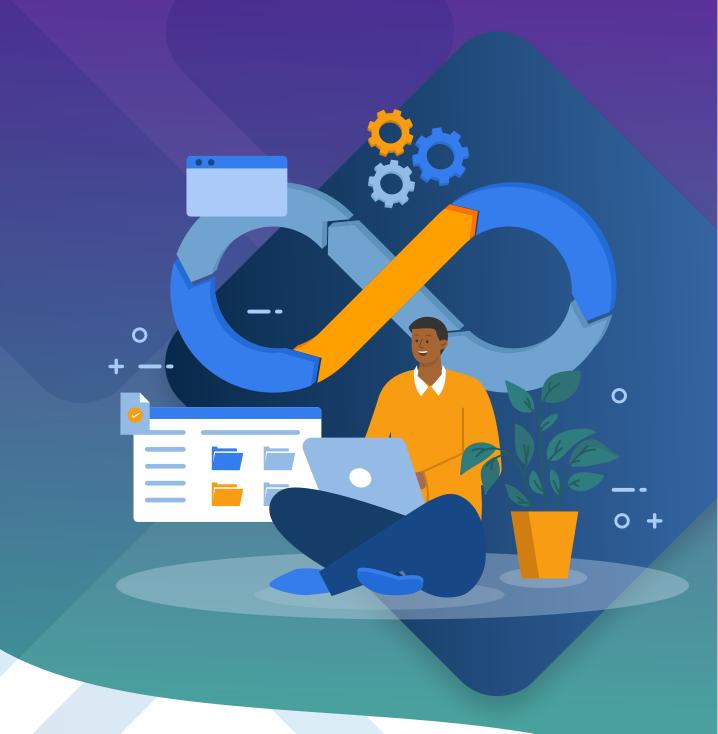
# DEVOPS







# What Is DEVOPS?

This Course Provides An Overview Of DevOps Principles, Practices, And Tools. Students Will Learn How To Streamline The Software Development Lifecycle Through Collaboration, Automation, And Continuous Integration/Continuous Delivery (CI/CD) Pipelines.



#### **Course Structure**

- 3 Months Course
- 3 Months Internship
- 100% Placement Assistance

# **Course Objectives**

- Understand The Core Concepts And Principles
  Of DevOps
- Learn How DevOps Improves Collaboration

  Between Development And Operations Teams
- Gain Hands-On Experience With Popular DevOps
  Tools And Technologies
- Implement CI/CD Pipelines To Automate Software Delivery
- Implement CI/CD Pipelines To Automate Software Delivery

# **DevOps Syllabus**

# INTRODUCTION TO DEVOPS

- 1. Definition of DevOps
- 2. Evolution of DevOps
- 3. Benefits of DevOps

## **DEVOPS CULTURE AND PRACTICES**

- 1. Agile methodology
- 2. Continuous integration (CI) and continuous delivery (CD)
- 3. Infrastructure as Code (IaC)
- 4. Collaboration and communication

## **DEVOPS TOOLS AND TECHNOLOGIES**

- 1. Version control systems (e.g., Git)
- 2. Continuous integration tools (e.g., Jenkins, Travis CI)
- 3. Configuration management tools (e.g., Ansible, Chef, Puppet)
- 4. Containerization and orchestration (e.g., Docker, Kubernetes)

# CI/CD PIPELINES

- 1. Building CI/CD pipelines
- 2. Automated testing
- 3. Deployment strategies

## **MONITORING AND LOGGING**

- 1. Monitoring tools (e.g., Prometheus, Grafana)
- 2. Log management (e.g., ELK stack)
- 3. Performance optimization

## **SECURITY IN DEVOPS**

- 1. DevSecOps principles
- 2. Secure coding practices
- 3. Security testing tools

## **CASE STUDIES AND REAL-WORLD APPLICATIONS**

- 1. Examining successful DevOps implementations
- 2. Challenges and lessons learned

## **ASSESSMENT METHODS**

- 1. Quizzes and exams
- 2. Hands-on labs and assignments
- 3. Project work (e.g., building CI/CD pipelines, automating deployment processes)
- 4. Class participation and discussions

#### Textbook

 "The DevOps Handbook" by Gene Kim, Patrick Debois, John Willis, and Jez Humble

#### Additional Resources

- 1. Online tutorials and documentation for DevOps tools
- 2. Research papers and articles on DevOps best practices

#### Prerequisites

- 1. Basic understanding of software development and IT operations
- 2. Familiarity with Linux command line





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