SalaCyber DevOps Essential (SDOE)

Course overview

SalaCyber DevOps Essential is a course that teaches you how to use DevOps tools and practices to improve the quality and speed of software development and delivery. This course is suitable for anyone who wants to learn the basics of DevOps and how to apply it in real-world scenarios.

Course Modules

Chapter 1: Introductions DevOps

- What is DevOps?
- Why DevOps?
- DevOps Careers
- DevOps Tools

Chapter 2: Extra Basic Session

- Linux Basic Command
- Git Basic Command
- How to use DigitalOcean
- Networking Basic

Chapter 3: Containerize application with Docker, Docker Compose

- Introduction & Installation
- Important Docker Concepts - Registry, Repository, Tag, Image and Container
- Playing with Docker Images - NodeJS, MySQL, Postg and Python
- Playing with Docker - Detached Mode and Logs
- Playing with Docker Images and Containers
- Understanding Docker Architecture - Docker Client, Docker Engine
- Understanding creation of Docker Images in Depth
- Build Docker Image with Python, NodeJS, NuxtJS/VueJS, DotNetCore, Java, PHP Laravel
- Push Python, NodeJS, NuxtJS/VueJS to Docker Hub Registry
- Understanding Docker Compose
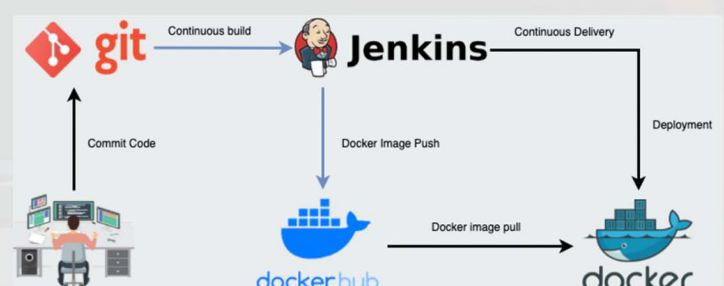- Docker Compose run multiple services.

Chapter 4: Application Hosting with Nginx, Kong API Gateway, Swag , SSL Encryption

- Understanding Nginx Configuration in Depth
- Understanding Kong API Gateway in Depth
- Understanding Swag n Depth
- Secure Web Server with SSL Encryption Using Let's Encrypt
- LoadBalancer Configuration

Chapter 5: Automation & CICD with Jenkins

- Getting Started with Jenkins
- Introduction and Setup Jenkins
- Initializing Jenkins Plugins and Creating Gitlab Repo
- Setting Up Docker in Jenkins and first pipeline run
- Understanding about Manage Jenkins Menu
- Jenkins Node or Agents
- Understanding about Free Style Project
- First Job with Free Style Project
- Understanding Jenkins Pipeline
- First pipeline with Jenkins Pipeline
- Pipeline As code with Jenkins
- Integrate Alert with Telegram

### Chapter 6: Implement CICD with real projects using Docker, Nginx, Jenkins

Chapter 7: Configuration Management with Ansible

- Getting Started with Ansible
- Setting Ansible Project with cfg and ansible hosts
- Understanding about Ansible Host Var, Ansible Group Var, Ansible Inventory
- Playing with Ansible Variables
- Understanding about Ansible Modules
- Understanding about Ansible Role
- Understanding Conditionals and Loops with Ansible
- Setup Nginx using Ansible
- Create DigitalOcean Droplet with Ansible

Chapter 8: Implement CICD with real projects using Docker, Nginx, Jenkins and Ansible
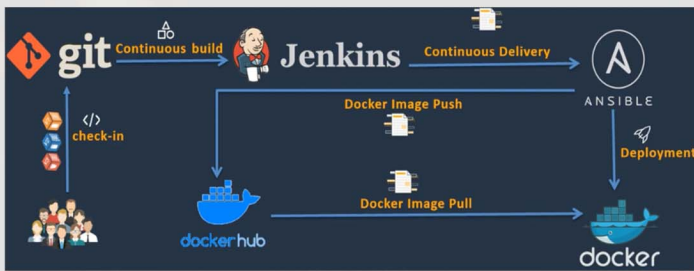

Chapter 9: Container Orchestration with Kubernetes

- Getting Started with Docker, Kubernetes and DigitalOcean Kubernetes
- Creating DigitalOcean Account
- Creating Kubernetes Cluster with DigitalOcean Kubernetes
- Understanding about Kubectl
- Deploy our first python Application to Kubernetes Cluster
- Quick Look at Kubernetes Concepts - Pods, Replica Sets and Deployment
- Understanding Pods in Kubernetes
- Understanding ReplicaSets in Kubernetes
- Understanding Deployment in Kubernetes
- Understanding Services in Kubernetes
- Understanding Kubernetes Architecture - Master Node and Nodes
- Understanding Kubernetes YAML Configuration
- Configure Multiple Kubernetes Deployments with One Service

- Understand Environment Variables in Kubernetes
- Understanding Ingress in Kubernetes

Chapter 10: Implement CICD with real projects using Docker, Nginx, Jenkins , Ansible and Kubernetes
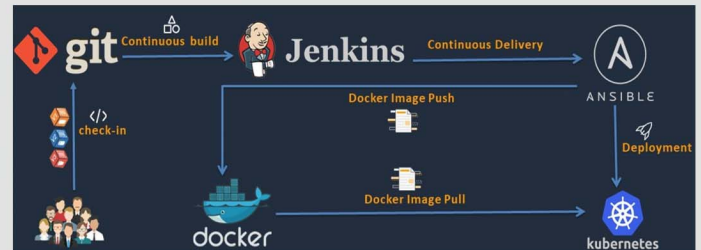
Chapter 11: Bonus Session

- Monitoring Website Uptime (Uptime Kuma) alert with telegram
- Application Performance Monitoring with Elastic APM
- Monitoring docker using Portainer
- DevSecOps