Multiple-choice questions (MCQs) with keys

Topic: Logging Frameworks in Java
Points:20
Time:20 mins

1. Which of the following is a standard logging framework in Java SE?
   a) SLF4J
   b) Log4j
   c) Java Logging (java.util.logging)
   d) Apache Commons Logging

Solution: c) Java Logging (java.util.logging)

2. What is the primary purpose of a logging framework in Java?
   a) Code execution speed optimization
   b) Code organization and structure
   c) Capturing runtime errors and exceptions
   d) Database operations optimization

Solution: c) Capturing runtime errors and exceptions

3. Which logging framework is known for its support of multiple underlying logging implementations?
   a) SLF4J
   b) Log4j
   c) Java Logging (java.util.logging)
   d) Logback

Solution: a) SLF4J

4. In Log4j, which configuration file is commonly used to configure logging settings?
   a) log.properties
   b) log.xml
   c) log.cfg
   d) log4j.xml

Solution: d) log4j.xml

5. What is the purpose of the log levels in a logging framework?
   a) To define the logging framework version
   b) To indicate the severity of log messages

c) To specify the log file location
d) To control the logging framework initialization

Solution: b) To indicate the severity of log messages

6. Which SLF4J binding is commonly used with Logback as the underlying implementation?
  a) slf4j-log4j
  b) slf4j-jdk14
  c) slf4j-logback
  d) slf4j-api

Solution: c) slf4j-logback

7. What is the purpose of the `Logger` class in Java Logging (java.util.logging)?
  a) To create log files
  b) To log messages at various levels
  c) To configure logging settings
  d) To implement custom loggers

Solution: b) To log messages at various levels

8. In Log4j, what is the purpose of an "appender"?
  a) It appends log messages to the console
  b) It appends log messages to a file or another destination
  c) It appends log messages to the database
  d) It appends log messages to multiple loggers

Solution: b) It appends log messages to a file or another destination

9. Which of the following is a benefit of using a logging framework over simple System.out.println()?
  a) Simplicity and ease of use
  b) Better performance
  c) Standardized log formatting
  d) Direct integration with IDEs

Solution: c) Standardized log formatting

10. What is the purpose of a log formatter in a logging framework?
  a) To filter log messages
  b) To format log messages for output
  c) To configure log levels
  d) To define custom log levels

Solution: b) To format log messages for output

11. Which logging framework is commonly associated with the SLF4J façade in Java EE environments?
    a) Log4j
    b) java.util.logging
    c) Apache Commons Logging
    d) Logback

Solution: c) Apache Commons Logging

12. In Logback, what is the purpose of the `RollingFileAppender`?
    a) It appends log messages to a rolling log file
    b) It rolls log files based on time or size
    c) It appends log messages to multiple files
    d) It logs messages to the console

Solution: b) It rolls log files based on time or size

13. What is the purpose of the MDC (Mapped Diagnostic Context) in logging frameworks?
    a) To map log levels to specific classes
    b) To enhance code readability
    c) To store contextual information for log messages
    d) To define custom log levels

Solution: c) To store contextual information for log messages

14. Which method is used to log a message at the INFO level in SLF4J?
    a) logger.debug()
    b) logger.trace()
    c) logger.info()
    d) logger.warn()

Solution: c) logger.info()

15. In Java Logging (java.util.logging), what handler is used to output log messages to the console?
    a) FileHandler
    b) ConsoleHandler
    c) StreamHandler
    d) ConsoleAppender

Solution: b) ConsoleHandler

16. Which annotation is commonly used for injecting loggers in Spring Framework?
   a) @LoggerInject
   b) @LogInject
   c) @InjectLogger
   d) @AutowiredLogger

Solution: c) @InjectLogger

17. What is the purpose of log rotation in logging frameworks?
   a) To rotate log files in alphabetical order
   b) To compress log files for storage efficiency
   c) To delete old log files
   d) To manage the size of log files by creating new ones

Solution: d) To manage the size of log files by creating new ones

18. Which SLF4J method is used to check if a particular log level is enabled?
   a) logger.isEnabled()
   b) logger.isLogLevelEnabled()
   c) logger.isInfoEnabled()
   d) logger.isLogEnabled()

Solution: c) logger.isInfoEnabled()

19. What is the purpose of the Logback `AsyncAppender`?
   a) It asynchronously appends log messages to the console
   b) It appends log messages to multiple loggers
   c) It appends log messages to a rolling log file
   d) It asynchronously processes log messages in a separate thread

Solution: d) It asynchronously processes log messages in a separate thread

20. Which SLF4J method is used for parameterized logging?
   a) logger.logMessage()
   b) logger.paramLog()
   c) logger.log()
   d) logger.info(format, arg1, arg2, ...)

Solution: c) logger.log()