

## Assignment

This assessment Contains Two Sections. You need to attempt both sections. You may not be able to complete everything but make sure you meet the deadline as per the email

### Part 1 - Scripting

#### Basic Requirements

As a member of the Capital Markets Application Support/DevOps team you have been tasked with the following.

You must set up below in any cloud/virtual environment (AWS Preferred):

1. Create a new server and it should be publicly accessible
2. Run a freely available web server (i.e. Apache, NGINX, IIS etc.) in it – purpose is to serve some content  
Deploy the content. This can be as simple as some static text with a message i.e. “Hello World”
3. Give a script that can be executed periodically (and externally to the web server) to carry out below tasks. You are free to use any Scripting language
  - I. This script should SSH into the public server and check if Web server is running and start it if it is not.
  - II. Check if the server is serving the expected content (The message it displays in the body or along with a 200-status code).
  - III. Save results of this script in a suitable AWS/Cloud/Virtual database service along with the timestamps.
  - IV. If script detects any errors with the above setup, notify it to the App Support team via an email with a suitable error message
4. A second script should also be available that needs to be executed externally to the web server to carry out below activities. You are free to use any Scripting language
  - I. Collect log files and content of the web server daily and create one compressed file
  - II. Move the compressed file to the same location as the script is running
  - III. Upload the file to a S3 bucket or any other storage service accessible via either through Internet or Local Network
  - IV. If it is successful, remove the compressed file from the script location, if not inform the application support team via an email
5. Configure a proper logging mechanism for these scripts/setup

#### Supplementary requirements

These requirements are not must do's. But If you do them you can score more points in the assessment.

1. Automate this entire setup, so anyone can provision/destroy the setup using a single click of a button
  - I. You can use a suitable AWS or any cloud/virtual service or any other suitable tool/template to automate infrastructure provisioning/destruction.
  - II. You can use any configuration management tool (such as Puppet, Chef or Ansible) to bootstrap the server.
2. Business requirement is to make the website available 9\*5. Do the required to support this business requirement without any manual intervention of Application Support team.
3. Ensure availability and reliability of this setup
4. Ensure the solution is cost effective.
5. Solution you suggest should be secure.
6. Containerize the solution

## Deliverables

You will need to provide us with below details/files

- Create an Enterprise Architecture Diagram of this setup
- Document each step/action you carried out to set this up in a clear manner
- Provide clear instructions to set this up in our environments using the scripts/files/codes you provide.
- Provide instructions on how to execute the scripts
- You need to use a suitable source code repository to save all your codes/files/contents and share it with us

## Additional Information

- Source code repository — Please use something that is freely and publicly available.
- Good documentation is a must.
- Use ample amount of comments to explain where needed
- Make use of AWS/GCP/Azure or any other Cloud or virtualization free offerings as much as possible.
- You can use any free or open source OS, software packages, tools, etc. to develop your solution.
- Use your imagination but document the assumptions
- There can be many solutions and think outside the box
- Have fun doing this 😊

## Part 2 - Presentation

Please prepare a small presentation which you need to do for a panel of technical experts. Below is the agenda

Remember it is not only about what you put in the slide deck but how you present the information.

- About Your Self (Hobbies, Personal traits etc.) – 1 Slide
- About Your Favourite Super Hero/TV Show Character and why you like him/her – 1 Slide
- About London Stock Exchange Group – 1 Slide
- About Capital Markets – 1 Slide
- About ITIL – 1 Slides
- About the importance of an Application Support Engineer/DevOps Engineer for a Production System – 1 Slide
- Why you want to work in as an Application Support/DevOps Engineer – 1 Slide