

DIGITAL INNOVATION AND TRANSFORMATION | COURSE BROCHURE

Data Engineering Fundamentals: Pipelines and Data Platforms

5 days | Classroom training | English

SMART HORIZON

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London W2 6BD, United Kingdom

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Course content

Why attend

Data engineering builds the pipelines and platforms that make data available for analytics and AI. This course explains data architecture, ingestion, ETL and ELT, data warehouses and lakehouses, data quality, orchestration, cloud data platforms and governance, with practical exercises.

Analytics and AI initiatives depend on reliable data pipelines. This course gives analysts and IT professionals a practical understanding of how modern data platforms work.

Professional Problems This Course Is Designed to Solve

- Difficulty translating subject knowledge into practical workplace decisions.
- Inconsistent approaches to the activities covered in the course outline.
- Lack of a structured plan for applying and reviewing new skills.

Course methodology

The course combines concept sessions with guided labs, architecture design exercises and case studies.

Course objectives

By the end of this course, participants will be able to:

- Explain modern data architecture concepts
- Design data ingestion and integration pipelines
- Understand ETL, ELT and data transformation
- Compare data warehouses, data lakes and lakehouses
- Implement data quality checks and orchestration
- Apply governance and security to data platforms

Target audience

This course is suitable for:

- Data analysts moving into engineering
- IT and database professionals
- BI developers
- Data project managers
- Solution architects



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Target competencies

Participants will develop competencies in:

- Data architecture
- Data pipelines
- Data transformation
- Data platforms
- Data quality
- Data governance

Course outline

Day 1: Data Engineering Foundations

09:00–09:54	Role of data engineering
09:54–10:48	Data sources and types
10:48–11:00	Batch and streaming
11:00–11:30	**Coffee break**
11:30–12:12	Batch and streaming (continued)
12:12–13:06	Modern data stack
13:06–14:00	Exercise: Data flow mapping

Day 2: Ingestion and Integration

09:00–09:54	APIs and connectors
09:54–10:48	Change data capture
10:48–11:00	File and database ingestion
11:00–11:30	**Coffee break**
11:30–12:12	File and database ingestion (continued)
12:12–13:06	Integration patterns
13:06–14:00	Lab: Building an ingestion pipeline



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Day 3: Transformation and Storage

09:00–09:54	ETL versus ELT
09:54–10:48	Data modelling for analytics
10:48–11:00	Warehouses, lakes and lakehouses
11:00–11:30	**Coffee break**
11:30–12:12	Warehouses, lakes and lakehouses (continued)
12:12–13:06	SQL transformations
13:06–14:00	Lab: Transforming data

Day 4: Quality and Orchestration

09:00–09:54	Data quality testing
09:54–10:48	Orchestration tools
10:48–11:00	Monitoring and alerts
11:00–11:30	**Coffee break**
11:30–12:12	Monitoring and alerts (continued)
12:12–13:06	Documentation
13:06–14:00	Lab: Data quality checks

Day 5: Platforms and Governance

09:00–09:54	Cloud data platforms
09:54–10:48	Security and access
10:48–11:00	Cost management
11:00–11:30	**Coffee break**
11:30–12:12	Cost management (continued)
12:12–13:06	Data governance
13:06–14:00	Capstone: Data platform design

The timings provided are estimates and may vary depending on the number of participants and the discussions taking place during the



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sessions. They are indicative only and do not constitute a binding commitment.

Dates, venues and fees

Current published course plans. Fees are per participant in GBP, excluding unconfirmed taxes.

Venue	Start date	End date	Fee (GBP)
Istanbul Confirmed dates	9 Nov 2026	13 Nov 2026	**£2,650.–**
Online Confirmed dates	9 Nov 2026	13 Nov 2026	**£1,250.–**
Amsterdam Confirmed dates	23 Nov 2026	27 Nov 2026	**£2,540.–**
Online Confirmed dates	23 Nov 2026	27 Nov 2026	**£1,250.–**
Vienna Confirmed dates	30 Nov 2026	4 Dec 2026	**£2,940.–**
Online Confirmed dates	30 Nov 2026	4 Dec 2026	**£1,250.–**
Singapore Confirmed dates	7 Dec 2026	11 Dec 2026	**£2,820.–**
Online Confirmed dates	7 Dec 2026	11 Dec 2026	**£1,250.–**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (GBP)
London Confirmed dates	14 Dec 2026	18 Dec 2026	**£2,450.-**
Online Confirmed dates	14 Dec 2026	18 Dec 2026	**£1,250.-**
Dubai Confirmed dates	11 Jan 2027	15 Jan 2027	**£3,150.-**
Online Confirmed dates	11 Jan 2027	15 Jan 2027	**£1,250.-**
Frankfurt Confirmed dates	25 Jan 2027	29 Jan 2027	**£2,650.-**
Online Confirmed dates	25 Jan 2027	29 Jan 2027	**£1,250.-**
Kuala Lumpur Confirmed dates	8 Feb 2027	12 Feb 2027	**£1,450.-**
Online Confirmed dates	8 Feb 2027	12 Feb 2027	**£1,250.-**
Paris Confirmed dates	22 Feb 2027	26 Feb 2027	**£2,860.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (GBP)
Online Confirmed dates	22 Feb 2027	26 Feb 2027	**£1,250.-**
Cape Town Confirmed dates	1 Mar 2027	5 Mar 2027	**£1,890.-**
Online Confirmed dates	1 Mar 2027	5 Mar 2027	**£1,250.-**
Istanbul Confirmed dates	8 Mar 2027	12 Mar 2027	**£2,650.-**
Online Confirmed dates	8 Mar 2027	12 Mar 2027	**£1,250.-**
Amsterdam Confirmed dates	22 Mar 2027	26 Mar 2027	**£2,540.-**
Online Confirmed dates	22 Mar 2027	26 Mar 2027	**£1,250.-**
Singapore Confirmed dates	12 Apr 2027	16 Apr 2027	**£2,820.-**
Online Confirmed dates	12 Apr 2027	16 Apr 2027	**£1,250.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (GBP)
London Confirmed dates	26 Apr 2027	30 Apr 2027	**£2,450.-**
Online Confirmed dates	26 Apr 2027	30 Apr 2027	**£1,250.-**
Rome Confirmed dates	3 May 2027	7 May 2027	**£2,450.-**
Online Confirmed dates	3 May 2027	7 May 2027	**£1,250.-**
Dubai Confirmed dates	10 May 2027	14 May 2027	**£3,150.-**
Online Confirmed dates	10 May 2027	14 May 2027	**£1,250.-**
Frankfurt Confirmed dates	24 May 2027	28 May 2027	**£2,650.-**
Online Confirmed dates	24 May 2027	28 May 2027	**£1,250.-**
Kuala Lumpur Confirmed dates	14 Jun 2027	18 Jun 2027	**£1,450.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (GBP)
Online Confirmed dates	14 Jun 2027	18 Jun 2027	**£1,250.–**
Paris Confirmed dates	21 Jun 2027	25 Jun 2027	**£2,860.–**
Online Confirmed dates	21 Jun 2027	25 Jun 2027	**£1,250.–**
Rome Confirmed dates	28 Jun 2027	2 Jul 2027	**£2,450.–**
Online Confirmed dates	28 Jun 2027	2 Jul 2027	**£1,250.–**
Istanbul Confirmed dates	12 Jul 2027	16 Jul 2027	**£2,650.–**
Online Confirmed dates	12 Jul 2027	16 Jul 2027	**£1,250.–**
Amsterdam Confirmed dates	26 Jul 2027	30 Jul 2027	**£2,540.–**
Online Confirmed dates	26 Jul 2027	30 Jul 2027	**£1,250.–**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (GBP)
Singapore Confirmed dates	9 Aug 2027	13 Aug 2027	**£2,820.-**
Online Confirmed dates	9 Aug 2027	13 Aug 2027	**£1,250.-**
London Confirmed dates	23 Aug 2027	27 Aug 2027	**£2,450.-**
Online Confirmed dates	23 Aug 2027	27 Aug 2027	**£1,250.-**
Cape Town Confirmed dates	30 Aug 2027	3 Sept 2027	**£1,890.-**
Online Confirmed dates	30 Aug 2027	3 Sept 2027	**£1,250.-**
Dubai Confirmed dates	13 Sept 2027	17 Sept 2027	**£3,150.-**
Online Confirmed dates	13 Sept 2027	17 Sept 2027	**£1,250.-**
Frankfurt Confirmed dates	20 Sept 2027	24 Sept 2027	**£2,650.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (GBP)
Online Confirmed dates	20 Sept 2027	24 Sept 2027	**£1,250.–**
Kuala Lumpur Confirmed dates	11 Oct 2027	15 Oct 2027	**£1,450.–**
Online Confirmed dates	11 Oct 2027	15 Oct 2027	**£1,250.–**
Paris Confirmed dates	25 Oct 2027	29 Oct 2027	**£2,860.–**
Online Confirmed dates	25 Oct 2027	29 Oct 2027	**£1,250.–**
Barcelona Confirmed dates	1 Nov 2027	5 Nov 2027	**£2,840.–**
Online Confirmed dates	1 Nov 2027	5 Nov 2027	**£1,250.–**
Istanbul Confirmed dates	8 Nov 2027	12 Nov 2027	**£2,650.–**
Online Confirmed dates	8 Nov 2027	12 Nov 2027	**£1,250.–**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (GBP)
Amsterdam Confirmed dates	22 Nov 2027	26 Nov 2027	**£2,540.-**
Online Confirmed dates	22 Nov 2027	26 Nov 2027	**£1,250.-**
Singapore Confirmed dates	6 Dec 2027	10 Dec 2027	**£2,820.-**
Online Confirmed dates	6 Dec 2027	10 Dec 2027	**£1,250.-**
London Confirmed dates	13 Dec 2027	17 Dec 2027	**£2,450.-**
Online Confirmed dates	13 Dec 2027	17 Dec 2027	**£1,250.-**



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Plan your next step

Dates, availability, exact venue, taxes, inclusions and payment terms require written confirmation. This brochure is not a quotation, registration, booking confirmation or visa invitation. Participants receive a Smart Horizon UK certificate of attendance; programmes are not externally accredited and do not award a professional qualification or designation. Confirm arrangements before booking travel.

For group or in-house training, contact our learning team to discuss your objectives and delivery arrangements.

Contact Smart Horizon

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