

Practical Linux Performance and Application Troubleshooting

by Tanel Poder | <https://blog.tanelpoder.com/seminar>

This is a short preview for now, I will publish a more detailed TOC in November 2018.

Training overview

The emphasis of this class is on *practical* application troubleshooting and Linux OS performance tuning techniques. We'll be using scripts and tools that you can use on any Linux machine whenever a problem happens, without having to first install a complex layer of monitoring tools.

At the same time, we will go way beyond what the classic OS tools (like vmstat, iostat, top) have to offer. We will use a process/thread-level approach instead of system wide averages and drill down into application activity from there.

As you noticed, there's "application troubleshooting" in this class title too - in addition to Linux OS, we are going to spend lots of time troubleshooting Linux-based applications (Java apps, database engines, web servers etc.) with OS tools. This is useful for augmenting the application's built-in instrumentation and logging, or in cases where the app doesn't have decent logging enabled at all.

While we won't be spending time on non-practical tasks like recompiling Linux kernels, we sure are going to be using Linux process diagnosis and built-in kernel tracing facilities, starting from *strace* to *perf*, *blktrace* and *ftrace*.

My favorite starting point, however, is to examine the process state from */proc* filesystem directly if the traditional tools are not enough. We'll be using this technique in the class too. Here's a blog entry of mine from past that illustrates how useful this simple and non-intrusive technique can be:

- <https://blog.tanelpoder.com/2013/02/21/peeking-into-linux-kernel-land>

In addition to application troubleshooting, we will cover all key areas of kernel/OS interaction: disk IO, network IO, memory allocation, CPU usage & scheduling, filesystems & buffering, spinlocks, IPC and kernel panics/OS crashes too.

Training Duration and Details

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| Duration: | 5 days (10 x 4h online training spread over 2 weeks) |
| Location: | Online webinar (8am-12pm Pacific Time each day) |
| Audience: | Application admins, Linux Sysadmins, DevOps folks, DBAs, System Programmers, Senior Developers |
| Skill level: | Intermediate to Advanced |