Case Study

Application Overview
Marketview is an application receive tick data/market data from six telekuers vendor. The application receives the data, format the data and then publish the data to end users. The end users see what is the market price of a given stock using their mobile phone or through internet application. The application is currently hosted in an on-prem environment.

Requirement
The six telekuers feed will be delivered to an application hosted on on-prem. But a decision has been taken to migrate the Marketview application from on-prem environment to any public cloud. You have been assigned as a solution architect and cloud developer to architect, design, and deliver this migration.

The application is a 3-tier application. The end-users are spread across various countries in a particular region (say EMEA but you can replicate to any region of your choice).

Expected Deliverables
- Design and define overall VPC, CIDR planning, subnetting and IP addressing.
- Design a secure, scalable, and highly available network architecture using any public cloud to support application connectivity and latency requirements.
- Use Terraform for underlying infrastructure setup requirement
- Setup the production environment using auto scaling, load balancers, bastion hosts
- Use appropriate connectivity to connect to on-prem to cloud but it has to be cost effective
- Setup appropriate logging and monitoring
- Setup identity and access management and ensure proper access control mechanism in place
- Setup required Public/Private subnets for web, app, database servers
- Setup auto scaling group for web and app (define the baseline requirement as a minimum how many vm's will be required (the peak time users accessing application is morning and evening)
- Ensure necessary firewalls in place

Produce a project plan, target architecture diagram, code base for the above use case. You are not expected to know what the Marketview application does functionally.