

Logging Checklist

10 Commandments of Logging “Masterzen”

- ❑ **1. Thou shalt not write log by yourself**
 - *Make use of syslog or similar systems as they handle auto-rotation and more.*
- ❑ **2. Thou shalt log at the proper level**
 - **TRACE** track code routines.
 - **DEBUG** activated during troubleshooting for debugging.
 - **INFO** user-driven or system specific actions.
 - **NOTICE** notable events that are not errors (default level for prod), always add context.
 - **WARN** events that could result in error, e.g low disk space, always add context.
 - **ERROR** for all errors, always add context.
 - **FATAL** signifies the end of a program (exit program), always add context.
- ❑ **3. Honor thy log category**
 - *The category allows classification of the log message. E.g. my.service.api.<apitoken>*
 - *Log categories are hierarchical to allow inherited behaviours, rules and filters.*
- ❑ **4. Thou shalt write meaningful logs**
 - *Treat logging as if there is no access to the program source-code.*
 - *Log should not depend on previous log for context as it may not be there (async).*
- ❑ **5. Thy log shalt be written in English**
 - *English is an internationally recognized language.*
 - *English is a better suited technical language.*
 - *English can be written in ASCII characters (stays the same over UTF-8, Unicode, etc).*
- ❑ **6. Thou shalt log with context**
 - *Treat logging as if there is no access to the program source-code.*
 - *Log messages without context are just noise.*
 - *Ensure that at least the local scope of variables are included in the log context.*
- ❑ **7. Thou shalt log in machine parsable format**
 - *Text logs are good for humans but very poor for machines.*
 - *Use a simple international standard format, like JSON.*
 - *Simplifies automation processing for alerting/auditing.*
 - *Log parsers require less processing of messages.*
 - *Log search engine indexing becomes straightforward.*
- ❑ **8. Thou shalt not log too much or too little**
 - *Too much logging generates too much clutter (time consuming to browse).*
 - *Too little logging leads to troubleshooting problems (not enough context).*
 - *Log more than enough in dev, then tighten it up before shipping to prod.*
- ❑ **9. Thou shalt think to the reader**
 - *The whole purpose of logging is so that someone will read it one day.*
 - *Readers deserve consistency, so stick to standards like RFC3339 (datetime).*
 - *Log parsers are readers too, so ensure consistency of log format/dictionary.*
- ❑ **10. Thou shalt not log only for troubleshooting**
 - **Auditing** management/legal events, describe what users of the system are doing.
 - **Profiling** logs are time stamped this allows us to infer performance metrics.
 - **Statistics** compute user behaviours, e.g. alert when too many errors detected in a row.