

Benchmarking logging

Any major changes to the logging code, whether it is in Kubernetes or in klog, must be benchmarked before and after the change.

Running the benchmark

```
$ go test -bench=. -test.benchmem -benchmem .
```

Real log data

The files under `data` define test cases for specific aspects of formatting. To test with a log file that represents output under some kind of real load, copy the log file into `data/<file name>.log` and run benchmarking as described above. `-bench=BenchmarkLogging/<file name without .log suffix>` can be used to benchmark just the new file.

When using `data/v<some number>/<file name>.log`, formatting will be done at that log level. Symlinks can be created to simulating writing of the same log data at different levels.

No such real data is included in the Kubernetes repo because of their size. They can be found in the "artifacts" of this <https://testgrid.kubernetes.io/sig-instrumentation-tests#kind-json-logging-master> Prow job:

- `artifacts/logs/kind-control-plane/containers`
- `artifacts/logs/kind-*/kubelet.log`

With sufficient credentials, `gsutil` can be used to download everything for a job with:

```
gsutil -m cp -R gs://kubernetes-jenkins/logs/ci-kubernetes-kind-e2e-json-logging/<job ID> .
```

Analyzing log data

While loading a file, some statistics about it are collected. Those are shown when running with:

```
$ go test -v -bench=. -test.benchmem -benchmem .
```