

Conception Phase for Hosting a Simple Webpage on AWS

1. Introduction:

The goal is to set up a webpage on AWS that is always available and can be accessed from anywhere in the world. It will automatically adjust to handle more visitors if needed. The project will start with a basic HTML page showing a restaurant menu, but the system will be ready to grow in the future.

2. Cloud Services to Be Used:

1. Amazon S3:

- Hosts static content, such as HTML, CSS, JavaScript (AWS, 2024).
- Chosen for its high availability, durability, and automatic scaling (AWS, 2024).

2. Amazon CloudFront:

- Distributes content globally with low latency (AWS, n.d.a).
- Caches content at edge locations for faster performance (AWS, n.d.a).

3. Amazon Route 53:

- Manages domain registration and DNS routing (AWS, n.d.b).
- Directs traffic to the nearest AWS resource using geographic routing (AWS, n.d.b).

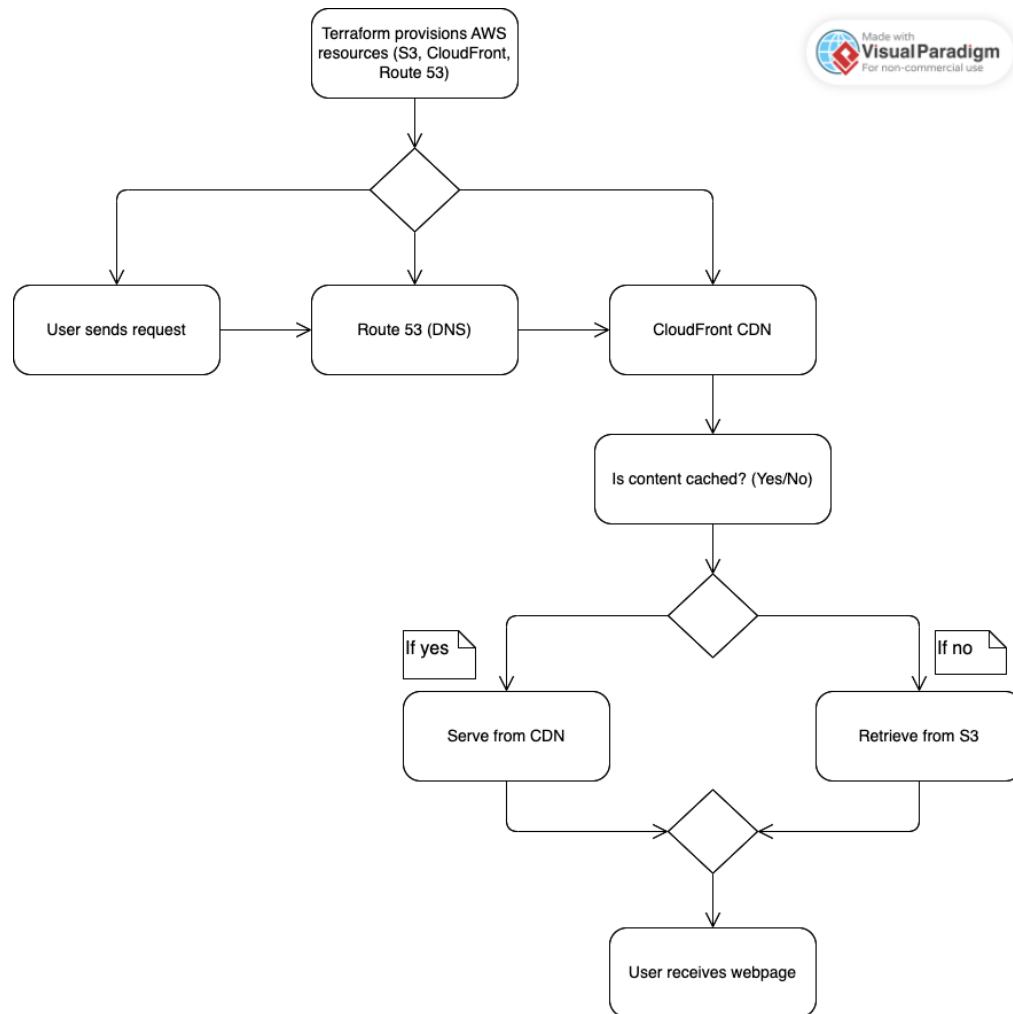
3. Infrastructure as Code (IaC) Tool:

Terraform will be used to automatically set up and manage AWS resources. It helps keep everything consistent, reduces mistakes made by hand, and makes it easier to track changes (HashiCorp Cloud Platform, n.d.). This also makes it simple to copy the infrastructure when needed (HashiCorp Cloud Platform, n.d.).

4. Architecture Flow:

1. User request is sent to the website.
2. Route 53 directs the request to the nearest CloudFront edge location.
3. CloudFront serves cached content or retrieves it from the S3 bucket.
4. The website is delivered to the user.

The following diagram illustrates the architecture:



5. Conclusion:

This AWS setup is built to be always available, able to grow with demand, and accessible worldwide. Also, Terraform helps automate the setup and management of this infrastructure.

Reference:

- AWS. (2024). *What is Amazon S3?* Amazon Web Services. Retrieved from <https://docs.aws.amazon.com/AmazonS3/latest/userguide/Welcome.html>.
- AWS. (n.d.a). *What is Amazon CloudFront?* Amazon Web Services. Retrieved from <https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/Introduction.html>.
- AWS. (n.d.b). *What is Amazon Route 53?* Amazon Web Services. Retrieved from <https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/Welcome.html>.
- HashiCorp Cloud Platform. (n.d.). *What is Terraform?* HashiCorp Cloud Platform. Retrieved from <https://developer.hashicorp.com/terraform/intro>.