

DevOps  
Cloud  
Computing

**Caltech**

Center for Technology &  
Management Education

## Post Graduate Program in DevOps

DevOps  
Cloud  
Computing



**Caltech**

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## **Configuration Management with Ansible and Terraform**

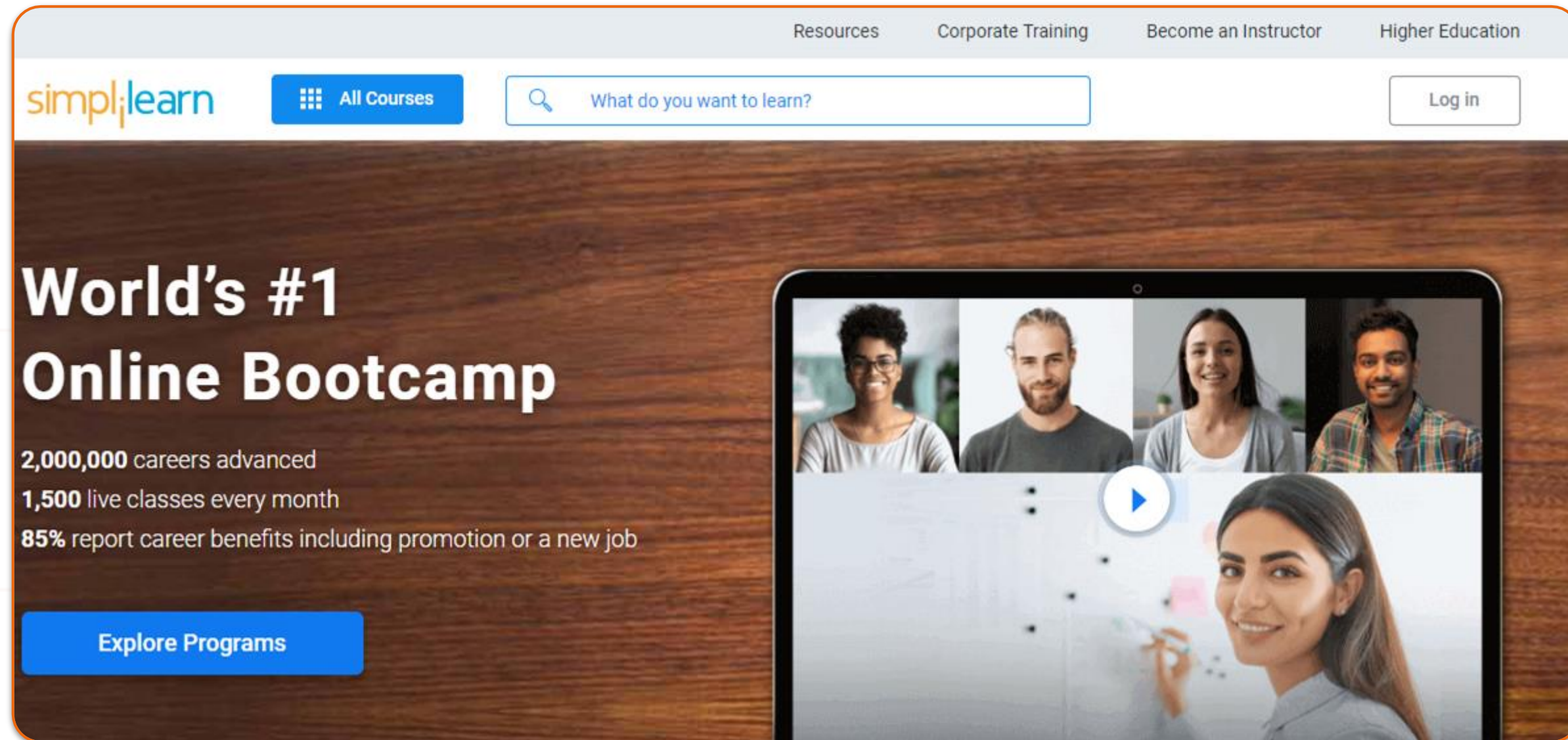


## Course Introduction

# About Simplilearn

# About Simplilearn

For over a decade now, Simplilearn is focused on digital economy skills.  
Now, Simplilearn has become **World's #1 Online Bootcamp**.



The screenshot shows the Simplilearn website homepage. At the top, there is a navigation bar with links for 'Resources', 'Corporate Training', 'Become an Instructor', and 'Higher Education'. Below this is the Simplilearn logo, a blue button labeled 'All Courses', a search bar with the placeholder text 'What do you want to learn?', and a 'Log in' button. The main content area features a large wooden-textured background. On the left, the text 'World's #1 Online Bootcamp' is prominently displayed in white. Below this, three statistics are listed: '2,000,000 careers advanced', '1,500 live classes every month', and '85% report career benefits including promotion or a new job'. A blue button labeled 'Explore Programs' is positioned below the statistics. On the right side of the main content area, there is a large image of a tablet displaying a video conference with four participants and a woman in the foreground pointing at a whiteboard.



# Simplilearn

At Simplilearn, we provide:

simplilearn

Live Virtual Classes



Self-Paced  
Learning Content



Interactive Labs



Real-Time  
Scenario-Based Projects



# Prerequisites

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Here is the prerequisite for this course. Please ensure that the fundamentals of the prerequisite are clear.



# Linux

Basic Linux Administrator Skills



# Introduction to Configuration Management

# Configuration Management

Configuration management is a process for maintaining computer systems, servers, and software in a desired and consistent state.



It ensures that a system continues to perform as expected as changes are made over time.

# Configuration Management Tools

Configuration management tools manage all configuration items in software for all environments.



Configuration management tools cover both software and server configurations.



They help in reducing the time taken to manage configurations manually on each server.

# Skills Covered



- Ansible is a simple IT automation platform that makes applications and systems easier to deploy and maintain.
- It implements configuration management with a master-slave approach and uses Terraform for infrastructure automation.



- Terraform is an open-source infrastructure as a code software tool that provides a consistent CLI workflow to manage hundreds of cloud services.
- It is cloud agnostic and allows a single configuration to manage multiple providers, and to even handle cross-cloud dependencies.

# Why This Course?

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- To identify the properties enforced by DevOps and configuration management
- To apply Ansible fundamentals to automate the software tools and technologies
- To implement Configuration Management with the Ansible using a master-slave approach
- To work with Terraform and take infrastructure automation to the next level



# Target Audience

## System Engineer

CM helps by establishing and maintaining consistency of a product's performance, functional, and physical attributes.

## Solution Architects

Terraform is a cloud-based tool that helps in managing IaC and automate most system administration tasks.



## Application Developers

CM helps to systematically manage, organize, and control the changes in the documents, codes, and other entities.

## Site Reliability Engineer

CM provides the understanding of configuration management database (CMDB), standardization, and automation.



The background features a series of light orange, stepped lines that create a sense of movement and progression across the slide. On the right side, there are several overlapping, semi-transparent orange rectangular shapes, some of which contain white grid patterns. Arrows of varying sizes and orientations are scattered throughout the design, particularly on the right side, pointing in different directions to suggest a path or flow.

# Learning Path

# Course Outline

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01

Course Introduction

02

Getting Started with Configuration Management

03

Ansible Configuration

04

Ansible Ad-hoc Commands

05

YAML Basics

# Course Outline

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06

Writing Ansible Playbooks

07

Ansible Jinja2 Templates

08

Working with Ansible Roles

09

Advanced Ansible

10

Terraform

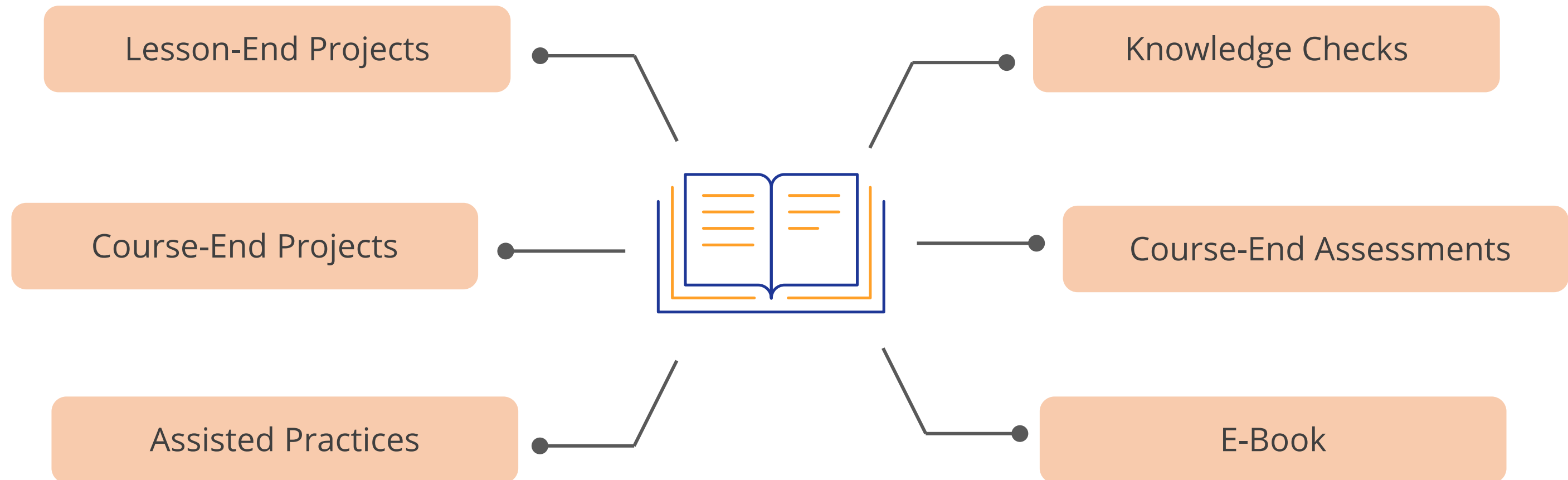
11

Terraform Loops, Built-in Functions, and Provisioners

# Course Components

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Simplilearn's comprehensive learning platform will provide you an in-depth understanding of the key concepts with the help of the following course components:



# Course Completion Criteria

1

Attend one complete Live Virtual Class (LVC) in a batch

2

Score a minimum of 70% in course-end assessment



3

Submit at least one course-end project



**Let's get started**