INT331:FUNDAMENTALS OF DEVOPS

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

Course Outcomes: Through this course students should be able to

- understand the software development process
- discuss the fundamental concepts of DevOps.
- understand Devops Lifecycle
- visualize the tools most often used in a DevOps environment.
- discover the insights of the functionalities and version controlling using Git.
- practice source code management with Git

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

References:

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