



Extreme Search® Manual

Version 2024.04

<https://lewis-rhodes.com>

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- [5 Common Issues](#)
 - [5.1 Backends Not Up](#)
 - [5.1.1 Restart using systemctl](#)
 - [5.1.2 Check status using systemctl](#)
 - [5.1.3 Check log messages](#)
 - [5.2 Search performance is lower than expected](#)

5 Common Issues

5.1 Backends Not Up

The backends need to be up for search to run. When the backends are up, running `npusearch_check` will look something like this:

```
lrl_admin@guava:~$ npusearch_check
```

```
[  
  "npusearch:request:guava-0-1710520177",  
  "npusearch:request:guava-1-1710520177",  
  "npusearch:request:guava-10-1710520177",  
  "npusearch:request:guava-11-1710520177",  
  "npusearch:request:guava-12-1710520177",  
  "npusearch:request:guava-13-1710520177",  
  "npusearch:request:guava-14-1710520177",  
  "npusearch:request:guava-15-1710520177",  
  "npusearch:request:guava-2-1710520177",  
  "npusearch:request:guava-3-1710520177",  
  "npusearch:request:guava-4-1710520177",  
  "npusearch:request:guava-5-1710520177",  
  "npusearch:request:guava-6-1710520177",  
  "npusearch:request:guava-7-1710520177",  
  "npusearch:request:guava-8-1710520177",  
  "npusearch:request:guava-9-1710520177"  
]
```

When the backend are down, you will see this:

```
lrl_admin@guava:~$ npusearch_check  
[]
```

Here are some steps to try to bring the backends up when they are down:

5.1.1 Restart using systemctl

Run `sudo systemctl restart npusearch.service`. Wait about 15 seconds, then try `npusearch_check` again.

5.1.2 Check status using systemctl

Run `sudo systemctl status npusearch.service`.

- If the last thing it prints is that it's satisfying a license, it got stuck during the startup process. If your device has SmartSSDs, try `sudo systemctl restart mpd.service`.
- If it says "Failed to start NPUSearch search backends." and your device has SmartSSDs, try `sudo systemctl restart mpd.service`. If your device has Kuona cards, try `sudo insmod npusearch`. If that errors, try `sudo dpkg-reconfigure npusearch`.

Repeat step 1.1.

5.1.3 Check log messages

In `/opt/lrl/etc/npusearch.conf` the line `export LOGFILE=path/to/logfile` will be where NPUSearch is writing logs. If the line is commented out, un-comment it and set a path for a log file to be written to. Run steps 1 and 2 again and then read the logs to see where the issues may be.

5.2 Search performance is lower than expected

This is commonly caused by the SSDs overheating and throttling.

- Double check to make sure the fan speed is turned up to minimum 100% on your server management platform. Check that the inlet air temperature into the server is not too hot. If anything is changed at this step, run the tests again.
- Inspect the `ssd_nvme_smart_log_data.ndjson` file to see how hot the SSDs are getting. Each line of that file is a `nvme smart-log` output for each SSD at a given timestamp. The thermal test will fail if any SSD reaches 349 Kelvin, but some SSDs will throttle performance before getting that hot. If desired, send the `ssd_nvme_smart_log_data.ndjson` and `npusearch_install.log` files to support@lewis-rhodes.com. LRL can do detailed analysis to help determine if throttling is happening.