# Introduction to Ansible

- 3 Days
- Lecture and Hands-on Labs

## Course Overview

This course delivers the essential, foundational skills required to succeed with Ansible, no matter your starting point or goals. This course covers the core concepts and techniques needed for automating server configurations, deploying applications, managing cloud infrastructure, or orchestrating complex workflows. You'll learn to write powerful playbooks, manage inventories, and automate tasks using key modules. Through hands-on labs and practical examples, you'll gain the crucial knowledge to confidently work with Ansible in any environment or role.

If you're ready to master the must-have skills that form the backbone of all Ansible use cases, this course is the perfect starting point.

Review this course online at https://www.alta3.com/courses/ans100

## Who Should Attend

- System Administrators aiming to automate repetitive tasks and streamline system configurations.
- DevOps Engineers looking to integrate Ansible into CI/CD pipelines for infrastructure automation.
- IT Operations Professionals managing large-scale environments and seeking to improve operational efficiency.
- Cloud Engineers interested in automating deployments and managing cloud infrastructure with Ansible.
- Network Administrators exploring Ansible's capabilities for managing network devices and configurations.
- Beginner Automation Enthusiasts eager to start with a powerful yet approachable automation tool.
- Technical Managers wanting to understand Ansible's potential for team and project efficiency.
- Developers working in environments requiring automation or infrastructure as code.
- Students and IT Learners pursuing careers in systems administration, DevOps, or cloud engineering.
- Anyone Interested in IT Automation seeking to simplify and scale IT operations with Ansible.

## What You'll Learn

- Understand the Basics of Ansible: Gain a solid introduction to Ansible, including its purpose, components, and core concepts.

- Learn YAML Fundamentals: Understand YAML syntax and its role as the backbone of Ansible configurations and playbooks.
- Create and Manage Inventories: Build and manage inventories to define target hosts for Ansible automation.
- Run Playbooks for Automation: Execute Ansible playbooks to automate tasks across multiple systems efficiently.
- Set Up and Optimize ansible.cfg: Configure Ansible for your environment by setting up and customizing the `ansible.cfg` file.
- Use Variables and Loops in Playbooks: Leverage variables and loops to create dynamic, reusable playbooks.
- Work with Essential Modules: Master critical Ansible modules like `copy`, `file`, and `get_url` for managing files and data.
- Template Configurations with Jinja2: Use Jinja2 templates to create dynamic configurations tailored to your environment.
- Implement Advanced Playbook Features: Explore advanced concepts like handlers, conditions, and tagging to build flexible and maintainable playbooks.
- Secure Automation with Ansible Vault: Learn how to encrypt sensitive data and manage secrets securely using Ansible Vault.

## Outline

Ansible Overview

- 💬 Lecture: Introduction to Ansible

Day 1- Ansible Basics

- 💬 Lecture: Introduction to YAML
- 💻 Lecture + Lab: Making an Inventory
- 💻 Lecture + Lab: Running a Playbook
- 💻 Lecture + Lab: ansible.cfg setup
- 💻 Lecture + Lab: Looping Tasks
- 💻 Lecture + Lab: Setting Variables: Part 1
- 💻 Lecture + Lab: Setting Variables: Part 2

Day 2- Critical Modules and Keywords

- 💻 Lecture + Lab: Ansible Module - copy
- 💻 Lecture + Lab: Ansible Module - file
- 💻 Lecture + Lab: Ansible Module - get_url and uri
- 💬 Lecture: Templating with Jinja
- 💻 Lecture + Lab: Ansible Module - template
- 💻 Lecture + Lab: When Condition
- 💻 Lecture + Lab: Playbook Tags

Day 3- Advanced Ansible

- 💻 Lecture + Lab: Ansible Handlers and Listeners
- 💻 Lecture + Lab: Ansible Error Handling
- 💻 Lecture + Lab: Ansible Lookup Plugin
- 💻 Lecture + Lab: Ansible Callback Plugins
- 💬 Lecture: Collections, Roles, and Ansible Galaxy
- 💻 Lecture + Lab: Using Collections
- 💻 Lecture + Lab: Using Roles
- 💻 Lecture + Lab: Making Roles
- 💻 Lecture + Lab: Making Collections
- 💻 Lecture + Lab: Ansible Vault

Additional Ansible Tools

- 💻 Lecture + Lab: Roles and Molecule
- 💻 Lecture + Lab: Ansible Module - script
- 💻 Lecture + Lab: Writing an Ansible Module with Python

## Prerequisites

- Basic Keyboard Proficiency: Ability to efficiently navigate and use a keyboard, including typing, copy-pasting, and basic text editing in terminal and/or text editors.

## Next Courses

- Ansible 201: Network Automation with Ansible (https://alta3.com/courses/ans201)
- Ansible 202: Linux Admin Automation with Ansible (https://alta3.com/courses/ans202)
- Ansible 203: Windows Automation with Ansible (https://alta3.com/courses/ans203)
- Ansible 204: Enterprise Server Automation with Ansible (https://alta3.com/courses/ans204)
- Git and GitHub (2 days) (https://alta3.com/courses/github)
- Git and GitLab CI/CD (2 days) (https://alta3.com/courses/gitlab)
- Terraform 101: Infrastructure as Code (3 days) (https://alta3.com/courses/terraform)