VILLVAY

TECHNICAL ASSESSMENT

November 2020

Instructions:

- This Technical Assessment constitutes of 1 task
- You are expected to send us your answer script **no later than 9.40pm, Wednesday 18th November 2020**
- This assessment is open ended, and you will need to come up with a solution. Finally, you are expected to be prepared to discuss and explain the rationale of your solution decisions. It is advisable that you document all your assumptions and share along with the result.
- Once completed, please make sure your source code is available in a publicly accessible source code repository.
- This assessment is the property of Villvay Systems therefore copying or sharing of same is prohibited.

Task:

As a member of the Vilvay DevOps team you have been tasked with the following.

Create and deploy an Application (a simple static web-based app) that responds with "Hello World!" to anyone who visits it) which has the following features.

- It is resilient and single node failure does not affect end users.
- Application can be scaled, preferably automatically, to handle increased loads.
- Infrastructure and required services provisioning as well as application deployment is automated and can be triggered with a click of a button or a command in a terminal.
- Automate provisioning and destruction of this setup in AWS, you may use a suitable CI/CD process and a suitable code repository
- When an authorized person uploads a new file with his name as content to the S3 bucket, file should be automatically downloaded to the server and the webpage should be updated based on the content of the file.
- There should be sufficient level of error logging and/or audit trails established as part of the implementation
- Ensure there is some level of security implemented for the files that gets stored in S3 Bucket and limit access only to the web application. Explain your rationale for this implementation.

Once the above task is completed you must document the following (In the form of a Presentation)

- Provide an enterprise architecture diagram with the components and end points.

- You need to investigate the Potential security issues of your solution, list them and suggest techniques that can be used to avert them. It will have an extra weight if these are implemented as a part of your solution.
- Assuming this application is going to have a varying degree of usage depending on the time of the year, come up with a cost monitoring and control plan (Briefly explain what functions and approach you will take).

Additional Information

- Source code repository — Please use what is freely and publicly available.
- Use AWS free tier as much as possible.
- Some features may incur cost. In that case keep the configuration available and only enable when needed.
- You can use any free or open source OS, software packages, tools, etc. to develop your solution.
- Your solution should be in the form of code or configuration, such as Packer, Vagrant, Chef, Ansible, shell, etc. which we can review and use to create the environment on our own.
- Use your imagination but document the assumptions