

# Cloud and the journey from a startup to Fortune 500

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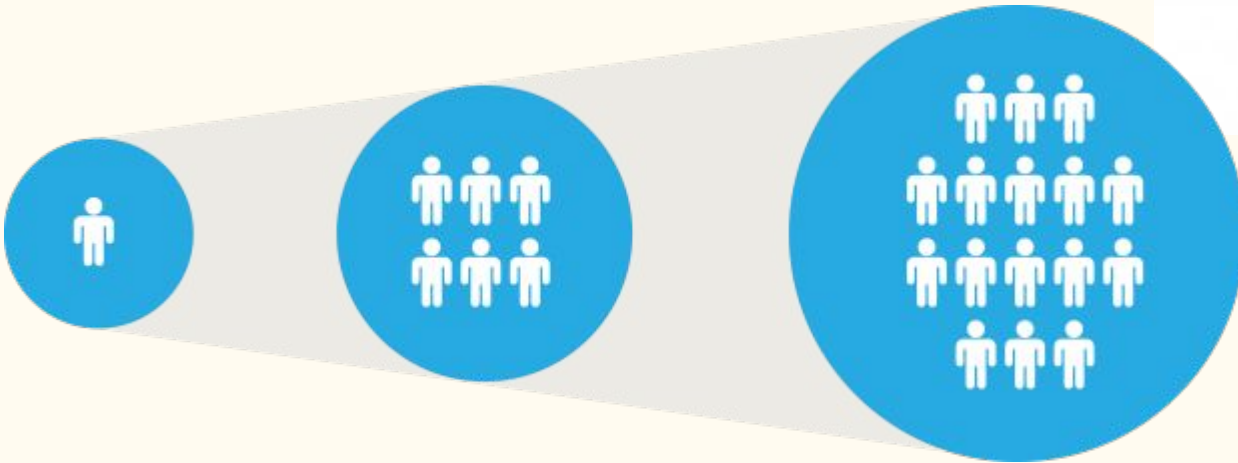
By: Taqui Syed Shah, Carina Wickström, Md Rezaul Hasan

# Introduction

**We are Netflix**

# Overview

- DevOps
- Scalability
- Availability & Disaster Recovery
- Elasticity

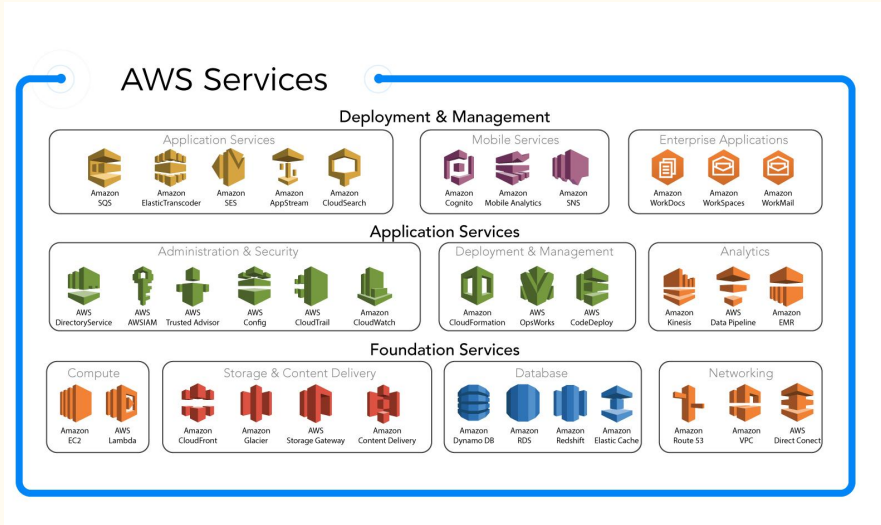
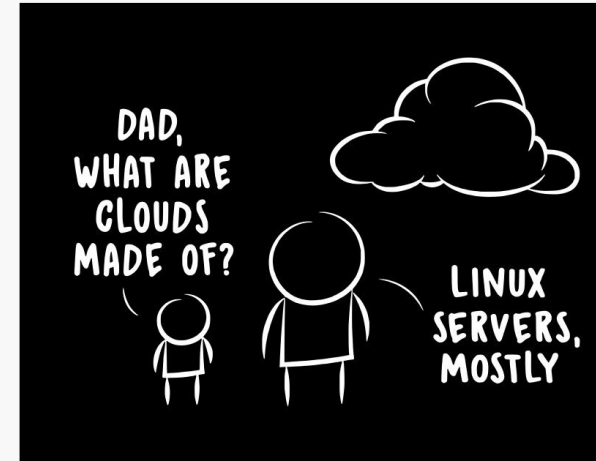


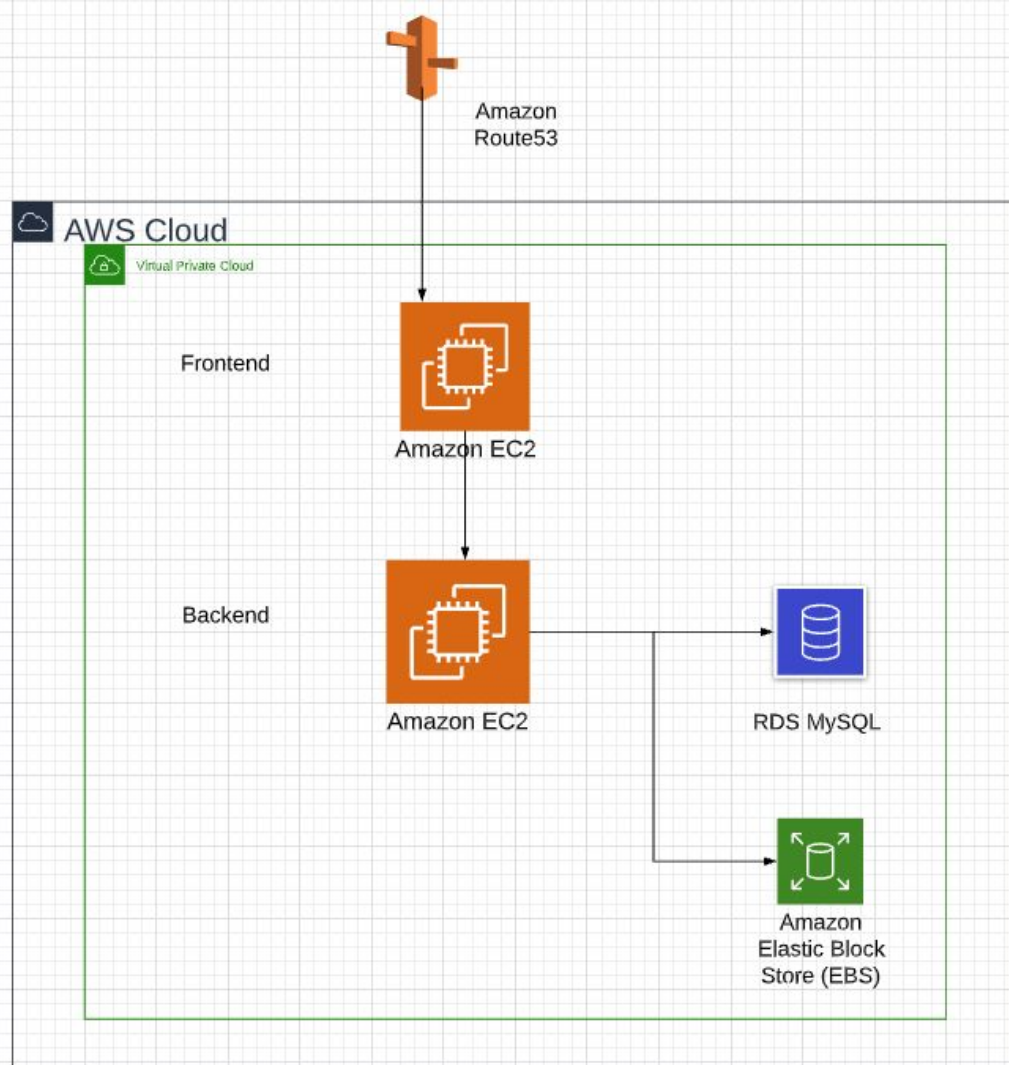
# Start Of the Journey

- Netflix
- Movie Streaming Company
- We Currently Need 3 things:
  - File Storage - Hard Drive 1TB
  - Server
  - Database

# Cloud

- On-Demand Resources
- Hardware Managed By Cloud Provider





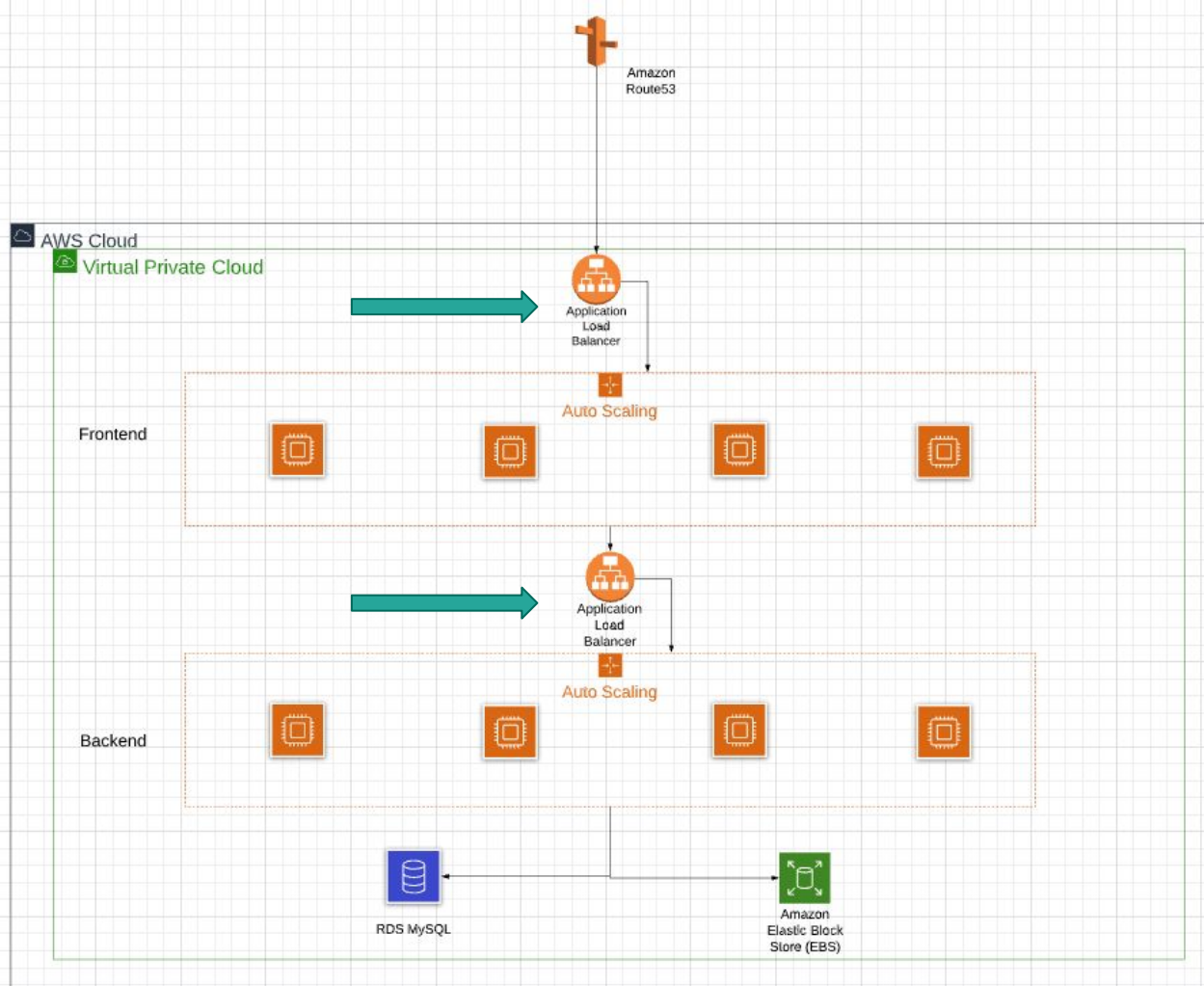
# User Base Increase!

- 100 → 1000
- CPU running at 100%
- Crashing
- CTO gets blamed...

# CTO Taqui does Research

- Autoscaling Groups - Scales on Metric - CPU load, GPU load etc
- Load Balancing





# Larger Movie Selection!

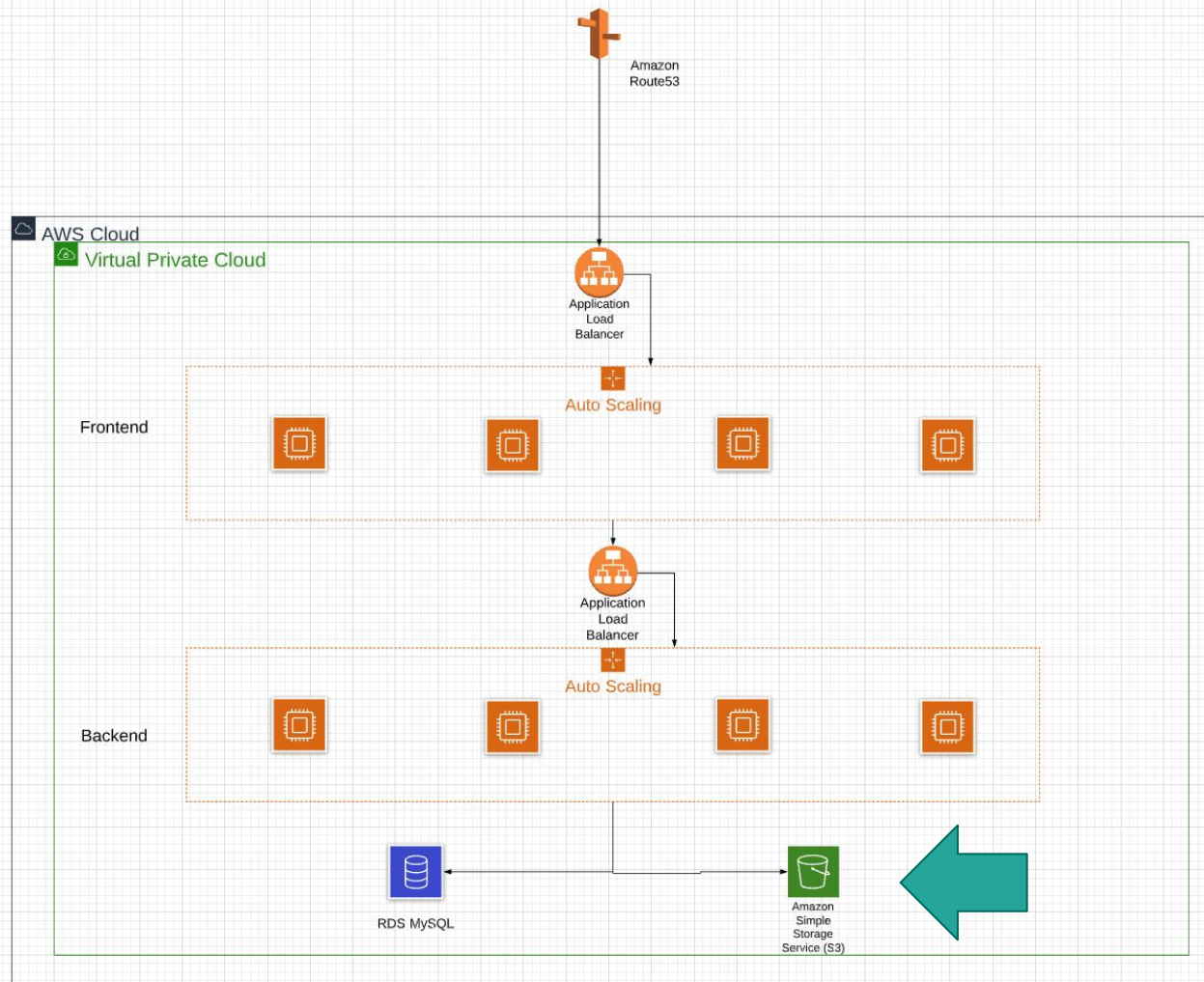
- Not Enough Space?

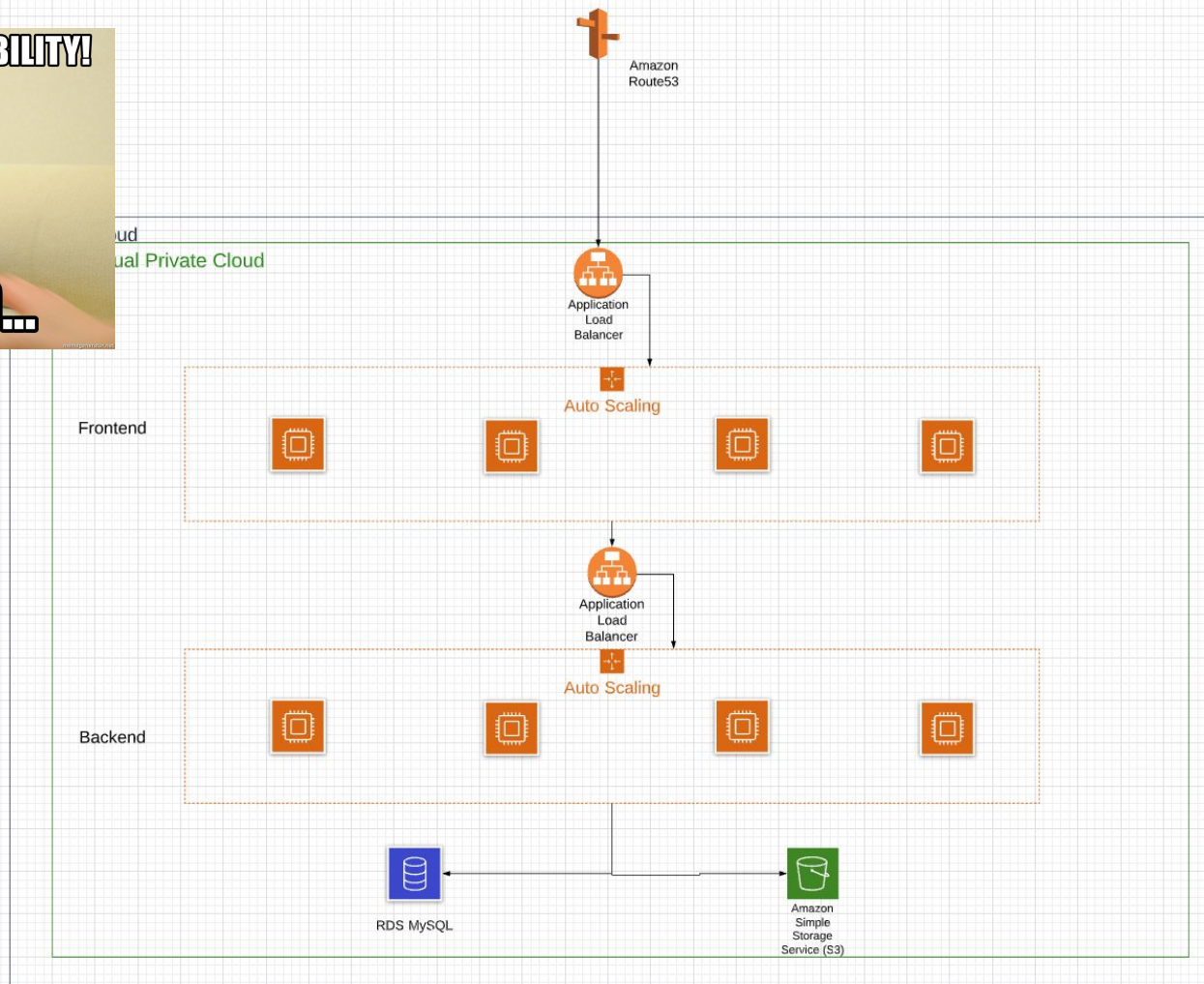
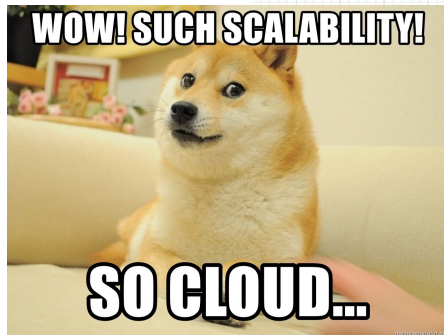


# CTO looks for scaling File Storage

- S3







# Application Unreachable

- Entire Availability Zone is Down?
- AWS offers Regions with Multiple AZ

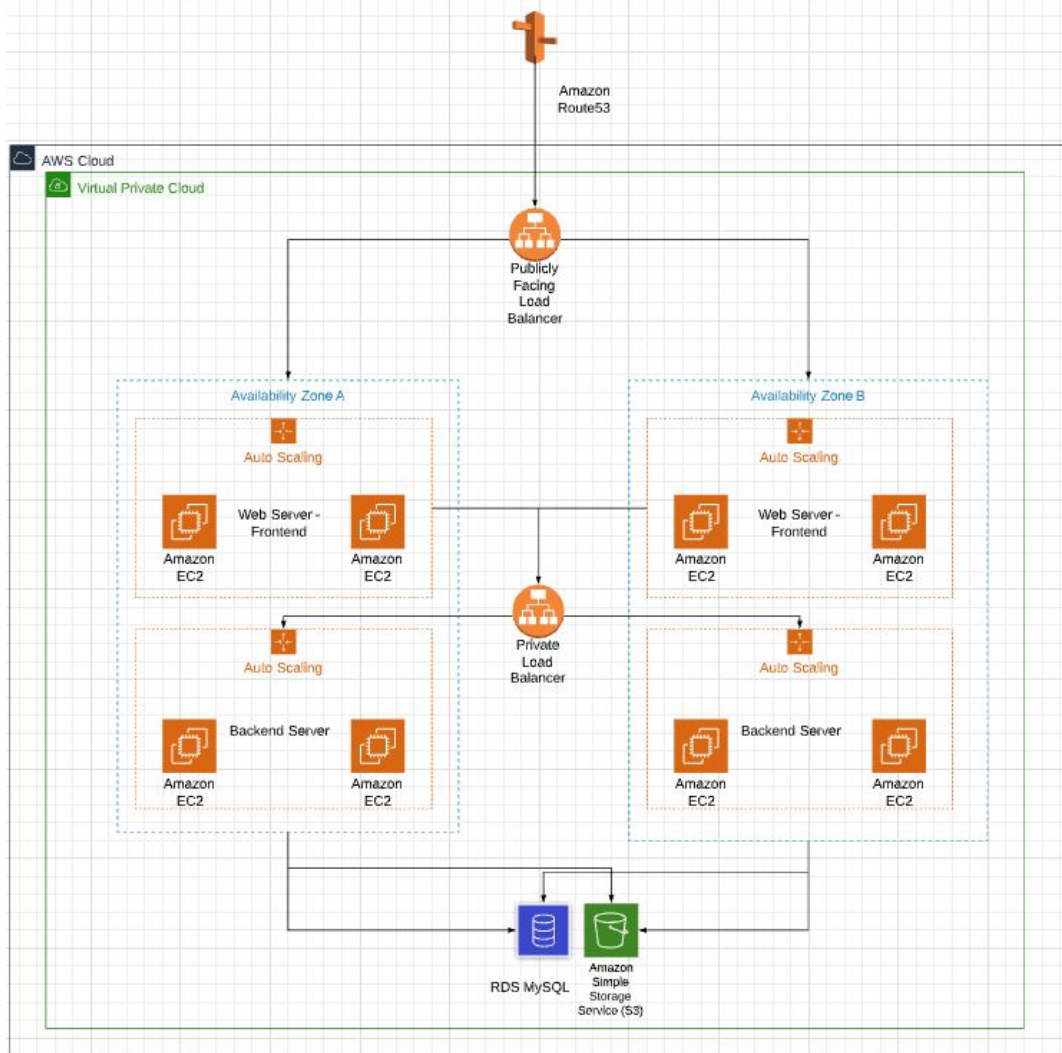
# Leverage Different Availability Zones

- Increases Availability

# Database Failure?

- Failure due AZ failure
- Failure due to increase in load





# Boss Screams at CTO Taqui

- Studies the next week on a solution

CLIENT AND CEO

CTO trying to  
get 2 seconds of sleep



# Disaster Recovery for DB

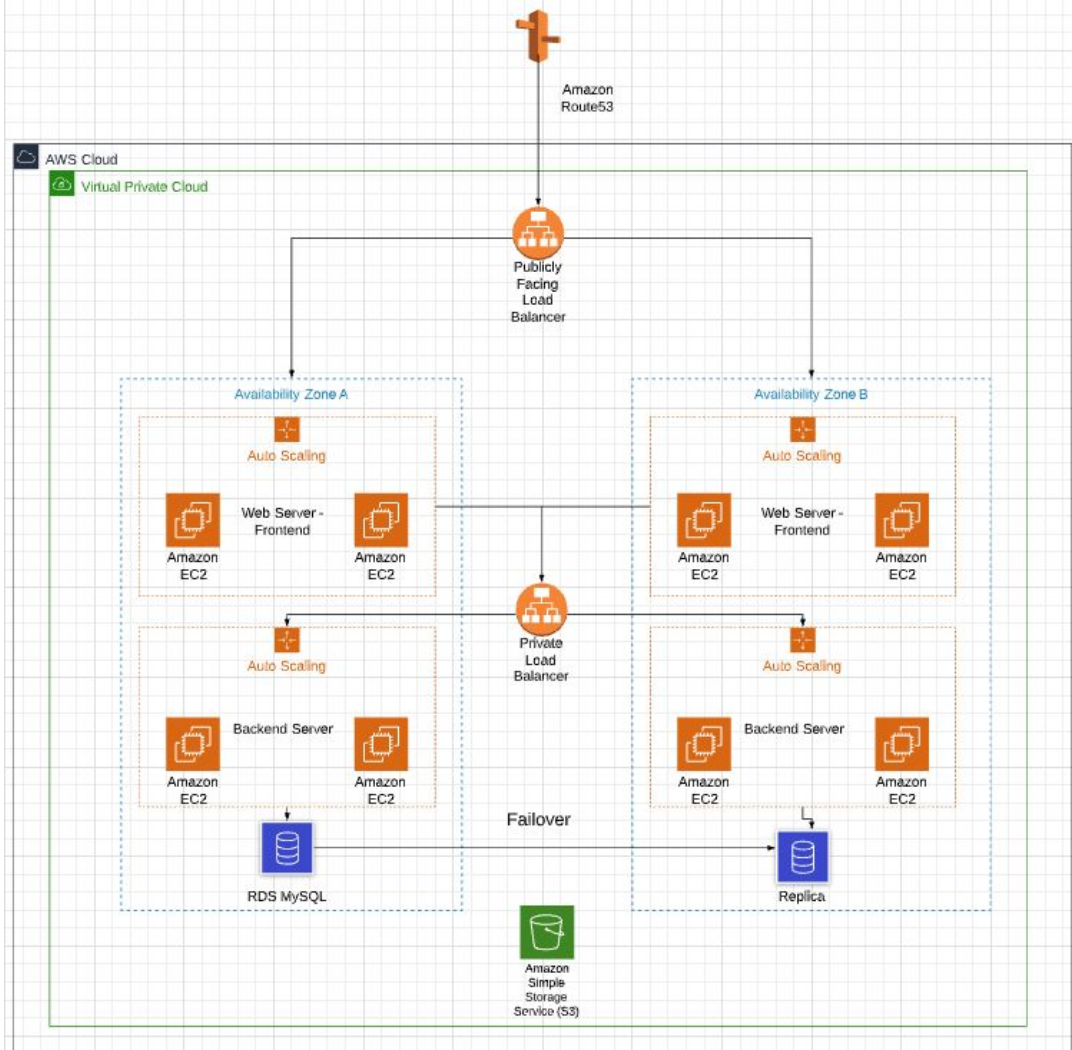
- Backup
- Failover

# Operation Becomes Expensive!

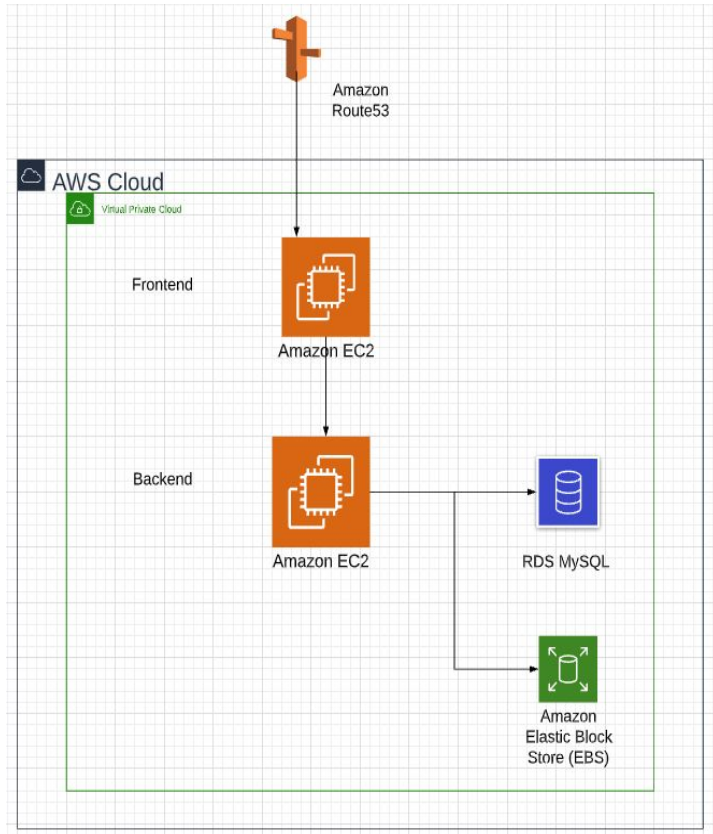
- Elasticity

# At least 20 Servers are Constantly Running

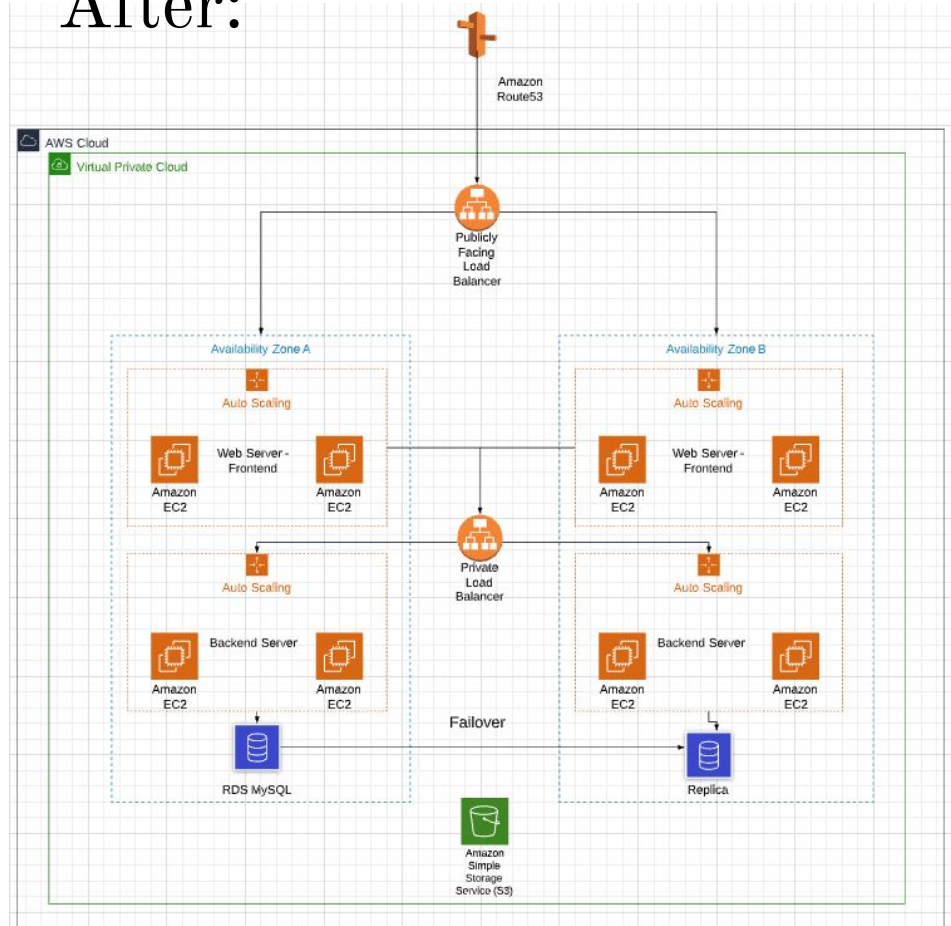
- 2% CPU utilization
- Extremely Expensive to Operate



# Before:



# After:



ASG:

Type: AWS::AutoScaling::AutoScalingGroup

DependsOn: EC2TargetGroup

Properties:

AutoScalingGroupName: taquiyt-services-ASG

VPCZoneIdentifier:

- !Ref PublicSubnetA
- !If [BuildPublicB, !Ref PublicSubnetB ,!Ref "AWS::NoValue"]
- !If [BuildPublicC, !Ref PublicSubnetC ,!Ref "AWS::NoValue"]
- !If [BuildPublicD, !Ref PublicSubnetD ,!Ref "AWS::NoValue"]

Cooldown: 300

HealthCheckGracePeriod: 60

HealthCheckType: ELB

LaunchConfigurationName: !Ref ASGLaunchConfiguration # kolla in på detta

MaxSize: !Ref MaximumAmountOfInstances

MinSize: !Ref MinimumAmountOfInstances

TargetGroupARNs:

- !Ref EC2TargetGroup



# Take Away

- DevOpsify your Infrastructure as soon as possible!

**\*ignoring DevOps\***

**\*Infrastructure dies every 2 months\***

**CTO:**

