ProServe Assignment
Role: Cloud Architect

BRIEF

You meet with a startup company in the early stages of their operations, who has received funding of $250K and been recommended by their investor to discuss their architecture and approach with AWS. Currently the architecture for their social media applications uses a LAMP stack for the main web application and provide a RESTful API for mobile services, written in node.js. All of this is running on a VPS service, location unknown.

Like many small start-ups, they are confident that they will be the next big thing and expect significant, rapid, yet un-quantified global growth in the next few months. With this in mind, they are concerned about:

1. How much this demand will be and how to make effective use of their seed funding, whilst ensuring their have the required capacity to meet demand.

2. Scaling to meet the demand for the web application and the API services layer.

3. Effective distribution of load across the entire application architecture, including the ability to throttle traffic to the API service layer.

4. Ability of their database and data access layer to provide high performance read and write throughput, whilst remaining cost effective.

5. Providing a high performance end-user experience for the web application, even though a large portion of their user base will be globally distributed.

6. Providing secure access for mobile application users to the API services and synchronizing user preferences across devices.

7. Ensuring they have a self-healing infrastructure that automatically recovers from failures.

8. A strategy for capturing, analyzing and securely storing sentiment analysis data and an archival strategy for inactive data greater than 6 months.

9. Security of data at rest and in transit across the entire application architecture.

10. Securing and delegating appropriate access to the environment as the team grows.

11. Optimize and automating their approach to source code management, build, testing and deployment, which supports their rapid deployment cycle.

12. Ability to easily manage and replicate multiple environments based on their blueprint architecture.

OBJECTIVE

Recommend a manageable, secure, scalable, high performance, efficient, elastic, highly available, fault tolerant and recoverable architecture that allows the startup to organically grow. The architecture should specifically address the requirements/concerns described.

DELIVERABLES

A technical architecture proposal document, no greater than six pages long, which clearly and succinctly presents an analysis of the startups requirements and the proposed architecture on AWS. Clearly state all assumptions made during the design and explicitly state references used in creation of the document for the client to be able to do further reading.

Please note submission will be rejected for plagiarism and use of uncredited copyrighted images.