

# CLOUD COMPUTING

A Hands-on Approach

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Universities Press





























































































































































































































































































































































































































































































































































































































































































































































































































































































Recent industry surveys expect the cloud computing services market to be in excess of \$20 billion and cloud computing jobs to be in excess of 10 million worldwide in 2014 alone. In addition, since a majority of existing information technology (IT) jobs are focussed on maintaining legacy in-house systems, the demand for these kinds of jobs is likely to drop rapidly if cloud computing continues to take hold of the industry. However, there are very few educational options available in the area of cloud computing beyond vendor-specific training by cloud providers themselves. Cloud computing courses have not found their way, yet, into mainstream college curricula.

This book is written as a textbook on cloud computing for educational programmes in colleges. It uses an immersive "hands-on approach" to transfer knowledge to the reader by providing the necessary guidance and knowledge to develop working code for real-world cloud applications. The book can also be used by cloud service providers interested in offering a broader perspective of cloud computing to accompany their own customer and employee training programmes. The typical reader is expected to have completed a couple of courses in programming using traditional high-level languages, and is a student of science, technology, engineering or mathematics.

### Organisation

The book is organized into three main parts. Part I covers technologies that form the foundations of cloud computing. These include topics such as virtualization, load balancing, scalability and elasticity, deployment, and replication. Part II introduces the reader to the design and programming aspects of cloud computing. Case studies on design and implementation of several cloud applications in areas such as image processing, live streaming and social networks analytics are provided. Part III introduces the reader to specialized aspects of cloud computing including cloud application benchmarking, cloud security, multimedia applications and big data analytics. Case studies in areas such as IT, healthcare, transportation, networking and education are provided.

Additional support is available at the book's website: [www.cloudcomputingbook.info](http://www.cloudcomputingbook.info)

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Bahga and Madisetti: *Cloud Computing: A Hands-on Approach*



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