Jaipur Engineers
Your One-Stop IT & Staffing Ecosystem

PRACTICAL TRAINING IN JAIPUR

Data Analytics

Python, SQL, Excel and Power BI

Clean data, answer business questions and build dashboards you can explain.



Four tools, one workflow

Follow a sales question from raw records to a report you can present to a business team.

Python

Clean files and explore patterns with NumPy, pandas, Matplotlib and Plotly.

SQL

Retrieve, join and summarise data stored in relational tables.

Excel

Validate records, build formulas and create PivotTable summaries.

Power BI

Model relationships, define DAX measures and build a filterable report.

Who it’s for

Students and working professionals who want to analyse data and communicate findings. Basic spreadsheet familiarity helps.

START WITH A QUESTION

Bring a business question, such as which region grew fastest or which category drove the most sales.

Start with the business question

Decide what to measure, check the source data and explain how you reached the result.

01

Define the metrics

Clarify the reporting period, the unit of analysis and what counts as a sale, an order or a return.

02

Check the data

Inspect types, duplicates, missing values and invalid rows. Record the rules used to clean or exclude records.

03

Explain the result

Compare the right groups, label units and state which filters or data limitations affect the interpretation.

PRACTICE

Define sales revenue and average order value before creating charts for a retail dataset.

Calculate with Python

Use notebooks, Python fundamentals and NumPy arrays to work with numeric data.

unit-revenue.py

```
01  import numpy as np
02  quantity = np.array([2, 4, 3])
03  unit_price = np.array([450, 250, 600])
04  line_revenue = quantity * unit_price
05  print(line_revenue.sum())
```

Python basics

Use variables, lists, dictionaries, functions and basic file handling.

NumPy arrays

Work with shapes, slicing, masks and vectorised operations.

Summary statistics

Compare count, mean, median, spread and outliers in a sample dataset.

PRACTICE

Compute revenue per line item and check the result against a manual total.

Clean and combine data

Turn CSV or Excel exports into analysis-ready DataFrames.

sales-cleaning.py

```
import pandas as pd
sales = pd.read_csv("sales.csv", parse_dates=["order_date"])
sales = sales.drop_duplicates(subset=["line_id"])
sales["revenue"] = sales["quantity"] * sales["unit_price"]
totals = sales.groupby("region")["revenue"].sum()
```

Inspect

Check columns, types, row counts and missing values after import.

Transform

Filter rows, standardise dates, handle missing values and merge reference tables.

Summarise

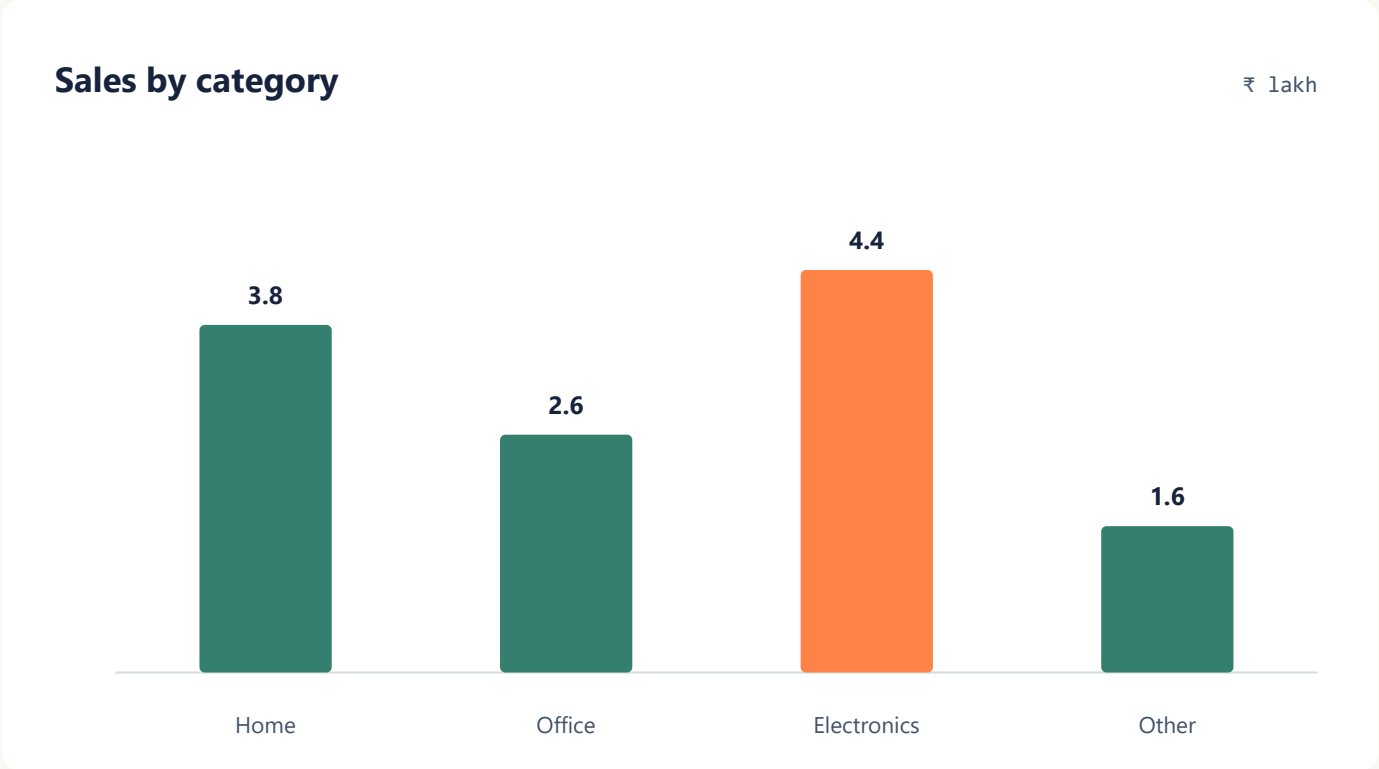
Use groupby, aggregation and pivot tables. Export clean results for reporting.

PRACTICE

Join sales to product categories and produce a revenue summary by region.

Choose a chart that fits

Use static and interactive charts to show comparisons, distributions and trends.



ILLUSTRATIVE DATA

Matplotlib

Create clear bar, line and scatter charts with labelled axes and consistent units.

Plotly

Build interactive charts with hover details and use them to explore a dataset.

PRACTICE

Plot sales by category and explain which comparison the chart makes easy to see.

Query sales records with SQL

Retrieve the rows you need and summarise them in the database before building a report.

regional-sales.sql

```sql
SELECT c.region, SUM(s.revenue) AS total_revenue
FROM sales AS s
JOIN customers AS c ON s.customer_id = c.customer_id
GROUP BY c.region
ORDER BY total_revenue DESC;
```

Queries

Use SELECT, WHERE, ORDER BY, CASE and aggregations.

Joins and grouping

Combine tables with JOIN and filter grouped results with HAVING.

Analytical queries

Practise subqueries, CTEs and window functions for ranking or trends.

PRACTICE

Rank regions by sales and confirm that the join does not duplicate order lines.

Analyse data in a workbook

Organise a sales export so the numbers can be filtered, calculated and checked.

01 **Structure the sheet**

Use tables, consistent headers, dates and numeric formats. Apply sorting, filters and validation.

02 **Write formulas**

Use cell references, IF, SUMIFS and COUNTIFS to calculate sales and check data quality.

03 **Review and communicate**

Use conditional formatting, summaries and simple charts to explain where sales changed.

PRACTICE

Create a sales workbook showing revenue and the number of orders for each region.

Build a repeatable report

Reduce manual spreadsheet steps by using lookups, pivot summaries and a refreshable data import.

01

Look up reference data

Use XLOOKUP or INDEX/MATCH to match product IDs to names and categories. Check how missing matches are handled.

02

Summarise with PivotTables

Group dates, compare categories and use slicers and PivotCharts for a filterable summary.

03

Transform with Power Query

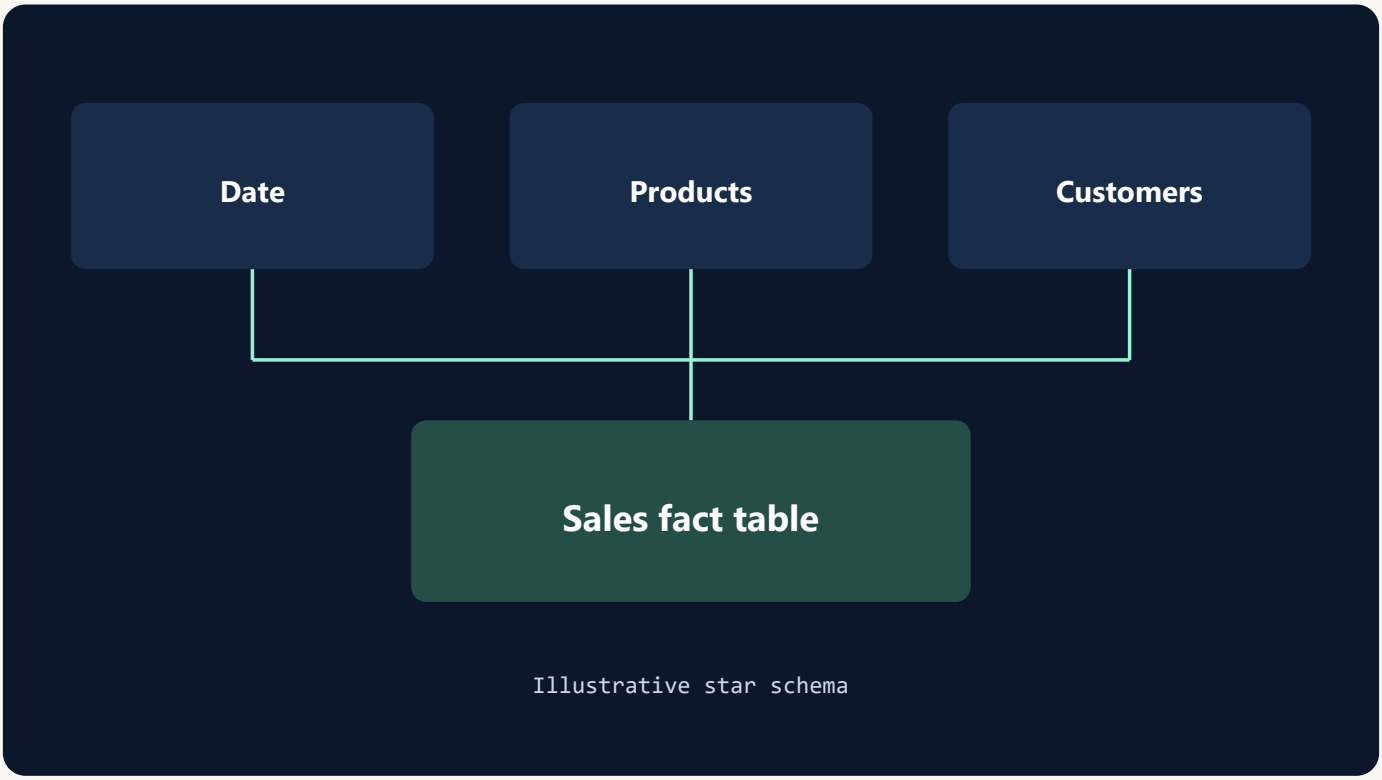
Set types, split columns, merge or append tables and refresh the results when new files arrive.

PRACTICE

Import a new sales file and refresh the workbook summary without rebuilding formulas.

Build a model and measures

Shape the data in Power Query, relate tables and write measures that respond to report filters.



Data model

Use a date table and define one-to-many relationships with clear keys.

DAX measures

Calculate total revenue, distinct orders and average order value. Review filter context.

PRACTICE

Check that total revenue matches your SQL query, then compare the result under a region filter.

Design an interactive report

Build a report that answers the main question and lets readers explore the details.

01

Plan the report pages

Put key metrics and a trend on the overview. Add detail views for products, categories or regions.

02

Add useful interactions

Use slicers, filters, drill-through and tooltips so readers can investigate a change.

03

Check and share

Validate measures, review chart labels and learn how Power BI reports can be published and refreshed.

PRACTICE

Select a region in a slicer and explain how the sales trend and order metrics change.

Retail sales dashboard

Investigate what drove sales changes across quarters, regions and product categories.



ILLUSTRATIVE DASHBOARD WITH SAMPLE DATA

Prepare

Clean the sales data in Python or Excel.

Verify

Check totals and groupings with SQL.

Present

Build a Power BI report and explain the strongest trend.

PROJECT DEMO

Show the dashboard, identify the highest-sales quarter and describe what you checked before reporting it.

Present your analysis

Show the question, the evidence and the business action your report supports.

01

Document the source

Record the data fields, reporting period, cleaning decisions and the definitions of key metrics.

02

Keep reproducible work

Include SQL queries, a Python notebook, a workbook and screenshots or a walkthrough of the report.

03

Explain a finding

Use one chart and one verified number to describe the change, then explain what you would investigate next.

INTERVIEW PRACTICE

Walk through the project from raw data to the finished report in a short interview-style demo.

Data Analytics course fees

Fee breakdown for the four modules. All amounts are in Indian rupees.

MODULE	MODULE FEE
Python for Data Analytics NumPy, pandas, Matplotlib and Plotly	₹7,500
SQL Filtering, joins, aggregations and analytical queries	₹7,000
Excel and Advanced Excel Formulas, lookups, PivotTables and Power Query	₹7,000
Power BI Data modelling, DAX measures and interactive reports	₹10,000

TOTAL COURSE FEE ₹31,500

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COURSE ENQUIRIES

Ask about the next batch

Contact Jaipur Engineers for Data Analytics batch timings, course duration and admission details.

CALL JAIPUR ENGINEERS

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VISIT THE TRAINING CENTRE

122/228, Indra Path, Thadi Market

Mansarovar, Jaipur, Rajasthan 302020

SCAN FOR MAP

Data Analytics course details

Data Analytics

Course content

MODULES 01–02

01

Lessons & practice

- Excel formulas
- Validation
- PivotTables

HANDS-ON

Build a validated Excel table and use a PivotTable to summarise sales by region.

02

Lessons & practice

- SQL filtering
- Grouping
- Joins
- Reporting

HANDS-ON

Write SQL joins and grouped totals and reconcile the result against the workbook.

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Course content

MODULES 03–04

03

Lessons & practice

- Python
- NumPy
- Pandas for data preparation

HANDS-ON Clean transaction rows with pandas and check numeric totals with NumPy.

04

Lessons & practice

- Matplotlib
- Plotly charts

HANDS-ON Create a Matplotlib chart and a Plotly version for the same sales question.

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Course content

MODULES 05–06

05

Lessons & practice

- Power Query
- Relationships
- DAX
- Report design

HANDS-ON — Build relationships and DAX measures in Power BI and exercise report filters.

06

Lessons & practice

- KPI reconciliation
- A retail analytics capstone

HANDS-ON — Reconcile the headline KPIs and present one conclusion backed by the dashboard.