

Preface

In addition to motivated teams and great management, software architecture is an important factor for the success of any software project. In the context of systematic design and construction, solid software architecture ensures the fulfilment of quality requirements such as extensibility, flexibility, performance, and time-to-market.

Software architects reconcile customer requirements with the available technical options and the prevailing conditions and constraints. They ensure the creation of appropriate structures and smooth interaction of all system components. As team players, they work closely with software developers and other parties involved in the project.

The International Software Architecture Qualification Board (iSAQB) is an independent international body that defines standards for training, examination, and certification of software architects. **Software Architecture Fundamentals** is based on the curriculum for the iSAQB's *Certified Professional for Software Architecture – Foundation Level (CPSA-F)* course.

The text is based on the revised version 4.1.1 of the curriculum, which has been expanded to cover new aspects of domain-driven design (DDD). DDD enables software architects to design large-scale functional structures and gain a better understanding of the overall interaction of functional components. The current curriculum also covers numerous new architectural patterns such as microservices.

CPSA-F certification ensures that software architects have sound levels of knowledge and expertise for the design of small and medium-sized systems. Based on a detailed requirements specification, they can then design and document appropriate software architectures. CPSA-F graduates have the requisite skills for making problem-specific design decisions that build on their previous practical experience.

This self-study book enables you to prepare for the certification examination. It assumes that you have practical experience designing and developing software systems, command of a high-level programming language, and an

understanding of the basics of UML. Because lectures alone cannot replace interaction with other software architects, we also recommend participation at iSAQB attendance-based events.

Benefit from our many years of experience in software and systems engineering, and in the design and construction of medium- and large-scale IT systems.

We hope you enjoy reading our book and wish you every success with your CPSA-F training and certification!

Mahbouba Gharbi, Arne Koschel, Andreas Rausch
December 2018