Book Reviews

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Kubernetes Cookbook: Building Cloud Native Applications
Sébastien Goasguen and Michael Hausenblas
O'Reilly Media, 2018, 174 pages
ISBN 978-1-491-97968-6

Reviewed by Mark Lamourine

If you're like me, you often find yourself searching Stack Exchange for a little snippet solution to some little problem. Often I have to look for several related tasks one after another.

Kubernetes and containerized software are a current hot topic and are in the process of transitioning from a niche and novelty to a mature technology. Many people will be looking for an exploratory introduction to the topic before they dive in. Once they start they will need the kinds of pointers you would get from the co-worker at the next desk, on the group IRC channel, or from sites like Stack Exchange. *Kubernetes Cookbook* feels like a collection of these little tips compiled and organized to be at hand when you need them.

Goasguen and Hausenblas have selected the most pertinent topics in 14 different areas, beginning with setting up an all-in-one demo (in any one of five environments). They provide the most basic methods for creating, managing, and monitoring containerized applications and end with pointers to several projects that are extending and expanding the Kubernetes ecosystem.

Each recipe is structured as a problem statement, a solution, and a discussion section. None of them are longer than a couple of pages, and I didn't find any of them to be overly contrived. Most have references and links to additional reading. This may seem the smallest part of each recipe, but it could be the most important.

The authors have done a good job of selecting and editing the recipes. These are grouped into concise topical sections. The longest section has nine topics, and the whole book flaps like a pamphlet. I consider this a good thing. There are other books for when you need a comprehensive reference or a tutorial. This book is small enough to skim through in a few minutes so that you know what's there and where to find what you need quickly. If you keep it handy and are starting out with Kubernetes, it will be well thumbed in short order.

Ansible Up and Running: Automating Configuration Management and Deployment the Easy Way, 2nd edition
Lorin Hochstein and René Moser
O'Reilly Media, 2017, 404 pages
ISBN: 978-1-491-97979-2

Reviewed by Mark Lamourine

I will go out on a limb and claim that Ansible has won the configuration management wars, and I am not going to quibble over the term for the moment. Once there were three or four open source CM systems to choose from. Now there's really only one. The legacies remain, but they're on the margins; Ansible has come of age. With the second edition, *Ansible Up and Running* has come of age, too.

Ansible is really an orchestration tool. The metaphor fits if you think of a conductor coordinating the playing of a large number of individual musicians. Ansible is used to execute commands on multiple computers, usually to configure them for some task or service.

In the opening chapters of *Ansible Up and Running*, the authors show how to define a set of tasks (a *playbook*), the set of hosts on which to run them (the *inventory*), and how to define variables to customize them. With these they demonstrate their example application, a CMS service called Mezzanine.

Unlike many tutorials, Hochstein and Moser decompose a configuration rather than building it up. They have the reader check out a GitHub repo and then execute the installer. The demo depends on Vagrant which, while common these days, tends to obscure the boundary between what is Ansible and what is Vagrant. Much of Chapter 6 alternates between the two. Given how useful Vagrant is for such things, I'm not sure I see a better alternative, but I wish the Vagrant setup could have been made more distinct. The demonstrator is enough to show off the basic features of a full deployment. The authors leave it behind when they move on to advanced topics.

These advanced topics relate to scaling up, down, and out, so to speak. There is a chapter on creating complex playbooks and one on optimizing and parallelizing operations. Two more cover using Ansible to manage VMs in Vagrant and AWS as well as software containers. The book closes with short chapters on debugging playbooks and running Ansible on Windows.

Ansible fills a need that system administrators have now. Modules exist to manage systems in terms that sysadmins are

familiar and comfortable with. Many tasks translate cleanly to shell commands. In the age of virtualized computation, the need for long-term system state management is much less than it once was. Pets still remain, but Ansible has proven adequate for deploying and managing machines and software systems in most cases. At its base, Ansible uses Python but allows extension using any language or binary form a developer might want to use.

Ansible Up and Running offers the reader the resources to learn to use Ansible at a basic level and to progress to group- and enterprise-level management tasks. The first edition of *Ansible Up and Running* was released in 2014, and the new edition is two years old now. I think Ansible has stabilized in a way that should give this edition a longer useful life. I'll be using it, but I'll also be looking for any updates the authors might offer.

OpenStack Cloud Computing Cookbook, 4th edition
Kevin Jackson, Cody Bunch, Egle Sigler, and James Denton
Packt Publishing, 2018, 376 pages
ISBN: 978-1-78839-876-3

Reviewed by Mark Lamourine

After a few years away I'm back working with OpenStack. I needed a way to refamiliarize myself with the components and command line tools and to get up-to-date with the most recent features. I picked up the *OpenStack Cloud Computing Cookbook* and was most of the way through before I realized I was now working with several of the authors.

I didn't need a tutorial or introduction. OpenStack itself is large enough that a comprehensive reference would run many volumes. A cookbook-style book was perfect, and this one suited me.

The fourth edition was released in 2018 and, given publishing lag, was probably based on the Ocata and Pike releases from 2017. The lab installer on GitHub has versions for Rocky and Stein, released this year. OpenStack development is done primarily on Ubuntu systems, so all of the OS-related setup examples are presented using Ubuntu conventions. The examples are well enough annotated that users of other distributions should be able to translate them without too much effort.

The first chapter is the only one that does not cover a specific component of a running OpenStack service. It is the expected installer using OpenStack-Ansible. The final recipe of this chapter uses the GitHub installer noted above to create a virtualized lab environment using Vagrant so that a reader can work through the rest of the book without having an array of bare metal to start with.

The rest of the chapters present the OpenStack CLI client or one of the component services. OpenStack is a composition of services that provide virtual resources taking the place of physical ones. This cookbook includes recipes for the core services:

Nova, Neutron, Glance, Cinder, Swift, Horizon, and Heat. These correspond to VM instances, networking, three kinds of storage, Web UI control interface, and orchestration, respectively. That final chapter also discusses using Ansible to manipulate OpenStack rather than the embedded Heat service. This mirrors a trend moving away from Heat to Ansible within the OpenStack community for service deployment both in the TripleO and the OpenStack-Ansible project that is used in Chapter 1.

There are complete references, some by the same authors, dedicated to Neutron and to the storage services. When you need in-depth information about any given service, go look for those books. But keep this book close at hand for when you need a little background on the most common tasks.

Like most tech cookbooks, this one will have a shelf life of several years at most. The authors are all still active in the community, so there's no reason not to expect a fifth edition when the accumulated changes warrant it. For now, the *OpenStack Cloud Computing Cookbook* is a good complement to the man pages and CLI documentation, providing context and background that the online resources can't.

How To: Absurd Scientific Advice for Common Real-World Problems
Randall Munroe
Riverhead Books, 2019, 308 pages
ISBN: 978-0-525-53709-0

Reviewed by Rik Farrow

What do you expect from a cartoonist, quips Munroe, in this, his third book. Certainly not equations, but this "how to" book has them. The chapter "How to Power Your House (on Earth)" is full of equations: how many watts you could get from planting trees for fuel, using water, geothermal, or solar energy. If you don't get enough cloud-free days of sunlight where you live, you might be interested in knowing the burn rate of the two turbojet engines Munroe suggests you could use for moving your house somewhere else.

Like his other works, Munroe fastidiously researches what he writes, and I didn't find the equations at all distracting. Of course, I found his cartoons the funniest parts of his book, but most of the concepts described in his text were funny.

And not all of his advice is absurd. I found myself agreeing with *almost* everything Munroe had written about making friends. His charts on where potential friends are found eerily parallels my own thinking. I still think I will stick to more conventional methods for digging holes, though.

And I did take issue with the final chapter, when Munroe suggests ways to dispose of this book. I rather think I will keep it around to cheer me up some time in the future.