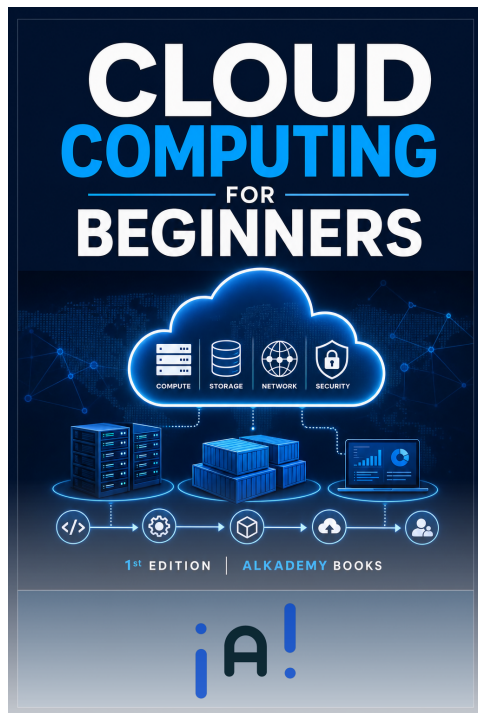


CLOUD COMPUTING FOR BEGINNERS



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BOOK DETAILS

- **Title:** Cloud Computing for Beginners
- **Edition:** 1st Edition
- **Publisher:** Alkademy Books
- **Chapters in full book:** 11

CHAPTERS IN THIS PREVIEW

- Chapter 1: What Is Cloud Computing? A Beginner's Introduction

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Cloud Computing for Beginners

Alkademy Content Team

1st Edition

Alkademy Books

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PREFACE

A few years ago, I found myself sitting in a meeting room, nodding along as colleagues tossed around phrases like "serverless architecture," "elastic scaling," and "multi-cloud strategy." I understood each individual word, yet somehow the sentences they formed felt like a foreign language. I was a competent professional, reasonably comfortable with technology, and yet this thing called "the cloud" seemed to exist behind a curtain I hadn't been invited to look behind. That afternoon, I went searching for a book that would explain cloud computing to someone like me — not a software engineer, not a systems administrator, just a curious person who needed to understand what was happening in the world around them. I couldn't find quite what I was looking for. That gap is why I wrote this book.

This book is for you if you've ever felt the way I felt in that meeting room. Perhaps you're a business professional who keeps hearing about cloud migration and wants to understand what your IT department is actually proposing. Perhaps you're a student stepping into the technology field for the first time and need a solid foundation before diving into more specialized study. Perhaps you're a freelancer, a small business owner, or simply someone who uses online services every day and has started to wonder what's actually happening behind the scenes when you save a file to Google Drive or stream a movie. No prior technical knowledge is assumed here. You don't need to know how to write code, configure a network, or understand server hardware. All you need is curiosity and a willingness to engage with new ideas.

My philosophy in writing this book was simple: respect the reader's intelligence while never

assuming their background. Cloud computing is not inherently complicated — it has simply been discussed, for too long, almost exclusively in the language of specialists. I believe that the core concepts are accessible to anyone, and that understanding them doesn't require memorizing jargon or wading through technical documentation. Throughout these pages, I've worked hard to use plain language, real-world analogies, and practical examples that connect abstract ideas to things you already know and use. Where technical terms are unavoidable — and some are — I introduce them gradually, explain them clearly, and reinforce them through context rather than expecting you to absorb a glossary before we begin.

The book is organized into four parts that build naturally on one another. Part One lays the groundwork, answering the most fundamental questions: What is cloud computing, really? Where did it come from, and why did it emerge when it did? We'll explore the core idea of delivering computing resources over the internet and look at why businesses and individuals have embraced this model so enthusiastically. Part Two moves into the essential building blocks — the different types of cloud services you'll encounter, commonly described as Infrastructure as a Service, Platform as a Service, and Software as a Service. Rather than drowning you in acronyms, we'll look at what each model actually means in practice and when each one makes sense to use. Part Three turns to the real world, walking through how organizations plan and carry out a move to the cloud, what challenges they typically face, and how cloud computing is being used across industries from healthcare to retail to education. Finally, Part Four looks forward, touching on emerging trends like artificial intelligence in the cloud, edge computing, and the growing conversation around sustainability and the environmental footprint of data centers. Each part is designed to stand on its own if you have specific questions, but reading them in sequence will give you the fullest picture.

By the time you finish this book, my hope is that you'll be able to do several things you perhaps couldn't do before. You'll be able to follow a conversation about cloud computing without feeling lost. You'll understand the difference between the major cloud providers — Amazon Web Services, Microsoft Azure, Google Cloud, and others — and have a sense of how to think about choosing between them. You'll be able to evaluate cloud-related decisions in your professional life with greater confidence, whether that means contributing meaningfully to a migration discussion, assessing a vendor's proposal, or simply asking better questions. You won't emerge as a cloud architect or a certified engineer — that's not what this book promises — but you will emerge genuinely informed.

I want to be honest about what this book does not cover, and why. It is not a technical implementation guide. You won't find step-by-step instructions for configuring cloud infrastructure, writing deployment scripts, or managing virtual machines. Those are valuable skills, and there are excellent resources dedicated to teaching them, but they require a different kind of book and a different starting point than the one we're sharing here. Similarly, while I touch on security concepts throughout, a thorough treatment of cloud security is its own discipline and its own volume. My goal was always to give you the map before asking you to navigate the terrain — to make sure that when you do pick up those more advanced resources, you arrive with context, vocabulary, and confidence rather than confusion.

I wrote the book I wished I'd had in that meeting room. I hope it serves you well wherever you're starting from, and I hope that by the last page, the cloud feels a little less like someone else's world and a little more like a place you understand. The journey starts here, and I'm glad to be taking it with you.

To all the lifelong learners, who never stop exploring, questioning, and growing.

To those who dare to teach themselves, and then teach others.

This book is for you.

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CHAPTER 1

WHAT IS CLOUD COMPUTING? A BEGINNER'S INTRODUCTION

Summary: This chapter introduces the fundamental concept of cloud computing, explaining what it is, where it came from, and why it has become essential in modern technology. Readers will gain a clear mental model of the cloud before diving into deeper topics.

1.1 Defining Cloud Computing

Establishes a clear, accessible definition of cloud computing and explains the core idea of on-demand resource delivery over the internet.

1.1.1 The Simple Definition

Breaks down cloud computing into plain language, focusing on the idea of renting rather than owning computing resources.

1.1.2 The NIST Official Definition

Introduces the National Institute of Standards and Technology's five essential characteristics: on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service.

On-Demand Self-Service

Explains how users can provision resources automatically without requiring human interaction with the service provider.

Rapid Elasticity

Describes how cloud resources can be scaled up or down quickly to match changing workloads.

1.1.3 Cloud vs. Traditional IT

Contrasts the cloud model with on-premises infrastructure, highlighting key differences in ownership, maintenance, and cost structure.

1.2 A Brief History of Cloud Computing

Traces the evolution of cloud computing from early mainframes and time-sharing systems through virtualization to today's hyperscale cloud platforms.

1.2.1 From Mainframes to the Internet

Covers the origins of shared computing resources in the 1960s and how the internet laid the groundwork for modern cloud services.

1.2.2 The Rise of Virtualization

Explains how virtualization technology in the 1990s and 2000s enabled multiple virtual machines to run on a single physical server, a key enabler of cloud computing.

1.2.3 The Birth of Modern Cloud Providers

Chronicles the launch of Amazon Web Services in 2006 and the subsequent entry of Microsoft Azure and Google Cloud, marking the beginning of the cloud era.

1.3 Why Cloud Computing Matters Today

Explores the business and personal reasons why cloud computing has become indispensable, including cost savings, global reach, and enabling innovation.

1.3.1 Cost Efficiency and the Pay-As-You-Go Model

Explains how the cloud shifts capital expenditure to operational expenditure, allowing organizations to pay only for what they use.

1.3.2 Enabling Remote Work and Global Collaboration

Discusses how cloud services allow teams across the world to collaborate in real time, a trend accelerated by the COVID-19 pandemic.

1.3.3 Driving Innovation and Agility

Shows how startups and enterprises alike use the cloud to experiment, launch products faster, and scale without large upfront investments.

1.4 Cloud Computing in Everyday Life

Highlights familiar consumer applications of cloud computing so readers can connect abstract concepts to real-world experiences.

1.4.1 Streaming Services and Media

Explains how platforms like Netflix and Spotify use cloud infrastructure to deliver content to millions of users simultaneously.

1.4.2 Cloud Storage for Personal Files

Covers services like Google Drive, iCloud, and Dropbox as practical examples of cloud storage that readers likely already use.

1.4.3 Web-Based Productivity Tools

Describes how Google Docs, Microsoft 365, and similar tools run entirely in the cloud, enabling real-time collaboration without software installation.

You've reached the end of the pre-view.

The complete edition contains all chapters, including:

- Full chapter content with detailed examples and exercises
- Glossary of key terms
- Appendices and reference material
- A comprehensive index

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