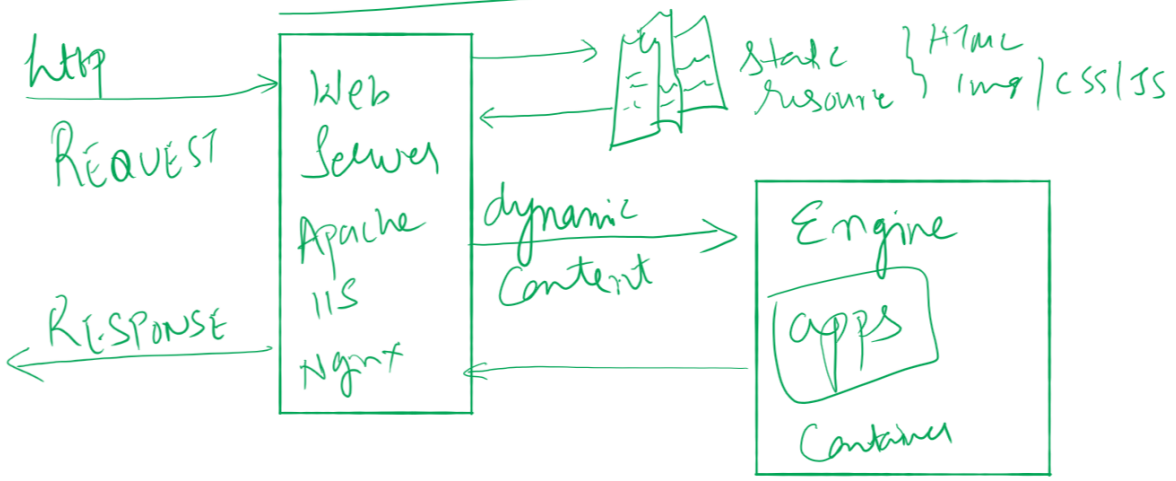
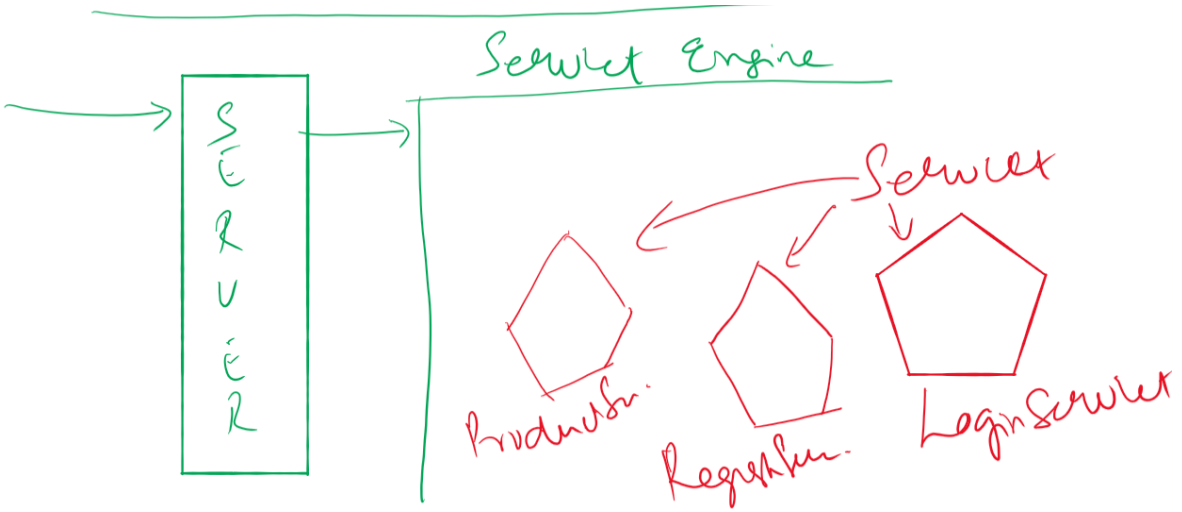
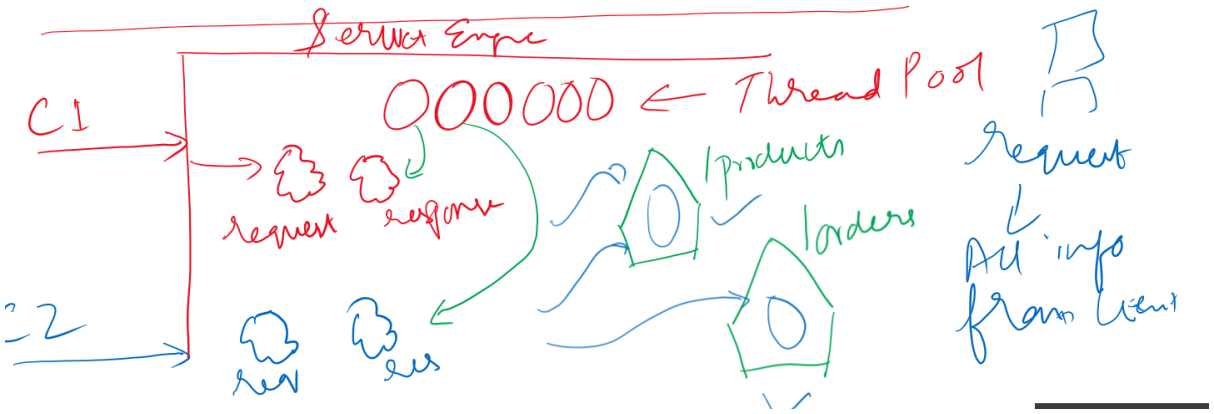
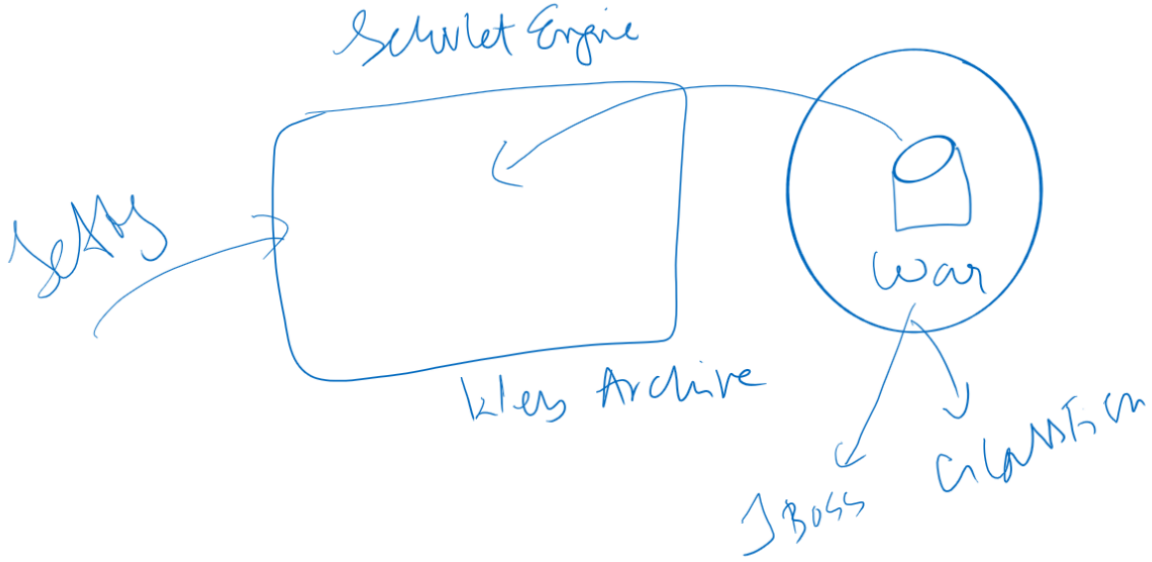
Web Application Development

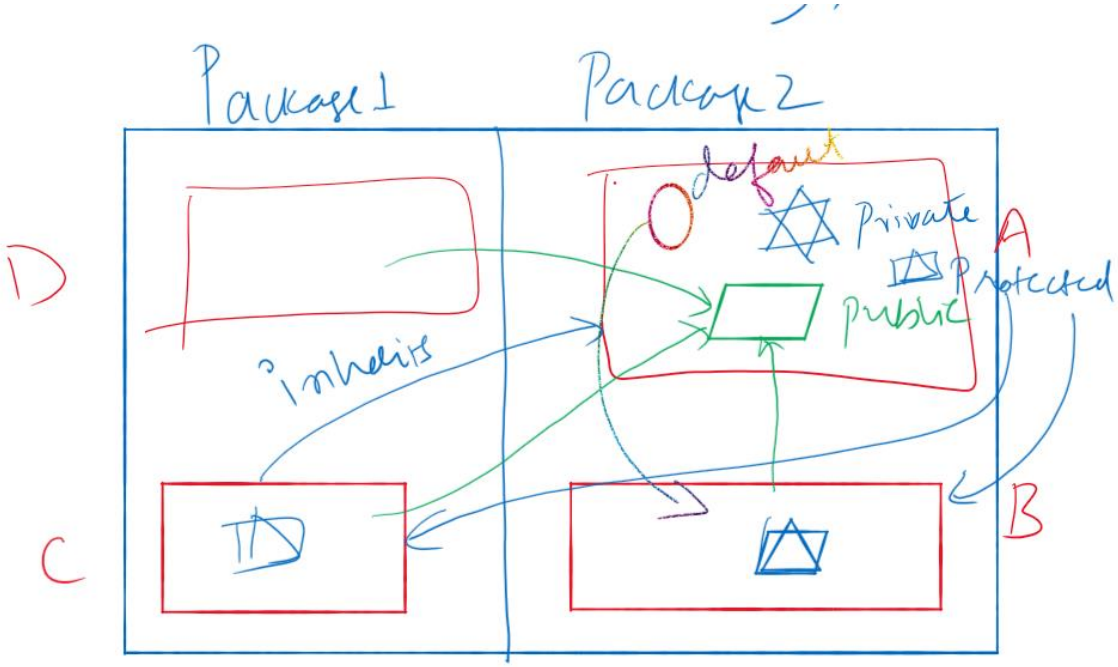


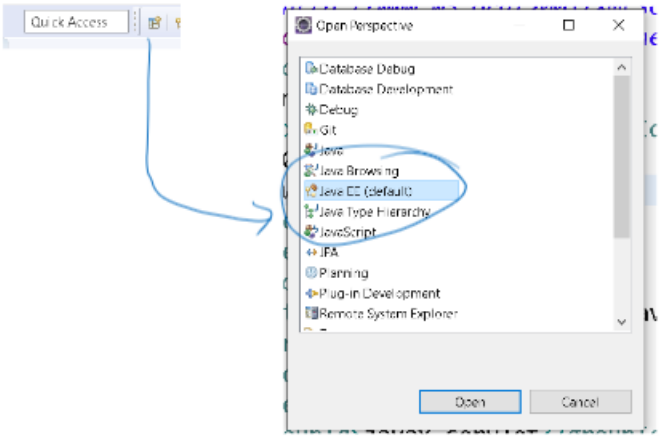


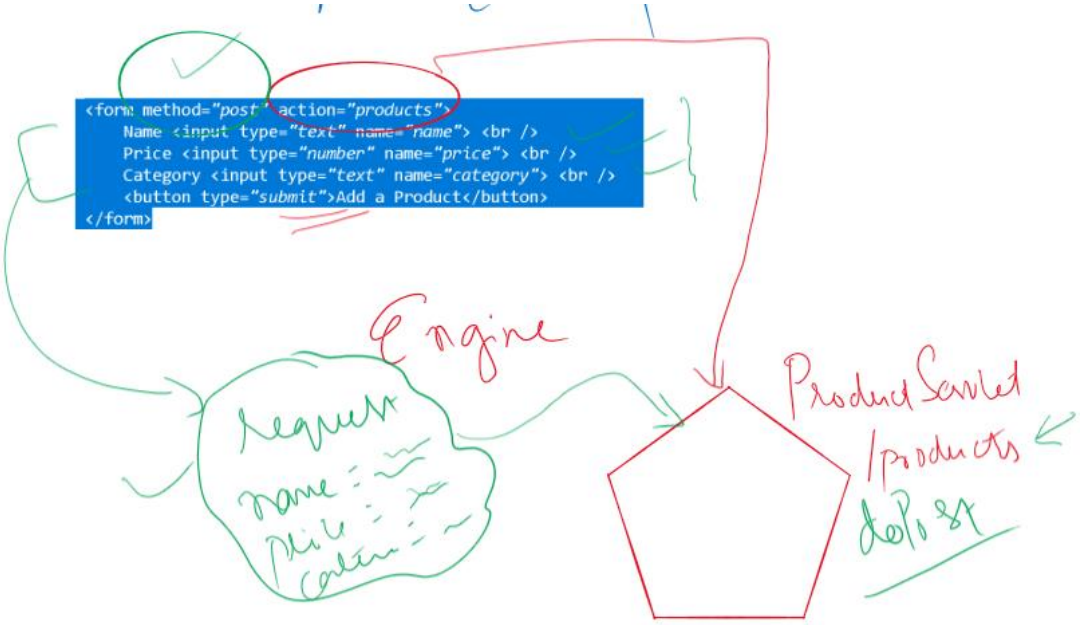




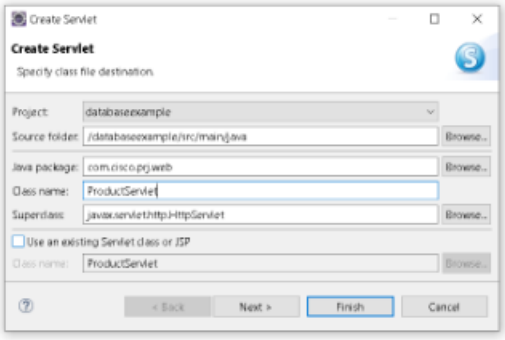
Private, public, default and protected scope:



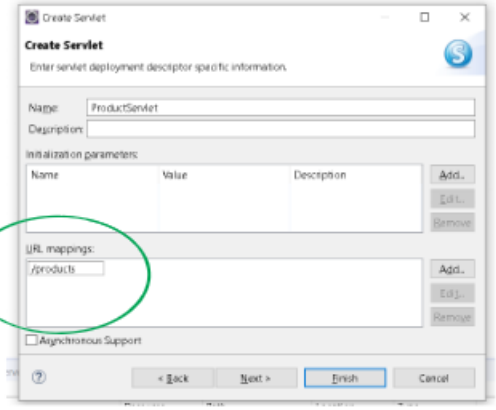

Quick Access
Open Perspective
Database Debug
Database Development
Debug
Git
Java
Java Browsing
Java EE (default)
Java Type Hierarchy
JavaScript
JPA
Planning
Plug-in Development
Remote System Explorer
Open
Cancel
Web
application
Dev


<form method="post" action="products">
Name <input type="text" name="name">
Price <input type="number" name="price">
Category <input type="text" name="category">
<button type="submit">Add a Product</button>
</form>
Engine
request
name =
price =
Product Servlet
/products
doPost

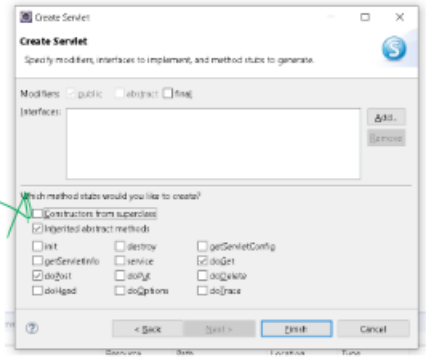
Create Servlet



Next>



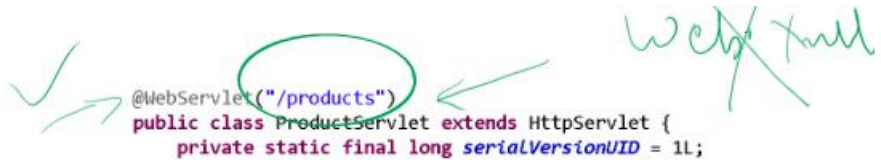
Next>

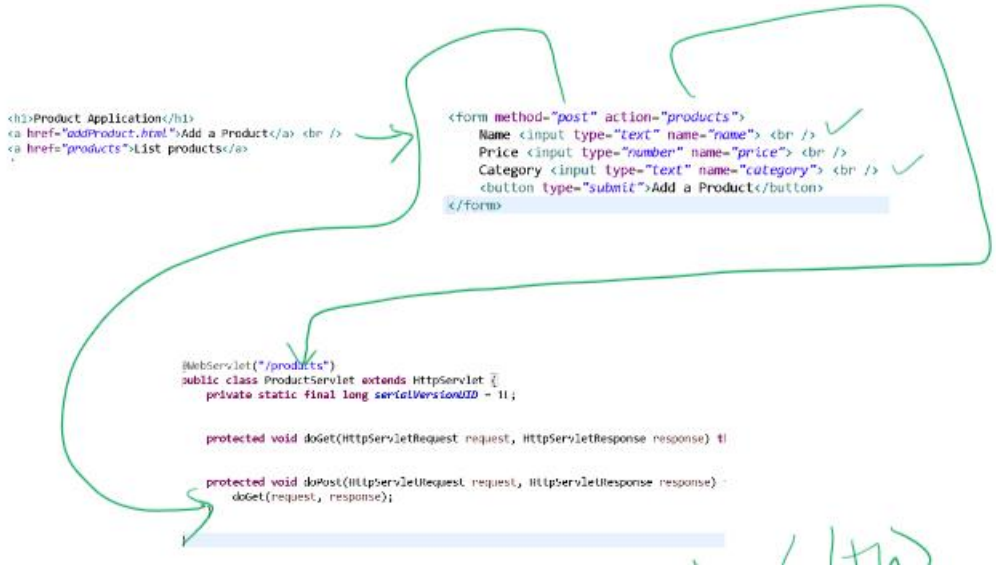


doGet
doPost

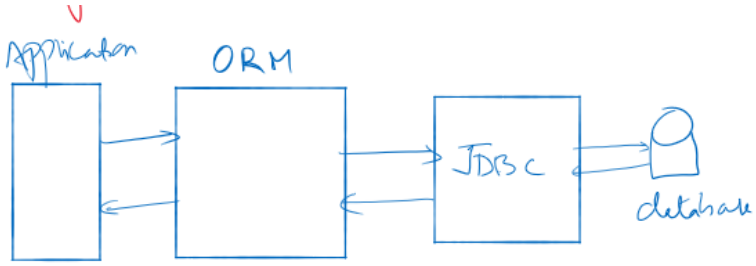
web.xml

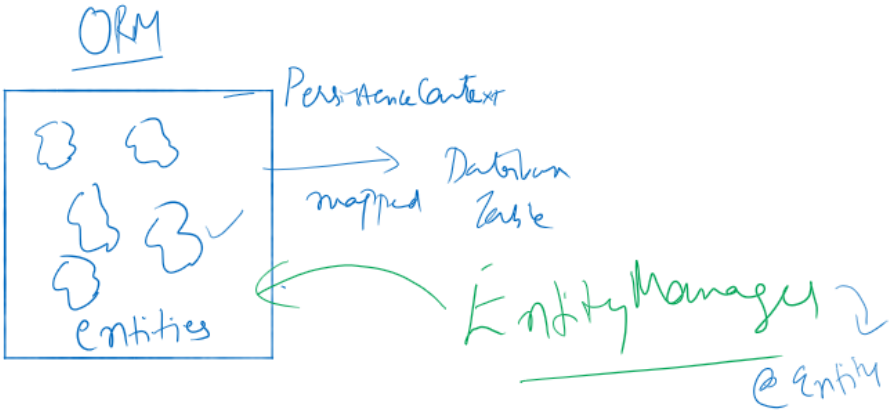
```
@WebServlet("/products")
public class ProductServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;
```

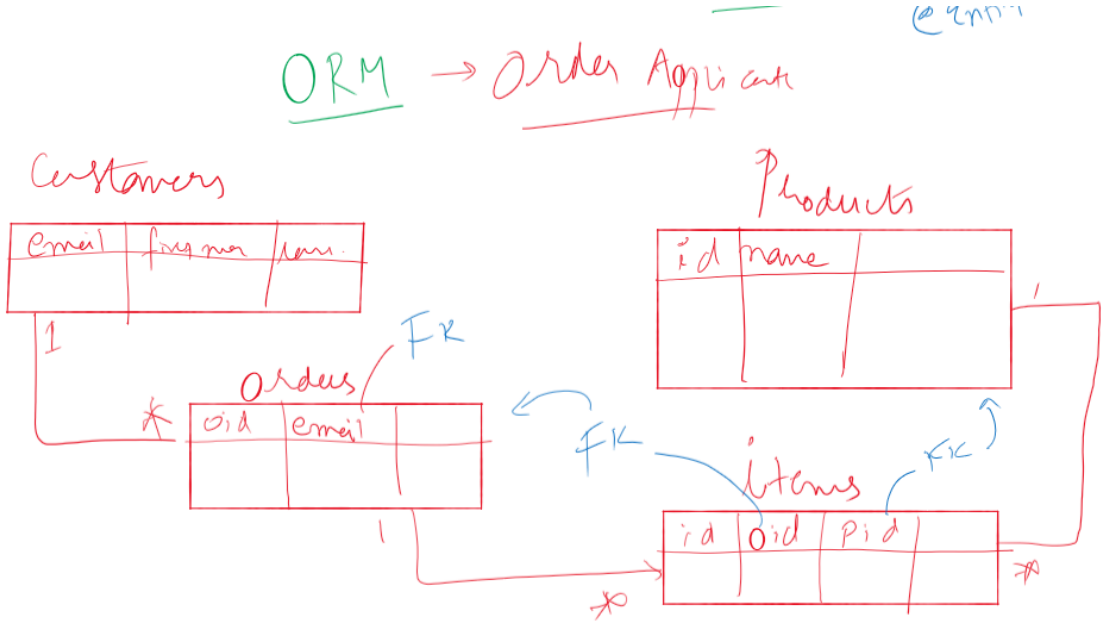

@WebServlet("/products")
public class ProductServlet extends HttpServlet {
private static final long serialVersionUID = 1L;


<h1>Product Application</h1>
<a href="addProduct.html">Add a Product</a>
<a href="products">List products</a>
<form method="post" action="products">
Name <input type="text" name="name">
Price <input type="number" name="price">
Category <input type="text" name="category">
<button type="submit">Add a Product</button>
</form>
@WebServlet("/products")
public class ProductServlet extends HttpServlet {
private static final long serialVersionUID = 1L;
protected void doGet(HttpServletRequest request, HttpServletResponse response)
protected void doPost(HttpServletRequest request, HttpServletResponse response)
doGet(request, response);

ORM


Application
ORM
JDBC
database


ORM
PersistenceContext
mapped
entities
EntityManager
@Entity

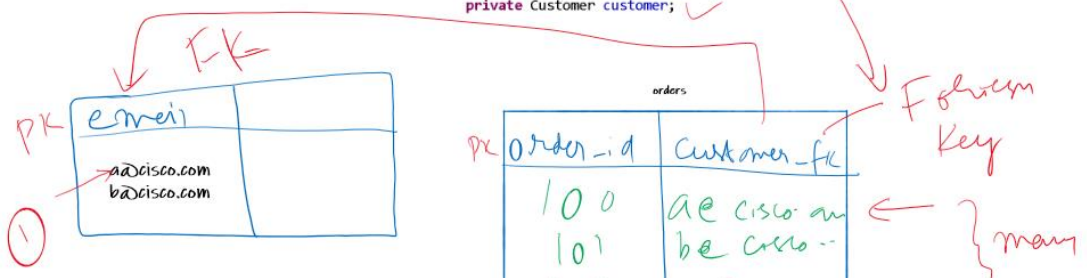



```java
@Entity
@Table(name="customers")
public class Customer {

    @Id
    private String email;
```

```java
@Entity
@Table(name="orders")
public class Order {
    @Id
    @GeneratedValue(strategy = Genera
    @Column(name="order_id")
    private int orderId;

    @ManyToOne
    @JoinColumn(name="customer_fk")
    private Customer customer;
```



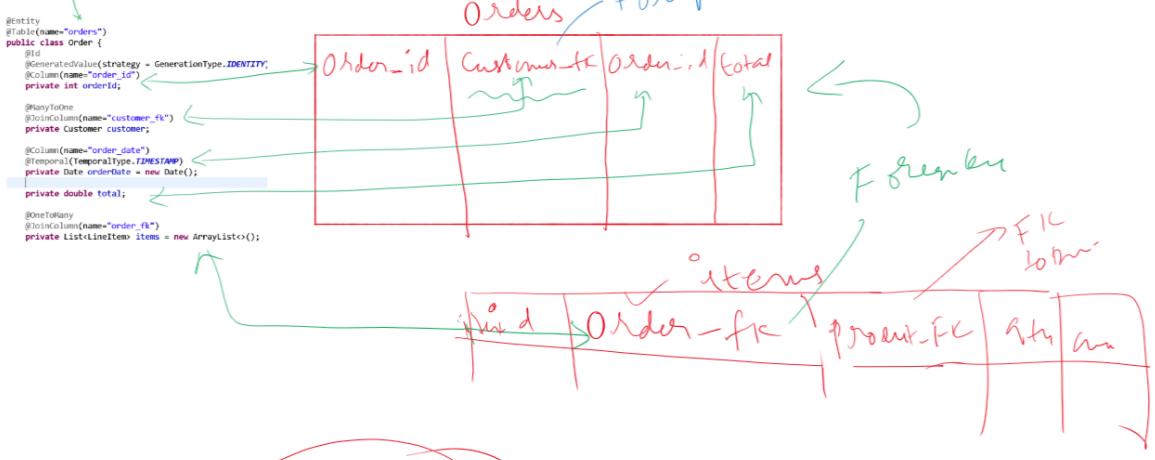

```java
@Entity
@Table(name="orders")
public class Order {
    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    @Column(name="order_id")
    private int orderId;

    @ManyToOne
    @JoinColumn(name="customer_fk")
    private Customer customer;

    @Column(name="order_date")
    @Temporal(TemporalType.TIMESTAMP)
    private Date orderDate = new Date();

    private double total;

    @OneToMany
    @JoinColumn(name="order_fk")
    private List<LineItem> items = new ArrayList<>();
```

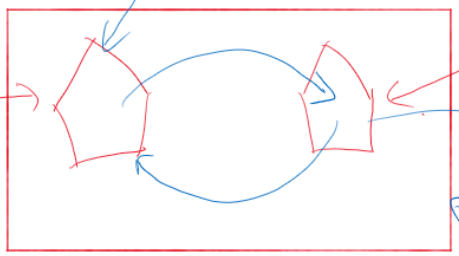


```java
@Repository
public class EmployeeDaoMySQLImpl implements EmployeeDao {

    @Override
    public void printEmployee() {
        System.out.println("Employee stored in MySQL!!!");
    }
}
```

```java
@Service
public class SampleService {
    @Autowired
    private EmployeeDao empDao;

    public void doTask() {
        empDao.printEmployee();
    }
}
```



ApplicationContext

```java
@SpringBootApplication
public class DemoApplication {

    public static void main(String[] args) {
        SpringApplication.run(DemoApplication.class, args);
    }

}
```

@EnableAutoConfiguration

@ComponentScan

Com.cisco

http://localhost:9999/api/products

```java
@RestController
@RequestMapping("/api/products")
public class ProductController {
    @Autowired
    private OrderService service;

    @GetMapping()
    public @ResponseBody List<Product> fetchProducts() {
        return service.getProducts();
    }

    @PostMapping()
    public @ResponseBody Product addProduct(@RequestBody Product p) {
        service.addProduct(p);
        return p;
    }
}
```

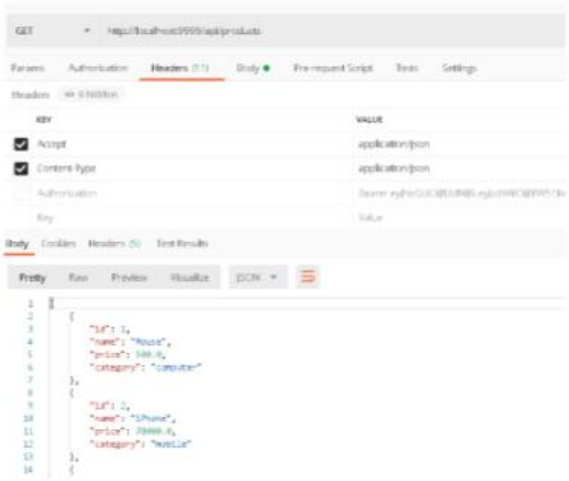
GET

Convert List to representation

accept : application/json

Content-type : application/json

GET http://localhost:9999/api/products



accept: application/json
content-type:application/json

POST http://localhost:9999/api/orders

BODY:

```
{
        "customer" : {
                "email" : "b@cisco.com"
        },
        "total" : 234446.33,
        "items" : [
                {
                        "product" : { "id" : 3},
                        "qty": 3,
                        "amount" : 35666.66
                },
                {
                        "product" : { "id" : 1},
                        "qty": 1,
                        "amount" : 90000.00
                }
        ]
}
```

```
mysql> select * from orders;
+----------+---------------------+-----------+-------------+
| order_id | order_date          | total     | customer_fk |
+----------+---------------------+-----------+-------------+
|        1 | 2020-06-12 15:31:38 | 234446.33 | b@cisco.com |
+----------+---------------------+-----------+-------------+
1 row in set (0.00 sec)

mysql> select * from items;
+--------+---------+-----+------------+----------+
| itemid | amount  | qty | product_fk | order_fk |
+--------+---------+-----+------------+----------+
|      1 | 35666.66 |   3 |          3 |        1 |
|      2 |   90000 |   1 |          1 |        1 |
+--------+---------+-----+------------+----------+
2 rows in set (0.00 sec)
```