

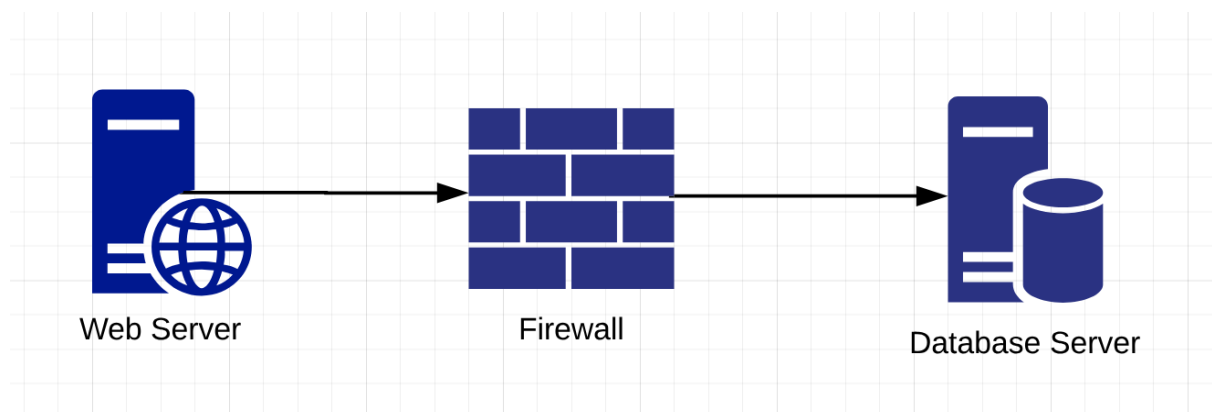
DevOps Engineer Assessment

1. Design a web application with database backend architecture in the form of a diagram (this is platform agnostic, although specific technologies can be mentioned). The application has the following requirements:
 - a. It should be highly available.
 - b. It should be self-healing.
 - c. There should not be any single points of failure (it should have
 - d. redundancy).
 - e. The application should have security measures wherever possible.
 - f. It should be able to handle sudden jumps/spikes in traffic.
 - g. It should provide the best possible performance. It should allow for quick responses and quick load times for the web app client side.

Below the diagram please also add a description of the components used in the diagram with the requirement they solve.

The next questions have more than one acceptable answer. But consider that your answer should reflect your skills and experience in troubleshooting.

2. The following scenario relates to the diagram below. The web application on the web server reports that it cannot connect to its database located on the database server. List the troubleshooting steps you would take to find the cause.



3. You try to check connectivity for a server and receive the following:

```
[ansible@gre-ans-t01 ~]$ ping gre-gnrl-t01
ping: gre-gnrl-t01: Name or service not known
```

List your troubleshooting steps.

4. An application running on a VM is extremely unresponsive but the task manager indicates that (v)CPU (load) has **not** reached maximum capacity.

Remark: Limit your answers (a, b and c together) to fit on a single A4 page!

- a. Name three other circumstances that could potentially result in these symptoms?
- b. Describe for each the steps taken to identify the issue?
- c. Describe of each issue how to resolve the problem?