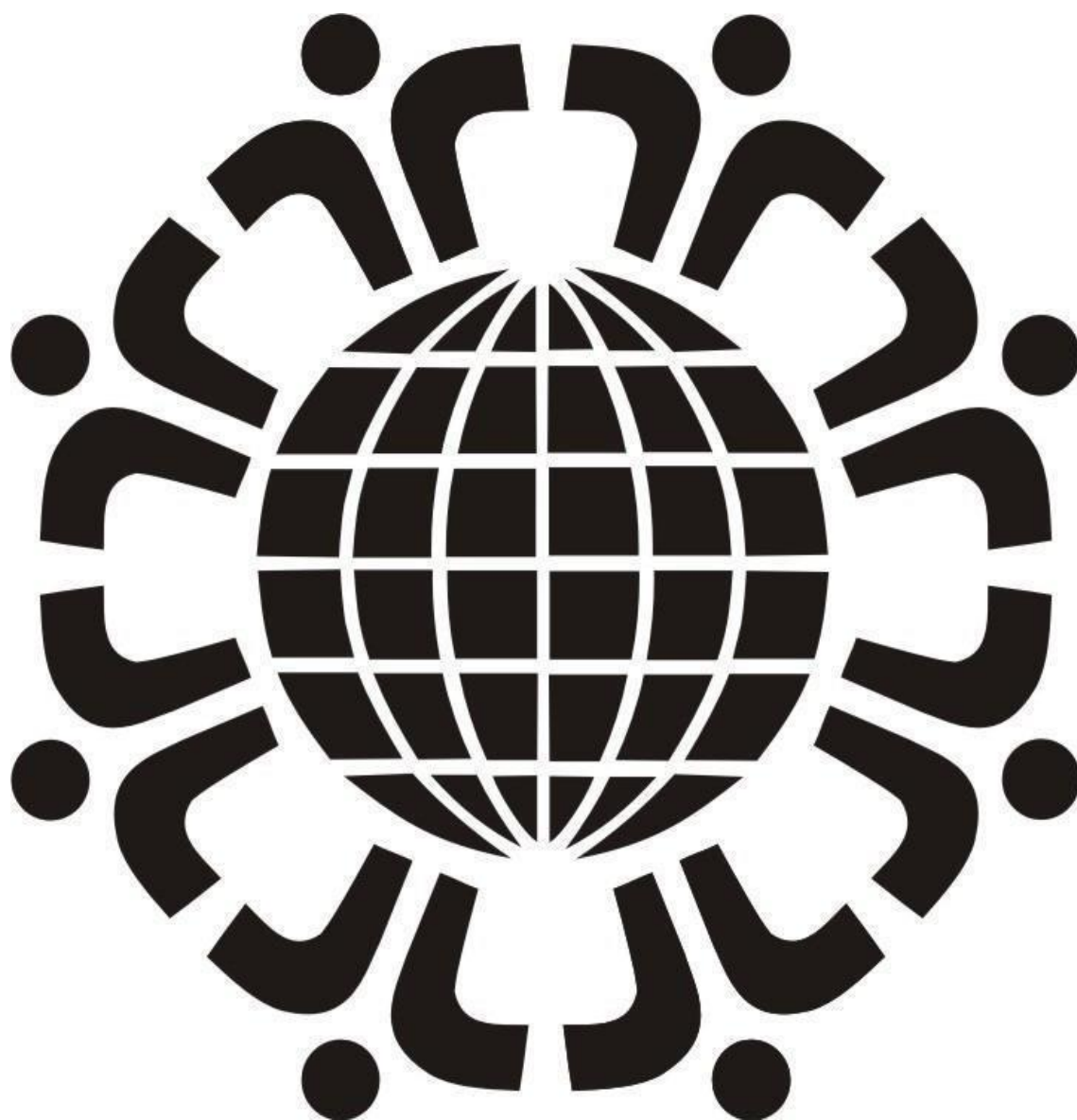


# **Lab Automation System**

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## **Project Report On “LAB AUTOMATION SYSTEM”**



**Aptech Computer Education – MSG-Karachi**

**Submitted By:**  
1. RAJA HAMMAD

**Guided By**  
Sir JUNAID ABBAS  
Teacher,  
Aptech-MSG-Karachi

# **CERTIFICATE**



## **Certificate of Completion**

***This is to certify that Web Application for Lab Automation System has been completed with all functionality by the students of Pro201912B+11B.***

***Raja Muhammad Hammad  
Khan***

# Lab Automation System

## Introduction:

The SRS Electrical appliances are the manufacturers of some electrical products like switch gears, fuses, capacitors, resistors, etc..... These products after manufactured they are sent for testing where the product is subjected to some testing conditions, and then after the testing is successful at their laboratories, they are sent to CPRI for further testing process, so that they can get it approved from CPRI and then release the product into the market. If the testing fails then the product is sent back for re-manufacturing it and then they are again subjected to tests.

## Existing Scenario:

Compu Initially after the product is manufactured the company's testing department tests the product and maintains the details of the testing done like the type of testing and as well the result of the testing that the product is subjected to. Actually, the testing process usually depends on the type of the product to be tested.

Actually, the testing records are maintained in papers and they mark how many products are sent for testing and as well how many are tested successfully and as well how any are not. Actually each product that is manufactured is allocated with some product id (10 digit code which includes the product code, the revise of the product, and the manufacturing number) and the records of testing are maintained based on the product id so that it becomes easier to track which product is tested successfully and which has failed the testing, and what all are needed to be done to overcome the defaults, so that the products that are failed when subjected to tests can be sent for re-making.

It has become a tedious job as there is no automation in the process and as well it is a time-consuming process for maintaining the records of testing and filing it, as it has to be shown to the concerned department, as based on the results of testing they decide whether to send the product for further testing process or for re-making the product.

Sometimes misplacing of the records or the products take place or it might even happen like the record of one product is entered for the other, etc..... as in the testing department itself there are various departments which are based on the type of testing, and a product need two or more types of testing. As soon as a testing is finished in one department it is to be sent to the other department that performs the other type of testing.

## Proposed Solution:

In order to avoid the confusion in maintaining the records, misplacement of the records, and to reduce the time consumption in entering and fetching the details they want an application to be built that holds all the information of the testing like the type of testing conducted, result and even they should be able to capture the type of the testing done.

# Lab Automation System

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They say that they want the application in modular and sub modular form depending on the type of the testing and as well based on the type of the product. One should be able to access the product based on the product id or testing id. As soon as a testing record is entered the unique test id (12-digit code which includes the product code, the revise of the product, and as well the testing code and the testing roll number) should be generated automatically. They also say that they want an advanced search option through which they can fetch the details at an ease.

They also want the application to hold the detailed remarks where one can enter the testing is done based on which criteria, and what is the output seen for that testing, etc.....

## Non-Financial:

details of the products and the testing like the product code, product id, testing id, the revise, the testing performed, remarks provided, the result of the testing, etc..... are needed to be maintained in a separate database.

Product id should be a unique 10-digit code as described by the manufacturing unit and the testing id should be a unique 12-digit code, which should be automatically generated.

An advanced search option is to be included.

The application should contain a modular and the sub-modular form based on the type of the product and as well based on the type of the testing.

One should be able to capture the detailed description of the remarks that include about the testing and what should be the output for that testing and the result of testing performed and as well the remarks if any for that particular product.

One should be able to check the status of the testing.

After entering the record, it should even ask for the name of the person (s) who has tested the product.

## Financial:

After the product is subjected for testing and if it fails it is to be sent for re-making else it will be sent for further testing procedures that are held by the CPRI and get it approved from them so as to release the product in to the market.

## Functional Requirements:

The details are needed to be captured based on the type of the testing and as well based on the product.

The status of the testing and as well the detailed remarks is also needed to be captured.

An advanced search option is needed to be included so that one can fetch the details of the testing at an ease.

# **Lab Automation System**

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## **HARDWARE CONFIGURATION**

- A minimum computer system that will help you access all the tools in the courses is a Pentium 166 or better.
- 128 Megabytes of RAM or better

## **Operating System**

- LINUX / Windows 2000 Server (or higher if possible)

## **SOFTWARE CONFIGURATION**


- PHP
- MySQL
- PERL
- Apache

# Lab Automation System


## Login


**Email:** [aptech@gmail.com](mailto:aptech@gmail.com)

**Password:** demo1234



Login

 Email

 Password

☐ Remember Me

Login

Are you registered?

Activate Windows  
Go to Settings to activate Windows.

# Lab Automation System


## REGISTRATION




Register

 Name

 Email

 Password

 Conform Password

Register

[You already have a membership?](#)

Activate Windows  
Go to Settings to activate Windows.



# Lab Automation System

## USER DASHBOARD



Aptech

Dashboard

Category

Product

Request

Approved

Rejected



Dashboard



Home > Dashboard

Total Category

2



Total Products

2



Total Approved

1



Total Rejected

1



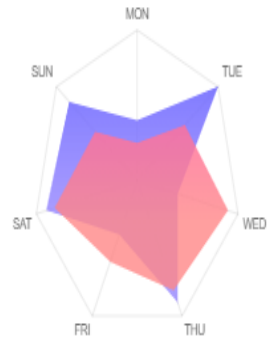
Recent Report

Products Services



Recent Report

Products Services



Activate Windows



# Lab Automation System

## ADD CATEGORY



Aptech  
User

[Dashboard](#)

[Category](#) +

[Product](#) +

[Request](#) +

[Approved](#) +

[Rejected](#) +



Add Category |



BACK

Status



Enable



Disable

Category Name

Type Category Name Here

ADD CATEGORY

Activate Windows

# Lab Automation System

## ALL CATEGORY

Apps

LAB

Aptech

User

Dashboard

Category

Product

Request

Approved

Rejected

All Category

BACK

Show 10 entries

Search:

| ID | Category Name | Category Status | Actions                           |
|----|---------------|-----------------|-----------------------------------|
| 1  | Pharmacy      | Enable          | <div><div></div><div></div></div> |
| 2  | Agriculture   | Enable          | <div><div></div><div></div></div> |

Showing 1 to 2 of 2 entries

Previous


1

Next

Activate Windows


Go to Settings to activate Windows.

## ADD PRODUCT



# Lab Automation System

## ALL PRODUCTS

  
Aptech  
User

[Dashboard](#)

[Category](#) +

[Product](#) +

[Request](#) +

[Approved](#) +







[Rejected](#) +

All Products

BACK

Show 10 entries

Search:

| ID | Category    | Product | Code | Price | Sale | Image   | Status | Actions   |
|----|-------------|---------|------|-------|------|---|--------|---|
| 1  | Pharmacy    | Toddler | xxx  | 4500  | 3500 |   | Enable |     |
| 1  | Agriculture | Coragan | xyz  | 5000  | 4500 |  | Enable |   |

Showing 1 to 2 of 2 entries


Previous 1 Next


Activate Windows



# Lab Automation System

## ALL APPROVED

 LAB

  
Aptech  
User

[Dashboard](#)

[Category](#) +

[Product](#) +

[Request](#) +

[Approved](#) +

[Rejected](#) +

All Approved

BACK

Show 10 entries

Search:

| ID | Category Name | Product Name | Approved |
|----|---------------|--------------|----------|
| 1  | Pharmacy      | Toddler      | approved |

Showing 1 to 1 of 1 entries


Previous 1 Next


Activate Windows

Go to Settings to activate Windows.

# Lab Automation System

## ALL REJECTED



  
Aptech  
User

[Dashboard](#)

[Category](#) +

[Product](#) +

[Request](#) +

[Approved](#) +


[Rejected](#) +

All Rejected

BACK

Show 10 entries

Search:

| ID | Category Name | Product Name | Rejected | Reason  |
|----|---------------|--------------|----------|---|
| 1  | Agriculture   | Coragan      | rejected |  |

Showing 1 to 1 of 1 entries

Previous

1

Next

Activate Windows

Go to Settings to activate Windows.





# Lab Automation System

## LOGOUT

← → ↻ ⓘ 127.0.0.1:8000/home 🔍 ☆ ⚙️ 👤 ⋮

📱 Apps | 📄 Reading list

**LAB**



Aptech  
User

[Dashboard](#)

[Category](#) +




[Product](#) +


[Request](#) +



[Approved](#) +



[Rejected](#) +



Dashboard [Home](#) > Dashboard



  

 Logout

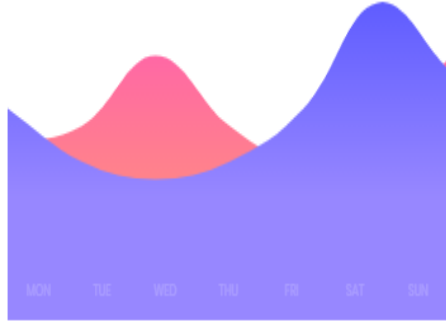
Total Category  
2   


Total Products  
2   


Total Approved  
1   


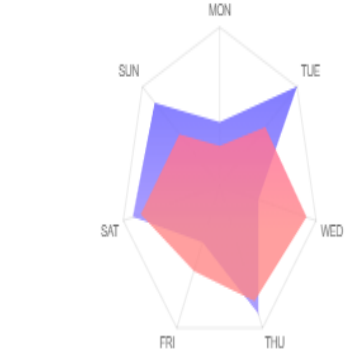
Total Rejected  
1   


Recent Report





MON TUE WED THU FRI SAT SUN

Recent Report




MON TUE WED THU FRI SAT SUN

  
Twitter

  
Instagram

Activate Windows  
Go to Settings to activate Windows.

  
Facebook

127.0.0.1:8000/home#

# Lab Automation System

## USER DATABASE

localhost/phpmyadmin/index.php?route=/sql&server=1&db=laravelproject&table=users&pos=0

Apps Reading list

phpMyAdmin

Server: 127.0.0.1 Database: laravelproject Table: users

3 total, Query took 0.0007 seconds.

[[ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

Number of rows: 25 Filter rows: Search this table Sort by key: None

|        | id | name        | email             | email_verified_at | is_admin | password  | erp_cell_number |
|--------|----|-------------|-------------------|-------------------|----------|---|-----------------|
| Delete | 1  | Raja Hammad | raja123@gmail.com | NULL              | 1        | \$2y\$10\$13RBABfdMGubosus2uN.M.PE1WMFZWz05YOObO2RMHqR... | 03101010101     |
| Delete | 2  | Aptech      | aptech@gmail.com  | NULL              | 0        | \$2y\$10\$UfDJlbkZ4aXXtRouEfV2BubJoWGzlgdSYurIMwMnG2b...  | NULL            |
| Delete | 3  | fahad       | fahad@gmail.com   | NULL              | 0        | \$2y\$10\$leO8DI/oDT6Y8XW/YvCxVuY1cF18YcWP0QDeffORjT...   | NULL            |

With selected: Edit Copy Delete Export

Number of rows: 25 Filter rows: Search this table Sort by key: None

Copy to clipboard Export Display chart Create view

SQL query

☐ Let every user access this bookmark

Console

Activate Windows Go to Settings to activate Windows.

Bookmarks Options History Clear

# Lab Automation System

## CATEGORY DATABASE

Apps Reading list

phpMyAdmin

Recent Favorites

Type to filter these, Enter to search all X

- laravelpro
- laravelproject
  - New
  - approveds
  - categories
  - dashboards
  - failed\_jobs
  - migrations
  - password\_resets
  - personal\_access\_tokens
  - products
  - profiles
  - rejecteds
  - testers
  - testings
  - testing\_requests
  - users
  - user\_details
- lms
- lmsphp
- mahnat
- majeed
- mydatabase
- myshopdb
- mysql
- myword
- performance\_schema
- phpmyadmin

Server: 127.0.0.1 Database: laravelproject Table: categories

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking More

Showing rows 0 - 1 (2 total, Query took 0.0008 seconds.)

```
SELECT * FROM `categories`
```

☐ Profiling [\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Explain SQL \]](#) [\[ Create PHP code \]](#) [\[ Refresh \]](#)

☐ Show all Number of rows: 25 Filter rows: Search this table Sort by key: None

+ Options

|                          |                      |                      |                        | id | erp_user_id | erp_status | erp_category_name | created_at          | updated_at          |
|--------------------------|----------------------|----------------------|------------------------|----|-------------|------------|-------------------|---------------------|---------------------|
| <input type="checkbox"/> | <a href="#">Edit</a> | <a href="#">Copy</a> | <a href="#">Delete</a> | 3  | 2           | 1          | Pharmacy          | 2021-10-20 11:02:35 | 2021-10-20 11:02:35 |
| <input type="checkbox"/> | <a href="#">Edit</a> | <a href="#">Copy</a> | <a href="#">Delete</a> | 6  | 2           | 1          | Agriculture       | 2021-10-20 11:15:53 | 2021-10-20 11:15:53 |

☐ Check all With selected: [Edit](#) [Copy](#) [Delete](#) [Export](#)

☐ Show all Number of rows: 25 Filter rows: Search this table Sort by key: None

Query results operations

[Print](#) [Copy to clipboard](#) [Export](#) [Display chart](#) [Create view](#)

[Bookmark this SQL query](#)

Label:  ☐ Let every user access this bookmark

[Bookmark this SQL query](#)

Activate Windows  
Go to Settings to activate Windows.

Console Bookmarks Options History Clear

# Lab Automation System

## PRODUCT DATABASE

phpMyAdmin

Recent Favorites

Type to filter these, Enter to search all X

laravelpro

laravelproject

New

approvals

categories

dashboards

failed\_jobs

migrations

password\_resets

personal\_access\_tokens

products

profiles

rejecteds

testers

testings

testing\_requests

users

user\_details

lms

lmsphp

mahnat

majeed

mydatabase

myshopdb

mysql

myword

performance\_schema

Server: 127.0.0.1 » Database: laravelproject » Table: products

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Mo

Query took 0.0007 seconds.)

[ Explain SQL ] [ Create PHP code ] [ Refresh ]

Rows: 25 Filter rows: Search this table Sort by key: None

|        | id | erp_user_id | erp_status | erp_category_name | erp_product_name | erp_product_code | erp_product_price | erp_sales_price | erp_product_image |
|--------|----|-------------|------------|-------------------|------------------|------------------|-------------------|-----------------|-------------------|
| delete | 7  | 2           | 1          | Pharmacy          | Toddler          | xxx              | 4500              | 3500            | 1634728111886.jpg |
| delete | 8  | 2           | 1          | Agriculture       | Coragan          | xyz              | 5000              | 4500            | 1634728664518.jpg |

Selected: Edit Copy Delete Export

Rows: 25 Filter rows: Search this table Sort by key: None

board Export Display chart Create view

☐ Let every user access this bookmark

Console Bookmarks Options History Clear

# Lab Automation System

## APPROVED DATABASE

The screenshot displays the phpMyAdmin interface for a database named 'laravelproject'. The 'testings' table is selected, and the SQL query 'SELECT \* FROM `testings` ORDER BY `testings`.`updated\_at` ASC' is executed. The results show two rows. The first row, with id 3, has an 'erp\_hidden\_type' of 'approved', which is circled in red. The second row, with id 4, has an 'erp\_hidden\_type' of 'rejected'. The interface includes a sidebar with a database structure tree, a top navigation bar with various tools, and a bottom console area.

Server: 127.0.0.1 » Database: laravelproject » Table: testings

Showing rows 0 - 1 (2 total, Query took 0.0013 seconds.) [updated\_at: 2021-10-20 11:36:25... - 2021-10-20 11:37:07...]

```
SELECT * FROM `testings` ORDER BY `testings`.`updated_at` ASC
```

Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

|                          |      |      |        | id | erp_user_id | erp_status | erp_category_name | erp_product_name | erp_request_type | erp_hidden_type | erp_rejecte                                 |
|--------------------------|------|------|--------|----|-------------|------------|-------------------|------------------|------------------|-----------------|---|
| <input type="checkbox"/> | Edit | Copy | Delete | 3  | 2           | 1          | Pharmacy          | Toddler          | Request          | approved        | NULL  |
| <input type="checkbox"/> | Edit | Copy | Delete | 4  | 2           | 1          | Agriculture       | Coragan          | Suggestion       | rejected        | <p>There are too many similar products.</p> |

Check all | With selected: Edit | Copy | Delete | Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

Print | Copy to clipboard | Export | Display chart | Create view

Bookmark this SQL query

Label:  ☐ Let every user access this bookmark

Activate Windows  
Go to Settings to activate Windows.

Console | Bookmarks | Options | History | Clear

# Lab Automation System

## REJECTED DATABASE

The screenshot displays the phpMyAdmin interface for a database named 'laravelproject'. The left sidebar shows a tree of databases, with 'laravelproject' selected. The main panel shows the 'testings' table structure and data. The table has columns: id, erp\_user\_id, erp\_status, erp\_category\_name, erp\_product\_name, erp\_request\_type, erp\_hidden\_type, and erp\_rejecte. Two rows are visible. The second row, with id 4, is circled in red and has the value 'rejected' in the erp\_hidden\_type column. The erp\_rejecte column for this row contains the text: <p>There are too many similar products.</p>. The interface includes a top navigation bar with options like Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, Tracking, and More. Below the table, there are options to check all, edit, copy, delete, and export the selected rows. At the bottom, there is a section for bookmarking the SQL query.

Server: 127.0.0.1 » Database: laravelproject » Table: testings

Showing rows 0 - 1 (2 total, Query took 0.0013 seconds.) [updated\_at: 2021-10-20 11:36:25... - 2021-10-20 11:37:07...]

SELECT \* FROM `testings` ORDER BY `testings`.`updated\_at` ASC

Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

|                          |      |      |        | id | erp_user_id | erp_status | erp_category_name | erp_product_name | erp_request_type | erp_hidden_type | erp_rejecte                                 |
|--------------------------|------|------|--------|----|-------------|------------|-------------------|------------------|------------------|-----------------|---|
| <input type="checkbox"/> | Edit | Copy | Delete | 3  | 2           | 1          | Pharmacy          | Toddler          | Request          | approved        | NULL  |
| <input type="checkbox"/> | Edit | Copy | Delete | 4  | 2           | 1          | Agriculture       | Coragan          | Suggestion       | rejected        | <p>There are too many similar products.</p> |

Check all | With selected: Edit | Copy | Delete | Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

Print | Copy to clipboard | Export | Display chart | Create view

Bookmark this SQL query

Label:  ☐ Let every user access this bookmark

Activate Windows  
Go to Settings to activate Windows.

Console | Bookmarks | Options | History | Clear