



Cloud Administrator

Course Information

Occupational Qualification: Cloud Administrator

Qualification Information

Level	SAQA ID	Credits
NQF 4	118699	149

Entry Requirements:

- NQF Level 3

Occupational Purpose

Implements cost-effective cloud-based systems and the cloud management service and transition locally hosted infrastructure to the cloud. They monitor, maintain and troubleshoot networks of cloud platforms and computing resources ensuring the seamless delivery of all cloud services and maintain protocols to secure cloud environments against unauthorised access, threats and other risks

Occupational Tasks:

- Implement the cloud management service (NQF Level 4)
- Monitor and maintain specific elements of the cloud, cloud users, the cloud environment and overall cloud performance (NQF Level 4)
- Maintain security protocols to secure cloud environments against unauthorised access, threats and other risks (NQF Level 4)

Assessments

- Formative assessment activities during the course of each module.
- Summative assessments at the end of each module
- An External Integrated Summative Assessment (EISA) at the end of the qualification.

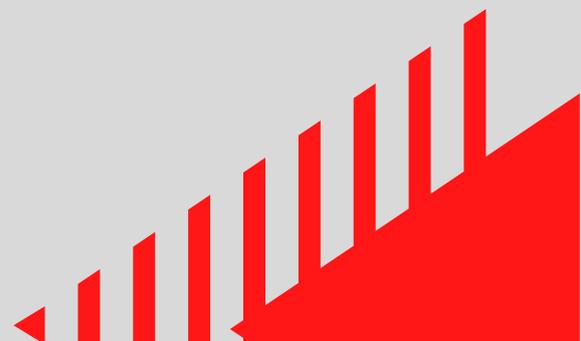
NB: Access to the EISA is dependent on the successful of all qualification deliverables and formative and summative assessment at IQ.

Knowledge, Practical and Workplace Modules comprise the following competencies.

Knowledge Experience Module	Level	Credits
Introduction to Cloud Computing	4	8
Cloud Computing Elements	4	8
Containers, Cloud Native and Kubernetes	4	4
Cloud Security, Risks, Vulnerabilities and Mitigation	4	3
Data and Databases in the Cloud	4	6
Fundamentals of Cloud Computing Platforms	4	3
Introduction to Cloud Computing Governance, Legislation and Ethics	4	1
4th Industrial Revolution (4IR) and Future Skills	4	4
Design Thinking Principles for Innovation	4	1

Practical Module		
Conduct Effective Server Maintenance and Optimisation	4	8
Monitor On-Demand Availability of Data Storage, Storage Capacity and Storage Services over the Internet	4	8
Provide Cloud Network Administration and Support for Optimal Performance	4	16
Ensure Integrity of the Cloud Ecosystem by Implementing Security Measures	4	8
Access and Visualise Structured Data Using Spreadsheets	4	8
Participate in a Design Thinking for Innovation Workshop	4	3
Function Ethically and Effectively in the Workplace	4	4

Workplace Modules	Level	Credits
On-Demand Availability of Server Resources and Services over the Internet	4	20
On-Demand Availability of Data Storage, Storage Capacity and Storage Services over the Internet	4	16
Ensure Availability and Reliability of Network Connection According to Workflow and Security Protocols	4	20



Introduction to cloud computing	4	10%
Cloud computing concepts, definitions and terminology	4	5%
Principles of cloud computing	4	10%
Key characteristics of clouds and cloud services	4	15%
Cloud computing and outsourcing	4	5%
Key cloud service providers and their services	4	5%
Cloud computing service models	4	5%
Cloud computing deployment models	4	5%
Cloud configuration	4	15%
Cloud native and emerging cloud trends	4	5%
Technical challenges and risks for cloud computing	4	5%
Resource management	4	5%

Knowledge Module 02

Servers	4	20%
Databases	4	15%
Data and data storage	4	15%
Database performance	4	20%
Cloud Storage	4	15%
Networks	4	15%
Cloud support	4	20%

Knowledge Module 03

Containers	4	40%
Configuration of Kubernetes	4	60%

Knowledge Module 04

Governing cloud computing	4	25%
Risk	4	10%
Cloud security principles	4	30%
Security Concepts	4	25%
Cloud security technologies	4	10%

Knowledge Module 05

Data vulnerability and security	4	15%
Data and data processing	4	15%
Databases, data storage and access to data	4	20%
Structured query language (SQL)	4	10%
Data scraping	4	20%
Software for analysing and visualising data	4	20%

Knowledge Module 06

Problem solving skills for IT Professionals	4	10%
Operating systems	4	10%
Managing files	4	10%
Applications utility, troubleshooting, and optimization	4	5%
Configuring device drivers	4	10%
Networking and wireless connections	4	5%
Recovery	4	15%
Security fundamentals	4	10%
IT Foundation and Cloud Programming	4	15%
Key features of cloud platforms (at least 3 vendor specific platforms)	4	10%

Knowledge Module 07

Governance	4	20%
Legislation governing workplaces	4	15%
Introduction to ethics and security	4	5%
Ethics at work	4	14%
Security	4	15%
Performance management	4	10%

Business planning	4	7%
Costing of products	4	7%
Resources	4	7%

Knowledge Module 08

Knowledge Modules Breakdown

4 IR emerging trends	4	10%
Computing Knowledge	4	7%
Future skills and competencies (4IR)	4	10%
4 IR trends affecting businesses	4	10%
Interpersonal skills	4	5%
Intrapersonal skills	4	5%
Communication principles and methods	4	5%
Written business communication	4	7%
Presentation skills	4	7%
Teamwork in the workplace	4	10%
Committees and meetings	4	5%
Job descriptions and profiles	4	5%
Customers and stakeholders	4	7%
Customer service	4	7%

Knowledge Module 09

Knowledge Modules Breakdown

Introduction to design thinking	4	15%
The human element	4	10%
Creativity	4	20%
Innovation	4	20%
Design	4	10%
Design thinking methodology	4	10%
Application of design thinking	4	15%

Practical Module 01

Practical Modules Breakdown

Configure cloud environment and allocate resources according to the specific service model on a cloud platform	4	Credits 8
Apply a structured process to perform server maintenance in line with a server maintenance plan to improve security and stability (in a hybrid environment).	4	
Track performance data to manage and monitor server optimisation and efficiency	4	
Choose the right server performance troubleshooting tool to troubleshoot servers to solve server problems in hybrid environment	4	

Practical Module 02

Configure storage in line with the life cycle of data storage, hardware architecture and company policies	4	Credits 8
Administer and maintain storage capacity and storage service to customers/users in line with the life cycle of data storage, hardware architecture.	4	
Manage and monitor data volume (subscription), storage capacity and storage service to customers in line with the life cycle of data storage, hardware architecture and company policies.	4	
Choose the right server performance troubleshooting tool to troubleshoot servers to solve server problems in hybrid environment	4	

Practical Module 03

Deploy the cloud management service and networking solutions	4	16
Upgrade a cloud network	4	
Monitor cloud and systems performance and identify how performance can be improved	4	
Maintain cloud infrastructure networks and system performance and ensure continued cloud network availability to meet user demand	4	
Troubleshoot a cloud environment to solve problems and ensure integrity of the cloud environment and maintain performance	4	
Support operational duties in terms of Virtual Machines (VM) and kubernetes services	4	

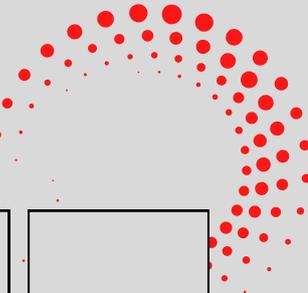
Practical Module 04

Implement security control measures to secure a network in a cloud environment	4	8
Apply data security and compliance in cloud environments	4	
Monitor and evaluate secure access protocols for security issues such as attacks or breaches.	4	
Implement measures to meet security requirements.	4	

Practical Module 05

Report data	4	8
Summarise and format data using tables	4	
Create, use and edit pivot tables and pivot charts	4	
Create, use and edit dashboards	4	
Create and configure hierarchies and time data	4	

Practical Modules Breakdown



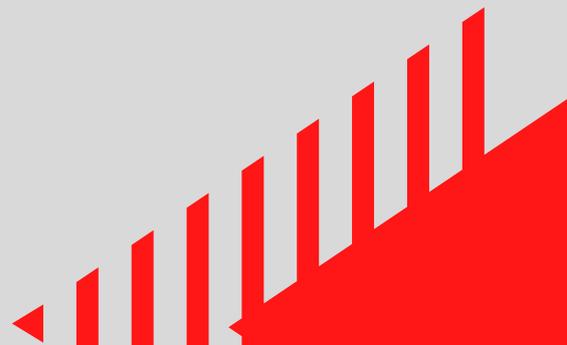
Apply a data mode	4	8
Import data from files	4	
Import data from databases	4	
Import data from reports	4	
Visualize data	4	

Practical Module 06

Collaborate with team members to apply innovative and problem solving strategies.	4	3
Apply design thinking process to solve a problem creatively and innovatively	4	

Practical Module 07

Present information to an audience	4	4
Conduct basic research (gather and explore data and information) on 4IR skills and application opportunities in the workplace	4	
Ensure compliance with the code of conduct and governance in the workplace	4	
Collaborate with team members in the workplace	4	
Attend and participate in meetings	4	



Workplace Modules

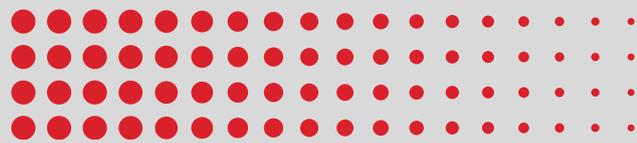
Attend induction program and familiarise self with company processes, procedures, tools and culture	4	20
Shadow and observe an experienced Cloud Engineer or Architect undertaking the following tasks	4	
Conduct the following tasks under supervision	4	

Workplace Modules

Shadow and observe an experienced Cloud Engineer or Architect undertaking the following tasks	4	16
Conduct the following tasks under supervision	4	

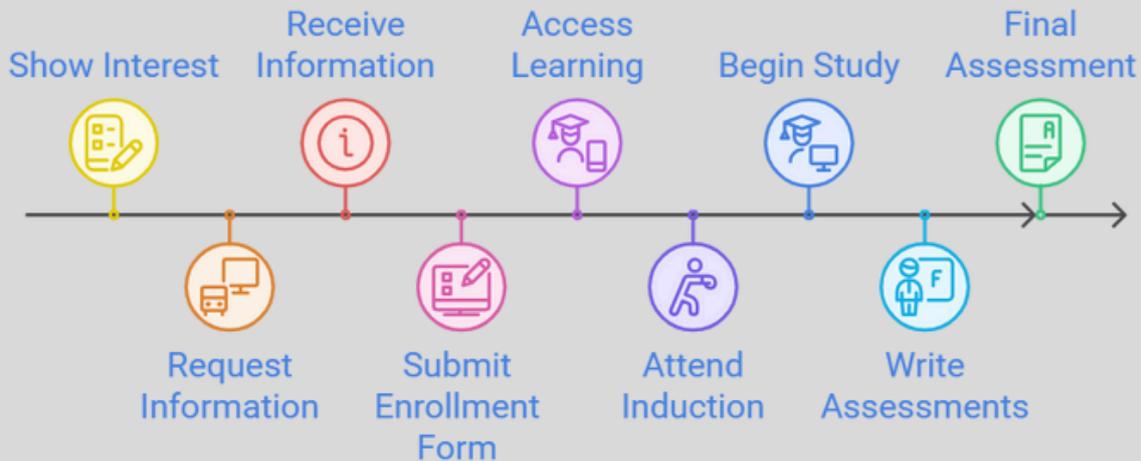
Workplace Modules

Shadow and observe an experienced Cloud Engineer or Architect undertaking the following tasks	4	20
Conduct the following tasks under supervision	4	



Customer Journey

Enrollment and Completion Process for IQ Programmes



IQ Commitment

Our Commitment to Your Success: Responsibilities to Our Learners from Enrolment

- Seamless Onboarding & Personalised Support
- Flexible, Engaging Learning
- Continuous Communication & Unrivalled Support
- Tailored Learning Paths & Career Development
- Recognition of Prior Learning
- Innovative Assessments & Real-World Learning
- Lifelong Learning & Alumni Support

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