Assignment

Congratulations, you have been selected for the second round of interviews for the Madmobile Application Services team.

In this, you are supposed to complete the following 2 tasks. **You will be given a period of 7 Days to complete this.** The assignment will be the basis for your next and Final Interview.

This assessment Contains Two Sections. You need to try both sections. While You may not be able to complete everything, please share whatever is completed by the submission date.

Task 1 – *Try as many as You can. Mandatory requirements carry more weight in scoring and completing optional requirements will give you extra points.*

You must set up below in any cloud/virtual environment (AWS -Amazon Web Service Preferred)

Mandatory Requirements

1. Come up with a solution to monitor the Utilization of 5 Critical Environment/Host Stats in a 3 EC2/Physical Unix Setup.
2. Set Thresholds to Each of these 5 Critical stats at 60% - Amber and 80% Red.
3. Setup a mechanism for each of the Critical Stat thresholds to be tested and upon each violation of the threshold an email to be sent out
4. Record the 5 Key stats every minute and record the data in a JSON Type Document which can be fed into a database.
5. Send a Weekly Summary email to an email address with Weekly High, low and Average values in a tabular format.
6. Implement Error Logging to the Solution where any errors will be managed and notified to various stakeholders
7. Ensure the configurations are not hard coded and new changes can be accommodated without any code changes. (Segregation of Logic and Configuration)
8. Proper best practices need to be followed.

Optional Requirements

1. Propose a Logging and Metrics Standard for the Key Stats
2. Automate the retention of the Critical stat and implement a log rotation (7 days Rolling Data rotation).
3. Propose How this would be scaled to an environment where we have multiple servers.
4. Automate this entire setup, so anyone can provision/destroy the setup using a single click of a button.
   - You can use a suitable AWS or any cloud/virtual service or any other suitable tool/template to automate infrastructure provisioning/destruction.
   - You can use any configuration management tool (such as Puppet, Chef or Ansible) to bootstrap the server.

You will need to provide us with the 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*
- *Supply clear instructions to set this up in our environments using the scripts/files/codes you provide.*
- *Supply 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*

- *Source code repository — Please use something that is freely and publicly available.*
- *Good documentation is necessary.*
- *Use an ample number 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 creatively*
- *Have fun doing this 😊*

Task 2 – *Prepare a Presentation covering the Following Topics*

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 Favorite Superhero/TV Show Character and why you like It/him/her – 1 Slide*
- *MadMobile and Restaurant Industry*
- *What makes you excited about this role*
- *What is your take on DevOps/SRE practices*