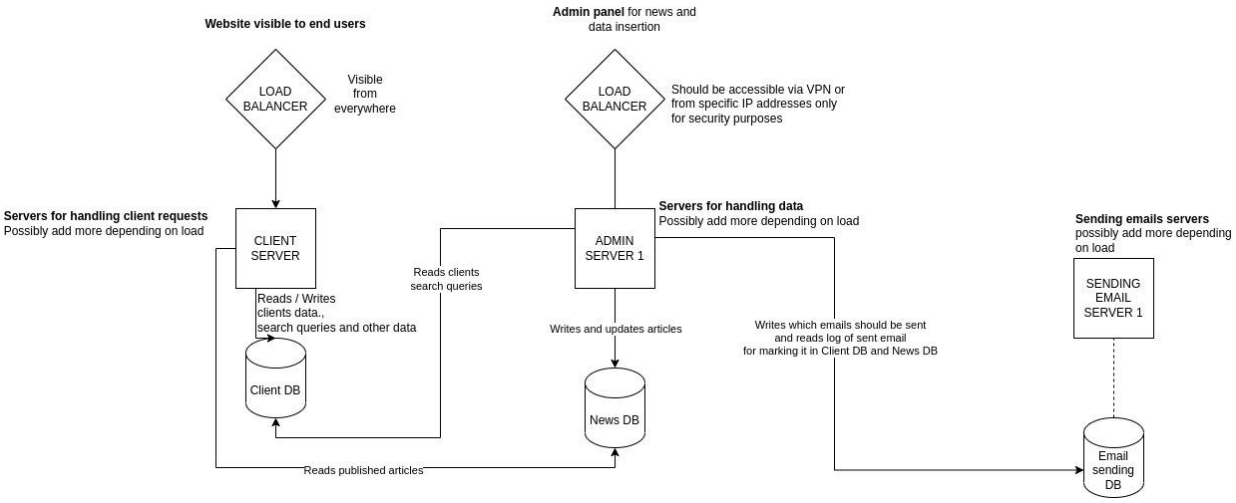
Architecture Evaluation Exercise

This diagram shows proposed architecture for a given scenario. Since sending emails is the “heaviest” part of this entire scenario it should be separated to its own servers - bascially create a micro service that whill handle all email actions. Writing 10.000 articles in DB shouldn’t be an issue because that number of records shouldn’t take much time to execute and it shouldn’t overflow servers memory. Of course this depends on the server itself. In the proposed architecture “Admin” and “Client” are used through Load Balancer. In case of a higher load more servers could be easily added. Usually Load Balancer comes with its own IP and therefore allows us to keep the same IP and modify structure behind it without changing DNS records.



Sending servers should communicate with one DB and each server (in case of multiple serves) should run a code that actually sends emails. These servers should generate the entire content of each email and send it via external service. It possibly could use multiple DB-s using replications in case of a higher load. The email server should track which email is delivered / bounced and write that data to DB. It is enought at this moment to have one email sending server to have a “public” route where those actions could be recorded from webhook. From email sending DB Admin would pull the data and generate a small report for administrators so that they can see the statuses of all the emails.

Personally, I would go with NGNX, PHP, MYSQL as a backend stack. Nginx is something that I would chooese because it is much more simple than Apache and 2.5 times faster. PHP would be my choice because it is fast and easy to write.

Good thing to have would be: if email is bounced it would be wise to notify customers about that in their “admin section”. Especially if it is a paying customer. One more thing that cou

This architecture would “hit its limits” in case of high database load. In which case databases should be replicated and used like that. For more info about this please contact me.