

# DP-600: Fabric Analytics Engineer

Build trusted, high-performance analytics in Microsoft Fabric — from lakehouse to semantic model — and prepare for DP-600.

**DURATION**

4 days · 32 hours

**LEVEL**

Intermediate

**CURRICULUM**

13 modules · 10 labs

**DELIVERY**Live online, Onsite,  
Corporate

## Course overview

Microsoft Fabric brings data engineering, warehousing and Power BI into one platform, and the analytics engineer is the person who makes it trustworthy. That means preparing clean data, designing semantic models that business users can rely on, and managing the workspace so changes are controlled and secure. This four-day course builds those skills on a complete Fabric solution.

Day one covers planning and managing a Fabric analytics solution: capacities, workspaces, OneLake, security, deployment pipelines and Git integration. Day two focuses on getting and preparing data — lakehouses and warehouses, shortcuts, Dataflows Gen2, notebooks and SQL transformations — with attention to data quality.

Day three is dedicated to semantic models: star schema design, relationships, DAX calculations, calculation groups and Direct Lake storage mode. Day four covers performance optimisation, row-level and object-level security, endorsement and lineage, followed by a session on exam technique and practice questions.

All labs build on one retail analytics scenario, so by the end you have a lakehouse, a warehouse, a semantic model and a report that you designed and tuned yourself.

The course is aligned to the DP-600 exam. Microsoft Fabric evolves quickly and the outline is updated periodically, so confirm the current skills measured on Microsoft Learn before booking.

### Highlights

- 32 hours of live, hands-on sessions
- Lakehouse, warehouse and semantic model built end to end
- SQL, DAX and PySpark used where each fits best
- Direct Lake, performance tuning and security labs
- Mapped to the three DP-600 skill areas

### What's included

- One end-to-end Fabric analytics scenario
- Lakehouse, warehouse and Dataflows Gen2 labs
- Semantic model design with DAX and calculation groups
- Direct Lake and performance tuning with DAX query view
- Deployment pipelines and Git integration
- Row-level and object-level security
- 30 days of post-training doubt support

## Who this course is for

### Who should attend

- Power BI developers moving to Microsoft Fabric
- BI and analytics engineers
- Data analysts with strong modelling skills
- Data engineers who also build semantic models
- PL-300 holders progressing to analytics engineering

### Prerequisites

- Experience with Power BI data modelling and DAX (PL-300 level recommended)
- Working knowledge of SQL
- Basic familiarity with Python or PySpark helps

## Detailed curriculum — 4 days, 32 hours, 13 modules, 10 hands-on labs

### Day 1 Planning and Managing a Fabric Analytics Solution

8 hours

#### 1.1 Fabric fundamentals

- Fabric capacities and licensing concepts
- OneLake and shortcuts
- Workspaces and items
- Choosing lakehouse, warehouse or eventhouse

**LAB** Create a workspace, lakehouse and OneLake shortcut · 40 min

#### 1.2 Security and governance

- Workspace roles and item permissions
- Endorsement and lineage
- Sensitivity labels
- Microsoft Purview integration

**LAB** Configure workspace roles and item sharing · 30 min

#### 1.3 Lifecycle management

- Git integration for workspaces
- Power BI Projects (PBIP) format
- Deployment pipelines
- Reusable assets and templates

**LAB** Promote content through a deployment pipeline · 45 min

### Day 2 Getting and Preparing Data

8 hours

#### 2.1 Ingesting data

- Data pipelines and copy activities
- Shortcuts and mirroring
- Dataflows Gen2
- Choosing an ingestion method

**LAB** Ingest sales data with a pipeline and Dataflow Gen2 · 50 min

#### 2.2 Transforming data

- Notebooks with PySpark
- Delta tables and V-Order
- SQL transformations in the warehouse
- Medallion architecture

**LAB** Build bronze, silver and gold layers in a lakehouse · 60 min

#### 2.3 Querying and data quality

- SQL analytics endpoint
- Handling duplicates, nulls and type issues
- Visual query editor
- Profiling data

**LAB** Query and validate gold tables with T-SQL · 30 min

### Day 3 Implementing Semantic Models

8 hours

3.1 Model design

- Star schema and dimension design
- Storage modes: Import, DirectQuery, Direct Lake and composite
- Relationships and cardinality
- Large semantic models

LAB Design a Direct Lake semantic model over the gold layer · 55 min

3.2 DAX calculations

- Measures, variables and iterators
- Calculation groups
- Time intelligence
- Field parameters and dynamic format strings

LAB Build time-intelligence measures with a calculation group · 50 min

3.3 Model tools

- Tabular Editor and external tools
- XMLA endpoint
- TMDL view

Day 4 Optimisation, Security and Exam Readiness

8 hours

4.1 Performance optimisation

- Performance analyser and DAX query view
- Direct Lake fallback behaviour
- Aggregations and incremental refresh
- Optimising DAX and model size

LAB Diagnose and fix a slow report · 50 min

4.2 Model security

- Row-level security
- Testing security as a user
- Object-level security

LAB Implement and test dynamic row-level security · 40 min

4.3 Exploring and analysing data

- Reports over semantic models
- Copilot in Fabric overview
- Exploring data with SQL and KQL queriesets

4.4 Exam readiness

- Exam structure and case studies
- Practice questions with review

Skills and tools

Skills you will build

Microsoft Fabric

OneLake

Lakehouse

Fabric Warehouse

Dataflows Gen2

PySpark

T-SQL

Semantic models

DAX

Direct Lake

Deployment pipelines

Row-level security

Performance tuning

Tools used in class

Microsoft Fabric

Power BI Desktop

Tabular Editor

DAX Studio

Fabric notebooks

Git

Certification exam

This course is aligned to the exam below and prepares you for it. The exam itself is booked and taken with the vendor.

|           |                                                          |
|-----------|----------------------------------------------------------|
| Exam      | Microsoft Certified: Fabric Analytics Engineer Associate |
| Exam code | DP-600                                                   |

|               |                                                                                                                                                         |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Duration      | 100 minutes                                                                                                                                             |
| Passing score | 700 / 1000 (scaled)                                                                                                                                     |
| Format        | Multiple choice, Multiple response, Drag and drop, Case study                                                                                           |
| Delivery      | Online proctored, Test centre                                                                                                                           |
| Validity      | 1 year (free online renewal assessment)                                                                                                                 |
| Official page | <a href="https://learn.microsoft.com/credentials/certifications/exams/dp-600/">https://learn.microsoft.com/credentials/certifications/exams/dp-600/</a> |

### Exam skill areas covered

Implement and manage semantic models

Exam details are pending verification. Confirm the current exam code, format and fee on the official vendor page before booking.

## Frequently asked questions

### Should I take PL-300 before DP-600?

It is not required, but solid Power BI modelling and DAX skills make DP-600 much easier. PL-300 is a good stepping stone.

### Do I need a Fabric licence?

No. Lab access to a Fabric environment is arranged for the course, and the details are shared before Day 1.

### How much coding is involved?

You will write SQL and DAX throughout and some PySpark in notebooks; starter code is provided for every lab.

### What happens if Microsoft updates the DP-600 exam?

We map the curriculum to the current published skills outline and revise it when Microsoft changes the exam. Always check the latest outline on Microsoft Learn before booking.

### Do you run weekend batches?

Yes. Weekend batches cover the same 32 hours across consecutive Saturdays and Sundays, with timings in IST that also suit learners in the Gulf.

### Can you run a private batch for our team?

Yes. We run private online or onsite batches for corporate teams, and we can weight the labs towards your Fabric adoption roadmap. Request a corporate quote with your team size and preferred dates.

## Book a batch or talk to an advisor

Course page: [aceskillsconsulting.com/course/dp-600-fabric-analytics-engineer](https://aceskillsconsulting.com/course/dp-600-fabric-analytics-engineer) · Email: [info@aceskillsconsulting.com](mailto:info@aceskillsconsulting.com)

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