*** EXPERIENCED **DevOps** ENGINEER ***

-: PRE REQUISITES :-
- (1) Laptop with dual boot — Windows and Ubuntu-18.04.
- (2) Github, Gmail and AWS Trial user accounts.
- (3) Basic vi use in Ubuntu Linux. [create/edit/save/view file]
- (4) Cisco WebEx application working in your laptop.
- (5) Slack will be used for training related communication.

-: COURSE CONTENT :-

1. DevOps — DEVelopment and OPerationS
- a. What is it,
- b. Why,
- c. Benefits,
- d. Common devops tools,
- e. Build/Release workflow etc
- f. SDLC concepts

2. Version Control System or SCM — Git/Github
- a. clone, add, commit, push, branch, checkout, merge, pull, fetch, diff, log, status, stash, status, reset, rebase cmds
- b. Product dev — project/training code repository
- c. Product automation repository — test code, automation etc
- d. Add collaborators, Create access key
- e. Add, Commit and Push files
- f. Create branch, move to it, As files, commit, push
- g. Branch merge from CLI and from UI via Pull Requests

3. OS Fundamentals — LINUX Basics — Ubuntu18.04
- a. Introduction OS
- b. Most widely used/asked Linux commands.
- c. Lab Session
- d. Basic shell scripting Lab. (Code push to GIT)

4. Introduction to Cloud Computing - SaaS, PaaS, IaaS - AWS
- **a. Cloud computing concepts**
- **b. Launch VM in AWS EC2 — Elastic Compute Cloud**
    - i. Instances, Regions, Security groups, and RSA pem key
    - ii. Access VM using SSH (22) with Public key.
- **c. Deploy Jenkins on above VM (Ubuntu18.04)**
    - i. Installation steps — dependencies - JRE/JDK etc
    - ii. Deployment of Jenkins on AWS VM
    - iii. Enabling outbound/inbound traffic - http(80)
    - iv. Access Jenkins http://<AWS VM Public IP>:8080 for config

      d. Using AWS S3 — SSS — Simple Storage Service - for storage requirements
         i. Upload/Download Build artifacts to/from S3

5. Project Management Tool (also Bug Tracking & Agile) — JIRA
    a. Install and configure open source bug tracking tool
    b. Create tickets and life cycle
    c. Create a dashboard etc

6. Nginx Web server
    a. Installation and Configuration
    b. Configure it as a file server to show test logs

7. Containers — Docker, Docker swarm, Kubernetes
    a. Create Docker image, Write docker file, Run, Use, Stop.
    b. What is Docker swarm?
    c. Introduction to Kubernetes

8. IaC — Infrastructure as Code — Terraform
    a. Write, Plan, and Apply
    b. Managing infrastructure

9. CI/CD — Jenkins application (hosted in AWS)
    a. Create Build job (1) — **Maven,** Upload artifacts (s/w) to S3
    b. Create Setup(2) & Test jobs(3) — Download artifacts from S3
    c. Configure - **Email** (for your Gmail id), and Git Pull Request PlugIn.
    d. Uploading Build/test logs etc to **Ngnix** Webserver
    e. Integrate all Tools (**Github, JIRA, Gmail, S3, and Nginx**) so that once Pull Request is raised all tools learned in this course are used in automated way.

NOTE: Interview Questions. Mock Interviews. Placement assistance.