

# MICROSOFT POWER BI

Master Power BI to build interactive dashboards and reports.



## Diverse Tech Topics

- SQL Fundamentals & Querying
- Data Loading & Transformation
- Data Modeling & Relationships
- DAX & Advanced Calculations
- Interactive Visualizations
- Integration of SQL & Power BI
- Publishing & Collaboration

**ENROLL NOW**

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**[www.flairtechnologies.in](http://www.flairtechnologies.in)**



## **Comprehensive Curriculum**

Covers SQL, data modeling, Power BI dashboards, DAX, and reporting for analysis.

01



## **Learning Notes for Each Session**

Session-wise learning notes provide structured summaries of key concepts, tools, and techniques for efficient review and retention.

02



## **Advanced Concepts & Tools with Collaborative Environment**

Gain expertise in advanced concepts via interactive, collaborative, and practical learning sessions

03



## **Hands-On Projects with Expert Instructors**

Real-time projects with in-depth training on SQL, Power BI, DAX, modeling, and reporting using customized datasets.

04



## **Mock Interviews & Resume Preparation**

We take mock interviews and provide you feedback which helps you how to prepare for real Interviews also we help you in resume preparation based on your skills and experience.

05



## **1:1 Meeting with our experts**

You can have 1:1 meeting to discuss your career path and guidance on how to prepare your resume and job placements.

06

## POWER BI ESSENTIALS & ENVIRONMENT SETUP

- What is Power BI - Overview of Desktop, Service, Mobile
- Installing Power BI Desktop & Initial Setup
- Understanding Power BI Components (Desktop, Service, Gateway)
- Power BI Licensing: Free, Pro, Premium, PPU

## DATA LOADING AND TRANSFORMATION (POWER QUERY / M LANGUAGE)

- Connecting to Data Sources (flat files, RDBMS Databases, Semantic Models)
- Introduction to Power Query Editor
- Data Shaping & Cleaning (Remove, Filter, Replace, Split)
- Merge vs Append Queries
- Data Types and Formatting
- Understanding Query Folding
- Introduction to M Language (Functions & Custom Columns)

## DATA MODELLING AND RELATIONSHIPS

- Star vs Snowflake Schema
- Creating and Managing Relationships
- Fact Tables vs Dimension Tables
- Best Practices for Model Design (Normalization/Denormalization)
- Using Date Tables and Auto Date/Time

## VISUALIZATIONS AND REPORT DESIGN

- Default & Common Visuals
- Slicers, Filters, Drill-downs, Tooltips
- Conditional Formatting & Interactions
- Bookmarks, Selections & Navigation
- Drillthrough Pages & Tooltip Pages
- Using Custom Visuals from AppSource
- Best Practices for Visual & UX Design

## DAX (DATA ANALYSIS EXPRESSIONS)

- Calculated Columns vs Measures
- Aggregation & Math Functions
- Logical Functions
- Date & Time Intelligence Functions
- Text or String Functions
- Filter & Row Context
- Advanced DAX Functions
- DAX Performance Tuning

## PUBLISHING, SHARING & COLLABORATION

- Publishing Reports to Power BI Service
- Workspaces, Apps & Access Control
- Scheduled & Incremental Data Refresh
- Row-Level Security (RLS) & Object-Level Security (OLS)
- Report Sharing, Subscriptions, Alerts
- Gateway Installation & Management

## ADVANCED ANALYTICS & INTEGRATION

- Dataflows and Reusable ETL in Service
- Integration with Azure ML & Cognitive Services
- Power automate flows creation for datasets refresh
- Deployment Pipelines
- Intake & Survey Power apps Forms creation

## INTRODUCTION TO SQL

- Flat Files vs RDBMS (Why SQL over Excel/CSV)
- Introduction to Structured Query Language
- Importance of SQL in Data Analysis & BI
- Data Types (INT, VARCHAR, DATE, FLOAT, etc.)
- Tables, Attributes, and Records
- Installation & Configuration of SQL Server / PostgreSQL / MySQL

## SQL COMMAND CATEGORIES

### DDL - Data Definition Language

- Create, Alter, Drop, Truncate

### DML - Data Manipulation Language

- Insert, Update, Delete, Merge

### DQL – Data Query Language

- Select and its variations

### TCL -Transaction Control Language

- Commit, Rollback, Savepoint

### DCL – Data Control Language

(Optional for Analysts)

- Grant, Revoke

## CLAUSES, OPERATORS & FILTERS

- WHERE, GROUP BY, HAVING, ORDER BY, TOP / LIMIT
- Logical Operators: AND, OR, NOT
- Comparison Operators: =, <>, >, <, >=, <=
- Range Filters: BETWEEN, IN, IS NULL, LIKE
- Wildcards in LIKE: %, \_
- DISTINCT, CASE, COALESCE, NULLIF
- Set Operators: UNION, UNION ALL, INTERSECT, EXCEPT

## SQL CONSTRAINTS

- Primary Key
- Foreign Key
- Unique
- Not Null
- Default
- Check
- Composite Keys

## SUBQUERIES

- Introduction to Subqueries
- Single-row and Multi-row Subqueries
- Correlated vs Non-Correlated Subqueries
- Scalar Subqueries in SELECT/WHERE

## FUNCTIONS IN SQL

### Aggregate Functions

- SUM(), AVG(), MIN(), MAX(), COUNT()

### String Functions

- LEN(), UPPER(), LOWER(), LTRIM(), RTRIM(), SUBSTRING(), REPLACE(), CHARINDEX()

### Date and Time Functions

- GETDATE(), DATEADD(), DATEDIFF(), YEAR(), MONTH(), DAY(), FORMAT()

### Conversion Functions

- CAST(), CONVERT()

## JOINS IN SQL

- Why Joins are Needed
- Inner Join
- Left Join
- Right Join
- Full Outer Join
- Cross Join
- Self Join
- Anti Join (NOT EXISTS, EXCEPT, LEFT JOIN WHERE NULL)
- Real-world Join Scenarios

## WINDOW & ANALYTICAL FUNCTIONS

- OVER( ) Clause
- PARTITION BY, ORDER BY inside window
- ROW\_NUMBER( )
- RANK( ), DENSE\_RANK( )
- NTILE( )
- LEAD( ), LAG( )
- Running Totals, Moving Averages

## DATA MODELING & BEST PRACTICES

- Star vs Snowflake Schema
- Fact and Dimension Tables
- Surrogate Keys and Natural Keys
- Normalization & Denormalization
- Naming Conventions and Standards

## VIEWS AND INDEXES

### Views

- Creating and Using Views
- Updatable vs Non-Updatable Views
- Materialized Views (if supported)

### Indexes

- Clustered vs Non-Clustered
- Composite Index
- When and Why to Use Indexes
- Index Impact on Performance

## STORED PROCEDURES AND TRIGGERS

### Stored Procedures

- CREATE, EXEC, Parameters
- Use in Data Pipelines / Reporting
- Pros and Best Practices

### Triggers

- After INSERT/UPDATE/DELETE
- Use Cases in Auditing or Data Validations

## COMMON TABLE EXPRESSIONS (CTES)

- Syntax and Structure
- Recursive CTEs
- CTE vs Subquery Performance
- Multi-CTE with Joins and Aggregations

## ADVANCED & ANALYTICAL USE CASES

- Using SQL for KPI Analysis
- Cohort Analysis
- Funnel Analysis
- Customer Segmentation Queries
- Market Basket Analysis (via Joins/Subqueries)
- Error Handling using TRY...CATCH (SQL Server)

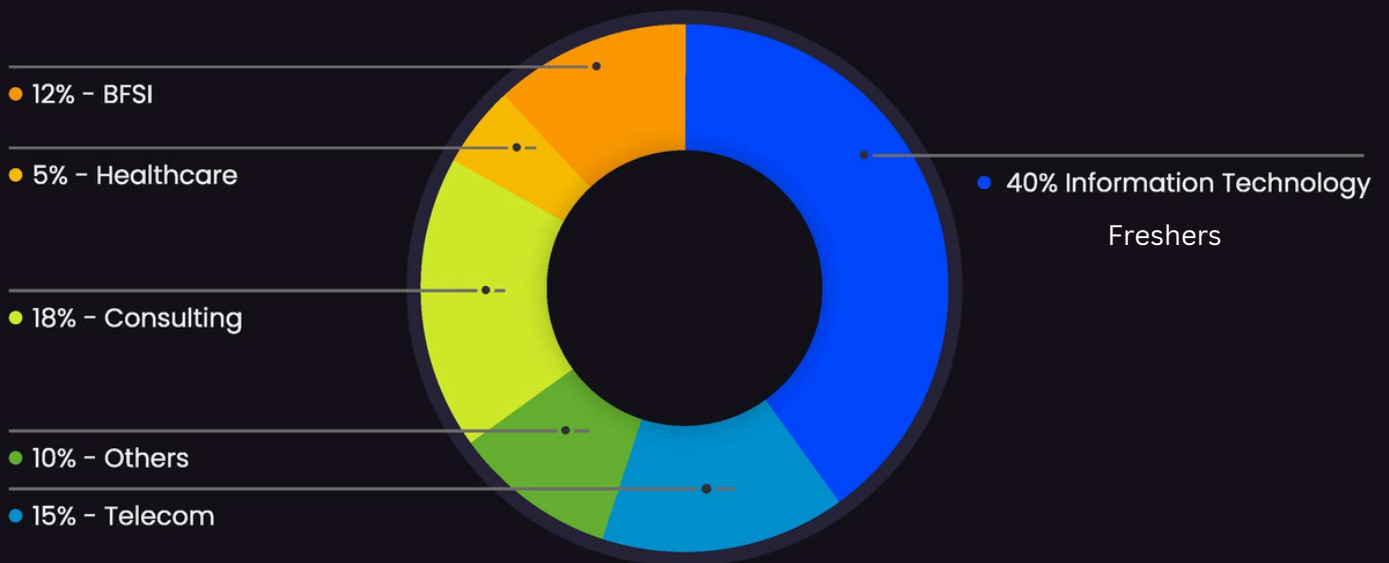
## REAL-WORLD REPORTING & ANALYSIS TASKS

- Monthly, Quarterly, Yearly Trends
- YoY, MoM Growth Analysis
- Top N/Bottom N Products or Regions
- Contribution % Analysis (Subtotals)
- Data Cleansing with SQL
- SQL for Power BI/Tableau Backends

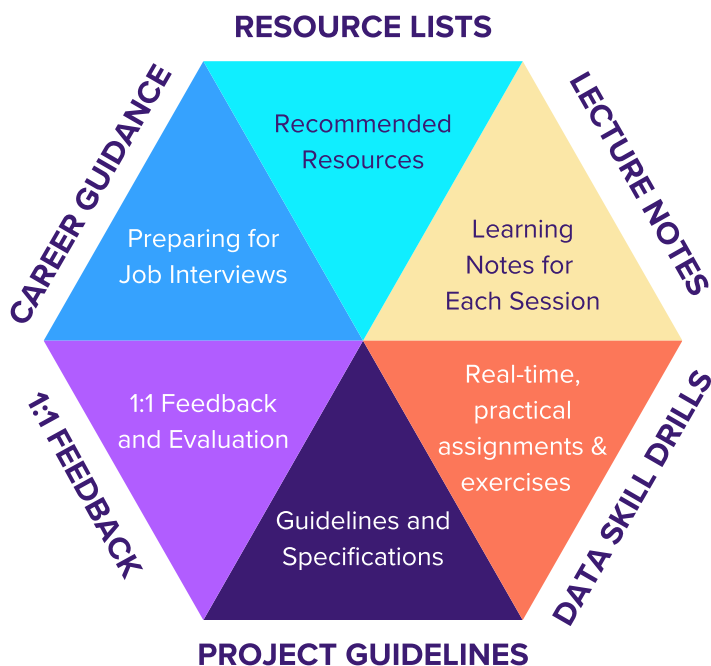




## Industries Our Learners Come From



## WHAT YOU ACHIVE



### TARGET GOALS

- 1 Resource Lists
- 2 Lecture Notes
- 3 Hands-on Exercises
- 4 Project Guidelines
- 5 1:1 Feedback
- 6 Career Guidance

We are pioneers in providing trainings by certified Instructors who are highly qualified with decades of experience in the subject matter. Flair Technologies was expertise in providing quality Industry Oriented Training with Interview Preparation and Placement Assistance.

### GOALS ACHIVED

- 1 Expertise in Power BI
- 2 Ready for Interview
- 3 Placement in MNC

# FLAIR TECHNOLOGIES

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FLAIR TECHNOLOGIES was founded in 2014 With the mission to provide high quality software Trainings. Despite facing challenges due to full-time commitments, our enthusiasm for teaching never waned.

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