ICT & Infra S3 S/NO week 14: AWS Route53(3)

Date: Sep 2020
Version 1.0

Class: I3-CB01

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Introduction

S/NO: Following these exercises you will learn how to:

- create traffic flow policies

- configure load balancing with multivalue answer routing policies

- create private hosted zones for AWS VPCs

How to deliver your assignments?

Fill in this document with required information. Answer questions and upload the document to Canvas at most one week after the assignment is given.

## Assignment 1: Use AWS Route53 traffic policy records.

- Think about where you can benefit from a traffic policy record in your case-study.

It is useful for routing traffic to resources such as our web server using a name as opposed to an IP address

- What type of records will you use for a traffic policy?

We would use an A record type, as that would route traffic to the IPv4 address through a name we have chosen for our website

- Demonstrate a traffic policy diagram with a chain of records.
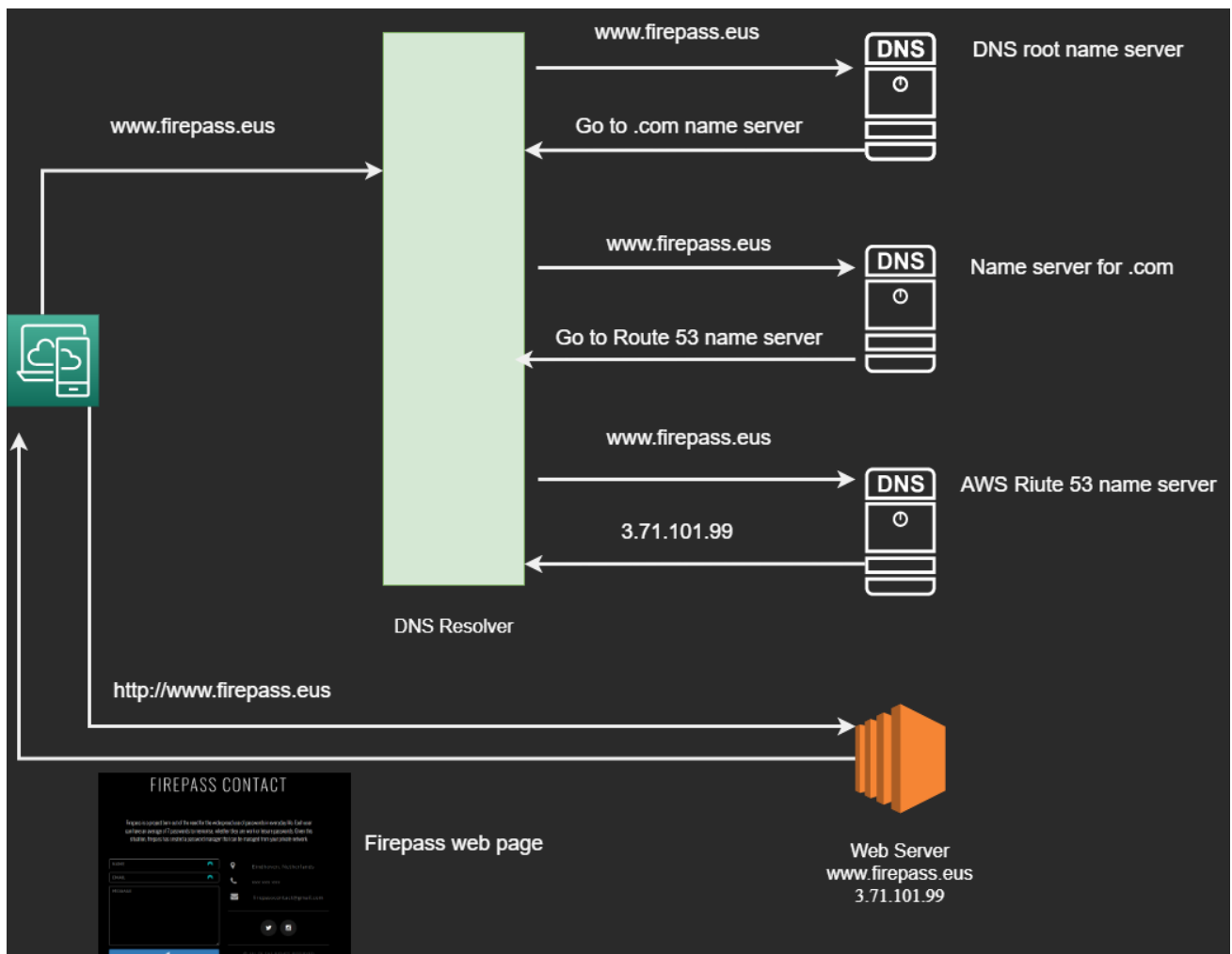
Assignment 2: Use AWS Route53 multivalue answer records

- Think about where you can benefit from multivalue answer record in your case-study.

It could give our web server a lot more redundancy and reduces or remove downtime for clients, instead redirecting them to a different IP address

- What are the advantages/disadvantages using multivalue records compared to the weighted, simple records with multiple ip addresses answer or just pure load-balancer records?

Advantages of using multivalue records:

- Allows for multiple IP addresses to be associated with a single domain name, increasing availability and redundancy

- Can be used to distribute traffic across multiple servers, improving performance and scalability

- Can be used to implement a simple form of load balancing by distributing traffic across different IP addresses based on a specified algorithm

Disadvantages of using multivalue records:

- More complex to set up and manage compared to a single A record

- Some DNS servers and clients may not support multivalue records

- May not provide as fine-grained control over load balancing as a dedicated load balancer

- Some client's IP address can be cached by the browser leading to an imbalance in traffic distribution

Advantages of using weighted, simple records with multiple IP addresses:

- Simple to set up and manage

- Most DNS servers and clients support A records

Disadvantages of using weighted, simple records with multiple IP addresses:

- Limited availability and redundancy as compared to multivalue records

- Limited scalability

Advantages of using load balancer records:

- Fine-grained control over traffic distribution

- Can be used to distribute traffic across multiple servers, improving performance and scalability

- More advanced features such as session affinity and health checks can be implemented

Disadvantages of using load balancer records:

- Requires additional infrastructure and management

- May be more expensive compared to other options

- May introduce additional latency

Provide screenshots and descriptions of the steps above

Assignment 3: Use AWS Route53 private hosted zone

- Think about where you can benefit from the private hosted zone in your case-study.

In our case study, we would not have a use for a private hosted zone as we did not use route 53, but if we had used it a private hosted zone would be useful for keeping records in one centralized location so the information would be easily accessible. It would also integrate easier into our project as it is an AWS service

- Can you benefit also from a split-DNS setup?

Overall, a split-DNS setup would provide us with additional privacy and security as well as remote access to access internal resources, which was useful for us whenever we were not in the country. Although we already had remote access to all resources through AWS, I think it would be worth implementing as our solution is centered around password security.

Provide screenshots and descriptions of the steps above