



Certified Quantum Solutions Architect (CQSoA)

Exam Objectives CQSOA-001

About the exam

Item	Detail
Level	Advanced
Number of questions	120. A performance-based exam: each form can carry up to 5 to 12 performance-based questions alongside the multiple-choice questions.
Delivery model	Computer adaptive in 3 stages of 42, 39, 39 questions. Your score on each stage selects the difficulty of the next, so no two candidates sit the same paper.
Time limit	180 minutes
Scoring	You need a score of 700 out of 900 to pass. Results are reported on a scale of 100 to 900, and 700 corresponds to answering 72% of the exam correctly. Harder questions carry more weight, so a score means the same thing on any route. Multiple-response items and PBQs are scored all or nothing.
Delivery	Online, fully proctored (webcam, microphone and screen).
Prerequisites	No formal prerequisite. Candidates do best with the CQEP or equivalent quantum literacy, several years of architecture or technical leadership, and 80 to 120 hours of study.
Retakes	No waiting period after a failed first attempt. Candidates pay the exam price each time they attempt the exam. See the CertLabz Certification Retake Policy at certlabz.com/certification-retake-policy.html
Validity	3 years. Renew with 75 CEUs per cycle and the \$55 annual continuing-education fee, or by passing the current exam.
Language	English
Exam voucher	\$199 for one sitting, valid 12 months. Bundles add the study guide ebook and the All Access plan.

Domain weights

Domain	Questions
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D1 Quantum Computing Foundations for Architects (12%)

	14
D2 Hardware Platforms, Error Correction and Roadmaps (15%)	18
D3 Hybrid Architecture and Integration (20%)	24
D4 Use-Case Evaluation and Advantage Assessment (18%)	22
D5 Security, Post-Quantum and Governance (15%)	18
D6 Program Leadership and Delivery (20%)	24
Total (100%)	120

Objectives by domain

Each objective may appear as knowledge, a scenario to judge, a circuit to trace or assemble, or a number to compute. Each form can carry up to 5 to 12 performance-based questions: drag-and-drop matching, sequencing and table completion, drawn fresh each attempt. The exam does not test any vendor's SDK syntax.

D1 Quantum Computing Foundations for Architects

12% 14 questions

- D1.1 Where quantum speed-ups come from and where they do not
- D1.2 Readout limits, data loading and the Holevo bound in system design
- D1.3 NISQ constraints: depth, fidelity, shots and error mitigation
- D1.4 Variational, annealing and quantum-inspired methods, honestly classified
- D1.5 Resource estimation from logical requirements to physical hardware
- D1.6 Simulation, transpilation and device benchmarks as design inputs

D2 Hardware Platforms, Error Correction and Roadmaps

15% 18 questions

- D2.1 Superconducting, trapped-ion, neutral-atom and photonic platforms compared
- D2.2 Connectivity, gate speed, fidelity and crosstalk versus circuit requirements
- D2.3 Threshold theorem, surface-code overhead and magic-state factories
- D2.4 Reading vendor roadmaps: physical versus logical milestones
- D2.5 Modular and networked architectures and their interconnect assumptions
- D2.6 Deployment models: cloud access, on-premises and total cost of ownership

D3 Hybrid Architecture and Integration

20% 24 questions

- D3.1 Hybrid workflow design: pre-processing, execution, post-processing loops
- D3.2 Latency, queues, sessions and batched parameter binding
- D3.3 Interchange formats (OpenQASM 3, QIR) and vendor-neutral abstraction layers
- D3.4 HPC and cloud integration, simulators and environment strategy
- D3.5 Provenance, reproducibility, versioning and results schemas
- D3.6 Resilience, fallback, cost control and a shared internal platform

D4 Use-Case Evaluation and Advantage Assessment

18% 22 questions

- D4.1 Portfolio scoring: theoretical grounding, resource estimate, value, baseline, readiness
- D4.2 Classical baselines and defensible benchmarking
- D4.3 Dequantization, data loading and common evaluation traps
- D4.4 Horizon classification and decision gates tied to hardware milestones
- D4.5 Cost models for pilots and time-to-solution comparisons
- D4.6 Pilot outcomes, negative results and production readiness criteria

D5 Security, Post-Quantum and Governance

15% 18 questions

- D5.1 The quantum threat to cryptography and the NIST post-quantum standards
- D5.2 Harvest-now-decrypt-later, crypto agility and the 2030 and 2035 milestones
- D5.3 QKD and QRNG claims evaluated
- D5.4 Data governance, IP, export control and vendor assessment for quantum clouds
- D5.5 Multi-tenant quantum services and platform security
- D5.6 Ethics, responsible claims and program governance

D6 Program Leadership and Delivery

20% 24 questions

- D6.1 Horizon roadmaps, gated investment and contingent budgets
- D6.2 Vendor selection, procurement terms and partnerships
- D6.3 Team design, skills and university and consortium partnerships
- D6.4 Stakeholder communication without overclaiming
- D6.5 Metrics, risk registers and program charters
- D6.6 Consolidating fragmented programs and enterprise architecture alignment

Continuing education

Renewal	Requirement
Validity	3 years from the date of issue
CEUs required per cycle	75
Annual CE fee	\$55
Alternative to CEUs	Pass the current version of the exam before the expiry date

Qualifying activities

Activity	CEUs
CertLabz labs, PBQs, courses and SkillTracker assessments	1 CEU per hour, up to 25 per cycle
Other industry certifications earned or renewed	10 to 25 each, depending on level
Conferences, webinars and training	1 CEU per hour, up to 20 per cycle
Quantum, architecture or security program work experience	3 per year, up to 9 per cycle
Teaching, mentoring, publishing or open-source contributions	Up to 15 per cycle
College courses in quantum, physics, mathematics, security or computing	10 per completed course

CertLabz Certification Retake Policy

- **No waiting period after a failed first attempt:** If you fail your first attempt at any CertLabz certification examination, CertLabz does not require any waiting period between the first and second attempt.
- **Once you pass, you cannot resit the same exam code:** A candidate who has passed an exam and achieved a certification cannot take that exam again under the same exam code without prior consent from CertLabz. You will need to wait until a new series of the exam is published before attempting to recertify by examination.
- **Beta examinations, one attempt only:** A CertLabz beta examination may be taken one time by each candidate.
- **Violations invalidate the attempt:** A test found to be in violation of this policy will be invalidated, and the candidate may be subject to a suspension period. Repeat violators will be permanently banned from the CertLabz Certification Program.
- **Every attempt is paid for:** Candidates must pay the exam price each time they attempt the exam. CertLabz does not offer free retests or discounts on retakes.

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<https://certlabz.com/certifications/certified-quantum-solutions-architect.html>