

An  
Industrial Training Report on  
**MySQL**  
At  
**AZURE SKYNET SOLUTIONS PVT. LTD. GURGAON**  
**(Session 2024-25)**  
*Submitted in partial fulfillment of the requirements for the award of the degree of*  
**Bachelor of Technology**  
in  
**Computer Science & Engineering**



**(Session 2024-25)**

**Submitted to:**  
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**DEPARTMENT OF COMPUTER ENGINEERING**  
**POORNIMA COLLEGE OF ENGINEERING, JAIPUR**  
**RAJASTHAN TECHNICAL UNIVERSITY, KOTA**  
**DECEMBER 2024**

## **DECLARATION:-**

I hereby declare that the work which is being presented in the **Industrial Training** report titled MySQL in partial fulfillment for the award of the Degree of **Bachelor of Technology in Computer Science & Engineering** and submitted to the Department of **Computer Engineering, Poornima College of Engineering, Jaipur**, is an authentic record of my own work carried out at **AZURE SKYNET SOLUTIONS PVT. LTD.** during the session 2024-25.

I have not submitted the matter presented in this report anywhere for the award of any other Degree.

Signature of the Student

Name: Mayur Soni

Reg. No.: PCE22CS087

Place: Jaipur

Date: 16/08/2024



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## Training Certificate from Company



## CERTIFICATE OF INTERNSHIP

This Certificate is proudly Presented to

*Mayur Soni*

for completion of Summer Internship Program on "Mysql" from  
3rd July 2024 to 16th Aug, 2024 organized by Cosmic Skills in association  
with Azure Skynet Solutions Pvt. Ltd.



*Brij Awasthi*

CEO (Chief Executive Officer)  
Cosmic Skills Edu Up

CTO (Chief Technical Officer)  
Azure Skynet Solutions Pvt. Ltd.



Sr. No..AS/OTP/24/3098785



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### DEPARTMENT OF COMPUTER ENGINEERING

Date: 16/08/2024

#### CERTIFICATE

This is to certify that Industrial Training report **AZURE SKYNET SOLUTIONS PVT. LTD.** has been submitted by Mayur Soni, PCE22CS087 in partial fulfillment for the award of the Degree of Bachelor of Technology in Computer Engineering during the session 2024-25. The industrial training work is found satisfactory and approved for submission.

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Professor

(Faculty Coordinator -Industrial Training)

**Dr. Nikita Jain**

Head Of Department

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Date: 16/08/24

Place: Jaipur

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Mayur Soni  
PCE22CS087

## PARTICULARS

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## **ABSTRACT**

MySQL is a widely used open-source relational database management system (RDBMS) known for its reliability, performance, and ease of use. It utilizes Structured Query Language (SQL) for managing and manipulating data, making it a foundational technology for web applications and enterprise solutions. MySQL supports diverse platforms and offers features such as robust data security, ACID compliance, and scalability to handle small to large datasets efficiently. It is designed to integrate seamlessly with programming languages and frameworks, providing a flexible and adaptable environment for developers. As a critical component of the LAMP stack, MySQL empowers organizations with tools to manage complex data-driven applications while ensuring high availability and minimal downtime.

## **CHAPTER 1**

### **INTRODUCTION**

#### **About The Company:**

**Name of company:-** Azure Skynet Solutions Pvt. Ltd.

**Domain Area:-** Azure Skynet Solutions provides security and website development services to a variety of industry verticals and business domains.

**Size of company:-** 120-200 employees

**Place:-** Gurgaon, Haryana

**Background of company:-** Founded in 2014. Azure Skynet Solutions Pvt. Ltd. has for over long years been a solutions enablers, service provider and has also been training in the networks infrastructure & cyber security space.

1.	Training Platform	<b>AZURE SKYNET SOLUTIONS</b>
2.	Full Name of Technical Training	MySQL
3.	Training Starting Date	3 JULY 2024
4.	Training End Date	16 AUGUST 2024
5.	Total Training Duration	45 days

## Project Snapshot:

```
online_book_store_management.py X
C: > Users > soni1 > Downloads > online_book_store_management.py > main
  1  class User:
  2      def __init__(self, username, password):
  3          self.username = username
  4          self.password = password
  5
  6  class UserManager:
  7      def __init__(self):
  8          self.users = {}
  9
 10     def register(self, username, password):
 11         if username in self.users:
 12             print("Username already exists.")
 13             return False
 14         self.users[username] = User(username, password)
 15         print("User registered successfully.")
 16         return True
 17
 18     def login(self, username, password):
 19         if username in self.users and self.users[username].password == password:
 20             print("Login successful.")
 21             return True
 22         print("Invalid username or password.")
 23         return False
 24
 25     class Book:
 26         def __init__(self, title, author, price, stock):
 27             self.title = title
 28             self.author = author
 29             self.price = price
 30             self.stock = stock
 31
 32     class BookStore:
 33         def __init__(self):
 34             self.books = []
 35
 36         def add_book(self, title, author, price, stock):
 37             new_book = Book(title, author, price, stock)
 38             self.books.append(new_book)
```

## Conclusion:-

I have learnt about advance of Python Software Development and also basic concepts about integration of various technology in single programming language.

## **CHAPTER 2**

### **TECHINICAL TRAINING PLATFORM**

#### **Introduction:-**

Industrial Training program provides pre-professional work experience with specific assignments and responsibilities. An Industrial Training should be relevant to a student's personal career interests and academic courses of study, serving as a bridge between university and the world of work. Productive Industrial Trainings help students make informed decisions and improve their marketability after graduation.

#### **Reason For Selecting This Platform**

### ***Azure Skynet Solutions:***

As a fast-growing company Azure Skynet Solutions focuses on long-term strategic relations with the clients by providing a combination of high quality, cost-effective and on-time delivery of solutions. they have an experienced and dedicated team of software professionals who diligently strives to meet your needs. They completely understand today's technologies and render a case-by-case approach to each project to help you to achieve your business goals. And with the Software, we deal in the manufacturing and implementation of Hardware products like CCTV, Cables, etc.

#### **Conclusion**

*Azure Skynet Solutions* is a nice company. The instructor was also very good and cooperative. I learnt a lot during this period. Instructor's cooperation and trainees hard work are equally important. Since, both were there that's why I was able to learn a lot during this period and also there were few technologies I leant and software's I handled I was not aware about before. I learnt team work. I leant how to handle things and many more. This was a nice experience and company and instructor both were very good.

## **CHAPTER 3**

### **TRAINING INTRODUCTION**

#### **3.1 Introduction:-**

In chapter 3, the main points considered are technological description and its exposure level in company.

#### **3.2 Technology Description:-**

##### **3.2.1 MySQL:-**

MySQL is an open-source relational database management system that uses Structured Query Language to manage, store, and retrieve data efficiently. It is widely recognized for its speed, reliability, and ease of use. Developed by Oracle Corporation, MySQL is highly versatile and supports a range of operating systems, including Windows, Linux, and macOS.

It is widely used for:-

- E-commerce Applications
- Web Development
- Education and Research
- Banking and Finance

## **Installation and documentation:-**

If you use macOS or Linux, MySQL might already be installed on your system. If not, you can download the latest version from the MySQL official website at <http://www.mysql.com> where you will also find extensive documentation and useful resources.

Windows users can also download MySQL from this website. Don't forget this website; it is your primary point of reference for all things MySQL. It includes the comprehensive MySQL Reference Manual and step-by-step guides for installation, configuration, and optimization. You may find it helpful to explore the documentation as a supplement to your learning and usage of MySQL

## **Basic terms commonly used in MySQL training:-**

1. Database :- A collection of structured data stored electronically in a computer system. MySQL is a database management system (DBMS) that helps create, manage, and query databases.
2. Table :- A collection of related data organized into rows and columns. Tables are the fundamental storage objects in a database.
3. Row/Record :- A single, complete set of data within a table. Each row represents a unique entry or record.
4. Column/Field :- A vertical structure in a table that defines the type of data each row can contain. For example, a "Name" column in a table might store string data.
5. Primary Key :- A unique identifier for each row in a table. It ensures that no two rows have the same value in the specified column(s).
6. Foreign Key :- A column or set of columns in one table that establishes a link to the primary key in another table.
7. Query :- A request to perform an operation on the database, such as retrieving, updating, inserting, or deleting data.
8. SQL (Structured Query Language) :- The language used to interact with the database. It includes commands for creating, modifying, and querying data.

## **Topics Covered During the Training :-**

### **SQL Operations :-**

Data Definition Language (DDL):-

Creating and modifying tables (CREATE, ALTER, DROP). Data

Manipulation Language (DML):-

Querying and updating data (SELECT, INSERT, UPDATE)

Data Control Language (DCL):-

Managing user permissions (GRANT, REVOKE).

### **Database Design :-**

Normalization techniques to minimize redundancy.

Entity-Relationship (ER) diagrams for schema design.

Advanced MySQL Concepts

Indexing: How it improves query performance.

Joins: Combining data from multiple tables using INNER JOIN, LEFT JOIN, etc.

Stored Procedures: Automating tasks with reusable SQL blocks. Triggers:

Automating actions based on database events. Transactions: Maintaining database integrity using COMMIT and ROLLBACK.

Performance Optimization

Query optimization techniques (e.g., EXPLAIN, indexing). Analyzing and reducing query execution time.

Backup and Recovery

Backing up databases using mysqldump.

Restoring data from backups.

## **User-Defined Functions (UDFs) :-**

Definition:- Custom functions created by users to perform specific operations that are not natively supported by MySQL.

Scope: They require programming languages like C or C++ and must be registered in MySQL.

Steps:-

Write the function in a supported language (e.g., C).

Compile the code as a shared library.

Install the function using CREATE FUNCTION.

## **Stored Procedures:-**

A stored procedure is a precompiled collection of one or more SQL statements that are saved in the database for reuse.

They can take input parameters, perform logic, and return results.

Stored procedures are particularly useful for:

Encapsulating business logic.

Automating repetitive tasks.

Reducing network traffic by processing data on the server side.

### **Key Characteristics**

Input Parameters: Accept data to process.

Output Parameters: Return processed data.

Control Statements: Include logic like loops, conditions, and exceptions.

**Versatility:**

MySQL is a robust and versatile relational database management system (RDBMS) suitable for a wide range of applications, from small-scale websites to large-scale enterprise systems.

**Ease of Use:**

Its simple syntax, user-friendly tools like MySQL Workbench, and integration with various programming languages make it accessible to beginners and professionals alike.

**Performance:**

MySQL offers excellent performance and scalability, handling large volumes of data efficiently with features like indexing, query optimization, and partitioning.

**Reliability and Security:**

Built-in mechanisms like user authentication, encryption, and transaction management ensure data reliability and security.

**Open-Source Advantage:**

Being open-source, MySQL is cost-effective and supported by a large developer community, ensuring continuous improvement and extensive resources for learning.

**Advanced Features:**

MySQL supports advanced features like stored procedures, triggers, views, and transactions, enabling developers to implement complex business logic directly within the database.

**Cross-Platform Compatibility:**

MySQL's compatibility with multiple operating systems (Windows, Linux, macOS) and cloud platforms makes it a flexible choice for diverse deployment environments.

**Use in Real-World Applications:**

Widely used by companies like Facebook, Twitter, and Google, MySQL has proven its capability in managing mission-critical systems and large-scale applications.

**Scalability and Growth:**

MySQL's ability to handle growing data volumes and integrate with modern tools and technologies ensures its relevance for future developments.

**Key Learnings:**

Through this training, you gained practical knowledge of MySQL features, query writing, database design, optimization, and real-world problem-solving skills.

These points provide a comprehensive summary, emphasizing MySQL's importance, features, and your learnings from the training. Let me know if you'd like to tailor any point further!

## CHAPTER 4

### INTRODUCTION OF THE PROJECT

#### **ONLINE BOOK STORE MANAGEMENT SYSTEM:**

An Online bookstore software projects that acts as a central database containing various books in stock along with their title, author and cost.

The screenshot shows a terminal window with two panes. The left pane displays the Python code for the 'online\_book\_store\_management' project, while the right pane shows the command-line interface and its output.

**Code (Left Pane):**

```
online_book_store_management.py X
C: > Users > soni1 > Downloads > online_book_store_management.py > main
1  class User:
2      def __init__(self, username, password):
3          self.username = username
4          self.password = password
5
6  class UserManager:
7      def __init__(self):
8          self.users = {}
9
10 def register(self, username, password):
11     if username in self.users:
12         print("Username already exists.")
13         return False
14     self.users[username] = User(username, password)
15     print("User registered successfully.")
16     return True
17
18 def login(self, username, password):
19     if username in self.users and self.users[username].password == password:
20         print("Login successful.")
21         return True
22     print("Invalid username or password.")
23     return False
24
25 class Book:
26     def __init__(self, title, author, price, stock):
27         self.title = title
28         self.author = author
29         self.price = price
30         self.stock = stock
31
32 class Bookstore:
33     def __init__(self):
34         self.books = []
35
36     def add_book(self, title, author, price, stock):
37         new_book = Book(title, author, price, stock)
38         self.books.append(new_book)
```

**Output (Right Pane):**

```
PS C:\Users\soni1> python -u "c:\Users\soni1\Downloads\project2.py"
1. Register
2. Login
3. Add Book
4. Display Books
5. Search Book
6. Purchase Book
7. Exit
Enter your choice: 1
Enter username: Mayur Soni
Enter password: hello
User registered successfully.
Enter your choice: 1
Enter username: Mayur Soni
Enter password: hello
User registered successfully.

1. Register
2. Login
3. Add Book
4. Display Books
5. Search Book
6. Purchase Book
7. Exit
Enter your choice: 3
Enter book title: Comedy of Error
Enter book author: William Shakespeare
Enter book price: 250
Enter book stock: 12
Book added successfully.

1. Register
2. Login
3. Add Book
4. Display Books
5. Search Book
6. Purchase Book
7. Exit
Enter your choice: 4
Title: Comedy of Error, Author: William Shakespeare, Price: 250.0, Stock: 12
```

## **Conclusion:**

The project at **AZURE SKYNET SOLUTIONS** was completed successfully. The system has been developed with much care and free of errors and at the same time it is efficient and less. The entire system is secured. Also, the project helped me understanding about the time consuming. The purpose of this project is to An online bookstore software projects that acts as a central database containing various books in stock along with their title, author and cost. I learned how to test different features of a project. This project this given me great satisfaction in having designed an application which can be implemented to any nearby store selling various kinds of books by simple modifications. However, it was very challenging learning and developing an application using a new technology.

## **CHAPTER 5**

### **CONCLUSION**

All the projects in this internship were successfully designed and is tested for accuracy and quality. During internship we have accomplished all the objectives and projects meet the needs of the desire solution.

## **REFERENCES**

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