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/

How to install

It is normally this:

```
sudo apt-get install wikisuite-manticore
```
**How to verify version**

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

```bash
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

```bash
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:

```bash
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](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

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

Then reboot to test

```bash
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](https://manual.manticoresearch.com/Installation/Debian_and_Ubuntu#APT-repository)

**Restart Manticore with the debug logging level**

```bash
sudo systemctl set-environment _ADDITIONAL_SEARCHD_PARAMS='--logdebug'
sudo systemctl restart manticore
```
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 verbooseness 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
```
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/tikiwiki/tiki/-/merge_requests/1805
- https://manticoresearch.com/blog/manticore-alternative-to-elasticsearch/
- https://roadmap.manticoresearch.com
WikiSuite: The most comprehensive and integrated Open Source enterprise solution.

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