**SE LAB ASSIGNMENT**

**QUESTION 1**

In the scenario of encountering 200,000 concurrent users on your web or mobile project,

how would you manage the load, and what technologies would you employ to handle such

traffic efficiently?

**ANSWER**

In this Scenario I use Load balancing which help or distribute traffic to diff platform.

**QUESTION 2**

While your mobile or web application is live, you need to make updates without causing

any downtime. How would you achieve this goal and ensure the site remains operational

throughout the update process?

**ANSWER**

We can use Blue Green Development.

**QUESTION 3**

If your website faces a Distributed Denial of Service (DoS) attack, describe your strategy

for detecting and preventing it effectively. What tools or techniques would you employ to

safeguard your site?

**ANSWER**

Rate Limiter is used to manage the Traffic on website.

**QUESTION 4**

When dealing with unstructured data in your project that needs to be stored in a database,

how would you resolve this issue? Which database system would you choose, and what

are the reasons behind your selection?

**ANSWER**

We can use NoSQL for un structure database.

**QUESTION 5**

If your website handles critical transactional data that requires robust security measures,

what technology stack would you use, and why? Explain your choice in detail.

**ANSWER**

We can use Authentication, Authorization for this purpose.

**QUESTION 6**

Given an audience spanning Pakistan and the USA, how would you determine the optimal

server locations and implement traffic redirection to ensure users are directed to the nearest

server based on their location?

**ANSWER**

**CDN (Content Delivery Network) is used** for this purpose.

**QUESTION 7**

When dealing with static data like images, icons, and fonts on your website, how would

you optimize the storage and delivery of such content? What technologies or methods

would you employ for efficient management?

**ANSWER**

By use of CDN.

**QUESTION 8**

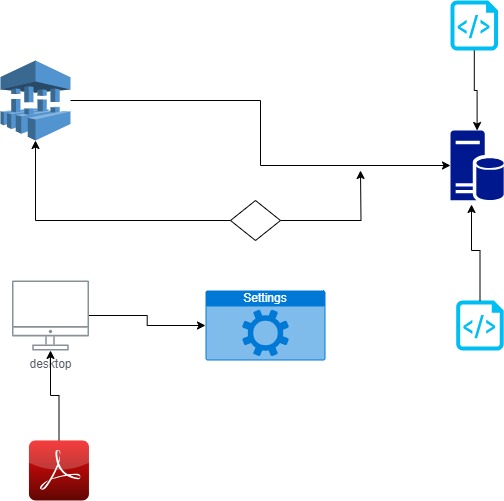
To implement a real-time notification system within your application, what technology

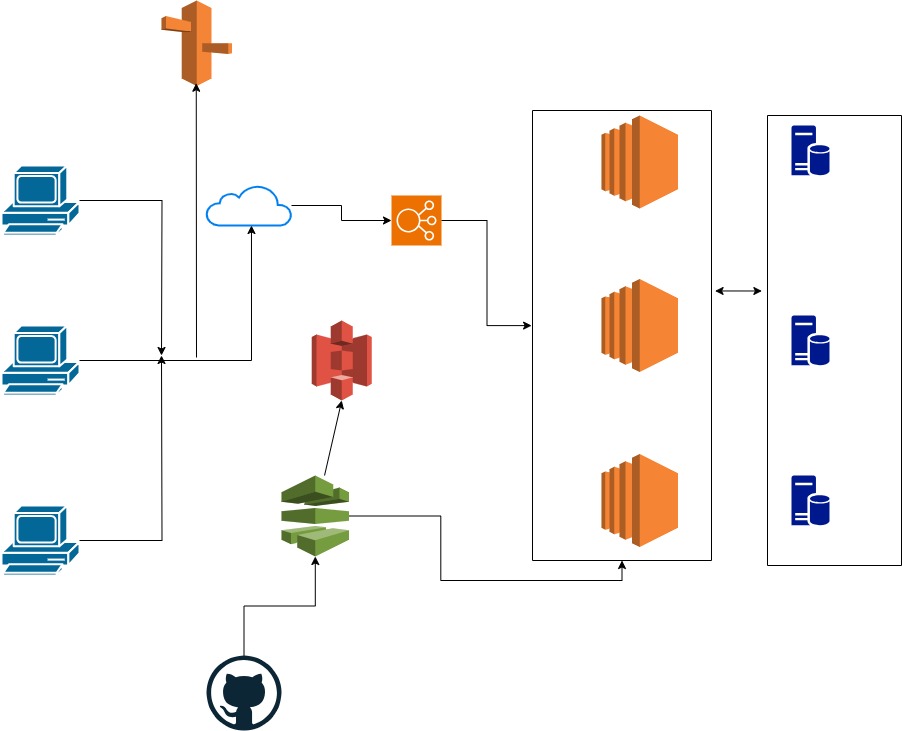
stack or method would you choose, and why? Provide a comprehensive explanation of the

chosen approach and its advantages**.**

**ANSWER**

WebSocket is a communication protocol that provides full-duplex, bidirectional communication channels over a single TCP connection. It's an excellent choice for real-time notifications because it allows the server to push data to connected clients instantly.

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