

## OPENPYXL FOR DATA ANALYSTS – COMPLETE PRACTICAL GUIDE

This guide explains what openpyxl is, why a Data Analyst needs it, and how to use it correctly for Excel automation and reporting.

### 1. What is openpyxl?

openpyxl is a Python library used to read, write, and modify Excel (.xlsx) files. Data Analysts use it mainly to format Excel outputs generated from pandas.

### 2. Why pandas alone is not enough

Pandas handles data manipulation well, but it cannot properly format Excel reports. openpyxl is used for formatting, freezing headers, column widths, and presentation.

### 3. Excel structure

Workbook → Worksheet → Cell. Workbook is the Excel file, Worksheet is a sheet, and Cell is a single value like A1.

### 4. Creating and loading workbooks

Create workbook: `wb = Workbook()`

Load workbook: `wb = load_workbook('report.xlsx', data_only=True)`

Save workbook: `wb.save('final_report.xlsx')`

### 5. Working with worksheets

Active sheet: `ws = wb.active`

Sheet names: `wb.sheetnames`

Access sheet: `ws = wb['Sales']`

Create sheet: `wb.create_sheet('Summary', index=0)`

Rename sheet: `ws.title = 'Cleaned_Data'`

Delete sheet: `del wb['Sheet']`

### 6. Working with cells

Read cell: `ws['A1'].value`

Write cell: `ws['A1'] = 'Total Sales'`

Row-column access: `ws.cell(row=1, column=1).value`

### 7. Iterating data

`for row in ws.iter_rows(min_row=2, values_only=True): print(row)`

### 8. Writing pandas DataFrame to Excel

```
with pd.ExcelWriter('report.xlsx', engine='openpyxl') as writer: df.to_excel(writer,  
sheet_name='Data', index=False)
```

## **9. Formatting (core analyst usage)**

Font: `Font(bold=True, size=12)`

Fill: `PatternFill(fill_type='solid', start_color='4F81BD')`

Alignment: `Alignment(horizontal='center')`

Borders: `Border(Side(style='thin'))`

## **10. Rows, columns, filters**

Column width: `ws.column_dimensions['A'].width = 20`

Freeze header: `ws.freeze_panes = 'A2'`

Filters: `ws.auto_filter.ref = ws.dimensions`

## **Conclusion**

If you can use everything in this guide, you have mastered openpyxl for Data Analyst work.