



## DevOps Course Curriculum.

1. Lab environment setup, AWS Account Creation and Linux Basics.
2. Linux - Basic commands, Linux Shell.
3. Linux – Installations.
4. Introduction to software and Webapplications (Apache, wordpress).
5. Web Applications and Linux Deployments, HTTP (Apache, wordpress).
6. Networking - IP masking, Private and Public Networks.
7. Networking - DNS, NAT, Running your own website.
8. Containerization - Basic Concepts, Getting Started with Docker (Docker, images, containers).
9. Containerization - Run wordpress web and database services in Docker containers (Wordpress, LAMP stack).
10. Containerization - Orchestration overview, Cloud Overview (GCP, Kubernetes introduction).
11. Git - Introduction to CI/CD, Project overview - (Java, Javascript and Python based projects).
12. Git - Architecture, Developer workflow, Best Practices.
13. Git - Branching, CI/CD and SCM, Best Branching practices, Tagging.
14. Git - Github and Continuous Integration Practices.
15. Building - Introduction to build tools - Ant, Maven, NPM, PIP, Compose (Java, Javascript and Python based projects).
16. Building - Dockerizing your applications and microservices.
17. Building - Docker registry, Tagging and Best Practices.
18. Deploying - Minikube and Development environment deployments, Kubernetes services, Deployments, and Pods.
19. Jenkins - integration with docker, registry, build tool, github etc.
20. Jenkins - Automated pipelines, Multi environment deployments.
21. Jenkins - Master/slave, Build Triggers, Upstream/Downstream, Jenkins Kubernetes plugin.



22. Introduction to Configuration Management and Ansible, Project overview - Web and DB services.
23. Ansible - Ansible commandline, Inventory, Groups.
24. Ansible - Playbooks, Variables, and Templates.
25. Ansible - Web, DB services and their configurations, Variables hierarchy.
26. Ansible - Roles, Best Practices.
27. Ansible - Ansible Galaxy and Introduction to professional role development.
28. Ansible - Project Practices, Variables, Facts, Dynamic Inventory.
29. Introduction to containerization, Benefits, Project Overview .
30. Docker - Building Docker images, Migrating to Docker .
31. Docker - Publishing images and best practices to store them and tag them.
32. Kubernetes - Introduction to Production environment and Best Practices.
33. Kubernetes - Container Orchestration, On-premise Kubernetes Cluster Setup.
34. Kubernetes - Replica sets, Deployment and Pods.
35. Kubernetes - Services, Ingress, Load Balancers, Persistent volumes, data management, PVC.
36. Kubernetes - Cloud Vs On-premise, Namespaces, Service Accounts.
37. Kubernetes - Networking, DNS concepts, Configuration Management.
38. AWS.
39. Shell Scripting
40. Projects.