INTERNSHIP REPORT

INFORMATION TECHNOLOGY DEPTARMENT

PAKISTAN ORDNACE FACTORIES

WAH CANTT – PAKISTAN

Table of Contents

PREFACE

I’m the student of Bachelors in Computer Science and my institute has assigned me to do internship for the period of 6 weeks to enhance my practical skills in the running business environment of any organization. The objective of this internship program is to expose myself into practical atmosphere where I can observe, analyze and even practice the application of the professional knowledge that we have acquired during the course of my studies.

I was selected to do my internship in nation POF. I worked here and it gave me a great practical knowledge about IT. In the following report I have narrated my experience, observation and all working activities which I observed.

ACKNOWLEDGEMENT

First of all, I’ll like to thanks Allah Almighty, for blessing me with the spirit, ability, courage and strength to complete this report.

I would like to thank all respective staff of POF Wah for their valuable guidance and advice. I would also like to thank them for providing me with all the information and experience they had.

Finally, an honorable mention goes to my family and friends for the inspiration and moral support they provided me throughout my time period.

HISTORY

In 1947, when Pakistan came into being there were 16 ordnance factories which fell in to the Indian share because of their locations. Pakistan, being a new born state had to create its own defense system. That defense system was created with a collaboration of British Royal Ordnance. Within four months of creation of Pakistan Liaquat Ali Khan issued a directive to create weapon factory for manufacturing of weapons in Pakistan. By following Liaquat Ali Khan’s association, the second prime minister of Pakistan Khawaja Nazimuddin established the first 4 factories of the POF in December 1951.

INTRODUCTION

Pakistan Ordnance factories are the premier defense industries in Pakistan producing a wide range of conventional defensive ammunitions to international standards. Recognized for quality, reliability and competitive POF products are internationally accepted.

The nucleus of has grown into a large modern engineering and chemical group of factories, producing large range of munition systems of ground, Air and Naval Forces, in addition to meeting the domestic demand of the defense forces, POF products are in service with over 30 countries, conforming to the highest international standards of quality and reliability.

POF is specialized in the manufacture of a variety of commercial explosive, detonators, brass and ferrous compounds.

POF also provides specialized training in courses related to armament production in its institute of technology equipped with some of the latest simulation and training aids.

MAINSTREAM INDUSTRIES

- Weapon Factory
- Machine Gun Factory
- Small Arm Ammo Factory
- Medium Artillery Ammo Factory
- Heavy Artillery Ammo Factory
- Tank and Anti-Tank Ammo Factory
- Explosive Factory
- Filling Factory
- Propellant Factory
- Tungsten Alloy Factory
- Tungsten Carbide Factory
- Steel Foundry Factory
- Garments Factory

PROGRESS REPORT

1 WEB Development in java

I began the week by focusing on basic of HTML, CSS and Java. I create a Student Registration Form using HTML and CSS and then convert that form inJava GUI based.

1.1 JSP AND JSF

JSP (Java Server Pages) and JSF (Java Server Faces) are both Java technologies
used for developing web applications. Here Is a short overview of each

1.1.1 **JSP (Java Server Pages)**

Java Server Pages is a technology that allows developers to create dynamic web
pages by embedding Java code within HTML. It provides a simplified way of
building web applications by separating the presentation logic (HTML) from the business logic (Java code). With JSP, you can easily access Java objects, databases, and other resources to generate dynamic content. JSP pages are compiled into servlets and run on a web server.

1.1.2 **JSF (Java Server Faces)**

Java Server Faces is a component-based web framework that simplifies the development of user interfaces for Java web applications. It provides a set of reusable UI components and a rich event-driven programming model. JSF follows the Model-View-Controller (MVC) architectural pattern, allowing developers to separate concerns and build scalable applications. It offers a wide range of built- in features for handling user input, managing state, and rendering dynamic content.

2 SERVLETS

Servlets are a fundamental component of Java-based web applications. They are server-side Java programs that handle incoming HTTP requests and generate responses to those requests. Servlets are used to build dynamic web applications by processing user input, interacting with databases, and generating dynamic content that can be displayed in a web browser.

2.1 WORKING OF SERVLETS

Server Environment:

A web server (e.g., Apache Tomcat, Jetty) hosts the servlets. The server provides a runtime environment for executing Java servlets.

HTTP Requests:

When a user sends an HTTP request to the server (by entering a URL, submitting a form, etc.), the server determines if the request should be handled by a servlet based on the URL pattern specified in the web application's configuration.

Servlet Mapping:

The web application's configuration (usually in the web.xml file or through annotations) specifies which servlet should handle specific URL patterns. This is known as servlet mapping.

Servlet Execution:

If the server determines that a request matches a servlet's mapping, it invokes the servlet's methods, primarily the doGet and doPost methods (or other methods like doPut, doDelete, etc. depending on the HTTP method used in the request).

Request Processing:

The servlet receives the request object, which contains information about the request (e.g., parameters, headers, session information). The servlet can process this information, interact with databases, or perform any other necessary logic.

Response Generation:

The servlet generates a response by creating an appropriate HTTP response object. This can include HTML content, JSON data, or any other type of response.

Sending the Response:

The servlet sends the response object back to the web server, which, in turn, sends it back to the client (usually a web browser).

3 PRIMEFACES

Prime Faces is an open-source user interface (UI) component library for Java Server Faces (JSF) applications. JSF is a Java-based web application framework for building user interfaces, and Prime Faces enhances JSF by providing a rich set of UI components that make it easier to create modern and visually appealing web interfaces.

Key features and aspects of Prime Faces include:

Rich Component Set: Prime Faces offers a wide range of UI components such as buttons, input fields, data tables, calendars, charts, dialog boxes, and more. These components are pre-built and customizable, saving developers time and effort.

Ajax Capabilities:

One of the significant advantages of Prime Faces is its strong support for Asynchronous JavaScript and XML (Ajax). Ajax allows parts of a web page to be updated without a full page reload, leading to a more responsive and interactive user experience.

Themes and Skinning:

Prime Faces provides a collection of built-in themes that developers can apply to their applications, giving them a polished and professional look. Additionally, custom theming and skinning are possible to match the application's branding

Responsive Design:

Many of the Prime Faces components are designed with responsiveness in mind, ensuring that the user interface adapts well to various screen sizes, including mobile devices.

Integration with JSF: Prime Faces seamlessly integrates with Java Server Faces (JSF) applications. Developers can use Prime Faces components in their JSF pages, and Prime Faces leverages the JSF lifecycle and managed beans.

Community and Documentation:

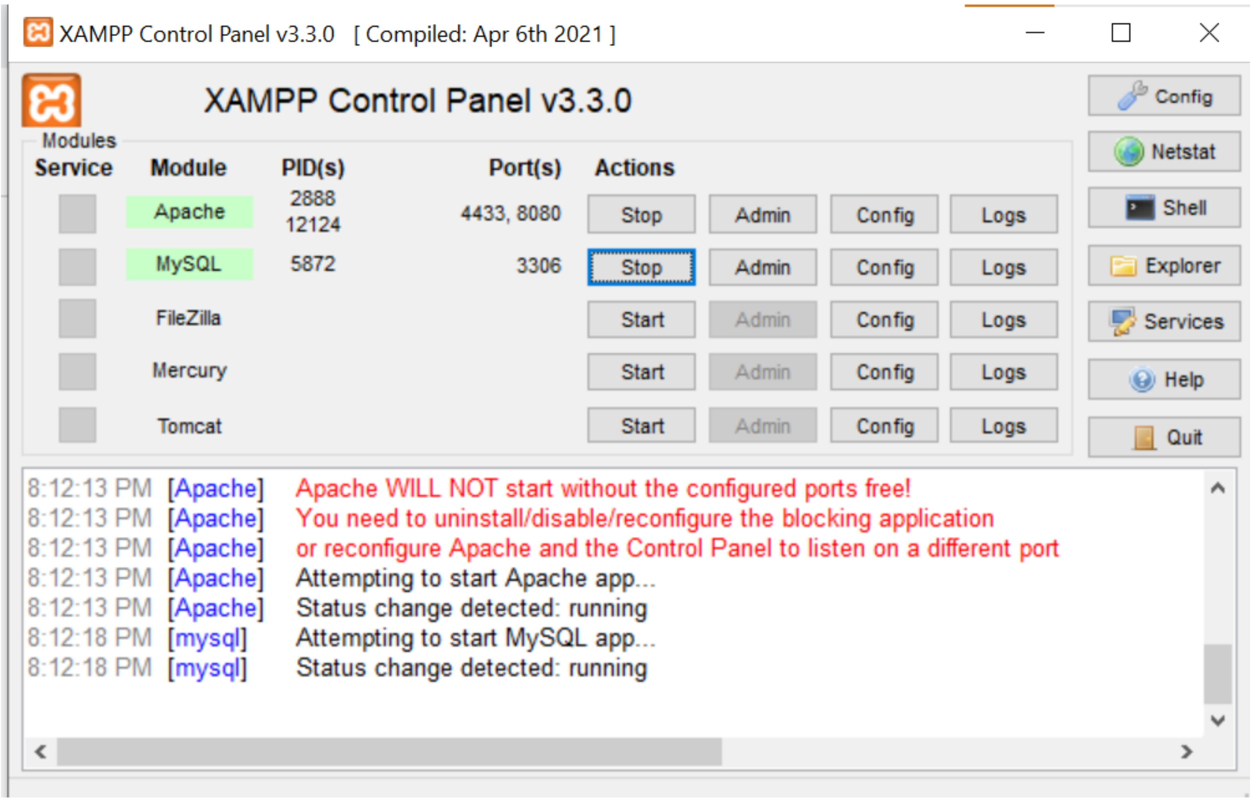
Prime Faces has a strong and active community, which means there are many resources available, including documentation, forums, and example projects. This community support can be invaluable when developing applications using Prime Faces.

Prime Faces simplifies the process of building feature-rich and visually appealing web applications in Java, particularly for developers who are already familiar with Java Server Faces. It's commonly used in Java web development alongside other technologies such as Java EE (Enterprise Edition) or Jakarta EE (the successor to Java EE).

Registration Form Using HTML, CSS:

I acquired a basic understanding of HTML and CSS and java. I applied my knowledge to create a student registration form. The form included fields for personal information and contact details. I utilized CSS to enhance the visual appeal and responsiveness of the form. I had connected this form with the MYSQL database (XAAMP).

XAMP control pannel


XAMPP Control Panel v3.3.0 [Compiled: Apr 6th 2021]
XAMPP Control Panel v3.3.0
Config
Netstat
Shell
Explorer
Services
Help
Quit
Modules

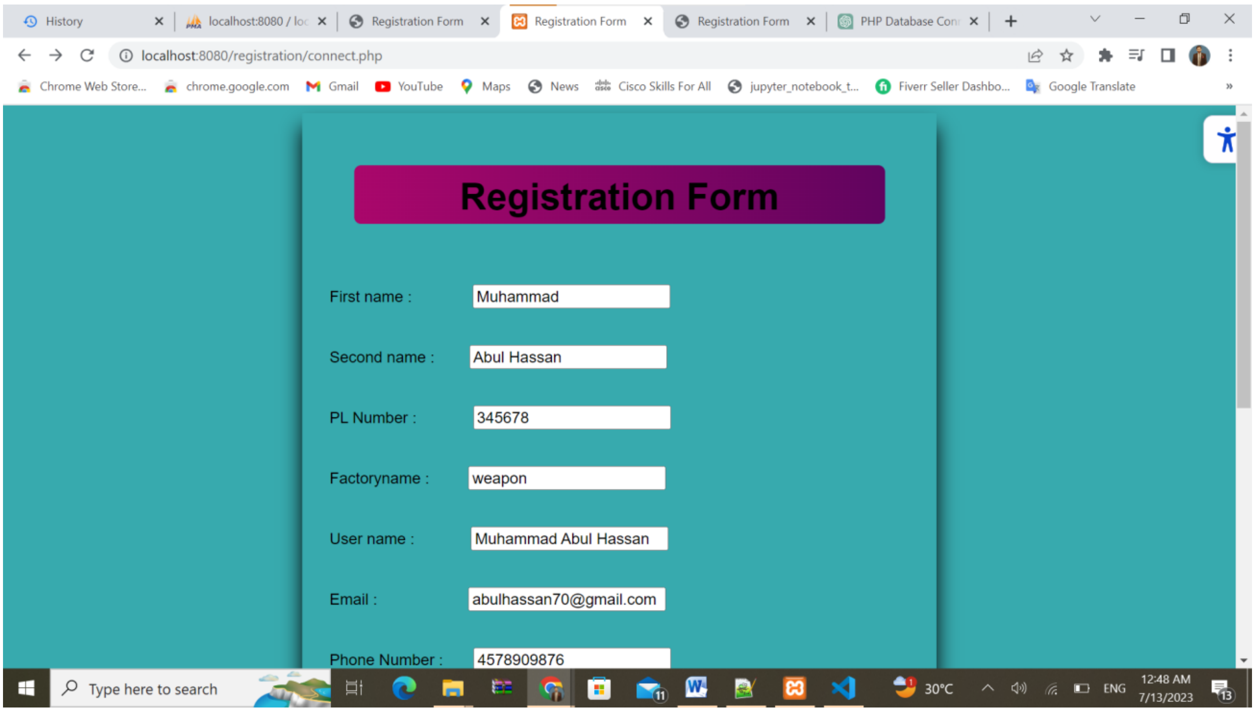
Service	Module	PID(s)	Port(s)	Actions			
□	Apache	2888 12124	4433, 8080	Stop	Admin	Config	Logs
□	MySQL	5872	3306	Stop	Admin	Config	Logs
□	FileZilla			Start	Admin	Config	Logs
□	Mercury			Start	Admin	Config	Logs
□	Tomcat			Start	Admin	Config	Logs

```
8:12:13 PM  [Apache]   Apache WILL NOT start without the configured ports free!
8:12:13 PM  [Apache]   You need to uninstall/disable/reconfigure the blocking application
8:12:13 PM  [Apache]   or reconfigure Apache and the Control Panel to listen on a different port
8:12:13 PM  [Apache]   Attempting to start Apache app...
8:12:13 PM  [Apache]   Status change detected: running
8:12:18 PM  [mysql]    Attempting to start MySQL app...
8:12:18 PM  [mysql]    Status change detected: running
```

Registration form running on XAMP

PDF

Final_report.pdf



Registration Form

First name : Muhammad

Second name : Abul Hassan

PL Number : 345678

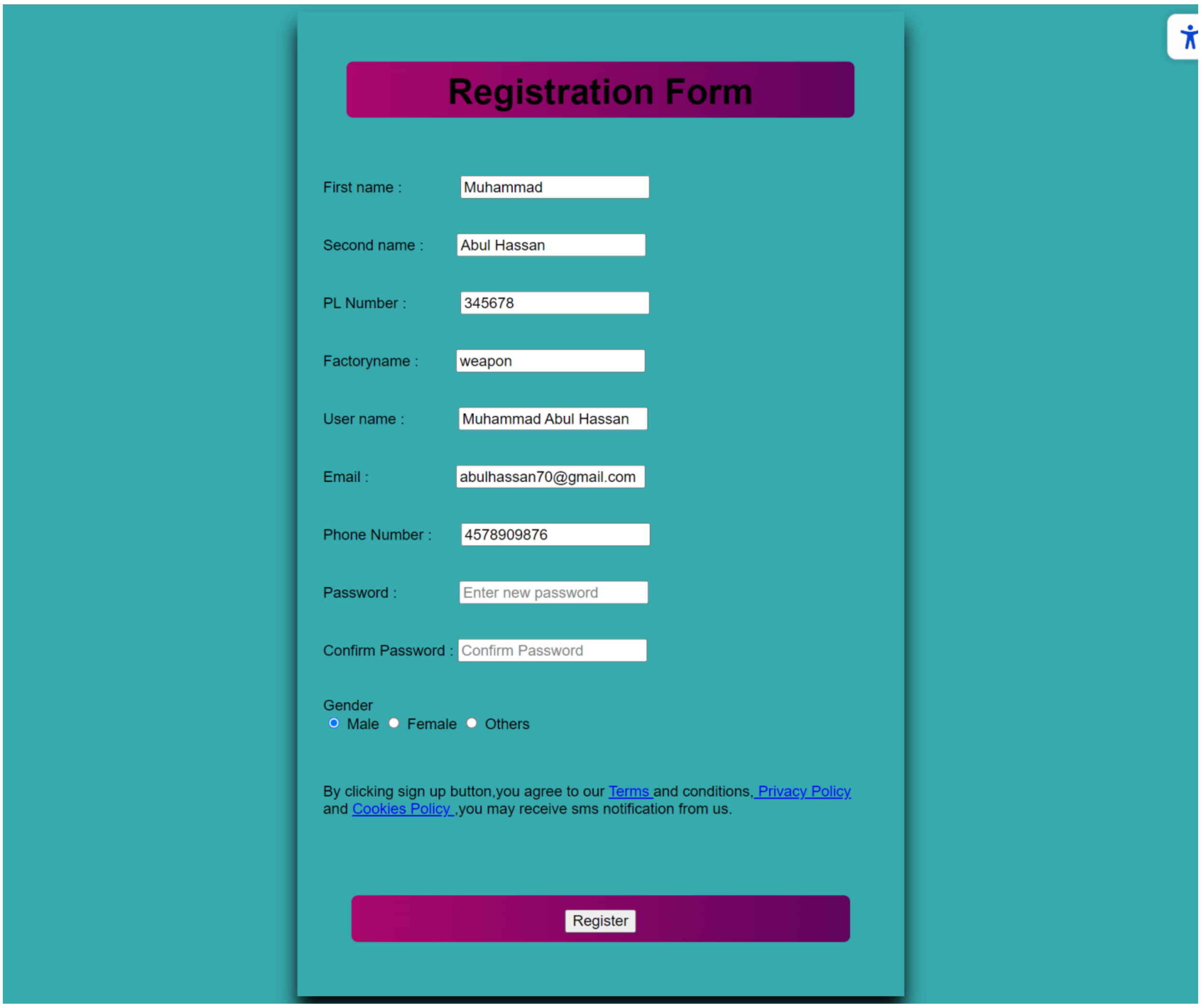
Factoryname : weapon

User name : Muhammad Abul Hassan

Email : abulhassan70@gmail.com

Phone Number : 4578909876

Complete form GUI

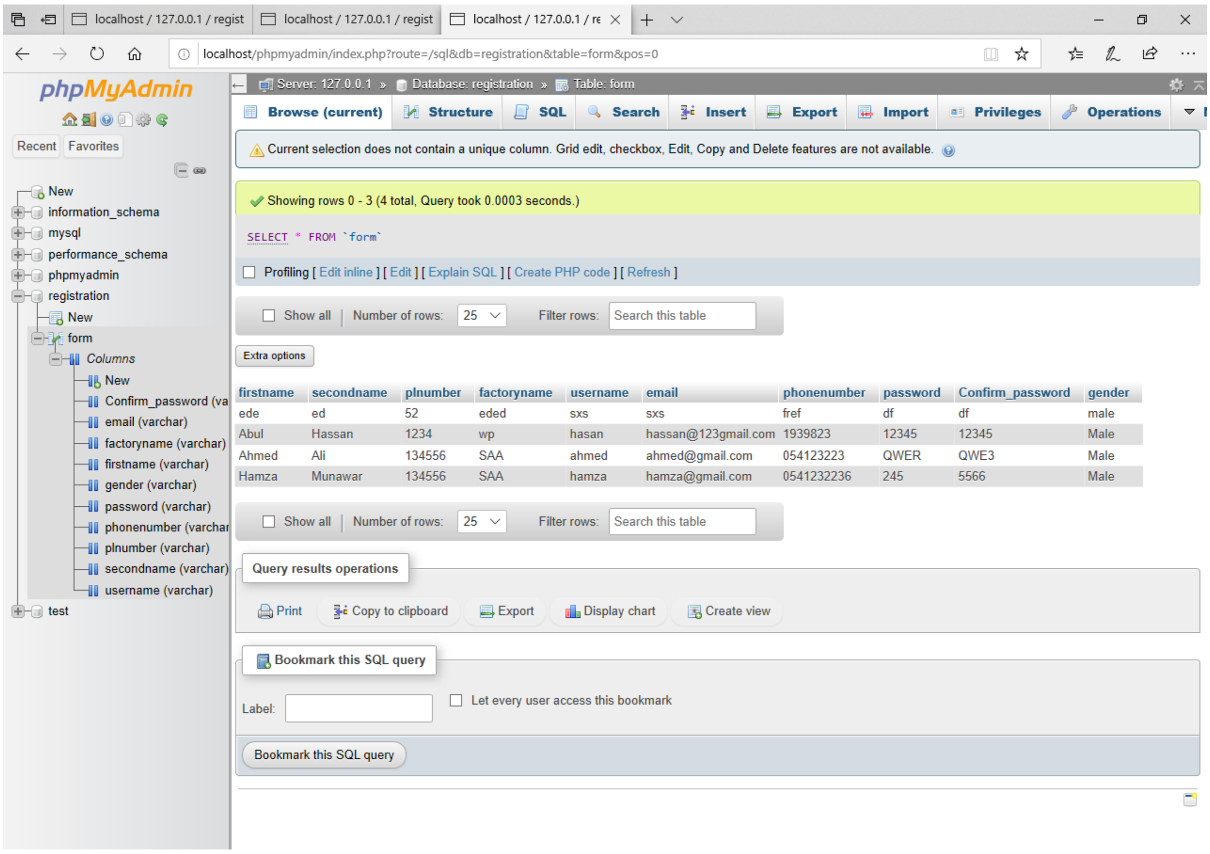


First name :	Muhammad
Second name :	Abul Hassan
PL Number :	345678
Factoryname :	weapon
User name :	Muhammad Abul Hassan
Email :	abulhassan70@gmail.com
Phone Number :	4578909876
Password :	Enter new password
Confirm Password :	Confirm Password

Gender
● Male ○ Female ○ Others

By clicking sign up button,you agree to our Terms and conditions, Privacy Policy and Cookies Policy .you may receive sms notification from us.

Data is saved in backend



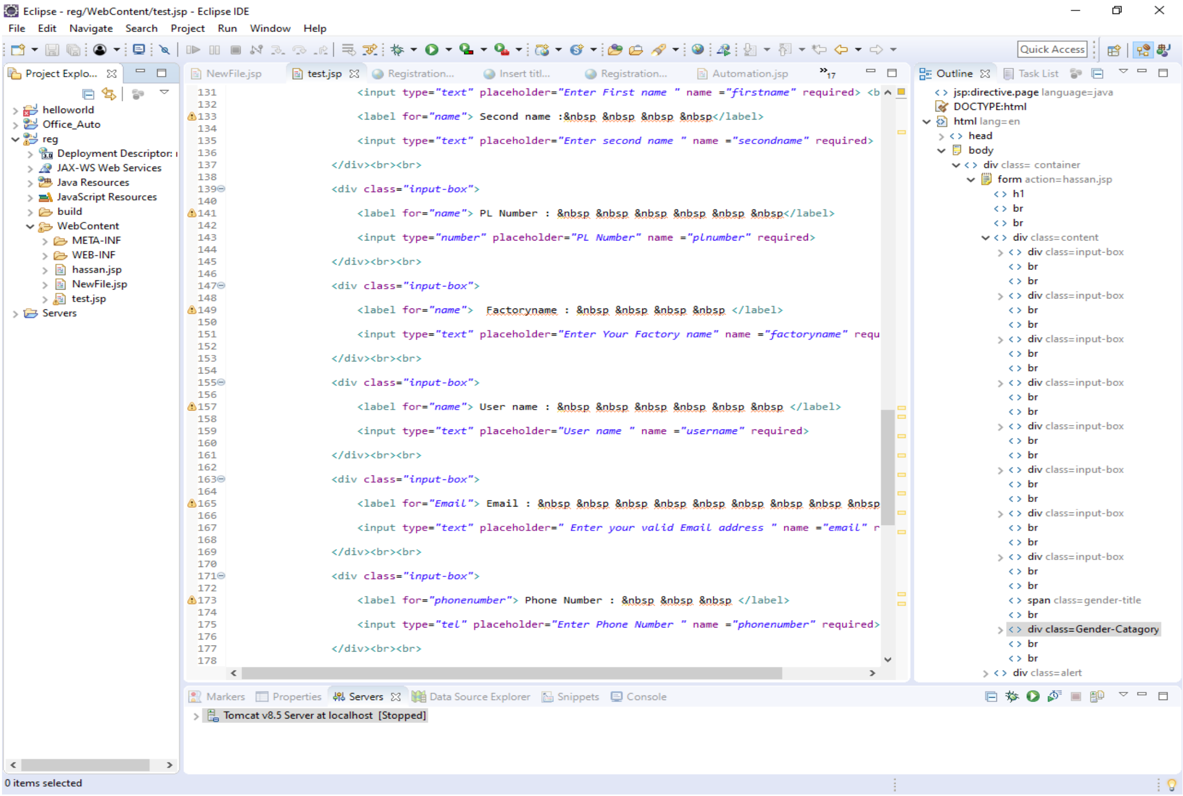
Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 3 (4 total, Query took 0.0003 seconds.)

```
SELECT * FROM `form`
```

firstname	secondname	plnumber	factoryname	username	email	phonenumber	password	Confirm_password	gender
ede	ed	52	eded	sxs	sxs	fref	df	df	male
Abul	Hassan	1234	wp	hasan	hassan@123gmail.com	1939823	12345	12345	Male
Ahmed	Ali	134556	SAA	ahmed	ahmed@gmail.com	054123223	QWER	QWE3	Male
Hamza	Munawar	134556	SAA	hamza	hamza@gmail.com	0541232236	245	5566	Male

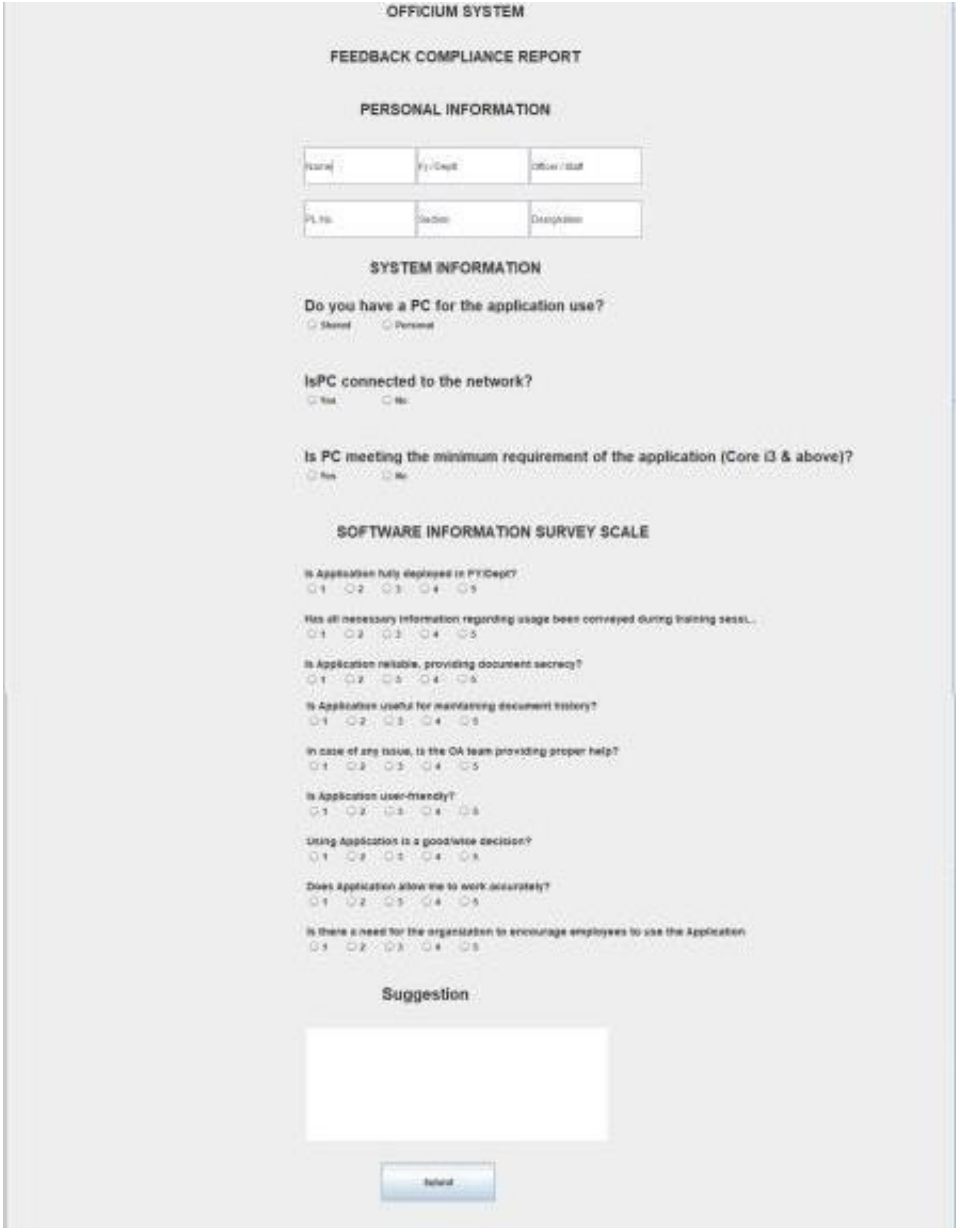
Code



```
          <input type="text" placeholder="Enter First name " name ="firstname" required> <b

          <label for="name"> Second name :&nbsp &nbsp &nbsp &nbsp</label>

          <input type="text" placeholder="Enter second name " name ="secondname" required>

      </div><br><br>

      <div class="input-box">

          <label for="name"> PL Number : &nbsp &nbsp &nbsp &nbsp &nbsp &nbsp</label>

          <input type="number" placeholder="PL Number" name ="plnumber" required>

      </div><br><br>

      <div class="input-box">

          <label for="name">  Factoryname : &nbsp &nbsp &nbsp &nbsp </label>

          <input type="text" placeholder="Enter Your Factory name" name ="factoryname" requ

      </div><br><br>

      <div class="input-box">

          <label for="name"> User name : &nbsp &nbsp &nbsp &nbsp &nbsp &nbsp </label>

          <input type="text" placeholder="User name " name ="username" required>

      </div><br><br>

      <div class="input-box">

          <label for="Email"> Email : &nbsp &nbsp &nbsp &nbsp &nbsp &nbsp &nbsp &nbsp &nbsp

          <input type="text" placeholder=" Enter your valid Email address " name ="email" r

      </div><br><br>

      <div class="input-box">

          <label for="phonenumber"> Phone Number : &nbsp &nbsp &nbsp </label>

          <input type="tel" placeholder="Enter Phone Number " name ="phonenumber" required>

      </div><br><br>

```

Tomcat v8.5 Server at localhost [Stopped]

4 OFFICIUM System in Java



OFFICIUM SYSTEM

FEEDBACK COMPLIANCE REPORT

PERSONAL INFORMATION

Name	Fy / Dept	Officer / Staff
PL No.	Section	Designation

SYSTEM INFORMATION

Do you have a PC for the application use?

○ Shared ○ Personal

IsPC connected to the network?

○ Yes ○ No

Is PC meeting the minimum requirement of the application (Core i3 & above)?

○ Yes ○ No

SOFTWARE INFORMATION SURVEY SCALE

Is Application fully deployed in FY/Dept?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5

Has all necessary information regarding usage been conveyed during training sessi...

○ 1 ○ 2 ○ 3 ○ 4 ○ 5

Is Application reliable, providing document secrecy?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5

Is Application useful for maintaining document history?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5

In case of any issue, is the OA team providing proper help?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5

Is Application user-friendly?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5

Using Application is a good/wise decision?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5

Does Application allow me to work accurately?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5

Is there a need for the organization to encourage employees to use the Application

○ 1 ○ 2 ○ 3 ○ 4 ○ 5

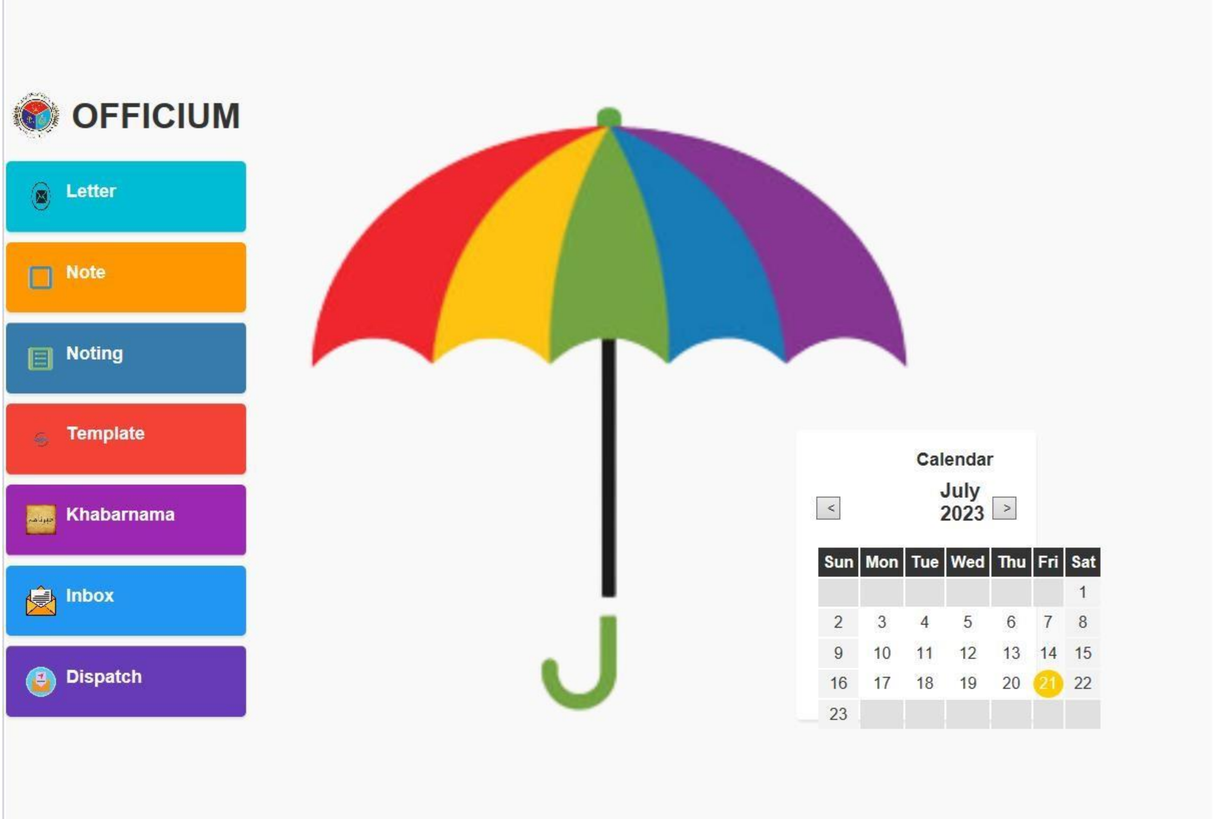
Suggestion

Registration Form in Java:

After completing the HTML/CSS form, I proceeded to convert it into a Java- based form with a simple GUI interface. This involved utilizing Java Swing, agraphical user interface (GUI) toolkit for Java, to create the form.

In addition to the previous form, I also developed a new form for theOFFICIUM SYSTEM.

5 CREATING DASHBOARD OF OFFICIUM (FRONT-END)



Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23						

6 INTRODUCTION TO ALFRESCO

Alfresco is an open-source, enterprise content management (ECM) platform designed to manage and organize content within an organization. It provides a wide range of features for document management, collaboration, records management, and business process automation.

Here are some key aspects of Alfresco:

Document Management:

Alfresco allows users to create, store, organize, and manage various types of documents, such as text files, spreadsheets, presentations, images, and videos.

Collaboration:

It offers collaborative features, enabling multiple users to work together on documents simultaneously. Users can comment, review, and track changes on documents, fostering teamwork and efficient collaboration.

Versioning and Control:

Alfresco maintains version histories of documents, so users can track changes, revert to previous versions, and manage document control effectively.

Workflow and Business Process Automation:

The platform supports workflow automation, allowing organizations to define, manage, and automate various business processes. This can streamline approvals, review processes, and document routing.

Records Management:

Alfresco includes records management capabilities, ensuring compliance with industry regulations and retention policies for important documents and records.

Integration:

Alfresco can integrate with various other systems, such as customer relationship management (CRM) software, enterprise resource planning (ERP) systems, and other third-party applications, enabling seamless data flow and information sharing.

Security and Access Control:

The platform offers robust security features, including role-based access control, encryption, and user authentication, ensuring that sensitive information is protected.

Search and Retrieval:

Alfresco provides advanced search functionalities, making it easy for users to find the documents they need quickly.

Alfresco is commonly used by businesses and organizations of all sizes to manage their content efficiently and improve collaboration among employees. As an open-source solution, it offers flexibility and the ability to customize the platform to meet specific business needs. Please note that since my knowledge cutoff date is September 2021, there might have been updates or developmentsrelated to Alfresco beyond that date. For the latest information, I recommend visiting AL fresco's official website or relevant online resources.

Features:

Noteworthy features of Alfresco include its robust document management capabilities. Users can securely create, store, organize, and search for files within a centralized repository.

Version control ensures easy tracking of changes and access to previous document versions.

Promoting effective teamwork, alfresco enables collaboration among team members through features like file sharing, commenting, and task assignment. Real-time collaboration enhances productivity and efficiency.

Workflow automation is a key strength of Alfresco, allowing organizations to define and automate business processes using its workflow engine. This streamlines routine tasks and ensures content follows predefined approval processes, reducing manual effort and ensuringconsistency.

To adhere to regulatory requirements and data governance standards, Alfresco offers content governance features. Users can set access controls, permissions, and retention policies for documents.

AL fresco’s open architecture allows seamless integration with other systems and applications.

Supporting various content-related standards, the platform is highly adaptable and extensible. Accessing content is convenient through Alfresco's user-friendly web-based interface, accessible from any device with an internet connection.

Alfresco offers two editions: Community Edition (CE) and Enterprise Edition (EE). The Community Edition is free and open-source, while the Enterprise Edition provides additional features, support, and maintenance for enterprise users.

6.1 ALFRESCO INSTALLATION USING DOCKER

Step 01: Install WSL2 (Windows Subsystem for Linux) for backend services of Docker, it will be automatically installed with latest docker installation or it can also be installed by the link: *https://docs.microsoft.com/en-us/windows/wsl/install*

Step 02: Install Docker Desktop for Windows by the link:

https://docs.docker.com/get-docker/

Step 03: Install NodeJS 12 from the link:

https://nodejs.org/es/blog/release/v12.13.0/

Step 04: Once Node.js is installed, you can install Yeoman as a module:

```
$ npm install -g yo
```

And finally, you can install this generator:

```
$ npm install --global generator-alfresco-docker-installerOR
```

Install Yeoman and Alfresco Docker Installer using link: *https://github.com/alfresco/alfresco-docker-installer*

Step 05: Create Alfresco Docker Compose template

```
$ yo alfresco-docker-installer
```

Step 06: Start Alfresco Docker Compose

```
$ docker-compose up
```

Step 07: If you want to stop the docker, stop it by pressing CTRL + C

7 E-DRAW AND ITS USES

Certainly! Edraw Max, developed by Wondershare, is a comprehensive diagramming software that offers a wide range of tools and templates for creating various types of visual content. Here's a moredetailed explanation of some of the features and capabilities of Edraw Max:

Flowcharts:

Edraw Max provides a user-friendly interface for creating flowcharts, making it easy to represent processes, workflows, and decision-making structures using different shapes and connectors.

Organizational Charts:

With Edraw Max, you can design professional-looking organizational charts to visualize the hierarchical structure of an organization, team, or project.

Network Diagrams:

Edraw Max supports creating network diagrams to illustrate computer networks, server layouts, and network topologies, helping with network planning and troubleshooting.

Business Presentations: The software allows you to design visually engaging business presentations by combining various diagrams, charts, and images to convey information effectively.

Building Plans:

Edraw Max includes tools for creating floor plans, home designs, office layouts, and other building plans, making it useful for architects, interior designers, and property planners.

Mind Maps:

Edraw Max enables the creation of mind maps, a visual representation of ideas, concepts, and relationships, making it helpful for brainstorming, organizing thoughts, and project planning.

Science Illustration:

This feature allows users to create scientific illustrations and diagrams for educational purposes, research papers, or presentations.

Fashion Designs:

Edraw Max provides templates and tools for fashion designers to sketch clothing designs and visualize fashion concepts.

UML Diagrams:

The software supports Unified Modeling Language (UML) diagrams, used for modeling software systems and designing software applications.

Workflows and Program Structures:

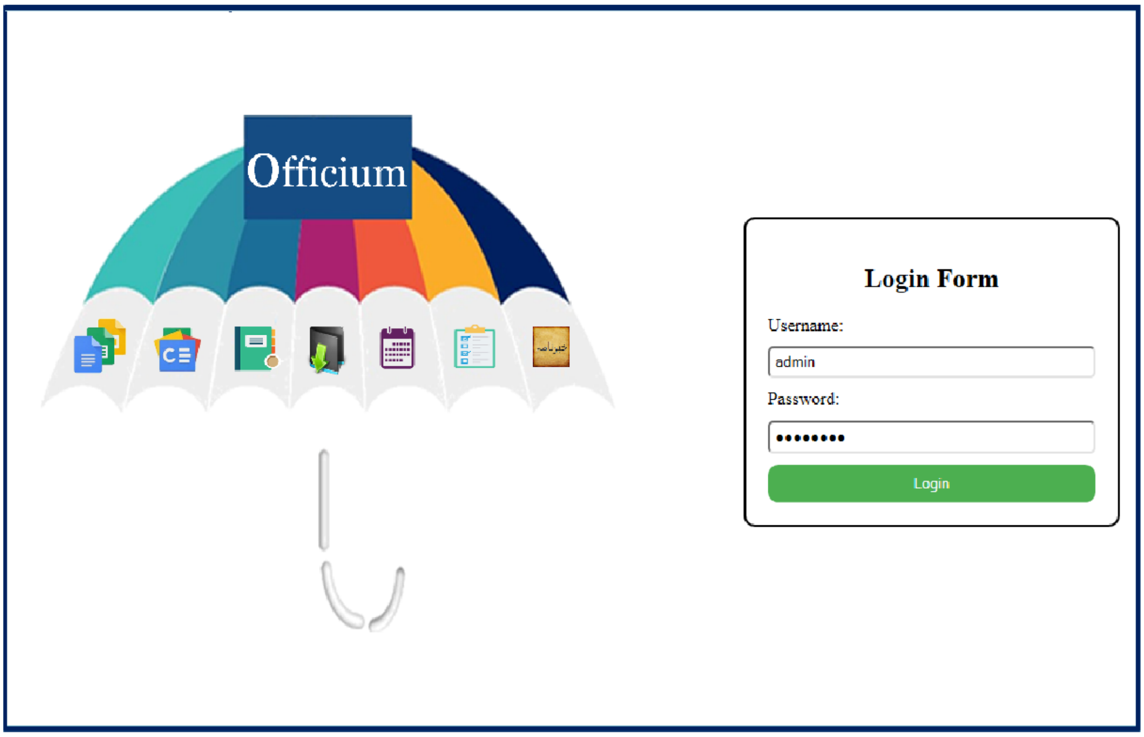
Edraw Max allows the creation of workflows and program structures for process visualization and software development.

Web Design:

For web designers, Edraw Max offers tools to create website wireframes and mockups to plan and communicate web design ideas effectively.

Edraw Max aims to provide a user-friendly and versatile platform for professionals and non-professionals alike to create a wide variety of visual content without the need for extensive design skills. The software offers a large library of pre-designed templates, symbols, and shapes, which users can customize to suit their specific needs. Additionally, Edraw Max supports exporting diagrams and content in multiple formats, making it easy to share and collaborate with others.

8 DESIGNING LOGIN FORM OF OFFICIUM



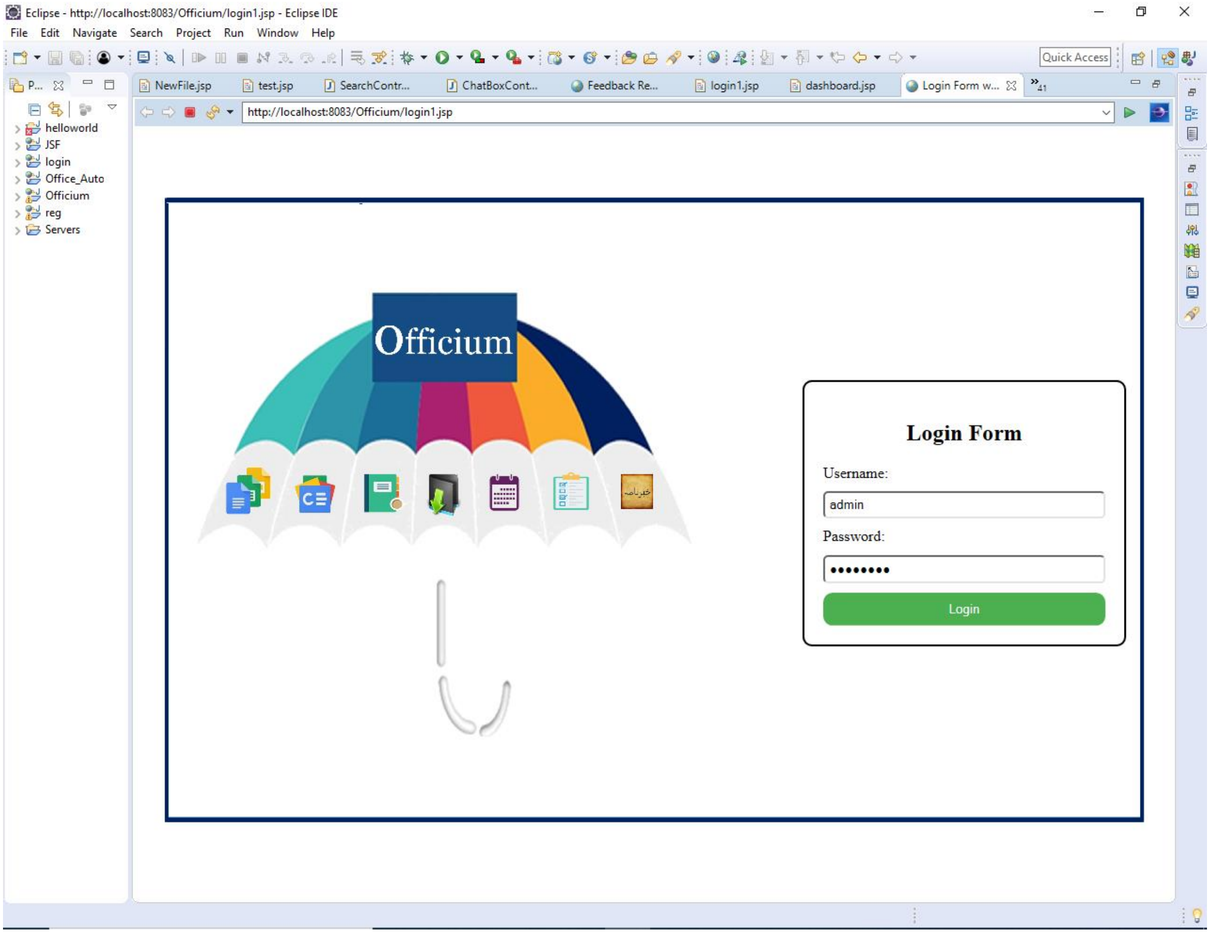
Login Form

Username:

admin

Password:

••••••••



Eclipse - http://localhost:8083/Officium/login1.jsp - Eclipse IDE

http://localhost:8083/Officium/login1.jsp

Login Form

Username:

admin

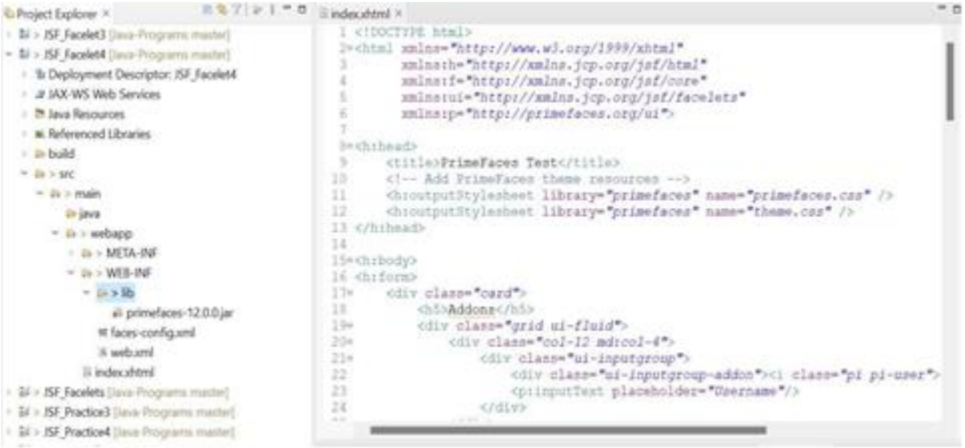
Password:

••••••••

9 INTEGRATING PRIMEFACES IN JSF

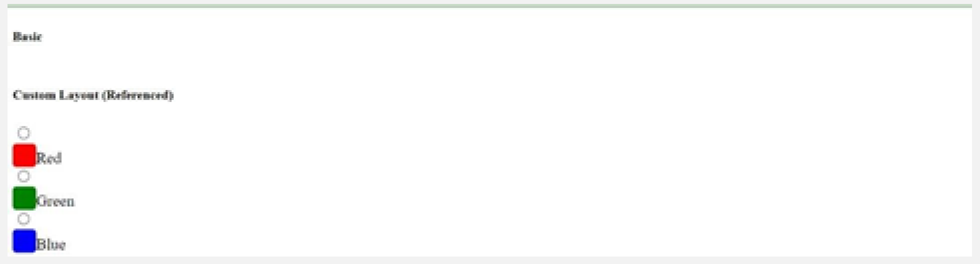
I learned how to integrate PrimeFaces, a popular JSF component library, into my JSF projects. Utilizing PrimeFaces components allowed me to enhance the user interface and add rich functionalities to web applications.

9.1 MANAGING MAVEN DEPENDENCIES


Project Explorer
JSF_Facelet3 [Java-Programs master]
JSF_Facelet4 [Java-Programs master]
Deployment Descriptor: JSF_Facelet4
JAX-WS Web Services
Java Resources
Referenced Libraries
build
src
main
java
webapp
META-INF
WEB-INF
lib
primefaces-12.0.0.jar
faces-config.xml
web.xml
index.xhtml
JSF_Facelets [Java-Programs master]
JSF_Practice3 [Java-Programs master]
JSF_Practice4 [Java-Programs master]
index.xhtml

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml"
      xmlns:h="http://xmlns.jcp.org/jsf/html"
      xmlns:f="http://xmlns.jcp.org/jsf/core"
      xmlns:ui="http://xmlns.jcp.org/jsf/facelets"
      xmlns:p="http://primefaces.org/ui">

<h:head>
    <title>PrimeFaces Test</title>
    <!-- Add PrimeFaces theme resources -->
    <h:outputStylesheet library="primefaces" name="primefaces.css" />
    <h:outputStylesheet library="primefaces" name="theme.css" />
</h:head>

<h:body>
<h:form>
    <div class="card">
        <h5>Addons</h5>
        <div class="grid ui-fluid">
            <div class="col-12 md:col-4">
                <div class="ui-inputgroup">
                    <div class="ui-inputgroup-addon"><i class="pi pi-user">
                    <p:inputText placeholder="Username"/>
                </div>
```

Output :



Basic

Custom Layout (Referenced)

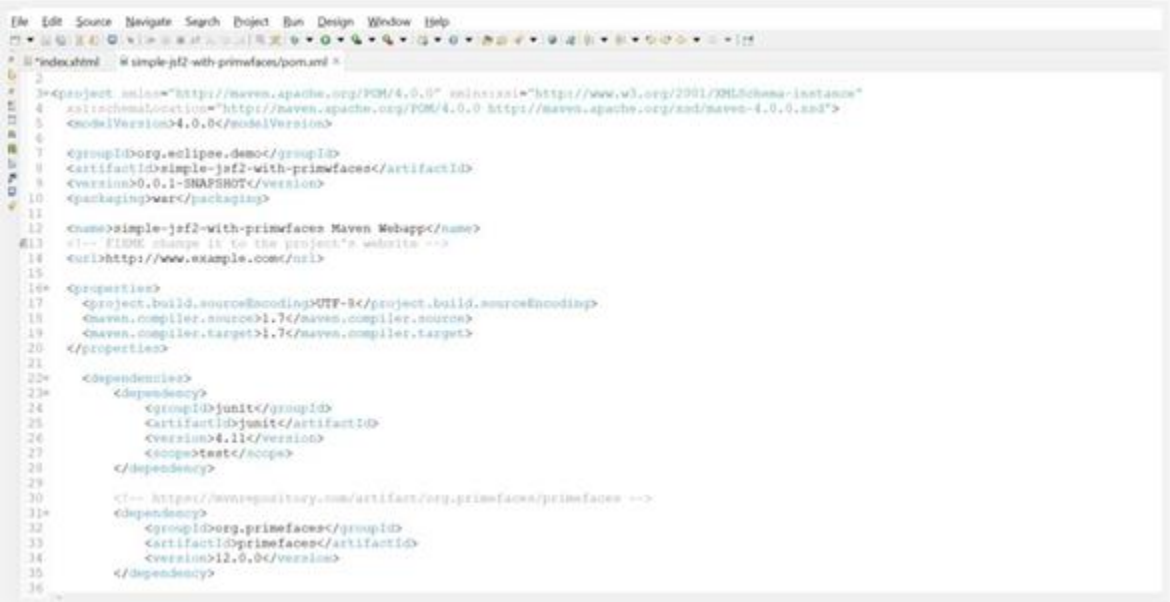
○ 🟥Red

○ 🟩Green

○ 🟦Blue

9.1.1 GETTING KNOWLEDGE ABOUT MAVEN DEPENDENCIES

Understanding Maven dependencies was a crucial aspect of my development process as it allowed me to streamline project management efficiently. I learned how to configure Maven's pom.xml files effectively, ensuring smooth project builds, and simplified the process of incorporating external libraries and frameworks into my projects.



```
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <groupId>org.eclipse.demo</groupId>
  <artifactId>simple-jsf2-with-primwfaces</artifactId>
  <version>0.0.1-SNAPSHOT</version>
  <packaging>war</packaging>

  <name>simple-jsf2-with-primwfaces Maven Webapp</name>
  <!-- FIXME change it to the project's website -->
  <url>http://www.example.com</url>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <maven.compiler.source>1.7</maven.compiler.source>
    <maven.compiler.target>1.7</maven.compiler.target>
  </properties>

    <dependencies>
        <dependency>
            <groupId>junit</groupId>
            <artifactId>junit</artifactId>
            <version>4.11</version>
            <scope>test</scope>
        </dependency>

        <!-- https://mvnrepository.com/artifact/org.primefaces/primefaces -->
        <dependency>
            <groupId>org.primefaces</groupId>
            <artifactId>primefaces</artifactId>
            <version>12.0.0</version>
        </dependency>
```

10 INTEGRATING WORD FILE INTO A PROGRAM

In a practical project, I successfully integrated a word file handling feature into a Java application. This enabled the program to interact with word documents programmatically, opening up possibilities for document manipulation.

I dedicated time to learn about Edraw, an essential tool for creating visual content. Understanding Edraw's features and capabilities expanded my knowledge in creating effective visual representations for web applications.

11 GETTING STARTED WITH ALFRESCO

Alfresco is an open-source,

enterprise-grade content management system designed to manage, organize, and share digital content within organizations. It offers a wide range of document management capabilities and collaboration features, making it an excellent solution for businesses seeking to efficiently manage their content and workflows.

Key features of Alfresco include:

Document Management: Alfresco provides a robust platform for creating, storing, and organizing documents, ensuring version control and document lifecycle management.

Collaboration: With built-in collaboration tools, Alfresco enables teams to work together on projects, share documents, and collaborate in real-time, fostering productivity and efficient communication.

Workflow Automation: The system supports customizable workflows, allowing organizations to automate their business processes and streamline document approval and review procedures.

Metadata and Tagging: Alfresco allows users to assign metadata and tags to documents, making it easier to search, categorize, and organize content effectively.

Security and Access Control: Alfresco comes with robust security features, enabling organizations to control access to sensitive documents and set permissions based on roles anduser groups.

Integration and Extensibility: It offers a flexible architecture and API support, facilitating seamless integration with other systems and the ability to extend the platform's functionality to meet specific business needs.

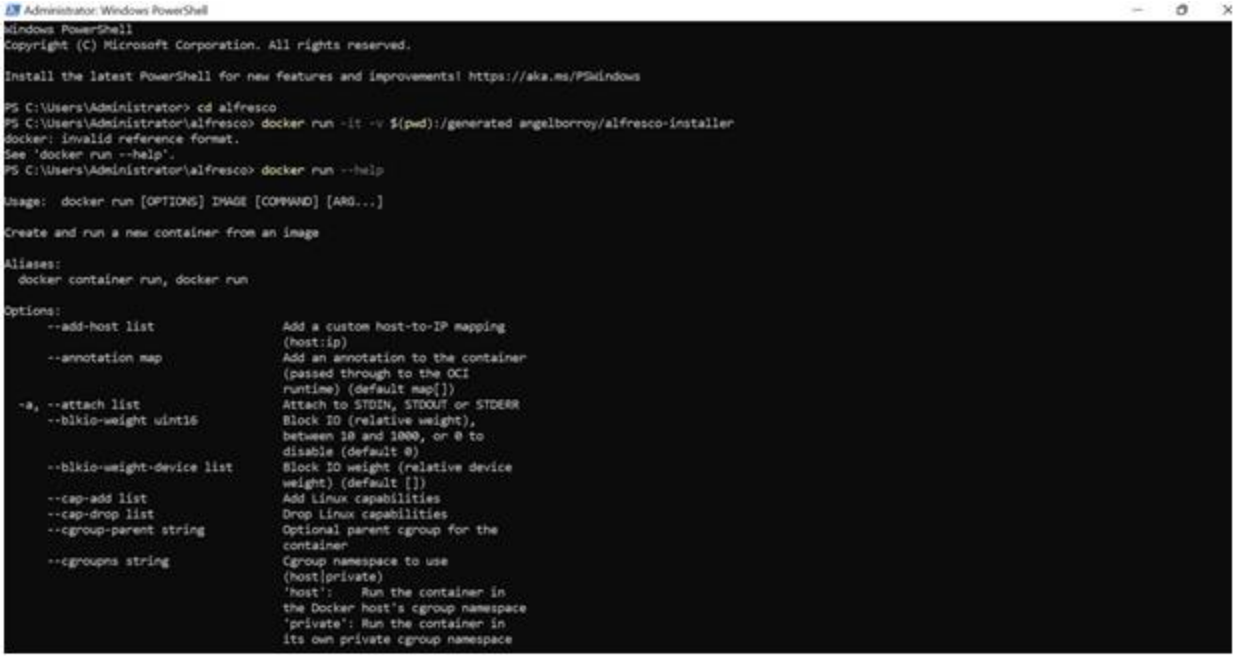
Mobile and Remote Access: Alfresco's mobile-friendly interface allows users to access and collaborate on content from anywhere using various devices, enhancing remote work capabilities.

Records Management: The system includes records management capabilities, ensuring compliance with industry regulations and retention policies.

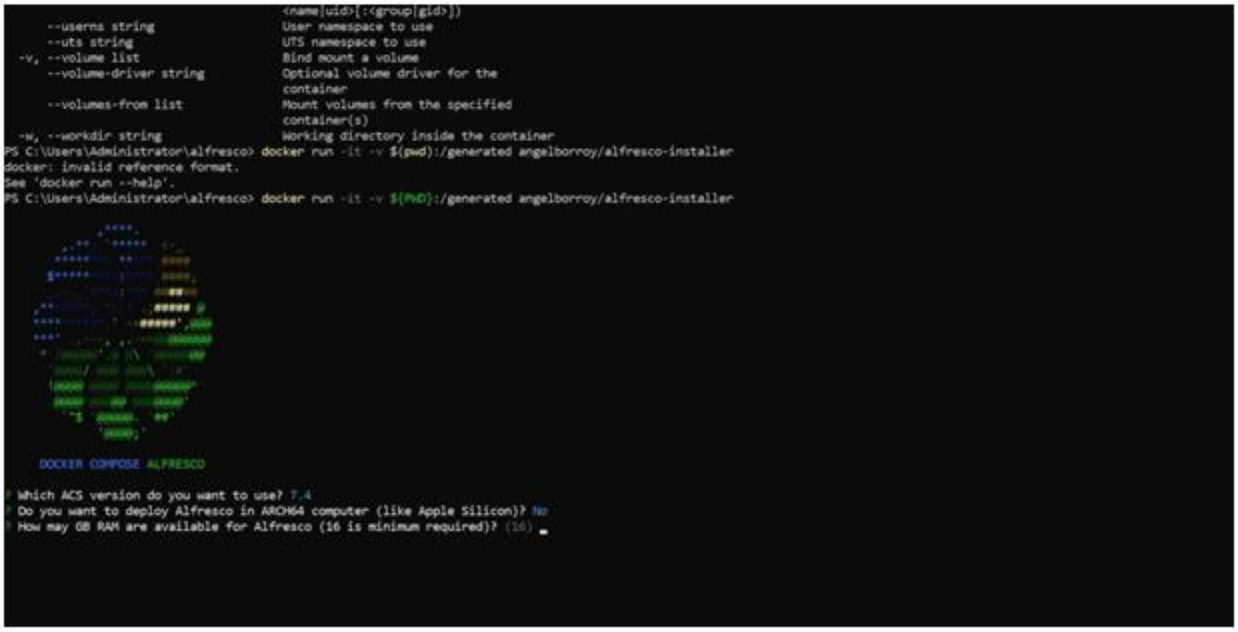
Enterprise Search: Alfresco's powerful search functionality makes it easy to locate documents and content across the platform quickly.

11.1 INSTALLING NECESSARY REQUIREMENTS FOR ALFRESCO THROUGH DOCKER

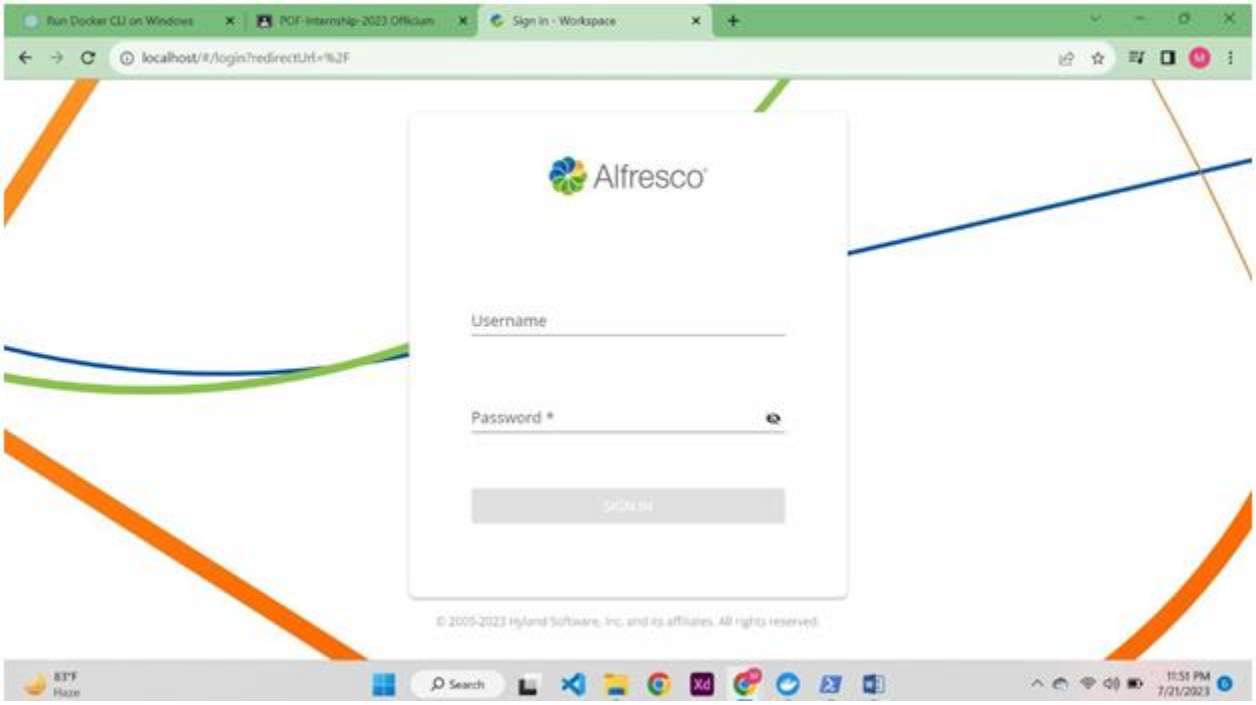
To kickstart my experience with Alfresco, I set up the necessary requirements using Docker containers. This allowed me to create a local environment for Alfresco development and testing.



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Administrator> cd alfresco
PS C:\Users\Administrator\alfresco> docker run -it -v $(pwd):/generated angelborroy/alfresco-installer
docker: invalid reference format.
See 'docker run --help'.
PS C:\Users\Administrator\alfresco> docker run --help

Usage:  docker run [OPTIONS] IMAGE [COMMAND] [ARG...]

Create and run a new container from an image

Aliases:
  docker container run, docker run

Options:
      --add-host list                  Add a custom host-to-IP mapping
                                       (host:ip)
      --annotation map                 Add an annotation to the container
                                       (passed through to the OCI
                                       runtime) (default map[])
  -a, --attach list                    Attach to STDIN, STDOUT or STDERR
      --blkio-weight uint16            Block IO (relative weight),
                                       between 10 and 1000, or 0 to
                                       disable (default 0)
      --blkio-weight-device list       Block IO weight (relative device
                                       weight) (default [])
      --cap-add list                   Add Linux capabilities
      --cap-drop list                  Drop Linux capabilities
      --cgroup-parent string           Optional parent cgroup for the
                                       container
      --cgroupns string                Cgroup namespace to use
                                       (host|private)
                                       'host':    Run the container in
                                       the Docker host's cgroup namespace
                                       'private': Run the container in
                                       its own private cgroup namespace
```



```
                                      <name|uid>[:<group|gid>])
      --userns string                 User namespace to use
      --uts string                    UTS namespace to use
  -v, --volume list                   Bind mount a volume
      --volume-driver string          Optional volume driver for the
                                      container
      --volumes-from list             Mount volumes from the specified
                                      container(s)
  -w, --workdir string                Working directory inside the container
PS C:\Users\Administrator\alfresco> docker run -it -v $(pwd):/generated angelborroy/alfresco-installer
docker: invalid reference format.
See 'docker run --help'.
PS C:\Users\Administrator\alfresco> docker run -it -v ${PWD}:/generated angelborroy/alfresco-installer

    DOCKER COMPOSE ALFRESCO

? Which ACS version do you want to use? 7.4
? Do you want to deploy Alfresco in ARCH64 computer (like Apple Silicon)? No
? How may GB RAM are available for Alfresco (16 is minimum required)? (16)
```


Run Docker CLI on Windows
PDF-Internship-2023 Officium
Sign in - Workspace
localhost/#/login?redirectUrl=%2F
Alfresco
Username
Password *
SIGN IN
83°F
Haze
Search
11:51 PM
7/21/2023

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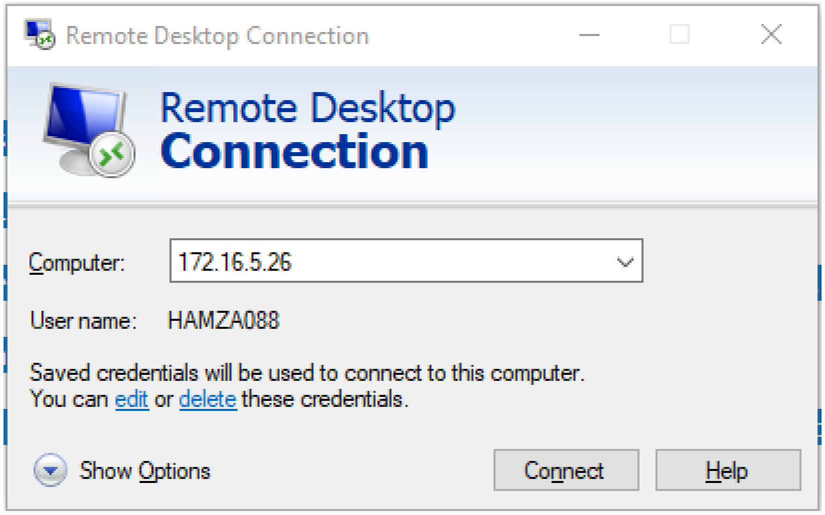
12 REMOTE DESKTOP CONNECTION (FOR USING PACS)

A Remote Desktop Connection (RDC) is a technology and feature provided by Microsoft for remote access to a Windows-based computer from another computer or device, typically over a network such as the internet. This technology allows a user to control a remote computer as if they were physically sitting in front of it, giving them access to the desktop, applications, and files on the remote machine.



Computer: 172.16.5.26

User name: HAMZA088

Saved credentials will be used to connect to this computer.
You can edit or delete these credentials.

Here's a breakdown of how Remote Desktop Connection works:

Host Computer:

The computer that you want to access remotely is called the "host" computer. This computer needs to have Remote Desktop enabled and configured to accept incoming remote connections.

Client Computer:

The computer you're using to connect to the host computer is the "client" computer. It must have a Remote Desktop Client application, which is built into many versions of Windows or can be downloaded for other operating systems, to initiate the remote connection.

Connection:

The client computer establishes a connection to the host computer using the Remote Desktop Protocol (RDP), a proprietary protocol developed by Microsoft. The RDP protocol allows for secure and efficient communication between the client and host.

Desktop Control:

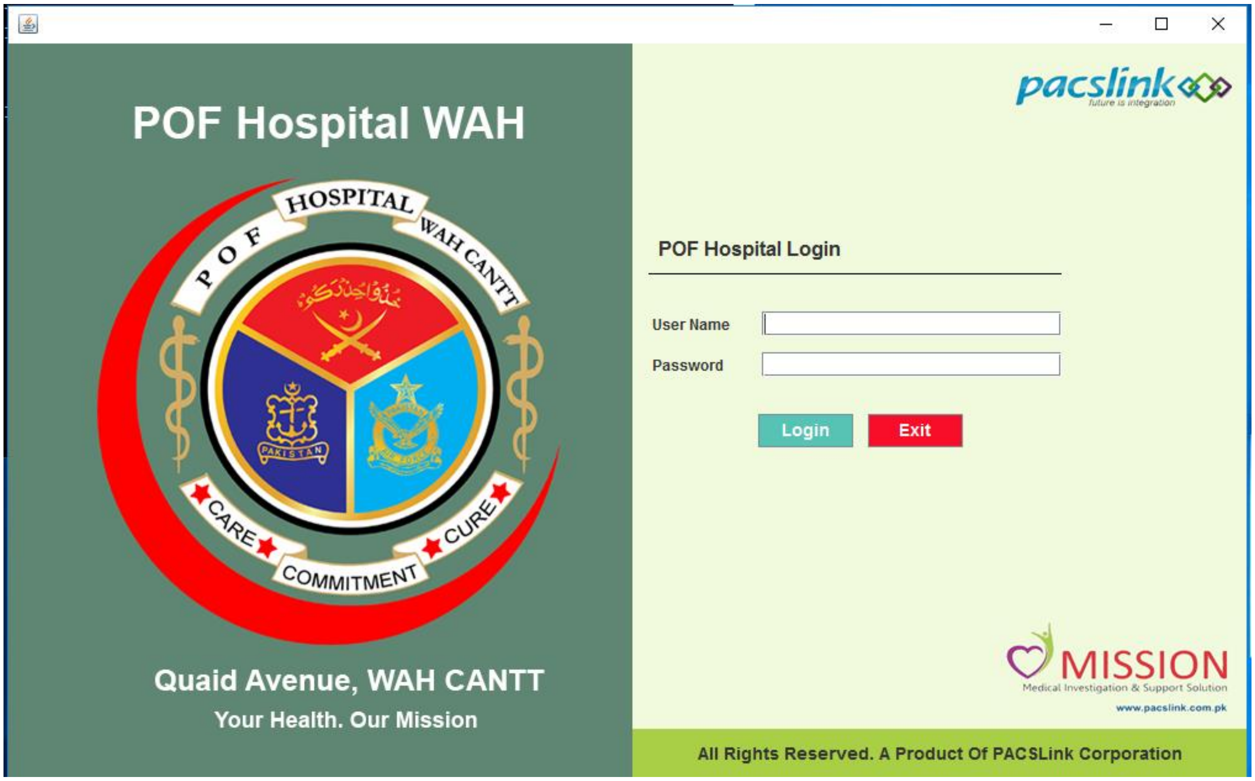
Once the connection is established, the user on the client computer sees the desktop of the remote host and can interact with it as if they were directly using the host computer. They can run applications, access files, and perform tasks just as if they were physically present.

Security:

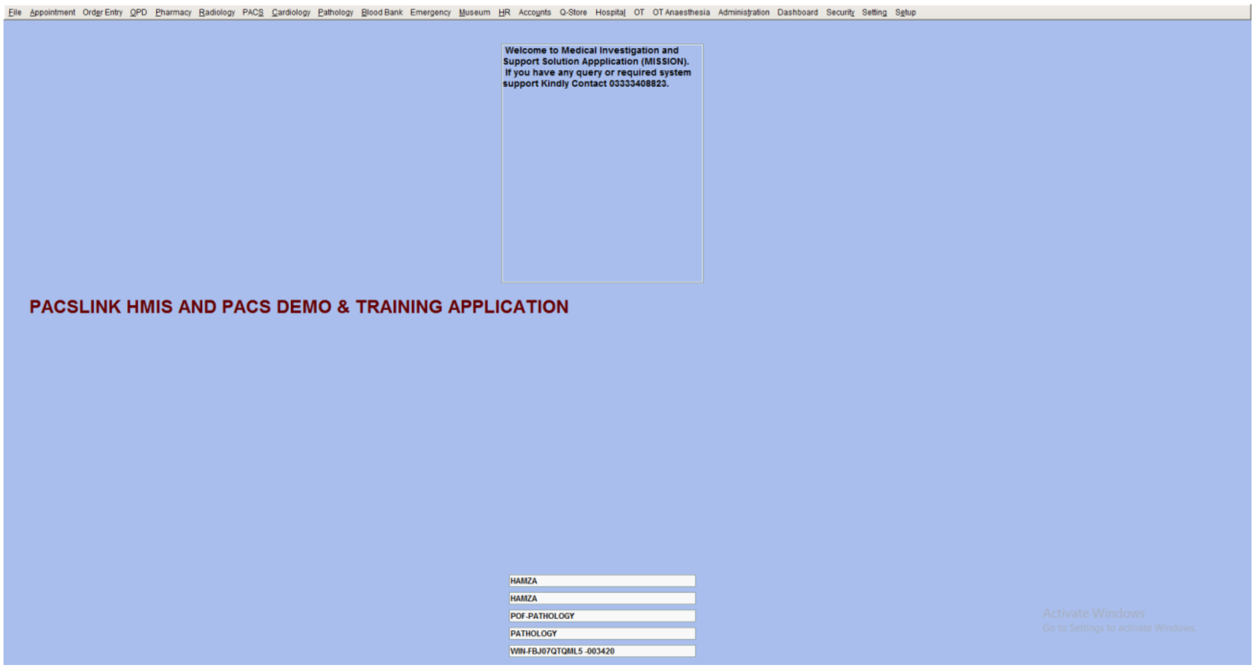
Remote Desktop Connections include security features to protect the session, including encryption and authentication. It's important to use strong passwords and ensure that your remote desktop configuration is secure to prevent unauthorized access.

Remote Desktop Connection is commonly used for various purposes, such as remote IT support, accessing office computers while working from home, and managing servers without physical access. It provides a convenient way to access resources on a remote computer, improving productivity and facilitating collaboration.

13 INTRODUCTION TO PACS



All Rights Reserved. A Product Of PACSLink Corporation



Welcome to Medical Investigation and Support Solution Appplication (MISSION). If you have any query or required system support Kindly Contact 03333408823.

PACSLINK HMIS AND PACS DEMO & TRAINING APPLICATION

HAMZA
HAMZA
POF-PATHOLOGY
PATHOLOGY
WIN-FBJ07QTQML5 -003420

It is a software that is used by HMIS to store and manage all the data related to the hospital. It uses Oracle database to store its related data. It is highly secured and efficient to use as we were given few modules to deal with and perform reverse engining and to create an SRS of each module.

14 INTRODUCTION TO PL/SQL DEVELOPER

PL/SQL Developer is a software tool specifically designed for developing, testing, and managing PL/SQL (Procedural Language/Structured Query Language) code within an Oracle database environment. PL/SQL is a powerful extension of SQL used in Oracle databases to create stored procedures, functions, triggers, and other database objects that allow for the development of complex and efficient database applications.

PL/SQL Developer provides a comprehensive integrated development environment (IDE) tailored for working with PL/SQL. It offers features and tools that simplify the development, debugging, and optimization of PL/SQL code. Here are some key aspects of PL/SQL Developer:

Code Editor:

PL/SQL Developer typically includes a feature-rich code editor with syntax highlighting, code folding, and other productivity-enhancing features that make it easier to write and maintain PL/SQL code.

Integrated Debugger:

The tool allows developers to debug PL/SQL code by setting breakpoints, inspecting variables, and stepping through code execution, helping to identify and fix issues in the code.

Database Connectivity:

PL/SQL Developer provides seamless connectivity to Oracle databases, allowing developers to connect to their database instances, run queries, and manage database objects directly from the IDE.

Version Control:

Many PL/SQL Developer versions offer integration with version control systems, enabling developers to manage their code changes and collaborate effectively with team members.

Performance Optimization:

The tool may include features to analyze the performance of SQL queries and PL/SQL code, helping developers identify bottlenecks and optimize database operations.

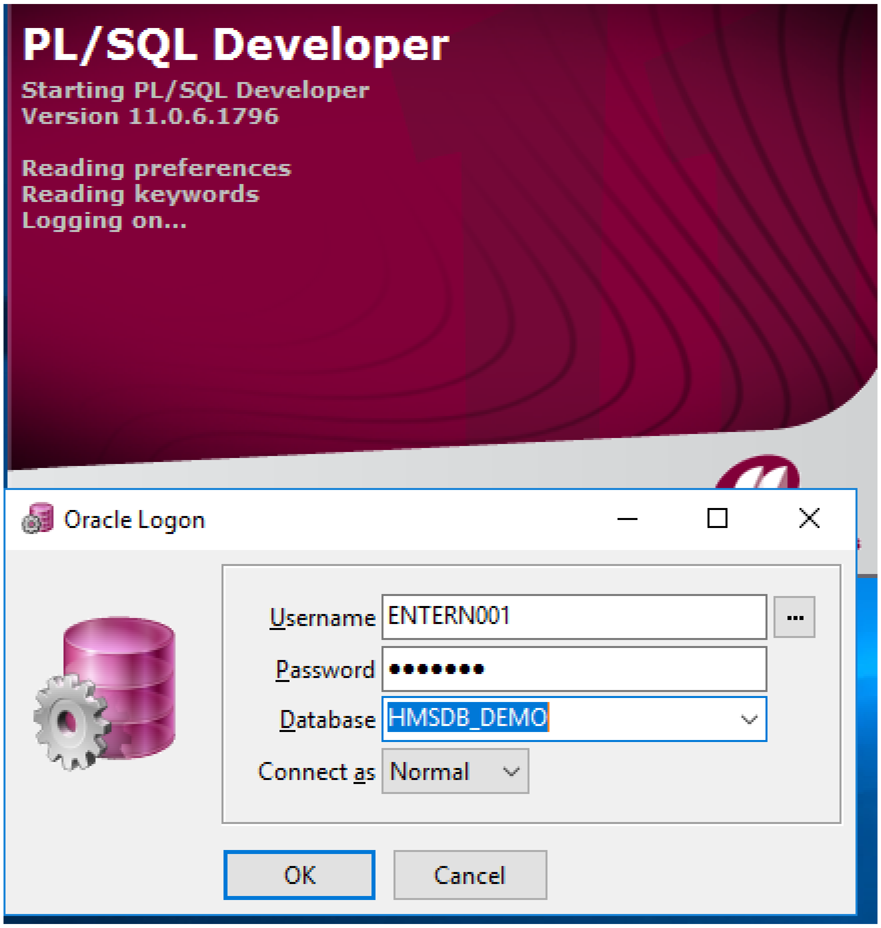
Database Object Management:

PL/SQL Developer often provides utilities for managing database objects, such as creating and altering tables, views, and indexes.

SQL Query Builder:

Some versions of PL/SQL Developer include a visual query builder that allows developers to create SQL queries without writing raw SQL code.

PL/SQL Developer is widely used by Oracle database developers and administrators to streamline the development process and maintain the performance and reliability of PL/SQL code in Oracle database systems. It's a valuable tool for anyone working with PL/SQL within the Oracle ecosystem.



PL/SQL Developer

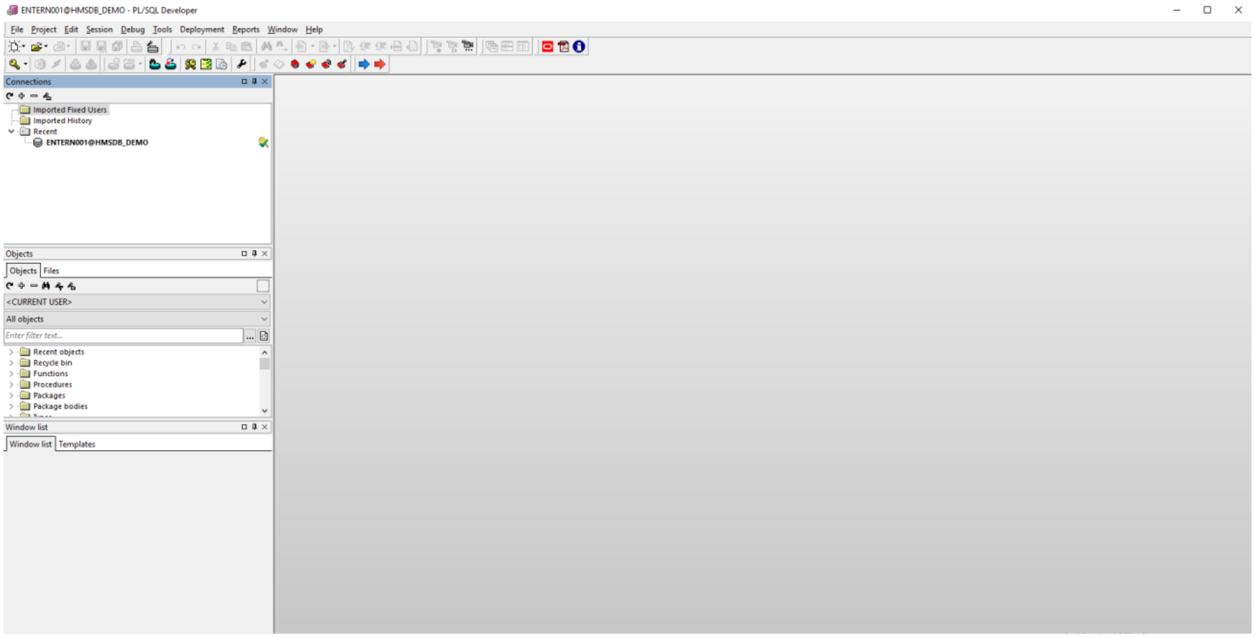
Starting PL/SQL Developer
Version 11.0.6.1796

Reading preferences
Reading keywords
Logging on...

Oracle Logon

Username: ENTERN001
Password: ●●●●●●●
Database: HMSDB_DEMO
Connect as: Normal

A demo database of HMS was allotted to us to work with and perform our given task like SRS and reverse Engining



ENTERN001@HMSDB_DEMO - PL/SQL Developer

15 RETRIEVING DATA AND FLUSHING

"Retrieving data" and "flushing" are concepts often used in the context of databases, particularly when dealing with data manipulation and optimization. Let's break down what each term means:

15.1 RETRIEVING DATA

Retrieving data refers to the process of fetching information from a database. In the context of databases, data is typically stored in tables, and to use that data, you need to retrieve it. This is typically done using SQL (Structured Query Language) queries. Here's how the process generally works:

SELECT Statement:
The primary SQL command used for retrieving data is the SELECT statement. You specify the columns you want to retrieve data from and the table (or tables) where the data is stored.

Filtering:
You can use the WHERE clause in your SELECT statement to specify conditions that filter the data you want to retrieve. For example, you can retrieve all rows where a certain column meets a specific condition.

Joining:
If the data you need is spread across multiple tables, you can use JOIN clauses to combine data from different tables based on related columns.

Aggregation:
You can use aggregate functions (e.g., SUM, COUNT, AVG) to perform calculations on the retrieved data.

15.2 FLUSHING

"Flushing" in the context of databases often refers to the process of forcing data from memory (cache) to be written to the underlying storage (disk). This is important for ensuring data consistency and durability. Here's why flushing is important:

Data Consistency:

Flushing ensures that changes made to the data in memory (buffered) are written to disk. This is crucial to maintain the consistency of the data in case of system failures.

Durability:

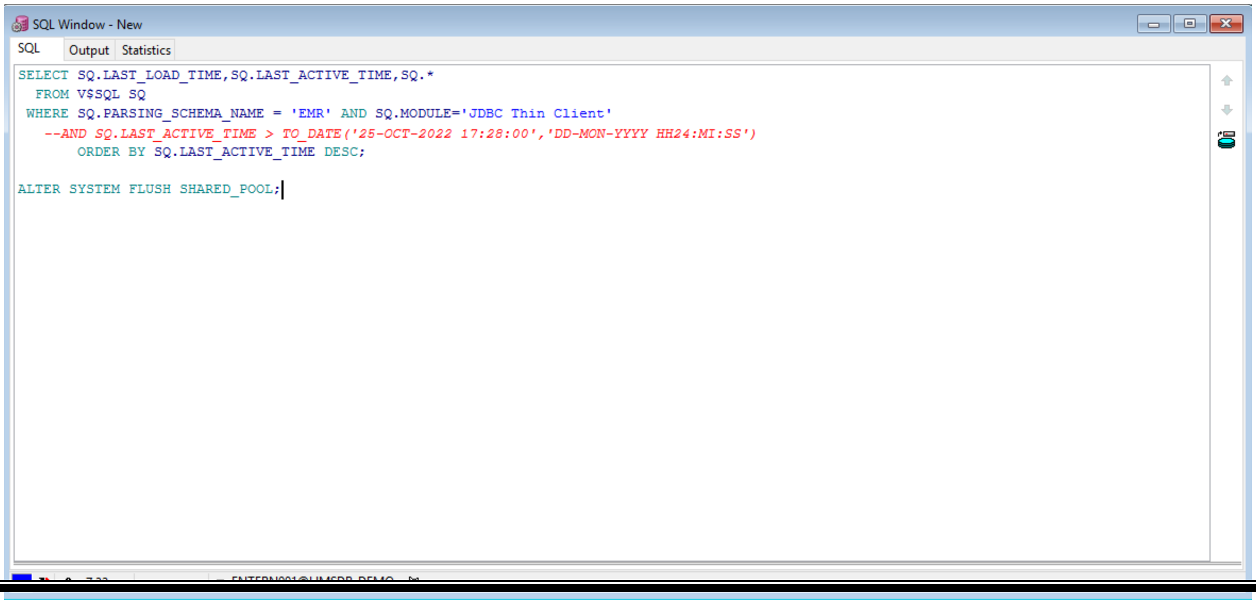
Once data is flushed to disk, it is more durable and less likely to be lost in the event of power failures, crashes, or other unforeseen events.

Database Performance:

Flushing involves managing the balance between keeping frequently accessed data in memory (caching) for better performance and periodically writing changes to disk. This balance is important to optimize database performance.

Transaction Control:

Flushing is also related to transaction control. In some cases, databases allow you to manually control when data changes are flushed to disk, which can be important for certain use cases.

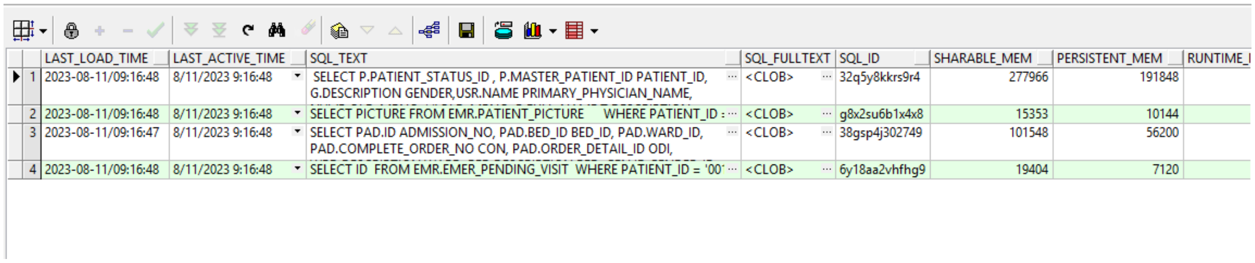


```
SELECT SQ.LAST_LOAD_TIME,SQ.LAST_ACTIVE_TIME,SQ.*
  FROM V$SQL SQ
 WHERE SQ.PARSING_SCHEMA_NAME = 'EMR' AND SQ.MODULE='JDBC Thin Client'
   --AND SQ.LAST_ACTIVE_TIME > TO_DATE('25-OCT-2022 17:28:00','DD-MON-YYYY HH24:MI:SS')
       ORDER BY SQ.LAST_ACTIVE_TIME DESC;

ALTER SYSTEM FLUSH SHARED_POOL;
```

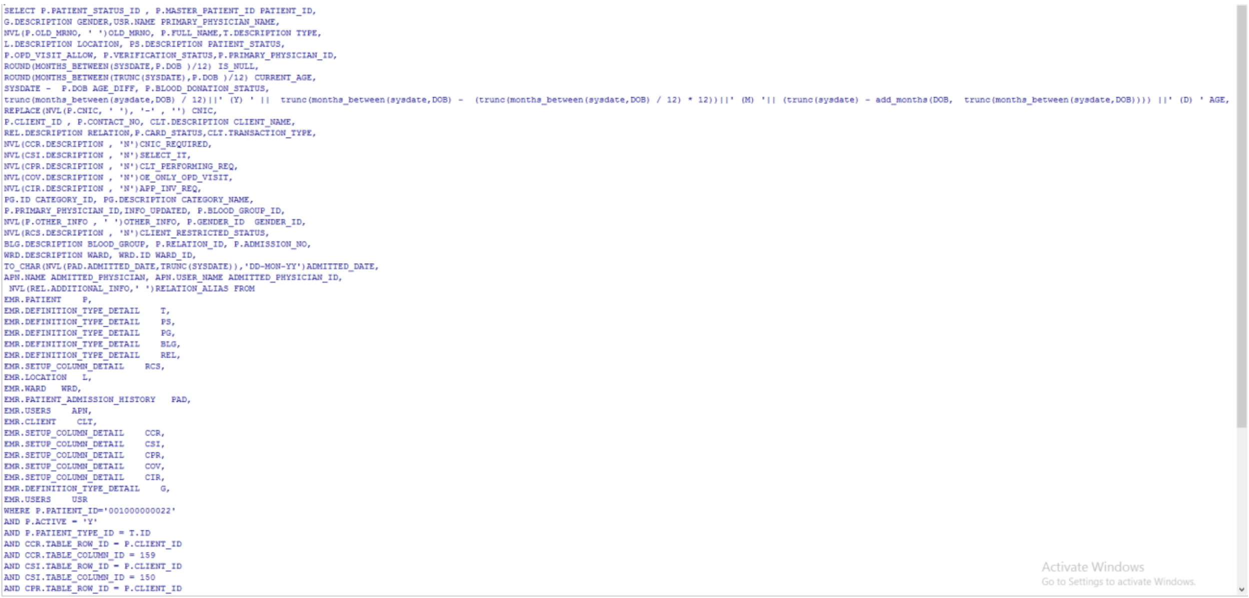
15.3 EXECUTING THE RETRIEVING QUERY FOR REVERSE ENGINING

As this Database was connected with PACS but was a demo only so every time we execute query for accessing the actual query behind our action, we get the Real-Time results.



	LAST_LOAD_TIME	LAST_ACTIVE_TIME	SQL_TEXT	SQL_FULLTEXT	SQL_ID	SHARABLE_MEM	PERSISTENT_MEM	RUNTIME_I
1	2023-08-11/09:16:48	8/11/2023 9:16:48	SELECT P.PATIENT_STATUS_ID , P.MASTER_PATIENT_ID PATIENT_ID, G.DESCRIPTION GENDER,USR.NAME PRIMARY_PHYSICIAN_NAME,	<CLOB>	32q5y8kkrs9r4	277966	191848	
2	2023-08-11/09:16:48	8/11/2023 9:16:48	SELECT PICTURE FROM EMR.PATIENT_PICTURE WHERE PATIENT_ID :	<CLOB>	g8x2su6b1x4x8	15353	10144	
3	2023-08-11/09:16:47	8/11/2023 9:16:48	SELECT PAD.ID ADMISSION_NO, PAD.BED_ID BED_ID, PAD.WARD_ID, PAD.COMPLETE_ORDER_NO CON, PAD.ORDER_DETAIL_ID ODI,	<CLOB>	38gsp4j302749	101548	56200	
4	2023-08-11/09:16:48	8/11/2023 9:16:48	SELECT ID FROM EMR.EMER_PENDING_VISIT WHERE PATIENT_ID = '00'	<CLOB>	6y18aa2vhfhg9	19404	7120	

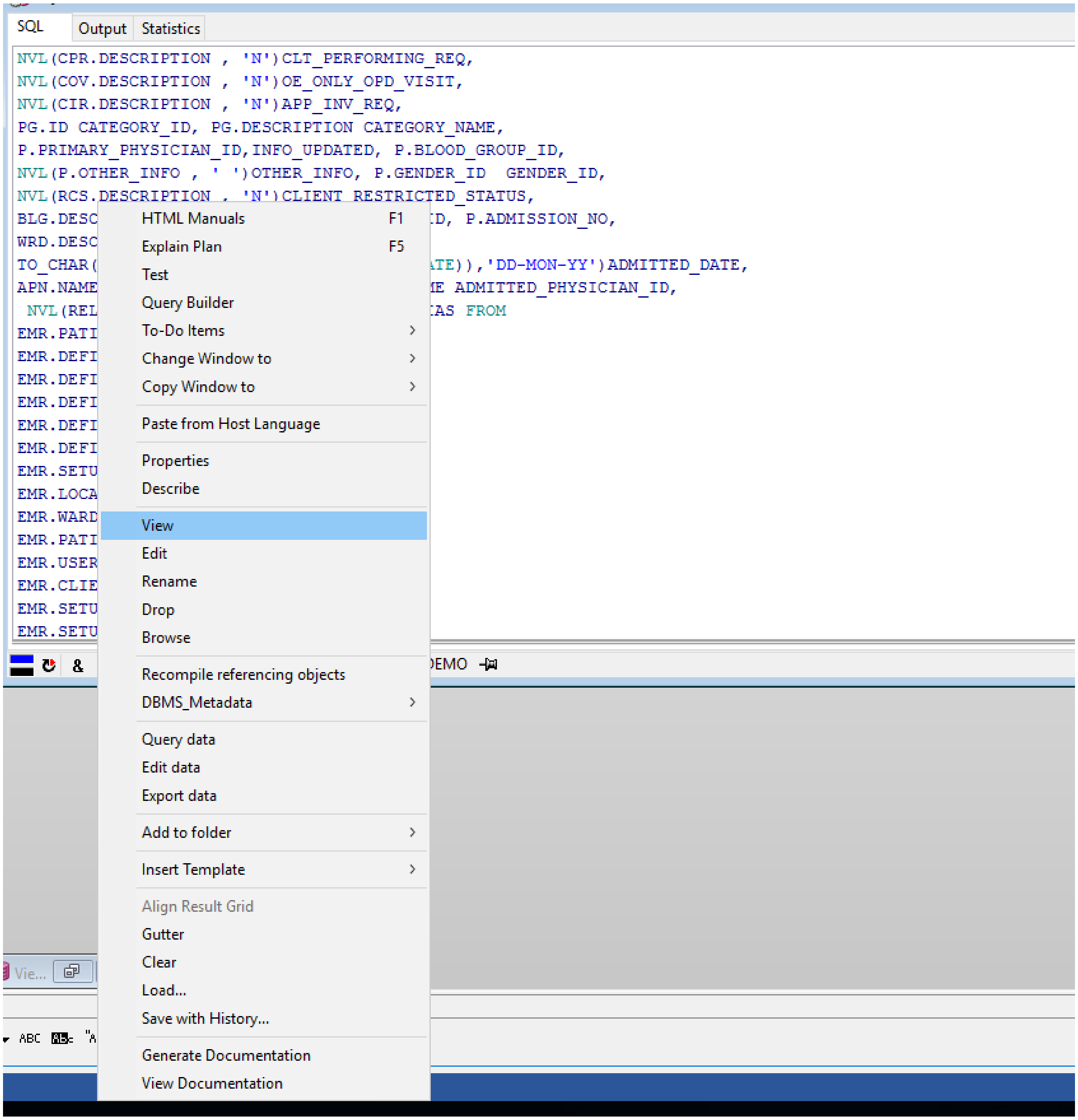
This is how all the queries are shown to us on every Event



```
SELECT P.PATIENT_STATUS_ID , P.MASTER_PATIENT_ID PATIENT_ID,
G.DESCRIPTION GENDER,USR.NAME PRIMARY_PHYSICIAN_NAME,
NVL(P.OLD_MRNO, ' ')OLD_MRNO, P.FULL_NAME,T.DESCRIPTION TYPE,
L.DESCRIPTION LOCATION, PS.DESCRIPTION PATIENT_STATUS,
P.OPD_VISIT_ALLOW, P.VERIFICATION_STATUS,P.PRIMARY_PHYSICIAN_ID,
ROUND(MONTHS_BETWEEN(SYSDATE,P.DOB )/12) IS_NULL,
ROUND(MONTHS_BETWEEN(TRUNC(SYSDATE),P.DOB )/12) CURRENT_AGE,
SYSDATE -  P.DOB AGE_DIFF, P.BLOOD_DONATION_STATUS,
trunc(months_between(sysdate,DOB) / 12)||' (Y) ' ||  trunc(months_between(sysdate,DOB) -  (trunc(months_between(sysdate,DOB) / 12) * 12))||' (M) '|| (trunc(sysdate) - add_months(DOB,  trunc(months_between(sysdate,DOB)))) ||' (D) ' AGE,
REPLACE(NVL(P.CNIC, ' '), '-' , '') CNIC,
P.CLIENT_ID , P.CONTACT_NO, CLT.DESCRIPTION CLIENT_NAME,
REL.DESCRIPTION RELATION,P.CARD_STATUS,CLT.TRANSACTION_TYPE,
NVL(CCR.DESCRIPTION , 'N')CNIC_REQUIRED,
NVL(CSI.DESCRIPTION , 'N')SELECT_IT,
NVL(CPR.DESCRIPTION , 'N')CLT_PERFORMING_REQ,
NVL(COV.DESCRIPTION , 'N')OE_ONLY_OPD_VISIT,
NVL(CIR.DESCRIPTION , 'N')APP_INV_REQ,
PG.ID CATEGORY_ID, PG.DESCRIPTION CATEGORY_NAME,
P.PRIMARY_PHYSICIAN_ID,INFO_UPDATED, P.BLOOD_GROUP_ID,
NVL(P.OTHER_INFO , ' ')OTHER_INFO, P.GENDER_ID  GENDER_ID,
NVL(RCS.DESCRIPTION , 'N')CLIENT_RESTRICTED_STATUS,
BLG.DESCRIPTION BLOOD_GROUP, P.RELATION_ID, P.ADMISSION_NO,
WRD.DESCRIPTION WARD, WRD.ID WARD_ID,
TO_CHAR(NVL(PAD.ADMITTED_DATE,TRUNC(SYSDATE)),'DD-MON-YY')ADMITTED_DATE,
APN.NAME ADMITTED_PHYSICIAN, APN.USER_NAME ADMITTED_PHYSICIAN_ID,
 NVL(REL.ADDITIONAL_INFO,' ')RELATION_ALIAS FROM
EMR.PATIENT    P,
EMR.DEFINITION_TYPE_DETAIL    T,
EMR.DEFINITION_TYPE_DETAIL    PS,
EMR.DEFINITION_TYPE_DETAIL    PG,
EMR.DEFINITION_TYPE_DETAIL    BLG,
EMR.DEFINITION_TYPE_DETAIL    REL,
EMR.SETUP_COLUMN_DETAIL    RCS,
EMR.LOCATION   L,
EMR.WARD   WRD,
EMR.PATIENT_ADMISSION_HISTORY   PAD,
EMR.USERS    APN,
EMR.CLIENT    CLT,
EMR.SETUP_COLUMN_DETAIL    CCR,
EMR.SETUP_COLUMN_DETAIL    CSI,
EMR.SETUP_COLUMN_DETAIL    CPR,
EMR.SETUP_COLUMN_DETAIL    COV,
EMR.SETUP_COLUMN_DETAIL    CIR,
EMR.DEFINITION_TYPE_DETAIL    G,
EMR.USERS    USR
WHERE P.PATIENT_ID='001000000022'
AND P.ACTIVE = 'Y'
AND P.PATIENT_TYPE_ID = T.ID
AND CCR.TABLE_ROW_ID = P.CLIENT_ID
AND CCR.TABLE_COLUMN_ID = 159
AND CSI.TABLE_ROW_ID = P.CLIENT_ID
AND CSI.TABLE_COLUMN_ID = 150
AND CPR.TABLE_ROW_ID = P.CLIENT_ID
```

This is how we get our result in the actual executed query and by executing this query we got our results.

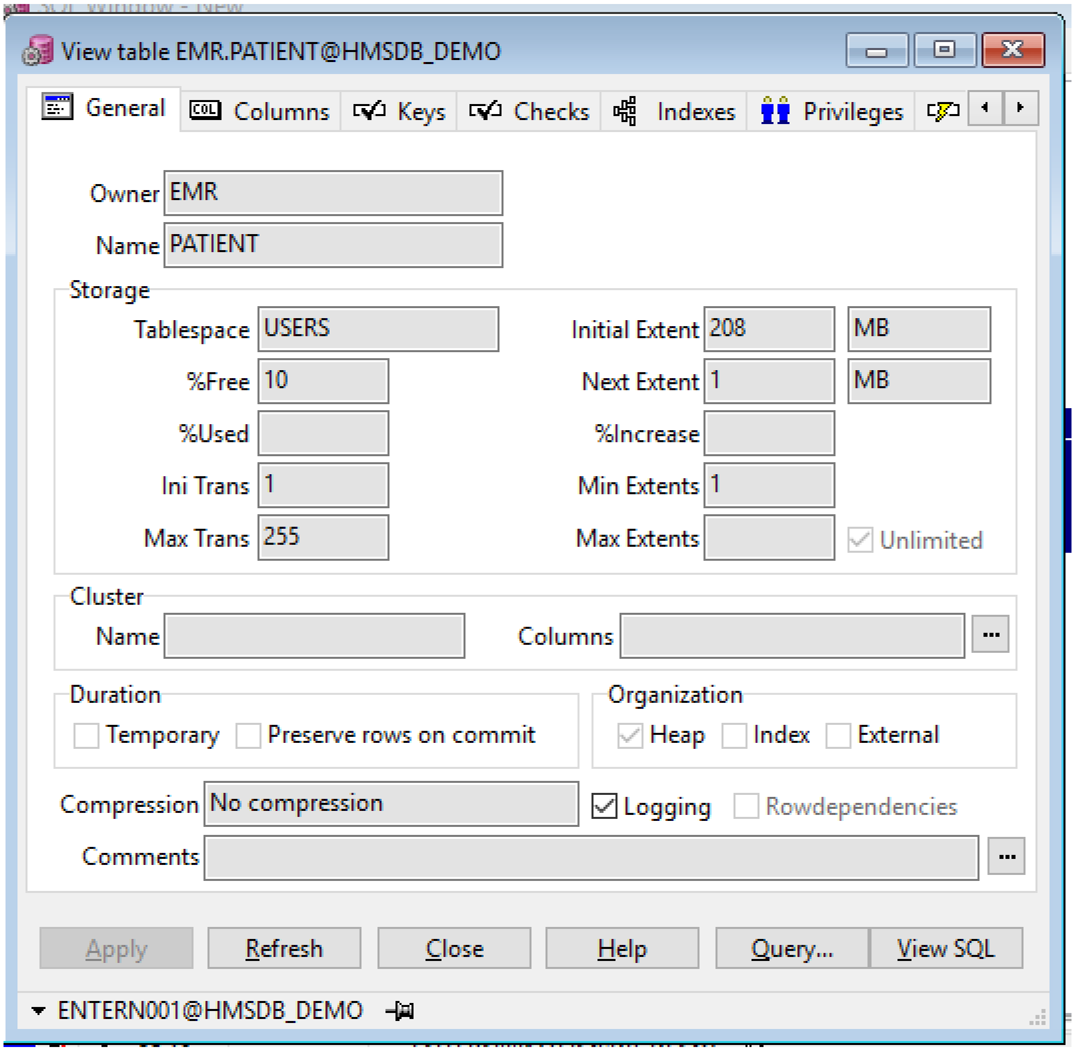
16 VIEWING TABLE'S INFO



```
NVL(CPR.DESCRIPTION , 'N')CLT_PERFORMING_REQ,
NVL(COV.DESCRIPTION , 'N')OE_ONLY_OPD_VISIT,
NVL(CIR.DESCRIPTION , 'N')APP_INV_REQ,
PG.ID CATEGORY_ID, PG.DESCRIPTION CATEGORY_NAME,
P.PRIMARY_PHYSICIAN_ID,INFO_UPDATED, P.BLOOD_GROUP_ID,
NVL(P.OTHER_INFO , ' ')OTHER_INFO, P.GENDER_ID  GENDER_ID,
NVL(RCS.DESCRIPTION , 'N')CLIENT_RESTRICTED_STATUS,
BLG.DESC                                         ID, P.ADMISSION_NO,
WRD.DESC
TO_CHAR(                                         TE)),'DD-MON-YY')ADMITTED_DATE,
APN.NAME                                         E ADMITTED_PHYSICIAN_ID,
 NVL(REL                                         AS FROM
EMR.PATI
EMR.DEFI
EMR.DEFI
EMR.DEFI
EMR.DEFI
EMR.DEFI
EMR.SETU
EMR.LOCA
EMR.WARD
EMR.PATI
EMR.USER
EMR.CLIE
EMR.SETU
EMR.SETU
```

Right Click on the table name so we can get the option and by selecting **View** we can we the whole structure of that specific Table.

16.1 GENERAL INFORMATION OF TABLE



View table EMR.PATIENT@HMSDB_DEMO

Owner: EMR
Name: PATIENT

Storage
Tablespace: USERS
%Free: 10
%Used:
Ini Trans: 1
Max Trans: 255
Initial Extent: 208 MB
Next Extent: 1 MB
%Increase:
Min Extents: 1
Max Extents:
☑ Unlimited

Cluster
Name:
Columns:

Duration
□ Temporary
□ Preserve rows on commit

Organization
☑ Heap
□ Index
□ External

Compression: No compression
☑ Logging
□ Rowdependencies
Comments:

ENTERN001@HMSDB_DEMO

16.2 KEYS OF TABLE

Primary Key and Foreign Key are fundamental concepts in relational database design, used to establish relationships between tables and ensure data integrity. Here's a definition of each:

16.2.1 PRIMARY KEY

A primary key is a unique identifier for each record (row) in a database table. It ensures that every row in the table can be uniquely identified, and it enforces the entity integrity of the table. A primary key has the following characteristics:

Uniqueness:

Each value in the primary key column must be unique across all the rows in the table. This ensures that no two rows have the same primary key value.

Not Null:

A primary key column cannot have a NULL value. It must have a valid value for every row.

Stability:

Ideally, the primary key should be stable, meaning its value doesn't change frequently. This ensures that the primary key can be used as a reliable identifier.

Commonly, primary keys are implemented using a single column (e.g., an auto-incremented integer) or a combination of columns (composite key) that, when combined, uniquely identify a record.

16.2.2 **Foreign Key:**

A foreign key is a field in one database table that is used to establish a link between the data in two tables. It creates a referential integrity constraint between the two tables, enforcing relationships and maintaining consistency. A foreign key has the following characteristics:

References: A foreign key in one table points to the primary key in another table, creating a relationship between the two tables.

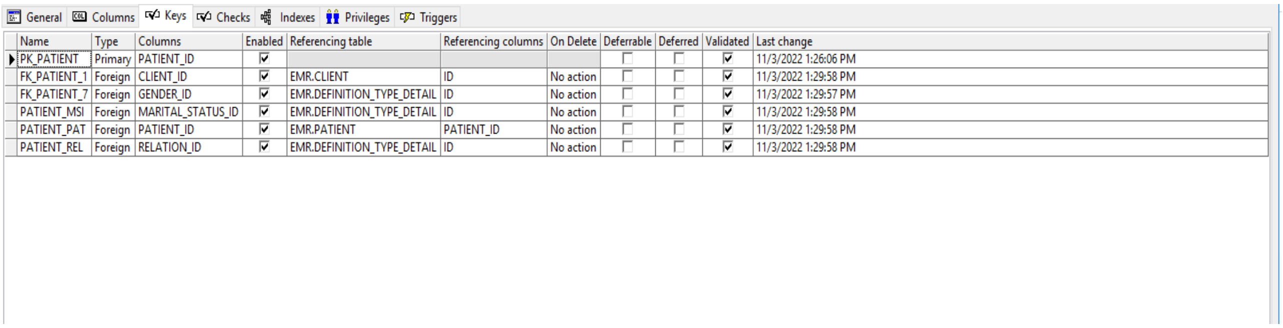
Enforcement:

A foreign key ensures that the values in the referencing column (foreign key column) must match values in the referenced column (primary key column) of the related table. This enforces the integrity of the relationship.

Optional:

A foreign key relationship can be optional, meaning that the foreign key column can contain NULL values. This indicates that there might not always be a related record in the referenced table.

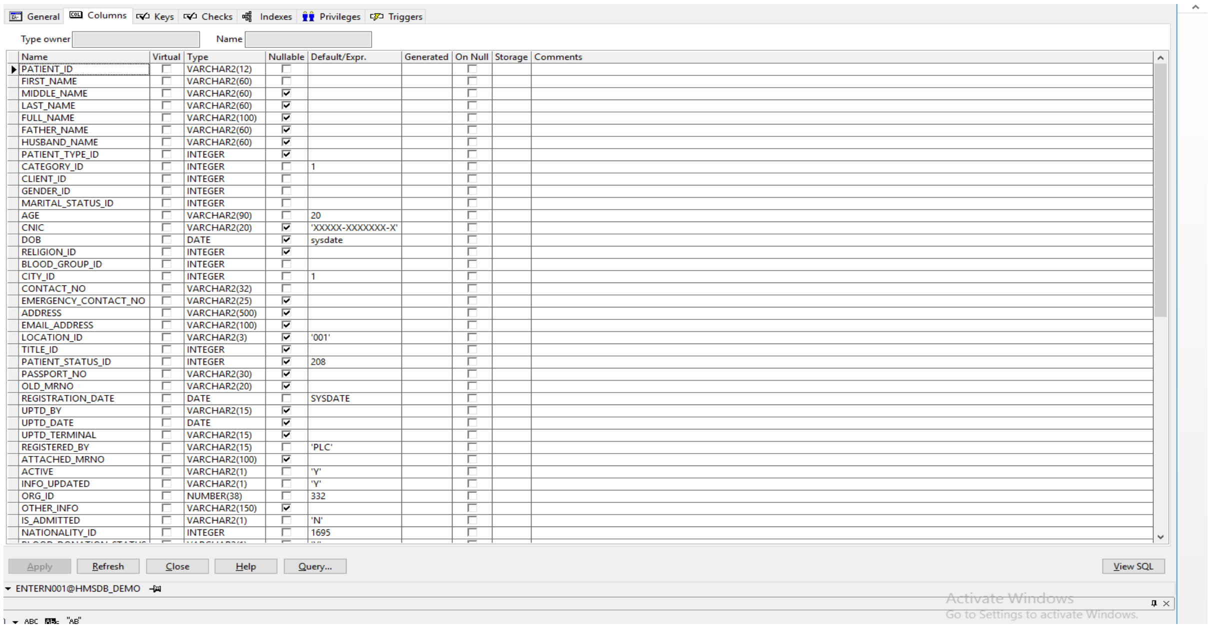
Foreign keys are essential for creating relationships between tables, which is a fundamental concept in relational databases. They help maintain data consistency, ensure data integrity, and enable efficient querying and manipulation of related data.



Name	Type	Columns	Enabled	Referencing table	Referencing columns	On Delete	Deferrable	Deferred	Validated	Last change
PK_PATIENT	Primary	PATIENT_ID	☑				□	□	☑	11/3/2022 1:26:06 PM
FK_PATIENT_1	Foreign	CLIENT_ID	☑	EMR.CLIENT	ID	No action	□	□	☑	11/3/2022 1:29:58 PM
FK_PATIENT_7	Foreign	GENDER_ID	☑	EMR.DEFINITION_TYPE_DETAIL	ID	No action	□	□	☑	11/3/2022 1:29:57 PM
PATIENT_MSI	Foreign	MARITAL_STATUS_ID	☑	EMR.DEFINITION_TYPE_DETAIL	ID	No action	□	□	☑	11/3/2022 1:29:58 PM
PATIENT_PAT	Foreign	PATIENT_ID	☑	EMR.PATIENT	PATIENT_ID	No action	□	□	☑	11/3/2022 1:29:58 PM
PATIENT_REL	Foreign	RELATION_ID	☑	EMR.DEFINITION_TYPE_DETAIL	ID	No action	□	□	☑	11/3/2022 1:29:58 PM

16.3 COLUMNS OF TABLE

All of the fields on front end of PACS.



Name	Virtual	Type	Nullable	Default/Expr.	Generated	On Null	Storage	Comments
PATIENT_ID	☐	VARCHAR2(12)	☐			☐		
FIRST_NAME	☐	VARCHAR2(60)	☐			☐		
MIDDLE_NAME	☐	VARCHAR2(60)	☑			☐		
LAST_NAME	☐	VARCHAR2(60)	☑			☐		
FULL_NAME	☐	VARCHAR2(100)	☑			☐		
FATHER_NAME	☐	VARCHAR2(60)	☑			☐		
HUSBAND_NAME	☐	VARCHAR2(60)	☑			☐		
PATIENT_TYPE_ID	☐	INTEGER	☑			☐		
CATEGORY_ID	☐	INTEGER	☐	1		☐		
CLIENT_ID	☐	INTEGER	☐			☐		
GENDER_ID	☐	INTEGER	☐			☐		
MARITAL_STATUS_ID	☐	INTEGER	☐			☐		
AGE	☐	VARCHAR2(90)	☐	20		☐		
CNIC	☐	VARCHAR2(20)	☑	'XXXXX-XXXXXXX-X'		☐		
DOB	☐	DATE	☑	sysdate		☐		
RELIGION_ID	☐	INTEGER	☑			☐		
BLOOD_GROUP_ID	☐	INTEGER	☐			☐		
CITY_ID	☐	INTEGER	☐	1		☐		
CONTACT_NO	☐	VARCHAR2(32)	☐			☐		
EMERGENCY_CONTACT_NO	☐	VARCHAR2(25)	☑			☐		
ADDRESS	☐	VARCHAR2(500)	☑			☐		
EMAIL_ADDRESS	☐	VARCHAR2(100)	☑			☐		
LOCATION_ID	☐	VARCHAR2(3)	☑	'001'		☐		
TITLE_ID	☐	INTEGER	☑			☐		
PATIENT_STATUS_ID	☐	INTEGER	☑	208		☐		
PASSPORT_NO	☐	VARCHAR2(30)	☑			☐		
OLD_MRNO	☐	VARCHAR2(20)	☑			☐		
REGISTRATION_DATE	☐	DATE	☐	SYSDATE		☐		
UPTD_BY	☐	VARCHAR2(15)	☑			☐		
UPTD_DATE	☐	DATE	☑			☐		
UPTD_TERMINAL	☐	VARCHAR2(15)	☑			☐		
REGISTERED_BY	☐	VARCHAR2(15)	☐	'PLC'		☐		
ATTACHED_MRNO	☐	VARCHAR2(100)	☑			☐		
ACTIVE	☐	VARCHAR2(1)	☐	'Y'		☐		
INFO_UPDATED	☐	VARCHAR2(1)	☐	'Y'		☐		
ORG_ID	☐	NUMBER(38)	☐	332		☐		
OTHER_INFO	☐	VARCHAR2(150)	☑			☐		
IS_ADMITTED	☐	VARCHAR2(1)	☐	'N'		☐		
NATIONALITY_ID	☐	INTEGER	☐	1695		☐		

17 SOFTWARE REQUIREMENTS SPECIFICATION (SRS)

SRS stands for "Software Requirements Specification." It is a comprehensive document that outlines the detailed requirements and specifications for a software project. The SRS serves as a crucial communication tool between stakeholders, including clients, developers, designers, testers, and project managers. Its primary purpose is to define what the software should do, how it should behave, and what is expected from the final product.

An SRS document typically includes the following key elements:

Introduction:

This section provides an overview of the software project, its purpose, scope, and a general description of the system to be developed.

Functional Requirements:

These are detailed descriptions of the software's functions, features, and capabilities. Each functional requirement describes a specific action the software must perform.

Non-Functional Requirements:

These requirements cover aspects such as performance, reliability, security, user experience, scalability, and other qualities that are important but may not directly relate to specific software functions.

User Interfaces:

Descriptions, wireframes, or mockups of the user interface elements that users will interact with. This section may include details about user workflows, navigation, and design guidelines.

System Architecture:

A high-level overview of the software's architecture, including the components, modules, and interactions between them.

Data Requirements:

Details about the data that the software will handle, including data models, data storage, and data processing requirements.

Assumptions and Constraints:

Any assumptions made during the requirement gathering process and any constraints that might impact the design and development of the software.

Dependencies:

Any external systems, software, or components that the software being developed relies on.

Use Cases or User Stories:

Descriptions of typical interactions or scenarios involving users and the software, helping to illustrate how the software will be used.

Testing and Validation:

Guidelines for testing the software, including acceptance criteria and how the software's compliance with requirements will be validated.

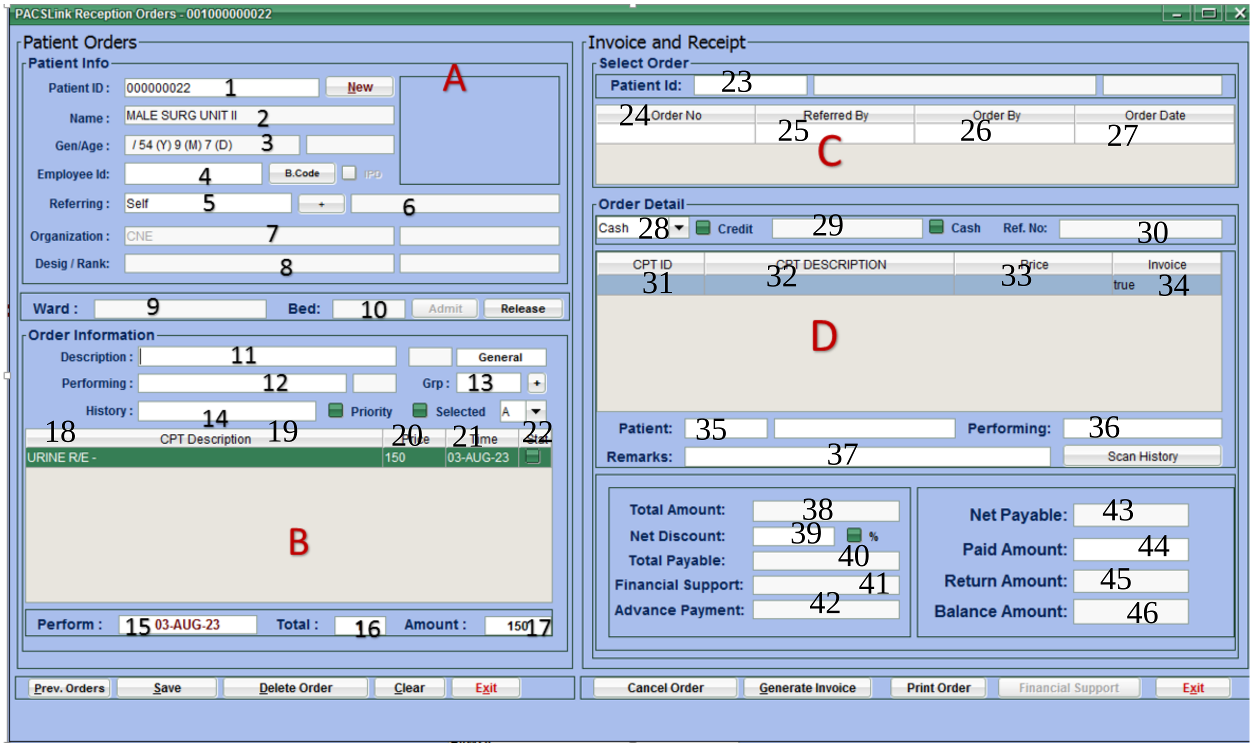
The SRS document serves as a reference for all stakeholders throughout the software development lifecycle. It helps ensure that everyone involved has a clear understanding of what is expected, reduces misunderstandings, and provides a basis for estimating project timelines, costs, and resources.

SRS FOR SPECIFIC TESTS:

We have to mark down the fields in context of numbers in a proper order the we have to declare the blocks in a contiguous manner after that creating a table with the important fields like (Block, Lable Table, Column, Constraints)

17.1

17.2 SRS FOR CLINICAL PYTHOLOGY (URINE-RE)



Patient ID : 000000022

Name : MALE SURG UNIT II

Gen/Age : / 54 (Y) 9 (M) 7 (D)

Referring : Self

Organization : CNE

Selected: A

CPT Description	Price	Time	Stat
URINE R/E -	150	03-AUG-23	

Perform : 03-AUG-23   Amount : 150

Order Detail: Cash

CPT ID	CPT DESCRIPTION	Price	Invoice
			true

17.2.1 BLOCKS

TAGS	BLOCK TYPES	BLOCK NAME
A	Master block	Patient Orders
B	Detail block (table) of A	Order Information
C	Detail block (table) of B	Select Order

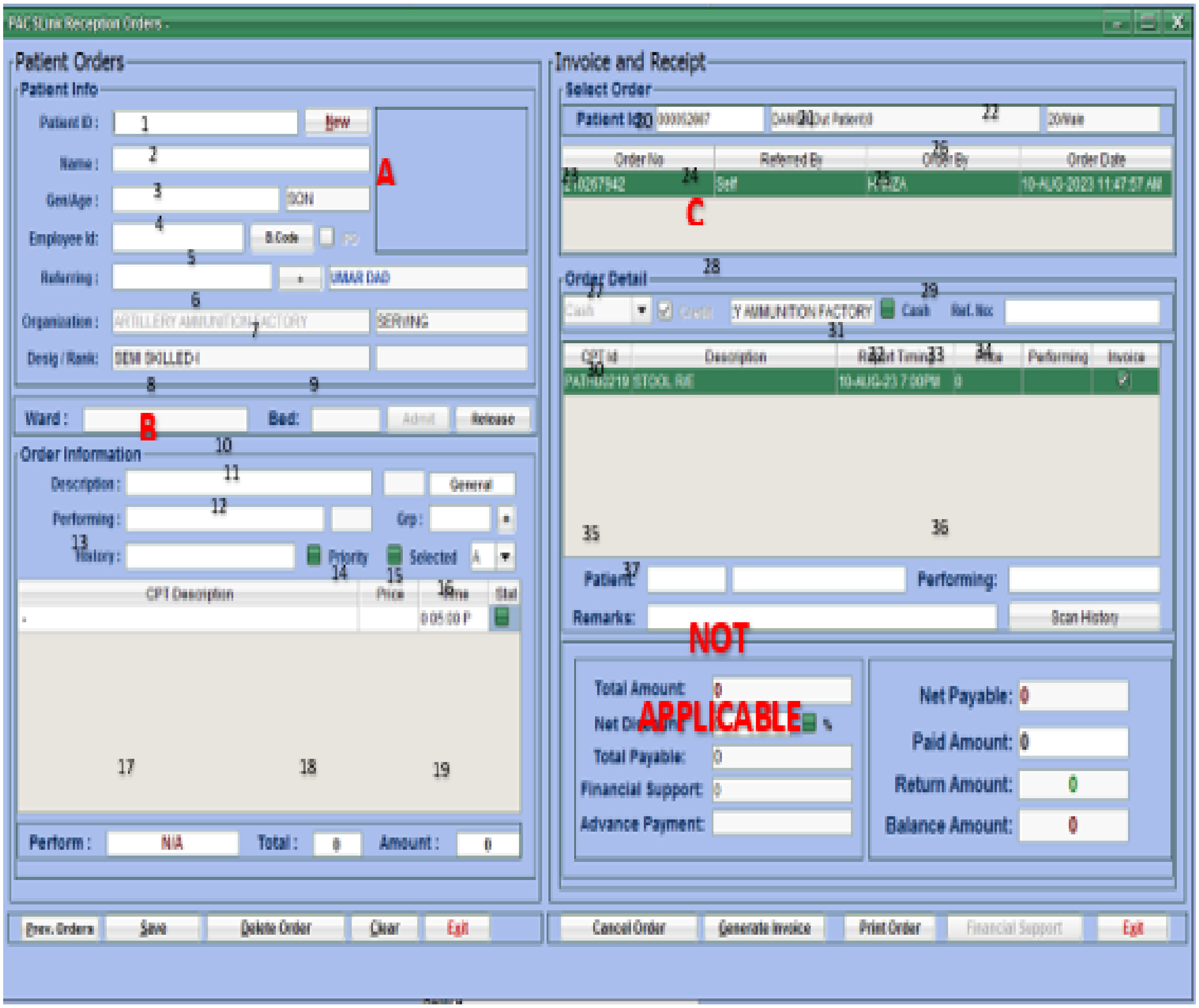
17.2.2 DEFINE PATHOLOGY: LABLE WISE DETAIL / CONSTRAINTS/KEYS

Pathology					
Sr.	Block	Label	Table	Column	**Constraints**
1.	**A**	Patient ID	EMR.Patient	PATIENT_ID	Not Null/Primary Key
2.		Name	EMR.USERS	Name	NOT NULL
3.		Gen/Age	EMR.Patient	Gender_ID	Foreign Key

4.	(Patient Orders)	Employee ID	EMR.USERS	Employee_ID	NOT NULL
5.		Referring	EMR.Doctor	Doctor_ID	NOT NULL
6.		Organization	EMR.SETUP_COLUMN_DETAIL	ORG_ID	Null able
7.		Design/Rank	EMR.Patient	DESIGNATION ID	NOT NULL
8.	**B** (Order Information)	Description	EMR.DEFINITION_TYPE_DETAIL	DESCRIPTIOM	NOT NULL
9.		Performing	EMR.ORDER_Detail	PERFORMING_PHYSICIAN_ID	Null able
10.		History	EMR.ORDER_Detail	ORDER_HISTORY_REQUIRED	Null able
11.		CPT Description	EMR.CPT	CPT	NOT NULL
12.		Price	EMR.INVOICE_DETAIL	PRICE	NOT NULL
13.		Time	EMR.LOC_WISE_CPT_REPORT_TIMING	TIME	Null able
14.		Stat	NON Database Element		
15.		Perform	NOT Applicable		
16.		Total	EMR.INVOICE_DETAIL	TOTAL_AMOUNT	
17.		Amount	EMR.INVOICE_DETAIL	TOTAL_AMOUNT	
18.		Patient ID	EMR.ORDER_MASTER	PATIENT_ID	Foreign Key
19.		Order No	EMR.ORDER_MASTER	ORDER_NO	NOT NULL
20.		Referred By			
21.		Order By	EMR.ORDER_MASTER	ORDER_BY	Null able

22.	**C** (Select Order)	Order Date	EMR.ORDER_MASTER	ORDER_DATE	NOT NULL
23.		Cash	NON Database Element		
24.		Credit	NOT Applicable		
25.		Ref. No	NOT Applicable		
26.		CPT ID	EMR.CPT	CPT_ID	Null able
27.		CPT DESCRIPTION	EMR.CPT	CPT	
28.		Price	EMR.INVOICE_DETAIL	PRICE	NOT NULL
29.		Invoice	EMR.INVOICE_DETAIL	INVOICE_NO	NOT NULL/ Foreign Key
30.		Patient	EMR.USERS		
31.		Performing	NOT Applicable		
32.		Total Amount	NON Database Element		NON DATABASE ITEM
33.		Net Discount	NON Database Element		NON DATABASE ITEM
34.		Total Payable	NON Database Element		NON DATABASE ITEM
35.		Financial Support	NON Database Element		NON DATABASE ITEM
36.		Advance Payment	NON Database Element		NON DATABASE ITEM
37.		Net Payable	NON Database Element		NON DATABASE ITEM
38.		Paid Amount	NON Database Element		NON DATABASE ITEM
39.		Return Amount	NON Database Element		NON DATABASE ITEM
40.		Balance Amount	NON Database Element		NON DATABASE ITEM

17.3 SRS FOR CLINICAL PYTHOLOGY (STOOL-RE)



Patient ID :

Name :

Gen/Age : SON

Employee Id :

Referring : UMAR DAD

Organization : ARTILLERY AMMUNITION FACTORY SERVING

Desig / Rank: SEMI SKILLED I

Description :

Performing :

History :

Selected: A

0:05:00 P

Perform : N/A Total : 0 Amount : 0

Patient Id: 000062987 DANI Out Patient 20/Male

Order No	Referred By	Order By	Order Date
210267942	Self	H.SIZA	10-AUG-2023 11:47:57 AM

Cash ☑ Credit Y AMMUNITION FACTORY Cash Ref. No:

CPT Id	Description	Report Timing	Price	Performing	Invoice
PATHU0219	STOOL R/E	10-AUG-23 7:00PM	0		✓

Patient:

Performing:

Remarks:

Total Amount: 0

Net Discount: %

Total Payable: 0

Financial Support: 0

Advance Payment:

Net Payable: 0

Paid Amount: 0

Return Amount: 0

Balance Amount: 0

17.3.1 **BLOCKS**

TAGS	BLOCK TYPES	BLOCK NAME
A	Master block	Patient Orders
B	Detail block (table) of A	Order Information
C	Detail block (table) of B	Select Order

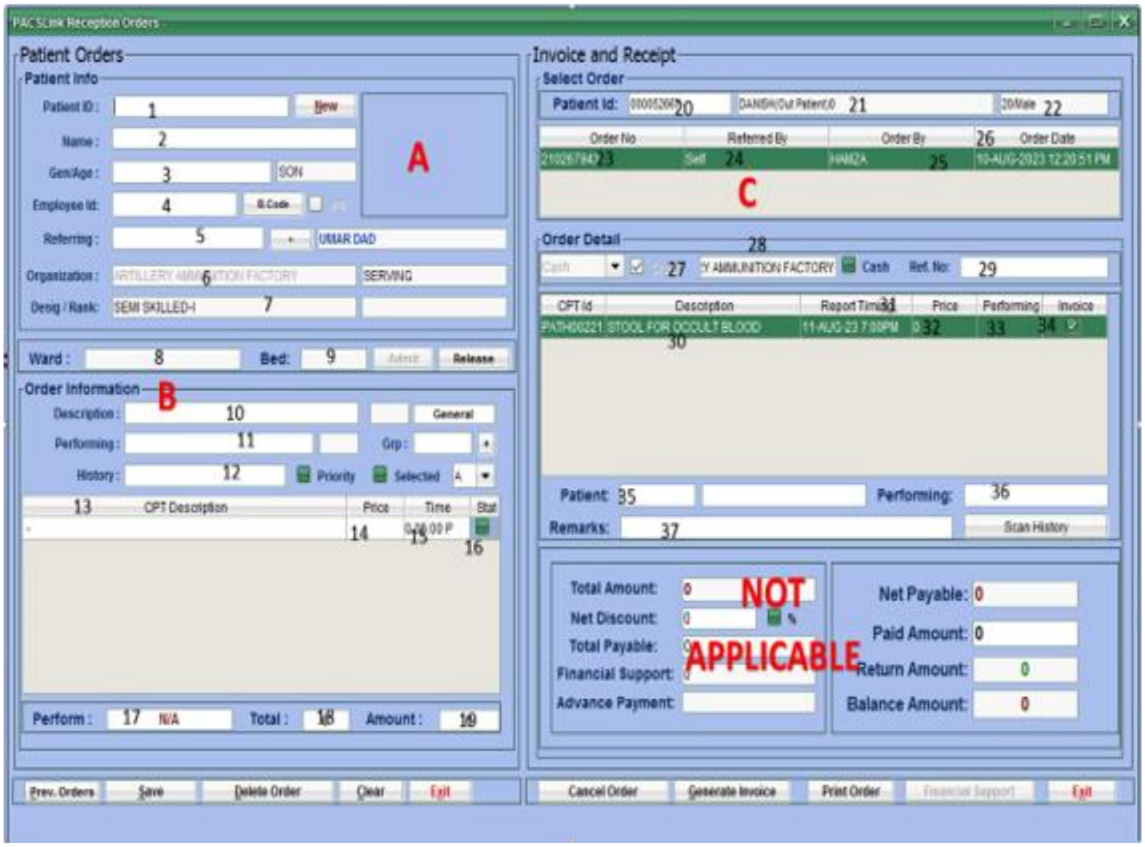
17.3.2 **DEFINE PATHOLOGY: LABLE WISE DETAIL / CONSTRAINTS/KEYS**

Pathology					
Sr.	Block	Label	Table	Column	**Constraints**
41.	**A** (Patient Orders)	Patient ID	EMR.Patient	PATIENT_ID	Not Null/Primary Key
42.		Name	EMR.USERS	Name	NOT NULL
43.		Gen/Age	EMR.Patient	Gender_ID	Foreign Key
44.		Employee ID	EMR.USERS	Employee_ID	NOT NULL
45.		Referring	EMR.Doctor	Doctor_ID	NOT NULL
46.		Organization	EMR.SETUP_COLUMN_DETAIL	ORG_ID	Null able
47.		Design/Rank	EMR.Patient	DESIGNATION ID	NOT NULL
48.	**B** (Order Information)	Description	EMR.DEFINITION_TYPE_DETAIL	DESCRIPTIOM	NOT NULL
49.		Performing	EMR.ORDER_Detail	PERFORMING_PHYSICIAN_ID	Null able
50.		History	EMR.ORDER_Detail	ORDER_HISTORY_REQUIRED	Null able
51.		CPT Description	EMR.CPT	CPT	NOT NULL
52.		Price	EMR.INVOICE_DETAIL	PRICE	NOT NULL
53.		Time	EMR.LOC_WISE_CPT_REPORT_TIMING	TIME	Null able
54.		Stat	NON Database Element		
55.		Perform	NOT Applicable		

56.		Total	EMR.INVOICE_DETAIL	TOTAL_AMOUNT	
57.		Amount	EMR.INVOICE_DETAIL	TOTAL_AMOUNT	
58.	**C** (Select Order)	Patient ID	EMR.ORDER_MASTER	PATIENT_ID	Foreign Key
59.		Order No	EMR.ORDER_MASTER	ORDER_NO	NOT NULL
60.		Referred By			
61.		Order By	EMR.ORDER_MASTER	ORDER_BY	Null able
62.		Order Date	EMR.ORDER_MASTER	ORDER_DATE	NOT NULL
63.		Cash	NON Database Element		
64.		Credit	NOT Applicable		
65.		Ref. No	NOT Applicable		
66.		CPT ID	EMR.CPT	CPT_ID	Null able
67.		CPT DESCRIPTION	EMR.CPT	CPT	
68.		Price	EMR.INVOICE_DETAIL	PRICE	NOT NULL
69.		Invoice	EMR.INVOICE_DETAIL	INVOICE_NO	NOT NULL/ Foreign Key
70.		Patient	EMR.USERS		
71.		Performing	NOT Applicable		
72.		Total Amount	NON Database Element		NON DATABASE ITEM
73.		Net Discount	NON Database Element		NON DATABASE ITEM
74.		Total Payable	NON Database Element		NON DATABASE ITEM
75.		Financial Support	NON Database Element		NON DATABASE ITEM
76.		Advance Payment	NON Database Element		NON DATABASE ITEM
77.		Net Payable	NON Database Element		NON DATABASE ITEM

78.		Paid Amount	NON Database Element		NON DATABASE ITEM
79.		Return Amount	NON Database Element		NON DATABASE ITEM
80.		Balance Amount	NON Database Element		NON DATABASE ITEM

17.4 SRS FOR CLINICAL PYTHOLOGY (STOOL FOR OCCULT BLOOD)



Gen/Age: SON
Referring: UMAR DAD
Organization: ARTILLERY AMMUNITION FACTORY | SERVING
Desig / Rank: SEMI SKILLED-I
Selected: A
Time: 0:00:00 P
Perform: N/A

Patient Id: 00005206 | DANISH(Out Patient)0 | 20/Male

Order No	Referred By	Order By	Order Date
210267947	Self	HAMZA	10-AUG-2023 12:20:51 PM

Cash ☑ Y AMMUNITION FACTORY Cash

CPT Id	Description	Report Time	Price	Performing	Invoice
PATH00221	STOOL FOR OCCULT BLOOD	11-AUG-23 7:00PM	0		☑

Total Amount: 0
Net Discount: 0
Total Payable: 0
Financial Support: 0
Net Payable: 0
Paid Amount: 0
Return Amount: 0
Balance Amount: 0

17.4.1 BLOCKS

TAGS	BLOCK TYPES	BLOCK NAME

A	Master block	Patient Orders
B	Detail block (table) of A	Order Information
C	Detail block (table) of B	Select Order

17.4.2 **DEFINE PATHOLOGY: LABLE WISE DETAIL / CONSTRAINTS/KEYS**

Pathology					
Sr.	Block	Label	Table	Column	**Constraints**
81.	**A** (Patient Orders)	Patient ID	EMR.Patient	PATIENT_ID	Not Null/Primary Key
82.		Name	EMR.USERS	Name	NOT NULL
83.		Gen/Age	EMR.Patient	Gender_ID	Foreign Key
84.		Employee ID	EMR.USERS	Employee_ID	NOT NULL
85.		Referring	EMR.Doctor	Doctor_ID	NOT NULL
86.		Organization	EMR.SETUP_COLUMN_DETAIL	ORG_ID	Null able
87.		Design/Rank	EMR.Patient	DESIGNATION ID	NOT NULL
88.	**B** (Order Informat	Description	EMR.DEFINITION_TYPE_DETAIL	DESCRIPTIOM	NOT NULL
89.		Performing	EMR.ORDER_Detail	PERFORMING_PHYSICIAN_ID	Null able
90.		History	EMR.ORDER_Detail	ORDER_HISTORY_REQUIRE	Null able

	ion)			D	
91.		CPT Description	EMR.CPT	CPT	NOT NULL
92.		Price	EMR.INVOICE_DETAIL	PRICE	NOT NULL
93.		Time	EMR.LOC_WISE_CPT_REPORT_TIMING	TIME	Null able
94.		Stat	NON Database Element		
95.		Perform	NOT Applicable		
96.		Total	EMR.INVOICE_DETAIL	TOTAL_AMOUNT	
97.		Amount	EMR.INVOICE_DETAIL	TOTAL_AMOUNT	
98.	**C** (Select Order)	Patient ID	EMR.ORDER_MASTER	PATIENT_ID	Foreign Key
99.		Order No	EMR.ORDER_MASTER	ORDER_NO	NOT NULL
100.		Referred By			
101.		Order By	EMR.ORDER_MASTER	ORDER_BY	Null able
102.		Order Date	EMR.ORDER_MASTER	ORDER_DATE	NOT NULL
103.		Cash	NON Database Element		
104.		Credit	NOT Applicable		
105.		Ref. No	NOT Applicable		
106.		CPT ID	EMR.CPT	CPT_ID	Null able
107.		CPT DESCRIPTION	EMR.CPT	CPT	
108.		Price	EMR.INVOICE_DETAIL	PRICE	NOT NULL
109.		Invoice	EMR.INVOICE_DETAIL	INVOICE_NO	NOT NULL/ Foreign Key
110.		Patient	EMR.USERS		
111.		Performing	NOT Applicable		
112.		Total Amount	NON Database Element		NON DATABASE ITEM

113.		Net Discount	NON Database Element		NON DATABASE ITEM	
114.		Total Payable	NON Database Element		NON DATABASE ITEM	
115.		Financial Support	NON Database Element		NON DATABASE ITEM	
116.		Advance Payment	NON Database Element		NON DATABASE ITEM	
117.		Net Payable	NON Database Element		NON DATABASE ITEM	
118.		Paid Amount	NON Database Element		NON DATABASE ITEM	
119.		Return Amount	NON Database Element		NON DATABASE ITEM	
120.		Balance Amount	NON Database Element		NON DATABASE ITEM	

18 CONCLUSION

I have completed my 6 Weeks internship in POF-IT Department. It was quite well experience working in that Department. Firstly I would like to say Thanks to my Supervisor who taught me all of the working in department. All the staff and employees of IT Department are very cooperative. Through this internship I have learned very much and got an ability to understand the environment of the office work and got an experience of working with the officials.