

In the following sections, I'm going to do a detailed comparison between the most popular configuration management and provisioning tools: Terraform, Chef, Puppet, Ansible, Pulumi, CloudFormation, and OpenStack Heat. My goal is to help you decide whether Terraform is a good choice by explaining why my company, Gruntwork, picked Terraform as our IaC tool of choice and, in some sense, why I wrote this book.⁶ As with all technology decisions, it's a question of trade-offs and priorities, and even though your particular priorities might be different than mine, my hope is that sharing this thought process will help you to make your own decision.

Here are the main trade-offs to consider:

- Configuration management versus provisioning
- Mutable infrastructure versus immutable infrastructure
- Procedural language versus declarative language
- General-purpose language versus domain-specific language
- Master versus masterless
- Agent versus agentless
- Paid versus free offering
- Large community versus small community
- Mature versus cutting-edge
- Use of multiple tools together

Configuration Management Versus Provisioning

As you saw earlier, Chef, Puppet, and Ansible are all configuration management tools, whereas CloudFormation, Terraform, OpenStack Heat, and Pulumi are all provisioning tools.

Although the distinction is not entirely clear cut, given that configuration management tools can typically do some degree of provisioning (e.g., you