Course Outline

Introduction to DevOps

Course DEVOPSINTRO: 1 day Instructor Led

About this course

Learn how DevOps brings together years of the most effective and proven practices from development and operations (Agile, Lean, and more) – and aligns them with common characteristics: value, cross-functional collaboration, agility, and strong teams. DevOps is really the marrying of process, infrastructure, and product. Introduction to DevOps teaches you how to bring these groups together to optimize, re-think, and re-engineer your processes.

In this course, we establish a common definition of DevOps and understand why DevOps is so important. Through industry data, we'll see how high-performing organizations use DevOps as a competitive advantage. Don't be left behind! In addition, this class teaches the keys to foster a culture for successful DevOps implementations and gives you a roadmap to get started. Finally, this class helps you understand the tools necessary to automate your processes for maximum efficiency. We'll help you put all the pieces of the puzzle together for your organization's needs.

At course completion

After completing this course, students will be able to:

- Discover what DevOps is and is not
- Learn how other organizations are using DevOps concepts to gain a competitive advantage
- Understand tools that help you automate processes
- Learn tips and techniques for changing your culture to support DevOps
- Understand why DevOps is important and why high-performing IT organizations are rushing to implement DevOps concepts
- Review published industry statistics to understand exactly how companies are achieving DevOps success
- Optimize, rethink, and re-engineer your IT processes to deliver value to your customers faster than ever
- Take Agile to the next level – end to end processes with all IT groups
- Focus on metrics that coincide with organizational goals

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Part 1: Introduction

1. DevOps Defined
2. High-Performance IT Organizations
3. Core Chronic Conflict
4. **Exercise:** Pain Points
5. Business Value of DevOps
6. Where DevOps Came From
    1. W Edwards Deming & Total Quality Management
    2. The Lean Movement & Toyota Production System
    3. The Agile Development & Infrastructure Movements
    4. **Exercise:** Agile Infrastructure

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    5. The Continuous Delivery Movement
7. IT Service management & DevOps
8. End Goals of DevOps & CALMS

Part 2: Maturing a DevOps Practice in the Enterprise

1. DevOps & Organizational Culture
2. 2Patterns You Can Follow
3. The Involvement Principle
    1. Information Security Principles
4. **Exercise:** The Involvement Principle
5. Scaling DevOps in the Enterprise

Part 3: The DevOps Journey - The Three Ways

The First Way: Optimize Flow

1. Principles of Flow
2. Infrastructure As Code
3. Infrastructure Configuration Mgmt & Tools
4. Deployment Pipeline & Tools
5. Shared Version Control & Tools
6. Build Quality In
7. Containerization
8. SOA and Microservices
9. **Exercise:** Optimizing Flow

The Second Way: Amplify Feedback

1. Principles of Feedback
2. Telemetry Principles
3. System Monitoring Tools
4. Log Aggregation & Tools
5. Use Telemetry to Anticipate Problems
6. Feedback For Safe Deployment of Code
7. Hypothesis-Driven Development
8. **Exercise:** Amplifying Feedback

The Third Way: Continual Learning & Experimentation

1. Learning Culture
2. Innovation Culture
3. **Exercise:** Learning & Innovation Culture

Part 4: Course Conclusion

1. Q & A

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