Ques: **Complete the below task:**

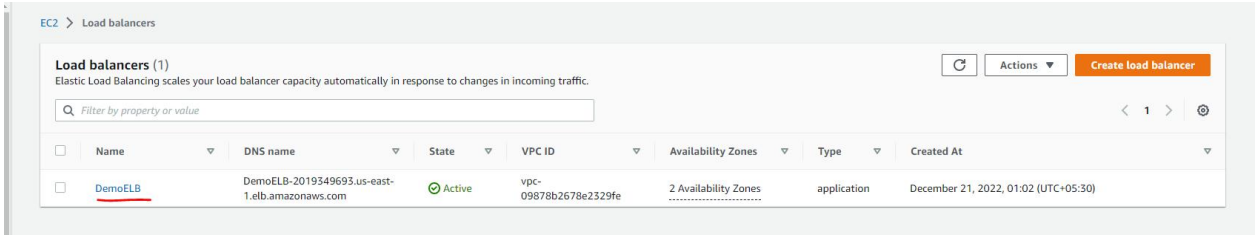
1. Explain the below AWS Architecture
2. Implement the same in the AWS(only do a proper connection between service)

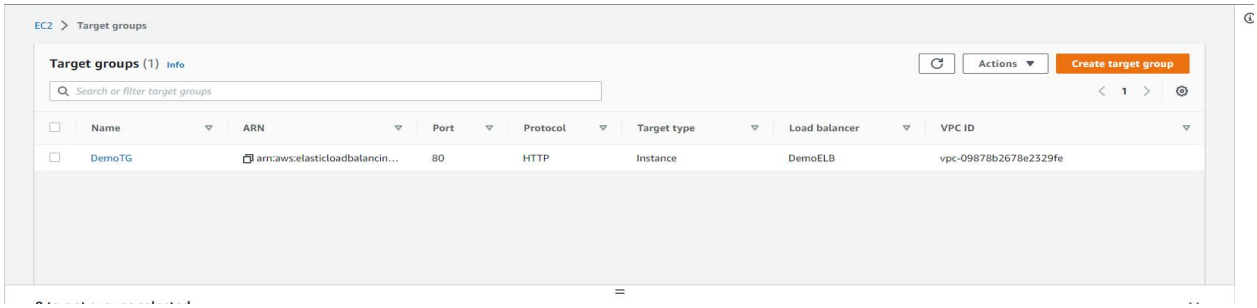
NOTE: *Submission can be done by sharing the proper screenshots of implementation and doc for explanation!*

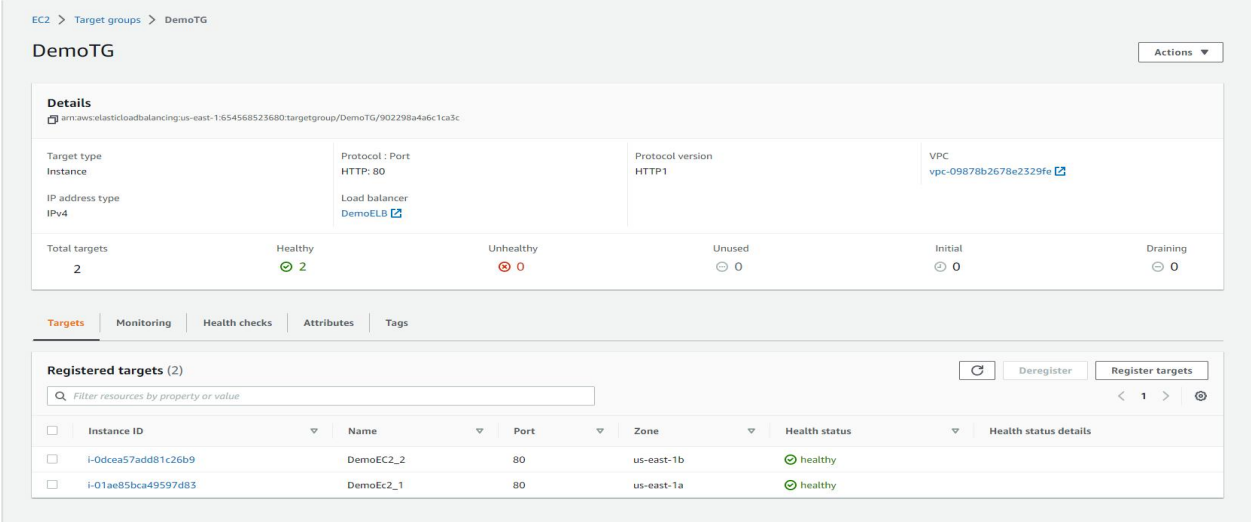
Create ELB to route traffic to EC2 instances and Connect to AWS RDS from AWS EC2

Elastic Load Balancer-

Elastic Load Balancing (ELB) automatically distributes incoming application traffic across multiple targets such as EC2 instances, containers, and IP addresses, in one or more Availability Zones.It monitors the health of its registered targets, and routes traffic only to the healthy targets.

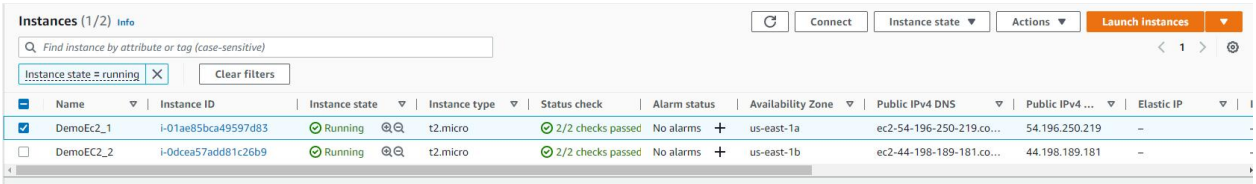


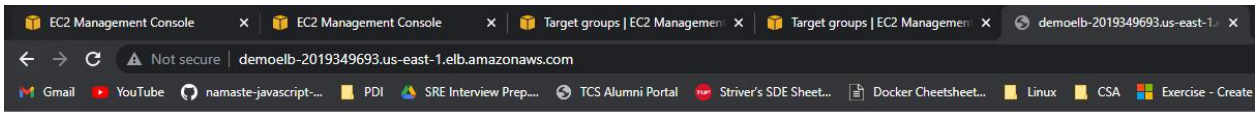




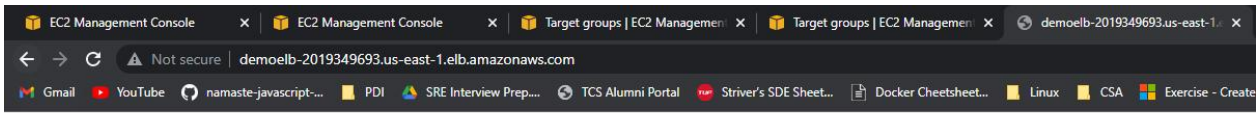
EC2 Instance-

An Amazon EC2 instance is a virtual server in Amazon's Elastic Compute Cloud (EC2) for running applications on the Amazon Web Services (AWS) infrastructure. It also allows the user to configure their instances as per their requirements i.e. allocate the RAM, ROM, and storage according to the need of the current task.EC2 offers security, reliability, high-performance and cost-effective infrastructure so as to meet the demanding business needs.





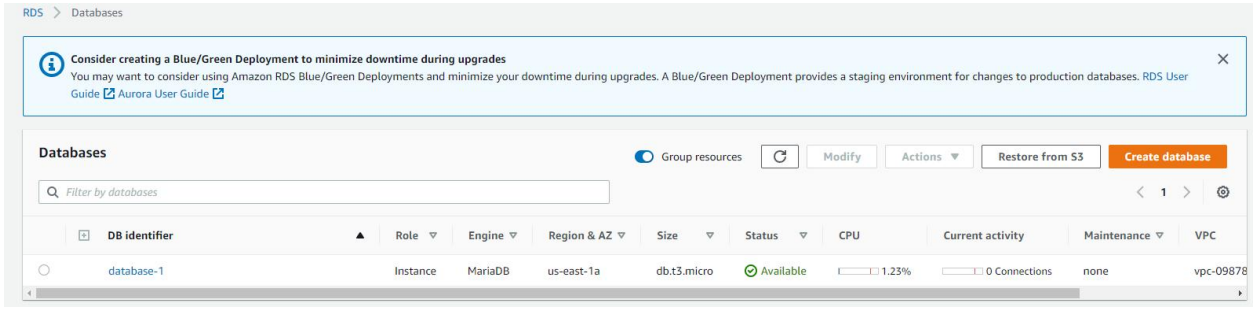
Hello World from ip-172-31-45-63.ec2.internal

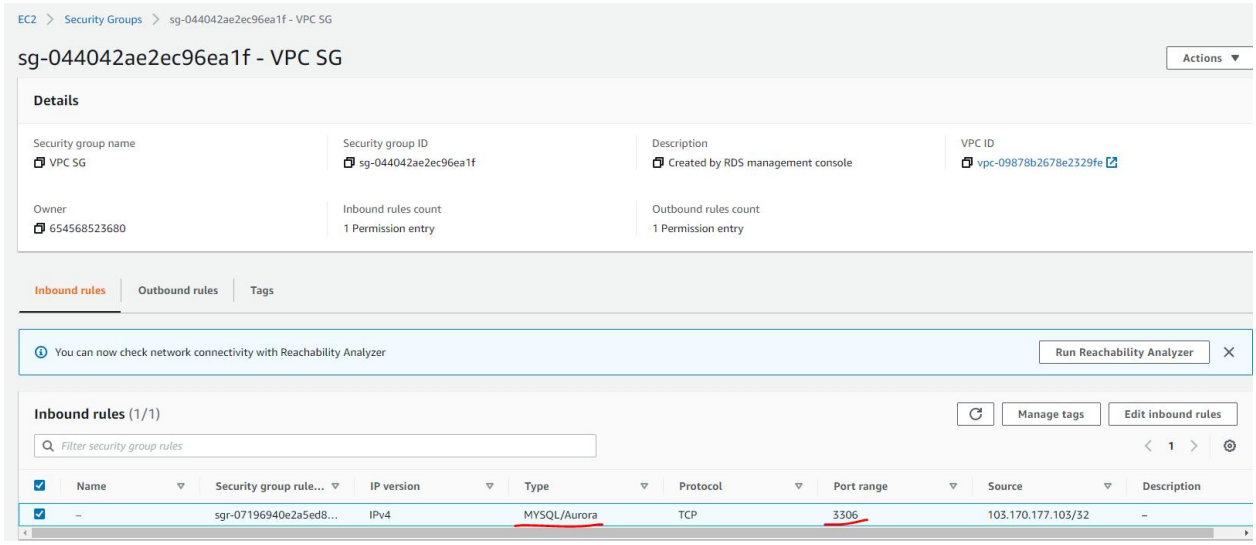


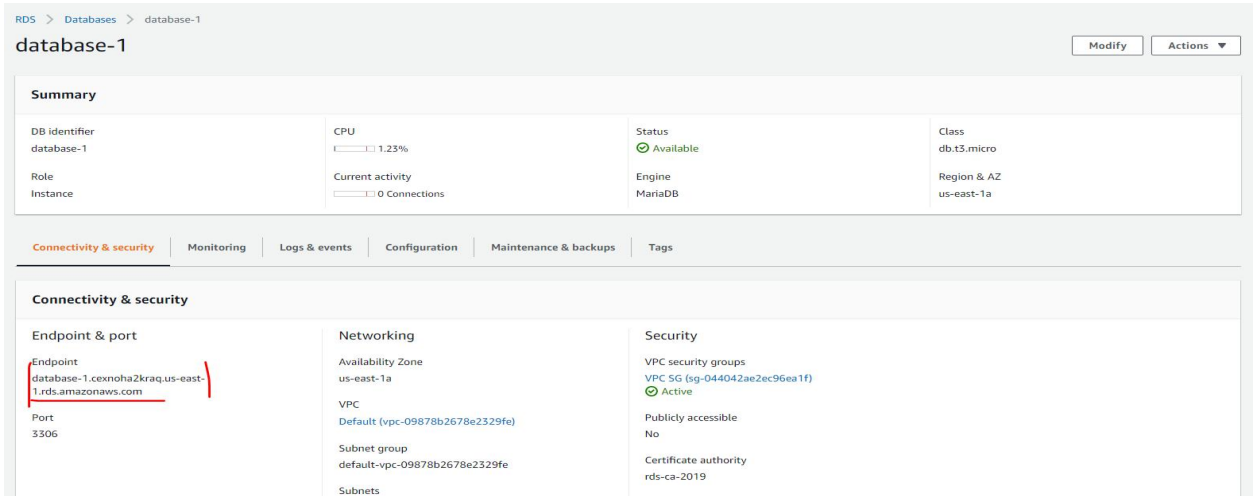
Hello World from ip-172-31-4-139.ec2.internal

RDS Database-

Amazon Relational Database Service (RDS) is a managed SQL database service provided by Amazon Web Services (AWS).It's a managed DB service for DB use SQL as a query language. RDS is a managed service provide automated provisioning, OS patching, continuous backup and restore to specific time stamp. Its increase read performance by implementing read replicas. Perform disaster recovery using Multi-AZ setup.


RDS > Databases
Consider creating a Blue/Green Deployment to minimize downtime during upgrades
You may want to consider using Amazon RDS Blue/Green Deployments and minimize your downtime during upgrades. A Blue/Green Deployment provides a staging environment for changes to production databases. RDS User Guide Aurora User Guide
Databases
Group resources
Modify
Actions
Restore from S3
Create database
Filter by databases
DB identifier
Role
Engine
Region & AZ
Size
Status
CPU
Current activity
Maintenance
VPC
database-1
Instance
MariaDB
us-east-1a
db.t3.micro
Available
1.23%
0 Connections
none
vpc-09878


EC2 > Security Groups > sg-044042ae2ec96ea1f - VPC SG
sg-044042ae2ec96ea1f - VPC SG
Actions
Details
Security group name
VPC SG
Security group ID
sg-044042ae2ec96ea1f
Description
Created by RDS management console
VPC ID
vpc-09878b2678e2329fe
Owner
654568523680
Inbound rules count
1 Permission entry
Outbound rules count
1 Permission entry
Inbound rules
Outbound rules
Tags
You can now check network connectivity with Reachability Analyzer
Run Reachability Analyzer
Inbound rules (1/1)
Manage tags
Edit inbound rules
Filter security group rules
Name
Security group rule...
IP version
Type
Protocol
Port range
Source
Description
–
sgr-07196940e2a5ed8...
IPv4
MYSQL/Aurora
TCP
3306
103.170.177.103/32
–


RDS > Databases > database-1
database-1
Modify
Actions
Summary
DB identifier
database-1
CPU
1.23%
Status
Available
Class
db.t3.micro
Role
Instance
Current activity
0 Connections
Engine
MariaDB
Region & AZ
us-east-1a
Connectivity & security
Monitoring
Logs & events
Configuration
Maintenance & backups
Tags
Connectivity & security
Endpoint & port
Endpoint
database-1.cexnoha2kraq.us-east-1.rds.amazonaws.com
Port
3306
Networking
Availability Zone
us-east-1a
VPC
Default (vpc-09878b2678e2329fe)
Subnet group
default-vpc-09878b2678e2329fe
Subnets
Security
VPC security groups
VPC SG (sg-044042ae2ec96ea1f)
Active
Publicly accessible
No
Certificate authority
rds-ca-2019

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       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-45-63 ~]$ sudo su -
[root@ip-172-31-45-63 ~]# yum -y install mariadb-server
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
Resolving Dependencies
--> Running transaction check
---> Package mariadb-server.x86_64 1:5.5.68-1.amzn2 will be installed
--> Processing Dependency: mariadb(x86-64) = 1:5.5.68-1.amzn2 for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64
--> Processing Dependency: perl-DBI for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64
--> Processing Dependency: perl-DBD-MySQL for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64
--> Processing Dependency: perl(Data::Dumper) for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64
--> Processing Dependency: perl(DBI) for package: 1:mariadb-server-5.5.68-1.amzn2.x86_64
--> Running transaction check
---> Package mariadb.x86_64 1:5.5.68-1.amzn2 will be installed
---> Package perl-DBD-MySQL.x86_64 0:4.023-6.amzn2 will be installed
---> Package perl-DBI.x86_64 0:1.627-4.amzn2.0.2 will be installed
--> Processing Dependency: perl(RPC::PlServer) >= 0.2001 for package: perl-DBI-1.627-4.amzn2.0.2.x86_64
--> Processing Dependency: perl(RPC::PlClient) >= 0.2000 for package: perl-DBI-1.627-4.amzn2.0.2.x86_64
---> Package perl-Data-Dumper.x86_64 0:2.145-3.amzn2.0.2 will be installed
--> Running transaction check
---> Package perl-PlRPC.noarch 0:0.2020-14.amzn2 will be installed
--> Processing Dependency: perl(Net::Daemon) >= 0.13 for package: perl-PlRPC-0.2020-14.amzn2.noarch
--> Processing Dependency: perl(Net::Daemon::Test) for package: perl-PlRPC-0.2020-14.amzn2.noarch
--> Processing Dependency: perl(Net::Daemon::Log) for package: perl-PlRPC-0.2020-14.amzn2.noarch
--> Processing Dependency: perl(Compress::Zlib) for package: perl-PlRPC-0.2020-14.amzn2.noarch
--> Running transaction check
---> Package perl-IO-Compress.noarch 0:2.061-2.amzn2 will be installed
--> Processing Dependency: perl(Compress::Raw::Zlib) >= 2.061 for package: perl-IO-Compress-2.061-2.amzn2.noarch
--> Processing Dependency: perl(Compress::Raw::Bzip2) >= 2.061 for package: perl-IO-Compress-2.061-2.amzn2.noarch
---> Package perl-Net-Daemon.noarch 0:0.48-5.amzn2 will be installed
--> Running transaction check
---> Package perl-Compress-Raw-Bzip2.x86_64 0:2.061-3.amzn2.0.2 will be installed
---> Package perl-Compress-Raw-Zlib.x86_64 1:2.061-4.amzn2.0.2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved
```

```
Dependency Installed:
  mariadb.x86_64 1:5.5.68-1.amzn2                perl-Compress-Raw-Bzip2.x86_64 0:2.061-3.amzn2.0.2        perl-Compress-Raw-Zlib.x86_64 1:2.061-4.amzn2.0.2        perl-DBD-MySQL.x86_64 0:4.023-6.amzn2
  perl-DBI.x86_64 0:1.627-4.amzn2.0.2            perl-Data-Dumper.x86_64 0:2.145-3.amzn2.0.2               perl-IO-Compress.noarch 0:2.061-2.amzn2                  perl-Net-Daemon.noarch 0:0.48-5.amzn2
  perl-PlRPC.noarch 0:0.2020-14.amzn2

Complete!
[root@ip-172-31-45-63 ~]# systemctl enable mariadb
Created symlink from /etc/systemd/system/multi-user.target.wants/mariadb.service to /usr/lib/systemd/system/mariadb.service.
[root@ip-172-31-45-63 ~]# systemctl start mariadb
[root@ip-172-31-45-63 ~]# mysql -h database-1.cexnoha2kraq.us-east-1.rds.amazonaws.com -P 3306 -u admin -p
Enter password:


^C
[root@ip-172-31-45-63 ~]# mysql -h database-1.cexnoha2kraq.us-east-1.rds.amazonaws.com -P 3306 -u admin -p
```