

JDBC

```

@Override
public void addProduct(Product p) throws PersistenceException{
    String SQL = "INSERT INTO products (id, name, price) VALUES (0, ?, ?)";
    Connection con = null;
    try {
        con = DriverManager.getConnection("jdbc:mysql://localhost:3306/TRG", "root", "Welcome123");
        PreparedStatement ps = con.prepareStatement(SQL);
        ps.setString(1, p.getName());
        ps.setDouble(2, p.getPrice());
        ps.executeUpdate(); //INSERT, DELETE and UPDATE ✓
    } catch (SQLException ex) {
        throw new PersistenceException("Unable to add Product", ex);
    } finally {
        if(con != null) {
            try {
                con.close();
            } catch (SQLException e) {
                throw new RuntimeException(e);
            }
        }
    }
}

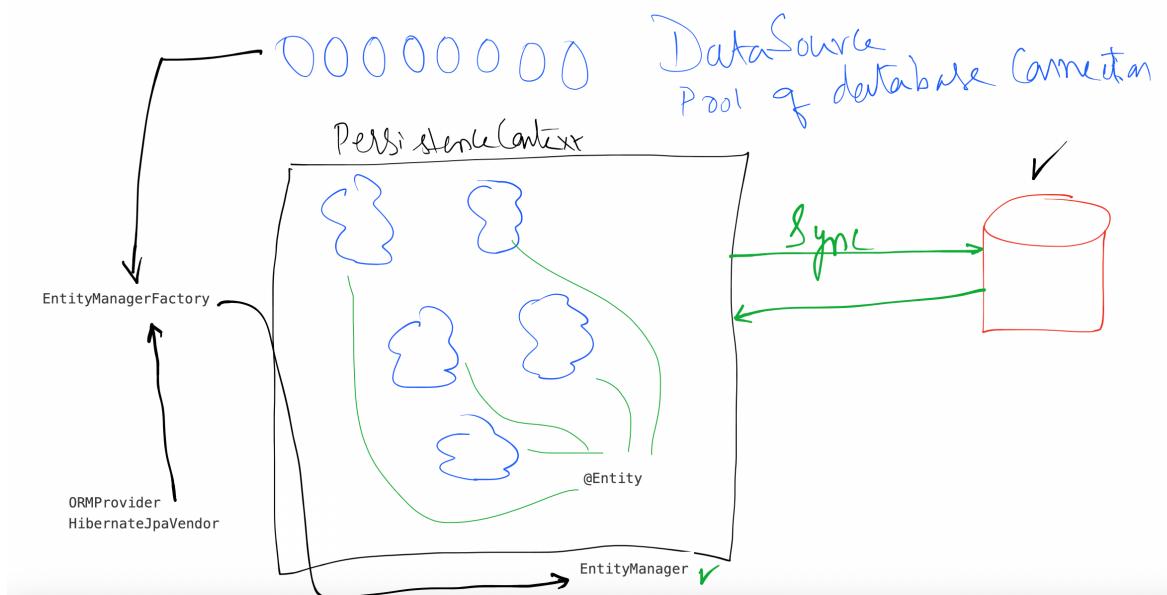
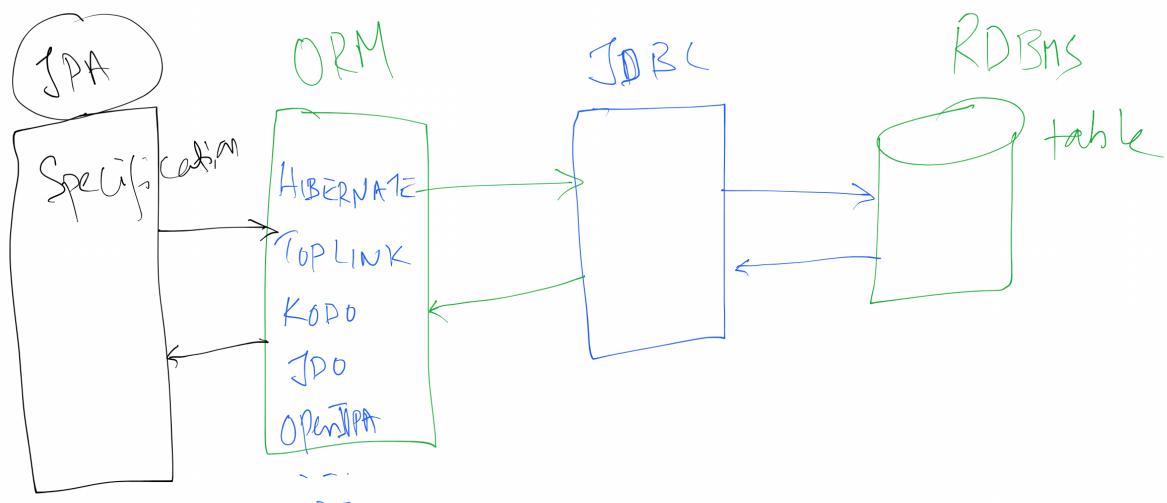
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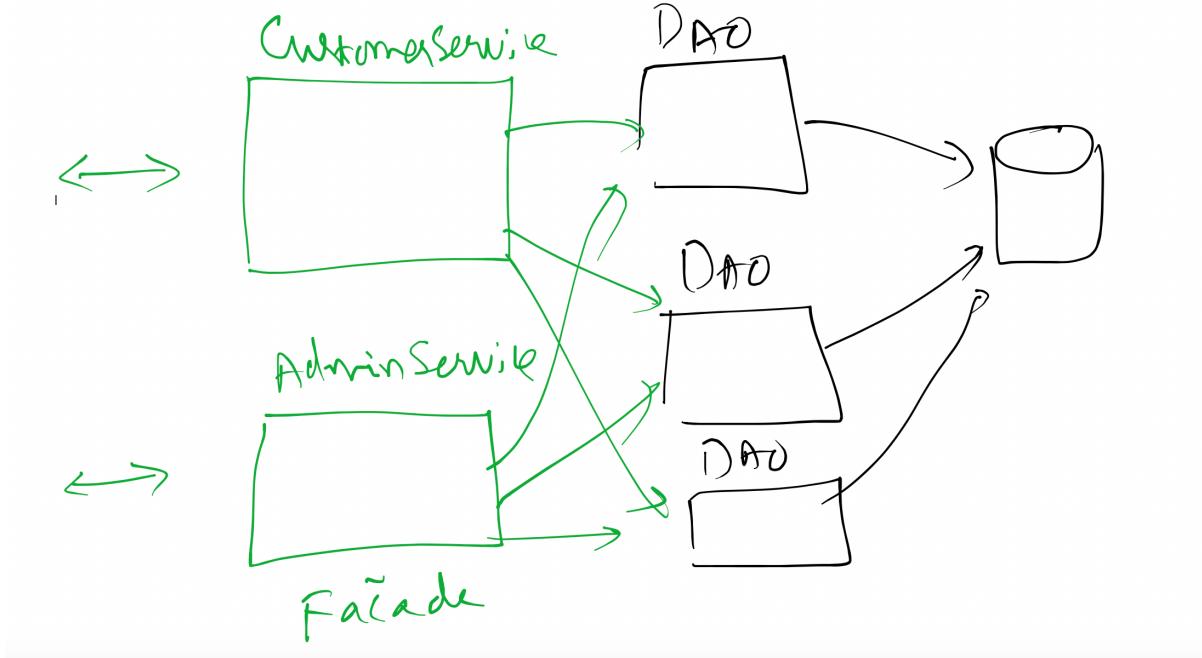
ORM

```

@Override
public void addProduct(Product p) {
    em.persist(p);
}

```





mysql> select * from customers;

email	fname	lname
anna@adobe.com	Anna	Helen
roger@adobe.com	Roger	Smith

1
*

orders

oid	Order_date	Customer_fk (Foreign key)	total
890	2-SEP-2024 3:15:00	roger@adobe.com ✓	<>>
891	3-SEP-2024 4:10:15	anna@adobe.com	<>>
892	4-SEP-2024 10:16:00	roger@adobe.com ✓	<>>

1
*

mysql> select * from products;

id	name	price	qty
1	IPhone 15	89000	100
2	Samsung OLED	24900	100
3	MacBook	5900	100
4	Logitech Mouse	500	100
5	Tata Play	5678	100
6	LG AC	45000	100
7	Bosch DishWasher	52000	100

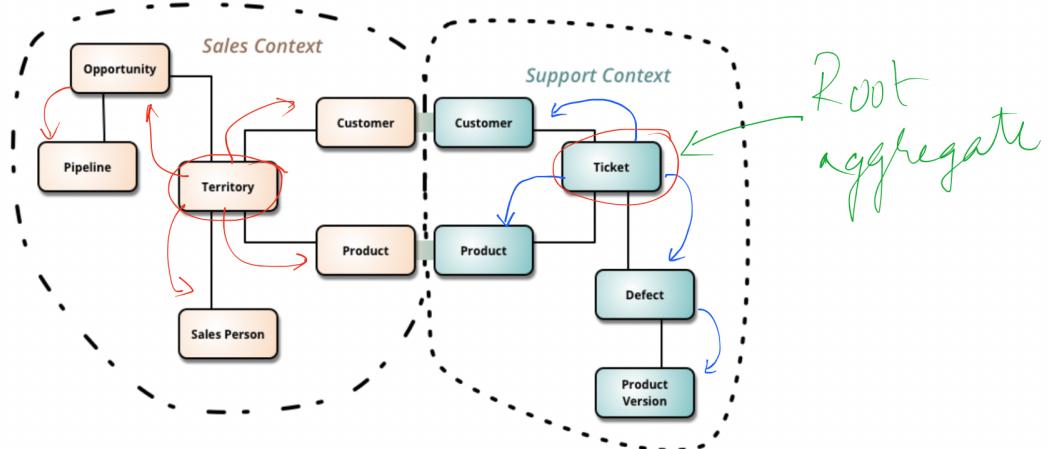
1
*

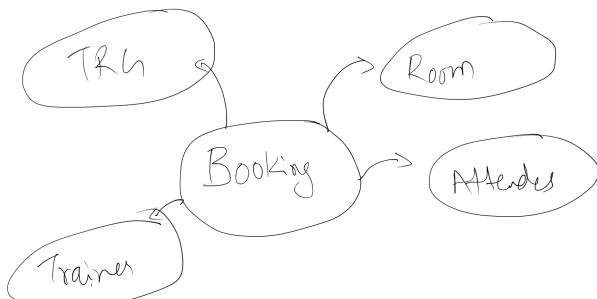
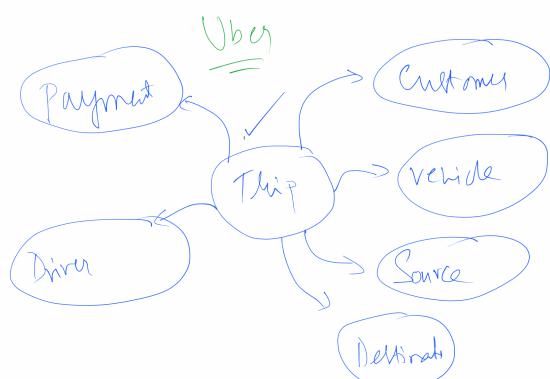
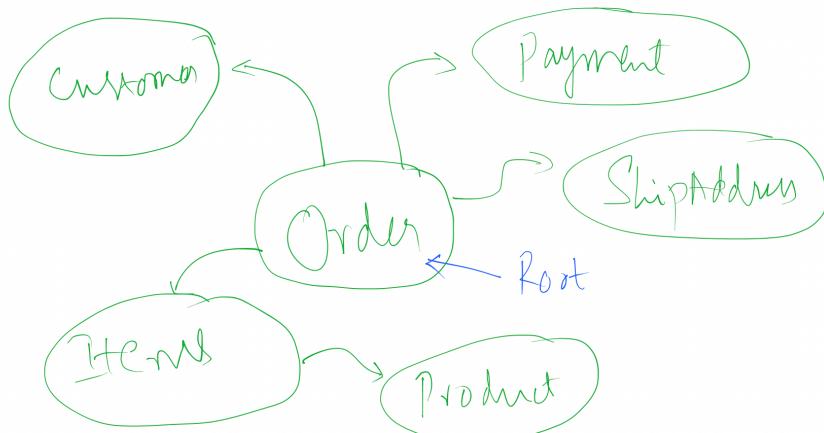
items

Itemid	Order_fk	product_fk	qty	amount
111	890 ✓	3 ✓	2	11,000.00
112	890 ✓	1 ✓	1	85,000.00
113	891 ✓	1 ✓	2	175,000.00
114	892 ✓	3 ✓	1	5,500.00

1
*

Root Aggregate





```

mysql> select * from customers;
+-----+-----+
| email | fname | lname |
+-----+-----+
| anna@adobe.com | Anna | Helen |
| roger@adobe.com | Roger | Smith |
+-----+-----+

```

```
select * from customers
```

```
select * from customers where fname='Anna'
```

```
select fname, lname from customers;
```

JP - QL

```

@Entity
@Table(name="customers")
public class Customer {
    @Id
    private String email;

    @Column(name="FNAME", length = 100)
    private String firstName;

    @Column(name="LNAME", length = 100)
    private String lastName;
}

```

```
from Customer
```

```
from Customer from firstName = 'Anna'
```

```
select firstName, lastName from Customer;
```