**SINGULAR SYSTEMS**

**PRACTICAL INTERVIEW - DEVOPS**

# INSTRUCTIONS

The practical assessment aims to assess your ability to solve technical problems.

## What to submit

Your GitHub repo containing the commit history and the final solution and assets.

## Technologies to use

* PowerShell 7
* Suggested Editor: Visual Studio Code (PowerShell extension recommended)
* HTML (Bonus objective)

## Guidelines

* Ensure that you are the creator of the project and that you did not use existing projects found online.
* This question does not aim to be over prescriptive - create a solution that you feel comfortable with to accurately portray your skillset.
* You may research and use technologies that you are not too familiar with.
* Use of advanced PowerShell features such as functions, classes, pipelines, etc will be rewarded.
* Have fun!

# SCENARIO

You have been tasked with downloading and analysing an application’s log files in order to provide a report on the number of info, warning and error messages being logged per month. The log files sit online in an Azure storage account. An index file containing a list of the log files is located here: <https://files.singular-devops.com/challenges/01-applogs/index.txt>

The log files sit under the same folder as the index file. They are stored in a fixed width CSV format. Some basic schema detail is available here:

<https://files.singular-devops.com/challenges/01-applogs/schema.md>

# TASKS

Using PowerShell, write a script which performs the following actions:

* Download and read the contents of the index file
* Use the index file to generate links for and download each of the application log files and save them to a local folder in the current working directory called logs.
* Run through the contents of each log file and extract the following information:
  + The month and year
  + The number of info, warning and error messages
* Generate a report file in JSON format which contains an array of the monthly statistics:
  + The year and month
  + Number of info, warning and error messages
  + The percentage increase or decrease in warnings and errors from the previous month
* Save the report file as a file called report.json in a report folder under the current working directory.

BONUS OBJECTIVE: In addition to the JSON file, generate a human readable HTML report as a file called report.html in a report folder under the current working directory. The styling can be kept very basic.