Curriculum for

Certified Professional for
Software Architecture (CPSA)®
Advanced Level

**Module
SOFT**

Soft Skills for Architects

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International Software Architecture
Qualification Board

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Introduction: General information about the iSAQB Advanced Level

What is taught in an Advanced Level module?

- The iSAQB Advanced Level offers modular training in three areas of competence with flexibly designable training paths. It takes individual inclinations and priorities into account.
- The certification is done as an assignment. The assessment and oral exam is conducted by experts appointed by the iSAQB.

What can Advanced Level (CPSA-A) graduates do?

CPSA-A graduates can:

- Independently and methodically design medium to large IT systems
- In IT systems of medium to high criticality, assume technical and content-related responsibility
- Conceptualize, design, and document actions to achieve quality requirements and support development teams in the implementation of these actions
- Control and execute architecture-relevant communication in medium to large development teams

Requirements for CPSA-A certification

- Successful training and certification as a Certified Professional for Software Architecture, Foundation Level® (CPSA-F)
- At least three years of full-time professional experience in the IT sector; collaboration on the design and development of at least two different IT systems
  - Exceptions are allowed on application (e.g., collaboration on open source projects)
- Training and further education within the scope of iSAQB Advanced Level training courses with a minimum of 70 credit points from at least three different areas of competence
- Successful completion of the CPSA-A certification exam

Essentials

Curriculum Structure and Recommended Durations

Content	Recommended minimum duration (minutes)
1. Fundamentals of communication	330
2. One-on-one and group discussions	180
3. Visualization techniques	60
4. Moderation techniques	240
5. Fundamentals of conflict management	360
Total	1170 (19.5h)

Duration, Teaching Method and Further Details

The times stated are recommendations. The duration of a training course for the SOFT module should be at least 3 days, but can be longer. Providers may differ in terms of duration, didactics, type and structure of the exercises and the detailed structure of the course. In particular, the curriculum leaves the type of examples and exercises completely open.

The techniques, models, and tools mentioned are ways of communicating the learning objectives to the participants. Trainers can deviate from these suggestions if they can justify why a different delivery technique addresses the learning objectives in the same way. All content should be reflected on using examples from the participants and transferred into their everyday lives with suitable practical exercises.

Licensed training courses for the SOFT module contribute the following credit points towards admission to the final Advanced Level certification exam:

Methodical Competence:	0 Points
Technical Competence:	0 Points
Communicative Competence:	30 Points

Prerequisites

Theoretical and/or practical knowledge of the communication challenges faced by software architects is recommended.

Structure of the Curriculum

The individual sections of the curriculum are described according to the following structure:

- **Terms/principles**: Essential core terms of this topic.
- **Teaching/practice time**: Defines the minimum amount of teaching and practice time that must be spent on this topic or its practice in an accredited training course.
- **Learning goals**: Describes the content to be conveyed including its core terms and principles.

This section therefore also outlines the skills to be acquired in corresponding training courses.

Supplementary Information, Terms, Translations

Architects need soft skills in their day-to-day work. They are in constant dialogue with stakeholders, requirements engineers, development and quality assurance. They often make design decisions together with others based on information from many different discussions they have had with people with different interests. In this field of tension, they must be able to recognize and work out the content that is important for the decision. Presenting their decisions in a clear and comprehensible way is another challenge.

Often, overly human characteristics stand in the way of purely objective communication, so that misunderstandings and sensitivities can hinder the decision-making process and smooth collaboration. Conflicts can easily arise as a result.

The training specifically addresses the contextual work situations of architects as the "hub in the wheel" and provides pragmatic tools to enrich one's own soft skill toolbox and to handle challenges in architectural work in an appropriately constructive manner.

The content conveyed in the "Soft Skills for Architects" training course is not tested in the iSAQB® CPSA-A exam. However, candidates are expected to use their soft skills to present and discuss the solution found for the examination task in an understandable way.

Where necessary for understanding the curriculum, we have included technical terms in the iSAQB glossary, defined them, and supplemented them with translations of the original literature where required.

1. Basics of communication

Duration: 180 min	Practice time: 150 min

1.1. Terms and Principles

Definitions, competence wheel, 4 sides model of a message according to Schulz von Thun, 4-quadrant model/4MAT, stakeholder map and analysis, 16 life motives according to Reiss, Maslow's hierarchy of needs

1.2. Learning Goals

LG 1-1: Recognizing and differentiating between types of competence and their acquisition

Participants can distinguish between the four competences (technical, methodological, social and personal competence) and understand that there are different ways to develop them (knowledge transfer, practice, reflection).

LG 1-2: Know the basics of communication models and types and apply them for reflection

Participants understand that their inner attitude has an impact on conversations. They are familiar with different communication models and types, e.g:

- 4MAT
- 4 sides model
- 16 Motives for life

The participants recognize that typologies can lead to pigeonholing and should therefore be used with caution. At the same time, they recognize their usefulness for self-reflection and target group and needs-oriented conversations.

LG 1-3: Understanding feedback as a contribution to learning and requesting it from third parties

Participants are able to request feedback from third parties. They understand feedback as a contribution to learning, know the rules for receiving feedback and comply with them.

LG 1-4: Giving and receiving constructive feedback

The participants understand that regular reflection gives them clarity about how they see themselves and how others see them. They realize that regular feedback promotes constructive cooperation and thus also contributes to sustainable work results. Participants know the rules for giving feedback and comply with them.

LG 1-5: Understand the need and purpose of self-reflection

The participants understand that regular reflection gives them clarity about how they see themselves and how others see them.

LG 1-6: Analyze stakeholders of the software architecture and apply communication in a target-group-oriented manner

Participants can identify typical stakeholders from the perspective of software architects (e.g. developers, management, operations, customers) and understand their concerns (e.g. via Maslow's hierarchy of needs).

They can carry out a stakeholder analysis using tools such as

- Stakeholder map

- Relationship map or dependency analysis

- RACI matrix

The participants can derive measures from the stakeholder analysis, such as

- Develop, communicate and plan risks and corresponding mitigation measures

- Develop, communicate and plan measures to ensure stakeholder satisfaction

- Create a stakeholder communication plan

1.3. References

[Krips+ 2017], [Maslow], [Vigenschow+ 2019], [Schulz von Thun 1981], [Schulz von Thun 1983], [Schulz von Thun 1998], [Erpenbeck+ 2017]

2. Individual and group counselling

Duration: 90 min	Practice time: 90 min

2.1. Terms and Principles

Active listening, giving feedback, conducting one-to-one conversations, conducting group conversations, preparing for conversations, following up conversations, the course of a conversation, clarifying conversation settings.

2.2. Learning Goals

LG 2-1: Prepare discussions independently and in a structured manner

Participants understand the importance and effectiveness of well-planned interview preparation. They understand that intensive preparation for a meeting enables them to adapt to the current situation/unplanned changes and that they can trust their abilities. Participants are able to assess individual and group discussions and presentations on the basis of different communication models. They understand the structure of a dialogue process and prepare appropriate spontaneous conversation situations and planned meetings.

LG 2-2: Conduct conversations confidently and appropriately to the situation

Participants are able to recognize the difference between the factual and process levels. They know the difference between persuasion, enforcement and manipulation. They will also recognize when a group or individual setting is suitable. They know methods of dialogue management and can apply them, e.g.

- active listening

- questioning techniques

- 4-quadrant model.

- three sides of persuasion according to Aristotle (credibility, competence, sympathy)

- manipulation techniques (e.g. reciprocity, authority, sympathy, scarcity)

LG 2-3: Follow up conversations in terms of content and reflection

The participants understand the importance of a follow-up discussion for participants and as an opportunity for reflection for themselves.

2.3. References

[Ion+ 2011], [Graeßner 2013], [Hellmoldt+ 2017], [Mayrshofer 2006], [Pink+2018]

3. Visualization techniques

Duration: 45 min	Practice time: 15 min

3.1. Terms and Principles

Presentation, visualization techniques (physical and virtual), importance of visualization, advantages and disadvantages of different media.

3.2. Learning Goals

LG 3-1: Recognize the usefulness of visualization for effective conversation and conflict prevention

The participants have gained an impression of how they can use visualization techniques to reach consensus and jointly develop results. Participants should be encouraged to stand up, walk forward and visualize/paint what they think without having artistic pretensions.

LG 3-2: Know visualization techniques and select them appropriately

The participants are familiar with offline and online visualization techniques such as

- Whiteboard, flipchart, pinboard and cards or post-its
- Digital whiteboards vs. office products

3.3. References

[Rachow 2016], [Graeßner 2013], [Mayrshofer 2006]

4. Moderation techniques

Duration: 120 min	Practice time: 120 min

4.1. Terms and Principles

Understanding the role of the moderator, various moderation techniques, decision-making techniques

4.2. Learning Goals

LG 4-1: Understand the responsibilities of a facilitator role

The participants can distinguish between the role of "facilitator" (supporting a solution process with an unintentional interest in the outcome) and the role of "decision-maker" (contributing to the outcome of the solution with an intentional interest). They are able to decide, when it is useful and necessary to contribute content with intent from an architectural perspective. They are also aware of the tasks and responsibilities of moderators and dialogue participants.

LG 4-2: Conduct a moderation including suitable moderation tools

Participants can apply methods and techniques for organizing group situations and conducting discussions in groups to support solution finding and conflict prevention. Moderation techniques could be, for example

- Creativity techniques such as brainstorming
- Call/card queries
- Dot Voting
- Time Boxing
- Mind mapping & matrix visualizations

LG 4-3: Prepare and implement decision-making with the group

For the role of "decision-maker" (participating with a deliberate interest in the outcome of the solution) and in the role of "moderator", the participants can select suitable decision-making tools and enable architectural decisions in the group. Suitable tools could be

- Fist of five or delegation level
- Last responsible moment (LRM)
- Set-based Design
- Eisenhower principle
- MoSCoW
- Weighted-Shortest-Job-First (WSJF)
- Relative weight

In addition, participants are aware that the documentation and communication of architectural decisions is important and can prevent conflicts. Architecture Decision Records are a suitable tool for that.

4.3. References

[Rachow 2016], [Graeßner 2013], [Mayrshofer 2006], [unFIX], [Zörner 2021]

5. Basics of conflict management

Duration: 180 min	Practice time: 180 min

5.1. Terms and Principles

Definitions, conflict analysis, Freud's iceberg model, types of conflict, 9 stages of conflict escalation according to Glasl.

5.2. Learning Goals

LG 5-1: Analyze conflicts according to needs

In order to remain capable of acting and working in conflict situations, participants should be able to deal with conflicts using tools such as

- Types of conflicts

- 9 stages of conflict escalation

to be able to analyze the situation. In a conflict situation, they should also be able to recognize whether they can resolve the conflict independently and derive suitable de-escalation and delegation methods as well as other solution strategies.

LG 5-2: Reflect on their own conflict behavior

Participants should understand that constructive conflict resolution contributes to growth and learning. They should also be aware of the role that they themselves, the organization, technological constraints, and collaboration processes could play in the conflict.

LG 5-3: Resolve conflicts constructively and derive preventive measures

As different types of conflict and levels of escalation require different approaches to resolving them, participants should be familiar with these and be able to apply them. They should also know how conflicts can be dealt with preventively.

5.3. References

[Glasl 2020], [Vigenschow+ 2019]

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