

Study Guide

ArchiMate[®] 3 Foundation

Preparation for the ArchiMate 3 Part 1 Examination

Prepared by Andrew Losey, The Open Group

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Study Guide

ArchiMate® 3 Foundation

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Sample

Preface

This Document

This document is a Study Guide for ArchiMate® 3 Foundation. It is based on The Open Group Certification for People: ArchiMate 3 Conformance Requirements. It gives an overview of every learning objective for the ArchiMate 3 Foundation certification syllabus and in-depth coverage on preparing and taking the ArchiMate 3 Part 1 Examination. It is specifically designed to help individuals prepare for certification.

The audience for this Study Guide is:

- Individuals who require a basic understanding of the ArchiMate modeling language
- Professionals who are working in roles associated with an architecture project and who need to understand architecture artifacts developed using the ArchiMate modeling language
- Individuals who want to achieve a recognized qualification to demonstrate their knowledge of the ArchiMate modeling language

A prior knowledge of Enterprise Architecture and architecture modeling is advantageous but not required. While reading this Study Guide, the reader should also refer to the ArchiMate 3.0 documentation¹ available online at pubs.opengroup.org/architecture/archimate3-doc and also available in book form.

The Study Guide is structured as follows:

- Chapter 1 (Introduction) provides a brief introduction to The Open Group ArchiMate Certification Program, specifically the ArchiMate 3 Foundation certification, and explains how to use this Study Guide as well as how to prepare for the examination.
- Chapter 2 (Basic Concepts and Definitions) introduces the basic concepts and key terminology of Enterprise Architecture and the ArchiMate modeling language.
- Chapter 3 (Language Structure) describes the construction of the ArchiMate language.
- Chapter 4 (Generic Metamodel) describes the ArchiMate generic metamodel that defines the full structure of the language.
- Chapter 5 (Relationships) describes the relationships that the ArchiMate language includes to model the links between objects, concepts, and elements.

¹ ArchiMate 3.0 Specification, Open Group Standard (C162), June 2016, published by The Open Group; refer to: www.opengroup.org/bookstore/catalog/c162.htm.

- Chapter 6 (Motivation Modeling) describes the motivation elements that are used to model the motivations, or reasons, that guide the design or change of an Enterprise Architecture.
- Chapter 7 (Strategy Modeling) describes the strategy elements that are used to model the capabilities of an organization, and how they are to be changed in order to achieve business outcomes.
- Chapter 8 (The Business Layer) describes the Business Layer of the ArchiMate modeling language.
- Chapter 9 (The Application Layer) describes the Application Layer of the ArchiMate modeling language.
- Chapter 10 (The Technology Layer) describes the Technology Layer of the ArchiMate modeling language.
- Chapter 11 (Physical Elements) describes the physical elements, which are an extension to the Technology Layer used to model the physical world.
- Chapter 12 (Cross-Layer Modeling) describes how to model the relationships between elements on different layers of ArchiMate models.
- Chapter 13 (Implementation and Migration) describes the implementation and migration elements of the ArchiMate modeling language.
- Chapter 14 (Addressing Stakeholder Concerns with Viewpoints and Views) describes how to use the ArchiMate modeling language standard architecture viewpoints to model the concerns of stakeholders.
- Appendix A (Answers to Test Yourself Questions and Exercises) provides the answers to the Test Yourself sections provided at the end of each chapter.
- Appendix B (Test Yourself Examination Paper – Part 1) provides a Test Yourself examination to allow you to assess your knowledge of the ArchiMate modeling language and readiness to take the ArchiMate 3 Part 1 Examination.
- Appendix C (Test Yourself Examination Paper Answers) provides the answers to the examination in Appendix B.
- Appendix D (ArchiMate 3 Part 1 Certification Syllabus) provides the ArchiMate 3 Part 1 Certification Syllabus.

How to Use this Study Guide

The chapters in this Study Guide are arranged to provide coverage of the ArchiMate 3 certification syllabus (see Appendix D) and should be read in order. However, you may wish to use this Study Guide during review of topics with which you are already familiar, and it is certainly possible to select topics for review in any order. Where a topic requires further information from a later part in the syllabus, a cross-reference is provided.

Within each chapter are “Key Learning Points” and “Summary” sections that help you to easily identify what you need to know for each topic.

Each chapter also has a “Recommended Reading” section that indicates the relevant sections in the ArchiMate documentation that can be read to obtain a further understanding of the subject material.

Each chapter has “Exercises” and “Test Yourself Questions” sections that will help you to check your understanding of the chapter and prepare for the ArchiMate 3 Part 1 Examination. The purpose of this is to reinforce Key Learning Points (KLPs) in the chapter. These include a mix of multiple-choice format questions where you must identify one correct answer, open questions, and simple modeling exercises.

Finally, at the end of this Study Guide is a “Test Yourself” practice examination paper that you can use to test your readiness to take the official ArchiMate 3 Part 1 Examination.

Conventions Used in this Study Guide

The following conventions are used throughout this Study Guide in order to help identify important information and avoid confusion over the intended meaning.

- Ellipsis (...)

Indicates a continuation; such as an incomplete list of example items, or a continuation from preceding text.

- Bold

Used to highlight specific terms.

- Italics

Used for emphasis. May also refer to other external documents.

- *(Syllabus Reference: Unit X, Learning Outcome Y: Statement)*

Used at the start of a text block to identify the ArchiMate certification syllabus learning outcome.

In addition to typographical conventions, the following conventions are used to highlight segments of text:



A Note box is used to highlight useful or interesting information.



A Tip box is used to provide key information that can save you time or that may not be entirely obvious.

About the ArchiMate® Specification

The ArchiMate Specification, an Open Group Standard, is an open and independent modeling language for Enterprise Architecture that is supported by different tool vendors and consulting firms. The ArchiMate Specification provides instruments to enable Enterprise Architects to describe, analyze, and visualize the relationships among business domains in an unambiguous way.

About The Open Group

The Open Group is a global consortium that enables the achievement of business objectives through IT standards. With more than 500 member organizations, The Open Group has a diverse membership that spans all sectors of the IT community – customers, systems and solutions suppliers, tool vendors, integrators, and consultants, as well as academics and researchers – to:

- Capture, understand, and address current and emerging requirements, establish policies, and share best practices
- Facilitate interoperability, develop consensus, and evolve and integrate specifications and open source technologies
- Offer a comprehensive set of services to enhance the operational efficiency of consortia
- Operate the industry's premier certification service

Further information on The Open Group is available at www.opengroup.org.

The Open Group publishes a wide range of technical documentation, most of which is focused on development of Open Group Standards and Guides, but which also includes white papers, technical studies, certification and testing documentation, and business titles. Full details and a catalog are available at www.opengroup.org/bookstore.

Readers should note that updates – in the form of Corrigenda – may apply to any publication. This information is published at www.opengroup.org/corrigenda.

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He is a member of the IEEE, USENIX, UKUUG, and the Association of Enterprise Architects (AEA). He holds an MSc in Computer Science from University College London.

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- Ed Walters

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References

The following documents are referenced in this Study Guide:

- ArchiMate® 3.0 Specification, an Open Group Standard (C162), June 2016, published by The Open Group; refer to: www.opengroup.org/bookstore/catalog/c162.htm. Also available online at: pubs.opengroup.org/architecture/archimate3-doc.
- ArchiSurance Case Study, Version 2 (Y163), November 2016, published by The Open Group; refer to: www.opengroup.org/bookstore/catalog/y163.htm.
- ISO/IEC/IEEE 42010:2011: Systems and Software Engineering – Architecture Description; refer to: www.iso.org/iso/catalogue_detail.htm?csnumber=50508.
- The Open Group Certification for People: ArchiMate® 3 Conformance Requirements (Multi-Level) (X1610), September 2016, published by The Open Group; refer to: www.opengroup.org/bookstore/catalog/x1610.htm.
- The Open Group Certification for People: Certification Policy for Examination-Based Programs (X1603), April 2016, published by The Open Group; refer to: www.opengroup.org/bookstore/catalog/x1603.htm.
- TOGAF® 9.1, an Open Group Standard (G116), December 2011, published by The Open Group; refer to: www.opengroup.org/bookstore/catalog/g116.htm. Also available online at www.opengroup.org/architecture/togaf9-doc/arch.
- Unified Modeling Language™ (UML®) Specification, Object Management Group; refer to: www.omg.org/spec/UML.

The following web links are referenced in this Study Guide:

- The Open Group ArchiMate Certification website: www.opengroup.org/certifications/archimate
- The ArchiMate information website: www.opengroup.org/archimate

Chapter 1 Introduction

1.1 Key Learning Points

This document is a Study Guide for the ArchiMate modeling language for students planning to become certified for ArchiMate 3 Foundation.

It covers every learning objective of the ArchiMate 3 Foundation certification syllabus, and has learning resources that have been specifically designed to prepare individuals who wish to take and pass the ArchiMate 3 Part 1 Examination.

This first chapter will familiarize you with The Open Group Certification for People: ArchiMate Certification Program (the Program) and its principles, as well as give you important information about the structure of the ArchiMate 3 Examinations.

The objectives of this chapter are as follows:

- To provide an understanding of the Program and why you should become certified
- To learn key facts about the ArchiMate 3 Examinations

1.2 The Open Group Certification for People: ArchiMate Certification Program

(Syllabus Reference: Unit 14, Learning Outcome 1: You should be able to explain The Open Group Certification for People: ArchiMate Certification Program (the Program), and distinguish between the levels of certification.)

Certification is available to individuals who wish to demonstrate they have attained the required knowledge and understanding of the ArchiMate modeling language as defined in the ArchiMate 3.0 Specification or subsequent minor releases.

There are two certification levels defined:

- ArchiMate 3 Foundation
- ArchiMate 3 Practitioner

This Study Guide covers the first of these – ArchiMate 3 Foundation. Studying for ArchiMate 3 Foundation can be used as a learning objective towards achieving ArchiMate 3 Practitioner, as the learning outcomes in ArchiMate 3 Foundation are also required in ArchiMate 3 Practitioner. The difference between the certification levels is that, in addition to the requirements for ArchiMate 3 Foundation, ArchiMate 3 Practitioner requires a deeper level of knowledge, additional learning units, and passing an advanced examination.

1.2.1 Program Vision and Principles

The vision for the Program is to define and promote a market-driven education and certification program to support the ArchiMate Specification. The Program has been designed with the following principles in mind.

Table 1: Certification Principles

Principle	Certification Aspects
Openness	The Program is open to applicants from all countries.
Fairness	Certification is achieved only by passing an examination that is equivalent to that taken by any other candidate.
Market Relevance	The Program is structured to meet the perceived needs of the market. It includes certification at two levels. Additional levels may be introduced during the life of the Program, as may updated versions of the ArchiMate modeling language.
Learning Support	Training courses are provided by third parties, according to the needs of the market.
Quality	Training course providers may choose to seek Open Group accreditation for their courses. Accredited Training Courses are listed on The Open Group website. Only Accredited Training Courses may use The Open Group logo and include the ArchiMate examinations and practical exercises within the course.
Best Practice	The Program is designed to follow industry best practice for equivalent certification programs.

1.2.2 Certification Document Structure

The documents available to support the Program are as shown in Figure 1.

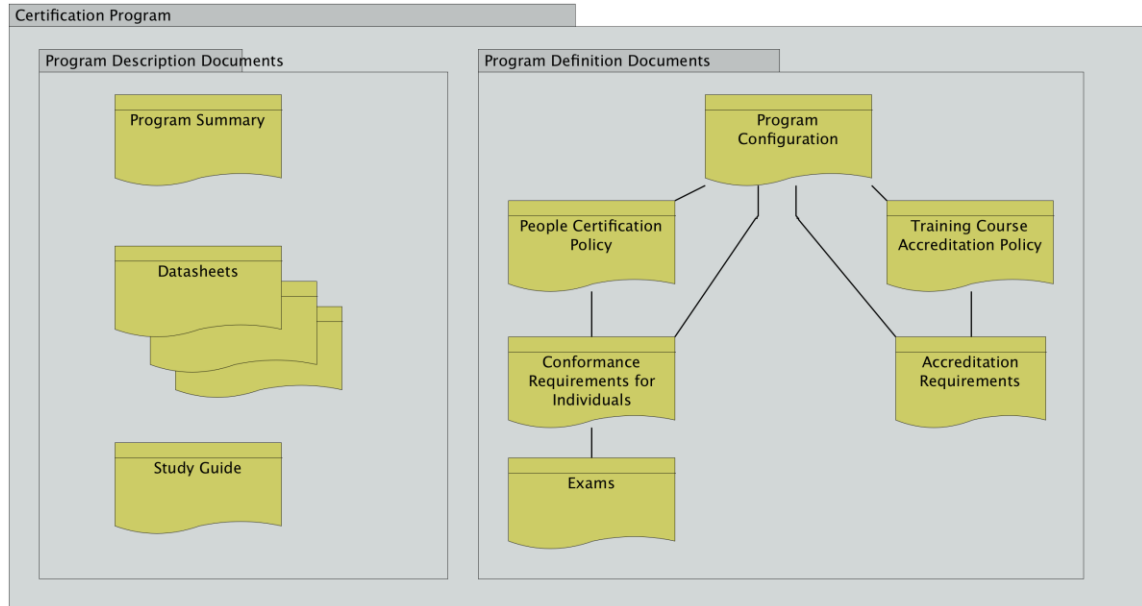



Figure 1: Certification Document Structure

Program description documents, such as this Study Guide, are intended for an end-user audience including those interested in becoming certified. The Program definition documents are intended for trainers, examination developers, and the Certification Authority. All these documents are available from The Open Group website.²



Why become certified?
 Becoming certified demonstrates publicly that you understand the ArchiMate modeling language. The Open Group publishes the definitive directory of certified individuals and issues certificates.

1.2.3 ArchiMate 3 Foundation

The purpose of certification for ArchiMate 3 Foundation is to provide validation that the Candidate has gained knowledge of the notation, terminology, structure, and basic concepts of the ArchiMate modeling language. The learning objectives at this level focus on knowledge and comprehension. Certification for ArchiMate 3 Foundation is achieved by passing the ArchiMate 3 Part 1 Examination. This is a simple multiple-choice examination with 40 questions.³

² Available from the ArchiMate Certification website at: www.opengroup.org/certifications/archimate or from The Open Group Bookstore at www.opengroup.org/bookstore.

³ For the latest information on examinations, see the ArchiMate Certification website at: www.opengroup.org/certifications/archimate.

1.2.4 ArchiMate 3 Practitioner

The purpose of certification for ArchiMate 3 Practitioner is to provide validation that, in addition to the knowledge and comprehension of ArchiMate 3 Foundation, the Candidate is able to analyze and apply this knowledge. The learning objectives at this level therefore focus on application and analysis. Certification for ArchiMate 3 Practitioner is achieved by passing the ArchiMate 3 Part 2 Examination, or if you are have previously been ArchiMate 2 Certified, you can take the ArchiMate 3 Advanced Bridge Examination.

1.2.5 Certification Syllabus Overview

Individuals certified at ArchiMate 3 Foundation will have demonstrated their understanding of:

- The basic concepts and key terminology of Enterprise Architecture and the ArchiMate modeling language
- The language structure
- The generic metamodel
- The core set of relationships defined in the language
- The motivation elements of the language
- The strategy elements of the language
- The elements of the Business Layer
- The elements of the Application Layer
- The elements of the Technology Layer
- The physical elements
- The concepts of cross-layer modeling
- The implementation and migration elements of the language
- The viewpoint mechanism
- The Open Group Certification for People: ArchiMate Certification Program

1.2.6 Self-Study Paths

The self-study paths to achieve certification in the Program are summarized in Figure 2.

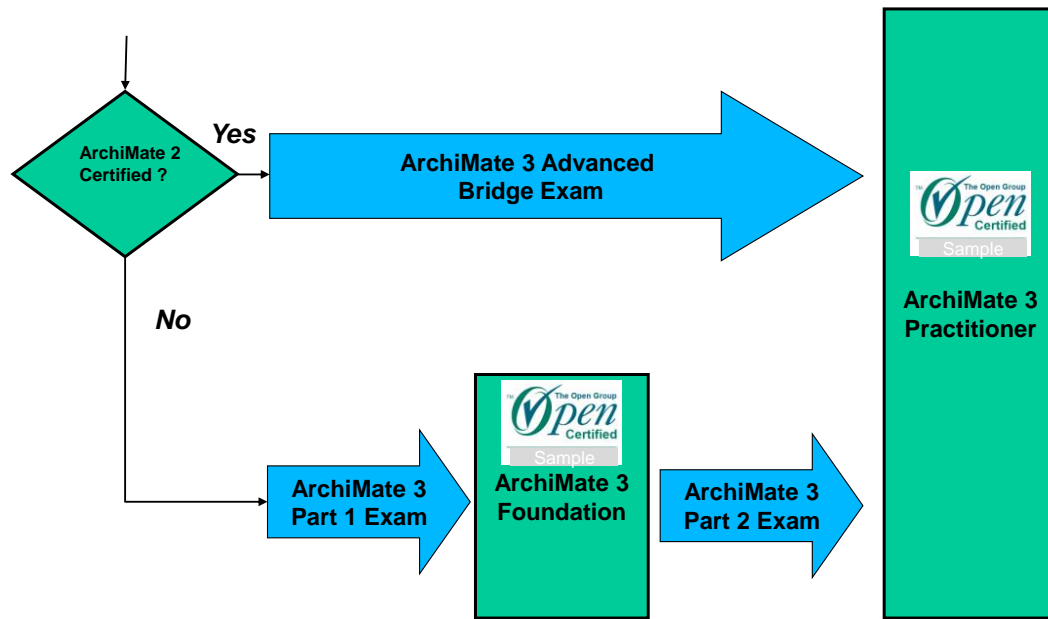



Figure 2: Paths to Certification



What is the relationship between ArchiMate 2 Certified and ArchiMate 3 Certification?

For candidates who are ArchiMate 2 Certified, the ArchiMate 3 Advanced Bridge examination is available leading directly to ArchiMate 3 Practitioner certification.

For other candidates there is a stepwise development path with the ArchiMate 3 Part 1 Examination leading to ArchiMate 3 Foundation, and the ArchiMate 3 Part 2 Examination leading to ArchiMate 3 Practitioner.

1.2.7 The Certification Process

This Study Guide is aimed at preparing you to become certified for the ArchiMate 3 Foundation certification level. An overview of the certification process is shown in Figure 3 (using ArchiMate notation).

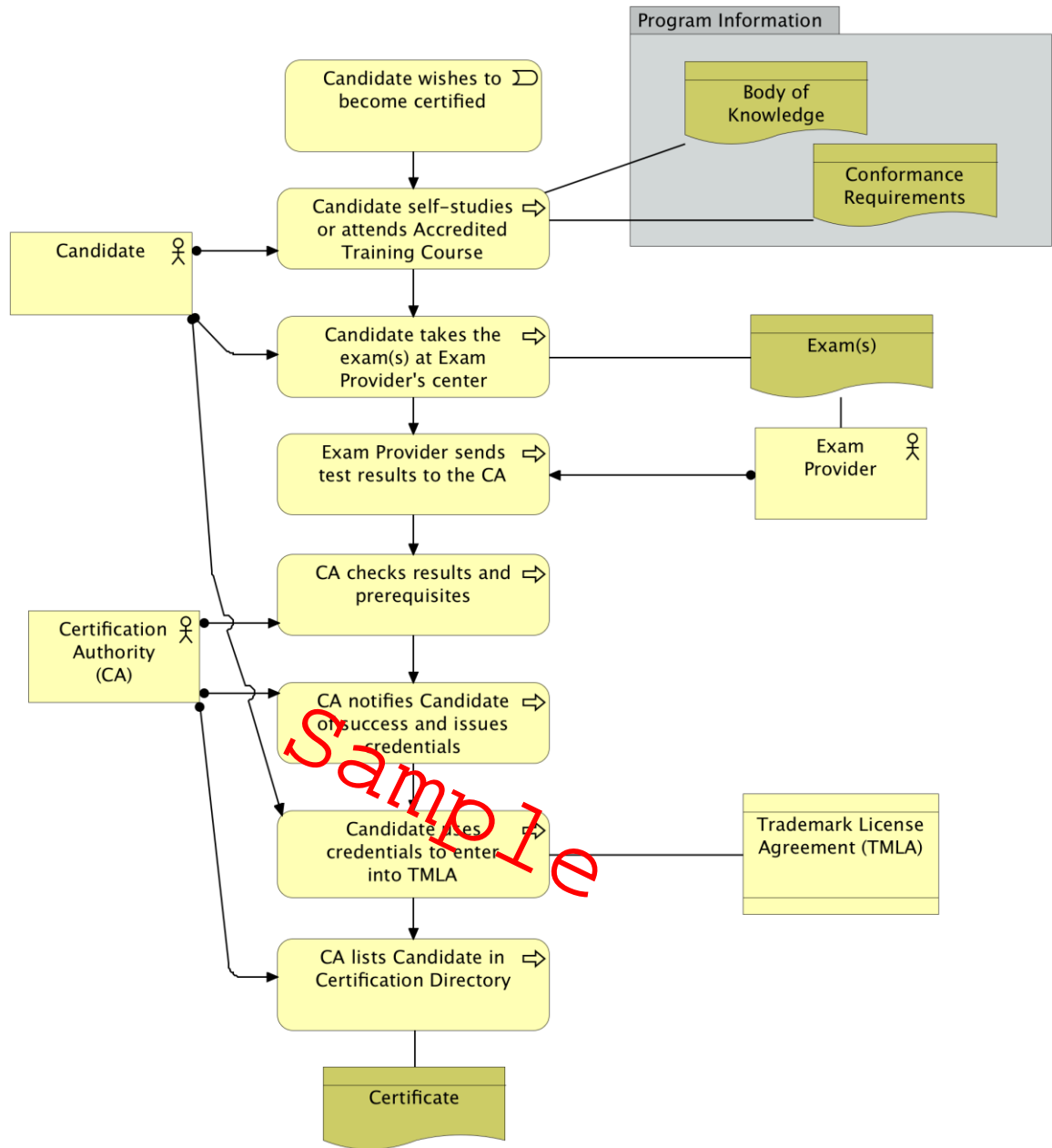


Figure 3: Certification Process

The process for becoming certified as shown in Figure 3 is as follows:

1. Candidate wishes to become certified.

To achieve ArchiMate certification, Candidates must possess a thorough knowledge and understanding of those elements of the ArchiMate modeling language identified in the Conformance Requirements as being mandatory.

2. Candidate self-studies or attends an Accredited Training Course.

A Candidate can self-study or attend an Accredited Training Course. The two key inputs to the learning process are the ArchiMate Specification itself and the Conformance Requirements. The Conformance Requirements identify which elements of the ArchiMate Specification must be known to achieve certification.

3. Candidate takes the examination(s) at Examination Provider's test center.

Certification is achieved by passing the applicable examination(s) delivered at The Open Group Examination Provider's test center.

Candidates who fail to meet the required pass mark will be informed of this and are encouraged to undergo further study and re-sit the examination at a later date. Candidates who fail an examination are not allowed to re-sit an examination again for a period of one (1) month.

4. Certification Authority checks results and prerequisites.

Examination results of all Candidates are sent to the Certification Authority for review. The Certification Authority will check to ensure that the pass mark has been met. The Certification Authority will also ensure that Candidates have not failed an examination within the previous month.

5. Certification Authority notifies Candidate of success and issues credentials.

The Certification Authority will notify the Candidate in writing of the decision. If the decision is to accept the application for certification, the Certification Authority will also issue credentials to the successful Candidate that will enable the Candidate to access the Certification Authority's website to accept the terms of, and enter into, a Trademark License Agreement with the Certification Authority.

6. Candidate uses credentials to enter into Trademark License Agreement.

The Candidate then uses the credentials to access the Certification Authority's website to enter into a Trademark License Agreement with the Certification Authority and to obtain the artwork of the applicable Program Logo.

7. Certification Authority lists Candidate in Certification Directory.

The Certification Authority will then make a Certificate available to the Candidate in electronic form and enter the Candidate's Certification Record into the Certification Directory. The credentials also allow the Certified Person to control to whom the Certification Record is disclosed and to update contact and employer information in the Certification Record.

1.2.7.1 *ArchiMate 3 Part 1 Examination Coverage by Topic*

The ArchiMate 3 Part 1 certification syllabus is contained in Appendix D. Certain topic areas are weighted as more important than others and thus have more questions. The topic areas covered by the examination together with the number of questions per area are provided in Table 2. It should be noted that some areas of the syllabus are non-examinable (Topic 14).

Table 2: ArchiMate 3 Part 1 Examination Coverage

Unit	Topic	No. of Questions
1	Basic Concepts and Definitions	3
2	Language Structure	3
3	Generic Metamodel	4
4	Relationships	4
5	Motivation Modeling	4
6	Strategy Modeling	3
7	Business Layer	4
8	Application Layer	4
9	Technology Layer	3
10	Physical Elements	3
11	Cross Layer Modeling	1
12	Implementation and Migration Elements	2
13	Addressing Stakeholder Concerns with Viewpoints and Views	2
14	The Open Group Certification for People: ArchiMate Certification Program	0

Format of the Examination Questions

The examination questions are multiple-choice questions. These are very similar in format to the Test Yourself practice examination included in Appendix B. Note that the exact format for display is test center-specific and will be made clear on the screens when taking the examination.

Tips when Taking the Examination



Ensure you take the tutorial provided prior to the commencement of the examination. It explains how the examination will work and does not use any of the allotted time for the examination. Please read each question carefully before reading the answer options. Be aware that some questions may seem to have more than one right answer, but you are to look for the one that makes the most sense and is the most correct (the best answer). For questions where you are unsure of an answer you can mark them and come back later if you have time. Remember to answer all questions, as leaving unanswered questions reduces your maximum possible score.

What do I need to bring with me to take the Examination?

You should consult with the test center prior to attendance regarding the forms of picture ID you are required to bring with you to verify your identification.

Can I refer to materials while I take the Examination?

No, the ArchiMate 3 Part 1 Examination is closed book.

What is the pass mark?

You should check with The Open Group for the latest information on the examination. At the time of writing the pass mark for the Part 1 Examination is 60%.

If I fail, how soon can I retake the Examination?

You should consult the current policy on The Open Group website. At the time of writing, the policy states that individuals who have failed the examination are not allowed to retake the examination within one (1) month of the first sitting.

1.2.8 Preparing for the Examination

You can prepare for the examination by working through this Study Guide section-by-section. A mapping of the sections of this Study Guide to the ArchiMate 3 Part 1 certification syllabus is given in Appendix D. After completing each section, you should read the referenced sections from the ArchiMate documentation together with any other recommended reading. Then you should complete the Exercises and the Test Yourself Questions. Once you have completed all the sections in this Study Guide, you can then attempt the Test Yourself practice examination paper in Appendix B. This is designed to give a thorough test of your knowledge. If you have completed all the prescribed preparation and can attain a pass mark for the Test Yourself examination papers, then it is likely you are ready to sit the examination(s).

1.3 Summary

The Program is a knowledge-based certification program. It has two levels: ArchiMate 3 Foundation and ArchiMate 3 Practitioner, respectively.

This Study Guide will prepare you for ArchiMate 3 Foundation.

To prepare for the examination:

- Work through this Study Guide step-by-step.
- At the end of each chapter, you should read the sections of the ArchiMate documentation and other references listed under Recommended Reading, and complete the Exercises and the Test Yourself Questions.
- Once you have completed all the chapters in this Study Guide, attempt the Test Yourself practice examination papers given in Appendix B.

- If you can attain the target score for the Test Yourself practice examination paper, then you have completed your preparation, and you should be ready to take the ArchiMate 3 Part 1 Examination.

1.4 Recommended Reading

The following are recommended sources of further information for this chapter:

- ArchiMate® 3 Foundation Datasheet; refer to http://certification.opengroup.org/docs/ArchiMate3_foundation_factsheet.pdf.
- ArchiMate® 3 Practitioner Datasheet; refer to http://certification.opengroup.org/docs/ArchiMate3_practitioner_factsheet.pdf.
- The Open Group Certification for People: ArchiMate Certification Program Summary Datasheet; refer to: http://certification.opengroup.org/docs/ArchiMate3_cert_summary_factsheet.pdf.
- The Open Group Certification for People: Certification Policy for Examination-Based Programs (X1603)
- The Open Group Certification for People: ArchiMate® 3 Conformance Requirements (Multi-Level) (X1610)
- The Open Group ArchiMate Certification website: www.opengroup.org/certifications/archimate
- The ArchiMate information website: www.opengroup.org/archimate

1.5 Exercises

There are no exercises for this chapter.

1.6 Test Yourself Questions

Q1: How many certification levels are there in the Program?

- A. 1
- B. 2
- C. 3
- D. 4

Q2: Which one of the following is the entry-level certification for an individual?

- A. ArchiMate 3 Certified
- B. ArchiMate 3 Foundation
- C. ArchiMate 3 Practitioner
- D. ArchiMate 3 Architect

- Q3: Which of the following topic areas is *non-examinable* in the ArchiMate 3 Part 1 certification syllabus?
- A. Basic concepts and definitions
 - B. Implementation and migration elements
 - C. Language structure
 - D. The Open Group Certification for People: ArchiMate Certification Program
- Q4: Which of the following statements about the retake policy for ArchiMate 3 Examinations is correct?
- A. Candidates who fail cannot take an examination again within one (1) month.
 - B. Candidates who fail cannot take an examination again within five (5) days.
 - C. Candidates who fail cannot take an examination again within seven (7) days.
 - D. Candidates who fail cannot take an examination again within three (3) months.

Sample

Chapter 2 Basic Concepts and Definitions

2.1 Key Learning Points

This chapter provides an introduction to the basic concepts and key terminology of Enterprise Architecture and the ArchiMate modeling language.

Key Points Explained

This chapter will help you to:

- Briefly explain what the ArchiMate language is
- Understand the structure of the ArchiMate 3.0 Specification
- Explain how the ArchiMate language supports the development of Enterprise Architectures
- Understand and explain key terminology of the ArchiMate Specification

2.2 Introduction to the ArchiMate Language

(Syllabus Reference: Unit 1, Learning Outcome 1. You should be able to briefly explain the ArchiMate language for Enterprise Architecture modeling.)

The ArchiMate Enterprise Architecture modeling language is a visual language with a set of default iconography for describing, analyzing, and communicating many concerns of Enterprise Architectures as they change over time. The language provides a set of entities and relationships with their corresponding iconography for the representation of architecture descriptions.

2.2.1 Overview of the Specification

The ArchiMate 3.0 Specification is The Open Group Standard for the ArchiMate architecture modeling language. It contains the formal definition of the visual design language. It is a major update to the ArchiMate 2.1 Specification.

The contents of the specification include the following:

- The introduction, including the objectives, overview, conformance requirements, normative references, and terminology
- Definitions of the general terms used in the specification
- The structure of the modeling language

- The generic metamodel of the language
- The relationships in the language
- A detailed breakdown of the modeling framework covering the motivation elements, strategy elements, the three layers (Business/Application/Technology), and the physical elements
- Cross-layer dependencies and alignment, and relationships within the framework
- Implementation and migration elements for expressing the implementation and migration aspects of an architecture
- The concepts of stakeholders, viewpoints, and views, and also the ArchiMate viewpoint mechanism
- Mechanisms for customizing the language for specialized or domain-specific purposes
- Notation overviews and summaries
- Informative descriptions of the relationship of the ArchiMate language to other standards, including the TOGAF framework, Business Process Modeling Notation (BPMN), Unified Modeling Language (UML), and Business Motivation Model (BMM)

2.3 The ArchiMate Language and Enterprise Architecture

The role of the ArchiMate Specification is to provide a graphical language for the representation of Enterprise Architectures over time (i.e., including strategic, transformation, and migration planning), as well as the motivation and rationale for the architecture. The ArchiMate modeling language provides a uniform representation for diagrams that describe Enterprise Architectures, and offers an integrated approach to describe and visualize the different architecture domains together with their underlying relations and dependencies.

An Enterprise Architecture is typically developed because key people have concerns that need to be addressed by the business and IT systems within an organization. Such people are referred to as the “stakeholders” of the Enterprise Architecture. The role of the Enterprise Architect is to address these concerns by identifying and refining the motivation and strategy expressed by stakeholders, developing an architecture, and creating views of the architecture that show how it addresses and balances stakeholder concerns. Without an Enterprise Architecture, it is unlikely that all concerns and requirements are considered and addressed.

(Syllabus Reference: Unit 1, Learning Outcome 2: You should be able to explain how the ArchiMate language supports the development of Enterprise Architectures.)

The ArchiMate modeling language supports the development of Enterprise Architectures by providing a uniform representation for diagrams that describe Enterprise Architectures. It includes concepts for specifying inter-related architectures, specific viewpoints for selected stakeholders, and language customization mechanisms. It offers an integrated architectural approach that describes and visualizes different architecture domains and their underlying relations and dependencies. Its language framework provides a structuring mechanism for

architecture domains, layers, and aspects. It distinguishes between the model elements and their notation, to allow for varied, stakeholder-oriented depictions of architecture information.

(Syllabus Reference: Unit 1, Learning Outcome 3: You should be able to list the different layers of Enterprise Architectures that can be modeled with the ArchiMate language.)

The language uses service-orientation to distinguish and relate the Business, Application, and Technology Layers of Enterprise Architectures, and uses realization relationships to relate concrete elements to more abstract elements across these layers.



Study Guide References

When appropriate, this Study Guide contains references to sections within the ArchiMate Specification. The references are intended to be functional for the web version and printed version of the ArchiMate 3.0 Specification. Therefore, the format of the reference number contains the Chapter and Section reference, but not the page references since they exist only in the printed book.

2.4 Definitions

This section contains the key definitions together with the ArchiMate Specification reference.

(Syllabus Reference: Unit 1, Learning Outcome 4: You should be able to explain the following definitions:

- *ArchiMate Core Framework*
- *ArchiMate core language*
- *Aspect*
- *Attribute*
- *Concept*
- *Conformance*
- *Conforming implementation*
- *Core element*
- *Composite element*
- *Element*
- *Layer*
- *Model*
- *Relationship)*

Sample

ArchiMate 3.0 Definition	ArchiMate 3.0 Reference
<p>ArchiMate Core Framework</p> <p>A reference structure used to classify elements of the ArchiMate core language. It consists of three layers and three aspects.</p> <p>Note: The ArchiMate Core Framework is described in detail in Chapter 3.</p>	§2.1
<p>ArchiMate Core Language</p> <p>The central part of the ArchiMate language that defines the concepts and relationships to model Enterprise Architectures. It includes three layers: Business, Application, and Technology.</p>	§2.2
<p>Aspect</p> <p>Classification of elements based on layer-independent characteristics related to the concerns of different stakeholders. Used for positioning elements in the ArchiMate metamodel.</p> <p>Note: Aspects are described in Chapter 3.</p>	§2.3
<p>Attribute</p> <p>A property associated with an ArchiMate language element or relationship.</p>	§2.4
<p>Concept</p> <p>Either an element or a relationship.</p>	§2.5
<p>Conformance</p> <p>Fulfillment of specified requirements.</p>	§2.6
<p>Conforming Implementation</p> <p>An implementation which satisfies the conformance requirements defined by the conformance clause of the standard.</p>	§2.7
<p>Core Element</p> <p>A structure or behavior element in one of the core layers of the ArchiMate language.</p> <p>Note: Core elements are described in detail in Chapter 4.</p>	§2.8
<p>Composite Element</p> <p>An element consisting of other elements from multiple aspects or layers of the language.</p>	§2.9
<p>Element</p> <p>A basic unit in the ArchiMate metamodel. Used to define and describe the constituent parts of Enterprise Architectures and their unique set of characteristics.</p>	§2.10

ArchiMate 3.0 Definition	ArchiMate 3.0 Reference
<p>Layer</p> <p>An abstraction of the ArchiMate Framework at which an enterprise can be modeled.</p>	§2.11
<p>Model</p> <p>A collection of concepts in the context of the ArchiMate language structure.</p> <p>Note: The top-level language structure is described in detail in Chapter 3.</p>	§2.12
<p>Relationship</p> <p>A connection between a source and target concept. Classified as structural, dependency, dynamic, or other.</p> <p>Note: Relationships are described in detail in Chapter 5.</p>	§2.13

2.5 Summary

This chapter has introduced the basic concepts and key terminology of Enterprise Architecture and the ArchiMate modeling language.

The ArchiMate Enterprise Architecture modeling language is a visual language. The role of the language is to describe and visualize Enterprise Architecture via ArchiMate models. It contains a set of default iconography for describing, analyzing, and communicating many concerns of Enterprise Architectures as they change over time.

2.6 Recommended Reading

The following are recommended sources of further information for this chapter:

- ArchiMate 3.0 Specification, Chapter 1 (Introduction)
- ArchiMate 3.0 Specification, Chapter 2 (Definitions)

2.7 Exercise 1: Basic Concepts and Definitions

In your own words, provide short answers to these questions.

1. What is the ArchiMate Modeling language?

.....

.....

.....

2. How does the ArchiMate language support the development of Enterprise Architectures?

.....

.....

.....

.....

3. What are the different layers of Enterprise Architectures that can be modeled with the ArchiMate language?

.....

.....

4. (Refer to Section 2.4) Complete the first column in the following table, by entering the relevant number(s) to identify the correct definition for each ArchiMate term.

Answer	Term	Definition
.....	Concept	1. A basic unit in the ArchiMate metamodel. Used to define and describe the constituent parts of Enterprise Architectures and their unique set of characteristics.
.....	ArchiMate Core Framework	2. A structure or behavior element in one of the core layers of the ArchiMate language.
.....	Core element	3. An element consisting of other elements from multiple aspects or layers of the language.
.....	Composite element	4. Either an element or a relationship.
.....	Attribute	5. A reference structure used to classify elements of the ArchiMate core language. It consists of three layers and three aspects.
.....	Element	6. A property associated with an ArchiMate language element or relationship

2.8 Test Yourself Questions

Q1: Which of the following best describes the ArchiMate modeling language?

- A. A general-purpose language designed to support software engineering
- B. A language for communicating concerns of Enterprise Architectures
- C. A language for detailed workflow modeling
- D. A language used to describe and represent the systems architecture of a system

- Q2: Which of the following best describes how the ArchiMate language supports the development of Enterprise Architectures?
- A. Its metamodel distinguishes explicitly between process and sub-process.
 - B. It provides a uniform representation for diagrams.
 - C. It provides for a detailed, fine-grained description of business motivation.
 - D. It supports 13 different diagram techniques.
- Q3: Complete the sentence: The different layers of Enterprise Architectures that can be modeled with the ArchiMate language include Business,
- A. Application, and Technology
 - B. capability, and course of action
 - C. motivation, and strategy
 - D. passive structure, and behavior
- Q4: Which of the following best describes the ArchiMate Core Framework?
- A. A collection of concepts
 - B. An abstraction of the ArchiMate Framework at which an enterprise can be modeled
 - C. The central part of the language defining the concepts and relationships
 - D. A structure used to classify elements of the language
- Q5: Which of the following best describes a core element?
- A. A connection between a source and target concept
 - B. An element that can be classified as structural, dependency, dynamic, or other
 - C. A structure or behavior element in one of the core layers
 - D. An element consisting of other elements from multiple layers