

Design

Document

OPTISYNC

# Index

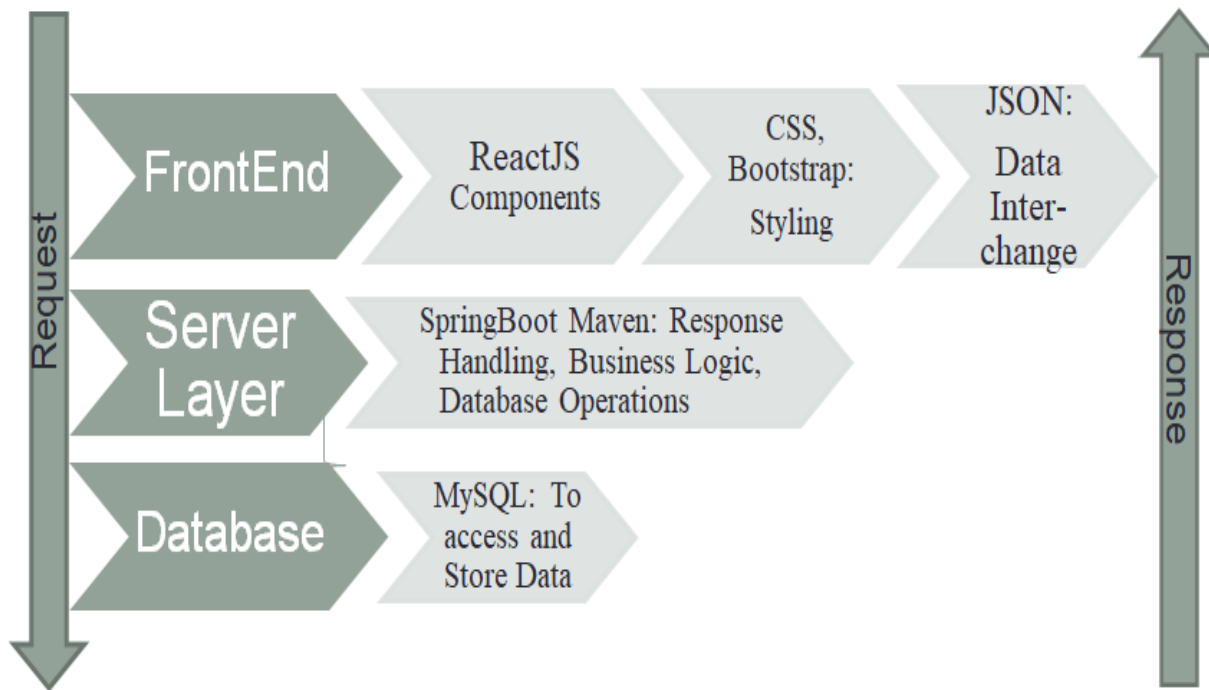
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## 1. Introduction:

This document is meant for the description of the structure and the database which we are using in this project. This document gives brief description about Architecture of the system, E-R diagram of the system and the table descriptions, the page navigation diagrams and the detail description for the page navigation.

## 2. Architecture Design:

Following diagram shows the details of the Optisync system architecture.



**Stage 1 - Front End Development:** In the first part, we're creating the part of the project that users interact with. We're using ReactJS, which helps us make the website responsive and dynamic. For making web page presentable, we're using CSS and Bootstrap. When the website needs to get or show data, we're using JSON, a way for computers to share information.

**Stage 2 - Backend Development:** In the second part, we're building the behind-the-scenes work of the project. We're using Spring Boot with Java to manage how the website connects to the server. It handles requests from the front end and takes care of how data should be processed. Its like the manager between the front end and the database.

**Stage 3 - Database Management:** In the last part, we're setting up where all the important project data is stored. We've chosen MySQL for this. It's like a digital organized storage room. Spring Boot from the previous stage talks to MySQL to save new information, find existing data, and do other tasks to keep things running smoothly.

### 3.1 E-R Diagram:



- Fields: client\_id (Primary Key), client\_name
- Description: Stores information about clients interacting with the system.

- Fields: plan\_id (Primary Key), plan\_name, user\_no, duration, price
- Description: Contains details about different plans offered to clients.

### 3. Company Table:

- Fields: company\_id (Primary Key), company\_name, person\_name, contact\_no, email, registration\_date, plan\_id (Foreign Key), payment\_status, plan\_startdate, plan\_enddate, admin\_approval, mode\_of\_transaction
- Description: Stores information about companies registered in the system, their plans, and related details.

#### **4. Product Table:**

- Fields: product\_id (Primary Key), product\_name, product\_description, company\_id (Foreign Key)
- Description: Holds data about products offered by companies.

#### **5. Orders Table:**

- Fields: order\_id (Primary Key), client\_id (Foreign Key), company\_id (Foreign Key), product\_id (Foreign Key), product\_qty, start\_date, end\_date, dispatch\_qty
- Description: Manages orders placed by clients, containing product and company references.

#### **6. Parts Table:**

- Fields: part\_id (Primary Key), part\_name, part\_description, product\_id (Foreign Key)
- Description: Stores parts used in the production of products.

#### **7. Assembly Table:**

- Fields: assembly\_entry\_no (Primary Key), date, order\_id (Foreign Key), part\_id (Foreign Key), received\_part\_qty, targeted\_value, achieve
- Description: Records assembly details, including parts and quantities.

#### **8. CPM Table:**

- Fields: cpm\_id (Primary Key), company\_id (Foreign Key), product\_id (Foreign Key), part\_id (Foreign Key), store\_ct, production\_ct, vendor\_ct, assembly\_ct, dispatch\_ct
- Description: Keeps track of various cycle times for company-product-part combinations.

#### **9. Dispatch Status Table:**

- Fields: dispatch\_status\_id (Primary Key), status\_meaning
- Description: Stores different dispatch status meanings.

#### **10. Dispatch Table:**

- **Fields:** dispatch\_entry\_no (Primary Key), date, order\_id (Foreign Key), product\_id (Foreign Key), received\_product\_qty, targeted\_value, achieved, dispatcher\_name, dispatch\_status (Foreign Key)
- **Description:** Tracks dispatch information for orders, including product quantities and status.

#### **11. Forward Table:**

- Fields: forward\_id (Primary Key), name
- Description: Records names for forwarding purposes.

#### **12. Roles Table:**

- Fields: role\_id (Primary Key), name
- Description: Stores different user roles.

#### **13. Login Table:**

- Fields: login\_id (Primary Key), username, password, company\_id (Foreign Key), role\_id (Foreign Key), forgetpass\_status, setup\_status
- Description: Manages login credentials and user roles.

#### **14.Machines Table:**

- Fields: machine\_id (Primary Key), machine\_name, machine\_description, company\_id (Foreign Key)
- Description: Contains information about machines used by companies.

#### **15.Master Vendor Table:**

- Fields: master\_vendor\_id (Primary Key), master\_vendor\_name, master\_vendor\_part\_name
- Description: Stores details about master vendors and their parts.

#### **16.Raw Materials Table:**

- Fields: raw\_material\_id (Primary Key), name, description, part\_id (Foreign Key)
- Description: Keeps track of raw materials related to parts.

#### **17.Production Table:**

- Fields: entry\_no (Primary Key), order\_id (Foreign Key), raw\_material\_id (Foreign Key), received\_qty, date, target\_value, achieve, current\_qty, operator\_name, machine\_id (Foreign Key)
- Description: Records production details, including targets and achievements.

#### **18.Stock Table:**

- Fields: stock\_entry\_no (Primary Key), stock\_date, raw\_material\_id (Foreign Key), raw\_material\_qty, final\_raw\_material\_qty, part\_id (Foreign Key), part\_qty, final\_part\_qty, company\_id (Foreign Key)
- Description: Tracks stock levels of raw materials and parts.

#### **19.Stores Table:**

- Fields: store\_entry\_no (Primary Key), store\_date, order\_id (Foreign Key), raw\_material\_id (Foreign Key), raw\_material\_qty, forward\_id (Foreign Key), part\_id (Foreign Key), part\_qty
- Description: Records movements of raw materials and parts in stores.

#### **20.Vendor Map Table:**

- Fields: vendor\_id (Primary Key), company\_id (Primary Key), vendormap\_id (Primary Key)
- Description: Maps vendors to companies.

## 4. Data Base Details:

### 4.1 Database Tables:

#### 4.1.1 Client

Field	Data Type	Constraints
client_id	int	<b>Primary Key</b>
client_name	varchar(255)	

#### 4.1.2 Plans

Field	Data Type	Constraints
plan_id	int	<b>Primary Key</b>
plan_name	varchar(255)	
user_no	int	
duration	int	
price	float	

#### 4.1.3 Company

Field	Data Type	Constraints
company_id	int	<b>Primary Key</b>
company_name	varchar(255)	Not Null
person_name	varchar(255)	Not Null
contact_no	varchar(255)	Not Null
email	varchar(255)	Not Null
registration_date	date	Not Null
plan_id	int	Not Null, <b>Foreign Key</b>
payment_status	tinyint	
plan_startdate	date	Default Null
plan_enddate	date	Default Null
admin_approval	tinyint	Default 0
mode_of_transaction	varchar(45)	Default 'Online'



#### 4.1.4 Product Table

Field	Data Type	Constraints
product_id	int	<b>Primary Key</b>
product_name	varchar(255)	
product_description	varchar(555)	
company_id	int	<b>Foreign Key</b>

#### 4.1.5 Order Table

Field	Data Type	Constraints
order_id	int	<b>Primary Key</b>
client_id	int	<b>Foreign Key</b>
company_id	int	<b>Foreign Key</b>
product_id	int	<b>Foreign Key</b>
product_qty	int	
start_date	date	
end_date	date	
dispatch_qty	int	Default 0

#### 4.1.6 Parts Table

Field	Data Type	Constraints
part_id	int	<b>Primary Key</b>
part_name	varchar(255)	Not Null
part_description	varchar(555)	Default Null
product_id	int	<b>Foreign Key</b>

#### 4.1.7 Assembly Table

Field	Data Type	Constraints
assembly_entry_no	int	<b>Primary Key</b>
date	date	
order_id	int	<b>Foreign Key</b>
part_id	int	<b>Foreign Key</b>
received_part_qty	int	
targeted_value	int	
achieve	int	

#### 4.1.8 CPM

Field	Data Type	Constraints
cpm_id	int	<b>Primary Key</b>
company_id	int	<b>Foreign Key</b>
product_id	int	<b>Foreign Key</b>
part_id	int	<b>Foreign Key</b>
store_ct	int	
production_ct	int	
vendor_ct	int	
assembly_ct	int	
dispatch_ct	int	

#### 4.1.9 Dispatch Status

Field	Data Type	Constraints
dispatch_status_id	int	<b>Primary Key</b>
status_meaning	varchar(45)	

#### 4.1.10 Dispatch

Field	Data Type	Constraints
dispatch_entry_no	int	<b>Primary Key</b>
date	date	Default Null
order_id	int	<b>Foreign Key</b>
product_id	int	<b>Foreign Key</b>
received_product_qty	int	Default Null
tageted_value	int	Default Null
achieved	int	Default Null
dispatcher_name	varchar(255)	Default Null
dispatch_status	int	<b>Foreign Key</b>

#### 4.1.11 Forward

Field	Data Type	Constraints
forward_id	int	Primary Key
name	varchar(255)	Not Null

#### 4.1.12 Roles

Field	Data Type	Constraints
role_id	int	<b>Primary Key</b>
name	varchar(255)	

#### 4.1.13 Login

Field	Data Type	Constraints
login_id	int	<b>Primary Key</b>
username	varchar(255)	Default Null
password	varchar(255)	Default Null
company_id	int	<b>Foreign Key</b>
role_id	int	<b>Foreign Key</b>
forgetpass_status	bit(1)	Default Null
setup_status	bit(1)	Default Null

#### 4.1.14 Machines Table

Field	Data Type	Constraints
machine_id	int	<b>Primary Key</b>
machine_name	varchar(45)	Not Null
machine_description	varchar(555)	Default Null

#### 4.1.15 Master Vendor

Field	Data Type	Constraints
machine_id	int	<b>Primary Key</b>
machine_name	varchar(45)	Not Null
machine_description	varchar(555)	Default Null

#### 4.1.16 Raw Material

Field	Data Type	Constraints
raw_material_id	int	<b>Primary Key</b>
name	varchar(255)	Not Null
description	varchar(555)	Default Null
part_id	int	<b>Foreign Key</b>

#### 4.1.17 Production

Field	Data Type	Constraints
entry_no	int	<b>Primary Key</b>
order_id	int	<b>Foreign Key</b>
raw_material_id	int	<b>Foreign Key</b>
received_qty	int	
date	date	
target_value	int	
achieve	int	
current_qty	int	
operator_name	varchar(255)	Not Null
machine_id	int	<b>Foreign Key</b>

#### 4.1.18 Stock

Field	Data Type	Constraints
stock_entry_no	int	<b>Primary Key</b>
stock_date	date	Default Null
raw_material_id	int	<b>Foreign Key</b>

raw_material_qty	int	
final_raw_material_qty	int	
part_id	int	<b>Foreign Key</b>
part_qty	int	
final_part_qty	int	
company_id	int	<b>Foreign Key</b>

#### 4.1.19 Stores

Field	Data Type	Constraints
store_entry_no	int	<b>Primary Key</b>
store_date	date	Default Null
order_id	int	<b>Foreign Key</b>
raw_material_id	int	<b>Foreign Key</b>
raw_material_qty	int	Default Null
forward_id	int	Foreign Key
part_id	int	<b>Foreign Key</b>
part_qty	int	Default Null

#### 4.1.20 Vendor Map

Field	Data Type	Constraints
vendor_id	int	<b>Foreign Key</b>
company_id	int	<b>Foreign Key</b>
vendormap_id	int	<b>Primary Key</b>