Domain Pulse - A Sentiment Analysis Platform

A COS301 software engineering project

Deployment Diagram Explanation

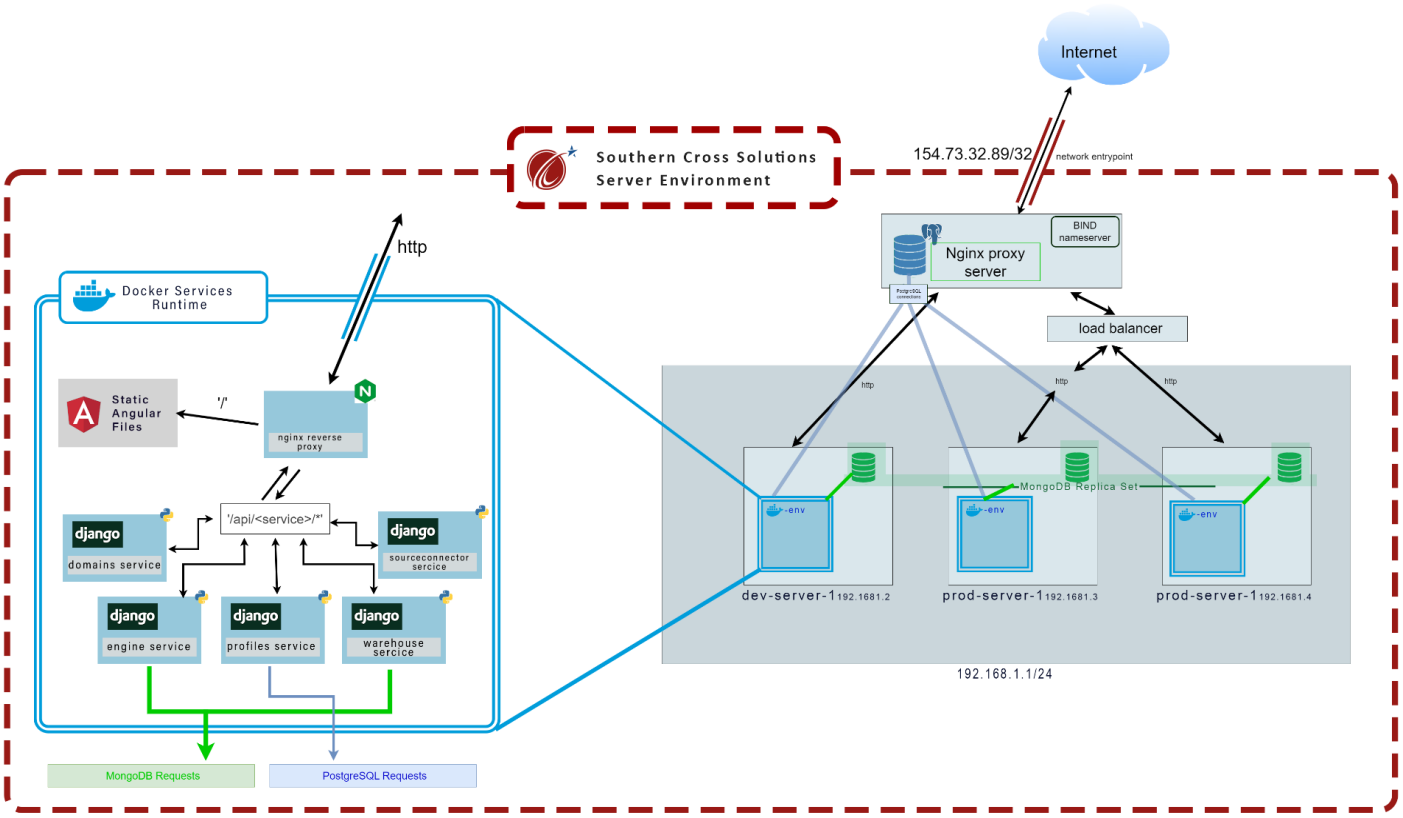

Figure 1: Deployment Diagram 1

Explanation

Shown in Figure 1. is a diagram showing the main environment in which our application runs On the left are the services, seen running in the docker engine runtime environment. The entrypoint to the services is an nginx image which proxies requests to the appropriate service in the environment This docker environment is replicated 3 times in the 3 virtual machines we are using. 1 of them is running development images which are frequently updated, the other 2 are running production images. the reason there are 2 is so that there is not downtime when updated the deployed application

Across the 3 virtual machines are 3 nodes part of a mongodb replica set, this is so that the database is always available and can be scaled horizontally This environment is running on a local subnet and is not routable publicly, the entrypoint to these virtual machines is a public facing virtual machine which is running a reverse proxy

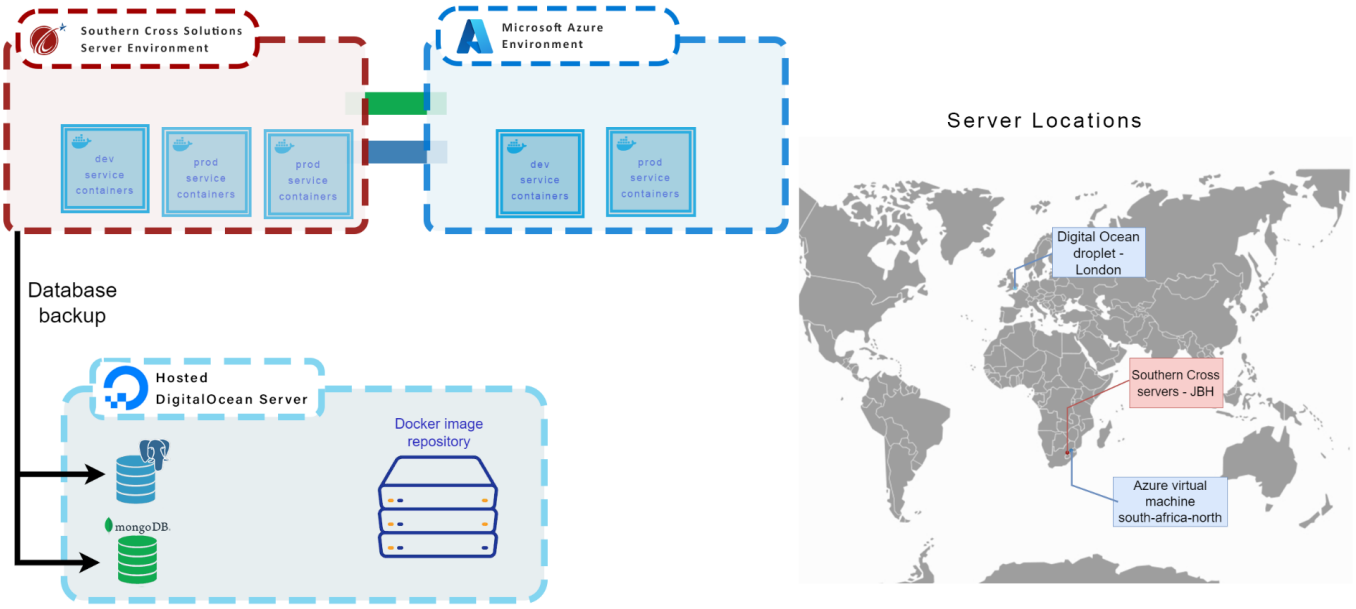

Figure 1: Deployment Diagram 2

Shown in Figure 2. is a diagram showing where servers are located and their purpose. In South Africa we have our main servers running on our clients servers in johannesburg. We have an Azure Virtual machine running in the south-africa-north zone, which is used for redundancy if there are issues that occur on the main servers. Nameservers are running on these machines such that the domain name can be resolved to an ip address of an environment that is working.

For Backups we choose to store both of our database backups in a digital ocean droplet. This is so that if there is a disaster we can restore the database from a backup. A self hosted docker repository is also hosted on this droplet, such that we can have faster access to images that are frequently used.