



Ansible

From Beginner to Pro

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Michael Heap



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Ansible: From Beginner to Pro

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Printed on acid-free paper

This book is dedicated to Miss C. Amazing. Thanks for believing in me, no matter what.

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About the Author



Michael Heap is a polyglot software engineer, committed to reducing complexity in systems and making them more predictable. Working with a variety of languages and tools, he shares his technical expertise to audiences all around the world at user groups and conferences.

Day to day, Michael is a fixer. He works on whatever needs an extra pair of hands both at his day job and in open source projects. When not immersed in technology, you'll find him either playing various board games or hiking through the countryside.

About the Technical Reviewer



Jo Rhett is a DevOps architect with more than 20 years of experience conceptualizing and delivering large-scale Internet services. He creates automation and infrastructure to accelerate deployment and minimize outages.

Jo provides training on DevOps practices and builds improvements for Puppet, MCollective, Chef, and Ansible.

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Finally, I wouldn't be here without Stuart Herbert. I worked with Stuart a few years ago, and it was he who introduced me to Ansible through the work he was doing on our QA team. I fell in love with its simplicity, and that was the start of the road that brought me to write this book.

Of course, I can't forget you, dear reader! Thank you ever so much for purchasing this book and giving up your time to read and learn all about Ansible. Hopefully, it will be enlightening. I'd love to hear your thoughts once you get to the end!

CHAPTER 1



Getting Started

Welcome to *Ansible: Beginner to Pro!* Throughout this book, you're going to be introduced to facets of Ansible and how the program can be used to ensure that all of your machines are configured correctly, whether it's your local desktop or a fleet of remote servers.

It's important to note that this book mostly assumes that you're on a Linux or OS X machine. While it is possible to run Ansible on Windows, it is highly experimental and not recommended for day-to-day use. If you are on a Windows machine, don't worry! In this chapter, we'll explain how to use a virtualized Linux machine as your control system, which means that you can run Ansible just like you'd be able to if you were running Linux or OS X natively.

We're going to start off by taking a look at configuration management before installing Ansible and writing our first playbook. A *playbook* is a text file that contains instructions for Ansible to follow to ensure that the machine against which you've run Ansible is in the correct state.

By the end of this chapter, you will have Ansible installed and be able to run a playbook that installs PHP, nginx, and MySQL.

What Is Configuration Management?

Configuration management was developed by the US Department of Defense in the 1950s as a method of keeping track of hardware material items. *Configuration management* is a way of handling changes in a system using a defined method so that the system maintains its integrity over time. A log is kept of every change made to a system along with documentation about who made the change, when the change was made, and why it was made. This allows us to know the exact state of a system at any moment in time.

Over the years, this process was refined and made official with many different standards, starting with MIL-STD-480, through ISO-9000, and finally ending with ANSI/EIA-649, the National Consensus Standard for Configuration Management (at the time of this printing). As computers increased in popularity, the same practice was applied to computer programs as well as to computer hardware. A running computer system is a combination of many different factors, consisting not only of the version of the software running, but also its configuration, host operating system, and even, in some cases, its physical location. If any of these factors change, for all intents and purposes, it's a different computer system.

Ansible is a simple, agentless IT automation engine that automates cloud provisioning, configuration management, application deployment and intra-service orchestration. It can configure systems, deploy software, and streamline advanced IT tasks such as continuous deployments or zero downtime rolling updates. Run from browser. Deploy Ansible on Amazon EC2. V 15.1. 496MB VM.