


DevOps



Caltech

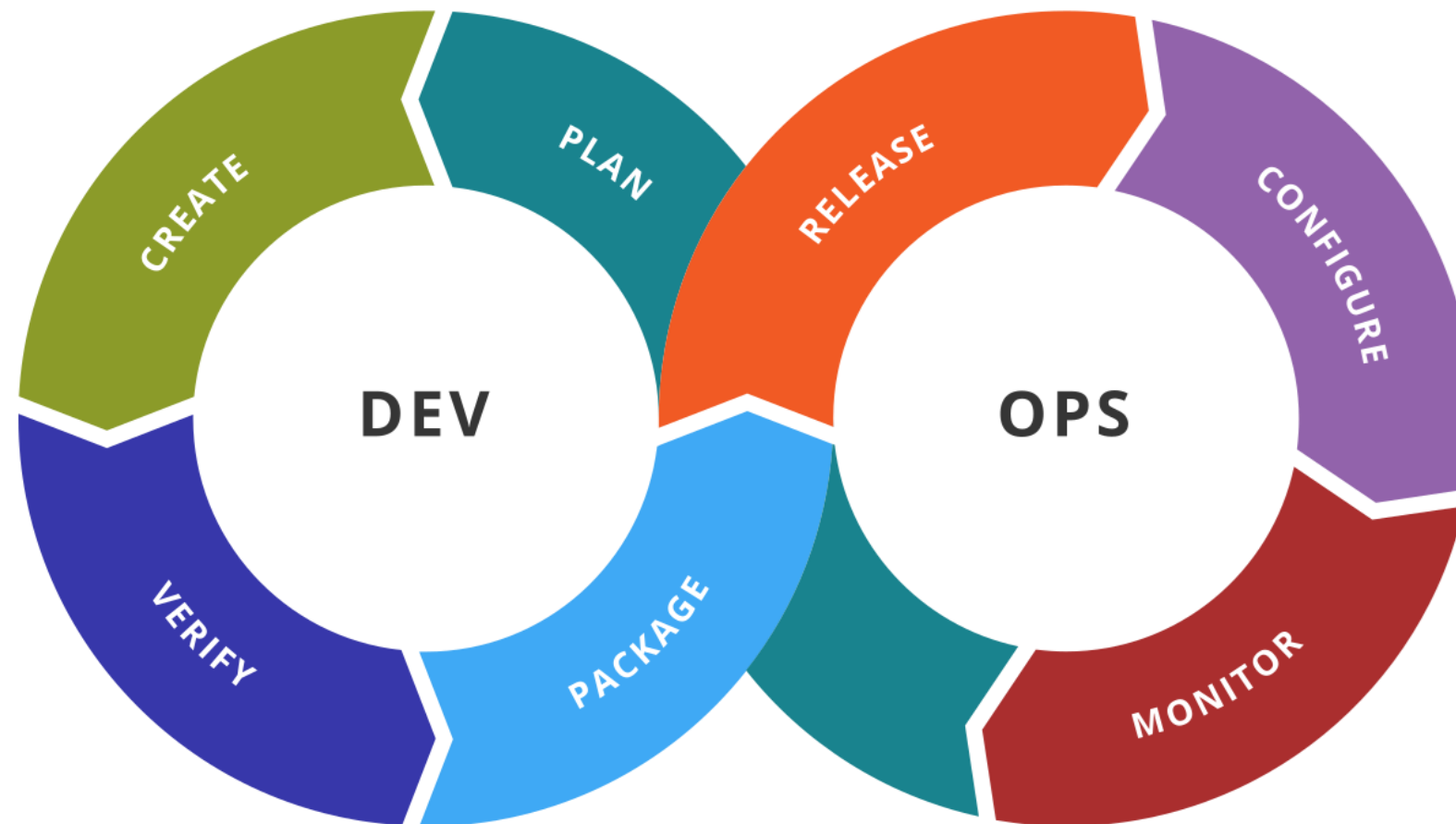
**Center for Technology &
Management Education**

Post Graduate Program in DevOps



Configuration Management with Chef, Puppet and Ansible (CMT) Course Introduction

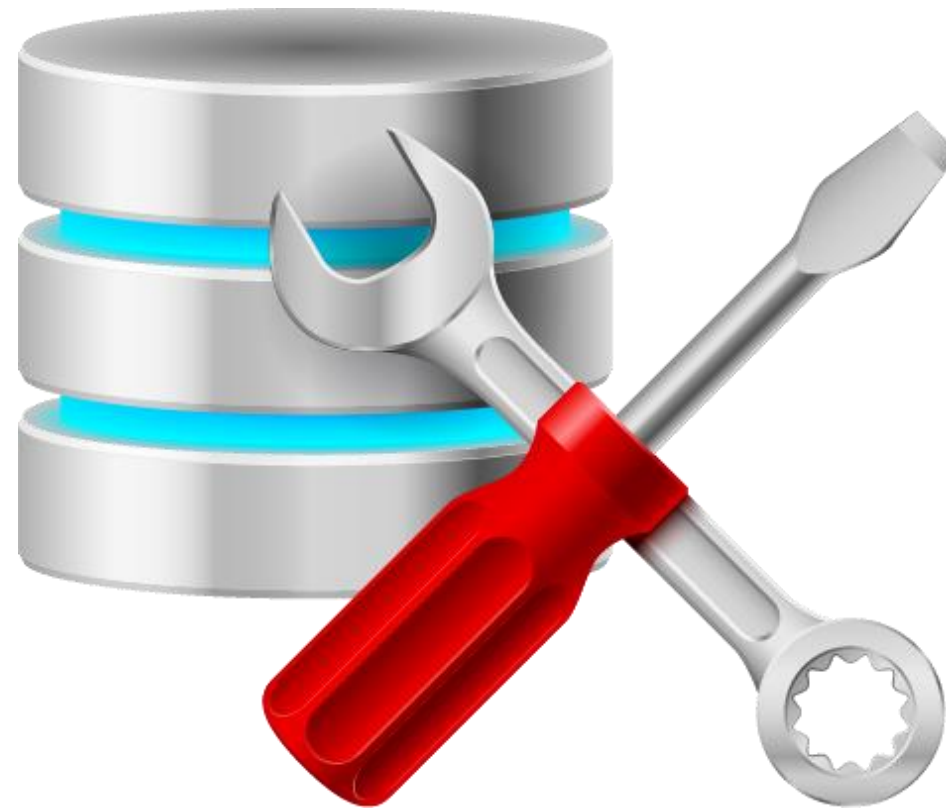
What Is DevOps?



- DevOps is an agile relationship between development and IT operations.
- DevOps is the abbreviation for **Dev**elopment and **Op**erations.
- The Development phase includes Plan, Create, Verify, and Package.
- The Operations phase includes Release, Configure, and Monitor.

Configuration Management

Configuration Management (CM) is a systems engineering process for establishing and maintaining consistency of a product's performance, functional, and physical attributes with its requirements, design, and operational information.



Configuration Management Scope

- Configuration management tools manage all configuration items in a software for all environments.
- These configuration items can be software application files, software packages, and software installations which need to be configured for specific environments.
- Configuration management tools cover both software and server configurations.
- They also help reduce the time taken to manage configurations manually on each and every server.

Pre-requisites

- Completion of **DevOps Certification Training** is must
- Hands on Knowledge of Linux Fundamentals



Target Audience

- Freshers
- Solution Architects
- Application Developers
- System Administrators
- Operations Managers



Tools Overview



Chef manages infrastructure with a code rather than a manual process to be automated and tested easily.



Puppet follows client-server architecture for managing configuration items and application software installations.



Ansible implements configuration management with master-slave approach and uses Terraform for infrastructure automation.

Course Objectives

By the end of this course, you will be able to:

- Identify the properties enforced by the DevOps and configuration management
- Apply Chef fundamentals to automate the software tools and technologies
- Implement work arounds of cookbook testing and cross-platform cookbooks
- Apply consistent configuration across servers using Puppet modules and manifests written in Puppet programming language
- Manage and automate infrastructure deployment with Puppet using its master-slave architecture
- Implement CM with Ansible with the master-slave approach
- Work with Terraform to take infrastructure automation to the next level



Course Outline

1. Introduction to Configuration Management

2. Chef Fundamentals

3. Chef Cookbooks and Recipes

4. Advanced Chef

5. Getting Started with Puppet

CMT

6. Puppet Resources, Classes, and Models

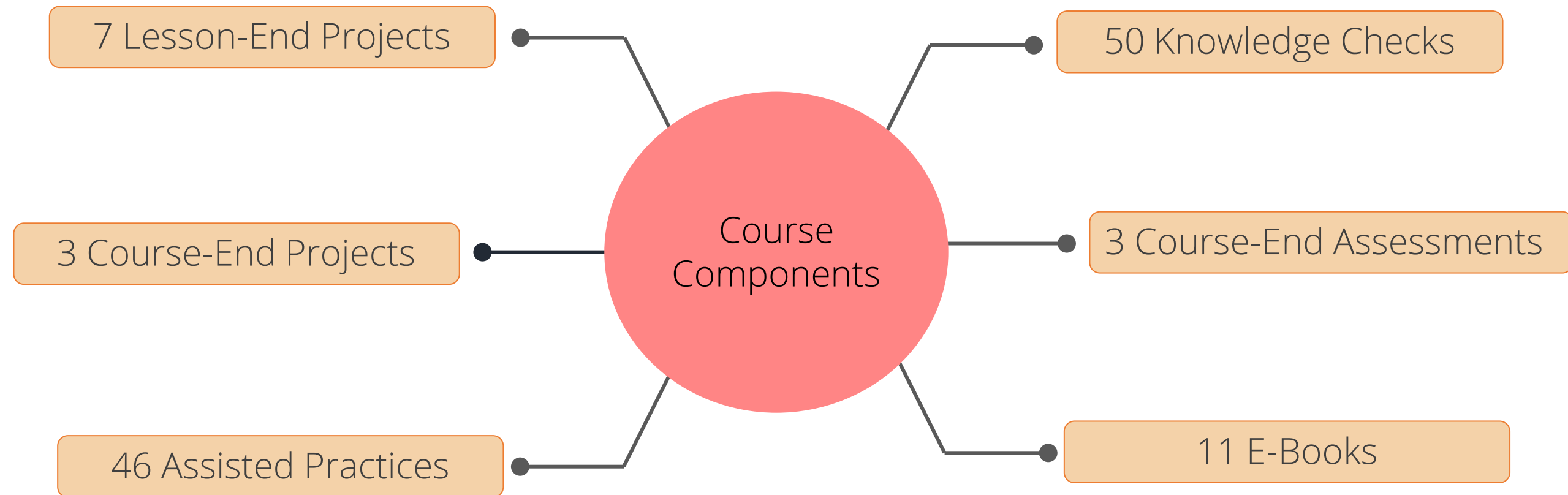
7. Puppet Hiera, Forge, and Puppet's Best Practices

8. Ansible Basics

9. Ansible Implementation

10. Ansible on Cloud with Terraform

Course Components



Project Highlights

Project 1

Project 2

Project 3

Using the configuration management tools, deploy the DevOps tools like Jenkins, Maven, and Docker on the cloud infrastructure.

Project Highlights

Project 1

Project 2

Project 3

Assist a wordpress project company to automate the setup and installation of a standard process using configuration management tools and deploy it on the wordpress environment.

Project Highlights

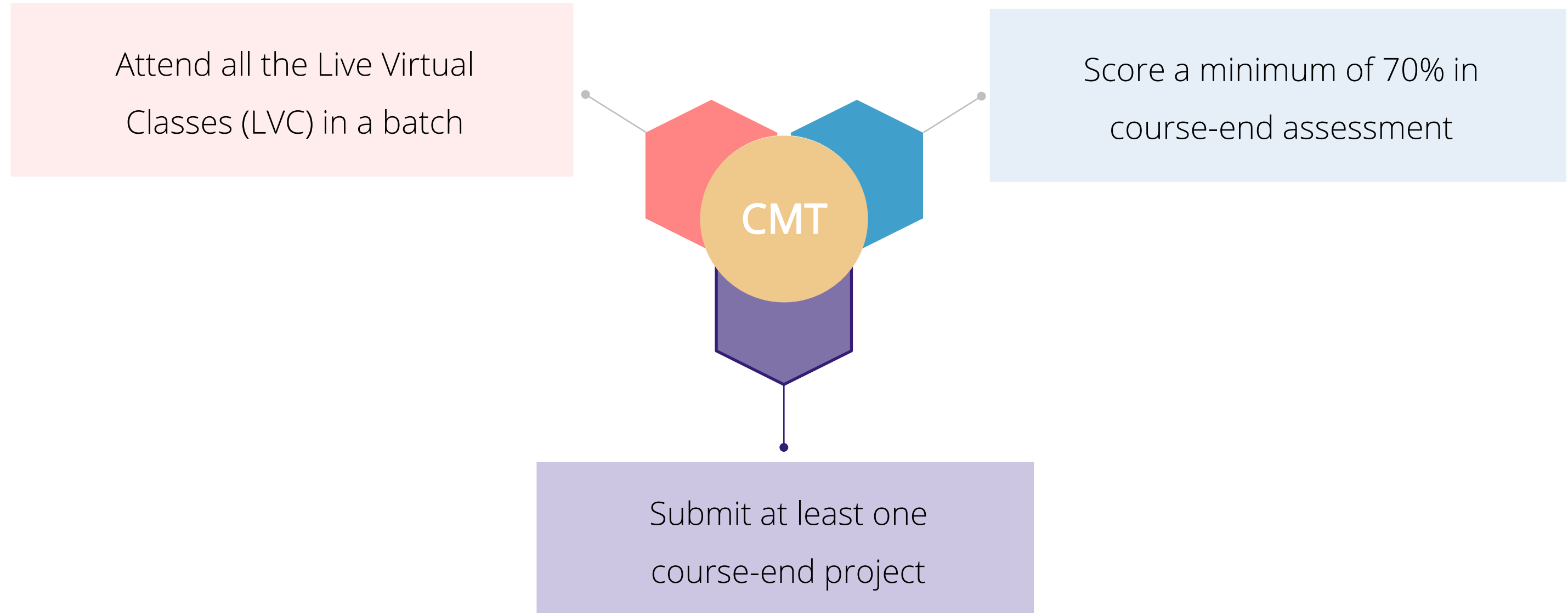
Project 1

Project 2

Project 3

Automate Ansible integration with Jenkins CI server to run and execute playbooks to deploy custom WAR file for a web container and restart.

Course Completion Criteria



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Get Certified. Get Ahead.