



Apprenticeships England

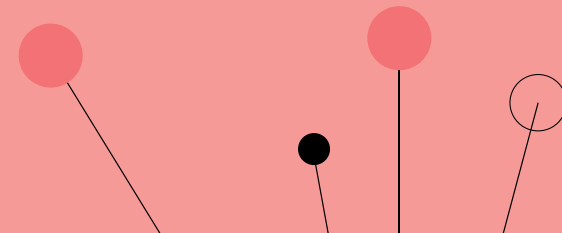
# Data Analyst

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Level 4 Apprenticeship

Programme Guide

Sky closed cohort only.





## 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:

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**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

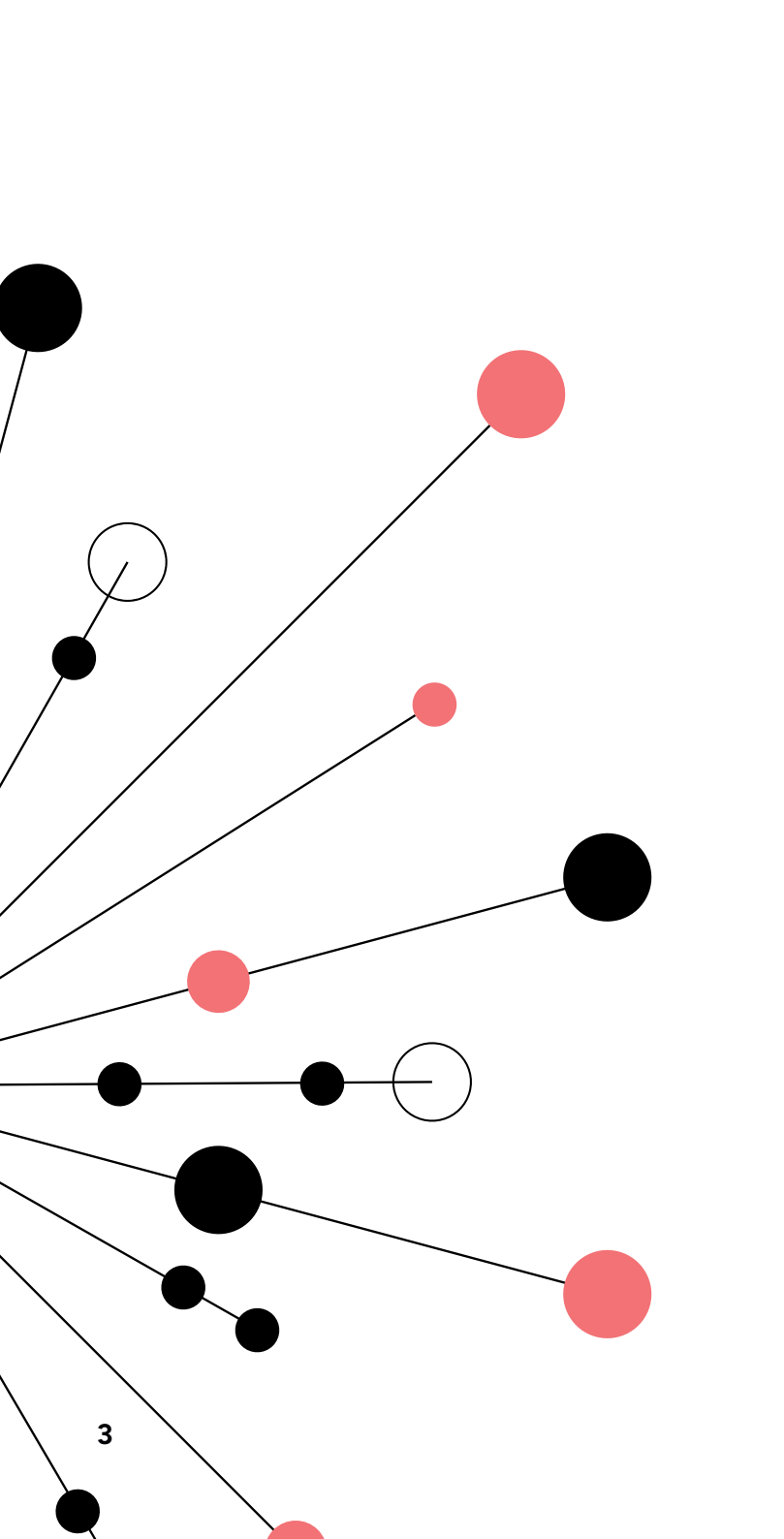
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Response time to  
learner queries



**Ready to explore how QA can support you?**

Let's dive in!



# Contents

Creating Change	04
Digital by Design	05
Programme Overview	06
Learner Journey	07
Modules	08
Tools and Technologies	11
End-Point-Assessment	12

# 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

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## Harness AI and machine learning

Maximise potential of emerging technologies

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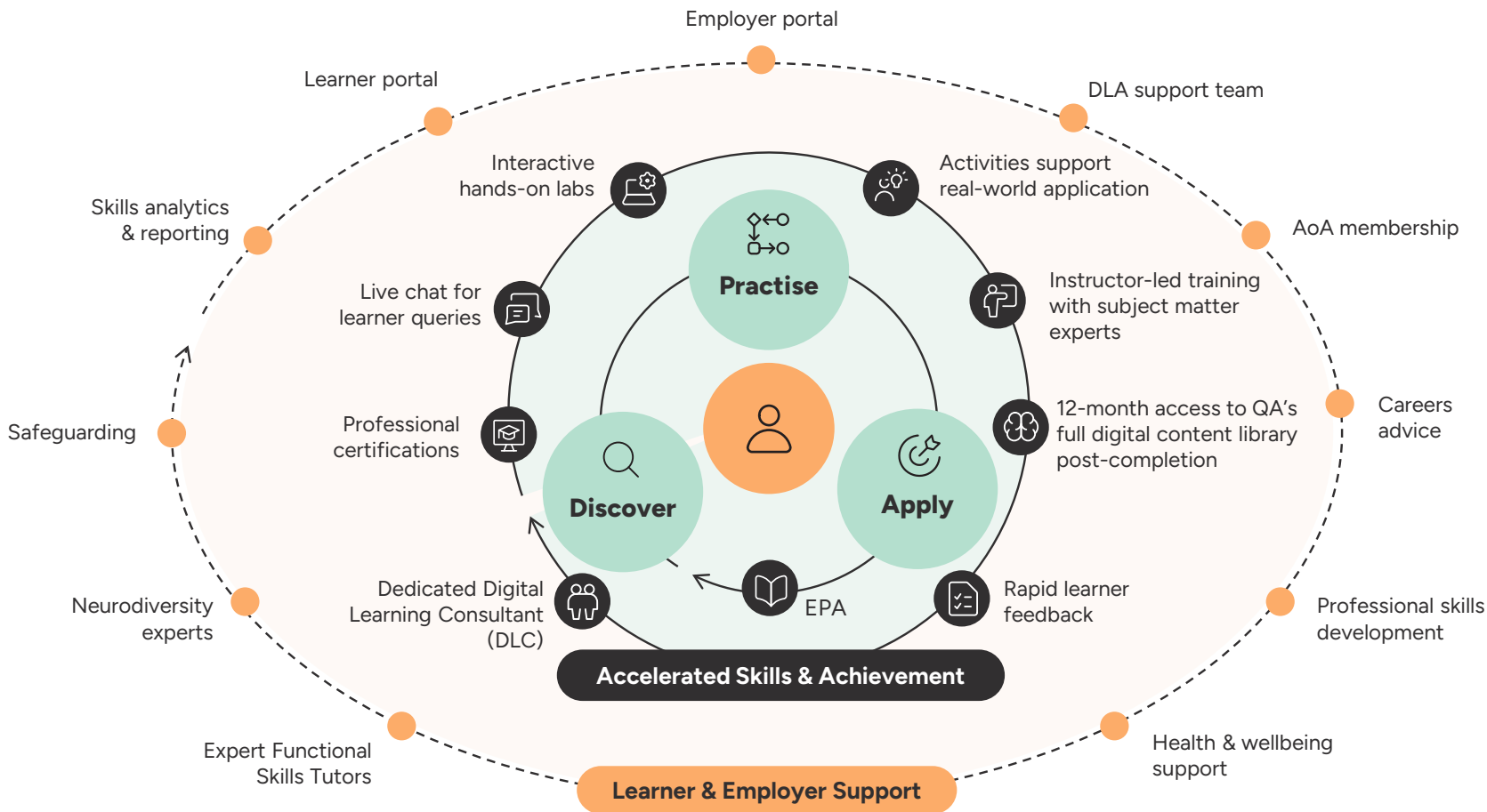


## Unlock time and cost savings

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.

# Programme Overview



**Details of standard:** [Data Analyst](#)



**Total cost:** £15,000



**Programme duration:** 18 months



**Live instructor sessions:** 24 days

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

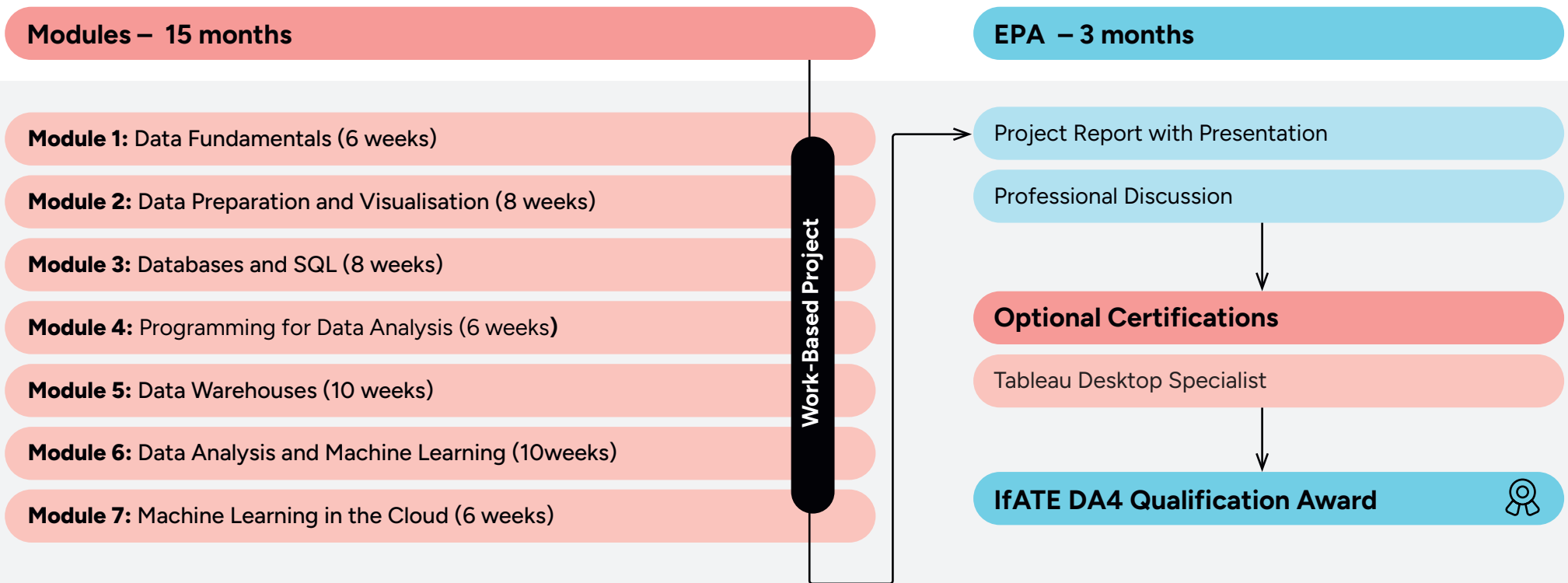


Machine  
Learning

# 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

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

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## 01

### **Module 1:** Data Fundamentals

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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

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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
- Tableau
- Mapping & Domains
- Data Analytics Lifecycle

**Live Instructor Sessions:** 4 Days

# 03

## **Module 3:** Databases and SQL

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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

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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

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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

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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

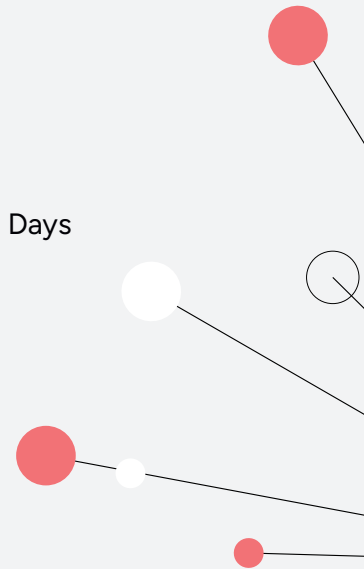
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Explores deploying ML models and algorithms on GCP for scalable solutions.

### Topics:

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

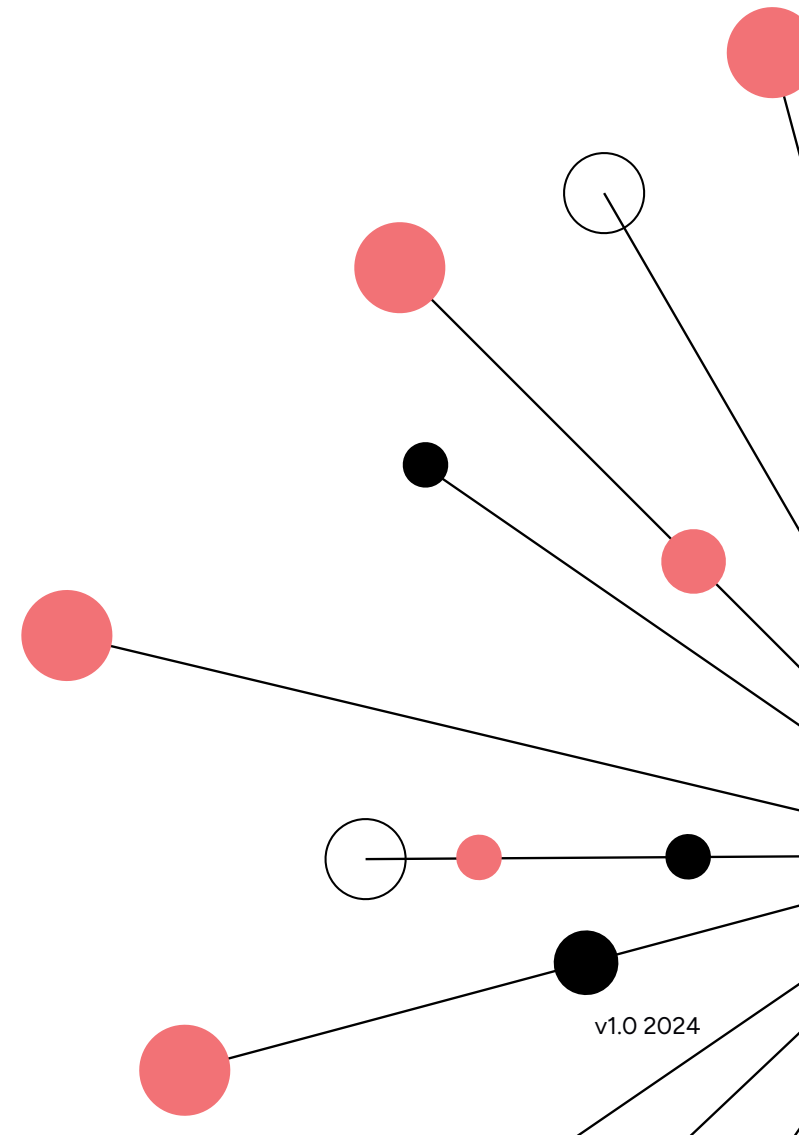
- Excel
- Tableau

## Development Environments

- Jupyter Notebook
- R Studio

## Cloud Platforms

- Azure
- GCP



# 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.

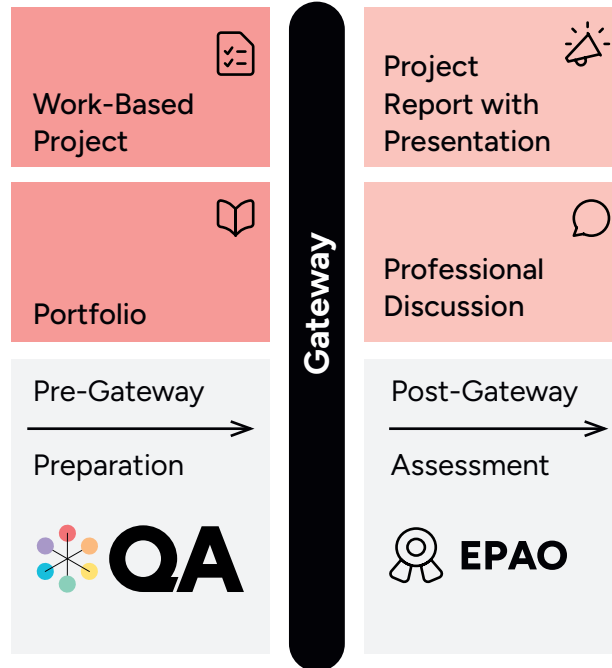
### 03

#### Behaviour

Exhibit professional workplace behaviour.

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

## EPA process:




**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](https://qa.com/contact)

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