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COURSE BROCHURE

Advanced Power BI Data Analysis Techniques Training Course

9 – 20 August 2027
Singapore

Advanced Power BI Data Analysis Techniques Training Course

Ref: 206_6269 **Date:** 9 – 20 August 2027 **Location:** Singapore **Fees:** 12000 GBP

Advanced Power BI Data Analysis Techniques is a 2-week training course for BI developers, Power BI report authors and financial analysts who build a governed Power BI semantic model blueprint covering queries, star schema, DAX measures, security roles and report pages. Business users now expect self-service reports that reconcile with the ledger and refresh without manual fixes. The course is delivered by Jupiter Prime Training.

Why Power BI Data Analysis Techniques Matter Now

Three pressures shape Power BI work today. Finance and operations leaders want one version of revenue, margin and headcount instead of competing spreadsheets; report estates grow faster than anyone documents them, leaving slow visuals and duplicated measures; and information security teams expect sensitive figures to be filtered by role, not by trust. A tenant with disciplined semantic models earns adoption and audit confidence, while an unmanaged one multiplies conflicting numbers. The course draws on the skill areas Microsoft publishes for the Power BI Data Analyst PL-300 exam: prepare, model, visualise and analyse, and manage and secure.

Who Gains Most from Power BI Data Analysis Techniques

- Developers responsible for Power Query pipelines and dataset refresh reliability
- Report authors who design measures, visuals and drill paths for business users
- Financial analysts who reconcile Power BI figures with ledgers and budgets
- Workspace owners who control access, deployment and row-level security roles
- Performance analysts who maintain KPI scorecards used in monthly reviews

A finance business-partnering or central BI unit gains most when several members attend together and agree shared modelling conventions and DAX patterns.

Power BI Data Analysis Techniques Capabilities

Participants move from building individual visuals to engineering a semantic layer that many reports can trust and reuse.

- Design star-schema models with conformed dimensions and correct relationship cardinality — BI leads setting modelling standards
- Build DAX measures that manipulate filter context with CALCULATE — finance partners explaining variances
- Apply time intelligence and calculation groups to period comparisons — controllers preparing month-end packs
- Specify row-level and object-level security roles — information security owners approving access
- Test model and visual performance with diagnostic tools — workspace owners managing capacity

- Communicate insight through report pages, bookmarks and drill-through — executives reviewing performance

Key Power BI Data Analysis Techniques Terms

- Semantic model — the Power BI dataset of tables, relationships, measures and security that reports query, formerly called a dataset.
- Star schema — a model layout with one central fact table of events linked to surrounding dimension tables describing who, what, where and when.
- Filter context — the set of filters from slicers, visuals and relationships that determines which rows a DAX measure evaluates.
- CALCULATE — the DAX function that evaluates an expression under a modified filter context, central to most advanced measures.
- Calculation group — a reusable set of DAX expressions, such as year-to-date or prior year, applied to many measures without duplicating them.
- Row-level security — rules that restrict which rows of a table each user or role can see when querying a report.

Power BI Data Analysis Techniques Day by Day

Day 1: Power BI Estate and Reporting Demand

- Report Estate Inventory — Finding Duplicated Datasets and Conflicting Measures
- Requirements Matrix for KPIs — Agreeing Grain, Owners and Definitions
- PL-300 Skill Areas — Mapping Gaps Across Prepare, Model and Visualise
- Import, DirectQuery and Composite Modes — Choosing Storage for Each Source
- Workspace and Licence Structure — Deciding Who Builds, Shares and Consumes

Day 2: Power Query Transformation Patterns

- M Language Steps and Query Folding — Pushing Work Back to the Source
- Merge, Append and Unpivot Patterns — Shaping Ledger and Operational Extracts
- Parameters and Custom Functions — Reusing Logic Across Many Files
- Data Profiling Panes — Detecting Nulls, Errors and Outliers Before Loading
- Dataflows for Shared Entities — Centralising Calendar, Product and Cost Centre Tables

Day 3: Dimensional Modelling and Star Schema

- Fact and Dimension Separation — Defining Grain for Sales and Expense Tables
- Relationship Cardinality and Cross-Filter Direction — Avoiding Ambiguous Paths
- Role-Playing Dimensions — Handling Order, Ship and Invoice Dates
- Slowly Changing Dimensions — Preserving History of Customers and Hierarchies
- Date Table Design — Supporting Fiscal Calendars and Week Numbering

Day 4: DAX Foundations for Advanced Measures

- Row Context Versus Filter Context — Predicting How a Measure Evaluates
- Iterator Functions Such as SUMX — Calculating Weighted Margins and Ratios
- Variables in DAX — Improving Readability and Query Speed
- Context Transition — Explaining Unexpected Totals in Matrix Visuals
- Measure Naming and Display Folders — Keeping Large Models Navigable

Day 5: Filter Manipulation With CALCULATE

- CALCULATE With Filter Arguments — Building Share-of-Total and Mix Measures
- ALL, REMOVEFILTERS and KEEPFILTERS — Controlling Which Slicers Apply
- USERELATIONSHIP and TREATAS — Activating Alternative Joins on Demand
- Virtual Tables With SUMMARIZE and ADDCOLUMNS — Ranking Products and Branches
- DAX Query View Testing — Verifying Measures Against Known Ledger Totals

Day 6: Time Intelligence and Calculation Groups

- Year-to-Date and Rolling Period Measures — Tracking Cumulative Performance
- Prior-Period and Same-Period-Last-Year Comparisons — Explaining Growth
- Calculation Groups in Tabular Editor — Removing Duplicate Time Measures
- Field Parameters — Letting Users Switch Metrics and Dimensions
- Budget Versus Actual Allocation — Spreading Annual Targets to Monthly Grain

Day 7: Analytical Visuals and Report Design

- Decomposition Tree and Key Influencers — Exploring Drivers of Variance
- Drill-Through and Tooltip Pages — Moving From Summary to Transaction Detail
- Bookmarks and Navigation — Guiding Executives Through a Monthly Story
- Conditional Formatting With DAX — Highlighting Exceptions Against Thresholds
- Accessible Theme and Layout Standards — Keeping Reports Consistent and Readable

Day 8: Row-Level Security and Model Protection

- Static and Dynamic Row-Level Security — Filtering by Region, Entity or Manager
- Object-Level Security — Hiding Salary and Margin Columns From Roles
- Sensitivity Labels and Export Controls — Limiting Leakage of Confidential Figures
- Security Role Testing With View As — Proving Each Audience Sees the Right Rows
- Endorsement and Certified Datasets — Signalling Which Models Users Should Trust

Day 9: Performance Tuning and Deployment

- Performance Analyzer — Isolating Slow Visuals and Expensive Queries
- DAX Studio and VertiPaq Analyzer — Reducing Model Size and Cardinality
- Aggregations and Incremental Refresh — Scaling Large Fact Tables
- Deployment Pipelines — Promoting Content From Development to Production
- Refresh Schedules and Gateway Monitoring — Keeping Figures Current and Reliable

Day 10: Practising the Power BI Semantic Model Blueprint

- Retail Sales Case — Applying Star Schema and Time Intelligence to Store Performance
- Utility Cost Case — Applying CALCULATE Patterns to Budget Variance
- Security Role Walk-Through — Applying Dynamic Row-Level Security to Entities
- Peer Model Review — Checking Performance and Naming Against Agreed Conventions
- Power BI Semantic Model Blueprint — Completing Queries, Measures, Roles and Pages

Applying Power BI Data Analysis Techniques After the Course

- Refactor one existing report onto a star schema with a calculation group for time comparisons, then compare file size and visual load times.
- Implement dynamic row-level security on one finance dataset and test every role with View As before republishing.

Power BI Data Analysis Techniques Questions FAQ

What are advanced Power BI data analysis techniques, and why do they matter now?

They are the modelling, DAX, security and performance methods that turn Power BI from a charting tool into a trusted semantic layer. They matter now because report estates are growing quickly and leaders expect every figure to reconcile with finance systems.

Which roles gain most from Power BI data analysis techniques training?

BI developers, report authors and financial analysts who already build Power BI reports gain most. You benefit if your measures behave unpredictably, your reports load slowly or you need to secure figures by entity, region or manager in retail, utilities or professional services.

How does a Power BI data analysis techniques course differ from an introductory Power BI course?

It assumes participants already build reports and concentrates on star-schema modelling, filter context, calculation groups, security roles and performance tuning. An introductory course covers connecting sources and creating visuals, while this level covers engineering models that many reports can safely share.

What do you bring back from Power BI data analysis techniques training?

You bring back a documented model design with Power Query steps, star-schema relationships, tested DAX measures, security roles and report pages. It gives your colleagues a reusable pattern for the next dataset rather than another one-off report.

Power BI Data Analysis Techniques: The Way Forward

The Power BI semantic model blueprint first informs which existing reports should be rebuilt on a shared, certified model. BI developers, finance analysts and workspace owners use it to agree measure definitions, security roles and refresh schedules. After its first release, revisit the calculation groups and aggregations, because real usage patterns show which comparisons and grains users actually rely on.