

- **Unit 1: Overview of DevOps**

1. Why DevOps?
2. What is DevOps?
3. DevOps market trends
4. DevOps engineer skills
5. DevOps delivery pipeline
6. DevOps ecosystem

**Unit 2: Version Control with Git**

7. What is version control
8. What is Git
9. Why Git for your organization
10. Install Git
11. Common commands in Git
12. Working with remote repositories

**Hands-on:**

13. GIT installation, Version control, Working with remote repository

**Unit 3: Git, Jenkins & Maven Integration**

14. Branching and merging in Git
15. Git workflows
16. Git cheat sheet
17. What is CI
18. Why CI is required
19. Introduction to Jenkins (with architecture)
20. Introduction to Maven

**Hands-on:**

21. Branching and merging, stashing, rebasing, reverting and resetting
22. Build and automation of test using Jenkins and Maven
23. Email notification
24. Slack notification
25. Build pipeline

**Unit 4: Continuous Testing with Selenium**

26. Introduction to Selenium
27. Why Selenium?
28. Selenium – Webdriver
29. Selenium integration with Jenkin

**Hands-on:**

30. Installing Selenium
31. Creating test cases in Selenium webdriver
32. Integrating Selenium with Jenkins

**Unit 5: Continuous Deployment: Containerization with Docker**

33. Shipping transportation challenges
34. Introducing Docker
35. Understanding images and containers
36. Running Hello World in Docker
37. Introduction to container
38. Container life cycle
39. Working with containers
40. Publishing image on Docker Hub

**Hands-on:**

41. Create and implement docker images and containers

**Unit 6: Containerization with Docker: Ecosystem and Networking**

42. Introduction to Docker ecosystem

43. Docker compose

44. Docker swarm

45. Managing containers

46. Running containers

47. Integration Jenkins docker and creating a pipeline

**Unit 7: Continuous Deployment: Configuration Management with Puppet**

48. Introduction to Puppet

49. Puppet Installation

50. Puppet Configuration

51. Puppet Master and Agent Setup

52. Puppet Module

53. Node Classification

54. Puppet Environment

55. Puppet Classes

56. Automation & Reporting

**Hands-on:**

57. Install and configure Puppet

58. Configure and implement servers using Puppet

**Unit 8: Configuration Management with Ansible**

59. Introduction to Ansible

60. Ansible Installation

61. Configuring Ansible Roles

62. Write Playbooks

63. Executing ad hoc command

**Hands-on:**

64. Installing Ansible

65. Configuring Ansible Role

66. Write Playbooks

67. Execute ad hoc commands

**Unit 9: Containerization using Kubernetes**

68. Revisiting Kubernetes Cluster Architecture

69. Spinning up a Kubernetes Cluster on Ubuntu VMs

70. Exploring your Cluster

71. Understanding YAML

72. Creating a Deployment in Kubernetes using YAML

73. Containers and Container Orchestration

74. Introduction to Kubernetes

**Unit 10: Continuous Monitoring with Nagios**

75. Introduction to Continuous Monitoring

76. Introduction to Nagios

77. Installing Nagios

78. Nagios Plugins(NRPE) and Objects

79. Nagios Commands and Notification

<b>Hands-on:</b>
80. Installing Nagios
81. Monitoring of different servers using Nagios
<b>Unit 11: Introduction to DevOps on Cloud</b>

82. Why Cloud?
83. Introduction to Cloud Computing
84. Why DevOps on Cloud?
85. Introduction to AWS
86. Various AWS services
87. DevOps using AWS