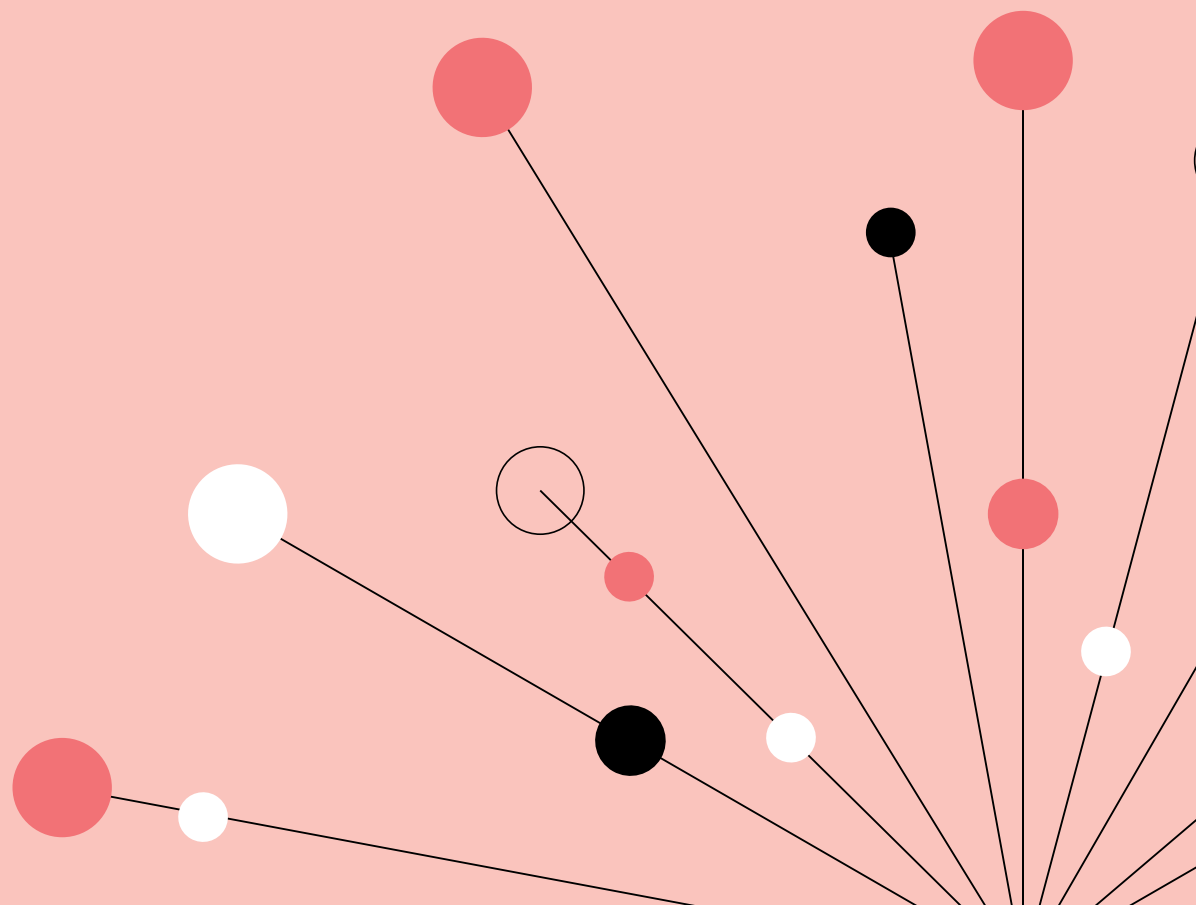# Data Analyst

Level 4 Apprenticeship

Programme Guide

Why QA?

Endorsed by 4,000+ global clients, we are the leader in applied and cohort-based learning academies.

Today's biggest technological shifts are shaped by AI, cloud, and data.

In every technology revolution, there are winners and losers – and teams with applied skills make all the difference. We believe you can't change an organisation unless you change the capabilities of its people and ensure human and machine intelligence work together.

Success in numbers:

35+
Years of training experience

1,000+
AI, cloud & coding hands-on labs

40,000+
Careers launched & accelerated

£500M+
Levy spend invested
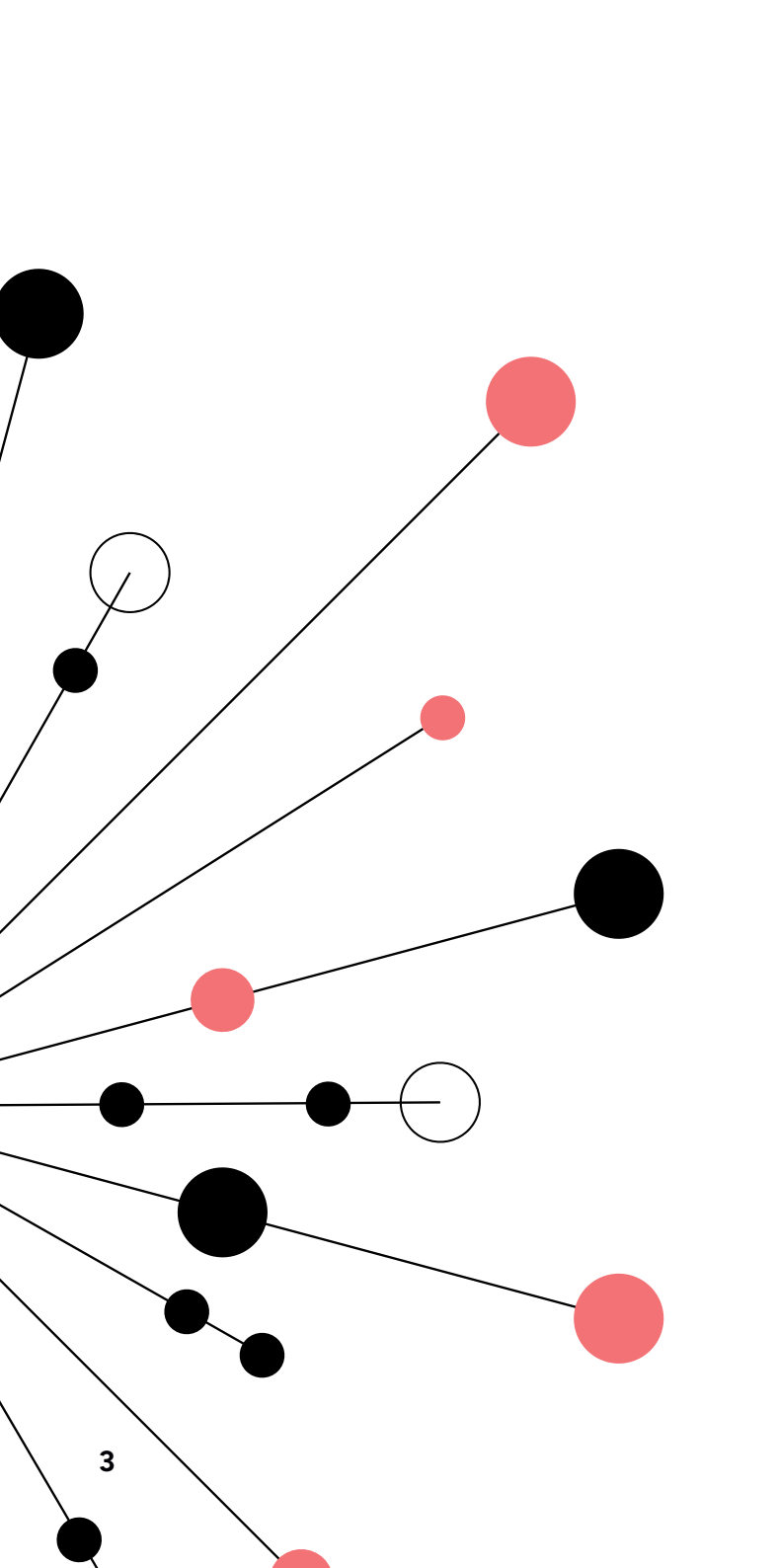
24 hours
Feedback time for submissions

<1 minute
Response time to learner queries

Ready to explore how QA can support you?
Let's dive in!

Contents

Creating Change

Data analysis is central to evidence-based problem-solving.

This programme equips your organisation with critical skills for effective data analysis and integration, applying statistics and modelling for improved predictions and informed decision-making.

Our apprenticeships drive business results by empowering organisations to apply skills consistently at speed and scale.

Empower your data community

Graduate from a cost-centre to profit-centre

Harness AI and machine learning

Maximise potential of emerging technologies

Unlock time and cost savings

Stem revenue loss by capturing missed insights

Digital by Design

Our market-leading approach accelerates skill development and achievement through our **Discover**, **Practise**, **Apply** methodology, ensuring that both learners and employers are fully supported throughout their programme.
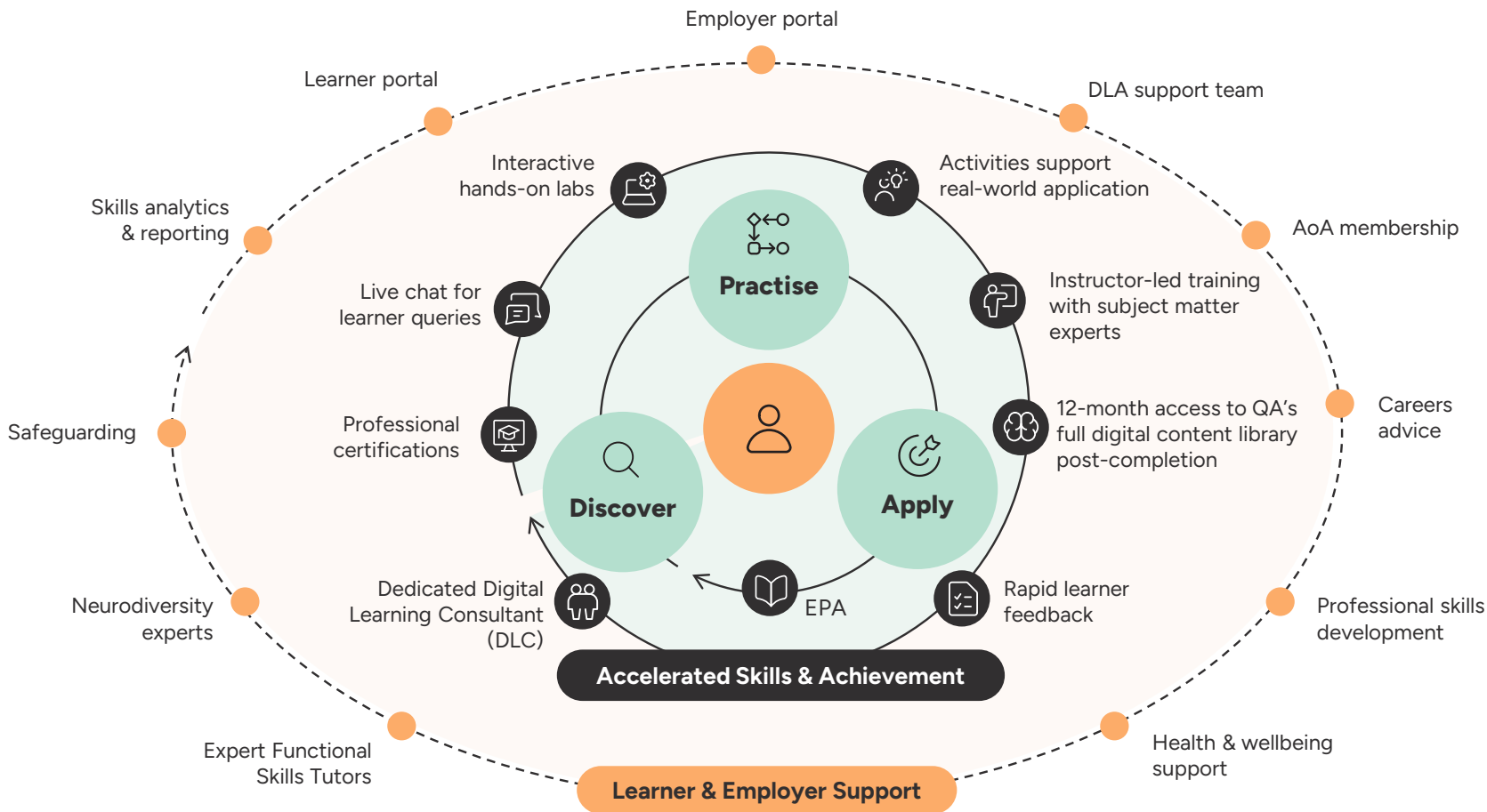
Discover

Leveraging QA's learning platform, learners follow a development path focused on their job role.

Practise

Learners come together for instructor-led training sessions, practising their skills through hands-on labs and sandboxes in a safe environment while collaborating with peers.

Apply

These practiced learnings are applied on the job through work-based activities at key and sequenced stages, fully supported and reviewed by the specialist DLC team.

5

Programme Overview

Details of standard: Data Analyst

Total cost: £15,000

Programme duration: 18 months

Live instructor sessions: 24 days

Delivered in collaboration with our strategic vendor partners:

Microsoft Solutions Partner
Microsoft Cloud
Training Services

aws
PARTNER
Advanced Tier Training

Experience QA's self-paced learning platform with interactive labs and configurable learning.

Data Fundamentals

Data Visualisation

Databases and SQL
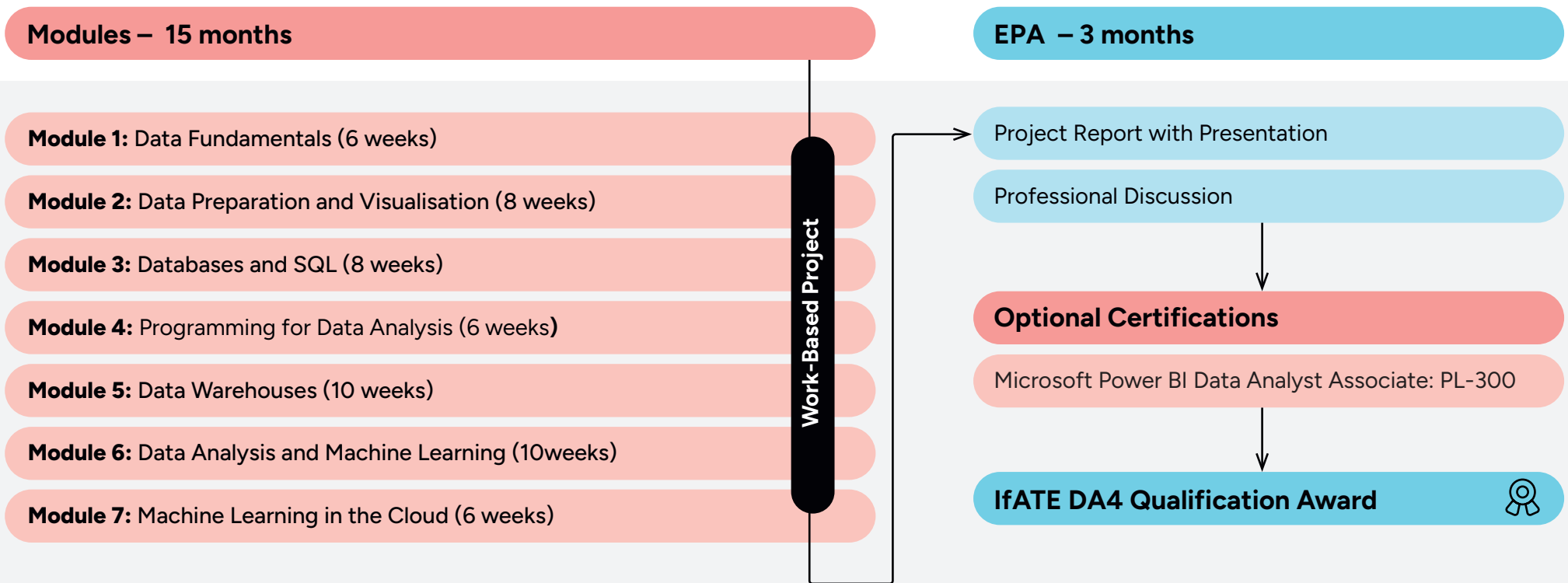
Data Analysis Programming

Data Warehousing

Machine Learning

Learner Journey

The Data Analyst programme integrates live and online workshops with self-paced learning, employing a guided discovery approach for individual learner contexts.

Learners are assigned a Digital Learning Consultant (DLC) for personalised coaching and support. These specialists ensure their successful progress, wellbeing, and readiness for assessments.

Modules – 15 months

EPA – 3 months

Module 1: Data Fundamentals (6 weeks)

Module 2: Data Preparation and Visualisation (8 weeks)

Module 3: Databases and SQL (8 weeks)

Module 4: Programming for Data Analysis (6 weeks)

Module 5: Data Warehouses (10 weeks)

Module 6: Data Analysis and Machine Learning (10weeks)

Module 7: Machine Learning in the Cloud (6 weeks)

Work-Based Project

Project Report with Presentation

Professional Discussion

Optional Certifications

Microsoft Power BI Data Analyst Associate: PL-300

IfATE DA4 Qualification Award

Modules

Following each module, learners apply their newly acquired knowledge and skills to ongoing work projects.

01

Module 1:
Data Fundamentals

Introduces core principles and skills for efficient and responsible data handling, ensuring compliance with laws and ethical guidelines within organisations.

Topics:

- Data Legislation & Ethics
- Data Security & Standards
- Data Lifecycle & Classification
- Big Data Mining
- Data Uncertainty

Live Instructor Sessions: 0 Days

02

Module 2:
Data Preparation and Visualisation

Best practices for accurate and impactful data visualisations – driving actionable insights. Includes an option to select software aligned to organisational needs.

Topics:

- Data Collection, Population & Sampling
- Data Quality Dimensions
- Data Cleaning & Manipulation
- Excel
- Data Visualisation Tools
- Types of Visualisation
- Mapping & Domains
- Data Analytics Lifecycle

Live Instructor Sessions: 4 Days

03

Module 3:
Databases and SQL

Explores data modelling and normalisation techniques for relational databases and SQL skills for efficient manipulation and querying.

Topics:

- Data Modelling
- Normalisation & Denormalisation
- SQL Server
- Filtering & Sorting
- Text, Date & Data Functions
- Dealing with Nulls
- Grouping & Aggregation
- Working with Multiple Tables & Queries
- Stretch & Challenge: Windows Functions

Live Instructor Sessions: 4 Days

04

Module 4:
Programming for Data Analysis

Examines programming concepts and techniques, including data structures, loops, and functions.

Topics:

- Introduction to Python
- Introductory to R
- Python (NumPy, Pandas, Matplotlib)
- R (ggplot)

Live Instructor Sessions: 4 Days

05

Module 5:
Data Warehouses

Delves into various data storage mechanisms and their applications in operational databases and data warehouses.

Topics:

- Types of Data Architectures
- Cloud Computing
- Data Storage Mechanisms (OLTP/OLAP)
- Data Warehouses (OLAP Schema)
- Designing & Building Data Warehouses
- Testing
- Aggregates, Summary Tables, Cubes for Reporting & Visualisation
- Introduction to SSIS & Building in SSIS

Live Instructor Sessions: 5 Days

06

Module 6:
Data Analysis and Machine Learning

Focuses on statistics and machine learning techniques – including exploratory data analysis and correlation analysis.

Topics:

- Mathematics for Data Analysis
- Probability & Descriptive Statistics
- Normal Distribution & Hypothesis Testing (T-tests, ANOVA)
- Exploratory Data Analysis (EDA)
- Correlation & Linear Regression
- Machine Learning Fundamentals
- Clustering & Classification
- R / Python Consolidation Practice

Live Instructor Sessions: 5 Days
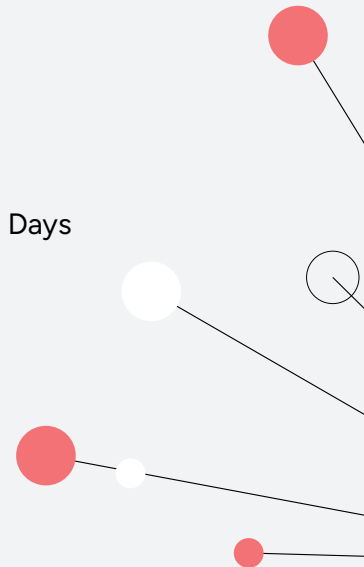
07

Module 7:
Machine Learning in the Cloud

Explores deploying ML models and algorithms on cloud platforms for scalable solutions.

Topics:

- Practical Introduction to Cloud Platforms
- ML/AI Model Development Workflow
- ML/AI Ethics & Reporting
- Data Analysis on Cloud Platforms
- Machine Learning on Cloud Platforms

Live Instructor Sessions: 2 Days

Tools and Technologies

Databases

- SQL Server

SQL Server Tools

- SQL Server Management Studio
- Data Warehousing & Processing
- Visual Studio & SSIS

Programming Languages

- Python
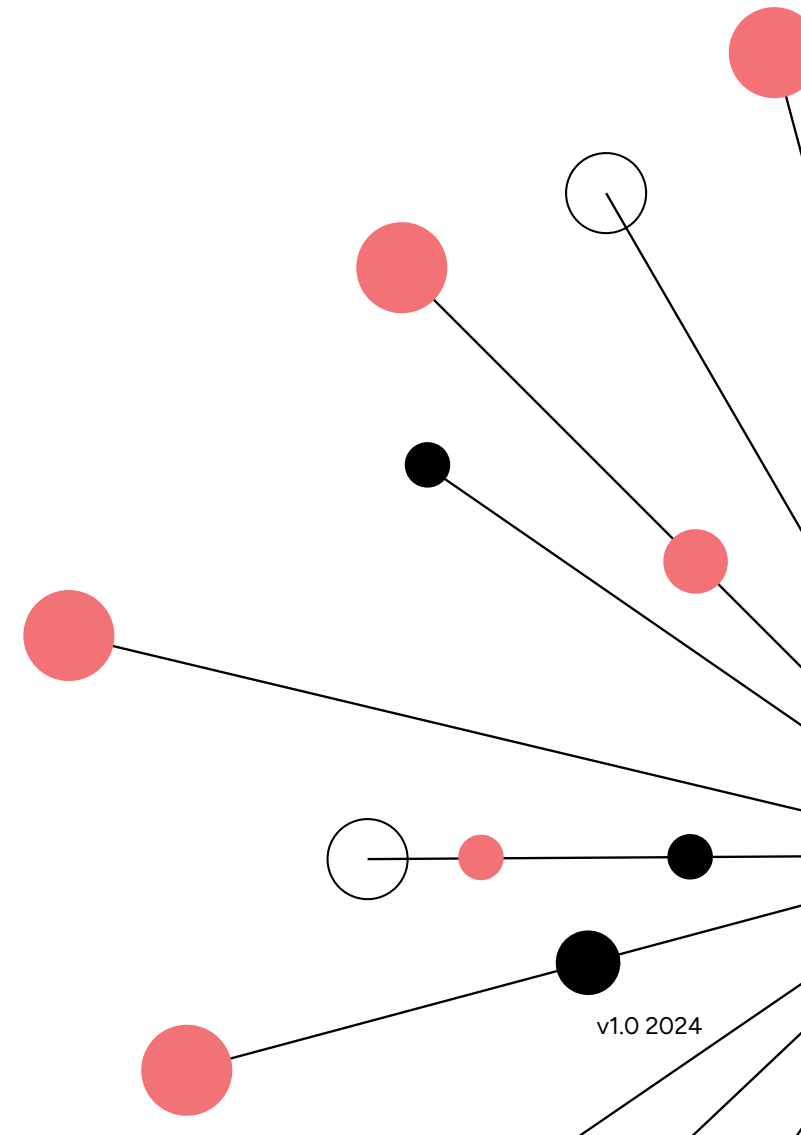- R

Business Intelligence and Visualisation

- Excel
- Power BI
- Tableau

Development Environments

- Jupyter Notebook
- R Studio

Cloud Platforms

- Azure
- AWS

End-Point-Assessment

We ensure all learners are fully prepared for their End-Point-Assessment (EPA) through our internal gateway process, maximising their success rates.

Assessment criteria:

01

Knowledge
Ability to convey knowledge effectively.

02
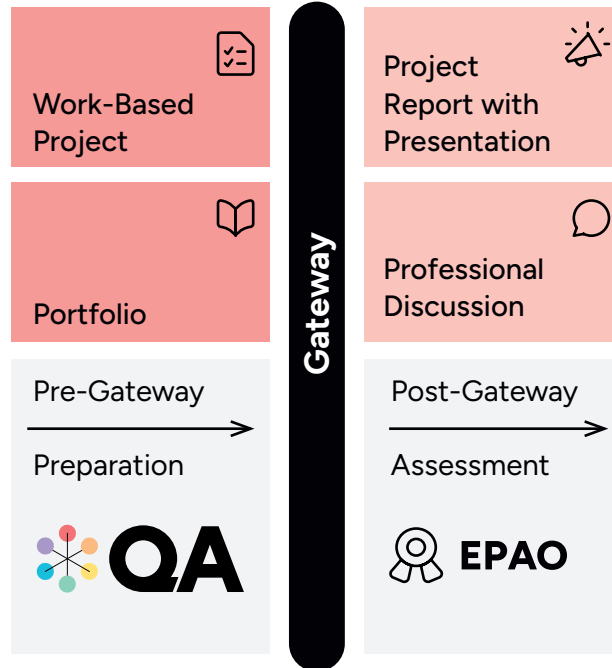
Skills
Demonstrate practical skills with confidence.

03

Behaviour
Exhibit professional workplace behaviour.

Explore the detailed assessment criteria within the **Data Analyst standard**.

EPA process:

Work-Based Project	Project Report with Presentation
Portfolio	Professional Discussion

Gateway

Pre-Gateway Preparation →

QA

Post-Gateway Assessment →

EPAO

Project Report with Presentation: Prepare a project report, demonstrate achievements and knowledge, and participate in a Q&A.

Professional Discussion: Engage in a formal two-way conversation to showcase knowledge, skills, and behaviours.
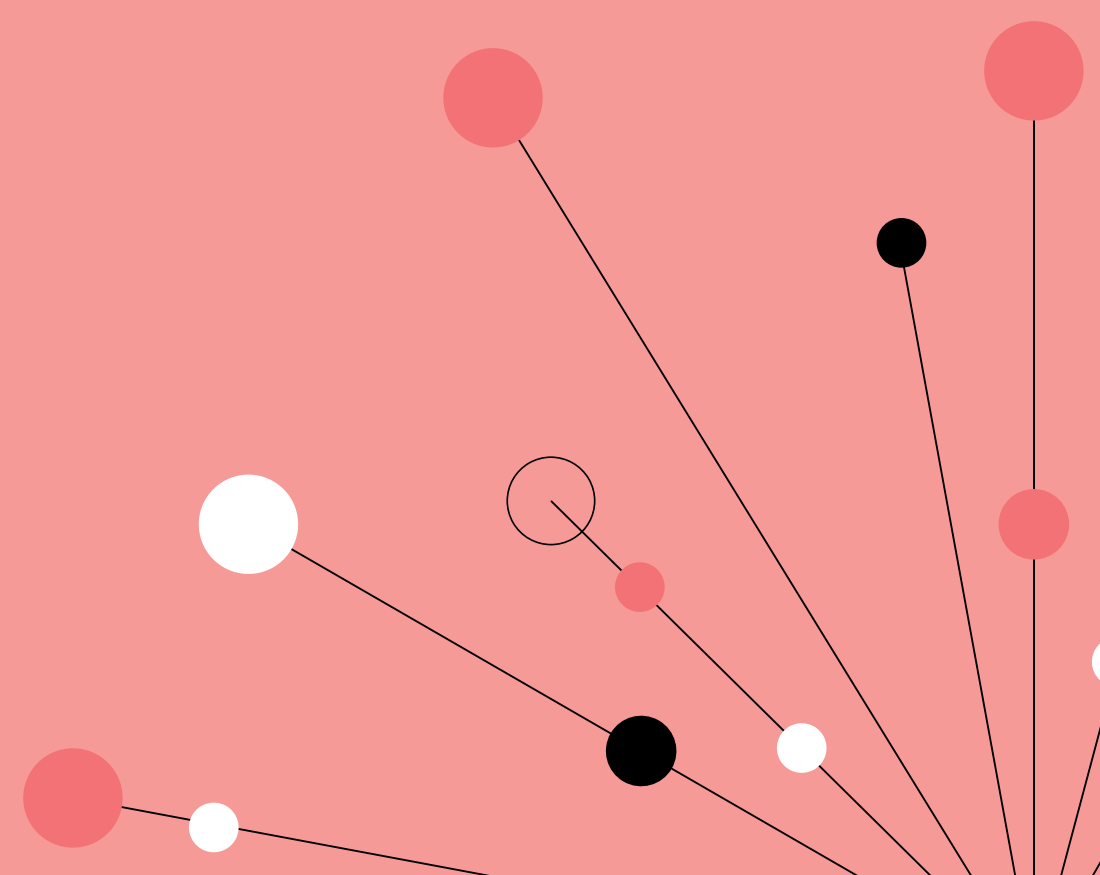
Ready to partner with us?

Let's talk:

📱 0113 220 7150

💻 qa.com/contact

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Apprenticeships

SKILLS FOR LIFE