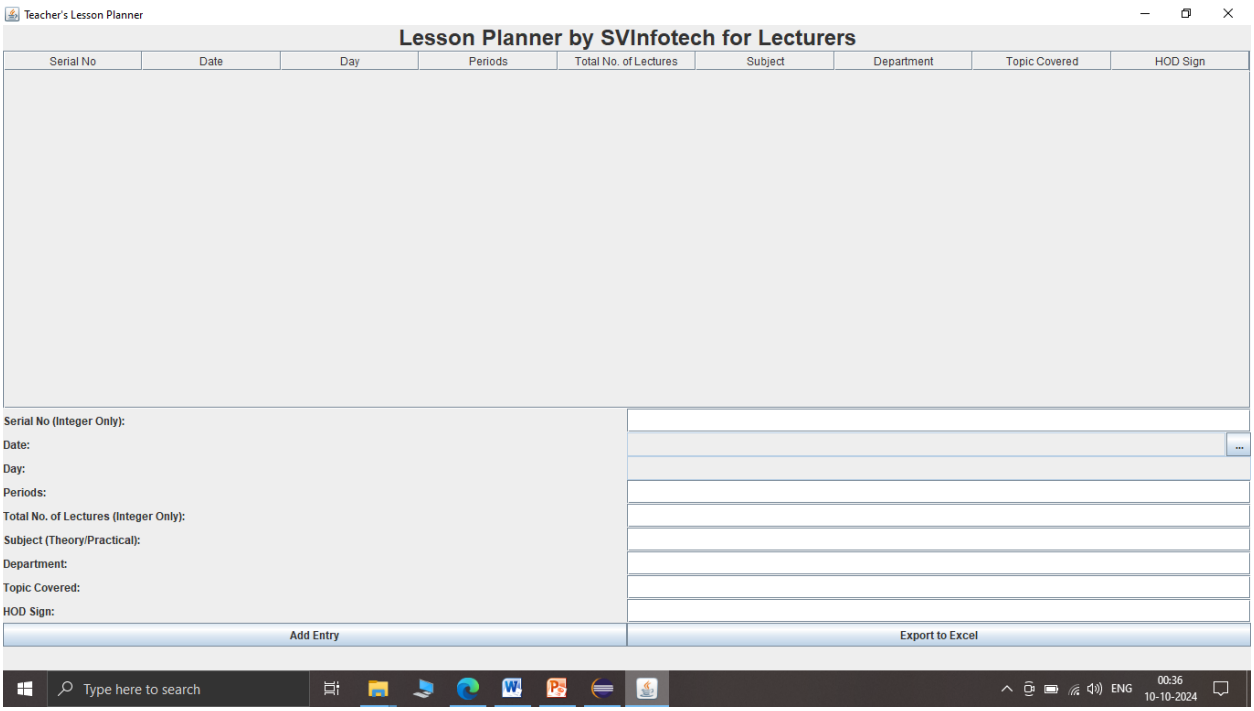
Java Swing application

Lesson planner for Lecturers and Teachers to maintain their teachers diary manual via software application.

It includes the fields: serial number, date, day, periods, total number of lectures, subject name (as theory or practical), department name, topic covered, and HOD's signature.

Github link: **https://github.com/himanshuSinghworkPort/java_swing**



Project name: **lesson_plannerv2**

Package name: **lesson_plannerv2**

Class name: main class- **LessonPlanner**

Other class- **DateLabelFormatter**

Open eclipse>> create java PROJECT

add jar files manually:

jdatepicker-1.3.4

poi-5.2.3

poi-ooxml

Add Manually

1. Download jar from SourceForge JFreeChart.
2. Extract the ZIP file and locate the app-x.x.x. jar files.
3. In Eclipse, right-click on your project and select **Build Path** -> **Configure Build Path**.
4. Click on the **Libraries** tab and then **Add External JARs**.
5. Select both the jfreechart and jcommon JAR files you downloaded.
6. Click **Apply** and **Close**.

Java source code:

- **LessonPlanner.java**

```
package lesson_plannerv2;


import org.apache.poi.ss.usermodel.*;

import org.apache.poi.xssf.usermodel.XSSFWorkbook;


import javax.swing.*;

import javax.swing.table.DefaultTableModel;

import java.awt.*;
```

```
import java.awt.Font;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.io.FileOutputStream;

import java.io.IOException;

import java.text.NumberFormat;

import java.time.LocalDate;

import java.time.format.DateTimeFormatter;

import java.time.format.TextStyle;

import java.util.Locale;

import org.jdatepicker.impl.JDatePanelImpl;

import org.jdatepicker.impl.JDatePickerImpl;

import org.jdatepicker.impl.UtilDateModel;

import java.util.Properties;


public class LessonPlanner extends JFrame {

   private JTable table;

   private DefaultTableModel model;

   private JFormattedTextField serialNoField, lecturesField;

   private JTextField periodsField, subjectField, departmentField, topicField,
hodSignField;
```

```
    private JButton addButton, exportButton;
    private JDatePickerImpl datePicker;
    private JTextField dayField;


    public LessonPlanner() {
        setTitle("Teacher's Lesson Planner");
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLayout(new BorderLayout());


        // Title label
        JLabel titleLabel = new JLabel("Lesson Planner by SVInfotech for Lecturers", JLabel.CENTER);
        titleLabel.setFont(new Font("Arial", Font.BOLD, 24)); // Set font and size
        add(titleLabel, BorderLayout.NORTH);


        // Create table with columns
        String[] columns = {"Serial No", "Date", "Day", "Periods", "Total No. of Lectures", "Subject", "Department", "Topic Covered", "HOD Sign"};
        model = new DefaultTableModel(columns, 0);
        table = new JTable(model);
```

```
        // Scroll pane for table
        JScrollPane tablePane = new JScrollPane(table);
        add(tablePane, BorderLayout.CENTER);


        // Panel for input fields
        JPanel inputPanel = new JPanel();
        inputPanel.setLayout(new GridLayout(11, 2)); // Add one more row for the
export button


        // Input fields
        inputPanel.add(new JLabel("Serial No (Integer Only):"));
        serialNoField = new
JFormattedTextField(NumberFormat.getIntegerInstance());
        inputPanel.add(serialNoField);


        inputPanel.add(new JLabel("Date:"));
        UtilDateModel model = new UtilDateModel();
        Properties p = new Properties();
        p.put("text.today", "Today");
        p.put("text.month", "Month");
        p.put("text.year", "Year");
```

```
        JDatePanelImpl datePanel = new JDatePanelImpl(model, p);
        datePicker = new JDatePickerImpl(datePanel, new DateLabelFormatter());
        inputPanel.add(datePicker);

        inputPanel.add(new JLabel("Day:"));
        dayField = new JTextField();
        dayField.setEditable(false); // Make it non-editable since it's auto-filled
        inputPanel.add(dayField);

        inputPanel.add(new JLabel("Periods:"));
        periodsField = new JTextField();
        inputPanel.add(periodsField);

        inputPanel.add(new JLabel("Total No. of Lectures (Integer Only):"));
        lecturesField = new
JFormattedTextField(NumberFormat.getIntegerInstance());
        inputPanel.add(lecturesField);

        inputPanel.add(new JLabel("Subject (Theory/Practical):"));
        subjectField = new JTextField();
        inputPanel.add(subjectField);
```

```
inputPanel.add(new JLabel("Department:"));
departmentField = new JTextField();
inputPanel.add(departmentField);

inputPanel.add(new JLabel("Topic Covered:"));
topicField = new JTextField();
inputPanel.add(topicField);

inputPanel.add(new JLabel("HOD Sign:"));
hodSignField = new JTextField();
inputPanel.add(hodSignField);

// Add entry button
addButton = new JButton("Add Entry");
inputPanel.add(addButton);

// Export to Excel button
exportButton = new JButton("Export to Excel");
inputPanel.add(exportButton);
```

```
    add(inputPanel, BorderLayout.SOUTH);


    // Add action listener to date picker
    datePicker.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
            updateDayField();
        }
    });


    // Add button action listener
    addButton.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
            addRow();
        }
    });


    // Export button action listener
    exportButton.addActionListener(new ActionListener() {
        @Override
```

```
        public void actionPerformed(ActionEvent e) {
            exportToExcel();
        }
    });

    pack();
    setVisible(true);
  }

  // Method to update the day field based on the selected date
  private void updateDayField() {
    String selectedDate = datePicker.getJFormattedTextField().getText();
    if (!selectedDate.isEmpty()) {
        // Parse the selected date into LocalDate
        DateTimeFormatter formatter = DateTimeFormatter.ofPattern("yyyy-MM-
dd");
        LocalDate date = LocalDate.parse(selectedDate, formatter);

        // Get the day of the week in a localized format (e.g., Monday, Tuesday)
        String dayOfWeek =
date.getDayOfWeek().getDisplayName(TextStyle.FULL, Locale.ENGLISH);
```

```
            // Update the day field
            dayField.setText(dayOfWeek);
        }
    }

    // Method to add a new row to the table
    private void addRow() {
        try {
            String serialNo = serialNoField.getText();
            String date = datePicker.getJFormattedTextField().getText();  // Get the date from the date picker
            String day = dayField.getText();
            String periods = periodsField.getText();
            String lectures = lecturesField.getText();
            String subject = subjectField.getText();
            String department = departmentField.getText();
            String topic = topicField.getText();
            String hodSign = hodSignField.getText();

            // Check if serial number and total lectures are valid integers
```

```
        if (serialNo.isEmpty() || lectures.isEmpty()) {
            throw new NumberFormatException("Serial No and Total No of Lectures must be integers.");
        }

        // Add new row to the table
        model.addRow(new Object[]{serialNo, date, day, periods, lectures, subject, department, topic, hodSign});

        // Clear input fields after adding
        serialNoField.setText("");
        periodsField.setText("");
        lecturesField.setText("");
        subjectField.setText("");
        departmentField.setText("");
        topicField.setText("");
        hodSignField.setText("");
        dayField.setText("");
        datePicker.getJFormattedTextField().setText(""); // Clear the date field
    } catch (NumberFormatException ex) {
```

```
        JOptionPane.showMessageDialog(this, "Please enter valid integer values for Serial No and Total No of Lectures.", "Input Error", JOptionPane.ERROR_MESSAGE);
    }
  }

  // Method to export table data to Excel
  private void exportToExcel() {
    Workbook workbook = new XSSFWorkbook();
    Sheet sheet = workbook.createSheet("Lesson Planner");

    // Create header row
    Row headerRow = sheet.createRow(0);
    for (int i = 0; i < model.getColumnCount(); i++) {
      Cell cell = headerRow.createCell(i);
      cell.setCellValue(model.getColumnName(i));
    }

    // Populate data rows
    for (int i = 0; i < model.getRowCount(); i++) {
      Row row = sheet.createRow(i + 1); // Start from row 1 (second row)
```

```
        for (int j = 0; j < model.getColumnCount(); j++) {
            Cell cell = row.createCell(j);
            cell.setCellValue(model.getValueAt(i, j).toString());
        }
    }

    // Autosize columns
    for (int i = 0; i < model.getColumnCount(); i++) {
        sheet.autoSizeColumn(i);
    }

    // Save to file
    try (FileOutputStream fileOut = new
FileOutputStream("LessonPlanner.xlsx")) {
        workbook.write(fileOut);
        workbook.close();
        JOptionPane.showMessageDialog(this, "Data exported to Excel
successfully!", "Export Success", JOptionPane.INFORMATION_MESSAGE);
    } catch (IOException e) {
        e.printStackTrace();
        JOptionPane.showMessageDialog(this, "Error exporting data to Excel.",
"Export Error", JOptionPane.ERROR_MESSAGE);
```

```
        }
    }

    public static void main(String[] args) {
        SwingUtilities.invokeLater(() -> new LessonPlanner());
    }
}
```

DateLabelFormatter.java

```
package lesson_plannerv2;

//Formatter for the date picker

import java.text.ParseException;

import java.text.SimpleDateFormat;

import java.util.Calendar;

import javax.swing.JFormattedTextField.AbstractFormatter;


class DateLabelFormatter extends AbstractFormatter {

private String datePattern = "yyyy-MM-dd";

private SimpleDateFormat dateFormatter = new
SimpleDateFormat(datePattern);


@Override
```

```
public Object stringToValue(String text) throws ParseException {
  return dateFormatter.parseObject(text);
}

@Override
public String valueToString(Object value) throws ParseException {
  if (value != null) {
     Calendar cal = (Calendar) value;
     return dateFormatter.format(cal.getTime());
  }

  return "";
}
}
```

Explanation of Code:

- **DatePicker: we used the `JDatePickerImpl` to select a date.**
- **Date Formatter: we the `DateLabelFormatter` class to format the date in `yyyy-MM-dd` format.**

- **Date Field: The `JDatePickerImpl` is used to get the date, which is retrieved using `datePicker.getJFormattedTextField().getText()`.**

Steps to Run:

Ctrl+ Shift+ x

QR CODE TO ACCESS PROJECT ON GITHUB