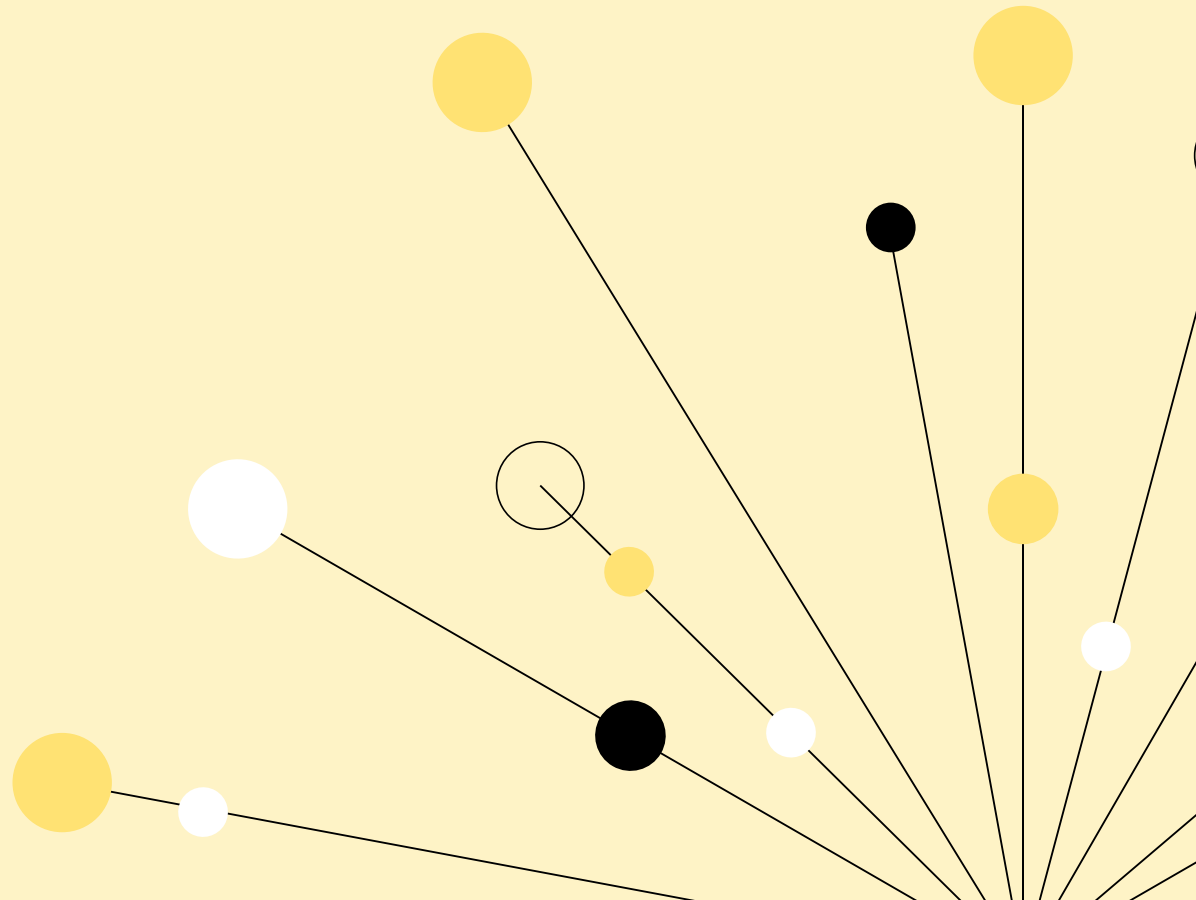


# DevOps Engineer

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:

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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

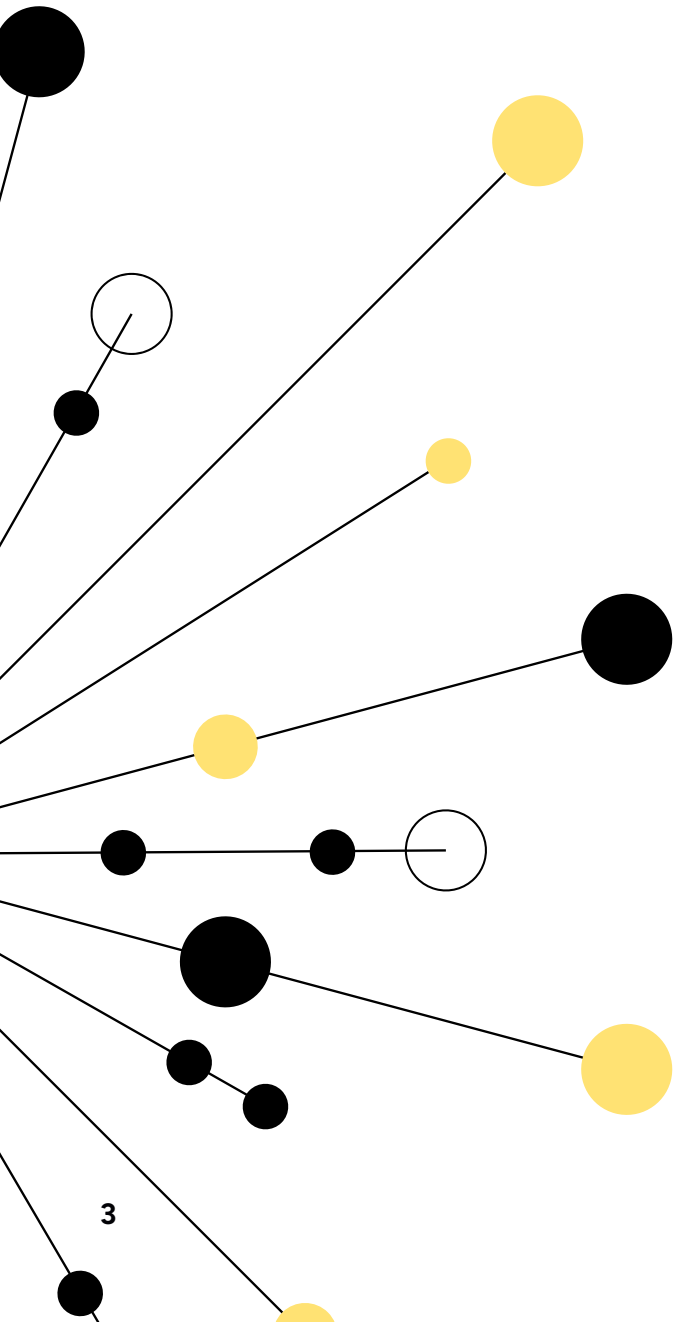
**<1 minute**

Response time to learner queries



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

Let's dive in!



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# Creating Change

DevOps engineering streamlines processes, driving faster innovation and responsiveness.

This programme equips your organisation with vital skills to bridge the gap between software development and IT operations, maximising collaboration, automation, and continuous delivery.

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



## Multidiscipline Delivery Team

Build agile, proficient, cross-functional delivery teams for flexibility, collaboration and pragmatism.

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## Cloud Security Implementation

Integrate cloud security tools and techniques into automated pipelines to embed security and safeguard sensitive data.

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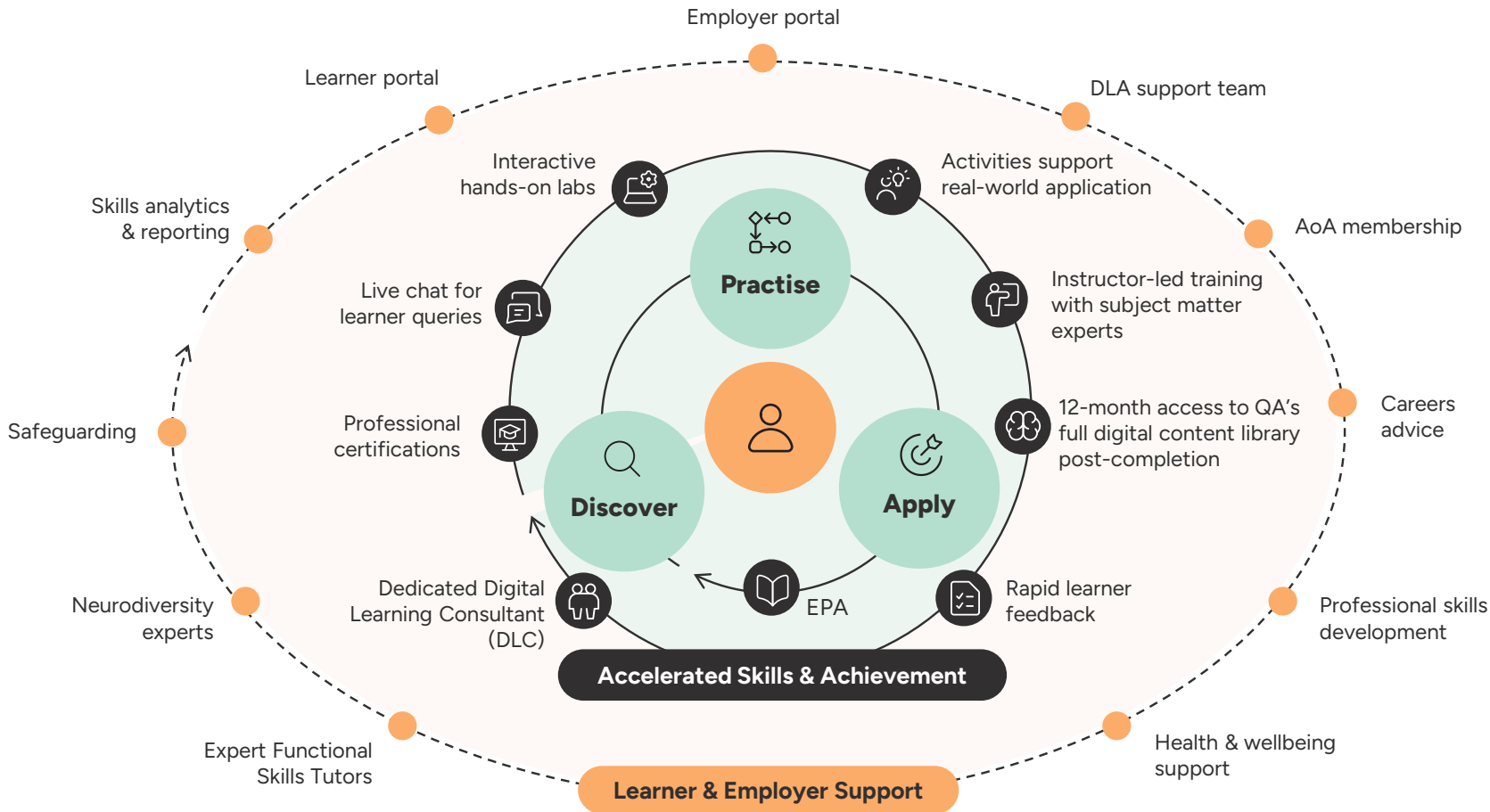


## End-to-end Exposure

Combine theoretical DevOps concepts with hands-on training using tools for building, containerisation, orchestration and deployment.

# 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:** [DevOps Engineer](#)



**Total cost:** £17,000



**Programme duration:** 19 months



**Live instructor sessions:** 27 days

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



DevOps  
Culture and  
Methodologies



Coding  
Fundamentals



Networking  
and Security



Linux and  
DevOps Tooling



DevOps  
Infrastructure

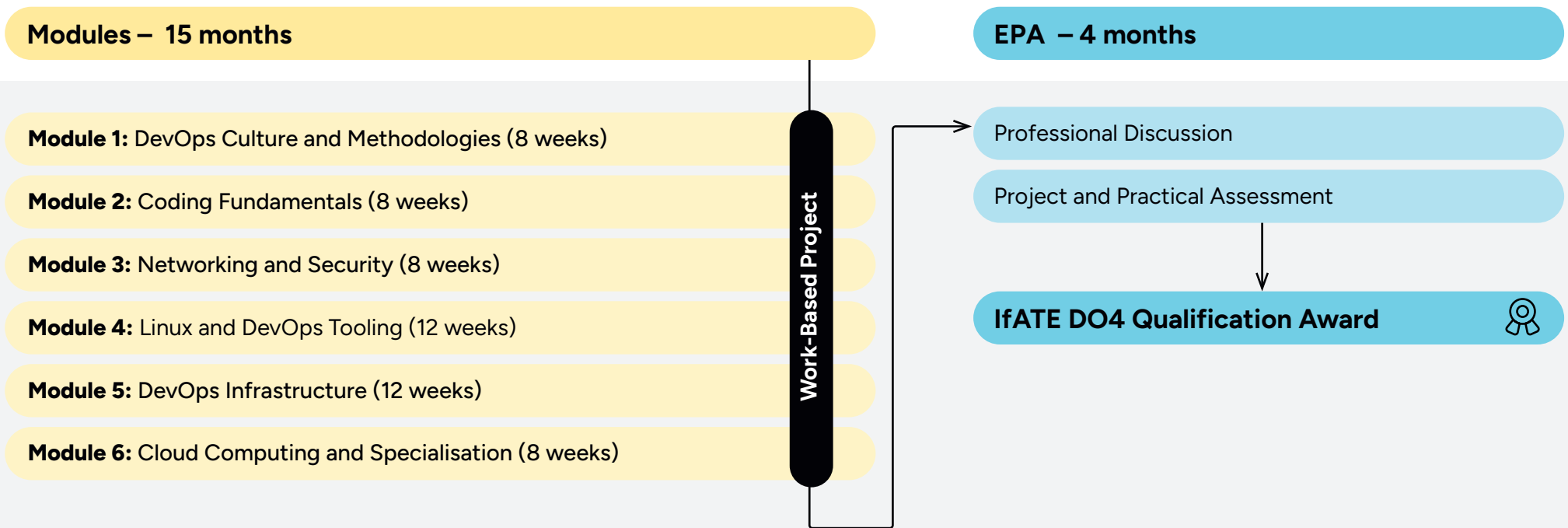


Cloud Computing  
and Specialisation

# Learner Journey

The DevOps Engineer 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:** DevOps Culture and Methodologies

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Introduces essential DevOps practices, focusing on Agile and Scrum methodologies, automation, CI/CD pipelines, cloud computing, and infrastructure management.

It analyses DevOps concepts and theories, including the Software Development Lifecycle (SDLC), version control with Git, and the integration of build automation using Jenkins.

#### **Topics:**

- Agile & Scrum Overview
- DevOps Culture & Practices
- CI/CD Pipeline Essentials
- Containers & Environment Management
- Infrastructure as Code (IaC)
- Cloud Concepts & Deployment Models
- Git Basics: Cloning, Merging, Reverting
- Pull Requests Workflow
- Jenkins Setup & Build Management
- Integrating Git with Jenkins

**Live Instructor Sessions:** 3 Days



# 02

## Module 2:

### Coding Fundamentals

---

Explores software development using Python – emphasising OOP, connected databases, automation, scripting, and TDD relevant to DevOps practices.

#### Topics:

- Python Basics
- Test-Driven Development (TDD)
- Control Flow & Functions
- Working with Files
- Database Integration with Python
- Object-Oriented Programming (OOP)
- Automation Scripting
- Testing Best Practices
- SOLID Principles

**Live Instructor Sessions:** 7 Days

# 03

## Module 3:

### Networking and Security

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Examines key networking and security principles – focusing on best practices for secure operations and their integration into DevOps pipelines and applications.

#### Topics:

- Networking Basics & Models (OSI & TCP/IP)
- IP Addressing, Routing & NAT
- Security Principles & Common Threats
- Authentication, Authorisation & Passwords
- Hashing, Encryption & Encoding
- Introduction to DevSecOps
- Penetration Testing (DAST & SAST)

**Live Instructor Sessions:** 3 Days

# 04

## Module 4:

### Linux and DevOps Tooling

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Delves into tools for building, automating, and managing CI/CD pipelines in local and cloud environments.

#### Topics:

- Cloud Management
- Linux Basics: File Structure, User Management & Bash Scripting
- Automation: Data Streams, Pipes & Filters
- CI/CD Pipeline as Code & Security
- Containerisation: Building Images, Dockerfiles, Volumes & Compose
- Orchestration: Container Management
- Infrastructure as Code
- Web Server & Proxy Server Configuration
- Monitoring & Logging
- Security Best Practices for Containers & Pipelines

**Live Instructor Sessions:** 7 Days

# 05

## Module 5:

### DevOps Infrastructure

Inspects the automation and management of cloud infrastructure and configuration management tools – focusing on CI/CD integration and provisioning cloud resources.

#### Topics:

- Introduction to APIs
- Configuration Management
- Inventory Management
- Playbooks & Variables
- Automation Tools
- Infrastructure as Code (IaC)
- Configuration Language Fundamentals
- Resource Management
- Syntax & Configuration File Discovery

**Live Instructor Sessions:** 7 Days

# 06

## Module 6:

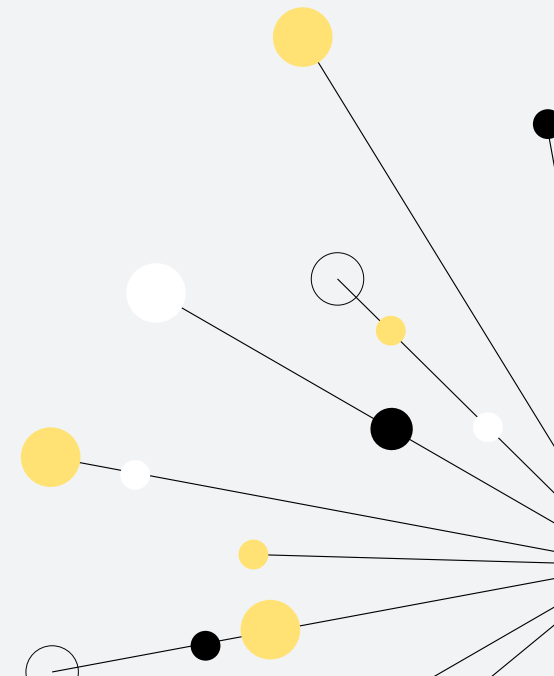
### Cloud Computing Specialisation

Focuses on a specific cloud vendor to develop and architect innovative DevOps solutions and pipelines on the platform.

#### Topics:

- Overview of Cloud Provider: Azure, AWS, or GCP
- Core Services: Compute, Storage, & Networking
- Security, Monitoring, & Auditing
- Platform Development & CI/CD
- Web Application Development
- API Management & Integration
- Architectural Design on the Platform
- Cloud Migration Strategies
- Serverless Computing & Functions
- Containerisation & Deployment

**Live Instructor Sessions:** 0 Days



# Tools and Technologies

## DevOps

- Git
- Jenkins
- Docker
- Kubernetes
- NGINX
- Prometheus
- Grafana
- Linux

## Infrastructure

- Ansible
- Terraform

## Cloud Services

- AWS
- Azure
- GCP

## Programming, Testing and Scripting

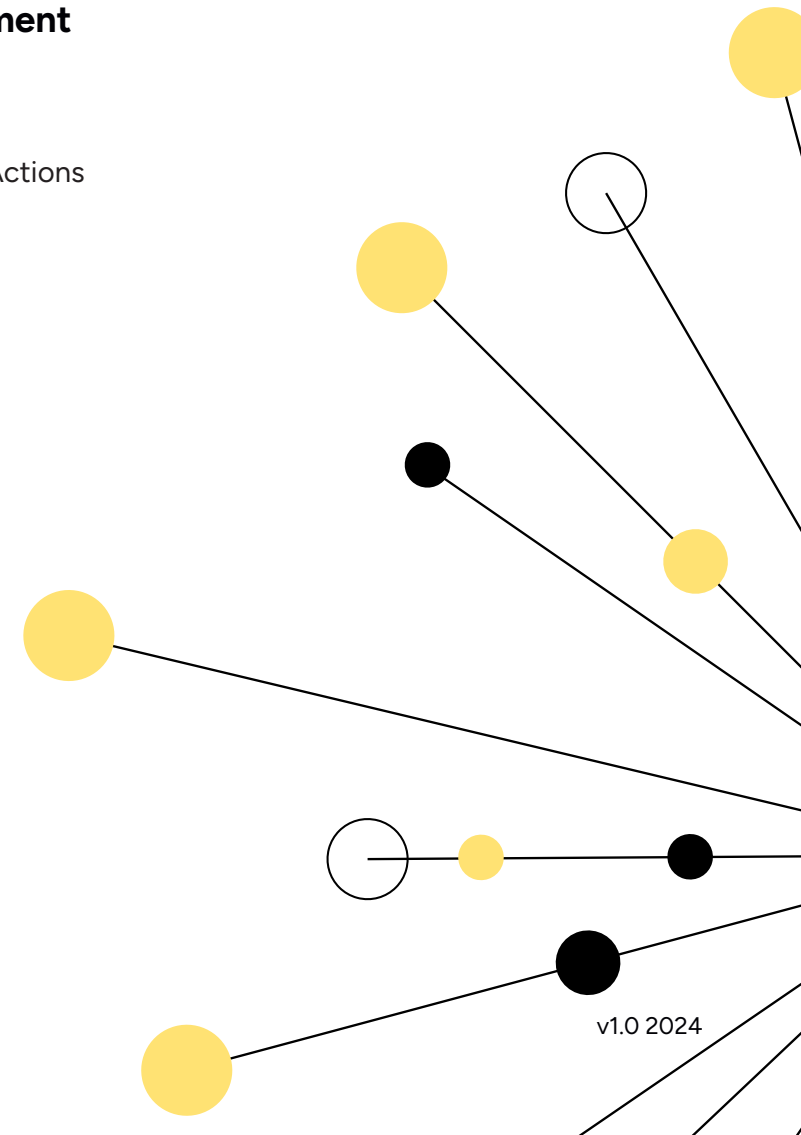
- Python
- PyUnit
- SQL
- Bash

## Project Management

- Trello
- Jira
- GitHub & GitHub Actions

## Productivity

- Microsoft Office
- Co-Pilot



# 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.

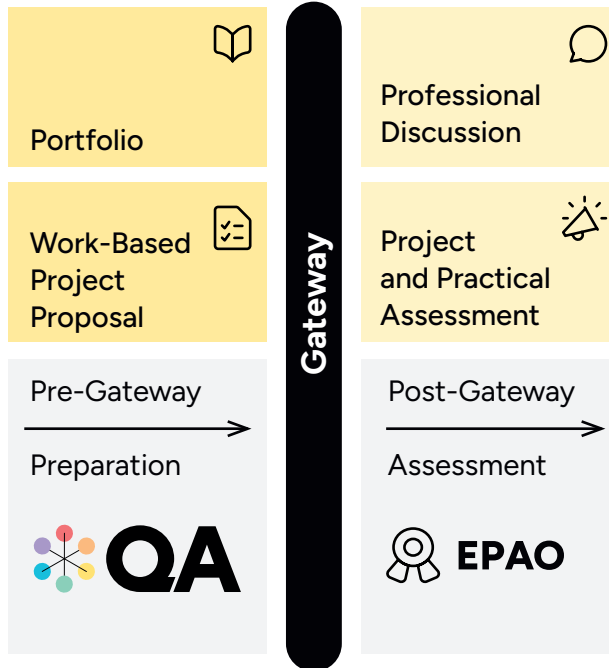
### 03

#### Behaviour

Exhibit professional workplace behaviour.

Explore the detailed assessment criteria within the [DevOps Engineer standard](#).

## EPA process:




**Professional Discussion:** Engage in a formal two-way conversation to showcase knowledge, skills, and behaviours.

**Project and Practical Assessment:** Demonstrate competence in designing, building, and iterating a piece of code from source to end user in cloud-native infrastructure (IaC).

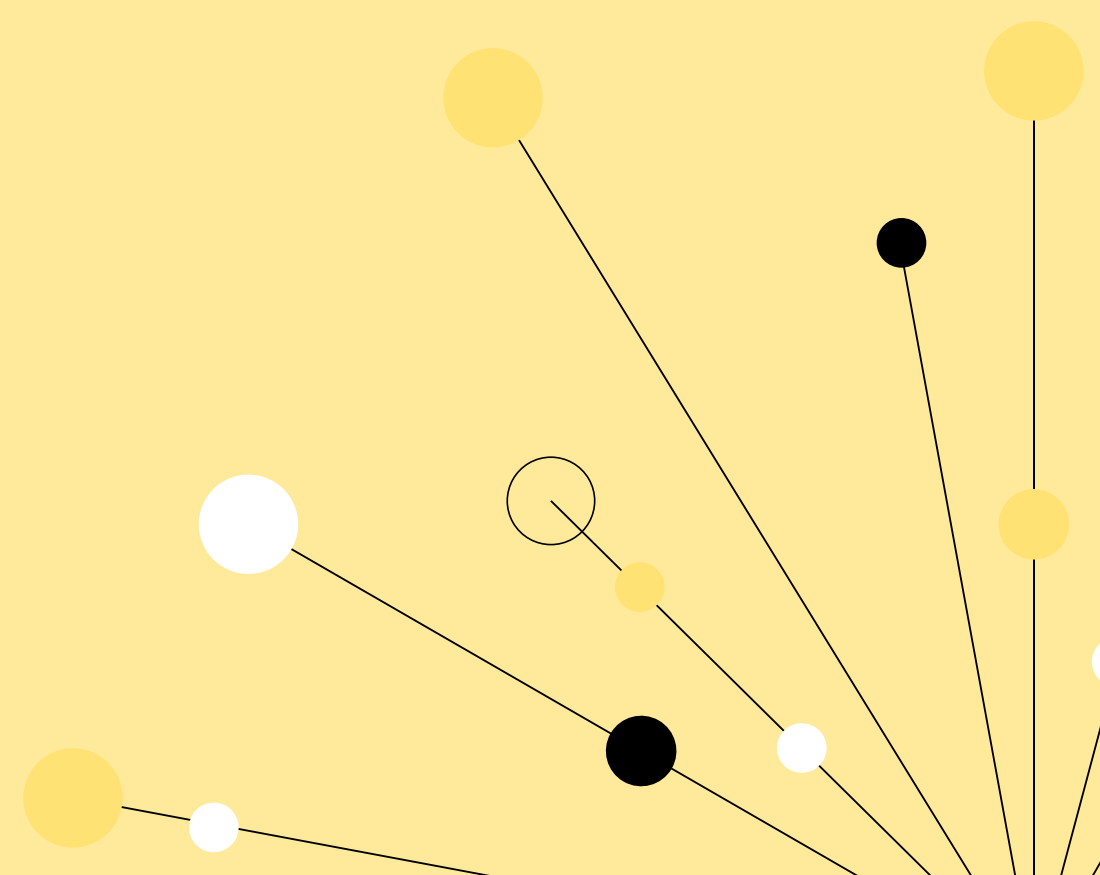


# Ready to partner with us?

## Let's talk:

 0113 220 7150

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



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