Introduction to DevOps

Overview

- This online, self-paced introductory course aims to help you develop a working knowledge of the concept of DevOps, covering the foundation, principles, and practices of DevOps. This course focuses on the successful patterns used by high-performance organizations over the past 10 years. It also sets up the foundation for implementing the tools and technology that will be needed for further success and execution of a DevOps transformation.

Audience

- This course is perfect for managers and practitioners looking for guidelines on how to start transforming organizations. Upon completion, you should have a good understanding of the foundation, principles, and practices of DevOps. You should be able to continue your progress for an organizational transformation using the acquired skills set.

Prerequisites

- It is recommended that you read the following book before starting this course, to better understand the material:

  Kim, G., Behr, K., and Spafford, G. (2013). *The Phoenix Project: A Novel About IT, DevOps, and Helping Your Business Win*. IT Revolution Press

  Kim, G., Humble, J., Debois, P., and Willis, J. (2016). *The DevOps Handbook: How to Create World-Class Agility, Reliability, and Security in Technology Organizations*. IT Revolution Press

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Course Outline

Session 1. Welcome & Introduction

- Welcome to LFS161x
- Before You Begin
- Syllabus and Grading
- Course Timing
- Course Progress & Completion
- Guidelines to Discussions
- Learning Aids
- Getting to Know the Instructor
- A Word from the Instructor
- The Linux Foundation
- The Linux Foundation Events
- The Linux Foundation Training

Chapter 1: Why Do DevOps?

Learning Objectives

- Learning Objectives

Section 1: Understanding Improvement

- 1.1. Understanding Improvement (Part I)
- 1.2. Understanding Improvement (Part II)
- 1.3. Understanding Improvement (Part III)
- 1.4. Understanding Improvement (Part IV)
- 1.5. Understanding Improvement (Part V)
- 1.6. Recommended Resources
- 1.7. Extra Resources

Section 2: The Convergence, History, and Value of DevOps

- 2.1. The Convergence, History and Value of DevOps (Part I)
- 2.2. The Convergence, History and Value of DevOps (Part II)
- 2.3. The Convergence, History and Value of DevOps (Part III)
- 2.4. The Convergence, History and Value of DevOps (Part IV)
- 2.5. The Convergence, History and Value of DevOps (Part V)
- 2.6. The Convergence, History and Value of DevOps (Part VI)
- 2.7. Recommended Resources
- 2.8. Extra Resources

Summary

Knowledge Check

Learning Objectives (Review)

- Learning Objectives (Review)

Chapter 2. Understanding the Value Stream

Learning Objectives

- Learning Objectives

Section 1: Analyzing the Technology Value Stream

- 1.1. Analyzing the Technology Value Stream (Part I)
- 1.2. Analyzing the Technology Value Stream (Part II)

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Section 2: The Three Ways of DevOps
- 2.1. The Three Ways of DevOps

Section 3: The First Way - Flow
- 3.1. The First Way - Flow (Part I)
- 3.2. The First Way - Flow (Part II)
- 3.3. The First Way - Flow (Part III)
- 3.4. The First Way - Flow (Part IV)
- 3.5. The First Way - Flow (Part V)

Section 4: The Second Way - Feedback Loops
- 4.1. The Second Way - Feedback Loops (Part I)
- 4.2. The Second Way - Feedback Loops (Part II)
- 4.3. The Second Way - Feedback Loops (Part III)
- 4.4. The Second Way - Feedback Loops (Part IV)

Section 5: The Third Way - Culture of Continual Experimentation and Learning
- 5.1. The Third Way - Culture of Continual Experimentation and Learning (Part I)
- 5.2. The Third Way - Culture of Continual Experimentation and Learning (Part II)
- 5.3. The Third Way - Culture of Continual Experimentation and Learning (Part III)

Summary

Knowledge Check

Learning Objectives (Review)
- Learning Objectives (Review)

Chapter 3. Getting Started with DevOps

Learning Objectives
- Learning Objectives

Section 1: Picking a Value Stream
- 1.1. Picking a Value Stream (Part I)
- 1.2. Picking a Value Stream (Part II)
- 1.3. Picking a Value Stream (Part III)
- 1.4. Picking a Value Stream (Part IV)
- 1.5. Picking a Value Stream (Part V)
- 1.6. Picking a Value Stream (Part VI)
- 1.7. Picking a Value Stream (Part VII)
- 1.8. Picking a Value Stream (Part VIII)

Section 2: Understanding Organizational Change
- 2.1. Understanding Organizational Change (Part I)
- 2.2. Understanding Organizational Change (Part II)
- 2.3. Understanding Organizational Change (Part III)
- 2.4. Understanding Organizational Change (Part IV)
- 2.5. Understanding Organizational Change (Part V)
- 2.6. Understanding Organizational Change (Part VI)
- 2.7. Understanding Organizational Change (Part VII)
- 2.8. Understanding Organizational Change (Part VIII)

Section 3: Enabling Transformation
- 3.1. Enabling Transformation (Part I)
- 3.2. Enabling Transformation (Part II)

Summary

Knowledge Check

Learning Objectives (Review)
- Learning Objectives (Review)

Chapter 4. The First Way - Accelerate Flow

Learning Objectives
- Learning Objectives

Section 1: Continuous Delivery Patterns and Practices

- 1.1. Continuous Delivery Patterns and Practices

Section 2: The Deployment Pipeline

- 2.1. The Deployment Pipeline (Part I)
- 2.2. The Deployment Pipeline (Part II)
- 2.3. The Deployment Pipeline (Part III)
- 2.4. The Deployment Pipeline (Part IV)
- 2.5. The Deployment Pipeline (Part V)
- 2.6. The Deployment Pipeline (Part VI)

Section 3: Creating Consistency in the Pipeline

- 3.1. Creating Consistency in the Pipeline (Part I)
- 3.2. Creating Consistency in the Pipeline (Part II)
- 3.3. Creating Consistency in the Pipeline (Part III)
- 3.4. Creating Consistency in the Pipeline (Part IV)
- 3.5. Creating Consistency in the Pipeline (Part V)
- 3.6. Creating Consistency in the Pipeline (Part VI)
- 3.7. Creating Consistency in the Pipeline (Part VII)
- 3.8. Creating Consistency in the Pipeline (Part VIII)
- 3.9. Creating Consistency in the Pipeline (Part IX)

Section 4: Automated Testing

- 4.1. Automated Testing (Part I)
- 4.2. Automated Testing (Part II)
- 4.3. Automated Testing (Part III)
- 4.4. Automated Testing (Part IV)
- 4.5. Automated Testing (Part V)
- 4.6. Automated Testing (Part VI)

Section 5: Deployment Strategies (Zero Downtime Release)

- 5.1. Deployment Strategies (Part I)
- 5.2. Deployment Strategies (Part II)
- 5.3. Deployment Strategies (Part III)

Summary

Knowledge Check

Learning Objectives (Review)

- Learning Objectives

Chapter 5. The Second Way - Amplify Feedback Loops

Learning Objectives

- Learning Objectives

Section 1: Creating a Service Reliability Culture

- 1.1. Creating a Service Reliability Culture (Part I)
- 1.2. Creating a Service Reliability Culture (Part II)
- 1.3. Creating a Service Reliability Culture (Part III)
- 1.4. Creating a Service Reliability Culture (Part IV)
- 1.5. Creating a Service Reliability Culture (Part V)
- 1.6. Creating a Service Reliability Culture (Part VI)
- 1.7. Creating a Service Reliability Culture (Part VII)

Section 2: Fast Feedback

- 2.1. Fast Feedback (Part I)
- 2.2. Fast Feedback (Part II)
- 2.3. Fast Feedback (Part III)
- 2.4. Fast Feedback (Part IV)

Section 3: Understanding Monitoring

- 3.1. Understanding Monitoring (Part I)
- 3.2. Understanding Monitoring (Part II)
- 3.3. Understanding Monitoring (Part III)
- 3.4. Understanding Monitoring (Part IV)

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Section 4: Understanding Complexity

- 4.1. Understanding Complexity (Part I)
- 4.2. Understanding Complexity (Part II)
- 4.3. Understanding Complexity (Part III)
- 4.4. Understanding Complexity (Part IV)

Summary
Knowledge Check
Learning Objectives (Review)

- Learning Objectives (Review)

Chapter 6. The Third Way - Accelerate Learning

Learning Objectives

- Learning Objectives

Section 1: Learning Organizations

- 1.1. Learning Organizations (Part I)
- 1.2. Learning Organizations (Part II)
- 1.3. Learning Organizations (Part III)
- 1.4. Learning Organizations (Part IV)

Section 2: Communication

- 2.1. Communication (Part I)
- 2.2. Communication (Part II)
- 2.3. Communication (Part III)
- 2.4. Communication (Part IV)

Section 3: Blameless Culture

- 3.1. Blameless Culture (Part I)
- 3.2. Blameless Culture (Part II)
- 3.3. Blameless Culture (Part III)
- 3.4. Blameless Culture (Part IV)

Summary
Knowledge Check
Learning Objectives (Review)

- Learning Objectives (Review)

Final Exam

Before You Begin Your Final Exam
Final Exam

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