

# **PYTHON FULLSTACK SYLLABUS**

## **Introduction to DevOps**

- What is **DevOps**?
- History of DevOps
- **Dev and Ops**
- DevOps definitions, Software Development Life Cycle and main objectives of the DevOps
- Infrastructure As A Code
- Prerequisites for DevOps
- Tools (Jenkins, Chef, Docker, Vagrant and so on.)
- Continuous Integration and Development

## **Linux Concepts**

- Linux Installation
- User Management
- Package Management
- Networking

## **Automation Concepts**

- OS Basics
- Scripting Introduction
- Learn Shell Scripting
- Database Concepts
- Shell Variable, Decision Making and Shell Test Conditions
- Shell Loops, Re-directors, Exit status

## **Revision Controls System**

- Subversion Controls/Git
- Working with local repositories, remote repositories
- branching
- merging
- cloning
- fetch/pull
- Installation of Git Server

## **Configuration Management**

- Chef/Puppet/Ansible Introduction
- Chef server Hands-on, workstation setup, Chef Distribution Kit and Concepts

## **Environments**

- Attributes
- Resources
- Cookbook
- Run list

- Recipes
- Supermarket

## **Build Automation**

- Introduction with Maven
- Maven structure and Phases
- Installation of Maven
- Configuration
- jar/war project structure

## **Tomcat Web Server**

- Installation and Configuration
- Tomcat Manager
- Application Management
- App Deployment Methods

## **Nexus Artifacts/Proxy Tool**

- Introduction to Nexus
- Installation and Configuration
- Repository Management
- Proxy Management
- Integration with Maven

## **Jenkins Framework**

- Introduction to Jenkins
- Jenkins Installation
- User Profile and Management
- Security and Plugins Management
- Builds Setup
- Integration with Git, Maven, Tomcat

## **LAMP Setup**

### ***Apache/HTTPD Web Service***

- Installation of Apache
- Configuration of Apache
- Static Pages
- Dynamic Pages
- PHP Integration

### ***MySQL Database***

- Working with Database
- Introduction to MySQL Database
- Configuration
- User management
- Permission management

- Creating Database
- Data insertion/update
- MySQL Data Backup, Hands-on and MySQL GUI Tools

### ***Installation of WordPress with LAMP***

- Vagrant
- Introduction to Vagrant
- Vagrant Terminologies
- Installation of Vagrant
- Vagrant Proxy Project and hands-on

### ***Working with Docker***

- Introduction to Docker
- Docker Terminologies
- **Installation of Docker**
- Docker image creation and Docker hands-on

### ***System Monitoring***

- Introduction to Nagios
- Concepts behind Nagios
- Nagios Installation
- Hands-on

### ***DevOps Project Work***

- Project LAMP Setup
- Web layer
- DB Layer
- App Layer
- Monitoring