

Day - 1

- **Introduction to Continuous Deployment**
 - Overview of Continuous Deployment (CD) and its benefits
 - Key principles and concepts of CD
 - CI/CD integration and automation tools
 - Understanding the CD pipeline
 - Hands-on exercise: Setting up a basic CD pipeline

Day - 2

- **Version Control and Continuous Integration**
 - Version control systems (e.g., Git) for CD
 - Branching strategies and release management
 - Introduction to continuous integration (CI) tools (e.g., Jenkins, CircleCI)
 - Configuring CI for automated builds and tests
 - Hands-on exercise: Setting up a CI pipeline

Day - 3

- **Automated Testing and Quality Assurance**

- Importance of automated testing in CD
- Different types of automated tests (unit, integration, end-to-end)
- Test frameworks and tools (e.g., JUnit, Selenium)
- Strategies for effective test coverage
- Hands-on exercise: Implementing automated tests in the CD pipeline

Day - 4

- **Deployment Strategies and Infrastructure Automation**

- Blue-green deployment and canary releases
- Infrastructure as Code (IaC) tools (e.g., Terraform, CloudFormation)
- Configuring and managing infrastructure for CD
- Rollbacks and roll-forwards in CD
- Hands-on exercise: Deploying applications using blue-green and canary strategies

- **Monitoring and Continuous Improvement**

- Monitoring and observability in CD
- Implementing automated monitoring and alerting systems
- Continuous improvement and feedback loops
- CD best practices and real-world case studies
- Hands-on exercise: Setting up monitoring and implementing feedback mechanisms