

What Is Log4j2 and Need of Log4j ?

- Apache Log4j is one of the most widely used logging frameworks. Apache Log4j 2 is the next version that is far better than Log4j.
- If there is no suitable logging in an application, maintenance will be a difficult.
- The only way to figure out what happened in a specific case is to debug through the logs.
- Many frameworks provide some way of default logging, but it's always best to go with the industry standard logging mechanism.

Log4j2 Overview

- Using Logging API in application isn't a luxury, it's a must have. Log4j is an open source library that's published and licensed under Apache Software.
- You can debug an application using Eclipse Debugging or some other tools, but that is not sufficient and feasible in a production environment.

Log4j2 Configuration:

There are many ways to use Log4j2 configuration in your application.

Using a configuration file written in XML, JSON, YAML or properties file.

Example. : log4j2.xml, Log4j2.properties etc

```
<?xml version="1.0" encoding="UTF-8"?>
<Configuration>
  <Appenders>
    <Console name="Console">
      <PatternLayout pattern="%d{HH:mm:ss.SSS} [%t] %-5level %logger{36} - %msg%n"/>
    </Console>
  </Appenders>
  <Loggers>
    <Root level="trace">
      <AppenderRef ref="Console"/>
    </Root>
  </Loggers>
</Configuration>
```

Levels:

Table below shows you the log4j2 Levels and the weight for each of them:

LEVEL	Weight
OFF	0
FATAL	100
ERROR	200
WARN	300
INFO	400
DEBUG	500
TRACE	600
ALL	Integer.MAX_VALUE

This table below should guide you on which log4j2 level should be used in which case.

Log Event Level	When It Should Be Used
OFF	When no events will be logged
FATAL	When a severe error will prevent the application from continuing
ERROR	When an error in the application, possibly recoverable
WARN	When an event that might possible lead to an error
INFO	When an event for informational purposes
DEBUG	When a general debugging event required

TRACE	When a fine grained debug message, typically capturing the flow through the application
ALL	When all events should be logged

Log4j2 dependencies/jars.

```
<dependency>  
  <groupId>org.apache.logging.log4j</groupId>  
  <artifactId>log4j-api</artifactId>  
  <version>2.2</version>  
</dependency>
```

```
<dependency>  
  <groupId>org.apache.logging.log4j</groupId>  
  <artifactId>log4j-core</artifactId>  
  <version>2.2</version>  
</dependency>
```

<https://mvnrepository.com/artifact/org.apache.logging.log4j/log4j-core/2.17.2>
<https://mvnrepository.com/artifact/org.apache.logging.log4j/log4j-api/2.17.2>