You have to design and implement a logger library that helps **applications** log messages.

Requirements

- Client/application make use of your logger library to log messages to a sink
    - Message
        - has **content** which is of type string
        - has a **level** associated with it
        - is directed to a destination (**sink**)
        - has **namespace** associated with it to identify the part of application that sent the message
    - Sink
        - This is the destination for a message (eg text file, database, console, etc)
        - Sink is tied to one or more message level
            - one or more message level can have the same sink
- Logger library
    - Accepts messages from client(s)
    - Routes messages to appropriate sink
    - Supports following message level: DEBUG, INFO, WARN, ERROR, FATAL
    - enriches message with current timestamp while directing message to a sink
    - requires configuration during setup

Sending messages

- Sink need **not** be mentioned while sending a message to the logger library.
- A message level is tied to a sink.
- You specify message content, level and namespace while sending a message

Logger configuration (see sample below)

- Specifies all the details required to use the logger library.
- Example:
    - time format
    - logging level
    - sink type
    - details required for sink (eg file location))
        - this depends on sink type

Goals

- Design your logger library to allow users to provide their own implementation of sink
- You must provide at least one implementation of sink

Guidelines

- You may consider logger configuration as a key-value pair
- Please use structures provided by the language of your choice.

- Usage of any logging library as a part of implementation is prohibited

How you will be evaluated

- Separation of concerns
- Abstractions
- Application of OO design principles
- Testability
- Code readability
- Language proficiency

Sample Config1: text file as sink

```
ts_format:dd-mm-yyyy-hh-mm-ss
log_level:INFO
sink_type:FILE
file_location:/var/log/app/info.log
(optional)thread_model:SINGLE
(optional)write_mode:SYNC
```

Sample Config2: database as sink

```
ts_format:dd:mm:yyyy hh:mm:ss
log_level:ERROR
sink_type:DB
db-host:<ip address>
db-port:<db port>
(optional)thread_model:MULTI
(optional)write_mode:ASYNC
```