**PVG's**
**College of Engineering and Technology & G. K. Pate (Wani)**
**Institute of Management, Pune-09**

# Internship Report

**Name of the Organization**
**LTIMindtree**

**A report submitted to**
**Department of Information Technology**
**PVG's**
**College of Engineering and Technology & G. K. Pate (Wani)**
**Institute of Management,Pune-09**
**Savitribai Phule Pune University,Pune**

**Submitted By**

**T190078552 : Mrunalini Vaibhav Ronghe**

**Academic Year : 2022-23**

**Department of Information Technology**

**PVG's College of Engineering and Technology and G. K. Pate (Wani) Institute of Management**

**44, Vidya Nagari, Shivdarshan, Parvati, Pune – 411009**

# INDEX

# I. TITLE PAGE

---

**Name of the organization:** LTIMindtree

**Intern name:** Mrunalini Vaibhav Ronghe
**Email:** mrnln.v.r@gmail.com
**Phone no:** +91 9175020497

**Internship report submission date:** 15th May 2023, Monday.

**Internship duration:** 2 months


# **II.** LETTER OF UNDERTAKING

I, Mrunalini Vaibhav Ronghe, third year student of Information Technology department at PVG's COET & GKP (W) IOM, Pune-9 hereby confirm that the internship report I have provided is solely my own effort. I did not copy my report partially or completely from any other student or from any other source either against payment or free and I did not provide any plagiarized material in any section of my report.

I further confirm that the document (internship completion certificate) that I have provided is genuine (i.e. not forge/fake) and has been issued by the authorized person in the organization. If I am found guilty of misstating, misleading or concealing the facts about my activities (either academic or non-academic but relevant to this course) at any stage, the university is authorized to take disciplinary action against me according to university policies and regulations.

I assure that I will follow the instructions regarding presentation and will appear on the scheduled date for presentation which will be intimated to me by the department. In case of any negligence, I shall be held responsible.

Name: Mrunalini Vaibhav Ronghe

Signature.....

Date: 18th May 2023

# III. INTERNSHIP COMPLETION CERTIFICATE

LTIMindtree

Ref: LTI/HR/ T5417 Apr 04,2022

TO WHOMSOEVER IT MAY CONCERN

CERTIFICATE

This is to certify that **Ms. Mrunalini Ronghe** has successfully completed internship in Larsen & Toubro Infotech Ltd, **Hinjewadi ,Pune** During the period 23**-Jan-2023** to 31**-Mar-2023.**

Her performance during the Project period was satisfactory and we wish her all the very best for her future endeavors.

Yours sincerely,
For Larsen & Toubro Infotech Ltd.

---
Mr. Raaman V S
Global Operations HR - India

**Please Note**. All source code and documents generated as part of the project work are confidential and must not be shared outside of LTIMindtree, as these are the Intellectual Property of LTIMindtree Limited.

*LTIMindtree Ltd.,*
*(Formerly Larsen & Toubro Infotech Limited)*
*Local Unit address: Global Village, Phase, RVCE Post, Mysore Road, Bengaluru- 560059, India*
*T +91 80 6706 4000 F +91 80 6706 4100*
*Registered Office: L&T House, Ballard Estate, Mumbai - 400001, India*
*www.ltimindtree.com*

*(Affiliated to Savitribai Phule Pune University)*

# CERTIFICATE

This is to certify that the Internship report titled "Transaction Management System", submitted by T190078552 : Mrunalini Vaibhav Ronghe (Rollno: 3046), is a record of bonafide work carried out by her in the particular fulfilment of the Presentation and Team-work of the third year in Information Technology of Savitribai Phule Pune University at Pune Vidyarthi Griha's College of Engineering and Technology & G. K. Pate (Wani) Institute of Management, Pune under Savitribai Phule Pune University, Pune. This work is done during academic year 2022-23.

Date :- 18th May 2023

Place :- Pune

**Internal Name:**
Prof. N. S. Shirsat

**External Name:**
Prof. M. R. Apsangi

**Head of Department**
Dr. S. A. Mahajan

# IV. OVERVIEW OF THE ORGANIZATION

## 4.1 About LTIMindtree

LTIMindtree is an Indian multinational information technology services and consulting company, established in 1996, in Mumbai. It is a new kind of technology consulting firm, that helps businesses transform – from core to experience – to thrive in the marketplace of the future. With a unique blend of the engineering DNA with the experience DNA, LTIMindtree helps businesses get to the future, faster.

It is a subsidiary of Larson & Turbo Group, which offers Products and Services in the following fields:

**Construction:** Building and Factories
Transportation Infrastructure
Heavy Civil Infrastructure
Water & Effluent Treatment
Renewable Energy
Power Transmission & Distribution
Smart World & Communication

**Hydraulics:** Hydraulic Cylinders
Swivel / Rotary Joints
High Torque Low Speed Motors
Radial Pistol Pumps
Customized Hydraulic Systems

**Construction & Mining Machinery**

**Hydrocarbon:** Construction Services
Modular
Fabrication
AdVENT
Asset Management
Offshore Wind

**Heavy Engineering:** Process Plant
Nuclear Power Plant
Modification, Revamp & Upgrades
Special Fabrication Unit
Green Portfolio

**Minerals & Metals**

**Power:** Coal Based Power Plants,
Gas Based Power Plants

**Rubber Processing Machinery:** Mechanical Tyre Curing Presses
Hydraulic Tyre Curing Presses
Tyre Building Machines
Auxiliary Equipment
Spares
Tube Curing Presses
Bladder Curing Presses

**Shipbuilding:** Defence Shipbuilding
Commercial Shipbuilding
Ship Repairs, Refits & Mid-Life Upgrades

**Valves:** Bolted Bonnet
Pressure-seal
Trunnion-mounted Ball Valves
Triple-offset Butterfly Valves
Digital Solutions

**Technology Consulting & Digital Solutions (LTIMindtree)**

## LTIMindtree

Previously L&T Infotech, merged with Mindtree on 22nd November 2022 to operate with a stronger, highly diversified portfolio of end-to-end services and skills across a wider market footprint.

LTIMindtree is active in the following industries:

1. Banking and Financial Service
2. Communication, Media and Entertainment
3. Energy
4. Utilities
5. Healthcare
6. Hi-Tech
7. Insurance
8. Life Sciences
9. Manufacturing – 9.1. Automotive
   9.2. Engineering & Construction
   9.3. Industrial Manufacturing
   9.4. Process Manufacturing
10. Retail and CPG
11. Travel, Transport and Hospitality

**Services provided by LTIMindtree are:**

1. Cloud & Infrastructure
2. Consulting
3. Customer Success
4. Cyber Security
5. Data & Analytics
6. Digital Engineering
7. Enterprise Application
8. Platform Operations
9. RPS
10. Testing

**It has provided multiple products and platforms, such as:**

1. Fosfor
2. LTIMindtree Canvas
3. LTIMindtree Infinity
4. Unitrax
5. REDaxis

6. Advanced Smart City Operating Platform

**LTIMindtree Partners:**

1. Adobe
2. AWS
3. Cisco
4. Google Cloud Platform
5. IBM
6. Microsoft
7. Microsoft Dynamics
8. Oracle
9. Pega
10. Salesforce
11. SAP
12. ServiceNow
13. Snowflake

It is a global technology consulting and digital solutions company that enables enterprises across industries to reimagine business models, accelerate innovation, and maximize growth by harnessing digital technologies.
Currently, it is operating in 30+ countries and employs over 84,000+ people.

### Company's Aim

LTIM aims to derive revenue synergies through cross-sell/up-sell opportunities across the existing 374 client accounts of more than US$1 million in revenue size.

## 4.2. Communication details:

Company website: https://www.ltimindtree.com/contact-us/

Company email: info@lntinfotech.com
campus.internship@lntinfotech.com

Phone number: 0224312-2222 (Help-desk)

## 4.3. Internship Supervisor Details:

Reporting Manager: Mr. Venkata Geesala

Position: Delivery Manager

Phone Number: +918378978048

Email address: Venkata.Geesala@lntmindtree.com

## 4.4. Company Address and Website URL:

**Company Address (in Pune):**

1. BLUE RIDGE, 2nd, 3rd, 4th & 5th floor, IT-6 building Qubix Business Park Private Limited Special Economic Zone Plot No 2, Township, Phase 1, Hinjawadi Rajiv Gandhi Infotech Park, Pune, Maharashtra 411057
2. 4 Godrej Eternia-A, Old Mumbai Rd, Shivajinagar, Pune, Maharashtra 411005
3. 3, ICC Tech Park, Tower B, Icc Trade Tower, 4A-4B Ground Floor, 10, Senapati Bapat Rd, Laxmi Society, Model Colony, Shivajinagar, Pune, Maharashtra 411016

**Website URL:** https://www.ltimindtree.com/

# V. 2022-23 Internship Description

| Srno | Internship Project Title | Organization Name, Address | Starting Date | Ending Date | Duration of the Internship |
|---|---|---|---|---|---|
| 1 | Transaction Management System | LTIMindtree<br>BLUE RIDGE, IT-6 building Qubix Business Park Private Limited Special Economic Zone Plot No 2, Township, Phase 1, Hinjawadi Rajiv Gandhi Infotech Park, Pune, Maharashtra 411057 | 23rd January 2023 | 31st March 2023 | 2 months |

# VI. INTERNSHIP TRAINING PROGRAM REPORT DETAILS

## 6.1. Transaction Management System

The rate of online transaction has exponentially increased in the past few years. Most of the population now relies on their mobiles to proceed with all the payment. The data generated in this process is highly confidential and of immense value to both the customers and the bank. The project assigned to me during this internship is therefore of great importance, as it has given me insights on how one of the most crucial systems (transactions) are carried out.

# 6.2. Acknowledgement

I would like to express my sincere gratitude to Mr Sunil Mohite, for giving me the opportunity to do an internship at the organization.

My sincere thanks to my Reporting Manager, Mr Venkata Geesala, for giving me valuable guidance and direction regarding working in the company, as well as giving me the precious opportunity to visit the company premises and understand the structure and working at the organization.

I would like to express my deepest gratitude to my mentors, Mr Sanjay Saxena and Ms Namrata Khobragade, for all the time, guidance, patience and motivation they have given me. Thank you for solving all my doubts and error, for your valuable feedback, helping me understand new topics as well as helping me overcome my shortcomings.
With their patience, willingness and guidance, I was able to understand how real industry works, it's problems and an idea on how to navigate it, which I am really grateful for.

I will always remember all the things I have learned from my mentors, this internship, and make the best use of it.

My sincere gratitude to my Internship In-Charge, Prof. Nilesh Sonawane, for guiding me and addressing all my doubts and queries regarding the internship.

My heartfelt thanks to our Principal, Mr Manoj Tarambale, and Head of Department, Mr Surendra Mahajan, for providing necessary facilities.

Last but not the least, I would like to express my sincere gratitude to my parents, for guiding me, supporting me, helping me navigate real industry with their experience, encouraging and motivating me, and helping me overcome my stress, at all times.

## 6.3. Abstract

During the recent years, a significantly large digitalization of systems has been observed. More and more organizations are moving their systems onto cloud platform, as high accessibility, reliability and security are the recent demands in the technology.

This process usually takes place in two phases:

Phase I: Moving the existing data onto cloud platform of (client) organization's choice.

Phase II: Moving the entire system onto the cloud platform.

Phase one is a direct shifting of already existing data from local platform to cloud, but it comes with high security risks, as the data in question is private and highly confidential for the owner organization. Shifting it onto cloud needs the implementation of various security protocols.

This is one of the parameters for choosing an appropriate cloud platform based on various technologies it provides which should meet the client's requirements.

Currently, the highly used cloud platforms will be AWS, Microsoft Azure, and Google Cloud Platform. Aside from these, there are many other well known cloud service providers as well, such as Rackspace Technology, IBM Cloud, etc.

The second phase involves shifting the entire system (logic and operations) from local system to cloud. This issues various challenges, such as compatibility issues, version issues, security issues, memory-storage optimization issues, etc.

Not only this, but it is a continuously evolving process as new services keep emerging and new APIs need to be added in order to keep up with market demands.

This is the second parameter when deciding on the cloud platform to deploy the application.

The suggestions can come from detailed analysis done by client organizations, with the help of consultations and suggestions from the service provider organization. The ultimate goal is to deploy the application in the most secure and optimum environment feasible.

The team at LTIMindtree I was a part of during the internship was responsible for backend web-logic development.

## 6.4. Introduction to Internship Program / Project

Understand the backend web logic behind transaction system of banking and create a transaction management application to manage the transaction history and customer related information.

## 6.5. Starting & Ending Dates of Internship

**Starting Date:** 23rd January 2023, Monday.

**Ending Date:** 31st May 2023, Sunday

## 6.6. Duration of the Internship

2 months

## 6.7. Department of Work During Internship

**Department name:** ID, ME & APJ

**Supervisor's name:** Mr Venkata Geesala

**Job title:** Delivery Manager

## 6.8. Detailed description of tasks assigned in the internship:

**TRANSACTION MANAGEMENT SYSTEM**

Create a Transaction Management Application is used to manage the Transaction History and customer related information.

TASKS:

- Create a REST application for transaction management.
- Create the controller, service, models and repositories.
- Create the class to handle the exceptions.
- Use the spring profile for local, dev, uat and production.
- Write the JUNIT test cases for each API.
- Configure the Swagger-UI.
- Prepare API testing documents.

Mongo Collection Information:

1. TRANSACTION_HISTORY: Transaction ID : String
   Transaction amount : Float
   User ID : String
   Account number : String
   Transaction type : String (Credit / Balance)
   Merchant name : String
   Transaction date : Date
   Transaction status : String (Success / Failure / Pending)

2. ACCOUNT_INFORMATION: User ID : String
   Linked Account : String
   Account Balance
   Account type : String (Saving / Current / FD)
   Account opening date : Date (with timestamp)
   Net banking : String (Y/N)

3. USER_INFORMATION: User ID : String
   Name : String
   Phone number : String
   Home address : String
   Home pin code : String
   Home branch : String

4. USER_ID_HISTORY: User ID : String
   Previous ID : String

5. LOCATION_MASTER : Pin code : String
   City name : String
   State name : String
   Country name : String

6. ALLOWED_CUSTOMER: User ID : String, Updating allowed : String (Y/N)

APIs Information:

1. Create Transaction:

   Request type: POST

   Description: Whenever the customer makes any transactions, a new transaction record should be created inside the TRANSACTION_HISTORY collection.

2. Get All Transactions:

   Request type: GET

   Description: The user can fetch the last 12 months of transaction information.

3. Get Transaction Month Wise:

   Request type: GET

   Description: The user can fetch month-wise customer transaction information

.

4. Get Personal Info:

   Request Type: GET

   Description: The user can fetch specified customer's personal information.

5. Update Personal Info:

   Request type: PUT

   Description: Customer can update his personal information only if the update flag is set to yes in the ALLOWED_CUSTOMER collection.

6. Delete personal Info:

   Request type: DELETE

   Description: Customer can delete his information only if the update flag is set to yes in the ALLOWED_CUSTOMER collection. If the customer has deleted the user ID, a new ID should be generated automatically. Previous user ID will be stored in USER_ID_HISTORY collection.

## STEPS / PROCEDURE TO CREATE APPLICATION:

1. Downloading required softwares and toolkits

   The first thing to be installed in personal PC is JDK Version 8 or above. The second thing to be downloaded in the STS4 (Spring Tool Suite 4) software. STS is built on top of EclipseIDE and unlike other IDEs, springboot applications can be created directly here, along with importing all the necessary dependencies. The next and last things to be installed are MongoDB and MongoDB Compass. The application makes use of MongoDB for backend.

2. Training

   Required a period of 1.5 months to be completed. The course included very basic topics to their advanced and practical implementations. Certain topics required creating their own demo applications for detailed and in-depth understanding.

## APPLICATION CREATION

3. Creating a new Spring Boot application-

   Include the following dependencies: Spring Web, Lombok, Spring Data Mongo (initial dependencies) to create Transaction Management application.

4. Creating Models package-

   For each model class (TransactionHistory, UserInformation, AccountInformation, UserIDHistory, LocationMaster and AllowedCustomer), import Getters, Setters and select ‘UserId’ field for the @id annotation.

5. Creating Controllers package-

- For each class (TransactionHistoryController, UserInformationController, AccountInformationController, UserIDHistoryController, LocationMasterController and AllowedCustomerController), use @Controller to define each class as Controller class.
- Use @Autowired to inject an object of Service class.
- Use appropriate POST (in all classes to create a collection in DB), GET, PUT AND DELETE (in all classes to remove erroneous document) methods using @GetMapping, @PostMapping, @PutMapping and @DeleleMapping annotations.
- Use the injected instance to make use of methods defined in Service class.

6. Creating Service package-

- For each class (TransactionHistoryService, UserInformationService, AccountInformationService, UserIDHistoryService, LocationMasterService and AllowedCustomerService), use @Service annotation to define each class as Service class.
- Use @Autowired to get Repository instance.
- Define methods for each HTTP requests specified in respective Controller package.
- Here, implement the business logic to produce required output, for example – computing AccountBalance after each transaction, listing the linked AccountNumbers for the specified UserID, and other updations.

7. Creating Repository package-

- For each interface (TransactionHistoryRepository, UserInformationRepository, AccountInformationRepository, UserIDHistoryRepository, LocationMasterRepository and AllowedCustomerRepository), use @Repository annotation to define each class as Repository interface.
- Extend each interface with MongoRepository interface with corresponding model class and String as generic datatype.
- Define methods required in business logic making use of inbuilt MongoRepository methods and @Query annotations.

8. Create Exception Handling package-

- Define message, throwable and httpstatus for exception handling.
- Define each exception using exception class extending RuntimeExceptions.
- Define exception handler using @ExceptionHandler and @ControllerAdvice annotations.

9. Create appropriate dev, uat, loc and production YAML files.

10. Configure the Swagger-UI-

- Search Maven Repository and browse to Spring Fox Swagger-UI dependency.
- Copy-paste the dependency in the application's pom.xml file.
- In the public main class of the application, use @EnableSwagger2 annotation to generate the Swagger documentation. Create Docket bean to cutomize the Swagger documentation.

11. Write Junit test cases for each API-

- In the test package, recreate the exact structure as the main package. In each package, make use of JUnit and Mockito framework by using @Mock, @Spy, etc annotations.
- Test all the required methods in the class to ensure all the APIs are working properly.

## 6.9. Critical Analysis

Various concepts common to all domains, programming languages, or frameworks that are generally practiced during theoretical are some of the most important and commonly implemented concepts in practical applications.

An example of such concepts is Exception Handling. We have studied why it is important to be included in the project, as well as how to include it in the project. In the application, by implementing exception handling, we directly come to understand what type of exceptions can occur during execution of application, how it helps keep the project running despite occurrence of one, what all provisions are made in the framework to tackle the exception occurrence problem, etc.

Another example of such concept is the Collection class and the Stream class in java. We have learned what are the collections offered by the Collection framework, how they differ from each other, and how can they be implemented. During the actual implementation, we decide the collection type from a huge range by considering various factors such as their time complexity, space complexity, and from which of the structures will we be able to derive the most optimum output.

During the actual internship, we learn how to create the actual application using frameworks that we have studied, how to add functionality and services to the application using its various properties, methodologies, etc.

Understanding various security levels and protocols and how they are implemented in the system to prevent attack on weak points, data leakage, preserve data integrity, such as JWT, MS Azure, DDOS, etc. are also some of the integral notions that help understand how theoretical concepts are related with practical experience in the industry.

## 6.10. Tools

**JDK 8 (or above)**

Java Development Kit any version above/equal to 8. Below 8 versions cannot be used.

**SPRING TOOL SUITE**

Spring Tool Suite (STS) is an Integrated Development Environment (IDE) based on Eclipse and specifically designed for developing Spring Framework-based applications. It provides a comprehensive set of tools that simplify the development, deployment, and management of Spring applications. STS includes code completion, integrated debugging, and visual editing of Spring configuration files.

**SPRING FRAMEWORK AND SPRING BOOT**

Spring is an open source, lightweight, widely used platform which can be used for developing any Java application.

Following are the moduless of Spring framework:

Plan old Java object (POJO), Dependency Injection (DI), Model View Controller (MVC), Representational State Transfer (REST) , Security, Batch, Aspect Oriented Programming (AOP), etc.

Another important feature of Spring is that it is very easy to integrate it with other frameworks, such as Struts and Hibernate.

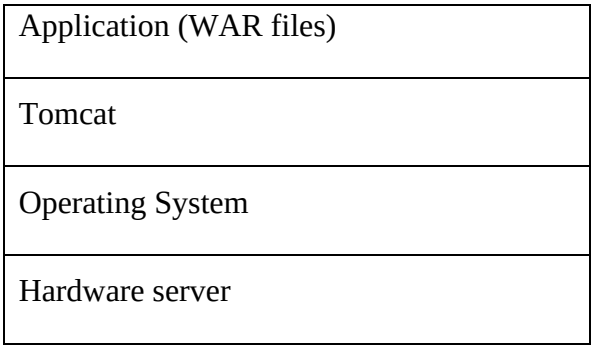
Spring Boot is a module of Spring framework that provides the RAD (Rapid Application Development) feature to the Spring framework.

It is the combination of Spring Framework and Embedded HTTP Servers without having to give manual XML <bean> configuration.

**POSTMAN**

Postman is an API platform for building and using APIs. Postman simplifies each step of the API lifecycle and streamlines collaboration so you can create better APIs—faster. Postman can be used to write functional tests, integration tests, regression tests, and more. Postman began as a REST client, and has been improving since.

Using Spring framework, the general structure of the application building is as follows:




This is where Spring Boot comes into picture.

Java Spring Boot (Spring Boot) is a tool that makes developing web application and micro-services with Spring Framework faster and easier through three core capabilities:

1. Auto-configuration
2. An opinionated approach to configuration
3. The ability to create standalone applications

Developer → Spring Boot →Spring framework

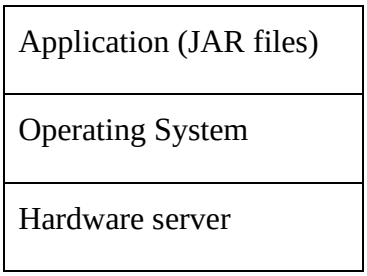
Spring Boot is used for:

1. Adding JAR files and configurations

2. Giving dependencies and providing configurations

3. to give production-ready application

Spring Boot provides an embedded (Tomcat) server, makes use of JAR, not WAR files. The Tomcat is inside the JAR files. So the structure of application building becomes:




With Spring Boot, more focus is placed on convention rather than configuration.

Dependencies used in the application: Spring web, Lombok, Springfox, Spring Data MongoDB.

## Spring Web:

```
<!-- https://mvnrepository.com/artifact/org.springframework/spring-web -->
<dependency>
   <groupId>org.springframework</groupId>
   <artifactId>spring-web</artifactId>
   <version>6.0.9</version>
</dependency>
```

Spring Web provides integration features such as multipart file upload functionality and the initialization of the IoC container using Servlet listeners and a web-oriented application context. It also contains an HTTP client and the web-related parts of Spring remote support.

## Lombok:

```
<dependency>
                <groupId>org.projectlombok</groupId>
                <artifactId>lombok</artifactId>
                <version>1.18.26</version>
                <scope>provided</scope>
</dependency>
```

Lombok is used to reduce boilerplate code for model/data objects, e.g., it can generate getters and setters for those object automatically by using Lombok annotations. The easiest way is to use the @Data annotation.

## SpringFox:

```
<!-- https://mvnrepository.com/artifact/io.springfox/springfox-swagger2 -->
<dependency>
   <groupId>io.springfox</groupId>
   <artifactId>springfox-swagger2</artifactId>
   <version>3.0.0</version>
</dependency>
```

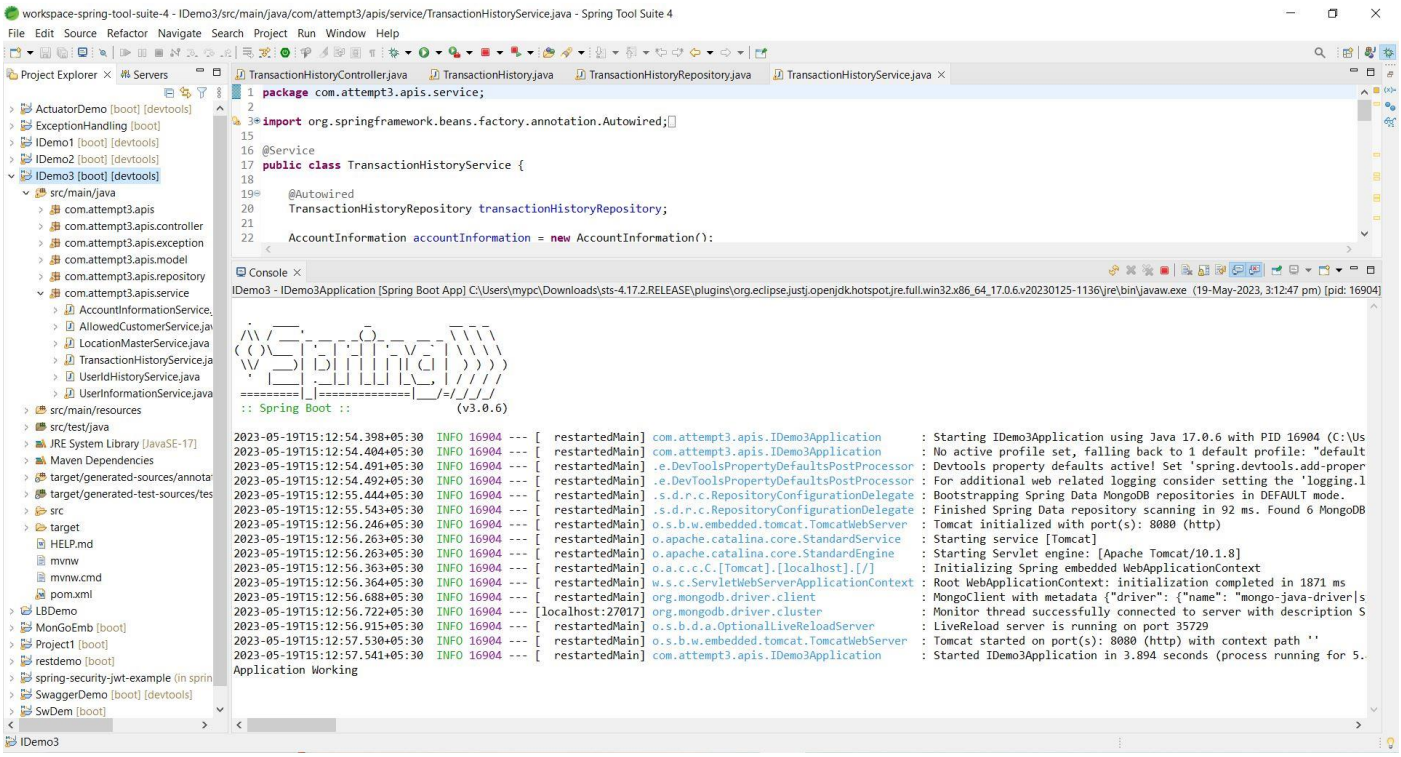
JSON API documentation for spring based applications.

## Spring Data Mongo:

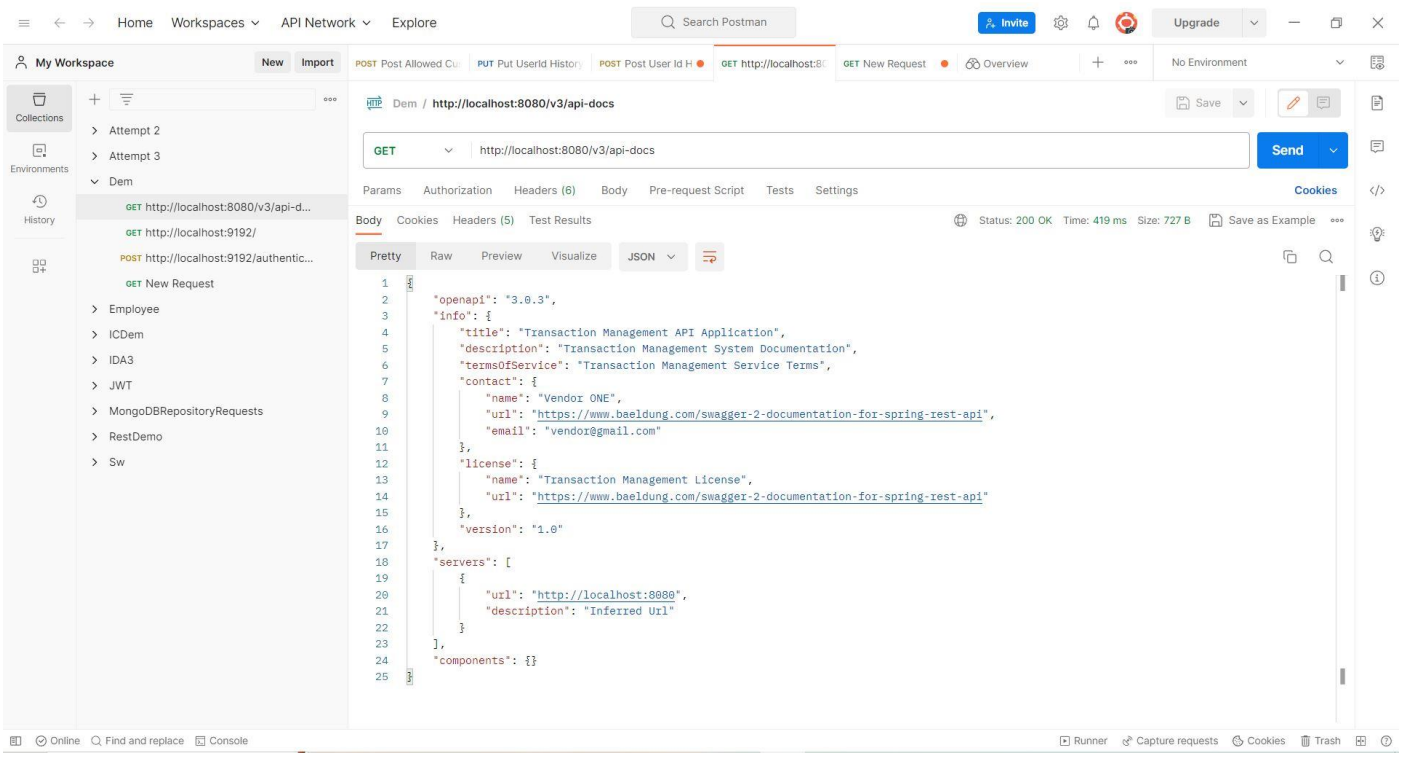
```
<!-- https://mvnrepository.com/artifact/org.springframework.data/spring-data-mongodb -->
<dependency>
   <groupId>org.springframework.data</groupId>
   <artifactId>spring-data-mongodb</artifactId>
   <version>4.1.0</version>
</dependency>
```

MongoDB support for Spring Data.

## Application working status




## Application documentation using Postman



## 6.11. Conclusion

This internship has been one of the most important tasks that I have done so far from real industry point of view.
During these 2 months, I have had one of the most notable experience, this being the first internship and also the first real industry work that I have undergone.
Frome this internship, I have gained some insights of the ways of the industry, what are the real time challenges and problems faced in it, how to solve them and navigate through it.

Though I know that the real industry is a pressure zone, thanks to my team's, especially my mentors' patience, guidance, teachings and motivation, I have only had pleasant experience throughout the internship.

Through this internship, I have gained important knowledge that is required beyond the academics, learning and experience that shall remain as a guide whenever I navigate the industry, as well as direction for how should I proceed further.

I shall always remember them, strive to work harder and make the most use of all the knowledge and experience gained so far.

# 6.12. Internship Logbook

| Sr.no. | Internship status / Topic covered | Dates (Week) |
|---|---|---|
| 1 | Document uploading and verification | 23/1/23-27/1/23 (Week 1) |
| 2 | Project Overview (1st Session) | 30/1/23 (Week 2) |
| 3 | Internship Status (1st Session) | 31/2/23 (Week 2) |
| 4 | Setup: Java, STS, MongoDB Compass | 31/1/23 (Week 2) |
| 5 | Difference Between JVM, JRE & JDK | 31/1/23 (Week 2) |
| 6 | Memory management in Java | 3/2/23 (Week 2) |
| 7 | OOPs concepts in Java | 6/2/23,7/2/23 (Week 3) |
| 8 | Java Collection Framework | 8/2/23 (Week 3) |
| 9 | Java Exception Handling | 9/2/23,10/2/23 (Week 3) |
| 10 | Java 8 features with demo - Functional Interface & Lambda expression | 13/2/23 (Week 4) |
| 11 | Java 8 features with demo - default & static methods in Interface | 14/2/23 (Week 4) |
| 12 | Java 8 features with demo - forEach method | 15/2/23 (Week 4) |
| 13 | Java 8 features with demo - Stream APIs | 16/2/23 (Week 4) |
| 14 | Java 8 features with demo - Date Time APIs | 17/2/23 (Week 4) |
| 15 | Spring Boot – Introduction | 20/2/23,21/2/23 (Week 5) |
| 16 | REST API – Introduction | 24/2/23 (Week 5) |
| 17 | Spring Boot - Exceptional handling | 27/2/23,28/2/23 (Week 6) |
| 18 | Spring Boot JPA with demo (H2 database) - Crud Operations | 1/3/23-4/3/23 (Week 6) |
| 19 | Spring Boot Mongo Repository with demo | 6/3/23-8/3/23 (Week 7) |
| 20 | JUnit, Mockito | 8/3/23-10/3/23 (Week 7) |
| 21 | Swagger | 13/4/23 (Week 8) |
| 22 | Lombok | 14/4/23 (Week 8) |
| 23 | Actuator | 15/3/23 (Week 8) |
| 24 | JWT with demo | 16/3/23 (Week 8) |
| 25 | ID Card Collection | 17/3/23 (Week 8) |
| 26 | Namrata’s Farewell Party | 17/3/23 (Week 8) |
| 27 | Assignment: Full-fledged application | 20/3/23-31/3/23 (Week 9 & 10) |

# VII.REFERENCES AND SOURCES


https://www.udemy.com/course/spring-5-with-spring-boot-2/

https://www.udemy.com/course/java-application-performance-and-memory-management/

Youtube: Java Techie, Think Constructive, Telusko, Smart Programming.

REST API: https://spring.io/guides/tutorials/rest/

Spring Boot with MongoDB: https://spring.io/guides/gs/accessing-data-mongodb/

https://www.mongodb.com/compatibility/spring-boot

Lombok: https://www.baeldung.com/intro-to-project-lombok

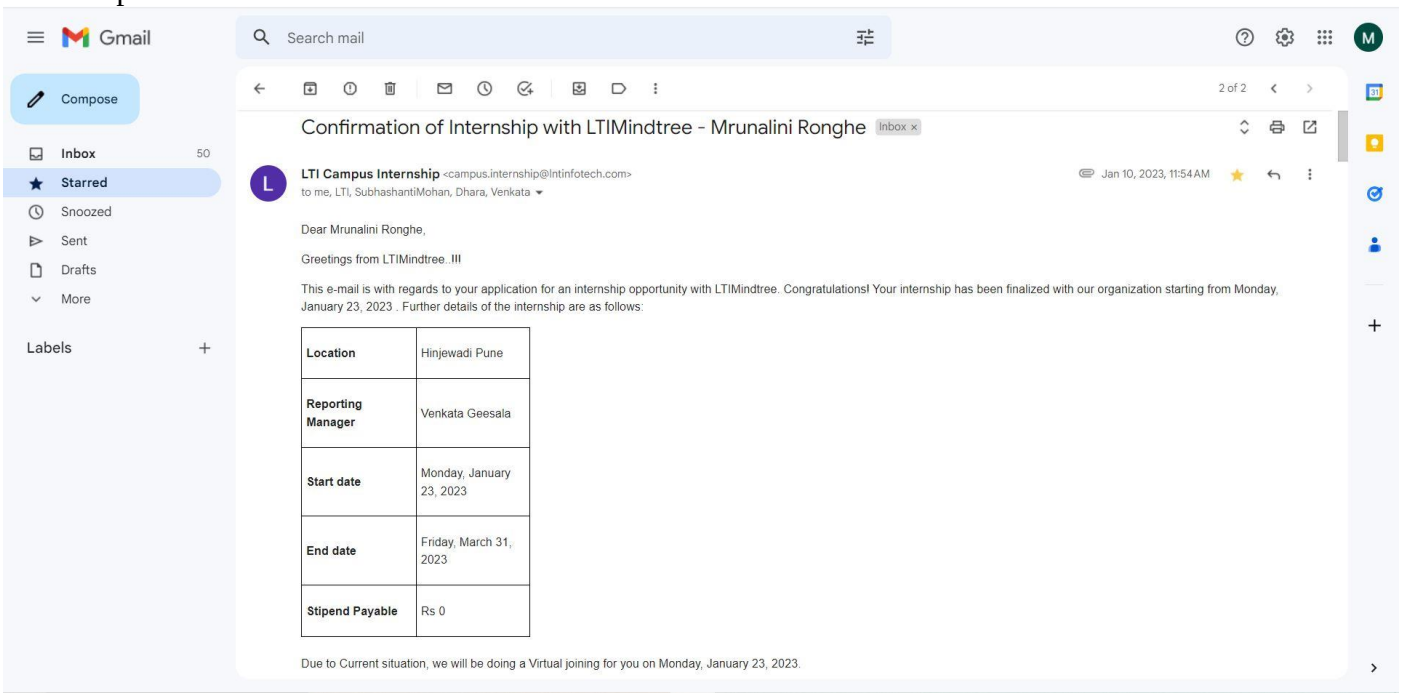
Swagger: https://www.baeldung.com/swagger-2-documentation-for-spring-rest-api

Mockito: https://www.baeldung.com/mockito-series

Spring boot Mongo Queries: https://www.devglan.com/spring-boot/spring-data-mongodb-queries#:~:text=the%20official%20website.-,Using%20%40Query%20Annotation,MongoDB%20native%20operators%20and%20operations

# VIII. ANNEXURE

Internship confirmation mail:



Gmail

Search mail

Compose

Inbox 50

Starred

Snoozed

Sent

Drafts

More

Labels

2 of 2

Confirmation of Internship with LTIMindtree - Mrunalini Ronghe Inbox ×

LTI Campus Internship <campus.internship@lntinfotech.com>
to me, LTI, SubhashantiMohan, Dhara, Venkata

Jan 10, 2023, 11:54 AM

Dear Mrunalini Ronghe,

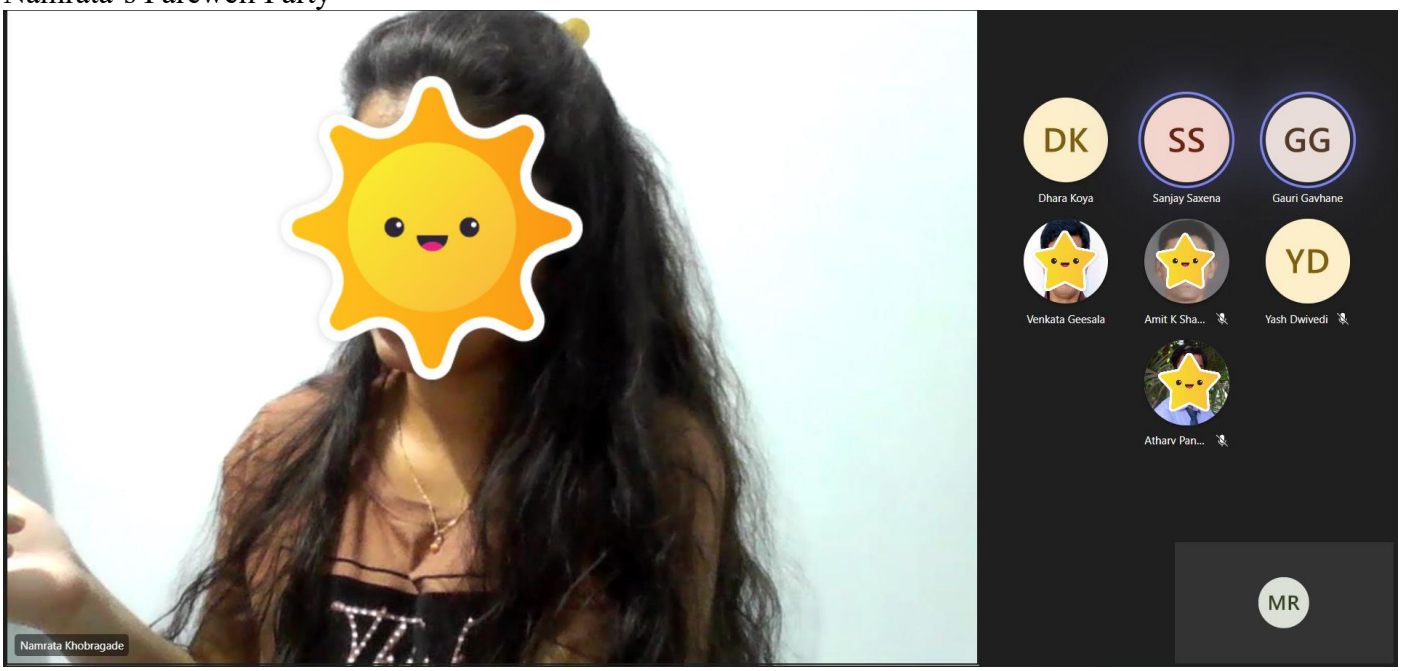
Greetings from LTIMindtree..!!!

This e-mail is with regards to your application for an internship opportunity with LTIMindtree. Congratulations! Your internship has been finalized with our organization starting from Monday, January 23, 2023 . Further details of the internship are as follows:

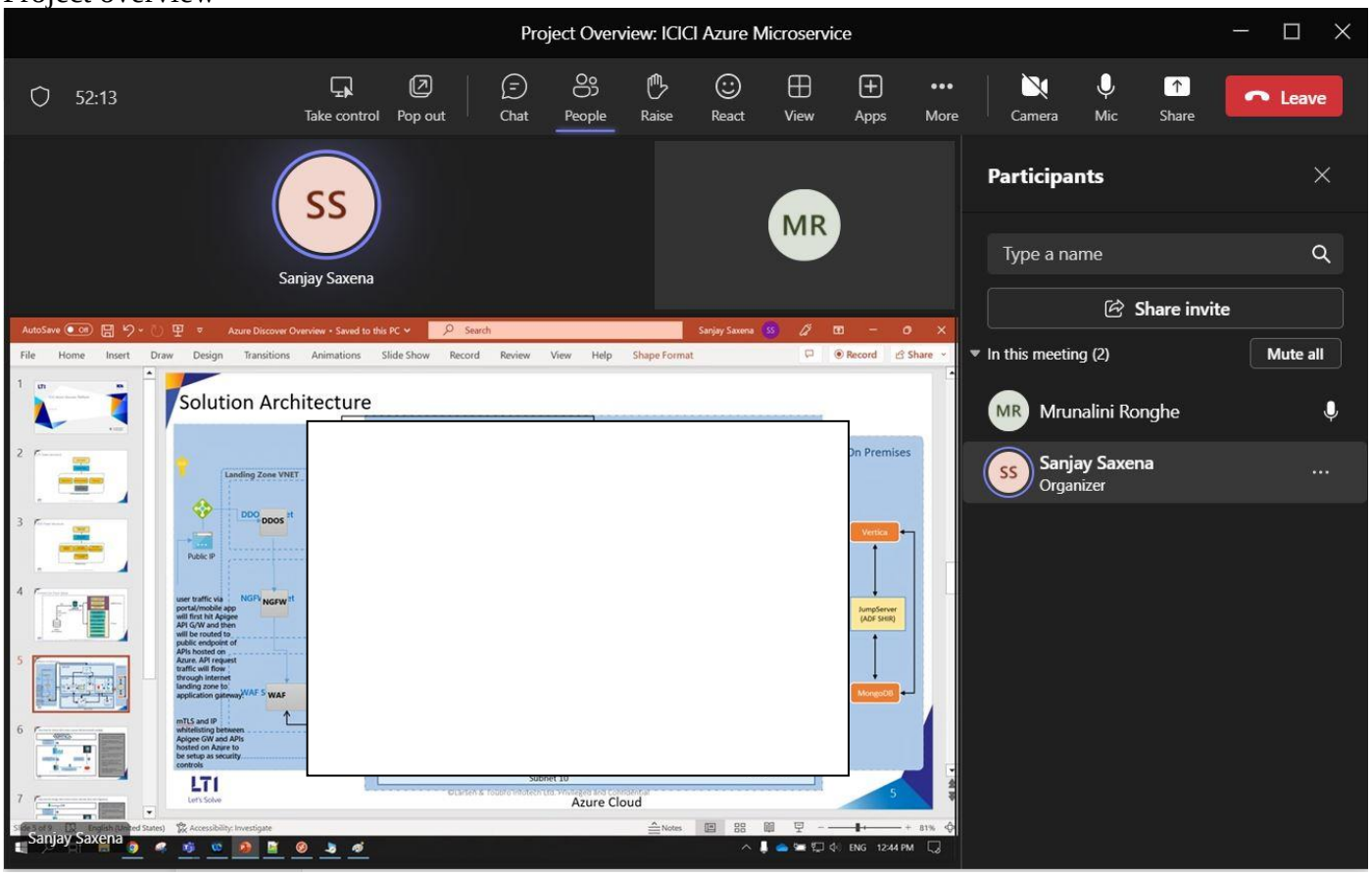
| | |
|---|---|
| **Location** | Hinjewadi Pune |
| **Reporting Manager** | Venkata Geesala |
| **Start date** | Monday, January 23, 2023 |
| **End date** | Friday, March 31, 2023 |
| **Stipend Payable** | Rs 0 |

Due to Current situation, we will be doing a Virtual joining for you on Monday, January 23, 2023.

Namrata's Farewell Party



Project overview




Project overview