

# Ansible Configuration Management Boot Camp

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<b>Code:</b>	ANS-CON-MAN-BC
<b>Length:</b>	2 days
<b>URL:</b>	<a href="#">View Online</a>

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Learn to put the world's simplest IT automation platform to work in your own organization.

Ansible is a radically simple IT automation engine that automates cloud provisioning, configuration management, application deployment, intra-service orchestration, and many other IT needs. Designed for multi-tier deployments since day one, Ansible models your IT infrastructure by describing how all of your systems inter-relate, rather than just managing one system at a time. It uses no agents and no additional custom security infrastructure, so it's easy to deploy — and most importantly, it uses a very simple language (YAML, in the form of Ansible Playbooks) that allow you to describe your automation jobs in a way that approaches plain English.

This Ansible training course demonstrates the flexibility and power of the Ansible configuration management system, and how it can be used to build and scale highly reliable infrastructure for your own environments and projects. Using real-world examples, we demonstrate how Ansible can be used to manage environments as small as a couple of servers, or for massively distributed infrastructure that spans the globe — all with the same simple syntax.

By the end of this course, you will have a solid understanding and hands-on experience building reliable and easily reproducible infrastructure using Ansible, and the knowledge to integrate Ansible into your operations workflow. Our continuous hands-on lab classroom format and real-world practice scenarios cement your new skills with Ansible's tools and leave you prepared to begin taking advantage of radically simple configuration management.

## Skills Gained

- Develop a playbook to install and configure OpenSSH-server on all nodes
- Refactor your inventory so that your staging environment is local using Vagrant
- Build infrastructure on local Vagrant environment
- Adapt your infrastructure to deploy using Docker

## Who Can Benefit

- IT Managers and Leaders
- Developers and Application Teams
- System Administrators
- IT Operations Staff
- Release Engineers
- Configuration Managers
- Anyone involved with IT infrastructure
- ScrumMasters
- Software Managers and Team Leads

# Course Details

## 1. Introduction

- Why configuration management is a critical part of any DevOps team
- Strengths and weaknesses of Ansible
- Web scale
- How Ansible is different from other CM tools like Chef and Puppet
- Getting started with Ansible terminology
- Ansible and YML for describing your environments

## 2. Getting set up

- Some prerequisites
- Getting set up on a Mac
- Getting set up on Linux
- Getting set up on Windows
- Testing with Vagrant
- Using SSH keys to connect to your target nodes
- Hands-on Practice Lab: Install Ansible and test connectivity to your test nodes.

## 3. Inventory

Hands-on Practice Lab: Create an inventory file that defines four hosts, two web servers and two database servers, and assign these hosts to groups that describe their function.

- Basic inventory example
- Hosts and groups

## 4. Ansible Playbooks

Hands-on Practice Lab: Create a playbook to install and configure openssh-server on all nodes and make sure it is running.

- A useful directory structure to keep your Ansible code organized
- Using git to manage your Ansible code
- A first look at a playbook to install and configure NTP time synchronization

## 5. Provisioners

Hands-on Practice Lab: Refactor your inventory so that your staging environment is local using Vagrant, and your production environment is built on DigitalOcean.

- Connecting Ansible to your preferred cloud provider (we'll use DigitalOcean)
- Creating a new server instance
- Dynamic inventory
- Dynamic inventory on Amazon AWS
- Mixing static and dynamic inventory

## 6. Highly available infrastructure with Ansible

Hands-on Practice Lab: Build the sample infrastructure on your local Vagrant environment.

- Spec up our inventory and host groups
- Using roles
- Configure our database backend
- Configure our web server front-end
- Configure a replicated filesystem
- Configure centralized logging

## 7. Application deployments with Ansible

- Deploying our app from SCM to our local Vagrant environment
- How we would deploy that code to production once tested by QA
- Updating our application
- How Ansible compares to alternatives such as Capistrano
- Hands-on Practice Lab: Proceed with deploying our application on your local Vagrant environment.

## 8. Docker containers with Ansible

- Brief intro to Docker
- The synergy of containerization and automation
- Using Ansible to build Docker containers
- MySQL containers
- Web application containers
- Data storage containers
- Hands-on Practice Lab: Adapt your infrastructure to deploy our sample app using Docker.

## 9. Testing and continuous integration

- Unit, integration and functional testing
- Automating your testing using GitHub and Travis CI
- Hands-on Practice Lab: Create some tests for our SSH playbook to make sure there are no syntax errors and that Ansible is configuring nodes as expected.

## 10. Preparing for Ansible back at work

- Real-world use case: Using Ansible to automate CM and application pipelines through continuous integration, release, deployment and operations
- We'll review your own environments and processes and evaluate how to best integrate Ansible's configuration management for your own needs
- Exercise: Your to-do list

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