# DevOps Topics

## Infrastructure Management – Docker, Ansible, Kubernetes

* Cloud Containers using Docker
* Docker Architecture and Overview
* Docker vs VM and benefits of Docker
* Docker images, containers and usage
* Docker commands - practical using CP-DOF case study
* Improved Deployment Process - Continuous Release / Deployment (CD) [Jenkins, Ansible]
* Infrastructure as Code
* Container Orchestration
* Micro-services
* Docker and Kubernetes (need of Container management software)
* Using Dockerfile to create custom docker image
* Pushing custom image to Docker Hub
* Deploying custom images to Google Kubernetes Engine

## Automated Deployment Tool – Ansible

* Ansible definition and principles
* Ansible architecture
* Using Ansible to copy file to multiple linux hosts (using inventory and .yml files)
* Ansible yml file – deploy.yml overview
* Deploy using Jenkins Job and Ansible
* End-to-end project – configure, build, artefacting and deploying a project on docker container and on tomcat server
* Anytime Deployable software building culture

## Courses

Basics of Docker and Kubernetes

<https://app.pluralsight.com/library/courses/docker-kubernetes-big-picture/table-of-contents>

<https://intelliswift.udemy.com/course/docker-and-kubernetes-the-complete-guide/>

Terraform

<https://app.pluralsight.com/library/courses/terraform-getting-started-2023/table-of-contents>

<https://intelliswift.udemy.com/course/terraform-beginner-to-advanced/learn/quiz/5628938#overview>

Ansible

<https://app.pluralsight.com/library/courses/ansible-fundamentals/table-of-contents>

<https://intelliswift.udemy.com/course/learn-ansible/>

Jenkins Pipeline

<https://app.pluralsight.com/library/courses/building-modern-ci-cd-pipeline-jenkins/table-of-contents>

<https://intelliswift.udemy.com/course/learn-devops-ci-cd-with-jenkins-using-pipelines-and-docker/>