Infra Architecture

- Create an VPC in aws account in the closest region based on the incoming request.
- Add required subnets based on the requirement (Atleast one public and private).
- Associate route tables with the subnets.
- Create Internet gateways and NAT gateways.
- Create entry of internet gateway in route table of public subnet for internet as destination and nat gateway in route table of private subnet for internet as destination.
- Create security group based on the required port, make atleast two security group that you can use for public allowed traffic and another for private instances.
- Launch instances in private subnet to run the containers of frontend application, backend application and for database service(can run as containers or as a systemd service).
- Deploy the services and required containers on the ec2 instances.
- Put the services behind the load balancer and create the cname entry of the laodbalancer to the required endpoint.
- Also attach the ssl certificate in the loadbalancer to convert the traffic from https to http to reduce load on the ec2 instances.
- For application internal calls to database and other microservice can create a private hosted zone and make the entries of the ec2 instnaces and pass them in the configurations of the application.
- We can use ingress controllers like nginx to do api based routing and rate limiting for multiple microservices. We can attach this directly behind the main loadbalancer and route the traffic from it.
- This is the bare minimum setup for running three tier application (This is the bare minimum setup to run a 3 tier application to show the underlying understanding of advanced features like k8s and mesos).