

### *Project Description:*

deploying a simple web application on AWS using EC2 instances, designed with high availability and scalability in mind. It leverages an Application Load Balancer (ALB) and Auto Scaling Groups (ASG) to distribute traffic and dynamically adjust capacity based on demand. The architecture follows AWS best practices for compute efficiency, security, and cost-effectiveness.

### *Key AWS Services Used:*

- EC2: Launch and run instances for the web app.
- Application Load Balancer (ALB): Distributes traffic across multiple instances.
- Auto Scaling Group (ASG): Ensures instances scale based on demand.
- Amazon RDS: Backend database (MySQL/PostgreSQL) with Multi-AZ .
- IAM: Role-based access to instances for security.
- CloudWatch s SNS: Monitor performance and send alerts.

### *Major Benefits:*

- High Availability – ALB and ASG ensure uninterrupted access and zero downtime.
- Scalability – Resources scale automatically to handle varying traffic loads.
- Security: Implement IAM for managing permissions and ensuring security.

