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Kim Heldman, MBA, PMP



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*In loving memory of my father, Lt. Col. David L. Taylor, who
was an exemplary leader*

Acknowledgments

Thank you for buying the third edition of *CompTIA Project+ Study Guide: Exam PK0-005* to help you study and prepare for the CompTIA Project+ exam. I believe this book is a good introduction to the in-depth world of project management and certification and will open up many opportunities for you.

I would like to thank all the great team members at Wiley who were part of this project: Kenyon Brown, senior acquisitions editor; David Clark, development editor; Barath Kumar Rajasekaran, production editor; and all those behind the scenes who helped make this book a success. They are terrific to work with, as always, and I appreciate their keen eyes and insightful ideas and suggestions.

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And a thank-you, as always, goes to my husband and family for understanding my crazy schedule while working on the book. And Dad, this one is for you. I learned my leadership and organizational skills from the best!

About the Author

Kim Heldman, MBA, PMP® is the CIO/Sr. Manager Information Technology for the Regional Transportation District in Denver, Colorado. Kim directs IT resource planning, budgeting, project prioritization, and strategic and tactical planning. She directs and oversees IT design and development, enterprise resource planning systems, IT infrastructure, application development, cybersecurity, IT program management, intelligent transportation systems, data center operations, and more.

Kim oversees a portfolio of projects ranging from small in scope and budget to multimillion-dollar, multiyear projects. She has more than 25 years of experience in information technology project management. Kim has served in an executive leadership role for more than 18 years and is regarded as a strategic visionary with an innate ability to collaborate with diverse groups and organizations, instill hope, improve morale, and lead her teams in achieving goals they never thought possible.

Kim is also the author of *PMP® Project Management Professional Exam Study Guide, 10th Edition, 2021, John Wiley & Sons* and *Project Management JumpStart, 3rd Edition, 2021, John Wiley & Sons* and coauthor of several other project management books. Kim has also published several articles and is currently working on a leadership book.

Kim continues to write on project management best practices and leadership topics, and she speaks at conferences and events. You can contact Kim at Kim.Heldman@gmail.com. She personally answers all her email.

About the Technical Editor

Vanina Mangano is a program management leader within Google LLC where she leads a team of program managers within the Ads organization. She devotes time to furthering the project management profession through her volunteer work at the Project Management Institute; currently, she serves as an advisory member within PMI's Standards Insight Team, helping to shape the standards roadmap.

Introduction

Have you ever wondered how the pyramids were built? Or the Eiffel Tower? How did someone have the organizational skills to put all those people together and create such magnificent structures? Coming forward to recent times—how is Microsoft capable of putting together *millions* of lines of code for its latest operating system? The answer to all of these is project management.

The CompTIA Project+ exam will test your knowledge of the concepts and processes involved in project management. There are several project management methodologies you can follow, each with their own processes and procedures, but at the foundation of each one are sound project management principles and techniques. CompTIA Project+ is vendor neutral. It acknowledges other methodologies such as those published by the Project Management Institute® and PRINCE2® but doesn't follow them precisely.

In this edition of *CompTIA Project+ Study Guide*, you'll find plenty of discussion of project management concepts such as defining the requirements, creating the project charter document, creating the scope document, planning the project, assessing and managing risk, and closing out the project. You'll also find exam questions in categories such as information technology fundamentals, agile processes, team building and personnel management, quality management, status reporting, and more, and these are discussed as well.

The Project+ certification is centered on information technology (IT) projects. My job-related experience is in IT, and many of the examples in this book are drawn from real-

life situations, but the names and scenarios have been changed to protect the guilty.

Where should you go beyond taking your Project+ test? If you find you're interested in all things project management, you should enroll in a good university-level class that takes you through the meatier stages of project management. This book and this test only touch the surface of project management techniques. You'll find there is much more to learn and that it's possible to make a career of managing projects.



Make certain to study all the questions and answers in the assessment test and at the end of each chapter. Then head over to the online test bank at www.wiley.com/go/sybextestprep and take the two practice exams included with your purchase of this book. The Project+ exam is designed to test your knowledge of a concept or idea, so use this book to learn the objective behind the question.

What Is the Project+ Certification?

CompTIA's mission is to create tests and certifications that aren't company-specific. For example, you can take a server test that deals with the elements of servers and server operation but doesn't ask you specifics about Dell, HP, or IBM equipment. CompTIA got its start with what is now an industry standard, the A+ exam. This test is designed to examine your understanding of the workings of a PC and its associated connection to a network. There are other tests as well: Network+, Linux+, Cloud+, CySA+, and many others.

Why Become Project+ Certified?

Certification in project management has increasingly become a requirement for those interested in full-time careers in this field. It improves your credibility with stakeholders and customers. Becoming certified demonstrates your intent to learn the processes associated with project management and provides you with opportunities for positions and advancements that may not otherwise be possible.

Here are some reasons to consider the Project+ test and this study guide:

Demonstrates Proof of Professional

Achievement Certification demonstrates to current and potential employers that you are knowledgeable and well-grounded in project management practices and have taken the initiative to prove your knowledge in this area.

Increases Your Marketability If you take a moment to browse job postings for project management positions, you'll often find that certification is either highly desirable or required. The CompTIA Project+ certification will help you stand out from other candidates and demonstrate that you have the skills and knowledge to fulfill the duties required of a project manager.

Provides Opportunity for Advancement You may find that your Project+ certification is just what you need to get that next step up the ladder. People who study and pass certification tests prove, if nothing else, that they have the tenacity to get through a difficult subject and to demonstrate their understanding by testing on the subject.

Provides a Prerequisite for Advanced Project Management Training If you're considering a project management career, the Project+ exam is a great way to start. Studying for this exam gives you a foundation in project management. After passing the exam, you should consider obtaining the Certified Associate Project Management (CAPM®) or Project Management Professional (PMP®) certification through the Project Management Institute (PMI). This study guide follows the principles and processes outlined by PMI and is a great introduction to its certifications.

Raises Customer Confidence Because It Raises Your Confidence Customers who know you're certified in project management and who hear you speak and act with confidence are more confident in the company you represent. If you're able, for example, to identify and describe the four categories of risks to prepare for on a project, your customer gains confidence in you.

How to Become Project+ Certified

First, study the topics and processes outlined in this book, make certain to answer all the end-of-chapter questions, and then take the bonus exams found here:

www.wiley.com/go/sybextestprep.

Then go to the CompTIA website (www.comptia.org) to find the list of testing sites where the exam is currently conducted.



Prices and testing centers are subject to change at any time. Please visit CompTIA's website for the most up-to-date information: www.comptia.org.

If you take the test in person, you'll need a driver's license and one other form of ID when you arrive at the testing center. No calculators, computers, cell phones, or other electronic devices are allowed in the testing area. CompTIA also offers an online test option. You're allowed 90 minutes to take the exam, and there are a maximum of 95 multiple-choice and drag-and-drop questions. You must score a 710 (on a scale of 100–900) to pass. There are no prerequisites for this exam. You'll be notified of your grade as soon as you finish the test.

Who Should Buy This Book?

You should buy this book if you're interested in project management and want to learn more about the topic. The Project+ exam is an ideal way to introduce yourself to project management concepts and techniques, and this book will immerse you in the basics of those techniques.

If you've never taken a certification test before, you'll find that the Project+ exam is a pleasant way to get your feet wet. The test isn't overly complicated or riddled with trick questions; it simply covers the basics of project management. Once you pass the exam and gain confidence in your project management knowledge and skills, you'll be ready to progress to other certifications and be eager to learn the more in-depth topics involved in project management.

What Does This Book Cover?

This book follows the CompTIA Project+ exam blueprint and is divided into chapters that cover major topic areas. Each section is explained in sufficient detail to become a Project+ certified professional. Certain areas have been expanded upon, which are important concepts to know. However, they do not map directly to an exam objective.

You will learn the following information in this book:

[Chapter 1](#): *Introducing the Project* provides a high-level overview of project management, introducing the basic terminology of project management, an understanding of the project phases, and how the Discovery/Concept phase is conducted.

[Chapter 2](#): *Understanding IT Fundamentals* outlines information technology concepts, including understanding the basic concepts of infrastructure, cloud models, and software; understanding development life cycles; using project selection criteria; and understanding project team roles.

[Chapter 3](#): *Creating the Project Charter* begins with a discussion of the Initiating phase. It then examines the elements of the project charter, how to identify and assess stakeholders, creating a records management system, and developing information security procedures, and concludes with an overview of the kickoff meeting.

[Chapter 4](#): *Planning the Project* moves into project planning, beginning with documenting the project scope statement, understanding project influences and constraints, documenting the requirements, and defining requirements on an agile project.

[Chapter 5](#): *Creating the Project Schedule* extends planning to creation of a detailed project schedule. It starts with an explanation of the work breakdown structure and how that is developed, then covers the entire schedule planning process, beginning with identifying and sequencing the tasks to be performed and allocating resources. You'll learn how to calculate task durations and the critical path through them, as well as determine milestones and set a baseline and obtain approval. Finally, you'll see how to prepare and conduct sprint planning for agile projects.

[Chapter 6](#): *Resource Planning and Management* is where you'll learn about organizational structures, determining resource needs, personnel management, team structure on agile projects, conflict resolution, and procurement and vendor selection techniques.

[Chapter 7](#): *Defining the Project Budget and Risk Plans* covers cost estimating and cost budgeting and the risk activities and strategies for your project. You'll learn the basic techniques of estimating and then tracking costs, along with risk analysis and planning.

[Chapter 8](#): *Communicating the Plan* covers the role of communication—with stakeholders, team members, and others—in project management. You'll learn what information needs to be communicated and how to do so most effectively. You'll learn about communication tools as well as factors that influence communication, and we'll end with agile communication methods.

[Chapter 9](#): *Processing Change Requests* outlines the activities in the Executing phase. It shows how to deal with changing project requirements and how to set up a change control system. It also looks at the types of organizational change that can affect a project,

operational change control for an IT project, and how to manage vendor performance.

[Chapter 10](#): Managing Quality and Closing Out the Project looks at quality management concepts, testing, performance charts, and performance measures. It also reviews the steps a project manager will take in closing out a project, including validating deliverables and creating a transition plan.



Many of the examples used to demonstrate practical application of the material in this book focus on IT projects. However, the techniques and concepts discussed here can be applied to projects in any industry.

Interactive Online Learning Environment and Test Bank

The interactive online learning environment that accompanies the Project+ exam certification guide provides a test bank and study tools to help you prepare for the exam. By using these tools, you can increase your chances of passing the exam on your first try.

The online section includes the following:

Sample Tests Sample tests are provided in the book and online. In the book you'll find the assessment test at the end of this introduction, and the chapter tests that include the review questions at the end of each chapter. Online, there are two bonus practice exams

that simulate the actual test. Use these questions to test your knowledge of the study guide material. The online test bank runs on multiple devices.

Flashcards The online flashcard bank includes more than 300 flashcards to ensure that you're ready for the exam. Questions are provided in digital flashcard format (a question followed by a single correct answer). You can use the flashcards to reinforce your learning and provide last-minute test prep before the exam. And no worries—armed with the review questions, practice exams, and flashcards, you'll be prepared when exam day comes!

Other Study Tools A glossary of key terms from this book and their definitions are available as a fully searchable PDF.



Go to www.wiley.com/go/sybextestprep to register and gain access to this interactive online learning environment and test bank with study tools.

How to Use This Book

If you want a solid foundation for preparing for the CompTIA Project+ exam, then look no further. I've spent hundreds of hours writing this book and online materials with the intention of helping you pass the exam as well as helping you learn about the exciting field of project management.

This book is loaded with valuable information, and you will get the most out of your study time if you understand why

the book is organized the way it is.

To maximize your benefit from this book, I recommend the following study method:

1. Take the assessment test that's provided at the end of this introduction. (The answers are at the end of the test.) It's okay if you don't know any of the answers; that's why you bought this book! Carefully read over the explanations for any question you get wrong and note the chapters in which the material is covered. This information should help you plan your study strategy.
2. Study each chapter carefully, making sure you fully understand the information and the test objectives listed at the beginning of each one. Pay close attention to any chapter that includes material covered in questions you missed.
3. Answer all the review questions at the end of each chapter. (The answers appear in the Appendix.) Note the questions that confuse you and study the topics they cover again until the concepts are crystal clear. Do not just skim these questions. Make sure you fully comprehend the reason for each correct answer. Remember that these will not be the exact questions you will find on the exam, but they're written to help you understand the chapter material and ultimately pass the exam.
4. Take the bonus exams that are exclusive to this book. You can find them at www.sybex.com/go/sybextestprep.
5. Test yourself using all the flashcards, which are also found at the URL mentioned previously.

Set aside the same time period every day to study and select a comfortable and quiet place to do so. I'm confident that if you work hard to understand the concepts