EMBL-EBI

Technical Test — Operations

Please choose ONE problem from the two given here. Feel free to use any programming language, third party software, orchestration solution, server/container management and/or cloud infrastructure that you find suitable for the tasks. We expect you to work on your own. Please place the solution in a publicly accessible location (GitHub, Dropbox, etc.) and e-mail the URL to sdo-applications@ebi.ac.uk by 5pm on 30th May, 2018.

Whichever problem you tackle ensure that you include sufficient details for someone to go through your solution and implement in without any major obstacles, just by going through your submission.

Problem 1

We want to store the access logs of any HTTP server of your choosing (e.g. httpd, Nginx, lighttpd) in a database. Ideally, a new record should be created each time there is a new line in the access log. Feel free to use any logging framework/module and database you want to implement your solution.

We would like you to present your solution in a reproducible manner. It is up to you to have it as documentation, configuration management, infrastructure configuration, container and/or any mixture of these technologies. However, solutions as close to the idea of infrastructure as code as possible are the most desirable.

Problem 2

We want to store some metrics of a running server; CPU utilisation, free memory and disk space to be specific. We would like to be able to inspect the collected metrics but it is entirely up to you to provide a method of doing that. The method could be; going over text files, logs or database records, making calls to an exposed API, using a graphical user interface to display the metrics, running a script to list the metrics on the command line and anything else you can provide as a minimum viable product. Bear in mind that you can freely use any third party software for this.

Also assume that this is a development server under load in which the developers are doing a variety of tasks, like running database and web servers, transferring files, opening sockets and exposing ports to the outside world. What would you additionally monitor to make their life easier and debug the problems they might be having more efficiently?

Any solution you present could be in the form of documentation, configuration management, infrastructure configuration, container and/or any mixture of these technologies. Nevertheless, ideally, your solution should be as automated as possible and allow someone with your code to implement it with the least amount of manual steps.
