Commercial

My document is about plant store to selling plants and it's requirement of tools, fertilizers and pesticides and I've used 4 models which are products, customers, orders and administrators.

Models:

- **Products**
- **Customers**
- **Orders**
- **Administrators**

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Products ->

id, name, type, description, quantityInStock, price

- All shouldn't be empty or null
- Id size is 4-8
- Name size 4-16 and only letters
- Type of product is plant, tool, pesticide or fertilize only.
- Description size 20-500
- quantityInStock positive or zero and max 100
- price positive or zero

Model class Java Spring Boot

```
@NotEmpty(message = "Shouldn't be empty")
@Size(min = 4,max = 8, message = "ID should be between 4 and 8 characters...")
private String id;
@NotEmpty(message = "Shouldn't be empty")
@Size(min = 4,max = 16,message = "Name should be between 4 and 16 characters...")
@Pattern(regexp = "^([a-zA-Z])+$",message = "name should be letters only")
private String name;
@NotEmpty(message = "Shouldn't be empty")
@Pattern(regexp = "^(plant|tool|pesticides|fertilizers)$",message = "not allowed")
private String type;
@NotEmpty(message = "Shouldn't be empty")
@Size(min = 20,max = 500,message = "description should be less than 500 letters")
private String description;
@NotNull(message = "Shouldn't be null")
@PositiveOrZero( message = "quantity cannot be negative")
@Max(value = 100,message = "right now quantity doesn't exceed 100")
private int quantityInStock;
@NotNull(message = "Shouldn't be Null")
@PositiveOrZero( message = "price cannot be negative")
private double price;
```

Customers ->

Id, Name, email, phone, address, numberOfPurchases, rate

- All shouldn't be empty or null
- Id size is 4-8
- Name size 4-16 and only letters
- Email format
- Phone must start with +966
- Address size 20-400
- Positive or zero of number of purchases
- Positive or zero rating and is up to 5

Model class Java Spring Boot

```java
@NotEmpty(message = "Shouldn't be empty")
@Size(min = 4,max = 8, message = "ID should be between 4 and 8 characters...")
private String id;
@NotEmpty(message = "Shouldn't be empty")
@Size(min = 4,max = 16,message = "Name should be between 4 and 16 characters...")
@Pattern(regexp = "^([a-zA-Z])+$",message = "name should be letters only")
private String name;
@NotEmpty(message = "Shouldn't be empty")
@Email
private String email;
@NotEmpty(message = "Shouldn't be empty")
@Pattern(regexp = "^+966\\d{9}$",message = "phone number must be start with +966")
private String phone;
@NotEmpty(message = "Shouldn't be empty")
@Size(min = 20,max = 400,message = "address should be between 20 and 400")
private String address;
@NotNull(message = "Shouldn't be Null")
@PositiveOrZero( message = "cannot be negative")
private int numberOfPurshases;
@NotNull(message = "Shouldn't be Null")
@PositiveOrZero( message = "rate cannot be negative")
@Max(value = 5,message = "the rate is of 5 only")
private double rate;
```

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Orders ->

Id, date, numberOfProducts, totalPrice, notes

- All shouldn't be empty or null except notes
- Id size is 4-8
- Date format yyyy/MM/dd
- Number of products positive
- Total price positive or zero
- Notes size up to 200.

Model class Java Spring Boot

```
@NotEmpty(message = "Shouldn't be empty")
@Size(min = 4,max = 8, message = "ID should be between 4 and 8 characters...")
private String id;
@NotEmpty
@JsonFormat(pattern = "yyyy/MM/dd")
private LocalDate date;
@NotNull(message = "Shouldn't be Null")
@Positive( message = "cannot be negative or zero")
private int numberOfProducts;
@NotNull(message = "Shouldn't be Null")
@PositiveOrZero( message = "price cannot be negative") //zero if order free
private double totalPrice;
// could be empty no notes need sometimes
@Size(min = 0,max = 200,message = "should be less than 200 characters")
private String notes;
```

Administrators ->

Id, Name, email, phone, address, role, password

- All shouldn't be empty or null
- Id size is 4-8
- Name size 4-16 and only letters
- Phone must start with +966
- Address size 20-400
- Role is system admin, assistant, system admin, products officer or designer
- Password size 8-16 must contains one of upper and lower case of letters, number and special characters.

Model class Java Spring Boot

```
@NotEmpty(message = "Shouldn't be empty")
@Size(min = 4,max = 8, message = "ID should be between 4 and 8 characters...")
private String id;
@NotEmpty(message = "Shouldn't be empty")
@Size(min = 4,max = 16,message = "Name should be between 4 and 16 characters...")
@Pattern(regexp = "^([a-zA-Z])+$",message = "name should be letters only")
private String name;
@NotEmpty(message = "Shouldn't be empty")
@Email
private String email;
@NotEmpty(message = "Shouldn't be empty")
@Pattern(regexp = "^+966\\d{9}$",message = "phone number must be start with +966")
private String phone;
@NotEmpty(message = "Shouldn't be empty")
@Size(min = 20,max = 400,message = "address should be between 20 and 400")
private String address;
@NotEmpty(message = "Shouldn't be empty")
@Pattern(regexp = "^(system admin|assistant system admin|products officer|designer)$")
private String role;
@NotEmpty(message = "Shouldn't be empty")
@Size(min = 8,max = 16,message = "Password should be between 8 and 16")
@Pattern(regexp = "^([a-z][A-Z][!-@])+$",message = "password should be contain at least upper an lower
case letters and number and special character")
```

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```
//i-@ is contains numbers according ascii code "!"#$%&'().+-/0123456789:;<>=?@"
private String password;
```