

*Project for the subject*

# **INFORMATION MANAGEMENT SYSTEMS (UCS304)**

Submitted by

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**Group No.: ENC 4**

**Project Title: Laundry Management Online**

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## Introduction

The main purpose of this Database software is to automate the Laundry shop, R.S Drycleaners in COS in Thapar University, Patiala. The shop had opened a long time back and till date works on a manual system. The shop maintained no records in form of registers and relied on their memory to know which service was to be done on which clothes. Since they never record anything, there are possibilities of errors. This system is only good for use if less students used it, but with increasing student population in the campus, the need of automation arises since the manual system has drawbacks of its own when services are to be performed in large number. Hence, to serve this purpose, and also taking the opportunity given by our college we are making a DBMS software to automate the shop, thus reducing some amount of workload from the shop workers.

The process that the shop follows is described as follows:

1. The first step is submission of clothes, and then enquiring which service is to be done on which cloth. This is not noted down anywhere and purely remembered by the owner.
2. Then they write the Initials of the name of the student and his/her Hostel name.
3. After this, before closing the shop, they open all the laundry bags one by one and then write the same initials written on the laundry bags on the clothes for ease of identification.
4. Then they take these clothes to their houses for performing the required service.
5. Then they perform the services and after the service is done, bring back the clothes to the shop where they are sorted again.

It is easy to imagine, that when the amount of clothes are more, then there are chances of error for example loss of cloth, sending wrong clothes etc since the identification technique they are using is not upto the mark and plus the added problem of not maintaining a record. These factors are significant, and can result in loss of clientage which is not desired by and shop. Hence, until it's too late to recover, the necessary steps should be taken.

The advantage of maintaining an automated system is that, all such errors can be avoided plus it reduces the burden on the shop owner as well and hence they can concentrate more on the service rather than worrying about other things.

As we found no manual record of data and transactions we are making some assumptions which may or may not exist in real and proposing the solutions for the same.

## Requirements

To make this software as effective and efficient as possible, we had frequent meetings with the shop owner to know the working of the shop so that we don't change the way they work but just make that work easy. The reason we chose this shop for automation was because we as students availed the facility of this shop and have seen the growth in customers and add to that, we had also heard from some students that some clothes were getting lost or sent to wrong person and moreover the students themselves had to make a record of what they sent for laundry due to this. Hence, we chose the shop for this purpose.

In our meeting with the shop owners, we had asked that if they maintained any records and there answer was no. They only sorted the clothes by writing the initials of the name of the student who had submitted the clothes. Upon being asked if someone demanded different service for example washing and some clothes for dry clean, they said that they relied on their memory to perform the tasks. We had also asked them that whether they would want to automate their shop through a computer and were comfortable with it to which they said yes.

So, it became obvious that automation is required for the shop and hence started to work on the initial design of the databases and then also saw what tables were required and what constraints were required. Hence we came with this, that each of the facility would now be independent and all the clothes would now be marked with unique bill number generated by the software which would make the sorting easier than it used to be. Also, all the bills would be calculated by the PL/SQL coding/queries only, further reducing the load. This is required due to the fact that now in the coming years also the students will increase. Hence it is required for the better working of the Shop. In the subsequent meetings also we got to know that some clothes were being reported as lost or exchanged causing discomfort to the students and putting the reputation of the shop at stake and we didn't want any of the students to complain about it because it was due to the increase in workload of the owners of the shop.

In technical terms, the problems are as follows:-

1. Data is not secured
2. Data integrity is not maintained
3. Data is inconsistent.

# Project Description

As we all know that in a business keeping records of every transaction be it financial or any other sort of information which is extremely important for the business. As in the case of “laundry shop” the information students and what their demand is the basis of their business. If anything goes wrong with this information they are the ones who will suffer a loss which can further lead to decrease in their credentials, meaning loss of business.

In this project we propose to create a database in which all the information is stored comprehensively in a virtual place ie digitalised storage and not manually.

## Table Structure And Constraints

### 1. Users table:-

- a. Roll\_no (number) : **Primary key** of this table
- b. Name (varchar2(40)) : Not Null
- c. Gender (varchar2(2)) : Check constraint, should either be ‘M’ or ‘F’
- d. Class (varchar2(4)) : Check constraint, should either be ‘ME’ or ‘BE’
- e. Year (number) : Check constraint, should be between 1 and 4
- f. Hostel\_Name(vchar2(2)): Check constraint, should be one of the hostels in the campus or outside but by default is ‘Outside’
- g. Room\_no (varchar2(6)) :
- h. Mobile(real) : Should be Unique and Not NULL

### 1. Services Table:-

- a. Bill\_no(number) : **Primary key** of the table
- b. Roll\_no (number) : Foreign key being referred from registration table on delete set NULL and on update cascade being used.

- c. Dos(date) : Not NULL and check constraint should be greater than Sysdate.
- d. Status (varchar2(10)) : Check Constraint should be either 'Ready' or 'Not Ready' and default is 'Not Ready'.
- e. Total due (number) : Default 0 and should be zero until status is 'Not Ready'

#### 1. **Jobs Table:-**

- a. job\_id(number) : **Primary key** of the table
- b. Job\_desc(varchar2(20)) : Not Null and Unique
- c. Price (number) : Not Null and check constraint shouldn't be 0
- d. Dept\_id(number) : foreign key references dept\_id column of dept table

#### 1. **Washing Table:-**

- a. Bill\_no(number) : Foreign Key referred from Order table , On delete cascade and on update cascade
- b. Job\_id(number) : Foreign Key referred from Job\_ids table, On delete cascade and on update cascade
- c. Qty(number) : Not Null and check constraint should be greater than 0
- d. Due(number) : Set default 0

**Primary key of this table would be combination of Bill\_no and Job\_id**

*xi*

#### 1. **Dry\_clean Table:-**

- a. Bill\_no(number) : Foreign Key referred from Order table , On delete cascade and on update cascade
- b. Job\_id(number) : Foreign Key referred from Job\_ids table, On delete cascade and on update cascade
- c. Qty(number) : Not Null and check constraint should be greater than 0

- d. Due(number) :Set default 0

**Primary key of this table would be combination of Bill\_no and Job\_id**

**1. Ironing Table:-**

- a. Bill\_no(number) : Foreign Key referred from Order table , On delete cascade and on update cascade
- b. Job\_id(number) : Foreign Key referred from Job\_ids table, On delete cascade and on update cascade
- c. Qty(number) :Not Null and check constraint should be greater than 0
- d. Due(number) :Set default 0

**Primary key of this table would be combination of Bill\_no and Job\_id**

**1. Tailoring Table:-**

- a. Bill\_no(number) : Foreign Key referred from Order table , On delete cascade and on update cascade
- b. Job\_id(number) : Foreign Key referred from Job\_ids table, On delete cascade and on update cascade
- c. Qty(number) :Not Null and check constraint should be greater than 0
- d. Due(number) :Set default 0

**Primary key of this table would be combination of Bill\_no and Job\_id**

**1. Employee Table:-**

- a. Ename(varchar2(30)) :Not Null
- b. Emp\_id(number) :**Primary key** of the table
- c. DOB(date) :Not Null
- d. Hire\_Date(date) :Not Null check constraint Hire date>sysdate
- e. Designation(varchar2(20)) :Default 'Worker'
- f. Contact No(Real) :Not Null and Unique

g. Dept\_id(number) :foreign key references dept\_id column of dept table

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### 1. Material\_Req Table:-

- a. Mat\_name(varchar2(30)) :Not Null
- b. Mat\_id(number) :**Primary key** of this table
- c. Qty (number) :Not Null Check constraint qty>0
- d. Price(number) :Not Null
- e. Supp\_name(varchar2(30)) :Not Null
- f. Pur\_date(date) :Not Null (Changed from previous analysis)
- g. Dept\_id(number) :foreign key references dept\_id column of dept table

### 1. Equipment Table:-

- a. Equip\_name(varchar2(10)):Not Null
- b. Equip\_id(number) :**Primary Key** of the table
- c. Lst\_dt\_ser(date) :Not Null
- d. Due\_dt\_ser(date) :
- e. Cost\_equip(number) :Not Null check constraint >0
- f. Dept\_id(number) :foreign key references dept\_id column of dept table

### 1. Accounts Table:-

- a. Sno(number) :**Primary key** of the table
- b. Month(Date) :Not Null
- c. Tot\_exp(real) :Not Null
- d. Tot\_earn(real) :Not Null
- e. Net\_earn(real) :set default 0

**Here sno is primary key because there are no candidate keys in this table**

**1. Department table:-**

- a. Dept\_id : **Primary key** of this table
- b. Dept\_name : Not Null

## **Work-Flow**

**All the internal queries would be written in SQL only and not in the Front end.**

As described in the table above, this section would summarize all of it. As seen, now the student will have to register himself at the shop before availing any service to keep record of every facility he avails and if there is a need to contact the student in cases when the order is ready.

After registration, he will be asked what clothes he has to submit and what facility he has to avail (washing/ironing/dry cleaning/tailoring). A unique bill number would be generated corresponding to his clothes, and then it will be expected, that the shop owner attaches a paper/cloth with the bill\_no so that it is easy to sort the clothes after they have been washed.

Now, this bill number will be referred to the service tables, where the record will be maintained, that which clothing has gone to which service. No entry would be allowed without a valid bill number, and duplicates won't be allowed. To each bill number, there would be a corresponding job\_id, whose basic need is to calculate the due for that service since every service costs different. Thus, bill number can be repeated in that table provided that the corresponding job id is different, since there can be a case where a student submits 2 T-shirts and 1 bedsheet for washing, but price of washing would be different for both. Each service would have a different table so that complexity is reduced. Also in this table, the due amount for each job will be calculated and all the dues would corresponding to a bill number would be sent to the Order table.

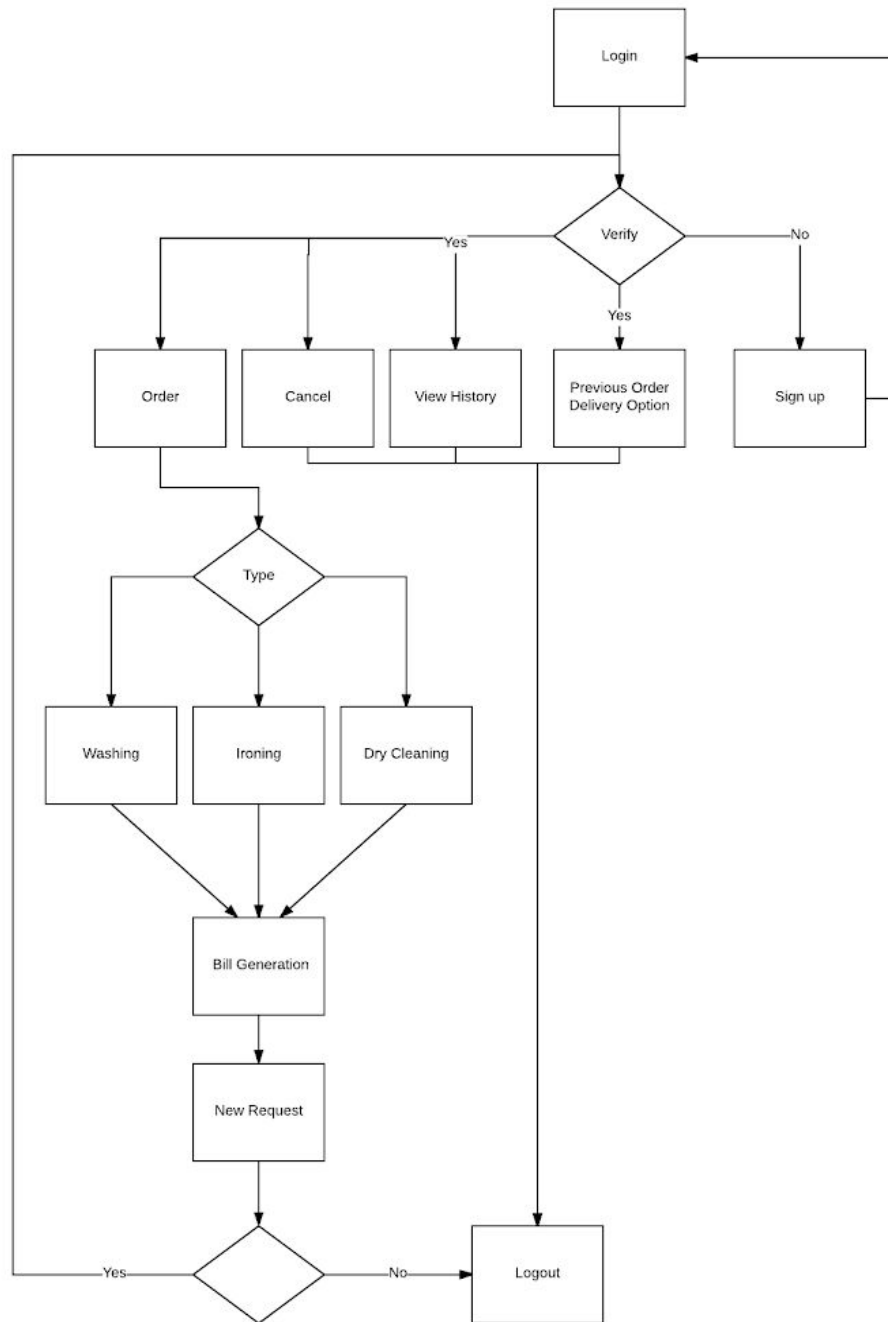
We have added additional features such as an employee table so that only the shop workers and the administrator can access the software so that security is maintained. No one except the workers can access this system.

Keeping in mind the expenditure of the shop on the material required such as washing soap, tailoring things, we have also maintained a record for the expenditure of the shop on such kind of products and track them in future if needed. Additionally a record of all the equipment the shop uses is also maintained.

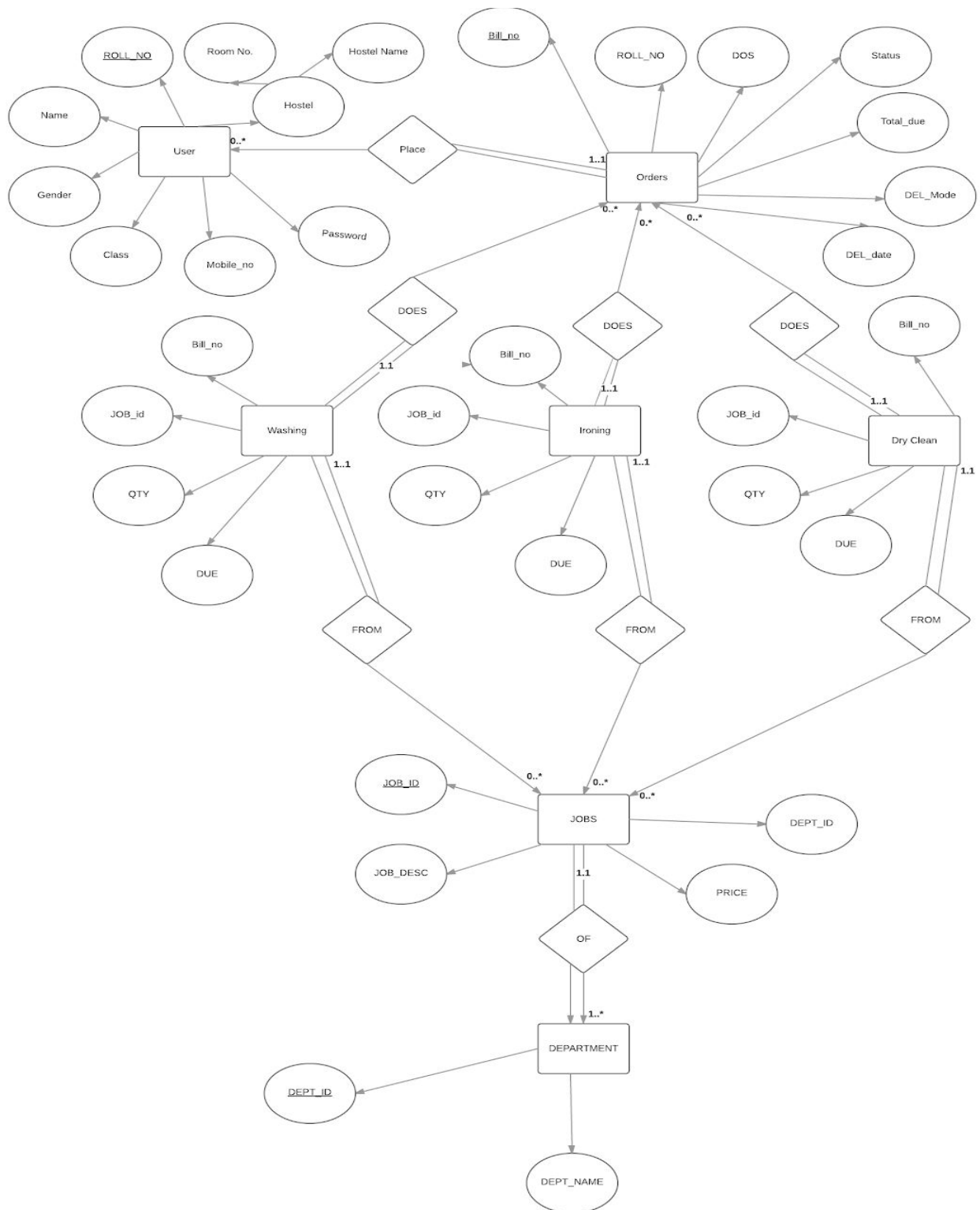
**It is mentioned again that the PL/SQL queries will be the backbone of the software.**



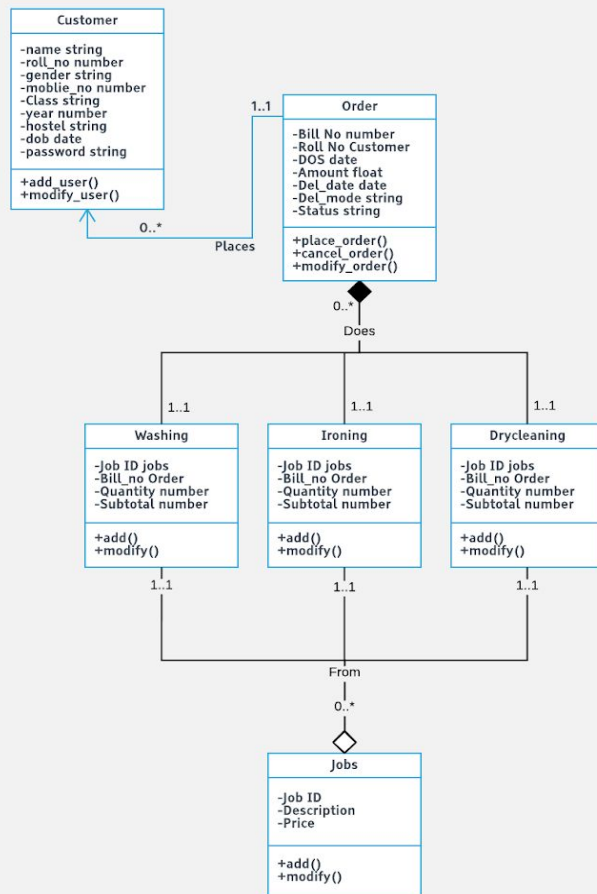
# ACTIVITY DIAGRAM



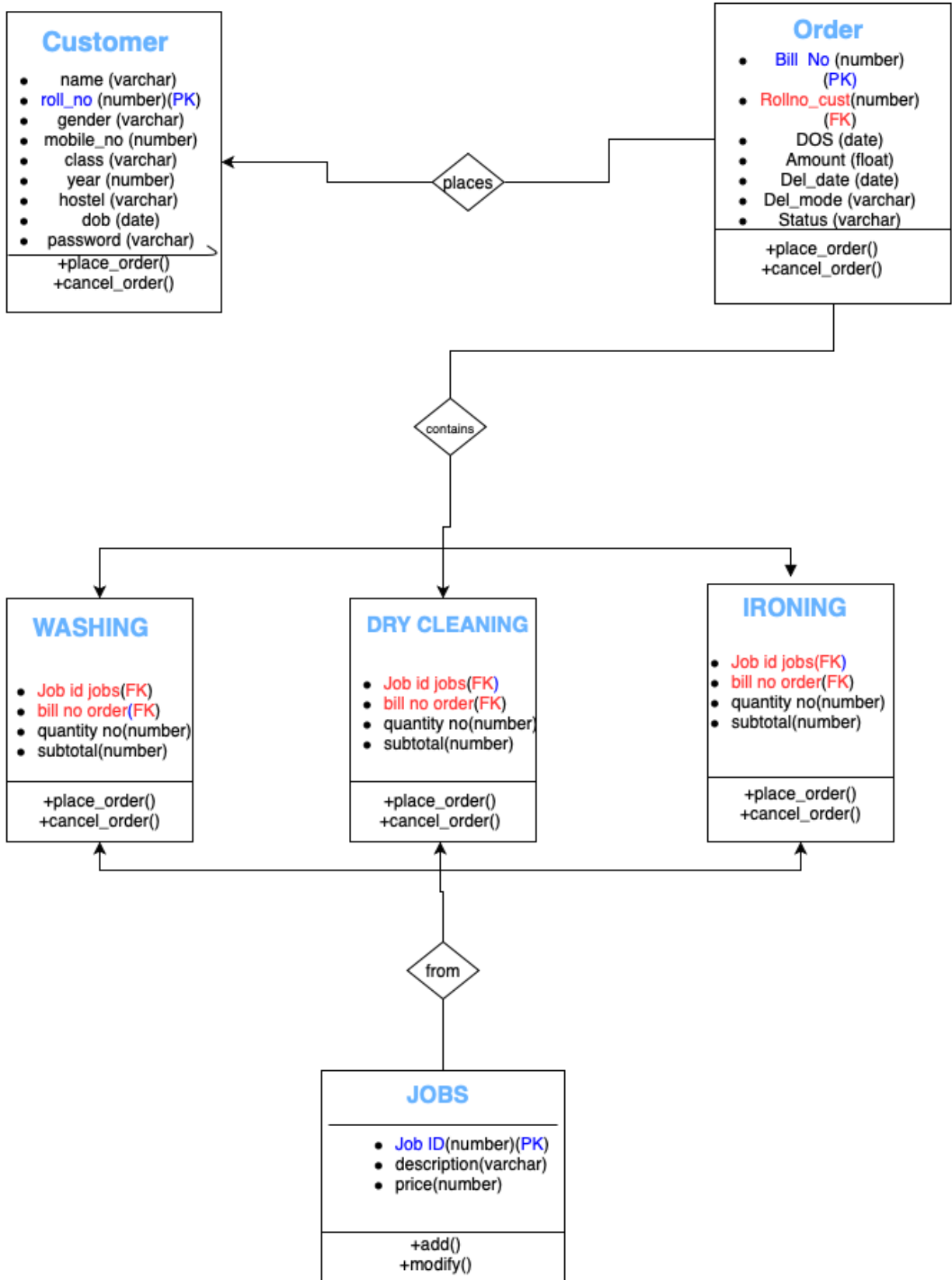
# ER-DIAGRAM



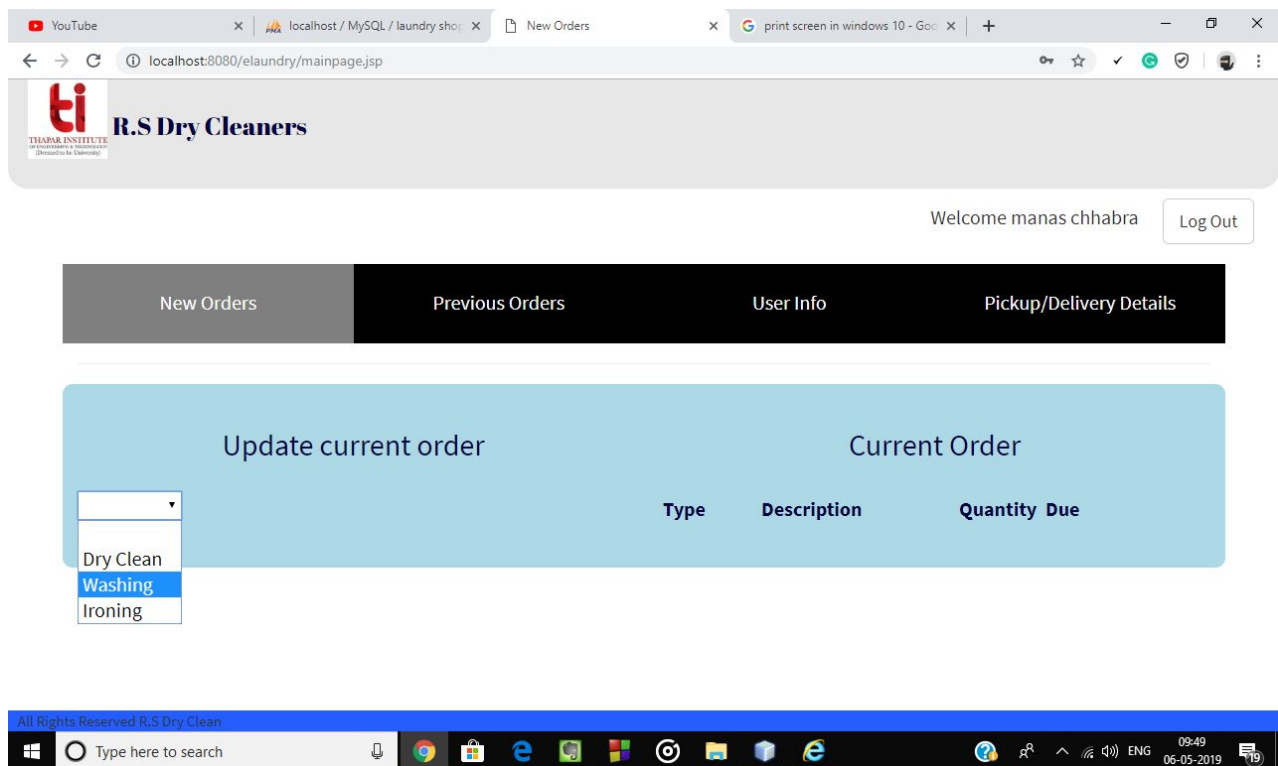
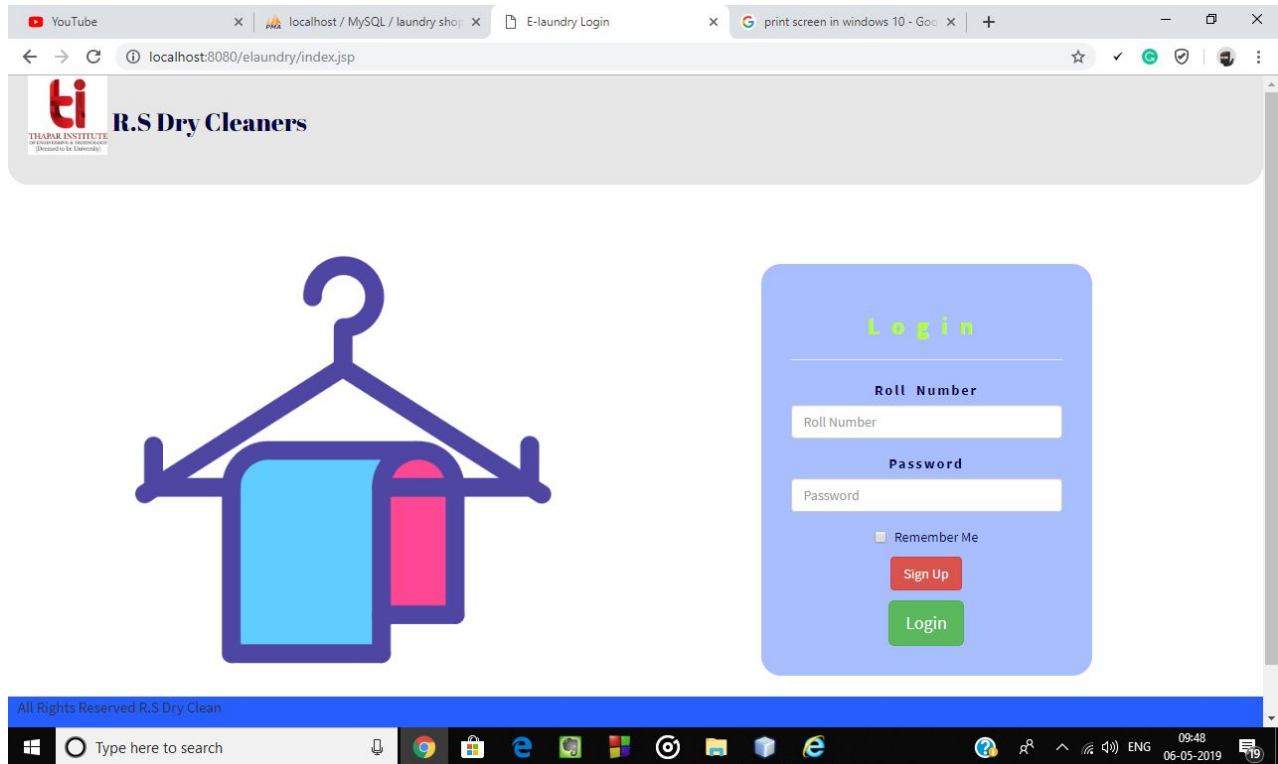
# ER TABLE (UN-NORMALISED)

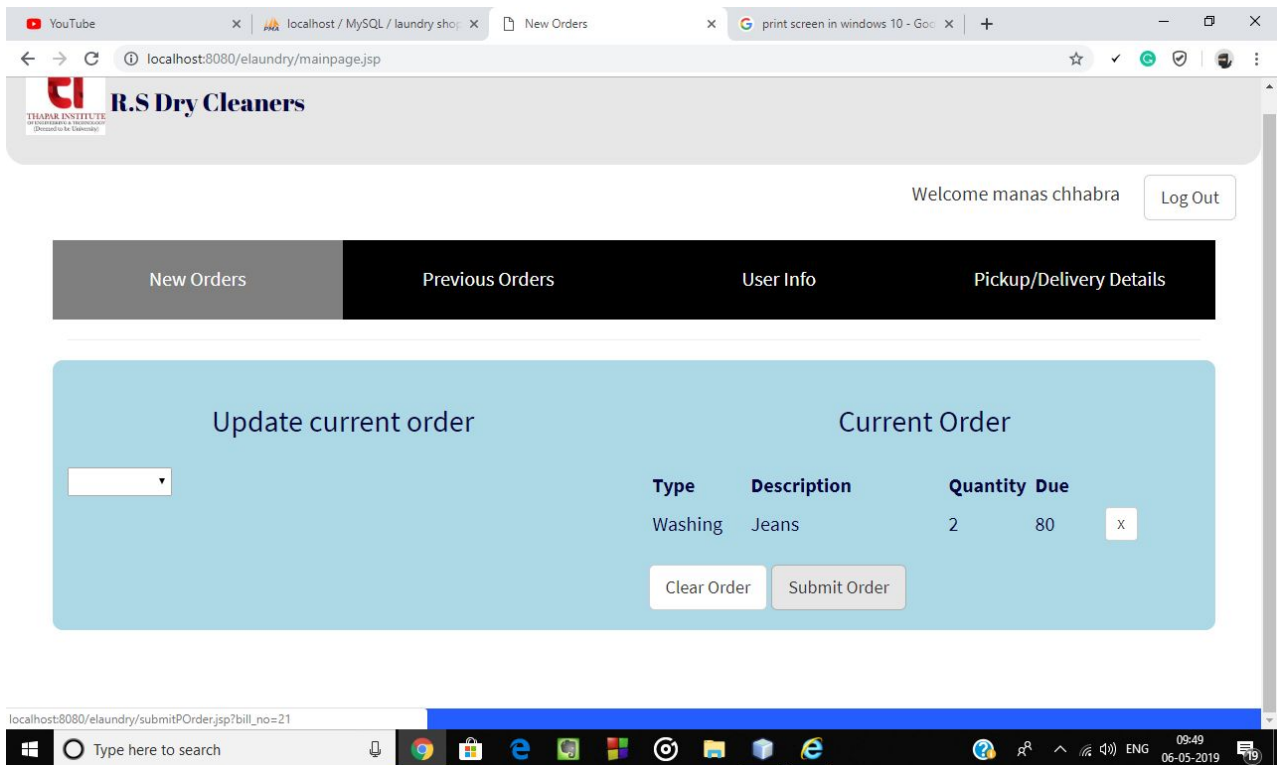
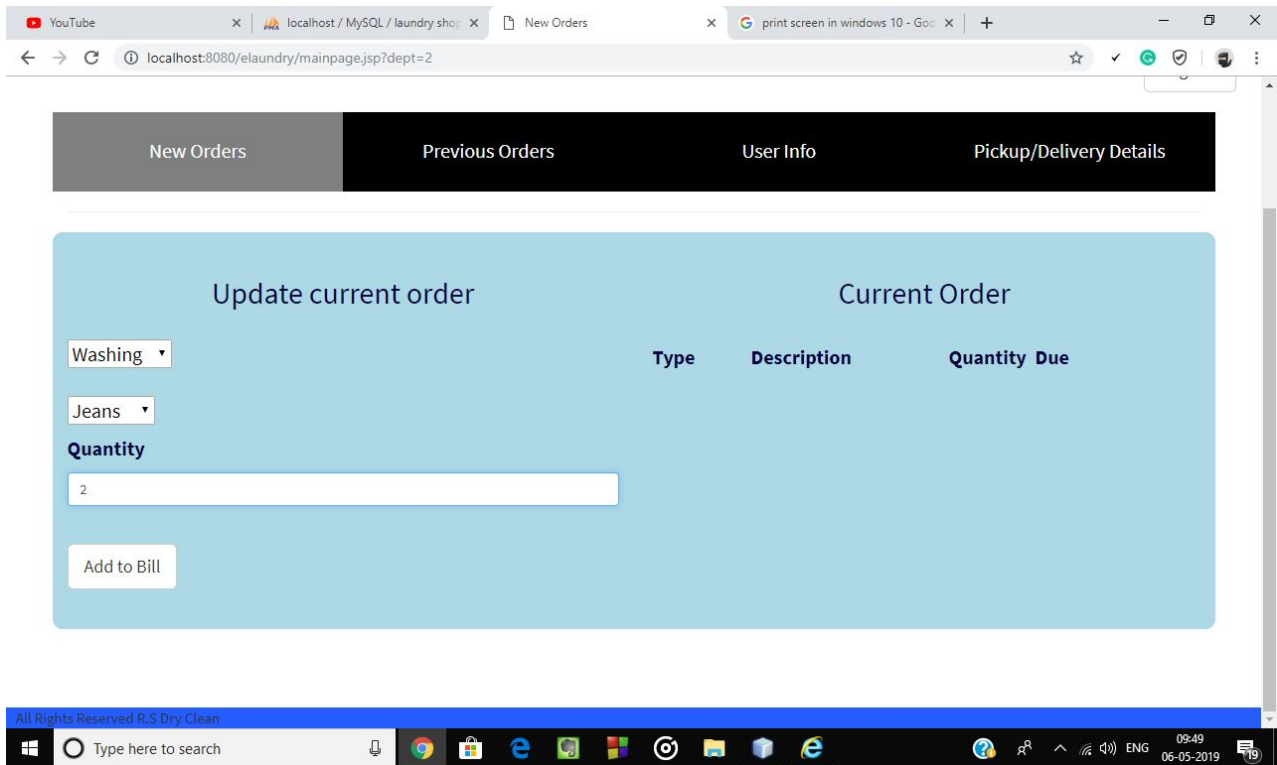


# ER TABLE(NORMALISED)



# Snapshots of the front end





YouTube x localhost / MySQL / laundry shop: x Previous Orders x print screen in windows 10 - Google x

localhost:8080/elaundry/oldorders.jsp

**R.S Dry Cleaners**

Welcome manas chhabra [Log Out](#)

New Orders Previous Orders User Info Pickup/Delivery Details

# Orders

Bill No	Date of Sub	Status	Due	
21	2019-05-06	NR	80	<a href="#">Check</a>

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Type here to search

09:50 06-05-2019

YouTube x localhost / MySQL / laundry shop: x Personal Details x print screen in windows 10 - Google x

localhost:8080/elaundry/info.jsp

Welcome manas chhabra [Log Out](#)

New Orders Previous Orders User Info Pickup/Delivery Details

# manas chhabra

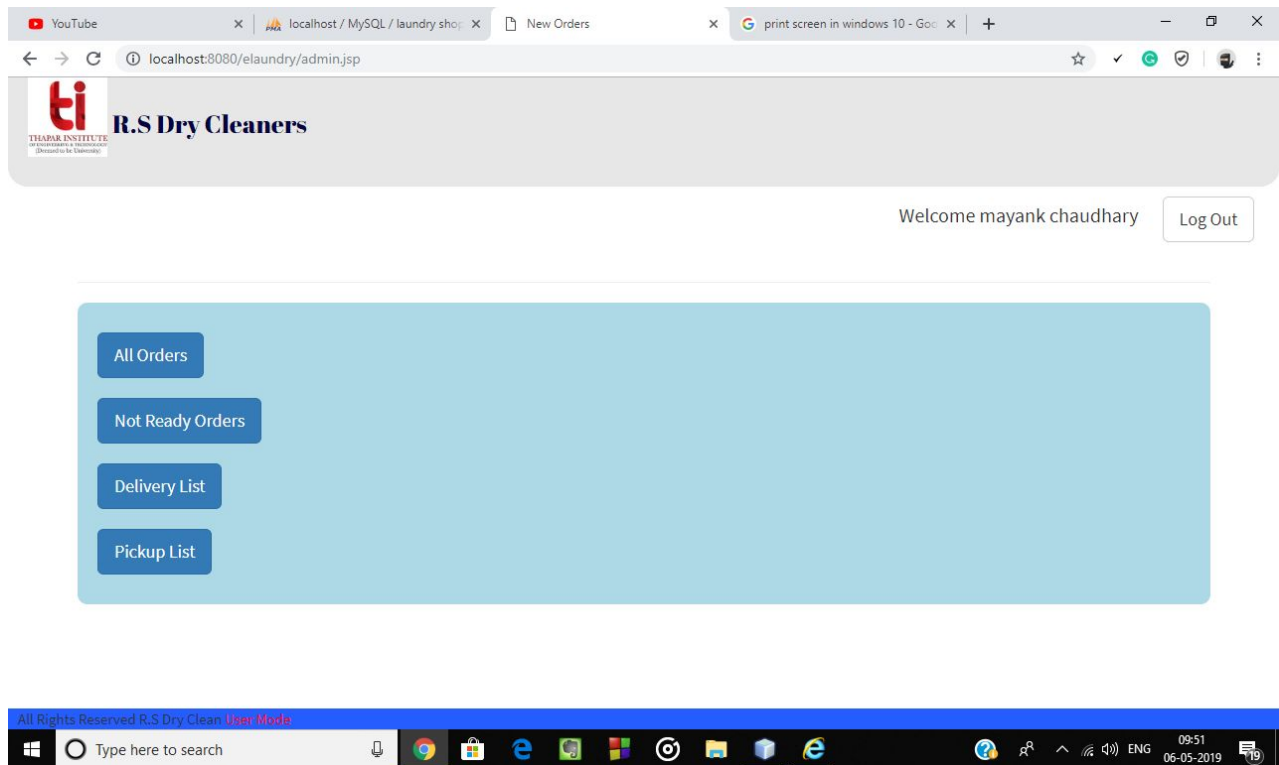
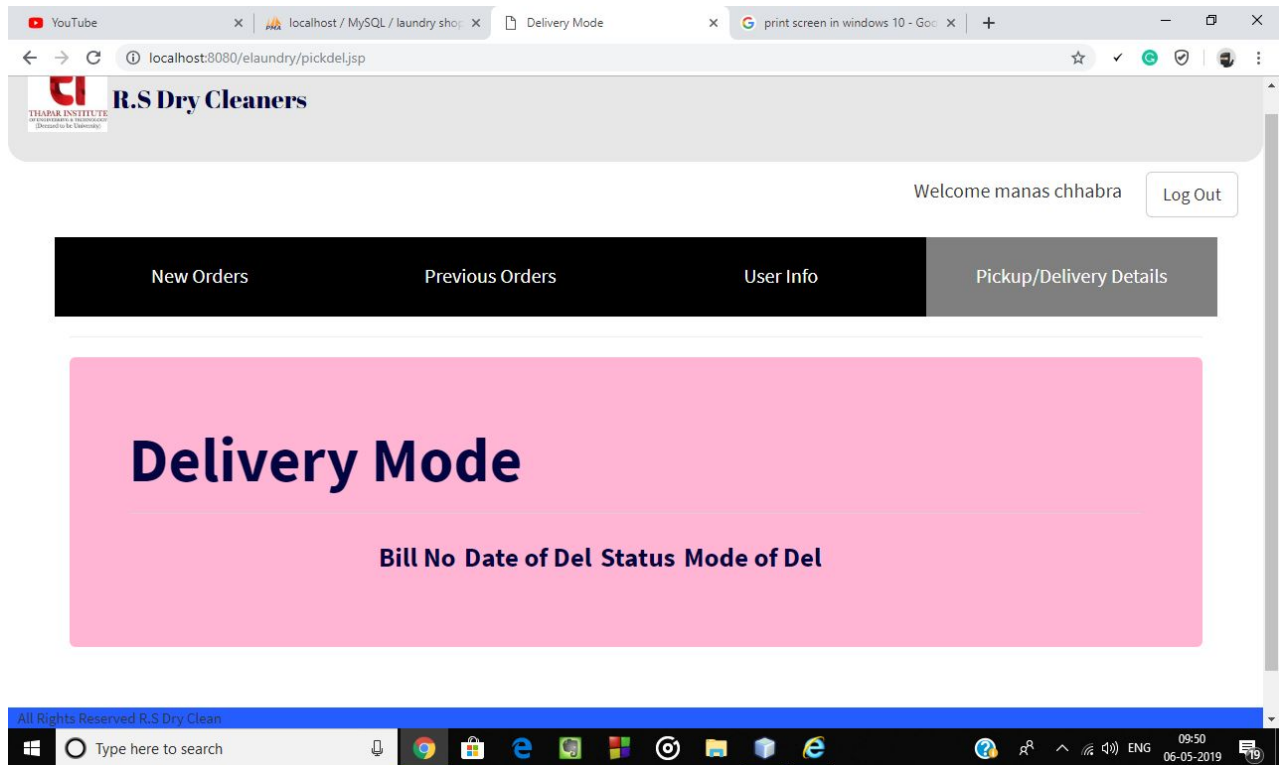
Roll No	101615066
Email	mchhabra2_be16@thapar.edu
Contact No	7376466249
Hostel	M
Room No	c424

[Change Password](#)

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Type here to search

09:50 06-05-2019





Bill No	Roll No	Submission Date	Status	Due	Delivery Mode	Delivery Date	Contact Number
20	101615069	2019-05-06	D	40	Pickup	2019-05-06	8700603273
21	101615066	2019-05-06	NR	80	null	null	7376466249

Back

Roll No	Bill No	Submission Date	Due	
101615066	21	2019-05-06	80	<input type="button" value="Mark as Ready"/> <input type="button" value="Delete"/>

Back

# Front end-Backend connecting code

We used an external built library in a jar file which is mainly used in connecting mysql and javascript and a three line basic connecting code is as follows:

```
else if(s1==null || s2==null)
{
response.sendRedirect("mainpage.jsp");
}
else{
    Class.forName("com.mysql.jdbc.Driver");
    Connection con=DriverManager.getConnection("jdbc:mysql://localhost/laundry shop","root","");
    Statement s=con.createStatement();
    ResultSet rs;
```

```
<% response.setHeader("Cache-Control","no-cache");
    response.setHeader("Cache-Control","no-store");
    response.setHeader("Pragma","no-cache");
    response.setDateHeader ("Expires", 0);
    Class.forName("com.mysql.jdbc.Driver");
    Connection con=DriverManager.getConnection("jdbc:mysql://localhost/laundry shop","root","");
    Statement s=con.createStatement();
```

```
<@page language="java" import="java.sql.*" contentType="text/html" pageEncoding="UTF-8"%>
<%
    Class.forName("com.mysql.jdbc.Driver");
    Connection con=DriverManager.getConnection("jdbc:mysql://localhost/laundry shop","root","");
    Statement s=con.createStatement();
    ResultSet rs;
```

```
<% response.setHeader("Cache-Control","no-cache");
    response.setHeader("Cache-Control","no-store");
    response.setHeader("Pragma","no-cache");
    response.setDateHeader ("Expires", 0);
    Class.forName("com.mysql.jdbc.Driver");
    Connection con=DriverManager.getConnection("jdbc:mysql://localhost/laundry shop","root","");
    Statement s=con.createStatement();
    ResultSet rs;
```

