Senior DevOps Engineer Interview Task

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| **Version** | 1.0 |
| **Classification** | Confidential |

Please complete the following task in preparation for your face-to-face interview. You will need to document your process and present this at the interview, as well as demonstrating the output of the tasks on the live server.

The outputs of these tasks are less important than your thought process and decisions as you complete them, so try to document and present your assumptions and decisions as much as possible.

**Part 1 - Server Configuration**

Your task is to setup a cloud-based server and install and configure some basic components.

1. Configure an AWS server (free-tier recommended) running an Ubuntu LTS release.

2. Install and configure any software components that you would recommend as a default base server install from the perspectives of security, performance, backup and monitoring.

3. Install and configure nginx to serve a static HTML web page.

**Part 2 - Scripting**

Using a scripting language of your choice, build an end-point (served through nginx) that can report basic operational statistics in the form of a JSON object.

The statistics should include (as a minimum):

1. Current CPU load, wait time and memory usage (optionally reported as slab, cache, RSS, etc)

2. Whether any updates are pending (optionally reporting security updates independently)

3. Current disk utilisation and read/write performance

The end-point may include any other statistics that you would consider important for the purposes of monitoring the server. You may wish to consider building on top of the dstat project.

Your code should be committed to a Git repository in a way that demonstrates an understanding of concepts such as branching and merging.

## Part 3 – Performance

Scenario 1: Communication between two servers in our V-Sphere cluster is slow.

Can you:

1. Present a list possible reasons for this issue
2. Produce a variety of ways that you could test your proposed solutions and debug the issue

Scenario 2: Application has issue in accessing the MySQL database, can you list the possible reasons of this issue and how you will be troubleshooting?