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# Quantum Service-oriented Computing: A Proposal for Quantum Software as a Service

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This book is an analysis of quantum computing, covering everything from its foundational principles to practical applications in the development of quantum services. It offers a technical and complex overview to provide the necessary knowledge to any researcher, scientist or developer who wants to get into service-oriented quantum computing.

The field of quantum computing has evolved rapidly in recent years, with the potential to revolutionize the way we approach complex problems in various fields. This comprehensive guide covers the fundamental principles of quantum computing and its practical applications in the development of quantum services.

Beyond theoretical knowledge, the book goes on to explore some of the challenges that quantum software developers face in today's landscape. It addresses issues related to low-level abstractions and the absence of integration, deployment and quality assurance mechanisms in quantum software engineering. Also, it explores the principles of service-oriented computing applied to quantum computing, revealing architectural patterns adapted to quantum computing and discussing standardization and accessibility in this field. It also provides insight into streamlining the deployment process through a DevOps approach for continuous deployment of quantum services.

This book will serve as a guide for all researchers, scientists and developers by providing them with an understanding of the current limitations and problems in quantum computing-oriented software development, and how to address them with software engineering techniques and tools applied to quantum computing.

TABLE OF CONTENTS

1. Introduction to Quantum Computing
2. Challenges in Software Development and Deployment of Quantum Services
3. Quantum Computing as a Service
4. Architectural Design Patterns for Quantum Computing
5. Generation of Quantum Services
6. DevOps for Quantum Computing
7. Quality aspects on Quantum Software Development
8. Conclusions and Future Directions




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