

INT331:FUNDAMENTALS OF DEVOPS

L:2 T:0 P:2 Credits:3

Course Outcomes: Through this course students should be able to

- CO1 :: Study of various Software Development Methodologies and Cloud Computing.
- CO2 :: Understand the basic Linux commands with respect to Devops.
- CO3 :: Understand the concept of Devops Methodology and tools in a systematic way.
- CO4 :: Analyze the basics of Version Control and Git tool.
- CO5 :: Demonstrate essentials and source code management using Git tool.
- CO6 :: Demonstrate the concept of Maven with the help of working.

List of Practicals / Experiments:

Introduction to Software Development

- What is Software Development
- Software Development Life Cycle
- Traditional Models for SDLC

Introduction to DevOps

- What is DevOps
- Industry Importance of DevOps
- DevOps Lifecycle
- Continuous Development
- Continuous Testing
- Configuration Management
- Continuous Integration
- Continuous Monitoring of software throughout its development life cycle

DevOps Trends

- DevOps Market Trends
- DevOps Engineer Skills
- DevOps Delivery Pipeline
- DevOps Ecosystem
- Role of a DevOps Engineer
- Devops Tools: Git, Docker, Selenium, Maven, Jenkins, Puppet, Ansible, Kubernetes, Nagios

Software Version Control

- Understanding basics of version control
- Control Concepts of different types of Version Control Systems

Overview to Git

- Git Lifecycle
- Common Git Commands
- Working with Branches in Git
- Git Workflow

- Working with Remote Repositories
- Version controlling using Git
- Source code management with Git

Working with Maven

- Introduction to maven
- maven build lifecycle
- maven repository
- project object model
- maven dependencies
- maven plugins
- maven project structure

1.

- Installation of Oracle VM Virtual Box and create Virtual Machine

2.

- Installation of Linux, Implementation of basic Linux commands□chmod, grep, wget, chown, find, cat, echo, ifconfig, cp,ping,kill, tail, rm, rmdir, cd, mkdir, vi, mv.

3.

- Installation of packages using RPM and YUM

4.

- Installation of Git, Implementing common Git Command

5.

- Repository creation in Git, Git Branch,source code management with Git

6.

- Installation of Maven and Work.

Text Books:

1. LINUX POCKET GUIDE: ESSENTIAL COMMANDS by DANIEL J. BARRETT, O'REILLY

References:

1. DEVOPS: A SOFTWARE ARCHITECT'S PERSPECTIVE (SEI SERIES IN SOFTWARE ENGINEERING) by LEN BASS , INGO WEBER, LIMING ZHU, ADDISON-WESLEY