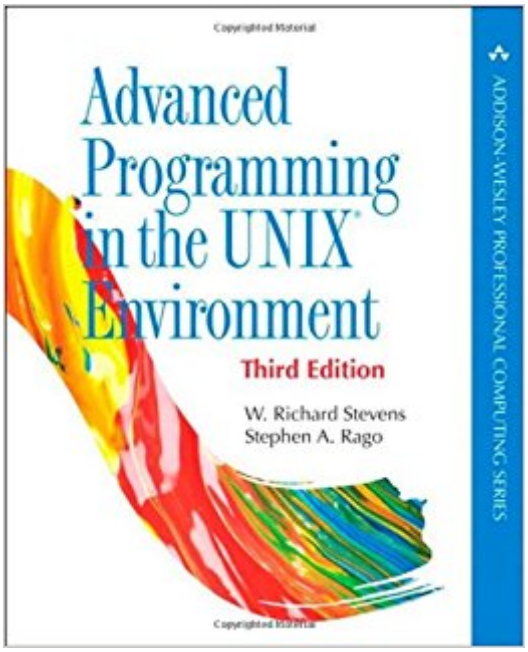
Advanced Programming In The UNIX Environment, 3rd Edition



Synopsis

For more than twenty years, serious C programmers have relied on one book for practical, in-depth knowledge of the programming interfaces that drive the UNIX and Linux kernels: W. Richard StevensÃ¢â ¬â„¢ Advanced Programming in the UNIXÃ Â® Environment . Now, once again, RichÃ¢â ¬â„¢s colleague Steve Rago has thoroughly updated this classic work. The new third edition supports todayÃ¢â ¬â„¢s leading platforms, reflects new technical advances and best practices, and aligns with Version 4 of the Single UNIX Specification. Ã Â Steve carefully retains the spirit and approach that have made this book so valuable. Building on RichÃ¢â ¬â„¢s pioneering work, he begins with files, directories, and processes, carefully laying the groundwork for more advanced techniques, such as signal handling and terminal I/O. He also thoroughly covers threads and multithreaded programming, and socket-based IPC. Ã Â This edition covers more than seventy new interfaces, including POSIX asynchronous I/O, spin locks, barriers, and POSIX semaphores. Most obsolete interfaces have been removed, except for a few that are ubiquitous. Nearly all examples have been tested on four modern platforms: Solaris 10, Mac OS X version 10.6.8 (Darwin 10.8.0), FreeBSD 8.0, and Ubuntu version 12.04 (based on Linux 3.2). Ã Â As in previous editions, youÃ¢â ¬â„¢ll learn through examples, including more than ten thousand lines of downloadable, ISO C source code. More than four hundred system calls and functions are demonstrated with concise, complete programs that clearly illustrate their usage, arguments, and return values. To tie together what youÃ¢â ¬â„¢ve learned, the book presents several chapter-length case studies, each reflecting contemporary environments. Ã Â Advanced Programming in the UNIXÃ Â® Environment has helped generations of programmers write code with exceptional power, performance, and reliability. Now updated for todayÃ¢â ¬â„¢s systems, this third edition will be even more valuable.

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Customer Reviews

The late W. Richard Stevens was the acclaimed author of UNIXÃ Â® Network Programming, Volumes 1 and 2, widely recognized as the classic texts in UNIX networking; TCP/IP Illustrated, Volumes 1-3; and the first edition of this book. Ã Â Stephen A. Rago is the author of UNIXÃ Â® System V Network Programming (Addison-Wesley, 1993). Rago was one of the Bell Laboratories developers who built UNIX System V Release 4. He served as a technical reviewer for the first edition of Advanced Programming in the UNIXÃ Â® Environment. Rago currently works as a research staff member in the Storage Systems Group at NEC Laboratories America.

This book is a fantastic starting point in life. Some how our public schools over look teaching the fundamental skills presented in this book. We learn how to play with toys on simple computers and never really learn what we are doing.The real strength of this book is in the definitions. We get to see the purpose and flexibility of system calls and functions. Not just use them but understand them. UNIX functions as job control or signals are explained in detail. LetÃƒÂ¢Ã â ¬Ã â„¢s take just one item ÃƒÂ¢Ã â ¬Ã Å“waitpidÃƒÂ¢Ã â ¬Ã Â•:The waitpid function provides three features that arenÃƒÂ¢Ã â ¬Ã â„¢t provided by the wait function.You will have to red the book to find out what they are. However there are examples also. Now for people with real systems like AIX all you have to do is ad a ÃƒÂ¢Ã â ¬Ã Å“kÃƒÂ¢Ã â ¬Ã Â• to the front of the call and you have the AIX kernel function call ÃƒÂ¢Ã â ¬Ã Å“kwaitpidÃƒÂ¢Ã â ¬Ã Â•; voila you now have an understanding that can not be found clearly in a Red Book.It does help some to have a preunderstanding of the system do you can use the book to fill in the education holes missed when necessary.The index is worth its weight in gold as you can find functions headers and concepts all in alphabetical order. My favorite is the definitions.As much as I am a fan of the internet it also pays to carry the information in the form of a book. And all this book has to do is save a couple of hours and it has paid for its self.

As an advanced programming book, this book covers a lot of topics. This is book can be used as a refresher and a good purchase if you deal in Unix on a regular basis.

Two things I like about this book are1. The book focuses heavily on standards and portability. Throughout the book, API and implementations are described according to the SUS or XSI standards. However, to book maintains a firm grasp on reality by tracking 4 real Unix-like systems, Solaris, Linux, Mac OS X, and FreeBSD throughout and noting implementation specific exceptions and extensions where applicable.2. A lot of illustrative example code is included. In some cases API functions are re-implemented to make it clear exactly how it works.APUEv2 reads quite easily as a beginner's introduction to programming in the Unix environment. However it also includes a great deal of tables, charts, and figures to make it suitable as a reference for the more experienced programmer, useful as a back-up in case the local man pages are not available.As mentioned in the foreword, readers should be comfortable with the C language itself before attempting to dive in to Unix programming.

I have been teaching a course in advanced Unix based on this text for two years (four times) and I am very happy with it. It is thorough, clearly explaining the main features while drawing attention to possible problems and pitfalls. It is a bit hefty, but one need not cover it all in a course. I choose chapters 2, 3, 4, 7, 8, 10, 15, 16, 18, 14, 11, 12 and then go off to show shell scripting, which is not covered in this book.

A classic! Nicely updated. I bought it for the C style used in the examples. Fortunately, they are readable on the iPad Air. In some titles the examples are just 8x8 bit maps, and worthless. It's a nice easy intro into more advanced programming. Beware, the first chapter is mostly a review of Unix history and standards, which I found almost lethally boring, maybe others find it interesting. I consult this edition when revisiting an area I don't use every day, knowing It will give me a solid base to elaborate on.

I acquired this book to help me to take a fast presentation of the Unix OS and that worked for me. Linux is very well documented in the Internet and, initally I was not sure if it were necessary to take any book. However, I read some chapter of this book in an library and imediately perceived the rich content of this book.

This book does not answer all questions but its definitively very good book to deepen your knowledge of UNIX systems and how are different UNIX descendants relate and differ. The authors chose 4 UNIX OS's to make examples with Linux, Solaris 10 BSD and Mac Os. They also answer

one intriguing question which system resembles SVR4 the most meaning which OS out of 4 has the most implementations in common with SVR4.You will not be dissapointed.

I purchased this book for a Systems Programming class. The book actually looks like it's brand new! I'm not quite sure how up-to-date it will be (published in 2008) since I would think that *Unix OSes would be the most likely to change compared to any operating system, but hey, it should be a good reference at least.

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