`
3. Enjoy!

Syntax error or access violation: 1064

If you get this error:

```
SQLSTATE[42000]: Syntax error or access violation: 1064 error adding index 'tiki_pref_en': file
not found: '/home/example/tmp/manticore-stopwords-tiki_pref_en'
```

The temporary workaround:
Virtualmin Virtual Server -> Services -> PHP-FPM Configuration -> Edit Configuration Manually
Old:

```
php_admin_value[sys_temp_dir] = /home/example/tmp
```

New:

```
php_admin_value[sys_temp_dir] = /tmp
```

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Configuration file

On Debian 10 and 11, it is located at /etc/manticoresearch/manticore.conf

Here are tweaks you may want to do in /etc/manticoresearch/manticore.conf

Disabling binary logging

Tiki uses Manticore as an [index](). So it's a copy of the data, optimized for speed and search. The real data lives in MariaDB/MySQL. Thus, we don't need binary logging because we can rebuild the index any time.

```
binlog_path = # disable logging to improve performance, and it's not needed in the Tiki context.
```

Ref: https://manual.manticoresearch.com/Logging/Binary_logging#Disabling-binary-logging

Increasing max_packet_size

If you get errors like this on index rebuild:

```
2023-03-03T16:07:21+00:00 ERR (3): NOTICE: PDOStatement::execute(): send of 32768 bytes failed
with errno=104 Connection reset by peer
{\"code\":null,\"file\":\"/lib/core/Search/Manticore/PdoClient.php\",\"line\":201}
```

you can increase max_packet_size

```
max_packet_size = 128M
```

Ref: https://manual.manticoresearch.com/Server_settings/Searchd#max_packet_size

Advanced morphology

Lemmatization, stemming, word forms, etc.:

- https://manual.manticoresearch.com/Creating_an_index/NLP_and_tokenization/Morphology
- https://manual.manticoresearch.com/Creating_an_index/NLP_and_tokenization/Wordforms#Word-forms

Related links

- https://manticoresearch.com/about/
- https://dev.tiki.org/Manticore-Search
- https://gitlab.com/wikisuite/wikisuite-packages/-/tree/main/wikisuite-manticore/debian
- https://gitlab.com/tikiwiki/tiki/-/merge_requests/1805
- https://manticoresearch.com/blog/manticore-alternative-to-elasticsearch/
- https://roadmap.manticoresearch.com

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- https://doc.tiki.org/Unified-Index-Comparison
- https://doc.tiki.org/Manticore-Search
- https://www.slideshare.net/SergeyNikolaev27/manticore-6pdf