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#### **EMPLOYEE MANAGEMENT SYSTEM**

## **Command Prompt Code and Output:**

Administrator: Command Prompt

```
Microsoft Windows [Version 10.0.22631.4317]
   (c) Microsoft Corporation. All rights reserved.
   :\Windows\System32>pip install mysql-connector-python
  Requirement already satisfied: mysql-connector-python in c:\python3.10\lib\site-packages (9.1.0)
   notice] A new release of pip is available: 23.3.2 -> 24.2
notice] To update, run: python.exe -m pip install --upgrade pip
  C:\Windows\System32>
MySQL Workbench Code:
CREATE DATABASE Emp_mngt;
                                                          contact_no VARCHAR(20),
                                                          address TEXT,
USE Emp_mngt;
                                                          dob DATE.
                                                          hire_date DATE,
- Table for storing user login information
                                                          position VARCHAR(100) DEFAULT NULL,
                                                       - Position can be NULL if not assigned
CREATE TABLE users (
                                                          salary DECIMAL(10, 2) DEFAULT NULL, -
  id INT AUTO_INCREMENT PRIMARY KEY,
                                                       - Salary can be NULL if not assigned
   email VARCHAR(100) UNIQUE NOT NULL,
                                                          experience INT DEFAULT NULL,
                                                       Experience can be NULL initially
  password VARCHAR(255) NOT NULL
                                                          FOREIGN KEY (user_id) REFERENCES
):
                                                       users(id)
                                                       ):
- Table for storing employee details
CREATE TABLE employees (
                                                       - Table for storing performance reviews
  emp_id INT AUTO_INCREMENT PRIMARY
KEY.
                                                       CREATE TABLE performance_reviews (
                                                          review id INT AUTO INCREMENT
  user_id INT,
                                                       PRIMARY KEY,
  name VARCHAR(100) NOT NULL,
```

employee\_id INT,

review\_date DATE,

rating FLOAT CHECK (rating >= 1 AND rating <= 5), — Rating between 1 and 5

feedback TEXT,

FOREIGN KEY (employee\_id) REFERENCES employees(emp\_id)

);

describe Employees;

describe users;

describe performance\_reviews;

select \* from employees;

select \* from performance\_reviews;

**DELETE FROM performance\_reviews** 

WHERE employee\_id = 2;

**DELETE FROM employees** 

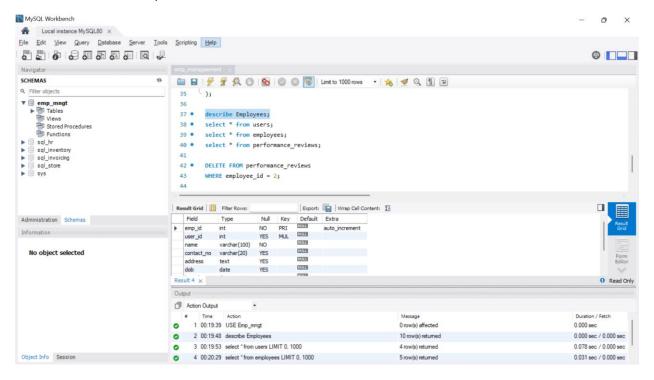
WHERE emp\_id = 6;

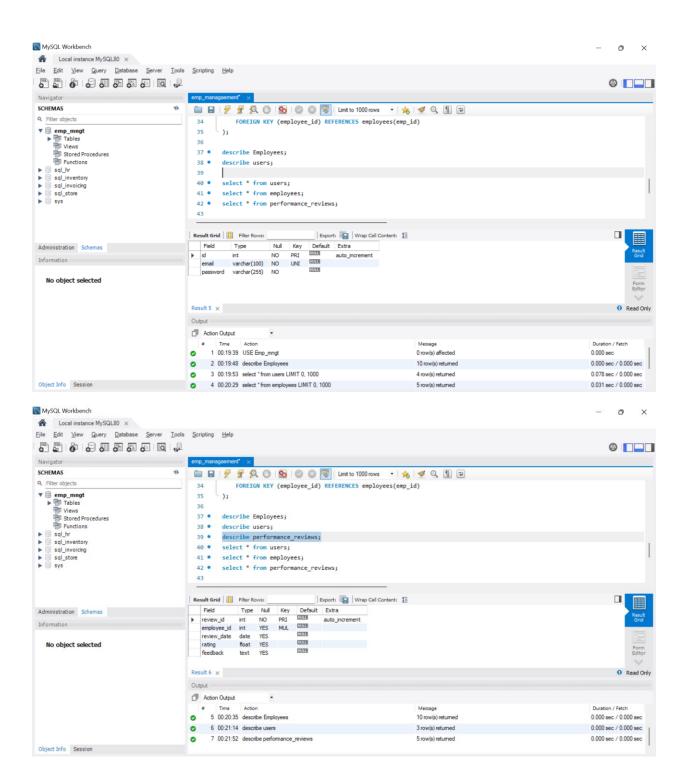
**DELETE FROM users** 

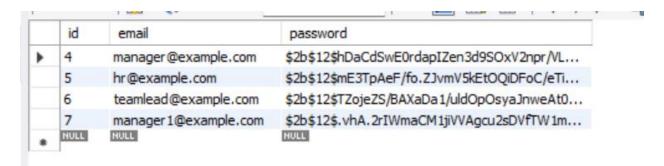
where id = 3;

select \* from users;

## MYSQL Workbench Output:



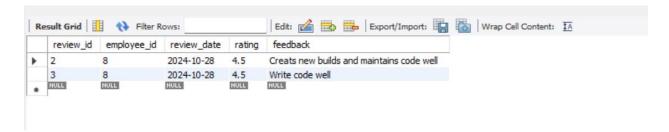




**Users Table** 



**Employee Table** 



**Performance reviews Table** 

## **Python Code:**

```
import mysql.connector
import bcrypt
from datetime import datetime
# Establishing MySQL connection
db = mysql.connector.connect(
  host="localhost",
  user="root",
  password="root",
  database="Emp_mngt"
cursor = db.cursor()
# Password hashing functions
def hash_pw(pw):
  return bcrypt.hashpw(pw.encode('utf-8'), bcrypt.gensalt())
def check_pw(hashed_pw, pw):
  return bcrypt.checkpw(pw.encode('utf-8'), hashed_pw)
# Registration function
def register():
  name = input("Enter Name: ")
   email = input("Enter Email ID: ")
  contact = input("Enter Contact No.: ")
  address = input("Enter Address: ")
  dob = input("Enter Date of Birth (YYYY-MM-DD): ")
  hire_date = input("Enter Hire Date (YYYY-MM-DD): ")
  pw = input("Enter Password: ")
  confirm_pw = input("Confirm Password: ")
  if pw != confirm_pw:
     print("Passwords do not match.")
     return
  hashed_pw = hash_pw(pw)
  try:
     # Insert into users table (no employee table insertion here)
     cursor.execute("INSERT INTO users (email, password) VALUES (%s, %s)", (email, hashed_pw))
     print("Registration successful! You can now log in.")
  except mysql.connector.Error as err:
     print(f"Error: {err}")
# Login function
def login():
  email = input("Enter Email ID: ")
```

```
pw = input("Enter Password: ")
  cursor.execute("SELECT id, password FROM users WHERE email = %s", (email,))
  result = cursor.fetchone()
  if result and check_pw(result[1].encode('utf-8'), pw):
     print("Login successful! ")
     return result[0] # Returns user ID (Manager's ID)
   else:
     print("Login failed. Check your credentials.")
     return None
# Function to list all employees
def list_employees():
  cursor.execute("SELECT emp_id, name, position FROM employees")
  employees = cursor.fetchall()
  if employees:
     print("¥nEmployees:")
     for emp in employees:
        print(f" Employee ID: {emp[0]}, Name: {emp[1]}, Position: {emp[2]}")
  else:
     print("No employees found.")
# CRUD: Create new employee
def create_employee(manager_id):
  name = input("Enter Employee Name: ")
  contact = input("Enter Employee Contact No.: ")
   address = input("Enter Employee Address: ")
  dob = input("Enter Employee Date of Birth (YYYY-MM-DD): ")
  hire_date = input("Enter Employee Hire Date (YYYY-MM-DD): ")
  position = input("Enter Employee Position: ")
  try:
     salary = float(input("Enter Employee Salary: "))
   except ValueError:
     print("Please enter a valid salary.")
     return
  try:
     experience = int(input("Enter Employee Experience in Years: "))
   except ValueError:
     print("Please enter a valid number of years for experience.")
     return
  try:
     cursor.execute(
         "INSERT INTO employees (user_id, name, contact_no, address, dob, hire_date, position, salary, experience)
VALUES (%s, %s, %s, %s, %s, %s, %s, %s, %s)",
        (manager_id, name, contact, address, dob, hire_date, position, salary, experience)
     )
     db.commit()
```

```
print("Employee created successfully!")
   except mysgl.connector.Error as err.
     print(f"Error: {err}")
# CRUD: Read employee details
def read employee():
  list_employees()
   emp_id = input("Enter Employee ID to Read: ")
  cursor.execute("SELECT * FROM employees WHERE emp_id = %s", (emp_id,))
  emp = cursor.fetchone()
  if emp:
     print(f"ID: {emp[0]}, Name: {emp[2]}, Contact: {emp[3]}, Address: {emp[4]}, DOB: {emp[5]}, Hire Date: {emp[6]}, Position:
{emp[7]}, Salary: {emp[8]}, Experience: {emp[9]} years")
  else:
     print("Employee not found.")
# CRUD: Update employee details
def update_employee():
  list_employees()
  emp_id = input("Enter Employee ID to Update: ")
  new_contact = input("Enter new Contact No.: ")
  new_address = input("Enter new Address: ")
  cursor.execute("UPDATE employees SET contact_no = %s, address = %s WHERE emp_id = %s",
             (new_contact, new_address, emp_id))
   db.commit()
  print("Employee details updated successfully.")
# CRUD: Delete employee
def delete_employee():
  list_employees()
   emp_id = input("Enter Employee ID to Delete: ")
   cursor.execute("DELETE FROM employees WHERE emp_id = %s", (emp_id,))
   db.commit()
  print("Employee deleted successfully.")
# CRUD: Add performance review
def add_review():
  list_employees()
   emp_id = input("Enter Employee ID to Add Review: ")
  cursor.execute("SELECT * FROM employees WHERE emp_id = %s", (emp_id,))
   employee = cursor.fetchone()
  if not employee:
     print("No employee found with the given ID.")
     return
  rating = float(input("Enter Rating (1.0-5.0): "))
  feedback = input("Enter Feedback: ")
  review_date = datetime.now().date()
   cursor.execute(
      "INSERT INTO performance_reviews (employee_id, review_date, rating, feedback) VALUES (%s, %s, %s, %s)",
```

```
(emp_id, review_date, rating, feedback))
   db.commit()
  print("Performance review added successfully.")
# CRUD: View performance reviews
def view_reviews():
  list_employees()
  emp_id = input("Enter Employee ID to View Reviews: ")
  cursor.execute("SELECT * FROM performance_reviews WHERE employee_id = %s", (emp_id,))
  reviews = cursor.fetchall()
  print("¥nPerformance Reviews:")
  for review in reviews:
     print(f"Date: {review[2]}, Rating: {review[3]}, Feedback: {review[4]}")
# CRUD: Update performance review
def update review():
  list_employees()
  review_id = input("Enter Review ID to Update: ")
  new_rating = float(input("Enter new Rating (1.0-5.0): "))
  new_feedback = input("Enter new Feedback: ")
   cursor.execute("UPDATE performance_reviews SET rating = %s, feedback = %s WHERE review_id = %s",
             (new_rating, new_feedback, review_id))
   db.commit()
  print("Review updated successfully.")
# CRUD: Delete performance review
def delete_review():
  list_employees()
  review_id = input("Enter Review ID to Delete: ")
   cursor.execute("DELETE FROM performance_reviews WHERE review_id = %s", (review_id,))
  print("Review deleted successfully.")
def promote_employee():
  list_employees() # Show all employees
  emp_id = input("Enter Employee ID to Promote: ")
   cursor.execute("SELECT name, position, salary, experience FROM employees WHERE emp_id = %s", (emp_id,))
   employee = cursor.fetchone()
  if not employee:
     print("No employee found with the given ID.")
     return
  name, current_position, current_salary, experience = employee
  print(f"Current Position: {current_position}, Current Salary: ${current_salary}, Years of Experience: {experience}")
  positions = {
     1: ("DevOps Engineer", 60000),
     2: ("Build Engineer", 65000),
     3: ("Reliability Engineer", 70000),
```

```
4: ("Release Manager", 80000),
      5: ("Data Analyst", 85000),
      6: ("Product Manager", 90000)
  }
  print("Available Positions for Promotion:")
  for num, (pos, sal) in positions.items():
      print(f"{num}. {pos} - ${sal}")
   # Get user input as a number
   while True:
      try:
         choice = int(input("Select new position by entering the number: "))
        if choice in positions:
            break
         else:
            print("Invalid choice. Please select a valid number.")
      except ValueError:
         print("Please enter a valid number.")
  new_position, new_salary = positions[choice]
   # Update the employee's position and salary
   cursor.execute("UPDATE employees SET position = %s, salary = %s WHERE emp_id = %s",
              (new_position, new_salary, emp_id))
   db.commit()
   # Show the promotion details
  print(f"\function \text{In Employee {name} promoted!")
  print(f"Previous Position: {current_position}, Previous Salary: $[current_salary]")
  print(f"New Position: {new_position}, New Salary: $[new_salary]")
def main():
  while True:
     print("¥n1. Register")
     print("2. Login")
     print("3. Exit")
      choice = input("Enter your choice: ")
      if choice == '1':
         register()
      elif choice == '2':
        user_id = login()
        if user_id:
            while True:
              print("¥n1. Create Employee")
              print("2. Read Employee")
              print("3. Update Employee")
              print("4. Delete Employee")
              print("5. Add Performance Review")
              print("6. View Performance Reviews")
```

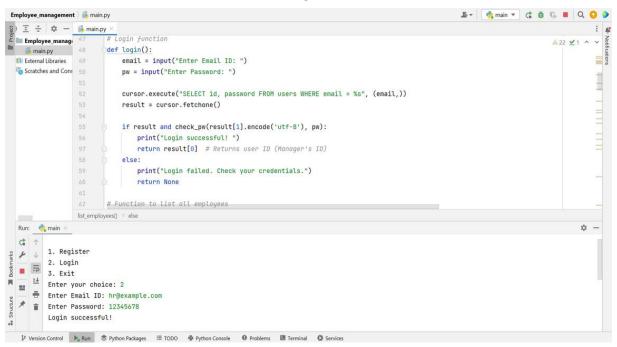
```
print("7. Update Performance Review")
               print("8. Delete Performance Review")
               print("9. Promote Employee")
               print("10. Logout")
               action = input("Enter your action: ")
               if action == '1':
                  create_employee(user_id)
               elif action = '2':
                  read_employee()
               elif action = '3':
                  update employee()
               elif action == '4':
                  delete_employee()
               elif action == '5':
                  add review()
               elif action = '6':
                  view_reviews()
               elif action = '7':
                  update_review()
               elif action == '8':
                  delete_review()
               elif action == '9':
                  promote_employee()
               elif action == '10':
                  break
               else:
                  print("Invalid action. Please select again.")
      elif choice == '3':
         break
      else:
         print("Invalid choice. Please select again.")
if _{\text{main}} = ''_{\text{main}}:
  main()
```

# PyCharm Output:

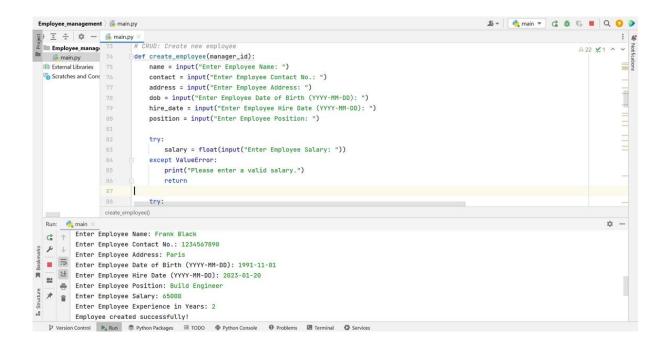
## Registration

```
Employee_management > 🚜 main.py
                                                                                                                 & ▼ 💏 main 🔻 🕻 🇯 🕟 🔳 Q 🗿 🦫
  <u>₹</u> ‡ − <u>6</u> main.py ×
                      | def register():
  Employee_manage 22
   main.py 23
                          name = input("Enter Name: ")
 III External Libraries
                            email = input("Enter Email ID: ")
 Scratches and Cons
                           contact = input("Enter Contact No.: ")
                            address = input("Enter Address: ")
                             dob = input("Enter Date of Birth (YYYY-MM-DD): ")
                 28
                            hire_date = input("Enter Hire Date (YYYY-MM-DD): ")
                             pw = input("Enter Password: ")
                             confirm_pw = input("Confirm Password: ")
                             if pw != confirm_pw:
                                 print("Passwords do not match.")
                 35
                             hached nu - back nu(nu)
         Enter Email ID: manager@example.com
         Enter Contact No.: 1234567890
         Enter Address: Paris
         Enter Date of Birth (YYYY-MM-DD): 1985-04-02
         Enter Hire Date (YYYY-MM-DD): 2020-01-15
         Enter Password: 123456
         Confirm Password: 123456
         Registration successful!
```

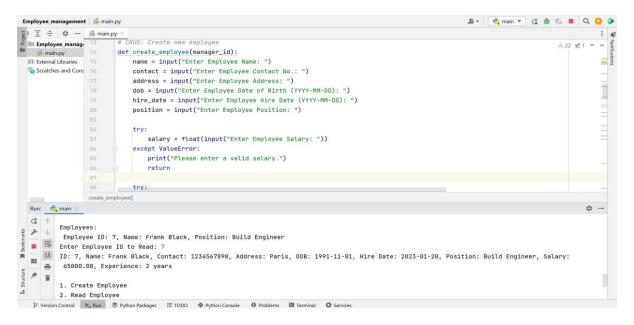
# Login



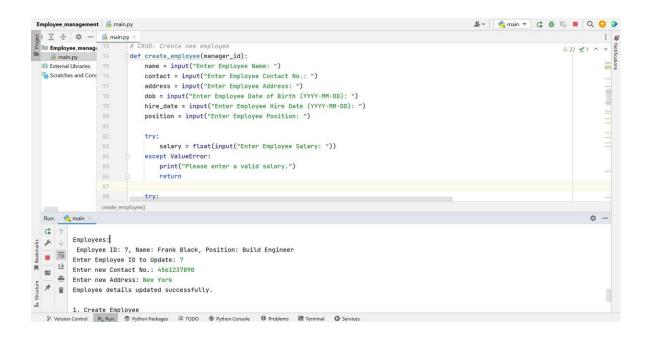
## **Add Employee**



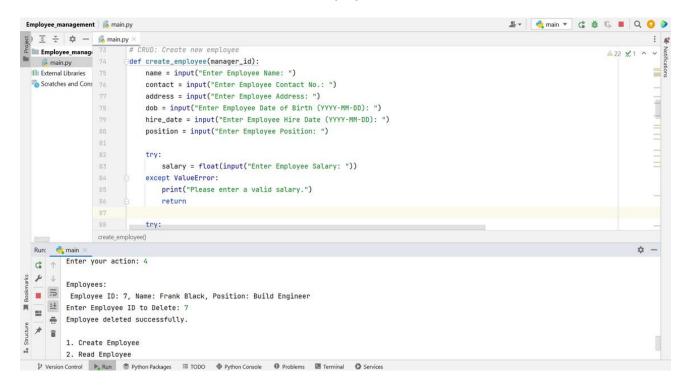
# Read/View



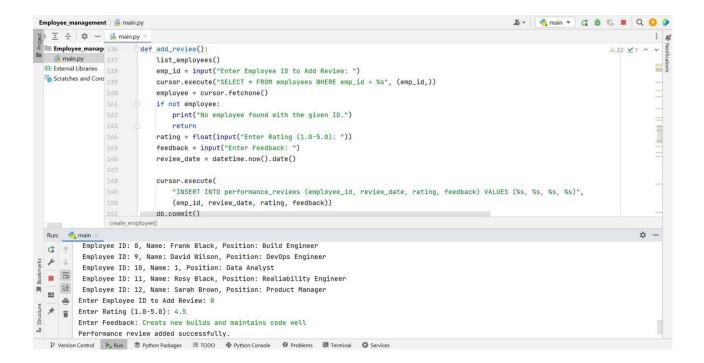
# **Update details**



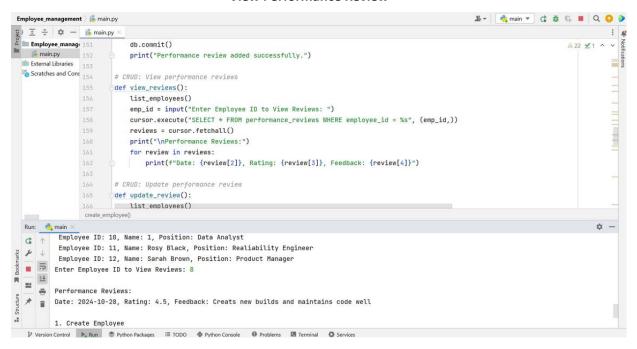
## **Delete employee**



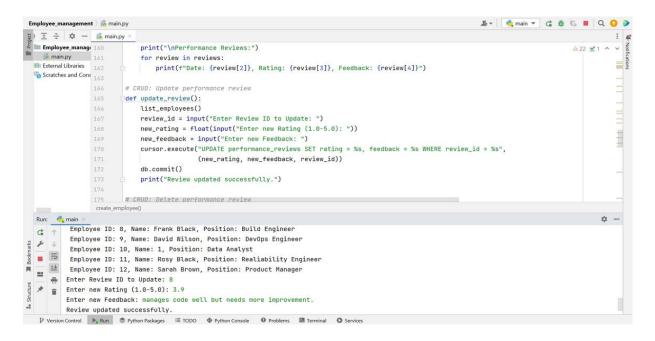
### Add Performance review



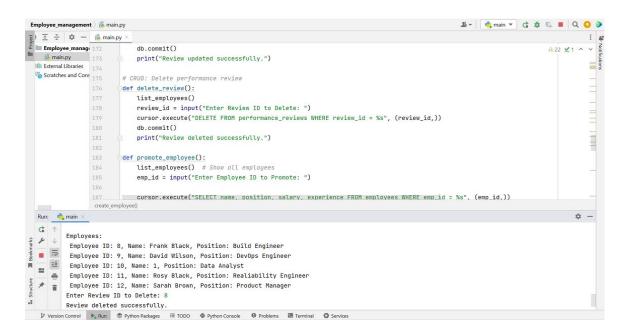
### **View Performance Review**



### **Update Performance review**



#### **Delete Performance Review**



## **Promote Employee**

```
Employee_management > 🛵 main.py
                                                                                                                      &- (a main ▼ (a # C) ■ Q (o) >
   A 22 ×1 ^ ~ Q
   Employee_manage 183
                         def promote_employee():
                         list_employees() # Show all employees
  Illi External Libraries 185
                             emp_id = input("Enter Employee ID to Promote: ")
  Scratches and Cons 186
                             cursor.execute("SELECT name, position, salary, experience FROM employees WHERE emp_id = %s", (emp_id,))
                             employee = cursor.fetchone()
                 189
                 198
                             if not employee:
                                print("No employee found with the given ID.")
                                 return
                              name, current_position, current_salary, experience = employee
                             print(f"Current Position: {current_position}, Current Salary: ${current_salary}, Years of Experience: {experience}")
                               1: ("DevOps Engineer". 60000).
                  promote_employee()
          3. Reliability Engineer - $70000
  ₫ ↑
          4. Release Manager - $80000
  s
          5. Data Analyst - $85000
  6. Product Manager - $90000
      \stackrel{\text{\tiny $1$}}{=} Select new position by entering the number: 2
  ==

★ 

Employee David Wilson promoted!

          Previous Position: DevOps Engineer, Previous Salary: $60000.00
.:
          New Position: Build Engineer, New Salary: $65000
🗗 Version Control 🕒 Run ಿ Python Packages 🗏 TODO 🕏 Python Console 🛛 Problems 🚨 Terminal 🔘 Services
```

# Logout

