DHANALAKSHMI SRINIVASAN ENGINEERING COLLEGE
(AUTONOMOUS)
(Approved by AICTE & Affiliated to Anna University, Chennai)
Re-Accredited by NAAC with 'A' Grade
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PERAMBALUR-621212, TAMILNADU, INDIA.
Website: www.dsengg.ac.in

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

HANDS ON TRAINING

Title of the Training : Application Development and API Integration

Department / Year : CSE /III

Institution Name : DAHALAKSHMI SRINIVASAN ENGINEERING COLLEGE (Autonomous)

Training Duration : 2 hours

Guide / Trainer Name : T.RUBIYA, AP/CSE

Objective of the Training

The main objective of this hands-on training is to gain practical knowledge in designing and developing applications and implementing APIs. The training helps in understanding real-time application development, API creation, API testing, and integration techniques used in modern software systems.

Introduction

Hands-on training focuses on practical exposure rather than theoretical learning. This training program provides experience in creating an application from scratch and understanding how APIs are used for communication between different software components. It also enhances problem-solving skills and improves confidence in real-time development.

Training Environment / Tools Used

- Programming Language: (e.g., Java / Python / JavaScript)
- Framework: (e.g., Spring Boot / Flask / Node.js)
- Database: (e.g., MySQL / MongoDB)
- API Tool: (e.g., Postman)
- Operating System: Windows

Description of the Application

The application developed during the training is a simple sample application used to demonstrate CRUD operations (Create, Read, Update, Delete). The application interacts with the backend through APIs to fetch and store data in the database. The application is a sample project developed during training to demonstrate CRUD operations. It uses APIs to interact with the backend and perform data storage and retrieval from a database. The application serves as a practical example of how frontend components interact with backend services to manage data efficiently.

Steps Involved in Application Creation

1. Requirement analysis
2. Application design
3. Database creation
4. API development
5. Application integration with API
6. Testing and debugging

API Creation and Usage

- APIs were created to handle different user requests.
- RESTful APIs were implemented using HTTP methods such as GET, POST, PUT, and DELETE.
- API endpoints were tested using Postman.
- Data was exchanged in JSON format.

Outcomes of the Training

- Learned application development concepts
- Understood API design and implementation
- Gained experience in real-time problem solving
- Improved technical and practical skills

Conclusion

The hands-on training was very useful and informative. It provided practical knowledge about application development and API integration. The training enhanced my technical skills and prepared me for real-time software development challenges.The training offered hands-on experience in creating and integrating APIs using standard HTTP methods such as GET, POST, PUT, and DELETE. Understanding API communication and data exchange using JSON improved knowledge of client–server architecture. Testing APIs using appropriate tools enhanced confidence in validating application functionality and performance.

References

- Official documentation of the programming language
- Online tutorials and learning resources
- Roy Fielding, Architectural Styles and the Design of Network-based Software Architectures, Doctoral Dissertation, University of California, 2000.
- REST API Tutorial, RESTful Web Services Concepts, Online Learning Resource.
- Postman Documentation, API Development and Testing Guide.
- Oracle, Java Platform Standard Edition Documentation.
- Python Software Foundation, Flask Framework Official Documentation.
- Spring, Spring Boot Reference Guide.

- Mozilla Developer Network (MDN), HTTP Methods and Status Codes.
- W3Schools, Web Application Development Tutorials.
- IBM Developer, Introduction to API Integration.

PICTURES: