Case Study:
Employee Management System
YASH
Technologies
More than what you think.

Problem Statement

In today's era, it is the team that succeeds, not an individual alone. The employees of a company form a crucial part of its existence and are the most important pillars for a company's success. It is quite essential that such an important and integral part of a business is monitored and administered immaculately. The fast-paced growth in today's world calls for the support of technology, without which it is not possible to stay abreast with the up-gradations.

So, HR professionals have a lot to keep track of, and it's difficult to keep the data accurate when information is scattered across spreadsheets and paper files. Anytime they need to make an update; they will find themselves chasing down several other files that they need to change as well.

Solution:

Employee administration calls for a technically powered Employee database management system. When the data is stored in an organized manner, one can easily enter, update and ensure employee records instantaneously, and will never have to second-guess the accuracy again. An **online employee management system** ensures that employee data is perfectly synced across multiple key systems and in a secure environment at the same time.

Employee management System provides,

- Smooth on-boarding process for new employees
- Hassle-free employee transitions
- Staying up to date with employee information
- Enabling quick action on admin related issues and tasks

The application has multiple releases.

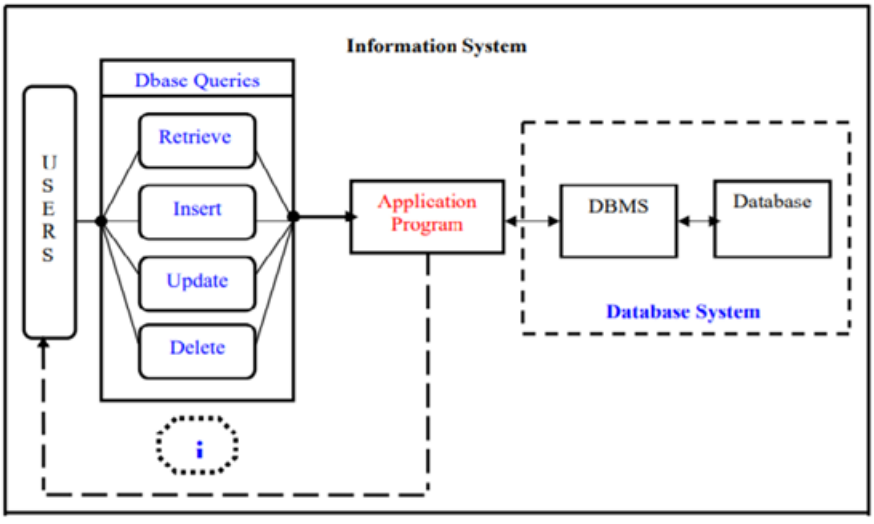
1. Release 1.0 UI Application – Angular JS + Middleware (Servlet + JDBC)
2. Release 2.0 UI Application- Angular JS + Middleware (Spring Boot + Spring REST+ Hibernate)

Future releases will implement micro services architecture.

Team Members:

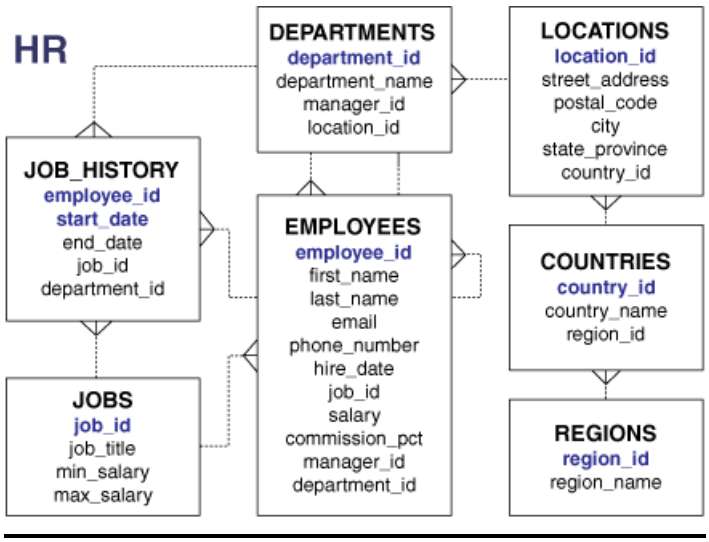
1. Pranaw Kaushal
2. Swati More
3. Siddhant Vora
4. Pooja Sonawane
5. Reshma Shelar

Principal Scheme:

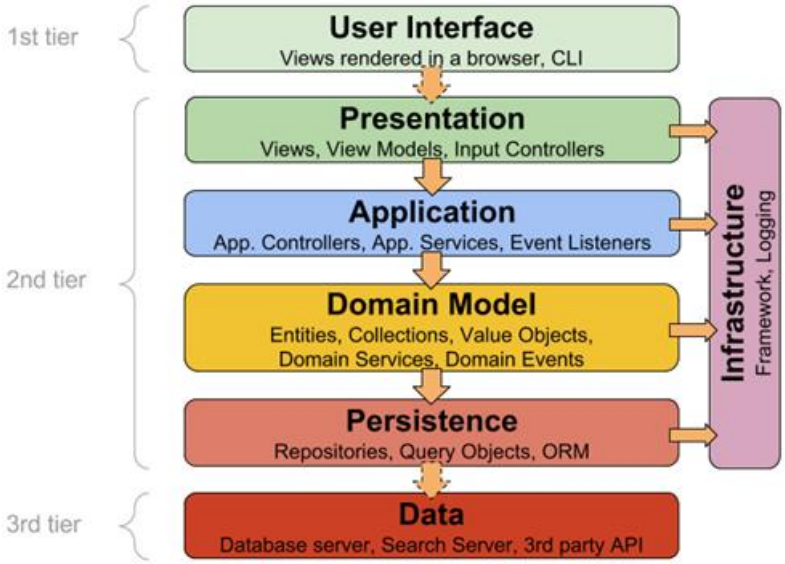


Database used for system is MySQL

Database Schema:



Architecture :



Technology stack

UI technologies: Angular 1.x, JQuery, Bootstrap

Specifications: HTML 5, CSS 3, Servlet 4.0, JDBC 4.0

Frameworks: Spring 5.0, Hibernate 4.0

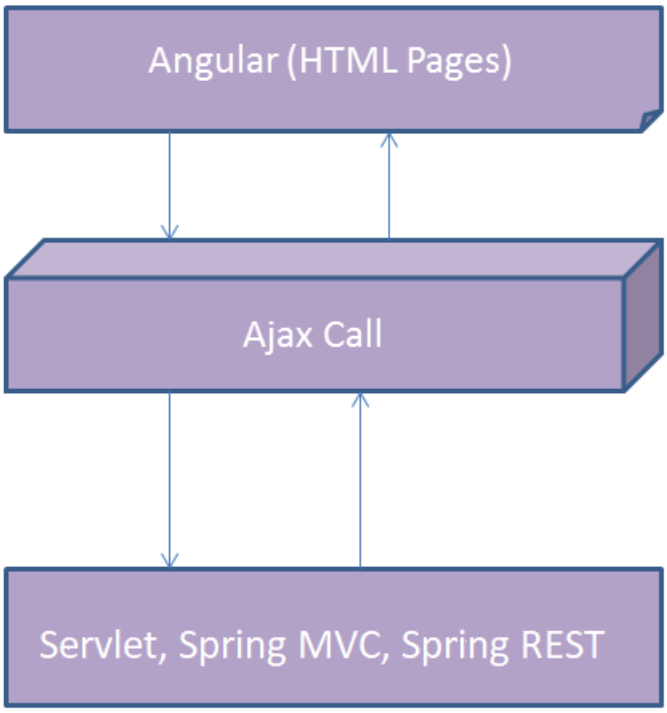
IDE: Eclipse STS 4.0, Visual Code

Team collaboration : GIT, GITHUB, EGIT plugin in eclipse

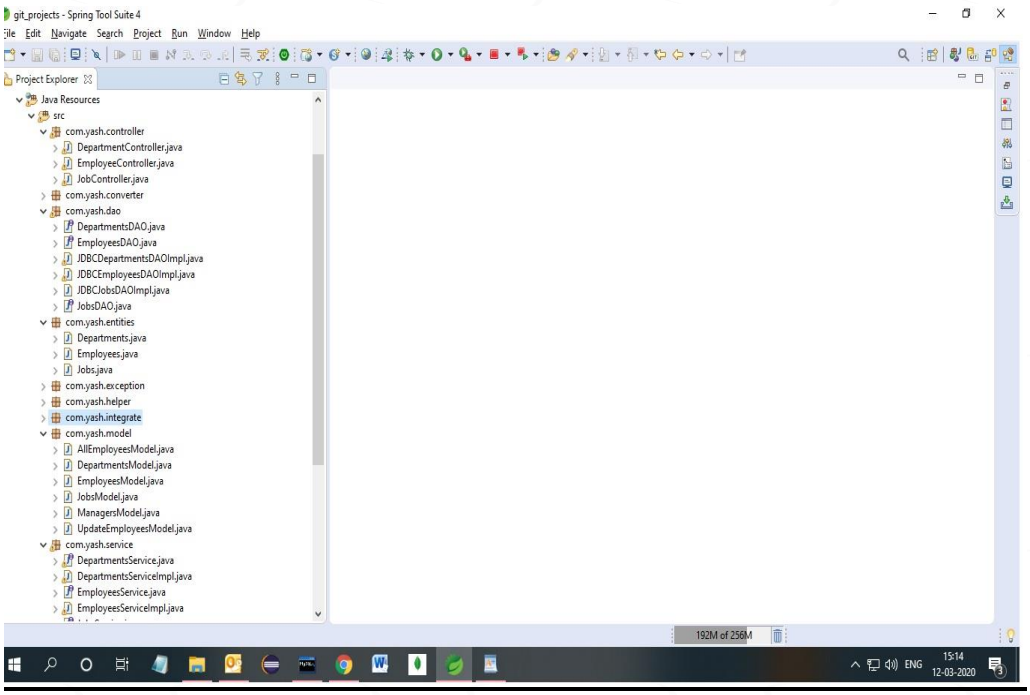
Database software: MySQL 5.x

DVT(Data visualization technique): Zing Chart

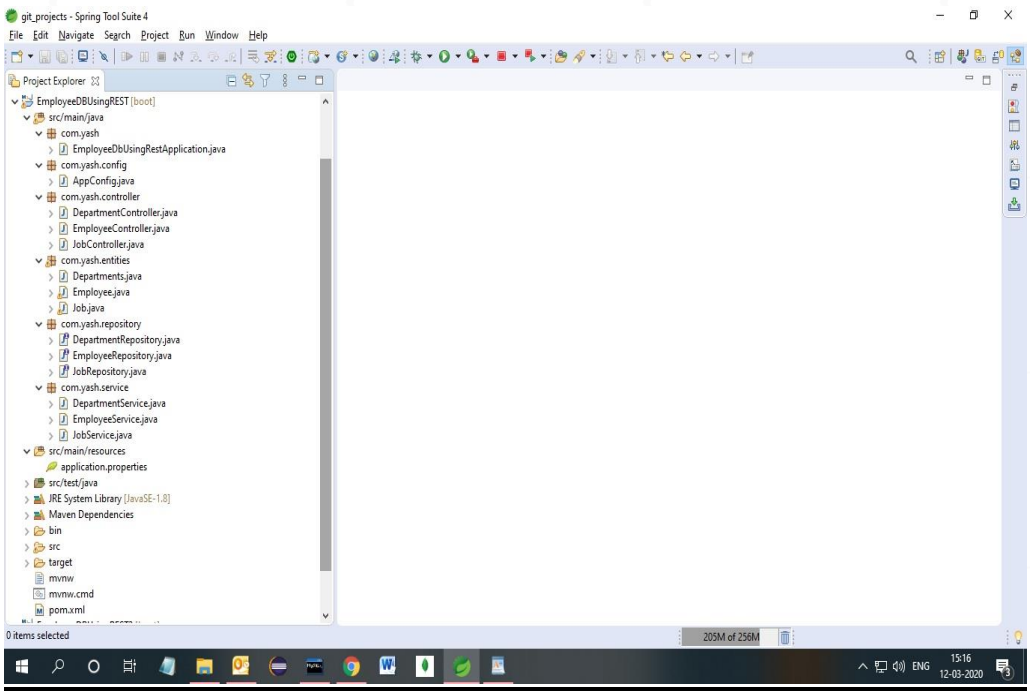
User Interface is created in Angular1.x and middleware in Servlet as well as Spring REST deployed on tomcat 8.0.



Layered middleware application structure using Servlet+JDBC is as below,

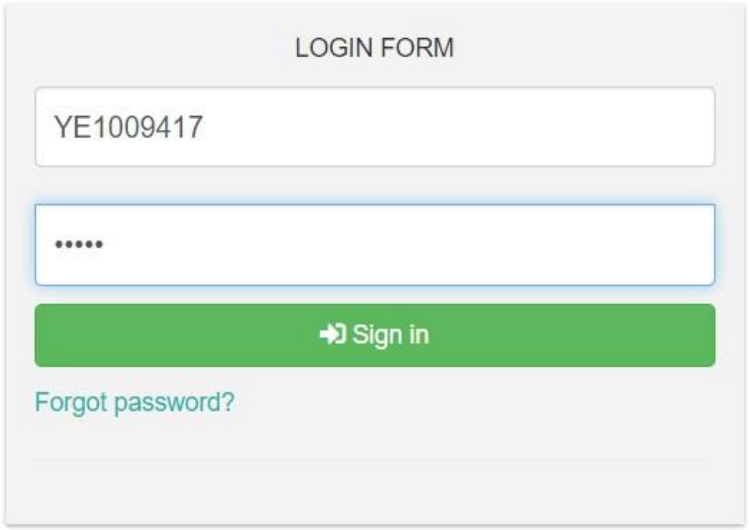


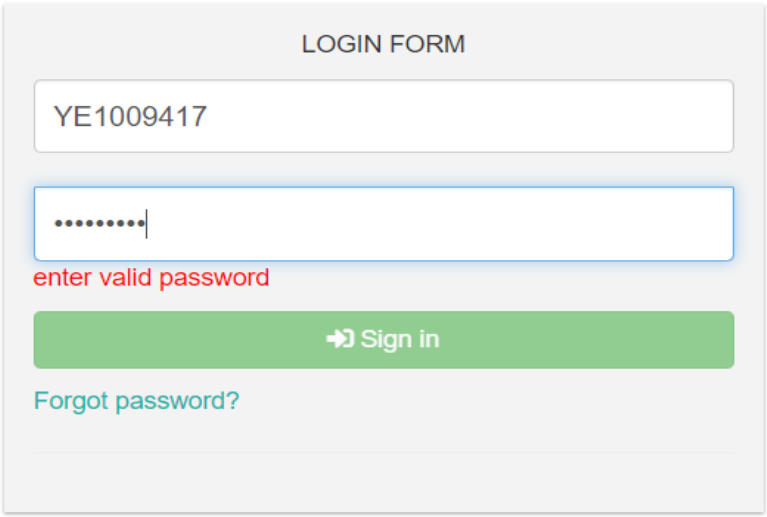
Layered middle ware application structure using Spring REST is as follows,



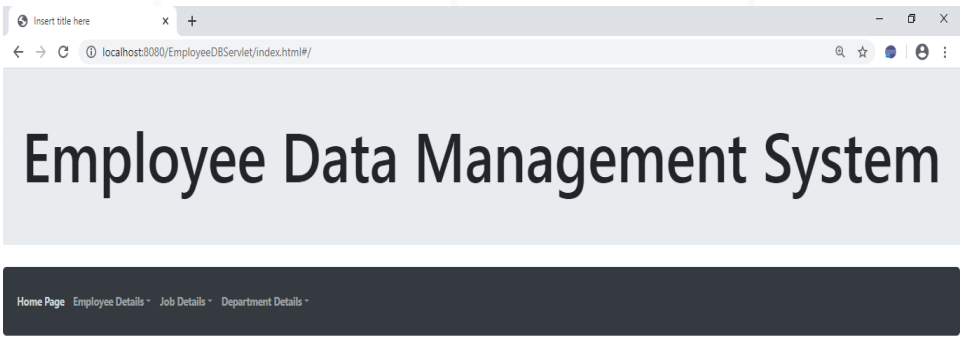
UI Wire Frame :

1. Login Screen

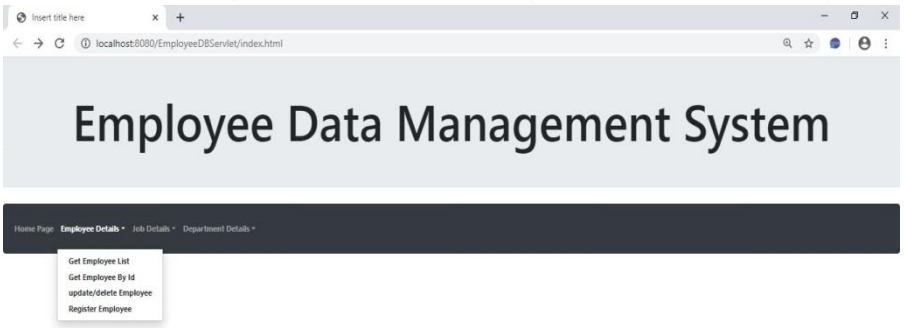

LOGIN FORM
YE1009417
Sign in
Forgot password?


LOGIN FORM
YE1009417
enter valid password
Sign in
Forgot password?

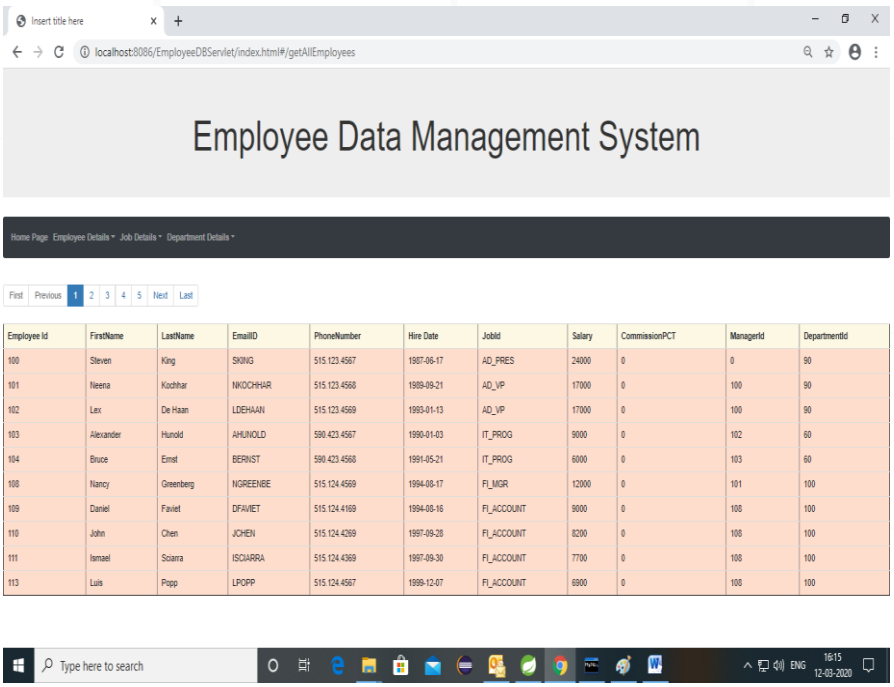
2. Home Page



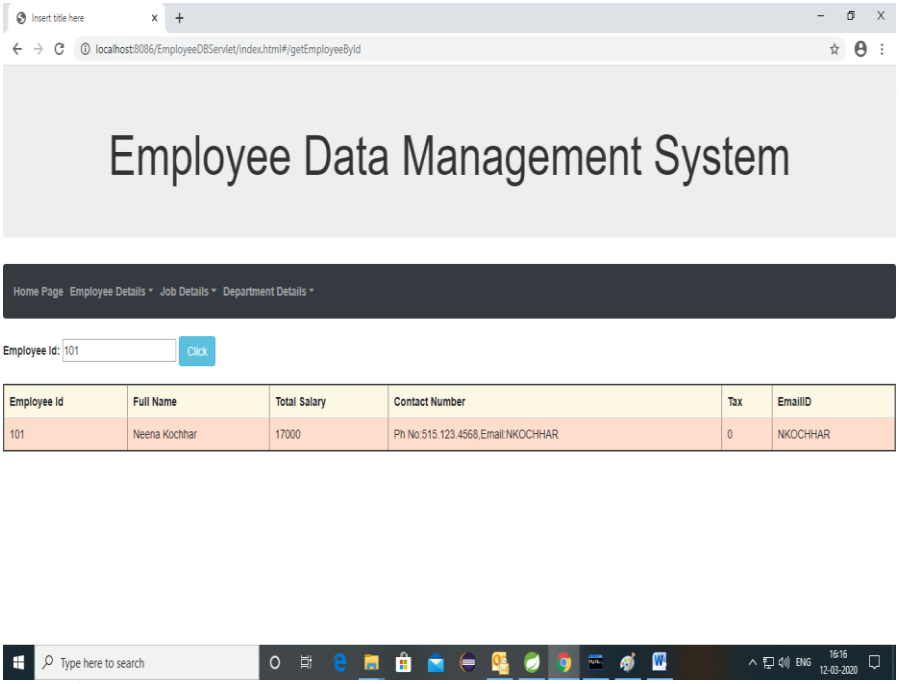
3. Employee Page



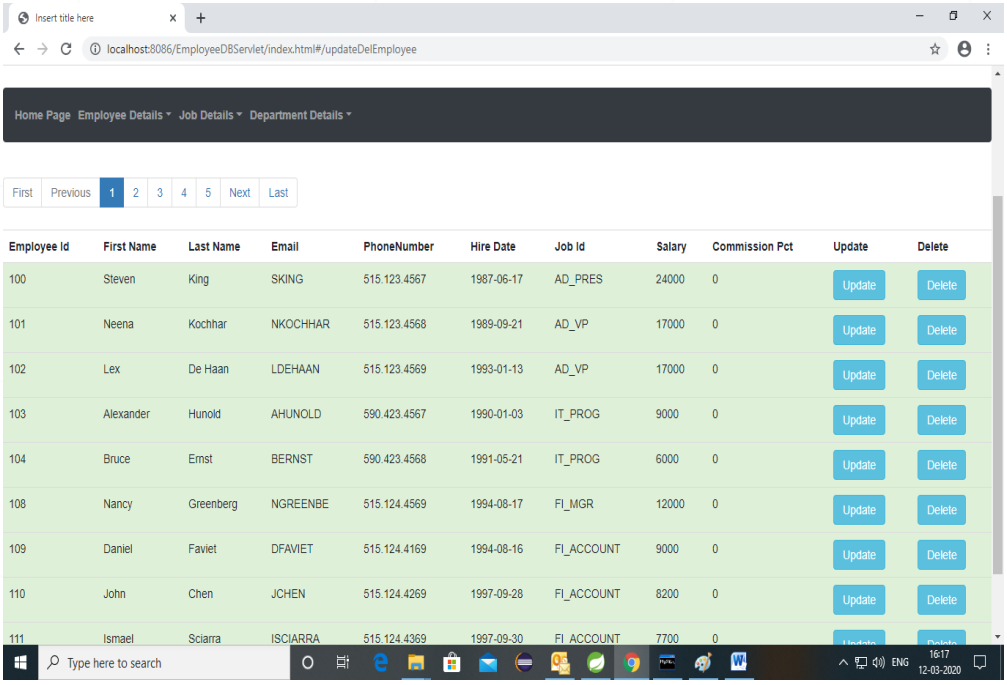
Employee details page shows detailed information about 10 employees at a time.

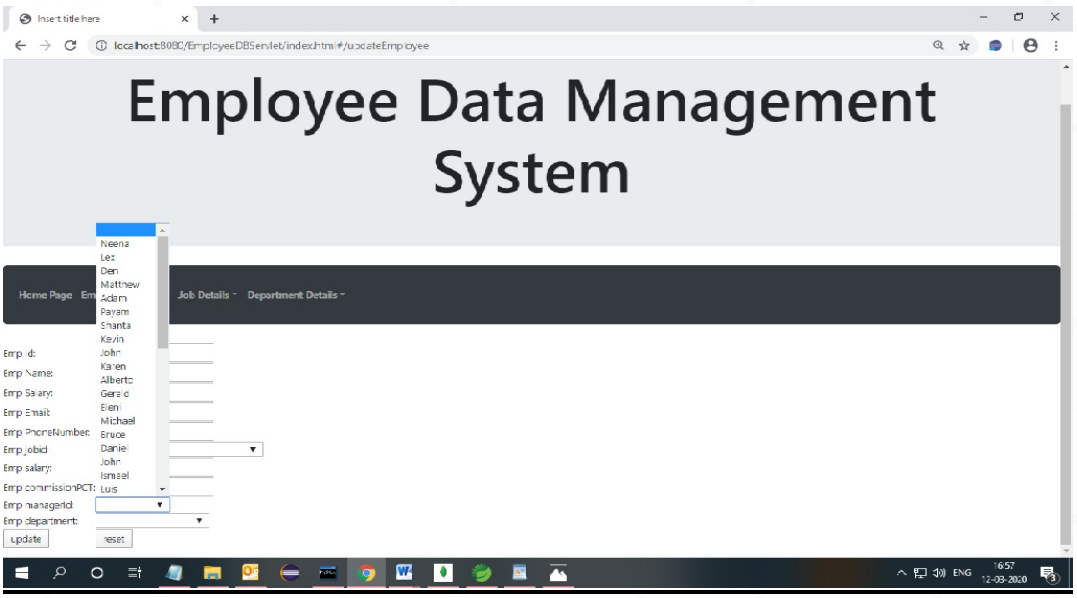


Search screen helps to find employee information based on Employee Id



Employee information can be modified or deleted by the user with role as ‘Admin’




Insert title here
localhost:8080/EmployeeDBServlet/index.html#/updateEmployee
Employee Data Management System
Home Page
Job Details
Department Details
Neena
Lex
Den
Matthew
Adam
Payam
Shanta
Kevin
John
Karen
Alberto
Gerald
Eleni
Michael
Bruce
Daniel
John
Ismael
Luis
Emp id:
Emp Name:
Emp Salary:
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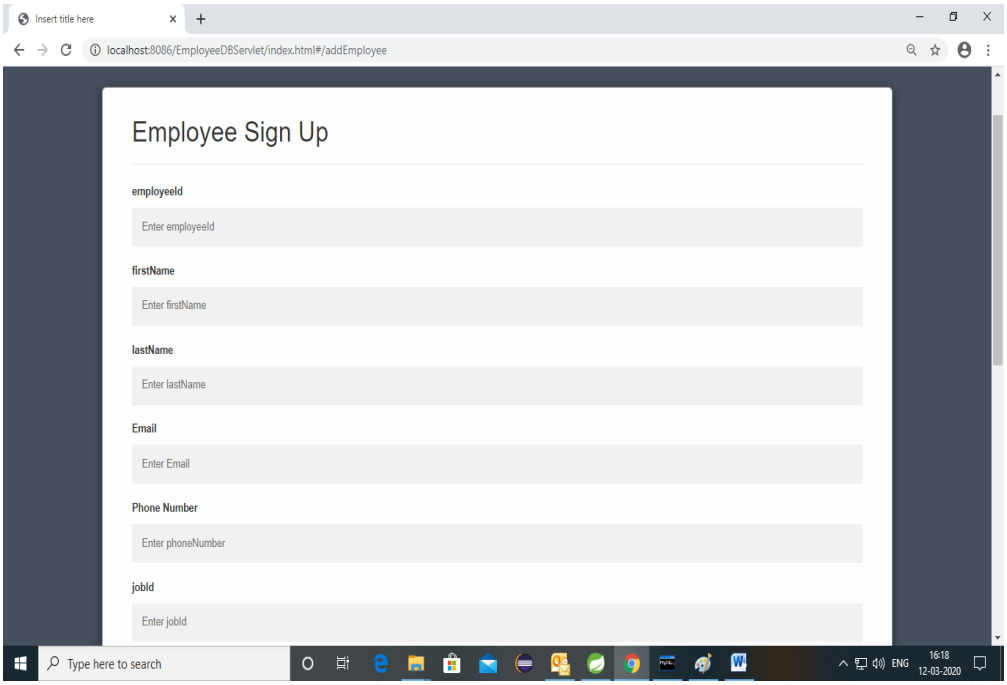
Insert title here
localhost:8086/EmployeeDBServlet/index.html#/addEmployee
Employee Sign Up
employeeId
Enter employeeId
firstName
Enter firstName
lastName
Enter lastName
Email
Enter Email
Phone Number
Enter phoneNumber
jobId
Enter jobId
Type here to search
ENG
16:18
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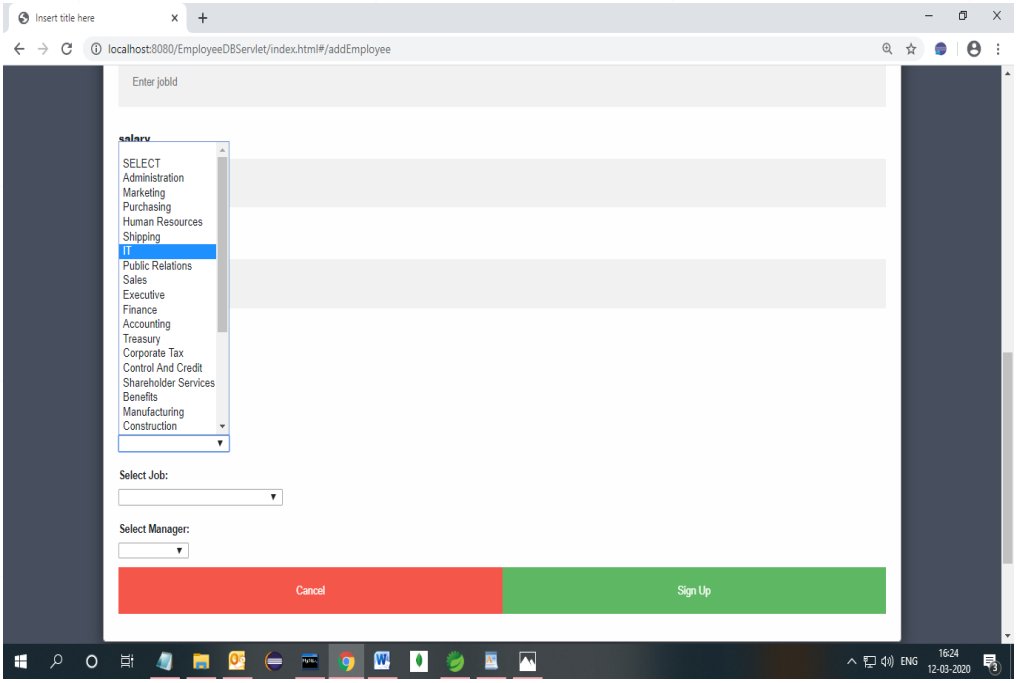
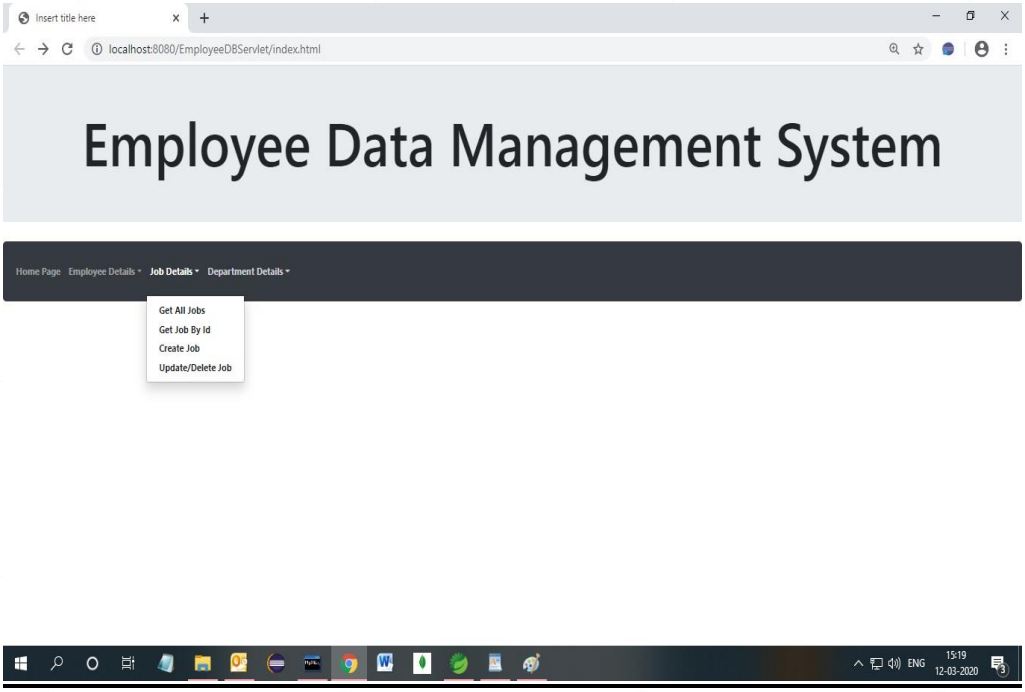
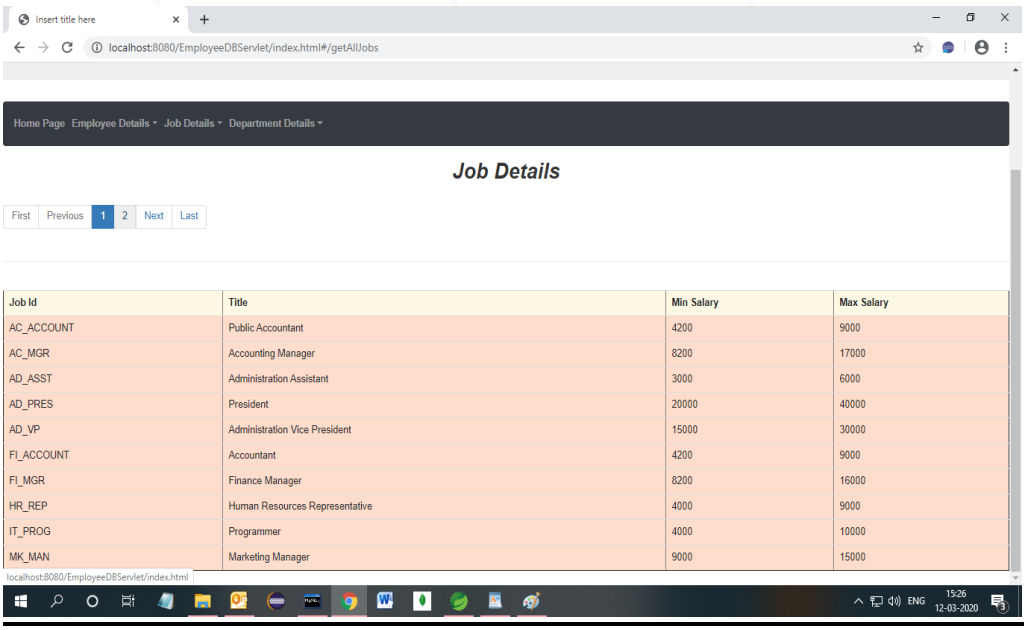
Employee registration form has dynamic drop down box for Job id populated by Job Title, department Id populated by Department Name and Manager Id populated by Manager's Name.



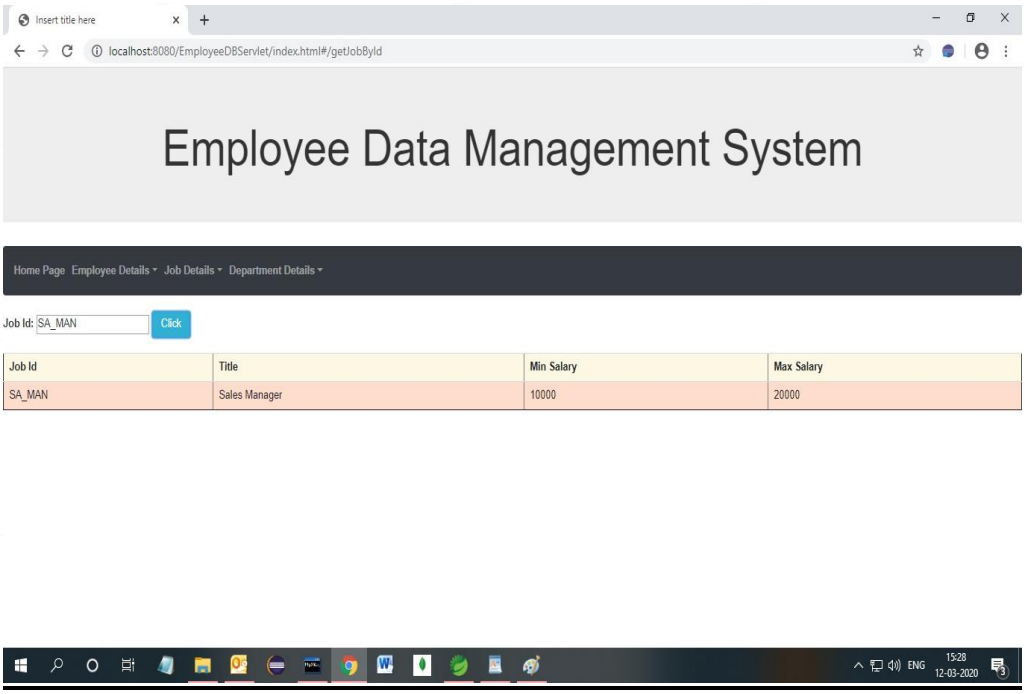
4. Jobs Page

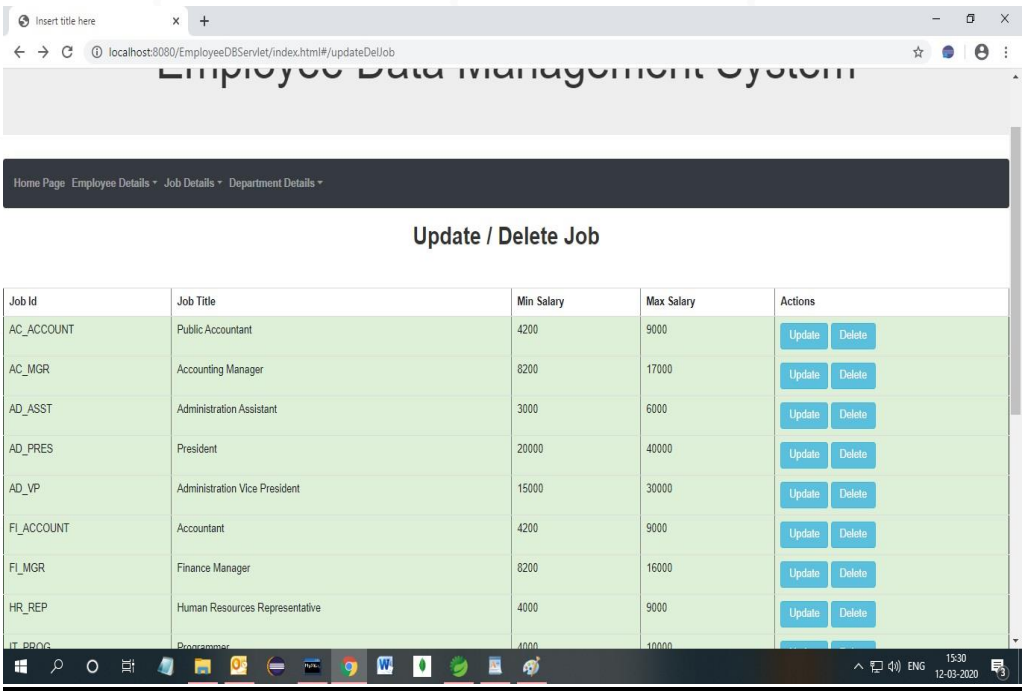
Jobs menu helps user to get detailed information about jobs in organization. If user has admin role can put new jobs, update or delete a particular job.



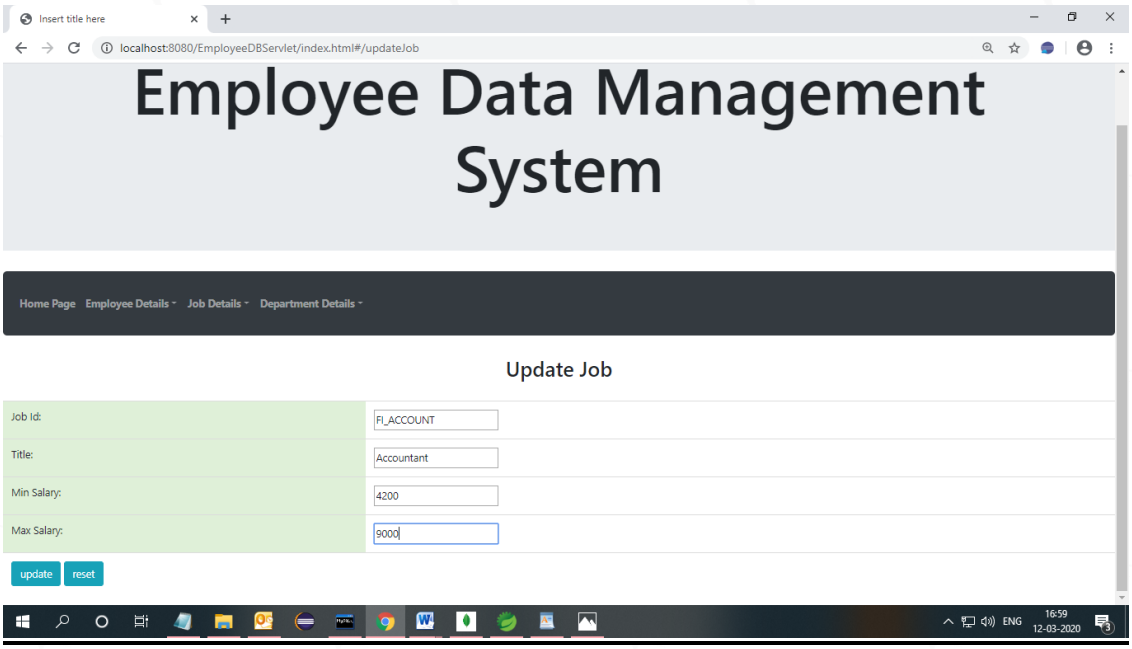


Min and max salary can be retrieved from each Job Id using Job search screen.



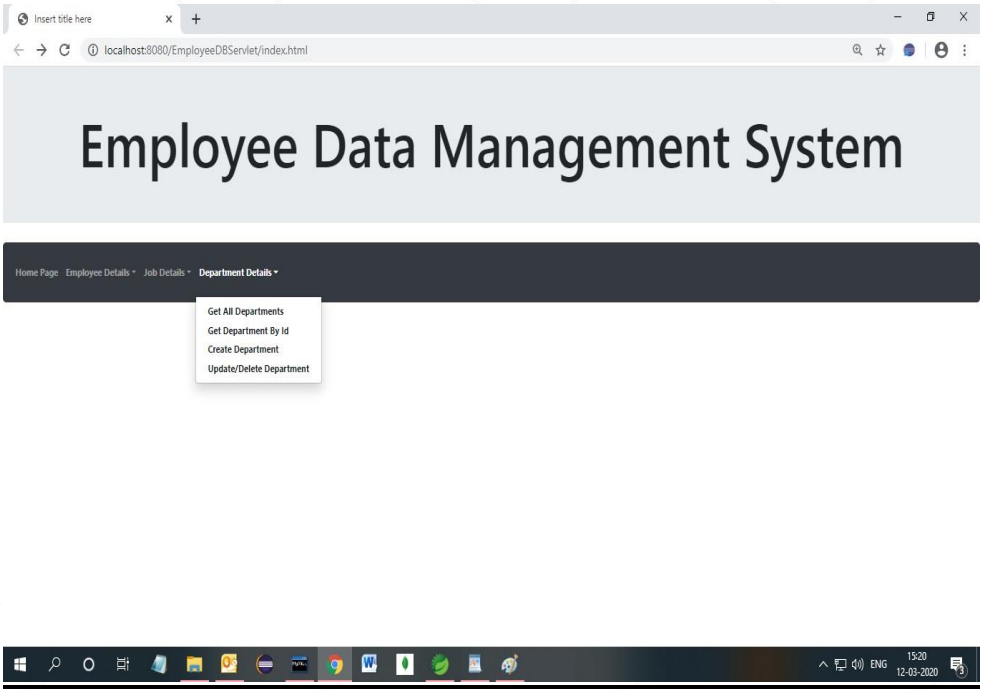


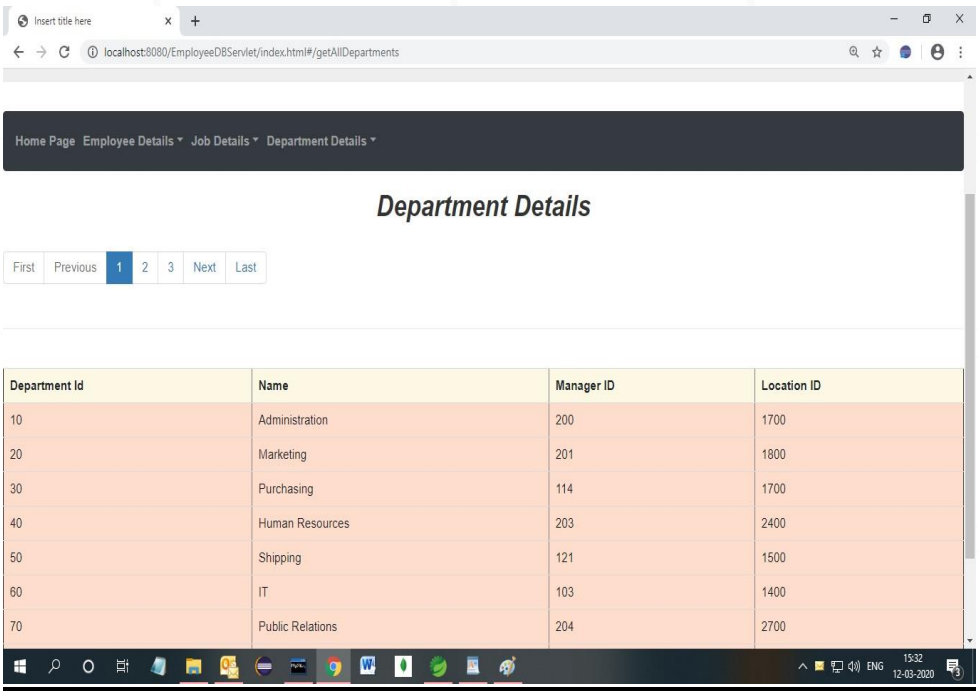
Job details can be updated using Update job screen.



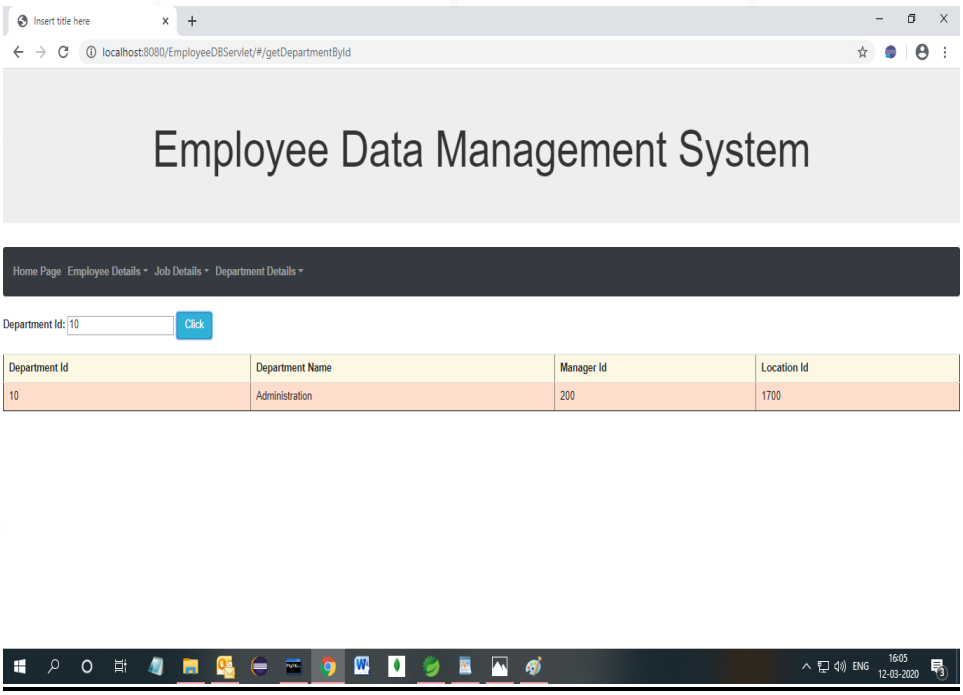
5. Department Page

Department information can be obtained by using department menu. If a user has admin privileges can put new department details, update or delete department.

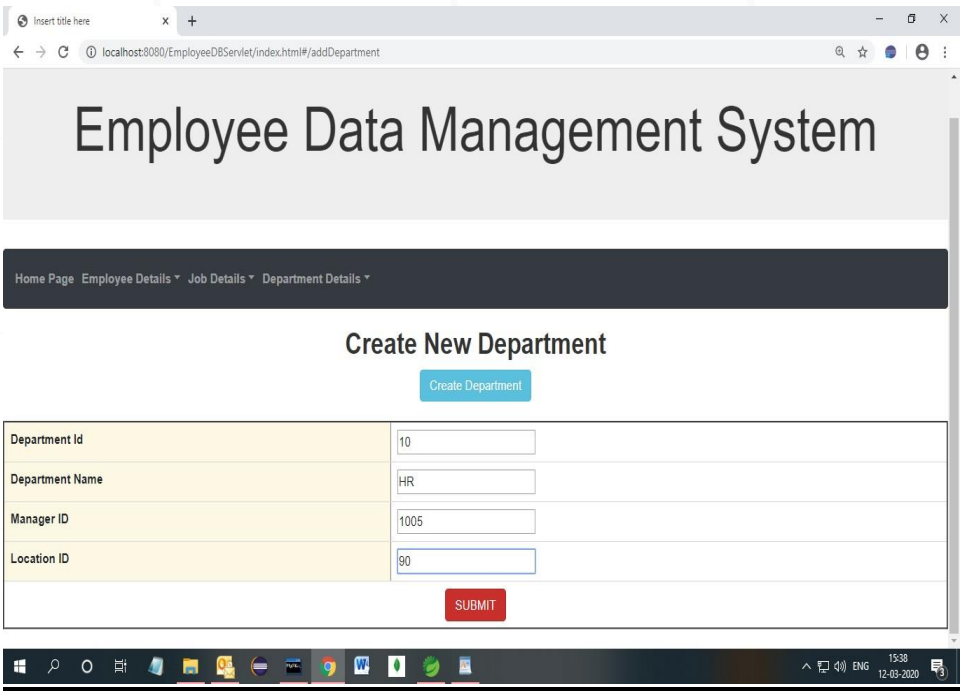


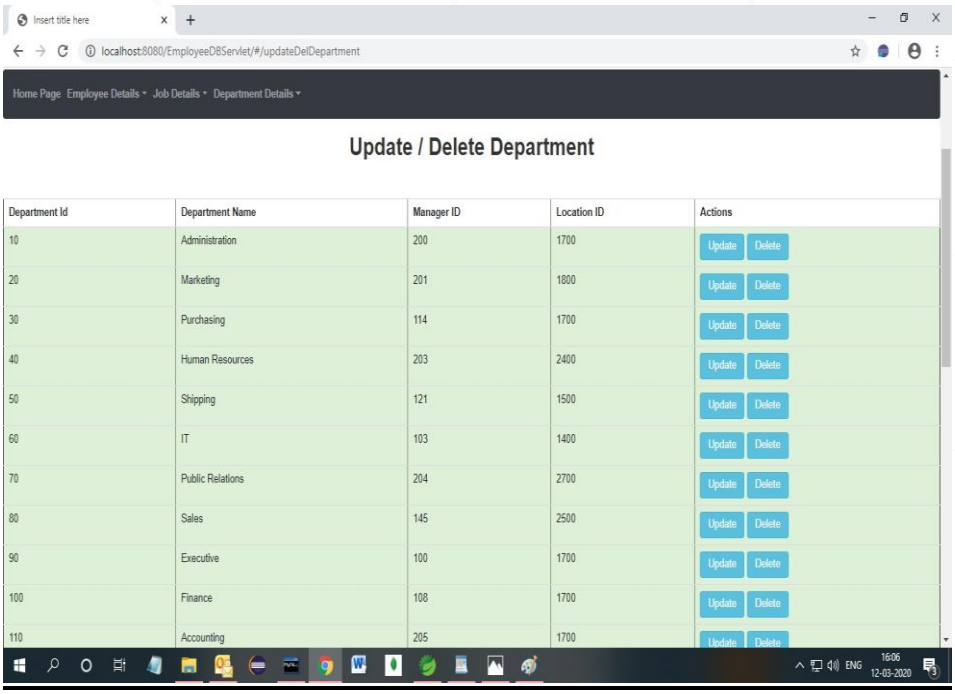


Department details can be retrieved based on Department Id using department search screen.

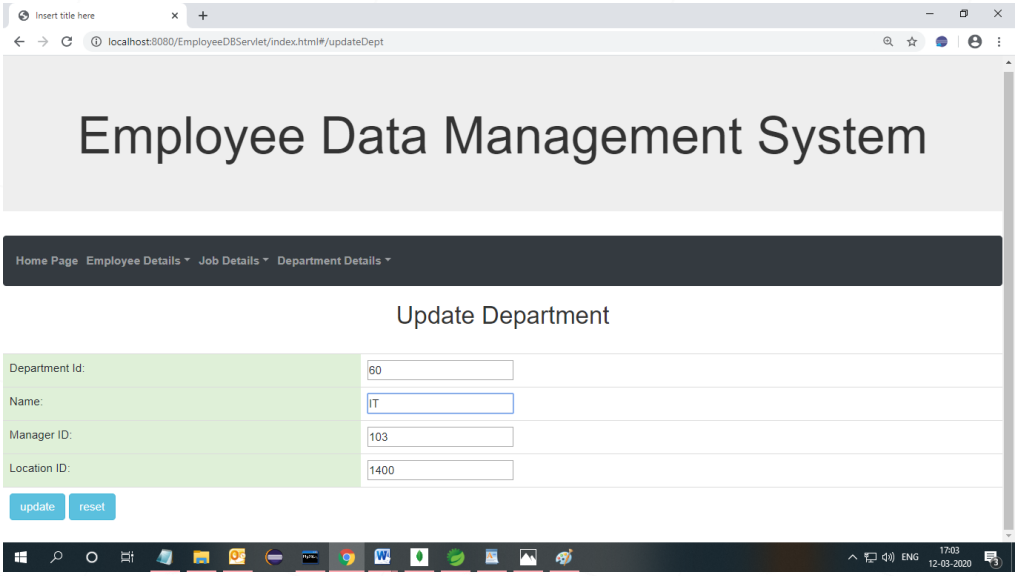


New department details can be entered in system using Create new department screen.

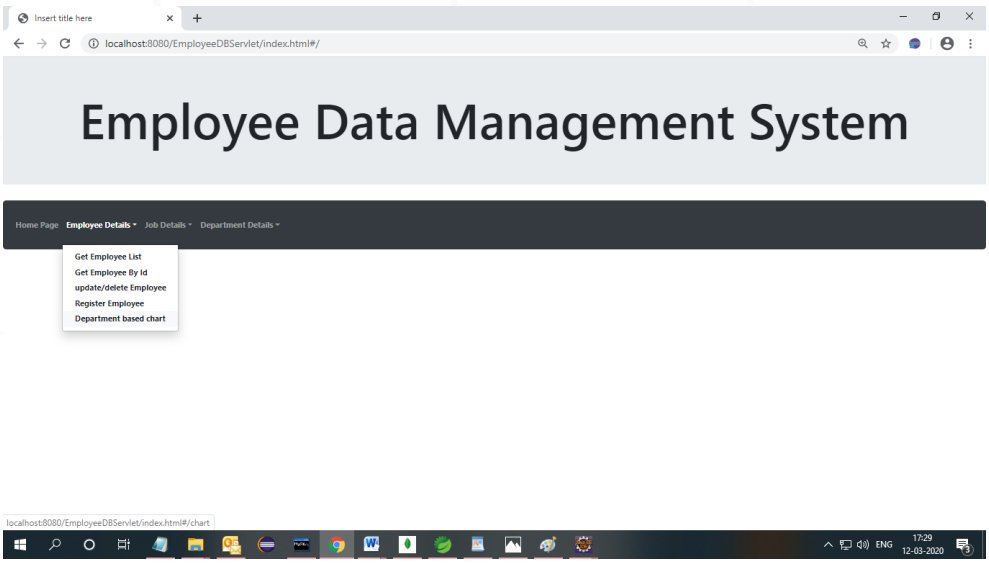

Insert title here
localhost:8080/EmployeeDBServlet/index.html#/addDepartment
Employee Data Management System
Home Page
Employee Details
Job Details
Department Details
Create New Department
Create Department
Department Id
10
Department Name
HR
Manager ID
1005
Location ID
90
SUBMIT


Insert title here
localhost:8080/EmployeeDBServlet/#/updateDelDepartment
Home Page
Employee Details
Job Details
Department Details
Update / Delete Department
Department Id
Department Name
Manager ID
Location ID
Actions
10 Administration 200 1700 Update Delete
20 Marketing 201 1800 Update Delete
30 Purchasing 114 1700 Update Delete
40 Human Resources 203 2400 Update Delete
50 Shipping 121 1500 Update Delete
60 IT 103 1400 Update Delete
70 Public Relations 204 2700 Update Delete
80 Sales 145 2500 Update Delete
90 Executive 100 1700 Update Delete
100 Finance 108 1700 Update Delete
110 Accounting 205 1700 Update Delete

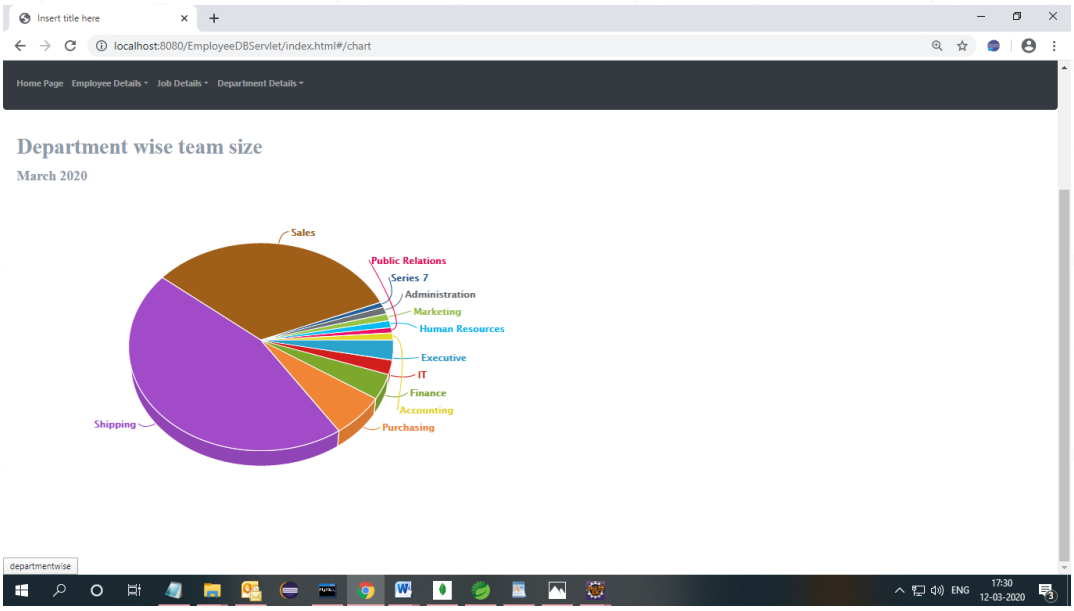
Department details can be updated using Update department screen.



Analysis of employee data can be done using employee chart menu



Department wise team analysis can be done using following chart.



Note: Detailed source code can be shared upon request.