Lab-1
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E-SHOP
1.Basic functionality

Browsing(query and response):
    1. Catalog of products
    2. Breadcrumbs
    3. Filters

Ordering(query and response):
    1. Login to system
    2. Order product
    3. Binding shopping cart
    4. Payment
    5. Email Notification of orders

Database:
    1. SQL database
    2. SQL queries

2.Layers

1 layer:
It could be personal computer in shop which is directly connected to server and database. You can browse,order and access to database from this computer.

2 layer:
On client side layer, displayed information which was replied from server on SQL query. Also it implements all Browsing and Ordering(only 1,2 and 5 functions) queries.

On server side layer, replies to all requests using its own resources, it doesn't use database server in order to provide part of service. It implements responses to Browsing queries, Ordering(only 1,2 and 5 functions) queries and transactions. And has Database functionalities.
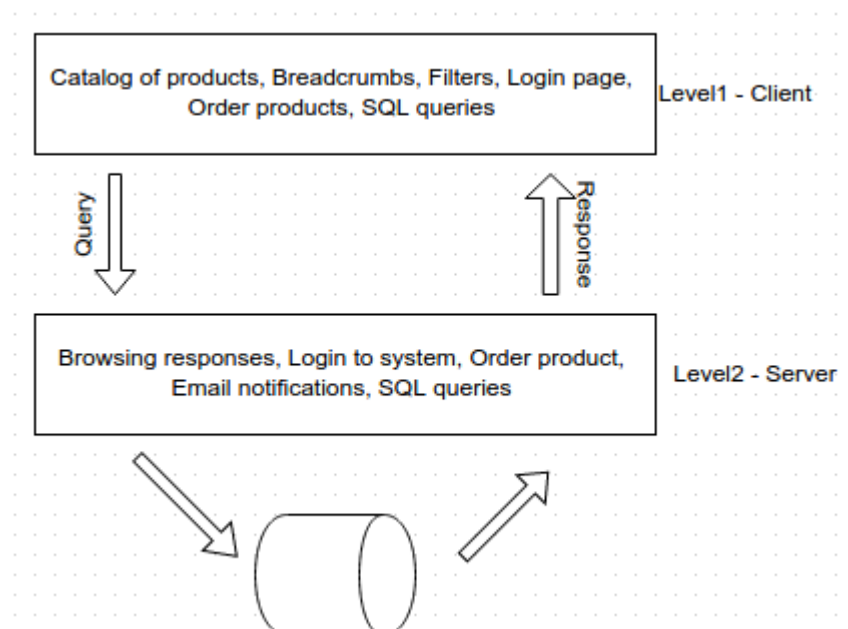
3 layer:
Client side doesn't change. Added 3-rd and 4-th functions of Ordering.

On server side used SQL database server. To provide more secure and scalable service.
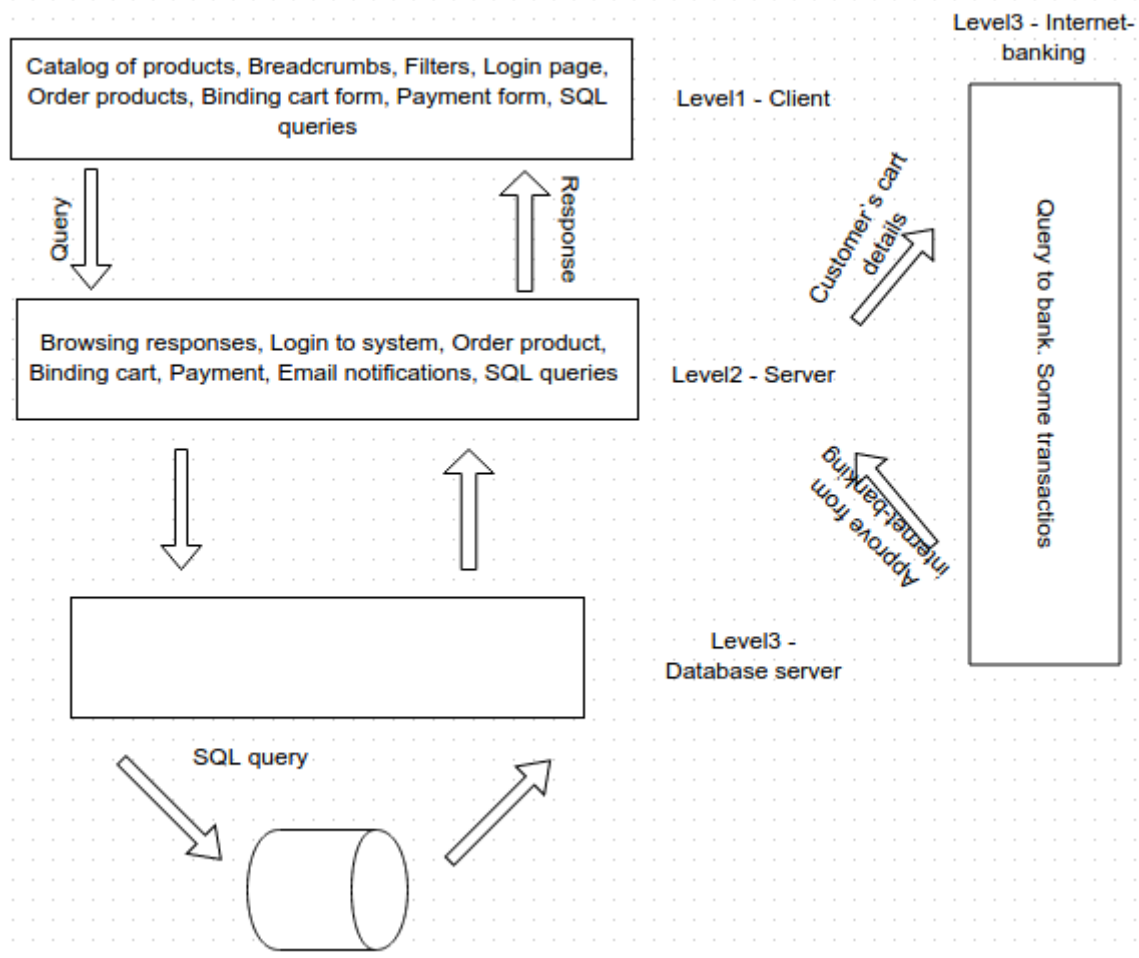Also it implements 3-rd and 4-th functions of Ordering. It sends request to internet-banking which performs banking transactions.

3.Diagrams:

2 layer:

3 layer:

Level3 - Internet-banking

Catalog of products, Breadcrumbs, Filters, Login page, Order products, Binding cart form, Payment form, SQL queries

Level1 - Client

Query

Response

Browsing responses, Login to system, Order product, Binding cart, Payment, Email notifications, SQL queries

Level2 - Server

Customer's cart details

Approve from internet-banking

Query to bank. Some transactios

Level3 - Database server

SQL query

1 layer:

All Browsing functions, SQL queries

Level1 - Client

Sql query