Title:

Online Teaching company

Employee Information Management

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1. Description of Business System Summary:

In today's world, there is a great importance for the web-based distance education system. Many online platforms have started after the pandemic for helping the students and learners. Here I am going to consider an online education platform which will be providing their technology for private and government institutions. The tutors will be hired by the company and classes will be provided through this online platform as per the requirements of the clients. The clients can be anyone among parents, students and institutions.

In this database, five entities are considered such as employees, department, project, salary and tutors. This study will be justifying how the data will be filtered, analysed and evaluated. As our clients are the one who request for the classes, the tutors will be provided as per their requirements according to the experience and region.

This company have four main departments such as Technical, Academics, Sales and Digital Marketing. Technical department is for improving the teaching platform performance. Sales and Digital Marketing are for making a reach for the company in the current market. The main pillar of this company is the Academics department. Academic department will act as a medium between the client and the tutors. Many tutors are assigned to each employee in the academic team. They will be controlling and scheduling every one-hour study sessions.

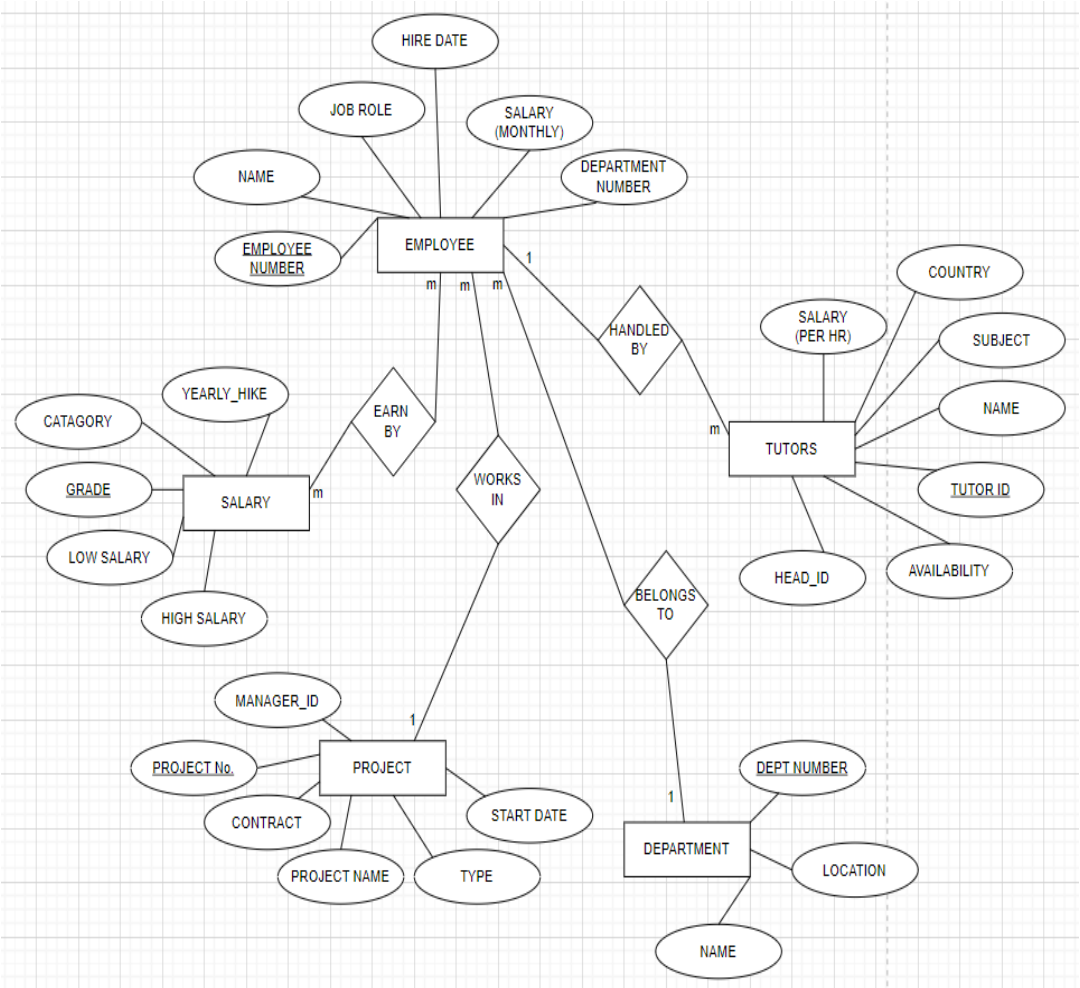
In this study, a database model is designed and developed to be used for the Employee Information Management. This developed model has a portable and easy to manage structure.

2. Schema Representation:

Here draw.io is the platform used for making the logical and physical schema.

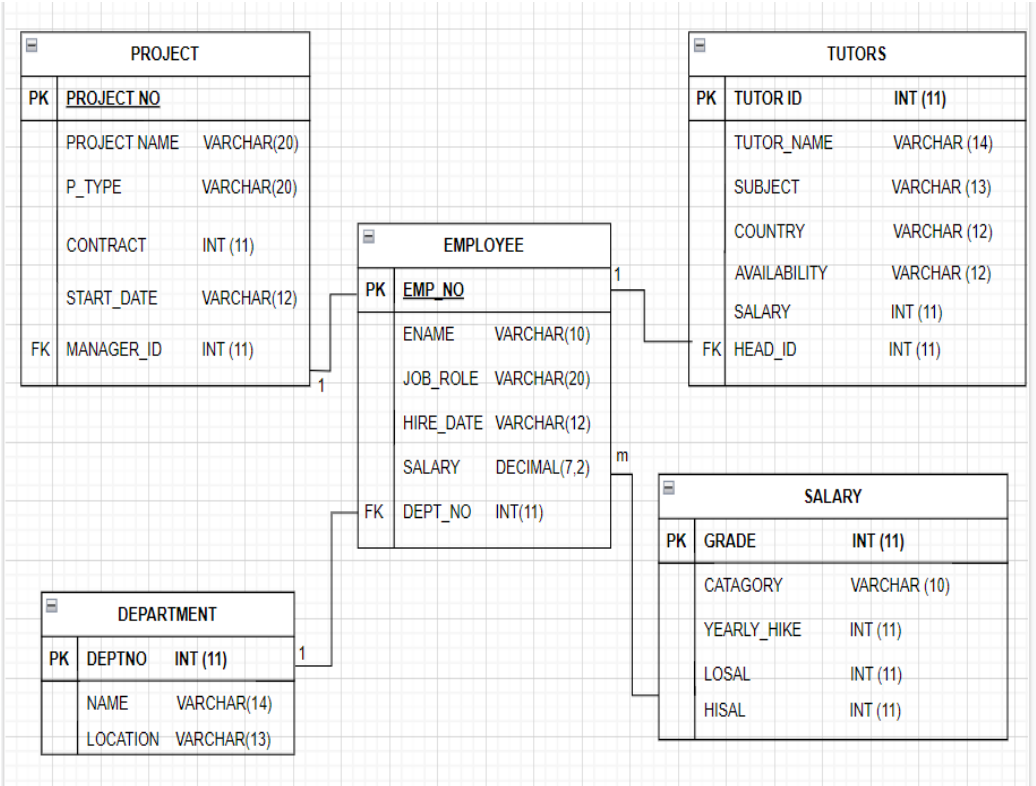
2.1 Logical Schema

In this database model, there are five entities and several attributes for each entity. Each entity will be having a relation with each other.



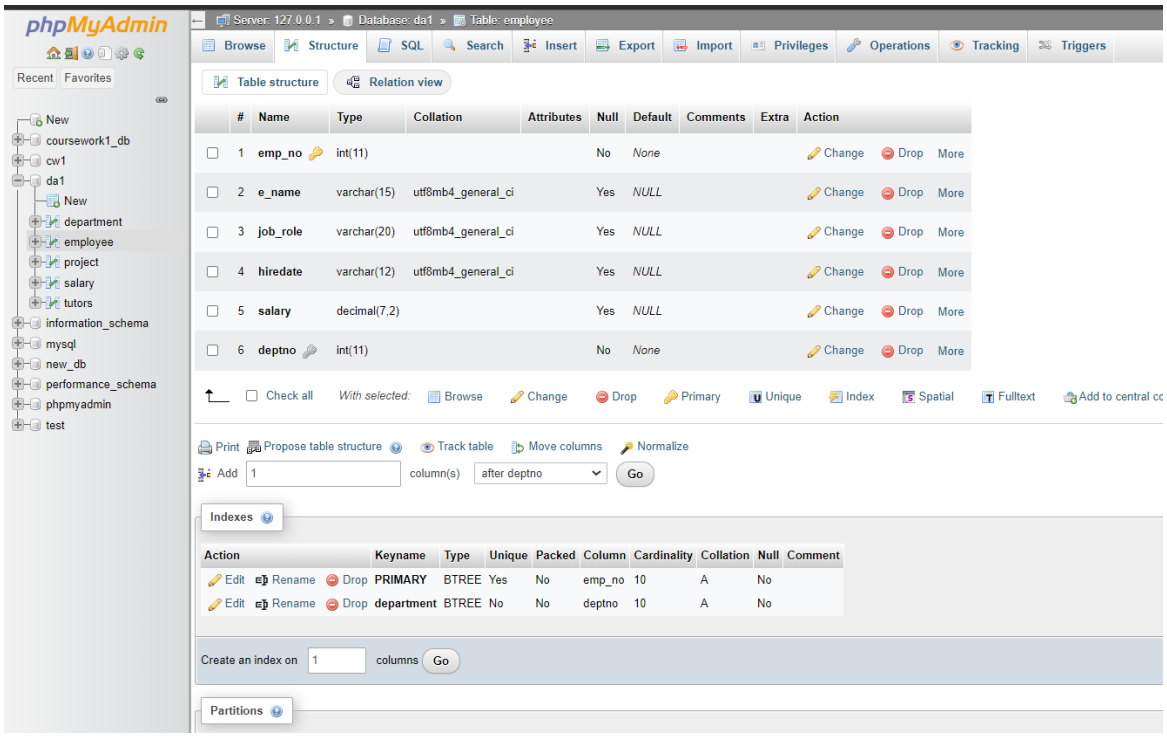
2.2 Physical Schema

This is the physical schema of the designed database.

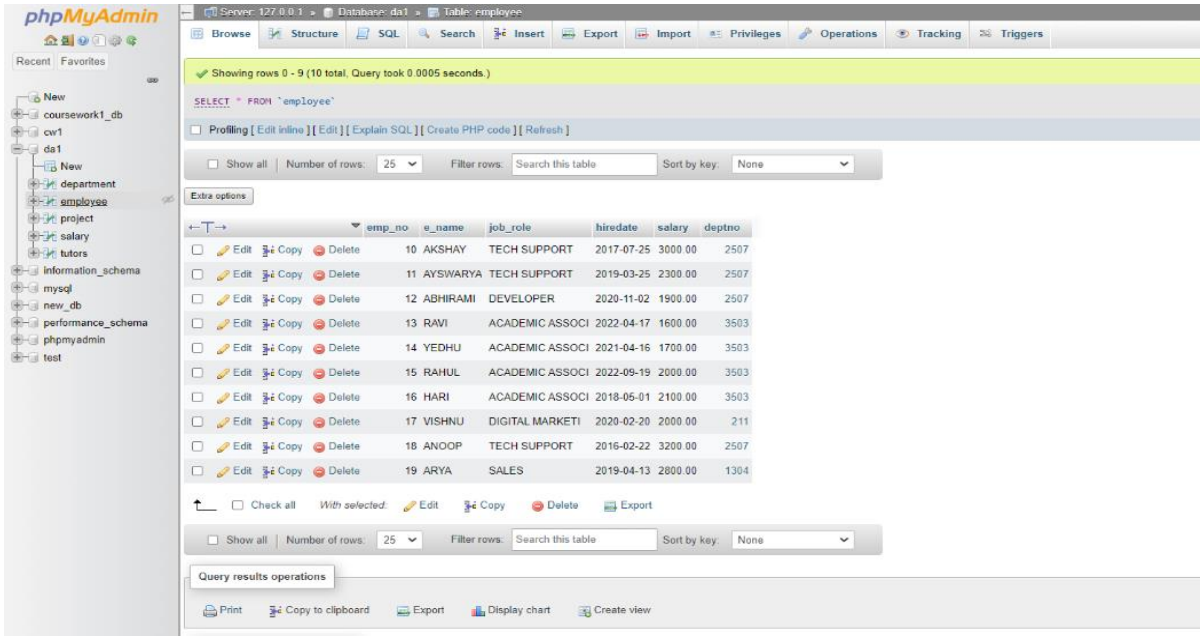


3. Representation of Tables from the Server:

Structural Representation of "Employee" table:

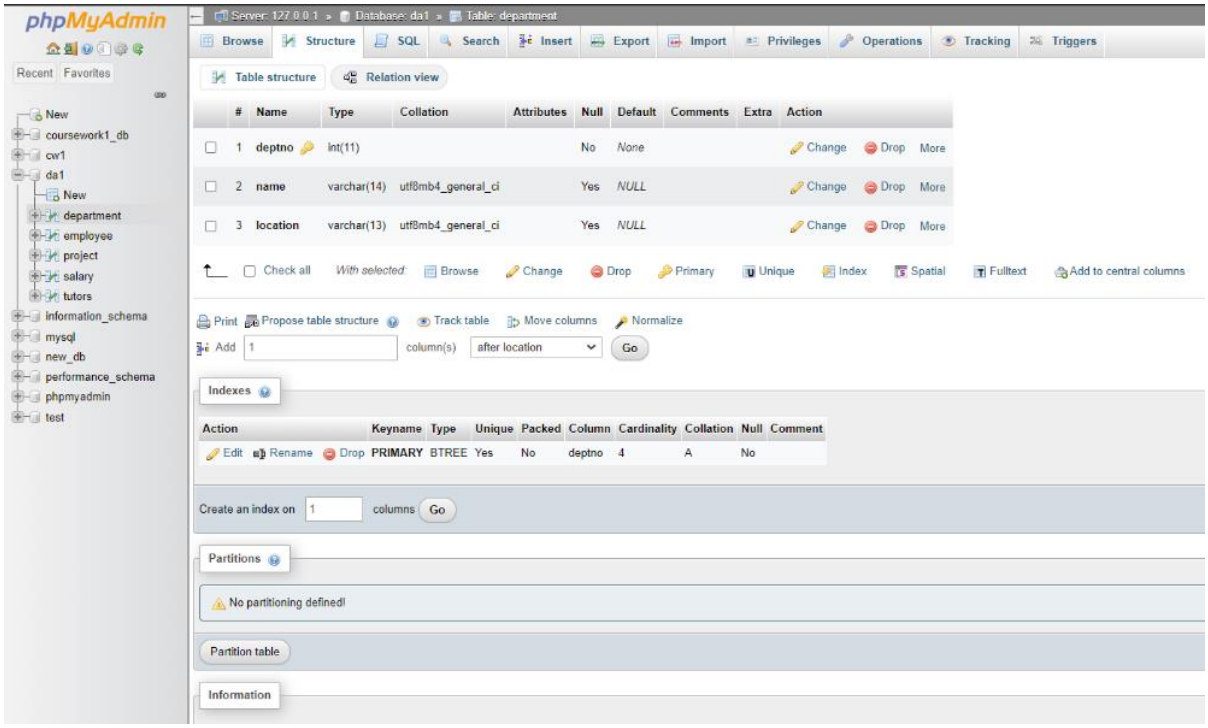


Representation of "Employee" table (with Data):

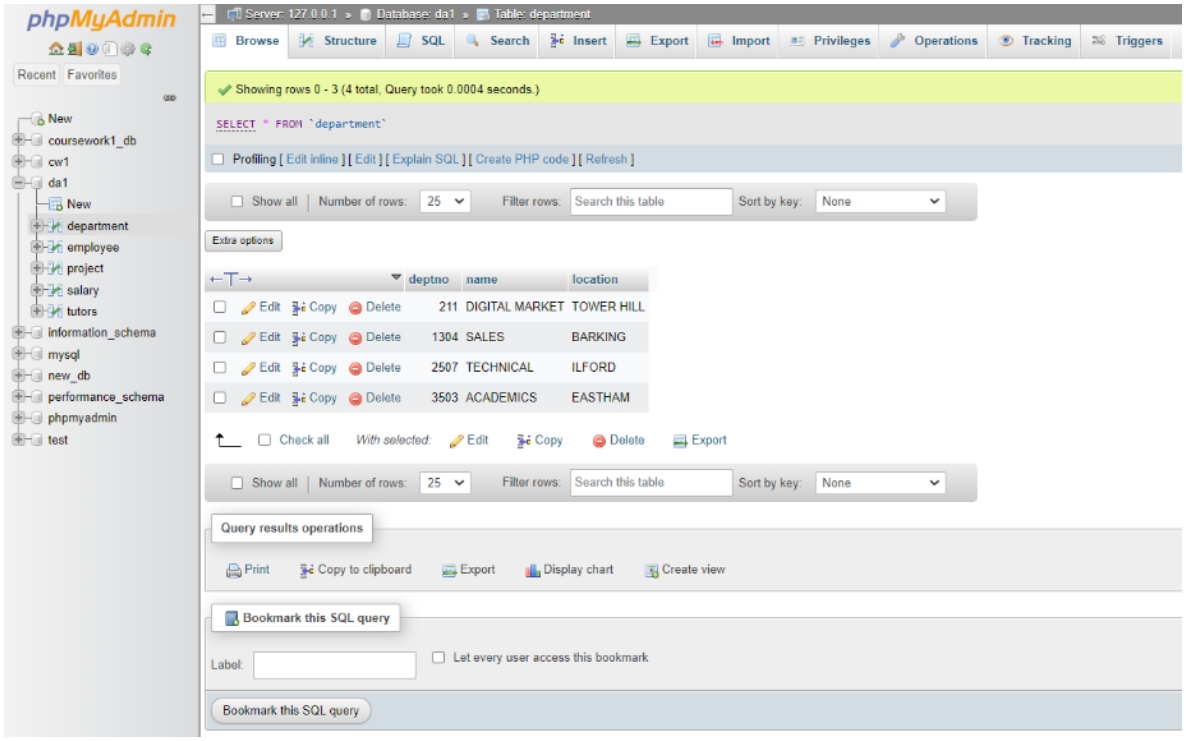


It represents the monthly salary in employee table.

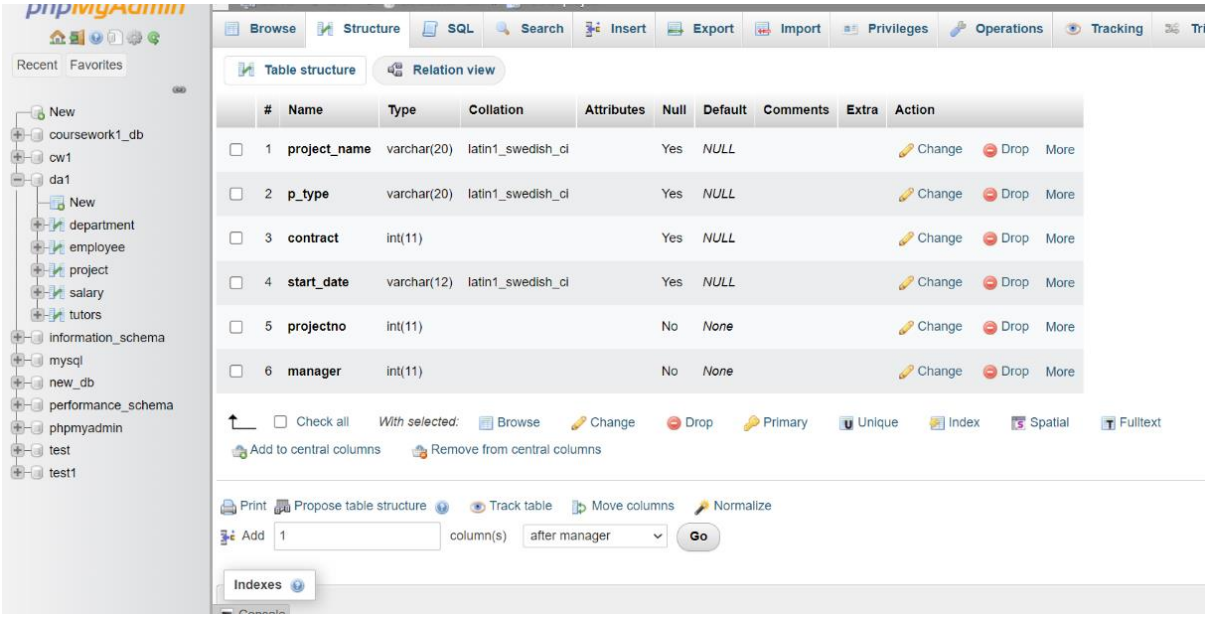
Structural Representation of “Department” table:



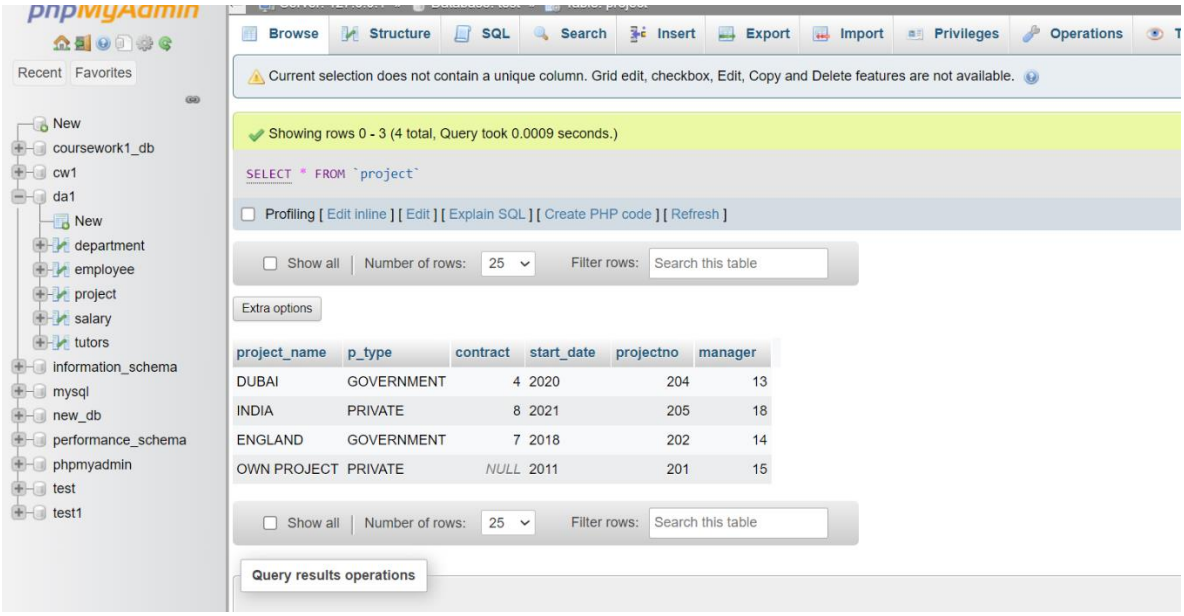
Representation of “Department” table (with Data):



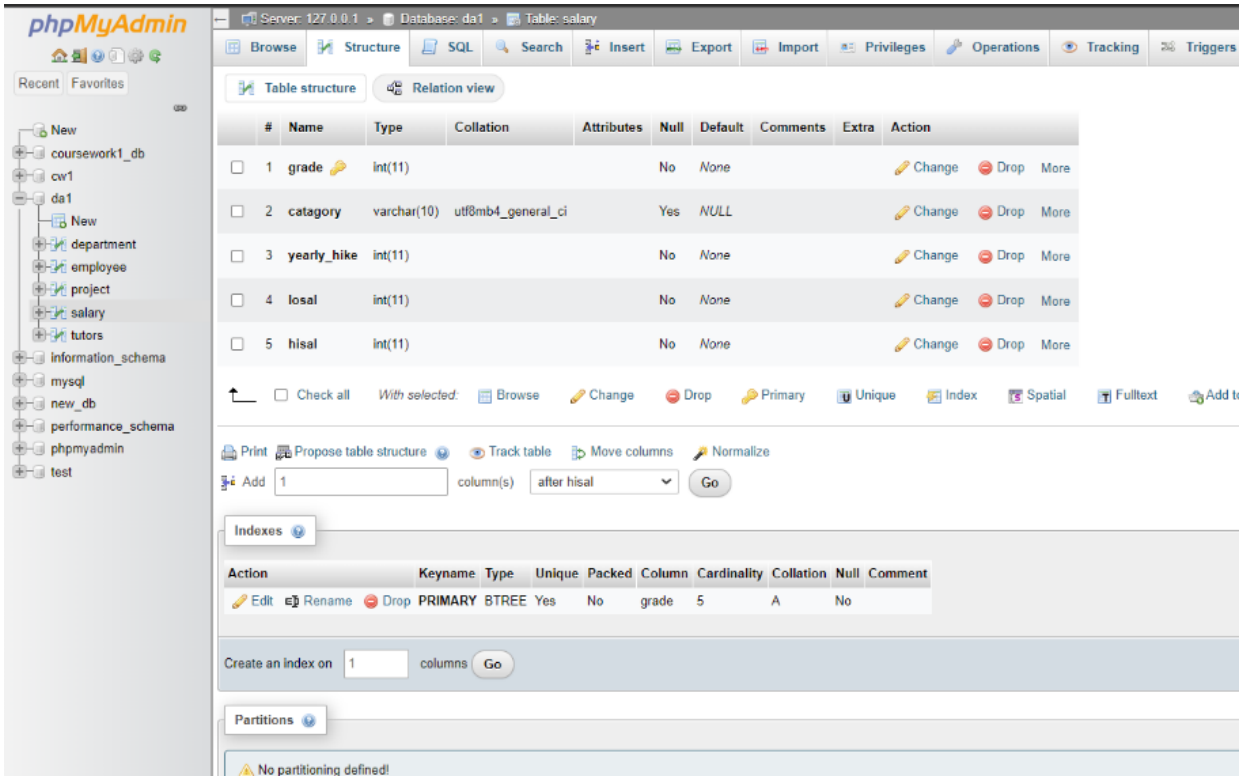
Structural Representation of “Project” table:



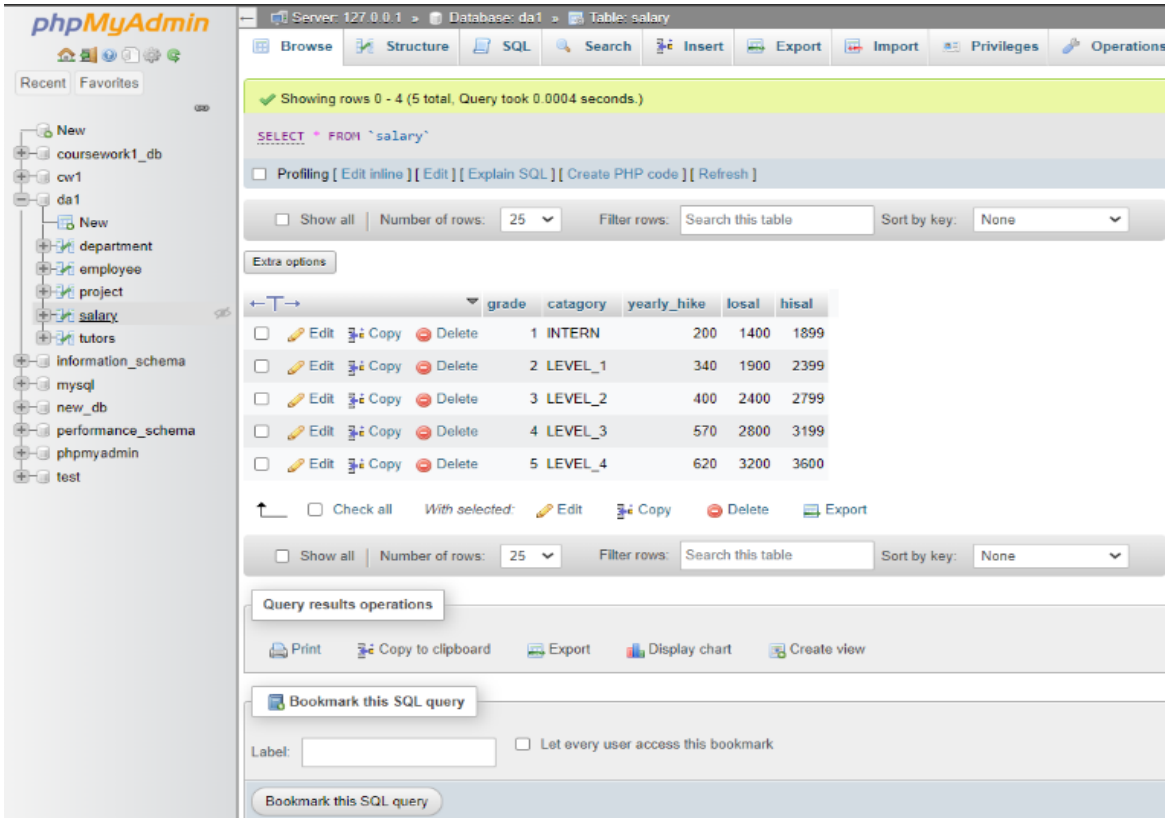
Representation of “Project” table (with Data):



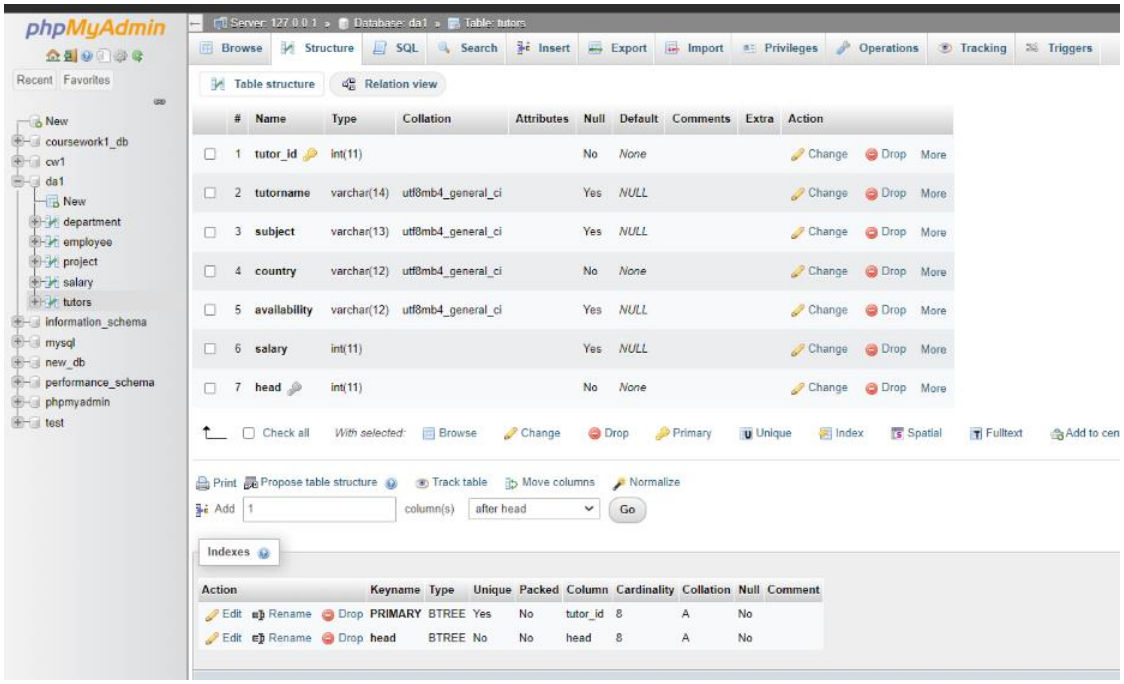
Structural Representation of “Salary” table:



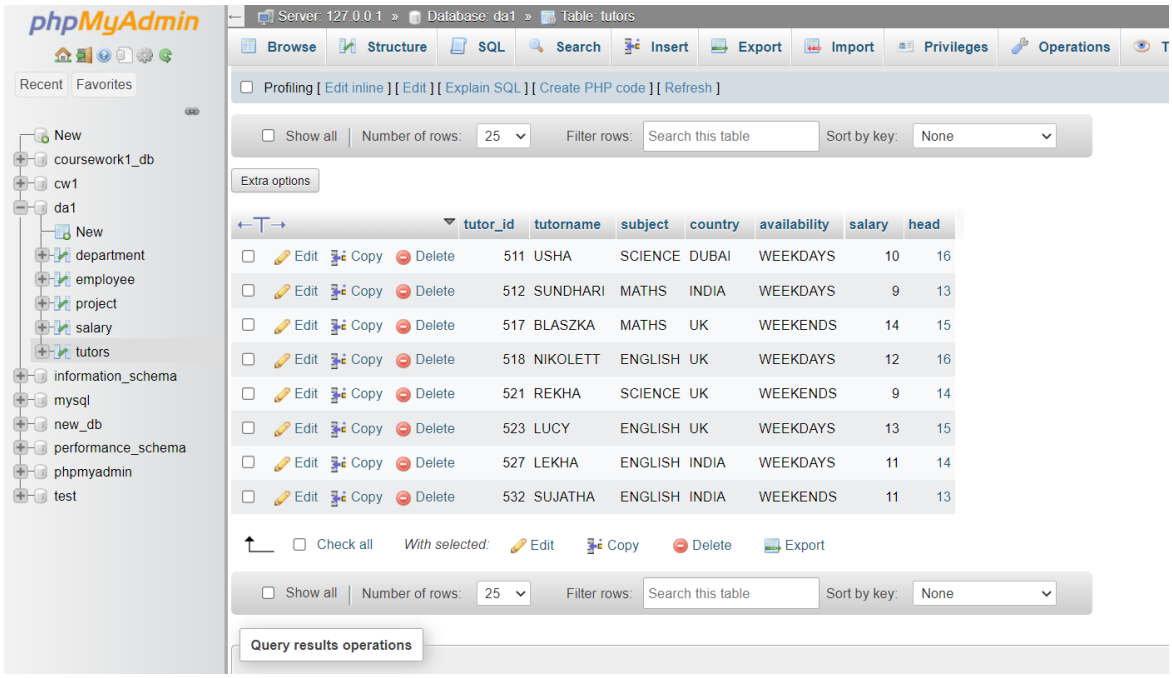
Representation of “Salary” table (Populated with Data):



Structural Representation of “Tutors” table:



Representation of “Tutors” table (with Data):

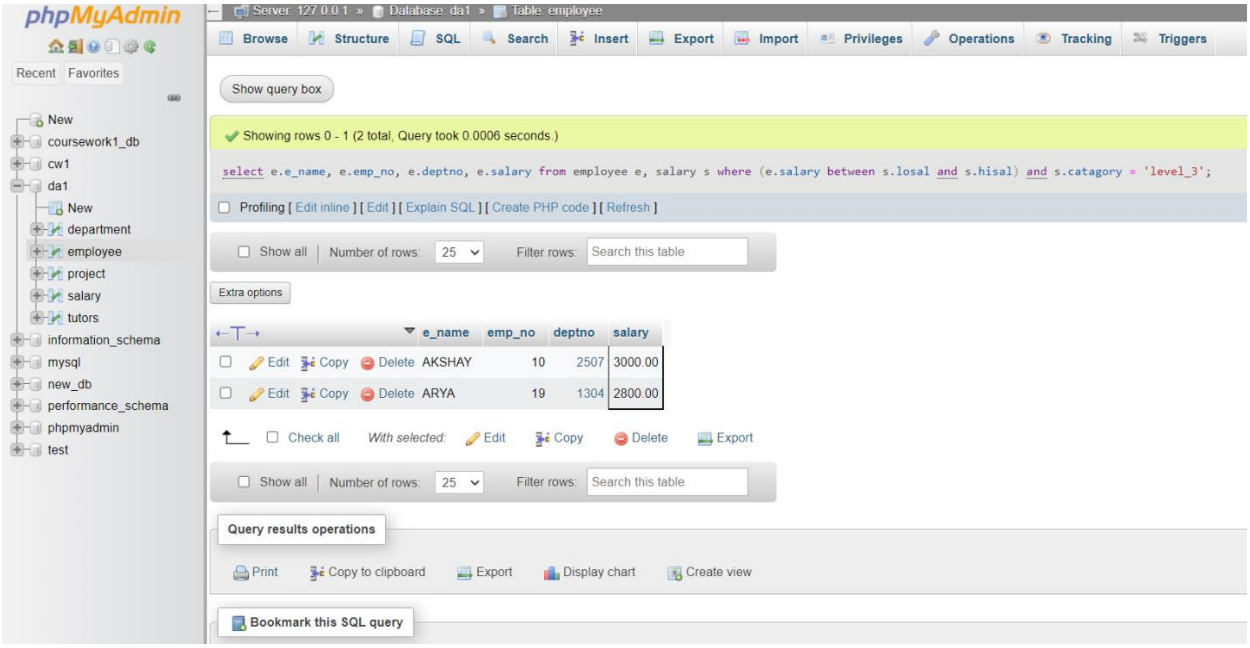


It represents the salary for an hour in tutors’ table.

4. Demonstration of Business Scenario and small Analysis:

DQL:1

Find the name, employee number, department number and salary of Level 3 employees.

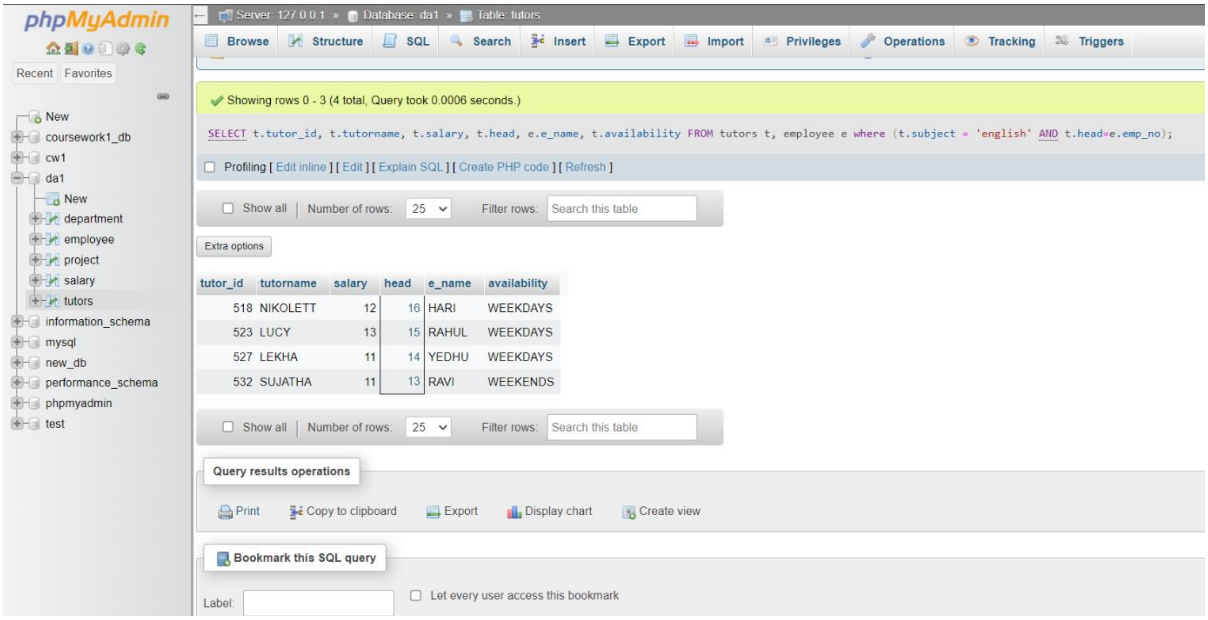


Justification of DQL:1

From the DQL operation generated above, the company can analyse and valuate the level of salary they are getting and the amount of contribution they are providing in their department. This analysis can help in maintaining the quality of work by each employee.

DQL:2

Find the ID, name, salary and availability of the tutors who take English subject and their head employee's name and ID.

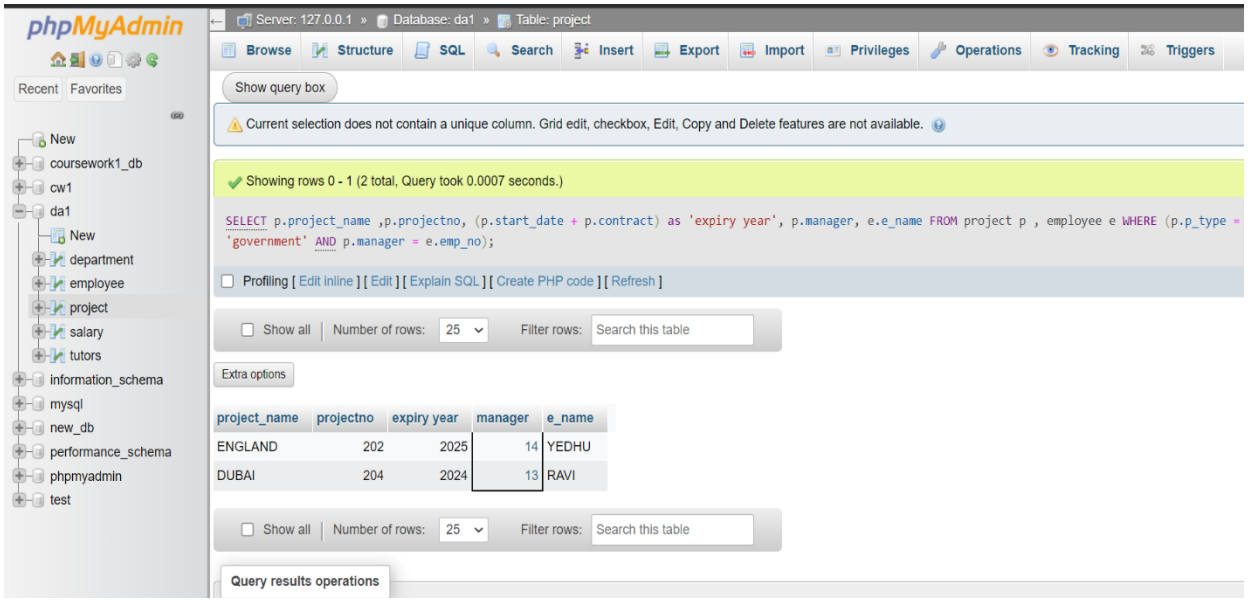


Justification of DQL:2

From the DQL operation generated above, the company can easily find the tutors who are taking a specific subject and employee who leads them. This can be used when a new student enrols into a new course and also for evaluating the performance and responsibilities of academic head employees.

DQL:3

Find the project name, project number, contract expiry year and the name of the manager in charge for the government category projects.

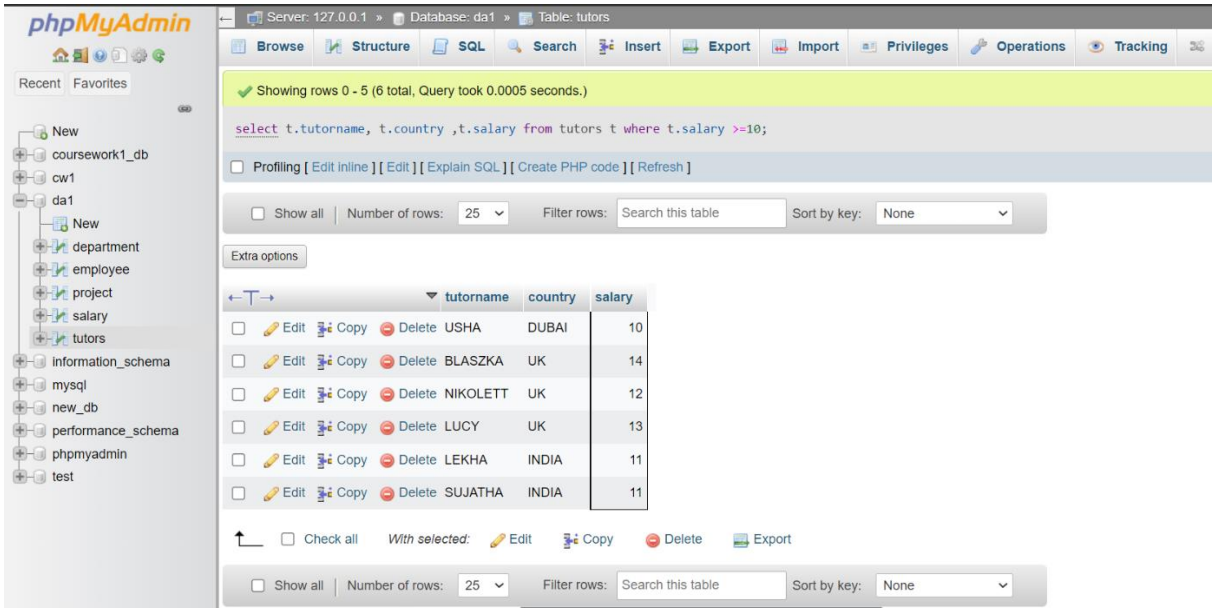


Justification of DQL:3

From the DQL operation, we can find the expiry year of the contract that the company have with government or private projects. This will also give the name of the manager who will be knowing more information about the contract and studying more to maintain it by improving as per their requirements.

DQL:4

Collect the name and country of the tutors who are getting paid greater than or equal to 10 pounds per hour.

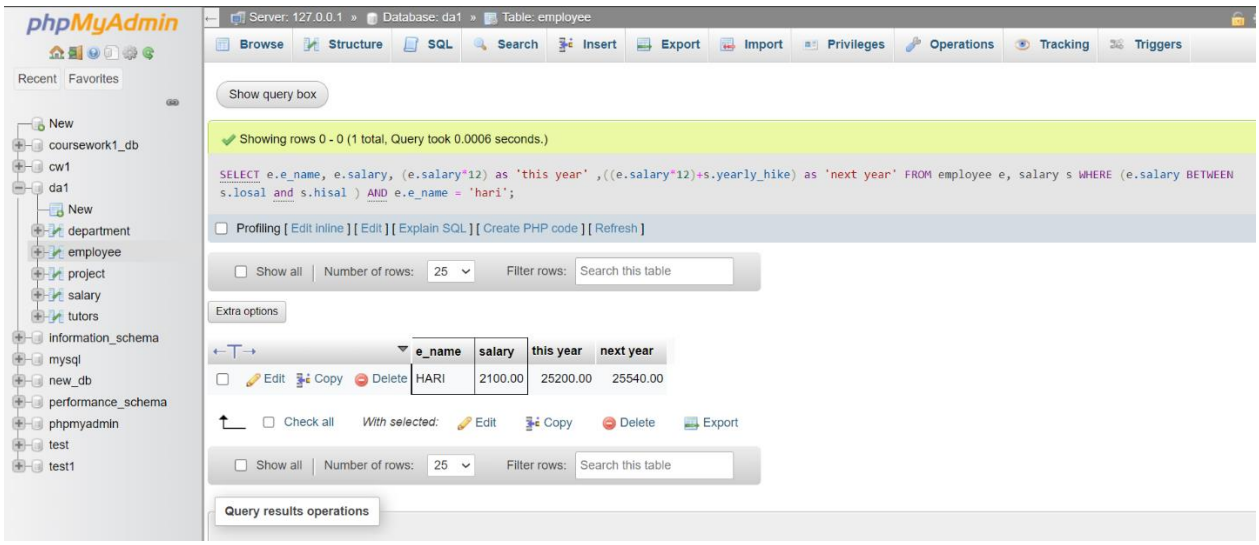


Justification of DQL:4

This analysis can help in filtering the payment of tutors from different part of the world. As all these tutors are teaching in every project, the profit that company is getting will be different because of the change in currency and Purchasing Power Parity (PPP). So, by filtering with the payment can help them to understand, which tutor can be provided for the classes in each project.

DQL:5

Find the annual income of this year and with salary hike for the next year of Hari.



Justification of DQL:5

With this query, we can find the annual income of an employ with salary hike. This can help us to calculate and adjust the yearly hike of an employee according to the growth of the company.