User

User

Web Server

Web Server

Web Server

LOAD BALANCER

CDN

Search API

Cache

DB

DB

DB

DB

DB

A-I

M-Z

I-M

Locations

Customers

Products

CDN:

For storing assets like pictures and other static content like any static pages (About Us, Contact). Makes for fast and reliable access. Will keep this located in a central location so that we can ensure faster delivery to most amount of users.

Load Balancer:

To distribute requests across all available servers. Make for reliable access. If failure occurs on one server client is transitioned to another immediately

Web Server:

To contain all dynamic web application content as we will be server rendering to make for a fast user experience. Will handle API calls to DB

Search API:

Use a full text search api like Sphinx for example. I’d expect our website to run searches frequently for specific products, etc. This will search indexes instead of searching full text directly.

Cache:

Will use a technology like Redis for example to cache database queries. If the requested data does not exist within the cache, only then will we query the database layer.

Database:

Will shard our database to split data up amongst different instances. This will ensure faster queries.

As well as Federate the database by splitting up categories so that one database instance does not grow too large, hence slowing down our performance.