

24/04/2023

# Employee tracking system==>>WIREFRAME DOCUMENTATION

CORE JAVA PROJECT

PARAMITA 22

## **ABSTRACT**

**The Employee tracking application is prepared as a console-based core java project. The system tracks the performance of all registered employees in an organisation, involved in different projects. The detailed address of the employees is stored in a different entity and may be referred to when tracking of employees is necessary or their proximity to each other and involvement in different projects may need to be conveniently assigned.**

**The Manager entity of the system benefits the managerial staff to track the employees efficiently to know their allotment, department, progress, and scheduling data.**

**This system requires no web server and may be executed from a digital device within the onsite premises of an organisation which can effectively use it to understand the performance of its employees.**

**The system helps in**

- **Division of labour**
- **Understanding effectiveness of each employee**
- **Understanding employee potential**
- **Project constraints**
- **Effective scheduling**
- **Effective running of organisational framework**
- **Less cost involvement**
- **Tracking employee details**

## **THIS TYPE OF DOCUMENTATION GENERALLY AIMS AT THE SYSTEM AS IT APPEARS FOR THE USERS OF THE SYSTEM**

**The whole system works from the admin perspective, so the Manager class which inherits the employee class is used to create the method `viewManager()` to display the required operations needed for the tracking of employees.**

**The working of system and its technical aspects are:**

### **1.2.1.Admin Objectives**

**It is an admin dependent system which has no user functionality. The salient features of the Employee Tracking System are:**

- It is easy to execute the java classes which is possible just with the presence of jdk .**
- It is an instant system of entry and checking entries of employee details, which involve less complication and hassle.**
- It does not involve a web server at present as it does not give a facility of browser execution or deployment as such.**
- It does not involve a database. It therefore hardly requires storage space.**
- However it facilitates updation as it is prepared in an IDE and can be easily converted into a web based project using hibernate + MySQL or any other database in future.**

## **1.1 Constraints**

**A few functionalities could not be implemented.**

- **The system suffers from the drawback of not being able to function at times due to session creation error for the application.**
- **The employer or the manager constructor which is created as a inherited class from the employee class, has no existence if employees do not exist. So, Manager class bears a IS-A relationship with the Employee class. The Manager class is created as the child class of Employee. Employee is the parent class of the manager class.**
- **Address bears a HAS-A relation with Employee. It is an Association of Composition type, with the Employee class.**

**Mysql was not used as JDBC was not to be used in this project.**

## **1.2 Risks**

**Document specific risks that have been identified or that should be considered.**

- **The authenticity of users is not determined.**
- **The Console based project is not equipped to provide detailed view of employees. The database is not used which makes calling of employees view on the basis of employee id not possible.**
- **The project may suffer from updation and deletion anomalies for which the development need to be converted to different classes for insertion or deletion.**

### **1.3 Out of Scope**

- 1. The project is developed in the local system and the code in github repository.**
- 2. The project is not hosted in any cloud platform and is still not available in on internet.**
- 3. Setting of parameters in database for further use is not possible.**
- 4. Employee authentication or the authentication of user of the application is out of scope.**

## **2. TECHNICAL SPECIFICATIONS**

**It includes the hardware software and other technical requirements of the system. Any platform and machine with an installed jdk can effectively run the application. As the project is developed in java it is:**

- Portable**
- Simple to understand and implement**
- Any database can be used for stating minimum employee details**
- Minimum storage and any RAM that effectively runs a java application can be used.**
- The application uses the System Library which may vary from machine to machine.**
- The application is developed in Eclipse IDE. It may be opened in any IDE or it may even run in command prompt.**

### **2.1. Hardware Requirements**

 **Processor: Intel Pentium microprocessor with RYZEN**

 **Main memory: 512 MB**

 **Hard disk : 256 MB required**

- **Keyboard: Standard**
- **Monitor: 600x800 Resolution or above**
- **Mouse: Scroll**

## **2.2. Software Requirements**

### **2.2.1. Tools and platforms used**

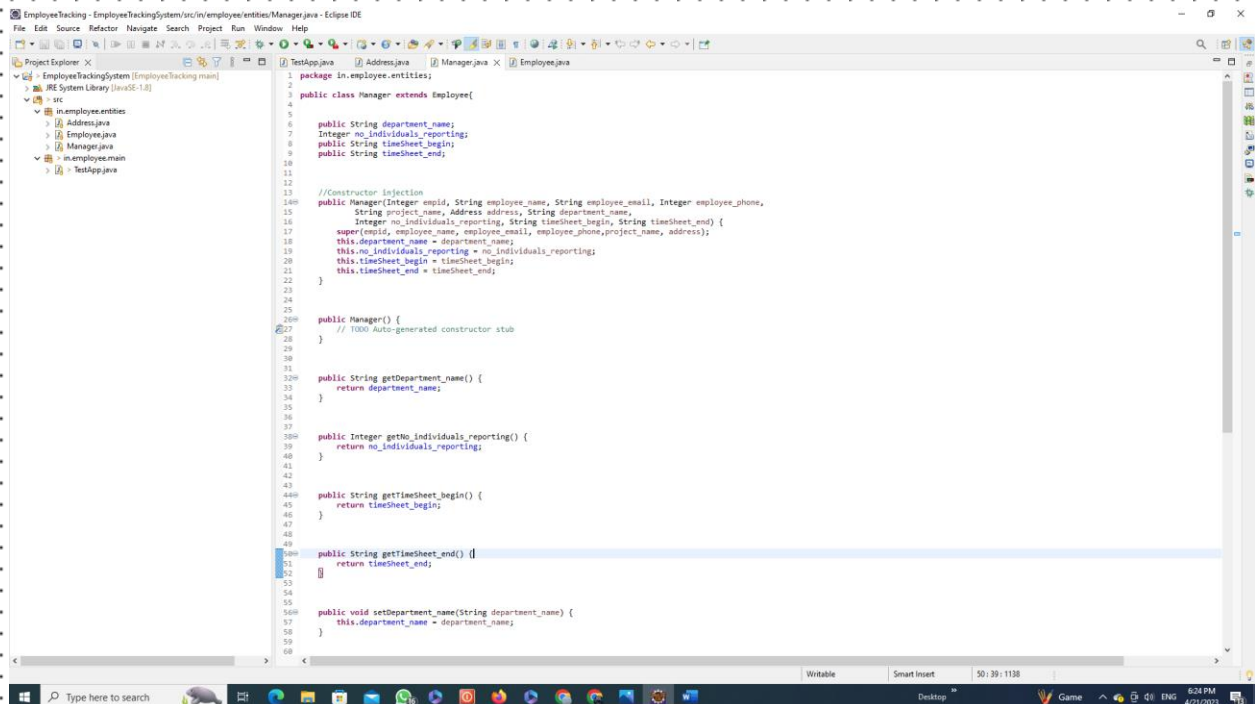
- **Operating System: Windows11**
- **Platform: ECLIPSE IDE [2022-09]**
- **Language: CORE JAVA**

### **2.2.2. Software interfaces**

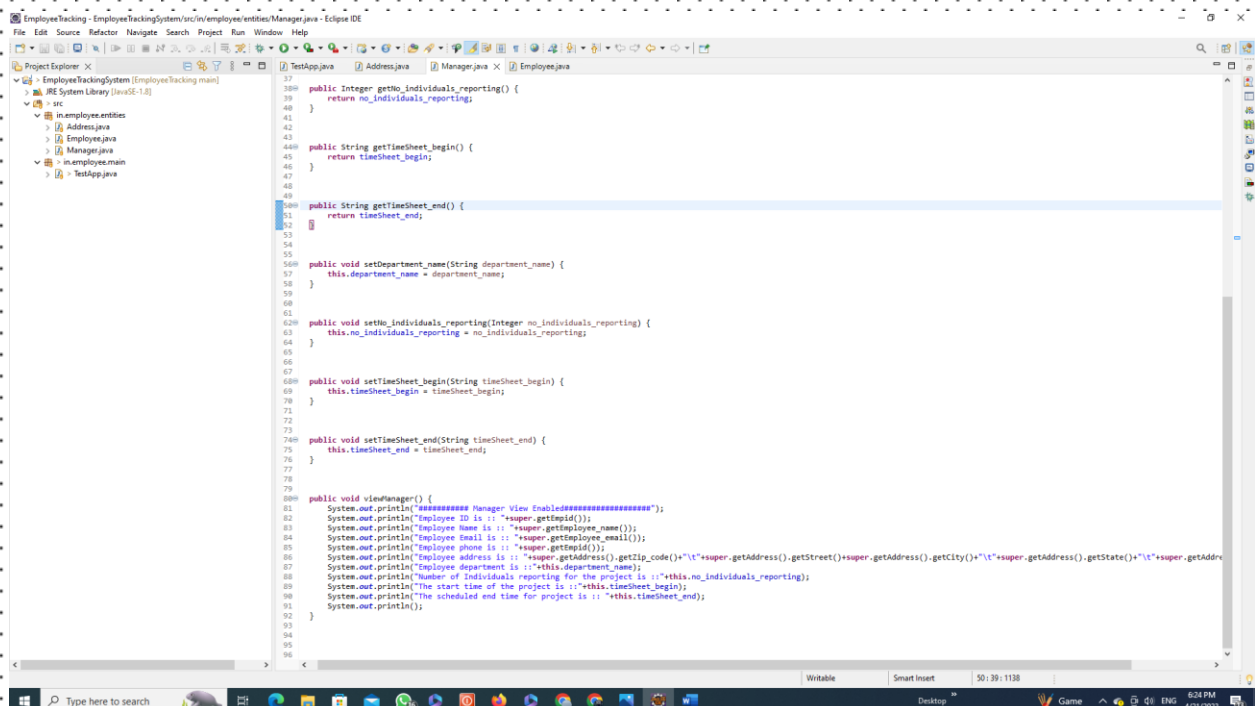
- ❖ **Application: Eclipse IDE [2022-09]**
- ❖ **jdk : 8**
- ❖ **Additional API: MS OFFICE**

**No DATABASE used and no schema needed to be developed. Technological Specification was not a matter of concern for the project.**

## Manager.java[Manager.class] inherits the Employee class and is accessed by the sytem user[Admin] to run the application

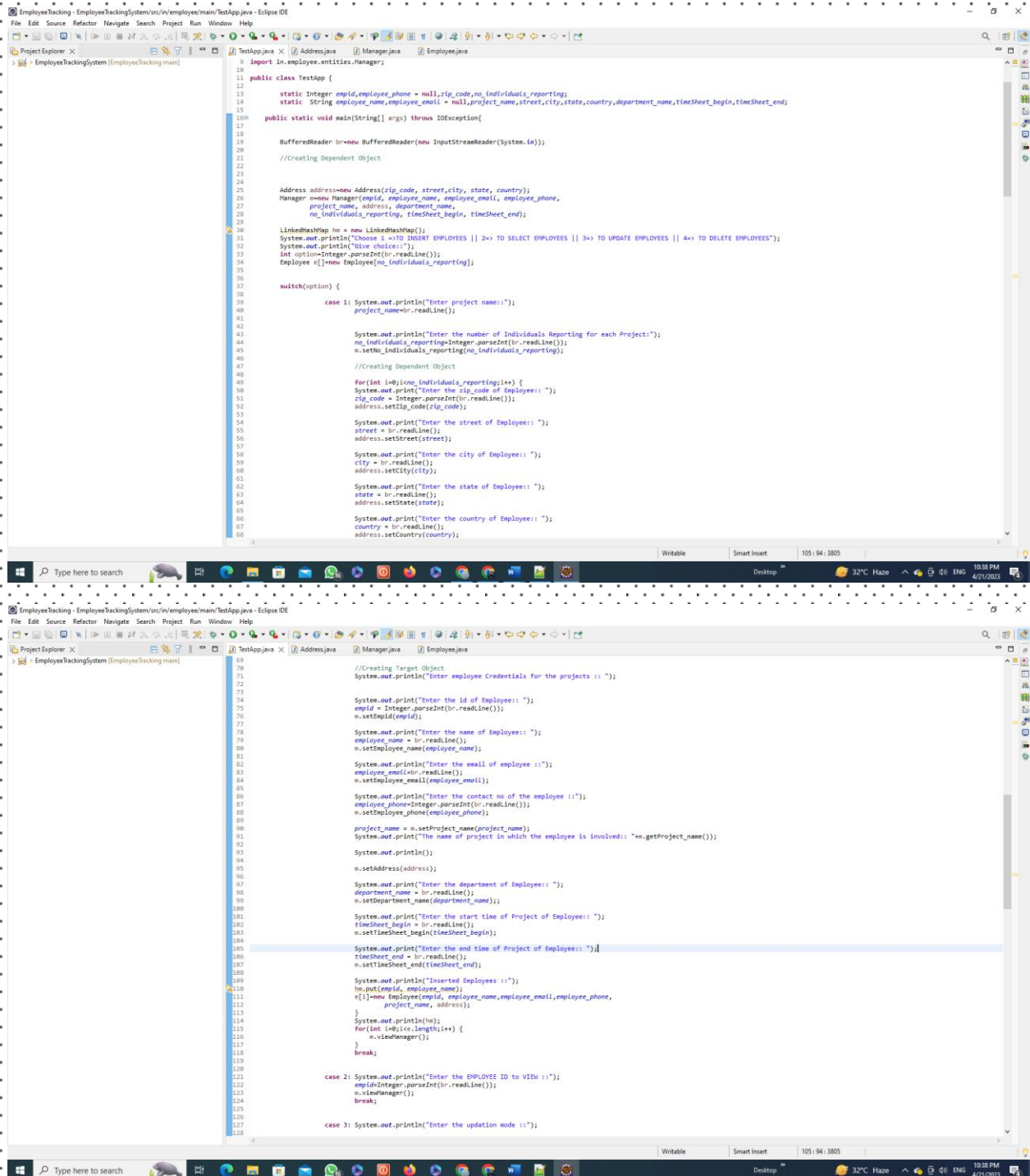


```
1 package in.employee.entities;
2
3 public class Manager extends Employee{
4
5
6     public String department_name;
7     Integer no_individuals_reporting;
8     public String timesheet_begin;
9     public String timesheet_end;
10
11
12
13 //Constructor Injection
14 public Manager(Integer empid, String employee_name, String employee_email, Integer employee_phone,
15 String project_name, Address address, String department_name,
16 Integer no_individuals_reporting, String timesheet_begin, String timesheet_end) {
17     super(empid, employee_name, employee_email, employee_phone, project_name, address);
18     this.department_name = department_name;
19     this.no_individuals_reporting = no_individuals_reporting;
20     this.timesheet_begin = timesheet_begin;
21     this.timesheet_end = timesheet_end;
22 }
23
24
25
26
27 public Manager() {
28     // TODO Auto-generated constructor stub
29 }
30
31
32 public String getDepartment_name() {
33     return department_name;
34 }
35
36
37
38 public Integer getno_individuals_reporting() {
39     return no_individuals_reporting;
40 }
41
42
43
44 public String gettimesheet_begin() {
45     return timesheet_begin;
46 }
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50 public String gettimesheet_end() {
51     return timesheet_end;
52 }
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55
56 public void setDepartment_name(String department_name) {
57     this.department_name = department_name;
58 }
59
60
61
62 }
```



```
37
38 public Integer getno_individuals_reporting() {
39     return no_individuals_reporting;
40 }
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43
44 public String gettimesheet_begin() {
45     return timesheet_begin;
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50 public String gettimesheet_end() {
51     return timesheet_end;
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56 public void setDepartment_name(String department_name) {
57     this.department_name = department_name;
58 }
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62 public void setno_individuals_reporting(Integer no_individuals_reporting) {
63     this.no_individuals_reporting = no_individuals_reporting;
64 }
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68 public void settimesheet_begin(String timesheet_begin) {
69     this.timesheet_begin = timesheet_begin;
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74 public void settimesheet_end(String timesheet_end) {
75     this.timesheet_end = timesheet_end;
76 }
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79
80 public void viewManager() {
81     System.out.println("***** Manager View Enabled*****");
82     System.out.println("Employee ID is :: "+super.getEmpid());
83     System.out.println("Employee Name is :: "+super.getEmployee_name());
84     System.out.println("Employee Email is :: "+super.getEmployee_email());
85     System.out.println("Employee phone is :: "+super.getEmpid());
86     System.out.println("Employee address is :: "+super.getAddress().getCity()+" "+super.getAddress().getState()+" "+super.getAddress().getCountry());
87     System.out.println("Employee department is :: "+this.department_name);
88     System.out.println("Number of Individuals reporting for the project is :: "+this.no_individuals_reporting);
89     System.out.println("The start time of the project is :: "+this.timesheet_begin);
90     System.out.println("The scheduled end time for project is :: "+this.timesheet_end);
91     System.out.println();
92 }
93
94
95
96 }
```

## TestApp.java is the code executed by the user for CRUD operations to initiate EmployeeTracking



```
EmployeeTracking - EmployeeTrackingSystem/src/in/employee/main/TestApp.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project Explorer X
> EmployeeTrackingSystem [EmployeeTracking main]
TestApp.java X Address.java Manager.java Employee.java
import in.employee.entities.Manager;

public class TestApp {

    static Integer empId, employee_phone = null, zip_code, no_individuals_reporting;
    static String employee_name, employee_email = null, project_name, street, city, state, country, department_name, timeSheet_begin, timeSheet_end;

    public static void main(String[] args) throws IOException {

        BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

        //Creating Dependent Object

        Address address = new Address(zip_code, street, city, state, country);
        Manager m = new Manager(empId, employee_name, employee_email, employee_phone,
                                project_name, address, department_name,
                                no_individuals_reporting, timeSheet_begin, timeSheet_end);

        LinkedHashMap hm = new LinkedHashMap();
        System.out.println("Choose 1 => TO INSERT EMPLOYEES || 2=> TO SELECT EMPLOYEES || 3=> TO UPDATE EMPLOYEES || 4=> TO DELETE EMPLOYEES");
        System.out.println("Enter choice:");
        int option = Integer.parseInt(br.readLine());
        Employee e[] = new Employee[no_individuals_reporting];

        switch(option) {

            case 1: System.out.println("Enter project name:");
                    project_name = br.readLine();

                    System.out.println("Enter the number of Individuals Reporting for each Project:");
                    no_individuals_reporting = Integer.parseInt(br.readLine());
                    m.setNo_individuals_reporting(no_individuals_reporting);

                    //Creating Dependent Object
                    for(int i=0; i<no_individuals_reporting; i++) {
                        System.out.println("Enter the zip_code of Employee:");
                        zip_code = Integer.parseInt(br.readLine());
                        address.setZip_code(zip_code);

                        System.out.println("Enter the street of Employee:");
                        street = br.readLine();
                        address.setStreet(street);

                        System.out.println("Enter the city of Employee:");
                        city = br.readLine();
                        address.setCity(city);

                        System.out.println("Enter the state of Employee:");
                        state = br.readLine();
                        address.setState(state);

                        System.out.println("Enter the country of Employee:");
                        country = br.readLine();
                        address.setCountry(country);

                        //Creating Target Object
                        System.out.println("Enter employee Credentials for the projects:");

                        System.out.println("Enter the Id of Employee:");
                        empId = Integer.parseInt(br.readLine());
                        m.setEmpId(empId);

                        System.out.println("Enter the name of Employee:");
                        employee_name = br.readLine();
                        m.setEmployee_name(employee_name);

                        System.out.println("Enter the email of employee:");
                        employee_email = br.readLine();
                        m.setEmployee_email(employee_email);

                        System.out.println("Enter the contact no of the employee:");
                        employee_phone = Integer.parseInt(br.readLine());
                        m.setEmployee_phone(employee_phone);

                        project_name = m.getProject_name(project_name);
                        System.out.println("The name of project in which the employee is involved: " + m.getProject_name());

                        System.out.println();
                        m.setAddress(address);

                        System.out.println("Enter the department of Employee:");
                        department_name = br.readLine();
                        m.setDepartment_name(department_name);

                        System.out.println("Enter the start time of Project of Employee:");
                        timeSheet_begin = br.readLine();
                        m.setTimeSheet_begin(timeSheet_begin);

                        System.out.println("Enter the end time of Project of Employee:");
                        timeSheet_end = br.readLine();
                        m.setTimeSheet_end(timeSheet_end);

                        System.out.println("Inserted Employees:");
                        hm.put(empId, employee_name);
                        e[i] = new Employee(empId, employee_name, employee_email, employee_phone,
                                        project_name, address);
                    }

                    System.out.println(hm);
                    for(int i=0; i<e.length; i++) {
                        m.viewManager();
                    }
                    break;

            case 2: System.out.println("Enter the EMPLOYEE ID to VIEW:");
                    empId = Integer.parseInt(br.readLine());
                    m.viewManager();
                    break;

            case 3: System.out.println("Enter the updation mode:");
                    //...
                    break;
        }
    }
}
```



```
EmployeeTracking - EmployeeTrackingSystem/src/in/employee/main/TestApp.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

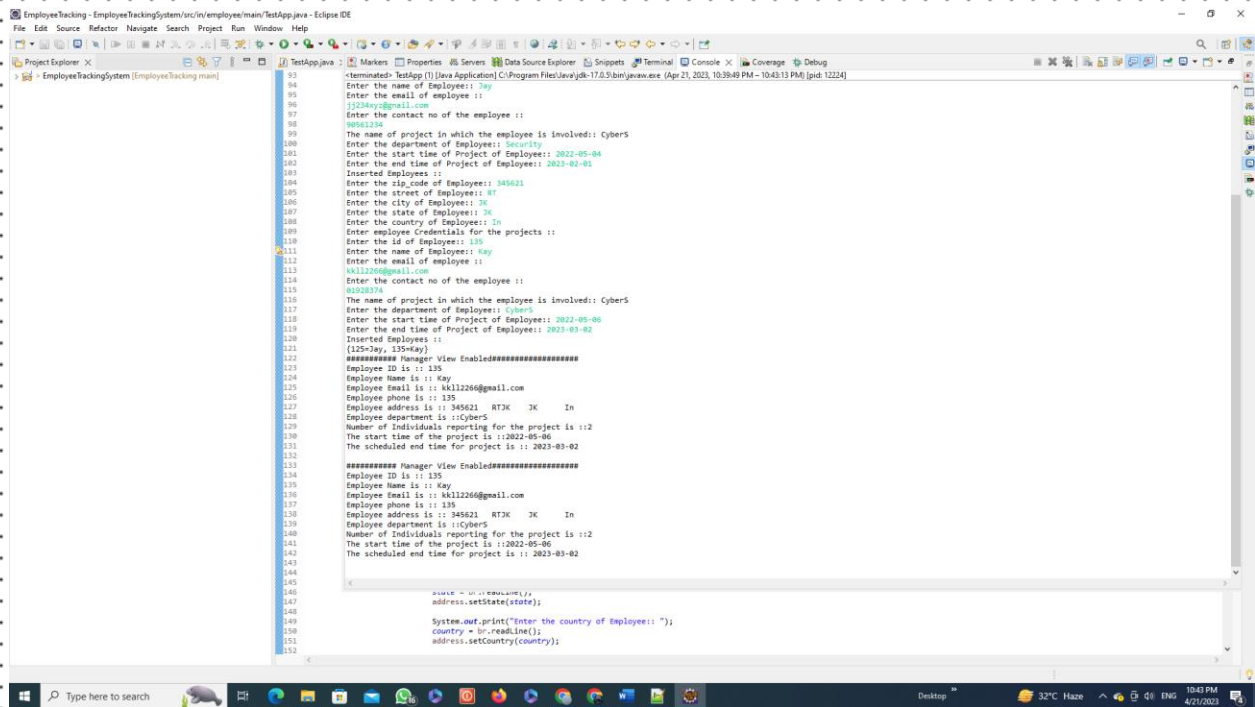
Project Explorer
EmployeeTrackingSystem [EmployeeTracking main]
  src
    in.employee.entities
      Address.java
    in.employee.main
      Manager.java
      TestApp.java

TestApp.java
171 n.viewManager();
172 break;
173
174 case 4: System.out.println("Enter Employee details to remove from Project:: ");
175 System.out.println("Enter project name::");
176 project_name=br.readLine();
177
178 System.out.println("Enter the id of Employee:: ");
179 empId = Integer.parseInt(br.readLine());
180 n.setEmpId(empId);
181
182 System.out.println("Enter the name of Employee:: ");
183 employee_name = br.readLine();
184 n.setEmployee_name(employee_name);
185
186 System.out.println("Enter the email of employee ::");
187 employee_email=br.readLine();
188 n.setEmployee_email(employee_email);
189
190 System.out.println("Enter the contact no of the employee ::");
191 employee_phone=Integer.parseInt(br.readLine());
192 n.setEmployee_phone(employee_phone);
193
194 project_name = n.getProject_name(project_name);
195 System.out.println("The name of project in which the employee is involved: "+n.getProject_name());
196
197 System.out.println("Number of Individuals reporting previously ::");
198 no_individuals_reporting=Integer.parseInt(br.readLine());
199 System.out.println("Number of Individuals reporting now :: "+(no_individuals_reporting-1));
200 n.setno_individuals_reporting(no_individuals_reporting);
201
202 System.out.println("Enter the department of Employee:: ");
203 department_name = br.readLine();
204 n.setDepartment_name(department_name);
205
206 System.out.println("Enter the start time of Project of Employee:: ");
207 timesheet_begin = br.readLine();
208 n.setTimesheet_begin(timesheet_begin);
209
210 System.out.println("Enter the end time of Project of Employee:: ");
211 timesheet_end = br.readLine();
212 n.setTimesheet_end(timesheet_end);
213 n.viewManager();
214 break;
215
216 default: System.out.println("Do you want to exit?Type Y/N" );
217 String answer=br.readLine();
218 if(answer=="Y"||answer=="y")
219 System.exit(0);
220 break;
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224 }
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EmployeeTracking - EmployeeTrackingSystem/src/in/employee/main/TestApp.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer
EmployeeTrackingSystem [EmployeeTracking main]
  src
    in.employee.entities
      Address.java
    in.employee.main
      Manager.java
      TestApp.java

TestApp.java
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EmployeeTracking - EmployeeTrackingSystem\src\in\employee\main\TestApp.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project Explorer X
> EmployeeTrackingSystem [EmployeeTracking main]
TestApp.java
83 *terminated: TestApp (1) [Java Application] C:\Program Files\Java\jdk-17.0.9\bin\javaw.exe (Apr 21, 2023, 10:39:49 PM - 10:43:13 PM) [pid: 12224]
84 Enter the name of Employee: Kay
85 Enter the email of employee ::
86 k112266@gmail.com
87 Enter the contact no of the employee ::
88 98961234
89 The name of project in which the employee is involved: Cybers
90 Enter the department of Employee: Security
91 Enter the start time of Project of Employee: 2022-05-04
92 Enter the end time of Project of Employee: 2023-03-02
93 Inserted Employees ::
94 Enter the zip code of Employee: 345621
95 Enter the street of Employee: RT
96 Enter the city of Employee: JK
97 Enter the state of Employee: IN
98 Enter the country of Employee: In
99 Enter employee Credentials for the projects ::
100 Enter the id of Employee: 135
101 Enter the name of Employee: Kay
102 Enter the email of employee ::
103 k112266@gmail.com
104 Enter the contact no of the employee ::
105 98961234
106 The name of project in which the employee is involved: Cybers
107 Enter the department of Employee: Cybers
108 Enter the start time of Project of Employee: 2022-05-06
109 Enter the end time of Project of Employee: 2023-03-02
110 Inserted Employees ::
111 (125=Kay, 135=Kay)
112 ***** Manager View Enabled*****
113 Employee ID is :: 135
114 Employee Name is :: Kay
115 Employee Email is :: k112266@gmail.com
116 Employee phone is :: 135
117 Employee address is :: 345621 RTJK JK In
118 Employee department is ::Cybers
119 Number of Individuals reporting for the project is ::2
120 The start time of the project is ::2022-05-06
121 The scheduled end time for project is :: 2023-03-02
122
123 ***** Manager View Enabled*****
124 Employee ID is :: 135
125 Employee Name is :: Kay
126 Employee Email is :: k112266@gmail.com
127 Employee phone is :: 135
128 Employee address is :: 345621 RTJK JK In
129 Employee department is ::Cybers
130 Number of Individuals reporting for the project is ::2
131 The start time of the project is ::2022-05-06
132 The scheduled end time for project is :: 2023-03-02
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