pollinate

Pollinate – Platform Engineering Tech Assignment

Version 3.0

Goal

1. Verify the candidate's ability to take mid-level requirements and deliver a working solution
2. Verify the candidate's ability to create a running environment with different services
3. Verify the candidate's ability to set up services with scalability in mind
4. Verify the candidate's ability to automate a real-world use case
5. Verify the candidate's ability to communicate and present technical solutions

Deliverables

1. Candidates needs to deliver the solution to the assignment
    a. High level design document (pdf)
    b. Proof of concept (code)
2. Public GitHub repository with all associated code, comments, documentation and diagrams related to the assignment for all parts of the assignment attempted.

Notes

1. Provide as much detail as you feel necessary, including documentation and diagrams as you will be asked to present this back to us as part of the final stage of the process
    a. Test is open-book.
2. Please complete the assignment within 72 hours of receipt.

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Assignment

Objective

The objective of this exercise is to design, deploy and provision a highly available service.

Assignment

1. Create a proof of concept for the following:
    - Create an application with simple API that will be used to submit a curl command (curl -X POST http:// <someip> /app) that will insert the date-time stamp into your database.
2. The proof of concept should consist of a single web-application and a single database
3. Create a GitHub project for this assignment
4. Automation the provisioning your database node and web node with the API you created.
5. A readme file must be populated with your git project detailing your solution and how to run it. (edited)
6. Provide details of your high-level design that would meet the requirements outlined above.
    - This design must be submitted 24 hours before the interview scheduled via pdf and must show a logical design

Additional Requirements

1. The service will accept a POST request that will persist the timestamp of that event into a database. For all aspects of your solution, you should consider multi-DC, zones & redundancy of components.
2. Please note that the design must be elastic based on demand.
3. For any areas, which you have not considered to automate, please state these clearly and if possible, provide details of the solution you would have implemented including your experience/depth of knowledge of that area.
4. Be ready to explain your reasons in regards to your choice of solution.
5. The choice of technology is up to you. For example, if you choose to use a NoSQL database or a Relational database is your choice.
6. The provisioning tool suggested below is Ansible, however, you may use any tool of your choice for your automation.

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Questions and Tasks:

1. Explain with as much detail as you can of your high-level design and explain why that would meet the requirements outlined above.
2. Provide details of your web API that will be used to submit a curl command (curl -X POST http:// <someip> /app) that will insert the DateTime stamp into your database. The api code should be well documented.
3. In addition, provide any automation for your backup/restore process you would implement.
4. Provide details of your Persistency Layer, with details of your cluster setup and configuration.
5. If you consider any Load Balancer or queuing service to be used, please be ready to explain the reasons and your suggested configurations of each.
6. Please consider monitoring and maintainability
7. Please explain how elastic your service is, what would be trigger points and how the scale up or down would actually work