THE Open GROUP

The Open Group® Certification for People

Open Agile Architecture™ Practitioner Conformance Requirements

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The Open Group® Certification for People:
Open Agile Architecture™ Practitioner Conformance Requirements

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1. Background

1.1 Introduction

This document – The Open Group® Certification for People: Open Agile Architecture™ Practitioner Conformance Requirements – is an integral part of The Open Group Certification for People: Open Agile Architecture Program (the Program). Defined terms herein are in addition to definitions in the Open Agile Architecture Program Configuration document.

This document defines the requirements for certification of individuals within the Program, which in turn form the learning requirements for Accredited Training Courses.

1.2 Terminology and Definitions

This table defines terms or clarifies the meaning of words used within this document. Where an acronym is also used, it is provided in parentheses.

Accredited Training Course (ATC)	A training course, operated by a third party, that has successfully completed the accreditation process and which is listed in the register of Accredited Training Courses on the Certification Authority's website.
Body of Knowledge (BoK)	The set of information within the subject area of which a Candidate is expected to have understanding in order to achieve certification within the Program.
Candidate	A person seeking certification.
Certification Authority	The organization that manages the day-to-day operations of the Program. The Open Group is the Certification Authority for the Program.
Certification System Deficiency (CSD)	An agreed error in the Certification System that is inhibiting the certification process. A Certification System Deficiency is one possible outcome of a Problem Report.
Examination Provider	The organization(s) contracted by The Open Group to provide and administer The Open Group examinations.
Key Learning Point (KLP)	A self-contained learning object, derived from the Body of Knowledge, typically ranging from 2 to 15 minutes' study time.
Learning Outcome	What the Candidate should know, understand, or be able to do on completion of learning about one or more Key Learning Points. Each Learning Outcome should have at least one Key Learning Point reference and define the depth of knowledge required for each Key Learning Point.
Learning Unit	A related set of Learning Outcomes. It is expected that a Learning Unit would equate to between 30 and 90 minutes of taught learning equivalence.
Specification Authority (SA)	The Open Group Agile Architecture Governing Board Work Group, or its successor, which is responsible for developing, maintaining, and interpreting the Certification Policy, Conformance Requirements, Accreditation Policy, and Accreditation Requirements of the Program.

2. Conformance Terminology

The Conformance Requirements by certification level are specified as sets of Learning Units. To achieve certification for a given level, Candidates must complete the applicable Learning Units and successfully pass the corresponding Indicator of Compliance (see Section 4).

The definition of the Learning Units does not dictate the structure, order, or time duration that topics should be taught in an Accredited Training Course. Training organizations are free to structure their courses as they see fit, so long as Candidates have the mandatory Learning Outcomes at the end of a course for the target certification level.

2.1 Learning Unit Format

Each Learning Unit is defined in a table organized as follows:

***x.y* Unit Name – A descriptive name for the Learning Unit**

	UNIT Number	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
(A)	**Purpose**	The purpose of this Learning Unit is to…			
(B)	**Learning Outcomes**		The Candidate is able to …		
		1.1		(C)	(D)
		1.2			
		1.3			
		1.4			
		1.5			

Notes

(A) Purpose: The purpose of the Learning Unit. What a Candidate will have learned by completing the Unit. Most of the time this corresponds with a chapter or major section of the Body of Knowledge.

(B) One or more detailed Learning Outcome statements together with an associated Bloom's Taxonomy level and KLP Reference. A specific term is used to define the depth of learning, from low to high as follows:

- Identify – name one or more items
- List – name multiple items
- Define – provide a definition of a term
- Demonstrate – describe and explain a concept or term
- Describe/State – provide a description of or statement for a concept or item; give a factual statement

- Explain – provide a description with a rationale
- Discuss – the ability to write logically about a topic
- Justify – demonstrate the correctness of an assertion through a written discussion

(C) Bloom's Taxonomy Level: Defined using "Bloom" action verbs (see Section 6.1).

(D) KLP Reference: A reference back to the Key Learning Point within the Body of Knowledge (see Section 5). **This is required for traceability.**

3. Conformance Requirements

To earn this certification Candidates must complete all Learning Units defined in this section and successfully pass the corresponding Indicator of Compliance (see Section 4).

3.1 Unit 1 – The Characteristics of Agile

UNIT 1	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand the characteristics of Agile.			
Learning Outcomes		The Candidate is able to …		
	1.1	Describe the key characteristics of an Agile enterprise	1_Remembering	KLP 3, 3.3 (Figure 3)
	1.2	Briefly describe management systems in an Agile organization	1_Remembering	KLP 7
	1.3	Describe what a "squad" is	1_Remembering	KLP 7.4
	1.4	Describe the role of "squads" in decomposing an organization	1_Remembering	KLP 7.4

3.2 Unit 2 – The Role of Architecture When Deploying Agile at Scale

UNIT 2	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand how Big Up-Front Architecture Design needs to change to be fit-for-purpose in a Digital and Agile environment.			
Learning Outcomes		The Candidate is able to …		
	2.1	Explain the impact of emergence	2_Understanding	KLP 4.5.1
	2.2	Briefly describe Intentional Architecture	1_Remembering	KLP 4.5.2-5.0
	2.3	Briefly describe the concepts Concurrent, Continuous, and Refactored	1_Remembering	KLP 4.5.3
	2.4	Briefly describe how "Agile" Tailored Architecture Development is done	1_Remembering	KLP 4.5.4

3.3 Unit 3 – Insights into Business Agility

UNIT 3	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand why and how strategy formulation and implementation must evolve in a Digital and Agile environment.			
Learning Outcomes		The Candidate is able to …		
	3.1	Explain how Business and Organizational Agility are related	2_Understanding	KLP 3.3
	3.2	Briefly describe Tenet 2: Frame Strategy Around "Hard-to-Reverse" Choices	1_Remembering	KLP 11.1.2-5.2
	3.3	Briefly describe: • Tenet 3. Anticipate Unintended Consequences • Bending the Law of Unintended Consequences	1_Remembering	KLP 11.1.3-11.2
	3.4	Briefly describe Tenet 5: Mix Stability and Dynamism	1_Remembering	KLP 11.1.5
	3.5	Briefly explain Succeeding Strategy Deployment	2_Understanding	KLP 11.3

3.4 Unit 4 – Intentional Architecture and Continuous Product Development

UNIT 4	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand that not all Continuous Product Improvement iterations require Product Architecture Refactoring.			
Learning Outcomes		The Candidate is able to …		
	4.1	Explain the Car Sharing Platform Example	2_Understanding	KLP 5.4
	4.2	Contrast Intentional Architecture with Continuous Product Development	2_Understanding	KLP 5.5
	4.3	Identify when Intentional Architecture is Recommended	1_Remembering	KLP 5.6

3.5 Unit 5 – Characteristics of an Agile Organization

UNIT 5	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand the key characteristics of an Agile organizational model.			
Learning Outcomes		The Candidate is able to …		
	5.1	Briefly describe the Socio-Technical systems' principles.	1_Remembering	KLP 12.1.1-12.1.2
	5.2	Briefly describe Autonomy and Self-Organization	1_Remembering	KLP 12.2
	5.3	Briefly explain the Team Taxonomy concepts: • Stream-Aligned Teams • Platform Teams • Competency Teams	2_Understanding	KLP 12.3 KLP 12.3.1 KLP 12.3.2 KLP 12.3.3
	5.4	Describe what a Product is in the context of the O-AA Standard	1_Remembering	KLP 13.2
	5.5	Briefly describe Product Teams and roles: • Product Manager *versus* Product Owner • Lean Chief Engineer	1_Remembering	KLP 12.4 KLP 12.4.1 KLP 12.4.2
	5.6	Explain the shift to an Agile organization using the Capital Management example	2_Understanding	KLP 12.5

3.6 Unit 6 – Open Agile Architecture Building Blocks

UNIT 6	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand the structure of the Open Agile Architecture building blocks and when and how to apply them in a concurrent manner.			
Learning Outcomes		The Candidate is able to …		
	6.1	Describe the O-AA Development Building Blocks: • Strategy • Corporate Brand Identity, Culture • Value • Perspectives • What the Enterprise "Is" • What the Enterprise "Does"	1_Remembering	KLP 4.2 KLP 4.2.1 KLP 4.2.2 KLP 4.2.3 KLP 4.2.4 KLP 4.2.5 KLP 4.2.6 KLP 4.2.7
	6.2	Explain Building Blocks Logic	2_Understanding	KLP 10.1

UNIT 6	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
	6.3	Describe Enterprise Decomposition	1_Remembering	KLP 10.2
	6.4	Describe Segmentation Approach	1_Remembering	KLP 10.3
	6.5	Explain Set-Based Concurrent Engineering (SBCE)	2_Understanding	KLP 5.7

3.7 Unit 7 – Axioms for Agile Architecture

UNIT 7	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand the O-AA axioms for Agile Architecture, a set of guidelines or restrictions that Agile architects are recommended to follow.			
Learning Outcomes		The Candidate is able to …		
	7.1	Describe the Axioms for the Practice of Agile Architecture: • Axiom 1. Customer Experience Focus • Axiom 2. Outside-In Thinking • Axiom 3. Rapid Feedback Loops • Axiom 4. Touchpoint Orchestration • Axiom 5. Value Stream Alignment • Axiom 6. Autonomous Cross-Functional Teams • Axiom 7. Authority, Responsibility, and Accountability Distribution • Axiom 8. Loosely-Coupled Systems • Axiom 9. Modular Data Platform • Axiom 10. Simple Common Operating Principles • Axiom 11. Partitioning Over Layering • Axiom 12. Organization Mirroring Architecture • Axiom 13. Organizational Leveling • Axiom 14. Bias for Change • Axiom 15. Project to Product Shift • Axiom 16. Secure by Design	1_Remembering	KLP 9 KLP 9.1 KLP 9.2 KLP 9.3 KLP 9.4 KLP 9.5 KLP 9.6 KLP 9.7 KLP 9.8 KLP 9.9 KLP 9.10 KLP 9.11 KLP 9.12 KLP 9.13 KLP 9.14 KLP 9.15 KLP 9.16

3.8 Unit 8 – Mental Model Changes

UNIT 8	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand how architects need to change the way they operate to remain relevant in a Digital and Agile environment.			
Learning Outcomes		The Candidate is able to …		
	8.1	List the Solution Architecture points of attention	1_Remembering	KLP 5.1
	8.2	Describe Architecturally Significant Decisions	1_Remembering	KLP 5.2
	8.3	Explain understanding and Guiding the Architecture and in particular: • Constraints • Fitness Functions • Guardrails	2_Understanding	KLP 6.3 KLP 6.3.1 KLP 6.3.2 KLP 6.3.3
	8.4	Explain how to develop an Architectural Roadmap	2_Understanding	KLP 6.5.2
	8.5	Explain progressive Transformation (Experience)	2_Understanding	KLP 6.5.3
	8.6	Describe the DevOps Culture and in particular the concept of Team Taxonomy	1_Remembering	KLP 7.4
	8.7	Describe the DevOps Behavior and Practices	1_Remembering	KLP 22.2.5
	8.8	Describe Governance in the Face of Agile	1_Remembering	KLP 8.2
	8.9	Briefly describe the DevOps Principles	1_Remembering	KLP 22.2.3
	8.10	Briefly describe the Mental Model Shifts	1_Remembering	KLP 10.4

3.9 Unit 9 – Towards the Digital Enterprise

UNIT 9	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to design products that deliver the experience customers expect.			
Learning Outcomes		The Candidate is able to …		
	9.1	Describe the Experience Design Approach	1_Remembering	KLP 13.1
	9.2	Describe Customer Research and in particular: • Market Research • Jobs-To-Be-Done	1_Remembering	KLP 13.3 KLP 13.3.1 KLP 13.3.2

UNIT 9	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
	9.3	Explain how to combine Product Discovery with Customer Research through: • Experience Mapping • Goods Features • Service Features • Features Outcomes and Benefits • Digital Products • Quality Properties	2_Understanding	KLP 13.4 KLP 13.4.1 KLP 13.4.2 KLP 13.4.3 KLP 13.4.4 KLP 13.4.5 KLP 13.4.6
	9.4	Explain the Ride-Hailing Company	2_Understanding	KLP 13.5
	9.5	Describe the Journey Mapping and in particular: • Moments of Truth • The Human Side • The Role of Automation	1_Remembering	KLP 15 KLP 15.1 KLP 15.2 KLP 15.3
	9.6	Describe Value Stream Mapping	1_Remembering	KLP 16.1.3

3.10 Unit 10 – Lean Value Stream Mapping Case Study

UNIT 10	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand how to apply Value Stream Mapping (VSM) to improve or redesign Value Streams.			
Learning Outcomes		The Candidate is able to …		
	10.1	Explain Lean Value Stream Mapping through the client on-boarding case study	2_Understanding	KLP 16.1.4-16.4.2

3.11 Unit 11 – Agile Architectures

UNIT 11	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand Operations Architecture and Solutions Architecture and their relationship to each other.			
Learning Outcomes		The Candidate is able to …		
	11.1	Explain Operations Architecture Decisions in particular through the AR example	2_Understanding	KLP 17.2 KLP 17.4
	11.2	Explain Software Architecture	2_Understanding	KLP 21.1
	11.3	Describe Event-Driven Architecture and its benefits	1_Remembering	KLP 21.2 KLP 21.2.2.

UNIT 11	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
	11.4	Explain Hexagonal Architecture and its benefits: • Domain, Application, and Infrastructure Code • Inside and Outside Ports and Adapters • Inbound Ports and Adapters • Outbound Ports and Adapters	2_Understanding	KLP 21.3 KLP 21.3.1 KLP 21.3.2 KLP 21.3.3 KLP 21.3.4
	11.5	Describe Non-Functional Software Requirements: • Security • Reliability • Performance • Operability • Maintainability • Interoperability	1_Remembering	KLP 21.4 KLP 21.4.1 KLP 21.4.2 KLP 21.4.3 KLP 21.4.4 KLP 21.4.5 KLP 21.4.6
	11.6	Describe Software Cross-Cutting Concerns	1_Remembering	KLP 21.5

3.12 Unit 12 – Security in the Agile Architecture

UNIT 12	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand the characteristics of an Agile Security Architecture including the role of the Agile Security Architect.			
Learning Outcomes		The Candidate is able to …		
	12.1	Explain the concept of Minimum Security Architecture (MSA)	2_Understanding	Security Playbook 1.1
	12.2	Describe the role of Agile Security Architects and what they do	1_Remembering	Security Playbook 2, 2.1
	12.3	Explain the Governance of an Agile Security Architecture	2_Understanding	Security Playbook 3
	12.4	Describe the Desired Characteristics of Architecting Security: • Rely on Layers of Controls • Employ Application Security Development Practices	1_Remembering	Security Playbook 4, 4.1, 4.2
	12.5	Describe the Agile Security Architecture practices	1_Remembering	Security Playbook 5

3.13 Unit 13 – Open Agile Architecture Certification

UNIT 13	Purpose, Learning Outcome(s)		Bloom's Taxonomy Level	KLP Reference
Purpose	The purpose of this Learning Unit is to help the Candidate understand the Open Agile Architecture Program. (Note that this is a non-examinable Learning Unit.)			
Learning Outcomes		The Candidate is able to …		
	13.1	Explain the Open Agile Architecture Program	2_Understanding	Not applicable

4. Indicators of Compliance

The Indicators of Compliance for the Program are The Open Group examinations.

The descriptions of the examinations for each level are maintained by the Certification Authority and displayed on The Open Group website. This includes a description of the examination type (for example, simple multiple-choice, complex scenario, etc.), the number of questions, the duration, supervision requirements, whether an examination is open book, the pass score, the language(s) in which the examination is offered, and the prerequisites for taking the examination.

5. Body of Knowledge

The documents that comprise the Body of Knowledge are listed in the following table.

Document Reference	Document Title
C208	Open Agile Architecture™ Standard; refer to: www.opengroup.org/library/c208
G216	O-AA™ Security Playbook; refer to: www.opengroup.org/library/g216

Supplemental Reading

Publications that are recommended reading for students with no architectural background are listed below:

- 2020 State of DevOps Report; refer to: https://puppet.com/resources/report/2020-state-of-devops-report/
- Accelerate: The Science of Lean Software and DevOps: Building and Scaling High Performing Technology Organizations, Nicole Forsgren, Kim Humble, Gene Kim, April 2018, published by Trade Select
- Building Evolutionary Architectures, Neal Ford, Patrick Kua, Rebecca Parsons, September 2017, published by O'Reilly
- Manifesto for Agile Software Development, 2001; refer to: www.agilemanifesto.org/
- Spotify: A Scrum@Scale Case Study, Henrik Kniberg, August 2019, published by Scrum Alliance®; refer to: https://resources.scrumalliance.org/Article/spotify-scrum@scale-case-study
- The DevOps Handbook: How to Create World-Class Agility, Reliability, and Security in Technology Organizations, Gene Kim, Patrick Debois, John Willis, December 2016, published by Trade Select
- The Digital Practitioner Body of Knowledge™ Standard (the DPBoK™ Standard), a standard of The Open Group (C196), January 2020, published by The Open Group; refer to: www.opengroup.org/library/c196

6. Rationale (Informative)

This section contains informative rationale.

6.1 Bloom's Taxonomy

The terms used to define the depth of learning are drawn from Bloom's Taxonomy.

Bloom's Taxonomy	Level	Cognitive Dimension	Examples of Action Verbs
Lower-order Learning Skills	1	Remembering	Identify, define, list, describe …
	2	Understanding	Explain, summarize, compare, contrast …
	3	Applying	Apply, illustrate, interpret …
Higher-order Learning Skills	4	Analyzing	Analyze, classify, distinguish …
	5	Evaluating	Evaluate, justify …
	6	Creating	Construct, design, plan …

6.2 Learning Levels

The following table shows examples of learning activities for each (Bloom) learning level.

Level	Cognitive Dimension	Examples of Learning Activities
1	Remembering	Lecture, video-clip, examples, illustrations, metaphors, guided reading
2	Understanding	Interactive lecture, Q&A, group discussions, tests
3	Applying	Practice exercises, demonstrations, simple projects, simulations, role play
4	Analyzing	Practical (case-based) exercises, higher-level tests
5	Evaluating	Project, complex case studies, appraisals, debating
6	Creating	Development of plans, complex projects, constructing