رواد مصر الرقمية

BAKEHOUSE WEBSITE

INSTRUCTOR: **KAREEM ATIF**

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TEAM

رواد مصر الرقمية

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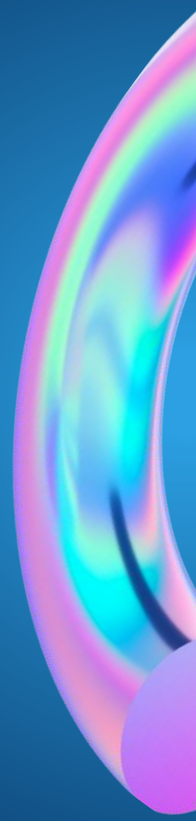
OMAR Y.ELKAISY

ZYAD HOSSAM



PROJECT OVERVIEW

- The Bakehouse website is an online platform for a bakery that needs to be deployed on AWS.
- The goal is to ensure high availability, scalability, and security using several AWS services.
- Services used include EC2, VPC, ASG, RDS, ELB, and others to optimize the deployment.

OBJECTIVE

Deploy the Bakehouse website on AWS.

Ensure the website is:

Highly available across different availability zones.

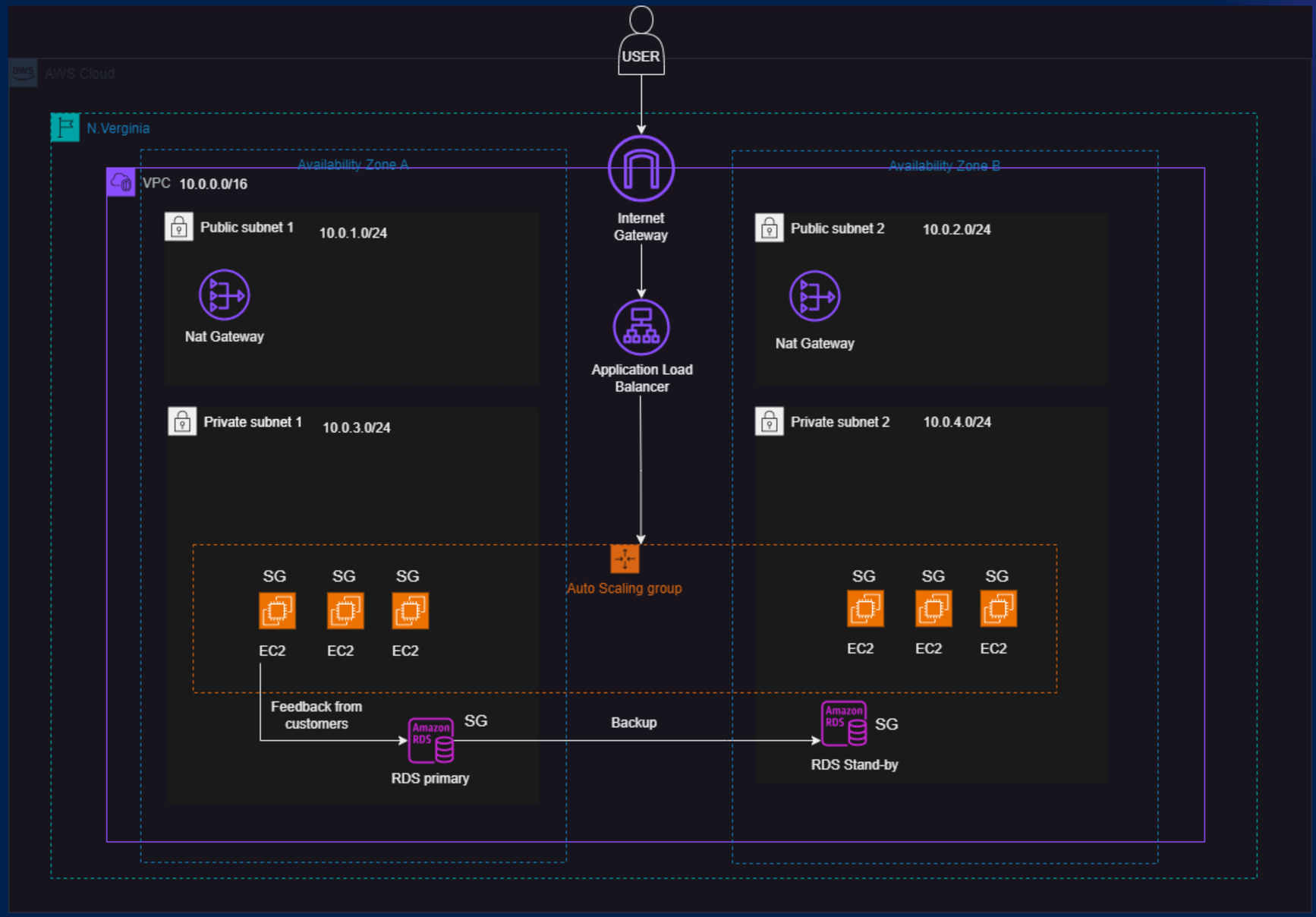
Cost-effective with optimized resource use.

Scalable to handle web traffic efficiently.

AWS SERVICES

- VPC: Created a Virtual Private Cloud to host all resources.
- 4 subnets: 2 private and 2 public subnets, distributed across 2 Availability Zones (AZs).
- Internet Gateway: Provides internet access to the public subnets.
- NAT Gateway: Allows instances in private subnets to connect to the internet.
- EC2: Used t2.micro instances for hosting the website.
- Auto Scaling Group (ASG): Automatically adjusts the number of instances based on traffic.
- Application Load Balancer (ALB): Distributes traffic evenly across instances.
- RDS: Managed database service for reliable storage.

SOLUTION DIAGRAM



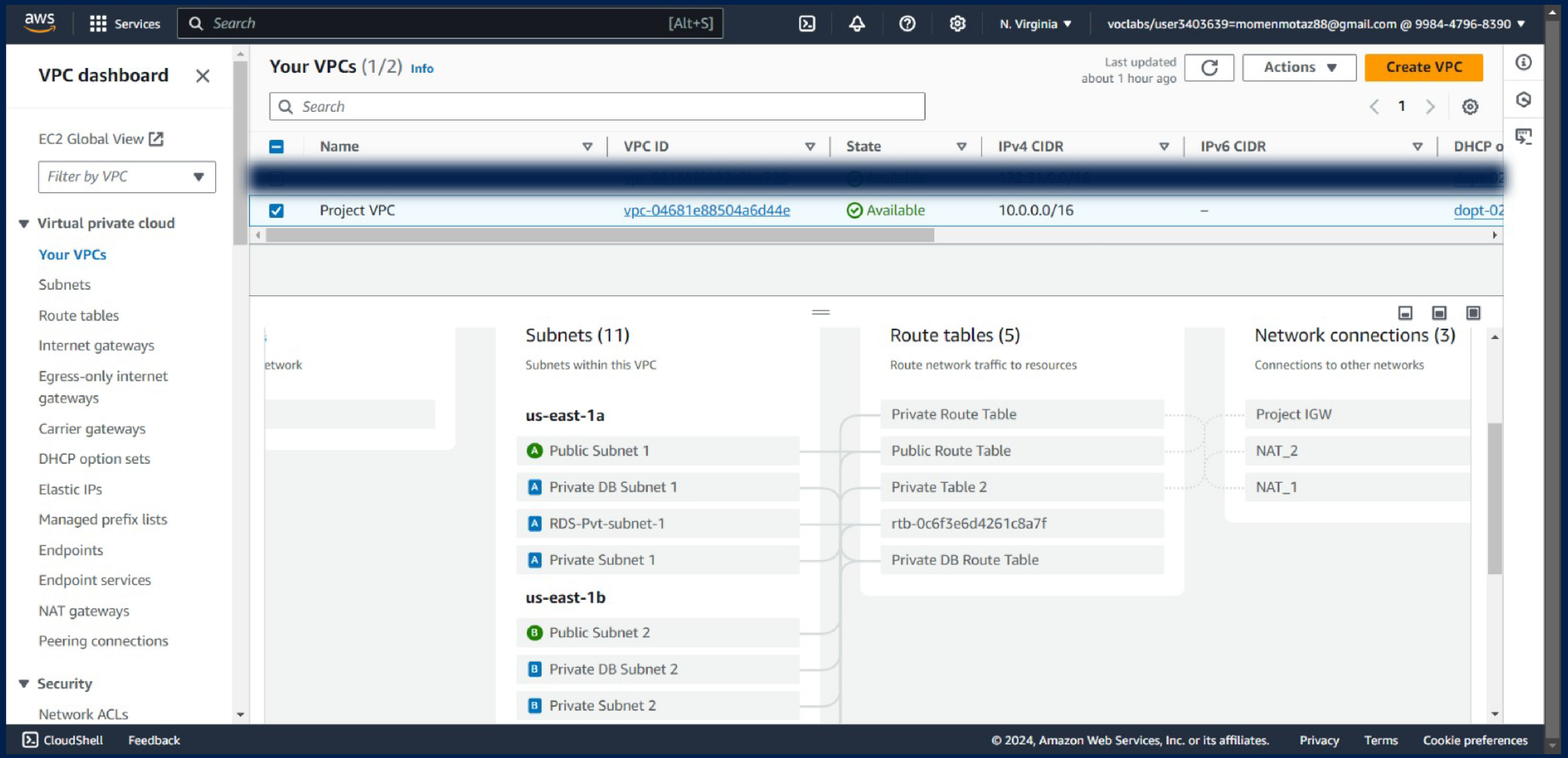
WEBSITE DEPLOYMENT STEPS

- VPC Setup: Creation of the network environment with subnets.
- EC2 Configuration: Launched instances, installed the necessary software (e.g., Apache), and deployed the website.
- Security: Configured security groups and IAM roles to ensure secure access.
- Load Balancing: Set up ALB to handle user traffic.
- Auto Scaling: Implemented ASG to handle varying traffic loads.
- Database: Deployed RDS in a private subnet for data storage

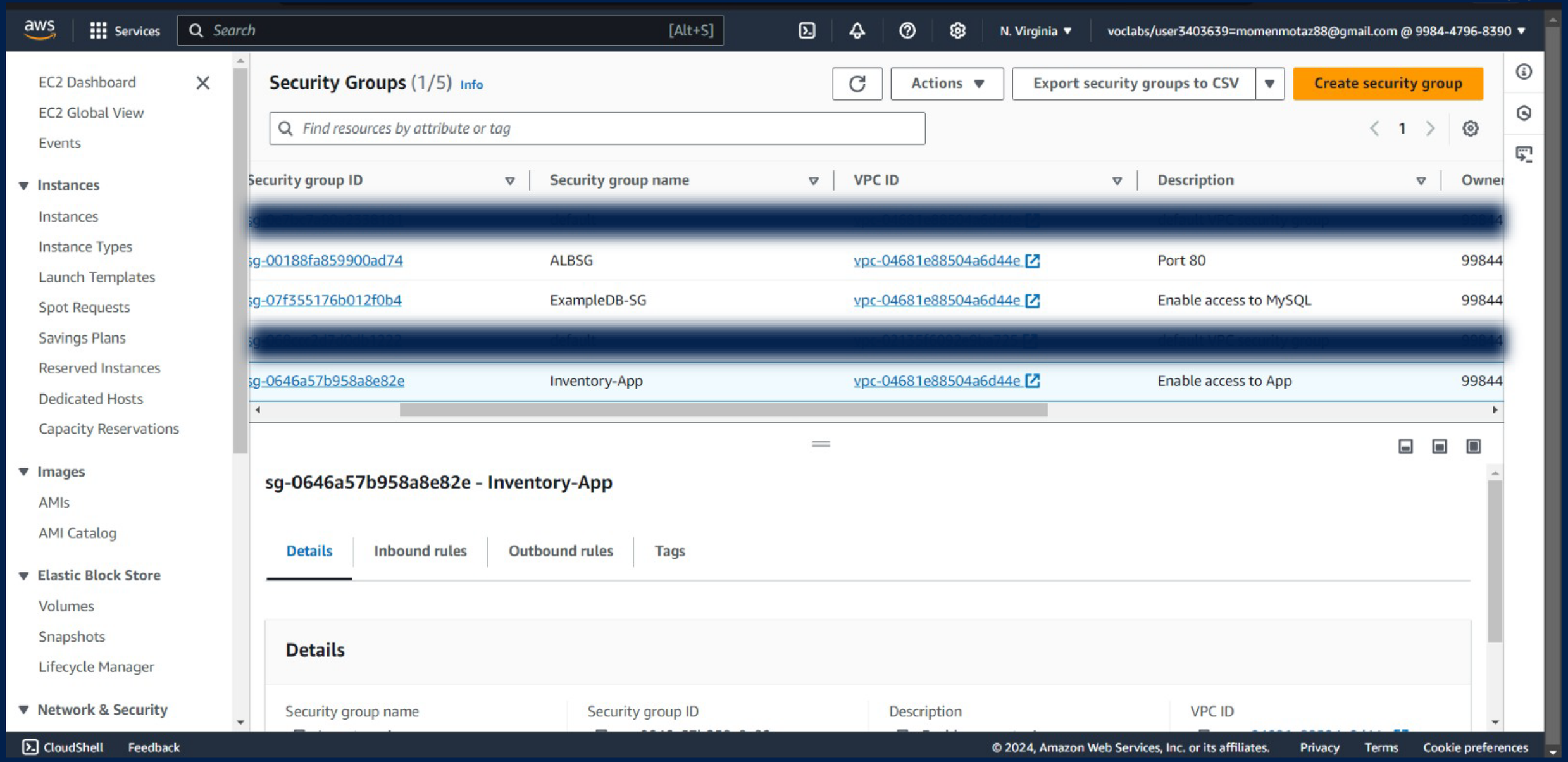
COST ESTIMATION

- EC2 Instances (t2.micro): Low-cost instances for hosting.
- RDS (MySQL): Pay for database storage and usage.
- Load Balancer: Costs depend on traffic load and uptime.
- Data Transfer: Costs for inbound and outbound traffic.
- The overall approach ensures cost optimization without compromising on performance.
- Click here for **Financial Proposal**

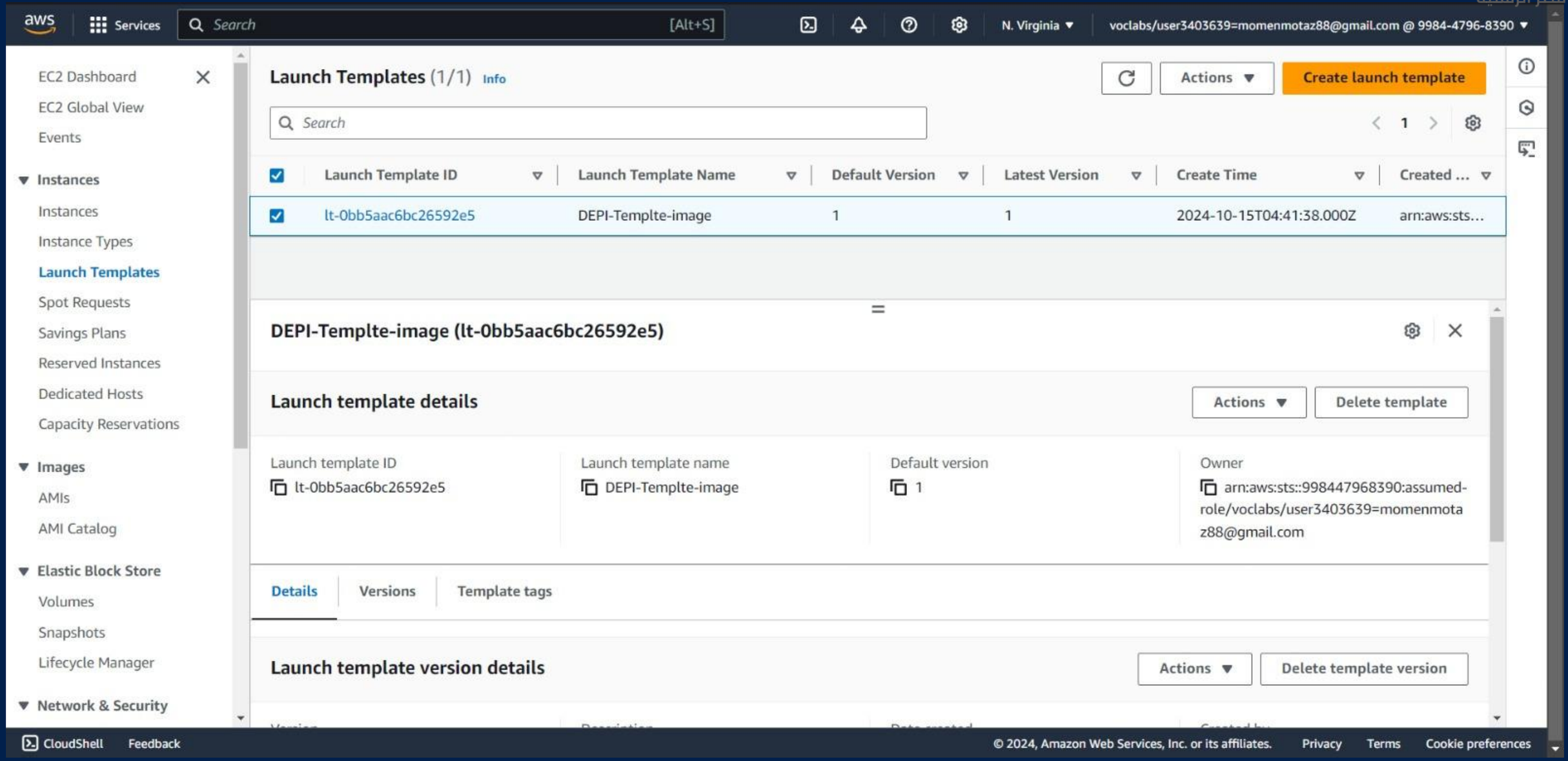
VPC



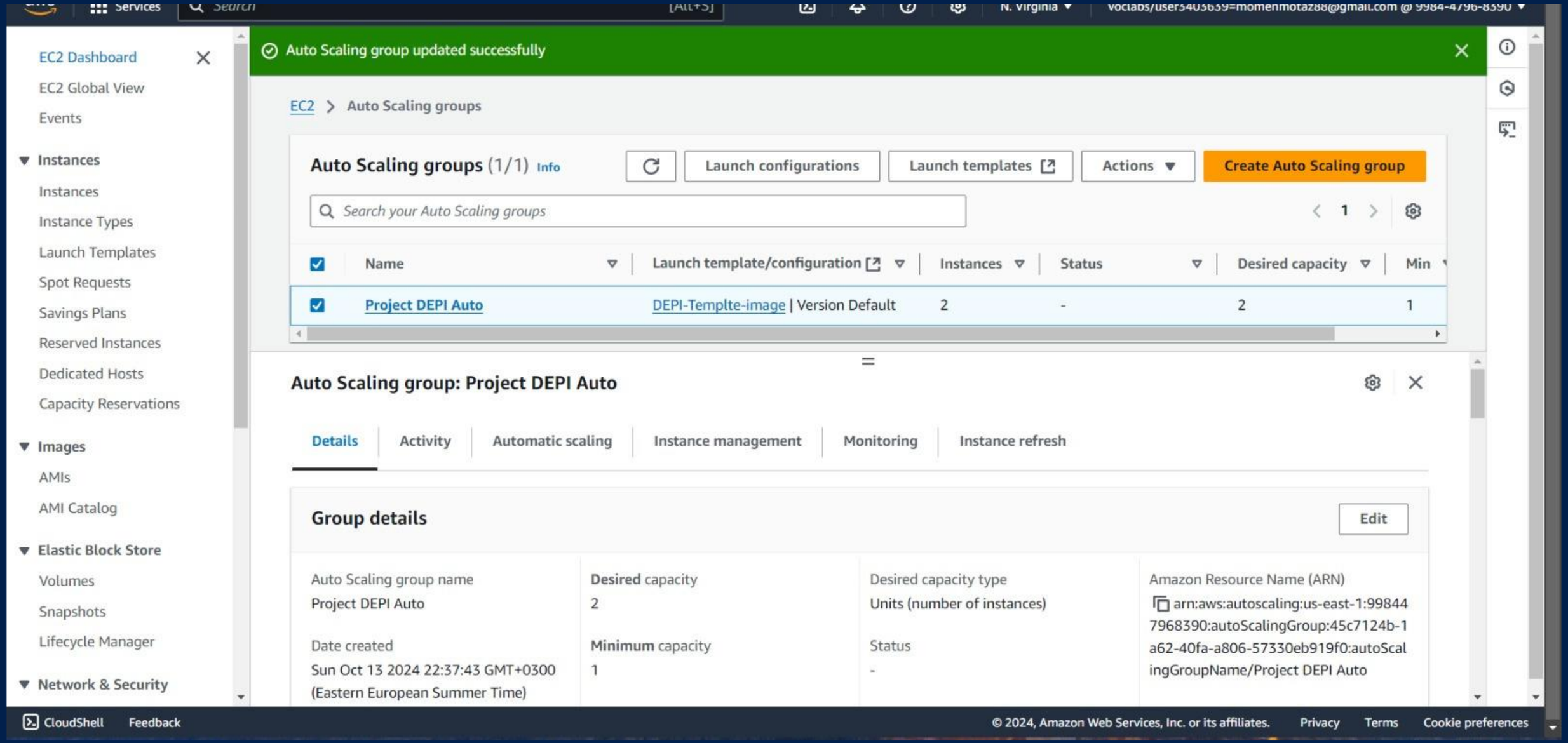
SECURITY GROUPS



LAUNCH TEMPLATES



ASG


Services
Search
[Alt+S]
N. Virginia
vocabs/user3403639=momenmotaz88@gmail.com @ 9984-4796-8390
EC2 Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Auto Scaling group updated successfully
EC2 > Auto Scaling groups
Auto Scaling groups (1/1) Info
Launch configurations
Launch templates
Actions
Create Auto Scaling group
Search your Auto Scaling groups
1
Name
Launch template/configuration
Instances
Status
Desired capacity
Min
Project DEPI Auto
DEPI-Templte-image | Version Default
2
-
2
1
Auto Scaling group: Project DEPI Auto
Details
Activity
Automatic scaling
Instance management
Monitoring
Instance refresh
Group details
Edit
Auto Scaling group name
Project DEPI Auto
Date created
Sun Oct 13 2024 22:37:43 GMT+0300 (Eastern European Summer Time)
Desired capacity
2
Minimum capacity
1
Desired capacity type
Units (number of instances)
Status
-
Amazon Resource Name (ARN)
arn:aws:autoscaling:us-east-1:998447968390:autoScalingGroup:45c7124b-1a62-40fa-a806-57330eb919f0:autoScalingGroupName/Project DEPI Auto
CloudShell
Feedback
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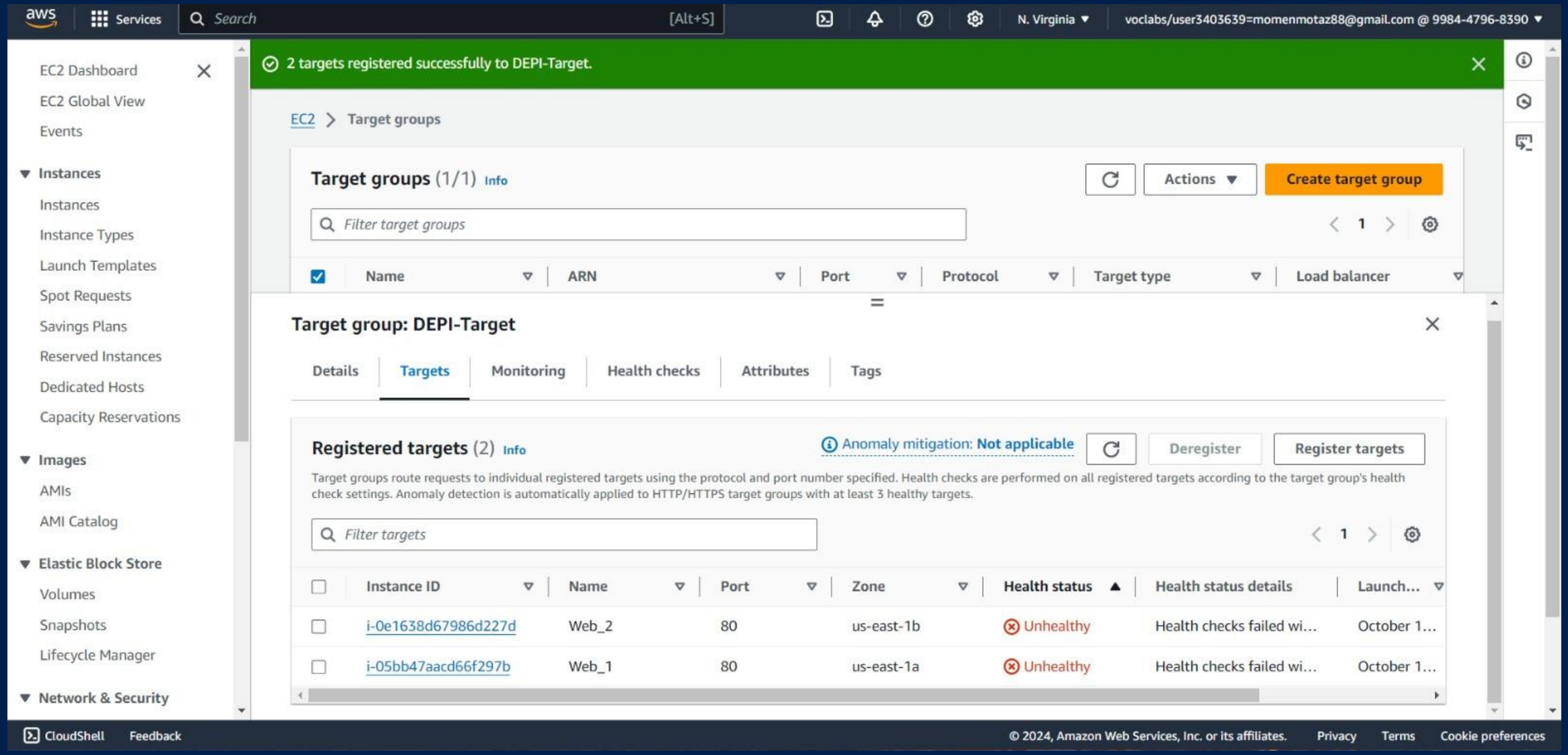
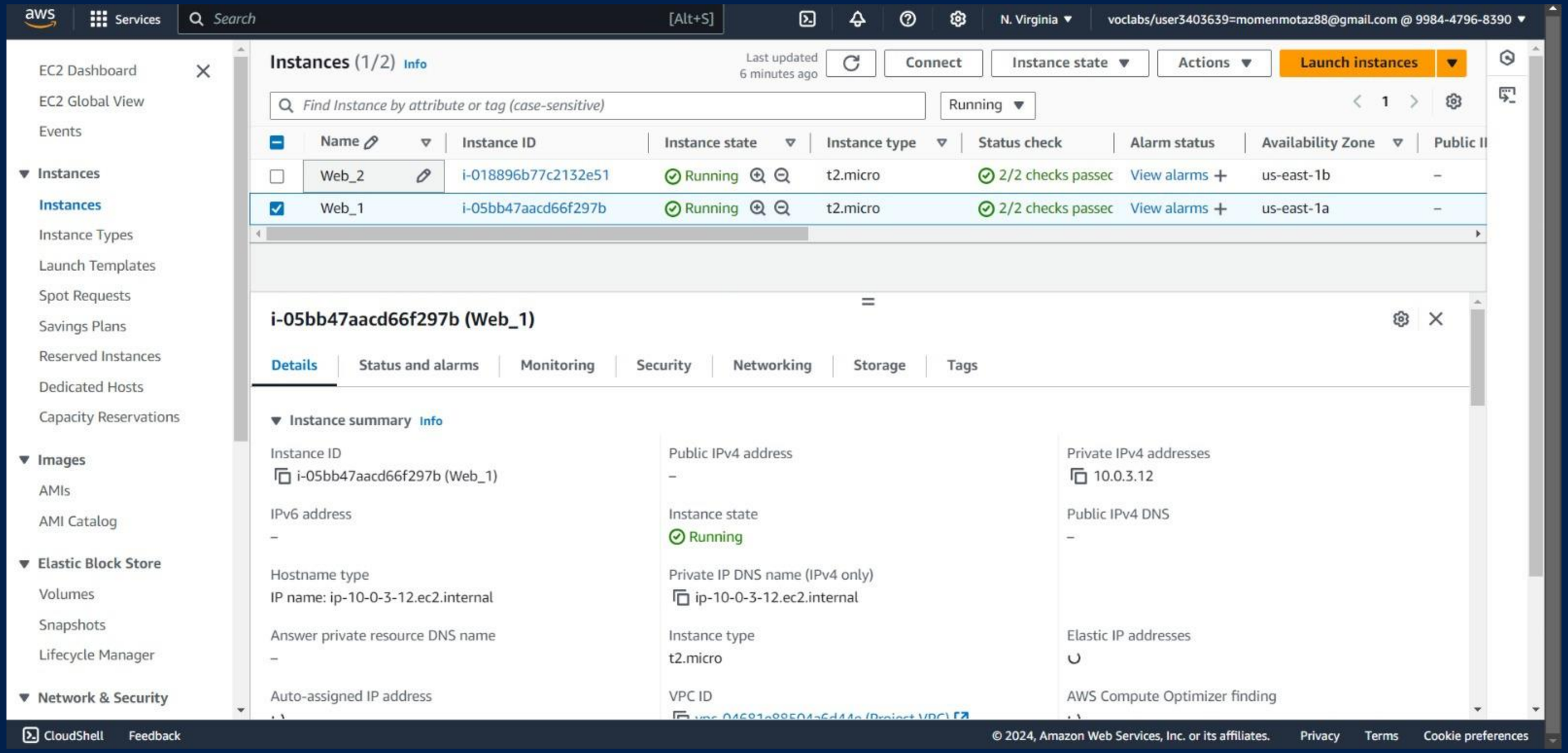
TARGET GROUP



EC2


aws
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Capacity Reservations
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Instances (1/2) Info
Last updated 6 minutes ago
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
Running
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Web_2
i-018896b77c2132e51
Running
t2.micro
2/2 checks passec
View alarms
us-east-1b
Web_1
i-05bb47aacd66f297b
Running
t2.micro
2/2 checks passec
View alarms
us-east-1a
i-05bb47aacd66f297b (Web_1)
Details
Status and alarms
Monitoring
Security
Networking
Storage
Tags
Instance summary Info
Instance ID
i-05bb47aacd66f297b (Web_1)
IPv6 address
–
Hostname type
IP name: ip-10-0-3-12.ec2.internal
Answer private resource DNS name
–
Auto-assigned IP address
Public IPv4 address
–
Instance state
Running
Private IP DNS name (IPv4 only)
ip-10-0-3-12.ec2.internal
Instance type
t2.micro
VPC ID
Private IPv4 addresses
10.0.3.12
Public IPv4 DNS
–
Elastic IP addresses
AWS Compute Optimizer finding
CloudShell
Feedback
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EC2 - SESSION

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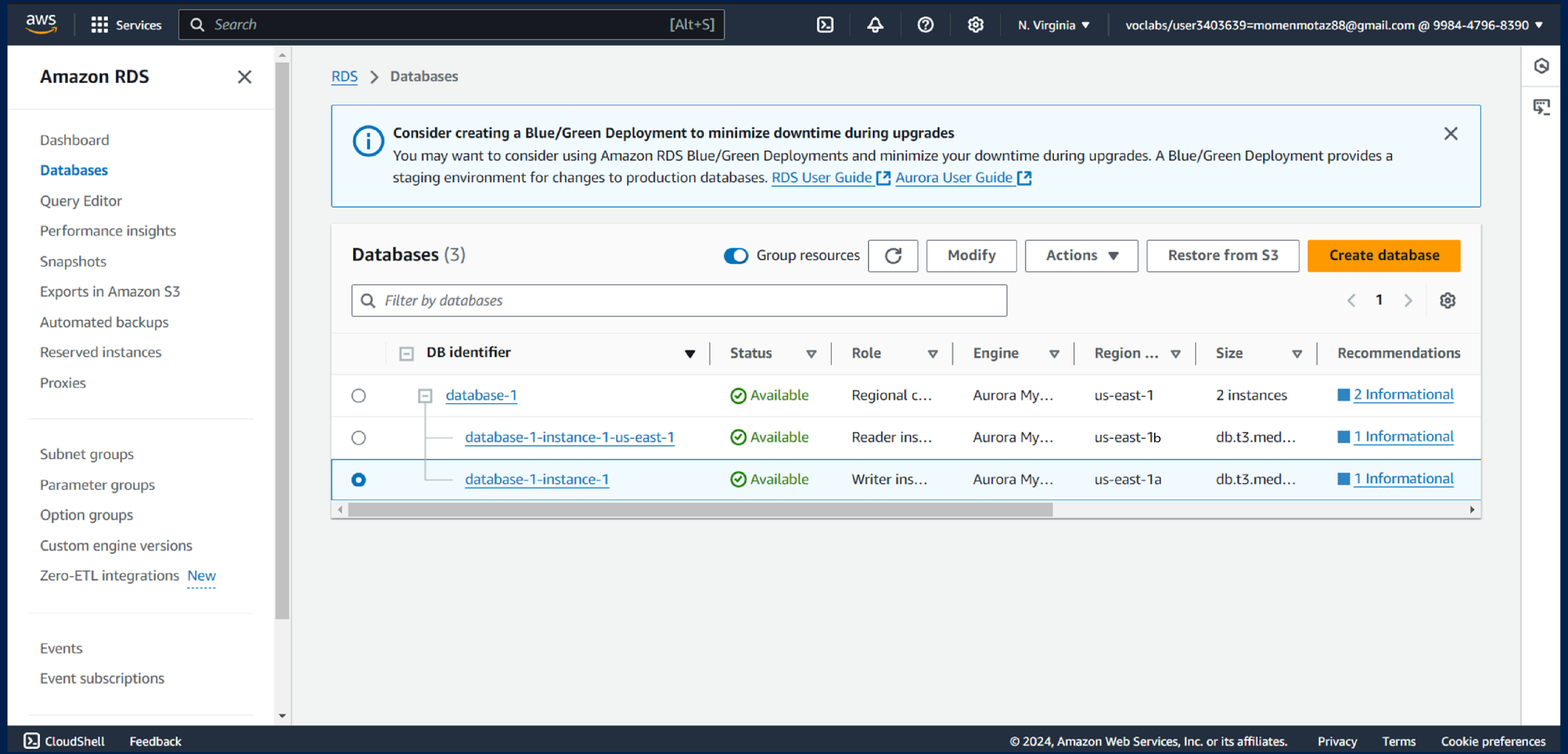
Session ID: user3403639=momenmotaz88@gmail.com-h8iv7fieniihadroqfpfv8367q

Instance ID: i-0315fecd9b884d286

Terminate

```
csh                     host                    mv                      rst2odt_prepstyles      systemd-id128                   zcat
csplit                  hostid                  named-checkzone         rst2pseudoxml           systemd-inhibit                 zcmp
curl                    hostname                named-compilezone       rst2s5                  systemd-machine-id-setup        zdiff
cut                     hostnamectl             named-nzd2nzf           rst2xetex               systemd-mount                   zdump
cvtsudoers              htdbm                   namei                   rst2xml                 systemd-notify                  zegrep
cyrusbdb2current        htdigest                nano                    rstpep2html             systemd-path                    zfgrep
date                    htpasswd                needs-restarting        rsync                   systemd-repart                  zforce
dbus-broker             httxt2dbm               neqn                    rsync-ssl               systemd-resolve                 zgrep
dbus-broker-launch      hunspell                netstat                 run-parts               systemd-run                     zip
dc                      i386                    networkctl              runcon                  systemd-socket-activate         zipcloak
dd                      iconv                   newgidmap               rvi                     systemd-stdio-bridge            zipgrep
deallocvt               id                      newgrp                  rview                   systemd-sysext                  zipinfo
debuginfo-install       info                    newuidmap               rvim                    systemd-sysusers                zipnote
debuginfod-find         infocmp                 ngettext                sadf                    systemd-tmpfiles                zipsplit
delv                    infotocap               nice                    sar                     systemd-tty-ask-password-agent  zless
df                      install                 nisdomainname           sbattach                systemd-umount                  zmore
diff                    ionice                  nl                      sbkeysync               tabs                            znew
diff3                   iostat                  nm                      sbsiglist               tac                             zsoelim
dig                     ipcmk                   nohup                   sbsign                  tail                            zstd
dir                     ipcrm                   nproc                   sbvarsign               tapestat                        zstdcat
dircolors               ipcs                    nroff                   sbverify                tar                             zstdgrep
dirname                 irqtop                  nsec3hash               scalar                  taskset                         zstdless
distro                  isosize                 nsenter                 scp                     tbl                             zstdmt
dmesg                   jemalloc.sh             nslookup                screen                  tcptraceroute
dnf                     jobs                    nsupdate                script                  tcsh
dnf-3                   join                    numfmt                  scriptlive              tee
[root@ip-10-0-1-12 bin]# cd DEPI
[root@ip-10-0-1-12 DEPI]# ls
bakehouse-ITI
[root@ip-10-0-1-12 DEPI]# cd bakehouse-ITI/
[root@ip-10-0-1-12 bakehouse-ITI]# ls
Deployment  Dockerfile  README.md  css  fonts  html  images  index.html  js
[root@ip-10-0-1-12 bakehouse-ITI]# sudo mv * /var/www/html/
[root@ip-10-0-1-12 bakehouse-ITI]# sudo systemctl start httpd
[root@ip-10-0-1-12 bakehouse-ITI]# sudo systemctl enable httpd
[root@ip-10-0-1-12 bakehouse-ITI]#
```

RDS - database



WEB RUNNING

Not secure depi-lb-2068004200.us-east-1.elb.amazonaws.com/bakehouse-ITI/

VPN

Keith
HOMEMADE CAKES

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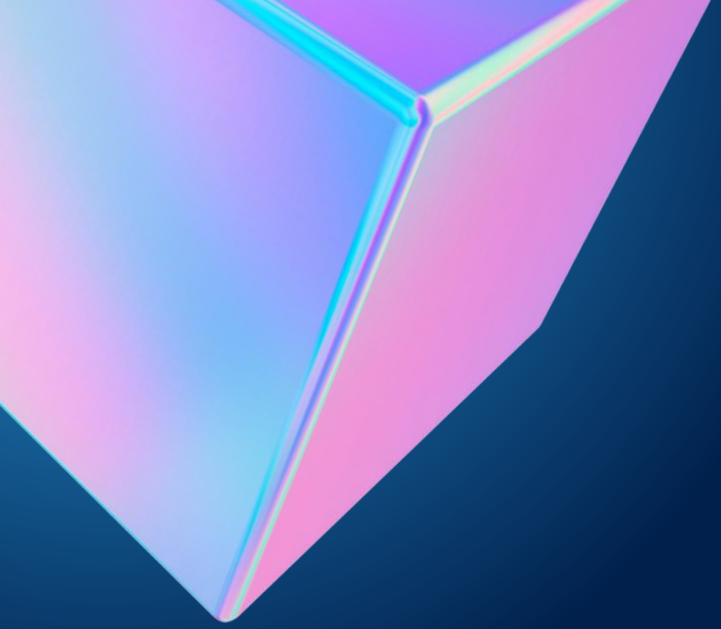
Children's Cakes

Our fully-customised, fun and friendly range of specialty cakes for children are guaranteed to bring a smile to the face of the birthday boy or girl

View our range! >



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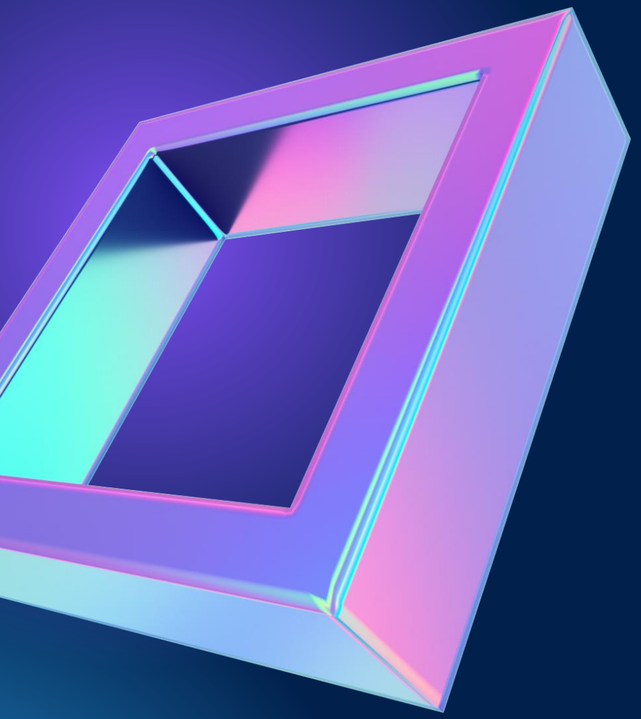
Documentation

CONCLUSION

Successfully deployed the Bakehouse website on AWS.
Achieved high availability with multi-AZ deployment.
Scaled horizontally using ASG and ELB.
Optimized cost with efficient resource allocation.



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Thank You