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Design and Implementation of Order Management System Based on Spring Boot

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Abstract: Commercial Training is a important stage in a student's lifestyles since it bridges thespace between theoretical know-how and practical expertise, allowing students to use the standards which can be wished within the corporate international. It gives college students a platform to position into exercise the lessons they have got learned in magnificence and entails running on actual initiatives with c technology which can be employed in industry. Constructing a expert attitude advantages greatly from business training this is nicely concept out, well done, and assessed. It fosters the notice of the commercial method to difficulty solving, that's based totally on a thorough comprehension of organizational technique and mode of operation. Discipline, abilities, teamwork, and technical information are the targets and using forces at the back of this business schooling. The purpose and concept in the back of this commercial training is to presents, a scholar studying facts technology, with the field, competencies, teamwork, and technical knowledge.
I want to increase a responsiveness to the self-disciplinary nature of problems in facts and verbal exchange generation.

INTRODUCTION

1.1 INTRODUCTION OF THE PROJECT

Order Management System is a supply chain management process, which serves an important role in customer satisfaction and profit to the organizations.This system is mainly made up of three layers, which are data collection layer, the data processing layer and data storing and displaying layer. In the data collection layer user are supposed to provide data to the system (order details). In The data processing layer consist the business logic for processing the data and produce the required output and store that data in database. Postman is used to test the application and display the output from database.

This System will be mainly used for managing an order that is being placed by a user or customer and then process that order means from order placed to delivery of order to customer will be managed by this system. Some of the latest technology is used to develop this system for example scheduler, lombok, docker compose, java8 features etc.

So using this system an organization can increase their productivity by getting lots of order on daily basis and managing them properly through this system. This system reduces the work load of Employees in the organization and also reduces the chance of data loss.

LITERATURE SURVEY

AUTHOR	TITLE	YEAR	ABSTRACT	METHODS
Lulu Cai, Xiangzhen He , Yugang Dai, Kejian Zhu	Research on B2B2CE Website Design Business Based Design User Information	2018	In recent years, rapid e-commerce growth has become an important part of China's national economy. More and more users are relying on social media for ethical trading, so it is very important that you develop a person to enjoy. in this context, consumer-to-consumer entertainment is becoming more and more important, which is helpful in helping B2B2C e-commerce websites to provide users with more complete offerings. primarily based on what one enjoys, this newsletter expands the B2B2C e-commerce design test website	Website Positioning, Target user shopping behavior analysis, Interface function design

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Sandeep , Yash Pal Singh	Research on the Importance of Web Design, Development and Security at WSDM in Web Development	2017	Web Semantic Design Method (WSDM) is a website design strategy that uses models to express information, useful, and usable website structures in detail. As many websites generate useful and comparable information, a ton of these types of information, useful, and theories are repeated with different efforts and different projects. To address this issue, the concept of design projects, for example reusing existing models to deal with re-emergence. and issues, presented in this program earlier.	Web Semantic Design Method
Randi S. Cartmill, Dean Parry, Tosha B. Wetternec k	Impact of electronic order management on the timeliness of antibiotic administrati on in critical care patients	2012	Purpose: To evaluate the effect of implementing electronic order management in a timely manner antibiotic administration in critically ill patients. Methods: We used a pre-post project, to collect data on first-line IV antiretroviral drugs orders before and after the use of integrated electronic medicine- management system, which includes computer-based provider (CPOE) order entry, pharmacy order processing and drug management record (eMAR)	Setting, Data collection, Medication management process, Data analysis
Željko Jovanović, Dijana Jagodić, Dejan Vujičić, Siniša Ranđić	Java Spring Boot REST Web Service Integration With Java Artificial Intelligence Weka Framework	2017	This paper introduces the integration of the Java Spring Boot framework with WEKA - the Java framework for practical wisdom. For presentation, an enhanced REST web service is displayed. As a result, it returns the predictive effect of the four prediction algorithms used on specific weather sample data.	analysis, weka workbench, Data collection
Jason McHugh, Serge Abiteboul, Roy Goldman, D~lan Quass, Jenni~rWi dom	A Database Managemen t System for Semistructur ed Data	1997	Lore (Lightweight Object Repository) is a DBMS designed specifically to manage information with minimal structure. using Lore requires a rethink of all aspects of the DBMS, including storage management, identification, query processing and optimization, and interoperability areas. This paper provides an overview of these features of the Lore system, as well as other features of the novel such as abstract transitions and seamless access to data from external sources.	Novel Features ,Bulk Loading and Physical Storage ,Index Query Plans

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Gabriel Menezes a, Bruno Cafeo a , Andre Hora b	How are framework code samples maintained and used by developers? The case of Android and Spring Boot	2021	Modern software programs are often built on frames. To speed up the learning process of the features provided by the frameworks, code samples were made available to assist engineers. However, we know very little about how code samples are constructed and used. In this paper, we aim to fill this gap by examining the sample features of the framework code. We provide details on how code samples are stored and used by developers. We analyze more than 230 code samples provided for Android and Spring Boot, and evaluate features related to their code, background, thunder, and client usage. We find that most code samples are small and simple, provide a working environment for customers, and rely on automated construction tools. They often change, for example, to adapt to new version versions. We also find that clients often download code samples, however, they rarely change them.	Conventional projects comparison, Source code analysis, Selecting the case studies
Renee Garett, MS, Ly Zhang, Sean D. Young	A Literature Review: , Website Design and User Engagement	2017	Proper design has become an essential element needed to engage mobile app users. However, little research has been done to explain the specific elements used in a functional website and the design of a mobile application. We attempt to review and integrate research into effective design and describe a brief list of commonly used elements in research. The most sought-after design elements in the revised books are navigation, image representation, editing, content resource, purpose, simplicity, and readability. We discuss how previous studies explain and analyze these seven elements. These reviews and the result of a short list of design elements can be used to help designers and researchers implement best practices to aid and predict user engagement.	analysis, final search team, selection criteria and data extraction
Ping Zhang, R.V. Small, G.M. Von Dran	A two factor theory for Website design	2002	This study is designed to determine whether Herzberg's hygiene-promoting theory of the workplace can be applied to the Web site. According to this analogy, the presence of hygiene features can provide basic functionality for websites, while their absence can create user dissatisfaction. Encouraging factors are those that contribute to user satisfaction. They add extra value and may entice users to continue returning to the site. In Section I, we have identified 44 important aspects of the Web site divided into 12 sections by topic. In Phase II, a separate group of subjects in experimental research was asked to distinguish between hygiene and motivation.characteristics of these features and categories. The preliminary results show that 4 categories and 14 features were judged to be primarily motivational, while 3 categories and 13 features were perceived to be primarily hygiene in nature. The remaining 5 categories and 17 features were perceived to be both.	Website analysis Positioning, behavior analysis, Interface function design

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METHODOLOGIES

2.1 MANAGING ORDER DETAILS

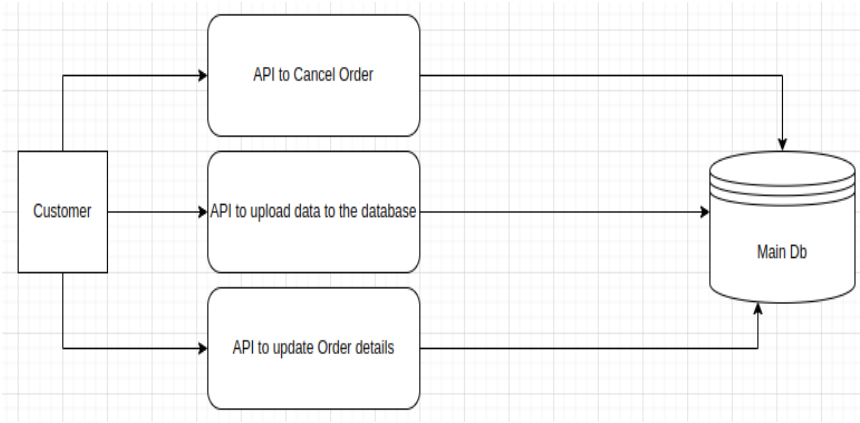
This system has a uploading module from where customers can upload their order details to system. This device will take those data from customers and deliver those data to other module to process data and store it in database properly for further use. After placing the order user can update their order details also, they can add or remove order from their order details. After all this organization will start processing and shipped the created order and then deliver the order to the customer and update the details in the database. After this the data of that particular order will get deleted from the main table automatically. Deletion process will be done automatically using scheduler.

2.2 MODULE DESCRIPTION

There are three modules in the code:

1) Customer

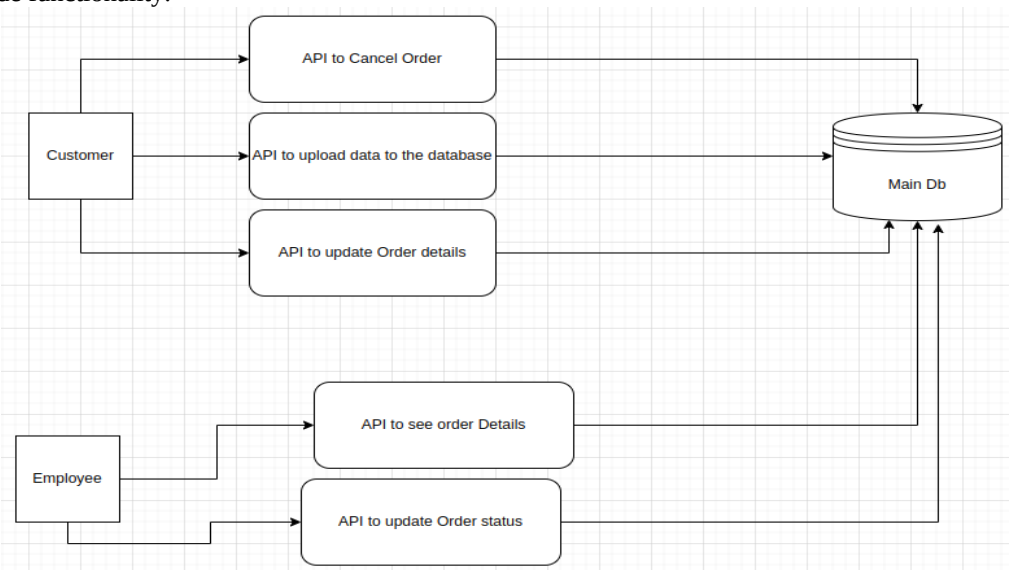
Customer Side functionality.



Here, In above digram Customer is using this application to fire an API call to order a product by providing the order details such as product name, Quantity and also they can order multiple product at the same time. The data will then go to the database and stored for further processing.

2) Employee

Employee side functionality.



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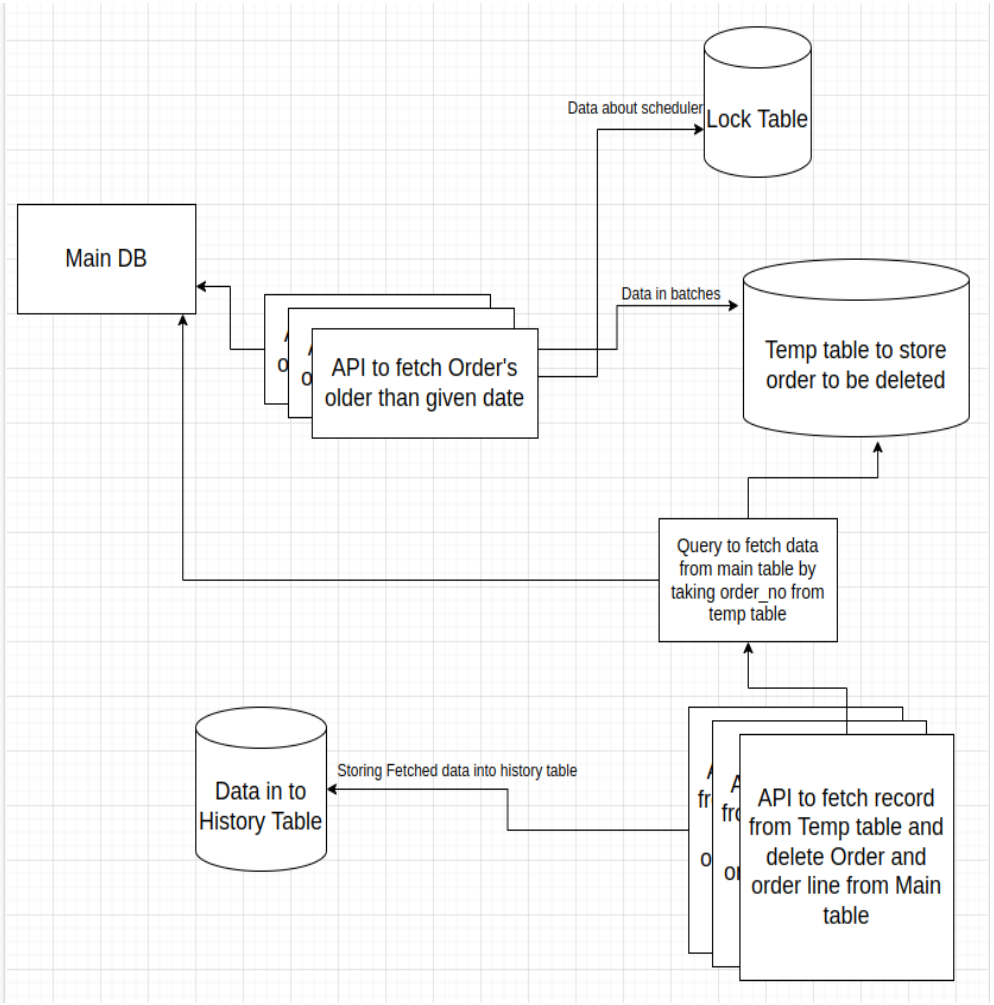
In Above digram, Employee will fire an API to see the orders that is placed by customer and employee can also see the details of order by using the customers phone number or order number. After all this employee can update the status of orders by using their order number. Order will be updated to created to shipped and shipped to delivered.

3) Deletion

Scheduler monitoring activities

In below figure a scheduler is being used to manage the deletion process of the order details from main table, So that application will work faster. why we are doing this because we are storing all the data at one place which is our main table, after some time what will happen is we will have lots of data in main table that will cause the slowing down of the system.

So to avoid this we have to remove some data time to time. And at the same time we have to store those data that we are deleting for further processing, we can't delete those data directly it will be dangerous for the system we might lost the crucial data in this process. So to avoid this I am using another database table which is History table to store those data. After storing data into history table we are deleting those data from main table. All these process is being done by scheduler only. Employee don't need to fire any api to delete the data from main table all the time. It will be done automatically by scheduler.



2.3 FUNCTIONALITIES

❖ **USER FUNCTIONALITY:**

- **Upload a Order Detail:**

User can upload a order details to the application.

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- **Update Order Detail:**

User can update there order details using this funtionality.

- **Cancel Order:**

User can cancel their order using this api.

❖ **EMPLOYEE FUNCTIONALITY:**

- **See all Orders placed by its Customers:**

Organization person can see the order placed by its customer and all the details of order.

- **Fetch Data using a particular Attribute**:

Organization person can see the particular order details using id or phone number of customer.

- **Delete Operation:**

This operation will start executing when the application will start, this will be done using scheduler.

- **Update Operation:**

Update Order details from created to shipped and shipped to delivered.

❖ **SCHEDULER FUNCTIONALITY:**

- **Store Data in History Table:**

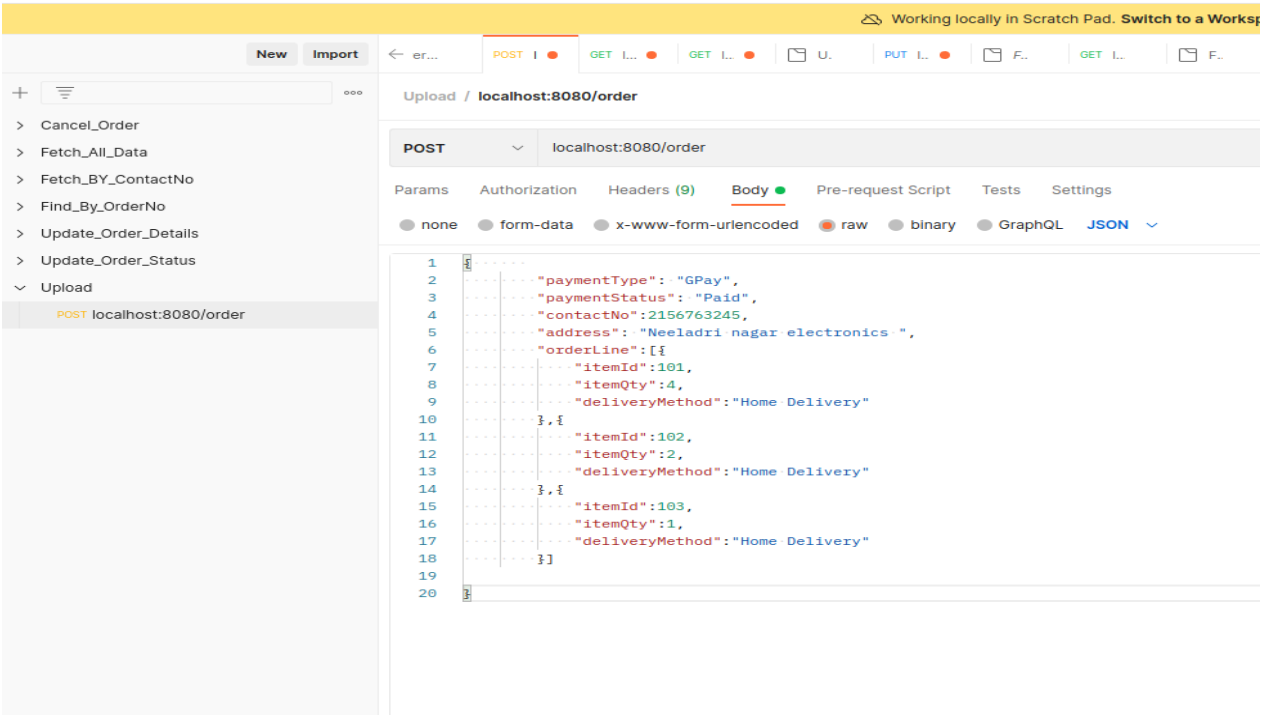
This Api will take data from main table and store it in history table.

- **Delete Data**:

After storing data into history table it will fire another api call to delete those data from main table

IMPLEMENTATION

3.1 CUSTOMER MODULE



3.2 EMPLOYEE MODULE

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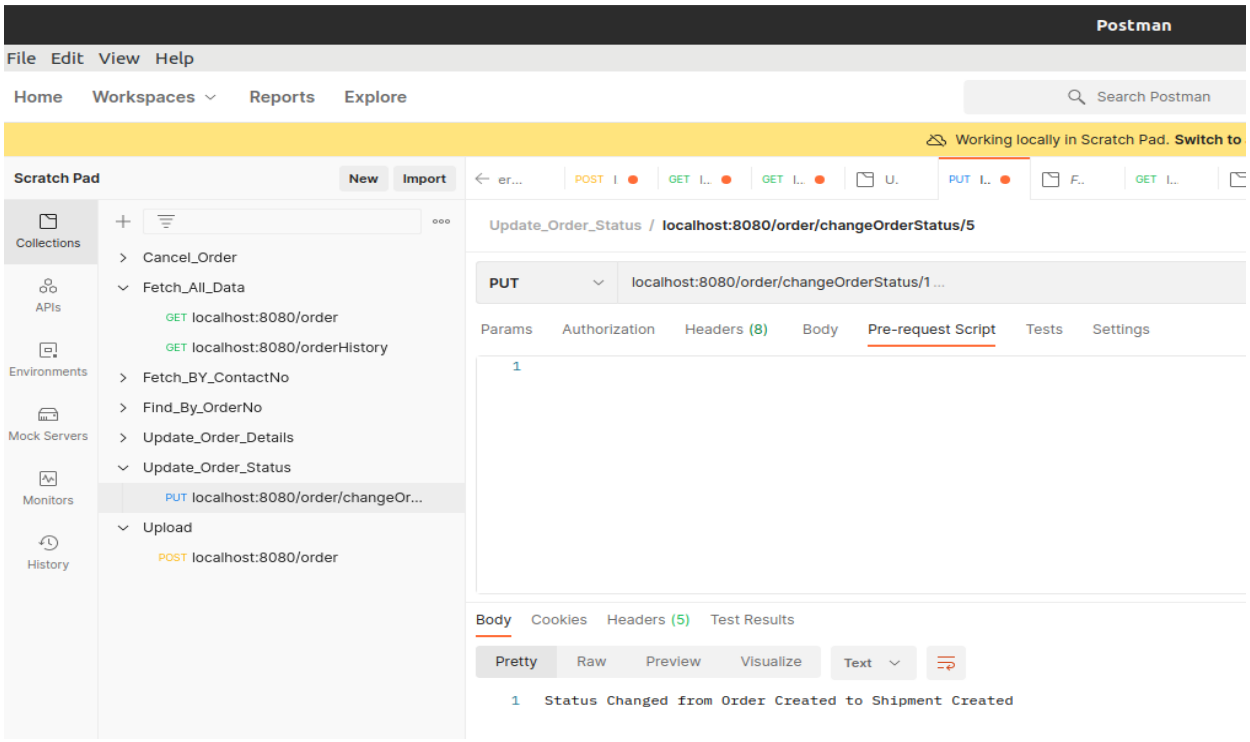

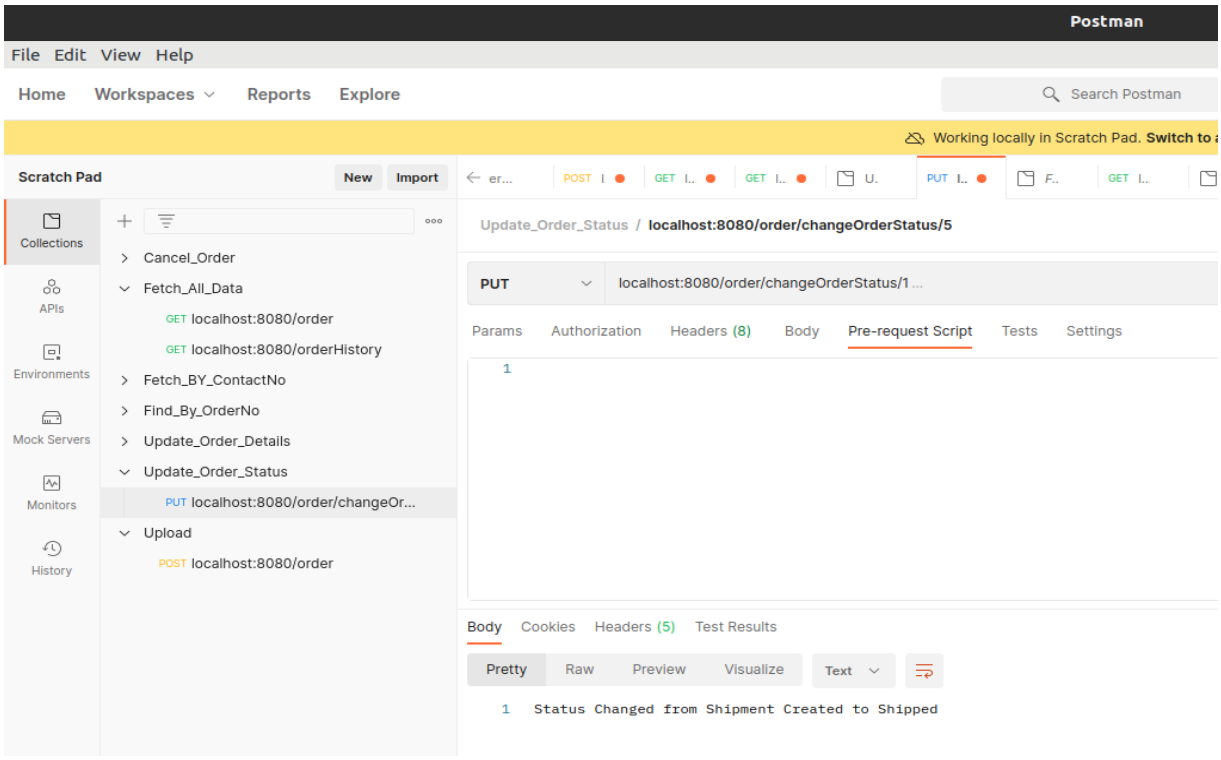

3.3 WORKFLOW

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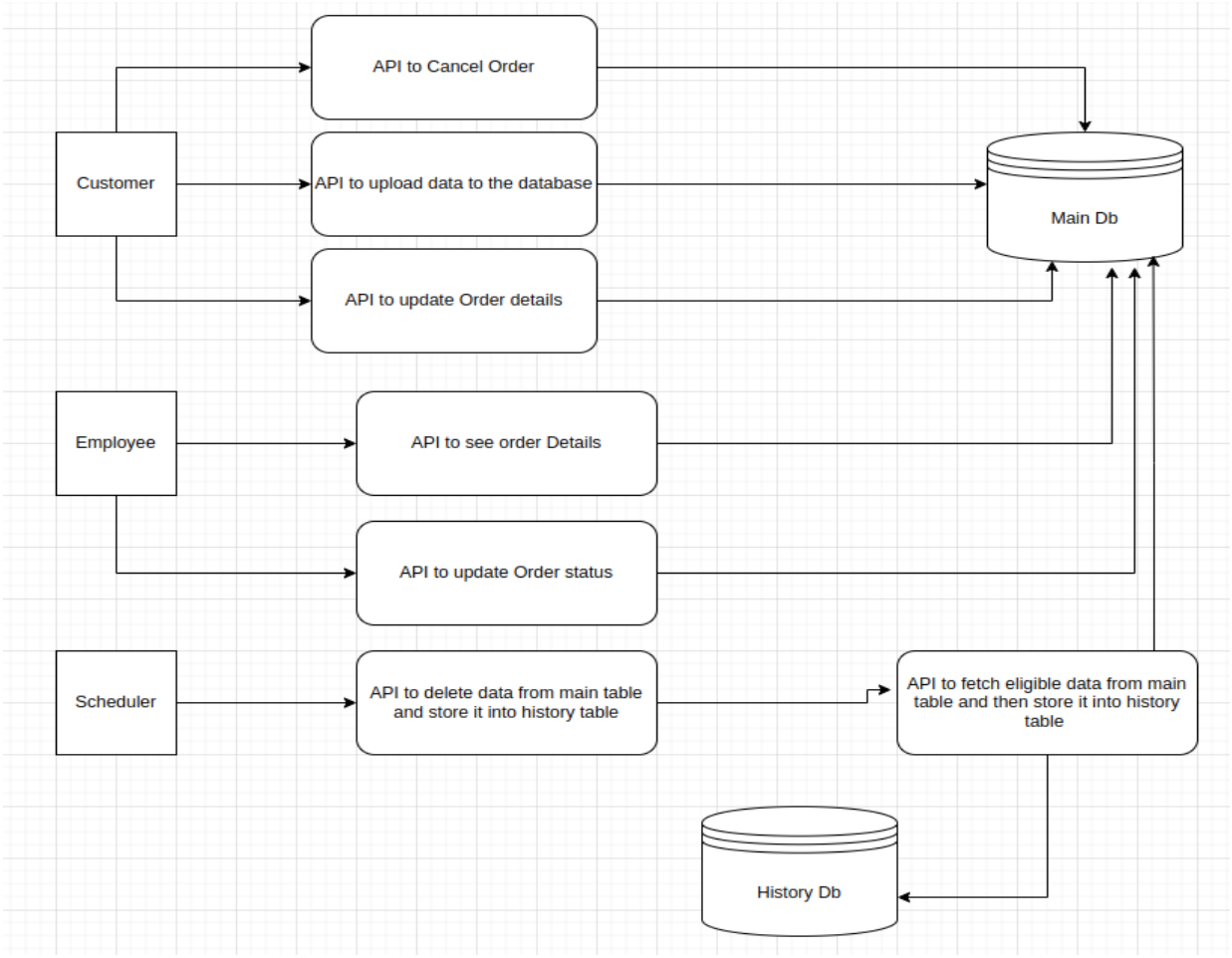

RESULTS

Overall Result is that, it helps Companies to manage large amount of orders easily and it saves lot of time and resources of the organization. It also helps customer to order product online easily and track their order and get it on time. Scheduler's make this application to be independent from other jobs get done and it makes system faster and smoother. It increases the overall productivity of an organization by taking more number orders and managing them correctly.
This System helps organization to increase their productivity by getting lots of order on daily basis and managing them properly without any data loss. It helps organization to reduce the workload of employees.
Schedulers are used in this application to make this application more faster and smoother by deleting the unused data from main table and storing it to history table. It makes application lighter and smoother.

CONCLUSION

My experience at "Nextuple India Pvt. Ltd." it was amazing; we were trained primarily in technology and the forums below

- Java & Spring Boot
- Docker
- PostgreSQL
- Postman

I also studied Project Workflow at an organization, PMO process, the CI/CD pipeline processes, commit & release workflows, bug fixes etc. More importantly, I learned to deal with clients in variousprospects like achieving deadlines, doing sprint reviews and achieving spring's targets.

The working environment at Nextuple India Pvt. Ltd. is good as well as they believe in Hard Working along with pushing our limits towork efficiently and effectively.

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