

Payara Engineering Task

Payara Server produces logs to track notable events and identify unexpected issues that occur from Payara Server, or the applications deployed to it. By default, Payara Server uses the Oracle Diagnostic Log (ODL) format to structure the logs.

ODL logs include elements that show the origins of the log, as well as the message itself. Importantly for this task, the Date, Time, Log Level and Message (Indicated in bold) are included with each log.

```
[2024-02-23T21:29:41.890+0000] [Payara 6.2024.3] [INFO] [NCLS-LOGGING-00009] [jakarta.enterprise.logging] [tid: _ThreadID=23 _ThreadName=RunLevelControllerThread-1708723781722] [timeMillis: 1708723781890] [levelValue: 800] [[
```

```
Running Payara Version: Payara Server 6.2024.3 #badassfish (build nightly#251) ]]
```

Payara Server Log Example

The Task:

Your task is to create a Java 21 application compiled using Maven that achieves the requirements below. For all requirements, you should use the log file named 'logs.txt' provided without modification in the GitHub repository.

- Output the number of messages in the log.
- Output the time for the first and last logs.
- Print the first line of each message where the log level is SEVERE.
- Find all Java exceptions in the logs and print a histogram plotting each exception against the number of occurrences of that exception.
- Generate a simple HTML report with the following elements:
 - Group SEVERE level logs within 10 seconds of each other to a group, output the first line of the message for each SEVERE log in the group.
 - Put an index on the top of the page with a link to each group.
- Suitable automated testing must be implemented for your application.

Instructions:

You must also include the following details in the README file, the headers have already been included for you to populate:

- How to run your application.
- How to run the tests for your application.
- How to generate the HTML report and view it
- How you would further improve your application before distributing it to customers.

Contact:

Contact Petr Aubrecht (petr.aubrecht@payara.fish) if you have any questions related to your task.

Submission:

To submit your application, please undertake the following steps:

- Push your code to a private GitHub repository.
- Invite the following accounts to the repository as a collaborator.
 - <https://github.com/aubi>
 - <https://github.com/pandrex247>
 - <https://github.com/rohan267>
- Send an email to careers@payara.fish titled 'Graduate Software Engineer Practical Task', with your name and the URL to your GitHub repository