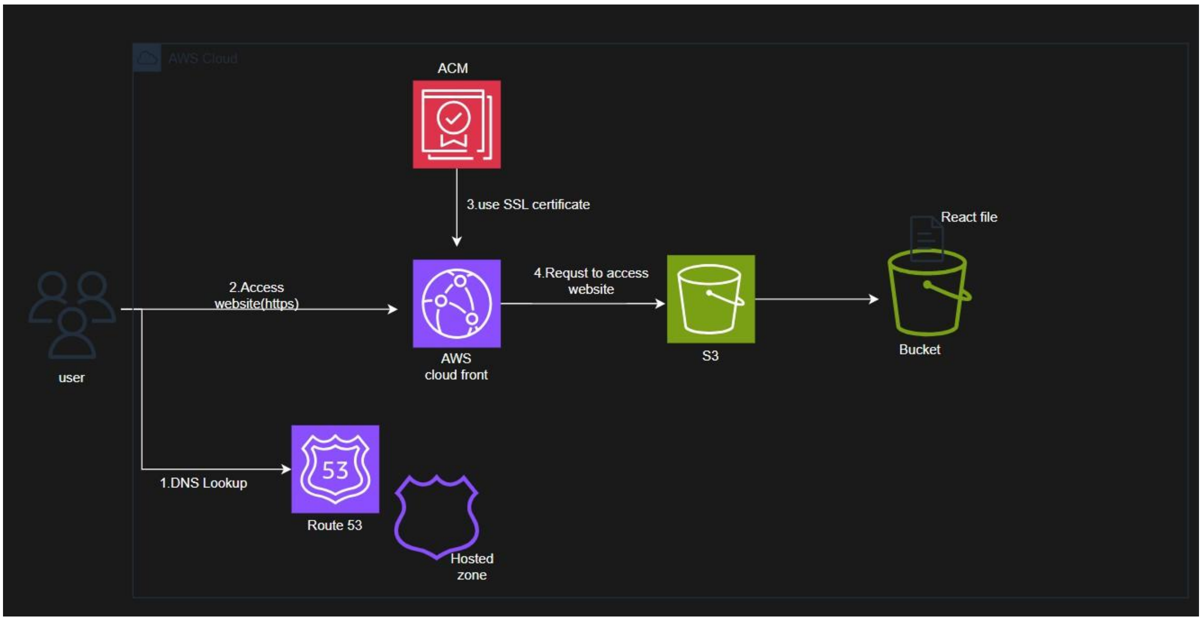
UI (Frontend) Architecture Design



Step 1: Go to aws certificate manager and get a SSL certificate www.xyz.com.

step 2: Go to aws Route53 create a hosted zone get a SSL certificate.

Step 3: Crete s3 bucket disable block all public access name with domain name upload a react file

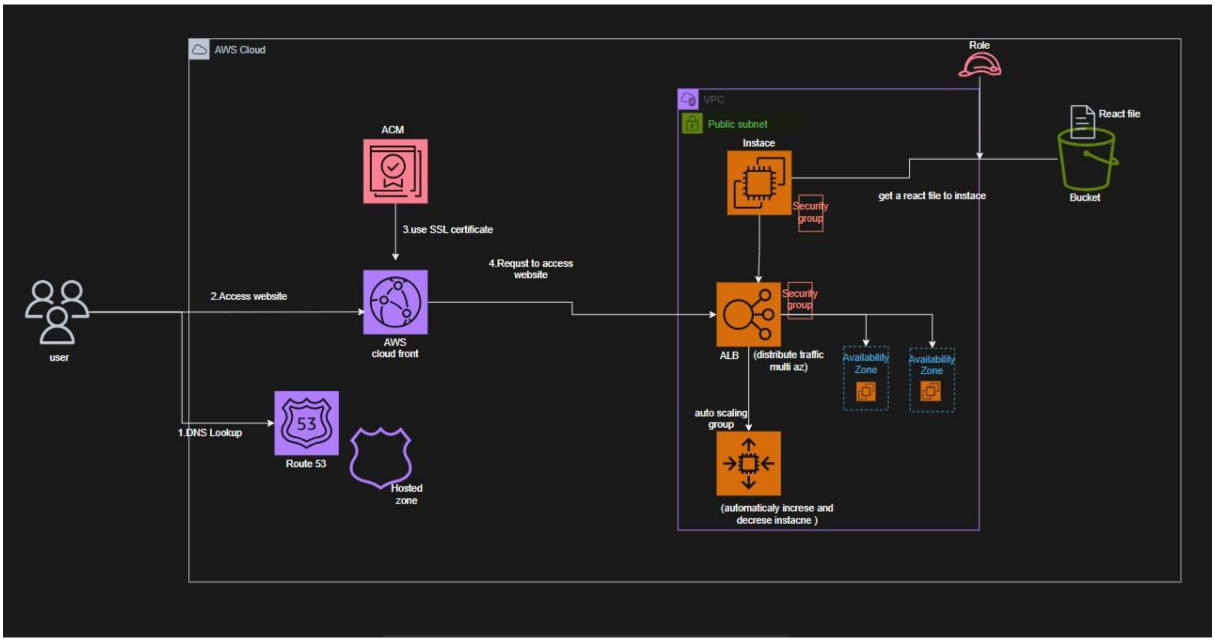
Step 4: enable static web site to s3 bucket and give a index file name

Step 5: Create a cloud front distribution add a domain name

Enable web application firewall

Step 6: Go to GODADDY edit a value to get a record name

OR



Step 1: Go to aws certificate manager and get a SSL certificate www.xyz.com.

step 2: Go to aws Route53 create a hosted zone get a SSL certificate.

Step 3:create vpc 2 az and public subnet

Step 4: create a role for access s3 to ec2 instance

Step 5: create ec2 instance with this new vpc ,create security group (22,443,80) and add a role

Step 6: create Target group for Application load balancer (sg 443)

Step 7: get a ami of this image to launch template -> create auto scaling and set a throusold

Step 8:create cloud front distribution and add a origin type load balancer to our ALB and enable WAF.

Step 9: Go to GODADDY edit a value to get a record name.

2.API (Backend) Architecture Design

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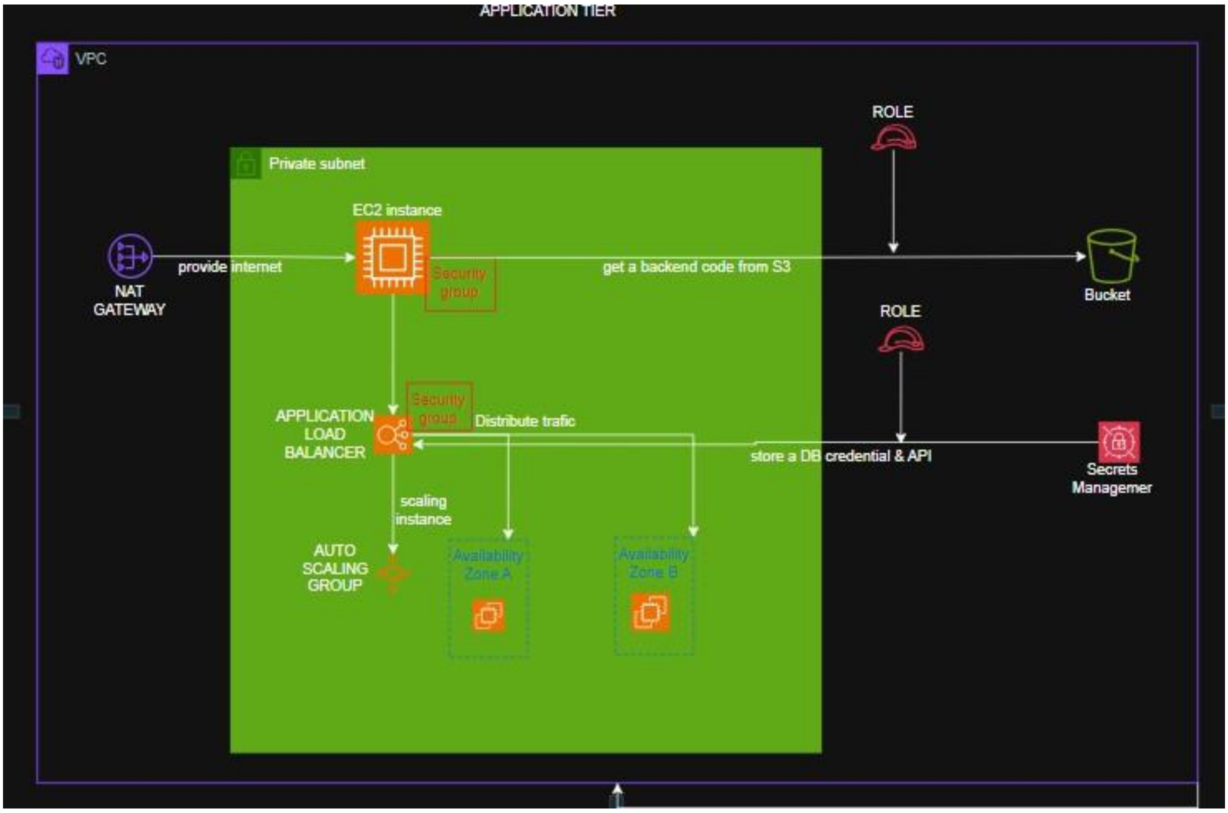


Step 1: create VPC with 2 Az and 2 private subnet give a static IP and
NAT gateway for internet.

Step 2: create iam role access s3 bucket to ec2 instance.
get a backend code from S3 bucket.

Step 3: Create ec2 instance with that private subnet and
SG(22,allow web tire)

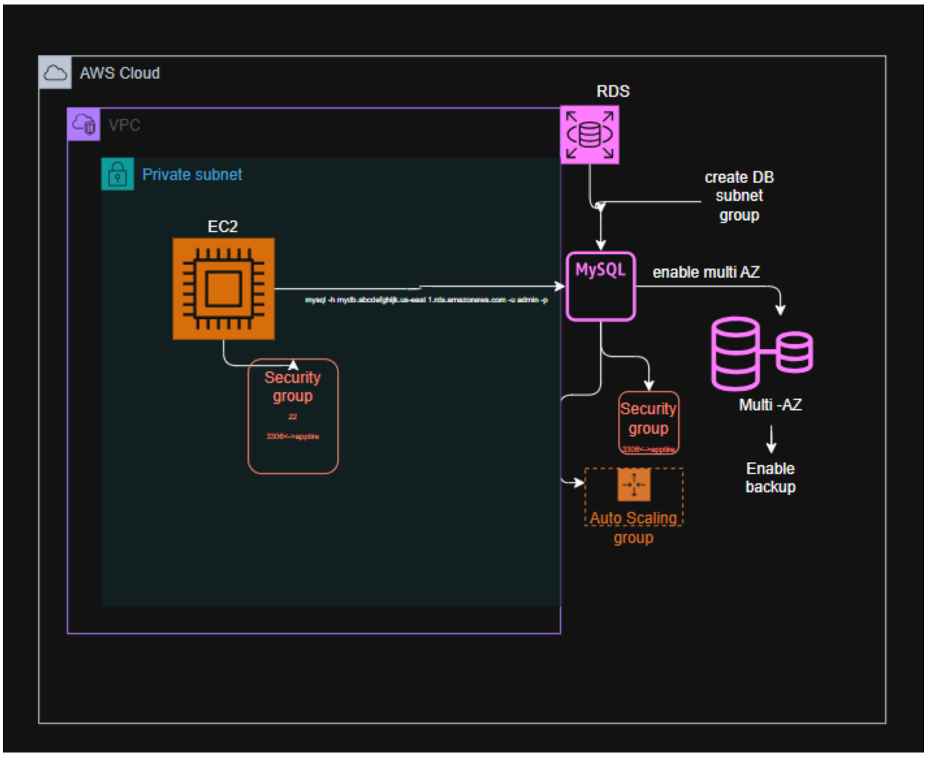
Step 4: create Target group for Application load balancer (SG allow web tire)

Step 5: get a AMI of this image to launch template -> create auto scaling group and set a threshold

Step 6:Create AWS secret manager -> to store a DB credentials, API keys . need iam role (secretsmanager:GetSecretValue ssm:GetParameter)

Step 7:enter this to instance to connect my sql (mysql -h mydb.abcdefghijk.us-east-1.rds.amazonaws.com -u admin -p)

3.Database Architecture Design



```
mysql -h mydb.abcdefghijk.us-east 1.rds.amazonaws.com -u admin -p
```

Step 1: Create ec2 instance to 1pvt subnet with

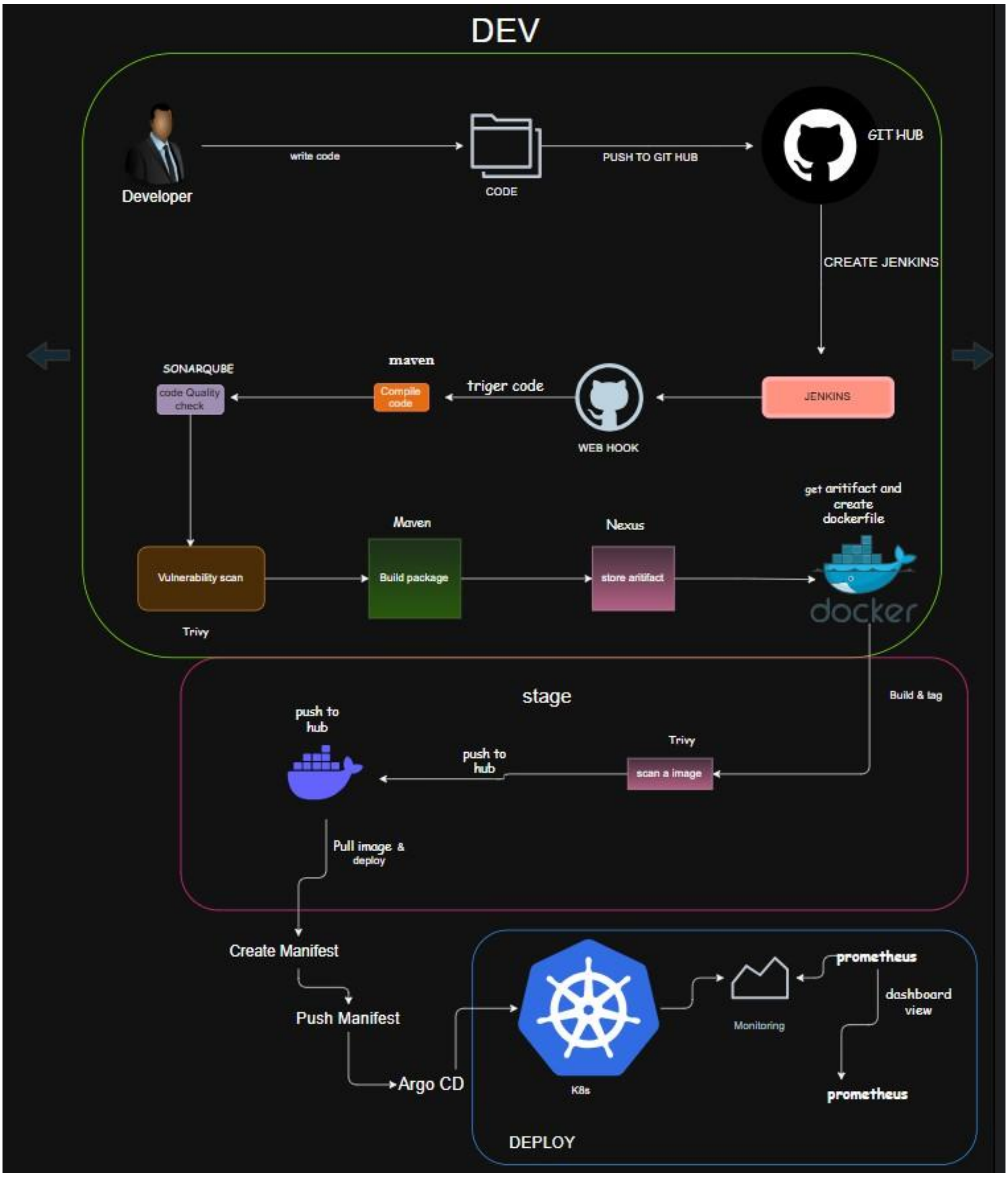
SG (22,3306->app tire).

Step 2:Go to RDS create DB subnet group.

Step 3:select my sql ,select version, select multi-AZ deployment.
Step 4:Create DB name , create master name and password.
Step 5: select storage and check auto scaling is enable.
Step 6:select Connect to an EC2 compute resource and select instance.

Step 7:add subnet name and SG(3306->APP tire), select AZ
Step 8:enable monitoring

CI/CD PIPELINE



step 1: pull a code form GIT HUB

step 2: set a web hook to GIT

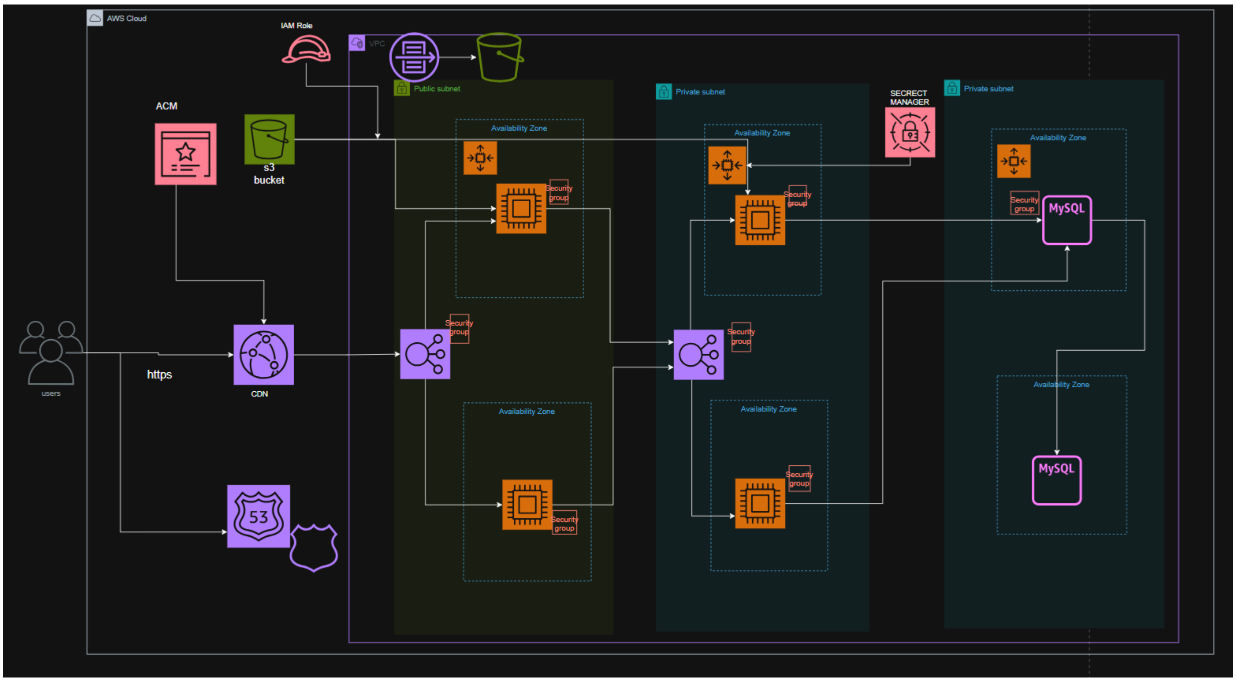
step 3: to bulid the code -> maven

step 4: check the quality of this code -> sonarqube

step 5: scan the code -> trivy

step 6: build a package
step 7: store the aritifat -> nexus
step 8: create a dockerfile and buld :tag
step 9:scan the image -> trivy
step 10:push the image to hub -> Docker hub
step 11:pull the image and create Manifest repo then Push Manifest

Step12:ARGO CD Detect manifest change if it detect a chage to deploy the chage to k8s
step 13: monitor the deploy machine also monitor the Jenkins machine


AWS Cloud
IAM Role
VPC
Public subnet
Private subnet
SECRECT MANAGER
Private subnet
ACM
s3 bucket
Availability Zone
Availability Zone
Availability Zone
Security group
Security group
Security group
Security group
Security group
MySQL
users
https
CDN
Security group
Security group
Availability Zone
Availability Zone
Availability Zone
Security group
Security group
MySQL
53